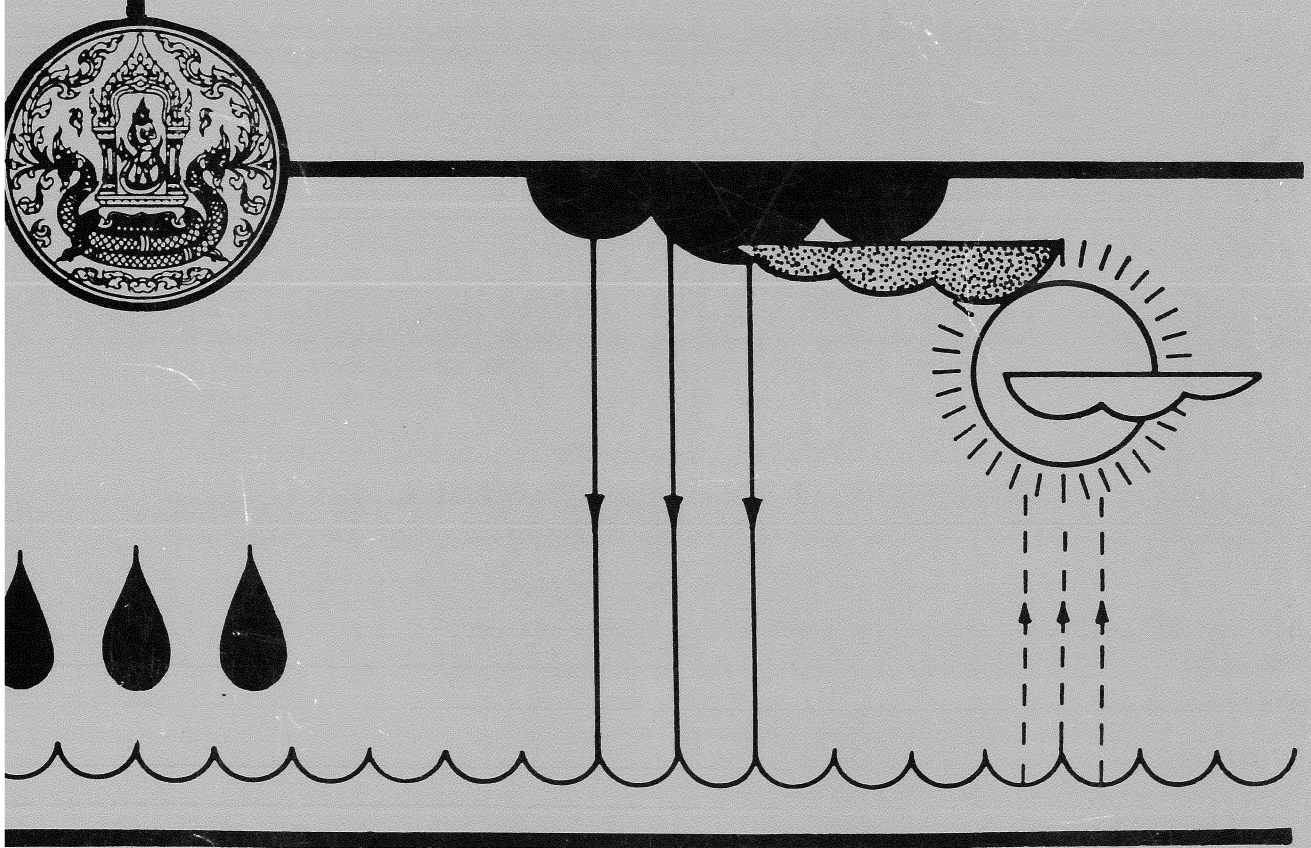
THAILAND
HYDROLOGICAL YEARBOOK

WATER YEAR 1991

VOLUME 34



ROYAL IRRIGATION DEPARTMENT
HYDROLOGY DIVISION
BANGKOK

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FOREWORD

The programme of yearbook publication was initiated in 1966. Great efforts have been made in editing as well as the setting up of standard for yearbook publication. The previously processed data have been reviewed and arranged in serial order or volumes to be published. The first issue was published in 1968 as Volume 8. It present records, during 1965 water year, of stage and discharge of 59 streams at 86 actual streamflow data calibrating sites and at 27 previously calibrated ones. Up till now 33 volumes of yearbooks presenting streamflow data as early as 1912 up to 1990 totalling 6,473 station-years of record had been published.

This Volume 34 which is the thirty-fourth issues of the series was prepared by the Data Processing Section. It presents records, during 1991 water year, of stage and discharge of 175 streams at 227 currently calibrating sites.

Hydrology Division

July 1993

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The editorial staff of this hydrological yearbook publication feels particularly indebted to Mr. Boonchob Kanchanalak, former senior engineer hydrologist of the Royal Irrigation Department, who had initiated and directed the editing work of yearbook publication in 1966. He made a great attempt in setting up procedure for yearbook publication and adopting engineering standard, method and steps for implementation upon which the further publication of the series will be based.

Special thanks are conveyed to the Budget Bureau, office of the Prime Minister, who always renders great support to this work, also others who gave valuable advices in improving the work standard are kindly pleased to accept our sincere thanks.

Thank to Mr.Thada Sukhabunnaphan for the initiative of Hydrology Data Processing with Computer to Data Processing Section from 1978 and thank to Mr. Amnuey Somsin, Chief of Data Processing Section, for the valuable advice.

Also may we express our sincere wish to Hydrological Investigation Section, Study and Discharge Analysis Unit and Study and Water-Level Analysis Unit for the complete issue of Thailand Hydrological yearbook Volume 34.

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SOUTHEN PENINSULA WEST COAST

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ILLUSSTRATION OF STREAM GAGING ACTIVITIES

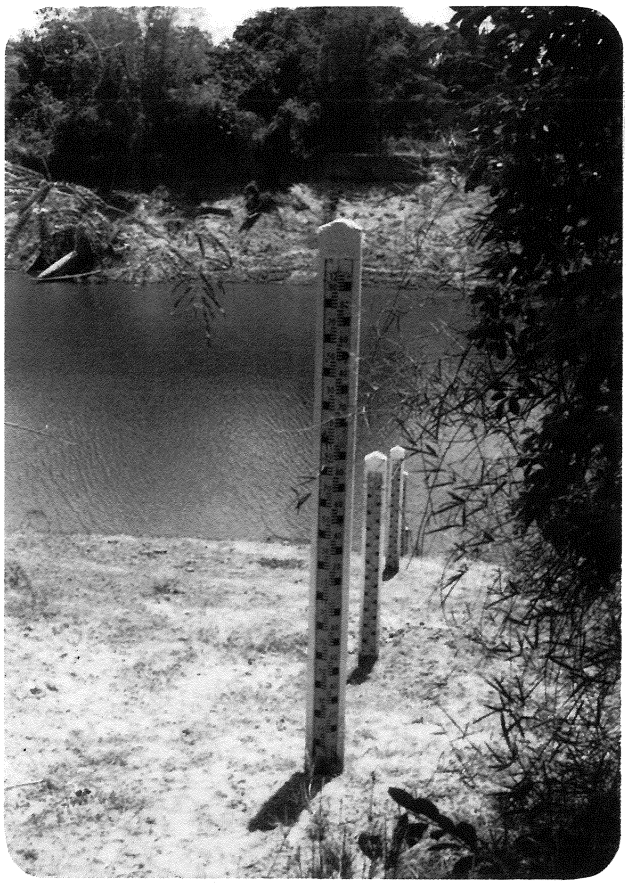


Fig. 1 Typical vertical staff gage

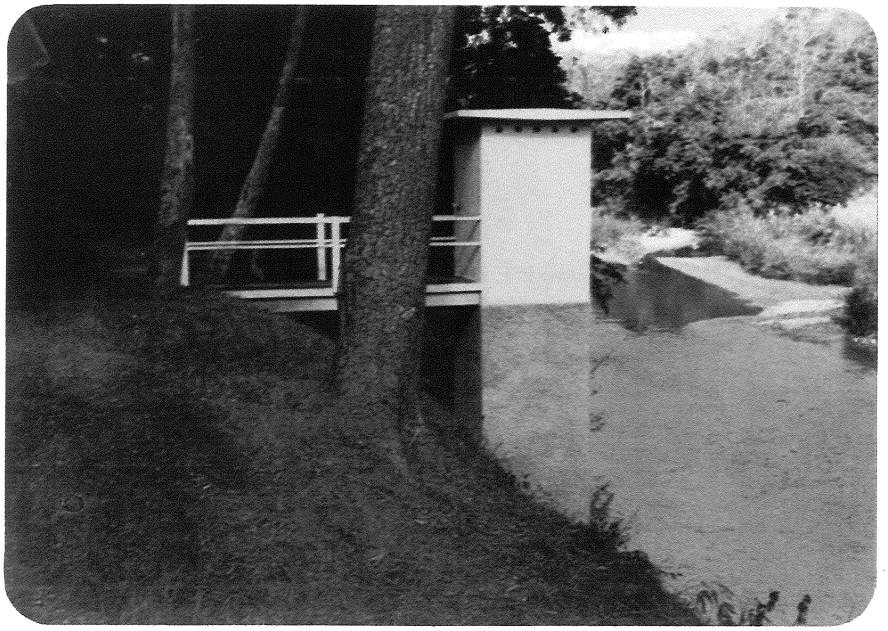


Fig. 2 Typical shelter for water level recorder (Float Type)



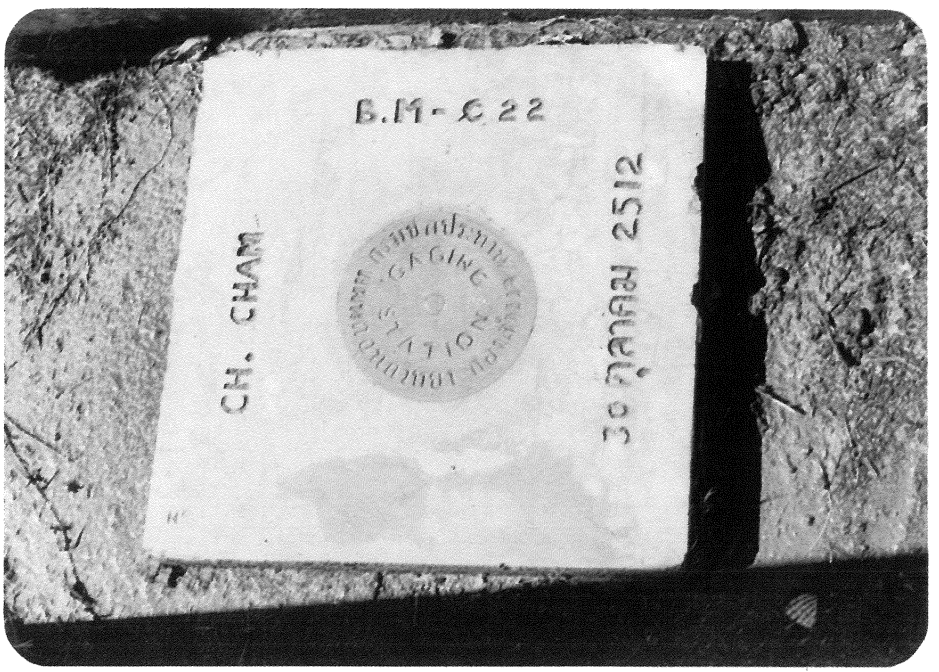


Fig. 3 Standard bench mark



Fig. 4 Close - up of rating operation



Fig. 5 Standard hydrologic equipment

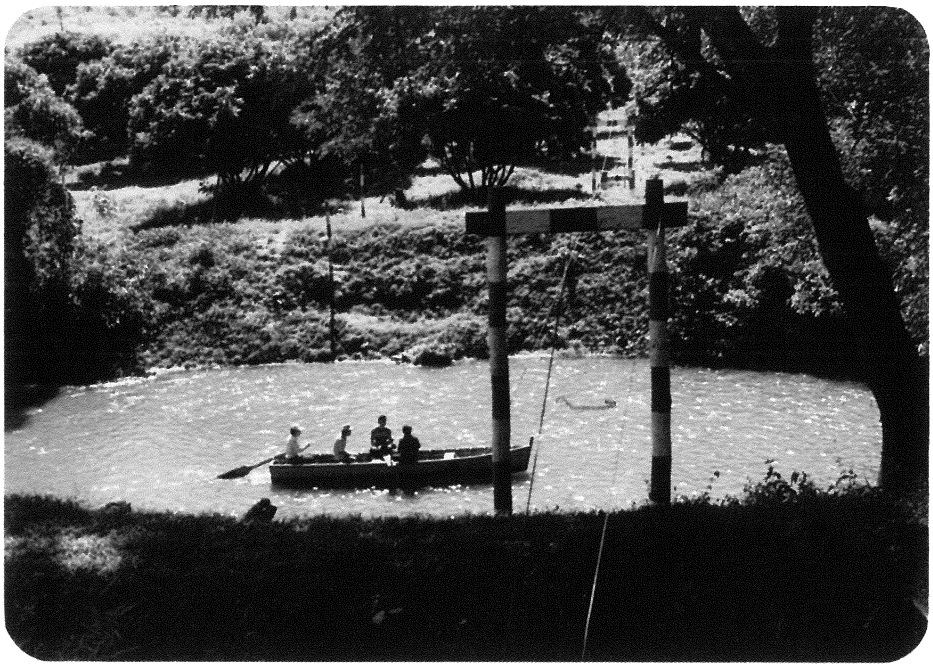


Fig. 6 Measuring line



Fig. 7 Camp for hydrological station

HYDROLOGICAL YEAR BOOK PUBLICATION

* **** ** **** *

Introduction

Great Attempt has been made all along to expedite the engineering processing of the streamflow data to be ready for publication, and to translate the publication plan into implementation. Efforts from various working units as well as personnel concerned are pulled together to drive this work into reality. Publication of streamflow data has begun since 1966. The first yearbook publication came out as Volume 8 for the 1965 water year. It presents records of stage and discharge of 113 gaging stations in 59 streams.

Definition of terms and abbreviations

Table for converting Metric Units to English Units is on page XXIV. Terms related to streamflow and other hydrologic data, as used in this report, are defined as follows:

CMS-day is the volume of water represented by a flow of 1 cubic meter per second for 24 hours. It is equivalent to 86,400 cubic meters, 0.0864 million cubic meter, or 3,050,784 cubic feet, or 70.07 acre-feet, and represents a runoff of 86.4 millimeters from 1 square kilometer.

Control designates of feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Cubic meter per second (cms) is the rate of stream discharge expressed in volume per a unit of time. One cubic meter per second is the rate of discharge representing a volume of 1 cubic meter passing a given point during 1 second.

Discharge is the volume of water (or more broadly, total fluids), that passes a given point within a given period of time.

Mean discharge is the arithmetic average of individual daily mean discharge during a specific period.

Momentary peak discharge is the peak discharge at a particular instant of time, at least once a year.

Drainage area of a stream at a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from rainfall would normally drains by gravity into the stream above the specified point. Figures of drainage area given herein are determined from Royal Thai Survey Department AMS map with scale of 1 to 50,000, unless otherwise noted. They include all closed basins, or noncontributing areas, within the area unless otherwise noted.

Gage height (G.H.) is the water surface elevation above some arbitrary gage datum to which, in most cases, referred the Mean Sea Level (M.S.L.) Ko Lak datum, otherwise the arbitrary assumed datum (A.D.) being used.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of gage height or discharge are obtained. The term "staff gaging station" is applied only those gaging stations where only a gage height record is observed at an installed staff gage. If a water stage recorder is also installed, such a gaging station is referred as recording gaging station. In case of discharge measurements being practiced, it is referred as streamflow calibration or rating station.

Million cubic meter (mcm) is the volume of water expressed in millions of cubic meter.

One million cubic meter is the quantity of water required to cover 1 square kilometer to a depth of 1 meter and is equivalent to 811 acre-feet, or 408.6 cfs-day, or 264.2 million gallons.

Runoff in mcm shows the volume of approximately effective runoff from rainfall, passing a given point for a given period of time.

Annual runoff is the volume of approximately effective runoff from rainfall accumulated during the water year.

Stage-discharge relation is the relation between gage height and the volume of water per unit of time, flowing in a channel.

Rating tables giving the discharge for any gage height are prepared from stage-discharge relation curves or rating curves.

Water year is the 12-month period, April 1 through March 31, related to annual cycle of river flow during which the river begins to rise, reaching its flood stage and subsiding toward its cyclic minimum

The water year is designated by the calendar year in which it begins and which includes 9 of 12 months. Thus, the year began April 1, 1969 is called the "1969 water year".

Order of listing of gaging data

In this format, gaging data are listed according to their code running number order. It has been found more convenient in locating the required data when the list is arranged in such manner. The station code name contains the letters standing for river name and number in running order according to the age of the station installed in that river. The station code, for example, for the Chao Phraya River at Wat Tha Hat installed in 1905 is C. 1, which is the first streamflow rating station ever built in this river.

Series of yearbook publications

The yearbook series in which the streamflow data had been published was issued as follows:

Volume	Water Years	No. of station - years	Date of Issuance
1	1912 - 1937	112	September 1976
2	1938 - 1947	103	September 1976
3	1948 - 1953	146	September 1976
4	1954- 1956	178	September 1976
5	1957 - 1959	203	May 1974

Volume	Water Years	No.of station-years	Date of issuance
6	1960 - 1962	213	October 1973
7	1963 - 1964	182	July 1969
8	1965	113	May 1967
9	1966	129	June 1975
10	1967	172	September 1976
11	1968	187	September 1976
12	1969	182	March 1979
13	1970	182	March 1979
14	1971	182	June 1979
15	1972	184	October 1979
16	1973	187	January 1980
17	1974	191	March 1980
18	1975	182	August 1980
19	1976	184	November 1980
20	1977	192	February 1981
21	1978	210	May 1982
22	1979	237	July 1981
23	1980	231	August 1982
24	1981	213	November 1983
25	1982	224	June 1986
26	1983	235	October 1986
27	1984	242	February 1988
28	1985	232	January 1989
29	1986	245	June 1989
30	1987	271	July 1990
31	1988	267	February 1990
32	1989	224	July 1991
33	1990	225	July 1992
34	1991	227	July 1993

The preparation of the manuscripts of the further Volume is in progress. It is expected that they would be issued in serial order in the very near future.

STANDARD OF STREAMFLOW DATA PROCUREMENT

****** ** ******

Network design

The location of stream gaging stations is primarily based upon the urgent need at various damsites which is accessible. By the time of expansion of the network at later date, the area or basin of "blind spot" is put at first priority backing up by the following conditions:

(a) Accessibility.

(b) Geographical location.

(c) Mean annual rainfall.

(d) Vegetation cover determined from Army Map Service topographic map with 1:50,000 or 1:250,000 scale.

(e) Basin soil type.

(f) Type of surface rock.

Field work

The minimum standard of basic hydrologic data for observations and measurements are equal to those recommended in the United Nations ECAFE Flood Control series No. 6.

Water stage data are obtained by staff gage and by water stage recorder. Normally a vertical section staff gage is installed for manual observation with usual frequency of reading varies from 1 to 5 times of equal interval during the daytime. At some specific station where streamflow measurement camps are situated, the reading of water stage by night is also made, in addition, usually 1 to 3 times of equal interval. The standard bench mark is also established near the gage site. The 1.00-m standard enamelled staff gage sections with 1 cm graduation are used with zero reading, in most cases, referred to Mean Sea Level (M.S.L.) Ko Lak datum, otherwise the assumed datum being used. Few wire-weight gages are also adopted on highway bridges.

In some mountainous headwater area as well as in the estuary, additional installation of water stage recorder is made. A continuous record of water stage is obtained at such station. The German A. Ott type X has so for been adopted as our standard equipment. Some pneumatic recorder is also being used. Weekly visit to the gage for inspection and changing chart paper by the crew or gage observer is under practice.

At the streamflow gaging station, flow measurement by a current meter is periodically performed so that the calibration of stream section related to flow can be made through the development of stage-flow relationship or simply called "rating curve". Two types of the streamflow gaging station are under operation: with and without crew camp. Those without crew camp are under moving team and are capable for flow measurements of several stations. Those with crew camp are subject to less accessibility.

At station operated by a moving crew, at least twice a month during the monsoon period and once a month during the low flow period are expected for flow rating performance. The moving crew frequently fails to reach the stations while at their crest stages because of road damage and time available. At station with crew camp, daily rating performance may be expected, at least once whenever change of stage per day is over 30 centimeters. Fixed boat by cableway across the river is one of typical means of flow measurement by current meter for medium river, 100 m wide. Fow wider river, the boat is fixed in position by anchors.

The river cross section is requested to be made simultaneously during flow velocity measurement, so that shifting of the section could be determined. This request is lawful because there had been in the older day fashion of using cross section made during dry season for discharge computation.

The German A. Ott current meter has so far been adopted as standard equipment. The multiple-point method has been used as velocity measurement practice. At present the two-point method is carefully practiced.

Office data processing

The standard techniques used overseas are adopted in processing the data. In fact the standard methods of U.S. Geological Survey and U.S. Department of Agriculture (for small streams) are adopted as general basis.

Development of rating curve - Yearly mean rating curve is generally used as a tool in determining the daily flow. Periodically developed rating is frequently used when dictated by the conditions, so that the shifting control could be eliminated or reduced. Zero flow elevation of the rating section is determined by trial and error method with logarithmic plotting of the rating curve. Extension of the logarithmic rating line is frequently used to determine the channel flow at the overbank flow stage. The overbank flow is assessed by either direct velocity measurement or slope-area method whenever applicable.

Determination of daily mean flow - Application of the adjusted daily mean gage height to rating table gives the corresponding daily mean discharge from which the monthly and the yearly mean discharges are computed. Shifting adjustment for observed gage height is made when necessary. Shifting design is made basing on flood stages and times, if any. Other adjustments such as back water, rise and fall of flood, etc., which necessitate the use of other parametric factors, are also made, if any.

At some gaging stations where rises and falls of floods are immediate, hourly basis of gage height application to the rating curve is used to determine daily mean discharge.

At stations where rises and falls of streams are gentle, gage height data are usually obtained by manual reading.

It has been found that application of 1 to 5 times average reading (for daytime) gives an error of daily mean flow not more than 15% for mountainous streams, less than 10% for larger valley streams and not more than 5% for lower deltaic streams. Most of mountainous and valley streams are under recording operation, only deltaic streams that daytime reading are still used.

The daily mean gage heights are obtained by arithmetic mean of the observed data available. Adjusted gage heights due to shifting, which are applicable to rating curve for daily mean

flow computation, are practically made.

It is noted that the daily mean flow are mostly subject to upstream diversion. Headwater utilization of water by people diversions and state-owned diversions are expected in many river basins in this country. Consequently, the virgin flow is hardly determined. Daily mean values may be replaced by the monthly mean in the case of flow measured at tailwaters of existing reservoirs.

Time basis used for daily mean flow is from midnight to midnight.

Review of procedure for streamflow data processing.

Following are steps used for review the overall data before finalizing the process:

1) Checking of gage height data which are obtained either from staff gage or from water stage recorder, for the following cases:

a) Representability of daytime observation for the daily mean value, if the data are from staff gage reading.

b) Discrepancies of recording charts, if any.

c) Desirability of hourly-basis process for daily mean flow.

d) Datums of gage observation and of the rating curve used.

e) Location of gage from which data are taken and location of gage at which the rating curve is developed.

2) Checking of availability and goodness of field measurement notes.

3) Checking of differential magnitude of gage height during discharge measurement as to which arithmetic average or weighted average is desirable.

4) Checking stability of rating curve used.

5) Review of shifting control sample and design shifting, if any.

6) Adjustment of backwater, flood wave, etc., by rate of change of falls as index, if any.

7) Overall review of daily mean flow data as an end product.

8) Checking consistency of runoff volume among those observed at the upstream and downstream stations, taking into account intervening diversions of flow, if any.

Classification of streamflow data

The station description states the degree of accuracy of the records. "Excellent" indicates that, in general, the error in the daily records is believed to be less than 5 percent; "good", less than 10 percent; "fair", less than 15 percent; "poor", probably more than 15 percent.

Future plan for computerization

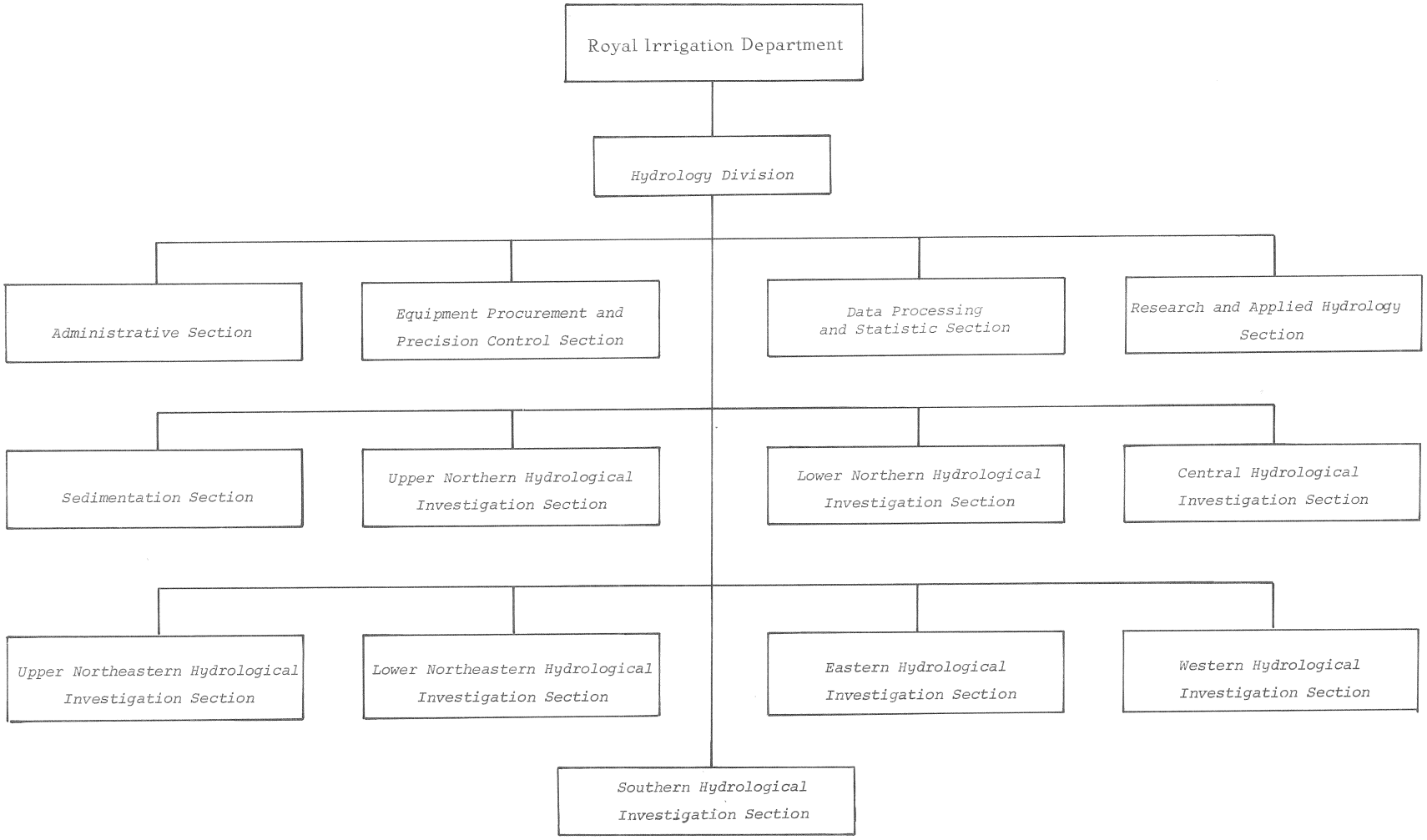
The Royal Irrigation Department (RID) has developed data system which includes computerization of storage, processing and retrieval of rainfall data since 1969. During the streamflow data system was being developed at RID in 1976, the National Economic and Social Development Board has made in agreement with the Asian Institute of Technology (AIT) to study on "Development of Water Resources Information System for Thailand". In the contract AIT will recommend a standardized procedure to various agencies for collecting and recording hydrometeorological and hydrological data and develop a computer based data storage and retrieval system to process, store, analyse and publish the data furnished by various agencies involved in data collection.

The Water Resources Information System for Thailand (WRIST) package has been designed to provide permanent computer media storage of hydrometeorological and hydrological data in such a form that it can be readily added, to, altered or deleted and also called for analysis and presentation as required. The Indexed Sequencial Method has been used for mass storage of the data and the processing and storing system have been designed taking into consideration the data processing schemes followed by the agencies, the probable frequency of retrieval expected and also the order or grouping of data elements differently for different agencies so that the system is best suited and efficient in operation for the current requirements and anticipated uses by the agencies in Thailand. The system will process and store data agencywise. The system is also designed to allow for the inclusion of additional data types if the need arise in the future. IBM 370/145 Computer facility at the AIT Bangkok will be used to develop the WRIST package. Operating programs will be written in ANS COBOL language independent of machine hardware to facilitate machine to machine transferability of the package for medium scale computers. The system has the data retrieval facility in the form of monthly and yearly publication agencywise; raw data and analysed data either in the form of computer printouts or in the direct accessible forms like cards of tapes controlled by basin, sub-basin, region, station and data type. Data stored can also be available in the form of punched cards or punched card image on magnetic tapes so that they can be accessed by FORTRAN programs.

Organization

Streamflow data presented herein are from the hydrologic network operating by the Hydrology Division of the Royal Irrigation Department (RID). Field data collection and office data processing as well as yearbook publication are hydrologic activities undertaken by the Division.

The organization structure of the Division is diagrammatically shown below:-


Royal Irrigation Department
Hydrology Division
Administrative Section
Equipment Procurement and Precision Control Section
Data Processing and Statistic Section
Research and Applied Hydrology Section
Sedimentation Section
Upper Northern Hydrological Investigation Section
Lower Northern Hydrological Investigation Section
Central Hydrological Investigation Section
Upper Northeastern Hydrological Investigation Section
Lower Northeastern Hydrological Investigation Section
Eastern Hydrological Investigation Section
Western Hydrological Investigation Section
Southern Hydrological Investigation Section

PARTICIPATION IN STREAM GAGING WORKS

* * * * * * *

Among 22 water related government agencies, several of them operate streamflow gaging works according to their own purposes. In early 1949 the Hydrology Section was established in the Survey Division of the Royal Irrigation Department. The Section is responsible for its activity in hydrology as prerequisite for water resources development. The activity includes:

(1) Procurement of basic hydrologic data including precipitation, streamflow, sediment, evaporation, etc.

(2) Analyses and research to produce the facts governing the behavior of water, their occurrences, circulation and distribution in its varied forms, their properties and their interaction with other allied factors.

(3) Application to water resources development and management, utilizing basic data and the facts disclosed by analyses and research.

Just one year after the beginning of water storage work, in 1953 there were only 49 discharge stations and 114 stage stations as operated by the Hydrology Section. In February 1975 the Section was separated from the Survey Division and was raised the status to be the Hydrology Division of the Royal Irrigation Department. The present network of stream gaging works contains 221 discharge stations of which 147 are currently operated and 74 are previously calibrated with continuous stage observation while 145 were abandoned, and 315 stage stations are currently operated while 232 were abandoned.

After the onset of the Lower Mekong River Basin Development Scheme, the Hydrology Section was also established in the Investigation and Planning Division of the National Energy Administration which is a representative agency of Thai Government in the Lower Mekong Committee. During the period of November 1958 - Mary 1962, seven hydrologic stations were installed and operated by the Harza Engineering Company contracted by the Agency for International Development of the United States Government. At present the NEA operates about 90 discharge stations and 140 stage stations. A series of yearbooks has also been published.

The third agency which operates the stream gaging works is the Hydrometeorology Division of the Meteorological Department. With the technical and financial support from the World Meteorelogical Organization, this agency began the stream gaging works in 1967. Up till now, about 11 discharge stations and 32 stage stations are under operation. The stream gaging data are also included in their yearbook.

The last agency which operates the stream gaging works for the planning purpose is the Electricity Generating Authority of Thailand. They began to operate 15 discharge stations and 4 stage stations in 1971.

In addition, there are other agencies operating the stream gaging works for their own purposes such as watershed management and conservation program of the Royal Forestry Department. The Port Authority of Thailand carries on discharge measurement along the estuary of the Chao Phraya River for studying the sedimentation in the vicinity of the service area.

UNITS OF MEASURE AND CONVERSION FACTORS

The following factors may be used to convert the metric and Thai unit published herein to the English units.

Multiply metric or Thai units	By	To obtain English units
	Length	
millimeters (mm)	.03973	inches (in)
meters (m)	39.73	inches (in)
	3.2808	feet (ft)
	1.0936	yards (yd)
	.1988	rods
kilometers (km)	.6214	miles (mi)
	Area	
square meters (m^2)	10.76	square feet (ft^2)
	1.196	square yards (yd^2)
	2.47×10^{-4}	acres
rai (1,600 m^2-Thai)	.3952	acres
hectares (ha)	2.4709	acres
square hectometers (hm^2)	2.4709	acres
square kilometers (km^2)	247.1	acres
	.3861	square miles (mi^2)
	Volume	
liters (l)	.2642	gallons (gal)
cubic decimeters (dm^3)	.2642	gallons (gal)
	.03531	cubic feet (ft^3)
cubic meters (m^3)	264.2	gallons (gal)
	2.642×10^{-4}	million gallons (10^6 gal)
	35.31	cubic feet (ft^3)
	4.086×10^{-4}	cfs-day (ft^3/s-day)
	8.11×10^{-4}	acre-feet (acre-ft)
cubic hectometers (hm^3)	264.2	million gallons (10^6 gal)
	408.6	cfs-day (ft^3/s-day)
	811	acre-feet (acre-ft)
million cubic meters (mcm)	811	acre-feet (acre-ft)
cubic kilometers (km^3)	811×10^3	acre-feet (acre-ft)
	Flow	
liters per second (l/s)	.03531	cubic feet per second (ft^3/s)
	15.85	gallons per minute (gpm)
cubic decimeters per second (dm^3/s)	.03531	cubic feet per second (ft^3/s)
	15.85	gallons per minute (gpm)
	22.82×10^{-3}	million gallons per day (mgd)

Multiply metric or Thai units	By	To obtain English units
	Flow (Cont.)	
cubic meters per second (m^3/s)	35.31	cubic feet per second (ft^3/s)
	15,850	gallons per minute (gpm)
	22.82	million gallons per day (mgd)

* * * * * * *

Stream Gaging Data

Water Year 1991

WATER YEAR 1991

PING RIVER BASIN

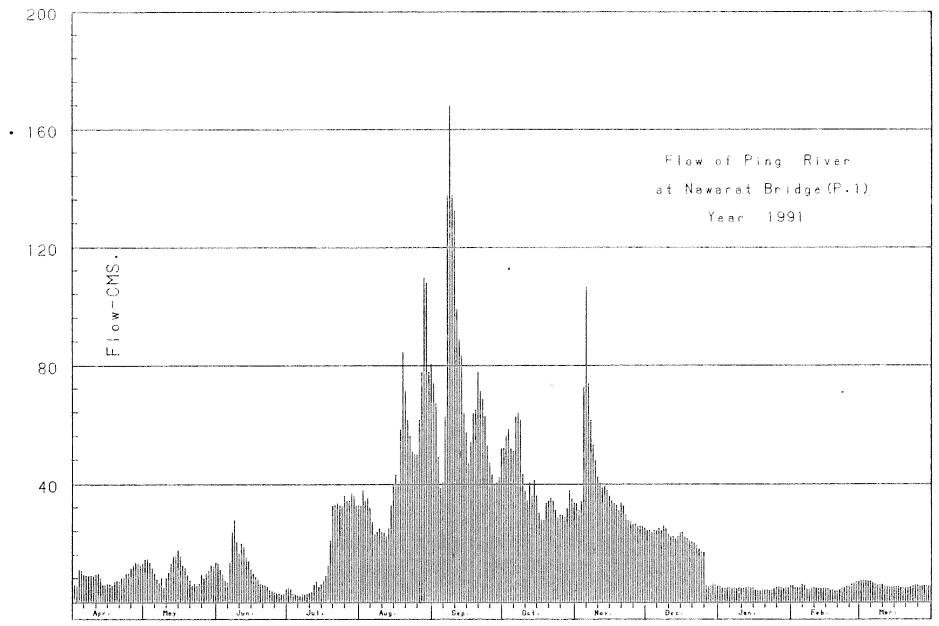
Ping River at Nawarat Bridge, Chiang Mai (P.1)

Location	Lat. 18°47'09" N., Long. 99°00'29" E., on left bank about 100 meters downstream from Nawarat Bridge, Amphoe Muang, Chiang Mai.
Drainage Area	6,355 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+300.500 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank near automatic gage building.
Elevation	+305.31 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1921 to date.
Rating Operation	
Period of Rating	1954-1960, 1967 to date.
Rated by Float	1936-1938
Rated by Current Meter	1954-1960, 1967 to date.
Stability of Channel Regimes	Fairly stable with variable water surface slope.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Upstream state diversions for irrigation about 11,200 hectares at Mae Faek Weir. Stage-discharge relation defined by 46 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	301.38	301.58	301.55	301.34	301.86	302.26	302.07	301.87	301.75	301.59	301.61	301.69	
2	301.36	301.58	301.51	301.33	301.92	302.21	302.11	301.84	301.75	301.56	301.56	301.70	
3	301.51	301.56	301.47	301.28	301.88	302.04	302.13	301.88	301.74	301.55	301.57	301.69	
4	301.50	301.52	301.42	301.26	301.89	301.93	302.07	302.25	301.75	301.57	301.56	301.69	
5	301.47	301.48	301.40	301.24	301.85	301.95	302.06	302.49	301.75	301.57	301.63	301.68	
6	301.46	301.43	301.56	301.23	301.79	302.17	302.17	302.26	301.76	301.56	301.61	301.66	
7	301.46	301.40	301.74	301.26	301.73	302.68	302.18	302.16	301.75	301.56	301.54	301.63	
8	301.46	301.44	301.80	301.26	301.74	302.84	302.16	302.08	301.77	301.55	301.53	301.62	
9	301.46	301.35	301.69	301.26	301.76	302.68	301.98	302.03	301.76	301.56	301.56	301.62	
10	301.47	301.44	301.62	301.28	301.74	302.65	301.92	301.97	301.73	301.56	301.57	301.63	
11	301.48	301.49	301.68	301.29	301.74	302.44	301.88	301.95	301.72	301.55	301.56	301.60	
12	301.44	301.55	301.66	301.38	301.72	302.37	301.95	301.93	301.72	301.57	301.54	301.59	
13	301.38	301.60	301.59	301.41	301.76	302.33	301.90	301.94	301.71	301.58	301.55	301.57	
14	301.37	301.60	301.57	301.36	301.86	302.18	301.96	301.92	301.72	301.57	301.55	301.58	
15	301.39	301.64	301.51	301.38	301.94	302.12	301.90	301.90	301.74	301.56	301.56	301.58	
16	301.38	301.60	301.48	301.42	301.98	302.02	301.83	301.88	301.74	301.52	301.54	301.59	
17	301.37	301.54	301.45	301.46	301.94	302.09	301.80	301.87	301.72	301.50	301.52	301.58	
18	301.41	301.52	301.43	301.54	302.13	302.18	301.80	301.86	301.71	301.50	301.51	301.57	
19	301.42	301.47	301.39	301.70	302.34	302.19	301.87	301.84	301.70	301.51	301.50	301.56	
20	301.41	301.42	301.38	301.86	302.24	302.29	301.88	301.87	301.69	301.52	301.49	301.56	
21	301.44	301.37	301.37	301.86	302.16	302.24	301.89	301.86	301.69	301.52	301.52	301.56	
22	301.44	301.39	301.36	301.87	302.11	302.22	301.88	301.82	301.67	301.51	301.55	301.58	
23	301.48	301.37	301.32	301.86	302.06	302.17	301.84	301.80	301.65	301.51	301.57	301.60	
24	301.48	301.39	301.31	301.86	302.05	302.08	301.81	301.79	301.63	301.55	301.59	301.62	
25	301.52	301.47	301.29	301.90	302.05	302.02	301.82	301.78	301.63	301.57	301.60	301.61	
26	301.54	301.44	301.28	301.88	302.16	301.98	301.82	301.78	301.61	301.59	301.63	301.60	
27	301.56	301.48	301.27	301.88	302.29	301.94	301.81	301.77	301.59	301.57	301.65	301.60	
28	301.55	301.50	301.26	301.91	302.51	301.95	301.85	301.77	301.60	301.55	301.67	301.61	
29	301.54	301.54	301.26	301.90	302.50	301.97	301.92	301.77	301.64	301.57	301.68	301.60	
30	301.55	301.53	301.33	301.86	302.29	302.07	301.89	301.76	301.62	301.57		301.60	
31		301.56		301.86	302.31		301.87		301.60	301.60		301.60	
Mean	301.46	301.49	301.46	301.55	302.01	302.21	301.94	301.92	301.70	301.55	301.57	301.61	
Max	301.56	301.64	301.80	301.91	302.51	302.84	302.18	302.49	301.77	301.60	301.68	301.70	302.84
Min	301.36	301.35	301.26	301.23	301.72	301.93	301.80	301.76	301.59	301.50	301.49	301.56	301.23

Annual Max Momentary Gage Height 302.95 M (MSL), at 8.00 Hours, on Sep 8, 1991
Zero Gage at Bottom Elevation 300.50 M (MSL), River Bed 299.29 M (MSL)
Left Bank Elevation 304.57 M (MSL)
Right Bank Elevation 305.61 M (MSL), Drainage Area 6355 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	6.00	14.60	13.10	4.80	32.80	73.80	52.00	33.60	24.50	5.44	5.80	7.40	
2	5.40	14.60	11.10	4.50	37.80	67.30	56.10	31.20	24.50	4.96	4.96	7.60	
3	11.10	13.60	9.40	3.16	34.40	49.00	58.30	34.40	23.80	4.80	5.12	7.40	
4	10.60	11.60	7.40	2.72	35.20	38.70	52.00	72.50	24.50	5.12	4.96	7.40	
5	9.40	9.80	6.60	2.28	32.00	40.50	51.00	106.50	24.50	5.12	6.20	7.20	
6	9.00	7.80	13.60	2.06	27.30	62.70	62.70	73.80	25.20	4.96	5.80	6.80	
7	9.00	6.60	23.80	2.72	23.10	137.60	63.80	61.60	24.50	4.96	4.64	6.20	
8	9.00	8.20	28.00	2.72	23.80	168.00	61.60	53.00	25.90	4.80	4.48	6.00	
9	9.00	5.10	20.46	2.72	25.20	137.60	43.20	48.00	25.20	4.96	4.96	6.00	
10	9.40	8.20	16.68	3.16	23.80	132.50	37.80	42.30	23.10	4.96	5.12	6.20	
11	9.80	10.20	19.92	3.38	23.80	99.00	34.40	40.50	22.40	4.80	4.96	5.60	
12	8.20	13.10	18.84	6.00	22.40	88.80	40.50	38.70	22.40	5.12	4.64	5.44	
13	6.00	15.60	15.10	7.00	25.20	83.20	36.00	39.60	21.70	5.28	4.80	5.12	
14	5.70	15.60	14.10	5.40	32.80	63.80	41.40	37.80	22.40	5.12	4.80	5.28	
15	6.30	17.76	11.10	6.00	39.60	57.20	36.00	36.00	23.80	4.96	4.96	5.28	
16	6.00	15.60	9.80	7.40	43.20	47.00	30.40	34.40	23.80	4.32	4.64	5.44	
17	5.70	12.60	8.60	9.00	39.60	54.00	28.00	33.60	22.40	4.00	4.32	5.28	
18	7.00	11.60	7.80	12.60	58.30	63.80	28.00	32.80	21.70	4.00	4.16	5.12	
19	7.40	9.40	6.30	21.00	84.60	64.90	33.60	31.20	21.00	4.16	4.00	4.96	
20	7.00	7.40	6.00	32.80	71.20	77.70	34.40	33.60	20.46	4.32	3.84	4.96	
21	8.20	5.70	5.70	32.80	61.60	71.20	35.20	32.80	20.46	4.32	4.32	4.96	
22	8.20	6.30	5.40	33.60	56.10	68.60	34.40	29.60	19.38	4.16	4.80	5.28	
23	9.80	5.70	4.20	32.80	51.00	62.70	31.20	28.00	18.30	4.16	5.12	5.60	
24	9.80	6.30	3.90	32.80	50.00	53.00	28.80	27.30	17.22	4.80	5.44	6.00	
25	11.60	9.40	3.38	36.00	50.00	47.00	29.60	26.60	17.22	5.12	5.60	5.80	
26	12.60	8.20	3.16	34.40	61.60	43.20	29.60	26.60	5.80	5.44	6.20	5.60	
27	13.60	9.80	2.94	34.40	77.70	39.60	28.80	25.90	5.44	5.12	6.60	5.60	
28	13.10	10.60	2.72	36.90	109.60	40.50	32.00	25.90	5.60	4.80	7.00	5.80	
29	12.60	12.60	2.72	36.00	108.00	42.30	37.80	25.90	6.40	5.12	7.20	5.60	
30	13.10	12.10	4.50	32.80	77.70	52.00	35.20	25.20	6.00	5.12		5.60	
31		13.60		32.80	80.40		33.60		5.60	5.60		5.60	
Total	269.60	329.26	306.32	516.72	1519.80	2127.20	1237.40	1188.90	595.18	149.92	149.44	182.12	8571.86 CMSDAY
Mean	8.99	10.62	10.21	16.67	49.03	70.91	39.92	39.63	19.20	4.84	5.15	5.87	23.42 CMS
Max	13.60	17.76	28.00	36.90	109.60	168.00	63.80	106.50	25.90	5.60	7.20	7.60	168.00 CMS
Min	5.40	5.10	2.72	2.06	22.40	38.70	28.00	25.20	5.44	4.00	3.84	4.96	2.06 CMS
Runoff	23.293	28.448	26.466	44.645	131.311	183.790	106.911	102.721	51.424	12.953	12.912	15.735	740.609 MCM

Momentary Peak 191.50 CMS, at 302.95 M (MSL), at 8.00 Hours, on Sep 8, 1991

Runoff Yield 3.69 Liters/Second/Square KM, Momentary Peak Yield 30.13 Liters/Second/Square KM

WATER YEAR 1991

PING RIVER BASIN

Ping River at Ban Tha Khae, Tak (P.2A)

Location — Lat. 16-52-10 N., Long. 99-07-50 E., on right bank about 200 meters downstream from Kittikhachon I Bridge, Ban Tha Khae, Amphoe Muang, Tak.

Drainage Area — 38,862 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +104.00 m. (M.S.L.)

Bench Mark — B.M.-H.D.

Location — Near automatic gage building.

Elevation — +115.321 m. (M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1952 to date.

Rating Operation

Period of Rating — 1952-1960, 1963-1967, 1971 to date.

Rated by Float —

Rated by Current Meter — 1952-1960, 1963-1967, 1971 to date.

Stability of Channel Regimes — Stable.

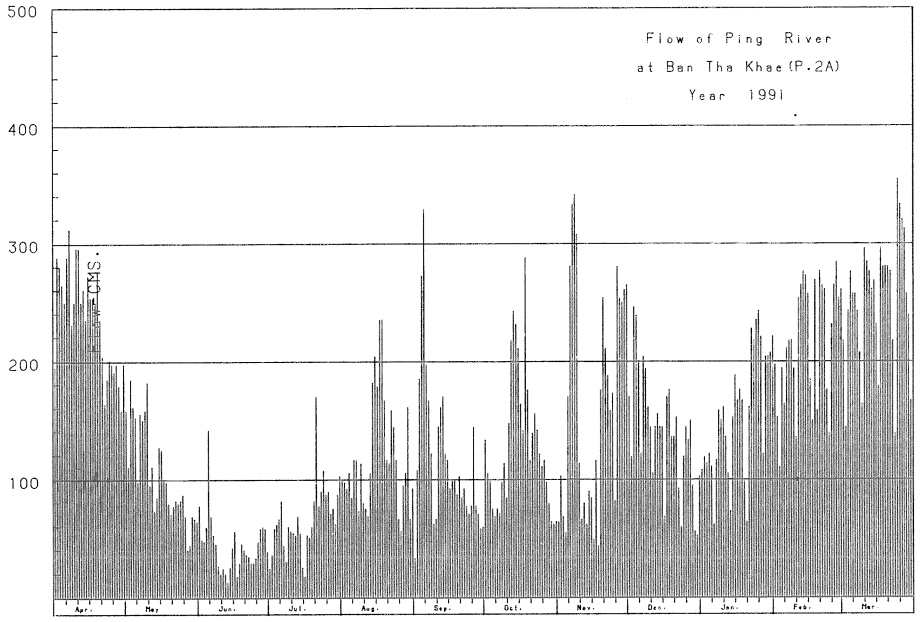
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Flow regulated by Phumiphol Dam reservoir since 1964. Upstream state diversions for irrigation about 40,300 hectares. Stage-discharge relation defined by 77 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	105.30	105.18	104.88	104.57	104.97	104.64	105.09	104.82	105.22	105.00	105.31	105.37	
2	105.56	105.01	104.74	104.66	104.96	105.00	104.99	104.98	105.04	105.04	105.16	105.13	
3	105.54	105.27	104.73	104.79	104.94	105.27	104.97	104.84	105.45	105.02	105.01	105.44	
4	105.50	105.19	104.80	104.81	104.99	105.52	104.87	104.77	105.43	105.05	105.30	105.53	
5	105.46	105.16	105.12	104.83	104.91	105.66	104.84	105.22	105.32	105.01	105.20	105.48	
6	105.56	104.96	104.84	104.90	105.03	105.31	104.87	105.54	105.05	104.81	105.35	105.48	
7	105.62	105.17	104.76	104.71	105.03	105.21	104.85	105.67	105.33	105.03	105.37	105.44	
8	105.41	105.15	104.72	104.62	104.86	105.05	104.96	105.69	105.30	105.18	105.37	105.34	
9	105.46	105.18	104.59	104.80	105.02	104.81	105.02	105.61	105.19	105.15	105.30	105.20	
10	105.58	105.26	104.53	104.78	104.89	104.83	104.91	105.02	105.13	105.19	105.10	105.58	
11	105.58	104.95	104.57	104.77	104.87	105.13	105.14	104.83	104.99	105.10	105.47	105.55	
12	105.46	105.01	104.53	104.76	104.84	105.19	105.37	104.89	105.13	104.99	105.50	105.53	
13	105.49	104.86	104.44	104.84	104.99	105.22	105.44	104.81	105.17	104.86	105.53	105.49	
14	105.42	104.91	104.58	104.77	105.26	105.05	105.41	104.93	105.13	105.16	105.52	105.51	
15	105.52	105.07	104.70	104.58	105.33	105.03	105.35	104.91	105.13	105.28	105.48	105.41	
16	105.47	105.06	104.78	104.51	105.25	104.94	105.20	104.74	104.84	105.21	105.27	105.25	
17	105.47	104.97	104.51	104.76	105.42	104.97	105.12	105.03	105.22	105.24	105.15	105.58	
18	105.46	104.96	104.61	104.75	105.42	104.97	105.56	104.71	105.24	105.21	105.51	105.54	
19	105.53	104.89	104.72	104.80	105.21	104.92	105.24	105.24	105.10	104.97	105.18	105.54	
20	105.42	104.85	104.69	104.90	105.03	104.98	105.03	105.47	105.10	104.82	105.53	105.54	
21	105.33	104.88	104.66	105.22	105.02	104.91	105.11	105.35	105.16	105.19	105.50	105.53	
22	105.20	104.90	104.65	104.88	105.18	104.94	105.17	105.28	104.94	105.40	105.49	105.37	
23	105.27	104.89	104.61	104.93	105.13	104.88	105.12	105.18	104.80	105.37	105.24	105.11	
24	105.32	104.90	104.61	105.00	105.03	104.85	105.05	105.23	105.04	105.42	105.11	105.72	
25	105.31	104.92	104.64	104.92	104.83	104.88	105.01	104.90	105.13	105.44	105.41	105.67	
26	105.29	104.84	104.73	104.93	104.78	105.13	105.03	105.54	105.09	105.38	105.50	105.64	
27	105.31	104.69	104.79	104.85	104.95	104.88	104.96	105.47	105.15	105.05	105.55	105.62	
28	105.25	104.71	104.80	104.87	104.99	104.85	104.89	105.46	104.95	105.33	105.47	105.48	
29	105.18	104.84	104.79	104.81	105.19	104.79	104.82	105.49	104.78	105.33	105.49	105.43	
30	105.31	104.83	104.68	104.92	104.83	104.80	104.81	105.50	104.76	105.34		105.21	
31		104.82		104.98	104.94		104.82		104.98	105.38		105.50	
Mean	105.42	104.98	104.69	104.81	105.04	105.02	105.07	105.17	105.11	105.16	105.36	105.46	
Max	105.62	105.27	105.12	105.22	105.42	105.66	105.56	105.69	105.45	105.44	105.55	105.72	105.72
Min	105.18	104.69	104.44	104.51	104.78	104.64	104.81	104.71	104.76	104.81	105.01	105.11	104.44

Annual Max Momentary Gage Height 106.12 M (MSL), at 8.00 Hours, on Sep 5, 1991
Zero Gage at Bottom Elevation 104.00 M (MSL), River Bed 103.72 M (MSL)
Left Bank Elevation 109.63 M (MSL)
Right Bank Elevation 109.40 M (MSL), Drainage Area 38862 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	194.00	158.40	77.60	24.70	100.20	33.60	133.20	64.40	170.00	108.00	197.40	217.80	
2	288.40	110.80	49.20	36.40	97.60	108.00	105.40	102.80	119.20	119.20	152.80	144.40	
3	280.60	185.00	47.40	58.20	92.40	185.00	100.20	68.80	246.50	113.60	110.80	242.80	
4	265.00	161.20	60.00	62.20	105.40	272.80	75.40	54.60	239.10	122.00	194.00	276.70	
5	250.20	152.80	141.60	66.60	84.60	329.20	68.80	170.00	200.80	110.80	164.00	257.60	
6	288.40	97.60	68.80	82.00	116.40	197.40	75.40	280.60	122.00	62.20	211.00	257.60	
7	312.40	155.60	52.80	43.80	116.40	167.00	71.00	333.40	204.20	116.40	217.80	242.80	
8	231.70	150.00	45.60	30.80	73.20	122.00	97.60	341.80	194.00	158.40	217.80	207.60	
9	250.20	158.40	26.90	60.00	113.60	62.20	113.60	308.20	161.20	150.00	194.00	164.00	
10	296.20	182.00	20.30	56.40	79.80	66.60	84.60	113.60	144.40	161.20	136.00	296.20	
11	296.20	95.00	24.70	54.60	75.40	144.40	147.20	66.60	105.40	136.00	253.90	284.50	
12	250.20	110.80	20.30	52.80	68.80	161.20	217.80	79.80	144.40	105.40	265.00	276.70	
13	261.30	73.20	12.80	68.80	105.40	170.00	242.80	62.20	155.60	73.20	276.70	261.30	
14	235.40	84.60	25.80	54.60	182.00	122.00	231.70	89.80	144.40	152.80	272.80	268.90	
15	272.80	127.60	42.00	25.80	204.20	116.40	211.00	84.60	144.40	188.00	257.60	231.70	
16	253.90	124.80	56.40	18.10	179.00	92.40	164.00	49.20	68.80	167.00	185.00	179.00	
17	253.90	100.20	18.10	52.80	235.40	100.20	141.60	116.40	170.00	176.00	150.00	296.20	
18	250.20	97.60	29.40	51.00	235.40	100.20	288.40	43.80	176.00	167.00	268.90	280.60	
19	276.70	79.80	45.60	60.00	167.00	87.20	176.00	176.00	136.00	100.20	158.40	280.60	
20	235.40	71.00	40.60	82.00	116.40	102.80	116.40	253.90	136.00	64.40	276.70	280.60	
21	204.20	77.60	36.40	170.00	113.60	84.60	138.80	211.00	152.80	161.20	265.00	276.70	
22	164.00	82.00	35.00	77.60	158.40	92.40	155.60	188.00	92.40	228.00	261.30	217.80	
23	185.00	79.80	29.40	89.80	144.40	77.60	141.60	158.40	60.00	217.80	176.00	138.80	
24	200.80	82.00	29.40	108.00	116.40	71.00	122.00	173.00	119.20	235.40	138.80	354.80	
25	197.40	87.20	33.60	87.20	66.60	77.60	110.80	82.00	144.40	242.80	231.70	333.40	
26	191.00	68.80	47.40	89.80	56.40	144.40	116.40	280.60	133.20	221.20	265.00	320.80	
27	197.40	40.60	58.20	71.00	95.00	77.60	97.60	253.90	150.00	122.00	284.50	312.40	
28	179.00	44.52	60.00	75.40	105.40	71.00	79.80	250.20	95.00	204.20	253.90	257.60	
29	158.40	68.80	58.20	62.20	161.20	58.20	64.40	261.30	56.40	204.20	261.30	239.10	
30	197.40	66.60	39.20	87.20	66.60	60.00	62.20	265.00	52.80	207.60		167.00	
31		64.40		102.80	92.40		64.40		102.80	221.20		265.00	
Total	7117.70	3238.72	1332.70	2062.60	3725.00	3555.00	4015.70	4983.90	4341.40	4817.40	6298.10	7831.00	53319.22 CMSDAY
Mean	237.26	104.47	44.42	66.54	120.16	118.50	129.54	166.13	140.05	155.40	217.18	252.61	145.68 CMS
Max	312.40	185.00	141.60	170.00	235.40	329.20	288.40	341.80	246.50	242.80	284.50	354.80	354.80 CMS
Min	158.40	40.60	12.80	18.10	56.40	33.60	62.20	43.80	52.80	62.20	110.80	138.80	12.80 CMS
Runoff	614.969	279.825	115.145	178.209	321.840	307.152	346.956	430.609	375.097	416.223	544.156	676.598	4606.781 MCM

Momentary Peak 551.20 CMS, at 106.12 M (MSL), at 8.00 Hours, on Sep 5, 1991

Runoff Yield 3.75 Liters/Second/Square KM, Momentary Peak Yield 14.18 Liters/Second/Square KM

WATER YEAR 1991

PING RIVER BASIN

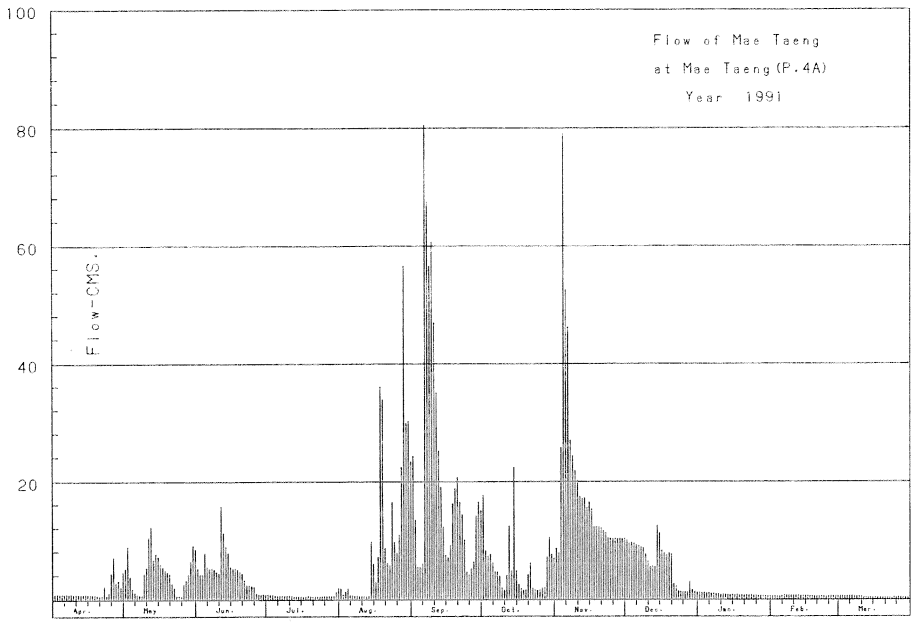
Mae Taeng River at Mae Taeng, Chiang Mai (P.4A)

Location	Lat. 19-07-15 N., Long. 98-56-51 E., on right bank at the bridge of Chiang Mai-Fang Highway, Amphoe Mae Taeng, Chiang Mai.
Drainage Area	1,902 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+333.745 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	In the vicinity of Amphoe Mae Taeng office.
Elevation	+338.736 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1955 to date.
Rating Operation	
Period of Rating	1955-1960, 1967 to date.
Rated by Float	-
Rated by Current Meter	1955-1960, 1967 to date.
Stability of Channel Regimes	Fairly stable with variable water surface slope.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Upstream state diversions for irrigation about 23,700 hectares at Mae Taeng Wier. Stage-discharge relation defined by 26 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	334.88	335.42	335.42	334.88	335.03	336.31	336.08	335.66	335.73	334.93	334.83	334.84	
2	334.88	335.67	335.32	334.87	334.87	335.90	335.64	335.62	335.70	334.93	334.83	334.84	
3	334.88	335.27	335.31	334.87	334.96	335.44	335.59	336.36	335.71	334.93	334.83	334.84	
4	334.88	335.01	335.62	334.85	335.03	335.44	335.61	337.65	335.70	334.92	334.82	334.84	
5	334.88	334.93	335.44	334.84	334.86	335.49	335.50	337.09	335.69	334.92	334.84	334.84	
6	334.88	334.86	335.42	334.84	334.85	337.68	335.37	336.93	335.68	334.91	334.86	334.84	
7	334.88	334.85	335.42	334.84	334.84	337.42	335.36	336.40	335.67	334.91	334.85	334.84	
8	334.88	334.84	335.41	334.84	334.84	337.18	335.29	336.31	335.66	334.90	334.85	334.83	
9	334.87	335.33	335.36	334.84	334.83	337.27	335.04	336.23	335.61	334.89	334.85	334.83	
10	334.87	335.43	335.34	334.85	334.83	336.95	334.99	336.17	335.52	334.88	334.85	334.83	
11	334.87	335.75	336.00	334.84	334.83	336.64	335.30	336.07	335.45	334.88	334.85	334.81	
12	334.87	335.84	335.79	334.82	334.83	336.34	335.85	336.05	335.45	334.88	334.84	334.80	
13	334.87	335.54	335.67	334.82	334.83	336.13	335.39	336.06	335.45	334.87	334.84	334.80	
14	334.87	335.61	335.62	334.82	335.72	335.84	336.25	335.99	335.85	334.87	334.84	334.80	
15	334.87	335.58	335.44	334.82	335.49	335.60	335.39	336.03	335.79	334.87	334.84	334.80	
16	334.86	335.48	335.42	334.81	335.16	335.57	335.13	335.98	335.64	334.87	334.84	334.80	
17	334.86	335.44	335.42	334.82	335.58	335.68	335.03	335.84	335.62	334.87	334.83	334.80	
18	334.85	335.39	335.41	334.84	336.67	336.02	334.99	335.84	335.60	334.86	334.83	334.80	
19	334.84	335.36	335.36	334.83	336.61	336.12	334.99	335.84	335.62	334.86	334.83	334.80	
20	334.84	335.32	335.34	334.82	335.66	336.19	335.32	335.83	335.61	334.86	334.83	334.80	
21	334.84	335.14	335.21	334.82	335.50	336.03	335.50	335.81	335.14	334.86	334.83	334.79	
22	335.08	335.04	335.11	334.82	335.46	335.94	335.04	335.79	335.08	334.86	334.83	334.79	
23	334.84	334.84	335.10	334.82	336.03	335.73	334.99	335.75	334.97	334.86	334.83	334.80	
24	334.91	334.83	335.09	334.83	335.71	335.37	334.99	335.74	334.95	334.85	334.83	334.81	
25	335.34	334.82	335.06	334.83	335.62	335.31	334.99	335.74	334.95	334.85	334.83	334.81	
26	335.57	335.13	334.91	334.83	335.77	335.42	335.04	335.74	334.94	334.84	334.84	334.81	
27	335.15	335.21	334.88	334.83	336.25	335.51	335.04	335.74	334.95	334.84	334.84	334.80	
28	335.19	335.31	334.88	334.83	337.18	335.93	335.58	335.74	335.18	334.84	334.84	334.80	
29	335.06	335.52	334.88	334.83	336.49	336.03	335.75	335.74	335.00	334.83	334.84	334.80	
30	335.35	335.68	334.88	334.94	336.50	335.97	335.61	335.74	334.95	334.83		334.80	
31		335.65		335.04	336.28		335.56		334.94	334.83		334.80	
Mean	334.96	335.29	335.32	334.84	335.52	336.08	335.36	336.05	335.41	334.87	334.84	334.81	
Max	335.57	335.84	336.00	335.04	337.18	337.68	336.25	337.65	335.85	334.93	334.86	334.84	337.68
Min	334.84	334.82	334.88	334.81	334.83	335.31	334.99	335.62	334.94	334.83	334.82	334.79	334.79

Annual Max Momentary Gage Height 337.88 M (MSL), at 18.00 Hours, on Sep 6, 1991
Zero Gage at Bottom Elevation 333.74 M (MSL), River Bed 334.53 M (MSL)
Left Bank Elevation 339.01 M (MSL)
Right Bank Elevation 338.37 M (MSL), Drainage Area 1902 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.89	5.24	5.24	0.89	1.91	24.30	17.72	8.70	10.10	1.21	0.61	0.67	
2	0.89	8.90	4.28	0.84	0.84	13.50	8.30	7.90	9.50	1.21	0.61	0.67	
3	0.89	3.83	4.19	0.84	1.42	5.48	7.37	25.80	9.70	1.21	0.61	0.67	
4	0.89	1.77	7.90	0.73	1.91	5.48	7.70	79.00	9.50	1.14	0.56	0.67	
5	0.89	1.21	5.48	0.67	0.78	6.08	6.20	52.60	9.30	1.14	0.67	0.67	
6	0.89	0.78	5.24	0.67	0.73	80.50	4.73	46.20	9.10	1.07	0.78	0.67	
7	0.89	0.73	5.24	0.67	0.67	67.50	4.64	27.00	8.90	1.07	0.73	0.67	
8	0.89	0.67	5.12	0.67	0.67	56.60	4.01	24.30	8.70	1.00	0.73	0.61	
9	0.84	4.37	4.64	0.67	0.61	60.65	1.98	21.90	7.70	0.95	0.73	0.61	
10	0.84	5.36	4.46	0.73	0.61	47.00	1.63	20.16	6.46	0.89	0.73	0.61	
11	0.84	10.50	15.80	0.67	0.61	35.04	4.10	17.48	5.60	0.89	0.73	0.51	
12	0.84	12.30	11.30	0.56	0.61	25.20	12.50	17.00	5.60	0.89	0.67	0.45	
13	0.84	6.72	8.90	0.56	0.61	19.04	4.91	17.24	5.60	0.84	0.67	0.45	
14	0.84	7.70	7.90	0.56	9.90	12.30	22.50	15.57	12.50	0.84	0.67	0.45	
15	0.84	7.24	5.48	0.56	6.08	7.50	4.91	16.52	11.30	0.84	0.67	0.45	
16	0.78	5.96	5.24	0.51	2.88	7.11	2.64	15.34	8.30	0.84	0.67	0.45	
17	0.78	5.48	5.24	0.56	7.24	9.10	1.91	12.30	7.90	0.84	0.61	0.45	
18	0.73	4.91	5.12	0.67	36.12	16.28	1.63	12.30	7.50	0.78	0.61	0.45	
19	0.67	4.64	4.64	0.61	33.96	18.76	1.63	12.30	7.90	0.78	0.61	0.45	
20	0.67	4.28	4.46	0.56	8.70	20.72	4.28	12.10	7.70	0.78	0.61	0.45	
21	0.67	2.72	3.29	0.56	6.20	16.52	6.20	11.70	2.72	0.78	0.61	0.41	
22	2.26	1.98	2.48	0.56	5.72	14.42	1.98	11.30	2.26	0.78	0.61	0.41	
23	0.67	0.67	2.40	0.56	16.52	10.10	1.63	10.50	1.49	0.78	0.61	0.45	
24	1.07	0.61	2.33	0.61	9.70	4.73	1.63	10.30	1.35	0.73	0.61	0.51	
25	4.46	0.56	2.12	0.61	7.90	4.19	1.63	10.30	1.35	0.73	0.61	0.51	
26	7.11	2.64	1.07	0.61	10.90	5.24	1.98	10.30	1.28	0.67	0.67	0.51	
27	2.80	3.29	0.89	0.61	22.50	6.33	1.98	10.30	1.35	0.67	0.67	0.45	
28	3.12	4.19	0.89	0.61	56.60	14.19	7.24	10.30	3.04	0.67	0.67	0.45	
29	2.12	6.46	0.89	0.61	29.88	16.52	10.50	10.30	1.70	0.61	0.67	0.45	
30	4.55	9.10	0.89	1.28	30.20	15.11	7.70	10.30	1.35	0.61		0.45	
31		8.50		1.98	23.40		6.98		1.28	0.61		0.45	
Total	45.46	143.31	143.12	21.80	336.38	645.49	174.74	567.31	188.03	26.85	19.01	16.13	2327.63 CMSDAY
Mean	1.52	4.62	4.77	0.70	10.85	21.52	5.64	18.91	6.07	0.87	0.66	0.52	6.36 CMS
Max	7.11	12.30	15.80	1.98	56.60	80.50	22.50	79.00	12.50	1.21	0.78	0.67	80.50 CMS
Min	0.67	0.56	0.89	0.51	0.61	4.19	1.63	7.90	1.28	0.61	0.56	0.41	0.41 CMS
Runoff	3.928	12.382	12.366	1.884	29.063	55.770	15.098	49.016	16.246	2.320	1.642	1.394	201.107 MCM

Momentary Peak 91.40 CMS, at 337.88 M (MSL), at 18.00 Hours, on Sep 6, 1991
Runoff Yield 3.34 Liters/Second/Square KM, Momentary Peak Yield 48.05 Liters/Second/Square KM

WATER YEAR 1991

PING RIVER BASIN

Nam Mae Kuang at Tha Sing Phithak Bridge, Lamphun (P.5)

Location — Lat. 18-34-32 N., Long. 99-00-44 E., on right bank about 10 meters downstream from Tha Sing Phitak Bridge, Amphoe Muang, Lamphun.

Drainage Area — 1,569 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +288.50 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — On right bank near the abutment of the bridge.

Elevation — +296.000 m. (M.S.L.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1951 to date.

Rating Operation

Period of Rating — 1954-1960, 1967 to date.

Rated by Float —

Rated by Current Meter — 1954-1960, 1967 to date.

Stability of Channel Regimes — Fairly stable with variable water surface slope.

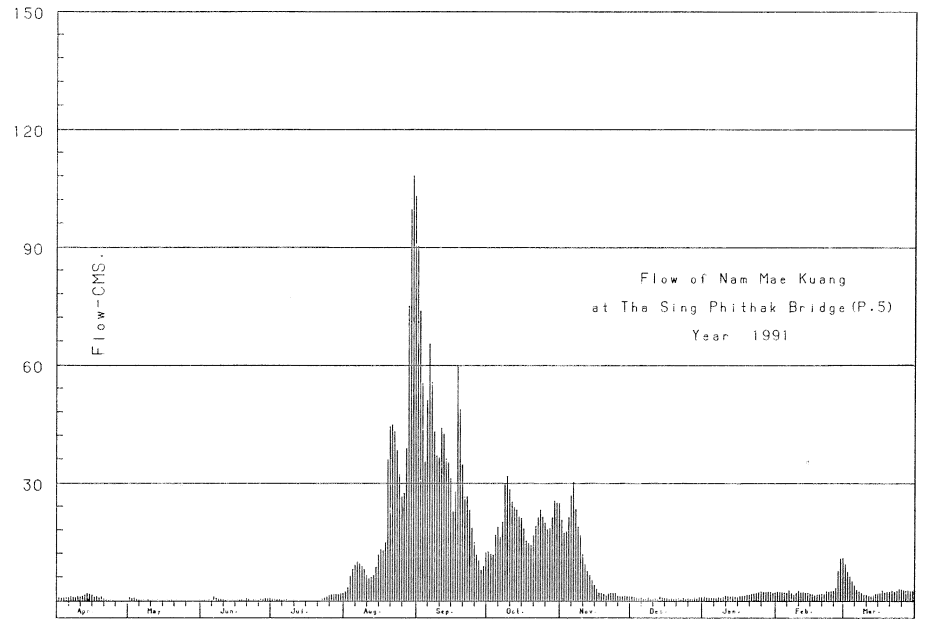
Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Upstream state diversions for irrigation about 9,600 hectares at Mae Kuang Weir. Stage-discharge relation defined by 33 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	289.06	289.07	288.96	289.01	289.32	292.82	289.93	290.35	289.09	289.07	289.22	289.74	
2	289.04	289.02	288.93	289.00	289.47	292.31	289.90	290.18	289.06	289.04	289.20	289.62	
3	289.05	289.05	288.95	288.98	289.85	291.70	289.88	290.20	289.03	289.04	289.21	289.54	
4	289.05	288.98	288.95	288.97	290.03	290.98	290.16	290.38	289.01	289.03	289.19	289.46	
5	289.07	288.94	288.95	288.97	290.14	291.55	290.26	290.63	289.04	289.03	289.19	289.37	
6	289.11	288.94	289.11	288.95	290.21	292.04	290.13	290.77	289.04	289.02	289.25	289.27	
7	289.08	288.93	289.02	288.95	290.17	291.71	290.32	290.48	288.99	289.06	289.18	289.22	
8	289.05	288.94	288.99	288.94	290.10	291.27	290.75	290.26	289.05	289.03	289.13	289.19	
9	289.12	288.97	288.99	288.94	290.03	291.04	290.83	290.15	289.00	289.07	289.19	289.13	
10	289.09	288.95	288.97	288.93	289.87	291.02	290.70	289.89	288.99	289.11	289.24	289.13	
11	289.14	288.93	288.95	288.93	289.77	291.30	290.56	289.74	289.01	289.09	289.20	289.10	
12	289.18	288.95	288.94	288.93	289.80	291.25	290.50	289.63	289.00	289.08	289.20	289.09	
13	289.25	288.95	288.95	288.92	289.87	291.01	290.47	289.57	289.08	289.08	289.19	289.12	
14	289.21	288.93	288.93	288.91	290.08	290.97	290.39	289.48	289.04	289.07	289.18	289.16	
15	289.19	288.91	288.92	288.91	290.37	290.81	290.37	289.38	289.03	289.07	289.17	289.17	
16	289.08	288.91	289.00	288.87	290.47	290.45	290.24	289.29	289.04	289.10	289.15	289.18	
17	289.12	288.95	289.00	288.87	290.45	290.67	290.08	289.20	289.00	289.10	289.12	289.25	
18	289.05	288.95	288.97	288.89	290.61	291.85	290.05	289.18	289.02	289.11	289.14	289.20	
19	289.11	288.94	288.98	288.89	291.68	291.47	290.02	289.16	289.00	289.13	289.15	289.21	
20	289.00	288.95	289.03	288.91	291.98	290.95	290.15	289.11	288.96	289.14	289.16	289.22	
21	288.96	288.93	288.96	288.98	292.00	290.62	290.27	289.17	289.02	289.15	289.15	289.24	
22	288.92	288.92	288.93	289.01	291.94	290.62	290.38	289.18	289.02	289.17	289.23	289.22	
23	288.96	288.91	288.94	289.07	291.77	290.47	290.47	289.18	289.03	289.18	289.22	289.24	
24	288.91	288.92	288.95	289.10	291.53	290.25	290.39	289.18	288.97	289.20	289.23	289.29	
25	288.91	288.91	288.95	289.17	291.28	290.06	290.31	289.11	289.02	289.22	289.24	289.27	
26	288.92	288.90	288.99	289.19	291.32	289.89	290.23	289.08	289.00	289.21	289.31	289.26	
27	288.92	288.88	289.02	289.21	291.79	289.80	290.24	289.09	289.00	289.20	289.64	289.24	
28	288.92	288.91	289.03	289.21	292.78	289.65	290.38	289.10	289.06	289.22	289.83	289.26	
29	288.92	288.92	289.01	289.20	293.27	289.71	290.57	289.09	289.01	289.21	289.84	289.23	
30	288.95	288.92	289.03	289.24	293.35	289.92	290.55	289.08	289.05	289.19		289.24	
31		288.95		289.24	293.20		290.54		289.05	289.19		289.20	
Mean	289.04	288.94	288.98	289.01	290.92	290.94	290.32	289.61	289.02	289.12	289.25	289.26	
Max	289.25	289.07	289.11	289.24	293.35	292.82	290.83	290.77	289.09	289.22	289.84	289.74	293.35
Min	288.91	288.88	288.92	288.87	289.32	289.65	289.88	289.08	288.96	289.02	289.12	289.09	288.87

Annual Max Momentary Gage Height 293.37 M (MSL), at 9.00 Hours, on Aug 30, 1991
Zero Gage at Bottom Elevation 288.50 M (MSL), River Bed 288.63 M (MSL)
Left Bank Elevation 293.37 M (MSL)
Right Bank Elevation 293.42 M (MSL), Drainage Area 1569 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.90	0.95	0.48	0.65	2.42	90.36	12.54	20.70	1.23	1.09	2.40	9.34	
2	0.80	0.70	0.39	0.60	3.39	73.91	12.00	17.30	1.02	0.88	2.20	7.42	
3	0.85	0.85	0.45	0.54	6.40	55.40	11.66	17.70	0.81	0.88	2.30	6.20	
4	0.85	0.54	0.45	0.51	8.10	35.50	16.90	21.30	0.67	0.81	2.11	5.08	
5	0.95	0.42	0.45	0.51	9.20	51.05	18.90	26.89	0.88	0.81	2.11	3.97	
6	1.16	0.42	1.16	0.45	9.92	65.54	16.30	30.25	0.88	0.74	2.70	2.90	
7	1.00	0.39	0.70	0.45	9.50	55.69	20.10	23.46	0.60	1.02	2.02	2.40	
8	0.85	0.42	0.57	0.42	8.80	43.16	29.75	18.90	0.95	0.81	1.57	2.11	
9	1.22	0.51	0.57	0.42	8.10	37.00	31.75	16.70	0.60	1.09	2.11	1.57	
10	1.05	0.45	0.51	0.39	6.56	36.50	28.50	11.83	0.60	1.39	2.60	1.57	
11	1.34	0.39	0.45	0.39	5.76	44.00	25.28	9.34	0.67	1.23	2.20	1.30	
12	1.58	0.45	0.42	0.39	6.00	42.60	23.90	7.58	0.60	1.16	2.20	1.23	
13	2.00	0.45	0.45	0.36	6.56	36.25	23.24	6.65	1.16	1.16	2.11	1.48	
14	1.76	0.39	0.39	0.33	8.60	35.25	21.50	5.34	0.88	1.09	2.02	1.84	
15	1.64	0.33	0.36	0.33	11.84	31.25	21.10	4.08	0.81	1.09	1.93	1.93	
16	1.00	0.33	0.60	0.21	13.11	22.80	18.50	3.10	0.88	1.30	1.75	2.02	
17	1.22	0.45	0.60	0.21	12.85	27.81	15.32	2.20	0.60	1.30	1.48	2.70	
18	0.85	0.45	0.51	0.27	14.95	59.80	14.75	2.02	0.74	1.39	1.66	2.20	
19	1.16	0.42	0.54	0.27	36.00	48.76	14.18	1.84	0.60	1.57	1.75	2.30	
20	0.60	0.45	0.75	0.33	44.40	34.75	16.70	1.39	0.60	1.66	1.84	2.40	
21	0.48	0.39	0.48	0.54	45.00	26.66	19.10	1.93	0.74	1.75	1.75	2.60	
22	0.36	0.36	0.39	0.65	43.20	26.66	21.30	2.02	0.74	1.93	2.50	2.40	
23	0.48	0.33	0.42	0.95	38.39	23.24	23.24	2.02	0.81	2.02	2.40	2.60	
24	0.33	0.36	0.45	1.10	32.25	18.70	21.50	2.02	0.60	2.20	2.50	3.10	
25	0.33	0.33	0.45	1.52	26.60	14.94	19.90	1.39	0.74	2.40	2.60	2.90	
26	0.36	0.30	0.57	1.64	27.44	11.83	18.30	1.16	0.60	2.30	3.31	2.80	
27	0.36	0.24	0.70	1.76	38.93	10.30	18.50	1.23	0.60	2.20	7.74	2.60	
28	0.36	0.33	0.75	1.76	75.08	7.90	21.30	1.30	1.02	2.40	10.81	2.80	
29	0.36	0.36	0.65	1.70	99.72	8.86	25.51	1.23	0.67	2.30	10.98	2.50	
30	0.45	0.36	0.75	1.94	108.20	12.36	25.05	1.16	0.95	2.11		2.60	
31		0.45		1.94	103.10		24.82		0.95	2.11		2.20	
Total	26.65	13.57	16.41	23.53	870.37	1038.83	631.39	264.03	24.20	46.19	85.65	91.06	3181.88 CMSDAY
Mean	0.89	0.44	0.55	0.76	28.08	36.29	20.37	8.80	0.78	1.49	2.95	2.94	8.69 CMS
Max	2.00	0.95	1.16	1.94	108.20	90.36	31.75	30.25	1.23	2.40	10.98	9.34	108.20 CMS
Min	0.33	0.24	0.36	0.21	2.42	7.90	11.66	1.16	0.60	0.74	1.48	1.23	0.21 CMS
Runoff	2.303	1.172	1.418	2.033	75.200	94.075	54.552	22.812	2.091	3.991	7.400	7.868	274.914 MCM

Momentary Peak 108.88 CMS, at 293.37 M (MSL), at 9.00 Hours, on Aug 30, 1991

Runoff Yield 5.54 Liters/Second/Square KM, Momentary Peak Yield 69.39 Liters/Second/Square KM

WATER YEAR 1991

PING RIVER BASIN

Ping River at Ban Huai Yang, Kamphaeng Phet (P.7A)

Location — Lat. 16-28-38 N., Long. 99-31-06 E., on right bank about 100 meters upstream from the bridge on highway at Ban Nakhon Chum, Amphoe Muang, Kamphaeng Phet.

Drainage Area — 42,700 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +71.73 m. (M.S.L.)

Bench Mark — B.M.-H.D.

Location — Near the gage observer's house.

Elevation — +77.446 m. (M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1960 to date.

Rating Operation

Period of Rating — 1960-1961, 1967 to date.

Rated by Float — -

Rated by Current Meter — 1960-1961, 1967 to date.

Stability of Channel Regimes — Stable.

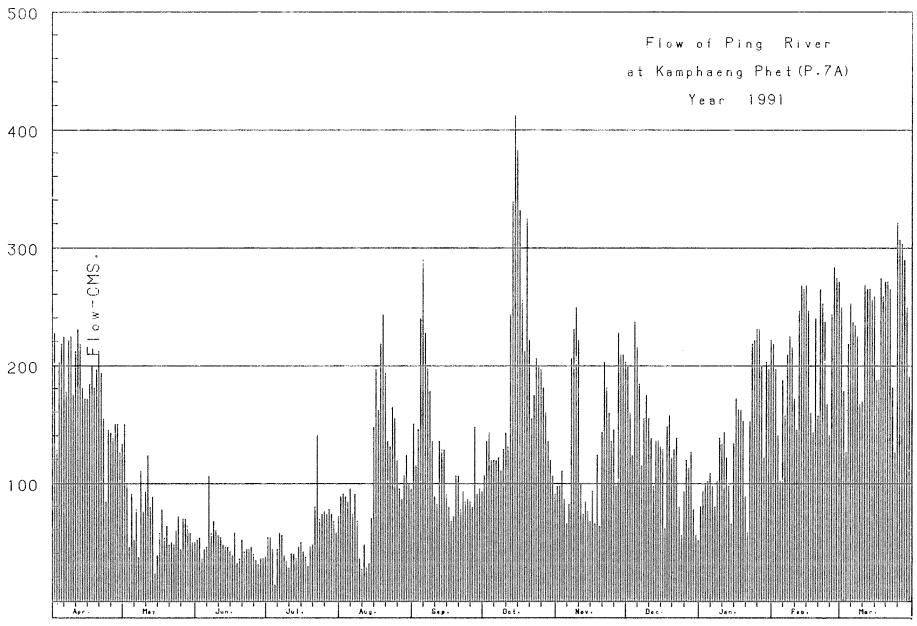
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Flow completely regulated by Phumiphol Dam reservior and diverted for irrigation about 40,300 hectares at above gage site. Stage-discharge relation defined by 35 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	73.58	73.31	72.86	72.87	73.04	73.31	73.12	73.08	73.49	73.00	73.55	73.65	
2	73.22	73.09	72.87	72.87	73.05	73.16	73.25	73.08	73.35	73.06	73.48	73.42	
3	73.50	72.83	72.77	72.82	73.04	73.29	73.28	73.14	73.20	73.09	73.27	73.21	
4	73.55	73.05	72.82	72.60	73.02	73.62	73.18	73.03	73.61	73.10	73.10	73.55	
5	73.57	72.86	72.83	72.82	73.07	73.78	73.18	72.93	73.54	73.13	73.45	73.66	
6	73.42	72.99	73.12	72.89	72.97	73.58	73.18	73.01	73.44	73.08	73.34	73.61	
7	73.56	72.78	72.89	72.88	73.05	73.49	73.19	73.51	73.16	73.00	73.52	73.60	
8	73.57	73.14	72.94	72.79	72.94	73.42	73.14	73.59	73.33	73.10	73.57	73.57	
9	73.41	72.98	72.90	72.75	72.77	73.25	73.22	73.65	73.41	73.26	73.54	73.38	
10	73.53	73.06	72.88	72.71	72.70	73.04	73.28	73.56	73.33	73.24	73.40	73.39	
11	73.59	73.20	72.87	72.80	72.84	73.01	73.23	73.09	73.26	73.28	73.29	73.71	
12	73.55	73.00	72.84	72.80	72.71	73.25	73.63	72.97	73.08	73.19	73.64	73.70	
13	73.43	73.04	72.83	72.77	72.74	73.22	73.92	73.02	73.25	73.08	73.71	73.70	
14	73.40	72.70	72.83	72.83	72.95	73.22	74.12	72.98	73.25	72.93	73.70	73.67	
15	73.40	72.79	72.81	72.85	73.30	73.05	74.04	72.94	73.23	73.24	73.71	73.68	
16	73.44	72.89	72.79	72.81	73.48	73.00	73.90	73.06	73.22	73.40	73.64	73.45	
17	73.49	72.99	72.89	72.78	73.36	72.94	73.67	72.93	72.91	73.36	73.35	73.45	
18	73.43	72.87	72.74	72.72	73.55	72.96	73.53	73.20	73.30	73.36	73.28	73.73	
19	73.48	72.92	72.77	72.83	73.63	73.12	73.88	72.92	73.34	73.32	73.62	73.68	
20	73.53	72.84	72.86	72.84	73.47	73.12	73.56	73.28	73.19	73.04	73.34	73.72	
21	73.47	72.85	72.81	73.00	73.25	72.99	73.33	73.50	73.22	72.89	73.70	73.72	
22	73.33	72.84	72.82	73.27	73.23	73.06	73.41	73.43	73.26	73.32	73.66	73.70	
23	73.02	72.90	72.82	72.95	73.37	73.02	73.51	73.35	73.00	73.55	73.61	73.43	
24	73.29	72.96	72.83	72.97	73.33	73.03	73.49	73.25	72.88	73.56	73.38	73.21	
25	73.28	72.82	72.80	72.98	73.18	73.02	73.48	73.29	73.06	73.59	73.27	73.87	
26	73.26	72.95	72.76	72.97	73.07	73.00	73.43	73.08	73.18	73.59	73.63	73.83	
27	73.31	72.95	72.73	72.99	73.03	73.30	73.35	73.58	73.15	73.49	73.76	73.82	
28	73.31	72.92	72.77	72.97	73.12	73.05	73.25	73.52	73.21	73.19	73.73	73.78	
29	73.21	72.89	72.77	72.94	73.20	73.07	73.18	73.52	72.99	73.50	73.72	73.65	
30	73.24	72.85	72.78	72.89	73.09	73.06	73.12	73.50	72.88	73.48		73.46	
31		72.85		72.96	73.07		73.05		72.86	73.56		73.36	
Mean	73.41	72.94	72.83	72.87	73.12	73.18	73.42	73.23	73.21	73.26	73.52	73.59	
Max	73.59	73.31	73.12	73.27	73.63	73.78	74.12	73.65	73.61	73.59	73.76	73.87	74.12
Min	73.02	72.70	72.73	72.60	72.70	72.94	73.05	72.92	72.86	72.89	73.10	73.21	72.60

Annual Max Momentary Gage Height 74.14 M (MSL), at 3.00 Hours, on Sep 6, 1991
Zero Gage at Bottom Elevation 71.73 M (MSL), River Bed 71.77 M (MSL)
Left Bank Elevation 77.63 M (MSL)
Right Bank Elevation 77.28 M (MSL), Drainage Area 42700 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	227.80	150.40	52.00	54.00	88.80	150.40	106.40	97.60	199.90	80.00	218.50	249.50	
2	128.80	99.80	54.00	54.00	91.00	115.20	136.00	97.60	160.00	93.20	196.80	178.20	
3	203.00	46.00	36.10	44.00	88.80	145.60	143.20	110.80	124.00	99.80	140.80	126.40	
4	218.50	91.00	44.00	14.00	84.40	240.20	119.60	86.60	237.10	102.00	102.00	218.50	
5	224.70	52.00	46.00	44.00	95.40	289.80	119.60	66.00	215.40	108.60	187.50	252.60	
6	178.20	78.00	106.40	58.00	74.00	227.80	119.60	82.20	184.40	97.60	157.60	237.10	
7	221.60	37.40	58.00	56.00	91.00	199.90	121.80	206.10	115.20	80.00	209.20	234.00	
8	224.70	110.80	68.00	38.70	68.00	178.20	110.80	230.90	155.20	102.00	224.70	224.70	
9	175.10	76.00	60.00	33.50	36.10	136.00	128.80	249.50	175.10	138.40	215.40	167.20	
10	212.30	93.20	56.00	28.30	27.00	88.80	143.20	221.60	155.20	133.60	172.00	169.60	
11	230.90	124.00	54.00	40.00	48.00	82.20	131.20	99.80	138.40	143.20	145.60	268.10	
12	218.50	80.00	48.00	40.00	28.30	136.00	243.30	74.00	97.60	121.80	246.40	265.00	
13	181.30	88.80	46.00	36.10	32.20	128.80	339.20	84.40	136.00	97.60	268.10	265.00	
14	172.00	27.00	46.00	46.00	70.00	128.80	412.40	76.00	136.00	66.00	265.00	255.70	
15	172.00	38.70	42.00	50.00	148.00	91.00	382.80	68.00	131.20	133.60	268.10	258.80	
16	184.40	58.00	38.70	42.00	196.80	80.00	332.00	93.20	128.80	172.00	246.40	187.50	
17	199.90	78.00	58.00	37.40	162.40	68.00	255.70	66.00	62.00	162.40	160.00	187.50	
18	181.30	54.00	32.20	29.60	218.50	72.00	212.30	124.00	148.00	162.40	143.20	274.30	
19	196.80	64.00	36.10	46.00	243.30	106.40	324.80	64.00	157.60	152.80	240.20	258.80	
20	212.30	48.00	52.00	48.00	193.70	106.40	221.60	143.20	121.80	88.80	157.60	271.20	
21	193.70	50.00	42.00	80.00	136.00	78.00	155.20	203.00	128.80	58.00	265.00	271.20	
22	155.20	48.00	44.00	140.80	131.20	93.20	175.10	181.30	138.40	152.80	252.60	265.00	
23	84.40	60.00	44.00	70.00	164.80	84.40	206.10	160.00	80.00	218.50	237.10	181.30	
24	145.60	72.00	46.00	74.00	155.20	86.60	199.90	136.00	56.00	221.60	167.20	126.40	
25	143.20	44.00	40.00	76.00	119.60	84.40	196.80	145.60	93.20	230.90	140.80	321.20	
26	138.40	70.00	34.80	74.00	95.40	80.00	181.30	97.60	119.60	230.90	243.30	306.80	
27	150.40	70.00	30.90	78.00	86.60	148.00	160.00	227.80	113.00	199.90	283.60	303.20	
28	150.40	64.00	36.10	74.00	106.40	91.00	136.00	209.20	126.40	121.80	274.30	289.80	
29	126.40	58.00	36.10	68.00	124.00	95.40	119.60	209.20	78.00	203.00	271.20	249.50	
30	133.60	50.00	37.40	58.00	99.80	93.20	106.40	203.00	56.00	196.80		190.60	
31		50.00		72.00	95.40		91.00		52.00	221.60		162.40	
Total	5385.40	2131.10	1424.80	1704.40	3400.10	3705.70	5831.70	4114.20	4020.30	4391.60	6100.20	7217.10	49426.60 CMSDAY
Mean	179.51	68.75	47.49	54.98	109.68	123.52	188.12	137.14	129.69	141.66	210.35	232.81	135.05 CMS
Max	230.90	150.40	106.40	140.80	243.30	289.80	412.40	249.50	237.10	230.90	283.60	321.20	412.40 CMS
Min	84.40	27.00	30.90	14.00	27.00	68.00	91.00	64.00	52.00	58.00	102.00	126.40	14.00 CMS
Runoff	465.299	184.127	123.103	147.260	293.769	320.172	503.859	355.467	347.354	379.434	527.057	623.557	4270.458 MCM

Momentary Peak 419.80 CMS, at 74.14 M (MSL), at 3.00 Hours, on Sep 6, 1991

Runoff Yield 3.16 Liters/Second/Square KM, Momentary Peak Yield 9.83 Liters/Second/Square KM

WATER YEAR 1991

PING RIVER BASIN

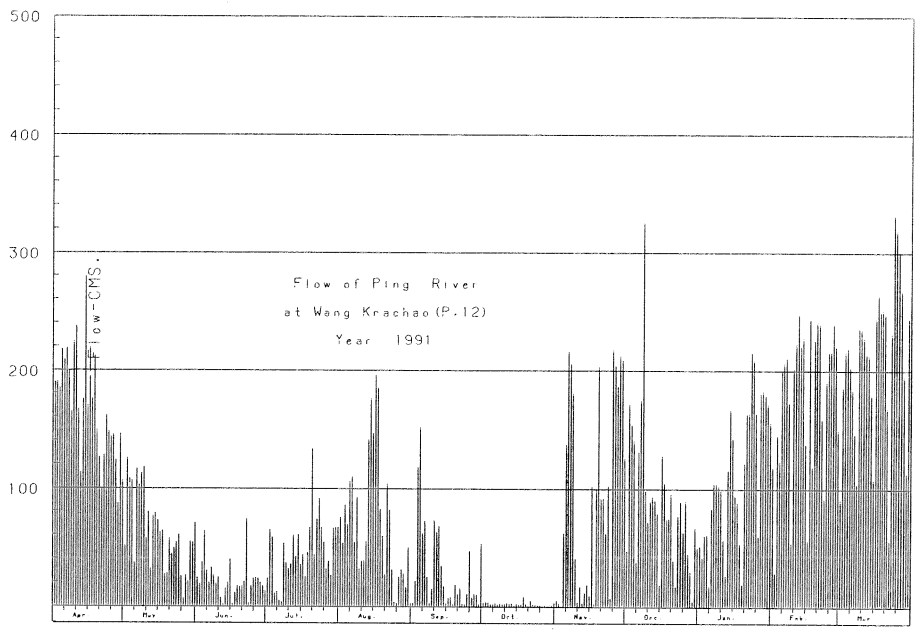
Ping River at Wang Kra Chao, Tak (P.12)

Location	Lat. 17-14-30 N., Long. 99-00-45 E., on right bank about 4 kilometers downstream from Phumiphol Dam reservoir, at Wang Kra Chao, Amphoe Sam Ngao, Tak.
Drainage Area	26,343 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+132.00 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	About 25 meters north of automatic gage building.
Elevation	+143.825 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1952 to date.
Rating Operation	
Period of Rating	1952 to date.
Rated by Float	-
Rated by Current Meter	1952 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Flow regulated by Phumiphol Dam reservior and diverted for irrigation about 28,000 hectares at above gage site. Stage-discharge relation defined by 33 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	134.04	132.92	132.57	132.56	133.16	132.04	132.04	132.18	132.86	132.92	133.52	133.29	
2	134.04	133.58	132.49	133.06	132.95	132.52	132.10	132.04	133.92	132.80	132.64	134.01	
3	134.01	133.44	132.74	133.01	133.25	133.52	132.07	131.98	133.81	133.02	133.74	134.20	
4	134.21	133.42	133.05	132.34	133.11	133.79	132.01	133.04	133.70	133.03	133.56	134.22	
5	134.16	132.74	132.65	132.36	133.42	133.04	132.02	133.68	132.75	132.46	134.10	134.12	
6	134.22	133.51	132.51	132.14	133.45	133.13	132.03	134.20	133.63	133.23	134.14	134.00	
7	134.10	133.39	132.69	132.10	132.96	132.58	132.01	134.14	133.94	133.40	134.17	133.75	
8	133.88	133.47	132.60	132.94	133.31	132.05	132.02	133.98	134.79	133.40	133.93	133.40	
9	134.25	133.52	132.49	132.74	132.67	132.41	132.01	132.79	133.35	133.39	132.95	134.32	
10	134.33	133.00	132.57	132.68	132.76	133.14	132.03	132.07	133.13	133.35	134.11	134.31	
11	133.89	133.20	132.23	132.72	132.76	133.05	132.04	132.45	133.28	132.98	134.24	134.27	
12	133.48	132.67	132.02	133.02	132.96	133.09	132.04	132.07	133.31	132.60	134.39	134.19	
13	133.95	133.17	132.43	132.80	133.71	132.71	132.03	132.34	133.29	133.50	134.23	134.18	
14	134.57	133.19	132.50	133.03	133.95	132.46	131.98	132.47	133.19	133.89	134.27	133.97	
15	133.91	133.14	132.78	132.72	133.75	132.02	132.01	132.29	132.47	133.72	133.68	133.43	
16	134.22	133.04	132.03	132.82	134.08	132.24	132.00	133.39	133.60	133.32	132.98	134.37	
17	133.95	133.06	132.35	132.59	134.01	132.24	131.99	132.04	133.41	133.27	134.37	134.48	
18	134.18	132.61	132.45	132.85	133.22	132.02	132.27	133.36	133.15	132.94	133.52	134.40	
19	133.77	132.63	132.45	133.08	133.02	132.47	132.01	134.12	133.15	132.49	134.26	134.41	
20	133.59	132.99	132.45	133.65	132.61	132.32	131.96	133.30	133.33	133.55	134.35	134.39	
21	133.37	132.83	132.51	132.82	133.40	132.43	132.17	133.30	132.77	133.87	134.34	133.90	
22	133.60	132.90	133.15	133.15	133.22	132.01	132.01	133.04	132.46	133.87	133.84	132.98	
23	133.86	132.95	132.03	133.30	132.67	132.01	131.98	133.39	133.17	134.20	133.30	134.29	
24	133.76	133.03	132.46	133.08	132.08	132.31	131.98	132.23	133.28	134.16	134.04	134.82	
25	133.73	132.60	132.57	132.96	132.06	132.87	131.97	134.21	133.05	133.87	134.20	134.76	
26	133.74	132.21	132.57	132.67	132.59	132.25	131.96	134.13	133.28	133.02	134.20	134.67	
27	133.57	132.60	132.57	132.76	132.67	132.31	131.95	134.02	132.84	133.98	134.34	134.50	
28	133.26	132.52	132.50	132.60	132.62	132.31	131.95	134.18	132.64	133.99	134.23	134.07	
29	133.75	132.96	132.46	133.08	132.44	132.01	131.99	134.16	132.14	133.97	133.77	133.48	
30	133.42	132.96	132.37	133.08	132.90	132.94	131.98	133.58	133.08	133.92		134.37	
31		133.12		133.08	132.06		132.05		132.90	133.82		134.48	
Mean	133.89	133.01	132.51	132.83	133.03	132.54	132.02	133.14	133.22	133.42	133.91	134.13	
Max	134.57	133.58	133.15	133.65	134.08	133.79	132.27	134.21	134.79	134.20	134.39	134.82	134.82
Min	133.26	132.21	132.02	132.10	132.06	132.01	131.95	131.98	132.14	132.46	132.64	132.98	131.95

Annual Max Momentary Gage Height 135.70 M (MSL), at 21.00 Hours, on Apr 12, 1991
Zero Gage at Bottom Elevation 132.00 M (MSL), River Bed 131.29 M (MSL)
Left Bank Elevation 145.19 M (MSL)
Right Bank Elevation 145.12 M (MSL), Drainage Area 26396 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	190.40	51.60	24.20	23.60	75.60	2.80	2.80	5.60	46.80	51.60	118.40	90.80	
2	190.40	125.60	19.40	64.60	54.00	21.20	4.00	2.80	171.60	42.00	29.20	185.60	
3	185.60	108.80	37.20	59.10	86.00	118.40	3.40	1.60	154.55	60.20	145.50	216.00	
4	217.70	106.40	63.50	11.60	70.10	151.75	2.20	62.40	140.50	61.30	123.20	219.40	
5	209.60	37.20	30.00	12.40	106.40	62.40	2.40	138.00	38.00	17.60	200.00	203.20	
6	219.40	117.20	20.60	4.80	110.00	72.30	2.60	216.00	131.75	83.60	206.40	184.00	
7	200.00	102.80	33.20	4.00	54.80	24.80	2.20	206.40	174.70	104.00	211.20	146.75	
8	165.40	112.40	26.00	53.20	93.20	3.00	2.40	180.90	325.90	104.00	173.15	104.00	
9	224.50	118.40	19.40	37.20	31.60	14.60	2.20	41.20	98.00	102.80	54.00	236.40	
10	238.10	58.00	24.20	32.40	38.80	73.40	2.60	3.40	72.30	98.00	201.60	234.70	
11	166.95	80.00	7.20	35.60	38.80	63.50	2.80	17.00	89.60	56.40	222.80	227.90	
12	113.60	31.60	2.40	60.20	54.80	67.90	2.80	3.40	93.20	26.00	248.30	214.40	
13	176.25	76.70	15.80	42.00	141.75	34.80	2.60	11.60	90.80	116.00	221.10	212.80	
14	280.60	78.90	20.00	61.30	176.25	17.60	1.60	18.20	78.90	166.95	227.90	179.35	
15	170.05	73.40	40.40	35.60	146.75	2.40	2.20	9.60	18.20	143.00	138.00	107.60	
16	219.40	62.40	2.60	43.60	196.80	7.60	2.00	102.80	128.00	94.40	56.40	244.90	
17	176.25	64.60	12.00	25.40	185.60	7.60	1.80	2.80	105.20	88.40	244.90	264.40	
18	212.80	26.80	17.00	46.00	82.40	2.40	8.80	99.20	74.50	53.20	118.40	250.00	
19	149.25	28.40	17.00	66.80	60.20	18.20	2.20	203.20	74.50	19.40	226.20	251.80	
20	126.80	57.20	17.00	134.25	26.80	10.80	1.20	92.00	95.60	122.00	241.50	248.30	
21	100.40	44.40	20.60	43.60	104.00	15.80	5.40	92.00	39.60	163.85	239.80	168.50	
22	128.00	50.00	74.50	74.50	82.40	2.20	2.20	62.40	17.60	163.85	159.20	56.40	
23	162.30	54.00	2.60	92.00	31.60	2.20	1.60	102.80	76.70	216.00	92.00	231.30	
24	148.00	61.30	17.60	66.80	3.60	10.40	1.60	7.20	89.60	209.60	190.40	332.30	
25	144.25	26.00	24.20	54.80	3.20	47.60	1.40	217.70	63.50	163.85	216.00	319.60	
26	145.50	6.40	24.20	31.60	25.40	8.00	1.20	204.80	89.60	60.20	216.00	300.70	
27	124.40	26.00	24.20	38.80	31.60	10.40	1.00	187.20	45.20	180.90	239.80	268.00	
28	87.20	21.20	20.00	26.00	27.60	10.40	1.00	212.80	29.20	182.45	221.10	195.20	
29	146.75	54.80	17.60	66.80	16.40	2.20	1.80	209.60	4.80	179.35	149.25	113.60	
30	106.40	54.80	12.80	66.80	50.00	53.20	1.60	125.60	66.80	171.60		244.90	
31		71.20		66.80	3.20		3.00		50.00	156.10		264.40	
Total	5126.25	1988.50	687.40	1482.15	2209.65	939.85	76.60	2840.20	2775.20	3458.60	5131.70	6517.20	33233.30 CMSDAY
Mean	170.88	64.15	22.91	47.81	71.28	31.33	2.47	94.67	89.52	111.57	176.96	210.23	90.80 CMS
Max	280.60	125.60	74.50	134.25	196.80	151.75	8.80	217.70	325.90	216.00	248.30	332.30	332.30 CMS
Min	87.20	6.40	2.40	4.00	3.20	2.20	1.00	1.60	4.80	17.60	29.20	56.40	1.00 CMS
Runoff	442.908	171.806	59.391	128.058	190.914	81.203	6.618	245.393	239.777	298.823	443.379	563.086	2871.357 MCM

Momentary Peak 542.00 CMS, at 135.70 M (MSL), at 21.00 Hours, on Apr 12, 1991
Runoff Yield 3.44 Liters/Second/Square KM, Momentary Peak Yield 20.53 Liters/Second/Square KM

WATER YEAR 1991

PING RIVER BASIN

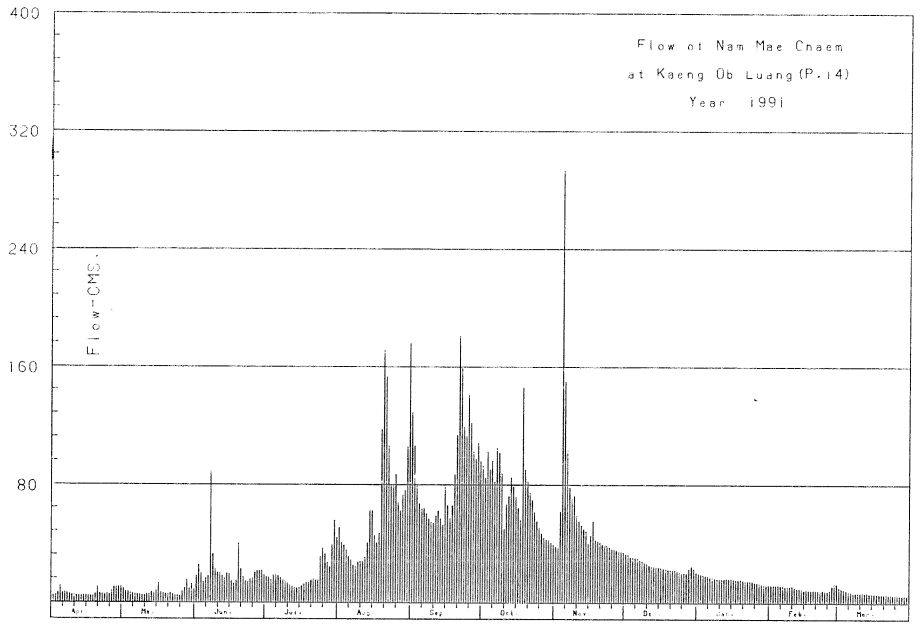
Nam Mae Chaem at Kaeng Ob Luang, Chiang Mai (P.14)

Location	Lat. 18°13'49" N., Long. 98°33'35" E., on right bank near the bridge of Hot-Mae Sariang Highway at guidepost 7+500, Amphoe Hot, Chiang Mai.
Drainage Area	3,853 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+275.80 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	About 10 meters infront of automatic gage building.
Elevation	+282.20 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1953 to date.
Rating Operation	
Period of Rating	1954-1960, 1967 to date.
Rated by Float	-
Rated by Current Meter	1954-1960, 1967 to date.
Stability of Channel Regimes	Fairly stable by some silting.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 195 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	277.19	277.38	277.66	277.64	278.40	279.50	279.05	278.39	278.29	277.99	277.76	277.71	
2	277.20	277.34	277.86	277.63	278.19	279.23	278.94	278.37	278.28	277.98	277.76	277.68	
3	277.28	277.31	277.72	277.58	278.16	278.86	279.18	278.80	278.25	277.96	277.76	277.65	
4	277.44	277.27	277.53	277.68	278.09	278.67	279.02	281.16	278.24	277.95	277.76	277.63	
5	277.27	277.25	277.61	277.69	277.99	278.61	279.10	279.84	278.24	277.94	277.75	277.60	
6	277.29	277.23	277.66	277.67	277.94	278.62	278.90	279.35	278.23	277.92	277.74	277.59	
7	277.27	277.22	279.00	277.62	277.86	278.56	279.21	279.03	278.21	277.91	277.73	277.56	
8	277.23	277.20	278.03	277.57	277.83	278.50	279.17	278.92	278.19	277.90	277.73	277.56	
9	277.21	277.19	277.79	277.54	277.91	278.46	278.98	278.95	278.17	277.89	277.73	277.56	
10	277.20	277.19	277.73	277.50	277.92	278.45	278.38	278.75	278.15	277.89	277.73	277.56	
11	277.19	277.23	277.73	277.46	277.92	278.53	278.66	278.69	278.13	277.88	277.71	277.56	
12	277.18	277.22	277.67	277.43	277.98	278.59	278.75	278.64	278.11	277.89	277.68	277.56	
13	277.18	277.30	277.61	277.40	278.19	278.50	278.94	278.60	278.11	277.89	277.69	277.56	
14	277.18	277.24	277.72	277.39	278.60	278.43	278.85	278.57	278.10	277.89	277.67	277.55	
15	277.18	277.33	277.71	277.40	278.59	278.84	278.74	278.43	278.10	277.89	277.64	277.54	
16	277.17	277.50	277.55	277.44	278.29	278.65	278.62	278.52	278.09	277.88	277.65	277.54	
17	277.17	277.29	277.49	277.48	278.19	278.50	278.70	278.69	278.08	277.87	277.64	277.53	
18	277.16	277.25	277.56	277.52	278.32	278.65	279.80	278.47	278.07	277.87	277.63	277.52	
19	277.24	277.24	278.18	277.51	279.37	278.97	279.19	278.46	278.06	277.87	277.64	277.52	
20	277.41	277.23	277.79	277.57	279.95	279.32	279.09	278.44	278.05	277.86	277.63	277.52	
21	277.26	277.27	277.64	277.60	279.77	280.05	278.98	278.42	278.05	277.84	277.63	277.52	
22	277.23	277.22	277.55	277.57	279.23	279.83	278.91	278.40	278.05	277.85	277.63	277.51	
23	277.21	277.19	277.53	277.57	278.86	279.39	278.79	278.39	278.03	277.84	277.64	277.51	
24	277.25	277.18	277.59	277.99	278.87	279.31	278.69	278.38	278.01	277.84	277.63	277.50	
25	277.22	277.17	277.63	278.12	278.97	279.63	278.61	278.36	278.00	277.81	277.61	277.50	
26	277.33	277.31	277.73	278.03	278.68	279.42	278.55	278.35	278.00	277.81	277.63	277.48	
27	277.41	277.39	277.76	277.90	278.59	279.18	278.50	278.34	278.00	277.80	277.74	277.48	
28	277.41	277.57	277.76	277.83	278.76	279.12	278.48	278.32	278.07	277.78	277.80	277.48	
29	277.42	277.38	277.76	278.16	278.81	279.25	278.47	278.32	278.11	277.76	277.79	277.48	
30	277.42	277.48	277.69	278.48	279.22	279.10	278.44	278.31	278.07	277.76		277.48	
31		277.36		278.26	280.00		278.41		278.01	277.76		277.48	
Mean	277.26	277.29	277.74	277.68	278.56	278.96	278.84	278.69	278.11	277.87	277.69	277.55	
Max	277.44	277.57	279.00	278.48	280.00	280.05	279.80	281.16	278.29	277.99	277.80	277.71	281.16
Min	277.16	277.17	277.49	277.39	277.83	278.43	278.38	278.31	278.00	277.76	277.61	277.48	277.16

Annual Max Momentary Gage Height 281.68 M (MSL), at 10.00 Hours, on Nov 4, 1991
Zero Gage at Bottom Elevation 275.80 M (MSL), River Bed 276.24 M (MSL)
Left Bank Elevation M (MSL)
Right Bank Elevation 282.08 M (MSL), Drainage Area 3853 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	4.80	9.40	17.80	17.20	51.00	129.00	92.50	38.00	33.00	19.65	11.80	10.30	
2	5.00	8.20	25.40	16.90	40.50	106.40	84.80	37.00	32.50	19.30	11.80	9.50	
3	6.60	7.30	19.80	15.40	39.00	79.40	102.40	62.00	31.00	18.60	11.80	8.75	
4	11.20	6.40	13.90	18.40	35.55	67.20	90.40	293.20	30.50	18.25	11.80	8.25	
5	6.40	6.00	16.30	18.70	31.05	63.60	96.00	150.00	30.50	17.90	11.50	7.50	
6	6.80	5.60	17.80	18.10	28.80	64.20	82.00	103.50	30.00	17.20	11.20	7.25	
7	6.40	5.40	89.00	16.60	25.40	60.60	104.80	78.10	29.00	16.85	10.90	6.50	
8	5.60	5.00	32.85	15.10	24.20	57.00	101.60	70.40	28.05	16.50	10.90	6.50	
9	5.20	4.80	22.60	14.20	27.45	54.60	87.60	72.50	27.15	16.15	10.90	6.50	
10	5.00	4.80	20.20	13.00	27.90	54.00	50.00	59.00	26.25	16.15	10.90	6.50	
11	4.80	5.60	20.20	11.80	27.90	58.80	66.60	55.40	25.35	15.80	10.30	6.50	
12	4.60	5.40	18.10	10.90	30.60	62.40	72.25	52.40	24.45	16.15	9.50	6.50	
13	4.60	7.00	16.30	10.00	40.50	57.00	84.80	50.00	24.45	16.15	9.75	6.50	
14	4.60	5.80	19.80	9.70	63.00	52.80	78.75	48.20	24.00	16.15	9.25	6.25	
15	4.60	7.90	19.40	10.00	62.40	78.10	71.60	40.15	24.00	16.15	8.50	6.00	
16	4.40	13.00	14.50	11.20	45.50	66.00	64.20	45.20	23.60	15.80	8.75	6.00	
17	4.40	6.80	12.70	12.40	40.50	57.00	56.00	55.40	23.20	15.45	8.50	5.75	
18	4.20	6.00	14.80	13.60	47.00	66.00	146.00	42.35	22.80	15.45	8.25	5.50	
19	5.80	5.80	40.00	13.30	117.60	86.90	90.20	41.80	22.40	15.45	8.50	5.50	
20	10.30	5.60	22.60	15.10	171.00	113.60	82.30	40.70	22.00	15.10	8.25	5.50	
21	6.20	6.40	17.20	16.00	153.30	181.00	74.60	39.60	22.00	14.40	8.25	5.50	
22	5.60	5.40	14.50	15.10	106.40	159.00	69.70	38.50	22.00	14.75	8.25	5.25	
23	5.20	4.80	13.90	15.10	79.40	119.20	61.40	38.00	21.20	14.40	8.50	5.25	
24	6.00	4.60	15.70	31.05	80.05	112.80	55.40	37.50	20.40	14.40	8.25	5.00	
25	5.40	4.40	16.90	37.00	86.90	140.70	50.60	36.50	20.00	13.35	7.75	5.00	
26	7.90	7.30	20.20	32.85	67.80	121.80	47.00	36.00	20.00	13.35	8.25	4.70	
27	10.30	9.70	21.40	27.00	62.40	102.40	44.00	35.50	20.00	13.00	11.20	4.70	
28	10.30	15.10	21.40	24.20	72.90	97.60	42.90	34.50	22.80	12.40	13.00	4.70	
29	10.60	9.40	21.40	39.00	76.15	108.00	42.35	34.50	24.45	11.80	12.70	4.70	
30	10.60	12.40	18.70	55.80	105.60	96.00	40.70	34.00	22.80	11.80		4.70	
31		8.80		44.00	176.00		39.05		20.40	11.80		4.70	
Total	193.40	220.10	655.35	618.70	2043.75	2673.10	2272.50	1799.90	770.25	479.65	289.20	191.75	12207.65 CMSDAY
Mean	6.45	7.10	21.85	19.96	65.93	89.10	73.31	60.00	24.85	15.47	9.97	6.19	33.35 CMS
Max	11.20	15.10	89.00	55.80	176.00	181.00	146.00	293.20	33.00	19.65	13.00	10.30	293.20 CMS
Min	4.20	4.40	12.70	9.70	24.20	52.80	39.05	34.00	20.00	11.80	7.75	4.70	4.20 CMS
Runoff	16.710	19.017	56.622	53.456	176.580	230.956	196.344	155.511	66.550	41.442	24.987	16.567	1054.741 MCM

Momentary Peak 355.60 CMS, at 281.68 M (MSL), at 10.00 Hours, on Nov 4, 1991

Runoff Yield 8.66 Liters/Second/Square KM, Momentary Peak Yield 92.29 Liters/Second/Square KM

WATER YEAR 1991

PING RIVER BASIN

Ping River at Khanu Woralaksaburi, Kamphaeng Phet (P.16)

Location — Lat. 16-03-42 N., Long. 99-51-51 E., on right bank behind the Post Office, Amphoe Khanu Woralaksaburi, Kamphaeng Phet.

Drainage Area — 45,677 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +41.780 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — On right bank near the automatic gage building.

Elevation — +46.606 m.(M.S.L.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1954 to date.

Rating Operation

Period of Rating — 1960, 1967 - 1974, 1990 to date.

Rated by Float — -

Rated by Current Meter — 1960, 1964 - 1975, 1979, 1990 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 63 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

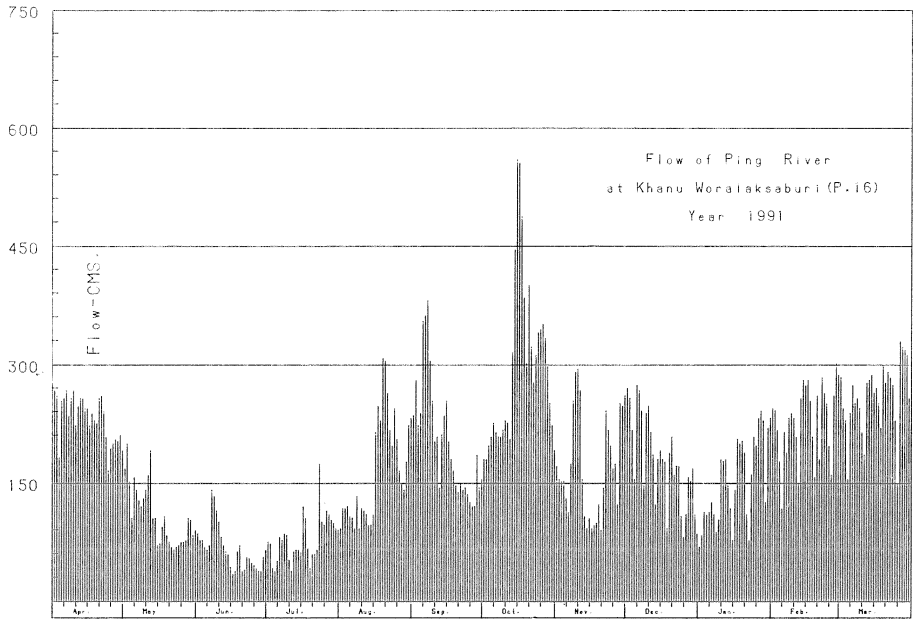
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	43.35	43.02	42.69	42.64	42.72	43.25	43.06	43.03	43.36	42.61	43.28	43.40	
2	43.33	43.13	42.65	42.63	42.83	43.39	43.06	42.97	43.32	42.68	43.27	43.28	
3	43.07	42.96	42.65	42.46	42.83	43.21	43.12	42.96	43.19	42.81	43.19	43.23	
4	43.31	42.78	42.61	42.44	42.84	43.26	43.16	42.96	42.97	42.80	43.05	42.97	
5	43.32	42.98	42.59	42.51	42.79	43.60	43.22	42.88	43.37	42.81	42.83	43.26	
6	43.35	42.92	42.62	42.67	42.78	43.62	43.18	42.81	43.35	42.86	43.18	43.37	
7	43.25	42.87	42.92	42.65	42.72	43.67	43.16	43.04	43.27	42.80	43.09	43.30	
8	43.32	42.84	42.89	42.69	42.89	43.46	43.16	43.31	42.94	42.70	43.24	43.32	
9	43.35	42.88	42.82	42.68	42.72	43.31	43.19	43.42	43.26	42.77	43.26	43.28	
10	43.21	42.92	42.76	42.52	42.83	43.14	43.23	43.43	43.29	43.06	43.24	43.18	
11	43.29	42.99	42.67	42.44	42.82	43.16	43.22	43.35	43.18	43.05	43.16	43.08	
12	43.32	43.10	42.62	42.58	42.80	42.93	43.15	42.97	43.08	43.06	42.95	43.38	
13	43.32	42.78	42.58	42.59	42.74	43.17	43.49	42.79	42.85	42.94	43.32	43.39	
14	43.28	42.78	42.56	42.59	42.74	43.25	43.83	42.72	43.06	42.83	43.39	43.41	
15	43.28	42.62	42.47	42.57	42.80	43.31	44.10	42.78	43.10	42.65	43.37	43.34	
16	43.21	42.63	42.42	42.84	43.18	43.14	44.09	42.72	43.06	42.92	43.39	43.36	
17	43.26	42.73	42.44	42.78	43.29	43.06	43.93	42.74	43.05	43.15	43.31	43.30	
18	43.23	42.79	42.58	42.60	43.23	43.01	43.68	42.75	42.72	43.13	43.16	43.20	
19	43.22	42.68	42.62	42.46	43.47	42.94	43.45	42.85	43.09	43.14	42.98	43.44	
20	43.32	42.64	42.44	42.56	43.46	42.91	43.72	42.71	43.16	43.09	43.33	43.38	
21	43.33	42.61	42.45	42.56	43.34	42.95	43.51	42.93	42.99	42.80	43.06	43.42	
22	43.27	42.59	42.54	42.59	43.19	42.92	43.38	43.27	43.03	42.65	43.40	43.40	
23	43.16	42.61	42.53	43.04	43.12	42.93	43.48	43.19	43.03	42.99	43.34	43.37	
24	43.01	42.62	42.50	42.76	43.28	42.90	43.56	43.12	42.79	43.16	43.30	43.23	
25	43.11	42.64	42.48	42.74	43.15	42.86	43.57	43.02	42.67	43.12	43.12	42.95	
26	43.13	42.64	42.46	42.82	43.01	42.84	43.59	43.04	42.80	43.24	42.99	43.53	
27	43.15	42.65	42.44	42.80	42.95	42.84	43.54	42.85	42.98	43.27	43.33	43.51	
28	43.14	42.78	42.44	42.77	42.92	43.08	43.44	43.30	42.96	43.23	43.45	43.50	
29	43.17	42.77	42.54	42.75	43.05	42.93	43.30	43.29	43.02	42.86	43.41	43.48	
30	43.10	42.68	42.59	42.72	43.21	42.97	43.21	43.33	42.80	43.20		43.32	
31		42.71		42.71	43.24		43.10		42.69	43.24		43.27	
Mean	43.24	42.79	42.59	42.65	43.00	43.13	43.42	43.02	43.05	42.96	43.22	43.32	
Max	43.35	43.13	42.92	43.04	43.47	43.67	44.10	43.43	43.37	43.27	43.45	43.53	44.10
Min	43.01	42.59	42.42	42.44	42.72	42.84	43.06	42.71	42.67	42.61	42.83	42.95	42.42

Annual Max Momentary Gage Height — 44.11 M (MSL), at 12.00 Hours, on Oct 15, 1991

Zero Gage at Bottom Elevation — 41.78 M (MSL), River Bed — 41.58 M (MSL)

Left Bank Elevation — 45.86 M (MSL)

Right Bank Elevation — 46.18 M (MSL), Drainage Area — 45677 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	267.50	168.70	85.90	75.40	92.40	235.50	180.10	171.55	270.80	69.10	244.80	284.00	
2	260.90	200.05	77.50	73.30	117.80	280.70	180.10	154.90	257.60	83.80	241.70	244.80	
3	182.95	152.20	77.50	41.80	117.80	223.10	197.20	152.20	217.15	112.60	217.15	229.30	
4	254.30	105.60	69.10	38.20	120.40	238.60	208.60	152.20	154.90	110.00	177.25	154.90	
5	257.60	157.60	65.20	50.80	107.80	355.00	226.20	130.80	274.10	112.60	117.80	238.60	
6	267.50	141.40	71.20	81.70	105.60	362.40	214.30	112.60	267.50	125.60	214.30	274.10	
7	235.50	128.20	141.40	77.50	92.40	380.90	208.60	174.40	241.70	110.00	188.65	251.00	
8	257.60	120.40	133.40	85.90	133.40	305.00	208.60	254.30	146.80	88.00	232.40	257.60	
9	267.50	130.80	115.20	83.80	92.40	254.30	217.15	291.00	238.60	103.40	238.60	244.80	
10	223.10	141.40	101.20	52.60	117.80	202.90	229.30	294.50	247.90	180.10	232.40	214.30	
11	247.90	160.30	81.70	38.20	115.20	208.60	226.20	267.50	214.30	177.25	208.60	185.80	
12	257.60	191.50	71.20	63.40	110.00	144.10	205.75	154.90	185.80	180.10	149.50	277.40	
13	257.60	105.60	63.40	65.20	96.80	211.45	315.50	107.80	123.00	146.80	257.60	280.70	
14	244.80	105.60	59.80	65.20	96.80	235.50	445.60	92.40	180.10	117.80	280.70	287.50	
15	244.80	71.20	43.60	61.60	110.00	254.30	560.00	105.60	191.50	77.50	274.10	264.20	
16	223.10	73.30	34.60	120.40	214.30	202.90	555.75	92.40	180.10	141.40	280.70	270.80	
17	238.60	94.60	38.20	105.60	247.90	180.10	487.75	96.80	177.25	205.75	254.30	251.00	
18	229.30	107.80	63.40	67.00	229.30	165.85	384.60	99.00	92.40	200.05	208.60	220.00	
19	226.20	83.80	71.20	41.80	308.50	146.80	301.50	123.00	188.65	202.90	157.60	298.00	
20	257.60	75.40	38.20	59.80	305.00	138.70	400.20	90.20	208.60	188.65	260.90	277.40	
21	260.90	69.10	40.00	59.80	264.20	149.50	322.60	144.10	160.30	110.00	180.10	291.00	
22	241.70	65.20	56.20	65.20	217.15	141.40	277.40	241.70	171.55	77.50	284.00	284.00	
23	208.60	69.10	54.40	174.40	197.20	144.10	312.00	217.15	171.55	160.30	264.20	274.10	
24	165.85	71.20	49.00	101.20	244.80	136.00	340.60	197.20	107.80	208.60	251.00	229.30	
25	194.35	75.40	45.40	96.80	205.75	125.60	344.20	168.70	81.70	197.20	197.20	149.50	
26	200.05	75.40	41.80	115.20	165.85	120.40	351.40	174.40	110.00	232.40	160.30	329.80	
27	205.75	77.50	38.20	110.00	149.50	120.40	333.40	123.00	157.60	241.70	260.90	322.60	
28	202.90	105.60	38.20	103.40	141.40	185.80	298.00	251.00	152.20	229.30	301.50	319.00	
29	211.45	103.40	56.20	99.00	177.25	144.10	251.00	247.90	168.70	125.60	287.50	312.00	
30	191.50	83.80	65.20	92.40	223.10	154.90	223.10	260.90	110.00	220.00		257.60	
31		90.20		90.20	232.40		191.50		85.90	232.40		241.70	
Total	6985.00	3401.35	1987.50	2456.80	5150.20	6148.90	9198.20	5144.10	5536.05	4768.40	6624.35	8016.80	65417.66 CMSDAY
Mean	232.83	109.72	66.25	79.25	166.14	204.96	296.72	171.47	178.58	153.82	228.43	258.61	178.74 CMS
Max	267.50	200.05	141.40	174.40	308.50	380.90	560.00	294.50	274.10	241.70	301.50	329.80	560.00 CMS
Min	165.85	65.20	34.60	38.20	92.40	120.40	180.10	90.20	81.70	69.10	117.80	149.50	34.60 CMS
Runoff	603.504	293.877	171.720	212.268	444.977	531.265	794.724	444.450	478.315	411.990	572.344	692.652	5652.085 MCM

Momentary Peak 564.40 CMS, at 44.11 M (MSL), at 12.00 Hours, on Oct 15, 1991

Runoff Yield 3.91 Liters/Second/Square KM, Momentary Peak Yield 12.36 Liters/Second/Square KM

WATER YEAR 1991

PING RIVER BASIN

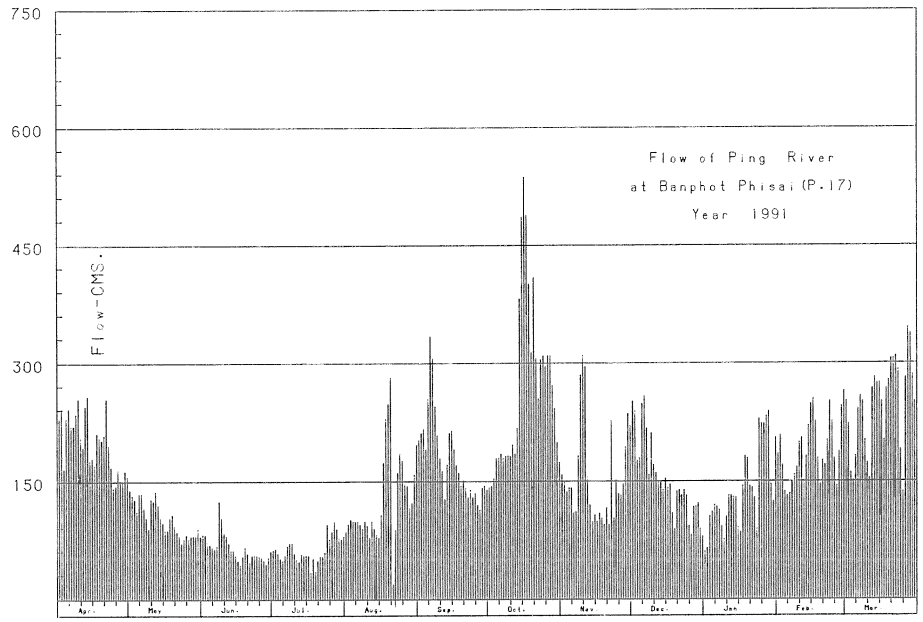
Ping River at Banphot Phisai, Nakhon Sawan (P.17)

Location	Lat. 15-56-02 N., Long. 99-58-49 E., on right bank at Som Sieo Market, Amphoe Banphot Phisai, Nakhon Sawan.
Drainage Area	45,851 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+32.00 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank about 5.00 meters from the top staff gage.
Elevation	+37.940 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1954 to date.
Rating Operation	
Period of Rating	1960, 1967 - 1974, 1990 to date.
Rated by Float	-
Rated by Current Meter	1954 - 1979, 1990 to date.
Stability of Channel Regimes	Fairly stable by some scouring.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 30 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	35.11	34.78	34.51	34.40	34.53	35.02	34.79	34.86	35.18	34.39	34.96	35.18	
2	35.15	34.75	34.51	34.41	34.58	35.05	34.80	34.82	35.14	34.42	35.04	35.09	
3	34.89	34.73	34.46	34.37	34.61	35.07	34.84	34.77	34.93	34.63	34.91	34.87	
4	35.11	34.66	34.44	34.32	34.60	34.98	34.94	34.79	34.94	34.66	34.77	34.83	
5	35.15	34.76	34.42	34.30	34.60	35.19	34.94	34.79	35.17	34.70	34.75	34.95	
6	35.08	34.76	34.41	34.35	34.60	35.42	34.96	34.65	35.20	34.69	34.76	35.15	
7	35.08	34.68	34.43	34.43	34.58	35.34	34.94	34.66	35.07	34.67	34.82	35.20	
8	35.13	34.62	34.72	34.45	34.55	35.16	34.95	34.95	34.86	34.57	34.86	35.18	
9	35.19	34.55	34.62	34.45	34.60	35.04	34.95	35.28	35.05	34.48	34.90	35.02	
10	35.03	34.73	34.52	34.37	34.57	34.94	34.95	35.35	34.91	34.63	35.01	34.92	
11	34.99	34.72	34.50	34.31	34.49	34.88	35.00	35.31	34.87	34.75	35.03	34.84	
12	35.16	34.77	34.45	34.29	34.60	34.73	34.96	34.85	34.82	34.75	34.83	35.23	
13	35.20	34.70	34.40	34.36	34.55	34.91	35.07	34.70	34.82	34.74	34.95	35.27	
14	34.93	34.62	34.40	34.35	34.51	35.05	35.55	34.59	34.78	34.74	35.08	35.25	
15	34.94	34.59	34.35	34.35	34.49	35.06	35.80	34.64	34.84	34.56	35.17	35.25	
16	34.91	34.54	34.30	34.35	34.64	34.98	35.92	34.60	34.79	34.53	35.19	35.18	
17	35.05	34.54	34.25	34.16	34.92	34.91	35.81	34.65	34.81	34.80	35.10	35.02	
18	35.03	34.62	34.34	34.32	35.11	34.87	35.60	34.62	34.65	34.95	34.94	35.23	
19	35.02	34.64	34.42	34.17	35.17	34.80	35.36	34.58	34.55	34.94	34.81	35.26	
20	35.04	34.57	34.37	34.30	35.27	34.83	35.62	34.68	34.77	34.80	34.93	35.34	
21	35.19	34.53	34.28	34.34	34.00	34.79	35.34	34.58	34.78	34.79	34.91	35.34	
22	35.00	34.50	34.35	34.34	34.54	34.74	35.19	35.10	34.75	34.74	35.02	35.35	
23	34.90	34.45	34.35	34.38	34.87	34.78	35.33	34.62	34.78	34.55	35.18	35.30	
24	34.79	34.48	34.35	34.58	34.96	34.74	35.35	34.83	34.75	35.11	35.10	34.98	
25	34.80	34.51	34.34	34.48	34.93	34.76	35.31	34.76	34.57	35.09	34.94	34.77	
26	34.89	34.48	34.33	34.53	34.83	34.70	35.35	34.75	34.51	35.09	34.80	35.27	
27	34.83	34.50	34.30	34.60	34.80	34.67	35.35	34.81	34.69	35.12	34.97	35.45	
28	34.82	34.50	34.26	34.55	34.70	34.79	35.24	34.99	34.69	35.14	35.16	35.43	
29	34.88	34.50	34.33	34.49	34.71	34.80	35.15	35.13	34.71	34.81	35.22	35.28	
30	34.85	34.55	34.39	34.48	34.86	34.78	35.01	35.08	34.55	34.72		35.18	
31		34.50		34.50	35.00		34.92		34.50	35.03		35.06	
Mean	35.00	34.61	34.40	34.39	34.70	34.93	35.20	34.83	34.82	34.76	34.97	35.15	
Max	35.20	34.78	34.72	34.60	35.27	35.42	35.92	35.35	35.20	35.14	35.22	35.45	35.92
Min	34.79	34.45	34.25	34.16	34.00	34.67	34.79	34.58	34.50	34.39	34.75	34.77	34.00

Annual Max Momentary Gage Height 35.93 M (MSL), at 6.00 Hours, on Oct 16, 1991
Zero Gage at Bottom Elevation 32.00 M (MSL), River Bed 32.51 M (MSL)
Left Bank Elevation 38.00 M (MSL)
Right Bank Elevation 37.90 M (MSL), Drainage Area 45851 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	229.20	139.20	81.90	62.00	85.70	202.00	141.60	158.40	251.60	60.70	184.80	251.60	
2	242.00	132.00	81.90	63.80	95.20	211.00	144.00	148.80	238.80	65.60	208.00	223.00	
3	165.60	127.20	72.80	58.10	101.10	217.00	153.60	136.80	176.40	105.30	170.80	160.80	
4	229.20	111.60	69.20	51.60	99.00	190.40	179.20	141.60	179.20	111.60	136.80	151.20	
5	242.00	134.40	65.60	49.00	99.00	254.80	179.20	141.60	248.40	120.00	132.00	182.00	
6	220.00	134.40	63.80	55.50	99.00	334.20	184.80	109.50	258.00	117.90	134.40	242.00	
7	220.00	115.80	67.40	67.40	95.20	306.00	179.20	111.60	217.00	113.70	148.80	258.00	
8	235.60	103.20	124.80	71.00	89.50	245.20	182.00	182.00	158.40	93.30	158.40	251.60	
9	254.80	89.50	103.20	71.00	99.00	208.00	182.00	285.20	211.00	76.40	168.00	202.00	
10	205.00	127.20	83.80	58.10	93.30	179.20	182.00	309.50	170.80	105.30	199.00	173.60	
11	193.20	124.80	80.00	50.30	78.20	163.20	196.00	295.50	160.80	132.00	205.00	153.60	
12	245.20	136.80	71.00	47.90	99.00	127.20	184.80	156.00	148.80	132.00	151.20	268.20	
13	258.00	120.00	62.00	56.80	89.50	170.80	217.00	120.00	148.80	129.60	182.00	281.80	
14	176.40	103.20	62.00	55.50	81.90	211.00	382.00	97.10	139.20	129.60	220.00	275.00	
15	179.20	97.10	55.50	55.50	78.20	214.00	484.00	107.40	153.60	91.40	248.40	275.00	
16	170.80	87.60	49.00	55.50	107.40	190.40	537.20	99.00	141.60	85.70	254.80	251.60	
17	211.00	87.60	43.50	34.00	173.60	170.80	488.40	109.50	146.40	144.00	226.00	202.00	
18	205.00	103.20	54.20	51.60	229.20	160.80	401.00	103.20	109.50	182.00	179.20	268.20	
19	202.00	107.40	65.60	35.00	248.40	144.00	313.00	95.20	89.50	179.20	146.40	278.40	
20	208.00	93.30	58.10	49.00	281.80	151.20	409.20	115.80	136.80	144.00	176.40	306.00	
21	254.80	85.70	46.80	54.20	19.00	141.60	306.00	95.20	139.20	141.60	170.80	306.00	
22	196.00	80.00	55.50	54.20	87.60	129.60	254.80	226.00	132.00	129.60	202.00	309.50	
23	168.00	71.00	55.50	59.40	160.80	139.20	302.50	103.20	139.20	89.50	251.60	292.00	
24	141.60	76.40	55.50	95.20	184.80	129.60	309.50	151.20	132.00	229.20	226.00	190.40	
25	144.00	81.90	54.20	76.40	176.40	134.40	295.50	134.40	93.30	223.00	179.20	136.80	
26	165.60	76.40	52.90	85.70	151.20	120.00	309.50	132.00	81.90	223.00	144.00	281.80	
27	151.20	80.00	49.00	99.00	144.00	113.70	309.50	146.40	117.90	232.40	187.60	345.00	
28	148.80	80.00	44.60	89.50	120.00	141.60	271.60	193.20	117.90	238.80	245.20	337.80	
29	163.20	80.00	52.90	78.20	122.40	144.00	242.00	235.60	122.40	146.40	264.80	285.20	
30	156.00	89.50	60.70	76.40	158.40	139.20	199.00	220.00	89.50	124.80		251.60	
31		80.00		80.00	196.00		173.60		80.00	205.00		214.00	
Total	5981.40	3156.40	1942.90	1946.80	3943.80	5384.10	8293.70	4660.90	4729.90	4302.60	5501.60	7605.70	57449.80 CMSDAY
Mean	199.38	101.82	64.76	62.80	127.22	179.47	267.54	155.36	152.58	138.79	189.71	245.35	156.97 CMS
Max	258.00	139.20	124.80	99.00	281.80	334.20	537.20	309.50	258.00	238.80	264.80	345.00	537.20 CMS
Min	141.60	71.00	43.50	34.00	19.00	113.70	141.60	95.20	80.00	60.70	132.00	136.80	19.00 CMS
Runoff	516.793	272.713	167.867	168.204	340.744	465.186	716.576	402.702	408.663	371.745	475.338	657.132	4963.663 MCM

Momentary Peak 541.80 CMS, at 35.93 M (MSL), at 6.00 Hours, on Oct 16, 1991
Runoff Yield 3.42 Liters/Second/Square KM, Momentary Peak Yield 11.82 Liters/Second/Square KM

WATER YEAR 1991

PING RIVER BASIN

Ping River at Ban Tha Sala, Chiang Mai (P.19A)

Location — Lat. 18°-25'-19" N., Long. 98°-42'-17" E., on left bank about 300 meters downstream from confluence with Li River, Amphoe Chom Thong, Chiang Mai.

Drainage Area — 14,023 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +271.351 m. (M.S.L.)

Bench Mark — B.M.-H.D.

Location — B.M.1 near the automatic gage building.

B.M.2 on left bank at the abutment of the bridge.

Elevation — B.M.1 = +276.500 m.(M.S.L.), B.M.2 = +277.168 m.(M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1958 to date.

Rating Operation

Period of Rating — 1958 to date.

Rated by Float — -

Rated by Current Meter — 1958 to date.

Stability of Channel Regimes — Fairly stable.

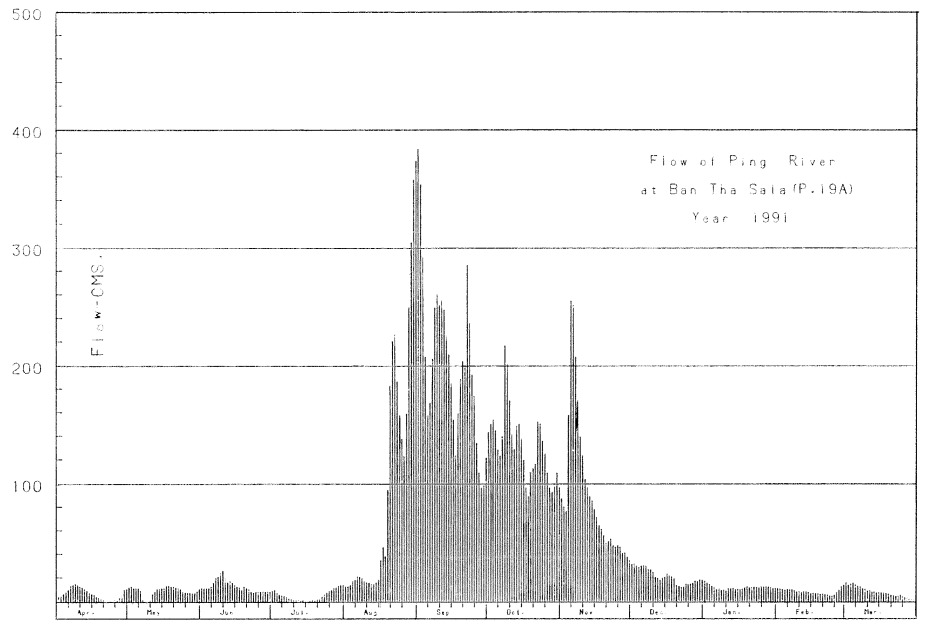
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Upstream state diversions for irrigation about 28,000 hectares at above gage site. Stage-discharge relation defined by 50 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	272.69	272.86	272.85	272.82	272.87	274.93	273.67	273.36	273.03	272.92	272.85	272.91	
2	272.70	272.87	272.85	272.83	272.87	274.78	273.71	273.32	273.03	272.91	272.84	272.89	
3	272.76	272.85	272.85	272.79	272.89	274.46	273.73	273.30	273.02	272.90	272.84	272.90	
4	272.80	272.85	272.85	272.75	272.92	274.02	273.68	273.75	273.01	272.88	272.83	272.91	
5	272.83	272.85	272.87	272.73	272.93	273.75	273.59	274.27	273.02	272.86	272.84	272.89	
6	272.88	272.82	272.91	272.72	272.95	273.81	273.56	274.25	273.02	272.84	272.83	272.88	
7	272.89	272.52	272.94	272.68	272.95	274.01	273.65	274.02	273.02	272.84	272.84	272.87	
8	272.90	272.23	272.95	272.62	272.94	274.24	274.07	273.82	273.00	272.83	272.82	272.85	
9	272.89	272.36	272.98	272.57	272.92	274.30	274.00	273.65	273.00	272.83	272.81	272.84	
10	272.87	272.58	272.99	272.54	272.91	274.25	273.82	273.56	272.98	272.82	272.81	272.82	
11	272.86	272.76	272.94	272.53	272.91	274.27	273.66	273.45	272.95	272.85	272.80	272.82	
12	272.84	272.81	272.91	272.53	272.90	274.23	273.59	273.41	272.94	272.85	272.81	272.81	
13	272.82	272.84	272.92	272.53	272.90	274.15	273.70	273.37	272.93	272.85	272.81	272.81	
14	272.79	272.84	272.91	272.51	272.91	274.03	273.71	273.35	272.94	272.84	272.80	272.80	
15	272.76	272.85	272.89	272.50	272.93	273.90	273.64	273.31	272.95	272.84	272.78	272.80	
16	272.74	272.85	272.87	272.50	273.05	273.73	273.54	273.27	272.97	272.84	272.78	272.80	
17	272.69	272.88	272.86	272.52	273.12	273.56	273.41	273.23	272.96	272.84	272.78	272.79	
18	272.65	272.88	272.83	272.54	273.07	273.76	273.37	273.21	272.95	272.86	272.77	272.79	
19	272.58	272.87	272.87	272.55	273.40	273.92	273.48	273.18	272.94	272.87	272.76	272.76	
20	272.53	272.87	272.85	272.56	273.89	274.00	273.50	273.14	272.89	272.86	272.76	272.74	
21	272.52	272.86	272.84	272.62	274.09	273.98	273.52	273.15	272.88	272.86	272.76	272.72	
22	272.50	272.85	272.81	272.70	274.12	274.43	273.72	273.16	272.86	272.87	272.74	272.71	
23	272.49	272.84	272.79	272.75	273.91	274.17	273.71	273.13	272.87	272.86	272.72	272.71	
24	272.51	272.82	272.81	272.80	273.75	273.94	273.63	273.12	272.90	272.86	272.71	272.74	
25	272.54	272.80	272.81	272.82	273.64	273.84	273.57	273.13	272.90	272.87	272.74	272.69	
26	272.58	272.79	272.81	272.83	273.55	273.62	273.48	273.12	272.90	272.87	272.80	272.66	
27	272.64	272.79	272.81	272.85	273.76	273.48	273.41	273.09	272.91	272.87	272.83	272.63	
28	272.75	272.78	272.81	272.86	274.24	273.41	273.39	273.09	272.92	272.87	272.87	272.58	
29	272.83	272.78	272.81	272.88	274.53	273.42	273.43	273.07	272.92	272.86	272.89	272.56	
30	272.84	272.81	272.81	272.89	274.80	273.55	273.48	273.05	272.93	272.85		272.54	
31		272.84		272.89	274.88		273.41		272.93	272.85		272.54	
Mean	272.72	272.78	272.87	272.68	273.40	274.00	273.61	273.38	272.95	272.86	272.80	272.77	
Max	272.90	272.88	272.99	272.89	274.88	274.93	274.07	274.27	273.03	272.92	272.89	272.91	274.93
Min	272.49	272.23	272.79	272.50	272.87	273.41	273.37	273.05	272.86	272.82	272.71	272.54	272.23

Annual Max Momentary Gage Height 274.97 M (MSL), at 24.00 Hours, on Aug 31, 1991
Zero Gage at Bottom Elevation 271.35 M (MSL), River Bed 270.86 M (MSL)
Left Bank Elevation 276.60 M (MSL)
Right Bank Elevation 274.71 M (MSL), Drainage Area 14023 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	4.41	12.20	11.50	9.40	12.90	384.00	143.60	87.80	32.15	17.50	11.50	16.25	
2	4.60	12.90	11.50	10.10	12.90	354.00	150.80	80.60	32.15	16.25	10.80	14.30	
3	6.64	11.50	11.50	7.66	14.30	291.40	154.40	77.00	30.60	15.00	10.80	15.00	
4	8.00	11.50	11.50	6.30	17.50	207.80	145.40	158.00	29.05	13.60	10.10	16.25	
5	10.10	11.50	12.90	5.62	18.75	158.00	129.20	255.30	30.60	12.20	10.80	14.30	
6	13.60	9.40	16.25	5.28	21.25	168.80	123.80	251.50	30.60	10.80	10.10	13.60	
7	14.30	1.90	20.00	4.22	21.25	205.90	140.00	207.80	30.60	10.80	10.80	12.90	
8	15.00	0.09	21.25	3.08	20.00	249.60	217.30	170.60	27.50	10.10	9.40	11.50	
9	14.30	0.60	25.00	2.40	17.50	261.00	204.00	140.00	27.50	10.10	8.70	10.80	
10	12.90	2.50	26.25	2.10	16.25	251.50	170.60	123.80	25.00	9.40	8.70	9.40	
11	12.20	6.64	20.00	2.00	16.25	255.30	141.80	104.00	21.25	11.50	8.00	9.40	
12	10.80	8.70	16.25	2.00	15.00	247.70	129.20	96.80	20.00	11.50	8.70	8.70	
13	9.40	10.80	17.50	2.00	15.00	232.50	149.00	89.60	18.75	11.50	8.70	8.70	
14	7.66	10.80	16.25	1.80	16.25	209.70	150.80	86.00	20.00	10.80	8.00	8.00	
15	6.64	11.50	14.30	1.70	18.75	185.00	138.20	78.80	21.25	10.80	7.32	8.00	
16	5.96	11.50	12.90	1.70	35.25	154.40	120.20	71.90	23.75	10.80	7.32	8.00	
17	4.41	13.60	12.20	1.90	46.40	123.80	96.80	65.10	22.50	10.80	7.32	7.66	
18	3.65	13.60	10.10	2.10	38.35	159.80	89.60	61.70	21.25	12.20	6.98	7.66	
19	2.50	12.90	12.90	2.20	95.00	188.80	109.40	56.60	20.00	12.90	6.64	6.64	
20	2.00	12.90	11.50	2.30	183.20	204.00	113.00	49.80	14.30	12.20	6.64	5.96	
21	1.90	12.20	10.80	3.08	221.10	200.20	116.60	51.50	13.60	12.20	6.64	5.28	
22	1.70	11.50	8.70	4.60	226.80	285.70	152.60	53.20	12.20	12.90	5.96	4.94	
23	1.61	10.80	7.66	6.30	186.90	236.30	150.80	48.10	12.90	12.20	5.28	4.94	
24	1.80	9.40	8.70	8.00	158.00	192.60	136.40	46.40	15.00	12.20	4.94	5.96	
25	2.10	8.00	8.70	9.40	138.20	174.20	125.60	48.10	15.00	12.90	5.96	4.41	
26	2.50	7.66	8.70	10.10	122.00	134.60	109.40	46.40	15.00	12.90	8.00	3.84	
27	3.46	7.66	8.70	11.50	159.80	109.40	96.80	41.45	16.25	12.90	10.10	3.27	
28	6.30	7.32	8.70	12.20	249.60	96.80	93.20	41.45	17.50	12.90	12.90	2.50	
29	10.10	7.32	8.70	13.60	304.70	98.60	100.40	38.35	17.50	12.20	14.30	2.30	
30	10.80	8.70	8.70	14.30	358.00	122.00	109.40	35.25	18.75	11.50		2.10	
31		10.80		14.30	374.00		96.80		18.75	11.50		2.10	
Total	211.34	288.39	399.61	183.24	3151.15	6143.40	4105.10	2762.90	671.25	377.05	251.40	254.66	18799.49 CMSDAY
Mean	7.04	9.30	13.32	5.91	101.65	204.78	132.42	92.10	21.65	12.16	8.67	8.21	51.36 CMS
Max	15.00	13.60	26.25	14.30	374.00	384.00	217.30	255.30	32.15	17.50	14.30	16.25	384.00 CMS
Min	1.61	0.09	7.66	1.70	12.90	96.80	89.60	35.25	12.20	9.40	4.94	2.10	0.09 CMS
Runoff	18.260	24.917	34.526	15.832	272.259	530.790	354.681	238.715	57.996	32.577	21.721	22.003	1624.276 MCM

Momentary Peak 392.00 CMS, at 274.97 M (MSL), at 24.00 Hours, on Aug 31, 1991

Runoff Yield 3.66 Liters/Second/Square KM, Momentary Peak Yield 27.95 Liters/Second/Square KM

WATER YEAR 1991

PING RIVER BASIN

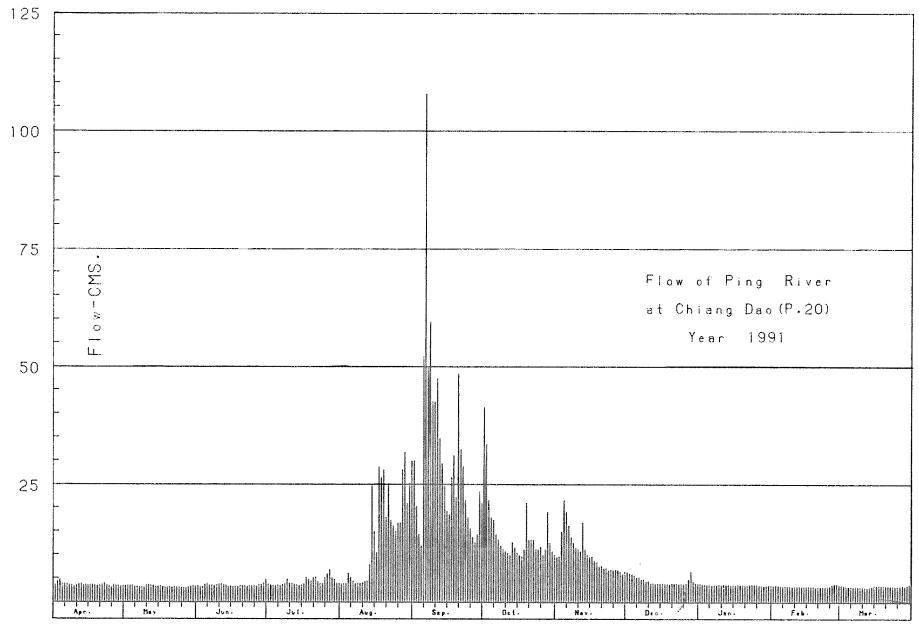
Ping River at Chiang Dao, Chiang Mai (P.20)

Location	Lat. 19-22-06 N., Long. 98-58-20 E., on right bank near Wat Inthra Ram, Amphoe Chiang Dao, Chiang Mai.
Drainage Area	1,355 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	About 2 meters from automatic gage building.
Elevation	+4.133 m. (A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1954 to date.
Rating Operation	
Period of Rating	1979 - 1982, 1989 to date.
Rated by Float	-
Rated by Current Meter	1979 - 1982, 1989 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	Overbank flow starts at elevation +2.35 m.(A.D.) and is included.
General Description	Records good. Stage-discharge relation defined by 173 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.56	0.52	0.50	0.57	0.58	1.10	1.29	0.74	0.66	0.58	0.52	0.53	
2	0.61	0.52	0.48	0.54	0.58	0.94	1.16	0.74	0.65	0.57	0.52	0.52	
3	0.62	0.53	0.48	0.52	0.60	0.84	0.96	0.85	0.65	0.55	0.52	0.49	
4	0.58	0.52	0.56	0.53	0.65	0.80	0.90	0.96	0.64	0.56	0.51	0.49	
5	0.59	0.50	0.58	0.54	0.63	1.47	0.89	0.92	0.63	0.54	0.50	0.48	
6	0.57	0.48	0.54	0.53	0.61	2.20	0.84	0.87	0.63	0.54	0.51	0.48	
7	0.55	0.48	0.53	0.54	0.59	1.43	0.82	0.83	0.62	0.53	0.50	0.49	
8	0.53	0.47	0.52	0.58	0.59	1.58	0.80	0.81	0.62	0.54	0.50	0.48	
9	0.50	0.47	0.54	0.62	0.60	1.31	0.78	0.79	0.61	0.55	0.49	0.47	
10	0.52	0.53	0.57	0.60	0.60	1.31	0.77	0.78	0.61	0.55	0.49	0.47	
11	0.57	0.55	0.57	0.58	0.61	1.39	0.76	0.77	0.60	0.55	0.50	0.46	
12	0.57	0.53	0.55	0.57	0.61	1.18	0.75	0.88	0.60	0.55	0.49	0.45	
13	0.54	0.53	0.52	0.54	0.70	1.09	0.81	0.78	0.58	0.54	0.49	0.46	
14	0.54	0.48	0.49	0.53	1.01	1.01	0.79	0.75	0.59	0.53	0.49	0.49	
15	0.54	0.50	0.49	0.54	0.85	0.92	0.76	0.74	0.59	0.54	0.49	0.53	
16	0.54	0.50	0.49	0.58	0.76	0.91	0.75	0.74	0.59	0.54	0.50	0.52	
17	0.56	0.49	0.49	0.63	1.08	1.04	0.74	0.72	0.58	0.54	0.50	0.52	
18	0.53	0.47	0.50	0.62	1.04	1.12	0.78	0.71	0.57	0.54	0.48	0.52	
19	0.52	0.47	0.51	0.61	1.07	0.97	0.95	0.69	0.57	0.54	0.47	0.51	
20	0.52	0.47	0.52	0.63	0.90	1.41	0.82	0.69	0.58	0.53	0.48	0.51	
21	0.56	0.47	0.50	0.63	1.02	1.14	0.82	0.68	0.59	0.53	0.48	0.50	
22	0.58	0.48	0.50	0.61	0.89	1.08	0.82	0.68	0.58	0.55	0.48	0.50	
23	0.55	0.48	0.51	0.58	0.87	0.96	0.78	0.67	0.58	0.56	0.48	0.50	
24	0.49	0.47	0.52	0.59	0.85	0.90	0.78	0.67	0.58	0.56	0.49	0.49	
25	0.47	0.46	0.51	0.63	0.88	0.86	0.79	0.67	0.58	0.54	0.50	0.49	
26	0.54	0.45	0.50	0.65	0.88	0.83	0.75	0.67	0.58	0.53	0.54	0.50	
27	0.53	0.45	0.54	0.67	1.07	0.81	0.78	0.67	0.62	0.52	0.57	0.51	
28	0.52	0.47	0.56	0.63	1.13	0.84	0.92	0.66	0.66	0.51	0.56	0.49	
29	0.50	0.50	0.59	0.62	0.95	0.99	0.81	0.65	0.61	0.51	0.54	0.52	
30	0.51	0.51	0.62	0.60	1.02	0.95	0.77	0.66	0.60	0.53		0.56	
31		0.50		0.58	1.10		0.75		0.58	0.53		0.56	
Mean	0.54	0.49	0.53	0.59	0.82	1.11	0.84	0.75	0.60	0.54	0.50	0.50	
Max	0.62	0.55	0.62	0.67	1.13	2.20	1.29	0.96	0.66	0.58	0.57	0.56	2.20
Min	0.47	0.45	0.48	0.52	0.58	0.80	0.74	0.65	0.57	0.51	0.47	0.45	0.45

Annual Max Momentary Gage Height 2.69 M (A.D), at 5.00 Hours, on Sep 6, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.76 M (A.D)
Left Bank Elevation 3.48 M (A.D)
Right Bank Elevation 2.34 M (A.D), Drainage Area 1355 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.73	3.47	3.33	3.80	3.87	30.00	41.40	9.60	6.40	3.87	3.47	3.53	
2	4.40	3.47	3.20	3.60	3.87	20.40	33.60	9.60	6.00	3.80	3.47	3.47	
3	4.80	3.53	3.20	3.47	4.00	14.40	21.60	15.00	6.00	3.67	3.47	3.27	
4	3.87	3.47	3.73	3.53	6.00	12.00	18.00	21.60	5.60	3.73	3.40	3.27	
5	3.93	3.33	3.87	3.60	5.20	52.20	17.40	19.20	5.20	3.60	3.33	3.20	
6	3.80	3.20	3.60	3.53	4.40	108.00	14.40	16.20	5.20	3.60	3.40	3.20	
7	3.67	3.20	3.53	3.60	3.93	49.80	13.20	13.80	4.80	3.53	3.33	3.27	
8	3.53	3.13	3.47	3.87	3.93	59.60	12.00	12.60	4.80	3.60	3.33	3.20	
9	3.33	3.13	3.60	4.80	4.00	42.60	11.20	11.60	4.40	3.67	3.27	3.13	
10	3.47	3.53	3.80	4.00	4.00	42.60	10.80	11.20	4.40	3.67	3.27	3.13	
11	3.80	3.67	3.80	3.87	4.40	47.40	10.40	10.80	4.00	3.67	3.33	3.07	
12	3.80	3.53	3.67	3.80	4.40	34.80	10.00	16.80	4.00	3.67	3.27	3.00	
13	3.60	3.53	3.47	3.60	8.00	29.40	12.60	11.20	3.87	3.60	3.27	3.07	
14	3.60	3.20	3.27	3.53	24.60	24.60	11.60	10.00	3.93	3.53	3.27	3.27	
15	3.60	3.33	3.27	3.60	15.00	19.20	10.40	9.60	3.93	3.60	3.27	3.53	
16	3.60	3.33	3.27	3.87	10.40	18.60	10.00	9.60	3.93	3.60	3.33	3.47	
17	3.73	3.27	3.27	5.20	28.80	26.40	9.60	8.80	3.87	3.60	3.33	3.47	
18	3.53	3.13	3.33	4.80	26.40	31.20	11.20	8.40	3.80	3.60	3.20	3.47	
19	3.47	3.13	3.40	4.40	28.20	22.20	21.00	7.60	3.80	3.60	3.13	3.40	
20	3.47	3.13	3.47	5.20	18.00	48.60	13.20	7.60	3.87	3.53	3.20	3.40	
21	3.73	3.13	3.33	5.20	25.20	32.40	13.20	7.20	3.93	3.53	3.20	3.33	
22	3.87	3.20	3.33	4.40	17.40	28.80	13.20	7.20	3.87	3.67	3.20	3.33	
23	3.67	3.20	3.40	3.87	16.20	21.60	11.20	6.80	3.87	3.73	3.20	3.33	
24	3.27	3.13	3.47	3.93	15.00	18.00	11.20	6.80	3.87	3.73	3.27	3.27	
25	3.13	3.07	3.40	5.20	16.80	15.60	11.60	6.80	3.87	3.60	3.33	3.27	
26	3.60	3.00	3.33	6.00	16.80	13.80	10.00	6.80	3.87	3.53	3.60	3.33	
27	3.53	3.00	3.60	6.80	28.20	12.60	11.20	6.80	4.80	3.47	3.80	3.40	
28	3.47	3.13	3.73	5.20	31.80	14.40	19.20	6.40	6.40	3.40	3.73	3.27	
29	3.33	3.33	3.93	4.80	21.00	23.40	12.60	6.00	4.40	3.40	3.60	3.47	
30	3.40	3.40	4.80	4.00	25.20	21.00	10.80	6.40	4.00	3.53		3.73	
31		3.33		3.87	30.00		10.00		3.87	3.53		3.73	
Total	109.73	101.63	105.87	132.94	455.00	935.60	447.80	308.00	138.55	111.86	97.27	103.28	3047.53 CMSDAY
Mean	3.66	3.28	3.53	4.29	14.68	31.19	14.45	10.27	4.47	3.61	3.35	3.33	8.33 CMS
Max	4.80	3.67	4.80	6.80	31.80	108.00	41.40	21.60	6.40	3.87	3.80	3.73	108.00 CMS
Min	3.13	3.00	3.20	3.47	3.87	12.00	9.60	6.00	3.80	3.40	3.13	3.00	3.00 CMS
Runoff	9.481	8.781	9.147	11.486	39.312	80.836	38.690	26.611	11.971	9.665	8.404	8.923	263.307 MCM

Momentary Peak 151.10 CMS, at 2.69 M (A.D), at 5.00 Hours, on Sep 6, 1991

Runoff Yield 6.15 Liters/Second/Square KM, Momentary Peak Yield 111.51 Liters/Second/Square KM

WATER YEAR 1991

PING RIVER BASIN

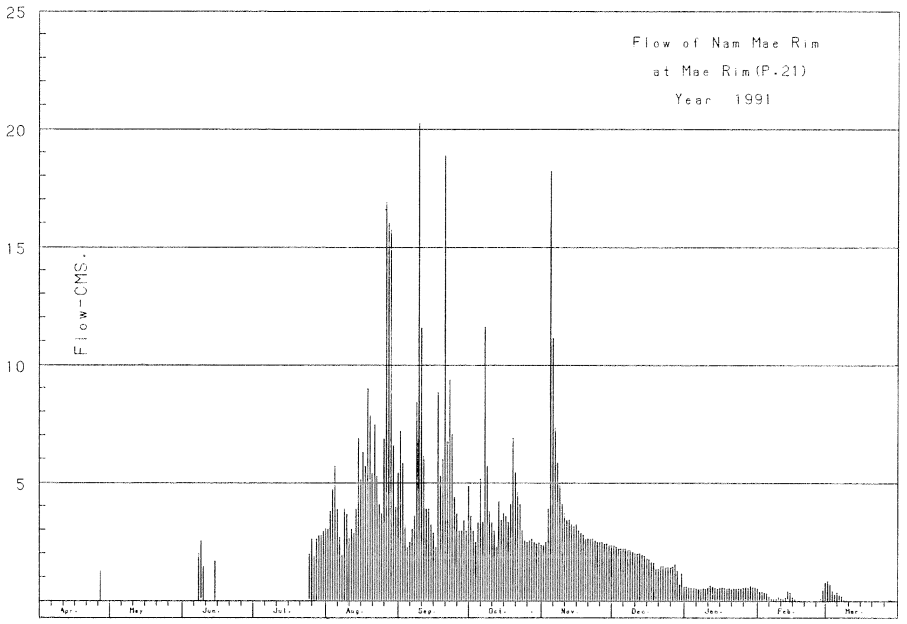
Nam Mae Rim at Mae Rim, Chiang Mai (P.21)

Location	Lat. 18-55-29 N., Long. 98-56-34 E., on right bank about 100 meters downstream from the bridge of Chiang Mai-Fang Highway, Amphoe Mae Rim, Chiang Mai.
Drainage Area	515 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+319.70 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	B.M.1 in the vicinity of gage observer's house. B.M.2 on left bank at the abutment of the bridge.
Elevation	B.M.1 = +323.982 m.(M.S.L.), B.M.2 = +323.562 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1954 to date.
Rating Operation	
Period of Rating	1954-1960, 1977 to date.
Rated by Float	-
Rated by Current Meter	1954-1960, 1977 to date.
Stability of Channel Regimes	Fairly stable with variable water surface slope.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 25 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	319.38	319.86	319.79	319.38	320.34	320.68	320.40	320.25	320.25	320.06	319.97	320.12	
2	319.41	319.73	319.67	319.37	320.42	320.59	320.33	320.27	320.24	320.05	319.97	320.10	
3	319.41	319.64	319.62	319.36	320.51	320.36	320.27	320.43	320.23	320.04	319.95	319.98	
4	319.52	319.67	319.60	319.38	320.58	320.24	320.37	321.13	320.23	320.04	319.93	319.91	
5	319.64	319.82	319.77	319.39	320.43	320.27	320.54	320.88	320.23	320.03	319.85	319.95	
6	319.62	319.77	319.77	319.40	320.30	320.34	320.37	320.69	320.23	320.02	319.75	319.89	
7	319.53	319.74	320.21	319.35	320.19	320.40	320.90	320.59	320.22	320.02	319.76	319.85	
8	319.49	319.66	320.28	319.41	320.43	320.75	320.58	320.52	320.22	320.03	319.75	319.73	
9	319.46	319.51	320.09	319.43	320.41	321.19	320.42	320.45	320.21	320.02	319.82	319.67	
10	319.41	319.58	319.98	319.44	320.29	320.90	320.37	320.41	320.20	320.04	319.78	319.66	
11	319.40	319.48	319.94	319.42	320.34	320.61	320.33	320.38	320.20	320.08	319.75	319.65	
12	319.40	319.49	319.92	319.48	320.32	320.43	320.24	320.38	320.20	320.06	319.81	319.65	
13	319.40	319.66	319.96	319.64	320.43	320.43	320.46	320.36	320.19	320.04	319.98	319.65	
14	319.40	319.70	320.14	319.63	320.66	320.36	320.38	320.35	320.18	320.03	319.95	319.64	
15	319.40	319.68	319.91	319.58	320.54	320.32	320.41	320.36	320.16	320.04	319.82	319.64	
16	319.44	319.87	319.80	319.57	320.62	320.24	320.40	320.33	320.15	320.05	319.72	319.64	
17	319.49	319.84	319.60	319.66	320.58	320.77	320.37	320.32	320.13	320.04	319.71	319.64	
18	319.49	319.72	319.64	319.85	320.78	320.55	320.45	320.31	320.12	320.03	319.69	319.64	
19	319.49	319.49	319.73	319.84	320.72	320.60	320.66	320.29	320.05	320.03	319.69	319.66	
20	319.49	319.48	319.67	319.83	320.56	321.15	320.56	320.29	320.05	320.02	319.67	319.64	
21	319.68	319.47	319.77	319.84	320.70	320.65	320.50	320.29	320.09	320.03	319.67	319.63	
22	319.73	319.46	319.64	319.83	320.55	320.80	320.45	320.29	320.09	320.03	319.66	319.63	
23	319.80	319.44	319.53	319.94	320.45	320.67	320.33	320.28	320.07	320.03	319.65	319.63	
24	319.74	319.43	319.44	320.20	320.41	320.48	320.28	320.27	320.07	320.03	319.65	319.64	
25	319.87	319.42	319.41	320.29	320.66	320.41	320.27	320.27	320.07	320.04	319.66	319.63	
26	320.06	319.41	319.40	320.18	321.09	320.33	320.28	320.27	320.08	320.05	319.68	319.63	
27	319.89	319.40	319.38	320.29	321.06	320.33	320.29	320.26	320.11	320.04	319.76	319.66	
28	319.95	319.41	319.38	320.31	321.05	320.38	320.27	320.26	320.18	320.07	320.04	319.64	
29	319.83	319.47	319.40	320.31	320.64	320.33	320.26	320.25	320.10	320.05	320.11	319.63	
30	319.77	319.55	319.42	320.33	320.45	320.52	320.27	320.25	320.16	320.05		319.65	
31		319.70		320.34	320.56		320.25		320.06	320.03		319.65	
Mean	319.59	319.60	319.73	319.75	320.55	320.54	320.40	320.39	320.15	320.04	319.80	319.72	
Max	320.06	319.87	320.28	320.34	321.09	321.19	320.90	321.13	320.25	320.08	320.11	320.12	321.19
Min	319.38	319.40	319.38	319.35	320.19	320.24	320.24	320.25	320.05	320.02	319.65	319.63	319.35

Annual Max Momentary Gage Height 321.28 M (MSL), at 12.00 Hours, on Sep 9, 1991
Zero Gage at Bottom Elevation 319.70 M (MSL), River Bed 319.69 M (MSL)
Left Bank Elevation 322.56 M (MSL)
Right Bank Elevation 322.69 M (MSL), Drainage Area 515 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.00	0.00	3.06	7.20	3.60	2.35	2.35	0.60	0.39	0.84	
2	0.00	0.00	0.00	0.00	3.80	5.86	2.97	2.49	2.28	0.57	0.39	0.70	
3	0.00	0.00	0.00	0.00	4.74	3.24	2.49	3.90	2.21	0.55	0.36	0.41	
4	0.00	0.00	0.00	0.00	5.72	2.28	3.33	18.22	2.21	0.55	0.32	0.28	
5	0.00	0.00	0.00	0.00	3.90	2.49	5.16	11.16	2.21	0.52	0.20	0.36	
6	0.00	0.00	0.00	0.00	2.70	3.06	3.33	7.35	2.21	0.50	0.09	0.25	
7	0.00	0.00	2.07	0.00	1.95	3.60	11.60	5.86	2.14	0.50	0.10	0.20	
8	0.00	0.00	2.56	0.00	3.90	8.45	5.72	4.88	2.14	0.52	0.09	0.07	
9	0.00	0.00	1.47	0.00	3.70	20.26	3.80	4.10	2.07	0.50	0.16	0.04	
10	0.00	0.00	0.00	0.00	2.63	11.60	3.33	3.70	2.00	0.55	0.11	0.03	
11	0.00	0.00	0.00	0.00	3.06	6.15	2.97	3.42	2.00	0.65	0.09	0.02	
12	0.00	0.00	0.00	0.00	2.88	3.90	2.28	3.42	2.00	0.60	0.14	0.02	
13	0.00	0.00	0.00	0.00	3.90	3.90	4.20	3.24	1.95	0.55	0.41	0.02	
14	0.00	0.00	1.70	0.00	6.90	3.24	3.42	3.15	1.90	0.52	0.36	0.02	
15	0.00	0.00	0.00	0.00	5.16	2.88	3.70	3.24	1.80	0.55	0.16	0.02	
16	0.00	0.00	0.00	0.00	6.30	2.28	3.60	2.97	1.75	0.57	0.07	0.02	
17	0.00	0.00	0.00	0.00	5.72	8.83	3.33	2.88	1.65	0.55	0.06	0.02	
18	0.00	0.00	0.00	0.00	9.02	5.30	4.10	2.79	1.60	0.52	0.04	0.02	
19	0.00	0.00	0.00	0.00	7.88	6.00	6.90	2.63	1.35	0.52	0.04	0.03	
20	0.00	0.00	0.00	0.00	5.44	18.90	5.44	2.63	1.35	0.50	0.04	0.02	
21	0.00	0.00	0.00	0.00	7.50	6.75	4.60	2.63	1.47	0.52	0.04	0.01	
22	0.00	0.00	0.00	0.00	5.30	9.40	4.10	2.63	1.47	0.52	0.03	0.01	
23	0.00	0.00	0.00	0.00	4.10	7.05	2.97	2.56	1.41	0.52	0.02	0.01	
24	0.00	0.00	0.00	2.00	3.70	4.40	2.56	2.49	1.41	0.52	0.02	0.02	
25	0.00	0.00	0.00	2.63	6.90	3.70	2.49	2.49	1.41	0.55	0.03	0.01	
26	1.38	0.00	0.00	1.90	16.91	2.97	2.56	2.49	1.44	0.57	0.04	0.01	
27	0.00	0.00	0.00	2.63	16.04	2.97	2.63	2.42	1.55	0.55	0.10	0.03	
28	0.00	0.00	0.00	2.79	15.75	3.42	2.49	2.42	1.26	0.63	0.55	0.02	
29	0.00	0.00	0.00	2.79	6.60	2.97	2.42	2.35	0.70	0.57	0.77	0.01	
30	0.00	0.00	0.00	2.97	4.10	4.88	2.49	2.35	1.12	0.57		0.02	
31		0.00		3.06	5.44		2.35		0.60	0.52		0.02	
Total	1.38	0.00	7.80	20.77	184.70	177.93	116.93	119.21	53.01	16.93	5.22	3.56	707.44 CMSDAY
Mean	0.05	0.00	0.26	0.67	5.96	5.93	3.77	3.97	1.71	0.55	0.18	0.11	1.93 CMS
Max	1.38	0.00	2.56	3.06	16.91	20.26	11.60	18.22	2.35	0.65	0.77	0.84	20.26 CMS
Min	0.00	0.00	0.00	0.00	1.95	2.28	2.28	2.35	0.60	0.50	0.02	0.01	0.00 CMS
Runoff	0.119	0.000	0.674	1.795	15.958	15.373	10.103	10.300	4.580	1.463	0.451	0.308	61.123 MCM

Momentary Peak 23.56 CMS, at 321.28 M (MSL), at 12.00 Hours, on Sep 9, 1991

Runoff Yield 3.75 Liters/Second/Square KM, Momentary Peak Yield 45.75 Liters/Second/Square KM

WATER YEAR 1991

PING RIVER BASIN

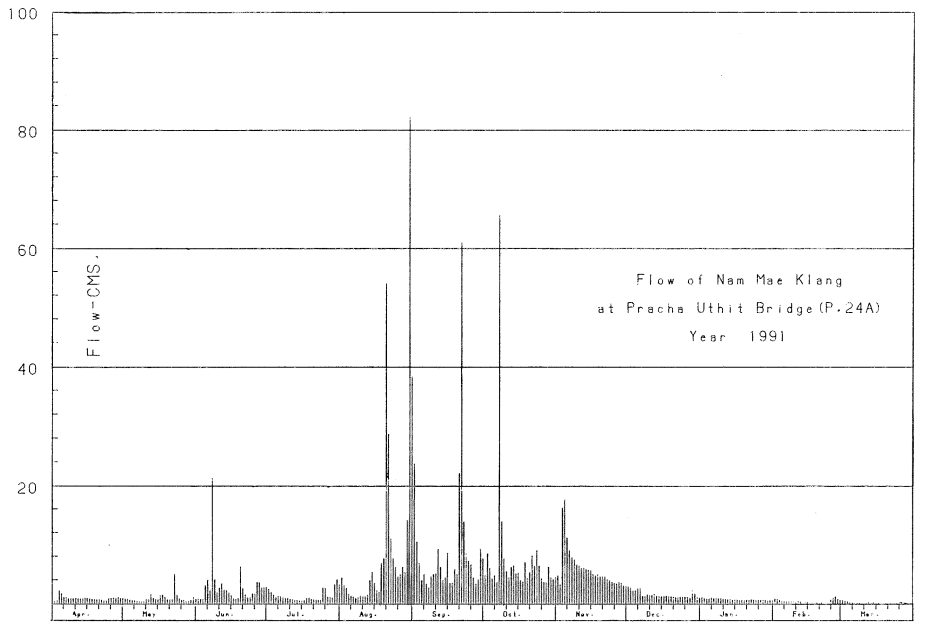
Nam Mae Klang at Pracha Uthit Bridge, Chaiang Mai (P.24A)

Location	Lat. 18-25-01 N., Long. 98-40-29 E., on left bank at Pracha Uthit Bridge, Amphoe Chom Thong, Chiang Mai.
Drainage Area	460 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+274.693 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	B.M.1 near the gage observer's house, B.M.2 on left bank at abutment.
Elevation	B.M.1 =+277.954 m. (M.S.L.), B.M.2 =+280.309 m. (M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1973 to date.
Rating Operation	
Period of Rating	1973 to date.
Rated by Float	-
Rated by Current Meter	1973 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	Overbank flow starts at elevation +277.78 m.(M.S.L.), and is included.
General Description	Records fair. Stage-discharge relation defined by 129 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	275.51	275.58	275.57	275.76	275.90	276.68	275.92	275.92	275.80	275.62	275.59	275.54	
2	275.53	275.57	275.57	275.72	275.81	276.20	276.11	275.82	275.78	275.60	275.58	275.53	
3	275.74	275.55	275.57	275.67	275.78	276.03	275.99	276.43	275.74	275.58	275.55	275.51	
4	275.69	275.53	275.81	275.62	275.69	275.87	275.89	276.48	275.74	275.59	275.53	275.49	
5	275.62	275.53	275.87	275.64	275.65	275.93	275.92	276.23	275.77	275.61	275.52	275.48	
6	275.61	275.52	275.74	275.64	275.63	275.83	275.85	276.13	275.77	275.60	275.53	275.48	
7	275.59	275.51	276.60	275.61	275.60	275.78	277.71	276.08	275.65	275.60	275.51	275.49	
8	275.58	275.50	275.88	275.60	275.61	275.91	276.34	276.06	275.64	275.60	275.51	275.48	
9	275.59	275.51	275.71	275.59	275.65	275.93	276.07	276.02	275.68	275.60	275.51	275.48	
10	275.59	275.58	275.78	275.58	275.63	275.94	275.96	276.01	275.66	275.58	275.51	275.48	
11	275.59	275.56	275.83	275.56	275.64	276.14	275.90	275.99	275.67	275.58	275.52	275.48	
12	275.58	275.68	275.75	275.55	275.67	276.00	276.00	275.99	275.69	275.57	275.51	275.50	
13	275.59	275.60	275.74	275.54	275.87	275.87	276.01	275.98	275.65	275.57	275.51	275.48	
14	275.59	275.56	275.71	275.53	275.95	275.90	275.94	275.97	275.64	275.55	275.51	275.50	
15	275.60	275.56	275.65	275.53	275.84	276.11	275.94	275.97	275.64	275.56	275.50	275.48	
16	275.58	275.66	275.59	275.54	275.74	275.84	275.87	275.93	275.64	275.56	275.49	275.47	
17	275.57	275.67	275.57	275.59	275.72	275.84	275.85	275.92	275.65	275.55	275.50	275.47	
18	275.55	275.61	275.60	275.61	276.03	275.98	276.04	275.93	275.64	275.55	275.49	275.47	
19	275.56	275.56	276.00	275.57	276.07	275.93	275.89	275.91	275.64	275.56	275.48	275.47	
20	275.56	275.55	275.77	275.56	277.48	276.63	275.95	275.91	275.63	275.56	275.49	275.46	
21	275.55	275.57	275.67	275.56	276.84	277.62	276.09	275.91	275.62	275.55	275.49	275.46	
22	275.53	275.93	275.61	275.55	276.22	276.34	276.01	275.88	275.62	275.57	275.48	275.47	
23	275.53	275.67	275.61	275.55	276.07	276.11	276.13	275.87	275.63	275.56	275.49	275.47	
24	275.59	275.58	275.70	275.78	276.00	276.05	276.01	275.85	275.63	275.55	275.48	275.47	
25	275.60	275.55	275.68	275.77	275.91	276.02	275.89	275.84	275.63	275.55	275.56	275.47	
26	275.60	275.54	275.85	275.63	275.93	275.90	275.85	275.83	275.63	275.55	275.61	275.47	
27	275.59	275.51	275.84	275.62	276.00	275.83	275.84	275.85	275.61	275.55	275.64	275.46	
28	275.61	275.52	275.78	275.61	275.95	275.88	276.00	275.84	275.74	275.55	275.57	275.46	
29	275.60	275.54	275.78	275.82	276.35	276.14	275.90	275.81	275.70	275.54	275.55	275.45	
30	275.58	275.61	275.79	275.88	278.01	276.07	275.88	275.80	275.62	275.54		275.46	
31		275.57		275.82	277.11		275.90		275.61	275.54		275.46	
Mean	275.59	275.58	275.75	275.63	276.04	276.08	276.02	275.97	275.67	275.57	275.52	275.48	
Max	275.74	275.93	276.60	275.88	278.01	277.62	277.71	276.48	275.80	275.62	275.64	275.54	278.01
Min	275.51	275.50	275.57	275.53	275.60	275.78	275.84	275.80	275.61	275.54	275.48	275.45	275.45

Annual Max Momentary Gage Height 278.74 M (MSL), at 7.00 Hours, on Aug 30, 1991
Zero Gage at Bottom Elevation 274.69 M (MSL), River Bed 275.20 M (MSL)
Left Bank Elevation 278.18 M (MSL)
Right Bank Elevation 277.77 M (MSL), Drainage Area 460 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.46	0.88	0.82	2.52	4.50	23.78	4.86	4.86	3.00	1.16	0.94	0.64	
2	0.58	0.82	0.82	2.04	3.15	10.60	8.62	3.30	2.76	1.00	0.88	0.58	
3	2.28	0.70	0.82	1.56	2.76	6.93	6.12	16.34	2.28	0.88	0.70	0.46	
4	1.72	0.58	3.15	1.16	1.72	4.05	4.35	17.74	2.28	0.94	0.58	0.36	
5	1.16	0.58	4.05	1.32	1.40	5.04	4.86	11.32	2.64	1.08	0.52	0.32	
6	1.08	0.52	2.28	1.32	1.24	3.45	3.75	9.06	2.64	1.00	0.58	0.32	
7	0.94	0.46	21.30	1.08	1.00	2.76	65.55	7.98	1.40	1.00	0.46	0.36	
8	0.88	0.40	4.20	1.00	1.08	4.68	14.00	7.56	1.32	1.00	0.46	0.32	
9	0.94	0.46	1.92	0.94	1.40	5.04	7.77	6.72	1.64	1.00	0.46	0.32	
10	0.94	0.88	2.76	0.88	1.24	5.22	5.58	6.51	1.48	0.88	0.46	0.32	
11	0.94	0.76	3.45	0.76	1.32	9.28	4.50	6.12	1.56	0.88	0.52	0.32	
12	0.88	1.64	2.40	0.70	1.56	6.30	6.30	6.12	1.72	0.82	0.46	0.40	
13	0.94	1.00	2.28	0.64	4.05	4.05	6.51	5.94	1.40	0.82	0.46	0.32	
14	0.94	0.76	1.92	0.58	5.40	4.50	5.22	5.76	1.32	0.70	0.46	0.40	
15	1.00	0.76	1.40	0.58	3.60	8.62	5.22	5.76	1.32	0.76	0.40	0.32	
16	0.88	1.48	0.94	0.64	2.28	3.60	4.05	5.04	1.32	0.76	0.36	0.28	
17	0.82	1.56	0.82	0.94	2.04	3.60	3.75	4.86	1.40	0.70	0.40	0.28	
18	0.70	1.08	1.00	1.08	6.93	5.94	7.14	5.04	1.32	0.70	0.36	0.28	
19	0.76	0.76	6.30	0.82	7.77	5.04	4.35	4.68	1.32	0.76	0.32	0.28	
20	0.76	0.70	2.64	0.76	54.08	22.23	5.40	4.68	1.24	0.76	0.36	0.24	
21	0.70	0.82	1.56	0.76	28.82	61.00	8.19	4.68	1.16	0.70	0.36	0.24	
22	0.58	5.04	1.08	0.70	11.08	14.00	6.51	4.20	1.16	0.82	0.32	0.28	
23	0.58	1.56	1.08	0.70	7.77	8.62	9.06	4.05	1.24	0.76	0.36	0.28	
24	0.94	0.88	1.80	2.76	6.30	7.35	6.51	3.75	1.24	0.70	0.32	0.28	
25	1.00	0.70	1.64	2.64	4.68	6.72	4.35	3.60	1.24	0.70	0.76	0.28	
26	1.00	0.64	3.75	1.24	5.04	4.50	3.75	3.45	1.24	0.70	1.08	0.28	
27	0.94	0.46	3.60	1.16	6.30	3.45	3.60	3.75	1.08	0.70	1.32	0.24	
28	1.08	0.52	2.76	1.08	5.40	4.20	6.30	3.60	2.28	0.70	0.82	0.24	
29	1.00	0.64	2.76	3.30	14.25	9.28	4.50	3.15	1.80	0.64	0.70	0.20	
30	0.88	1.08	2.88	4.20	82.19	7.77	4.20	3.00	1.16	0.64		0.24	
31		0.82		3.30	38.38		4.50		1.08	0.64		0.24	
Total	28.30	29.94	88.18	43.16	318.73	271.60	239.37	182.62	50.04	25.30	16.18	9.92	1303.34 CMSDAY
Mean	0.94	0.97	2.94	1.39	10.28	9.05	7.72	6.09	1.61	0.82	0.56	0.32	3.56 CMS
Max	2.28	5.04	21.30	4.20	82.19	61.00	65.55	17.74	3.00	1.16	1.32	0.64	82.19 CMS
Min	0.46	0.40	0.82	0.58	1.00	2.76	3.60	3.00	1.08	0.64	0.32	0.20	0.20 CMS
Runoff	2.445	2.587	7.619	3.729	27.538	23.466	20.682	15.778	4.323	2.186	1.398	0.857	112.609 MCM

Momentary Peak 130.50 CMS, at 278.74 M (MSL), at 7.00 Hours, on Aug 30, 1991

Runoff Yield 7.74 Liters/Second/Square KM, Momentary Peak Yield 283.69 Liters/Second/Square KM

WATER YEAR 1991

PING RIVER BASIN

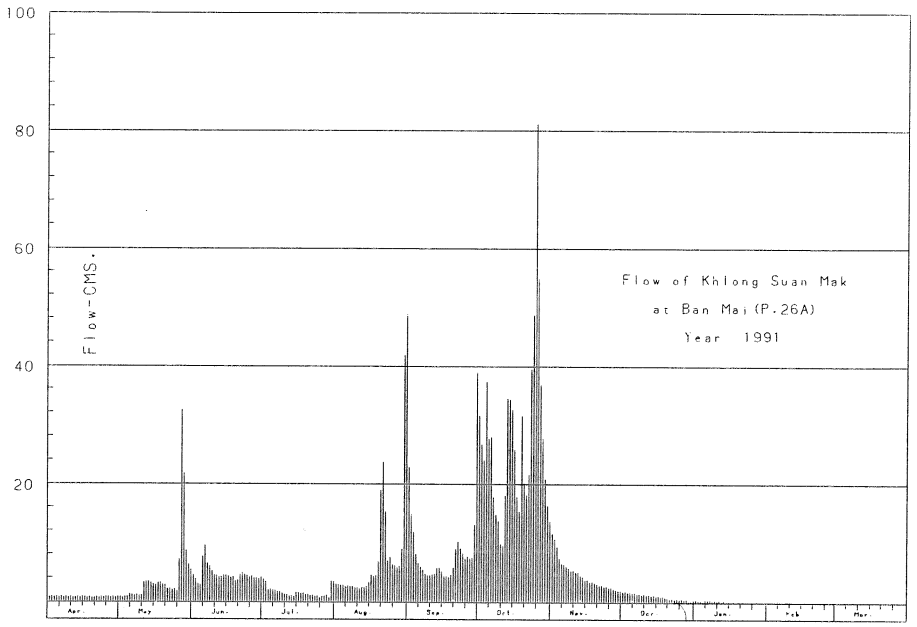
Khlong Suan Mak at Ban Mai, Kamphaeng Phet (P.26A)

Location	Lat. 16-26-57 N., Long. 99-26-27 E., on right bank about 515 meters downstream from Tha Kradan Weir at Ban Mai, Tambon Na Bo Khum, Amphoe Muang, Kamphaeng Phet.
Drainage Area	969 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	Near the automatic gage building
Elevation	+6.144 m. (A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1971 to date.
Rating Operation	
Period of Rating	1972-1974, 1980 to date.
Rated by Float	-
Rated by Current Meter	1972-1974, 1980 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Flow regulated by Tha Kradan Weir built by the local residents. Stage-discharge relation defined by 35 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	-0.11	-0.12	0.37	0.30	0.22	1.15	1.35	0.79	0.08	-0.29	-0.45	-0.47	
2	-0.11	-0.12	0.29	0.25	0.20	0.92	1.24	0.75	0.07	-0.30	-0.45	-0.47	
3	-0.11	-0.12	0.22	0.12	0.20	0.80	1.18	0.70	0.06	-0.35	-0.45	-0.46	
4	-0.11	-0.08	0.19	0.12	0.19	0.65	1.47	0.62	0.05	-0.36	-0.45	-0.46	
5	-0.11	-0.01	0.63	0.12	0.18	0.56	1.26	0.57	0.04	-0.28	-0.45	-0.46	
6	-0.11	-0.05	0.71	0.10	0.18	0.51	1.27	0.54	0.03	-0.28	-0.45	-0.46	
7	-0.12	-0.04	0.57	0.08	0.18	0.45	1.02	0.52	0.01	-0.29	-0.45	-0.46	
8	-0.12	-0.05	0.51	0.06	0.17	0.39	0.92	0.48	-0.01	-0.30	-0.45	-0.46	
9	-0.12	-0.06	0.44	0.03	0.16	0.35	0.87	0.45	-0.02	-0.31	-0.45	-0.46	
10	-0.12	-0.07	0.37	-0.01	0.15	0.37	0.72	0.44	-0.02	-0.31	-0.45	-0.46	
11	-0.12	0.25	0.35	-0.04	0.14	0.37	0.70	0.42	-0.03	-0.32	-0.45	-0.46	
12	-0.12	0.26	0.34	-0.07	0.15	0.39	1.03	0.41	-0.04	-0.33	-0.45	-0.46	
13	-0.12	0.25	0.33	-0.08	0.16	0.48	1.41	0.36	-0.05	-0.34	-0.45	-0.47	
14	-0.12	0.24	0.37	-0.09	0.17	0.50	1.41	0.33	-0.06	-0.35	-0.45	-0.47	
15	-0.12	0.20	0.35	0.03	0.25	0.42	1.37	0.29	-0.07	-0.36	-0.44	-0.47	
16	-0.13	0.19	0.34	0.02	0.36	0.35	1.22	0.28	-0.08	-0.37	-0.44	-0.47	
17	-0.13	0.24	0.33	0.02	0.35	0.34	1.02	0.26	-0.09	-0.38	-0.44	-0.47	
18	-0.13	0.23	0.33	0.01	0.35	0.34	0.94	0.25	-0.10	-0.39	-0.44	-0.47	
19	-0.13	0.21	0.27	-0.02	0.60	0.36	1.35	0.24	-0.11	-0.40	-0.44	-0.47	
20	-0.13	0.19	0.27	-0.03	1.05	0.50	1.08	0.21	-0.16	-0.40	-0.45	-0.47	
21	-0.13	0.14	0.38	-0.05	1.17	0.68	1.03	0.20	-0.17	-0.41	-0.45	-0.47	
22	-0.13	0.13	0.40	-0.06	0.94	0.73	1.12	0.19	-0.18	-0.41	-0.45	-0.47	
23	-0.12	0.12	0.38	-0.07	0.60	0.69	1.51	0.18	-0.19	-0.41	-0.45	-0.47	
24	-0.12	0.12	0.35	-0.09	0.63	0.65	1.68	0.17	-0.20	-0.41	-0.45	-0.47	
25	-0.12	0.10	0.34	-0.12	0.55	0.62	2.15	0.16	-0.21	-0.42	-0.45	-0.47	
26	-0.12	0.61	0.34	-0.10	0.52	0.63	1.78	0.15	-0.22	-0.42	-0.46	-0.47	
27	-0.12	1.37	0.32	-0.07	0.50	0.62	1.46	0.14	-0.23	-0.42	-0.47	-0.47	
28	-0.12	1.12	0.31	-0.06	0.51	0.62	1.26	0.11	-0.24	-0.43	-0.47	-0.47	
29	-0.12	0.67	0.31	-0.14	0.68	0.85	1.10	0.11	-0.25	-0.43	-0.47	-0.47	
30	-0.12	0.55	0.32	0.27	1.56	1.50	0.98	0.09	-0.26	-0.42		-0.47	
31		0.45		0.25	1.68		0.87		-0.27	-0.42		-0.47	
Mean	-0.12	0.22	0.37	0.02	0.48	0.59	1.22	0.35	-0.09	-0.36	-0.45	-0.47	
Max	-0.11	1.37	0.71	0.30	1.68	1.50	2.15	0.79	0.08	-0.28	-0.44	-0.46	2.15
Min	-0.13	-0.12	0.19	-0.14	0.14	0.34	0.70	0.09	-0.27	-0.43	-0.47	-0.47	-0.47

Annual Max Momentary Gage Height 2.17 M (A.D), at 6.00 Hours, on Oct 25, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.52 M (A.D)
Left Bank Elevation 4.29 M (A.D)
Right Bank Elevation 5.86 M (A.D), Drainage Area 969 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.96	0.92	4.70	4.00	3.20	23.00	31.75	11.75	1.90	0.42	0.10	0.06	
2	0.96	0.92	3.90	3.50	3.00	15.00	26.80	10.75	1.85	0.40	0.10	0.06	
3	0.96	0.92	3.20	2.20	3.00	12.00	24.20	9.50	1.80	0.30	0.10	0.08	
4	0.96	1.10	2.90	2.20	2.90	8.25	37.50	7.50	1.75	0.28	0.10	0.08	
5	0.96	1.45	7.75	2.20	2.80	6.60	27.70	6.70	1.70	0.44	0.10	0.08	
6	0.96	1.25	9.75	2.00	2.80	6.10	28.15	6.40	1.65	0.44	0.10	0.08	
7	0.92	1.30	6.70	1.90	2.80	5.50	17.80	6.20	1.55	0.42	0.10	0.08	
8	0.92	1.25	6.10	1.80	2.70	4.90	15.00	5.80	1.45	0.40	0.10	0.08	
9	0.92	1.20	5.40	1.65	2.60	4.50	13.75	5.50	1.40	0.38	0.10	0.08	
10	0.92	1.15	4.70	1.45	2.50	4.70	10.00	5.40	1.40	0.38	0.10	0.08	
11	0.92	3.50	4.50	1.30	2.40	4.70	9.50	5.20	1.35	0.36	0.10	0.08	
12	0.92	3.60	4.40	1.15	2.50	4.90	18.20	5.10	1.30	0.34	0.10	0.08	
13	0.92	3.50	4.30	1.10	2.60	5.80	34.50	4.60	1.25	0.32	0.10	0.06	
14	0.92	3.40	4.70	1.05	2.70	6.00	34.50	4.30	1.20	0.30	0.10	0.06	
15	0.92	3.00	4.50	1.65	3.50	5.20	32.65	3.90	1.15	0.28	0.12	0.06	
16	0.88	2.90	4.40	1.60	4.60	4.50	25.90	3.80	1.10	0.26	0.12	0.06	
17	0.88	3.40	4.30	1.60	4.50	4.40	17.80	3.60	1.05	0.24	0.12	0.06	
18	0.88	3.30	4.30	1.55	4.50	4.40	15.50	3.50	1.00	0.22	0.12	0.06	
19	0.88	3.10	3.70	1.40	7.00	4.60	31.75	3.40	0.96	0.20	0.12	0.06	
20	0.88	2.90	3.70	1.35	19.00	6.00	20.20	3.10	0.76	0.20	0.10	0.06	
21	0.88	2.40	4.80	1.25	23.80	9.00	18.20	3.00	0.72	0.18	0.10	0.06	
22	0.88	2.30	5.00	1.20	15.50	10.25	21.80	2.90	0.68	0.18	0.10	0.06	
23	0.92	2.20	4.80	1.15	7.00	9.25	39.50	2.80	0.64	0.18	0.10	0.06	
24	0.92	2.20	4.50	1.05	7.75	8.25	48.80	2.70	0.60	0.18	0.10	0.06	
25	0.92	2.00	4.40	0.92	6.50	7.50	81.25	2.60	0.58	0.16	0.10	0.06	
26	0.92	7.25	4.40	1.00	6.20	7.75	54.80	2.50	0.56	0.16	0.08	0.06	
27	0.92	32.65	4.20	1.15	6.00	7.50	37.00	2.40	0.54	0.16	0.06	0.06	
28	0.92	21.80	4.10	1.20	6.10	7.50	27.70	2.10	0.52	0.14	0.06	0.06	
29	0.92	8.75	4.10	0.84	9.00	13.25	21.00	2.10	0.50	0.14	0.06	0.06	
30	0.92	6.50	4.20	3.70	42.00	39.00	16.50	1.95	0.48	0.16		0.06	
31		5.50		3.50	48.80		13.75		0.46	0.16		0.06	
Total	27.56	137.61	142.40	53.61	260.25	260.30	853.45	141.05	33.85	8.38	2.86	2.06	1923.38 CMSDAY
Mean	0.92	4.44	4.75	1.73	8.40	8.68	27.53	4.70	1.09	0.27	0.10	0.07	5.26 CMS
Max	0.96	32.65	9.75	4.00	48.80	39.00	81.25	11.75	1.90	0.44	0.12	0.08	81.25 CMS
Min	0.88	0.92	2.90	0.84	2.40	4.40	9.50	1.95	0.46	0.14	0.06	0.06	0.06 CMS
Runoff	2.381	11.890	12.303	4.632	22.486	22.490	73.738	12.187	2.925	0.724	0.247	0.178	166.180 MCM

Momentary Peak 82.75 CMS, at 2.17 M (A.D), at 6.00 Hours, on Oct 25, 1991

Runoff Yield 5.42 Liters/Second/Square KM, Momentary Peak Yield 85.40 Liters/Second/Square KM

WATER YEAR 1991

PING RIVER BASIN

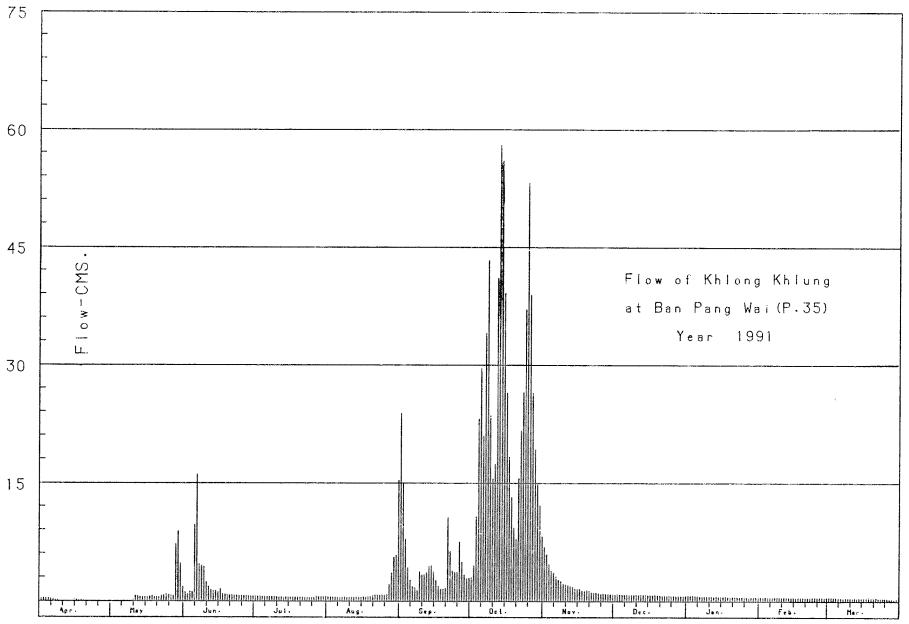
Khlong Khlung at Ban Pang Wai, Kamphaeng Phet (P.35)

Location	Lat. 16-04-22 N., Long. 99-24-18 E., on right bank at Ban Pang Wai about 1.5 kilometers from Khao Song Phi Nong, Amphoe Khlong Khlung, Kamphaeng Phet.
Drainage Area	730 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 34 meters from the top staff gage.
Elevation	+4.502 m. (A.D.)
Gage Reading Frequency	13-time daily readings at 06.00 - 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1974 to date.
Rating Operation	
Period of Rating	1974 to date.
Rated by Float	-
Rated by Current Meter	1974 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 91 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	-0.29	-0.47	0.07	-0.15	-0.19	1.93	0.46	0.90	-0.02	-0.10	-0.23	-0.23	
2	-0.29	-0.48	0.00	-0.15	-0.20	1.47	0.66	0.81	-0.01	-0.10	-0.23	-0.24	
3	-0.29	-0.49	0.09	-0.15	-0.21	0.99	1.24	0.68	-0.02	-0.10	-0.21	-0.24	
4	-0.30	-0.49	0.08	-0.15	-0.21	0.63	1.90	0.58	-0.04	-0.11	-0.22	-0.25	
5	-0.31	-0.49	1.17	-0.16	-0.22	0.41	2.19	0.55	-0.02	-0.14	-0.22	-0.26	
6	-0.37	-0.50	1.54	-0.16	-0.23	0.26	1.80	0.48	-0.05	-0.16	-0.22	-0.27	
7	-0.39	-0.50	0.68	-0.16	-0.23	0.22	2.37	0.42	-0.05	-0.16	-0.23	-0.27	
8	-0.39	-0.51	0.66	-0.17	-0.21	0.14	2.72	0.38	-0.06	-0.16	-0.23	-0.27	
9	-0.40	-0.51	0.64	-0.17	-0.22	0.56	1.92	0.33	-0.05	-0.17	-0.23	-0.28	
10	-0.40	-0.31	0.37	-0.18	-0.22	0.51	1.51	0.30	-0.05	-0.17	-0.23	-0.29	
11	-0.41	-0.10	0.25	-0.19	-0.21	0.51	1.61	0.29	-0.04	-0.17	-0.22	-0.28	
12	-0.42	-0.16	0.16	-0.19	-0.21	0.55	2.64	0.26	-0.05	-0.17	-0.23	-0.28	
13	-0.42	-0.19	0.11	-0.20	-0.21	0.65	3.20	0.25	-0.05	-0.17	-0.24	-0.28	
14	-0.43	-0.20	0.12	-0.20	-0.21	0.66	3.14	0.19	-0.05	-0.18	-0.24	-0.28	
15	-0.32	-0.20	0.07	-0.21	-0.21	0.56	2.57	0.19	-0.06	-0.18	-0.24	-0.28	
16	-0.35	-0.21	0.19	-0.21	-0.20	0.41	2.05	0.18	-0.07	-0.18	-0.24	-0.28	
17	-0.40	-0.15	0.02	-0.21	-0.20	0.26	1.66	0.13	-0.08	-0.18	-0.25	-0.28	
18	-0.41	-0.14	-0.01	-0.21	-0.19	0.19	1.38	0.10	-0.07	-0.19	-0.25	-0.29	
19	-0.41	-0.20	-0.04	-0.21	-0.16	0.18	1.13	0.15	-0.07	-0.20	-0.25	-0.29	
20	-0.42	-0.22	-0.06	-0.22	-0.10	0.21	0.99	0.11	-0.10	-0.19	-0.26	-0.30	
21	-0.42	-0.23	-0.08	-0.22	-0.05	1.24	1.51	0.07	-0.11	-0.21	-0.25	-0.30	
22	-0.43	-0.07	-0.08	-0.24	-0.06	0.85	1.83	0.04	-0.12	-0.21	-0.25	-0.30	
23	-0.43	-0.08	-0.10	-0.24	-0.08	0.58	2.05	0.06	-0.12	-0.21	-0.23	-0.30	
24	-0.44	-0.02	-0.10	-0.24	-0.07	0.56	2.49	0.02	-0.13	-0.21	-0.24	-0.29	
25	-0.44	-0.05	-0.10	-0.24	-0.06	0.55	3.05	0.01	-0.12	-0.21	-0.24	-0.30	
26	-0.45	-0.11	-0.11	-0.24	-0.04	0.96	2.56	0.02	-0.13	-0.22	-0.25	-0.30	
27	-0.45	-0.11	-0.11	-0.16	0.31	0.71	2.05	0.01	-0.13	-0.22	-0.24	-0.31	
28	-0.45	0.93	-0.11	-0.18	0.54	0.51	1.71	-0.01	-0.14	-0.22	-0.24	-0.31	
29	-0.46	1.09	-0.13	-0.19	0.78	0.44	1.48	0.00	-0.14	-0.22	-0.25	-0.31	
30	-0.46	0.69	-0.14	-0.19	0.80	0.45	1.32	-0.02	-0.14	-0.23		-0.31	
31		0.25		-0.18	1.50		1.02		-0.12	-0.23		-0.31	
Mean	-0.39	-0.14	0.17	-0.19	-0.02	0.61	1.88	0.25	-0.08	-0.18	-0.24	-0.28	
Max	-0.29	1.09	1.54	-0.15	1.50	1.93	3.20	0.90	-0.01	-0.10	-0.21	-0.23	3.20
Min	-0.46	-0.51	-0.14	-0.24	-0.23	0.14	0.46	-0.02	-0.14	-0.23	-0.26	-0.31	-0.51

Annual Max Momentary Gage Height 3.47 M (A.D), at 21.00 Hours, on Oct 13, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.28 M (A.D)
Left Bank Elevation 0.00 M (A.D)
Right Bank Elevation 0.00 M (A.D), Drainage Area 730 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.38	0.05	1.14	0.63	0.56	23.86	3.02	6.90	0.86	0.72	0.49	0.49	
2	0.38	0.04	0.90	0.63	0.54	14.86	4.54	5.91	0.88	0.72	0.49	0.47	
3	0.38	0.02	1.22	0.63	0.52	7.89	10.72	4.72	0.86	0.72	0.52	0.47	
4	0.36	0.02	1.18	0.63	0.52	4.27	23.20	3.86	0.83	0.70	0.50	0.45	
5	0.34	0.02	9.70	0.61	0.50	2.67	29.58	3.65	0.86	0.65	0.50	0.43	
6	0.23	0.00	16.12	0.61	0.49	1.90	21.00	3.16	0.81	0.61	0.50	0.41	
7	0.20	0.00	4.72	0.61	0.49	1.70	34.05	2.74	0.81	0.61	0.49	0.41	
8	0.20	0.00	4.54	0.59	0.52	1.39	43.36	2.50	0.79	0.61	0.49	0.41	
9	0.18	0.00	4.36	0.59	0.50	3.72	23.64	2.25	0.81	0.59	0.49	0.40	
10	0.18	0.34	2.45	0.58	0.50	3.37	15.58	2.10	0.81	0.59	0.49	0.38	
11	0.16	0.72	1.85	0.56	0.52	3.37	17.39	2.05	0.83	0.59	0.50	0.40	
12	0.14	0.61	1.46	0.56	0.52	3.65	41.12	1.90	0.81	0.59	0.49	0.40	
13	0.14	0.56	1.28	0.54	0.52	4.45	58.00	1.85	0.81	0.59	0.47	0.40	
14	0.13	0.54	1.32	0.54	0.52	4.54	56.08	1.57	0.81	0.58	0.47	0.40	
15	0.32	0.54	1.14	0.52	0.52	3.72	39.22	1.57	0.79	0.58	0.47	0.40	
16	0.27	0.52	1.57	0.52	0.54	2.67	26.50	1.53	0.77	0.58	0.47	0.40	
17	0.18	0.63	0.97	0.52	0.54	1.90	18.34	1.36	0.76	0.58	0.45	0.40	
18	0.16	0.65	0.88	0.52	0.56	1.57	13.24	1.25	0.77	0.56	0.45	0.38	
19	0.16	0.54	0.83	0.52	0.61	1.53	9.30	1.43	0.77	0.54	0.45	0.38	
20	0.14	0.50	0.79	0.50	0.72	1.65	7.89	1.28	0.72	0.56	0.43	0.36	
21	0.14	0.49	0.76	0.50	0.81	10.72	15.58	1.14	0.70	0.52	0.45	0.36	
22	0.13	0.77	0.76	0.47	0.79	6.35	21.66	1.04	0.68	0.52	0.45	0.36	
23	0.13	0.76	0.72	0.47	0.76	3.86	26.50	1.11	0.68	0.52	0.49	0.36	
24	0.11	0.86	0.72	0.47	0.77	3.72	37.14	0.97	0.67	0.52	0.47	0.38	
25	0.11	0.81	0.72	0.47	0.79	3.65	53.20	0.94	0.68	0.52	0.47	0.36	
26	0.09	0.70	0.70	0.47	0.83	7.56	38.96	0.97	0.67	0.50	0.45	0.36	
27	0.09	0.70	0.70	0.61	2.15	4.99	26.50	0.94	0.67	0.50	0.47	0.34	
28	0.09	7.23	0.70	0.58	3.58	3.37	19.29	0.88	0.65	0.50	0.47	0.34	
29	0.07	8.90	0.67	0.56	5.62	2.88	15.04	0.90	0.65	0.50	0.45	0.34	
30	0.07	4.81	0.65	0.56	5.80	2.95	12.16	0.86	0.65	0.49		0.34	
31		1.85		0.58	15.40		8.20		0.68	0.49		0.34	
Total	5.66	34.18	65.52	17.15	48.01	144.73	770.00	63.33	23.54	17.85	13.78	12.12	1215.87 CMSDAY
Mean	0.19	1.10	2.18	0.55	1.55	4.82	24.84	2.11	0.76	0.58	0.48	0.39	3.32 CMS
Max	0.38	8.90	16.12	0.63	15.40	23.86	58.00	6.90	0.88	0.72	0.52	0.49	58.00 CMS
Min	0.07	0.00	0.65	0.47	0.49	1.39	3.02	0.86	0.65	0.49	0.43	0.34	0.00 CMS
Runoff	0.489	2.953	5.661	1.482	4.148	12.505	66.528	5.472	2.034	1.542	1.191	1.047	105.051 MCM

Momentary Peak 67.79 CMS, at 3.47 M (A.D), at 21.00 Hours, on Oct 13, 1991
Runoff Yield 4.55 Liters/Second/Square KM, Momentary Peak Yield 92.86 Liters/Second/Square KM

WATER YEAR 1991

PING RIVER BASIN

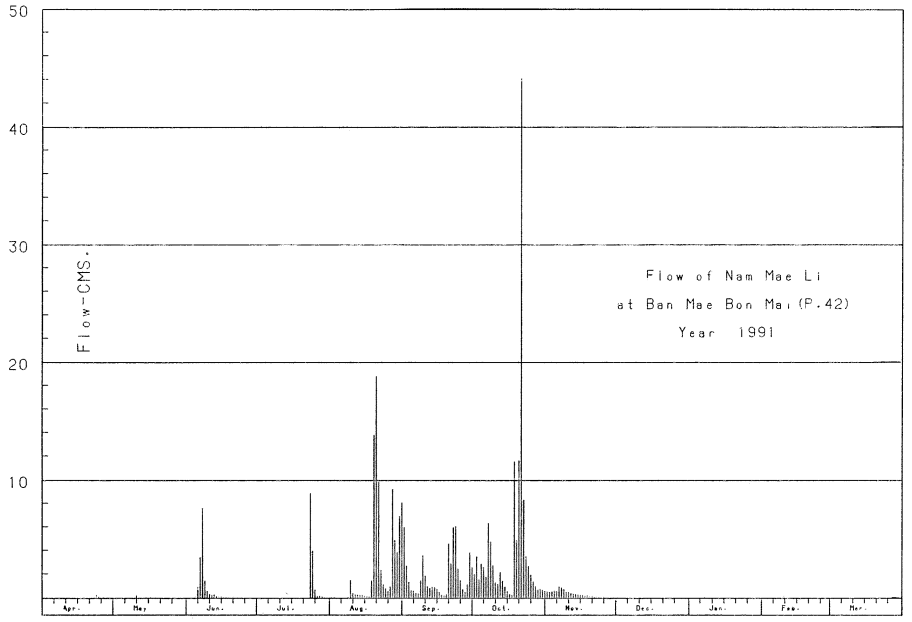
Nam Mae Li at Ban Mae Bon Mai, Lamphun (P.42)

Location	Lat. 17-53-16 N., Long. 99-05-20 E., on right bank at Ban Mae Bon Mai, King Amphoe Thung Hua Chang, Lamphun.
Drainage Area	315 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+500.10 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank at the top staff gage.
Elevation	+505.708 m. (M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1978 to date.
Rating Operation	
Period of Rating	1978 to date.
Rated by Float	-
Rated by Current Meter	1978 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 90 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	500.46	500.50	500.44	500.49	500.54	501.84	501.14	500.77	500.56	500.50	500.48	500.47	
2	500.46	500.50	500.42	500.47	500.54	501.29	501.43	500.75	500.55	500.57	500.48	500.46	
3	500.45	500.50	500.42	500.48	500.54	500.98	501.04	500.77	500.54	500.58	500.47	500.46	
4	500.45	500.50	500.60	500.52	500.54	500.80	501.32	500.79	500.54	500.56	500.47	500.46	
5	500.45	500.50	500.92	500.50	500.53	500.78	501.26	500.78	500.54	500.55	500.47	500.46	
6	500.45	500.50	501.42	500.49	500.55	500.73	501.10	500.89	500.53	500.54	500.47	500.46	
7	500.45	500.48	502.08	500.49	500.57	500.71	501.89	500.87	500.53	500.53	500.46	500.46	
8	500.45	500.48	501.02	500.49	500.62	501.02	501.64	500.82	500.53	500.52	500.46	500.46	
9	500.43	500.48	500.77	500.49	501.03	501.44	501.29	500.76	500.53	500.54	500.46	500.45	
10	500.40	500.71	500.69	500.47	500.72	501.12	500.98	500.75	500.53	500.55	500.46	500.45	
11	500.37	500.50	500.66	500.47	500.68	500.89	500.94	500.72	500.52	500.54	500.46	500.47	
12	500.37	500.49	500.67	500.51	500.66	500.86	501.18	500.71	500.50	500.54	500.47	500.48	
13	500.37	500.49	500.61	500.45	500.66	500.88	501.01	500.69	500.49	500.54	500.47	500.48	
14	500.37	500.49	500.59	500.44	500.65	500.88	500.89	500.67	500.49	500.54	500.47	500.47	
15	500.37	500.50	500.59	500.44	500.63	500.83	500.77	500.66	500.49	500.53	500.47	500.46	
16	500.37	500.51	500.56	500.46	500.62	500.76	500.69	500.66	500.49	500.51	500.47	500.46	
17	500.37	500.51	500.55	500.46	500.60	500.66	500.66	500.64	500.49	500.50	500.46	500.46	
18	500.37	500.50	500.56	500.49	501.05	500.64	502.56	500.64	500.49	500.50	500.46	500.46	
19	500.37	500.50	500.58	500.50	502.77	500.68	501.66	500.62	500.50	500.50	500.45	500.46	
20	500.37	500.47	500.57	500.50	503.16	501.61	502.57	500.62	500.49	500.50	500.45	500.46	
21	500.37	500.46	500.55	500.49	502.37	501.32	504.22	500.61	500.49	500.49	500.45	500.46	
22	500.49	500.47	500.54	500.48	501.21	501.84	502.18	500.58	500.49	500.49	500.45	500.46	
23	500.66	500.46	500.53	502.27	500.94	501.85	501.43	500.58	500.49	500.49	500.45	500.46	
24	500.54	500.45	500.53	501.51	500.84	501.24	501.28	500.59	500.49	500.49	500.45	500.45	
25	500.53	500.45	500.53	500.81	500.78	501.02	501.13	500.58	500.49	500.49	500.46	500.44	
26	500.53	500.46	500.53	500.63	500.89	500.83	501.00	500.58	500.49	500.49	500.49	500:44	
27	500.53	500.46	500.53	500.61	502.30	500.75	500.89	500.57	500.48	500.48	500.47	500.48	
28	500.51	500.46	500.52	500.60	501.66	500.94	500.82	500.57	500.48	500.48	500.47	500.47	
29	500.51	500.46	500.52	500.57	501.49	501.48	500.83	500.56	500.48	500.48	500.47	500.47	
30	500.50	500.46	500.52	500.56	501.98	501.26	500.81	500.56	500.47	500.48		500.47	
31		500.46		500.55	502.15		500.78		500.47	500.48		500.47	
Mean	500.44	500.49	500.67	500.60	501.11	501.06	501.34	500.68	500.50	500.52	500.46	500.46	
Max	500.66	500.71	502.08	502.27	503.16	501.85	504.22	500.89	500.56	500.58	500.49	500.48	504.22
Min	500.37	500.45	500.42	500.44	500.53	500.64	500.66	500.56	500.47	500.48	500.45	500.44	500.37

Annual Max Momentary Gage Height 504.44 M (MSL), at 6.00 Hours, on Oct 21, 1991
Zero Gage at Bottom Elevation 500.10 M (MSL), River Bed 500.40 M (MSL)
Left Bank Elevation 505.96 M (MSL)
Right Bank Elevation 505.28 M (MSL), Drainage Area 315 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.03	0.05	0.02	0.04	0.09	6.01	2.00	0.56	0.11	0.05	0.04	0.04	
2	0.03	0.05	0.01	0.04	0.09	2.75	3.53	0.50	0.10	0.12	0.04	0.03	
3	0.03	0.05	0.01	0.04	0.09	1.32	1.56	0.56	0.09	0.13	0.04	0.03	
4	0.03	0.05	0.15	0.07	0.09	0.65	2.91	0.62	0.09	0.11	0.04	0.03	
5	0.03	0.05	1.08	0.05	0.08	0.59	2.60	0.59	0.09	0.10	0.04	0.03	
6	0.03	0.05	3.47	0.04	0.10	0.44	1.80	0.97	0.08	0.09	0.04	0.03	
7	0.03	0.04	7.61	0.04	0.12	0.38	6.34	0.90	0.08	0.08	0.03	0.03	
8	0.03	0.04	1.48	0.04	0.19	1.48	4.79	0.72	0.08	0.07	0.03	0.03	
9	0.01	0.04	0.56	0.04	1.52	3.59	2.75	0.53	0.08	0.09	0.03	0.03	
10	0.00	0.38	0.33	0.04	0.41	1.90	1.32	0.50	0.08	0.10	0.03	0.03	
11	0.00	0.05	0.27	0.04	0.31	0.97	1.16	0.41	0.07	0.09	0.03	0.04	
12	0.00	0.04	0.29	0.06	0.27	0.86	2.20	0.38	0.05	0.09	0.04	0.04	
13	0.00	0.04	0.17	0.03	0.27	0.93	1.44	0.33	0.04	0.09	0.04	0.04	
14	0.00	0.04	0.14	0.02	0.25	0.93	0.97	0.29	0.04	0.09	0.04	0.04	
15	0.00	0.05	0.14	0.02	0.21	0.75	0.56	0.27	0.04	0.08	0.04	0.03	
16	0.00	0.06	0.11	0.03	0.19	0.53	0.33	0.27	0.04	0.06	0.04	0.03	
17	0.00	0.06	0.10	0.03	0.15	0.27	0.27	0.23	0.04	0.05	0.03	0.03	
18	0.00	0.05	0.11	0.04	1.60	0.23	11.60	0.23	0.04	0.05	0.03	0.03	
19	0.00	0.05	0.13	0.05	13.85	0.31	4.91	0.19	0.05	0.05	0.03	0.03	
20	0.00	0.04	0.12	0.05	18.84	4.61	11.70	0.19	0.04	0.05	0.03	0.03	
21	0.00	0.03	0.10	0.04	9.85	2.91	44.12	0.17	0.04	0.04	0.03	0.03	
22	0.04	0.04	0.09	0.04	2.35	6.01	8.35	0.13	0.04	0.04	0.03	0.03	
23	0.27	0.03	0.08	9.02	1.16	6.08	3.53	0.13	0.04	0.04	0.03	0.03	
24	0.09	0.03	0.08	4.01	0.79	2.50	2.70	0.14	0.04	0.04	0.03	0.03	
25	0.08	0.03	0.08	0.69	0.59	1.48	1.95	0.13	0.04	0.04	0.03	0.02	
26	0.08	0.03	0.08	0.21	0.97	0.75	1.40	0.13	0.04	0.04	0.04	0.02	
27	0.08	0.03	0.08	0.17	9.25	0.50	0.97	0.12	0.04	0.04	0.04	0.04	
28	0.06	0.03	0.07	0.15	4.91	1.16	0.72	0.12	0.04	0.04	0.04	0.04	
29	0.06	0.03	0.07	0.12	3.89	3.83	0.75	0.11	0.04	0.04	0.04	0.04	
30	0.05	0.03	0.07	0.11	6.92	2.60	0.69	0.11	0.04	0.04		0.04	
31		0.03		0.10	8.12		0.59		0.04	0.04		0.04	
Total	1.06	1.62	17.10	15.47	87.52	57.32	130.51	10.53	1.77	2.08	1.02	1.01	327.01 CMSDAY
Mean	0.04	0.05	0.57	0.50	2.82	1.91	4.21	0.35	0.06	0.07	0.04	0.03	0.89 CMS
Max	0.27	0.38	7.61	9.02	18.84	6.08	44.12	0.97	0.11	0.13	0.04	0.04	44.12 CMS
Min	0.00	0.03	0.01	0.02	0.08	0.23	0.27	0.11	0.04	0.04	0.03	0.02	0.00 CMS
Runoff	0.092	0.140	1.477	1.337	7.562	4.952	11.276	0.910	0.153	0.180	0.088	0.087	28.254 MCM

Momentary Peak 52.60 CMS, at 504.44 M (MSL), at 6.00 Hours, on Oct 21, 1991

Runoff Yield 2.84 Liters/Second/Square KM, Momentary Peak Yield 166.98 Liters/Second/Square KM

WATER YEAR 1991

PING RIVER BASIN

Khlong Suan Mak at Ban Pong Nam Ron, Kamphaeng Phet (P.47)

Location — Lat. 16°20'03" N., Long. 99°16'29" E., on right bank at Ban Pong Nam Ron, Amphoe Khlong Lan, Kamphaeng Phet.

Drainage Area — 521 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

- Location — On right bank about 9 meters from the top staff gage.
- Elevation — +4.740 m.(A.D.)

Gage Reading Frequency — 13-time daily readings at 06.00 - 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 13 readings.

Period of Available Gage Records — 1983 to date.

Rating Operation

- Period of Rating — 1983 to date.
- Rated by Float — -
- Rated by Current Meter — 1983 to date.

Stability of Channel Regimes — Stable.

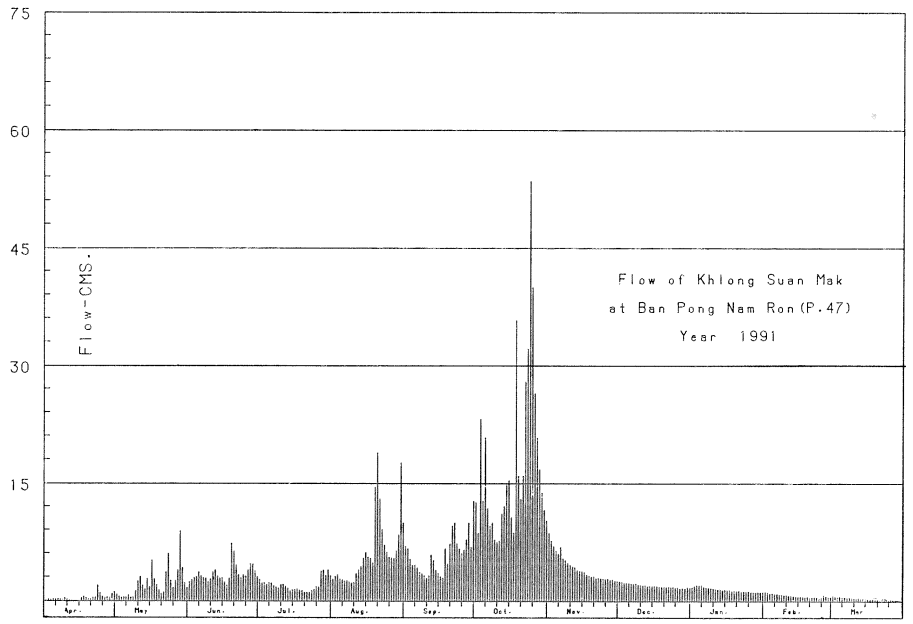
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 91 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	-0.25	-0.15	0.02	0.05	0.06	0.35	0.61	0.44	0.03	-0.05	-0.10	-0.17	
2	-0.26	-0.19	0.05	0.01	0.09	0.33	0.44	0.39	0.02	-0.03	-0.11	-0.19	
3	-0.25	-0.21	0.07	0.01	0.11	0.24	0.97	0.35	0.01	-0.02	-0.13	-0.19	
4	-0.25	-0.20	0.09	-0.01	0.06	0.19	0.62	0.31	0.01	-0.02	-0.13	-0.19	
5	-0.25	-0.20	0.13	0.01	0.05	0.19	0.90	0.29	0.01	-0.02	-0.14	-0.20	
6	-0.25	-0.16	0.10	0.01	0.03	0.17	0.58	0.34	0.00	-0.04	-0.14	-0.20	
7	-0.25	-0.21	0.07	-0.03	0.04	0.13	0.48	0.25	0.00	-0.05	-0.15	-0.20	
8	-0.26	-0.21	0.07	-0.04	0.02	0.12	0.50	0.23	0.00	-0.05	-0.15	-0.21	
9	-0.22	-0.09	0.02	-0.06	0.01	0.10	0.40	0.21	-0.01	-0.06	-0.16	-0.21	
10	-0.26	0.03	0.06	-0.01	0.01	0.07	0.38	0.19	-0.02	-0.06	-0.16	-0.22	
11	-0.26	0.09	0.13	-0.01	0.12	0.10	0.39	0.18	-0.02	-0.07	-0.17	-0.22	
12	-0.26	-0.02	0.15	-0.03	0.15	0.28	0.55	0.17	-0.02	-0.07	-0.17	-0.22	
13	-0.27	-0.07	0.09	-0.06	0.18	0.23	0.59	0.15	-0.03	-0.07	-0.18	-0.22	
14	-0.27	0.06	0.07	-0.09	0.25	0.15	0.70	0.14	-0.03	-0.08	-0.19	-0.23	
15	-0.26	-0.04	0.07	-0.08	0.30	0.12	0.72	0.14	-0.03	-0.08	-0.19	-0.23	
16	-0.19	0.23	0.02	-0.07	0.26	0.09	0.53	0.13	-0.03	-0.08	-0.19	-0.24	
17	-0.19	0.06	-0.02	-0.07	0.25	0.07	0.44	0.11	-0.03	-0.08	-0.19	-0.24	
18	-0.23	-0.02	0.07	-0.08	0.21	0.33	1.27	0.10	-0.04	-0.09	-0.19	-0.24	
19	-0.24	-0.08	0.37	-0.09	0.69	0.20	0.74	0.09	-0.04	-0.09	-0.19	-0.24	
20	-0.24	-0.14	0.31	-0.11	0.84	0.37	0.63	0.09	-0.04	-0.09	-0.20	-0.25	
21	-0.21	-0.11	0.19	-0.12	0.63	0.48	0.74	0.07	-0.04	-0.09	-0.20	-0.25	
22	-0.20	0.13	0.11	-0.11	0.46	0.50	1.10	0.07	-0.04	-0.10	-0.20	-0.25	
23	-0.02	0.29	0.07	-0.09	0.36	0.37	1.19	0.07	-0.04	-0.10	-0.20	-0.25	
24	-0.13	0.04	0.11	-0.07	0.30	0.33	1.57	0.06	-0.04	-0.10	-0.21	-0.25	
25	-0.19	-0.05	0.09	-0.04	0.26	0.29	1.35	0.06	-0.05	-0.10	-0.21	-0.25	
26	-0.22	0.04	0.15	-0.04	0.25	0.32	1.06	0.06	-0.05	-0.11	-0.16	-0.25	
27	-0.20	0.15	0.20	0.14	0.25	0.40	0.90	0.05	-0.06	-0.11	-0.18	-0.26	
28	-0.21	0.45	0.20	0.15	0.31	0.50	0.77	0.05	-0.06	-0.11	-0.20	-0.26	
29	-0.14	0.17	0.14	0.10	0.43	0.34	0.66	0.04	-0.06	-0.11	-0.20	-0.26	
30	-0.11	0.01	0.09	0.15	0.80	0.62	0.57	0.03	-0.05	-0.11		-0.27	
31		-0.05		0.10	0.50		0.51		-0.05	-0.11		-0.27	
Mean	-0.22	-0.01	0.11	-0.02	0.27	0.27	0.74	0.16	-0.03	-0.08	-0.17	-0.23	
Max	-0.02	0.45	0.37	0.15	0.84	0.62	1.57	0.44	0.03	-0.02	-0.10	-0.17	1.57
Min	-0.27	-0.21	-0.02	-0.12	0.01	0.07	0.38	0.03	-0.06	-0.11	-0.21	-0.27	-0.27

Annual Max Momentary Gage Height — 1.75 M (A.D), at 6.00 Hours, on Oct 18, 1991
Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — -0.82 M (A.D)
Left Bank Elevation — 6.24 M (A.D)
Right Bank Elevation — 8.34 M (A.D), Drainage Area — 521 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.25	0.85	2.40	2.70	2.80	7.00	12.55	8.68	2.50	1.70	1.20	0.71	
2	0.20	0.57	2.70	2.30	3.10	6.68	8.68	7.64	2.40	1.90	1.13	0.57	
3	0.25	0.45	2.90	2.30	3.35	5.30	23.18	7.00	2.30	2.00	0.99	0.57	
4	0.25	0.50	3.10	2.10	2.80	4.55	12.80	6.36	2.30	2.00	0.99	0.57	
5	0.25	0.50	3.65	2.30	2.70	4.55	20.80	6.05	2.30	2.00	0.92	0.50	
6	0.25	0.78	3.20	2.30	2.50	4.25	11.84	6.84	2.20	1.80	0.92	0.50	
7	0.25	0.45	2.90	1.90	2.60	3.65	9.56	5.45	2.20	1.70	0.85	0.50	
8	0.20	0.45	2.90	1.80	2.40	3.50	10.00	5.15	2.20	1.70	0.85	0.45	
9	0.40	1.30	2.40	1.60	2.30	3.20	7.80	4.85	2.10	1.60	0.78	0.45	
10	0.20	2.50	2.80	2.10	2.30	2.90	7.48	4.55	2.00	1.60	0.78	0.40	
11	0.20	3.10	3.65	2.10	3.50	3.20	7.64	4.40	2.00	1.50	0.71	0.40	
12	0.20	2.00	3.95	1.90	3.95	5.90	11.15	4.25	2.00	1.50	0.71	0.40	
13	0.15	1.50	3.10	1.60	4.40	5.15	12.07	3.95	1.90	1.50	0.64	0.40	
14	0.15	2.80	2.90	1.30	5.45	3.95	14.80	3.80	1.90	1.40	0.57	0.35	
15	0.20	1.80	2.90	1.40	6.20	3.50	15.36	3.80	1.90	1.40	0.57	0.35	
16	0.57	5.15	2.40	1.50	5.60	3.10	10.69	3.65	1.90	1.40	0.57	0.30	
17	0.57	2.80	2.00	1.50	5.45	2.90	8.68	3.35	1.90	1.40	0.57	0.30	
18	0.35	2.00	2.90	1.40	4.85	6.68	35.82	3.20	1.80	1.30	0.57	0.30	
19	0.30	1.40	7.32	1.30	14.55	4.70	15.92	3.10	1.80	1.30	0.57	0.30	
20	0.30	0.92	6.36	1.13	18.88	7.32	13.05	3.10	1.80	1.30	0.50	0.25	
21	0.45	1.13	4.55	1.06	13.05	9.56	15.92	2.90	1.80	1.30	0.50	0.25	
22	0.50	3.65	3.35	1.13	9.12	10.00	28.00	2.90	1.80	1.20	0.50	0.25	
23	2.00	6.05	2.90	1.30	7.16	7.32	32.14	2.90	1.80	1.20	0.50	0.25	
24	0.99	2.60	3.35	1.50	6.20	6.68	53.56	2.80	1.80	1.20	0.45	0.25	
25	0.57	1.70	3.10	1.80	5.60	6.05	40.00	2.80	1.70	1.20	0.45	0.25	
26	0.40	2.60	3.95	1.80	5.45	6.52	26.48	2.80	1.70	1.13	0.78	0.25	
27	0.50	3.95	4.70	3.80	5.45	7.80	20.80	2.70	1.60	1.13	0.64	0.20	
28	0.45	8.90	4.70	3.95	6.36	10.00	16.76	2.70	1.60	1.13	0.50	0.20	
29	0.92	4.25	3.80	3.20	8.46	6.84	13.80	2.60	1.60	1.13	0.50	0.20	
30	1.13	2.30	3.10	3.95	17.60	12.80	11.61	2.50	1.70	1.13		0.15	
31		1.70		3.20	10.00		10.23		1.70	1.13		0.15	
Total	13.40	70.65	103.93	63.22	194.13	175.55	539.17	126.77	60.20	44.88	20.21	10.97	1423.08 CMSDAY
Mean	0.45	2.28	3.46	2.04	6.26	5.85	17.39	4.23	1.94	1.45	0.70	0.35	3.89 CMS
Max	2.00	8.90	7.32	3.95	18.88	12.80	53.56	8.68	2.50	2.00	1.20	0.71	53.56 CMS
Min	0.15	0.45	2.00	1.06	2.30	2.90	7.48	2.50	1.60	1.13	0.45	0.15	0.15 CMS
Runoff	1.158	6.104	8.980	5.462	16.773	15.168	46.584	10.953	5.201	3.878	1.746	0.948	122.954 MCM

Momentary Peak 66.90 CMS, at 1.75 M (A.D), at 6.00 Hours, on Oct 18, 1991

Runoff Yield 7.46 Liters/Second/Square KM, Momentary Peak Yield 128.41 Liters/Second/Square KM

WATER YEAR 1991

PING RIVEF BASIN

Nam Mae Tun at Ban Luang, Chiang Mai (P.64)

Location — Lat. 17-47-01 N., Long. 98-22-31 E., on right bank at the bridge on highway, Ban Luang, Amphoe Omkoi, Chiang Mai.

Drainage Area — 336 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — B.M.1-about 25.00 meters from the top staff gage.
B.M.2-about 35.00 meters from the top staff gage.

Elevation — B.M.1=+7.500 m. (A.D.), B.M.2=+9.632 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1990 to date.

Rating Operation

Period of Rating — 1990 to date.

Rated by Float — -

Rated by Current Meter — 1990 to date.

Stability of Channel Regimes — Fairly stable.

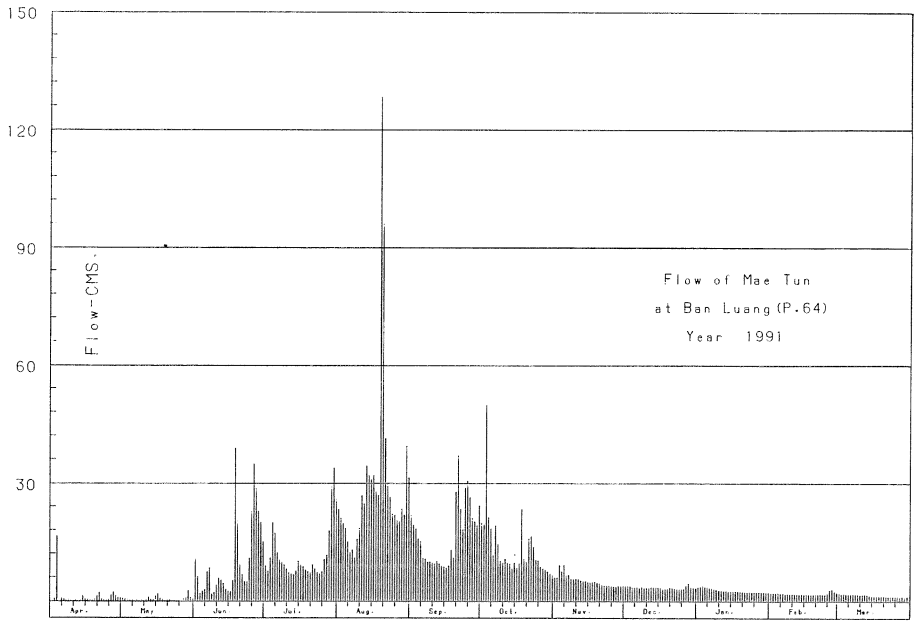
Overbank Flow Conditions — Overbank flow starts at elevation +3.56 m.(A.D.) records are channel flow only.

General Description — Records good. Stage-discharge relation defined by 252 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.30	0.32	0.89	0.82	1.23	1.19	1.09	0.70	0.58	0.56	0.45	0.44	
2	0.31	0.31	0.71	0.77	1.15	1.07	1.07	0.70	0.58	0.57	0.45	0.43	
3	0.98	0.29	0.44	0.90	1.09	1.02	1.78	0.83	0.58	0.58	0.45	0.43	
4	0.47	0.27	0.50	1.10	1.03	0.97	1.16	0.76	0.56	0.57	0.45	0.43	
5	0.32	0.26	0.52	0.99	0.96	0.96	1.02	0.83	0.56	0.56	0.44	0.42	
6	0.28	0.26	0.76	0.92	0.92	0.90	0.91	0.72	0.56	0.55	0.44	0.42	
7	0.27	0.26	0.80	0.88	0.93	0.89	1.06	0.73	0.55	0.54	0.43	0.42	
8	0.27	0.25	0.43	0.86	0.90	0.86	0.95	0.68	0.56	0.53	0.43	0.42	
9	0.26	0.27	0.46	0.83	0.97	0.86	0.87	0.68	0.55	0.52	0.43	0.42	
10	0.25	0.28	0.60	0.79	1.03	0.85	0.85	0.68	0.55	0.51	0.43	0.41	
11	0.25	0.26	0.69	0.75	1.31	0.84	0.89	0.68	0.55	0.50	0.43	0.41	
12	0.25	0.40	0.67	0.74	1.26	0.87	0.85	0.66	0.56	0.50	0.42	0.42	
13	0.24	0.28	0.62	0.73	1.47	0.84	0.84	0.65	0.56	0.50	0.42	0.41	
14	0.44	0.26	0.53	0.77	1.42	0.82	0.79	0.65	0.56	0.49	0.42	0.39	
15	0.30	0.38	0.49	0.87	1.40	0.81	0.85	0.64	0.56	0.49	0.42	0.37	
16	0.28	0.44	0.49	0.83	1.42	0.80	0.80	0.63	0.55	0.49	0.42	0.37	
17	0.26	0.32	0.66	0.81	1.33	0.82	0.84	0.64	0.53	0.49	0.42	0.37	
18	0.26	0.25	1.56	0.78	1.31	0.93	1.23	0.64	0.53	0.49	0.41	0.37	
19	0.30	0.24	1.12	0.76	3.07	0.90	0.89	0.63	0.54	0.48	0.42	0.38	
20	0.43	0.27	0.83	0.75	2.58	1.33	0.86	0.62	0.55	0.48	0.42	0.37	
21	0.47	0.25	0.73	0.83	1.61	1.52	0.97	0.60	0.55	0.47	0.42	0.36	
22	0.29	0.25	0.65	0.79	1.38	1.23	0.98	0.59	0.54	0.47	0.42	0.36	
23	0.26	0.23	0.64	0.75	1.30	1.01	0.94	0.59	0.53	0.47	0.42	0.36	
24	0.30	0.25	0.90	0.74	1.20	1.35	0.88	0.59	0.53	0.47	0.41	0.36	
25	0.28	0.22	1.22	0.76	1.19	1.39	0.87	0.58	0.53	0.47	0.44	0.36	
26	0.46	0.20	1.48	0.89	1.12	1.30	0.81	0.57	0.53	0.47	0.51	0.36	
27	0.48	0.31	1.35	0.91	1.11	1.15	0.79	0.57	0.59	0.47	0.53	0.36	
28	0.39	0.34	1.22	1.00	1.23	1.11	0.78	0.58	0.62	0.47	0.48	0.36	
29	0.34	0.51	1.10	1.36	1.19	1.06	0.76	0.58	0.56	0.46	0.46	0.36	
30	0.33	0.34	0.96	1.46	1.57	1.25	0.74	0.58	0.55	0.46		0.36	
31		0.30		1.29	1.41		0.72		0.55	0.46		0.36	
Mean	0.34	0.29	0.80	0.88	1.33	1.03	0.93	0.65	0.55	0.50	0.44	0.39	
Max	0.98	0.51	1.56	1.46	3.07	1.52	1.78	0.83	0.62	0.58	0.53	0.44	3.07
Min	0.24	0.20	0.43	0.73	0.90	0.80	0.72	0.57	0.53	0.46	0.41	0.36	0.20

Annual Max Momentary Gage Height — 3.90 M (A.D), at 12.00 Hours, on Aug 19, 1991
Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 0.02 M (A.D)
Left Bank Elevation — 3.55 M (A.D)
Right Bank Elevation — 3.95 M (A.D), Drainage Area — 336 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.60	0.78	10.75	9.00	23.49	21.99	19.89	6.00	3.80	3.50	2.05	1.94	
2	0.69	0.69	6.25	7.75	21.15	19.47	19.47	6.00	3.80	3.65	2.05	1.83	
3	16.60	0.56	1.94	11.00	19.89	18.42	50.00	9.25	3.80	3.80	2.05	1.83	
4	2.27	0.48	2.60	20.10	18.63	15.90	21.36	7.50	3.50	3.65	2.05	1.83	
5	0.78	0.44	2.90	17.30	15.20	15.20	18.42	9.25	3.50	3.50	1.94	1.72	
6	0.52	0.44	7.50	12.40	12.40	11.00	11.70	6.50	3.50	3.35	1.94	1.72	
7	0.48	0.44	8.50	10.50	13.10	10.75	19.26	6.75	3.35	3.20	1.83	1.72	
8	0.48	0.40	1.83	10.00	11.00	10.00	14.50	5.62	3.50	3.05	1.83	1.72	
9	0.44	0.48	2.16	9.25	15.90	10.00	10.25	5.62	3.35	2.90	1.83	1.72	
10	0.40	0.52	4.10	8.25	18.63	9.75	9.75	5.62	3.35	2.75	1.83	1.61	
11	0.40	0.44	5.81	7.25	26.95	9.50	10.75	5.62	3.35	2.60	1.83	1.61	
12	0.40	1.50	5.43	7.00	24.78	10.25	9.75	5.24	3.50	2.60	1.72	1.72	
13	0.36	0.52	4.48	6.75	34.50	9.50	9.50	5.05	3.50	2.60	1.72	1.61	
14	1.94	0.44	3.05	7.75	32.00	9.00	8.25	5.05	3.50	2.49	1.72	1.41	
15	0.60	1.32	2.49	10.25	31.00	8.75	9.75	4.86	3.50	2.49	1.72	1.23	
16	0.52	1.94	2.49	9.25	32.00	8.50	8.50	4.67	3.35	2.49	1.72	1.23	
17	0.44	0.78	5.24	8.75	27.85	9.00	9.50	4.86	3.05	2.49	1.72	1.23	
18	0.44	0.40	39.00	8.00	26.95	13.10	23.49	4.86	3.05	2.49	1.61	1.23	
19	0.60	0.36	20.52	7.50	128.40	11.00	10.75	4.67	3.20	2.38	1.72	1.32	
20	1.83	0.48	9.25	7.25	96.20	27.85	10.00	4.48	3.35	2.38	1.72	1.23	
21	2.27	0.40	6.75	9.25	41.50	37.00	15.90	4.10	3.35	2.27	1.72	1.14	
22	0.56	0.40	5.05	8.25	30.10	23.49	16.60	3.95	3.20	2.27	1.72	1.14	
23	0.44	0.32	4.86	7.25	26.50	18.21	13.80	3.95	3.05	2.27	1.72	1.14	
24	0.60	0.40	11.00	7.00	22.20	28.75	10.50	3.95	3.05	2.27	1.61	1.14	
25	0.52	0.28	23.06	7.50	21.99	30.55	10.25	3.80	3.05	2.27	1.94	1.14	
26	2.16	0.20	35.00	10.75	20.52	26.50	8.75	3.65	3.05	2.27	2.75	1.14	
27	2.38	0.69	28.75	11.70	20.31	21.15	8.25	3.65	3.95	2.27	3.05	1.14	
28	1.41	0.96	23.06	18.00	23.49	20.31	8.00	3.80	4.48	2.27	2.38	1.14	
29	0.96	2.75	20.10	29.20	21.99	19.26	7.50	3.80	3.50	2.16	2.16	1.14	
30	0.87	0.96	15.20	34.00	39.50	24.35	7.00	3.80	3.35	2.16		1.14	
31		0.60		26.07	31.50		6.50		3.35	2.16		1.14	
Total	42.96	21.37	319.12	364.27	929.62	508.50	417.89	155.92	106.18	83.00	55.65	44.00	3048.48 CMSDAY
Mean	1.43	0.69	10.64	11.75	29.99	16.95	13.48	5.20	3.43	2.68	1.92	1.42	8.33 CMS
Max	16.60	2.75	39.00	34.00	128.40	37.00	50.00	9.25	4.48	3.80	3.05	1.94	128.40 CMS
Min	0.36	0.20	1.83	6.75	11.00	8.50	6.50	3.65	3.05	2.16	1.61	1.14	0.20 CMS
Runoff	3.712	1.846	27.572	31.473	80.319	43.934	36.106	13.471	9.174	7.171	4.808	3.802	263.389 MCM

Momentary Peak 187.25 CMS, at 3.90 M (A.D), at 12.00 Hours, on Aug 19, 1991

Runoff Yield 24.79 Liters/Second/Square KM, Momentary Peak Yield 557.29 Liters/Second/Square KM

WATER YEAR 1991

WANG RIVER BASIN

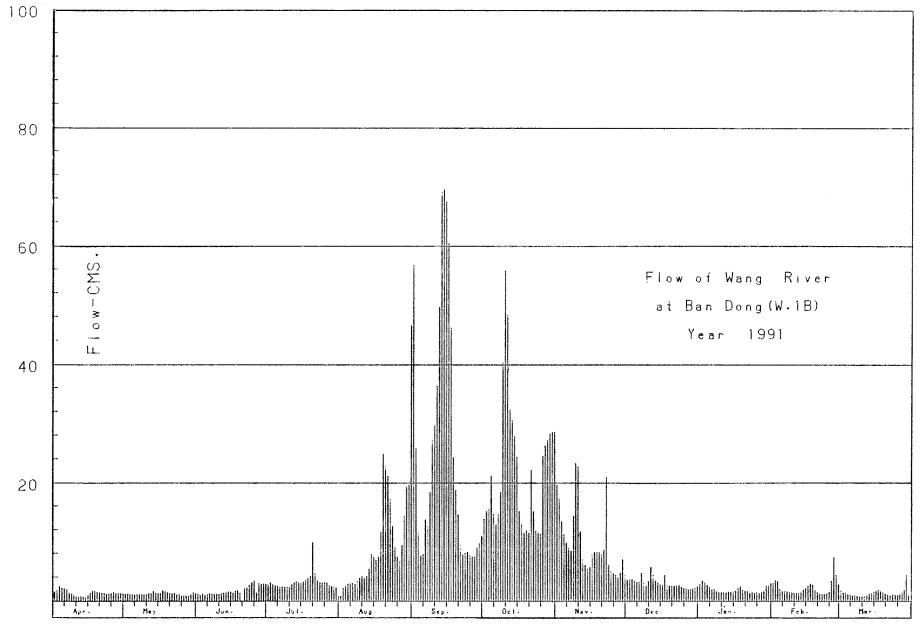
Wang River at Ban Dong, Lampang (W.1B)

Location	Lat. 18-17-23 N., Long. 99-33-38 E., on left bank at the bridge on highway about 1,000 meters downstream from station W.1A, Amphoe Muang, Lampang.
Drainage Area	3,484 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+224.67 m.(M.S.L)
Bench Mark	B.M.-H.D.
Location	On left bank about 6 meters from the top staff gage.
Elevation	+232.205 m.(M.S.L)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1989 to date.
Rating Operation	
Period of Rating	1989 to date.
Rated by Float	-
Rated by Current Meter	1989 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 95 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	225.48	225.44	225.44	225.58	225.41	227.29	226.13	226.33	225.65	225.59	225.61	225.50	
2	225.50	225.44	225.42	225.61	225.53	226.53	226.18	226.25	225.65	225.64	225.64	225.47	
3	225.56	225.44	225.44	225.58	225.56	226.05	226.19	226.12	225.66	225.61	225.63	225.47	
4	225.53	225.43	225.42	225.57	225.59	225.89	226.38	226.04	225.63	225.58	225.52	225.44	
5	225.53	225.43	225.43	225.56	225.60	225.90	226.16	225.99	225.62	225.55	225.49	225.43	
6	225.51	225.43	225.45	225.55	225.60	226.13	226.10	225.95	225.62	225.52	225.49	225.42	
7	225.46	225.43	225.44	225.55	225.59	226.09	226.16	225.93	225.73	225.52	225.49	225.42	
8	225.44	225.43	225.44	225.55	225.63	226.29	226.29	226.15	225.61	225.49	225.47	225.41	
9	225.42	225.43	225.44	225.55	225.67	226.57	226.91	226.45	225.57	225.47	225.47	225.40	
10	225.39	225.43	225.44	225.55	225.69	226.64	227.27	226.43	225.63	225.47	225.46	225.40	
11	225.39	225.45	225.45	225.58	225.67	226.81	227.10	226.06	225.79	225.47	225.46	225.40	
12	225.40	225.45	225.46	225.61	225.69	227.13	226.71	225.86	225.71	225.47	225.46	225.42	
13	225.39	225.49	225.46	225.62	225.77	227.54	226.66	225.81	225.64	225.48	225.47	225.45	
14	225.37	225.45	225.48	225.61	225.90	227.55	226.59	225.77	225.61	225.48	225.51	225.46	
15	225.42	225.45	225.47	225.60	225.88	227.51	226.48	225.79	225.59	225.48	225.54	225.48	
16	225.46	225.45	225.46	225.62	225.85	227.37	226.18	225.90	225.58	225.50	225.57	225.50	
17	225.49	225.50	225.49	225.64	225.88	227.05	226.10	225.92	225.71	225.53	225.60	225.51	
18	225.49	225.48	225.50	225.67	226.05	226.48	226.05	225.92	225.57	225.56	225.58	225.49	
19	225.47	225.47	225.45	225.69	226.50	226.30	226.06	225.92	225.57	225.51	225.51	225.47	
20	225.46	225.45	225.31	225.99	226.43	226.16	226.05	225.90	225.57	225.50	225.47	225.45	
21	225.46	225.45	225.53	225.72	226.38	225.97	226.41	225.94	225.57	225.49	225.45	225.43	
22	225.45	225.45	225.54	225.64	226.25	225.90	226.18	226.37	225.57	225.46	225.44	225.42	
23	225.44	225.43	225.57	225.61	226.09	225.91	226.06	225.81	225.58	225.47	225.44	225.43	
24	225.44	225.43	225.61	225.61	225.95	225.92	226.05	225.75	225.55	225.46	225.45	225.43	
25	225.45	225.41	225.63	225.61	225.88	225.89	226.04	225.73	225.54	225.47	225.48	225.42	
26	225.47	225.41	225.46	225.61	225.84	225.88	226.49	225.71	225.53	225.46	225.63	225.44	
27	225.45	225.41	225.60	225.57	225.97	225.88	226.54	225.68	225.52	225.47	225.88	225.47	
28	225.45	225.40	225.59	225.56	226.15	225.95	226.57	225.73	225.52	225.49	225.71	225.51	
29	225.45	225.43	225.59	225.55	226.32	225.98	226.60	225.86	225.53	225.57	225.59	225.71	
30	225.44	225.46	225.59	225.54	226.33	226.03	226.61	225.71	225.54	225.57		225.42	
31		225.45		225.40	227.06		226.61		225.56	225.60		225.28	
Mean	225.46	225.44	225.49	225.60	225.93	226.42	226.38	225.96	225.60	225.51	225.53	225.45	
Max	225.56	225.50	225.63	225.99	227.06	227.55	227.27	226.45	225.79	225.64	225.88	225.71	227.55
Min	225.37	225.40	225.31	225.40	225.41	225.88	226.04	225.68	225.52	225.46	225.44	225.28	225.28

Annual Max Momentary Gage Height 227.57 M (MSL), at 18.00 Hours, on Sep 13, 1991
Zero Gage at Bottom Elevation 224.67 M (MSL), River Bed 225.00 M (MSL)
Left Bank Elevation 231.95 M (MSL)
Right Bank Elevation 231.95 M (MSL), Drainage Area 3484 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.60	1.20	1.20	2.76	0.90	56.76	13.84	19.73	3.65	2.88	3.13	1.80	
2	1.80	1.20	1.00	3.13	2.16	25.99	15.24	17.30	3.65	3.52	3.52	1.50	
3	2.52	1.20	1.20	2.76	2.52	11.60	15.52	13.56	3.78	3.13	3.39	1.50	
4	2.16	1.10	1.00	2.64	2.88	7.71	21.28	11.32	3.39	2.76	2.04	1.20	
5	2.16	1.10	1.10	2.52	3.00	7.90	14.68	9.97	3.26	2.40	1.70	1.10	
6	1.92	1.10	1.30	2.40	3.00	13.84	13.00	9.05	3.26	2.04	1.70	1.00	
7	1.40	1.10	1.20	2.40	2.88	12.72	14.68	8.59	4.81	2.04	1.70	1.00	
8	1.20	1.10	1.20	2.40	3.39	18.50	18.50	14.40	3.13	1.70	1.50	0.90	
9	1.00	1.10	1.20	2.40	3.91	27.31	40.40	23.45	2.64	1.50	1.50	0.80	
10	0.72	1.10	1.20	2.40	4.17	29.82	55.88	22.83	3.39	1.50	1.40	0.80	
11	0.72	1.30	1.30	2.76	3.91	36.40	48.40	11.88	5.83	1.50	1.40	0.80	
12	0.80	1.30	1.40	3.13	4.17	49.72	32.49	7.14	4.47	1.50	1.40	1.00	
13	0.72	1.70	1.40	3.26	5.49	69.08	30.58	6.19	3.52	1.60	1.50	1.30	
14	0.56	1.30	1.60	3.13	7.90	69.60	27.97	5.49	3.13	1.60	1.92	1.40	
15	1.00	1.30	1.50	3.00	7.52	67.52	24.38	5.83	2.88	1.60	2.28	1.60	
16	1.40	1.30	1.40	3.26	6.95	60.56	15.24	7.90	2.76	1.80	2.64	1.80	
17	1.70	1.80	1.70	3.52	7.52	46.20	13.00	8.36	4.47	2.16	3.00	1.92	
18	1.70	1.60	1.80	3.91	11.60	24.38	11.60	8.36	2.64	2.52	2.76	1.70	
19	1.50	1.50	1.30	4.17	25.00	18.80	11.88	8.36	2.64	1.92	1.92	1.50	
20	1.40	1.30	0.08	9.97	22.83	14.68	11.60	7.90	2.64	1.80	1.50	1.30	
21	1.40	1.30	2.16	4.64	21.28	9.51	22.21	8.82	2.64	1.70	1.30	1.10	
22	1.30	1.30	2.28	3.52	17.30	7.90	15.24	20.97	2.64	1.40	1.20	1.00	
23	1.20	1.10	2.64	3.13	12.72	8.13	11.88	6.19	2.76	1.50	1.20	1.10	
24	1.20	1.10	3.13	3.13	9.05	8.36	11.60	5.15	2.40	1.40	1.30	1.10	
25	1.30	0.90	3.39	3.13	7.52	7.71	11.32	4.81	2.28	1.50	1.60	1.00	
26	1.50	0.90	1.40	3.13	6.76	7.52	24.69	4.47	2.16	1.40	3.39	1.20	
27	1.30	0.90	3.00	2.64	9.51	7.52	26.32	4.04	2.04	1.50	7.52	1.50	
28	1.30	0.80	2.88	2.52	14.40	9.05	27.31	4.81	2.04	1.70	4.47	1.92	
29	1.30	1.10	2.88	2.40	19.42	9.74	28.30	7.14	2.16	2.64	2.88	4.47	
30	1.20	1.40	2.88	2.28	19.73	11.04	28.68	4.47	2.28	2.64		1.00	
31		1.30		0.80	46.64		28.68		2.52	3.00		0.00	
Total	40.98	37.80	51.72	97.24	316.03	755.57	686.39	298.48	95.86	61.85	66.76	41.31	2549.99 CMSDAY
Mean	1.37	1.22	1.72	3.14	10.19	25.19	22.14	9.95	3.09	2.00	2.30	1.33	6.97 CMS
Max	2.52	1.80	3.39	9.97	46.64	69.60	55.88	23.45	5.83	3.52	7.52	4.47	69.60 CMS
Min	0.56	0.80	0.08	0.80	0.90	7.52	11.32	4.04	2.04	1.40	1.20	0.00	0.00 CMS
Runoff	3.541	3.266	4.469	8.402	27.305	65.281	59.304	25.789	8.282	5.344	5.768	3.569	220.319 MCM

Momentary Peak 70.64 CMS, at 227.57 M (MSL), at 18.00 Hours, on Sep 13, 1991

Runoff Yield 2.00 Liters/Second/Square KM, Momentary Peak Yield 20.28 Liters/Second/Square KM

WATER YEAR 1991

WANG RIVER BASIN

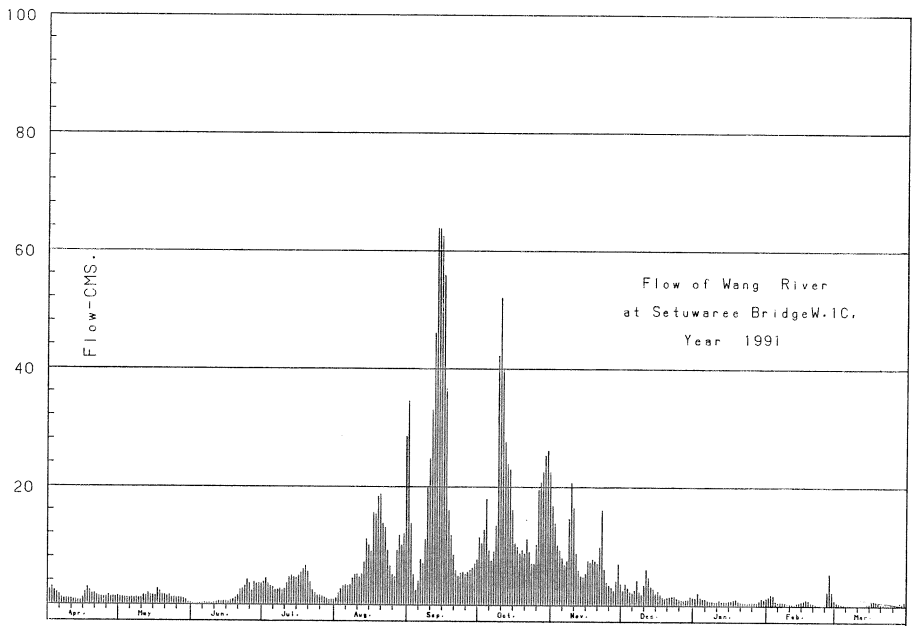
Wang River at Setu Wari Bridge, Lampang (W.1C)

Location	Lat. 18-17-51 N., Long. 99-30-56 E., on left bank at Setu Wari Bridge about 3 kms. upstream from station W.1B, Amphoe Muang, Lampang.
Drainage Area	3,478 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+229.30 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank at the abutment of the bridge.
Elevation	+234.435 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1990 to date.
Rating Operation	
Period of Rating	1990 to date.
Rated by Float	-
Rated by Current Meter	1990 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 78 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	229.80	229.71	229.55	229.86	229.69	230.70	230.16	230.31	229.80	229.70	229.72	229.60	
2	229.82	229.70	229.54	229.89	229.76	230.23	230.13	230.23	229.85	229.77	229.75	229.59	
3	229.79	229.70	229.56	229.85	229.81	229.92	230.20	230.12	229.82	229.71	229.74	229.57	
4	229.76	229.69	229.55	229.83	229.83	229.80	230.34	230.09	229.78	229.69	229.63	229.55	
5	229.74	229.69	229.56	229.82	229.84	229.87	230.09	230.04	229.77	229.68	229.61	229.54	
6	229.69	229.69	229.58	229.80	229.83	230.03	230.02	229.99	229.80	229.65	229.61	229.54	
7	229.67	229.69	229.58	229.80	229.84	230.00	230.08	230.02	229.88	229.63	229.61	229.53	
8	229.67	229.70	229.57	229.81	229.89	230.15	230.22	230.25	229.78	229.63	229.60	229.52	
9	229.67	229.69	229.57	229.79	229.92	230.39	230.84	230.41	229.75	229.61	229.58	229.51	
10	229.66	229.69	229.58	229.81	229.92	230.50	231.01	230.30	229.84	229.62	229.58	229.52	
11	229.65	229.73	229.61	229.85	229.90	230.67	230.80	230.07	229.96	229.65	229.56	229.52	
12	229.64	229.72	229.61	229.90	229.92	230.91	230.56	229.95	229.90	229.62	229.57	229.53	
13	229.63	229.76	229.60	229.91	230.01	231.19	230.48	229.91	229.83	229.62	229.59	229.56	
14	229.63	229.73	229.61	229.90	230.15	231.19	230.46	229.90	229.81	229.62	229.61	229.57	
15	229.70	229.73	229.61	229.89	230.12	231.17	230.29	229.93	229.76	229.63	229.63	229.60	
16	229.77	229.72	229.60	229.91	230.08	231.07	230.13	230.02	229.79	229.64	229.64	229.62	
17	229.82	229.81	229.64	229.93	230.28	230.74	230.11	230.01	229.75	229.67	229.67	229.65	
18	229.79	229.78	229.66	229.96	230.27	230.29	230.07	230.03	229.71	229.68	229.65	229.63	
19	229.75	229.74	229.69	229.98	230.35	230.17	230.09	230.02	229.70	229.63	229.60	229.60	
20	229.75	229.73	229.73	229.94	230.36	230.06	230.07	230.00	229.71	229.61	229.58	229.56	
21	229.73	229.72	229.80	229.86	230.23	229.95	230.15	230.11	229.72	229.60	229.56	229.55	
22	229.71	229.73	229.81	229.80	230.21	229.91	230.08	230.29	229.72	229.60	229.54	229.55	
23	229.71	229.70	229.83	229.76	230.09	229.93	230.00	229.96	229.73	229.60	229.55	229.55	
24	229.70	229.70	229.88	229.73	229.98	229.94	230.00	229.86	229.69	229.60	229.55	229.54	
25	229.71	229.69	229.85	229.73	229.92	229.92	230.12	229.84	229.67	229.61	229.58	229.54	
26	229.73	229.69	229.79	229.72	229.90	229.94	230.38	229.82	229.66	229.60	229.80	229.55	
27	229.71	229.69	229.86	229.70	230.09	229.95	230.41	229.80	229.65	229.60	229.93	229.59	
28	229.71	229.67	229.85	229.68	230.17	229.97	230.45	229.87	229.66	229.64	229.78	229.61	
29	229.71	229.65	229.85	229.65	230.12	230.00	230.51	230.00	229.67	229.69	229.66	229.60	
30	229.72	229.57	229.85	229.66	230.18	230.03	230.53	229.85	229.72	229.67		229.63	
31		229.58		229.65	230.58		230.45		229.71	229.70		229.73	
Mean	229.72	229.70	229.68	229.82	230.04	230.29	230.30	230.03	229.76	229.64	229.64	229.57	
Max	229.82	229.81	229.88	229.98	230.58	231.19	231.01	230.41	229.96	229.77	229.93	229.73	231.19
Min	229.63	229.57	229.54	229.65	229.69	229.80	230.00	229.80	229.65	229.60	229.54	229.51	229.51

Annual Max Momentary Gage Height 231.21 M (MSL), at 1.00 Hours, on Sep 14, 1991
Zero Gage at Bottom Elevation 229.30 M (MSL), River Bed 229.52 M (MSL)
Left Bank Elevation 234.66 M (MSL)
Right Bank Elevation 235.00 M (MSL), Drainage Area 3478 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.50	1.33	0.25	3.82	1.13	34.50	11.42	16.79	2.50	1.20	1.46	0.50	
2	2.94	1.20	0.20	4.48	1.98	13.81	10.46	13.81	3.60	2.11	1.85	0.45	
3	2.37	1.20	0.30	3.60	2.72	5.16	12.70	10.14	2.94	1.33	1.72	0.35	
4	1.98	1.13	0.25	3.16	3.16	2.50	17.96	9.25	2.24	1.13	0.71	0.25	
5	1.72	1.13	0.30	2.94	3.38	4.04	9.25	8.00	2.11	1.06	0.57	0.20	
6	1.13	1.13	0.40	2.50	3.16	7.75	7.50	6.77	2.50	0.85	0.57	0.20	
7	0.99	1.13	0.40	2.50	3.38	7.00	9.00	7.50	4.26	0.71	0.57	0.15	
8	0.99	1.20	0.35	2.72	4.48	11.10	13.44	14.55	2.24	0.71	0.50	0.10	
9	0.99	1.13	0.35	2.37	5.16	19.91	42.19	20.75	1.85	0.57	0.40	0.05	
10	0.92	1.13	0.40	2.72	5.16	24.80	52.13	16.40	3.38	0.64	0.40	0.10	
11	0.85	1.59	0.57	3.60	4.70	33.00	39.99	8.75	6.08	0.85	0.30	0.10	
12	0.78	1.46	0.57	4.70	5.16	46.10	27.62	5.85	4.70	0.64	0.35	0.15	
13	0.71	1.98	0.50	4.93	7.25	63.83	23.90	4.93	3.16	0.64	0.45	0.30	
14	0.71	1.59	0.57	4.70	11.10	63.83	23.00	4.70	2.72	0.64	0.57	0.35	
15	1.20	1.59	0.57	4.48	10.14	62.49	16.03	5.39	1.98	0.71	0.71	0.50	
16	2.11	1.46	0.50	4.93	9.00	55.91	10.46	7.50	2.37	0.78	0.78	0.64	
17	2.94	2.72	0.78	5.39	15.66	36.70	9.82	7.25	1.85	0.99	0.99	0.85	
18	2.37	2.24	0.92	6.08	15.29	16.03	8.75	7.75	1.33	1.06	0.85	0.71	
19	1.85	1.72	1.13	6.54	18.35	11.74	9.25	7.50	1.20	0.71	0.50	0.50	
20	1.85	1.59	1.59	5.62	18.74	8.50	8.75	7.00	1.33	0.57	0.40	0.30	
21	1.59	1.46	2.50	3.82	13.81	5.85	11.10	9.82	1.46	0.50	0.30	0.25	
22	1.33	1.59	2.72	2.50	13.07	4.93	9.00	16.03	1.46	0.50	0.20	0.25	
23	1.33	1.20	3.16	1.98	9.25	5.39	7.00	6.08	1.59	0.50	0.25	0.25	
24	1.20	1.20	4.26	1.59	6.54	5.62	7.00	3.82	1.13	0.50	0.25	0.20	
25	1.33	1.13	3.60	1.59	5.16	5.16	10.14	3.38	0.99	0.57	0.40	0.20	
26	1.59	1.13	2.37	1.46	4.70	5.62	19.52	2.94	0.92	0.50	2.50	0.25	
27	1.33	1.13	3.82	1.20	9.25	5.85	20.75	2.50	0.85	0.50	5.39	0.45	
28	1.33	0.99	3.60	1.06	11.74	6.31	22.55	4.04	0.92	0.78	2.24	0.57	
29	1.33	0.85	3.60	0.85	10.14	7.00	25.27	7.00	0.99	1.13	0.92	0.50	
30	1.46	0.35	3.60	0.92	12.06	7.75	26.21	3.60	1.46	0.99		0.71	
31		0.40		0.85	28.56		22.55		1.33	1.20		1.59	
Total	45.72	41.08	44.13	99.60	273.38	588.18	544.71	249.79	67.44	25.57	27.10	11.97	2018.67 CMSDAY
Mean	1.52	1.33	1.47	3.21	8.82	19.61	17.57	8.33	2.18	0.82	0.93	0.39	5.52 CMS
Max	2.94	2.72	4.26	6.54	28.56	63.83	52.13	20.75	6.08	2.11	5.39	1.59	63.83 CMS
Min	0.71	0.35	0.20	0.85	1.13	2.50	7.00	2.50	0.85	0.50	0.20	0.05	0.05 CMS
Runoff	3.950	3.549	3.813	8.605	23.620	50.819	47.063	21.582	5.827	2.209	2.341	1.034	174.413 MCM

Momentary Peak 65.18 CMS, at 231.21 M (MSL), at 1.00 Hours, on Sep 14, 1991

Runoff Yield 1.59 Liters/Second/Square KM, Momentary Peak Yield 18.74 Liters/Second/Square KM

WATER YEAR 1991

WANG RIVER BASIN

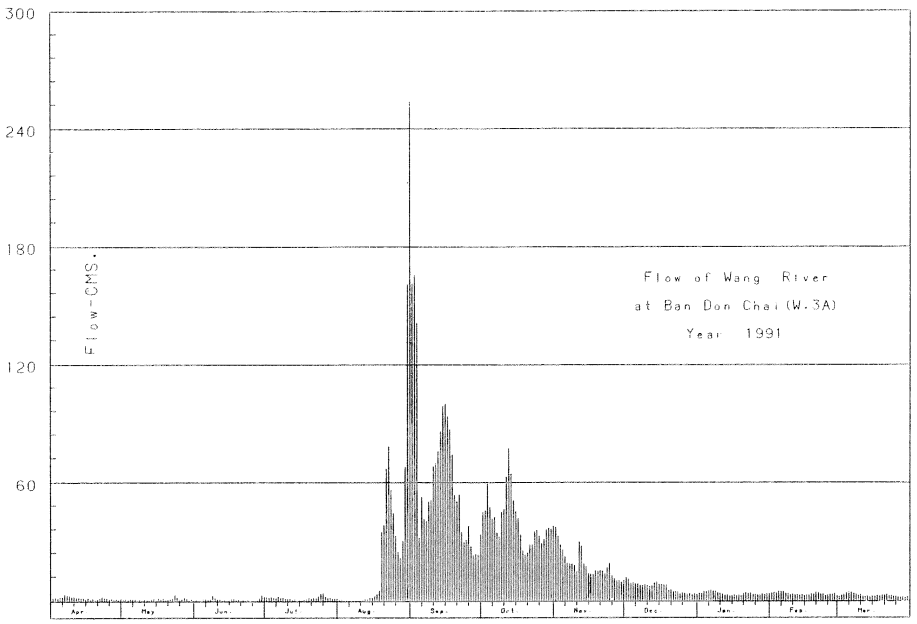
Wang River at Ban Don Chai, Lampang (W.3A)

Location	Lat. 17-38-29 N., Long. 99-14-04 E., on right bank about 30 meters upstream from Siriyong Bridge, Amphoe Thoen, Lampang.
Drainage Area	8,985 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+161.00 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank about 15 meters from automatic gage building.
Elevation	+167.074 m.(M.S.L.).
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1967 to date.
Rating Operation	
Period of Rating	1967 to date.
Rated by Float	-
Rated by Current Meter	1967 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 171 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	160.98	160.90	160.85	160.99	160.88	163.89	162.26	162.12	161.46	160.93	160.96	160.78	
2	160.96	160.89	160.83	160.99	160.87	163.94	162.28	162.02	161.41	160.94	160.96	160.86	
3	160.96	160.88	160.90	160.99	160.84	163.67	162.54	161.92	161.31	161.01	160.97	160.92	
4	160.98	160.90	160.91	160.99	160.82	162.00	162.32	161.85	161.31	161.03	161.01	160.96	
5	161.02	160.90	160.92	160.98	160.79	162.42	162.20	161.77	161.29	161.05	161.03	160.99	
6	161.09	160.89	160.90	161.01	160.76	162.19	162.21	161.68	161.26	161.05	160.99	160.96	
7	161.07	160.87	160.88	160.98	160.73	162.18	162.06	161.68	161.24	161.04	160.95	160.95	
8	161.05	160.88	161.07	160.95	160.75	162.37	162.01	161.67	161.21	161.01	160.91	160.89	
9	161.03	160.87	160.94	160.94	160.70	162.39	162.27	161.66	161.26	160.97	160.89	160.87	
10	161.01	160.88	160.91	160.91	160.81	162.68	162.29	161.56	161.21	160.92	160.88	160.87	
11	160.99	160.88	160.88	160.90	160.85	162.70	162.59	161.96	161.18	160.90	160.88	160.83	
12	160.97	160.88	160.87	160.89	160.89	162.80	162.83	161.90	161.22	160.88	160.87	160.81	
13	160.95	160.92	160.85	160.88	160.91	162.95	162.61	161.68	161.31	160.86	160.86	160.81	
14	160.98	160.90	160.84	160.88	160.95	163.13	162.39	161.64	161.32	160.85	160.86	160.79	
15	160.89	160.89	160.85	160.87	160.99	163.15	162.27	161.54	161.27	160.85	160.85	160.80	
16	160.94	160.94	160.92	160.86	161.03	163.06	162.20	161.52	161.24	160.85	160.85	160.82	
17	160.91	160.91	160.90	160.87	161.11	162.96	162.04	161.53	161.24	160.84	160.87	160.83	
18	160.91	160.94	160.88	160.91	161.21	162.78	161.84	161.58	161.23	160.84	160.89	160.83	
19	160.89	160.89	160.87	160.95	162.07	162.43	161.79	161.58	161.06	160.85	160.92	160.85	
20	160.89	160.88	160.85	160.95	162.13	162.37	161.81	161.58	161.06	160.91	160.97	160.87	
21	160.95	160.89	160.87	160.95	162.66	162.44	161.91	161.57	161.03	160.95	160.97	160.87	
22	161.01	160.96	160.88	160.97	162.84	162.07	161.92	161.54	161.02	160.94	160.92	160.85	
23	160.97	161.10	160.85	161.02	162.47	161.94	162.07	161.63	160.97	160.93	160.88	160.83	
24	160.93	160.97	160.87	161.13	162.26	161.98	162.08	161.68	160.93	160.91	160.85	160.82	
25	160.92	160.91	160.86	161.13	162.02	162.12	162.02	161.51	160.94	160.87	160.85	160.79	
26	160.91	160.88	160.87	161.04	161.82	161.89	161.94	161.42	160.93	160.88	160.88	160.78	
27	160.91	160.99	160.87	160.98	161.75	161.78	161.98	161.38	160.91	160.88	160.91	160.77	
28	160.89	160.90	160.96	160.96	161.97	161.79	162.09	161.36	160.91	160.89	160.91	160.76	
29	160.89	160.87	161.06	160.94	162.67	161.79	162.10	161.34	160.89	160.89	160.84	160.76	
30	160.92	160.89	161.03	160.92	163.89	162.04	162.10	161.36	160.90	160.90		160.76	
31		160.87		160.91	164.88		162.12		160.90	160.90		160.79	
Mean	160.96	160.91	160.90	160.96	161.59	162.53	162.17	161.64	161.14	160.92	160.91	160.84	
Max	161.09	161.10	161.07	161.13	164.88	163.94	162.83	162.12	161.46	161.05	161.03	160.99	164.88
Min	160.89	160.87	160.83	160.86	160.70	161.78	161.79	161.34	160.89	160.84	160.84	160.76	160.70

Annual Max Momentary Gage Height 165.16 M (MSL), at 9.00 Hours, on Aug 31, 1991
Zero Gage at Bottom Elevation 161.00 M (MSL), River Bed 160.11 M (MSL)
Left Bank Elevation 170.11 M (MSL)
Right Bank Elevation 170.03 M (MSL), Drainage Area 8985 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.80	1.00	0.50	1.90	0.80	161.10	45.00	38.00	12.28	3.93	4.30	2.12	
2	1.60	0.90	0.30	1.90	0.70	165.60	46.00	33.00	11.13	4.06	4.30	3.08	
3	1.60	0.80	1.00	1.90	0.40	141.60	60.40	28.80	9.37	4.93	4.43	3.81	
4	1.80	1.00	1.10	1.90	0.20	32.00	48.00	26.00	9.37	5.19	4.93	4.30	
5	2.30	1.00	1.20	1.80	0.00	53.20	42.00	22.80	9.04	5.45	5.19	4.68	
6	3.35	0.90	1.00	2.15	0.00	41.50	42.50	19.20	8.56	5.45	4.68	4.30	
7	3.05	0.70	0.80	1.80	0.00	41.00	35.00	19.20	8.24	5.32	4.18	4.18	
8	2.75	0.80	3.05	1.50	0.00	50.50	32.50	18.80	7.76	4.93	3.68	3.44	
9	2.45	0.70	1.40	1.40	0.00	51.50	45.50	18.40	8.56	4.43	3.44	3.20	
10	2.15	0.80	1.10	1.10	0.10	68.80	46.50	14.80	7.76	3.81	3.32	3.20	
11	1.90	0.80	0.80	1.00	0.50	70.00	63.40	30.40	7.30	3.56	3.32	2.72	
12	1.70	0.80	0.70	0.90	0.90	76.00	78.10	28.00	7.92	3.32	3.20	2.48	
13	1.50	1.20	0.50	0.80	1.10	86.50	64.60	19.20	9.37	3.08	3.08	2.48	
14	1.80	1.00	0.40	0.80	1.50	99.10	51.50	17.60	9.54	2.96	3.08	2.24	
15	0.90	0.90	0.50	0.70	1.90	100.50	45.50	14.20	8.72	2.96	2.96	2.36	
16	1.40	1.40	1.20	0.60	2.45	94.20	42.00	13.60	8.24	2.96	2.96	2.60	
17	1.10	1.10	1.00	0.70	3.65	87.20	34.00	13.90	8.24	2.84	3.20	2.72	
18	1.10	1.40	0.80	1.10	5.25	74.80	25.60	15.40	8.08	2.84	3.44	2.72	
19	0.90	0.90	0.70	1.50	35.50	53.80	23.60	15.40	5.58	2.96	3.81	2.96	
20	0.90	0.80	0.50	1.50	38.50	50.50	24.40	15.40	5.58	3.68	4.43	3.20	
21	1.50	0.90	0.70	1.50	67.60	54.40	28.40	15.10	5.19	4.18	4.43	3.20	
22	2.15	1.60	0.80	1.70	78.80	35.50	28.80	14.20	5.06	4.06	3.81	2.96	
23	1.70	3.50	0.50	2.30	56.20	29.60	35.50	17.20	4.43	3.93	3.32	2.72	
24	1.30	1.70	0.70	3.95	45.00	31.20	36.00	19.20	3.93	3.68	2.96	2.60	
25	1.20	1.10	0.60	3.95	33.00	38.00	33.00	13.30	4.06	3.20	2.96	2.24	
26	1.10	0.80	0.70	2.60	24.80	27.60	29.60	11.36	3.93	3.32	3.32	2.12	
27	1.10	1.90	0.70	1.80	22.00	23.20	31.20	10.56	3.68	3.32	3.68	2.01	
28	0.90	1.00	1.60	1.60	30.80	23.60	36.50	10.22	3.68	3.44	3.68	1.89	
29	0.90	0.70	2.90	1.40	68.20	23.60	37.00	9.88	3.44	3.44	2.84	1.89	
30	1.20	0.90	2.45	1.20	161.10	34.00	37.00	10.22	3.56	3.56		1.89	
31		0.70		1.10	254.00		38.00		3.56	3.56		2.24	
Total	49.10	33.70	30.20	50.05	934.95	1920.10	1267.10	553.34	215.16	118.35	106.93	88.55	5367.53 CMSDAY
Mean	1.64	1.09	1.01	1.61	30.16	64.00	40.87	18.44	6.94	3.82	3.69	2.86	14.67 CMS
Max	3.35	3.50	3.05	3.95	254.00	165.60	78.10	38.00	12.28	5.45	5.19	4.68	254.00 CMS
Min	0.90	0.70	0.30	0.60	0.00	23.20	23.60	9.88	3.44	2.84	2.84	1.89	0.00 CMS
Runoff	4.242	2.912	2.609	4.324	80.780	165.897	109.477	47.809	18.590	10.225	9.239	7.651	463.755 MCM

Momentary Peak 282.00 CMS, at 165.16 M (MSL), at 9.00 Hours, on Aug 31, 1991
Runoff Yield 1.63 Liters/Second/Square KM, Momentary Peak Yield 31.39 Liters/Second/Square KM

WATER YEAR 1991

WANG RIVER BASIN

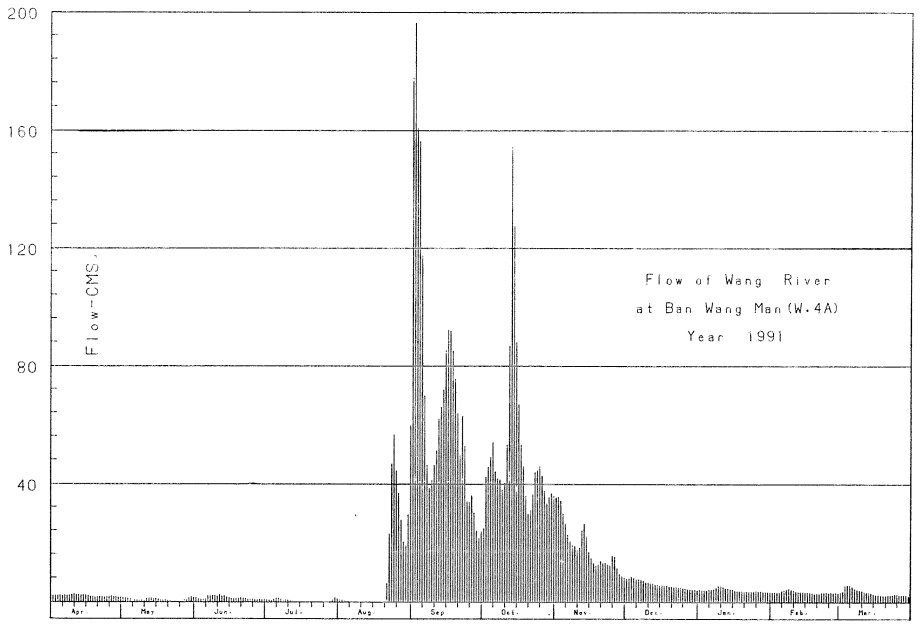
Wang River at Ban Wang Man, Tak (W.4A)

Location	Lat. 17-12-22 N., Long. 99-06-08 E., on right bank about 200 meters upstream from the bridge on highway, Amphoe Sam Ngao, Tak.
Drainage Area	10,507 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+130.00 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	Infront of Wat Wang Man.
Elevation	+136.071 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1968 to date.
Rating Operation	
Period of Rating	1971 to date.
Rated by Float	-
Rated by Current Meter	1971 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Upstream state diversions for irrigation about 12,320 hectares. Stage-discharge relation defined by 29 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	130.52	130.45	130.44	130.36	130.37	134.74	131.76	132.10	131.06	130.72	130.63	130.62	
2	130.52	130.44	130.41	130.35	130.35	134.98	132.30	132.10	131.06	130.71	130.63	130.66	
3	130.52	130.43	130.40	130.35	130.32	134.49	132.39	132.07	131.11	130.70	130.62	130.85	
4	130.52	130.41	130.38	130.40	130.28	134.42	132.48	131.93	131.07	130.70	130.62	130.87	
5	130.52	130.38	130.42	130.43	130.24	133.79	132.60	131.82	131.05	130.72	130.68	130.86	
6	130.52	130.37	130.52	130.43	130.20	132.94	132.35	131.69	131.04	130.73	130.70	130.82	
7	130.52	130.36	130.49	130.39	130.17	132.41	132.28	131.62	131.04	130.73	130.73	130.76	
8	130.53	130.35	130.52	130.35	130.16	132.19	132.27	131.57	131.01	130.79	130.75	130.72	
9	130.55	130.34	130.51	130.36	130.12	132.26	132.17	131.56	130.97	130.84	130.72	130.69	
10	130.56	130.35	130.50	130.35	130.09	132.41	132.24	131.50	130.95	130.84	130.69	130.68	
11	130.55	130.42	130.54	130.34	130.07	132.53	132.58	131.54	130.94	130.80	130.66	130.64	
12	130.54	130.43	130.51	130.30	130.05	132.78	133.27	131.74	130.92	130.77	130.64	130.63	
13	130.54	130.43	130.50	130.27	130.01	132.86	134.39	131.82	130.89	130.75	130.64	130.62	
14	130.54	130.43	130.47	130.25	130.00	132.98	133.96	131.67	130.87	130.74	130.63	130.61	
15	130.54	130.42	130.45	130.24	130.00	133.24	133.29	131.48	130.86	130.72	130.63	130.57	
16	130.51	130.40	130.42	130.21	130.00	133.37	132.88	131.39	130.86	130.69	130.62	130.55	
17	130.49	130.35	130.42	130.20	130.00	133.36	132.58	131.33	130.85	130.67	130.62	130.54	
18	130.48	130.35	130.42	130.22	130.00	133.24	132.40	131.29	130.84	130.67	130.60	130.53	
19	130.46	130.37	130.44	130.19	130.01	133.05	132.11	131.31	130.83	130.66	130.58	130.51	
20	130.47	130.34	130.44	130.17	130.02	132.82	131.93	131.35	130.82	130.65	130.58	130.52	
21	130.49	130.31	130.43	130.13	130.93	132.49	131.97	131.33	130.80	130.65	130.59	130.53	
22	130.48	130.31	130.42	130.11	131.70	132.80	132.13	131.33	130.81	130.65	130.61	130.54	
23	130.47	130.31	130.40	130.09	132.42	132.57	132.34	131.31	130.80	130.65	130.62	130.54	
24	130.47	130.31	130.39	130.07	132.66	132.06	132.36	131.29	130.79	130.66	130.62	130.57	
25	130.49	130.29	130.38	130.06	132.36	132.05	132.40	131.43	130.77	130.67	130.61	130.57	
26	130.50	130.31	130.38	130.03	132.14	132.12	132.31	131.41	130.76	130.67	130.62	130.54	
27	130.48	130.37	130.38	130.03	131.86	131.94	132.16	131.26	130.74	130.66	130.61	130.53	
28	130.47	130.40	130.39	130.21	131.61	131.74	132.04	131.16	130.73	130.65	130.61	130.54	
29	130.46	130.45	130.39	130.42	131.56	131.65	132.10	131.12	130.72	130.64	130.60	130.52	
30	130.45	130.47	130.39	130.45	131.92	131.73	132.14	131.08	130.71	130.64		130.50	
31		130.46		130.40	132.73		132.11		130.70	130.63		130.48	
Mean	130.51	130.38	130.44	130.26	130.79	132.87	132.46	131.52	130.88	130.70	130.64	130.62	
Max	130.56	130.47	130.54	130.45	132.73	134.98	134.39	132.10	131.11	130.84	130.75	130.87	134.98
Min	130.45	130.29	130.38	130.03	130.00	131.65	131.76	131.08	130.70	130.63	130.58	130.48	130.00

Annual Max Momentary Gage Height 135.36 M (MSL), at 22.00 Hours, on Sep 1, 1991
Zero Gage at Bottom Elevation 130.00 M (MSL), River Bed 130.33 M (MSL)
Left Bank Elevation 136.13 M (MSL)
Right Bank Elevation 135.95 M (MSL), Drainage Area 10507 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.20	1.50	1.40	0.80	0.85	177.80	24.80	35.50	7.90	4.20	3.30	3.20	
2	2.20	1.40	1.10	0.75	0.75	196.40	42.50	35.50	7.90	4.10	3.30	3.60	
3	2.20	1.30	1.00	0.75	0.60	160.85	45.65	34.45	8.65	4.00	3.20	5.50	
4	2.20	1.10	0.90	1.00	0.40	156.30	49.20	29.90	8.05	4.00	3.20	5.70	
5	2.20	0.90	1.20	1.30	0.20	117.40	54.00	26.60	7.75	4.20	3.80	5.60	
6	2.20	0.85	2.20	1.30	0.00	70.00	44.25	22.70	7.60	4.30	4.00	5.20	
7	2.20	0.80	1.90	0.95	0.00	46.40	41.80	20.60	7.60	4.30	4.30	4.60	
8	2.30	0.75	2.20	0.75	0.00	38.65	41.45	19.25	7.15	4.90	4.50	4.20	
9	2.50	0.70	2.10	0.80	0.00	41.10	37.95	19.00	6.70	5.40	4.20	3.90	
10	2.60	0.75	2.00	0.75	0.00	46.40	40.40	17.50	6.50	5.40	3.90	3.80	
11	2.50	1.20	2.40	0.70	0.00	51.20	53.20	18.50	6.40	5.00	3.60	3.40	
12	2.40	1.30	2.10	0.50	0.00	62.10	86.85	24.20	6.20	4.70	3.40	3.30	
13	2.40	1.30	2.00	0.35	0.00	66.00	154.35	26.60	5.90	4.50	3.40	3.20	
14	2.40	1.30	1.70	0.25	0.00	72.00	127.60	22.10	5.70	4.40	3.30	3.10	
15	2.40	1.20	1.50	0.20	0.00	85.20	87.95	17.00	5.60	4.20	3.30	2.70	
16	2.10	1.00	1.20	0.05	0.00	92.35	67.00	14.75	5.60	3.90	3.20	2.50	
17	1.90	0.75	1.20	0.00	0.00	91.80	53.20	13.25	5.50	3.70	3.20	2.40	
18	1.80	0.75	1.20	0.10	0.00	85.20	46.00	12.25	5.40	3.70	3.00	2.30	
19	1.60	0.85	1.40	0.00	0.00	75.50	35.85	12.75	5.30	3.60	2.80	2.10	
20	1.70	0.70	1.40	0.00	0.00	64.00	29.90	13.75	5.20	3.50	2.80	2.20	
21	1.90	0.55	1.30	0.00	6.30	49.60	31.10	13.25	5.00	3.50	2.90	2.30	
22	1.80	0.55	1.20	0.00	23.00	63.00	36.55	13.25	5.10	3.50	3.10	2.40	
23	1.70	0.55	1.00	0.00	46.80	52.80	43.90	12.75	5.00	3.50	3.20	2.40	
24	1.70	0.55	0.95	0.00	56.70	34.10	44.60	12.25	4.90	3.60	3.20	2.70	
25	1.90	0.45	0.90	0.00	44.60	33.75	46.00	15.75	4.70	3.70	3.10	2.70	
26	2.00	0.55	0.90	0.00	36.90	36.20	42.85	15.25	4.60	3.70	3.20	2.40	
27	1.80	0.85	0.90	0.00	27.80	30.20	37.60	11.50	4.40	3.60	3.10	2.30	
28	1.70	1.00	0.95	0.05	20.30	24.20	33.40	9.40	4.30	3.50	3.10	2.40	
29	1.60	1.50	0.95	1.20	19.00	21.50	35.50	8.80	4.20	3.40	3.00	2.20	
30	1.50	1.70	0.95	1.50	29.60	23.90	36.90	8.20	4.10	3.40		2.00	
31		1.60		1.00	59.85		35.85		4.00	3.30		1.80	
Total	61.60	30.25	42.10	15.05	973.65	2165.90	1588.15	556.55	182.90	124.70	97.60	98.10	5336.55 CMSDAY
Mean	2.05	0.98	1.40	0.49	32.05	72.20	51.23	18.55	5.90	4.02	3.37	3.16	14.58 CMS
Max	2.60	1.70	2.40	1.50	59.85	196.40	154.35	35.50	8.65	5.40	4.50	5.70	196.40 CMS
Min	1.50	0.45	0.90	0.00	0.00	21.50	24.80	8.20	4.00	3.30	2.80	1.80	0.00 CMS
Runoff	5.322	2.614	3.637	1.300	32.283	187.134	137.216	48.086	15.803	10.774	8.433	8.476	461.078 MCM

Momentary Peak 226.80 CMS, at 135.36 M (MSL), at 22.00 Hours, on Sep 1, 1991

Runoff Yield 1.39 Liters/Second/Square KM, Momentary Peak Yield 21.59 Liters/Second/Square KM

WATER YEAR 1991

WANG RIVER BASIN

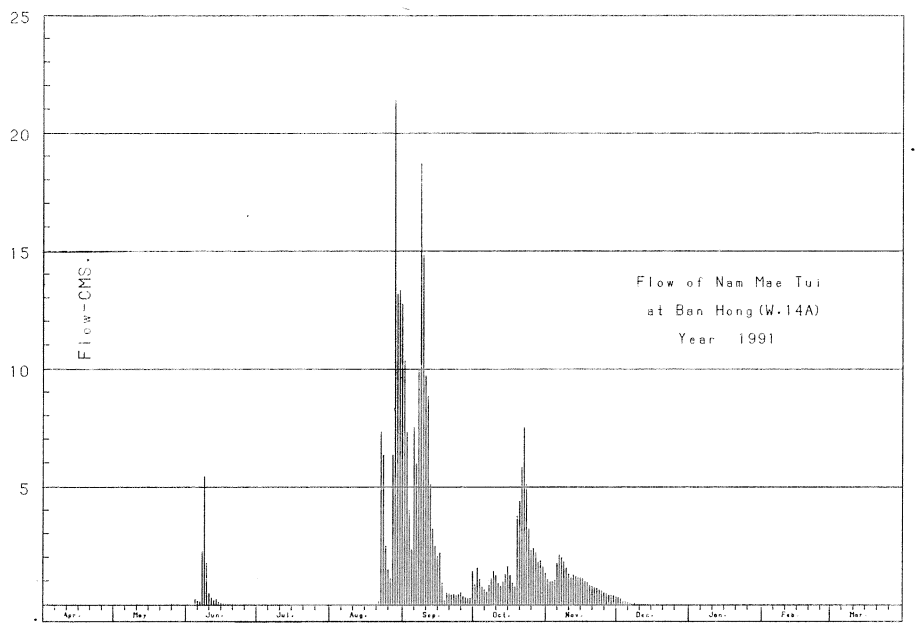
Nam Mae Tui at Ban Hong, Lampang (W.14A)

Location	Lat. 18-26-17 N., Long. 99-27-58 E., on right bank at Ban Hong, Tambon Ban Aiem, Amphoe Muang, Lampang.
Drainage Area	649 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+257.670 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank about 7.00 meters from the top staff gage.
Elevation	+261.325 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1980 to date.
Rating Operation	
Period of Rating	1980 to date.
Rated by Float	-
Rated by Current Meter	1980 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 34 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	257.80	257.78	257.78	257.80	257.76	259.49	258.20	258.26	258.01	257.82	257.76	257.75	
2	257.82	257.78	257.78	257.80	257.75	259.23	258.39	258.23	257.97	257.82	257.76	257.75	
3	257.81	257.77	257.78	257.79	257.75	258.84	258.26	258.24	257.90	257.82	257.76	257.75	
4	257.81	257.77	257.96	257.78	257.75	258.55	258.17	258.25	257.89	257.80	257.76	257.75	
5	257.81	257.77	257.91	257.78	257.75	259.25	258.13	258.43	257.87	257.79	257.76	257.75	
6	257.81	257.77	257.90	257.77	257.75	259.09	258.10	258.50	257.84	257.77	257.75	257.75	
7	257.81	257.76	258.53	257.78	257.75	259.46	258.19	258.48	257.84	257.77	257.75	257.77	
8	257.81	257.76	259.03	257.78	257.75	260.04	258.27	258.44	257.84	257.76	257.75	257.78	
9	257.81	257.76	258.43	257.77	257.75	259.81	258.35	258.39	257.83	257.76	257.75	257.78	
10	257.81	257.76	258.08	257.77	257.75	259.44	258.31	258.32	257.82	257.77	257.75	257.77	
11	257.81	257.76	258.00	257.77	257.75	259.37	258.21	258.28	257.81	257.77	257.75	257.77	
12	257.81	257.76	257.93	257.77	257.75	258.99	258.18	258.31	257.80	257.77	257.75	257.76	
13	257.81	257.76	257.97	257.77	257.75	258.71	258.23	258.30	257.79	257.77	257.75	257.74	
14	257.80	257.76	257.89	257.77	257.75	258.58	258.32	258.28	257.78	257.77	257.77	257.74	
15	257.80	257.76	257.85	257.76	257.75	258.49	258.40	258.28	257.78	257.77	257.80	257.73	
16	257.80	257.76	257.83	257.76	257.75	258.52	258.31	258.27	257.78	257.77	257.79	257.73	
17	257.79	257.78	257.83	257.76	257.75	258.22	258.22	258.24	257.78	257.77	257.78	257.73	
18	257.79	257.79	257.82	257.76	257.76	257.93	258.17	258.22	257.79	257.77	257.76	257.73	
19	257.79	257.79	257.82	257.76	257.77	258.09	258.80	258.19	257.78	257.77	257.75	257.73	
20	257.79	257.78	257.83	257.76	257.76	258.07	258.90	258.17	257.79	257.77	257.75	257.73	
21	257.79	257.78	257.82	257.76	257.90	258.05	259.07	258.16	257.78	257.76	257.75	257.73	
22	257.79	257.79	257.82	257.76	259.23	258.06	259.25	258.15	257.78	257.76	257.75	257.72	
23	257.79	257.81	257.81	257.76	259.13	258.04	258.99	258.13	257.78	257.76	257.75	257.70	
24	257.79	257.84	257.81	257.76	258.58	258.06	258.71	258.11	257.77	257.76	257.75	257.69	
25	257.79	257.83	257.82	257.76	258.37	258.09	258.54	258.09	257.77	257.76	257.75	257.69	
26	257.79	257.80	257.82	257.76	258.27	258.03	258.56	258.07	257.78	257.76	257.76	257.69	
27	257.79	257.81	257.82	257.76	259.13	258.00	258.52	258.05	257.78	257.76	257.75	257.69	
28	257.79	257.79	257.81	257.76	260.18	257.99	258.44	258.04	257.78	257.76	257.75	257.69	
29	257.79	257.78	257.80	257.76	259.70	257.98	258.45	258.04	257.79	257.76	257.75	257.68	
30	257.78	257.78	257.79	257.76	259.71	258.35	258.40	258.01	257.82	257.76		257.68	
31		257.77		257.76	259.67		258.33		257.82	257.76		257.68	
Mean	257.80	257.78	257.94	257.77	258.22	258.63	258.43	258.23	257.82	257.77	257.76	257.73	
Max	257.82	257.84	259.03	257.80	260.18	260.04	259.25	258.50	258.01	257.82	257.80	257.78	260.18
Min	257.78	257.76	257.78	257.76	257.75	257.93	258.10	258.01	257.77	257.76	257.75	257.68	257.68

Annual Max Momentary Gage Height 260.42 M (MSL), at 6.00 Hours, on Aug 28, 1991
Zero Gage at Bottom Elevation 257.67 M (MSL), River Bed 258.02 M (MSL)
Left Bank Elevation 262.35 M (MSL)
Right Bank Elevation 262.25 M (MSL), Drainage Area 649 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.03	0.02	0.02	0.03	0.02	10.35	0.86	1.08	0.33	0.05	0.02	0.02	
2	0.05	0.02	0.02	0.03	0.02	7.32	1.58	0.97	0.25	0.05	0.02	0.02	
3	0.04	0.02	0.02	0.03	0.02	4.02	1.08	1.00	0.14	0.05	0.02	0.02	
4	0.04	0.02	0.24	0.02	0.02	2.35	0.77	1.04	0.13	0.03	0.02	0.02	
5	0.04	0.02	0.16	0.02	0.02	7.52	0.64	1.77	0.11	0.03	0.02	0.02	
6	0.04	0.02	0.14	0.02	0.02	5.99	0.55	2.11	0.07	0.02	0.02	0.02	
7	0.04	0.02	2.26	0.02	0.02	9.98	0.83	2.01	0.07	0.02	0.02	0.02	
8	0.04	0.02	5.46	0.02	0.02	18.72	1.11	1.82	0.07	0.02	0.02	0.02	
9	0.04	0.02	1.77	0.02	0.02	14.84	1.42	1.58	0.06	0.02	0.02	0.02	
10	0.04	0.02	0.50	0.02	0.02	9.72	1.26	1.30	0.05	0.02	0.02	0.02	
11	0.04	0.02	0.30	0.02	0.02	8.86	0.90	1.15	0.04	0.02	0.02	0.02	
12	0.04	0.02	0.19	0.02	0.02	5.12	0.80	1.26	0.03	0.02	0.02	0.02	
13	0.04	0.02	0.25	0.02	0.02	3.23	0.97	1.22	0.03	0.02	0.02	0.01	
14	0.03	0.02	0.13	0.02	0.02	2.50	1.30	1.15	0.02	0.02	0.02	0.01	
15	0.03	0.02	0.09	0.02	0.02	2.06	1.62	1.15	0.02	0.02	0.03	0.01	
16	0.03	0.02	0.06	0.02	0.02	2.21	1.26	1.11	0.02	0.02	0.03	0.01	
17	0.03	0.02	0.06	0.02	0.02	0.93	0.93	1.00	0.02	0.02	0.02	0.01	
18	0.03	0.03	0.05	0.02	0.02	0.19	0.77	0.93	0.03	0.02	0.02	0.01	
19	0.03	0.03	0.05	0.02	0.02	0.52	3.76	0.83	0.02	0.02	0.02	0.01	
20	0.03	0.02	0.06	0.02	0.02	0.48	4.41	0.77	0.03	0.02	0.02	0.01	
21	0.03	0.02	0.05	0.02	0.14	0.42	5.82	0.74	0.02	0.02	0.02	0.01	
22	0.03	0.03	0.05	0.02	7.32	0.45	7.52	0.70	0.02	0.02	0.02	0.01	
23	0.03	0.04	0.04	0.02	6.36	0.40	5.12	0.64	0.02	0.02	0.02	0.00	
24	0.03	0.07	0.04	0.02	2.50	0.45	3.23	0.58	0.02	0.02	0.02	0.00	
25	0.03	0.06	0.05	0.02	1.50	0.52	2.31	0.52	0.02	0.02	0.02	0.00	
26	0.03	0.03	0.05	0.02	1.11	0.37	2.40	0.48	0.02	0.02	0.02	0.00	
27	0.03	0.04	0.05	0.02	6.36	0.30	2.21	0.42	0.02	0.02	0.02	0.00	
28	0.03	0.03	0.04	0.02	21.38	0.28	1.82	0.40	0.02	0.02	0.02	0.00	
29	0.03	0.02	0.03	0.02	13.18	0.27	1.87	0.40	0.03	0.02	0.02	0.00	
30	0.02	0.02	0.03	0.02	13.33	1.42	1.62	0.33	0.05	0.02		0.00	
31		0.02		0.02	12.76		1.34		0.05	0.02		0.00	
Total	1.02	0.80	12.26	0.65	86.34	121.79	62.08	30.46	1.83	0.73	0.60	0.34	318.90 CMSDAY
Mean	0.03	0.03	0.41	0.02	2.79	4.06	2.00	1.02	0.06	0.02	0.02	0.01	0.87 CMS
Max	0.05	0.07	5.46	0.03	21.38	18.72	7.52	2.11	0.33	0.05	0.03	0.02	21.38 CMS
Min	0.02	0.02	0.02	0.02	0.02	0.19	0.55	0.33	0.02	0.02	0.02	0.00	0.00 CMS
Runoff	0.088	0.069	1.059	0.056	7.460	10.523	5.364	2.632	0.158	0.063	0.052	0.029	27.553 MCM

Momentary Peak 26.52 CMS, at 260.42 M (MSL), at 6.00 Hours, on Aug 28, 1991

Runoff Yield 1.34 Liters/Second/Square KM, Momentary Peak Yield 40.86 Liters/Second/Square KM

WATER YEAR 1991

WANG RIVER BASIN

Wang River at Ban Hai, Lampang (W.16)

Location — Lat. 18-48-12 N., Long. 99-38-45 E., on right bank at Ban Hai, Amphoe Chae Hom Lampang.

Drainage Area — 1,284 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m. (A.D.)

Bench Mark — B.M.-H.D.

Location — Near the automatic gage building.

Elevation — +7.676 m. (A.D.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1971 to date.

Rating Operation

Period of Rating — 1971 to date.

Rated by Float — -

Rated by Current Meter — 1971 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 147 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

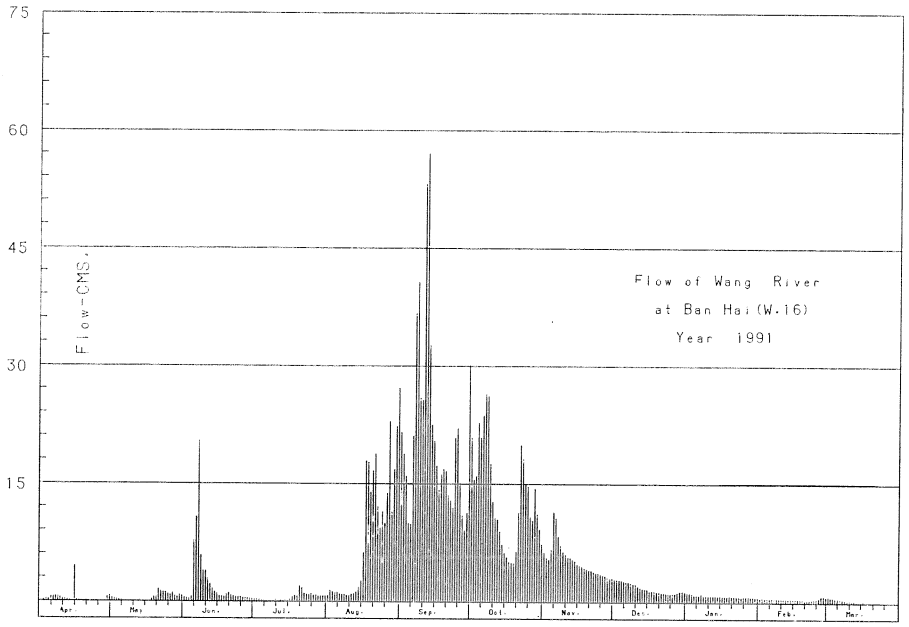
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	-0.02	0.20	0.22	0.15	0.29	1.79	1.76	0.96	0.61	0.37	0.22	0.27	
2	0.12	0.16	0.20	0.16	0.42	1.67	1.52	0.89	0.60	0.37	0.22	0.25	
3	0.16	0.15	0.18	0.15	0.39	1.54	1.54	0.87	0.60	0.35	0.21	0.23	
4	0.15	0.13	0.25	0.13	0.36	1.22	1.84	0.99	0.59	0.32	0.21	0.22	
5	0.24	0.11	1.07	0.13	0.38	1.21	1.76	1.31	0.58	0.31	0.21	0.21	
6	0.26	0.11	1.27	0.12	0.33	1.77	1.88	1.26	0.57	0.31	0.21	0.19	
7	0.25	0.09	1.74	0.12	0.33	2.36	1.99	1.11	0.57	0.34	0.21	0.18	
8	0.24	0.08	0.92	0.12	0.32	2.49	1.98	1.03	0.55	0.30	0.21	0.16	
9	0.21	0.08	0.72	0.13	0.30	1.97	1.61	0.97	0.54	0.30	0.20	0.14	
10	0.18	0.10	0.72	0.14	0.30	1.96	1.39	0.93	0.53	0.30	0.19	0.14	
11	0.14	0.10	0.61	0.13	0.33	2.87	1.26	0.90	0.50	0.30	0.19	0.13	
12	0.12	0.11	0.53	0.11	0.34	2.98	1.25	0.89	0.47	0.30	0.19	0.13	
13	0.10	0.12	0.45	0.10	0.39	2.22	1.15	0.87	0.46	0.29	0.19	0.12	
14	0.09	0.10	0.39	0.12	0.47	1.83	1.04	0.85	0.45	0.29	0.19	0.12	
15	0.78	0.09	0.34	0.14	0.58	1.74	0.95	0.81	0.45	0.29	0.18	0.12	
16	0.08	0.09	0.28	0.15	0.95	1.60	0.90	0.79	0.41	0.28	0.17	0.11	
17	0.08	0.10	0.26	0.27	1.63	1.46	0.84	0.78	0.42	0.28	0.18	0.10	
18	0.08	0.22	0.25	0.29	1.62	1.55	0.83	0.76	0.41	0.28	0.17	0.09	
19	0.08	0.23	0.32	0.26	1.45	1.58	0.82	0.75	0.40	0.29	0.17	0.09	
20	0.07	0.25	0.36	0.50	1.57	1.57	0.97	0.73	0.39	0.28	0.16	0.09	
21	0.07	0.44	0.30	0.46	1.67	1.43	1.30	0.73	0.38	0.28	0.16	0.09	
22	0.06	0.40	0.27	0.35	1.35	1.40	1.72	0.71	0.37	0.27	0.16	0.09	
23	0.06	0.38	0.24	0.32	1.18	1.34	1.64	0.70	0.36	0.26	0.17	0.09	
24	0.05	0.37	0.24	0.32	1.31	1.76	1.49	0.69	0.35	0.25	0.17	0.09	
25	0.08	0.33	0.23	0.34	1.22	1.81	1.48	0.68	0.35	0.26	0.19	0.09	
26	0.09	0.31	0.21	0.30	1.44	1.50	1.27	0.66	0.35	0.27	0.23	0.08	
27	0.08	0.36	0.20	0.30	1.85	1.28	1.24	0.66	0.36	0.27	0.29	0.08	
28	0.07	0.26	0.20	0.27	1.31	1.16	1.47	0.63	0.38	0.26	0.29	0.07	
29	0.23	0.24	0.18	0.27	1.58	1.30	1.29	0.62	0.41	0.25	0.27	0.07	
30	0.28	0.32	0.17	0.28	1.82	2.13	1.17	0.62	0.41	0.25		0.06	
31		0.28		0.28	2.02		1.04		0.40	0.23		0.07	
Mean	0.15	0.20	0.44	0.22	0.95	1.75	1.37	0.84	0.46	0.29	0.20	0.13	
Max	0.78	0.44	1.74	0.50	2.02	2.98	1.99	1.31	0.61	0.37	0.29	0.27	2.98
Min	-0.02	0.08	0.17	0.10	0.29	1.16	0.82	0.62	0.35	0.23	0.16	0.06	-0.02

Annual Max Momentary Gage Height — 3.34 M (A.D), at 3.00 Hours, on Sep 12, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.15 M (A.D)

Left Bank Elevation — 6.91 M (A.D)

Right Bank Elevation — 6.42 M (A.D), Drainage Area 1284 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.04	0.45	0.52	0.32	0.77	21.57	20.88	6.30	2.89	1.15	0.52	0.70	
2	0.23	0.34	0.45	0.34	1.44	18.84	15.54	5.60	2.80	1.15	0.52	0.63	
3	0.34	0.32	0.40	0.32	1.25	15.98	15.98	5.40	2.80	1.05	0.48	0.56	
4	0.32	0.26	0.63	0.26	1.10	10.02	22.76	6.60	2.72	0.90	0.48	0.52	
5	0.59	0.21	7.75	0.26	1.20	9.86	20.88	11.46	2.64	0.85	0.48	0.48	
6	0.66	0.21	10.82	0.23	0.95	21.11	23.72	10.66	2.55	0.85	0.48	0.42	
7	0.63	0.17	20.42	0.23	0.95	36.70	26.45	8.35	2.55	1.00	0.48	0.40	
8	0.59	0.15	5.90	0.23	0.90	40.69	26.20	7.15	2.39	0.80	0.48	0.34	
9	0.48	0.15	3.90	0.26	0.80	25.95	17.52	6.40	2.31	0.80	0.45	0.29	
10	0.40	0.18	3.90	0.29	0.80	25.70	12.74	6.00	2.23	0.80	0.42	0.29	
11	0.29	0.18	2.89	0.26	0.95	53.15	10.66	5.70	1.98	0.80	0.42	0.26	
12	0.23	0.21	2.23	0.21	1.00	57.08	10.50	5.60	1.78	0.80	0.42	0.26	
13	0.18	0.23	1.64	0.18	1.25	32.66	8.95	5.40	1.71	0.77	0.42	0.23	
14	0.17	0.18	1.25	0.23	1.78	22.52	7.30	5.20	1.64	0.77	0.42	0.23	
15	4.50	0.17	1.00	0.29	2.64	20.42	6.20	4.80	1.64	0.77	0.40	0.23	
16	0.15	0.17	0.73	0.32	6.20	17.30	5.70	4.60	1.37	0.73	0.37	0.21	
17	0.15	0.18	0.66	0.70	17.96	14.22	5.10	4.50	1.44	0.73	0.40	0.18	
18	0.15	0.52	0.63	0.77	17.74	16.20	5.00	4.30	1.37	0.73	0.37	0.17	
19	0.15	0.56	0.90	0.66	14.00	16.86	4.90	4.20	1.30	0.77	0.37	0.17	
20	0.14	0.63	1.10	1.98	16.64	16.64	6.40	4.00	1.25	0.73	0.34	0.17	
21	0.14	1.57	0.80	1.71	18.84	13.56	11.30	4.00	1.20	0.73	0.34	0.17	
22	0.13	1.30	0.70	1.05	12.10	12.90	19.96	3.80	1.15	0.70	0.34	0.17	
23	0.13	1.20	0.59	0.90	9.40	11.94	18.18	3.70	1.10	0.66	0.37	0.17	
24	0.12	1.15	0.59	0.90	11.46	20.88	14.88	3.61	1.05	0.63	0.37	0.17	
25	0.15	0.95	0.56	1.00	10.02	22.04	14.66	3.52	1.05	0.66	0.42	0.17	
26	0.17	0.85	0.48	0.80	13.78	15.10	10.82	3.34	1.05	0.70	0.56	0.15	
27	0.15	1.10	0.45	0.80	23.00	10.98	10.34	3.34	1.10	0.70	0.77	0.15	
28	0.14	0.66	0.45	0.70	11.46	9.10	14.44	3.07	1.20	0.66	0.77	0.14	
29	0.56	0.59	0.40	0.70	16.86	11.30	11.14	2.98	1.37	0.63	0.70	0.14	
30	0.73	0.90	0.37	0.73	22.28	30.14	9.25	2.98	1.37	0.63		0.13	
31		0.73		0.73	27.22		7.30		1.30	0.56		0.14	
Total	12.81	16.47	73.11	18.36	266.74	651.41	415.65	156.56	54.30	24.21	13.36	8.44	1711.42 CMSDAY
Mean	0.43	0.53	2.44	0.59	8.60	21.71	13.41	5.22	1.75	0.78	0.46	0.27	4.68 CMS
Max	4.50	1.57	20.42	1.98	27.22	57.08	26.45	11.46	2.89	1.15	0.77	0.70	57.08 CMS
Min	0.04	0.15	0.37	0.18	0.77	9.10	4.90	2.98	1.05	0.56	0.34	0.13	0.04 CMS
Runoff	1.107	1.423	6.317	1.586	23.046	56.282	35.912	13.527	4.692	2.092	1.154	0.729	147.867 MCM

Momentary Peak 70.76 CMS, at 3.34 M (A.D), at 3.00 Hours, on Sep 12, 1991

Runoff Yield 3.64 Liters/Second/Square KM, Momentary Peak Yield 55.11 Liters/Second/Square KM

WATER YEAR 1991

WANG RIVER BASIN

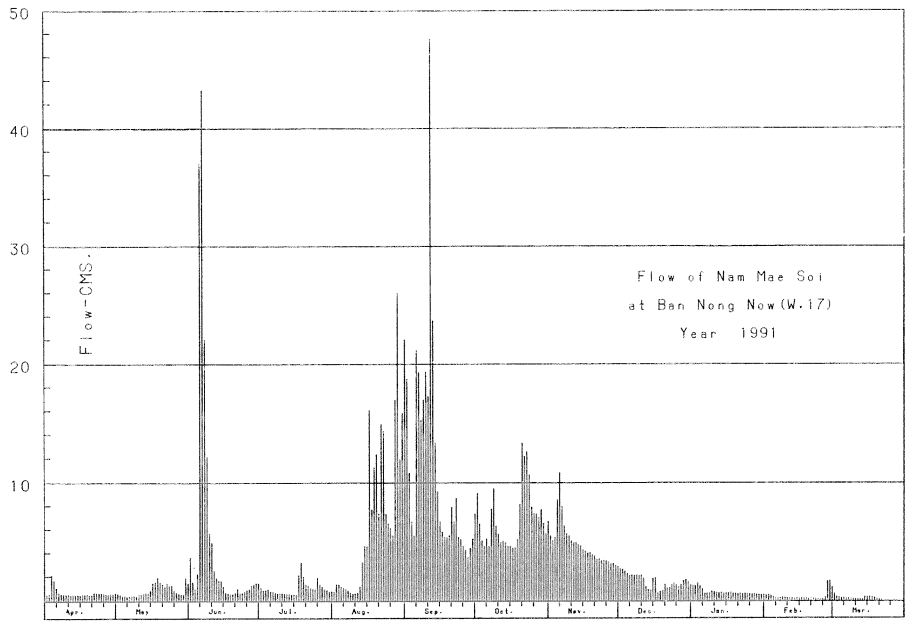
Nam Mae Soi at Ban Nong Now, Lampang (W.17)

Location	Lat. 18-43-16 N., Long 99-34-12 E., on right bank at the bridge of Lampang-Wang Nua Road, Ban Nong Now, Tambon Chae Hom, Amphoe Chae Hom, Lampang.
Drainage Area	619 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+292.00 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	About 21 meters from the top staff gage.
Elevation	+295.790 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1980 to date.
Rating Operation	
Period of Rating	1980 to date.
Rated by Float	-
Rated by Current Meter	1980 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 31 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	291.75	291.78	292.06	291.84	291.81	292.77	292.39	292.19	291.99	291.86	291.75	291.78	
2	291.76	291.75	291.89	291.82	291.87	292.47	292.25	292.16	291.98	291.86	291.75	291.72	
3	291.94	291.73	291.83	291.82	291.87	292.26	292.16	292.18	291.97	291.88	291.74	291.71	
4	291.90	291.73	291.95	291.83	291.85	292.19	292.13	292.36	291.95	291.86	291.71	291.69	
5	291.84	291.72	293.29	291.81	291.84	292.85	292.17	292.47	291.94	291.83	291.69	291.69	
6	291.79	291.72	293.44	291.81	291.83	292.79	292.13	292.33	291.94	291.79	291.68	291.68	
7	291.77	291.73	292.88	291.80	291.82	292.65	292.32	292.24	291.94	291.78	291.69	291.68	
8	291.76	291.73	292.53	291.79	291.80	292.71	292.41	292.20	291.94	291.80	291.70	291.68	
9	291.76	291.72	292.20	291.79	291.78	292.79	292.24	292.19	291.94	291.81	291.70	291.67	
10	291.76	291.76	292.15	291.79	291.78	292.72	292.20	292.16	291.94	291.81	291.69	291.67	
11	291.75	291.77	291.97	291.78	291.80	293.54	292.15	292.15	291.92	291.80	291.68	291.67	
12	291.75	291.78	291.92	291.77	291.85	292.93	292.16	292.15	291.85	291.80	291.68	291.67	
13	291.75	291.80	291.90	291.77	292.03	292.58	292.15	292.14	291.83	291.80	291.68	291.67	
14	291.75	291.78	291.90	291.76	292.13	292.40	292.13	292.13	291.82	291.79	291.68	291.72	
15	291.75	291.82	291.85	291.76	292.13	292.26	292.13	292.11	291.92	291.79	291.68	291.72	
16	291.76	291.88	291.80	291.76	292.68	292.21	292.12	292.10	291.92	291.80	291.68	291.72	
17	291.76	291.89	291.78	291.94	292.32	292.18	292.12	292.09	291.80	291.80	291.68	291.71	
18	291.76	291.92	291.77	292.03	292.49	292.18	292.17	292.09	291.81	291.79	291.68	291.70	
19	291.75	291.89	291.77	291.93	292.54	292.19	292.34	292.08	291.82	291.78	291.67	291.67	
20	291.75	291.87	291.80	291.87	292.30	292.33	292.58	292.07	291.87	291.78	291.68	291.66	
21	291.80	291.85	291.83	291.86	292.64	292.26	292.53	292.05	291.84	291.78	291.68	291.65	
22	291.79	291.88	291.79	291.84	292.62	292.37	292.55	292.05	291.84	291.78	291.67	291.64	
23	291.79	291.86	291.79	291.83	292.30	292.18	292.46	292.04	291.87	291.78	291.67	291.64	
24	291.79	291.86	291.81	291.83	292.25	292.17	292.33	292.04	291.88	291.78	291.66	291.64	
25	291.78	291.82	291.82	291.92	292.23	292.13	292.30	292.04	291.87	291.77	291.67	291.63	
26	291.76	291.80	291.83	291.87	292.19	292.11	292.30	292.03	291.85	291.77	291.72	291.63	
27	291.76	291.78	291.86	291.85	292.71	292.06	292.28	292.02	291.87	291.77	291.90	291.63	
28	291.77	291.76	291.87	291.83	293.00	292.12	292.32	292.02	291.90	291.77	291.90	291.62	
29	291.77	291.76	291.88	291.82	292.52	292.17	292.25	292.01	291.91	291.76	291.85	291.62	
30	291.79	291.92	291.88	291.81	292.67	292.30	292.20	292.00	291.89	291.76		291.62	
31		291.88		291.81	292.88		292.26		291.87	291.76		291.62	
Mean	291.78	291.80	292.03	291.83	292.21	292.43	292.27	292.13	291.89	291.80	291.71	291.67	
Max	291.94	291.92	293.44	292.03	293.00	293.54	292.58	292.47	291.99	291.88	291.90	291.78	293.54
Min	291.75	291.72	291.77	291.76	291.78	292.06	292.12	292.00	291.80	291.76	291.66	291.62	291.62

Annual Max Momentary Gage Height 294.20 M (MSL), at 15.00 Hours, on Jun 5, 1991
Zero Gage at Bottom Elevation 292.00 M (MSL), River Bed 291.10 M (MSL)
Left Bank Elevation 295.19 M (MSL)
Right Bank Elevation 295.19 M (MSL), Drainage Area 619 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.50	0.62	3.68	1.10	0.80	18.73	9.11	5.55	2.78	1.30	0.50	0.62	
2	0.54	0.50	1.60	0.90	1.40	10.84	6.55	5.10	2.66	1.30	0.50	0.38	
3	2.18	0.42	1.00	0.90	1.40	6.72	5.10	5.40	2.54	1.50	0.46	0.34	
4	1.70	0.42	2.30	1.00	1.20	5.55	4.65	8.54	2.30	1.30	0.34	0.27	
5	1.10	0.38	37.01	0.80	1.10	21.15	5.25	10.84	2.18	1.00	0.27	0.27	
6	0.66	0.38	43.28	0.80	1.00	19.31	4.65	7.97	2.18	0.66	0.24	0.24	
7	0.58	0.42	22.08	0.70	0.90	15.25	7.78	6.38	2.18	0.62	0.27	0.24	
8	0.54	0.42	12.19	0.66	0.70	16.99	9.52	5.70	2.18	0.70	0.30	0.24	
9	0.54	0.38	5.70	0.66	0.62	19.31	6.38	5.55	2.18	0.80	0.30	0.21	
10	0.54	0.54	4.95	0.66	0.62	17.28	5.70	5.10	2.18	0.80	0.27	0.21	
11	0.50	0.58	2.54	0.62	0.70	47.56	4.95	4.95	1.94	0.70	0.24	0.21	
12	0.50	0.62	1.94	0.58	1.20	23.69	5.10	4.95	1.20	0.70	0.24	0.21	
13	0.50	0.70	1.70	0.58	3.29	13.34	4.95	4.80	1.00	0.70	0.24	0.21	
14	0.50	0.62	1.70	0.54	4.65	9.30	4.65	4.65	0.90	0.66	0.24	0.38	
15	0.50	0.90	1.20	0.54	4.65	6.72	4.65	4.35	1.94	0.66	0.24	0.38	
16	0.54	1.50	0.70	0.54	16.12	5.87	4.50	4.20	1.94	0.70	0.24	0.38	
17	0.54	1.60	0.62	2.18	7.78	5.40	4.50	4.07	0.70	0.70	0.24	0.34	
18	0.54	1.94	0.58	3.29	11.28	5.40	5.25	4.07	0.80	0.66	0.24	0.30	
19	0.50	1.60	0.58	2.06	12.42	5.55	8.16	3.94	0.90	0.62	0.21	0.21	
20	0.50	1.40	0.70	1.40	7.40	7.97	13.34	3.81	1.40	0.62	0.24	0.18	
21	0.70	1.20	1.00	1.30	14.96	6.72	12.19	3.55	1.10	0.62	0.24	0.15	
22	0.66	1.50	0.66	1.10	14.38	8.73	12.65	3.55	1.10	0.62	0.21	0.12	
23	0.66	1.30	0.66	1.00	7.40	5.40	10.62	3.42	1.40	0.62	0.21	0.12	
24	0.66	1.30	0.80	1.00	6.55	5.25	7.97	3.42	1.50	0.62	0.18	0.12	
25	0.62	0.90	0.90	1.94	6.21	4.65	7.40	3.42	1.40	0.58	0.21	0.09	
26	0.54	0.70	1.00	1.40	5.55	4.35	7.40	3.29	1.20	0.58	0.38	0.09	
27	0.54	0.62	1.30	1.20	16.99	3.68	7.06	3.16	1.40	0.58	1.70	0.09	
28	0.58	0.54	1.40	1.00	26.00	4.50	7.78	3.16	1.70	0.58	1.70	0.06	
29	0.58	0.54	1.50	0.90	11.96	5.25	6.55	3.03	1.82	0.54	1.20	0.06	
30	0.66	1.94	1.50	0.80	15.83	7.40	5.70	2.90	1.60	0.54		0.06	
31		1.50		0.80	22.08		6.72		1.40	0.54		0.06	
Total	20.20	27.98	156.77	32.95	227.14	337.86	216.78	142.82	51.70	23.12	11.85	6.84	1256.01 CMSDAY
Mean	0.67	0.90	5.23	1.06	7.33	11.26	6.99	4.76	1.67	0.75	0.41	0.22	3.43 CMS
Max	2.18	1.94	43.28	3.29	26.00	47.56	13.34	10.84	2.78	1.50	1.70	0.62	47.56 CMS
Min	0.50	0.38	0.58	0.54	0.62	3.68	4.50	2.90	0.70	0.54	0.18	0.06	0.06 CMS
Runoff	1.745	2.417	13.545	2.847	19.625	29.191	18.730	12.340	4.467	1.998	1.024	0.591	108.519 MCM

Momentary Peak 80.30 CMS, at 294.20 M (MSL), at 15.00 Hours, on Jun 5, 1991

Runoff Yield 5.54 Liters/Second/Square KM, Momentary Peak Yield 129.73 Liters/Second/Square KM

WATER YEAR 1991

YOM RIVER BASIN

Yom River at Ban Nam Khong, Phrae (Y.1C)

Location — Lat. 18-07-59 N., Long. 100-07-39 E., on right bank about 5 meters downstream from Phathana Phak Nua 8 Bridge at Tambon Pa Mat, Amphoe Muang, Phrae.

Drainage Area — 7,624 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +143.50 m. (M.S.L.)

Bench Mark — B.M.-H.D.

Location — Infront of the station office.

Elevation — +153.908 m. (M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1979 to date.

Rating Operation

Period of Rating — 1979 to date.

Rated by Float — -

Rated by Current Meter — 1979 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 121 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

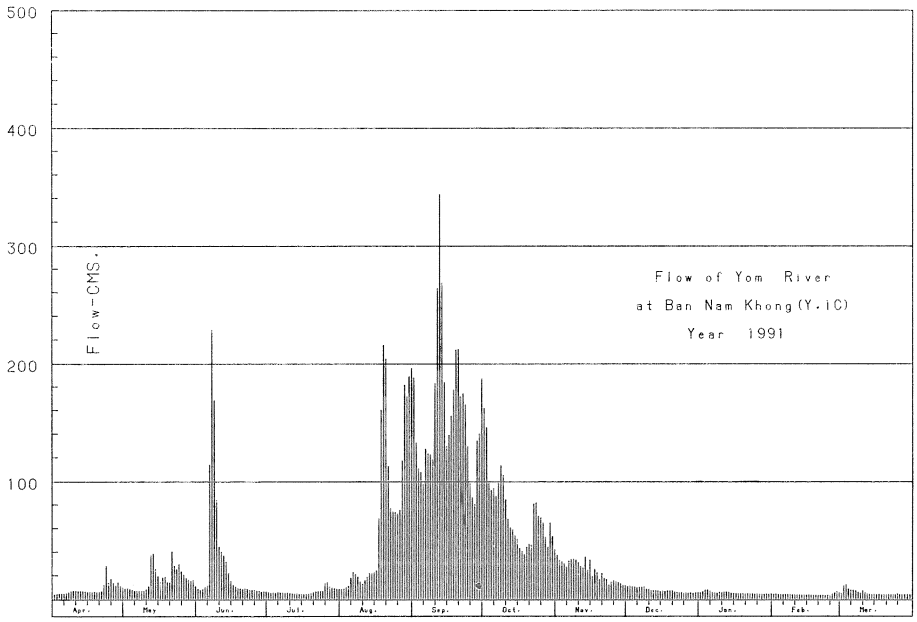
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	143.82	144.07	144.05	143.91	144.05	147.03	146.70	144.76	144.17	143.90	143.85	143.88	
2	143.84	144.07	144.01	143.89	144.05	146.34	146.50	144.67	144.18	143.95	143.85	144.20	
3	143.85	144.05	144.04	143.89	144.13	146.03	145.87	144.65	144.16	144.01	143.84	144.22	
4	143.85	144.00	144.13	143.89	144.17	145.99	145.77	144.61	144.14	144.03	143.83	144.06	
5	143.85	143.98	144.20	143.91	144.36	145.84	145.79	144.56	144.12	143.97	143.83	144.01	
6	143.87	143.97	146.08	143.90	144.46	146.27	145.70	144.66	144.13	143.92	143.83	144.01	
7	143.91	143.96	147.51	143.89	144.43	146.21	145.85	144.69	144.14	143.90	143.83	143.98	
8	143.95	143.96	146.79	143.89	144.38	146.20	146.07	144.69	144.15	143.89	143.83	143.93	
9	143.98	143.98	145.65	143.89	144.28	146.14	145.95	144.68	144.06	143.92	143.82	143.88	
10	143.97	144.03	144.90	143.88	144.23	146.97	145.65	144.63	144.04	143.92	143.82	144.00	
11	143.96	144.17	144.81	143.86	144.31	147.88	145.37	144.57	144.00	143.93	143.82	143.91	
12	143.96	144.76	144.75	143.86	144.38	148.68	145.23	144.54	143.99	143.94	143.81	143.86	
13	143.96	144.78	144.64	143.85	144.45	147.93	145.19	144.73	144.01	143.92	143.81	143.84	
14	143.94	144.52	144.45	143.84	144.44	146.98	145.09	144.50	143.98	143.89	143.80	143.83	
15	143.92	144.40	144.29	143.83	144.46	146.30	145.03	144.68	143.96	143.87	143.81	143.83	
16	143.92	144.27	144.21	143.83	144.49	146.42	144.88	144.39	143.97	143.88	143.81	143.83	
17	143.92	144.37	144.14	143.84	145.38	146.62	144.82	144.52	143.97	143.87	143.81	143.83	
18	143.92	144.38	144.09	143.85	146.68	146.90	144.77	144.46	143.98	143.87	143.80	143.82	
19	143.91	144.27	144.06	143.87	147.37	147.32	144.89	144.34	143.99	143.86	143.80	143.82	
20	143.92	144.26	144.06	143.91	147.23	147.33	144.95	144.45	143.98	143.86	143.80	143.82	
21	143.95	144.82	144.06	143.94	146.06	146.82	144.93	144.36	143.94	143.86	143.80	143.82	
22	144.21	144.57	144.06	143.96	145.52	146.86	145.59	144.33	143.92	143.86	143.79	143.82	
23	144.57	144.52	144.01	143.95	145.48	146.74	145.60	144.22	143.91	143.85	143.79	143.82	
24	144.26	144.60	144.01	143.97	145.47	146.30	145.42	144.27	143.91	143.85	143.79	143.83	
25	144.34	144.48	144.01	144.24	145.45	145.85	145.39	144.31	143.89	143.85	143.78	143.86	
26	144.25	144.42	143.98	144.27	145.50	145.68	145.31	144.28	143.89	143.85	143.85	143.83	
27	144.20	144.36	143.96	144.15	146.13	145.58	145.06	144.27	143.89	143.84	143.90	143.82	
28	144.26	144.32	143.94	144.10	146.95	146.36	144.90	144.24	143.90	143.84	143.95	143.83	
29	144.17	144.30	143.94	144.07	146.83	146.43	145.30	144.21	143.88	143.85	143.91	143.83	
30	144.11	144.31	143.94	144.06	147.04	147.02	145.08	144.20	143.90	143.85		143.83	
31		144.17		144.04	147.13		144.85		143.91	143.85		143.83	
Mean	144.02	144.29	144.49	143.94	145.27	146.63	145.40	144.48	144.00	143.89	143.83	143.89	
Max	144.57	144.82	147.51	144.27	147.37	148.68	146.70	144.76	144.18	144.03	143.95	144.22	148.68
Min	143.82	143.96	143.94	143.83	144.05	145.58	144.77	144.20	143.88	143.84	143.78	143.82	143.78

Annual Max Momentary Gage Height — 148.88 M (MSL), at 7.00 Hours, on Sep 12, 1991

Zero Gage at Bottom Elevation — 143.50 M (MSL), River Bed 142.11 M (MSL)

Left Bank Elevation — 151.76 M (MSL)

Right Bank Elevation — 153.83 M (MSL), Drainage Area 7624 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	4.40	9.40	9.00	6.20	9.00	188.40	162.00	38.00	11.40	6.00	5.00	5.60	
2	4.80	9.40	8.20	5.80	9.00	133.20	146.00	33.50	11.60	7.00	5.00	12.00	
3	5.00	9.00	8.80	5.80	10.60	111.10	99.90	32.50	11.20	8.20	4.80	12.80	
4	5.00	8.00	10.60	5.80	11.40	108.30	92.90	30.50	10.80	8.60	4.60	9.20	
5	5.00	7.60	12.00	6.20	18.40	97.80	94.30	28.00	10.40	7.40	4.60	8.20	
6	5.40	7.40	114.60	6.00	23.00	127.90	88.00	33.00	10.60	6.40	4.60	8.20	
7	6.20	7.20	228.90	5.80	21.50	123.70	98.50	34.50	10.80	6.00	4.60	7.60	
8	7.00	7.20	169.20	5.80	19.20	123.00	113.90	34.50	11.00	5.80	4.60	6.60	
9	7.60	7.60	85.00	5.80	15.20	118.80	105.50	34.00	9.20	6.40	4.40	5.60	
10	7.40	8.60	45.00	5.60	13.20	183.60	85.00	31.50	8.80	6.40	4.40	8.00	
11	7.20	11.40	40.50	5.20	16.40	264.00	68.50	28.50	8.00	6.60	4.40	6.20	
12	7.20	38.00	37.50	5.20	19.20	344.00	61.50	27.00	7.80	6.80	4.20	5.20	
13	7.20	39.00	32.00	5.00	22.50	269.00	59.50	36.50	8.20	6.40	4.20	4.80	
14	6.80	26.00	22.50	4.80	22.00	184.40	54.50	25.00	7.60	5.80	4.00	4.60	
15	6.40	20.00	15.60	4.60	23.00	130.00	51.50	34.00	7.20	5.40	4.20	4.60	
16	6.40	14.80	12.40	4.60	24.50	139.60	44.00	19.60	7.40	5.60	4.20	4.60	
17	6.40	18.80	10.80	4.80	69.00	155.60	41.00	26.00	7.40	5.40	4.20	4.60	
18	6.40	19.20	9.80	5.00	160.40	178.00	38.50	23.00	7.60	5.40	4.00	4.40	
19	6.20	14.80	9.20	5.40	216.30	211.80	44.50	17.60	7.80	5.20	4.00	4.40	
20	6.40	14.40	9.20	6.20	204.40	212.70	47.50	22.50	7.60	5.20	4.00	4.40	
21	7.00	41.00	9.20	6.80	113.20	171.60	46.50	18.40	6.80	5.20	4.00	4.40	
22	12.40	28.50	9.20	7.20	77.20	174.80	81.40	17.20	6.40	5.20	3.80	4.40	
23	28.50	26.00	8.20	7.00	74.80	165.20	82.00	12.80	6.20	5.00	3.80	4.40	
24	14.40	30.00	8.20	7.40	74.20	130.00	71.20	14.80	6.20	5.00	3.80	4.60	
25	17.60	24.00	8.20	13.60	73.00	98.50	69.50	16.40	5.80	5.00	3.60	5.20	
26	14.00	21.00	7.60	14.80	76.00	86.80	65.50	15.20	5.80	5.00	5.00	4.60	
27	12.00	18.40	7.20	11.00	118.10	80.80	53.00	14.80	5.80	4.80	6.00	4.40	
28	14.40	16.80	6.80	10.00	182.00	134.80	45.00	13.60	6.00	4.80	7.00	4.60	
29	11.40	16.00	6.80	9.40	172.40	140.40	65.00	12.40	5.60	5.00	6.20	4.60	
30	10.20	16.40	6.80	9.20	189.20	187.60	54.00	12.00	6.00	5.00		4.60	
31		11.40		8.80	196.40		42.50		6.20	5.00		4.60	
Total	266.30	547.30	969.00	214.80	2274.70	4775.40	2272.60	737.30	249.20	181.00	131.20	182.00	12800.80 CMSDAY
Mean	8.88	17.65	32.30	6.93	73.38	159.18	73.31	24.58	8.04	5.84	4.52	5.87	34.97 CMS
Max	28.50	41.00	228.90	14.80	216.30	344.00	162.00	38.00	11.60	8.60	7.00	12.80	344.00 CMS
Min	4.40	7.20	6.80	4.60	9.00	80.80	38.50	12.00	5.60	4.80	3.60	4.40	3.60 CMS
Runoff	23.008	47.287	83.722	18.559	196.534	412.595	196.353	63.703	21.531	15.638	11.336	15.725	1105.989 MCM

Momentary Peak 367.60 CMS, at 148.88 M (MSL), at 7.00 Hours, on Sep 12, 1991

Runoff Yield 4.59 Liters/Second/Square KM, Momentary Peak Yield 48.22 Liters/Second/Square KM

WATER YEAR 1991

YOM RIVER BASIN

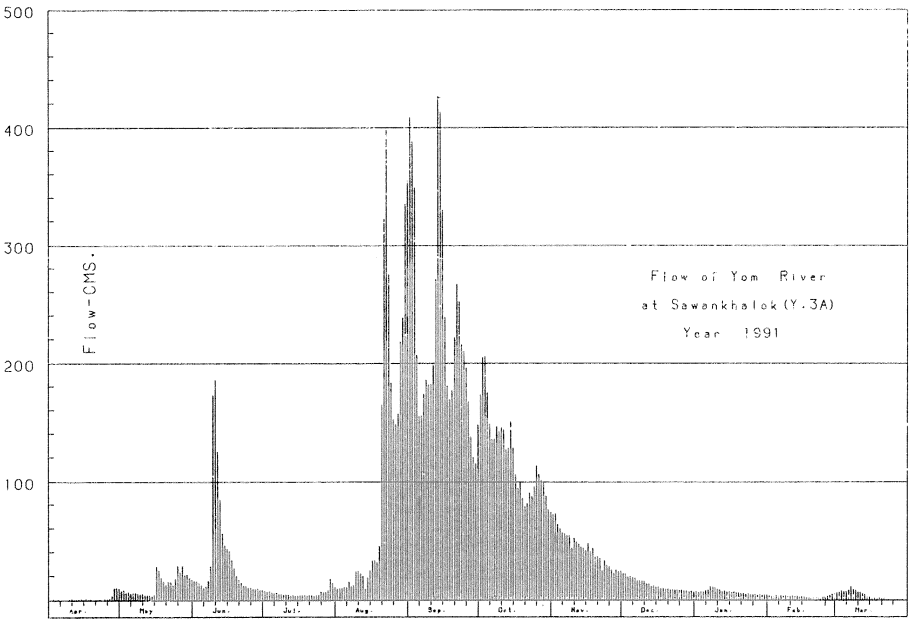
Yom River at Sawankhalok, Sukhothai (Y.3A)

Location	Lat. 17-18-29 N., Long. 99-49-43 E., on right bank about 100 meters downstream from the bridge on highway, Amphoe Sawankhalok, Sukhothai.
Drainage Area	13,583 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+51.00 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	Infront of automatic gage building.
Elevation	+60.559 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1967 to date.
Rating Operation	
Period of Rating	1967 to date.
Rated by Float	-
Rated by Current Meter	1967 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 43 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	50.93	51.43	51.71	51.41	51.50	56.45	54.15	52.82	51.86	51.38	51.21	51.32	
2	50.96	51.43	51.69	51.39	51.49	56.27	54.51	52.82	51.84	51.37	51.20	51.37	
3	50.90	51.34	51.66	51.38	51.53	55.93	54.51	52.68	51.80	51.37	51.20	51.41	
4	50.91	51.35	51.60	51.36	51.53	54.53	54.18	52.61	51.80	51.39	51.20	51.41	
5	50.85	51.31	51.53	51.33	51.56	53.94	53.86	52.56	51.79	51.41	51.19	51.37	
6	50.86	51.31	51.56	51.32	51.68	53.94	53.70	52.53	51.76	51.46	51.18	51.46	
7	50.85	51.34	51.71	51.29	51.59	54.16	53.71	52.51	51.72	51.55	51.18	51.55	
8	50.86	51.27	51.97	51.26	51.60	54.29	53.84	52.50	51.70	51.56	51.17	51.48	
9	50.96	51.27	54.15	51.25	51.89	54.25	53.78	52.29	51.71	51.52	51.16	51.43	
10	50.97	51.26	54.29	51.23	51.89	54.25	53.83	52.45	51.69	51.49	51.17	51.38	
11	50.97	51.23	53.57	51.23	51.86	54.44	53.80	52.40	51.65	51.44	51.16	51.34	
12	50.97	51.22	53.01	51.21	51.80	55.21	53.60	52.35	51.63	51.41	51.16	51.31	
13	50.98	51.20	52.53	51.21	51.49	56.61	53.61	52.31	51.59	51.40	51.15	51.24	
14	50.97	51.18	52.34	51.21	51.77	56.49	53.89	52.28	51.58	51.39	51.12	51.15	
15	50.95	51.22	52.28	51.20	51.91	55.77	53.62	52.25	51.56	51.37	51.10	51.15	
16	50.97	51.98	52.23	51.19	52.07	54.88	53.32	52.36	51.54	51.37	51.09	51.14	
17	50.96	51.90	52.09	51.23	52.07	54.24	53.15	52.22	51.51	51.36	51.09	51.10	
18	50.94	51.78	51.94	51.20	52.05	54.11	53.24	52.29	51.49	51.35	51.11	51.08	
19	50.91	51.68	51.82	51.20	52.32	54.19	53.03	52.14	51.49	51.32	51.09	51.06	
20	50.93	51.62	51.72	51.20	54.05	54.69	52.91	52.14	51.47	51.30	51.08	51.06	
21	50.94	51.68	51.66	51.19	55.70	55.18	52.96	52.11	51.46	51.29	51.07	51.01	
22	50.94	51.69	51.61	51.18	56.36	55.03	53.09	51.91	51.45	51.28	51.06	50.98	
23	50.95	51.60	51.57	51.19	55.25	54.63	53.05	52.08	51.45	51.28	51.08	50.97	
24	50.97	51.76	51.54	51.25	54.27	54.56	53.17	51.99	51.44	51.26	51.08	50.94	
25	50.97	51.98	51.51	51.36	53.90	54.41	53.43	51.98	51.44	51.26	51.08	50.93	
26	50.98	51.87	51.50	51.37	53.86	54.08	53.32	51.91	51.43	51.25	51.14	50.92	
27	51.21	51.99	51.49	51.39	53.96	53.73	53.26	51.86	51.43	51.24	51.23	50.92	
28	51.52	51.83	51.48	51.42	54.65	53.51	53.22	51.91	51.40	51.24	51.25	50.91	
29	51.51	51.83	51.47	51.76	54.88	53.45	53.06	51.89	51.40	51.23	51.30	50.91	
30	51.49	51.78	51.43	51.65	55.81	53.85	52.87	51.89	51.39	51.22		50.91	
31		51.72		51.53	55.99		52.84		51.38	51.22		50.91	
Mean	51.00	51.55	52.02	51.31	52.98	54.70	53.50	52.27	51.58	51.35	51.15	51.17	
Max	51.52	51.99	54.29	51.76	56.36	56.61	54.51	52.82	51.86	51.56	51.30	51.55	56.61
Min	50.85	51.18	51.43	51.18	51.49	53.45	52.84	51.86	51.38	51.22	51.06	50.91	50.85

Annual Max Momentary Gage Height 56.78 M (MSL), at 15.00 Hours, on Sep 13, 1991
Zero Gage at Bottom Elevation 51.00 M (MSL), River Bed 50.74 M (MSL)
Left Bank Elevation 53.65 M (MSL)
Right Bank Elevation 60.62 M (MSL), Drainage Area 13583 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.04	8.52	16.78	8.04	10.20	408.75	173.75	73.30	23.14	7.44	4.38	6.36	
2	1.28	8.52	16.02	7.62	9.96	388.05	205.90	73.30	22.16	7.26	4.20	7.26	
3	0.80	6.72	14.88	7.44	10.92	348.95	205.90	64.80	20.20	7.26	4.20	8.04	
4	0.88	6.90	12.60	7.08	10.92	207.70	176.30	60.60	20.20	7.62	4.20	8.04	
5	0.40	6.18	10.92	6.54	11.64	155.90	149.10	58.00	19.82	8.04	4.07	7.26	
6	0.48	6.18	11.64	6.36	15.64	155.90	136.00	56.50	18.68	9.24	3.94	9.24	
7	0.40	6.72	16.78	5.82	12.36	174.60	136.80	55.50	17.16	11.40	3.94	11.40	
8	0.48	5.46	28.53	5.28	12.60	186.10	147.40	55.00	16.40	11.64	3.81	9.72	
9	1.28	5.46	173.75	5.10	24.61	182.50	142.40	44.50	16.78	10.68	3.68	8.52	
10	1.36	5.28	186.10	4.74	24.61	182.50	146.55	52.50	16.02	9.96	3.81	7.44	
11	1.36	4.74	125.60	4.74	23.14	199.60	144.00	50.00	14.50	8.76	3.68	6.72	
12	1.36	4.56	85.65	4.38	20.20	271.05	128.00	47.50	13.74	8.04	3.68	6.18	
13	1.44	4.20	56.50	4.38	9.96	427.20	128.80	45.50	12.36	7.80	3.55	4.92	
14	1.36	3.94	47.00	4.38	19.06	413.35	151.65	44.00	12.12	7.62	3.16	3.55	
15	1.20	4.56	44.00	4.20	25.59	330.70	129.60	42.50	11.64	7.26	2.90	3.55	
16	1.36	29.02	41.50	4.07	33.50	239.20	106.40	48.00	11.16	7.26	2.77	3.42	
17	1.28	25.10	34.50	4.74	33.50	181.60	94.75	41.00	10.44	7.08	2.77	2.90	
18	1.12	19.44	27.06	4.20	32.50	170.35	100.80	44.50	9.96	6.90	3.03	2.64	
19	0.88	15.64	21.18	4.20	46.00	177.15	86.95	37.00	9.96	6.36	2.77	2.38	
20	1.04	13.36	17.16	4.20	165.25	222.10	79.15	37.00	9.48	6.00	2.64	2.38	
21	1.12	15.64	14.88	4.07	323.00	268.00	82.40	35.50	9.24	5.82	2.51	1.73	
22	1.12	16.02	12.98	3.94	398.40	253.00	90.85	25.59	9.00	5.64	2.38	1.44	
23	1.20	12.60	11.88	4.07	275.25	216.70	88.25	34.00	9.00	5.64	2.64	1.36	
24	1.36	18.68	11.16	5.10	184.30	210.40	96.05	29.51	8.76	5.28	2.64	1.12	
25	1.36	29.02	10.44	7.08	152.50	196.90	114.40	29.02	8.76	5.28	2.64	1.04	
26	1.44	23.63	10.20	7.26	149.10	167.80	106.40	25.59	8.52	5.10	3.42	0.56	
27	4.38	29.51	9.96	7.62	157.60	138.40	102.20	23.14	8.52	4.92	4.74	0.96	
28	10.68	21.67	9.72	8.28	218.50	120.80	99.40	25.59	7.80	4.92	5.10	0.88	
29	10.44	21.67	9.48	18.68	239.20	116.00	88.90	24.61	7.80	4.74	5.00	0.88	
30	9.96	19.44	8.52	14.50	335.15	148.25	76.55	24.61	7.62	4.56		0.88	
31		17.16		10.92	355.85		74.60		7.44	4.56		0.88	
Total	63.86	415.54	1097.37	199.03	3341.01	6859.50	3790.20	1308.16	398.38	220.08	103.25	134.05	17930.43 CMSDAY
Mean	2.13	13.40	36.58	6.42	107.77	228.65	122.26	43.61	12.85	7.10	3.56	4.32	48.99 CMS
Max	10.68	29.51	186.10	18.68	398.40	427.20	205.90	73.30	23.14	11.64	6.00	11.40	427.20 CMS
Min	0.40	3.94	8.52	3.94	9.96	116.00	74.60	23.14	7.44	4.56	2.38	0.88	0.40 CMS
Runoff	5.518	35.903	94.813	17.196	288.663	592.661	327.473	113.025	34.420	19.015	8.921	11.582	1549.189 MCM

Momentary Peak 447.60 CMS, at 56.78 M (MSL), at 15.00 Hours, on Sep 13, 1991

Runoff Yield 3.61 Liters/Second/Square KM, Momentary Peak Yield 32.95 Liters/Second/Square KM

WATER YEAR 1991

YOM RIVER BASIN

Yom River at Talat Thani, Sukhothai (Y.4)

Location — Lat. 17-00-18 N., Long. 99-49-31 E., on left bank near the Saving's Bank, Amphoe Muang, Sukhothai.

Drainage Area — 17,731 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +44.00 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — On left bank at the footpath of the governor's house.

Elevation — +49.142 m.(M.S.L.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1950 to date.

Rating Operation

Period of Rating — 1954-1956, 1967-1970, 1990 to date.

Rated by Float —

Rated by Current Meter — 1950-1960, 1962 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — Overbank flow starts at elevation +49.25 m.(M.S.L.), records are channel flow only.

General Description — Records good. Stage-discharge relation defined by 41 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

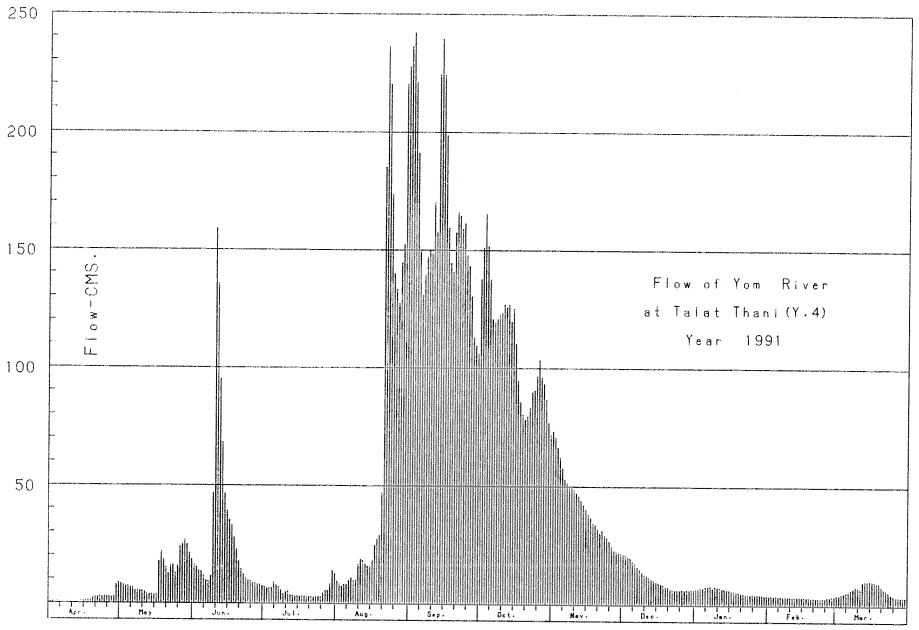
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	43.52	44.63	45.16	44.50	44.75	49.72	48.36	47.06	45.42	44.47	44.19	44.21	
2	43.53	44.55	45.12	44.44	44.62	49.79	48.57	46.99	45.40	44.49	44.18	44.23	
3	43.54	44.51	45.04	44.43	44.55	49.54	48.79	46.89	45.37	44.52	44.17	44.26	
4	43.54	44.52	45.02	44.48	44.60	49.15	48.58	46.78	45.33	44.53	44.16	44.31	
5	43.54	44.46	44.90	44.69	44.62	48.56	48.36	46.67	45.27	44.57	44.16	44.34	
6	43.53	44.45	44.76	44.58	44.76	48.25	48.07	46.54	45.22	44.59	44.15	44.39	
7	43.54	44.33	44.72	44.49	44.86	48.39	48.04	46.50	45.16	44.60	44.14	44.44	
8	43.54	44.34	44.90	44.36	44.75	48.51	48.07	46.45	45.09	44.52	44.13	44.51	
9	43.54	44.33	46.36	44.18	44.81	48.55	48.10	46.45	45.04	44.57	44.12	44.57	
10	43.53	44.31	48.69	44.29	45.19	48.53	48.12	46.42	44.98	44.56	44.11	44.56	
11	43.53	44.27	48.33	44.31	45.29	48.86	48.18	46.38	44.96	44.53	44.11	44.47	
12	43.54	44.21	47.56	44.12	45.26	48.67	48.16	46.34	44.91	44.50	44.10	44.79	
13	43.55	44.15	46.93	44.04	45.19	49.58	48.18	46.29	44.86	44.47	44.09	44.81	
14	43.57	44.13	46.36	44.01	45.14	49.76	48.05	46.23	44.82	44.45	44.09	44.82	
15	43.61	44.11	46.14	44.01	45.13	49.58	48.15	46.18	44.77	44.43	44.08	44.82	
16	43.65	44.10	46.02	44.01	45.26	49.25	47.87	46.11	44.71	44.41	44.07	44.82	
17	43.64	45.24	45.92	44.00	45.59	48.70	47.55	46.06	44.69	44.39	44.06	44.79	
18	43.63	45.44	45.72	44.03	45.69	48.47	47.35	45.98	44.64	44.36	44.04	44.75	
19	43.82	45.27	45.49	44.03	45.76	48.41	47.23	45.96	44.58	44.33	44.03	44.72	
20	43.88	45.11	45.24	43.98	46.37	48.67	47.18	45.88	44.55	44.29	44.02	44.61	
21	43.90	44.97	45.07	43.96	49.07	48.80	47.21	45.81	44.49	44.27	44.02	44.48	
22	43.94	45.14	44.95	43.95	49.72	48.78	47.30	45.85	44.45	44.26	44.01	44.45	
23	43.96	45.16	44.84	43.94	49.53	48.69	47.44	45.78	44.43	44.25	44.00	44.35	
24	43.96	44.98	44.79	43.99	48.91	48.73	47.46	45.73	44.42	44.25	44.00	44.27	
25	43.94	45.13	44.73	43.95	48.40	48.52	47.59	45.68	44.43	44.25	44.02	44.19	
26	43.93	45.55	44.68	44.25	48.29	48.45	47.73	45.58	44.44	44.24	44.07	44.14	
27	43.91	45.60	44.65	44.34	48.19	48.24	47.58	45.50	44.43	44.23	44.10	44.10	
28	43.93	45.68	44.61	44.35	48.47	47.92	47.52	45.47	44.43	44.24	44.14	44.09	
29	44.58	45.60	44.59	44.63	48.59	47.85	47.37	45.45	44.44	44.22	44.18	44.09	
30	44.65	45.41	44.55	45.05	49.53	47.78	47.15	45.43	44.45	44.21		44.10	
31		45.28		44.96	49.62		47.02		44.45	44.20		44.10	
Mean	43.75	44.81	45.53	44.27	46.47	48.76	47.82	46.15	44.79	44.39	44.09	44.44	
Max	44.65	45.68	48.69	45.05	49.72	49.79	48.79	47.06	45.42	44.60	44.19	44.82	49.79
Min	43.52	44.10	44.55	43.94	44.55	47.78	47.02	45.43	44.42	44.20	44.00	44.09	43.52

Annual Max Momentary Gage Height — 49.80 M (MSL), at 12.00 Hours, on Sep 2, 1991

Zero Gage at Bottom Elevation — 44.00 M (MSL), River Bed 43.03 M (MSL)

Left Bank Elevation — 49.24 M (MSL)

Right Bank Elevation — 50.23 M (MSL), Drainage Area 17731 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.60	8.30	16.20	7.00	9.50	236.20	137.60	73.40	21.40	6.70	3.95	4.10	
2	0.65	7.50	15.40	6.40	8.20	242.15	151.05	70.60	21.00	6.90	3.90	4.30	
3	0.70	7.10	13.80	6.30	7.50	221.20	165.35	66.60	20.40	7.20	3.85	4.60	
4	0.70	7.20	13.40	6.80	8.00	191.25	151.70	62.20	19.60	7.30	3.80	5.10	
5	0.70	6.60	11.50	8.90	8.20	150.40	137.60	57.80	18.40	7.70	3.80	5.40	
6	0.65	6.50	9.60	7.80	9.60	131.00	120.85	52.90	17.40	7.90	3.75	5.90	
7	0.70	5.30	9.20	6.90	10.90	139.40	119.20	51.50	16.20	8.00	3.70	6.40	
8	0.70	5.40	11.50	5.60	9.50	147.15	120.85	49.75	14.80	7.20	3.65	7.10	
9	0.70	5.30	46.60	3.90	10.15	149.75	122.50	49.75	13.80	7.70	3.60	7.70	
10	0.65	5.10	158.85	4.90	16.80	148.45	123.60	48.70	12.70	7.60	3.55	7.60	
11	0.65	4.70	135.80	5.10	18.80	170.20	126.90	47.30	12.40	7.30	3.55	6.70	
12	0.70	4.10	95.20	3.60	18.20	157.55	125.80	45.90	11.65	7.00	3.50	9.90	
13	0.75	3.75	68.20	3.20	16.80	224.40	126.90	44.15	10.90	6.70	3.45	10.15	
14	0.85	3.65	46.60	3.05	15.80	239.60	119.75	42.05	10.30	6.50	3.45	10.30	
15	1.05	3.55	39.20	3.05	15.60	224.40	125.25	40.40	9.70	6.30	3.40	10.30	
16	1.25	3.50	35.60	3.05	18.20	198.75	110.50	38.30	9.10	6.10	3.35	10.30	
17	1.20	17.80	33.00	3.00	24.80	159.50	94.75	36.80	8.90	5.90	3.30	9.90	
18	1.15	21.80	28.00	3.15	27.25	144.55	85.75	34.50	8.40	5.60	3.20	9.50	
19	2.10	18.40	22.80	3.15	29.00	140.65	80.35	34.00	7.80	5.30	3.15	9.20	
20	2.40	15.20	17.80	2.90	46.95	157.55	78.20	32.00	7.50	4.90	3.10	8.10	
21	2.50	12.55	14.40	2.80	185.25	166.00	79.45	30.25	6.90	4.70	3.10	6.80	
22	2.70	15.80	12.25	2.75	236.20	164.70	83.50	31.25	6.50	4.60	3.05	6.50	
23	2.80	16.20	10.60	2.70	220.40	158.85	89.80	29.50	6.30	4.50	3.00	5.50	
24	2.80	12.70	9.90	2.95	173.70	161.45	90.70	28.25	6.20	4.50	3.00	4.70	
25	2.70	15.60	9.30	2.75	140.00	147.80	96.55	27.00	6.30	4.50	3.10	3.95	
26	2.65	24.00	8.80	4.50	133.40	143.25	103.50	24.60	6.40	4.40	3.35	3.70	
27	2.55	25.00	8.50	5.40	127.45	130.40	96.10	23.00	6.30	4.30	3.50	3.50	
28	2.65	27.00	8.10	5.50	144.55	113.00	93.40	22.40	6.30	4.40	3.70	3.45	
29	7.80	25.00	7.90	8.30	152.35	109.50	86.65	22.00	6.40	4.20	3.90	3.45	
30	8.50	21.20	7.50	14.00	220.40	106.00	77.00	21.60	6.50	4.10		3.50	
31		18.60		12.40	227.70		71.80		6.50	4.00		3.50	
Total	56.50	374.40	925.50	161.80	2291.15	4975.05	3392.90	1238.45	342.95	184.00	100.70	201.10	14244.50 CMSDAY
Mean	1.88	12.08	30.85	5.22	73.91	165.83	109.45	41.28	11.06	5.94	3.47	6.49	38.92 CMS
Max	8.50	27.00	158.85	14.00	236.20	242.15	165.35	73.40	21.40	8.00	3.95	10.30	242.15 CMS
Min	0.60	3.50	7.50	2.70	7.50	106.00	71.80	21.60	6.20	4.00	3.00	3.45	0.60 CMS
Runoff	4.882	32.348	79.963	13.980	197.955	429.844	293.147	107.002	29.631	15.898	8.700	17.375	1230.725 MCM

Momentary Peak 243.00 CMS, at 49.80 M (MSL), at 12.00 Hours, on Sep 2, 1991

Runoff Yield 2.19 Liters/Second/Square KM, Momentary Peak Yield 13.70 Liters/Second/Square KM

WATER YEAR 1991

YOM RIVER BASIN

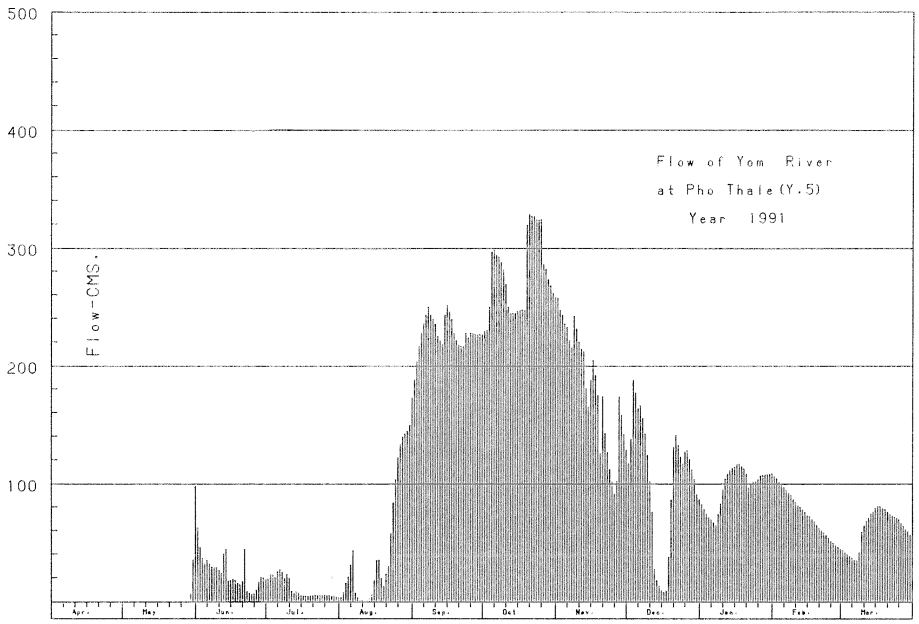
Yom River at Pho Thale, Phichit (Y.5)

Location	Lat. 16-35-05 N., Long. 100-15-48 E., on left bank in front of Amphoe Pho Thale Office, Amphoe Pho Thale, Phichit.
Drainage Area	22,344 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+22.852 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 30 meters from Amphoe Pho Thale Office.
Elevation	+30.834 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1951 - 1956, 1967 - 1969, 1973 to date.
Rating Operation	
Period of Rating	1967, 1991 to date.
Rated by Float	-
Rated by Current Meter	1967 - 1969, 1991 to date.
Stability of Channel Regimes	Fairly stable because of backwater effect.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 17 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	21.95	21.85	26.17	25.23	24.41	27.08	27.44	27.66	26.25	25.74	26.09	24.99	
2	21.95	21.85	25.93	25.37	24.69	27.23	27.45	27.58	26.53	25.68	26.06	24.95	
3	21.94	21.84	25.75	25.35	25.11	27.34	27.60	27.55	27.08	25.61	26.02	24.90	
4	21.94	21.84	25.63	25.30	25.30	27.43	27.94	27.49	26.97	25.56	26.00	24.87	
5	21.94	22.35	25.70	25.44	25.61	27.49	27.95	27.47	26.84	25.52	25.96	24.83	
6	21.93	22.58	25.63	25.50	25.88	27.55	27.92	27.38	26.86	25.48	25.92	24.79	
7	21.93	22.61	25.55	25.42	24.67	27.60	27.91	27.33	26.75	25.43	25.89	24.77	
8	21.93	22.62	25.54	25.26	24.40	27.55	27.88	27.54	26.59	25.61	25.86	24.95	
9	21.92	22.60	25.54	25.37	24.21	27.52	27.84	27.46	26.35	25.75	25.81	25.32	
10	21.92	22.58	25.48	25.27	24.19	27.49	27.75	27.37	26.03	25.93	25.77	25.43	
11	21.92	22.59	25.40	24.76	24.20	27.41	27.60	27.32	25.64	26.06	25.73	25.50	
12	21.92	22.60	25.83	24.65	24.15	27.38	27.56	27.30	24.57	26.12	25.70	25.55	
13	21.91	22.63	25.90	24.73	24.33	27.35	27.56	27.01	24.23	26.16	25.67	25.61	
14	21.91	22.64	25.18	24.68	24.57	27.55	27.56	26.85	24.04	26.19	25.63	25.64	
15	21.90	22.65	25.20	24.51	25.21	27.61	27.57	27.08	23.89	26.20	25.59	25.69	
16	21.90	22.67	25.24	24.50	25.70	27.57	27.58	27.24	23.80	26.24	25.57	25.72	
17	21.90	22.65	25.19	24.49	25.71	27.52	27.58	27.12	23.88	26.24	25.53	25.71	
18	21.90	22.64	25.10	24.48	25.26	27.43	27.58	26.95	24.85	26.21	25.49	25.69	
19	21.89	22.62	25.03	24.50	24.99	27.38	28.09	26.37	25.81	26.18	25.44	25.67	
20	21.89	22.66	25.17	24.52	25.38	27.35	28.15	26.94	26.44	26.12	25.39	25.64	
21	21.89	22.88	25.90	24.53	25.58	27.34	28.14	26.60	26.58	25.95	25.35	25.60	
22	21.89	22.97	24.76	24.53	25.30	27.34	28.14	26.38	26.46	26.00	25.31	25.58	
23	21.88	22.98	24.64	24.52	25.77	27.43	28.12	26.18	26.33	26.02	25.27	25.56	
24	21.88	22.97	24.60	24.53	26.05	27.40	28.12	26.02	26.24	26.03	25.22	25.55	
25	21.88	22.99	24.61	24.53	26.32	27.43	28.12	25.88	26.39	26.05	25.17	25.52	
26	21.87	23.01	24.83	24.52	26.47	27.43	27.87	26.03	26.40	26.10	25.13	25.47	
27	21.87	23.00	25.14	24.51	26.56	27.42	27.84	26.94	26.30	26.10	25.09	25.42	
28	21.87	23.33	25.30	24.49	26.59	27.42	27.78	26.78	26.17	26.11	25.05	25.37	
29	21.86	24.60	25.27	24.47	26.62	27.42	27.74	26.59	26.06	26.11	25.02	25.33	
30	21.85	25.71	25.23	24.43	26.68	27.42	27.69	26.41	25.87	26.12		25.28	
31		26.44		24.39	26.93		27.66		25.81	26.12		25.25	
Mean	21.90	22.90	25.35	24.80	25.38	27.43	27.80	26.96	25.87	25.96	25.58	25.36	
Max	21.95	26.44	26.17	25.50	26.93	27.61	28.15	27.66	27.08	26.24	26.09	25.72	28.15
Min	21.85	21.84	24.60	24.39	24.15	27.08	27.44	25.88	23.80	25.43	25.02	24.77	21.84

Annual Max Momentary Gage Height 28.15 M (MSL), at 18.00 Hours, on Oct 20, 1991
Zero Gage at Bottom Elevation 22.85 M (MSL), River Bed 20.49 M (MSL)
Left Bank Elevation 30.03 M (MSL)
Right Bank Elevation 29.47 M (MSL), Drainage Area 22344 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	62.75	18.90	3.65	188.00	229.20	257.80	117.50	82.40	106.30	43.60	
2	0.00	0.00	46.15	23.10	7.85	203.60	230.50	247.40	137.75	78.80	104.20	42.00	
3	0.00	0.00	37.00	22.50	15.98	216.80	250.00	243.50	188.00	74.60	101.40	40.00	
4	0.00	0.00	32.20	21.00	21.00	227.90	297.00	235.70	177.00	71.80	100.00	38.80	
5	0.00	0.00	35.00	25.40	31.40	235.70	298.50	233.10	164.00	69.60	97.20	37.20	
6	0.00	0.00	32.20	27.50	43.40	243.50	294.00	221.60	166.00	67.40	94.40	35.63	
7	0.00	0.00	29.25	24.70	7.55	250.00	292.50	215.60	155.75	64.65	92.30	34.88	
8	0.00	0.00	28.90	19.80	3.50	243.50	288.00	242.20	142.25	74.60	90.20	42.00	
9	0.00	0.00	28.90	23.10	1.50	239.60	282.00	231.80	124.50	83.00	86.70	59.00	
10	0.00	0.00	26.80	20.10	1.33	235.70	269.50	220.40	102.10	95.10	84.20	64.65	
11	0.00	0.00	24.00	8.90	1.40	225.30	250.00	214.40	76.40	104.20	81.80	68.50	
12	0.00	0.00	40.65	7.25	1.05	221.60	244.80	212.00	27.60	108.40	80.00	71.25	
13	0.00	0.00	44.50	8.45	2.76	218.00	244.80	181.00	18.25	111.20	78.20	74.60	
14	0.00	0.00	17.55	7.70	6.05	243.50	244.80	165.00	13.50	113.30	75.80	76.40	
15	0.00	0.00	18.00	5.15	18.30	251.30	246.10	188.00	9.80	114.00	73.45	79.40	
16	0.00	0.00	19.20	5.00	35.00	246.10	247.40	204.80	8.00	116.80	72.35	81.20	
17	0.00	0.00	17.77	4.85	35.40	239.60	247.40	192.00	9.60	116.80	70.15	80.60	
18	0.00	0.00	15.75	4.70	19.80	227.90	247.40	175.00	38.00	114.70	67.95	79.40	
19	0.00	0.00	14.18	5.00	13.30	221.60	319.50	125.90	86.70	112.60	65.20	78.20	
20	0.00	0.00	17.32	5.30	23.40	218.00	328.50	174.00	131.00	108.40	62.50	76.40	
21	0.00	0.00	44.50	5.45	30.30	216.80	327.00	143.00	141.50	96.50	60.50	74.00	
22	0.00	0.00	8.90	5.45	58.00	216.80	327.00	126.60	132.50	100.00	58.50	72.90	
23	0.00	0.00	7.10	5.30	84.20	227.90	324.00	112.60	123.10	101.40	56.50	71.80	
24	0.00	0.00	6.50	5.45	103.50	224.00	324.00	101.40	116.80	102.10	54.00	71.25	
25	0.00	0.00	6.65	5.45	122.40	227.90	324.00	91.60	127.30	103.50	51.65	69.60	
26	0.00	0.00	10.10	5.30	133.25	227.90	286.50	102.10	128.00	107.00	49.85	66.85	
27	0.00	0.00	16.65	5.15	140.00	226.60	282.00	174.00	121.00	107.00	48.05	64.10	
28	0.00	0.00	21.00	4.85	142.25	226.60	273.40	158.30	111.90	107.70	46.25	61.50	
29	0.00	6.50	20.10	4.55	144.70	226.60	268.20	142.25	104.20	107.70	44.90	59.50	
30	0.00	35.40	18.90	3.95	149.80	226.60	261.70	128.75	90.90	108.40		57.00	
31		98.20		3.39	173.00		257.80		86.70	108.40		55.50	
Total	0.00	140.10	748.47	342.69	1575.02	6844.90	8607.50	5461.80	3177.60	3032.05	2154.50	1927.71	34012.34 CMSDAY
Mean	0.00	4.52	24.95	11.05	50.81	228.16	277.66	182.06	102.50	97.81	74.29	62.18	92.93 CMS
Max	0.00	98.20	62.75	27.50	173.00	251.30	328.50	257.80	188.00	116.80	106.30	81.20	328.50 CMS
Min	0.00	0.00	6.50	3.39	1.05	188.00	229.20	91.60	8.00	64.65	44.90	34.88	0.00 CMS
Runoff	0.000	12.105	64.668	29.608	136.082	591.399	743.688	471.900	274.545	261.969	186.149	166.554	2938.667 MCM

Momentary Peak 328.50 CMS, at 28.15 M (MSL), at 18.00 Hours, on Oct 20, 1991

Runoff Yield 4.16 Liters/Second/Square KM, Momentary Peak Yield 14.70 Liters/Second/Square KM

WATER YEAR 1991

YOM RIVER BASIN

Yom River at Ban Kaeng Luang, Sukhothai (Y.6)

Location — Lat. 17-26-03 N., Long. 99-47-32 E., on left bank about 150 meters upstream from Kaeng Luang, Amphoe Si Satchanalai, Sukhothai.

Drainage Area — 12,658 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +59.00 m. (M.S.L.)

Bench Mark — B.M.-H.D.

Location — Near the automatic gage building.

Elevation — +68.928 m. (M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1952 to date.

Rating Operation

Period of Rating — 1952 to date.

Rated by Float — -

Rated by Current Meter — 1952 to date.

Stability of Channel Regimes — Stable.

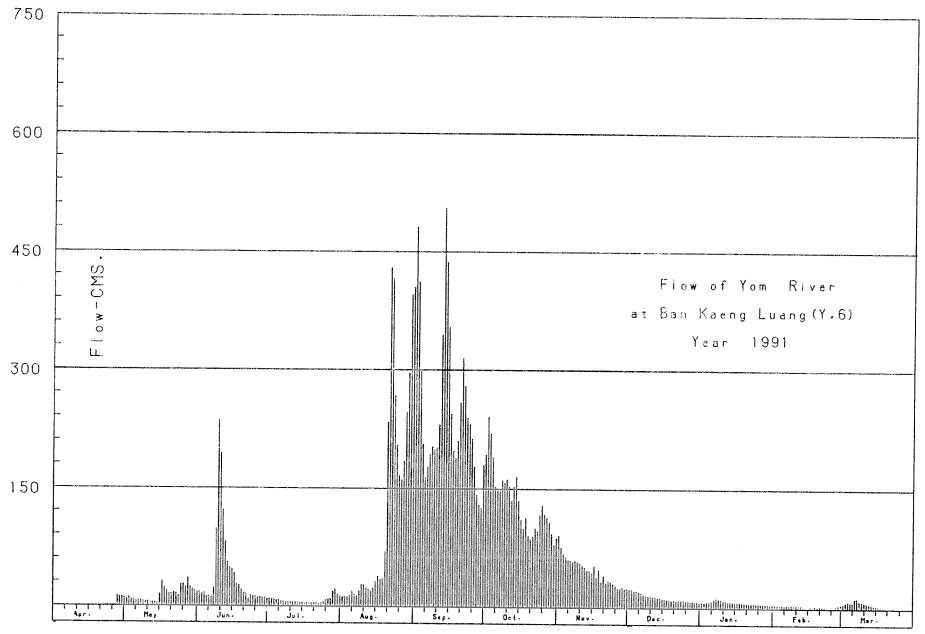
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Flow diverted for irrigation about 24,000 hectares at above gage site. Stage-discharge relation defined by 87 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	59.19	59.73	60.05	59.73	59.84	63.33	61.95	61.11	60.18	59.62	59.47	59.54	
2	59.19	59.78	59.99	59.73	59.85	63.05	62.25	60.94	60.16	59.63	59.47	59.66	
3	59.18	59.71	60.02	59.70	59.87	62.55	62.12	60.85	60.13	59.65	59.46	59.69	
4	59.17	59.65	59.86	59.68	59.91	62.04	61.93	60.79	60.12	59.65	59.45	59.67	
5	59.18	59.61	59.85	59.67	60.09	61.74	61.66	60.75	60.10	59.70	59.44	59.64	
6	59.22	59.64	59.82	59.63	59.98	61.84	61.63	60.73	60.06	59.79	59.44	59.85	
7	59.24	59.64	60.17	59.59	59.92	61.95	61.64	60.71	60.02	59.84	59.44	59.86	
8	59.26	59.57	61.18	59.57	60.08	62.02	61.72	60.72	59.94	59.81	59.44	59.74	
9	59.28	59.55	62.22	59.56	60.27	61.99	61.69	60.71	59.95	59.77	59.43	59.69	
10	59.28	59.57	61.96	59.56	60.25	62.01	61.73	60.68	59.93	59.72	59.41	59.66	
11	59.27	59.51	61.40	59.56	60.19	62.19	61.66	60.65	59.91	59.70	59.42	59.62	
12	59.28	59.51	61.02	59.54	60.14	62.76	61.52	60.60	59.90	59.68	59.41	59.57	
13	59.29	59.49	60.68	59.52	60.09	63.42	61.66	60.56	59.87	59.66	59.39	59.50	
14	59.29	59.46	60.59	59.51	60.17	63.16	61.75	60.54	59.85	59.65	59.37	59.46	
15	59.31	59.96	60.55	59.49	60.33	62.80	61.51	60.51	59.82	59.65	59.35	59.42	
16	59.32	60.32	60.49	59.46	60.43	62.27	61.30	60.63	59.79	59.64	59.35	59.42	
17	59.35	60.19	60.26	59.51	60.38	61.98	61.19	60.43	59.78	59.63	59.37	59.41	
18	59.35	60.08	60.25	59.49	60.38	61.92	61.32	60.56	59.76	59.61	59.35	59.37	
19	59.35	60.00	60.12	59.49	60.87	62.06	61.10	60.34	59.74	59.59	59.34	59.33	
20	59.34	59.97	60.03	59.50	62.21	62.35	61.06	60.45	59.73	59.56	59.33	59.30	
21	59.34	60.03	59.99	59.49	63.13	62.63	61.09	60.32	59.72	59.55	59.32	59.28	
22	59.32	59.98	59.74	59.47	63.07	62.46	61.20	60.35	59.72	59.55	59.31	59.27	
23	59.31	59.90	59.90	59.50	62.40	62.24	61.16	60.34	59.74	59.54	59.21	59.25	
24	59.29	60.25	59.87	59.60	62.03	62.20	61.35	60.29	59.73	59.53	59.23	59.23	
25	59.27	60.27	59.86	59.69	61.76	62.08	61.46	60.26	59.71	59.52	59.23	59.23	
26	59.27	60.19	59.83	59.72	61.72	61.84	61.36	60.19	59.69	59.51	59.24	59.22	
27	59.89	60.39	59.81	59.74	61.89	61.58	61.32	60.20	59.66	59.50	59.38	59.21	
28	59.82	60.20	59.82	60.08	62.28	61.47	61.27	60.22	59.66	59.51	59.43	59.20	
29	59.83	60.14	59.79	60.14	62.54	61.43	61.13	60.20	59.65	59.49	59.51	59.20	
30	59.77	60.08	59.75	59.99	62.98	61.86	60.99	60.19	59.64	59.48		59.22	
31		60.05		59.88	63.02		61.07		59.62	59.48		59.19	
Mean	59.35	59.88	60.30	59.64	61.03	62.24	61.48	60.53	59.85	59.62	59.38	59.45	
Max	59.89	60.39	62.22	60.14	63.13	63.42	62.25	61.11	60.18	59.84	59.51	59.86	63.42
Min	59.17	59.46	59.74	59.46	59.84	61.43	60.99	60.19	59.62	59.48	59.21	59.19	59.17

Annual Max Momentary Gage Height 63.46 M (MSL), at 18.00 Hours, on Sep 13, 1991
Zero Gage at Bottom Elevation 59.00 M (MSL), River Bed 57.71 M (MSL)
Left Bank Elevation 69.04 M (MSL)
Right Bank Elevation 68.91 M (MSL), Drainage Area 12658 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.90	9.25	18.00	9.25	12.00	481.10	193.00	91.00	23.20	6.50	4.05	5.10	
2	0.90	10.50	15.75	9.25	12.25	411.50	241.00	75.20	22.40	6.75	4.05	7.50	
3	0.80	8.75	16.80	8.50	12.75	298.00	219.20	68.00	21.20	7.25	3.90	8.25	
4	0.70	7.25	12.50	8.00	13.75	206.40	190.20	63.30	20.80	7.25	3.75	7.75	
5	0.80	6.25	12.25	7.75	19.60	163.60	152.40	60.50	20.00	8.50	3.60	7.00	
6	1.20	7.00	11.50	6.75	15.50	177.60	148.20	59.10	18.40	10.75	3.60	12.25	
7	1.40	7.00	22.80	5.85	14.00	193.00	149.60	57.70	16.80	12.00	3.60	12.50	
8	1.60	5.55	98.00	5.55	19.20	203.20	160.80	58.40	14.50	11.25	3.60	9.50	
9	1.80	5.25	235.60	5.40	28.20	198.60	156.60	57.70	14.75	10.25	3.45	8.25	
10	1.80	5.55	194.40	5.40	27.00	201.60	162.20	55.60	14.25	9.00	3.15	7.50	
11	1.70	4.65	122.00	5.40	23.60	230.40	152.40	53.50	13.75	8.50	3.30	6.50	
12	1.80	4.65	82.00	5.10	21.60	344.80	135.20	50.00	13.50	8.00	3.15	5.55	
13	1.90	4.35	55.60	4.80	19.60	505.60	152.40	47.20	12.75	7.50	2.90	4.50	
14	1.90	3.90	49.30	4.65	22.80	436.80	165.00	45.80	12.25	7.25	2.70	3.90	
15	2.10	15.00	46.50	4.35	31.80	354.00	134.10	43.70	11.50	7.25	2.50	3.30	
16	2.20	31.20	42.30	3.90	38.10	244.60	111.00	52.10	10.75	7.00	2.50	3.30	
17	2.50	23.60	27.60	4.65	34.80	197.20	99.00	38.10	10.50	6.75	2.70	3.15	
18	2.50	19.20	27.00	4.35	34.80	188.80	113.20	47.20	10.00	6.25	2.50	2.70	
19	2.50	16.00	20.80	4.35	69.60	209.60	90.00	32.40	9.50	5.85	2.40	2.30	
20	2.40	15.25	17.20	4.50	233.80	259.00	86.00	39.50	9.25	5.40	2.30	2.00	
21	2.40	17.20	15.75	4.35	429.90	314.90	89.00	31.20	9.00	5.25	2.20	1.80	
22	2.20	15.50	9.50	4.05	416.10	280.00	100.00	33.00	9.00	5.25	2.10	1.70	
23	2.10	13.50	13.50	4.50	268.00	239.20	96.00	32.40	9.50	5.10	1.10	1.50	
24	1.90	27.00	12.75	6.00	204.80	232.00	116.50	29.40	9.25	4.95	1.30	1.30	
25	1.70	28.20	12.50	8.25	166.40	212.80	128.60	27.60	8.75	4.80	1.30	1.30	
26	1.70	23.60	11.75	9.00	160.80	177.60	117.60	23.60	8.25	4.65	1.40	1.20	
27	13.25	35.40	11.25	9.50	184.60	141.80	113.20	24.00	7.50	4.50	2.80	1.10	
28	11.50	24.00	11.50	19.20	246.40	129.70	107.70	25.20	7.50	4.65	3.45	1.00	
29	11.75	21.60	10.75	21.60	296.00	125.30	93.00	24.00	7.25	4.35	4.65	1.00	
30	10.25	19.20	9.75	15.75	395.40	180.40	79.20	23.60	7.00	4.20		1.20	
31		18.00		13.00	404.60		87.00		6.50	4.20		0.90	
Total	92.15	453.35	1246.90	232.95	3877.75	7539.10	4139.30	1370.00	389.55	211.15	84.00	136.80	19773.00 CMSDAY
Mean	3.07	14.62	41.56	7.51	125.09	251.30	133.53	45.67	12.57	6.81	2.90	4.41	54.02 CMS
Max	13.25	35.40	235.60	21.60	429.90	505.60	241.00	91.00	23.20	12.00	4.65	12.50	505.60 CMS
Min	0.70	3.90	9.50	3.90	12.00	125.30	79.20	23.60	6.50	4.20	1.10	0.90	0.70 CMS
Runoff	7.962	39.169	107.732	20.127	335.038	651.378	357.636	118.368	33.657	18.243	7.258	11.820	1708.388 MCM

Momentary Peak 516.80 CMS, at 63.46 M (MSL), at 18.00 Hours, on Sep 13, 1991

Runoff Yield 4.27 Liters/Second/Square KM, Momentary Peak Yield 40.83 Liters/Second/Square KM

WATER YEAR 1991

YOM RIVER BASIN

Nam Mae Ngao at Ngao, Lampang (Y.13A)

Location — Lat. 18-45-32 N., Long. 99-58-37 E., on right bank at the bridge on highway about 1,600 meters upstream from station Y.13, Amphoe Ngao, Lampang.

Drainage Area — 380 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +268.30 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — B.M.1 about 10 meters from the top staff gage.

B.M.2 about 23 meters from B.M.1

Elevation — B.M.1 = +275.006 m.(M.S.L.), B.M.2 = +274.976 m.(M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1988 to date.

Rating Operation

Period of Rating — 1988 to date.

Rated by Float — -

Rated by Current Meter — 1988 to date.

Stability of Channel Regimes — Stable.

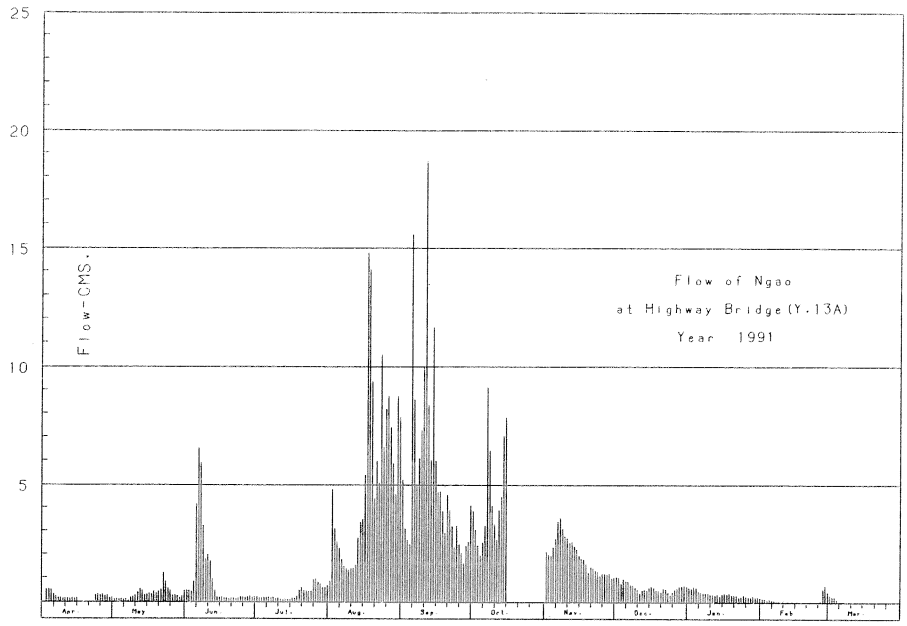
Overbank Flow Conditions — No overbank flow.

General Description — Records fair. No records on Apr.16-22, Oct.16-31,91. Stage-discharge relation defined by 32 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	169.03	268.95	269.07	268.99	269.15	269.65	269.52	269.32	269.18	269.09	268.97	269.01	
2	269.07	268.95	269.06	268.98	269.61	269.44	269.43	269.30	269.17	269.09	268.95	269.00	
3	269.08	268.95	269.06	268.97	269.44	269.38	269.35	269.30	269.13	269.10	268.93	268.99	
4	269.07	268.95	269.14	268.99	269.37	269.36	269.30	269.34	269.16	269.10	268.94	268.94	
5	269.03	268.94	269.55	268.99	269.34	270.42	269.37	269.39	269.15	269.06	268.93	268.90	
6	269.00	268.94	269.78	268.98	269.28	269.94	269.45	269.47	269.14	269.04	268.91	268.89	
7	268.98	268.92	269.72	268.98	269.24	269.63	269.98	269.49	269.12	269.04	268.91	268.87	
8	268.97	268.99	269.45	268.98	269.23	269.74	269.77	269.44	269.11	269.03	268.90	268.87	
9	268.96	268.99	269.28	268.97	269.22	269.84	269.54	269.40	269.10	269.04	268.89	268.85	
10	268.96	269.01	269.30	268.96	269.23	270.04	269.46	269.39	269.07	269.02	268.93	268.82	
11	268.97	269.05	269.27	268.94	269.23	270.61	269.38	269.37	269.04	269.02	268.90	268.82	
12	268.96	269.08	269.16	268.94	269.25	269.92	269.52	269.37	269.07	269.02	268.91	268.85	
13	268.96	269.06	269.07	268.94	269.39	269.73	269.58	269.35	269.07	269.02	268.86	268.87	
14	268.96	269.02	269.00	268.95	269.47	270.16	269.82	269.33	269.07	269.01	268.86	268.87	
15	268.96	269.02	268.99	268.95	269.48	269.73	269.88	269.30	269.09	269.03	268.86	268.90	
16	*******	269.03	268.98	268.96	269.67	269.60	*******	269.28	269.10	269.03	268.87	268.89	
17	*******	269.03	268.98	268.97	270.37	269.60	*******	269.28	269.10	269.03	268.89	268.86	
18	*******	269.05	268.96	269.00	270.32	269.52	*******	269.25	269.07	269.03	268.86	268.87	
19	*******	269.04	268.96	269.07	270.00	269.42	*******	269.21	269.06	269.02	268.84	268.86	
20	*******	269.05	268.96	269.09	269.57	269.59	*******	269.24	269.05	269.01	268.86	268.86	
21	*******	269.08	268.96	269.06	269.73	269.52	*******	269.23	269.08	269.01	268.86	268.84	
22	*******	269.21	268.96	269.06	269.64	269.45	*******	269.22	269.08	268.99	268.88	268.85	
23	269.02	269.14	268.96	269.05	270.08	269.34	*******	269.21	269.04	268.99	268.84	268.84	
24	269.02	269.09	269.00	269.06	269.78	269.45	*******	269.19	269.02	269.02	268.82	268.82	
25	269.02	269.06	268.98	269.16	269.91	269.36	*******	269.20	269.04	268.99	268.87	268.78	
26	269.02	269.01	268.99	269.16	269.95	269.31	*******	269.20	269.07	269.00	268.89	268.78	
27	269.01	269.02	269.00	269.14	269.85	269.26	*******	269.20	269.09	268.99	269.08	268.77	
28	269.01	269.00	269.00	269.12	269.72	269.35	*******	269.20	269.10	269.00	269.11	268.81	
29	268.98	268.98	268.99	269.10	269.59	269.37	*******	269.17	269.11	268.99	269.05	268.81	
30	268.97	269.00	268.99	269.09	269.95	269.54	*******	269.17	269.11	268.98		268.79	
31		269.06		269.11	269.88		*******		269.11	268.97		268.80	
Mean	*******	269.02	269.12	269.02	269.61	269.64	*******	269.29	269.09	269.02	268.91	268.86	
Max	269.08	269.21	269.78	269.16	270.37	270.61	269.98	269.49	269.18	269.10	269.11	269.01	270.61
Min	*******	268.92	268.96	268.94	269.15	269.26	*******	269.17	269.02	268.97	268.82	268.77	*******

Annual Max Momentary Gage Height 270.94 M (MSL), at 13.00 Hours, on Sep 11, 1991
Zero Gage at Bottom Elevation 268.30 M (MSL), River Bed 268.09 M (MSL)
Left Bank Elevation 274.93 M (MSL)
Right Bank Elevation 274.72 M (MSL), Drainage Area 380 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.15	0.53	0.23	0.92	5.20	3.90	2.16	1.09	0.61	0.19	0.29	
2	0.53	0.15	0.49	0.21	4.80	3.16	3.07	2.00	1.04	0.61	0.15	0.25	
3	0.57	0.15	0.49	0.19	3.16	2.64	2.40	2.00	0.81	0.65	0.11	0.23	
4	0.53	0.15	0.87	0.23	2.56	2.48	2.00	2.32	0.98	0.65	0.13	0.13	
5	0.37	0.13	4.20	0.23	2.32	15.62	2.56	2.72	0.92	0.49	0.11	0.05	
6	0.25	0.13	6.58	0.21	1.84	8.62	3.25	3.43	0.87	0.41	0.07	0.05	
7	0.21	0.09	5.92	0.21	1.52	5.00	9.14	3.61	0.76	0.41	0.07	0.04	
8	0.19	0.23	3.25	0.21	1.44	6.14	6.47	3.16	0.70	0.37	0.05	0.04	
9	0.17	0.23	1.84	0.19	1.36	7.32	4.10	2.80	0.65	0.41	0.05	0.03	
10	0.17	0.29	2.00	0.17	1.44	9.96	3.34	2.72	0.53	0.33	0.11	0.01	
11	0.19	0.45	1.76	0.13	1.44	18.69	2.64	2.56	0.41	0.33	0.05	0.01	
12	0.17	0.57	0.98	0.13	1.60	8.36	3.90	2.56	0.53	0.33	0.07	0.03	
13	0.17	0.49	0.53	0.13	2.72	6.03	4.50	2.40	0.53	0.33	0.03	0.04	
14	0.17	0.33	0.25	0.15	3.43	11.70	7.06	2.24	0.53	0.29	0.03	0.04	
15	0.17	0.33	0.23	0.15	3.52	6.03	7.84	2.00	0.61	0.37	0.03	0.05	
16	*******	0.37	0.21	0.17	5.40	4.70	*******	1.84	0.65	0.37	0.04	0.05	
17	*******	0.37	0.21	0.19	14.85	4.70	*******	1.84	0.65	0.37	0.05	0.03	
18	*******	0.45	0.17	0.25	14.10	3.90	*******	1.60	0.53	0.37	0.03	0.04	
19	*******	0.41	0.17	0.53	9.40	2.98	*******	1.28	0.49	0.33	0.02	0.03	
20	*******	0.45	0.17	0.61	4.40	4.60	*******	1.52	0.45	0.29	0.03	0.03	
21	*******	0.57	0.17	0.49	6.03	3.90	*******	1.44	0.57	0.29	0.03	0.02	
22	*******	1.28	0.17	0.49	5.10	3.25	*******	1.36	0.57	0.23	0.04	0.03	
23	0.33	0.87	0.17	0.45	10.52	2.32	*******	1.28	0.41	0.23	0.02	0.02	
24	0.33	0.61	0.25	0.49	6.58	3.25	*******	1.14	0.33	0.33	0.01	0.01	
25	0.33	0.49	0.21	0.98	8.23	2.48	*******	1.20	0.41	0.23	0.04	0.00	
26	0.33	0.29	0.23	0.98	8.75	2.08	*******	1.20	0.53	0.25	0.05	0.00	
27	0.29	0.33	0.25	0.87	7.45	1.68	*******	1.20	0.61	0.23	0.57	0.00	
28	0.29	0.25	0.25	0.76	5.92	2.40	*******	1.20	0.65	0.25	0.70	0.01	
29	0.21	0.21	0.23	0.65	4.60	2.56	*******	1.04	0.70	0.23	0.45	0.01	
30	0.19	0.25	0.23	0.61	8.75	4.10	*******	1.04	0.70	0.21		0.00	
31		0.49		0.70	7.84		*******		0.70	0.19		0.00	
Total	*******	11.56	33.01	11.99	161.99	165.85	*******	58.86	19.91	10.99	3.33	1.57	******** CMSDAY
Mean	*******	0.37	1.10	0.39	5.23	5.53	*******	1.96	0.64	0.35	0.11	0.05	******** CMS
Max	0.57	1.28	6.58	0.98	14.85	18.69	9.14	3.61	1.09	0.65	0.70	0.29	18.69 CMS
Min	*******	0.09	0.17	0.13	0.92	1.68	*******	1.04	0.33	0.19	0.01	0.00	******** CMS
Runoff	*******	0.999	2.852	1.036	13.996	14.329	*******	5.086	1.720	0.950	0.288	0.136	******** MCM

Momentary Peak 24.96 CMS, at 270.94 M (MSL), at 13.00 Hours, on Sep 11, 1991

Runoff Yield ********* Liters/Second/Square KM, Momentary Peak Yield 65.68 Liters/Second/Square KM

WATER YEAR 1991

YOM RIVER BASIN

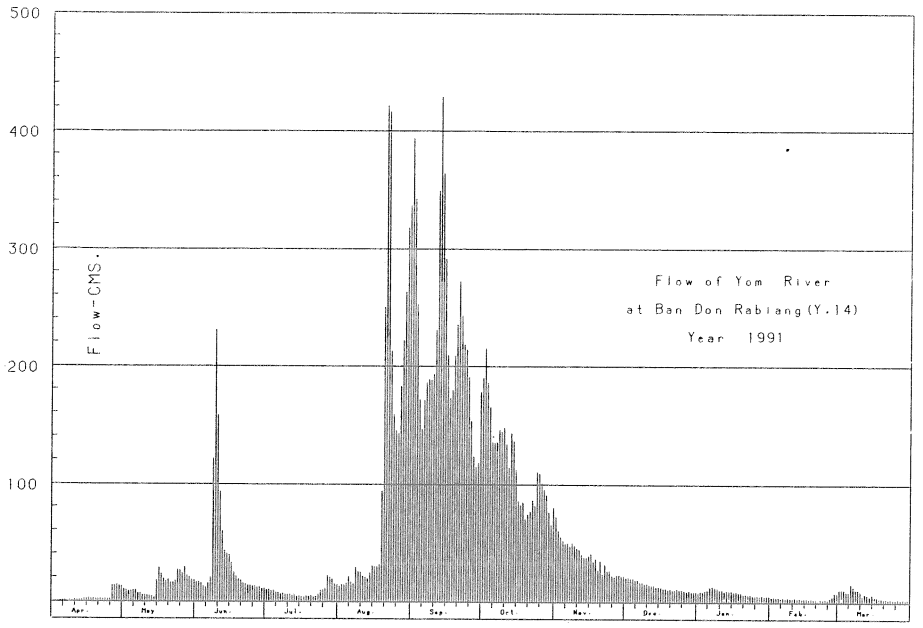
Yom River at Ban Don Rabiang, Sukhothai (Y.14)

Location	Lat. 17-35-42 N., Long. 99-43-08 E., on left bank about 50 meters from Si Satchanalai-Den Chai Highway No. 101 at guidepost 44 th., Amphoe Si Satchanalai, Sukhothai.
Drainage Area	12,131 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+65.10 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	Infront of gage observer's house.
Elevation	+78.363 m. (M.S.L.)
Gage Reading Frequency	13-time daily readings at 06.00 - 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1964 to date.
Rating Operation	
Period of Rating	1964 to date.
Rated by Float	-
Rated by Current Meter	1964 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 48 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	65.39	65.84	66.03	65.83	65.93	69.79	68.24	66.96	66.13	65.75	65.63	65.82	
2	65.39	65.80	66.02	65.82	65.95	69.43	68.45	66.78	66.12	65.76	65.62	65.85	
3	65.39	65.78	66.00	65.80	65.97	68.76	68.20	66.71	66.11	65.77	65.62	65.82	
4	65.40	65.77	65.90	65.79	65.99	68.07	68.02	66.66	66.10	65.79	65.61	65.78	
5	65.44	65.81	65.89	65.76	66.15	67.83	67.72	66.63	66.08	65.83	65.60	65.76	
6	65.44	65.79	65.98	65.73	66.02	68.07	67.71	66.63	66.06	65.91	65.60	66.00	
7	65.43	65.72	66.13	65.71	66.00	68.20	67.72	66.60	66.03	65.91	65.60	65.90	
8	65.43	65.71	67.57	65.71	66.29	68.23	67.82	66.63	66.01	65.90	65.60	65.84	
9	65.44	65.67	68.58	65.70	66.24	68.22	67.81	66.61	66.00	65.86	65.60	65.82	
10	65.44	65.65	67.95	65.70	66.22	68.26	67.84	66.56	65.98	65.83	65.59	65.79	
11	65.45	65.67	67.24	65.68	66.16	68.58	67.70	66.55	65.97	65.81	65.58	65.63	
12	65.46	65.65	66.78	65.67	66.12	69.48	67.49	66.47	65.95	65.79	65.57	65.72	
13	65.47	65.62	66.52	65.66	66.10	70.02	67.80	66.44	65.93	65.79	65.56	65.67	
14	65.49	65.60	66.49	65.64	66.21	69.59	67.73	66.43	65.91	65.79	65.56	65.65	
15	65.54	66.07	66.46	65.63	66.32	69.06	67.46	66.46	65.89	65.78	65.55	65.69	
16	65.53	66.29	66.35	65.61	66.30	68.40	67.14	66.48	65.88	65.77	65.55	65.64	
17	65.53	66.19	66.23	65.62	66.31	68.08	67.09	66.38	65.87	65.76	65.54	65.61	
18	65.52	66.10	66.14	65.63	66.33	68.15	67.13	66.41	65.85	65.75	65.54	65.58	
19	65.51	66.03	66.09	65.64	67.25	68.39	66.93	66.26	65.84	65.73	65.53	65.56	
20	65.50	66.07	66.05	65.64	68.74	68.61	66.98	66.38	65.84	65.71	65.52	65.54	
21	65.50	66.02	66.01	65.62	69.97	68.91	67.02	66.19	65.83	65.69	65.52	65.53	
22	65.50	66.02	65.97	65.62	69.94	68.68	67.15	66.34	65.83	65.69	65.52	65.52	
23	65.49	66.04	65.95	65.70	68.43	68.47	67.09	66.25	65.84	65.68	65.51	65.52	
24	65.49	66.26	65.93	65.79	67.95	68.44	67.44	66.24	65.83	65.67	65.51	65.51	
25	65.48	66.24	65.93	65.83	67.82	68.24	67.43	66.17	65.81	65.66	65.51	65.51	
26	65.92	66.20	65.91	65.86	67.79	67.90	67.33	66.13	65.79	65.65	65.56	65.51	
27	65.95	66.30	65.90	66.17	68.18	67.60	67.27	66.18	65.78	65.65	65.65	65.50	
28	65.95	66.17	65.89	66.12	68.50	67.49	67.21	66.17	65.78	65.65	65.73	65.50	
29	65.93	66.12	65.86	66.08	68.84	67.53	67.01	66.16	65.77	65.64	65.74	65.50	
30	65.90	66.08	65.85	65.99	69.26	68.13	66.85	66.15	65.75	65.64		65.49	
31		66.05		65.95	69.39		67.06		65.75	65.64		65.51	
Mean	65.54	65.95	66.32	65.76	67.18	68.49	67.48	66.43	65.91	65.75	65.58	65.65	
Max	65.95	66.30	68.58	66.17	69.97	70.02	68.45	66.96	66.13	65.91	65.74	66.00	70.02
Min	65.39	65.60	65.85	65.61	65.93	67.49	66.85	66.13	65.75	65.64	65.51	65.49	65.39

Annual Max Momentary Gage Height 70.20 M (MSL), at 18.00 Hours, on Aug 21, 1991
Zero Gage at Bottom Elevation 65.10 M (MSL), River Bed 62.92 M (MSL)
Left Bank Elevation 78.43 M (MSL)
Right Bank Elevation 75.68 M (MSL), Drainage Area 12131 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.90	11.20	17.20	10.90	13.90	394.50	190.80	73.20	21.20	8.50	4.90	10.60	
2	0.90	10.00	16.80	10.60	14.50	342.20	216.00	60.60	20.80	8.80	4.60	11.50	
3	0.90	9.40	16.00	10.00	15.10	253.20	186.00	55.70	20.40	9.10	4.60	10.60	
4	1.00	9.10	13.00	9.70	15.70	171.70	166.20	52.20	20.00	9.70	4.30	9.40	
5	1.60	10.30	12.70	8.80	22.00	147.00	136.00	50.10	19.20	10.90	4.00	8.80	
6	1.60	9.70	15.40	7.90	16.80	171.70	135.00	50.10	18.40	13.30	4.00	16.00	
7	1.45	7.60	21.20	7.30	16.00	186.00	136.00	48.00	17.20	13.30	4.00	13.00	
8	1.45	7.30	121.45	7.30	29.40	189.60	146.00	50.10	16.40	13.00	4.00	11.20	
9	1.60	6.10	231.60	7.00	26.40	188.40	145.00	48.70	16.00	11.80	4.00	10.60	
10	1.60	5.50	159.00	7.00	25.20	193.20	148.00	45.60	15.40	10.90	3.85	9.70	
11	1.75	6.10	93.40	6.40	22.40	231.60	134.00	45.00	15.10	10.30	3.70	4.90	
12	1.90	5.50	60.60	6.10	20.80	349.20	114.65	40.20	14.50	9.70	3.55	7.60	
13	2.05	4.60	43.20	5.80	20.00	429.00	144.00	38.40	13.90	9.70	3.40	6.10	
14	2.35	4.00	41.40	5.20	24.60	364.60	137.00	37.80	13.30	9.70	3.40	5.50	
15	3.10	18.80	39.60	4.90	31.20	291.80	112.10	39.60	12.70	9.40	3.25	6.70	
16	2.95	29.40	33.00	4.30	30.00	210.00	85.80	40.80	12.40	9.10	3.25	5.20	
17	2.95	23.60	25.80	4.60	30.60	172.80	82.30	34.80	12.10	8.80	3.10	4.30	
18	2.80	20.00	21.60	4.90	31.80	180.50	85.10	36.60	11.50	8.50	3.10	3.70	
19	2.65	17.20	19.60	5.20	94.25	208.80	71.10	27.60	11.20	7.90	2.95	3.40	
20	2.50	18.80	18.00	5.20	250.80	235.20	74.60	34.80	11.20	7.30	2.80	3.10	
21	2.50	16.80	16.40	4.60	421.50	272.30	77.40	23.60	10.90	6.70	2.80	2.95	
22	2.50	16.80	15.10	4.60	417.00	243.60	86.50	32.40	10.90	6.70	2.80	2.80	
23	2.35	17.60	14.50	7.00	213.60	218.40	82.30	27.00	11.20	6.40	2.65	2.80	
24	2.35	27.60	13.90	9.70	159.00	214.80	110.40	26.40	10.90	6.10	2.65	2.65	
25	2.20	26.40	13.90	10.90	146.00	190.80	109.55	22.80	10.30	5.80	2.65	2.65	
26	13.60	24.00	13.30	11.80	143.00	154.00	101.05	21.20	9.70	5.50	3.40	2.65	
27	14.50	30.00	13.00	22.80	183.80	124.00	95.95	23.20	9.40	5.50	5.50	2.50	
28	14.50	22.80	12.70	20.80	222.00	114.65	90.85	22.80	9.40	5.50	7.90	2.50	
29	13.90	20.80	11.80	19.20	263.20	118.05	76.70	22.40	9.10	5.20	8.20	2.50	
30	13.00	19.20	11.50	15.70	318.40	178.30	65.50	22.00	8.50	5.20		2.35	
31		18.00		14.50	336.60		80.20		8.50	5.20		2.65	
Total	119.40	474.20	1156.65	280.70	3575.55	6739.90	3622.05	1153.70	421.70	263.50	113.30	190.90	18111.55 CMSDAY
Mean	3.98	15.30	38.56	9.05	115.34	224.66	116.84	38.46	13.60	8.50	3.91	6.16	49.49 CMS
Max	14.50	30.00	231.60	22.80	421.50	429.00	216.00	73.20	21.20	13.30	8.20	16.00	429.00 CMS
Min	0.90	4.00	11.50	4.30	13.90	114.65	65.50	21.20	8.50	5.20	2.65	2.35	0.90 CMS
Runoff	10.316	40.971	99.935	24.252	308.928	582.327	312.945	99.680	36.435	22.766	9.789	16.494	1564.838 MCM

Momentary Peak 456.00 CMS, at 70.20 M (MSL), at 18.00 Hours, on Aug 21, 1991

Runoff Yield 4.08 Liters/Second/Square KM, Momentary Peak Yield 37.59 Liters/Second/Square KM

WATER YEAR 1991

YOM RIVER BASIN

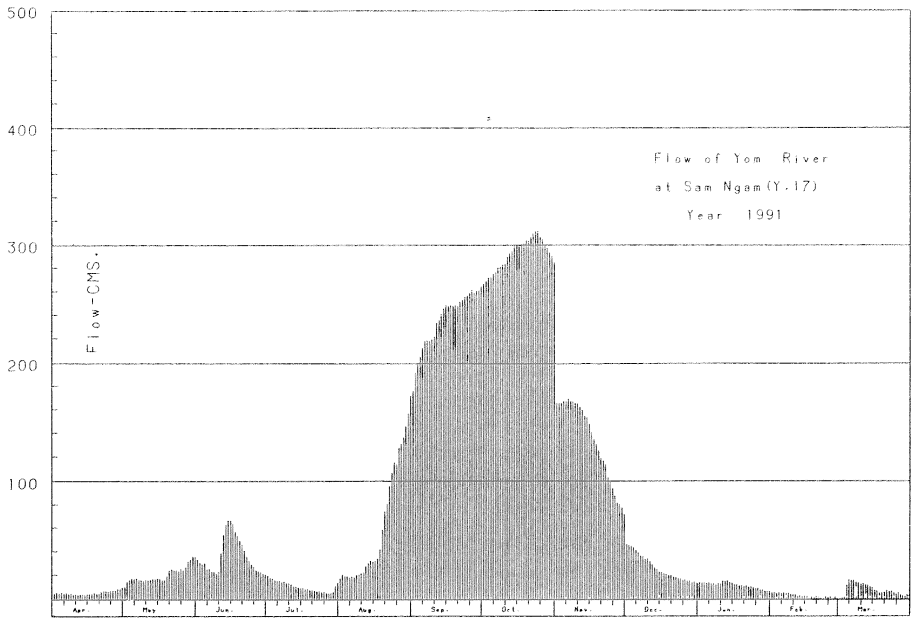
Yom River at Sam Ngam, Phichit (Y.17)

Location	°Lat. 16-30-50 N., Long. 100-12-40 E., on left bank at the bridge on highway, infront of Amphoe Sam Ngam Office, Amphoe Sam Ngam, Phichit.
Drainage Area	21,415 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+31.49 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 50 meters from Amphoe Sam Ngam Office.
Elevation	+37.838 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1967 to date.
Rating Operation	
Period of Rating	1967, 1990 to date.
Rated by Float	-
Rated by Current Meter	1967-1980, 1990 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 8 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	31.54	31.86	32.64	32.24	32.18	34.98	35.97	34.86	32.97	32.01	31.62	31.20	
2	31.55	32.03	32.59	32.20	32.28	35.17	36.00	34.85	32.93	32.03	31.59	31.20	
3	31.56	32.12	32.54	32.15	32.26	35.25	36.02	34.86	32.93	32.01	31.58	31.19	
4	31.58	32.15	32.58	32.11	32.22	35.33	36.03	34.87	32.89	32.01	31.57	31.93	
5	31.57	32.15	32.45	32.09	32.21	35.41	36.05	34.88	32.85	32.01	31.57	32.11	
6	31.54	32.15	32.44	32.07	32.21	35.48	36.07	34.90	32.79	32.00	31.57	32.11	
7	31.52	32.12	32.40	32.05	32.21	35.48	36.10	34.88	32.74	31.98	31.56	32.09	
8	31.50	32.09	32.36	32.04	32.26	35.48	36.11	34.87	32.71	31.97	31.55	32.05	
9	31.45	32.09	32.33	32.01	32.30	35.49	36.12	34.86	32.67	31.97	31.51	32.00	
10	31.43	32.10	32.37	31.98	32.32	35.52	36.13	34.85	32.67	32.00	31.47	31.98	
11	31.45	32.11	32.78	31.94	32.38	35.64	36.18	34.82	32.62	32.06	31.39	31.97	
12	31.46	32.12	33.14	31.89	32.50	35.67	36.20	34.78	32.54	32.08	31.33	31.95	
13	31.43	32.13	33.32	31.85	32.58	35.72	36.22	34.72	32.49	32.07	31.31	31.90	
14	31.42	32.14	33.38	31.84	32.62	35.77	36.25	34.70	32.44	32.04	31.29	31.87	
15	31.44	32.14	33.39	31.81	32.61	35.79	36.26	34.64	32.40	32.00	31.28	31.80	
16	31.46	32.13	33.32	31.78	32.61	35.79	36.26	34.54	32.36	31.98	31.27	31.72	
17	31.52	32.11	33.20	31.76	32.68	35.79	36.27	34.47	32.34	31.93	31.26	31.66	
18	31.54	32.09	33.11	31.74	32.85	35.79	36.27	34.41	32.30	31.91	31.27	31.60	
19	31.54	32.25	33.03	31.72	33.23	35.79	36.30	34.34	32.28	31.89	31.27	31.56	
20	31.52	32.41	32.94	31.69	33.51	35.79	36.29	34.24	32.25	31.89	31.27	31.63	
21	31.61	32.45	32.83	31.67	33.63	35.82	36.32	34.22	32.22	31.88	31.26	31.69	
22	31.66	32.43	32.72	31.67	33.87	35.84	36.34	34.16	32.18	31.86	31.25	31.67	
23	31.65	32.41	32.61	31.65	34.06	35.86	36.36	34.00	32.18	31.84	31.24	31.65	
24	31.65	32.41	32.55	31.63	34.19	35.88	36.36	33.93	32.14	31.83	31.24	31.61	
25	31.66	32.44	32.49	31.62	34.17	35.90	36.32	33.85	32.12	31.80	31.23	31.53	
26	31.67	32.41	32.43	31.60	34.37	35.92	36.30	33.73	32.10	31.77	31.22	31.57	
27	31.70	32.50	32.40	31.57	34.41	35.90	36.27	33.64	32.09	31.74	31.23	31.44	
28	31.74	32.62	32.36	31.54	34.49	35.91	36.24	33.61	32.07	31.71	31.22	31.31	
29	31.77	32.64	32.33	31.64	34.61	35.92	36.21	33.57	32.04	31.68	31.21	31.31	
30	31.80	32.72	32.28	31.86	34.75	35.95	36.18	33.47	32.03	31.65		31.41	
31		32.70		32.00	34.93		36.14		32.02	31.65		31.96	
Mean	31.56	32.27	32.71	31.85	33.15	35.67	36.20	34.42	32.43	31.91	31.37	31.70	
Max	31.80	32.72	33.39	32.24	34.93	35.95	36.36	34.90	32.97	32.08	31.62	32.11	36.36
Min	31.42	31.86	32.28	31.54	32.18	34.98	35.97	33.47	32.02	31.65	31.21	31.19	31.19

Annual Max Momentary Gage Height 36.37 M (MSL), at 6.00 Hours, on Oct 23, 1991
Zero Gage at Bottom Elevation 31.49 M (MSL), River Bed 30.69 M (MSL)
Left Bank Elevation 38.90 M (MSL)
Right Bank Elevation 38.35 M (MSL), Drainage Area 21415 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	5.40	11.20	33.60	20.00	18.50	176.40	267.00	166.80	47.65	14.25	6.40	2.00	
2	5.50	14.75	31.60	19.00	21.00	192.45	270.00	166.00	45.85	14.75	5.90	2.00	
3	5.60	17.00	29.60	17.75	20.50	199.25	272.20	166.80	45.85	14.25	5.80	1.90	
4	5.80	17.75	31.20	16.75	19.50	206.05	273.30	167.60	44.05	14.25	5.70	12.60	
5	5.70	17.75	26.00	16.25	19.25	212.90	275.50	168.40	42.25	14.25	5.70	16.75	
6	5.40	17.75	25.60	15.75	19.25	219.20	277.70	170.00	39.60	14.00	5.70	16.75	
7	5.20	17.00	24.00	15.25	19.25	219.20	281.00	168.40	37.60	13.60	5.60	16.25	
8	5.00	16.25	23.00	15.00	20.50	219.20	282.20	167.60	36.40	13.40	5.50	15.25	
9	4.50	16.25	22.25	14.25	21.50	220.10	283.40	166.80	34.80	13.40	5.10	14.00	
10	4.30	16.50	23.25	13.60	22.00	222.80	284.60	166.00	34.80	14.00	4.70	13.60	
11	4.50	16.75	39.20	12.80	23.50	234.00	290.60	163.60	32.80	15.50	3.90	13.40	
12	4.60	17.00	55.30	11.80	28.00	237.00	293.00	160.40	29.60	16.00	3.30	13.00	
13	4.30	17.25	64.00	11.00	31.20	242.00	295.40	155.60	27.60	15.75	3.10	12.00	
14	4.20	17.50	67.00	10.80	32.80	247.00	299.00	154.00	25.60	15.00	2.90	11.40	
15	4.40	17.50	67.50	10.20	32.40	249.00	300.20	149.20	24.00	14.00	2.80	10.00	
16	4.60	17.25	64.00	9.60	32.40	249.00	300.20	141.50	23.00	13.60	2.70	8.40	
17	5.20	16.75	58.00	9.20	35.20	249.00	301.40	136.25	22.50	12.60	2.60	7.20	
18	5.40	16.25	53.95	8.80	42.25	249.00	301.40	131.75	21.50	12.20	2.70	6.00	
19	5.40	20.25	50.35	8.40	59.50	249.00	305.00	126.80	21.00	11.80	2.70	5.60	
20	5.20	24.40	46.30	7.80	74.60	249.00	303.80	119.80	20.25	11.80	2.70	6.60	
21	6.20	26.00	41.35	7.40	81.80	252.00	307.40	118.40	19.50	11.60	2.60	7.80	
22	7.20	25.20	36.80	7.40	96.20	254.00	309.80	114.40	18.50	11.20	2.50	7.40	
23	7.00	24.40	32.40	7.00	107.90	256.00	312.20	104.00	18.50	10.80	2.40	7.00	
24	7.00	24.40	30.00	6.60	116.35	258.00	312.20	99.80	17.50	10.60	2.40	6.20	
25	7.20	25.60	27.60	6.40	115.05	260.00	307.40	95.00	17.00	10.00	2.30	5.30	
26	7.40	24.40	25.20	6.00	128.90	262.00	305.00	87.80	16.50	9.40	2.20	5.70	
27	8.00	28.00	24.00	5.70	131.75	260.00	301.40	82.40	16.25	8.80	2.30	4.40	
28	8.80	32.80	23.00	5.40	137.75	261.00	297.80	80.60	15.75	8.20	2.20	3.10	
29	9.40	33.60	22.25	6.80	146.80	262.00	294.20	78.20	15.00	7.60	2.10	3.10	
30	10.00	36.80	21.00	11.20	158.00	265.00	290.60	72.20	14.75	7.00		4.10	
31		36.00		14.00	172.40		285.80		14.50	7.00		13.20	
Total	178.40	660.30	1119.30	347.90	1986.00	7131.55	9080.70	4046.10	840.45	380.60	106.50	272.00	26149.80 CMSDAY
Mean	5.95	21.30	37.31	11.22	64.06	237.72	292.93	134.87	27.11	12.28	3.67	8.77	71.45 CMS
Max	10.00	36.80	67.50	20.00	172.40	265.00	312.20	170.00	47.65	16.00	6.40	16.75	312.20 CMS
Min	4.20	11.20	21.00	5.40	18.50	176.40	267.00	72.20	14.50	7.00	2.10	1.90	1.90 CMS
Runoff	15.414	57.050	96.708	30.059	171.590	616.166	784.572	349.583	72.615	32.884	9.202	23.501	2259.343 MCM

Momentary Peak 313.40 CMS, at 36.37 M (MSL), at 6.00 Hours, on Oct 23, 1991

Runoff Yield 3.34 Liters/Second/Square KM, Momentary Peak Yield 14.63 Liters/Second/Square KM

WATER YEAR 1991

YOM RIVER BASIN

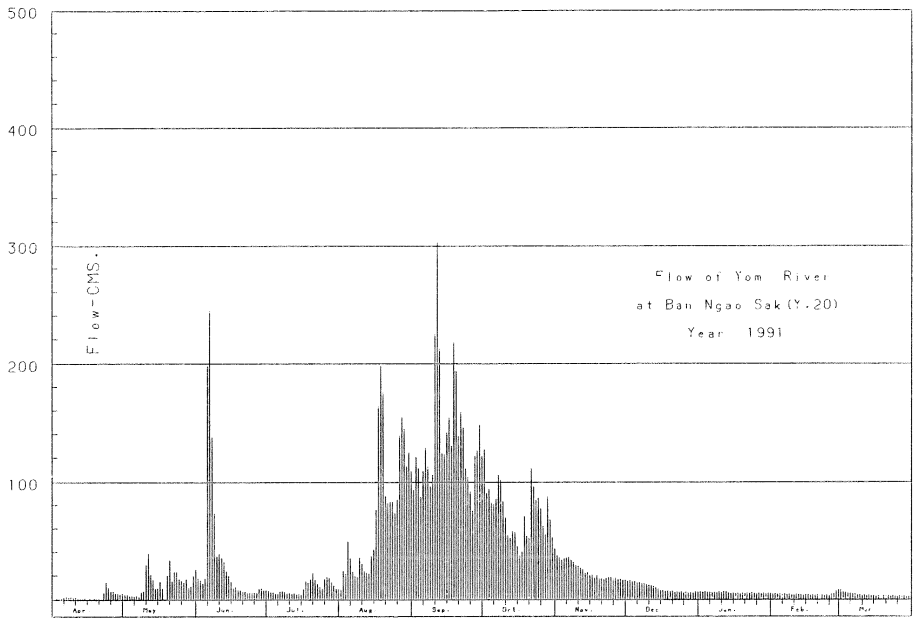
Yom River at Ban Ngao Sak, Phrae (Y.20)

Location	Lat. 18-35-03 N., Long. 100-09-17 E., on left bank about 1 kilometer downstream from Sop Ngao, Tambon Tao Poon, Amphoe Song, Phrae.
Drainage Area	5,410 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+180.976 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	Near the automatic gage building.
Elevation	+193.552 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1971 to date.
Rating Operation	
Period of Rating	1972 to date.
Rated by Float	-
Rated by Current Meter	1972 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 122 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	181.31	181.54	182.00	181.68	181.76	183.38	183.83	182.47	181.96	181.65	181.57	181.72	
2	181.31	181.51	181.96	181.65	182.16	183.75	183.34	182.42	181.96	181.65	181.57	181.66	
3	181.35	181.49	181.91	181.62	182.10	183.63	183.40	182.39	181.95	181.65	181.56	181.62	
4	181.39	181.47	182.00	181.59	182.67	183.30	183.22	182.40	181.94	181.66	181.55	181.61	
5	181.41	181.46	184.63	181.58	182.42	183.60	183.19	182.43	181.93	181.63	181.55	181.57	
6	181.43	181.46	185.09	181.65	182.16	183.84	183.27	182.43	181.92	181.62	181.56	181.57	
7	181.43	181.45	183.96	181.69	182.05	183.64	183.56	182.39	181.91	181.62	181.55	181.55	
8	181.42	181.65	183.06	181.63	182.05	183.43	183.50	182.34	181.90	181.63	181.54	181.53	
9	181.41	181.66	182.45	181.60	182.42	183.55	183.24	182.30	181.89	181.65	181.53	181.51	
10	181.39	182.29	182.48	181.59	182.31	184.89	183.01	182.27	181.86	181.65	181.53	181.50	
11	181.37	182.50	182.43	181.57	182.17	185.58	182.76	182.24	181.87	181.65	181.54	181.50	
12	181.36	182.10	182.34	181.57	182.12	184.77	182.71	182.20	181.84	181.68	181.55	181.50	
13	181.34	181.97	182.17	181.55	182.12	183.79	182.81	182.13	181.83	181.59	181.51	181.50	
14	181.33	181.80	182.06	181.54	182.44	183.77	182.80	182.13	181.76	181.59	181.51	181.49	
15	181.32	181.78	181.94	181.54	182.56	184.01	182.59	182.08	181.72	181.59	181.52	181.48	
16	181.32	181.95	181.81	181.78	183.12	184.16	182.45	182.08	181.70	181.59	181.52	181.48	
17	181.32	181.78	181.82	181.96	184.28	183.87	182.52	182.03	181.69	181.59	181.51	181.47	
18	181.32	171.76	181.74	181.91	184.63	184.83	183.03	182.07	181.68	181.58	181.51	181.48	
19	181.31	182.07	181.70	182.00	184.40	184.59	182.74	182.01	181.68	181.59	181.51	181.48	
20	181.31	182.39	181.67	182.12	183.31	183.96	182.72	182.00	181.67	181.59	181.52	181.49	
21	181.31	181.94	181.64	181.97	183.20	184.22	183.62	181.99	181.64	181.59	181.51	181.48	
22	181.62	182.16	181.61	181.90	183.23	184.06	183.43	182.01	181.64	181.60	181.51	181.47	
23	181.92	182.14	181.60	181.82	183.22	183.63	183.25	182.04	181.65	181.61	181.51	181.48	
24	181.81	182.00	181.61	181.80	183.07	183.53	183.29	182.03	181.65	181.60	181.50	181.47	
25	181.69	181.95	181.60	181.99	183.25	183.36	183.14	182.02	181.63	181.59	181.50	181.46	
26	181.66	181.91	181.63	182.03	183.97	183.11	182.88	182.01	181.62	181.58	181.54	181.46	
27	181.60	182.00	181.79	182.03	184.17	183.76	182.77	182.00	181.61	181.59	181.59	181.46	
28	181.56	181.82	181.77	181.94	184.04	183.81	183.30	181.99	181.60	181.59	181.67	181.46	
29	181.56	181.83	181.73	181.85	183.65	184.09	182.98	181.98	181.62	181.58	181.76	181.44	
30	181.56	182.07	181.70	181.79	183.79	183.75	182.72	181.97	181.64	181.58		181.44	
31		182.21		181.75	183.59		182.56		181.66	181.58		181.43	
Mean	181.45	181.55	182.20	181.76	182.98	183.92	183.05	182.16	181.76	181.61	181.54	181.51	
Max	181.92	182.50	185.09	182.12	184.63	185.58	183.83	182.47	181.96	181.68	181.76	181.72	185.58
Min	181.31	171.76	181.60	181.54	181.76	183.11	182.45	181.97	181.60	181.58	181.50	181.43	171.76

Annual Max Momentary Gage Height 186.60 M (MSL), at 15.00 Hours, on Jun 5, 1991
Zero Gage at Bottom Elevation 180.98 M (MSL), River Bed 179.69 M (MSL)
Left Bank Elevation 193.51 M (MSL)
Right Bank Elevation 193.23 M (MSL), Drainage Area 5410 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.10	4.80	18.00	7.60	9.20	93.60	128.40	38.50	16.40	7.00	5.40	8.40	
2	1.10	4.20	16.40	7.00	24.40	122.00	90.80	36.00	16.40	7.00	5.40	7.20	
3	1.50	3.80	14.40	6.40	22.00	112.40	95.00	34.50	16.00	7.00	5.20	6.40	
4	1.90	3.40	18.00	5.80	50.20	88.00	83.20	35.00	15.60	7.20	5.00	6.20	
5	2.20	3.20	199.00	5.60	36.00	110.00	81.40	36.50	15.20	6.60	5.00	5.40	
6	2.60	3.20	245.00	7.00	24.40	129.20	86.20	36.50	14.80	6.40	5.20	5.40	
7	2.60	3.00	138.80	7.80	20.00	113.20	106.80	34.50	14.40	6.40	5.00	5.00	
8	2.40	7.00	73.60	6.60	20.00	97.10	102.00	32.00	14.00	6.60	4.80	4.60	
9	2.20	7.20	37.50	6.00	36.00	106.00	84.40	30.00	13.60	7.00	4.60	4.20	
10	1.90	29.60	39.00	5.80	30.50	225.00	70.60	28.80	12.40	7.00	4.60	4.00	
11	1.70	40.00	36.50	5.40	24.80	303.60	55.60	27.60	12.80	7.00	4.80	4.00	
12	1.60	22.00	32.00	5.40	22.80	213.00	52.60	26.00	11.60	7.60	5.00	4.00	
13	1.40	16.80	24.80	5.00	22.80	125.20	58.60	23.20	11.20	5.80	4.20	4.00	
14	1.30	10.00	20.40	4.80	37.00	123.60	58.00	23.20	9.20	5.80	4.20	3.80	
15	1.20	9.60	15.60	4.80	43.60	142.80	45.40	21.20	8.40	5.80	4.40	3.60	
16	1.20	16.00	10.40	9.60	77.20	154.80	37.50	21.20	8.00	5.80	4.40	3.60	
17	1.20	9.60	10.80	16.40	164.40	131.60	41.20	19.20	7.80	5.80	4.20	3.40	
18	1.20	0.00	8.80	14.40	199.00	219.00	71.80	20.80	7.60	5.60	4.20	3.60	
19	1.10	20.80	8.00	18.00	176.00	195.00	54.40	18.40	7.60	5.80	4.20	3.60	
20	1.10	34.50	7.40	22.80	88.70	138.80	53.20	18.00	7.40	5.80	4.40	3.80	
21	1.10	15.60	6.80	16.80	82.00	159.60	111.60	17.60	6.80	5.80	4.20	3.60	
22	6.40	24.40	6.20	14.00	83.80	146.80	97.10	18.40	6.80	6.00	4.20	3.40	
23	14.80	23.60	6.00	10.80	83.20	112.40	85.00	19.60	7.00	6.20	4.20	3.60	
24	10.40	18.00	6.20	10.00	74.20	104.40	87.40	19.20	7.00	6.00	4.00	3.40	
25	7.80	16.00	6.00	17.60	85.00	92.20	78.40	18.80	6.60	5.80	4.00	3.20	
26	7.20	14.40	6.60	19.20	139.60	76.60	62.80	18.40	6.40	5.60	4.80	3.20	
27	6.00	18.00	9.80	19.20	155.60	122.80	56.20	18.00	6.20	5.80	5.80	3.20	
28	5.20	10.80	9.40	15.60	145.20	126.80	88.00	17.60	6.00	5.80	7.40	3.20	
29	5.20	11.20	8.60	12.00	114.00	149.20	68.80	17.20	6.40	5.60	9.20	2.80	
30	5.20	20.80	8.00	9.80	125.20	122.00	53.20	16.80	6.80	5.60		2.80	
31		26.40		9.00	109.20		43.60		7.20	5.60		2.60	
Total	101.80	447.90	1048.00	326.20	2326.00	4156.70	2289.20	742.70	313.60	192.80	142.00	129.20	12216.10 CMSDAY
Mean	3.39	14.45	34.93	10.52	75.03	138.56	73.85	24.76	10.12	6.22	4.90	4.17	33.38 CMS
Max	14.80	40.00	245.00	22.80	199.00	303.60	128.40	38.50	16.40	7.60	9.20	8.40	303.60 CMS
Min	1.10	0.00	6.00	4.80	9.20	76.60	37.50	16.80	6.00	5.60	4.00	2.60	0.00 CMS
Runoff	8.796	38.699	90.547	28.184	200.966	359.139	197.787	64.169	27.095	16.658	12.269	11.163	1055.471 MCM

Momentary Peak 440.00 CMS, at 186.60 M (MSL), at 15.00 Hours, on Jun 5, 1991

Runoff Yield 6.17 Liters/Second/Square KM, Momentary Peak Yield 81.33 Liters/Second/Square KM

WATER YEAR 1991

YOM RIVER BASIN

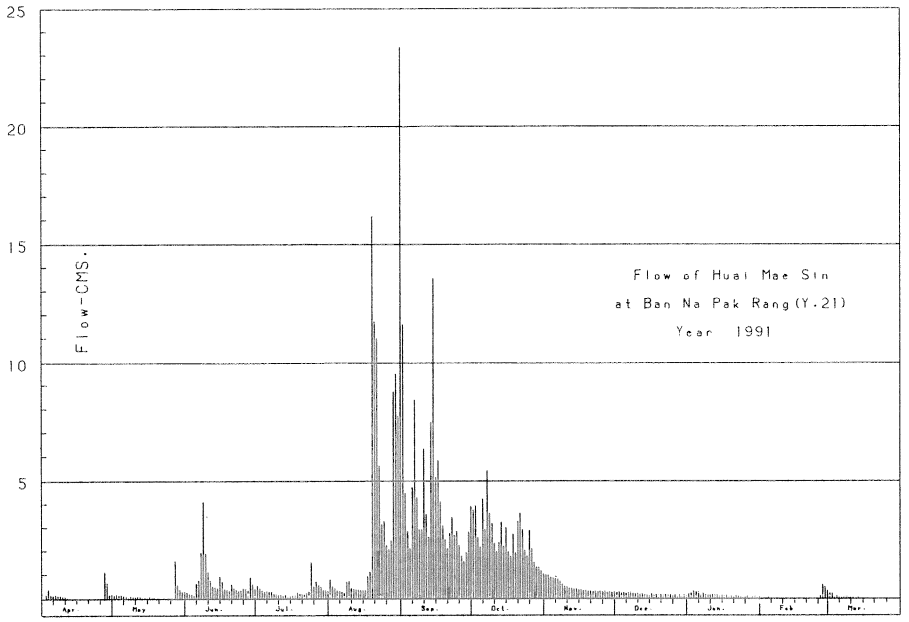
Huai Mae Sin at Ban Na Pak Rang, Phrae (Y.21)

Location	Lat. 17-47-29 N., Long. 99-47-25 E., on left bank at the bridge on road near Wat Amorn Tham, Tambon Na Phun, Amphoe Wang Chin, Phrae.
Drainage Area	306 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank near the top staff gage.
Elevation	+5.063 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1972 to date.
Rating Operation	
Period of Rating	1991 to date.
Rated by Float	-
Rated by Current Meter	1991 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 104 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.07	0.29	0.32	0.41	0.46	1.57	0.87	0.50	0.33	0.30	0.24	0.32	
2	0.28	0.29	0.31	0.39	0.41	0.95	0.89	0.49	0.33	0.32	0.24	0.31	
3	0.37	0.28	0.29	0.35	0.38	0.77	0.74	0.48	0.32	0.34	0.23	0.28	
4	0.29	0.28	0.27	0.34	0.36	0.68	0.69	0.47	0.32	0.34	0.23	0.27	
5	0.28	0.27	0.43	0.34	0.34	0.97	0.92	0.47	0.32	0.33	0.22	0.25	
6	0.28	0.26	0.45	0.34	0.33	1.32	0.78	0.46	0.32	0.31	0.22	0.24	
7	0.27	0.25	0.65	0.33	0.32	0.93	1.05	0.45	0.31	0.31	0.22	0.24	
8	0.26	0.25	0.91	0.31	0.44	0.78	0.86	0.42	0.31	0.30	0.21	0.24	
9	0.25	0.25	0.65	0.30	0.45	0.78	0.81	0.41	0.31	0.29	0.21	0.23	
10	0.24	0.25	0.52	0.29	0.39	1.14	0.71	0.40	0.31	0.29	0.21	0.23	
11	0.23	0.24	0.45	0.28	0.37	0.85	0.66	0.39	0.30	0.29	0.21	0.22	
12	0.22	0.24	0.41	0.27	0.37	0.74	0.71	0.38	0.30	0.29	0.21	0.22	
13	0.21	0.24	0.39	0.27	0.36	1.24	0.82	0.38	0.30	0.28	0.21	0.22	
14	0.20	0.24	0.39	0.26	0.36	1.71	0.69	0.37	0.30	0.28	0.21	0.21	
15	0.19	0.24	0.48	0.26	0.35	1.02	0.79	0.37	0.30	0.27	0.21	0.21	
16	0.18	0.24	0.44	0.26	0.36	1.09	0.66	0.36	0.30	0.27	0.21	0.21	
17	0.17	0.23	0.38	0.28	0.48	0.91	0.63	0.36	0.29	0.27	0.21	0.21	
18	0.15	0.22	0.36	0.32	0.52	0.80	0.76	0.35	0.29	0.26	0.21	0.20	
19	0.14	0.22	0.35	0.31	1.87	0.73	0.65	0.35	0.29	0.26	0.20	0.20	
20	0.13	0.22	0.42	0.30	1.58	0.68	0.82	0.34	0.29	0.26	0.20	0.20	
21	0.12	0.22	0.39	0.30	1.53	0.76	0.86	0.34	0.29	0.26	0.20	0.20	
22	0.11	0.21	0.36	0.31	1.07	0.84	0.78	0.34	0.29	0.26	0.20	0.19	
23	0.09	0.21	0.35	0.34	0.81	0.75	0.67	0.34	0.29	0.25	0.20	0.19	
24	0.09	0.21	0.35	0.59	0.82	0.77	0.63	0.34	0.29	0.25	0.19	0.19	
25	0.10	0.20	0.39	0.41	0.70	0.70	0.78	0.34	0.28	0.25	0.19	0.19	
26	0.11	0.20	0.37	0.44	0.67	0.63	0.68	0.34	0.28	0.25	0.27	0.19	
27	0.52	0.60	0.36	0.42	0.72	0.60	0.59	0.33	0.28	0.25	0.42	0.18	
28	0.43	0.42	0.48	0.40	1.35	0.65	0.56	0.33	0.28	0.25	0.40	0.18	
29	0.30	0.36	0.42	0.36	1.41	0.77	0.55	0.33	0.28	0.25	0.35	0.18	
30	0.29	0.34	0.38	0.35	1.26	0.89	0.53	0.33	0.28	0.24		0.18	
31		0.33		0.34	2.26		0.50		0.28	0.24		0.17	
Mean	0.22	0.27	0.42	0.34	0.75	0.90	0.73	0.39	0.30	0.28	0.23	0.22	
Max	0.52	0.60	0.91	0.59	2.26	1.71	1.05	0.50	0.33	0.34	0.42	0.32	2.26
Min	0.07	0.20	0.27	0.26	0.32	0.60	0.50	0.33	0.28	0.24	0.19	0.17	0.07

Annual Max Momentary Gage Height 2.50 M (A.D), at 10.00 Hours, on Aug 31, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.07 M (A.D)
Left Bank Elevation 1.85 M (A.D)
Right Bank Elevation 6.45 M (A.D), Drainage Area 306 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.18	0.26	0.55	0.83	11.60	3.77	1.05	0.29	0.20	0.09	0.26	
2	0.16	0.18	0.23	0.47	0.55	4.52	3.95	1.00	0.29	0.26	0.09	0.23	
3	0.41	0.16	0.18	0.35	0.44	2.86	2.62	0.94	0.26	0.32	0.07	0.16	
4	0.18	0.16	0.15	0.32	0.38	2.16	2.23	0.88	0.26	0.32	0.07	0.15	
5	0.16	0.15	0.67	0.32	0.32	4.72	4.24	0.88	0.26	0.29	0.06	0.11	
6	0.16	0.13	0.77	0.32	0.29	8.44	2.94	0.83	0.26	0.23	0.06	0.09	
7	0.15	0.11	1.95	0.29	0.26	4.33	5.47	0.77	0.23	0.23	0.06	0.09	
8	0.13	0.11	4.15	0.23	0.72	2.94	3.67	0.61	0.23	0.20	0.04	0.09	
9	0.11	0.11	1.95	0.20	0.77	2.94	3.19	0.55	0.23	0.18	0.04	0.07	
10	0.09	0.11	1.16	0.18	0.47	6.40	2.38	0.50	0.23	0.18	0.04	0.07	
11	0.07	0.09	0.77	0.16	0.41	3.58	2.02	0.47	0.20	0.18	0.04	0.06	
12	0.06	0.09	0.55	0.15	0.41	2.62	2.38	0.44	0.20	0.18	0.04	0.06	
13	0.04	0.09	0.47	0.15	0.38	7.53	3.29	0.44	0.20	0.16	0.04	0.06	
14	0.02	0.09	0.47	0.13	0.38	13.60	2.23	0.41	0.20	0.16	0.04	0.04	
15	0.02	0.09	0.94	0.13	0.35	5.19	3.02	0.41	0.20	0.15	0.04	0.04	
16	0.01	0.09	0.72	0.13	0.38	5.86	2.02	0.38	0.20	0.15	0.04	0.04	
17	0.01	0.07	0.44	0.16	0.94	4.15	1.81	0.38	0.18	0.15	0.04	0.04	
18	0.00	0.06	0.38	0.26	1.16	3.10	2.78	0.35	0.18	0.13	0.04	0.02	
19	0.00	0.06	0.35	0.23	16.15	2.54	1.95	0.35	0.18	0.13	0.02	0.02	
20	0.00	0.06	0.61	0.20	11.73	2.16	3.29	0.32	0.18	0.13	0.02	0.02	
21	0.00	0.06	0.47	0.20	11.05	2.78	3.67	0.32	0.18	0.13	0.02	0.02	
22	0.00	0.04	0.38	0.23	5.67	3.48	2.94	0.32	0.18	0.13	0.02	0.02	
23	0.00	0.04	0.35	0.32	3.19	2.70	2.09	0.32	0.18	0.11	0.02	0.02	
24	0.00	0.04	0.35	1.54	3.29	2.86	1.81	0.32	0.18	0.11	0.02	0.02	
25	0.00	0.02	0.47	0.55	2.30	2.30	2.94	0.32	0.16	0.11	0.02	0.02	
26	0.00	0.02	0.41	0.72	2.09	1.81	2.16	0.32	0.16	0.11	0.15	0.02	
27	1.16	1.60	0.38	0.61	2.46	1.60	1.54	0.29	0.16	0.11	0.61	0.01	
28	0.67	0.61	0.94	0.50	8.80	1.95	1.38	0.29	0.16	0.11	0.50	0.01	
29	0.20	0.38	0.61	0.38	9.52	2.86	1.33	0.29	0.16	0.11	0.35	0.01	
30	0.18	0.32	0.44	0.35	7.75	3.95	1.21	0.29	0.16	0.09		0.01	
31		0.29		0.32	23.39		1.05		0.16	0.09		0.01	
Total	3.99	5.61	21.97	10.65	116.83	127.53	81.37	15.04	6.30	5.14	2.69	1.89	399.01 CMSDAY
Mean	0.13	0.18	0.73	0.34	3.77	4.25	2.62	0.50	0.20	0.17	0.09	0.06	1.09 CMS
Max	1.16	1.60	4.15	1.54	23.39	13.60	5.47	1.05	0.29	0.32	0.61	0.26	23.39 CMS
Min	0.00	0.02	0.15	0.13	0.26	1.60	1.05	0.29	0.16	0.09	0.02	0.01	0.00 CMS
Runoff	0.345	0.485	1.898	0.920	10.094	11.019	7.030	1.299	0.544	0.444	0.232	0.163	34.474 MCM

Momentary Peak 28.35 CMS, at 2.50 M (A.D), at 10.00 Hours, on Aug 31, 1991

Runoff Yield 3.56 Liters/Second/Square KM, Momentary Peak Yield 92.65 Liters/Second/Square KM

WATER YEAR 1991

YOM RIVER BASIN

Nam Mae Mok at Ban Mae Phu, Lampang (Y.26)

Location — Lat. 17-19-45 N., Long. 99-27-42 E., on left bank downstream from Ban Mae Phu, Tambon Wiang Mok, Amphoe Thoen, Lampang.

Drainage Area — 785 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m. (A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank along the gage line.

Elevation — +8.00 m. (A.D.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1979 to date.

Rating Operation

Period of Rating — 1979 to date.

Rated by Float

Rated by Current Meter — 1979 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 81 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

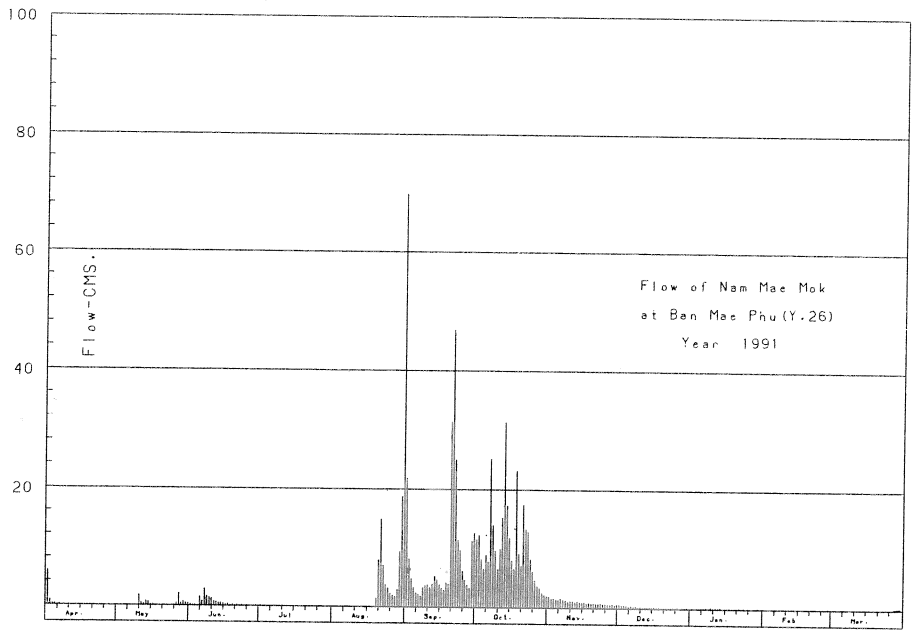
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.30	0.45	0.70	0.66	0.59	2.01	1.58	0.94	0.78	0.66	0.61	0.59	
2	0.82	0.44	0.70	0.64	0.58	1.42	1.62	0.91	0.77	0.66	0.60	0.59	
3	0.73	0.43	0.68	0.64	0.58	1.22	1.41	0.90	0.75	0.67	0.59	0.60	
4	0.69	0.42	0.67	0.63	0.58	1.09	1.33	0.90	0.74	0.67	0.60	0.59	
5	0.67	0.41	0.91	0.63	0.57	1.01	1.46	0.89	0.73	0.67	0.60	0.58	
6	0.66	0.41	0.81	0.63	0.56	0.97	1.39	0.90	0.72	0.67	0.60	0.58	
7	0.65	0.40	1.06	0.63	0.54	0.95	2.13	0.89	0.72	0.67	0.61	0.58	
8	0.65	0.40	0.91	0.63	0.52	1.09	1.70	0.86	0.72	0.70	0.61	0.57	
9	0.64	0.40	0.90	0.61	0.51	1.13	1.49	0.85	0.71	0.70	0.60	0.56	
10	0.62	0.94	0.87	0.61	0.49	1.13	1.33	0.85	0.71	0.68	0.59	0.54	
11	0.62	0.77	0.82	0.60	0.49	1.10	1.51	0.85	0.69	0.68	0.53	0.54	
12	0.61	0.71	0.79	0.59	0.48	1.14	1.75	0.84	0.70	0.69	0.53	0.53	
13	0.62	0.82	0.78	0.57	0.48	1.25	2.34	0.85	0.69	0.69	0.53	0.52	
14	0.61	0.78	0.76	0.56	0.47	1.20	1.84	0.84	0.69	0.68	0.55	0.50	
15	0.60	0.70	0.74	0.55	0.47	1.14	1.60	0.84	0.69	0.67	0.55	0.49	
16	0.60	0.67	0.72	0.53	0.46	1.08	1.40	0.83	0.68	0.66	0.51	0.48	
17	0.59	0.66	0.71	0.61	0.46	1.06	1.33	0.82	0.68	0.66	0.46	0.47	
18	0.58	0.65	0.70	0.62	0.52	1.16	2.06	0.82	0.68	0.65	0.44	0.41	
19	0.56	0.65	0.70	0.60	0.90	1.14	1.47	0.82	0.67	0.65	0.42	0.39	
20	0.55	0.65	0.69	0.60	1.40	2.34	1.35	0.81	0.68	0.65	0.44	0.38	
21	0.53	0.70	0.69	0.60	1.74	2.77	1.84	0.80	0.67	0.65	0.46	0.38	
22	0.51	0.66	0.68	0.59	1.36	2.13	1.67	0.81	0.67	0.64	0.45	0.31	
23	0.49	0.65	0.68	0.59	1.13	1.58	1.64	0.81	0.68	0.65	0.45	0.31	
24	0.46	0.64	0.68	0.61	1.09	1.49	1.42	0.81	0.68	0.66	0.45	0.32	
25	0.45	0.64	0.68	0.62	0.99	1.31	1.30	0.79	0.67	0.64	0.44	0.33	
26	0.43	0.75	0.68	0.60	0.95	1.20	1.20	0.80	0.67	0.64	0.51	0.33	
27	0.42	0.98	0.67	0.64	0.94	1.13	1.13	0.79	0.66	0.65	0.67	0.32	
28	0.42	0.74	0.67	0.60	1.07	1.10	1.09	0.79	0.66	0.65	0.65	0.27	
29	0.41	0.80	0.68	0.60	1.48	1.57	1.02	0.78	0.66	0.64	0.61	0.21	
30	0.46	0.77	0.67	0.60	1.89	1.63	0.97	0.78	0.66	0.65		0.22	
31		0.74		0.60	3.33		0.96		0.66	0.63		0.24	
Mean	0.60	0.64	0.75	0.61	0.89	1.35	1.49	0.84	0.69	0.66	0.54	0.44	
Max	1.30	0.98	1.06	0.66	3.33	2.77	2.34	0.94	0.78	0.70	0.67	0.60	3.33
Min	0.41	0.40	0.67	0.53	0.46	0.95	0.96	0.78	0.66	0.63	0.42	0.21	0.21

Annual Max Momentary Gage Height — 3.85 M (A.D), at 21.00 Hours, on Sep 21, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 0.15 M (A.D)

Left Bank Elevation — 7.35 M (A.D)

Right Bank Elevation — 7.82 M (A.D), Drainage Area — 785 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	6.00	0.00	0.20	0.12	0.00	21.77	11.42	1.79	0.52	0.12	0.02	0.00	
2	0.77	0.00	0.20	0.08	0.00	8.22	12.28	1.54	0.48	0.12	0.00	0.00	
3	0.32	0.00	0.16	0.08	0.00	4.80	8.03	1.45	0.40	0.14	0.00	0.00	
4	0.18	0.00	0.14	0.06	0.00	3.20	6.56	1.45	0.36	0.14	0.00	0.00	
5	0.14	0.00	1.54	0.06	0.00	2.40	8.96	1.36	0.32	0.14	0.00	0.00	
6	0.12	0.00	0.68	0.06	0.00	2.05	7.67	1.45	0.28	0.14	0.00	0.00	
7	0.10	0.00	2.90	0.06	0.00	1.87	25.10	1.36	0.28	0.14	0.02	0.00	
8	0.10	0.00	1.54	0.06	0.00	3.20	14.00	1.11	0.28	0.20	0.02	0.00	
9	0.08	0.00	1.45	0.02	0.00	3.66	9.52	1.03	0.24	0.20	0.00	0.00	
10	0.04	1.79	1.20	0.02	0.00	3.66	6.56	1.03	0.24	0.16	0.00	0.00	
11	0.04	0.48	0.77	0.00	0.00	3.30	9.92	1.03	0.18	0.16	0.00	0.00	
12	0.02	0.24	0.56	0.00	0.00	3.78	15.15	0.94	0.20	0.18	0.00	0.00	
13	0.04	0.77	0.52	0.00	0.00	5.25	31.44	1.03	0.18	0.18	0.00	0.00	
14	0.02	0.52	0.44	0.00	0.00	4.50	17.34	0.94	0.18	0.16	0.00	0.00	
15	0.00	0.20	0.36	0.00	0.00	3.78	11.85	0.94	0.18	0.14	0.00	0.00	
16	0.00	0.14	0.28	0.00	0.00	3.10	7.85	0.85	0.16	0.12	0.00	0.00	
17	0.00	0.12	0.24	0.02	0.00	2.90	6.56	0.77	0.16	0.12	0.00	0.00	
18	0.00	0.10	0.20	0.04	0.00	4.02	23.12	0.77	0.16	0.10	0.00	0.00	
19	0.00	0.10	0.20	0.00	1.45	3.78	9.15	0.77	0.14	0.10	0.00	0.00	
20	0.00	0.10	0.18	0.00	7.85	31.44	6.93	0.68	0.16	0.10	0.00	0.00	
21	0.00	0.20	0.18	0.00	14.92	46.83	17.34	0.60	0.14	0.10	0.00	0.00	
22	0.00	0.12	0.16	0.00	7.11	25.10	13.35	0.68	0.14	0.08	0.00	0.00	
23	0.00	0.10	0.16	0.00	3.66	11.42	12.71	0.68	0.16	0.10	0.00	0.00	
24	0.00	0.08	0.16	0.02	3.20	9.52	8.22	0.68	0.16	0.12	0.00	0.00	
25	0.00	0.08	0.16	0.04	2.22	6.19	6.00	0.56	0.14	0.08	0.00	0.00	
26	0.00	0.40	0.16	0.00	1.87	4.50	4.50	0.60	0.14	0.08	0.00	0.00	
27	0.00	2.13	0.14	0.08	1.79	3.66	3.66	0.56	0.12	0.10	0.14	0.00	
28	0.00	0.36	0.14	0.00	3.00	3.30	3.20	0.56	0.12	0.10	0.10	0.00	
29	0.00	0.60	0.16	0.00	9.33	11.21	2.50	0.52	0.12	0.08	0.02	0.00	
30	0.00	0.48	0.14	0.00	18.64	12.49	2.05	0.52	0.12	0.10		0.00	
31		0.36		0.00	69.93		1.96		0.12	0.06		0.00	
Total	7.97	9.47	15.32	0.82	144.97	254.90	324.90	28.25	6.58	3.86	0.32	0.00	797.36 CMSDAY
Mean	0.27	0.31	0.51	0.03	4.68	8.50	10.48	0.94	0.21	0.12	0.01	0.00	2.18 CMS
Max	6.00	2.13	2.90	0.12	69.93	46.83	31.44	1.79	0.52	0.20	0.14	0.00	69.93 CMS
Min	0.00	0.00	0.14	0.00	0.00	1.87	1.96	0.52	0.12	0.06	0.00	0.00	0.00 CMS
Runoff	0.689	0.818	1.324	0.071	12.525	22.023	28.071	2.441	0.569	0.334	0.028	0.000	68.892 MCM

Momentary Peak 94.42 CMS, at 3.85 M (A.D), at 21.00 Hours, on Sep 21, 1991
Runoff Yield 2.78 Liters/Second/Square KM, Momentary Peak Yield 120.29 Liters/Second/Square KM

WATER YEAR 1991

YOM RIVER BASIN

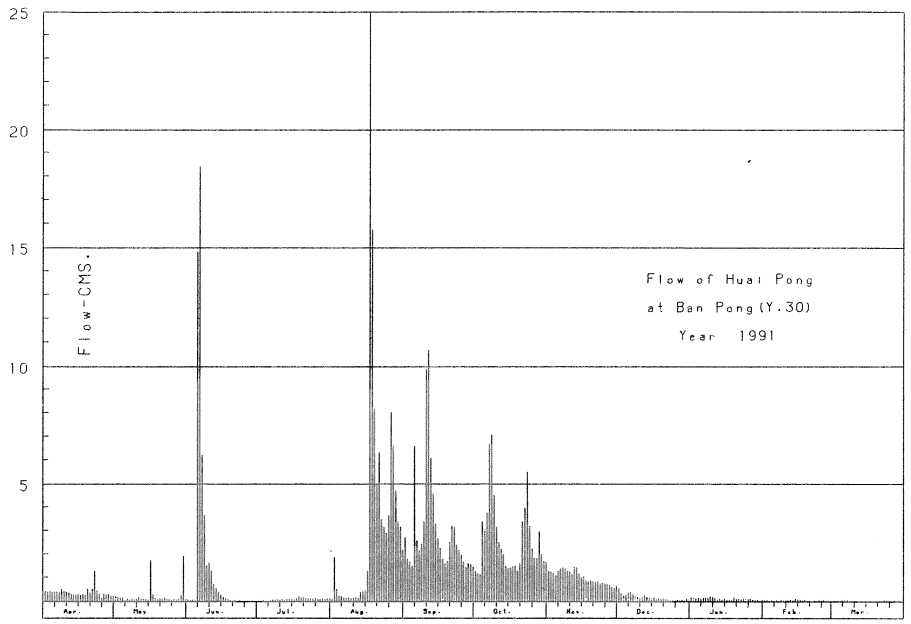
Huai Pong at Ban Pong, Lampang (Y.30)

Location	Lat. 18-42-59 N., Long. 99-57-40 E., on right bank at the bridge on highway, Tambon Mae Pong, Amphoe Ngao, Lampang.
Drainage Area	96 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 25 meters from the top staff gage.
Elevation	+6.62 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1983 to date.
Rating Operation	
Period of Rating	1983 to date.
Rated by Float	-
Rated by Current Meter	1983 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 31 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.71	0.64	0.55	0.51	0.58	1.01	0.84	0.84	0.73	0.62	0.56	0.52	
2	0.70	0.62	0.55	0.51	0.92	0.91	0.82	0.83	0.68	0.62	0.55	0.53	
3	0.71	0.62	0.54	0.53	0.72	0.89	0.82	0.82	0.65	0.60	0.56	0.53	
4	0.70	0.61	0.54	0.53	0.65	0.87	1.08	0.81	0.65	0.62	0.55	0.55	
5	0.71	0.58	1.97	0.53	0.63	1.37	1.04	0.84	0.70	0.59	0.55	0.56	
6	0.70	0.58	2.19	0.55	0.62	1.00	1.12	0.85	0.70	0.62	0.55	0.56	
7	0.70	0.57	1.34	0.55	0.60	0.95	1.38	0.86	0.68	0.61	0.54	0.55	
8	0.72	0.58	1.11	0.56	0.62	0.98	1.41	0.85	0.64	0.62	0.54	0.53	
9	0.71	0.58	0.87	0.57	0.58	1.08	1.19	0.84	0.63	0.63	0.55	0.53	
10	0.70	0.59	0.89	0.57	0.61	1.63	1.06	0.83	0.60	0.63	0.55	0.53	
11	0.70	0.61	0.84	0.57	0.61	1.69	0.99	0.82	0.63	0.62	0.56	0.52	
12	0.67	0.59	0.75	0.55	0.61	1.33	0.96	0.86	0.65	0.57	0.55	0.52	
13	0.65	0.57	0.73	0.57	0.70	1.20	0.93	0.86	0.63	0.58	0.56	0.52	
14	0.66	0.57	0.70	0.58	0.71	1.07	0.87	0.82	0.62	0.57	0.58	0.52	
15	0.67	0.58	0.65	0.56	0.71	1.01	0.85	0.80	0.61	0.59	0.58	0.52	
16	0.66	0.90	0.63	0.57	0.84	0.96	0.86	0.80	0.61	0.57	0.55	0.52	
17	0.66	0.67	0.60	0.59	2.55	0.91	0.86	0.78	0.60	0.56	0.55	0.52	
18	0.66	0.60	0.58	0.63	2.03	0.88	0.87	0.77	0.60	0.57	0.56	0.52	
19	0.72	0.59	0.53	0.62	1.50	0.90	0.84	0.78	0.60	0.61	0.55	0.51	
20	0.70	0.60	0.53	0.61	1.23	0.99	0.88	0.77	0.59	0.60	0.55	0.52	
21	0.72	0.60	0.53	0.60	1.35	1.06	1.08	0.77	0.59	0.58	0.53	0.52	
22	0.84	0.62	0.53	0.60	1.09	1.06	1.14	0.77	0.56	0.58	0.53	0.53	
23	0.71	0.56	0.53	0.59	1.06	0.98	1.28	0.76	0.55	0.60	0.52	0.53	
24	0.68	0.56	0.52	0.59	1.03	0.95	1.06	0.76	0.55	0.60	0.58	0.53	
25	0.61	0.57	0.51	0.60	1.11	0.93	0.96	0.76	0.54	0.59	0.56	0.53	
26	0.67	0.57	0.51	0.59	1.49	0.89	0.91	0.75	0.54	0.58	0.56	0.52	
27	0.67	0.57	0.51	0.59	1.37	0.86	0.91	0.75	0.55	0.56	0.55	0.53	
28	0.66	0.57	0.51	0.59	1.21	0.88	1.04	0.73	0.55	0.57	0.53	0.52	
29	0.65	0.66	0.51	0.58	1.08	0.88	0.93	0.73	0.55	0.55	0.53	0.53	
30	0.64	0.92	0.50	0.58	1.06	0.86	0.90	0.74	0.59	0.55		0.53	
31		0.57		0.58	0.95		0.89		0.60	0.55		0.53	
Mean	0.69	0.61	0.74	0.57	0.99	1.03	0.99	0.80	0.61	0.59	0.55	0.53	
Max	0.84	0.92	2.19	0.63	2.55	1.69	1.41	0.86	0.73	0.63	0.58	0.56	2.55
Min	0.61	0.56	0.50	0.51	0.58	0.86	0.82	0.73	0.54	0.55	0.52	0.51	0.50

Annual Max Momentary Gage Height 2.85 M (A.D), at 6.00 Hours, on Aug 17, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.00 M (A.D)
Left Bank Elevation 9.22 M (A.D)
Right Bank Elevation 9.25 M (A.D), Drainage Area 96 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.46	0.24	0.08	0.03	0.12	2.72	1.33	1.33	0.60	0.19	0.09	0.04	
2	0.40	0.19	0.08	0.03	1.92	1.84	1.19	1.26	0.35	0.19	0.08	0.06	
3	0.46	0.19	0.07	0.06	0.53	1.68	1.19	1.19	0.27	0.14	0.09	0.06	
4	0.40	0.17	0.07	0.06	0.27	1.54	3.40	1.12	0.27	0.19	0.08	0.08	
5	0.46	0.12	14.85	0.06	0.22	6.62	3.01	1.33	0.40	0.13	0.08	0.09	
6	0.40	0.12	18.44	0.08	0.19	2.62	3.80	1.40	0.40	0.19	0.08	0.09	
7	0.40	0.10	6.26	0.08	0.14	2.19	6.74	1.47	0.35	0.17	0.07	0.08	
8	0.53	0.12	3.70	0.09	0.19	2.45	7.10	1.40	0.24	0.19	0.07	0.06	
9	0.46	0.12	1.54	0.10	0.12	3.40	4.52	1.33	0.22	0.22	0.08	0.06	
10	0.40	0.13	1.68	0.10	0.17	9.90	3.21	1.26	0.14	0.22	0.08	0.06	
11	0.40	0.17	1.33	0.10	0.17	10.69	2.53	1.19	0.22	0.19	0.09	0.04	
12	0.32	0.13	0.73	0.08	0.17	6.14	2.27	1.47	0.27	0.10	0.08	0.04	
13	0.27	0.10	0.60	0.10	0.40	4.62	2.01	1.47	0.22	0.12	0.09	0.04	
14	0.30	0.10	0.40	0.12	0.46	3.31	1.54	1.19	0.19	0.10	0.12	0.04	
15	0.32	0.12	0.27	0.09	0.46	2.72	1.40	1.05	0.17	0.13	0.12	0.04	
16	0.30	1.75	0.22	0.10	1.33	2.27	1.47	1.05	0.17	0.10	0.08	0.04	
17	0.30	0.32	0.14	0.13	24.97	1.84	1.47	0.92	0.14	0.09	0.08	0.04	
18	0.30	0.14	0.12	0.22	15.80	1.61	1.54	0.85	0.14	0.10	0.09	0.04	
19	0.53	0.13	0.06	0.19	8.20	1.75	1.33	0.92	0.14	0.17	0.08	0.03	
20	0.40	0.14	0.06	0.17	4.97	2.53	1.61	0.85	0.13	0.14	0.08	0.04	
21	0.53	0.14	0.06	0.14	6.38	3.21	3.40	0.85	0.13	0.12	0.06	0.04	
22	1.33	0.19	0.06	0.14	3.50	3.21	4.01	0.85	0.09	0.12	0.06	0.06	
23	0.46	0.09	0.06	0.13	3.21	2.45	5.55	0.79	0.08	0.14	0.04	0.06	
24	0.35	0.09	0.04	0.13	2.91	2.19	3.21	0.79	0.08	0.14	0.12	0.06	
25	0.17	0.10	0.03	0.14	3.70	2.01	2.27	0.79	0.07	0.13	0.09	0.06	
26	0.32	0.10	0.03	0.13	8.08	1.68	1.84	0.73	0.07	0.12	0.09	0.04	
27	0.32	0.10	0.03	0.13	6.62	1.47	1.84	0.73	0.08	0.09	0.08	0.06	
28	0.30	0.10	0.03	0.13	4.74	1.61	3.01	0.60	0.08	0.10	0.06	0.04	
29	0.27	0.30	0.03	0.12	3.40	1.61	2.01	0.60	0.08	0.08	0.06	0.06	
30	0.24	1.92	0.02	0.12	3.21	1.47	1.75	0.66	0.13	0.08		0.06	
31		0.10		0.12	2.19		1.68		0.14	0.08		0.06	
Total	12.10	7.83	51.09	3.42	108.74	93.35	83.23	31.44	6.06	4.27	2.37	1.67	405.57 CMSDAY
Mean	0.40	0.25	1.70	0.11	3.51	3.11	2.68	1.05	0.20	0.14	0.08	0.05	1.11 CMS
Max	1.33	1.92	18.44	0.22	24.97	10.69	7.10	1.47	0.60	0.22	0.12	0.09	24.97 CMS
Min	0.17	0.09	0.02	0.03	0.12	1.47	1.19	0.60	0.07	0.08	0.04	0.03	0.02 CMS
Runoff	1.045	0.677	4.414	0.295	9.395	8.065	7.191	2.716	0.524	0.369	0.205	0.144	35.041 MCM

Momentary Peak 30.90 CMS, at 2.85 M (A.D), at 6.00 Hours, on Aug 17, 1991
Runoff Yield 11.54 Liters/Second/Square KM, Momentary Peak Yield 321.87 Liters/Second/Square KM

WATER YEAR 1991

YOM RIVER BASIN

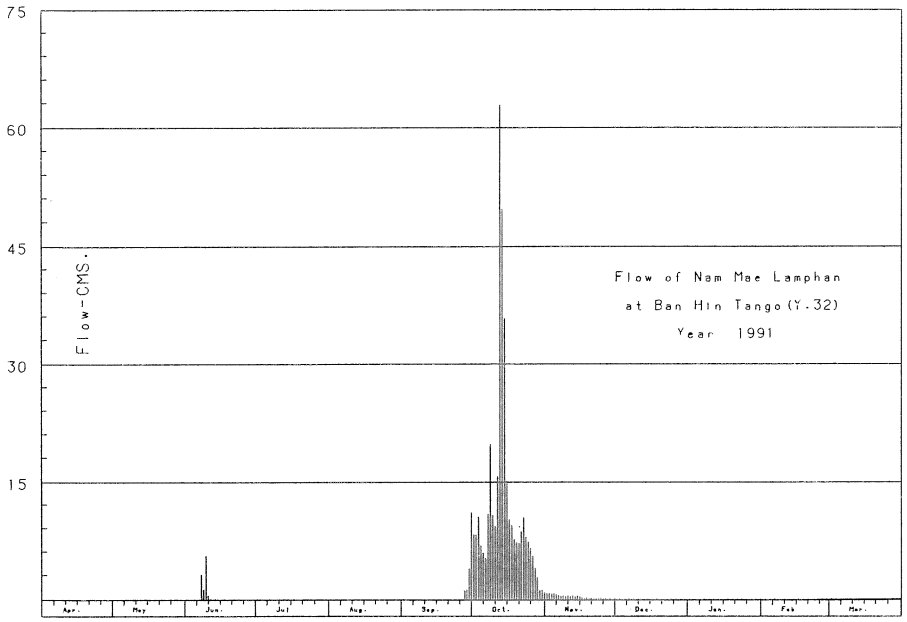
Nam Mae Ramphan at Ban Hin Tango, Sukhothai (Y.32)

Location	Lat. 17-01-57 N., Long. 99-33-39 E., on left bank about 4,600 meters from Wat Luang Pho Pi, Tambon Ban Dan, Amphoe Ban Dan Lan Hoi, Sukhothai.
Drainage Area	749 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank about 2.75 meters from the top staff gage.
Elevation	+5.790 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1986 to date.
Rating Operation	
Period of Rating	1990 to date.
Rated by Float	-
Rated by Current Meter	1990 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	Overbank flow starts at elevation +5.32 m.(A.D.), records are channel flow only.
General Description	Records good. Stage-discharge relation defined by 7 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.63	0.47	0.41	0.62	0.40	0.65	2.18	1.09	0.73	0.67	0.70	0.73	
2	0.63	0.47	0.40	0.62	0.40	0.65	2.17	1.08	0.73	0.67	0.70	0.73	
3	0.61	0.47	0.40	0.62	0.38	0.65	2.39	1.08	0.73	0.67	0.70	0.71	
4	0.61	0.46	0.40	0.61	0.36	0.64	2.03	1.07	0.72	0.70	0.69	0.71	
5	0.61	0.46	0.40	0.61	0.36	0.63	1.93	1.06	0.72	0.70	0.69	0.69	
6	0.61	0.45	0.40	0.55	0.36	0.62	1.86	1.00	0.72	0.69	0.69	0.69	
7	0.61	0.45	1.59	0.54	0.35	0.62	2.42	0.98	0.72	0.69	0.69	0.69	
8	0.61	0.45	1.21	0.54	0.35	0.61	3.10	0.98	0.72	0.69	0.69	0.69	
9	0.59	0.44	1.90	0.54	0.35	0.61	2.40	0.98	0.71	0.68	0.69	0.68	
10	0.59	0.44	1.00	0.53	0.35	0.60	2.28	0.97	0.71	0.68	0.69	0.68	
11	0.59	0.44	0.73	0.53	0.35	0.60	2.81	0.97	0.71	0.68	0.69	0.68	
12	0.59	0.44	0.73	0.51	0.35	0.60	5.23	0.97	0.70	0.67	0.69	0.67	
13	0.59	0.44	0.73	0.50	0.35	0.60	4.69	0.96	0.70	0.67	0.69	0.67	
14	0.59	0.43	0.73	0.50	0.35	0.64	4.04	0.96	0.70	0.67	0.69	0.67	
15	0.59	0.43	0.68	0.50	0.35	0.64	2.76	0.96	0.70	0.67	0.69	0.65	
16	0.58	0.43	0.68	0.45	0.35	0.64	2.35	0.80	0.69	0.67	0.69	0.65	
17	0.58	0.43	0.67	0.45	0.35	0.64	2.29	0.80	0.69	0.70	0.68	0.65	
18	0.58	0.41	0.65	0.45	0.48	0.64	2.12	0.80	0.69	0.70	0.68	0.65	
19	0.57	0.41	0.63	0.45	0.54	0.64	2.07	0.79	0.70	0.70	0.68	0.65	
20	0.57	0.41	0.63	0.45	0.54	0.64	2.07	0.78	0.70	0.70	0.68	0.65	
21	0.57	0.41	0.65	0.44	0.53	0.64	2.21	0.78	0.70	0.70	0.68	0.65	
22	0.57	0.40	0.65	0.44	0.52	0.64	2.38	0.78	0.70	0.70	0.68	0.65	
23	0.55	0.40	0.66	0.40	0.51	0.64	2.14	0.78	0.70	0.70	0.68	0.65	
24	0.55	0.40	0.66	0.40	0.50	0.65	2.09	0.78	0.70	0.70	0.68	0.65	
25	0.51	0.40	0.66	0.40	0.49	0.65	2.00	0.78	0.69	0.70	0.68	0.65	
26	0.51	0.40	0.65	0.40	0.49	0.65	1.88	0.73	0.69	0.70	0.70	0.64	
27	0.50	0.40	0.65	0.40	0.53	1.20	1.70	0.73	0.68	0.70	0.70	0.64	
28	0.50	0.41	0.65	0.40	0.65	1.20	1.52	0.73	0.68	0.70	0.73	0.64	
29	0.48	0.41	0.64	0.40	0.69	1.69	1.20	0.73	0.68	0.70	0.73	0.64	
30	0.48	0.41	0.64	0.40	0.68	2.43	1.19	0.73	0.67	0.70		0.64	
31		0.41		0.40	0.65		1.10		0.67	0.70		0.64	
Mean	0.57	0.43	0.72	0.49	0.45	0.77	2.34	0.89	0.70	0.69	0.69	0.67	
Max	0.63	0.47	1.90	0.62	0.69	2.43	5.23	1.09	0.73	0.70	0.73	0.73	5.23
Min	0.48	0.40	0.40	0.40	0.35	0.60	1.10	0.73	0.67	0.67	0.68	0.64	0.35

Annual Max Momentary Gage Height 5.60 M (A.D), at 18.00 Hours, on Oct 12, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 3.32 M (A.D)
Left Bank Elevation 5.89 M (A.D)
Right Bank Elevation 5.31 M (A.D), Drainage Area 749 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.03	0.00	0.00	0.02	0.00	0.05	8.30	0.82	0.13	0.07	0.10	0.13	
2	0.03	0.00	0.00	0.02	0.00	0.05	8.20	0.78	0.13	0.07	0.10	0.13	
3	0.01	0.00	0.00	0.02	0.00	0.05	10.59	0.78	0.13	0.07	0.10	0.11	
4	0.01	0.00	0.00	0.01	0.00	0.04	6.80	0.75	0.12	0.10	0.09	0.11	
5	0.01	0.00	0.00	0.01	0.00	0.03	5.90	0.71	0.12	0.10	0.09	0.09	
6	0.01	0.00	0.00	0.00	0.00	0.02	5.31	0.50	0.12	0.09	0.09	0.09	
7	0.01	0.00	3.24	0.00	0.00	0.02	10.93	0.47	0.12	0.09	0.09	0.09	
8	0.01	0.00	1.24	0.00	0.00	0.01	19.75	0.47	0.12	0.09	0.09	0.09	
9	0.00	0.00	5.65	0.00	0.00	0.01	10.70	0.47	0.11	0.08	0.09	0.08	
10	0.00	0.00	0.50	0.00	0.00	0.00	9.38	0.46	0.11	0.08	0.09	0.08	
11	0.00	0.00	0.13	0.00	0.00	0.00	15.74	0.46	0.11	0.08	0.09	0.08	
12	0.00	0.00	0.13	0.00	0.00	0.00	62.97	0.46	0.10	0.07	0.09	0.07	
13	0.00	0.00	0.13	0.00	0.00	0.00	49.66	0.44	0.10	0.07	0.09	0.07	
14	0.00	0.00	0.13	0.00	0.00	0.04	35.90	0.44	0.10	0.07	0.09	0.07	
15	0.00	0.00	0.08	0.00	0.00	0.04	15.08	0.44	0.10	0.07	0.09	0.05	
16	0.00	0.00	0.08	0.00	0.00	0.04	10.15	0.20	0.09	0.07	0.09	0.05	
17	0.00	0.00	0.07	0.00	0.00	0.04	9.49	0.20	0.09	0.10	0.08	0.05	
18	0.00	0.00	0.05	0.00	0.00	0.04	7.70	0.20	0.09	0.10	0.08	0.05	
19	0.00	0.00	0.03	0.00	0.00	0.04	7.20	0.19	0.10	0.10	0.08	0.05	
20	0.00	0.00	0.03	0.00	0.00	0.04	7.20	0.18	0.10	0.10	0.08	0.05	
21	0.00	0.00	0.05	0.00	0.00	0.04	8.61	0.18	0.10	0.10	0.08	0.05	
22	0.00	0.00	0.05	0.00	0.00	0.04	10.48	0.18	0.10	0.10	0.08	0.05	
23	0.00	0.00	0.06	0.00	0.00	0.04	7.90	0.18	0.10	0.10	0.08	0.05	
24	0.00	0.00	0.06	0.00	0.00	0.05	7.40	0.18	0.10	0.10	0.08	0.05	
25	0.00	0.00	0.06	0.00	0.00	0.05	6.50	0.18	0.09	0.10	0.08	0.05	
26	0.00	0.00	0.05	0.00	0.00	0.05	5.48	0.13	0.09	0.10	0.10	0.04	
27	0.00	0.00	0.05	0.00	0.00	1.20	4.05	0.13	0.08	0.10	0.10	0.04	
28	0.00	0.00	0.05	0.00	0.05	1.20	2.78	0.13	0.08	0.10	0.13	0.04	
29	0.00	0.00	0.04	0.00	0.09	3.98	1.20	0.13	0.08	0.10	0.13	0.04	
30	0.00	0.00	0.04	0.00	0.08	11.05	1.17	0.13	0.07	0.10		0.04	
31		0.00		0.00	0.05		0.85		0.07	0.10		0.04	
Total	0.12	0.00	12.00	0.08	0.27	18.26	373.37	10.97	3.15	2.77	2.65	2.08	425.72 CMSDAY
Mean	0.00	0.00	0.40	0.00	0.01	0.61	12.04	0.37	0.10	0.09	0.09	0.07	1.16 CMS
Max	0.03	0.00	5.65	0.02	0.09	11.05	62.97	0.82	0.13	0.10	0.13	0.13	62.97 CMS
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.85	0.13	0.07	0.07	0.08	0.04	0.00 CMS
Runoff	0.010	0.000	1.037	0.007	0.023	1.578	32.259	0.948	0.272	0.239	0.229	0.180	36.782 MCM

Momentary Peak 72.60 CMS, at 5.60 M (A.D), at 18.00 Hours, on Oct 12, 1991
Runoff Yield 1.55 Liters/Second/Square KM, Momentary Peak Yield 96.93 Liters/Second/Square KM

WATER YEAR 1991

YOM RIVER BASIN

Khlong Tan at Ban Khlong Tan (1), Sukhothai (Y.33)

Location — Lat. 17-10-05 N., Long. 99-51-52 E., on left bank at the bridge on road, Tambon Khlong Tan, Amphoe Si Samrong, Sukhothai.

Drainage Area — Flood plain.

Type of Gage — Staff gage.

Zero Gage at Bottom — +45.820 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — On left bank about 20.30 meters from the top staff gage.

Elevation — +55.420 m. (M.S.L.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1990 to date.

Rating Operation

Period of Rating — 1990 to date.

Rated by Float — -

Rated by Current Meter — 1990 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 38 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

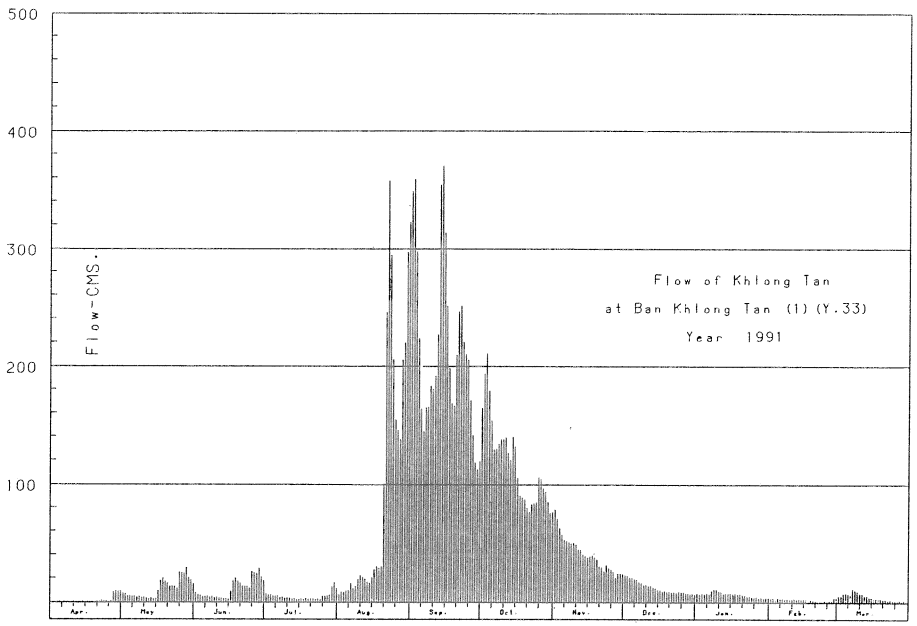
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	46.31	46.89	46.89	46.84	46.83	53.17	50.47	48.83	47.42	46.85	46.63	46.72	
2	46.31	46.84	46.84	46.82	46.91	53.31	50.84	48.63	47.39	46.85	46.63	46.77	
3	46.30	46.78	46.78	46.81	46.93	52.50	51.09	48.45	47.36	46.85	46.63	46.85	
4	46.30	46.74	46.74	46.77	46.95	51.40	50.66	48.30	47.34	46.85	46.63	46.89	
5	46.30	46.72	46.72	46.76	47.00	50.46	50.32	48.21	47.32	46.86	46.61	46.84	
6	46.29	46.72	46.72	46.73	47.20	50.15	49.87	48.17	47.29	46.85	46.60	46.82	
7	46.29	46.70	46.70	46.69	47.06	50.48	49.87	48.16	47.25	46.96	46.58	47.03	
8	46.27	46.70	46.70	46.66	47.10	50.48	49.96	48.12	47.21	47.03	46.57	47.02	
9	46.28	46.68	46.68	46.64	47.32	50.71	50.02	48.15	47.17	47.01	46.57	46.94	
10	46.32	46.66	46.66	46.63	47.40	50.67	50.03	48.10	47.15	46.98	46.57	46.88	
11	46.34	46.64	46.64	46.62	47.37	50.81	50.05	48.01	47.14	46.91	46.57	46.84	
12	46.35	46.61	46.61	46.62	47.31	51.47	49.82	47.99	47.12	46.86	46.57	46.78	
13	46.35	46.62	46.62	46.60	47.23	53.24	49.70	47.90	47.09	46.85	46.56	46.73	
14	46.36	46.59	46.59	46.58	47.22	53.45	50.07	47.85	47.05	46.87	46.56	46.69	
15	46.35	46.57	46.57	46.58	47.36	52.72	49.91	47.83	47.02	46.86	46.55	46.65	
16	46.34	46.96	46.96	46.56	47.53	51.86	49.41	47.84	46.99	46.86	46.55	46.60	
17	46.32	47.29	47.29	46.58	47.62	50.90	49.09	47.88	46.96	46.85	46.54	46.60	
18	46.31	47.33	47.33	46.60	47.57	50.52	49.04	47.82	46.95	46.84	46.50	46.60	
19	46.32	47.27	47.27	46.58	47.62	50.50	49.02	47.79	46.94	46.83	46.49	46.58	
20	46.39	47.20	47.20	46.56	49.30	51.06	48.85	47.61	46.93	46.82	46.46	46.56	
21	46.43	47.11	47.11	46.57	51.79	51.79	48.78	47.59	46.92	46.77	46.45	46.53	
22	46.44	47.13	47.13	46.56	53.29	51.87	48.91	47.51	46.91	46.74	46.44	46.50	
23	46.45	47.10	47.10	46.55	52.46	51.33	48.95	47.66	46.90	46.72	46.44	46.48	
24	46.39	47.07	47.07	46.56	50.99	51.09	48.95	47.57	46.93	46.71	46.43	46.46	
25	46.40	47.49	47.49	46.72	50.33	50.98	49.43	47.55	46.93	46.70	46.42	46.45	
26	46.39	47.46	47.46	46.76	50.16	50.55	49.39	47.48	46.90	46.68	46.41	46.44	
27	46.94	47.46	47.46	46.78	50.03	50.09	49.23	47.35	46.88	46.66	46.45	46.44	
28	46.95	47.58	47.58	46.78	50.98	49.66	49.15	47.44	46.85	46.64	46.63	46.43	
29	46.95	47.36	47.36	47.11	51.30	49.56	48.97	47.45	46.85	46.64	46.66	46.43	
30	46.95	47.28	47.28	47.21	52.50	49.68	48.74	47.43	46.84	46.63		46.43	
31		47.21		47.04	52.83		48.76		46.84	46.63		46.41	
Mean	46.42	46.99	46.98	46.71	48.82	51.22	49.59	47.89	47.06	46.81	46.54	46.66	
Max	46.95	47.58	47.58	47.21	53.29	53.45	51.09	48.83	47.42	47.03	46.66	47.03	53.45
Min	46.27	46.57	46.57	46.55	46.83	49.56	48.74	47.35	46.84	46.63	46.41	46.41	46.27

Annual Max Momentary Gage Height — 53.56 M (MSL), at 18.00 Hours, on Sep 13, 1991

Zero Gage at Bottom Elevation — 45.82 M (MSL), River Bed — 45.89 M (MSL)

Left Bank Elevation — 56.06 M (MSL)

Right Bank Elevation — 55.64 M (MSL), Drainage Area — Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.75	8.29	8.29	7.24	7.03	348.60	164.60	79.35	23.53	7.45	3.77	5.16	
2	0.75	7.24	7.24	6.82	8.71	359.80	194.20	70.99	22.46	7.45	3.77	5.94	
3	0.70	6.09	6.09	6.61	9.13	297.50	210.90	63.56	21.46	7.45	3.77	7.45	
4	0.70	5.47	5.47	5.94	9.55	224.33	179.80	57.37	20.79	7.45	3.77	8.29	
5	0.70	5.16	5.16	5.78	10.60	163.80	154.60	53.66	20.12	7.66	3.46	7.24	
6	0.65	5.16	5.16	5.32	16.10	145.25	129.85	52.01	19.11	7.45	3.30	6.82	
7	0.65	4.85	4.85	4.69	12.25	165.40	129.85	51.60	17.77	9.76	3.09	11.42	
8	0.55	4.85	4.85	4.23	13.35	165.40	134.80	49.95	16.43	11.42	2.99	11.15	
9	0.60	4.54	4.54	3.92	20.12	183.80	138.10	51.19	15.27	10.87	2.99	9.34	
10	0.80	4.23	4.23	3.77	22.80	180.60	138.65	49.12	14.73	10.18	2.99	8.08	
11	0.90	3.92	3.92	3.61	21.79	191.80	139.75	45.41	14.45	8.71	2.99	7.24	
12	0.95	3.46	3.46	3.61	19.79	227.37	127.10	44.62	13.90	7.66	2.99	6.09	
13	0.95	3.61	3.61	3.30	17.10	354.20	120.50	41.20	13.07	7.45	2.88	5.32	
14	1.00	3.20	3.20	3.09	16.77	371.00	140.85	39.30	11.97	7.87	2.88	4.69	
15	0.95	2.99	2.99	3.09	21.46	314.00	132.05	38.54	11.15	7.66	2.78	4.08	
16	0.90	9.76	9.76	2.88	27.54	251.20	105.50	38.92	10.39	7.66	2.78	3.30	
17	0.80	19.11	19.11	3.09	30.83	199.00	91.05	40.44	9.76	7.45	2.67	3.30	
18	0.75	20.46	20.46	3.30	29.00	168.60	88.80	38.16	9.55	7.24	2.25	3.30	
19	0.80	18.44	18.44	3.09	30.83	167.00	87.90	37.04	9.34	7.03	2.15	3.09	
20	1.15	16.10	16.10	2.88	100.50	209.60	80.25	30.47	9.13	6.82	1.83	2.88	
21	1.51	13.63	13.63	2.99	246.30	246.30	77.17	29.73	8.92	5.94	1.73	2.56	
22	1.62	14.18	14.18	2.88	358.20	251.90	82.95	26.81	8.71	5.47	1.62	2.25	
23	1.73	13.35	13.35	2.78	294.50	221.30	84.75	32.29	8.50	5.16	1.62	2.04	
24	1.15	12.52	12.52	2.88	206.20	210.90	84.75	29.00	9.13	5.01	1.51	1.83	
25	1.20	26.09	26.09	5.16	155.15	205.40	106.50	28.27	9.13	4.85	1.41	1.73	
26	1.15	24.99	24.99	5.78	145.80	171.00	104.55	25.72	8.50	4.54	1.30	1.62	
27	9.34	24.99	24.99	6.09	138.65	141.95	97.35	21.12	8.08	4.23	1.73	1.62	
28	9.55	29.37	29.37	6.09	205.40	118.30	93.75	24.26	7.45	3.92	3.77	1.51	
29	9.55	21.46	21.46	13.63	220.00	113.00	85.65	24.62	7.45	3.92	4.23	1.51	
30	9.55	18.78	18.78	16.43	297.50	119.40	75.53	23.89	7.24	3.77		1.51	
31		16.43		11.70	322.25		76.35		7.24	3.77		1.30	
Total	62.35	372.72	356.29	162.67	3035.20	6487.70	3658.40	1238.61	394.73	213.27	79.02	143.66	16204.62 CMSDAY
Mean	2.08	12.02	11.88	5.25	97.91	216.26	118.01	41.29	12.73	6.88	2.72	4.63	44.27 CMS
Max	9.55	29.37	29.37	16.43	358.20	371.00	210.90	79.35	23.53	11.42	4.23	11.42	371.00 CMS
Min	0.55	2.99	2.99	2.78	7.03	113.00	75.53	21.12	7.24	3.77	1.30	1.30	0.55 CMS
Runoff	5.387	32.203	30.783	14.055	262.241	560.537	316.086	107.016	34.105	18.427	6.827	12.412	1400.079 MCM

Momentary Peak 379.80 CMS, at 53.56 M (MSL), at 18.00 Hours, on Sep 13, 1991

Runoff Yield ********* Liters/Second/Square KM, Momentary Peak Yield ********* Liters/Second/Square KM

WATER YEAR 1991

NAN RIVER BASIN

Nan River at Forestry Office, Nan (N.1)

Location — Lat. 18-46-23 N., Long. 100-46-51 E., on right bank infront of Forestry Office, Amphoe Muang, Nan.

Drainage Area — 4,609 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +192.17 m. (M.S.L.)

Bench Mark — B.M.-H.D.

Location — On west side of automatic gage building.

Elevation — +199.204 m. (M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1922-1956, 1962 to date.

Rating Operation

Period of Rating — 1954-1956, 1979 to date.

Rated by Float — -

Rated by Current Meter — 1954-1956, 1979 to date.

Stability of Channel Regimes — Fairly stable with variable water surface slope.

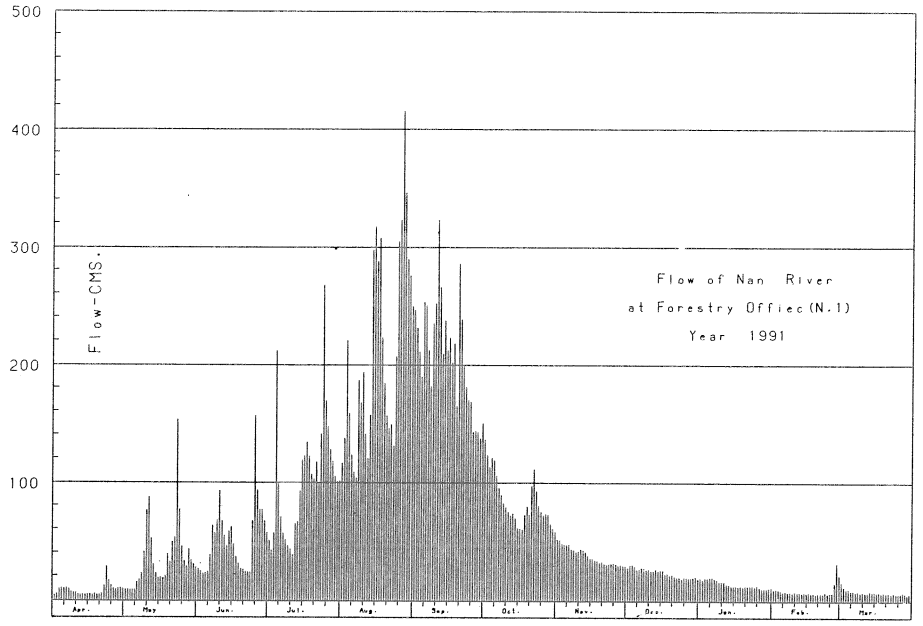
Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 106 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	192.77	192.92	193.27	193.58	193.81	194.59	193.94	193.32	193.09	192.98	192.83	192.92	
2	192.80	192.91	193.23	193.48	193.95	194.51	193.86	193.31	193.11	192.97	192.83	192.86	
3	192.93	192.91	193.20	193.65	194.45	194.39	193.79	193.29	193.12	192.98	192.83	192.83	
4	192.93	192.90	193.20	194.83	194.08	194.27	193.84	193.28	193.10	192.99	192.81	192.83	
5	192.94	192.91	193.23	194.06	193.86	194.63	193.83	193.28	193.07	193.00	192.79	192.81	
6	192.94	193.06	193.43	193.79	193.76	194.61	193.74	193.28	193.07	192.99	192.79	192.80	
7	192.93	193.12	193.72	193.65	193.73	194.40	193.67	193.25	193.09	192.98	192.78	192.79	
8	192.85	193.20	193.65	193.58	194.25	194.22	193.62	193.24	193.08	192.96	192.77	192.79	
9	192.84	193.47	193.76	193.53	194.14	194.53	193.57	193.23	193.07	192.94	192.77	192.77	
10	192.83	193.85	194.00	193.49	194.29	194.62	193.54	193.23	193.07	192.93	192.78	192.77	
11	192.80	193.95	193.76	193.43	193.97	195.01	193.51	193.25	193.06	192.93	192.78	192.77	
12	192.78	193.60	193.62	193.43	193.84	194.70	193.49	193.24	193.06	192.91	192.77	192.77	
13	192.77	193.32	193.53	193.44	194.07	194.38	193.50	193.23	193.07	192.89	192.76	192.79	
14	192.77	193.21	193.66	193.65	194.87	194.54	193.47	193.20	193.06	192.88	192.76	192.79	
15	192.78	193.14	193.71	193.83	194.98	194.40	193.40	193.18	193.06	192.88	192.76	192.78	
16	192.78	193.14	193.54	193.85	194.82	194.46	193.39	193.17	193.06	192.87	192.76	192.78	
17	192.78	193.13	193.42	193.93	194.93	194.34	193.39	193.16	193.03	192.87	192.75	192.77	
18	192.80	193.17	193.33	193.85	194.46	194.43	193.49	193.15	193.03	192.87	192.74	192.76	
19	192.79	193.44	193.27	193.75	194.24	194.12	193.55	193.14	193.02	192.87	192.73	192.76	
20	192.79	193.35	193.25	193.72	194.07	194.81	193.49	193.14	193.02	192.87	192.73	192.76	
21	192.81	193.56	193.23	193.82	194.00	194.55	193.68	193.13	193.01	192.87	192.75	192.75	
22	193.00	193.61	193.22	193.69	194.02	194.32	193.78	193.12	193.00	192.88	192.74	192.74	
23	193.30	194.47	193.21	193.97	193.91	194.22	193.65	193.12	192.99	192.87	192.76	192.74	
24	193.10	193.85	193.76	194.71	194.37	194.15	193.55	193.13	192.98	192.87	192.74	192.74	
25	192.99	193.52	194.49	194.15	194.91	194.14	193.51	193.13	192.99	192.88	192.74	192.72	
26	192.94	193.37	194.01	194.01	195.01	193.98	193.49	193.12	192.99	192.86	192.75	192.75	
27	192.92	193.30	193.85	193.89	195.48	193.99	193.50	193.11	192.99	192.84	192.92	192.78	
28	192.93	193.49	193.85	193.82	195.13	193.98	193.49	193.11	192.98	192.83	193.13	192.73	
29	192.95	193.37	193.76	193.74	194.83	193.95	193.43	193.11	193.00	192.84	193.02	192.71	
30	192.92	193.33	193.65	193.71	194.75	194.03	193.39	193.10	193.00	192.84		192.72	
31		193.28		193.71	194.61		193.37		192.98	192.85		192.73	
Mean	192.88	193.35	193.56	193.80	194.37	194.38	193.58	193.19	193.04	192.90	192.80	192.77	
Max	193.30	194.47	194.49	194.83	195.48	195.01	193.94	193.32	193.12	193.00	193.13	192.92	195.48
Min	192.77	192.90	193.20	193.43	193.73	193.95	193.37	193.10	192.98	192.83	192.73	192.71	192.71

Annual Max Momentary Gage Height 195.63 M (MSL), at 24.00 Hours, on Aug 26, 1991
Zero Gage at Bottom Elevation 192.17 M (MSL), River Bed 189.67 M (MSL)
Left Bank Elevation 199.57 M (MSL)
Right Bank Elevation 199.43 M (MSL), Drainage Area 4609 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	4.90	9.80	27.20	51.20	116.50	246.38	136.40	52.40	28.10	18.80	9.80	15.20	
2	5.50	9.40	24.80	42.40	138.00	231.82	124.00	51.20	29.90	18.20	9.80	11.60	
3	10.20	9.40	23.00	57.50	221.33	210.93	113.50	48.80	30.80	18.80	9.80	9.80	
4	10.20	9.00	23.00	212.40	158.80	190.13	121.00	47.60	29.00	19.40	8.60	9.80	
5	10.60	9.40	24.80	100.20	124.00	253.66	119.50	47.60	26.30	20.00	7.70	8.60	
6	10.60	15.40	38.40	71.00	109.00	250.02	106.00	47.60	26.30	19.40	7.70	8.00	
7	10.20	18.20	64.00	57.50	104.50	212.67	96.10	44.00	28.10	18.80	7.40	7.70	
8	7.25	23.00	57.50	51.20	186.67	181.47	89.60	42.80	27.20	17.60	7.10	7.70	
9	6.90	41.60	68.00	46.70	168.40	235.46	83.10	41.60	26.30	16.40	7.10	7.10	
10	6.55	77.00	93.00	43.20	193.60	251.84	79.20	41.60	26.30	15.80	7.40	7.10	
11	5.50	87.50	68.00	38.40	141.20	322.90	75.30	44.00	25.40	15.80	7.40	7.10	
12	5.10	53.00	54.80	65.60	121.00	266.40	72.80	42.80	25.40	14.60	7.10	7.10	
13	4.90	30.40	46.70	66.80	157.20	209.20	74.00	41.60	26.30	13.40	6.80	7.70	
14	4.90	23.60	58.40	93.50	297.34	237.28	70.40	38.00	25.40	12.80	6.80	7.70	
15	5.10	19.40	63.00	119.50	317.36	212.67	62.00	36.20	25.40	12.80	6.80	7.40	
16	5.10	19.40	47.60	122.50	288.24	223.07	60.80	35.30	25.40	12.20	6.80	7.40	
17	5.10	18.80	37.60	134.80	308.26	202.27	60.80	34.40	22.70	12.20	6.50	7.10	
18	5.50	21.20	31.10	122.50	223.07	217.87	72.80	33.50	22.70	12.20	6.20	6.80	
19	5.30	39.20	27.20	107.50	184.93	165.20	80.50	32.60	21.80	12.20	5.90	6.80	
20	5.30	32.50	26.00	103.00	157.20	286.42	72.80	32.60	21.80	12.20	5.90	6.80	
21	5.85	49.40	24.80	118.00	146.00	239.10	97.40	31.70	20.90	12.20	6.50	6.50	
22	13.00	53.90	24.20	98.70	149.20	198.80	112.00	30.80	20.00	12.80	6.20	6.20	
23	29.00	153.80	23.60	141.20	131.60	181.47	93.50	30.80	19.40	12.20	6.80	6.20	
24	17.00	77.00	68.00	268.22	207.47	170.00	80.50	31.70	18.80	12.20	6.20	6.20	
25	12.60	45.80	156.60	170.00	304.62	168.40	75.30	31.70	19.40	12.80	6.20	5.60	
26	10.60	33.90	94.20	147.60	322.90	142.80	72.80	30.80	19.40	11.60	6.50	6.50	
27	9.80	29.00	77.00	128.50	416.00	144.40	74.00	29.90	19.40	10.40	15.20	7.40	
28	10.20	43.20	77.00	118.00	346.00	142.80	72.80	29.90	18.80	9.80	31.70	5.90	
29	11.00	33.90	68.00	106.00	290.06	138.00	65.60	29.90	20.00	10.40	21.80	5.30	
30	9.80	31.10	57.50	101.50	275.50	150.80	60.80	29.00	20.00	10.40		5.60	
31		27.80		101.50	250.02		58.40		18.80	11.00		5.90	
Total	263.55	1146.00	1575.00	3206.62	6555.97	6284.23	2633.70	1142.40	735.50	439.40	255.70	231.80	24469.87 CMSDAY
Mean	8.79	36.97	52.50	103.44	211.48	209.47	84.96	38.08	23.73	14.17	8.82	7.48	66.86 CMS
Max	29.00	153.80	156.60	268.22	416.00	322.90	136.40	52.40	30.80	20.00	31.70	15.20	416.00 CMS
Min	4.90	9.00	23.00	38.40	104.50	138.00	58.40	29.00	18.80	9.80	5.90	5.30	4.90 CMS
Runoff	22.771	99.014	136.080	277.052	566.436	542.957	227.552	98.703	63.547	37.964	22.092	20.028	2114.197 MCM

Momentary Peak 446.00 CMS, at 195.63 M (MSL), at 24.00 Hours, on Aug 26, 1991

Runoff Yield 14.51 Liters/Second/Square KM, Momentary Peak Yield 96.77 Liters/Second/Square KM

WATER YEAR 1991

NAN RIVER BASIN

Nan River at Muang, Phitsanulok (N.5A)

Location — Lat. 16-49-15 N., Long. 100-15-49 E., on left bank near the post office and about 1 kilometer upstream from gaging station N.5, Amphoe Muang, Phitsanulok.

Drainage Area — 25,286 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +34.57 m. (M.S.L.)

Bench Mark — B.M.-H.D.

Location — Near automatic gage building.

Elevation — +45.856 m. (M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1963 to date.

Rating Operation

Period of Rating — 1966 to date.

Rated by Float — -

Rated by Current Meter — 1966 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Flow regulated by Sirikit Dam since June 5, 1971. Stage-discharge relation defined by 20 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

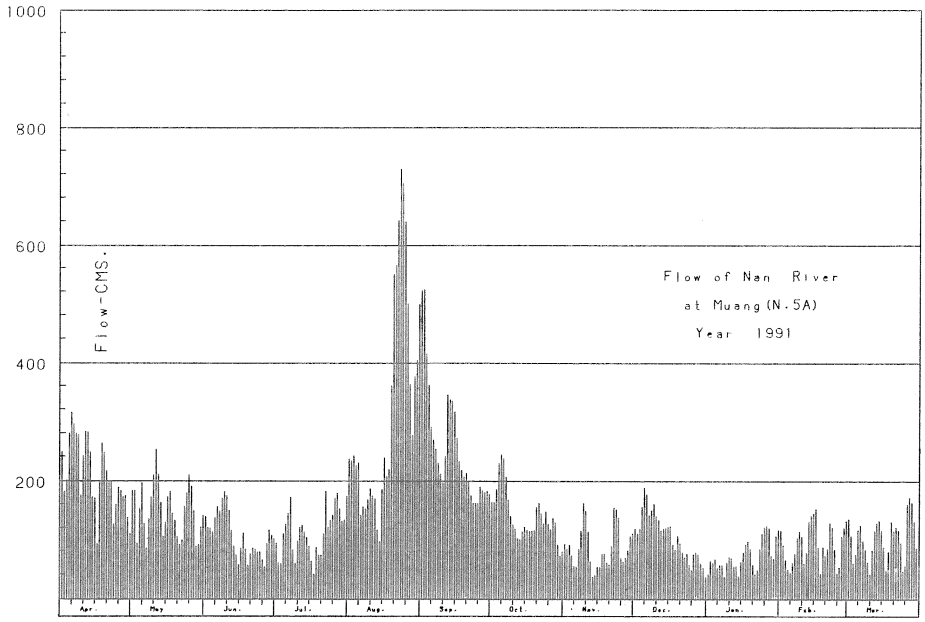
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	37.29	36.67	36.20	35.69	37.18	39.56	36.46	35.67	35.96	34.94	35.94	36.16	
2	36.65	36.67	36.00	35.24	37.16	39.58	36.47	35.57	35.88	35.28	35.65	35.84	
3	36.85	35.70	35.97	35.23	37.24	38.72	36.69	35.67	35.98	35.25	35.33	35.23	
4	37.59	36.36	35.91	35.88	37.07	38.30	37.12	35.42	36.38	35.33	35.06	35.46	
5	37.90	36.80	36.18	36.05	37.13	37.68	37.26	35.15	36.72	35.10	34.99	35.94	
6	37.72	36.06	36.38	36.25	36.23	37.49	37.19	35.15	36.62	35.20	35.24	36.03	
7	37.59	35.59	36.29	36.57	36.38	37.34	36.90	35.59	36.23	35.18	35.48	35.75	
8	37.56	36.16	36.55	35.55	36.35	37.12	36.51	35.92	36.31	34.87	35.80	35.58	
9	36.61	36.56	36.65	35.24	36.51	36.94	36.21	36.46	36.45	35.26	35.91	35.26	
10	37.23	36.92	36.58	35.74	36.71	36.80	36.05	36.30	36.20	35.40	35.83	34.95	
11	37.61	37.34	36.32	35.99	36.58	37.22	35.96	35.92	36.14	35.35	35.22	35.55	
12	37.61	36.94	35.93	36.04	36.54	38.15	35.79	35.27	35.93	35.16	35.50	35.94	
13	37.30	36.47	35.65	35.90	35.94	38.09	35.76	34.87	35.98	35.15	36.10	36.07	
14	36.56	35.83	35.43	35.81	35.73	38.06	35.92	34.89	35.97	34.88	36.22	36.13	
15	36.54	36.08	35.21	35.63	36.69	37.91	36.00	35.12	36.01	35.26	36.25	35.93	
16	35.69	36.56	35.59	35.28	37.20	37.52	35.94	35.14	36.01	35.49	36.34	35.62	
17	36.83	36.67	35.89	34.94	36.91	37.14	35.93	35.47	35.68	35.68	35.61	35.04	
18	37.44	36.25	35.57	35.61	37.01	37.01	35.92	35.46	35.56	35.72	34.96	35.51	
19	37.28	36.13	35.19	35.44	38.29	36.89	35.95	35.26	35.84	35.58	35.63	36.11	
20	36.99	35.81	35.46	35.42	39.76	36.96	36.37	35.19	35.69	35.21	35.41	35.92	
21	36.82	35.66	35.61	35.88	39.88	36.81	36.46	35.65	35.51	34.92	35.58	35.99	
22	36.80	35.76	35.57	36.66	40.41	36.60	36.25	36.36	35.37	35.06	36.09	35.95	
23	36.06	36.39	35.50	36.00	41.02	36.45	36.06	36.34	35.48	35.59	35.99	35.71	
24	36.42	36.63	35.52	36.12	40.84	36.46	36.30	36.17	35.19	35.87	35.58	35.01	
25	36.72	36.92	35.33	36.22	40.40	36.44	36.07	35.37	35.06	36.00	34.97	35.19	
26	36.68	36.75	35.15	36.55	39.40	36.73	35.96	35.26	35.44	36.02	35.12	36.42	
27	36.58	36.31	35.70	36.63	38.30	36.68	36.17	35.38	35.51	35.99	35.83	36.55	
28	36.58	35.63	35.94	36.35	37.56	36.64	36.08	35.54	35.44	35.41	35.98	36.47	
29	36.17	35.68	35.85	36.11	38.41	36.67	35.67	35.83	35.24	35.36	36.11	36.11	
30	35.88	35.99	35.77	36.13	38.64	36.61	35.42	35.87	35.10	35.84		35.60	
31		36.21		36.59	39.38		35.51		34.84	35.94		35.12	
Mean	36.92	36.31	35.83	35.89	37.83	37.35	36.20	35.58	35.80	35.40	35.65	35.75	
Max	37.90	37.34	36.65	36.66	41.02	39.58	37.26	36.46	36.72	36.02	36.34	36.55	41.02
Min	35.69	35.59	35.15	34.94	35.73	36.44	35.42	34.87	34.84	34.87	34.96	34.95	34.84

Annual Max Momentary Gage Height — 41.10 M (MSL), at 18.00 Hours, on Aug 23, 1991

Zero Gage at Bottom Elevation — 34.57 M (MSL), River Bed — 33.29 M (MSL)

Left Bank Elevation — 44.95 M (MSL)

Right Bank Elevation — 44.51 M (MSL), Drainage Area — 25286 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	249.4	184.3	141.0	95.1	237.9	522.8	164.4	93.3	119.4	43.4	117.6	137.4	
2	182.3	184.3	123.0	61.8	235.8	525.4	165.3	84.9	112.2	64.6	91.5	108.6	
3	203.2	96.0	120.3	61.1	244.2	416.0	186.4	93.3	121.2	62.5	68.1	61.1	
4	281.9	155.4	114.9	112.2	226.3	364.0	231.6	74.4	157.2	68.1	50.6	77.2	
5	317.5	198.0	139.2	127.5	232.7	292.2	246.3	56.0	189.6	53.0	46.4	117.6	
6	296.8	128.4	157.2	145.5	143.7	270.9	238.9	56.0	179.1	59.0	61.8	125.7	
7	281.9	86.3	149.1	174.3	157.2	254.7	208.5	86.3	143.7	57.8	78.6	100.5	
8	278.6	137.4	172.5	83.5	154.5	231.6	168.9	115.8	150.9	39.2	105.0	85.6	
9	178.1	173.4	182.3	61.8	168.9	212.7	141.9	164.4	163.5	63.2	114.9	63.2	
10	243.1	210.6	175.2	99.6	188.6	198.0	127.5	150.0	141.0	73.0	107.7	44.0	
11	284.2	254.7	151.8	122.1	175.2	242.1	119.4	115.8	135.6	69.5	60.4	83.5	
12	284.2	212.7	116.7	126.6	171.6	346.3	104.1	63.9	116.7	56.6	80.0	117.6	
13	250.5	165.3	91.5	114.0	117.6	339.3	101.4	39.2	121.2	56.0	132.0	129.3	
14	173.4	107.7	75.1	105.9	98.7	335.9	115.8	40.4	120.3	39.8	142.8	134.7	
15	171.6	130.2	59.7	89.7	186.4	318.7	123.0	54.2	123.9	63.2	145.5	116.7	
16	95.1	173.4	86.3	64.6	240.0	274.2	117.6	55.4	123.9	79.3	153.6	88.8	
17	201.2	184.3	113.1	43.4	209.6	233.7	116.7	77.9	94.2	94.2	87.9	49.4	
18	265.4	145.5	84.9	87.9	220.0	220.0	115.8	77.2	84.2	97.8	44.6	80.7	
19	248.4	134.7	58.4	75.8	362.8	207.4	118.5	63.2	108.6	85.6	89.7	132.9	
20	218.0	105.9	77.2	74.4	550.4	214.8	156.3	58.4	95.1	59.7	73.7	115.8	
21	200.1	92.4	87.9	112.2	567.2	199.1	164.4	91.5	80.7	42.2	85.6	122.1	
22	198.0	101.4	84.9	183.3	642.4	177.0	145.5	155.4	70.9	50.6	131.1	118.5	
23	128.4	158.1	80.0	123.0	730.9	163.5	128.4	153.6	78.6	86.3	122.1	96.9	
24	160.8	180.2	81.4	133.8	704.8	164.4	150.0	138.3	58.4	111.3	85.6	47.6	
25	189.6	210.6	68.1	142.8	641.0	162.6	129.3	70.9	50.6	123.0	45.2	58.4	
26	185.4	192.8	56.0	172.5	502.0	190.7	119.4	63.2	75.8	124.8	54.2	160.8	
27	175.2	150.9	96.0	180.2	364.0	185.4	138.3	71.6	80.7	122.1	107.7	172.5	
28	175.2	89.7	117.6	154.5	278.6	181.2	130.2	82.8	75.8	73.7	121.2	165.3	
29	138.3	94.2	109.5	132.9	377.2	184.3	93.3	107.7	61.8	70.2	132.9	132.9	
30	112.2	122.1	102.3	134.7	406.0	178.1	74.4	111.3	53.0	108.6		87.0	
31		141.9		176.1	499.4		80.7		37.4	117.6		54.2	
Total	6368.0	4702.8	3273.1	3572.8	10035.6	7807.0	4422.2	2666.3	3325.2	2315.9	2738.0	3186.5	54413.4 CMSDAY
Mean	212.3	151.7	109.1	115.3	323.7	260.2	142.7	88.9	107.3	74.7	94.4	102.8	148.7 CMS
Max	317.5	254.7	182.3	183.3	730.9	525.4	246.3	164.4	189.6	124.8	153.6	172.5	730.9 CMS
Min	95.1	86.3	56.0	43.4	98.7	162.6	74.4	39.2	37.4	39.2	44.6	44.0	37.4 CMS
Runoff	550.20	406.32	282.80	308.69	867.08	674.52	382.08	230.37	287.30	200.09	236.56	275.31	4701.32 MCM

Momentary Peak 742.50 CMS, at 41.10 M (MSL), at 18.00 Hours, on Aug 23, 1991

Runoff Yield 5.88 Liters/Second/Square KM, Momentary Peak Yield 29.36 Liters/Second/Square KM

WATER YEAR 1991

NAN RIVER BASIN

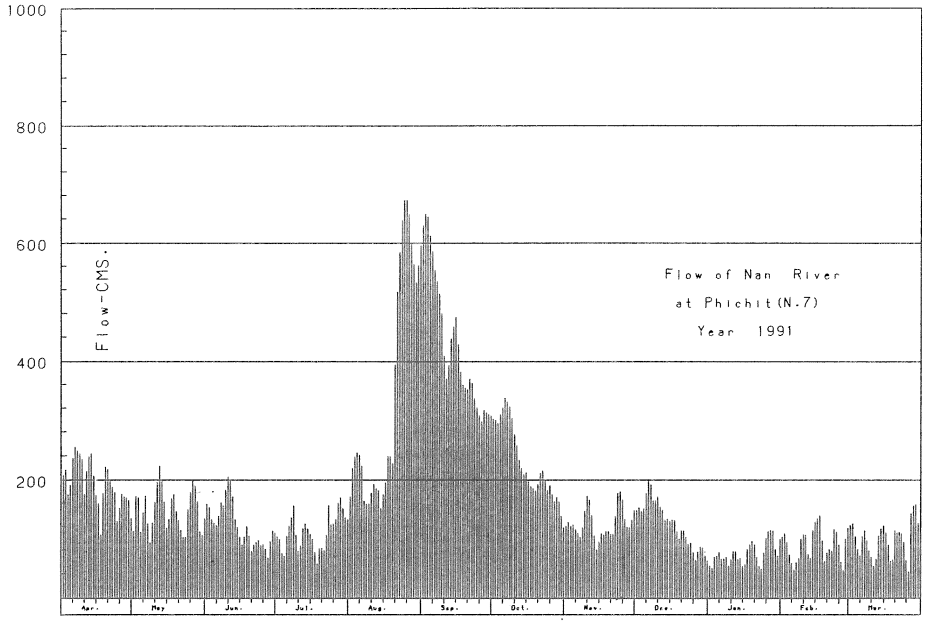
Nan River at Muang, Phichit (N.7)

Location	Lat. 16-26-31 N., Long. 100-21-11 E., on right bank infront of Phichit Phithaya Kham School, Amphoe Muang, Phichit.
Drainage Area	29,153 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+26.00 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	Infront of Phichit Phitthaya Khom School.
Elevation	+37.228 m. (M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1934 to date.
Rating Operation	
Period of Rating	1965-1967, 1973 to date.
Rated by Float	-
Rated by Current Meter	1965-1967, 1973 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Flow regulated by Sirikit Dam since June 5, 1971. Stage-discharge relation defined by 13 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	29.01	27.66	28.33	27.52	28.53	34.19	30.25	27.81	28.19	26.71	27.50	27.83	
2	29.12	28.52	28.27	27.45	29.16	34.41	30.22	27.89	28.24	26.65	27.61	27.85	
3	28.58	28.50	27.97	27.09	29.43	34.35	30.17	27.81	28.17	26.96	27.37	27.54	
4	28.78	27.64	27.87	26.99	29.51	33.98	30.36	27.83	28.22	27.02	27.05	27.18	
5	29.40	28.14	27.83	27.55	29.47	33.67	30.50	27.72	28.61	27.10	26.79	27.01	
6	29.65	28.53	28.04	27.82	29.21	33.29	30.69	27.61	28.91	26.91	26.61	27.52	
7	29.55	27.87	28.38	28.00	28.42	33.05	30.61	27.50	28.81	26.94	26.81	27.69	
8	29.50	27.38	28.29	28.31	28.33	32.81	30.52	27.77	28.41	26.96	26.95	27.43	
9	29.36	27.87	28.68	27.58	28.35	32.41	30.26	28.16	28.42	26.73	27.46	27.14	
10	28.58	28.40	28.98	27.13	28.60	31.57	29.93	28.54	28.53	26.92	27.59	26.96	
11	29.09	28.84	28.89	27.30	28.81	31.11	29.67	28.43	28.28	27.13	27.56	26.72	
12	29.43	29.23	28.51	27.73	28.70	31.37	29.35	28.07	28.19	27.14	27.06	26.93	
13	29.49	28.88	27.97	27.85	28.66	31.91	29.16	27.54	27.95	26.92	26.93	27.54	
14	29.00	28.38	27.76	27.74	28.24	32.16	29.03	27.19	27.97	26.93	27.68	27.72	
15	28.54	27.76	27.53	27.60	28.58	32.34	29.06	27.39	27.93	26.70	27.91	27.82	
16	28.36	27.96	27.31	27.45	28.83	31.81	28.85	27.60	27.95	26.77	27.98	27.64	
17	27.58	28.48	27.51	27.12	29.44	31.24	28.76	27.58	27.95	27.18	28.07	27.32	
18	28.59	28.56	27.80	26.77	29.42	30.98	28.70	27.65	27.65	27.33	27.43	26.85	
19	29.20	28.17	27.53	27.20	29.28	30.91	28.66	27.68	27.48	27.40	26.84	26.91	
20	29.13	27.93	27.15	27.22	31.39	30.88	28.79	27.58	27.68	27.33	27.11	27.67	
21	28.89	27.71	27.30	27.17	32.84	31.10	29.05	27.60	27.69	26.96	27.18	27.61	
22	28.73	27.50	27.39	27.57	33.65	31.02	29.12	28.03	27.51	26.72	27.16	27.65	
23	28.63	27.50	27.42	28.30	34.29	30.68	28.91	28.60	27.32	26.61	27.71	27.59	
24	27.91	28.21	27.31	27.83	34.68	30.50	28.66	28.65	27.37	27.11	27.66	27.39	
25	28.25	28.63	27.31	27.86	34.70	30.33	28.78	28.46	27.12	27.50	27.32	26.87	
26	28.57	28.87	27.19	27.96	34.40	30.19	28.58	27.96	26.89	27.65	26.82	26.55	
27	28.53	28.77	26.96	28.37	33.83	30.43	28.39	27.78	27.11	27.70	26.59	28.10	
28	28.48	28.39	27.41	28.49	33.41	30.40	28.49	27.75	27.27	27.67	27.46	28.31	
29	28.44	27.67	27.69	28.24	33.04	30.34	28.40	27.96	27.22	27.21	27.74	28.32	
30	27.98	27.55	27.62	28.00	33.37	30.33	28.05	28.18	27.02	27.00		27.88	
31		27.99		27.97	33.77		27.75		26.86	27.45		27.39	
Mean	28.81	28.18	27.81	27.65	30.72	31.79	29.28	27.88	27.84	27.07	27.31	27.45	
Max	29.65	29.23	28.98	28.49	34.70	34.41	30.69	28.65	28.91	27.70	28.07	28.32	34.70
Min	27.58	27.38	26.96	26.77	28.24	30.19	27.75	27.19	26.86	26.61	26.59	26.55	26.55

Annual Max Momentary Gage Height 34.74 M (MSL), at 9.00 Hours, on Aug 25, 1991
Zero Gage at Bottom Elevation 26.00 M (MSL), River Bed 24.89 M (MSL)
Left Bank Elevation 36.97 M (MSL)
Right Bank Elevation 37.30 M (MSL), Drainage Area 29153 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	208.8	112.9	159.1	103.8	173.1	631.6	303.0	122.7	149.3	54.0	102.5	124.1	
2	217.0	172.4	154.9	99.3	220.0	650.2	300.6	128.3	152.8	50.8	109.7	125.5	
3	176.6	171.0	133.9	76.4	240.3	645.1	296.6	122.7	147.9	68.6	94.1	105.1	
4	191.5	111.6	126.9	70.4	246.3	613.8	311.8	124.1	151.4	72.2	74.0	81.8	
5	238.0	145.8	124.1	105.7	243.2	587.6	323.0	116.8	178.8	77.0	58.5	71.6	
6	256.7	173.1	138.8	123.4	223.7	555.6	338.2	109.7	201.2	65.6	48.6	103.8	
7	249.2	126.9	162.6	136.0	165.4	535.3	331.8	102.5	193.7	67.4	59.6	114.9	
8	245.5	94.7	156.3	157.7	159.1	515.0	324.6	120.1	164.7	68.6	68.0	98.0	
9	235.0	126.9	184.0	107.7	160.5	481.2	303.8	147.2	165.4	55.2	99.9	79.4	
10	176.6	164.0	206.5	78.8	178.0	410.3	277.8	173.8	173.1	66.2	108.4	68.6	
11	214.8	196.0	199.7	89.5	193.7	371.8	258.2	166.1	155.6	78.8	106.4	54.6	
12	240.3	225.2	171.7	117.5	185.5	393.4	234.3	140.9	149.3	79.4	74.6	66.8	
13	244.7	199.0	133.9	125.5	182.5	439.0	220.0	105.1	132.5	66.2	66.8	105.1	
14	208.0	162.6	119.4	118.1	152.8	460.1	210.3	82.4	133.9	66.8	114.2	116.8	
15	173.8	119.4	104.5	109.0	176.6	475.3	212.5	95.3	131.1	53.5	129.7	123.4	
16	161.2	133.2	90.1	99.3	195.2	430.5	196.8	109.0	132.5	57.4	134.6	111.6	
17	107.7	169.6	103.2	78.2	241.0	382.4	190.0	107.7	132.5	81.8	140.9	90.8	
18	177.3	175.2	122.0	57.4	239.5	361.4	185.5	112.3	112.3	91.4	98.0	62.0	
19	223.0	147.9	104.5	83.0	229.0	355.8	182.5	114.2	101.2	96.0	61.4	65.6	
20	217.7	131.1	80.0	84.3	395.0	353.4	192.3	107.7	114.2	91.4	77.6	113.6	
21	199.7	116.1	89.5	81.2	517.5	371.0	211.7	109.0	114.9	68.6	81.8	109.7	
22	187.7	102.5	95.3	107.0	586.0	364.6	217.0	138.1	103.2	54.6	80.6	112.3	
23	180.2	102.5	97.3	157.0	640.0	337.4	201.2	178.0	90.8	48.6	116.1	108.4	
24	129.7	150.7	90.1	124.1	673.0	323.0	182.5	181.7	94.1	77.6	112.9	95.3	
25	153.5	180.2	90.1	126.2	674.7	309.4	191.5	168.2	78.2	102.5	90.8	63.2	
26	175.9	198.3	82.4	133.2	649.3	298.2	176.6	133.2	64.4	112.3	60.2	45.2	
27	173.1	190.8	68.6	161.9	601.2	317.4	163.3	120.7	77.6	115.5	47.5	143.0	
28	169.6	163.3	96.6	170.3	565.7	315.0	170.3	118.8	87.5	113.6	99.9	157.7	
29	166.8	113.6	114.9	152.8	534.4	310.2	164.0	133.2	84.3	83.6	118.1	158.4	
30	134.6	105.7	110.3	136.0	562.3	309.4	139.5	148.6	72.2	71.0		127.6	
31		135.3		133.9	596.1		118.8		62.6	99.3		95.3	
Total	5834.2	4617.5	3711.2	3504.6	10800.6	12904.4	7130.0	3838.1	3903.2	2355.5	2635.4	3099.2	64333.9 CMSDAY
Mean	194.5	149.0	123.7	113.1	348.4	430.1	230.0	127.9	125.9	76.0	90.9	100.0	175.8 CMS
Max	256.7	225.2	206.5	170.3	674.7	650.2	338.2	181.7	201.2	115.5	140.9	158.4	674.7 CMS
Min	107.7	94.7	68.6	57.4	152.8	298.2	118.8	82.4	62.6	48.6	47.5	45.2	45.2 CMS
Runoff	504.07	398.95	320.65	302.80	933.17	1114.94	616.03	331.61	337.24	203.52	227.70	267.77	5558.45 MCM

Momentary Peak 678.04 CMS, at 34.74 M (MSL), at 9.00 Hours, on Aug 25, 1991

Runoff Yield 6.03 Liters/Second/Square KM, Momentary Peak Yield 23.26 Liters/Second/Square KM

WATER YEAR 1991

NAN RIVER BASIN

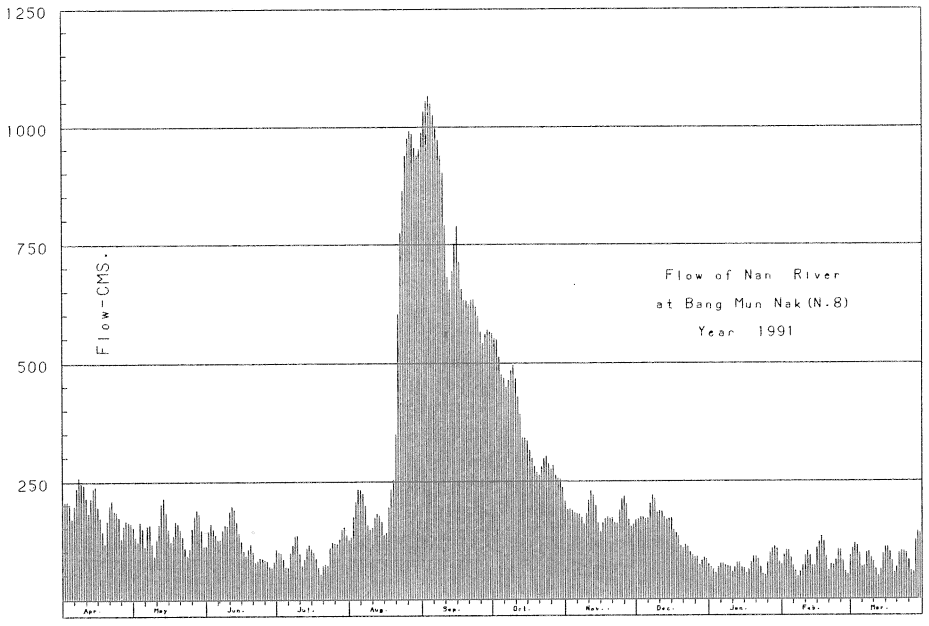
Nan River at Bang Mun Nak, Phichit (N.8)

Location	Lat. 16-01-50 N., Long. 100-22-53 E., on left bank about 46 meters downstream from the old staff gage, opposite to Wat Bang Mun Nak, Phichit.
Drainage Area	32,878 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+19.80 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 89 meters upstream from the top staff gage.
Elevation	+30.523 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1951 to date.
Rating Operation	
Period of Rating	1965 - 1967, 1973 - 1979, 1991 to date.
Rated by Float	-
Rated by Current Meter	1951 - 1980, 1991 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 33 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	23.29	22.27	22.44	21.81	22.26	29.78	26.61	23.07	22.81	21.22	21.70	21.91	
2	23.28	22.14	22.66	21.74	22.85	29.91	26.60	23.07	22.84	21.12	21.83	22.05	
3	23.22	22.71	22.52	21.57	23.29	29.97	26.31	23.05	22.86	21.00	21.83	22.01	
4	22.82	22.54	22.34	21.24	23.59	29.87	25.99	22.96	22.79	21.25	21.61	21.73	
5	23.18	21.98	22.21	21.24	23.60	29.74	25.94	22.95	22.82	21.35	21.30	21.26	
6	23.64	22.59	22.19	21.78	23.49	29.59	25.77	22.92	23.22	21.38	21.05	21.25	
7	23.89	22.65	22.49	22.01	23.19	29.42	25.89	22.83	23.46	21.29	20.85	21.75	
8	23.75	22.05	22.64	22.32	22.62	29.21	26.07	22.67	23.35	21.28	21.01	21.81	
9	23.72	21.67	22.60	22.32	22.51	29.00	26.16	22.95	22.99	21.23	21.28	21.61	
10	23.40	22.22	23.01	21.74	22.55	28.29	25.94	23.31	23.01	21.05	21.68	21.42	
11	22.96	22.64	23.18	21.31	22.85	27.56	25.61	23.55	23.02	21.21	21.80	21.13	
12	23.37	23.22	23.06	21.56	22.94	27.38	25.26	23.46	22.84	21.42	21.69	20.87	
13	23.63	23.39	22.72	21.93	22.89	27.65	24.80	23.18	22.79	21.39	21.27	21.15	
14	23.66	23.00	22.39	22.02	22.74	28.03	24.78	22.67	22.79	21.23	21.30	21.71	
15	23.16	22.50	22.16	21.91	22.36	28.29	24.72	22.44	22.83	21.17	21.90	21.93	
16	22.83	22.12	21.85	21.78	22.40	27.78	24.52	22.67	22.48	20.96	22.13	21.96	
17	22.46	22.34	21.67	21.59	23.14	27.40	24.33	22.81	22.40	21.14	22.28	21.79	
18	22.06	22.72	21.87	21.22	23.59	27.21	24.16	22.84	22.29	21.43	22.14	21.46	
19	22.76	22.68	22.06	20.96	23.85	27.22	24.01	22.83	21.99	21.62	21.63	21.02	
20	23.19	22.49	21.79	21.29	24.87	27.15	23.96	22.82	21.90	21.64	21.11	21.21	
21	23.31	22.28	21.45	21.34	27.00	27.22	24.14	22.69	22.03	21.53	21.32	21.76	
22	23.04	21.94	21.51	21.33	28.19	27.24	24.33	22.66	21.95	21.25	21.32	21.80	
23	22.99	21.69	21.59	21.94	28.75	27.12	24.39	23.05	21.80	20.93	21.49	21.81	
24	22.86	21.89	21.59	22.10	29.22	26.97	24.22	23.34	21.67	20.91	21.88	21.75	
25	22.25	22.52	21.51	22.07	29.44	26.73	24.10	23.43	21.62	21.39	21.83	21.53	
26	22.59	22.89	21.47	22.05	29.53	26.53	24.17	23.21	21.62	21.76	21.49	21.05	
27	22.74	23.07	21.29	22.22	29.49	26.69	23.96	22.79	21.32	21.88	21.03	21.03	
28	22.72	22.93	21.21	22.51	29.32	26.75	23.87	22.59	21.47	21.98	20.94	22.15	
29	22.66	22.50	21.47	22.56	29.21	26.73	23.86	22.63	21.61	21.87	21.65	22.42	
30	22.58	21.97	21.87	22.35	29.29	26.69	23.64	22.75	21.53	21.44		22.39	
31		22.01		22.20	29.51		23.29		21.36	21.31		22.01	
Mean	23.07	22.44	22.09	21.81	25.18	27.97	24.88	22.94	22.37	21.34	21.53	21.64	
Max	23.89	23.39	23.18	22.56	29.53	29.97	26.61	23.55	23.46	21.98	22.28	22.42	29.97
Min	22.06	21.67	21.21	20.96	22.26	26.53	23.29	22.44	21.32	20.91	20.85	20.87	20.85

Annual Max Momentary Gage Height 29.98 M (MSL), at 6.00 Hours, on Sep 3, 1991
Zero Gage at Bottom Elevation 19.80 M (MSL), River Bed 17.73 M (MSL)
Left Bank Elevation 30.18 M (MSL)
Right Bank Elevation 30.43 M (MSL), Drainage Area 32878 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	208.2	131.9	144.0	101.6	131.2	1032.7	552.3	191.2	171.7	67.1	94.5	108.1	
2	207.4	123.1	160.5	97.1	174.8	1055.8	551.0	191.2	174.0	62.0	102.9	117.2	
3	202.6	164.2	150.0	86.3	208.2	1066.6	514.7	189.7	175.5	56.0	102.9	114.6	
4	172.5	151.5	136.8	68.2	233.2	1048.6	475.8	183.0	170.3	68.7	88.7	96.4	
5	199.5	112.7	127.7	68.2	234.0	1026.1	469.8	182.3	172.5	74.2	71.5	69.3	
6	237.4	155.3	126.3	99.7	224.7	1001.4	449.6	180.0	202.6	75.9	58.5	68.7	
7	258.6	159.7	147.8	114.6	200.2	973.3	463.8	173.2	222.1	71.0	48.5	97.7	
8	246.8	117.2	159.0	135.4	157.5	938.6	485.4	161.3	213.0	70.4	56.5	101.6	
9	244.2	92.5	156.0	135.4	149.3	904.0	496.2	182.3	185.2	67.6	70.4	88.7	
10	217.0	128.4	186.7	97.1	152.2	791.5	469.8	209.8	186.7	58.5	93.2	78.1	
11	183.0	159.0	199.5	72.0	174.8	682.0	431.2	229.7	187.5	66.5	101.0	62.5	
12	214.6	202.6	190.5	85.8	181.5	655.3	392.3	222.1	174.0	78.1	93.9	49.5	
13	236.5	216.2	165.0	109.4	177.7	695.5	344.0	199.5	170.3	76.4	69.8	63.5	
14	239.1	186.0	140.3	115.3	166.5	752.5	342.1	161.3	170.3	67.6	71.5	95.1	
15	198.0	148.5	124.4	108.1	138.2	791.5	336.4	144.0	173.2	64.5	107.5	109.4	
16	173.2	121.8	104.2	99.7	141.0	715.0	317.4	161.3	147.0	54.0	122.4	111.4	
17	145.5	136.8	92.5	87.4	196.5	658.0	299.3	171.7	141.0	63.0	132.6	100.4	
18	117.9	165.0	105.6	67.1	233.2	632.3	283.2	174.0	133.3	78.6	123.1	80.3	
19	168.0	162.0	117.9	54.0	255.3	633.7	269.0	173.2	113.3	89.3	89.9	57.0	
20	200.2	147.8	100.4	71.0	351.4	624.2	264.6	172.5	107.5	90.6	61.5	66.5	
21	209.8	132.6	79.8	73.7	604.0	633.7	281.3	162.8	116.0	84.2	72.6	98.4	
22	189.0	110.1	83.0	73.1	776.5	636.4	299.3	160.5	110.8	68.7	72.6	101.0	
23	185.2	93.9	87.4	110.1	864.0	620.2	305.0	189.7	101.0	52.5	81.9	101.6	
24	175.5	106.8	87.4	120.5	940.3	600.0	288.9	212.2	92.5	51.5	106.2	97.7	
25	130.5	150.0	83.0	118.5	976.6	567.9	277.5	219.6	89.3	76.4	102.9	84.2	
26	155.3	177.7	80.8	117.2	991.5	542.3	284.1	201.8	89.3	98.4	81.9	58.5	
27	166.5	191.2	71.0	128.4	984.9	562.7	264.6	170.3	72.6	106.2	57.5	57.5	
28	165.0	180.8	66.5	149.3	956.8	570.5	257.0	155.3	80.8	112.7	53.0	123.7	
29	160.5	148.5	80.8	153.0	938.6	567.9	256.1	158.2	88.7	105.6	91.2	142.5	
30	154.5	112.0	105.6	137.5	951.9	562.7	237.4	167.2	84.2	79.2		140.3	
31		114.6		127.0	988.2		208.2		74.8	72.0		114.6	
Total	5762.0	4500.4	3660.4	3181.7	13854.7	22542.9	11167.3	5450.9	4391.0	2307.4	2480.6	2856.0	82155.3 CMSDAY
Mean	192.1	145.2	122.0	102.6	446.9	751.4	360.2	181.7	141.6	74.4	85.5	92.1	224.5 CMS
Max	258.6	216.2	199.5	153.0	991.5	1066.6	552.3	229.7	222.1	112.7	132.6	142.5	1066.6 CMS
Min	117.9	92.5	66.5	54.0	131.2	542.3	208.2	144.0	72.6	51.5	48.5	49.5	48.5 CMS
Runoff	497.84	388.83	316.26	274.90	1197.05	1947.71	964.85	470.96	379.38	199.36	214.32	246.76	7098.22 MCM

Momentary Peak 1068.40 CMS, at 29.98 M (MSL), at 6.00 Hours, on Sep 3, 1991

Runoff Yield 6.83 Liters/Second/Square KM, Momentary Peak Yield 32.50 Liters/Second/Square KM

WATER YEAR 1991

NAN RIVER BASIN

Nan River at Taphan Hin, Phichit (N.10A)

Location — Lat. 16-12-42 N., Long. 100-25-01 E., on left bank near Taphan Hin

Office about 250 meters from station N.10, Amphoe Taphan Hin, Phichit.

Drainage Area — 30,765 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +22.280 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — On left bank near automatic gage buiding.

Elevation — +33.300 m.(M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1969 to date.

Rating Operation

Period of Rating — 1974 - 1979, 1991 to date.

Rated by Float — -

Rated by Current Meter — 1974 - 1982, 1987, 1991 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 32 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

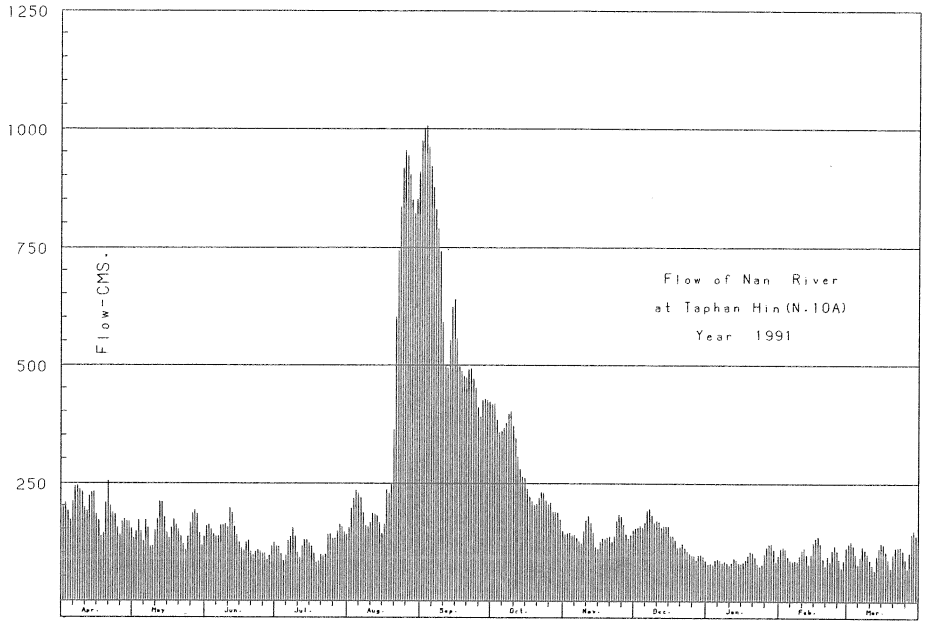
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	25.05	23.88	24.33	23.59	24.29	31.50	27.62	24.01	24.25	22.83	23.47	23.68	
2	25.12	24.13	24.41	23.55	24.94	31.62	27.62	24.09	24.31	22.81	23.55	23.75	
3	24.88	24.57	24.21	23.25	25.28	31.65	27.31	24.08	24.35	22.80	23.45	23.61	
4	24.59	24.13	24.05	22.97	25.52	31.43	27.01	24.00	24.31	22.97	23.16	23.24	
5	25.19	23.78	23.94	23.21	25.44	31.24	27.06	24.00	24.46	23.06	22.97	22.83	
6	25.63	24.55	23.96	23.76	25.31	31.00	27.12	23.90	24.87	22.97	22.95	23.15	
7	25.68	24.27	24.36	23.93	24.82	30.75	27.23	23.75	24.96	22.89	22.94	23.55	
8	25.55	23.58	24.40	24.28	24.35	30.49	27.43	23.69	24.74	22.91	22.94	23.45	
9	25.50	23.56	24.41	23.97	24.33	30.17	27.47	24.14	24.46	22.88	23.16	23.25	
10	24.97	24.20	24.32	23.33	24.46	29.07	27.19	24.54	24.56	22.78	23.43	23.02	
11	24.88	24.61	24.97	23.07	24.78	28.37	26.89	24.72	24.49	22.85	23.49	22.74	
12	25.35	25.18	24.79	23.59	24.77	28.31	26.43	24.49	24.32	23.10	23.25	22.50	
13	25.48	25.14	24.34	23.81	24.71	28.78	26.13	24.08	24.34	22.98	22.80	23.16	
14	25.48	24.65	23.99	23.83	24.46	29.32	25.91	23.52	24.37	22.88	23.23	23.52	
15	24.75	24.10	23.74	23.68	24.07	29.46	25.89	23.49	24.33	22.81	23.72	23.68	
16	24.57	23.87	23.48	23.56	24.44	28.80	25.56	23.76	23.99	22.87	23.85	23.63	
17	23.93	24.27	23.42	23.30	25.54	28.35	25.35	23.86	23.96	23.01	23.96	23.38	
18	24.09	24.59	23.71	22.86	25.45	28.26	25.17	23.86	23.82	23.18	23.65	23.01	
19	25.13	24.42	23.81	22.94	25.74	28.18	25.07	23.90	23.50	23.37	23.07	22.64	
20	25.81	24.20	23.35	23.22	27.10	28.14	25.08	23.91	23.56	23.31	22.71	23.23	
21	25.05	23.96	23.24	23.15	29.16	28.28	25.28	23.76	23.65	23.14	23.14	23.51	
22	24.80	23.64	23.34	23.25	30.18	28.31	25.49	23.97	23.52	22.80	22.94	23.54	
23	24.77	23.43	23.45	24.04	30.77	28.13	25.45	24.55	23.37	22.73	23.40	23.53	
24	24.28	23.92	23.35	24.03	31.22	27.94	25.22	24.74	23.30	22.77	23.61	23.42	
25	24.02	24.48	23.30	23.89	31.40	27.56	25.09	24.70	23.23	23.27	23.41	23.05	
26	24.52	24.80	23.27	23.87	31.35	27.37	25.13	24.39	23.17	23.52	23.00	22.63	
27	24.58	24.88	23.02	24.17	31.14	27.69	24.85	24.05	23.01	23.65	22.64	23.31	
28	24.53	24.76	23.17	24.43	30.85	27.73	24.82	23.85	23.20	23.66	22.94	24.06	
29	24.49	24.09	23.58	24.31	30.70	27.69	24.83	23.98	23.25	23.46	23.50	24.17	
30	24.24	23.62	23.71	24.11	30.86	27.66	24.57	24.21	23.13	22.93		24.00	
31		23.92		24.01	31.17		24.17		22.95	23.16		23.52	
Mean	24.90	24.23	23.85	23.64	27.05	29.11	25.98	24.07	23.93	23.04	23.25	23.35	
Max	25.81	25.18	24.97	24.43	31.40	31.65	27.62	24.74	24.96	23.66	23.96	24.17	31.65
Min	23.93	23.43	23.02	22.86	24.07	27.37	24.17	23.49	22.95	22.73	22.64	22.50	22.50

Annual Max Momentary Gage Height — 31.66 M (MSL), at 7.00 Hours, on Sep 3, 1991

Zero Gage at Bottom Elevation — 22.28 M (MSL), River Bed — 20.75 M (MSL)

Left Bank Elevation — 32.94 M (MSL)

Right Bank Elevation — 32.96 M (MSL), Drainage Area — 30765 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	203.2	133.4	158.2	117.5	156.0	976.0	418.1	140.6	153.8	79.7	110.8	122.4	
2	207.8	147.1	162.6	115.2	196.1	1001.5	418.1	145.0	157.1	78.8	115.2	126.3	
3	192.2	172.2	151.5	99.5	218.2	1008.2	385.5	144.4	159.3	78.3	109.8	118.6	
4	173.4	147.1	142.7	86.3	234.4	961.3	356.9	140.0	157.1	86.3	95.1	99.0	
5	212.4	127.9	136.7	97.5	228.8	923.0	361.4	140.0	165.6	90.5	86.3	79.7	
6	242.2	171.0	137.8	126.8	220.1	878.0	366.8	134.5	191.6	86.3	85.3	94.7	
7	246.0	154.9	159.8	136.2	188.3	831.7	377.1	126.3	197.4	82.5	84.9	115.2	
8	236.5	116.9	162.0	155.4	159.3	789.1	398.1	123.0	183.1	83.5	84.9	109.8	
9	233.0	115.8	162.6	138.4	158.2	742.5	402.3	147.7	165.6	82.1	95.1	99.5	
10	198.0	151.0	157.6	103.5	165.6	591.2	373.1	170.4	171.6	77.4	108.7	88.6	
11	192.2	174.7	198.0	90.9	185.7	501.7	346.1	181.8	167.4	80.7	112.0	75.5	
12	222.8	211.7	186.4	117.5	185.1	494.1	305.5	167.4	157.6	92.3	99.5	65.5	
13	231.6	209.1	158.7	129.6	181.1	554.2	280.4	144.4	158.7	86.7	78.3	95.1	
14	231.6	177.2	139.5	130.7	165.6	623.2	263.2	113.6	160.4	82.1	98.5	113.6	
15	183.7	145.5	125.7	122.4	143.9	641.1	261.7	112.0	158.2	78.8	124.6	122.4	
16	172.2	132.9	111.4	115.8	164.4	556.7	237.2	126.8	139.5	81.6	131.8	119.6	
17	136.2	154.9	108.1	102.0	235.8	499.2	222.8	132.3	137.8	88.1	137.8	106.0	
18	145.0	173.4	124.0	81.1	229.5	487.7	211.1	132.3	130.1	96.1	120.8	88.1	
19	208.4	163.2	129.6	84.9	250.5	477.8	204.5	134.5	112.5	105.5	90.9	70.9	
20	255.7	151.0	104.5	98.0	365.0	473.4	205.2	135.1	115.8	102.5	74.1	98.5	
21	203.2	137.8	99.0	94.7	602.7	490.2	218.2	126.8	120.8	94.2	94.2	113.1	
22	187.0	120.2	104.0	99.5	744.0	494.1	232.3	138.4	113.6	78.3	84.9	114.7	
23	185.1	108.7	109.8	142.2	835.5	472.3	229.5	171.0	105.5	75.1	107.0	114.2	
24	155.4	135.6	104.5	141.7	919.0	451.7	214.3	183.1	102.0	76.9	118.6	108.1	
25	141.1	166.8	102.0	134.0	955.0	411.8	205.9	180.5	98.5	100.5	107.6	90.0	
26	169.2	187.0	100.5	132.9	945.0	391.9	208.4	161.5	95.6	113.6	87.7	70.4	
27	172.8	192.2	88.6	149.4	903.9	425.5	190.3	142.7	88.1	120.8	70.9	102.5	
28	169.8	184.4	95.6	163.8	850.2	429.6	188.3	131.8	97.0	121.3	84.9	143.3	
29	167.4	145.0	116.9	157.1	822.5	425.5	188.9	138.9	99.5	110.3	112.5	149.4	
30	153.2	119.1	124.0	146.1	852.1	422.3	172.2	151.5	93.7	84.4		140.0	
31		135.6		140.6	909.4		149.4		85.3	95.1		113.6	
Total	5828.3	4763.3	3962.3	3751.2	13370.9	18426.5	8592.8	4318.3	4239.8	2790.3	2912.7	3268.3	76224.7 CMSDAY
Mean	194.3	153.7	132.1	121.0	431.3	614.2	277.2	143.9	136.8	90.0	100.4	105.4	208.3 CMS
Max	255.7	211.7	198.0	163.8	955.0	1008.2	418.1	183.1	197.4	121.3	137.8	149.4	1008.2 CMS
Min	136.2	108.7	88.6	81.1	143.9	391.9	149.4	112.0	85.3	75.1	70.9	65.5	65.5 CMS
Runoff	503.57	411.55	342.34	324.10	1155.25	1592.05	742.42	373.10	366.32	241.08	251.66	282.38	6585.81 MCM

Momentary Peak 1010.50 CMS, at 31.66 M (MSL), at 7.00 Hours, on Sep 3, 1991

Runoff Yield 6.77 Liters/Second/Square KM, Momentary Peak Yield 32.85 Liters/Second/Square KM

WATER YEAR 1991

NAN RIVER BASIN

Nan River at Ban Hat Phai, Uttaradit (N.12A)

Location — Lat. 17-44-10 N., Long. 100-32-28 E., on right bank about 4 kilometers downstream from Sirikit Dam Site, along Phasom-Silot road at Ban Hat Phai, Amphoe Tha Pha, Uttaradit.

Drainage Area — 15,718 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +69.00 m. (M.S.L.)

Bench Mark — B.M.-H.D.

Location — On right bank infront of gage observer's house.

Elevation — +83.655 m. (M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1966 to date.

Rating Operation

Period of Rating — 1966 to date.

Rated by Float — -

Rated by Current Meter — 1966 to date.

Stability of Channel Regimes — Stable.

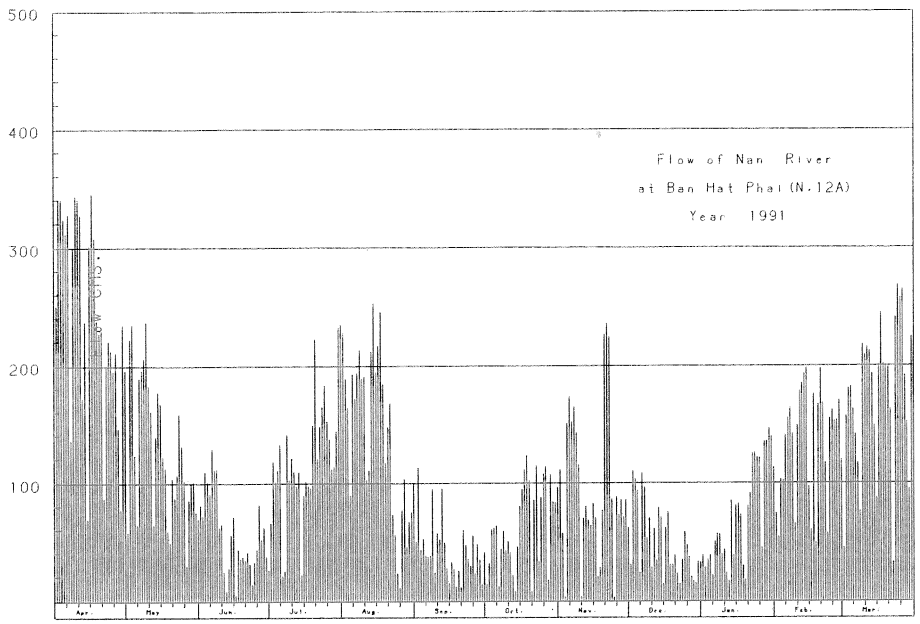
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 79 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	71.97	70.47	70.70	70.55	71.83	70.39	69.91	70.97	70.17	70.27	70.64	70.34	
2	72.48	71.80	70.61	71.03	71.57	70.98	70.18	70.47	70.96	70.13	70.44	71.34	
3	72.48	71.87	70.95	70.88	71.39	70.32	70.50	69.64	70.90	70.23	70.89	71.51	
4	72.39	71.07	70.88	70.96	70.78	70.42	70.51	71.29	70.81	70.27	70.89	71.52	
5	72.32	70.54	70.79	71.15	71.60	70.27	70.53	71.46	70.07	70.05	71.21	71.38	
6	72.41	71.57	71.12	70.04	71.45	70.25	69.89	71.30	70.94	70.40	71.33	71.22	
7	71.18	71.62	70.97	70.09	71.60	70.27	70.33	71.40	70.84	70.46	71.39	71.02	
8	72.25	71.69	70.97	71.22	71.74	70.82	70.49	71.23	70.42	70.46	71.22	70.65	
9	72.50	71.89	70.52	70.89	71.57	70.07	70.32	71.00	70.60	70.28	70.55	71.77	
10	72.48	71.53	70.54	71.05	71.58	70.47	70.40	69.65	70.13	70.33	71.28	71.71	
11	72.41	71.37	70.08	70.95	70.89	70.41	70.30	70.59	70.51	70.07	71.50	71.75	
12	71.45	70.54	69.79	70.85	70.96	70.83	70.05	70.69	70.22	69.97	71.54	71.73	
13	71.89	71.20	70.13	70.95	71.73	70.39	69.79	70.58	70.68	70.74	71.60	71.60	
14	70.59	71.49	70.45	70.05	71.98	70.12	70.35	70.53	70.60	70.27	71.63	71.28	
15	72.26	71.42	70.61	70.78	71.61	69.94	70.70	70.72	69.93	70.70	70.84	70.76	
16	72.51	71.06	69.66	70.88	71.76	70.20	70.82	70.60	70.51	70.72	70.49	71.65	
17	72.30	70.98	70.33	70.85	71.94	70.11	70.97	70.03	70.65	70.62	71.48	71.93	
18	71.89	70.48	70.23	70.83	71.54	69.87	71.07	70.13	70.16	70.16	70.38	71.66	
19	71.83	70.38	70.25	71.28	71.02	70.10	70.89	70.66	70.17	69.98	71.41	71.64	
20	71.84	70.90	70.22	71.80	71.27	69.87	69.77	71.82	70.27	70.70	71.63	71.64	
21	70.75	70.76	70.30	71.05	71.42	70.49	70.74	71.88	70.06	70.79	71.42	71.38	
22	71.64	70.93	70.18	71.27	70.63	70.37	71.00	71.81	69.93	71.09	71.02	70.20	
23	71.79	71.35	69.92	71.40	70.45	70.23	70.21	70.75	70.23	71.09	70.47	71.91	
24	71.73	71.14	70.19	71.53	70.07	70.16	70.76	69.61	70.48	71.06	71.32	72.07	
25	71.61	70.89	70.33	71.31	69.86	70.45	70.94	70.77	70.37	71.05	71.38	72.01	
26	71.72	70.16	70.71	71.19	70.66	70.06	70.99	70.62	70.25	70.34	71.31	72.05	
27	71.26	70.74	70.41	70.97	70.90	70.37	69.99	70.74	70.03	71.17	71.31	71.59	
28	70.67	70.86	70.52	70.99	70.35	70.23	70.93	70.61	69.96	71.17	71.44	71.30	
29	71.87	70.88	70.26	71.24	70.56	69.92	70.73	70.74	69.94	71.26	71.04	70.82	
30	71.62	70.64	70.10	71.86	70.65	70.30	70.72	70.51	70.20	71.20		71.81	
31		70.59		71.87	70.87		70.84		70.20	70.98		71.76	
Mean	71.87	71.06	70.42	71.02	71.17	70.29	70.50	70.76	70.36	70.58	71.14	71.45	
Max	72.51	71.89	71.12	71.87	71.98	70.98	71.07	71.88	70.96	71.26	71.63	72.07	72.51
Min	70.59	70.16	69.66	70.04	69.86	69.87	69.77	69.61	69.93	69.97	70.38	70.20	69.61

Annual Max Momentary Gage Height 73.38 M (MSL), at 16.00 Hours, on May 7, 1991
Zero Gage at Bottom Elevation 69.00 M (MSL), River Bed 67.62 M (MSL)
Left Bank Elevation 83.68 M (MSL)
Right Bank Elevation 83.73 M (MSL), Drainage Area 15718 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	251.33	58.04	81.00	66.02	228.00	50.07	13.85	112.05	31.04	38.73	75.00	45.09	
2	340.64	223.00	72.00	118.95	189.15	113.20	31.76	58.04	110.90	28.16	55.05	157.40	
3	340.64	234.67	109.75	101.70	164.15	43.09	61.03	4.00	104.00	35.57	102.85	180.45	
4	324.62	123.55	101.70	110.90	90.20	53.06	62.03	150.75	93.65	38.73	102.85	181.90	
5	312.16	65.02	91.35	133.25	193.50	38.73	64.02	173.60	23.84	22.40	140.75	162.80	
6	328.18	189.15	129.50	21.68	172.25	37.15	12.85	152.00	108.60	51.07	156.05	142.00	
7	137.00	196.40	112.05	25.28	193.50	38.73	44.09	165.50	97.10	57.05	164.15	117.80	
8	299.70	206.55	112.05	142.00	214.00	94.80	60.04	143.25	53.06	57.05	142.00	76.00	
9	344.20	238.00	63.03	102.85	189.15	23.84	43.09	115.50	71.00	39.52	66.02	218.50	
10	340.64	183.35	65.02	121.25	190.60	58.04	51.07	4.30	28.16	44.09	149.50	209.50	
11	328.18	161.45	24.56	109.75	102.85	52.06	41.10	70.00	62.03	23.84	179.00	215.50	
12	172.25	65.02	8.50	98.25	110.90	95.95	22.40	80.00	34.78	17.15	184.80	212.50	
13	238.00	139.50	28.16	109.75	212.50	50.07	8.50	69.01	79.00	85.60	193.50	193.50	
14	70.00	177.65	56.05	22.40	253.00	27.44	46.08	64.02	71.00	38.73	197.85	149.50	
15	301.48	168.20	72.00	90.20	194.95	15.50	81.00	83.30	14.95	81.00	97.10	87.90	
16	345.98	122.40	4.60	101.70	217.00	33.20	94.80	71.00	62.03	83.30	60.04	200.75	
17	308.60	113.20	44.09	98.25	246.33	26.72	112.05	20.96	76.00	73.00	176.30	244.67	
18	238.00	59.04	35.57	95.95	184.80	11.95	123.55	28.16	30.32	30.32	49.07	202.20	
19	228.00	49.07	37.15	149.50	117.80	26.00	102.85	77.00	31.04	17.70	166.85	199.30	
20	229.67	104.00	34.78	223.00	148.25	11.95	7.90	226.33	38.73	81.00	197.85	199.30	
21	86.75	87.90	41.10	121.25	168.20	60.04	85.60	236.33	23.12	91.35	168.20	162.80	
22	199.30	107.45	31.76	148.25	74.00	48.08	115.50	224.67	14.95	125.85	117.80	33.20	
23	221.50	158.75	14.40	165.50	56.05	35.57	33.99	86.75	35.57	125.85	58.04	241.33	
24	212.50	132.00	32.48	183.35	23.84	30.32	87.90	3.10	59.04	122.40	154.70	268.00	
25	194.95	102.85	44.09	153.35	11.50	56.05	108.60	89.05	48.08	121.25	162.80	258.00	
26	211.00	30.32	82.15	138.25	77.00	23.12	114.35	73.00	37.15	45.09	153.35	264.67	
27	147.00	85.60	52.06	112.05	104.00	48.08	18.25	85.60	20.96	135.75	153.35	192.05	
28	78.00	99.40	63.03	114.35	46.08	35.57	107.45	72.00	16.60	135.75	170.90	152.00	
29	234.67	101.70	37.94	144.50	67.01	14.40	84.45	85.60	15.50	147.00	120.10	94.80	
30	196.40	75.00	26.00	233.00	76.00	41.10	83.30	62.03	33.20	139.50		224.67	
31		70.00		234.67	100.55		97.10		33.20	113.20		217.00	
Total	7261.34	3928.23	1707.92	3791.15	4417.11	1293.88	2020.55	2886.90	1558.60	2247.00	3915.82	5505.08	40533.58 CMSDAY
Mean	242.04	126.72	56.93	122.30	142.49	43.13	65.18	96.23	50.28	72.48	135.03	177.58	110.75 CMS
Max	345.98	238.00	129.50	234.67	253.00	113.20	123.55	236.33	110.90	147.00	197.85	268.00	345.98 CMS
Min	70.00	30.32	4.60	21.68	11.50	11.95	7.90	3.10	14.95	17.15	49.07	33.20	3.10 CMS
Runoff	627.380	339.399	147.564	327.555	381.638	111.791	174.576	249.428	134.663	194.141	338.327	475.639	3502.102 MCM

Momentary Peak 512.05 CMS, at 73.38 M (MSL), at 16.00 Hours, on May 7, 1991

Runoff Yield 7.05 Liters/Second/Square KM, Momentary Peak Yield 32.58 Liters/Second/Square KM

WATER YEAR 1991

NAN RIVER BASIN

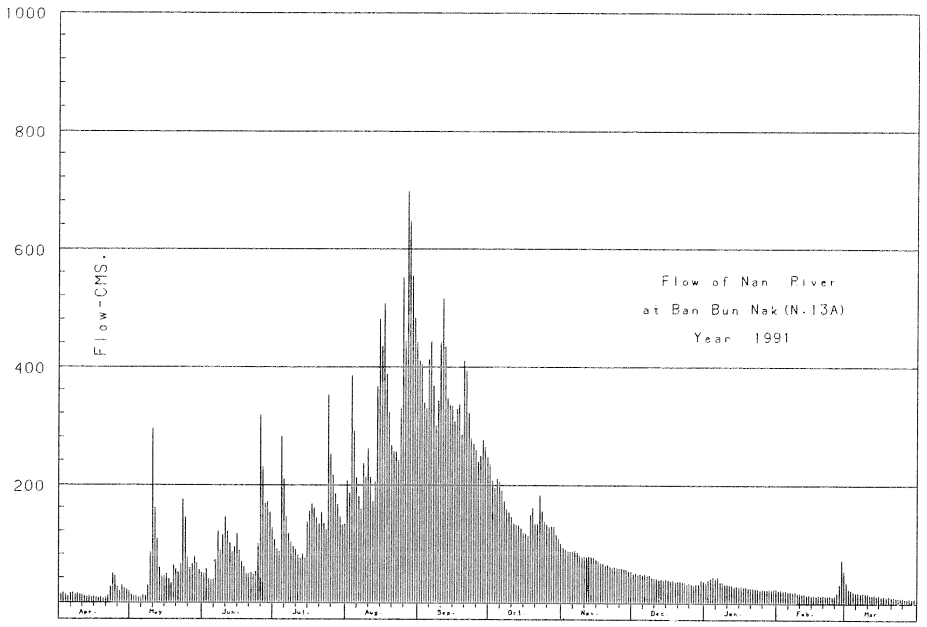
Nan River at Ban Bun Nak, Nan (N.13A)

Location	Lat. 18-33-12 N., Long. 100-46-08 E., on right bank about 2 kilometers upstream from station N.13, Ban Bun Nak, Amphoe Sa, Nan.
Drainage Area	8,784 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+177.39 m.(M.S.L)
Bench Mark	B.M.-H.D.
Location	On right bank at the abutment of the bridge.
Elevation	+192.690 m.(M.S.L)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1987 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 27 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	178.18	178.16	178.39	178.68	179.16	180.09	179.29	178.62	178.40	178.31	178.23	178.31	
2	178.19	178.15	178.44	178.61	179.06	180.06	179.17	178.60	178.40	178.33	178.23	178.25	
3	178.17	178.14	178.35	178.58	178.98	179.77	179.11	178.59	178.39	178.35	178.23	178.23	
4	178.13	178.13	178.33	179.51	179.55	179.72	179.18	178.58	178.39	178.36	178.22	178.22	
5	178.20	178.13	178.34	179.18	179.19	180.10	179.16	178.59	178.39	178.35	178.22	178.21	
6	178.19	178.15	178.51	178.87	179.04	180.23	179.08	178.59	178.39	178.36	178.21	178.20	
7	178.18	178.15	178.76	178.74	178.93	179.90	179.00	178.58	178.38	178.32	178.21	178.20	
8	178.18	178.28	178.59	178.66	179.30	179.59	178.93	178.55	178.38	178.31	178.21	178.20	
9	178.17	178.58	178.72	178.63	179.19	179.78	178.91	178.54	178.36	178.30	178.20	178.20	
10	178.16	179.57	178.87	178.60	179.41	180.22	178.87	178.54	178.35	178.29	178.20	178.19	
11	178.15	178.94	178.75	178.55	179.19	180.54	178.82	178.54	178.35	178.29	178.19	178.18	
12	178.14	178.69	178.66	178.53	179.00	180.19	178.81	178.54	178.34	178.28	178.18	178.17	
13	178.14	178.45	178.58	178.56	179.16	179.80	178.80	178.54	178.34	178.27	178.17	178.17	
14	178.13	178.37	178.62	178.53	179.89	179.75	178.78	178.53	178.34	178.27	178.17	178.16	
15	178.13	178.37	178.74	178.83	180.39	179.74	178.74	178.52	178.34	178.27	178.16	178.16	
16	178.12	178.39	178.59	178.91	180.20	179.62	178.73	178.50	178.34	178.27	178.16	178.15	
17	178.12	178.35	178.50	178.98	180.50	179.72	178.72	178.49	178.33	178.27	178.16	178.15	
18	178.12	178.30	178.45	178.94	179.99	179.75	178.89	178.48	178.33	178.26	178.16	178.14	
19	178.11	178.47	178.40	178.86	179.69	179.52	178.94	178.47	178.32	178.26	178.16	178.14	
20	178.12	178.43	178.39	178.81	179.44	180.09	178.81	178.47	178.32	178.25	178.16	178.14	
21	178.15	178.41	178.41	178.91	179.39	180.01	178.81	178.46	178.32	178.25	178.16	178.13	
22	178.27	178.48	178.39	178.82	179.39	179.69	179.05	178.45	178.32	178.25	178.16	178.13	
23	178.40	179.01	178.41	178.77	179.32	179.49	178.92	178.45	178.31	178.24	178.15	178.12	
24	178.37	178.87	178.65	179.83	179.73	179.45	178.83	178.45	178.30	178.24	178.15	178.12	
25	178.26	178.53	179.67	179.37	180.68	179.40	178.81	178.44	178.30	178.24	178.15	178.12	
26	178.22	178.44	179.27	179.21	180.23	179.31	178.79	178.44	178.30	178.24	178.20	178.11	
27	178.28	178.48	178.98	179.06	181.30	179.36	178.80	178.44	178.29	178.24	178.30	178.11	
28	178.24	178.54	178.99	178.97	181.08	179.48	178.79	178.43	178.29	178.24	178.52	178.11	
29	178.24	178.48	178.91	178.87	180.70	179.42	178.73	178.42	178.30	178.24	178.42	178.11	
30	178.21	178.43	178.78	178.81	180.40	179.35	178.69	178.41	178.33	178.24		178.11	
31		178.40		178.81	180.22		178.65		178.32	178.24		178.11	
Mean	178.19	178.46	178.65	178.87	179.76	179.77	178.89	178.51	178.34	178.28	178.21	178.16	
Max	178.40	179.57	179.67	179.83	181.30	180.54	179.29	178.62	178.40	178.36	178.52	178.31	181.30
Min	178.11	178.13	178.33	178.53	178.93	179.31	178.65	178.41	178.29	178.24	178.15	178.11	178.11

Annual Max Momentary Gage Height 181.42 M (MSL), at 18.00 Hours, on Aug 27, 1991
Zero Gage at Bottom Elevation 177.39 M (MSL), River Bed 175.96 M (MSL)
Left Bank Elevation 188.78 M (MSL)
Right Bank Elevation 192.27 M (MSL), Drainage Area 8784 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	14.9	12.8	48.2	106.0	206.6	411.7	234.8	94.0	50.0	34.2	21.6	34.2	
2	15.9	11.7	58.0	92.0	185.6	404.8	208.7	90.0	50.0	37.7	21.6	24.7	
3	13.8	10.6	41.2	86.0	386.6	340.4	196.1	88.0	48.2	41.2	21.6	21.6	
4	9.6	9.6	37.7	283.2	292.0	329.4	210.8	86.0	48.2	43.0	20.1	20.1	
5	17.0	9.6	39.4	210.8	212.9	414.0	206.6	88.0	48.2	41.2	20.1	18.5	
6	15.9	11.7	72.0	145.7	181.4	444.2	189.8	88.0	48.2	43.0	18.5	17.0	
7	14.9	11.7	122.6	118.4	158.3	369.0	173.0	86.0	46.5	35.9	18.5	17.0	
8	14.9	29.3	88.0	102.0	237.0	300.8	158.3	80.0	46.5	34.2	18.5	17.0	
9	13.8	86.0	114.2	96.0	212.9	342.6	154.1	78.0	43.0	32.4	17.0	17.0	
10	12.8	296.4	145.7	90.0	261.2	441.8	145.7	78.0	41.2	30.9	17.0	15.9	
11	11.7	160.4	120.5	80.0	212.9	518.3	135.2	78.0	41.2	30.9	15.9	14.9	
12	10.6	108.0	102.0	76.0	173.0	434.7	133.1	78.0	39.4	29.3	14.9	13.8	
13	10.6	60.0	86.0	82.0	206.6	347.0	131.0	78.0	39.4	27.8	13.8	13.8	
14	9.6	44.7	94.0	76.0	366.8	336.0	126.8	76.0	39.4	27.8	13.8	12.8	
15	9.6	44.7	118.4	137.3	482.4	333.8	118.4	74.0	39.4	27.8	12.8	12.8	
16	8.5	48.2	88.0	154.1	437.0	307.4	116.3	70.0	39.4	27.8	12.8	11.7	
17	8.5	41.2	70.0	168.8	508.7	329.4	114.2	68.0	37.7	27.8	12.8	11.7	
18	8.5	32.4	60.0	160.4	388.8	336.0	149.9	66.0	37.7	26.2	12.8	10.6	
19	7.5	64.0	50.0	143.6	322.8	285.4	160.4	64.0	35.9	26.2	12.8	10.6	
20	8.5	56.0	48.2	133.1	267.8	411.7	133.1	64.0	35.9	24.7	12.8	10.6	
21	11.7	52.0	52.0	154.1	256.8	393.3	133.1	62.0	35.9	24.7	12.8	9.6	
22	27.8	66.0	48.2	135.2	256.8	322.8	183.5	60.0	35.9	24.7	12.8	9.6	
23	50.0	175.1	52.0	124.7	241.4	278.8	156.2	60.0	34.2	23.2	11.7	8.5	
24	44.7	145.7	100.0	353.6	331.6	270.0	137.3	60.0	32.4	23.2	11.7	8.5	
25	26.2	76.0	318.4	252.4	551.8	259.0	133.1	58.0	32.4	23.2	11.7	8.5	
26	20.1	58.0	230.4	217.2	444.2	239.2	128.9	58.0	32.4	23.2	17.0	7.5	
27	29.3	66.0	168.8	185.6	700.0	250.2	131.0	58.0	30.9	23.2	32.4	7.5	
28	23.2	78.0	170.9	166.7	647.4	276.6	128.9	56.0	30.9	23.2	74.0	7.5	
29	23.2	66.0	154.1	145.7	556.5	263.4	116.3	54.0	32.4	23.2	54.0	7.5	
30	18.5	56.0	126.8	133.1	484.8	248.0	108.0	52.0	37.7	23.2		7.5	
31		50.0		133.1	441.8		100.0		35.9	23.2		7.5	
Total	511.8	2037.8	3025.7	4542.8	10614.4	10239.7	4652.6	2150.0	1226.4	908.2	567.8	416.0	40893.2 CMSDAY
Mean	17.1	65.7	100.9	146.5	342.4	341.3	150.1	71.7	39.6	29.3	19.6	13.4	111.7 CMS
Max	50.0	296.4	318.4	353.6	700.0	518.3	234.8	94.0	50.0	43.0	74.0	34.2	700.0 CMS
Min	7.5	9.6	37.7	76.0	158.3	239.2	100.0	52.0	30.9	23.2	11.7	7.5	7.5 CMS
Runoff	44.22	176.07	261.42	392.50	917.08	884.71	401.98	185.76	105.96	78.47	49.06	35.94	3533.17 MCM

Momentary Peak 730.00 CMS, at 181.42 M (MSL), at 18.00 Hours, on Aug 27, 1991

Runoff Yield 12.72 Liters/Second/Square KM, Momentary Peak Yield 83.11 Liters/Second/Square KM

WATER YEAR 1991

NAN RIVER BASIN

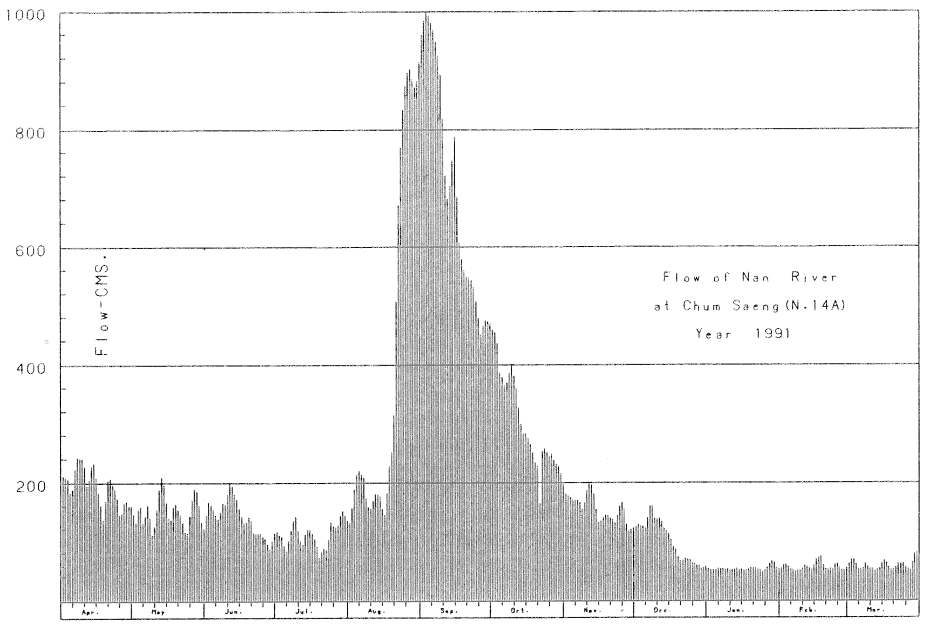
Nan River at Wat Luang Pho Kaeo, Nakhon Sawan (N.14A)

Location	Lat. 15-53-56 N., Long. 100-18-34 E., on right bank in front of Wat Luang Pho Kaeo about 1 km. upstream from station N.14, Amphoe Chum Saeng, Nakhon Sawan.
Drainage Area	33,182 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+19.00 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank in front of automatic gage building.
Elevation	+27.842 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1971 to date.
Rating Operation	
Period of Rating	1973 - 1979, 1991 to date.
Rated by Float	-
Rated by Current Meter	1972 - 1980, 1991 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 32 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	21.45	20.48	20.47	19.99	20.25	27.15	24.87	22.30	21.45	19.52	19.75	20.01	
2	21.40	20.26	20.80	19.88	20.65	27.27	24.85	22.24	21.50	19.36	19.92	20.18	
3	21.38	20.63	20.75	19.81	21.13	27.35	24.73	22.22	21.47	19.25	19.98	20.20	
4	21.03	20.68	20.61	19.53	21.46	27.32	24.39	22.14	21.44	19.44	19.84	19.98	
5	21.13	20.23	20.46	19.34	21.56	27.26	24.34	22.13	21.41	19.58	19.58	19.60	
6	21.59	20.42	20.37	19.67	21.47	27.19	24.22	22.15	21.69	19.62	19.29	19.41	
7	21.83	20.74	20.55	20.03	21.41	27.09	24.27	22.08	22.01	19.53	19.09	19.77	
8	21.82	20.38	20.78	20.29	20.90	26.96	24.39	21.93	22.01	19.48	19.11	19.99	
9	21.80	19.90	20.77	20.43	20.68	26.79	24.50	22.09	21.70	19.43	19.31	19.88	
10	21.65	20.15	21.01	20.04	20.65	26.36	24.36	22.37	21.66	19.27	19.70	19.73	
11	21.20	20.63	21.26	19.66	20.85	25.80	24.18	22.57	21.70	19.29	19.88	19.48	
12	21.36	21.11	21.21	19.57	21.00	25.54	23.93	22.52	21.58	19.52	19.87	19.22	
13	21.64	21.42	21.00	19.89	21.01	25.69	23.68	22.30	21.40	19.57	19.55	19.29	
14	21.72	21.22	20.88	20.06	20.95	25.95	23.53	21.91	21.29	19.45	19.44	19.78	
15	21.40	20.80	20.65	20.03	20.63	26.19	23.52	21.58	21.23	19.38	19.89	20.02	
16	21.04	20.37	20.42	19.92	20.47	25.91	23.45	21.60	21.00	19.26	20.19	20.14	
17	20.72	20.34	20.22	19.76	21.04	25.62	23.33	21.72	20.79	19.19	20.31	20.06	
18	20.34	20.68	20.27	19.48	21.64	25.50	23.18	21.77	20.65	19.55	20.33	19.82	
19	20.85	20.77	20.42	19.12	21.95	25.41	23.00	21.78	20.35	19.74	19.94	19.45	
20	21.33	20.62	20.30	19.29	22.63	25.36	22.92	21.69	20.12	19.82	19.47	19.43	
21	21.39	20.47	19.97	19.40	24.34	25.35	22.07	21.64	20.17	19.76	19.42	19.84	
22	21.24	20.24	19.91	19.38	25.48	25.33	23.21	21.56	20.23	19.53	19.54	19.97	
23	21.12	19.99	19.94	19.74	26.08	25.27	23.25	21.77	20.22	19.22	19.56	20.02	
24	20.92	19.94	19.93	20.25	26.46	25.15	23.19	21.99	20.16	19.03	19.93	20.01	
25	20.49	20.45	19.83	20.17	26.68	24.99	23.12	22.10	20.07	19.40	20.02	19.84	
26	20.50	20.88	19.73	20.11	26.80	24.82	23.16	21.92	19.98	19.80	19.79	19.44	
27	20.80	21.12	19.58	20.18	26.84	24.91	23.05	21.52	19.93	20.02	19.36	19.33	
28	20.82	21.09	19.38	20.45	26.74	24.96	22.96	21.30	19.89	20.10	19.16	20.09	
29	20.72	20.72	19.65	20.57	26.67	24.96	22.92	21.34	19.75	20.08	19.68	20.46	
30	20.70	20.25	19.95	20.46	26.72	24.93	22.78	21.39	19.75	19.76		20.52	
31		20.08		20.29	26.90		22.52		19.87	19.47		20.37	
Mean	21.18	20.55	20.37	19.90	22.97	25.95	23.61	21.92	20.85	19.53	19.69	19.85	
Max	21.83	21.42	21.26	20.57	26.90	27.35	24.87	22.57	22.01	20.10	20.33	20.52	27.35
Min	20.34	19.90	19.38	19.12	20.25	24.82	22.07	21.30	19.75	19.03	19.09	19.22	19.03

Annual Max Momentary Gage Height 27.36 M (MSL), at 18.00 Hours, on Sep 3, 1991
Zero Gage at Bottom Elevation 19.00 M (MSL), River Bed 16.68 M (MSL)
Left Bank Elevation 28.09 M (MSL)
Right Bank Elevation 27.50 M (MSL), Drainage Area 33182 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	213.0	146.8	146.2	117.5	133.0	960.5	459.9	182.0	126.8	53.9	55.6	63.4	
2	209.0	133.6	167.0	112.0	157.2	983.3	456.5	177.8	129.5	52.7	60.2	69.3	
3	207.6	155.9	163.8	108.5	190.1	998.5	437.1	176.4	127.8	51.9	62.3	70.0	
4	183.1	159.2	154.7	94.5	213.8	992.8	386.7	170.8	126.2	53.3	57.4	62.3	
5	190.1	131.8	145.6	85.0	221.8	981.4	380.2	170.1	124.5	54.4	54.4	54.5	
6	224.2	143.2	140.2	101.5	214.6	968.1	364.6	171.5	140.4	54.7	52.2	53.1	
7	243.4	163.1	151.0	119.8	209.8	949.1	371.1	166.6	161.7	54.0	50.7	55.8	
8	242.6	140.8	165.7	135.4	174.0	924.8	386.7	156.1	161.7	53.6	50.8	62.7	
9	241.0	113.0	165.1	143.8	159.2	894.2	402.5	167.3	141.0	53.2	52.3	58.8	
10	229.0	127.0	181.7	120.4	157.2	817.2	382.8	186.9	138.6	52.0	55.3	55.5	
11	195.0	155.9	199.2	101.0	170.5	722.0	359.5	200.9	141.0	52.2	58.8	53.6	
12	206.2	188.7	195.7	96.5	181.0	681.7	328.3	197.4	133.9	53.9	58.5	51.6	
13	228.2	210.6	181.0	112.5	181.7	705.0	299.4	182.0	124.0	54.3	54.1	52.2	
14	234.6	196.4	172.6	121.6	177.5	747.5	284.4	154.7	118.0	53.4	53.3	55.9	
15	209.0	167.0	157.2	119.8	155.9	788.3	283.4	133.9	114.6	52.8	59.2	63.7	
16	183.8	140.2	143.2	114.0	146.2	686.5	276.8	135.0	103.0	52.0	69.7	67.9	
17	161.8	138.4	131.2	106.0	183.8	607.2	265.3	142.2	92.6	51.4	73.9	65.1	
18	138.4	159.2	134.2	92.0	228.2	580.5	251.2	145.2	87.0	54.1	74.6	56.7	
19	170.5	165.1	143.2	74.4	253.0	561.2	235.0	145.8	75.3	55.6	60.9	53.4	
20	204.1	155.3	136.0	82.5	314.8	550.8	228.2	140.4	67.2	56.7	53.5	53.2	
21	208.3	146.2	116.5	88.0	508.9	548.8	165.9	137.4	69.0	55.7	53.2	57.4	
22	197.8	132.4	113.5	87.0	672.4	544.6	253.9	132.8	71.1	54.0	54.1	62.0	
23	189.4	117.5	115.0	105.0	769.6	532.4	257.7	145.2	70.7	51.6	54.2	63.7	
24	175.4	115.0	114.5	133.0	834.8	509.0	252.1	160.3	68.6	50.2	60.6	63.4	
25	147.4	145.0	109.5	128.2	874.4	480.3	245.8	168.0	65.5	53.0	63.7	57.4	
26	148.0	172.6	104.5	124.6	896.0	451.4	249.4	155.4	62.3	56.0	55.9	53.3	
27	167.0	189.4	97.0	128.8	903.2	466.7	239.5	130.6	60.6	63.7	52.7	52.5	
28	168.4	187.3	87.0	145.0	885.2	475.2	231.6	118.5	59.2	66.5	51.2	66.2	
29	161.8	161.8	100.5	152.2	872.6	475.2	228.2	120.7	55.6	65.8	55.1	79.4	
30	160.5	133.0	115.5	145.6	881.6	470.1	216.5	123.4	55.6	55.7		81.8	
31		122.8		135.4	914.0		197.4		58.5	53.5		76.0	
Total	5838.6	4714.2	4248.0	3531.5	12836.0	21054.3	9377.6	4695.3	3131.5	1695.8	1668.4	1891.8	74683.0 CMSDAY
Mean	194.6	152.1	141.6	113.9	414.1	701.8	302.5	156.5	101.0	54.7	57.5	61.0	204.1 CMS
Max	243.4	210.6	199.2	152.2	914.0	998.5	459.9	200.9	161.7	66.5	74.6	81.8	998.5 CMS
Min	138.4	113.0	87.0	74.4	133.0	451.4	165.9	118.5	55.6	50.2	50.7	51.6	50.2 CMS
Runoff	504.45	407.31	367.03	305.12	1109.03	1819.09	810.22	405.67	270.56	146.52	144.15	163.45	6452.61 MCM

Momentary Peak 1000.40 CMS, at 27.36 M (MSL), at 18.00 Hours, on Sep 3, 1991
Runoff Yield 6.15 Liters/Second/Square KM, Momentary Peak Yield 30.15 Liters/Second/Square KM

WATER YEAR 1991

NAN RIVER BASIN

Khek River at Ban Wang Nok Aen, Phitsanulok (N.24)

Location — Lat. 16-50-35 N., Long. 100-31-20 E., on right bank about 2 kilometers downstream from Sakunothayan Fall, Amphoe Wang Thong, Phitsanulok.

Drainage Area — 1,861 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m. (A.D.)

Bench Mark — B.M.-H.D.

Location — Near the gage site.

Elevation — +12.845 m. (A.D.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1965 to date.

Rating Operation

Period of Rating — 1965-1974, 1980 to date.

Rated by Float — -

Rated by Current Meter — 1965-1974, 1980 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 16 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

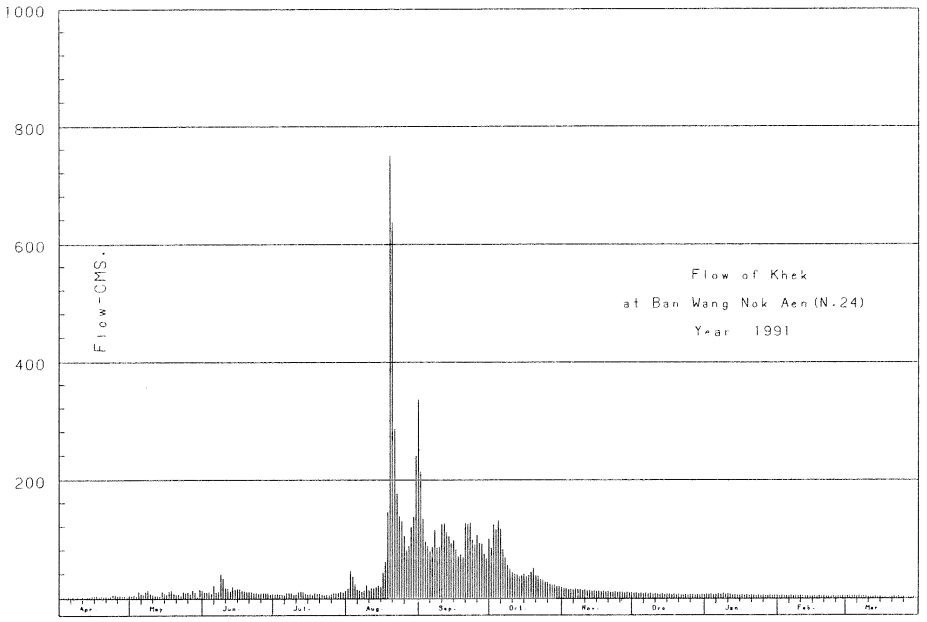
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.38	0.81	1.44	1.08	2.06	7.02	4.61	2.09	1.33	1.12	0.86	0.76	
2	0.38	0.82	1.48	1.22	3.42	5.66	5.47	2.03	1.32	1.18	0.86	0.78	
3	0.37	0.70	1.42	1.04	3.08	4.86	5.29	1.98	1.32	1.14	0.85	0.76	
4	0.36	1.64	1.28	1.11	2.39	4.64	5.62	1.95	1.32	1.12	0.84	0.73	
5	0.35	1.18	2.32	1.04	1.99	4.42	5.34	1.93	1.29	1.17	0.83	0.74	
6	0.39	1.02	1.42	1.29	1.72	4.64	4.55	1.99	1.27	1.21	0.82	0.70	
7	0.41	1.60	1.49	1.40	1.58	5.30	4.11	1.95	1.26	1.18	0.80	0.68	
8	0.40	1.75	3.23	1.24	1.70	4.58	3.76	1.90	1.23	1.22	0.79	0.66	
9	0.39	1.28	2.89	1.11	2.37	4.64	3.53	1.87	1.22	1.21	0.78	0.62	
10	0.37	1.00	2.13	1.06	1.90	5.49	3.34	1.83	1.21	1.16	0.77	0.63	
11	0.36	0.93	2.01	1.42	2.04	5.54	3.20	1.79	1.21	1.10	0.77	0.64	
12	0.37	0.72	1.69	1.63	2.03	5.20	3.20	1.75	1.19	1.06	0.76	0.64	
13	0.49	0.63	2.17	1.44	2.20	5.08	3.04	1.72	1.16	1.04	0.75	0.61	
14	0.58	1.64	1.98	1.27	2.27	4.76	3.14	1.69	1.15	1.01	0.74	0.56	
15	0.74	1.18	2.06	1.18	2.22	4.92	3.19	1.66	1.14	0.99	0.73	0.52	
16	0.68	1.03	1.93	1.09	3.34	4.50	3.09	1.64	1.12	0.97	0.72	0.47	
17	0.59	1.60	1.80	1.06	3.91	4.19	3.11	1.60	1.11	0.96	0.71	0.44	
18	0.53	1.76	1.59	1.29	5.89	4.26	3.36	1.59	1.10	0.94	0.70	0.38	
19	0.60	1.28	1.61	1.27	12.24	4.16	3.57	1.58	1.09	0.93	0.69	0.50	
20	0.61	1.00	1.47	1.17	11.43	5.52	3.13	1.55	1.08	0.92	0.68	0.59	
21	0.53	1.04	1.42	1.09	8.01	5.49	3.08	1.53	1.08	0.91	0.67	0.57	
22	0.53	0.92	1.35	1.03	6.46	5.56	2.87	1.51	1.07	0.89	0.67	0.57	
23	1.08	1.58	1.29	0.98	5.74	4.93	2.76	1.49	1.06	0.90	0.66	0.59	
24	0.92	1.32	1.24	1.04	5.62	4.70	2.64	1.48	1.05	0.89	0.66	0.62	
25	0.81	1.53	1.29	1.10	5.08	5.09	2.56	1.46	1.04	0.89	0.65	0.53	
26	0.70	1.11	1.39	1.39	4.51	4.76	2.48	1.44	1.03	0.88	0.65	0.52	
27	0.68	1.85	1.36	1.23	4.65	4.78	2.38	1.42	1.03	0.88	0.71	0.50	
28	0.64	1.38	1.26	1.41	5.38	4.33	2.33	1.40	1.04	0.87	0.75	0.48	
29	0.54	0.58	1.18	1.49	5.75	4.06	2.25	1.38	1.04	0.87	0.74	0.48	
30	0.84	2.00	1.12	1.47	7.43	4.95	2.18	1.36	1.07	0.86		0.47	
31		1.73		1.65	8.62		2.14		1.09	0.85		0.47	
Mean	0.55	1.25	1.68	1.24	4.42	4.93	3.40	1.69	1.15	1.01	0.75	0.59	
Max	1.08	2.00	3.23	1.65	12.24	7.02	5.62	2.09	1.33	1.22	0.86	0.78	12.24
Min	0.35	0.58	1.12	0.98	1.58	4.06	2.14	1.36	1.03	0.85	0.65	0.38	0.35

Annual Max Momentary Gage Height — 13.04 M (A.D), at 24.00 Hours, on Aug 19, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -1.90 M (A.D)

Left Bank Elevation — 13.79 M (A.D)

Right Bank Elevation — 15.33 M (A.D), Drainage Area 1861 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.28	4.86	10.40	6.80	17.20	214.36	86.62	17.80	9.30	7.20	5.16	4.56	
2	2.28	4.92	10.80	8.20	46.92	134.64	124.62	16.60	9.20	7.80	5.16	4.68	
3	2.22	4.20	10.20	6.40	38.08	97.12	116.34	15.80	9.20	7.40	5.10	4.56	
4	2.16	12.40	8.80	7.10	23.80	87.88	132.48	15.50	9.20	7.20	5.04	4.38	
5	2.10	7.80	22.40	6.40	15.90	79.28	118.64	15.30	8.90	7.70	4.98	4.44	
6	2.34	6.23	10.20	8.90	13.20	87.88	84.10	15.90	8.70	8.10	4.92	4.20	
7	2.46	12.00	10.90	10.00	11.80	116.80	68.74	15.50	8.60	7.80	4.80	4.08	
8	2.40	13.50	41.98	8.40	13.00	85.36	57.32	15.00	8.30	8.20	4.74	3.96	
9	2.34	8.80	33.80	7.10	23.40	87.88	49.96	14.70	8.20	8.10	4.68	3.72	
10	2.22	6.00	18.60	6.60	15.00	125.54	44.84	14.30	8.10	7.60	4.62	3.78	
11	2.16	5.58	16.20	10.20	16.80	128.16	41.20	13.90	8.10	7.00	4.62	3.84	
12	2.22	4.32	12.90	12.30	16.60	112.20	41.20	13.50	7.90	6.60	4.56	3.84	
13	2.94	3.78	19.40	10.40	20.00	106.68	37.04	13.20	7.60	6.40	4.50	3.66	
14	3.48	12.40	15.80	8.70	21.40	92.92	39.64	12.90	7.50	6.10	4.44	3.36	
15	4.44	7.80	17.20	7.80	20.40	99.64	40.94	12.60	7.40	5.94	4.38	3.12	
16	4.08	6.30	15.30	6.90	44.84	82.00	38.34	12.40	7.20	5.82	4.32	2.82	
17	3.54	12.00	14.00	6.60	62.12	71.46	38.86	12.00	7.10	5.76	4.26	2.64	
18	3.18	13.60	11.90	8.90	147.06	73.84	45.36	11.90	7.00	5.64	4.20	2.28	
19	3.60	8.80	12.10	8.70	751.52	70.44	51.24	11.80	6.90	5.58	4.14	3.00	
20	3.66	6.00	10.70	7.70	637.04	127.08	39.38	11.50	6.80	5.52	4.08	3.54	
21	3.18	6.40	10.20	6.90	286.82	125.54	38.08	11.30	6.80	5.46	4.02	3.42	
22	3.18	5.52	9.50	6.30	178.76	129.24	33.40	11.10	6.70	5.34	4.02	3.42	
23	6.80	11.80	8.90	5.88	138.96	100.06	31.20	10.90	6.60	5.40	3.96	3.54	
24	5.52	9.20	8.40	6.40	132.48	90.40	28.80	10.80	6.50	5.34	3.96	3.72	
25	4.86	11.30	8.90	7.00	106.68	107.14	27.20	10.60	6.40	5.34	3.90	3.18	
26	4.20	7.10	9.90	9.90	82.42	92.92	25.60	10.40	6.30	5.28	3.90	3.12	
27	4.08	14.50	9.60	8.30	88.30	93.76	23.60	10.20	6.30	5.28	4.26	3.00	
28	3.84	9.80	8.60	10.10	120.48	76.22	22.60	10.00	6.40	5.22	4.50	2.88	
29	3.24	3.48	7.80	10.90	139.50	67.04	21.00	9.80	6.40	5.22	4.44	2.88	
30	5.04	16.00	7.20	10.70	242.24	100.90	19.60	9.60	6.70	5.16		2.82	
31		13.30		12.50	337.80		18.80		6.90	5.10		2.82	
Total	100.04	269.69	412.58	258.98	3810.52	3064.38	1586.74	386.80	233.20	195.60	129.66	109.26	10557.45 CMSDAY
Mean	3.33	8.70	13.75	8.35	122.92	102.15	51.19	12.89	7.52	6.31	4.47	3.52	28.85 CMS
Max	6.80	16.00	41.98	12.50	751.52	214.36	132.48	17.80	9.30	8.20	5.16	4.68	751.52 CMS
Min	2.10	3.48	7.20	5.88	11.80	67.04	18.80	9.60	6.30	5.10	3.90	2.28	2.10 CMS
Runoff	8.643	23.301	35.647	22.376	329.229	264.762	137.094	33.420	20.148	16.900	11.203	9.440	912.164 MCM

Momentary Peak 886.00 CMS, at 13.04 M (A.D), at 24.00 Hours, on Aug 19, 1991

Runoff Yield 15.50 Liters/Second/Square KM, Momentary Peak Yield 476.09 Liters/Second/Square KM

WATER YEAR 1991

NAN RIVER BASIN

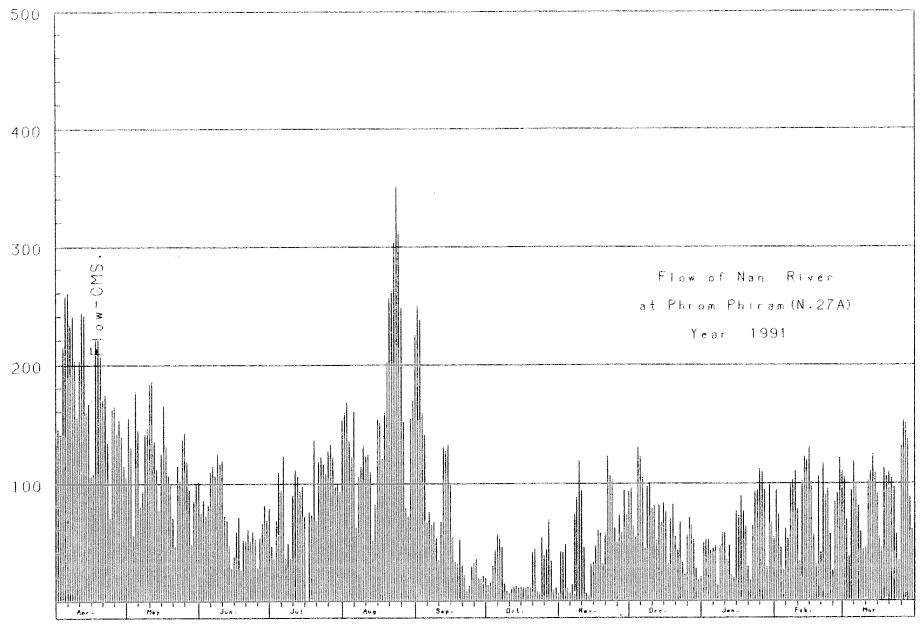
Nan River at Phrom Phiram, Phitsanulok (N.27A)

Location	Lat. 17-01-54 N., Long. 100-11-05 E., on right bank about 1,800 meters downstream from Phrom Phiram Dam, Amphoe Phrom Phiram, Phitsanulok.
Drainage Area	19,540 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+38.43 m.(M.S.L)
Bench Mark	B.M.-H.D.
Location	About 10 meters from the top staff gage.
Elevation	+48.572 m.(M.S.L)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1980 to date.
Rating Operation	
Period of Rating	1980 to date.
Rated by Float	-
Rated by Current Meter	1980 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 12 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	40.43	40.55	39.46	39.00	40.61	41.66	38.29	38.90	39.77	39.05	39.75	39.89	
2	40.38	40.24	39.62	38.77	40.72	41.53	38.32	38.89	39.28	39.09	39.44	39.37	
3	41.27	39.17	39.43	39.37	40.31	40.60	38.67	39.03	39.12	39.10	38.98	38.82	
4	41.75	40.83	39.57	39.95	40.13	40.38	38.92	38.19	40.24	38.91	38.59	39.75	
5	41.78	40.42	39.96	39.75	40.63	39.33	39.18	38.08	40.13	38.96	39.25	40.08	
6	41.47	39.55	40.02	40.15	39.27	39.47	39.10	38.28	39.90	39.00	39.10	39.81	
7	41.56	39.73	39.91	38.79	39.91	39.31	38.98	39.45	38.96	38.28	39.82	39.56	
8	41.13	40.38	40.16	39.04	40.01	39.34	38.32	39.66	39.79	39.00	39.86	39.22	
9	40.56	40.45	40.05	38.79	40.26	39.12	38.12	40.08	39.82	39.20	39.97	38.93	
10	41.13	40.91	40.08	39.68	40.14	38.75	38.06	39.75	39.53	39.21	39.51	38.97	
11	41.59	40.93	39.42	39.98	40.15	39.34	38.16	38.98	39.55	38.76	38.73	39.86	
12	41.57	40.30	39.37	39.91	39.96	40.24	38.23	38.04	39.08	39.01	39.85	39.96	
13	40.61	39.99	39.00	39.73	39.08	40.19	38.24	38.00	39.57	38.48	40.13	40.15	
14	40.71	39.49	38.61	39.80	39.58	40.27	38.22	38.68	39.34	38.44	40.09	39.95	
15	39.91	40.16	38.82	39.42	40.54	39.82	38.22	38.73	39.59	39.48	40.24	39.70	
16	39.93	40.69	39.22	37.85	40.50	39.13	38.21	38.99	39.47	39.42	39.84	39.13	
17	41.34	40.24	39.41	39.47	40.11	38.73	38.21	39.24	38.70	39.68	39.17	38.96	
18	41.34	39.92	38.58	39.44	40.61	38.68	38.22	39.19	39.38	39.49	38.68	40.00	
19	41.18	39.82	39.08	40.32	41.13	39.10	38.22	38.70	39.58	39.28	39.91	39.91	
20	40.74	39.40	39.08	39.35	41.73	38.67	38.88	39.20	39.14	38.64	38.89	39.95	
21	40.80	38.99	39.24	40.07	41.79	38.48	38.94	40.14	38.93	38.40	40.05	39.88	
22	40.29	40.03	39.08	40.13	42.21	38.12	38.12	39.92	39.34	39.30	39.69	39.79	
23	39.39	39.85	39.21	40.05	42.68	38.25	38.07	39.87	38.72	39.73	39.76	39.19	
24	40.65	40.33	39.10	39.93	42.30	38.65	39.14	39.27	38.50	39.75	39.19	38.74	
25	40.67	40.39	38.63	40.19	41.64	38.71	38.83	39.06	39.17	39.99	38.58	40.25	
26	40.39	40.07	39.12	40.27	40.52	38.77	38.94	39.43	39.41	39.96	39.61	40.52	
27	40.53	39.75	39.33	40.12	39.52	38.44	39.37	39.20	39.30	39.75	39.71	40.50	
28	40.35	39.03	39.57	39.79	39.42	38.41	38.75	39.75	39.09	38.63	40.12	40.32	
29	40.03	39.61	39.36	39.82	40.54	38.47	38.13	39.44	38.62	39.82	39.96	39.66	
30	39.89	39.83	39.52	39.73	40.74	38.44	38.22	39.73	38.40	39.33		39.24	
31		39.85		40.53	41.38		38.06		38.45	39.13		39.32	
Mean	40.78	40.03	39.37	39.65	40.58	39.28	38.49	39.13	39.29	39.17	39.53	39.66	
Max	41.78	40.93	40.16	40.53	42.68	41.66	39.37	40.14	40.24	39.99	40.24	40.52	42.68
Min	39.39	38.99	38.58	37.85	39.08	38.12	38.06	38.00	38.40	38.28	38.58	38.74	37.85

Annual Max Momentary Gage Height 42.83 M (MSL), at 12.00 Hours, on Sep 23, 1991
Zero Gage at Bottom Elevation 38.43 M (MSL), River Bed 37.40 M (MSL)
Left Bank Elevation 48.15 M (MSL)
Right Bank Elevation 48.24 M (MSL), Drainage Area 19540 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	145.40	155.00	74.90	47.00	159.80	250.40	14.15	42.00	95.90	49.75	94.50	104.75	
2	141.50	131.00	85.40	35.50	168.60	238.70	15.20	41.50	63.20	51.95	73.60	69.05	
3	215.30	56.35	72.95	69.05	136.25	159.00	30.50	48.65	53.60	52.50	46.00	38.00	
4	258.50	177.55	82.05	109.25	122.75	141.50	43.00	10.70	131.00	42.50	26.55	94.50	
5	261.20	144.60	110.00	94.50	161.40	66.45	56.90	7.40	122.75	45.00	61.25	119.00	
6	233.30	80.75	114.50	124.25	62.55	75.55	52.50	13.80	105.50	47.00	52.50	98.75	
7	241.40	93.10	106.25	36.50	106.25	65.15	46.00	74.25	45.00	13.80	99.50	81.40	
8	203.05	141.50	125.00	49.20	113.75	67.10	15.20	88.20	97.30	47.00	102.50	59.30	
9	155.80	147.00	116.75	36.50	132.50	53.60	8.60	119.00	99.50	58.00	110.75	43.50	
10	203.05	184.35	119.00	89.60	123.50	34.50	6.80	94.50	79.45	58.65	78.15	45.50	
11	244.10	186.05	72.30	111.50	124.25	67.10	9.80	46.00	80.75	35.00	33.50	102.50	
12	242.30	135.50	69.05	106.25	110.00	131.00	12.05	6.20	51.40	47.55	101.75	110.00	
13	159.80	112.25	47.00	93.10	51.40	127.25	12.40	5.00	82.05	21.60	122.75	124.25	
14	167.80	76.85	27.50	98.00	82.70	133.25	11.70	31.00	67.10	19.80	119.75	109.25	
15	106.25	125.00	38.00	72.30	154.20	99.50	11.70	33.50	83.35	76.20	131.00	91.00	
16	107.75	166.20	59.30	1.25	151.00	54.15	11.35	46.50	75.55	72.30	101.00	54.15	
17	221.60	131.00	71.65	75.55	121.25	33.50	11.35	60.60	32.00	89.60	56.35	45.00	
18	221.60	107.00	26.10	73.60	159.80	31.00	11.70	57.45	69.70	76.85	31.00	113.00	
19	207.30	99.50	51.40	137.00	203.05	52.50	11.70	32.00	82.70	63.20	106.25	106.25	
20	170.20	71.00	51.40	67.75	256.70	30.50	41.00	58.00	54.70	29.00	41.50	109.25	
21	175.00	46.50	60.60	118.25	262.10	21.60	44.00	123.50	43.50	18.00	116.75	104.00	
22	134.75	115.25	51.40	122.75	304.00	8.60	8.60	107.00	67.10	64.50	90.30	97.30	
23	70.35	101.75	58.65	116.75	351.80	12.75	7.10	103.25	33.00	93.10	95.20	57.45	
24	163.00	137.75	52.50	107.75	313.00	29.50	54.70	62.55	22.50	94.50	57.45	34.00	
25	164.60	142.25	28.50	127.25	248.60	32.50	38.50	50.30	56.35	112.25	26.10	131.75	
26	142.25	118.25	53.60	133.25	152.60	35.50	44.00	72.95	71.65	110.00	84.70	152.60	
27	153.40	94.50	66.45	122.00	78.80	19.80	69.05	58.00	64.50	94.50	91.70	151.00	
28	139.25	48.65	82.05	97.30	72.30	18.45	34.50	94.50	51.95	28.50	122.00	137.00	
29	115.25	84.70	68.40	99.50	154.20	21.15	8.90	73.60	28.00	99.50	110.00	88.20	
30	104.75	100.25	78.80	93.10	170.20	19.80	11.70	93.10	18.00	66.45		60.60	
31		101.75		153.40	225.20		6.80		20.25	54.15		65.80	
Total	5269.80	3613.15	2121.45	2818.95	5034.50	2131.35	761.45	1755.00	2049.30	1832.70	2384.35	2798.10	32570.10 CMSDAY
Mean	175.66	116.55	70.72	90.93	162.40	71.05	24.56	58.50	66.11	59.12	82.22	90.26	88.99 CMS
Max	261.20	186.05	125.00	153.40	351.80	250.40	69.05	123.50	131.00	112.25	131.00	152.60	351.80 CMS
Min	70.35	46.50	26.10	1.25	51.40	8.60	6.80	5.00	18.00	13.80	26.10	34.00	1.25 CMS
Runoff	455.311	312.176	183.293	243.557	434.981	184.149	65.789	151.632	177.060	158.345	206.008	241.756	2814.057 MCM

Momentary Peak 368.30 CMS, at 42.83 M (MSL), at 12.00 Hours, on Sep 23, 1991

Runoff Yield 4.55 Liters/Second/Square KM, Momentary Peak Yield 18.85 Liters/Second/Square KM

WATER YEAR 1991

NAN RIVER BASIN

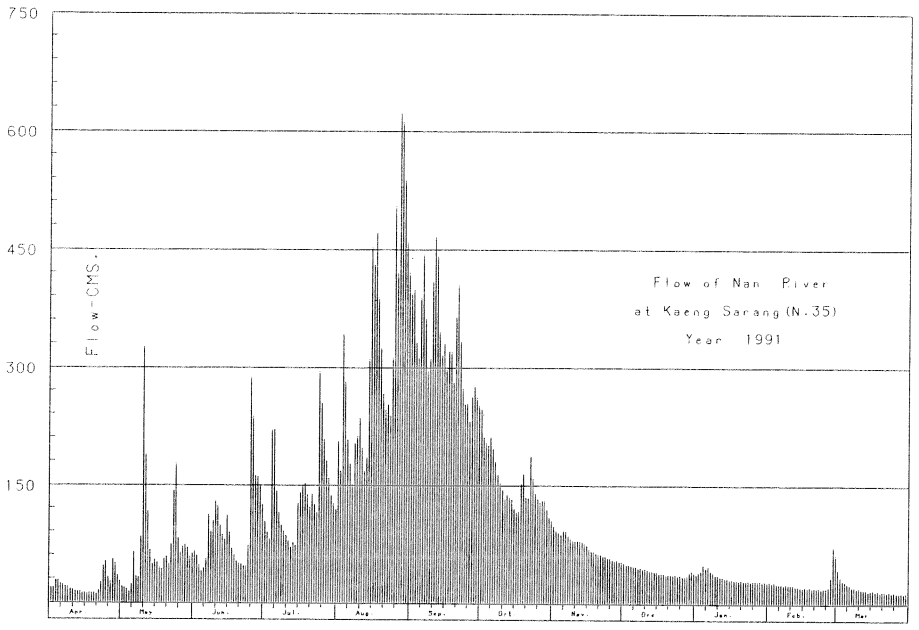
Nan River at Kaeng Sarang, Nan (N.35)

Location	°Lat. 18-24-00 N., Long. 100-51-05 E., on left bank at Kaeng Sarang, between Doi Khon Kaen and Doi Cham Hang, Amphoe Sa, Nan.
Drainage Area	10,335 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	In the vicinity of Meteorological Station.
Elevation	+12.354 m. (A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1966 to date.
Rating Operation	
Period of Rating	1966 to date.
Rated by Float	-
Rated by Current Meter	1966 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 146 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.85	0.87	1.29	1.54	2.10	3.20	2.36	1.50	1.17	1.05	0.94	1.10	
2	0.84	0.84	1.25	1.45	1.89	3.23	2.14	1.47	1.16	1.06	0.93	1.01	
3	0.96	0.82	1.14	1.40	2.92	2.86	2.09	1.45	1.15	1.09	0.93	0.97	
4	0.95	0.79	1.08	2.19	2.57	2.75	2.07	1.44	1.15	1.15	0.92	0.94	
5	0.91	0.90	1.11	2.20	2.12	3.17	2.14	1.47	1.14	1.12	0.91	0.92	
6	0.88	1.28	1.21	1.76	1.94	3.48	2.05	1.46	1.13	1.13	0.90	0.89	
7	0.87	1.02	1.59	1.60	1.80	3.03	1.95	1.43	1.12	1.09	0.90	0.87	
8	0.85	1.00	1.46	1.51	2.09	2.65	1.87	1.40	1.12	1.06	0.90	0.86	
9	0.83	1.42	1.54	1.46	2.14	2.74	1.81	1.39	1.11	1.04	0.90	0.85	
10	0.81	2.83	1.69	1.43	2.29	3.29	1.77	1.38	1.11	1.03	0.89	0.85	
11	0.80	2.00	1.65	1.38	2.05	3.60	1.71	1.39	1.10	1.02	0.89	0.84	
12	0.79	1.61	1.51	1.33	1.89	3.47	1.73	1.38	1.09	1.01	0.88	0.83	
13	0.78	1.30	1.43	1.37	1.98	2.93	1.72	1.38	1.08	1.00	0.87	0.82	
14	0.76	1.16	1.40	1.34	2.74	2.77	1.70	1.36	1.08	0.99	0.87	0.81	
15	0.75	1.20	1.58	1.67	3.53	2.85	1.63	1.35	1.07	0.98	0.86	0.81	
16	0.75	1.17	1.45	1.75	3.41	2.66	1.61	1.31	1.06	0.97	0.86	0.82	
17	0.75	1.12	1.32	1.79	3.63	2.80	1.61	1.30	1.06	0.97	0.86	0.81	
18	0.76	1.10	1.25	1.81	3.18	2.79	1.81	1.29	1.05	0.96	0.86	0.81	
19	0.75	1.21	1.19	1.73	2.82	2.57	1.87	1.28	1.04	0.96	0.85	0.80	
20	0.74	1.24	1.16	1.64	2.48	3.04	1.72	1.26	1.04	0.96	0.85	0.80	
21	0.81	1.16	1.16	1.74	2.35	3.26	1.71	1.26	1.04	0.96	0.85	0.80	
22	0.92	1.35	1.14	1.67	2.40	2.87	1.99	1.25	1.04	0.96	0.85	0.80	
23	1.14	1.76	1.13	1.60	2.31	2.52	1.84	1.24	1.04	0.95	0.84	0.80	
24	1.18	1.94	1.34	2.65	2.75	2.40	1.74	1.23	1.03	0.95	0.84	0.79	
25	1.01	1.41	2.61	2.41	3.80	2.40	1.71	1.22	1.03	0.95	0.84	0.79	
26	0.93	1.28	2.30	2.12	3.35	2.26	1.68	1.21	1.02	0.95	0.87	0.78	
27	1.21	1.33	1.86	1.96	4.41	2.46	1.70	1.20	1.02	0.95	1.01	0.78	
28	1.16	1.35	1.85	1.84	4.35	2.54	1.69	1.20	1.02	0.95	1.34	0.77	
29	1.03	1.33	1.80	1.73	3.98	2.45	1.63	1.19	1.07	0.94	1.26	0.77	
30	0.94	1.23	1.66	1.67	3.56	2.39	1.57	1.18	1.08	0.94		0.77	
31		1.27		1.63	3.35		1.54		1.06	0.94		0.77	
Mean	0.89	1.30	1.47	1.72	2.78	2.85	1.81	1.33	1.08	1.00	0.91	0.84	
Max	1.21	2.83	2.61	2.65	4.41	3.60	2.36	1.50	1.17	1.15	1.34	1.10	4.41
Min	0.74	0.79	1.08	1.33	1.80	2.26	1.54	1.18	1.02	0.94	0.84	0.77	0.74

Annual Max Momentary Gage Height 4.60 M (A.D), at 21.00 Hours, on Aug 27, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -1.40 M (A.D)
Left Bank Elevation 12.42 M (A.D)



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	20.0	21.7	65.8	104.8	206.0	394.0	247.6	98.0	51.4	37.7	27.6	43.0	
2	19.1	19.1	61.0	90.0	168.7	399.4	212.4	93.2	50.2	38.8	26.8	33.5	
3	29.3	17.3	47.8	82.0	343.6	332.8	204.4	90.0	49.0	42.0	26.8	30.1	
4	28.5	14.9	40.9	220.4	281.9	313.0	201.2	88.4	49.0	49.0	26.0	27.6	
5	25.2	24.4	44.2	222.0	209.2	388.6	212.4	93.2	47.8	45.4	25.2	26.0	
6	22.6	64.6	56.2	143.6	178.4	444.4	198.0	91.6	46.6	46.6	24.4	23.5	
7	21.7	34.6	113.3	115.0	151.3	363.4	180.3	86.8	45.4	42.0	24.4	21.7	
8	20.0	32.5	91.6	99.7	204.4	295.5	164.9	82.0	45.4	38.8	24.4	20.8	
9	18.2	85.2	104.8	91.6	212.4	311.2	153.3	80.5	44.2	36.7	24.4	20.0	
10	16.4	327.4	130.3	86.8	236.4	410.2	145.5	79.0	44.2	35.6	23.5	20.0	
11	15.5	190.0	123.5	79.0	198.0	467.0	133.9	80.5	43.0	34.6	23.5	19.1	
12	14.9	116.7	99.7	71.5	168.7	442.6	137.8	79.0	42.0	33.5	22.6	18.2	
13	14.2	67.0	86.8	77.5	186.1	345.4	135.9	79.0	40.9	32.5	21.7	17.3	
14	13.0	50.2	82.0	73.0	311.2	316.6	132.0	76.0	40.9	31.7	21.7	16.4	
15	12.4	55.0	111.6	126.9	453.7	331.0	120.1	74.5	39.9	30.9	20.8	16.4	
16	12.4	51.4	90.0	141.7	431.8	297.2	116.7	68.5	38.8	30.1	20.8	17.3	
17	12.4	45.4	70.0	149.4	472.7	322.0	116.7	67.0	38.8	30.1	20.8	16.4	
18	13.0	43.0	61.0	153.3	390.4	320.2	153.3	65.8	37.7	29.3	20.8	16.4	
19	12.4	56.2	53.8	137.8	325.6	281.9	164.9	64.6	36.7	29.3	20.0	15.5	
20	11.7	59.8	50.2	121.8	266.8	365.2	135.9	62.2	36.7	29.3	20.0	15.5	
21	16.4	50.2	50.2	139.7	246.0	404.8	133.9	62.2	36.7	29.3	20.0	15.5	
22	26.0	74.5	47.8	126.9	254.0	334.6	188.1	61.0	36.7	29.3	20.0	15.5	
23	47.8	143.6	46.6	115.0	239.6	273.4	159.1	59.8	36.7	28.5	19.1	15.5	
24	52.6	178.4	73.0	295.5	313.0	254.0	139.7	58.6	35.6	28.5	19.1	14.9	
25	33.5	83.6	288.7	255.6	505.0	254.0	133.9	57.4	35.6	28.5	19.1	14.9	
26	26.8	64.6	238.0	209.2	421.0	231.6	128.6	56.2	34.6	28.5	21.7	14.2	
27	56.2	71.5	162.9	182.3	624.0	263.6	132.0	55.0	34.6	28.5	33.5	14.2	
28	50.2	74.5	161.0	159.1	612.0	276.8	130.3	55.0	34.6	28.5	73.0	13.6	
29	35.6	71.5	151.3	137.8	539.2	262.0	120.1	53.8	39.9	27.6	62.2	13.6	
30	27.6	58.6	125.2	126.9	459.4	252.4	109.9	52.6	40.9	27.6		13.6	
31		63.4		120.1	421.0		104.8		38.8	27.6		13.6	
Total	725.6	2310.8	2929.2	4255.9	10031.5	9948.8	4747.6	2171.4	1273.3	1036.3	753.9	593.8	40778.1 CMSDAY
Mean	24.2	74.5	97.6	137.3	323.6	331.6	153.1	72.4	41.1	33.4	26.0	19.2	111.4 CMS
Max	56.2	327.4	288.7	295.5	624.0	467.0	247.6	98.0	51.4	49.0	73.0	43.0	624.0 CMS
Min	11.7	14.9	40.9	71.5	151.3	231.6	104.8	52.6	34.6	27.6	19.1	13.6	11.7 CMS
Runoff	62.69	199.65	253.08	367.71	866.72	859.58	410.19	187.61	110.01	89.54	65.14	51.30	3523.23 MCM

Momentary Peak 662.00 CMS, at 4.60 M (A.D), at 21.00 Hours, on Aug 27, 1991

Runoff Yield 10.78 Liters/Second/Square KM, Momentary Peak Yield 64.05 Liters/Second/Square KM

WATER YEAR 1991

NAN RIVER BASIN

Nan River Basin at Ban Fak Tha, Uttaradit (N.39)

Location — Lat. 17-59-52 N., Long. 100-52-49 E., on right bank about 400 meters north of Amphoe Fak Tha Office, Amphoe Fak Tha, Uttaradit.

Drainage Area — 777 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — B.M.1 about 20 meters from the top staff gage.

B.M.2 about 20 meters from B.M.1.

Elevation — B.M.1= +4.863 m.(A.D.), B.M.2= +4.909 m.(A.D.).

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1967 to date.

Rating Operation

Period of Rating — 1991 to date.

Rated by Float —

Rated by Current Meter — 1991 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — Overbank flow starts at elevation +1.52 m.(A.D.), records are channel flow only.

General Description — Records good. Stage-discharge relation defined by 34 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

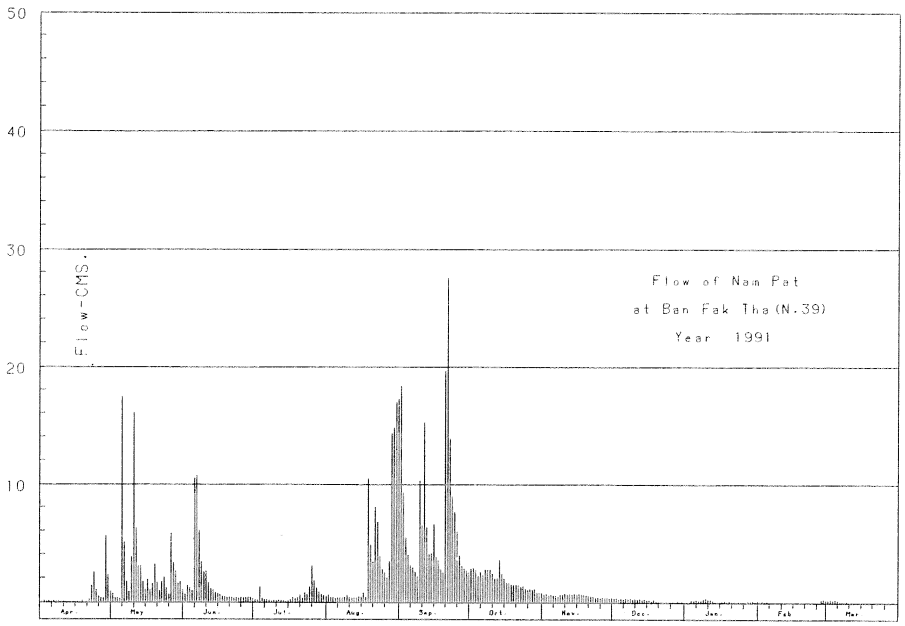
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.47	0.63	0.63	0.51	0.62	1.73	0.86	0.63	0.57	0.43	0.48	0.51	
2	0.48	0.58	0.72	0.50	0.60	1.29	0.87	0.63	0.56	0.42	0.47	0.53	
3	0.48	0.56	0.69	0.71	0.58	1.07	0.85	0.62	0.55	0.50	0.47	0.52	
4	0.47	0.56	0.67	0.57	0.57	0.96	0.81	0.62	0.55	0.51	0.47	0.52	
5	0.47	1.69	1.36	0.53	0.58	0.89	0.84	0.62	0.55	0.51	0.43	0.50	
6	0.47	1.04	1.37	0.51	0.57	0.87	0.81	0.61	0.55	0.51	0.42	0.48	
7	0.47	0.76	1.11	0.50	0.58	0.84	0.86	0.61	0.55	0.49	0.42	0.48	
8	0.47	0.65	0.91	0.50	0.58	0.80	0.85	0.62	0.55	0.55	0.42	0.47	
9	0.46	0.95	0.84	0.50	0.62	1.35	0.86	0.63	0.54	0.55	0.41	0.46	
10	0.45	1.63	0.84	0.50	0.58	1.13	0.82	0.63	0.54	0.54	0.41	0.43	
11	0.45	1.12	0.74	0.50	0.58	1.59	0.78	0.63	0.54	0.52	0.40	0.46	
12	0.45	0.88	0.69	0.52	0.56	1.12	0.79	0.63	0.54	0.51	0.39	0.42	
13	0.44	0.88	0.67	0.49	0.58	0.97	0.93	0.63	0.53	0.51	0.38	0.41	
14	0.44	0.76	0.65	0.48	0.60	0.97	0.82	0.63	0.53	0.48	0.36	0.41	
15	0.44	0.68	0.64	0.50	0.60	1.14	0.78	0.63	0.52	0.46	0.36	0.41	
16	0.46	0.77	0.62	0.53	0.64	0.95	0.75	0.63	0.51	0.48	0.37	0.40	
17	0.45	0.67	0.61	0.58	0.60	0.92	0.74	0.63	0.50	0.49	0.38	0.40	
18	0.49	0.73	0.59	0.57	1.36	0.86	0.73	0.62	0.52	0.48	0.38	0.39	
19	0.46	0.90	0.59	0.57	1.03	0.83	0.72	0.62	0.49	0.47	0.38	0.38	
20	0.45	0.75	0.58	0.62	0.91	1.78	0.73	0.61	0.48	0.48	0.38	0.37	
21	0.54	0.67	0.58	0.58	1.22	2.08	0.72	0.61	0.47	0.44	0.37	0.37	
22	0.72	0.75	0.57	0.65	1.15	1.53	0.71	0.60	0.42	0.45	0.37	0.36	
23	0.84	0.80	0.57	0.62	0.95	1.27	0.71	0.59	0.41	0.46	0.37	0.36	
24	0.67	0.69	0.57	0.71	0.86	1.20	0.69	0.58	0.41	0.44	0.37	0.35	
25	0.61	0.63	0.58	0.89	0.83	1.10	0.68	0.58	0.40	0.44	0.36	0.41	
26	0.56	1.09	0.59	0.76	0.79	0.96	0.68	0.58	0.40	0.44	0.40	0.41	
27	0.58	0.91	0.59	0.70	0.92	0.89	0.68	0.58	0.40	0.48	0.53	0.41	
28	1.08	0.84	0.58	0.65	1.55	0.86	0.68	0.57	0.50	0.48	0.53	0.44	
29	0.81	0.74	0.59	0.63	1.57	0.85	0.65	0.57	0.46	0.48	0.52	0.44	
30	0.66	0.75	0.54	0.61	1.67	0.83	0.64	0.57	0.45	0.47		0.44	
31		0.67		0.61	1.68		0.64		0.44	0.48		0.44	
Mean	0.54	0.83	0.71	0.58	0.86	1.12	0.76	0.61	0.50	0.48	0.41	0.43	
Max	1.08	1.69	1.37	0.89	1.68	2.08	0.93	0.63	0.57	0.55	0.53	0.53	2.08
Min	0.44	0.56	0.54	0.48	0.56	0.80	0.64	0.57	0.40	0.42	0.36	0.35	0.35

Annual Max Momentary Gage Height — 2.53 M (A.D), at 18.00 Hours, on Sep 20, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.49 M (A.D)

Left Bank Elevation — 4.83 M (A.D)

Right Bank Elevation — 4.54 M (A.D), Drainage Area 777 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.14	0.74	0.74	0.23	0.66	18.42	2.86	0.74	0.41	0.06	0.16	0.23	
2	0.16	0.44	1.48	0.20	0.50	9.32	2.97	0.74	0.38	0.04	0.14	0.29	
3	0.16	0.38	1.22	1.39	0.44	5.55	2.75	0.66	0.35	0.20	0.14	0.26	
4	0.14	0.38	1.06	0.41	0.41	4.02	2.31	0.66	0.35	0.23	0.14	0.26	
5	0.14	17.48	10.58	0.29	0.44	3.19	2.64	0.66	0.35	0.23	0.06	0.20	
6	0.14	5.10	10.76	0.23	0.41	2.97	2.31	0.58	0.35	0.23	0.04	0.16	
7	0.14	1.84	6.17	0.20	0.44	2.64	2.86	0.58	0.35	0.18	0.04	0.16	
8	0.14	0.90	3.42	0.20	0.44	2.20	2.75	0.66	0.35	0.35	0.04	0.14	
9	0.12	3.90	2.64	0.20	0.66	10.40	2.86	0.74	0.32	0.35	0.02	0.12	
10	0.10	16.16	2.64	0.20	0.44	6.52	2.42	0.74	0.32	0.32	0.02	0.06	
11	0.10	6.35	1.66	0.20	0.44	15.28	2.02	0.74	0.32	0.26	0.00	0.12	
12	0.10	3.08	1.22	0.26	0.38	6.35	2.11	0.74	0.32	0.23	0.00	0.04	
13	0.08	3.08	1.06	0.18	0.44	4.14	3.66	0.74	0.29	0.23	0.00	0.02	
14	0.08	1.84	0.90	0.16	0.50	4.14	2.42	0.74	0.29	0.16	0.00	0.02	
15	0.08	1.14	0.82	0.20	0.50	6.70	2.02	0.74	0.26	0.12	0.00	0.02	
16	0.12	1.93	0.66	0.29	0.82	3.90	1.75	0.74	0.23	0.16	0.00	0.00	
17	0.10	1.06	0.58	0.44	0.50	3.54	1.66	0.74	0.20	0.18	0.00	0.00	
18	0.18	1.57	0.47	0.41	10.58	2.86	1.57	0.66	0.26	0.16	0.00	0.00	
19	0.12	3.30	0.47	0.41	4.95	2.53	1.48	0.66	0.18	0.14	0.00	0.00	
20	0.10	1.75	0.44	0.66	3.42	19.62	1.57	0.58	0.16	0.16	0.00	0.00	
21	0.32	1.06	0.44	0.44	8.10	27.62	1.48	0.58	0.14	0.08	0.00	0.00	
22	1.48	1.75	0.41	0.90	6.87	13.96	1.39	0.50	0.04	0.10	0.00	0.00	
23	2.64	2.20	0.41	0.66	3.90	8.98	1.39	0.47	0.02	0.12	0.00	0.00	
24	1.06	1.22	0.41	1.39	2.86	7.75	1.22	0.44	0.02	0.08	0.00	0.00	
25	0.58	0.74	0.44	3.19	2.53	6.00	1.14	0.44	0.00	0.08	0.00	0.02	
26	0.38	5.85	0.47	1.84	2.11	4.02	1.14	0.44	0.00	0.08	0.00	0.02	
27	0.44	3.42	0.47	1.30	3.54	3.19	1.14	0.44	0.00	0.16	0.29	0.02	
28	5.70	2.64	0.44	0.90	14.40	2.86	1.14	0.41	0.20	0.16	0.29	0.08	
29	2.31	1.66	0.47	0.74	14.84	2.75	0.90	0.41	0.12	0.16	0.26	0.08	
30	0.98	1.75	0.32	0.58	17.04	2.53	0.82	0.41	0.10	0.14		0.08	
31		1.06		0.58	17.26		0.82		0.08	0.16		0.08	
Total	18.33	95.77	53.27	19.28	120.82	213.95	59.57	18.38	6.76	5.31	1.64	2.48	615.56 CMSDAY
Mean	0.61	3.09	1.78	0.62	3.90	7.13	1.92	0.61	0.22	0.17	0.06	0.08	1.68 CMS
Max	5.70	17.48	10.76	3.19	17.26	27.62	3.66	0.74	0.41	0.35	0.29	0.29	27.62 CMS
Min	0.08	0.38	0.32	0.16	0.38	2.20	0.82	0.41	0.00	0.04	0.00	0.00	0.00 CMS
Runoff	1.584	8.275	4.603	1.666	10.439	18.485	5.147	1.588	0.584	0.459	0.142	0.214	53.184 MCM

Momentary Peak 41.49 CMS, at 2.53 M (A.D), at 18.00 Hours, on Sep 20, 1991

Runoff Yield 2.16 Liters/Second/Square KM, Momentary Peak Yield 53.40 Liters/Second/Square KM

WATER YEAR 1991

NAN RIVER BASIN

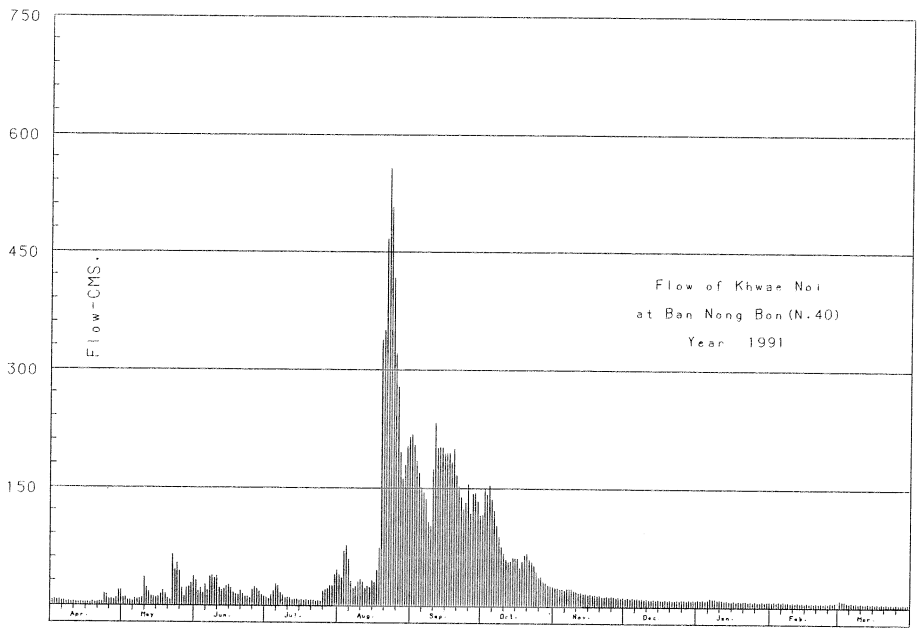
Khwae Noi River at Ban Nong Bon, Phitsanulok (N.40)

Location	Lat. 17-13-14 N., Long. 100-21-10 E., on left bank about 2 kilometers upstream from Ban Nong Bon, Amphoe Wat Bot, Phitsanulok.
Drainage Area	4,340 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	B.M.1 about 4 meters south of the gage site, B.M.2 about 90 meters south of the gage site.
Elevation	B.M.1=+14.45 m. (A.D.), B.M.2=+14.40 m. (A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1967 - 1968, 1972 to date.
Rating Operation	
Period of Rating	1977 to date.
Rated by Float	-
Rated by Current Meter	1977 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 70 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.73	0.96	1.81	0.96	2.03	5.85	3.93	1.52	0.99	0.85	0.70	0.86	
2	0.76	0.94	1.28	0.89	1.94	5.61	4.58	1.48	0.98	0.84	0.70	0.82	
3	0.75	0.75	1.44	1.09	2.86	5.22	4.43	1.45	0.97	0.83	0.70	0.75	
4	0.73	0.69	1.22	1.34	3.05	4.96	4.68	1.42	0.97	0.83	0.70	0.69	
5	0.69	0.66	1.64	1.67	2.63	4.62	4.33	1.40	0.97	0.88	0.70	0.66	
6	0.64	0.84	1.32	1.56	1.76	4.48	4.02	1.44	0.95	0.98	0.70	0.65	
7	0.60	0.84	1.97	1.24	1.47	4.31	3.62	1.48	0.94	0.97	0.69	0.63	
8	0.58	0.83	2.00	1.09	1.53	3.72	3.29	1.44	0.93	0.91	0.66	0.62	
9	0.57	0.97	1.93	0.96	1.77	3.58	3.02	1.37	0.91	0.88	0.66	0.61	
10	0.56	1.95	1.99	0.95	1.85	5.03	2.80	1.30	0.90	0.86	0.65	0.60	
11	0.55	1.47	1.49	0.93	1.74	6.08	2.62	1.27	0.89	0.83	0.64	0.60	
12	0.54	1.25	1.34	0.79	1.49	5.54	2.53	1.25	0.87	0.81	0.64	0.60	
13	0.53	1.06	1.43	0.80	1.55	5.54	2.53	1.22	0.87	0.79	0.63	0.59	
14	0.52	0.99	1.54	0.84	1.53	5.55	2.68	1.20	0.87	0.78	0.62	0.58	
15	0.51	1.00	1.64	0.77	1.84	5.41	2.64	1.18	0.86	0.77	0.62	0.58	
16	0.51	0.98	1.44	0.76	1.72	5.40	2.64	1.17	0.85	0.76	0.61	0.57	
17	0.52	1.18	1.26	0.76	2.24	5.42	2.32	1.16	0.84	0.75	0.60	0.57	
18	0.57	1.31	1.12	0.76	2.98	5.19	2.53	1.14	0.83	0.74	0.60	0.56	
19	0.55	1.19	1.14	0.75	7.73	5.51	2.76	1.12	0.83	0.74	0.60	0.56	
20	0.56	0.86	1.32	0.73	7.92	4.91	2.79	1.11	0.83	0.73	0.59	0.56	
21	0.58	0.77	1.16	0.71	9.45	4.64	2.60	1.08	0.83	0.73	0.59	0.55	
22	0.62	2.76	1.04	0.69	10.55	4.38	2.54	1.08	0.82	0.72	0.59	0.54	
23	1.19	2.24	1.01	0.68	9.95	4.07	2.40	1.07	0.81	0.72	0.59	0.54	
24	1.10	2.45	0.97	0.69	8.83	4.22	2.15	1.06	0.81	0.71	0.59	0.54	
25	0.84	2.15	1.40	1.33	7.48	4.70	1.96	1.06	0.81	0.71	0.59	0.54	
26	0.78	1.48	1.50	1.37	6.85	3.94	1.97	1.04	0.80	0.70	0.59	0.54	
27	0.79	1.05	1.45	1.47	5.44	4.47	1.79	1.03	0.80	0.70	0.64	0.53	
28	0.90	1.45	1.26	1.57	4.81	4.47	1.72	1.02	0.83	0.70	0.64	0.53	
29	1.36	1.54	1.13	1.60	5.15	4.28	1.65	1.01	0.82	0.70	0.74	0.52	
30	1.33	1.67	1.02	2.07	5.56	3.88	1.59	1.00	0.82	0.69		0.52	
31		1.96		2.21	5.78		1.55		0.83	0.69		0.51	
Mean	0.72	1.30	1.41	1.10	4.24	4.83	2.80	1.22	0.87	0.78	0.64	0.60	
Max	1.36	2.76	2.00	2.21	10.55	6.08	4.68	1.52	0.99	0.98	0.74	0.86	10.55
Min	0.51	0.66	0.97	0.68	1.47	3.58	1.55	1.00	0.80	0.69	0.59	0.51	0.51

Annual Max Momentary Gage Height 10.75 M (A.D), at 6.00 Hours, on Aug 22, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.43 M (A.D)
Left Bank Elevation 14.51 M (A.D)
Right Bank Elevation 14.56 M (A.D), Drainage Area 4340 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	6.95	10.40	32.30	10.40	39.05	219.00	116.85	24.00	10.85	8.75	6.50	8.90	
2	7.40	10.10	18.00	9.35	36.20	205.55	149.00	23.00	10.70	8.60	6.50	8.30	
3	7.25	7.25	22.00	13.25	69.40	184.10	141.50	22.25	10.55	8.45	6.50	7.25	
4	6.95	6.35	16.50	19.50	77.25	169.80	154.40	21.50	10.55	8.45	6.50	6.35	
5	6.35	5.90	27.20	28.10	60.20	151.10	136.50	21.00	10.55	9.20	6.50	5.90	
6	5.60	8.60	19.00	25.00	30.80	144.00	121.00	22.00	10.25	10.70	6.50	5.75	
7	5.00	8.60	37.10	17.00	22.75	135.50	102.90	23.00	10.10	10.55	6.35	5.45	
8	4.70	8.45	38.00	13.25	24.25	107.40	88.05	22.00	9.95	9.65	5.90	5.30	
9	4.55	10.55	35.90	10.40	31.10	101.10	75.90	20.25	9.65	9.20	5.90	5.15	
10	4.40	36.50	37.70	10.25	33.50	173.65	67.00	18.50	9.50	8.90	5.75	5.00	
11	4.25	22.75	23.25	9.95	30.20	232.80	59.80	17.75	9.35	8.45	5.60	5.00	
12	4.10	17.25	19.50	7.85	23.25	201.70	56.55	17.25	9.05	8.15	5.60	5.00	
13	3.95	12.50	21.75	8.00	24.75	201.70	56.55	16.50	9.05	7.85	5.45	4.85	
14	3.80	10.85	24.50	8.60	24.25	202.25	62.20	16.00	9.05	7.70	5.30	4.70	
15	3.65	11.00	27.20	7.55	33.20	194.55	60.60	15.50	8.90	7.55	5.30	4.70	
16	3.65	10.70	22.00	7.40	29.60	194.00	60.60	15.25	8.75	7.40	5.15	4.55	
17	3.80	15.50	17.50	7.40	46.40	195.10	49.20	15.00	8.60	7.25	5.00	4.55	
18	4.55	18.75	14.00	7.40	74.20	182.45	56.55	14.50	8.45	7.10	5.00	4.40	
19	4.25	15.75	14.50	7.25	338.10	200.05	65.40	14.00	8.45	7.10	5.00	4.40	
20	4.40	8.90	19.00	6.95	351.40	167.05	66.60	13.75	8.45	6.95	4.85	4.40	
21	4.70	7.55	15.00	6.65	467.00	152.20	59.00	13.00	8.45	6.95	4.85	4.25	
22	5.30	65.40	12.00	6.35	557.75	139.00	56.90	13.00	8.30	6.80	4.85	4.10	
23	15.75	46.40	11.25	6.20	507.00	123.50	52.00	12.75	8.15	6.80	4.85	4.10	
24	13.50	53.75	10.55	6.35	418.25	131.00	43.25	12.50	8.15	6.65	4.85	4.10	
25	8.60	43.25	21.00	19.25	320.60	155.50	36.80	12.50	8.15	6.65	4.85	4.10	
26	7.70	23.00	23.50	20.25	279.25	117.30	37.10	12.00	8.00	6.50	4.85	4.10	
27	7.85	12.25	22.25	22.75	196.20	143.50	31.70	11.75	8.00	6.50	5.60	3.95	
28	9.50	22.25	17.50	25.25	161.55	143.50	29.60	11.50	8.45	6.50	5.60	3.95	
29	20.00	24.50	14.25	26.00	180.25	134.00	27.50	11.25	8.30	6.50	7.10	3.80	
30	19.25	28.10	11.50	40.45	202.80	114.60	25.75	11.00	8.30	6.35		3.80	
31		36.80		45.35	214.90		24.75		8.45	6.35		3.65	
Total	211.70	619.90	645.70	459.70	4905.40	4916.95	2171.50	494.25	281.45	240.50	162.55	153.80	15263.40 CMSDAY
Mean	7.06	20.00	21.52	14.83	158.24	163.90	70.05	16.48	9.08	7.76	5.61	4.96	41.70 CMS
Max	20.00	65.40	38.00	45.35	557.75	232.80	154.40	24.00	10.85	10.70	7.10	8.90	557.75 CMS
Min	3.65	5.90	10.55	6.20	22.75	101.10	24.75	11.00	8.00	6.35	4.85	3.65	3.65 CMS
Runoff	18.291	53.559	55.788	39.718	423.827	424.824	187.618	42.703	24.317	20.779	14.044	13.288	1318.758 MCM

Momentary Peak 574.75 CMS, at 10.75 M (A.D), at 6.00 Hours, on Aug 22, 1991

Runoff Yield 9.61 Liters/Second/Square KM, Momentary Peak Yield 132.43 Liters/Second/Square KM

WATER YEAR 1991

NAN RIVER BASIN

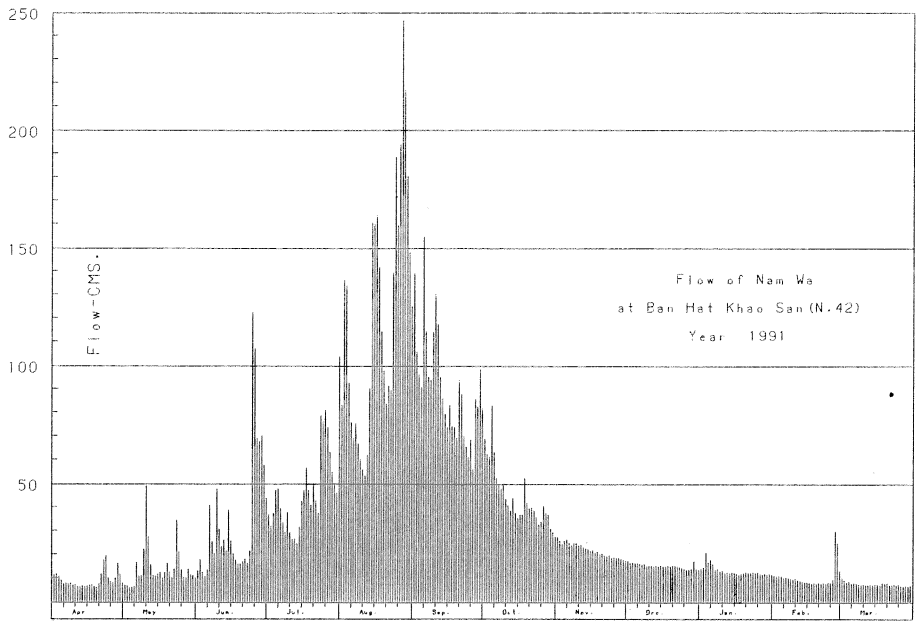
Nam Wa at Ban Hat Khao San, Nan (N.42)

Location	Lat. 18°34'08" N., Long. 100°52'28" E., on right bank at Ban Hat Khao San, Tambon Lai Nan, Amphoe Sa, Nan.
Drainage Area	2,107 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	Top of the gage site.
Elevation	+11.892 m. (A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1972 to date.
Rating Operation	
Period of Rating	1977 to date.
Rated by Float	-
Rated by Current Meter	1977 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 129 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.72	1.65	1.74	2.03	2.55	3.25	2.35	1.93	1.80	1.75	1.71	1.70	
2	1.72	1.64	1.81	1.98	3.22	2.85	2.27	1.91	1.79	1.76	1.71	1.68	
3	1.71	1.63	1.73	2.04	3.19	2.73	2.26	1.90	1.79	1.85	1.71	1.67	
4	1.68	1.63	1.71	2.13	2.69	2.66	2.55	1.91	1.79	1.79	1.71	1.67	
5	1.66	1.64	1.75	2.14	2.45	3.41	2.28	1.92	1.79	1.81	1.70	1.66	
6	1.66	1.79	2.07	2.06	2.35	2.96	2.18	1.90	1.78	1.78	1.70	1.66	
7	1.66	1.71	1.91	2.00	2.44	2.72	2.15	1.89	1.78	1.75	1.70	1.66	
8	1.66	1.71	1.84	1.95	2.32	2.70	2.14	1.90	1.78	1.75	1.69	1.65	
9	1.65	1.87	2.14	2.04	2.25	2.96	2.15	1.90	1.77	1.74	1.69	1.65	
10	1.65	2.15	1.97	1.95	2.21	3.15	2.10	1.89	1.77	1.74	1.69	1.65	
11	1.64	1.93	1.88	1.92	2.19	3.00	2.07	1.89	1.77	1.73	1.68	1.65	
12	1.64	1.78	1.92	1.92	2.27	2.72	2.05	1.88	1.77	1.73	1.68	1.65	
13	1.64	1.71	1.86	1.90	2.65	2.59	2.10	1.87	1.77	1.73	1.67	1.65	
14	1.64	1.71	2.05	1.98	3.47	2.50	2.04	1.87	1.77	1.73	1.67	1.65	
15	1.64	1.72	1.91	2.09	3.46	2.42	2.02	1.86	1.77	1.73	1.67	1.65	
16	1.65	1.73	1.84	2.13	3.50	2.55	2.03	1.86	1.77	1.72	1.66	1.65	
17	1.65	1.70	1.81	2.22	3.28	2.42	2.03	1.85	1.77	1.72	1.66	1.65	
18	1.64	1.73	1.78	2.13	2.96	2.42	2.18	1.85	1.77	1.72	1.66	1.66	
19	1.63	1.79	1.78	2.07	2.75	2.35	2.08	1.84	1.77	1.73	1.66	1.66	
20	1.66	1.73	1.80	2.16	2.56	2.70	2.06	1.84	1.77	1.73	1.66	1.66	
21	1.72	1.70	1.81	2.09	2.67	2.62	2.06	1.83	1.77	1.73	1.66	1.65	
22	1.81	1.75	1.79	2.04	2.64	2.36	2.05	1.83	1.77	1.73	1.66	1.65	
23	1.83	2.01	1.86	2.49	3.25	2.30	2.02	1.83	1.76	1.73	1.66	1.65	
24	1.70	1.85	3.06	2.45	3.75	2.26	1.99	1.82	1.76	1.73	1.66	1.65	
25	1.67	1.75	2.87	2.52	3.46	2.34	2.00	1.82	1.75	1.73	1.66	1.65	
26	1.66	1.70	2.35	2.42	3.80	2.21	2.07	1.82	1.75	1.72	1.69	1.64	
27	1.70	1.70	2.33	2.28	4.31	2.59	2.04	1.82	1.75	1.72	1.96	1.64	
28	1.79	1.75	2.37	2.20	4.03	2.54	2.03	1.81	1.75	1.72	1.90	1.64	
29	1.72	1.72	2.23	2.16	3.67	2.76	1.97	1.81	1.80	1.72	1.74	1.64	
30	1.66	1.71	2.10	2.12	3.34	2.53	1.95	1.80	1.75	1.72		1.64	
31		1.70		2.83	3.09		1.93		1.75	1.72		1.63	
Mean	1.68	1.75	2.00	2.14	2.99	2.65	2.10	1.86	1.77	1.74	1.70	1.65	
Max	1.83	2.15	3.06	2.83	4.31	3.41	2.55	1.93	1.80	1.85	1.96	1.70	4.31
Min	1.63	1.63	1.71	1.90	2.19	2.21	1.93	1.80	1.75	1.72	1.66	1.63	1.63

Annual Max Momentary Gage Height 4.45 M (A.D), at 9.00 Hours, on Aug 27, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -1.00 M (A.D)
Left Bank Elevation 13.38 M (A.D)
Right Bank Elevation 11.54 M (A.D), Drainage Area 2107 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	11.90	7.50	13.30	37.00	83.50	139.50	69.50	27.70	17.50	14.00	11.20	10.50	
2	11.90	6.90	18.25	32.20	136.80	106.00	62.70	25.90	16.80	14.70	11.20	9.30	
3	11.20	6.30	12.60	38.00	134.10	96.40	61.60	25.00	16.80	21.25	11.20	8.70	
4	9.30	6.30	11.20	47.30	93.30	91.20	83.50	25.90	16.80	16.80	11.20	8.70	
5	8.10	6.90	14.00	48.40	76.50	155.00	63.80	26.80	16.80	18.25	10.50	8.10	
6	8.10	16.80	41.00	40.00	69.50	114.80	52.80	25.00	16.10	16.10	10.50	8.10	
7	8.10	11.20	25.90	34.00	75.80	95.60	49.50	24.25	16.10	14.00	10.50	8.10	
8	8.10	11.20	20.50	29.50	67.40	94.00	48.40	25.00	16.10	14.00	9.90	7.50	
9	7.50	22.75	48.40	38.00	60.50	114.80	49.50	25.00	15.40	13.30	9.90	7.50	
10	7.50	49.50	31.30	29.50	56.10	130.50	44.00	24.25	15.40	13.30	9.90	7.50	
11	6.90	27.70	23.50	26.80	53.90	118.00	41.00	24.25	15.40	12.60	9.30	7.50	
12	6.90	16.10	26.80	26.80	62.70	95.60	39.00	23.50	15.40	12.60	9.30	7.50	
13	6.90	11.20	22.00	25.00	90.50	86.30	44.00	22.75	15.40	12.60	8.70	7.50	
14	6.90	11.20	39.00	32.20	161.00	80.00	38.00	22.75	15.40	12.60	8.70	7.50	
15	6.90	11.90	25.90	43.00	160.00	74.40	36.00	22.00	15.40	12.60	8.70	7.50	
16	7.50	12.60	20.50	47.30	164.00	83.50	37.00	22.00	15.40	11.90	8.10	7.50	
17	7.50	10.50	18.25	57.20	142.20	74.40	37.00	21.25	15.40	11.90	8.10	7.50	
18	6.90	12.60	16.10	47.30	114.80	74.40	52.80	21.25	15.40	11.90	8.10	8.10	
19	6.30	16.80	16.10	41.00	98.00	69.50	42.00	20.50	15.40	12.60	8.10	8.10	
20	8.10	12.60	17.50	50.60	84.20	94.00	40.00	20.50	15.40	12.60	8.10	8.10	
21	11.90	10.50	18.25	43.00	91.90	88.40	40.00	19.75	15.40	12.60	8.10	7.50	
22	18.25	14.00	16.80	38.00	89.80	70.20	39.00	19.75	15.40	12.60	8.10	7.50	
23	19.75	35.00	22.00	79.30	139.50	66.00	36.00	19.75	14.70	12.60	8.10	7.50	
24	10.50	21.25	122.80	76.50	189.00	61.60	33.10	19.00	14.70	12.60	8.10	7.50	
25	8.70	14.00	107.60	81.40	160.00	68.80	34.00	19.00	14.00	12.60	8.10	7.50	
26	8.10	10.50	69.50	74.40	194.00	56.10	41.00	19.00	14.00	11.90	9.90	6.90	
27	10.50	10.50	68.10	63.80	247.10	86.30	38.00	19.00	14.00	11.90	30.40	6.90	
28	16.80	14.00	70.90	55.00	217.00	82.80	37.00	18.25	14.00	11.90	25.00	6.90	
29	11.90	11.90	58.30	50.60	181.00	98.80	31.30	18.25	17.50	11.90	13.30	6.90	
30	8.10	11.20	44.00	46.20	148.00	82.10	29.50	17.50	14.00	11.90		6.90	
31		10.50		104.40	125.20		27.70		14.00	11.90		6.30	
Total	287.00	451.90	1060.35	1483.70	3767.30	2749.00	1378.70	664.80	479.50	414.00	310.30	239.10	13285.65 CMSDAY
Mean	9.57	14.58	35.34	47.86	121.53	91.63	44.47	22.16	15.47	13.35	10.70	7.71	36.30 CMS
Max	19.75	49.50	122.80	104.40	247.10	155.00	83.50	27.70	17.50	21.25	30.40	10.50	247.10 CMS
Min	6.30	6.30	11.20	25.00	53.90	56.10	27.70	17.50	14.00	11.90	8.10	6.30	6.30 CMS
Runoff	24.797	39.044	91.614	128.192	325.495	237.514	119.120	57.439	41.429	35.770	26.810	20.658	1147.880 MCM

Momentary Peak 262.50 CMS, at 4.45 M (A.D), at 9.00 Hours, on Aug 27, 1991

Runoff Yield 17.23 Liters/Second/Square KM, Momentary Peak Yield 124.58 Liters/Second/Square KM

WATER YEAR 1991

NAN RIVER BASIN

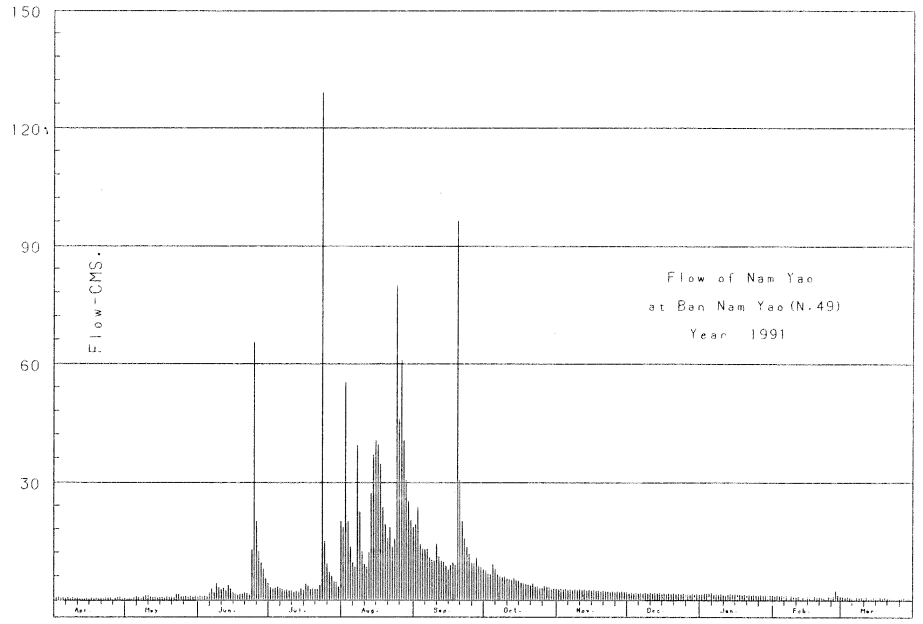
Nam Yao at Ban Nam Yao, Nan (N.49)

Location	Lat. 18-59-29 N., Long. 100-56-32 E., on right bank downstream of the bridge of Nam Yao, along Pua-Sila Phet road at Ban Nam Yao, Amphoe Pua, Nan.
Drainage Area	155 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	Near the top staff gage.
Elevation	+6.052 m. (A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1979 to date.
Rating Operation	
Period of Rating	1979 to date.
Rated by Float	-
Rated by Current Meter	1979 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 28 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.32	1.29	1.35	1.50	1.81	1.82	1.62	1.48	1.42	1.40	1.37	1.33	
2	1.32	1.29	1.35	1.49	2.14	1.87	1.60	1.48	1.42	1.42	1.37	1.33	
3	1.31	1.30	1.35	1.49	1.83	1.75	1.60	1.48	1.42	1.41	1.37	1.33	
4	1.31	1.31	1.35	1.51	1.74	1.73	1.66	1.48	1.42	1.42	1.36	1.33	
5	1.31	1.34	1.43	1.50	1.67	1.73	1.63	1.47	1.42	1.42	1.36	1.33	
6	1.31	1.32	1.48	1.47	1.64	1.73	1.60	1.47	1.42	1.40	1.36	1.32	
7	1.31	1.31	1.43	1.46	2.02	1.70	1.58	1.47	1.42	1.40	1.35	1.32	
8	1.31	1.33	1.53	1.46	1.86	1.68	1.58	1.47	1.42	1.40	1.35	1.32	
9	1.31	1.38	1.50	1.46	1.72	1.68	1.58	1.47	1.42	1.40	1.35	1.32	
10	1.30	1.37	1.48	1.45	1.66	1.75	1.57	1.47	1.42	1.40	1.34	1.32	
11	1.30	1.35	1.49	1.44	1.64	1.70	1.56	1.47	1.42	1.40	1.34	1.32	
12	1.30	1.33	1.46	1.44	1.72	1.68	1.56	1.47	1.42	1.40	1.34	1.32	
13	1.30	1.32	1.52	1.44	1.91	1.67	1.57	1.46	1.42	1.40	1.34	1.32	
14	1.30	1.32	1.48	1.48	2.00	1.65	1.56	1.46	1.42	1.40	1.34	1.32	
15	1.30	1.32	1.43	1.47	2.03	1.63	1.55	1.46	1.41	1.40	1.34	1.32	
16	1.30	1.32	1.40	1.53	2.02	1.65	1.54	1.46	1.41	1.40	1.34	1.31	
17	1.30	1.32	1.39	1.51	1.98	1.67	1.53	1.46	1.41	1.39	1.34	1.31	
18	1.30	1.33	1.40	1.48	1.87	1.65	1.53	1.45	1.41	1.39	1.34	1.31	
19	1.30	1.33	1.41	1.48	1.82	2.39	1.52	1.45	1.41	1.39	1.33	1.31	
20	1.30	1.33	1.42	1.48	1.77	1.94	1.52	1.45	1.41	1.38	1.33	1.31	
21	1.30	1.33	1.41	1.47	1.81	1.83	1.53	1.45	1.41	1.38	1.33	1.31	
22	1.31	1.41	1.40	1.52	1.74	1.77	1.51	1.44	1.41	1.38	1.33	1.31	
23	1.32	1.39	1.73	2.54	1.77	1.74	1.51	1.44	1.41	1.38	1.33	1.31	
24	1.30	1.35	2.21	1.76	2.30	1.71	1.50	1.44	1.41	1.38	1.33	1.31	
25	1.29	1.33	1.83	1.66	2.07	1.67	1.50	1.44	1.40	1.38	1.33	1.30	
26	1.29	1.35	1.72	1.61	2.18	1.66	1.51	1.44	1.40	1.38	1.34	1.30	
27	1.33	1.34	1.67	1.59	2.03	1.70	1.51	1.44	1.40	1.38	1.46	1.30	
28	1.33	1.35	1.63	1.55	1.94	1.65	1.50	1.44	1.41	1.37	1.37	1.30	
29	1.30	1.34	1.57	1.54	1.89	1.64	1.48	1.44	1.40	1.37	1.36	1.30	
30	1.29	1.35	1.53	1.51	1.83	1.63	1.48	1.43	1.40	1.37		1.30	
31		1.35		1.83	1.81		1.48		1.40	1.37		1.30	
Mean	1.31	1.34	1.51	1.55	1.88	1.74	1.55	1.46	1.41	1.39	1.35	1.31	
Max	1.33	1.41	2.21	2.54	2.30	2.39	1.66	1.48	1.42	1.42	1.46	1.33	2.54
Min	1.29	1.29	1.35	1.44	1.64	1.63	1.48	1.43	1.40	1.37	1.33	1.30	1.29

Annual Max Momentary Gage Height 3.26 M (A.D), at 6.00 Hours, on Jul 23, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.38 M (A.D)
Left Bank Elevation 7.91 M (A.D)
Right Bank Elevation 9.98 M (A.D), Drainage Area 155 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.80	0.56	1.10	3.30	18.64	19.48	7.58	2.96	1.94	1.60	1.30	0.90	
2	0.80	0.56	1.10	3.13	55.48	23.68	6.70	2.96	1.94	1.94	1.30	0.90	
3	0.70	0.60	1.10	3.13	20.32	14.45	6.70	2.96	1.94	1.77	1.30	0.90	
4	0.70	0.70	1.10	3.64	13.78	13.11	9.34	2.96	1.94	1.94	1.20	0.90	
5	0.70	1.00	2.11	3.30	9.78	13.11	8.02	2.79	1.94	1.94	1.20	0.90	
6	0.70	0.80	2.96	2.79	8.46	13.11	6.70	2.79	1.94	1.60	1.20	0.80	
7	0.70	0.70	2.11	2.62	39.64	11.10	6.02	2.79	1.94	1.60	1.10	0.80	
8	0.70	0.90	4.32	2.62	22.84	10.22	6.02	2.79	1.94	1.60	1.10	0.80	
9	0.70	1.40	3.30	2.62	12.44	10.22	6.02	2.79	1.94	1.60	1.10	0.80	
10	0.60	1.30	2.96	2.45	9.34	14.45	5.68	2.79	1.94	1.60	1.00	0.80	
11	0.60	1.10	3.13	2.28	8.46	11.10	5.34	2.79	1.94	1.60	1.00	0.80	
12	0.60	0.90	2.62	2.28	12.44	10.22	5.34	2.79	1.94	1.60	1.00	0.80	
13	0.60	0.80	3.98	2.28	27.29	9.78	5.68	2.62	1.94	1.60	1.00	0.80	
14	0.60	0.80	2.96	2.96	37.10	8.90	5.34	2.62	1.94	1.60	1.00	0.80	
15	0.60	0.80	2.11	2.79	40.91	8.02	5.00	2.62	1.77	1.60	1.00	0.80	
16	0.60	0.80	1.60	4.32	39.64	8.90	4.66	2.62	1.77	1.60	1.00	0.70	
17	0.60	0.80	1.50	3.64	34.92	9.78	4.32	2.62	1.77	1.50	1.00	0.70	
18	0.60	0.90	1.60	2.96	23.68	8.90	4.32	2.45	1.77	1.50	1.00	0.70	
19	0.60	0.90	1.77	2.96	19.48	96.65	3.98	2.45	1.77	1.50	0.90	0.70	
20	0.60	0.90	1.94	2.96	15.79	30.56	3.98	2.45	1.77	1.40	0.90	0.70	
21	0.60	0.90	1.77	2.79	18.64	20.32	4.32	2.45	1.77	1.40	0.90	0.70	
22	0.70	1.77	1.60	3.98	13.78	15.79	3.64	2.28	1.77	1.40	0.90	0.70	
23	0.80	1.50	13.11	129.28	15.79	13.78	3.64	2.28	1.77	1.40	0.90	0.70	
24	0.60	1.10	65.60	15.12	80.00	11.77	3.30	2.28	1.77	1.40	0.90	0.70	
25	0.56	0.90	20.32	9.34	45.99	9.78	3.30	2.28	1.60	1.40	0.90	0.60	
26	0.56	1.10	12.44	7.14	61.16	9.34	3.64	2.28	1.60	1.40	1.00	0.60	
27	0.90	1.00	9.78	6.36	40.91	11.10	3.64	2.28	1.60	1.40	2.62	0.60	
28	0.90	1.10	8.02	5.00	30.56	8.90	3.30	2.28	1.77	1.30	1.30	0.60	
29	0.60	1.00	5.68	4.66	25.36	8.46	2.96	2.28	1.60	1.30	1.20	0.60	
30	0.56	1.10	4.32	3.64	20.32	8.02	2.96	2.11	1.60	1.30		0.60	
31		1.10		20.32	18.64		2.96		1.60	1.30		0.60	
Total	19.88	29.79	188.01	266.66	841.58	463.00	154.40	77.41	56.23	47.69	32.22	23.00	2199.87 CMSDAY
Mean	0.66	0.96	6.27	8.60	27.15	15.43	4.98	2.58	1.81	1.54	1.11	0.74	6.01 CMS
Max	0.90	1.77	65.60	129.28	80.00	96.65	9.34	2.96	1.94	1.94	2.62	0.90	129.28 CMS
Min	0.56	0.56	1.10	2.28	8.46	8.02	2.96	2.11	1.60	1.30	0.90	0.60	0.56 CMS
Runoff	1.718	2.574	16.244	23.039	72.713	40.003	13.340	6.688	4.858	4.120	2.784	1.987	190.069 MCM

Momentary Peak 329.60 CMS, at 3.26 M (A.D), at 6.00 Hours, on Jul 23, 1991
Runoff Yield 38.78 Liters/Second/Square KM, Momentary Peak Yield 2126.45 Liters/Second/Square KM

WATER YEAR 1991

NAN RIVER BASIN

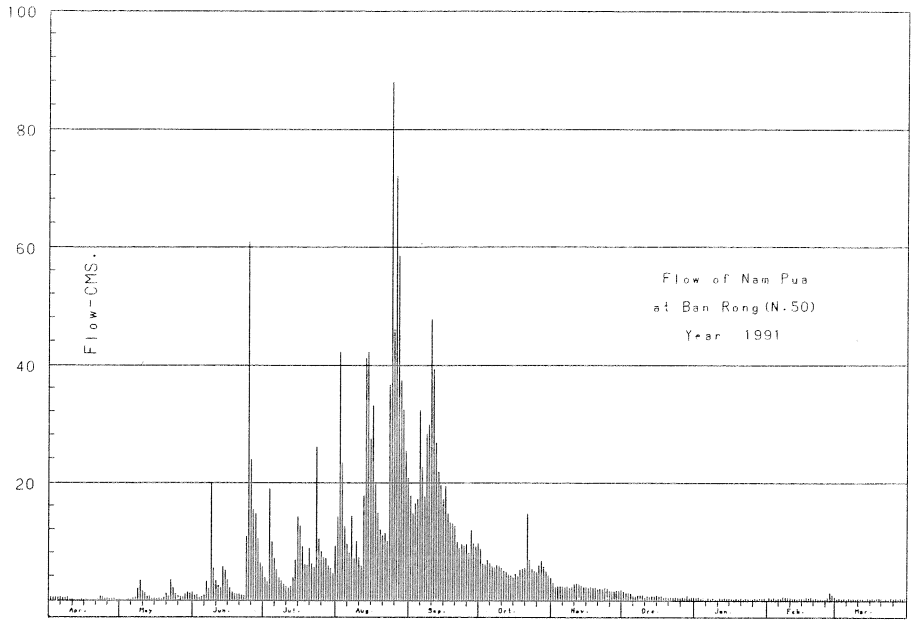
Nam Pua at Ban Rong, Nan (N.50)

Location	Lat. 19-11-38 N., Long. 100-55-14 E., on left bank downstream of the bridge of Nam Pua, along Pua-Thung Chang road at Ban Rong, Amphoe Pua, Nan.
Drainage Area	192 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank at the abutment of the bridge.
Elevation	+4.361 m. (A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1979 to date.
Rating Operation	
Period of Rating	1979 to date.
Rated by Float	-
Rated by Current Meter	1979 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 27 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.01	-0.07	0.07	0.30	0.57	0.63	0.46	0.24	0.13	0.01	0.01	-0.02	
2	0.02	-0.07	0.07	0.25	0.95	0.58	0.39	0.20	0.12	0.01	-0.01	-0.02	
3	0.01	-0.07	0.02	0.65	0.72	0.61	0.39	0.20	0.11	-0.01	0.00	-0.02	
4	0.02	-0.06	0.02	0.49	0.54	0.62	0.41	0.21	0.11	-0.01	-0.02	-0.01	
5	0.01	-0.04	0.08	0.42	0.48	0.84	0.40	0.20	0.04	-0.01	-0.03	-0.02	
6	0.01	-0.03	0.26	0.35	0.44	0.71	0.37	0.20	0.05	-0.01	-0.01	-0.02	
7	0.01	0.02	0.17	0.30	0.57	0.63	0.37	0.20	0.06	-0.02	0.02	-0.02	
8	0.01	0.17	0.67	0.26	0.42	0.79	0.38	0.19	0.08	-0.02	0.03	-0.03	
9	-0.04	0.27	0.36	0.23	0.49	0.81	0.38	0.19	0.06	-0.03	0.02	-0.03	
10	-0.06	0.14	0.27	0.20	0.42	1.01	0.36	0.23	0.02	-0.02	0.01	-0.03	
11	-0.09	0.11	0.20	0.19	0.38	0.92	0.34	0.23	0.04	-0.01	-0.01	-0.01	
12	-0.09	0.04	0.19	0.20	0.63	0.77	0.34	0.23	0.04	-0.01	-0.03	0.00	
13	-0.05	0.03	0.37	0.30	0.94	0.70	0.32	0.21	0.04	-0.01	-0.02	-0.02	
14	-0.05	-0.02	0.35	0.41	0.95	0.66	0.31	0.20	0.05	-0.01	-0.02	-0.02	
15	-0.05	-0.03	0.27	0.57	0.78	0.62	0.30	0.19	0.06	-0.03	-0.03	-0.02	
16	-0.07	-0.02	0.18	0.54	0.85	0.66	0.32	0.19	0.05	-0.04	-0.02	-0.02	
17	-0.08	-0.02	0.13	0.47	0.67	0.58	0.31	0.19	0.04	-0.03	0.01	-0.02	
18	-0.08	-0.02	0.09	0.39	0.58	0.55	0.35	0.19	0.02	-0.03	0.01	-0.03	
19	-0.08	0.01	0.10	0.38	0.53	0.55	0.36	0.18	0.01	-0.03	0.01	0.01	
20	-0.10	0.11	0.09	0.46	0.51	0.54	0.36	0.17	0.01	-0.02	-0.02	-0.03	
21	-0.04	0.04	0.08	0.39	0.52	0.49	0.58	0.17	0.01	-0.03	-0.02	-0.03	
22	0.05	0.27	0.05	0.37	0.49	0.46	0.41	0.17	0.02	-0.03	-0.02	-0.02	
23	0.02	0.19	0.51	0.76	0.89	0.48	0.36	0.18	0.01	-0.02	-0.03	-0.03	
24	-0.02	0.10	1.14	0.50	1.37	0.47	0.34	0.18	0.01	-0.02	-0.03	-0.02	
25	-0.03	0.06	0.73	0.45	0.99	0.48	0.34	0.15	0.01	-0.03	-0.04	-0.02	
26	-0.05	0.03	0.59	0.42	1.24	0.44	0.38	0.13	0.01	-0.03	0.01	-0.02	
27	-0.02	0.03	0.58	0.42	1.12	0.53	0.41	0.14	0.01	-0.03	0.12	-0.03	
28	-0.04	0.09	0.50	0.38	0.90	0.48	0.37	0.14	0.05	-0.02	0.07	-0.02	
29	-0.05	0.13	0.40	0.36	0.84	0.47	0.34	0.15	0.01	-0.01	0.02	-0.02	
30	-0.05	0.10	0.37	0.33	0.75	0.48	0.31	0.15	0.01	-0.01		-0.02	
31		0.12		0.47	0.68		0.30		0.01	-0.01		-0.02	
Mean	-0.03	0.05	0.30	0.39	0.72	0.62	0.37	0.19	0.04	-0.02	0.00	-0.02	
Max	0.05	0.27	1.14	0.76	1.37	1.01	0.58	0.24	0.13	0.01	0.12	0.01	1.37
Min	-0.10	-0.07	0.02	0.19	0.38	0.44	0.30	0.13	0.01	-0.04	-0.04	-0.03	-0.10

Annual Max Momentary Gage Height 1.61 M (A.D), at 1.00 Hours, on Aug 24, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -1.23 M (A.D)
Left Bank Elevation 3.29 M (A.D)
Right Bank Elevation 4.08 M (A.D), Drainage Area 192 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.57	0.22	0.99	4.00	14.35	17.80	8.90	3.04	1.56	0.57	0.57	0.42	
2	0.64	0.22	0.99	3.20	42.25	14.90	6.25	2.40	1.44	0.57	0.46	0.42	
3	0.57	0.22	0.64	19.00	23.40	16.60	6.25	2.40	1.32	0.46	0.50	0.42	
4	0.64	0.26	0.64	10.10	12.70	17.20	6.90	2.56	1.32	0.46	0.42	0.46	
5	0.57	0.34	1.06	7.30	9.70	32.40	6.50	2.40	0.78	0.46	0.38	0.42	
6	0.57	0.38	3.36	5.25	8.10	22.70	5.75	2.40	0.85	0.46	0.46	0.42	
7	0.57	0.64	2.04	4.00	14.35	17.80	5.75	2.40	0.92	0.42	0.64	0.42	
8	0.57	2.04	20.20	3.36	7.30	28.30	6.00	2.28	1.06	0.42	0.71	0.38	
9	0.34	3.52	5.50	2.88	10.10	29.85	6.00	2.28	0.92	0.38	0.64	0.38	
10	0.26	1.68	3.52	2.40	7.30	47.95	5.50	2.88	0.64	0.42	0.57	0.38	
11	0.14	1.32	2.40	2.28	6.00	39.40	5.00	2.88	0.78	0.46	0.46	0.46	
12	0.14	0.78	2.28	2.40	17.80	26.90	5.00	2.88	0.78	0.46	0.38	0.50	
13	0.30	0.71	5.75	4.00	41.30	22.00	4.50	2.56	0.78	0.46	0.42	0.42	
14	0.30	0.42	5.25	6.90	42.25	19.60	4.25	2.40	0.85	0.46	0.42	0.42	
15	0.30	0.38	3.52	14.35	27.60	17.20	4.00	2.28	0.92	0.38	0.38	0.42	
16	0.22	0.42	2.16	12.70	33.25	19.60	4.50	2.28	0.85	0.34	0.42	0.42	
17	0.18	0.42	1.56	9.30	20.20	14.90	4.25	2.28	0.78	0.38	0.57	0.42	
18	0.18	0.42	1.13	6.25	14.90	13.25	5.25	2.28	0.64	0.38	0.57	0.38	
19	0.18	0.57	1.20	6.00	12.15	13.25	5.50	2.16	0.57	0.38	0.57	0.57	
20	0.10	1.32	1.13	8.90	11.05	12.70	5.50	2.04	0.57	0.42	0.42	0.38	
21	0.34	0.78	1.06	6.25	11.60	10.10	14.90	2.04	0.57	0.38	0.42	0.38	
22	0.85	3.52	0.85	5.75	10.10	8.90	6.90	2.04	0.64	0.38	0.42	0.42	
23	0.64	2.28	11.05	26.20	36.65	9.70	5.50	2.16	0.57	0.42	0.38	0.38	
24	0.42	1.20	60.90	10.50	88.10	9.30	5.00	2.16	0.57	0.42	0.38	0.42	
25	0.38	0.92	24.10	8.50	46.05	9.70	5.00	1.80	0.57	0.38	0.34	0.42	
26	0.30	0.71	15.45	7.30	72.10	8.10	6.00	1.56	0.57	0.38	0.57	0.42	
27	0.42	0.71	14.90	7.30	58.70	12.15	6.90	1.68	0.57	0.38	1.44	0.38	
28	0.34	1.13	10.50	6.00	37.50	9.70	5.75	1.68	0.85	0.42	0.99	0.42	
29	0.30	1.56	6.50	5.50	32.40	9.30	5.00	1.80	0.57	0.46	0.64	0.42	
30	0.30	1.20	5.75	4.75	25.50	9.70	4.25	1.80	0.57	0.46		0.42	
31		1.44		9.30	20.80		4.00		0.57	0.46		0.42	
Total	11.63	31.73	216.38	231.92	815.55	540.95	180.75	67.80	24.95	13.28	15.54	13.01	2163.49 CMSDAY
Mean	0.39	1.02	7.21	7.48	26.31	18.03	5.83	2.26	0.80	0.43	0.54	0.42	5.91 CMS
Max	0.85	3.52	60.90	26.20	88.10	47.95	14.90	3.04	1.56	0.57	1.44	0.57	88.10 CMS
Min	0.10	0.22	0.64	2.28	6.00	8.10	4.00	1.56	0.57	0.34	0.34	0.38	0.10 CMS
Runoff	1.005	2.741	18.695	20.038	70.464	46.738	15.617	5.858	2.156	1.147	1.343	1.124	186.926 MCM

Momentary Peak 121.60 CMS, at 1.61 M (A.D), at 1.00 Hours, on Aug 24, 1991

Runoff Yield 30.79 Liters/Second/Square KM, Momentary Peak Yield 633.33 Liters/Second/Square KM

WATER YEAR 1991

NAN RIVER BASIN

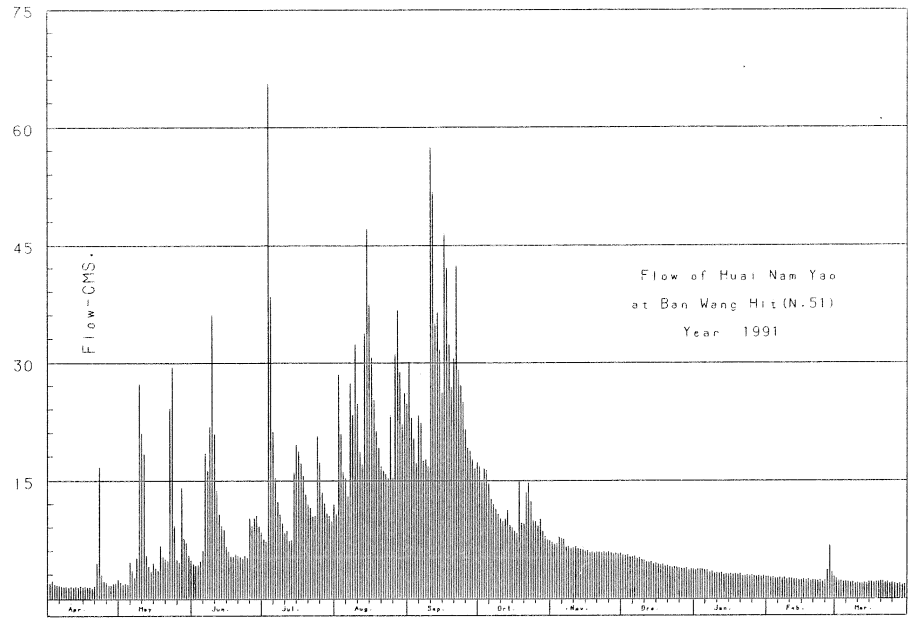
Huai Nam Yao at Ban Wang Hit, Nan (N.51)

Location	Lat. 19-09-31 N., Long. 100-46-56 E., on right bank behind the Pha To tobacco House at Ban Wang Hit, Amphoe Tha Wang Pha, Nan.
Drainage Area	774 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+230.10 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 2 meters upstream from measuring line.
Elevation	+237.344 m. (M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1979 to date.
Rating Operation	
Period of Rating	1979 to date.
Rated by Float	-
Rated by Current Meter	1979 to date.
Stability of Channel Regimes	Fairly stable with variable water surface slope.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 27 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	230.92	230.92	231.19	231.39	231.54	232.28	231.57	231.15	231.06	230.95	230.88	230.86	
2	230.95	230.90	231.16	231.37	232.23	232.04	231.50	231.14	231.06	230.95	230.88	230.84	
3	230.90	230.90	231.18	233.22	231.97	231.95	231.56	231.14	231.06	230.96	230.88	230.83	
4	230.87	230.90	231.21	232.53	231.78	231.83	231.55	231.19	231.05	230.95	230.87	230.83	
5	230.86	231.21	231.31	231.98	231.75	232.05	231.49	231.18	231.05	230.95	230.87	230.83	
6	230.86	231.10	231.88	231.75	231.65	232.02	231.41	231.17	231.05	230.94	230.87	230.82	
7	230.85	231.01	231.79	231.62	232.19	231.84	231.38	231.12	231.04	230.93	230.87	230.82	
8	230.84	231.24	232.00	231.54	232.05	231.85	231.36	231.12	231.04	230.93	230.87	230.82	
9	230.84	232.19	232.46	231.49	232.35	231.81	231.33	231.11	231.03	230.92	230.86	230.81	
10	230.84	231.97	231.97	231.43	232.10	232.69	231.31	231.11	231.02	230.92	230.86	230.81	
11	230.84	231.88	231.68	231.44	231.89	232.56	231.29	231.12	231.01	230.92	230.86	230.81	
12	230.84	231.27	231.54	231.38	231.82	232.13	231.31	231.11	231.01	230.92	230.86	230.81	
13	230.84	231.15	231.47	231.38	232.39	232.17	231.35	231.10	231.01	230.91	230.85	230.81	
14	230.85	231.10	231.45	231.78	232.77	232.04	231.27	231.10	231.00	230.91	230.85	230.81	
15	230.85	231.19	231.34	231.92	232.50	231.88	231.25	231.09	231.00	230.91	230.85	230.82	
16	230.84	231.13	231.30	231.89	232.30	232.43	231.23	231.09	231.00	230.91	230.85	230.82	
17	230.84	231.11	231.26	231.83	232.12	232.32	231.21	231.08	230.99	230.91	230.85	230.82	
18	230.83	231.34	231.25	231.76	231.98	232.06	231.50	231.08	230.99	230.91	230.85	230.82	
19	230.82	231.26	231.28	231.66	231.91	231.90	231.28	231.08	230.98	230.91	230.84	230.83	
20	230.85	231.23	231.26	231.60	231.81	232.01	231.28	231.08	230.98	230.91	230.84	230.83	
21	231.20	231.22	231.25	231.58	231.79	232.33	231.44	231.08	230.97	230.90	230.84	230.83	
22	231.81	232.08	231.24	231.53	231.77	231.97	231.49	231.08	230.97	230.90	230.84	230.82	
23	231.04	232.26	231.26	231.53	231.75	231.91	231.40	231.08	230.97	230.90	230.84	230.82	
24	230.95	231.47	231.25	231.96	232.05	231.84	231.30	231.08	230.97	230.90	230.83	230.81	
25	230.92	231.23	231.52	231.83	231.75	231.73	231.29	231.08	230.96	230.90	230.84	230.81	
26	230.88	231.20	231.47	231.67	232.31	231.65	231.26	231.08	230.96	230.89	230.94	230.80	
27	230.86	231.70	231.52	231.61	232.48	231.64	231.31	231.07	230.96	230.89	231.13	230.80	
28	230.91	231.39	231.53	231.55	232.24	231.60	231.23	231.07	230.96	230.89	230.93	230.80	
29	230.91	231.36	231.47	231.53	232.01	231.56	231.19	231.07	230.95	230.89	230.88	230.79	
30	230.98	231.27	231.43	231.50	232.15	231.59	231.17	231.07	230.95	230.89		230.79	
31		231.22		231.60	232.10		231.16		230.95	230.89		230.79	
Mean	230.92	231.34	231.46	231.70	232.05	231.99	231.34	231.10	231.00	230.91	230.87	230.82	
Max	231.81	232.26	232.46	233.22	232.77	232.69	231.57	231.19	231.06	230.96	231.13	230.86	233.22
Min	230.82	230.90	231.16	231.37	231.54	231.56	231.16	231.07	230.95	230.89	230.83	230.79	230.79

Annual Max Momentary Gage Height 233.69 M (MSL), at 12.00 Hours, on Jul 3, 1991
Zero Gage at Bottom Elevation 230.10 M (MSL), River Bed 230.03 M (MSL)
Left Bank Elevation 237.54 M (MSL)
Right Bank Elevation 236.21 M (MSL), Drainage Area 774 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.05	2.05	4.50	7.62	10.74	30.18	16.89	7.20	5.58	3.75	2.78	2.56	
2	2.28	1.90	4.18	7.26	28.63	23.06	15.00	7.02	5.58	3.75	2.78	2.34	
3	1.90	1.90	4.39	65.66	21.03	20.45	16.62	7.02	5.58	3.90	2.78	2.23	
4	1.71	1.90	4.74	38.55	16.12	17.32	16.35	7.92	5.40	3.75	2.67	2.23	
5	1.65	4.74	6.18	21.32	15.40	23.35	14.75	7.74	5.40	3.75	2.67	2.23	
6	1.65	3.55	18.52	15.40	13.10	22.48	12.75	7.56	5.40	3.60	2.67	2.12	
7	1.59	2.74	16.36	12.44	27.41	17.56	12.00	6.66	5.22	3.45	2.67	2.12	
8	1.53	5.16	21.90	10.74	23.35	17.80	11.50	6.66	5.22	3.45	2.67	2.12	
9	1.53	27.41	36.14	9.69	32.45	16.84	10.75	6.48	5.04	3.30	2.56	2.01	
10	1.53	21.03	21.03	8.43	24.80	57.55	10.25	6.48	4.86	3.30	2.56	2.01	
11	1.53	18.52	13.76	8.64	18.76	51.82	9.81	6.66	4.68	3.30	2.56	2.01	
12	1.53	5.58	10.74	7.44	17.08	35.01	10.25	6.48	4.68	3.30	2.56	2.01	
13	1.53	4.07	9.27	7.44	33.77	36.49	11.25	6.30	4.68	3.15	2.45	2.01	
14	1.59	3.55	8.85	16.12	47.19	31.68	9.43	6.30	4.50	3.15	2.45	2.01	
15	1.59	4.50	6.72	19.58	37.50	26.26	9.05	6.12	4.50	3.15	2.45	2.12	
16	1.53	3.87	6.00	18.76	30.80	46.50	8.67	6.12	4.50	3.15	2.45	2.12	
17	1.53	3.65	5.44	17.32	25.38	42.10	8.29	5.94	4.35	3.15	2.45	2.12	
18	1.47	6.72	5.30	15.64	21.32	32.42	15.00	5.94	4.35	3.15	2.45	2.12	
19	1.40	5.44	5.72	13.32	19.29	26.90	9.62	5.94	4.20	3.15	2.34	2.23	
20	1.59	5.02	5.44	12.00	16.84	30.57	9.62	5.94	4.20	3.15	2.34	2.23	
21	4.60	4.88	5.30	11.58	16.36	42.50	13.50	5.94	4.05	3.00	2.34	2.23	
22	16.84	24.22	5.16	10.53	15.88	29.21	14.75	5.94	4.05	3.00	2.34	2.12	
23	3.01	29.56	5.44	10.53	15.40	27.23	12.50	5.94	4.05	3.00	2.34	2.12	
24	2.28	9.27	5.30	20.74	23.35	24.98	10.00	5.94	4.05	3.00	2.23	2.01	
25	2.05	5.02	10.32	17.32	15.40	21.60	9.81	5.94	3.90	3.00	2.34	2.01	
26	1.78	4.60	9.27	13.54	31.13	19.20	9.24	5.94	3.90	2.89	3.60	1.90	
27	1.65	14.20	10.32	12.22	36.82	18.90	10.25	5.76	3.90	2.89	6.84	1.90	
28	1.98	7.62	10.53	10.95	28.94	17.70	8.67	5.76	3.90	2.89	3.45	1.90	
29	1.98	7.08	9.27	10.53	22.19	16.62	7.92	5.76	3.75	2.89	2.78	1.81	
30	2.50	5.58	8.43	9.90	26.25	17.43	7.56	5.76	3.75	2.89		1.81	
31		4.88		12.00	24.80		7.38		3.75	2.89		1.81	
Total	71.38	250.21	294.52	473.21	737.48	841.71	349.43	191.16	140.97	100.14	79.57	64.57	3594.35 CMSDAY
Mean	2.38	8.07	9.82	15.26	23.79	28.06	11.27	6.37	4.55	3.23	2.74	2.08	9.82 CMS
Max	16.84	29.56	36.14	65.66	47.19	57.55	16.89	7.92	5.58	3.90	6.84	2.56	65.66 CMS
Min	1.40	1.90	4.18	7.26	10.74	16.62	7.38	5.76	3.75	2.89	2.23	1.81	1.40 CMS
Runoff	6.167	21.618	25.447	40.885	63.718	72.724	30.191	16.516	12.180	8.652	6.875	5.579	310.552 MCM

Momentary Peak 87.02 CMS, at 233.69 M (MSL), at 12.00 Hours, on Jul 3, 1991
Runoff Yield 12.69 Liters/Second/Square KM, Momentary Peak Yield 112.43 Liters/Second/Square KM

WATER YEAR 1991

NAN RIVER BASIN

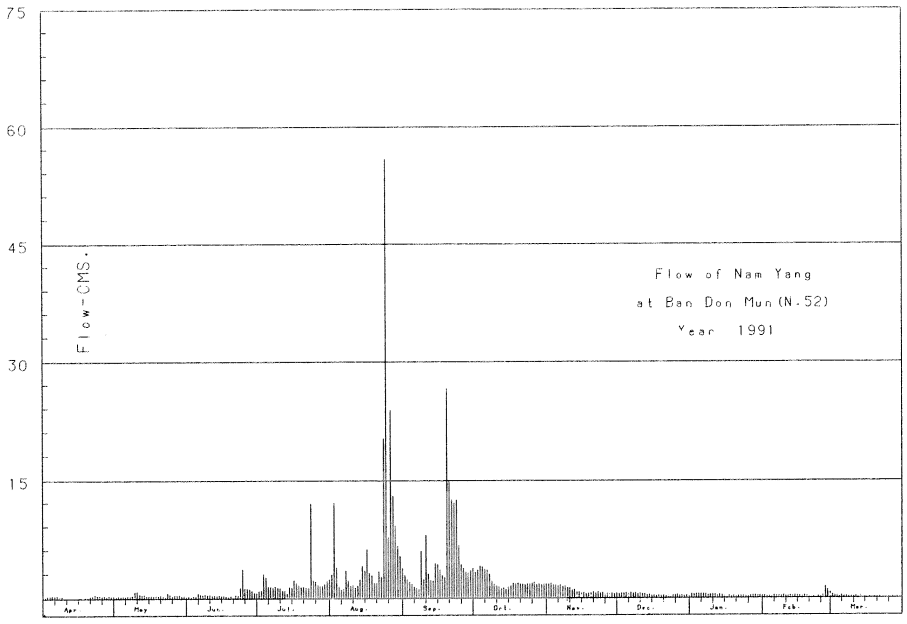
Nam Yang at Ban Don Mun, Nan (N.52)

Location	Lat. 19-05-08 N., Long. 100-55-51 E., on left bank at the bridge of Pua-Ban Du Phong Highway, Ban Don Mun, Tambon Sila Phet, Amphoe Pua, Nan.
Drainage Area	49 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank about 15 meters from the abutment of the bridge.
Elevation	+3.063 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1980 to date.
Rating Operation	
Period of Rating	1980 to date.
Rated by Float	-
Rated by Current Meter	1980 to date.
Stability of Channel Regimes	Fairly stable with variable water surface slope.
Overbank Flow Conditions	Overbank flow starts at elevation + 1.85 m.(A.D.) and is included.
General Description	Records fair. Stage-discharge relation defined by 28 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.39	0.41	0.40	0.59	0.63	0.63	0.65	0.56	0.43	0.42	0.39	0.41	
2	0.40	0.41	0.40	0.62	0.93	0.60	0.66	0.56	0.43	0.42	0.38	0.40	
3	0.44	0.42	0.42	0.83	0.68	0.58	0.69	0.55	0.44	0.42	0.39	0.39	
4	0.44	0.41	0.43	0.81	0.53	0.55	0.68	0.54	0.44	0.43	0.38	0.38	
5	0.44	0.41	0.54	0.69	0.50	0.53	0.67	0.54	0.43	0.42	0.39	0.39	
6	0.44	0.41	0.49	0.67	0.50	0.51	0.66	0.54	0.44	0.43	0.40	0.38	
7	0.42	0.42	0.49	0.67	0.66	0.50	0.64	0.53	0.44	0.42	0.38	0.37	
8	0.40	0.43	0.49	0.68	0.59	0.76	0.59	0.53	0.44	0.41	0.39	0.37	
9	0.15	0.59	0.49	0.67	0.54	0.60	0.55	0.52	0.43	0.41	0.40	0.37	
10	0.20	0.58	0.48	0.65	0.54	0.83	0.54	0.51	0.43	0.42	0.39	0.37	
11	0.22	0.52	0.47	0.62	0.51	0.64	0.52	0.49	0.43	0.41	0.38	0.37	
12	0.25	0.50	0.46	0.60	0.54	0.59	0.51	0.49	0.42	0.40	0.38	0.38	
13	0.26	0.48	0.45	0.54	0.60	0.59	0.51	0.46	0.41	0.41	0.38	0.38	
14	0.28	0.44	0.45	0.67	0.69	0.70	0.50	0.45	0.41	0.41	0.39	0.37	
15	0.30	0.42	0.44	0.67	0.66	0.70	0.52	0.44	0.40	0.40	0.39	0.36	
16	0.31	0.43	0.42	0.77	0.77	0.66	0.54	0.44	0.39	0.40	0.38	0.35	
17	0.32	0.42	0.41	0.74	0.64	0.63	0.56	0.43	0.39	0.39	0.38	0.35	
18	0.32	0.43	0.40	0.70	0.63	0.62	0.56	0.43	0.39	0.38	0.39	0.35	
19	0.35	0.44	0.42	0.68	0.57	1.16	0.56	0.44	0.39	0.38	0.39	0.35	
20	0.41	0.45	0.44	0.67	0.56	0.99	0.56	0.45	0.39	0.37	0.36	0.36	
21	0.44	0.43	0.46	0.66	0.65	0.94	0.55	0.44	0.39	0.38	0.36	0.35	
22	0.49	0.40	0.47	0.67	0.62	0.93	0.55	0.45	0.39	0.39	0.35	0.35	
23	0.47	0.55	0.67	0.93	1.07	0.94	0.55	0.44	0.39	0.39	0.35	0.34	
24	0.44	0.48	0.87	0.60	1.51	0.79	0.56	0.44	0.39	0.40	0.36	0.34	
25	0.43	0.45	0.64	0.58	0.82	0.70	0.57	0.43	0.41	0.39	0.37	0.34	
26	0.43	0.46	0.65	0.55	1.12	0.67	0.57	0.43	0.41	0.39	0.40	0.34	
27	0.42	0.48	0.64	0.53	0.95	0.65	0.55	0.43	0.40	0.41	0.53	0.35	
28	0.42	0.47	0.60	0.54	0.86	0.64	0.55	0.43	0.40	0.40	0.48	0.35	
29	0.42	0.44	0.56	0.55	0.79	0.66	0.55	0.43	0.39	0.40	0.45	0.35	
30	0.41	0.42	0.53	0.59	0.74	0.67	0.55	0.43	0.39	0.39		0.35	
31		0.41		0.60	0.67		0.55		0.38	0.40		0.37	
Mean	0.37	0.45	0.50	0.66	0.71	0.70	0.57	0.48	0.41	0.40	0.39	0.36	
Max	0.49	0.59	0.87	0.93	1.51	1.16	0.69	0.56	0.44	0.43	0.53	0.41	1.51
Min	0.15	0.40	0.40	0.53	0.50	0.50	0.50	0.43	0.38	0.37	0.35	0.34	0.15

Annual Max Momentary Gage Height 2.30 M (A.D), at 24.00 Hours, on Aug 23, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.42 M (A.D)
Left Bank Elevation 3.10 M (A.D)
Right Bank Elevation 1.84 M (A.D), Drainage Area 49 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.24	0.29	0.26	0.92	3.00	3.00	3.40	1.92	0.64	0.56	0.36	0.48	
2	0.26	0.29	0.26	1.10	12.14	2.40	3.60	1.92	0.64	0.56	0.32	0.40	
3	0.36	0.31	0.31	3.11	4.00	2.16	4.20	1.80	0.72	0.56	0.36	0.36	
4	0.36	0.29	0.34	2.77	1.56	1.80	4.00	1.68	0.72	0.64	0.32	0.32	
5	0.36	0.29	0.70	1.58	1.20	1.56	3.80	1.68	0.64	0.56	0.36	0.36	
6	0.36	0.29	0.49	1.44	1.20	1.32	3.60	1.68	0.72	0.64	0.40	0.32	
7	0.31	0.31	0.49	1.44	3.60	1.20	3.20	1.56	0.72	0.56	0.32	0.28	
8	0.26	0.34	0.49	1.51	2.28	5.96	2.28	1.56	0.72	0.48	0.36	0.28	
9	0.01	0.92	0.49	1.44	1.68	2.40	1.80	1.44	0.64	0.48	0.40	0.28	
10	0.02	0.87	0.47	1.30	1.68	8.11	1.68	1.32	0.64	0.56	0.36	0.28	
11	0.04	0.61	0.44	1.10	1.32	3.20	1.44	1.12	0.64	0.48	0.32	0.28	
12	0.06	0.52	0.42	0.96	1.68	2.28	1.32	1.12	0.56	0.40	0.32	0.32	
13	0.07	0.47	0.39	0.70	2.40	2.28	1.32	0.88	0.48	0.48	0.32	0.32	
14	0.08	0.36	0.39	1.44	4.20	4.40	1.20	0.80	0.48	0.48	0.36	0.28	
15	0.10	0.31	0.36	1.44	3.60	4.40	1.44	0.72	0.40	0.40	0.36	0.24	
16	0.12	0.34	0.31	2.31	6.22	3.60	1.68	0.72	0.36	0.40	0.32	0.20	
17	0.13	0.31	0.29	2.03	3.20	3.00	1.92	0.64	0.36	0.36	0.32	0.20	
18	0.13	0.34	0.26	1.65	3.00	2.80	1.92	0.64	0.36	0.32	0.36	0.20	
19	0.18	0.36	0.31	1.51	2.04	26.70	1.92	0.72	0.36	0.32	0.36	0.20	
20	0.29	0.39	0.36	1.44	1.92	15.02	1.92	0.80	0.36	0.28	0.24	0.24	
21	0.36	0.34	0.42	1.37	3.40	12.62	1.80	0.72	0.36	0.32	0.24	0.20	
22	0.49	0.26	0.44	1.44	2.80	12.14	1.80	0.80	0.36	0.36	0.20	0.20	
23	0.44	0.74	1.44	12.14	20.40	12.62	1.80	0.72	0.36	0.36	0.20	0.16	
24	0.36	0.47	3.79	2.40	55.95	6.74	1.92	0.72	0.36	0.40	0.24	0.16	
25	0.34	0.39	1.24	2.16	7.74	4.40	2.04	0.64	0.48	0.36	0.28	0.16	
26	0.34	0.42	1.30	1.80	23.90	3.80	2.04	0.64	0.48	0.36	0.40	0.16	
27	0.31	0.47	1.24	1.56	13.10	3.40	1.80	0.64	0.40	0.48	1.56	0.20	
28	0.31	0.44	0.96	1.68	9.22	3.20	1.80	0.64	0.40	0.40	1.04	0.20	
29	0.31	0.36	0.78	1.80	6.74	3.60	1.80	0.64	0.36	0.40	0.80	0.20	
30	0.29	0.31	0.65	2.28	5.44	3.80	1.80	0.64	0.36	0.36		0.20	
31		0.29		2.40	3.80		1.80		0.32	0.40		0.28	
Total	7.29	12.70	20.09	62.22	214.41	163.91	68.04	31.52	15.40	13.72	11.80	7.96	629.06 CMSDAY
Mean	0.24	0.41	0.67	2.01	6.92	5.46	2.19	1.05	0.50	0.44	0.41	0.26	1.72 CMS
Max	0.49	0.92	3.79	12.14	55.95	26.70	4.20	1.92	0.72	0.64	1.56	0.48	55.95 CMS
Min	0.01	0.26	0.26	0.70	1.20	1.20	1.20	0.64	0.32	0.28	0.20	0.16	0.01 CMS
Runoff	0.630	1.097	1.736	5.376	18.525	14.162	5.879	2.723	1.331	1.185	1.020	0.688	54.351 MCM

Momentary Peak 171.00 CMS, at 2.30 M (A.D), at 24.00 Hours, on Aug 23, 1991

Runoff Yield 35.08 Liters/Second/Square KM, Momentary Peak Yield 3489.80 Liters/Second/Square KM

WATER YEAR 1991

NAN RIVER BASIN

Nan River at Ban Hat Song Khwae, Uttaradit (N.60)

Location — Lat. 17-24-50 N., Long. 100-07-50 E., on right bank about 1 kilometer downstream from Wat Hat Song Khwae, Amphoe Tron, Uttaradit.

Drainage Area — 18,692 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +48.50 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — On right bank near the Meteorological Station.

Elevation — +57.592 m.(M.S.L.)

Gage Reading Frequency — 16-time daily readings at 03.00, 06.00 - 18.00 and 21.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 16 readings.

Period of Available Gage Records — 1986 to date.

Rating Operation

Period of Rating — 1986 to date.

Rated by Float — -

Rated by Current Meter — 1986 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 155 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

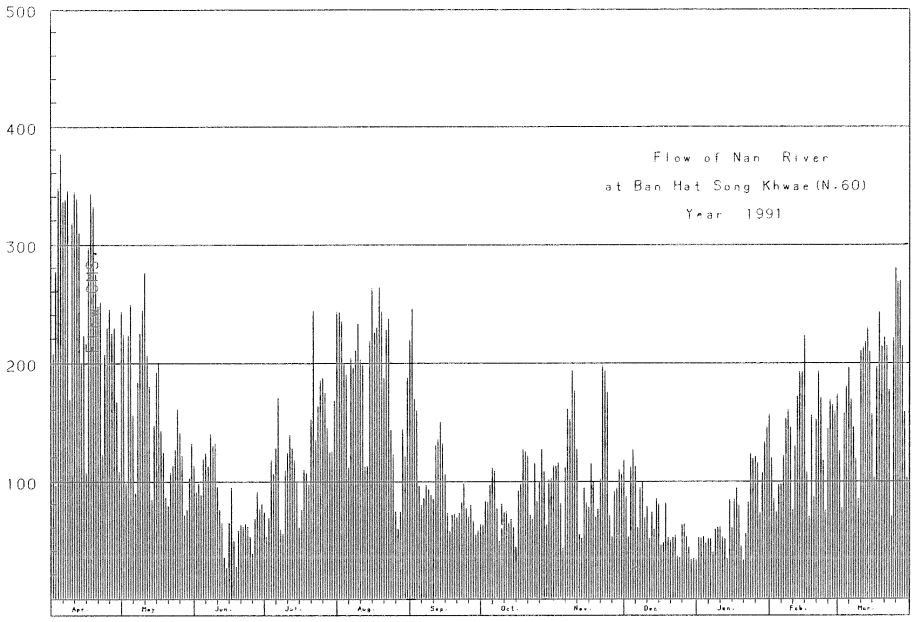
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	50.50	50.62	49.52	49.15	50.77	50.79	49.26	49.72	49.48	49.15	49.78	49.83	
2	51.01	49.58	49.58	49.31	50.71	50.20	49.44	49.74	49.15	49.14	49.46	49.39	
3	51.52	50.62	49.49	49.76	50.44	50.12	49.44	49.43	49.71	49.16	49.36	50.10	
4	51.73	50.81	49.77	49.66	50.36	49.57	49.57	49.04	49.84	49.09	49.57	50.28	
5	51.44	50.08	49.81	49.85	49.71	49.41	49.71	49.71	49.72	49.14	49.58	50.41	
6	51.45	49.51	49.72	50.21	50.47	49.47	49.68	50.13	49.24	49.13	49.79	50.20	
7	51.51	50.31	49.95	49.22	50.41	49.57	49.39	50.05	49.55	49.01	50.06	50.00	
8	50.20	50.63	49.87	49.18	50.52	49.54	49.11	50.39	49.60	49.22	50.12	49.77	
9	51.31	50.78	49.88	49.69	50.70	49.49	49.42	50.25	49.31	49.24	50.00	49.46	
10	51.50	51.01	49.56	49.81	50.46	49.46	49.36	49.84	49.40	49.24	49.38	50.52	
11	51.46	50.49	49.38	49.94	50.43	49.87	49.36	49.18	49.14	49.15	49.86	50.54	
12	51.25	50.28	49.27	49.85	49.71	49.91	49.27	49.14	49.36	49.14	50.22	50.58	
13	50.43	49.46	48.96	49.76	49.72	50.04	49.30	49.55	49.22	48.94	50.38	50.67	
14	50.62	50.01	48.85	49.60	50.58	49.88	49.24	49.43	49.47	49.46	50.38	50.51	
15	49.67	50.38	49.27	49.24	50.91	49.66	49.06	49.40	49.42	49.24	50.62	50.09	
16	51.16	50.44	49.55	49.38	50.64	49.35	49.53	49.74	49.07	49.46	49.67	49.63	
17	51.49	49.97	49.12	49.69	50.67	49.21	49.58	49.59	49.10	49.55	49.32	50.41	
18	51.41	49.82	48.87	49.66	50.92	49.34	49.84	49.32	49.43	49.41	50.08	50.77	
19	51.00	49.47	49.21	49.58	50.77	49.34	49.82	49.38	49.15	49.06	49.48	50.55	
20	50.80	49.41	49.26	50.05	50.34	49.32	49.79	49.62	49.12	48.93	50.05	50.61	
21	50.83	49.67	49.24	50.77	50.66	49.35	49.34	50.42	49.15	49.19	50.38	50.55	
22	49.80	49.72	49.27	49.91	50.73	49.44	49.30	50.39	49.17	49.44	50.21	50.26	
23	50.49	49.84	49.24	50.15	49.98	49.58	49.74	50.25	48.97	49.81	49.76	49.33	
24	50.67	50.13	49.16	50.32	49.80	49.39	49.44	49.33	48.95	49.77	49.37	50.60	
25	50.78	49.96	48.99	50.34	49.36	49.32	49.59	49.16	49.26	49.79	49.99	51.04	
26	50.63	49.79	49.31	50.24	49.23	49.41	49.84	49.52	49.26	49.74	50.19	50.95	
27	50.67	49.33	49.52	49.99	49.36	49.29	49.68	49.55	49.16	49.35	50.16	50.96	
28	50.18	49.38	49.39	49.82	49.98	49.18	49.26	49.69	49.05	49.67	50.11	50.55	
29	49.68	49.63	49.42	49.82	49.79	49.21	49.61	49.66	48.94	49.89	50.23	50.11	
30	50.77	49.88	49.36	50.19	50.34	49.26	49.62	49.76	48.94	50.00		49.63	
31		49.72		50.77	50.59		49.72		48.93	50.09		50.69	
Mean	50.87	50.02	49.39	49.84	50.29	49.57	49.49	49.68	49.27	49.37	49.92	50.29	
Max	51.73	51.01	49.95	50.77	50.92	50.79	49.84	50.42	49.84	50.09	50.62	51.04	51.73
Min	49.67	49.33	48.85	49.15	49.23	49.18	49.06	49.04	48.93	48.93	49.32	49.33	48.85

Annual Max Momentary Gage Height — 51.89 M (MSL), at 14.00 Hours, on Apr 4, 1991

Zero Gage at Bottom Elevation — 48.50 M (MSL), River Bed 47.83 M (MSL)

Left Bank Elevation — 56.62 M (MSL)

Right Bank Elevation — 57.49 M (MSL), Drainage Area 18692 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	208.40	223.76	91.56	52.60	243.73	246.51	63.48	113.36	87.24	52.60	120.44	126.34	
2	277.09	98.04	98.04	68.88	235.39	170.00	82.92	115.72	52.60	51.72	85.08	77.52	
3	347.98	223.76	88.32	118.08	200.72	160.56	82.92	81.84	112.18	53.48	74.28	158.20	
4	377.50	249.29	119.26	106.68	190.48	96.96	96.96	42.92	127.52	47.32	96.96	180.24	
5	336.86	155.84	123.98	128.70	112.18	79.68	112.18	112.18	113.36	51.72	98.04	196.88	
6	338.25	90.48	113.36	171.28	204.56	86.16	108.84	161.74	61.32	50.84	121.62	170.00	
7	346.59	184.08	140.50	59.16	196.88	96.96	77.52	152.30	94.80	40.28	153.48	146.40	
8	170.00	225.04	131.06	55.24	210.96	93.72	49.08	194.32	100.20	59.16	160.56	119.26	
9	318.79	245.12	132.24	109.92	234.00	88.32	80.76	176.40	68.88	61.32	146.40	85.08	
10	345.20	277.09	95.88	123.98	203.28	85.08	74.28	127.52	78.60	61.32	76.44	210.96	
11	339.64	207.12	76.44	139.32	199.44	131.06	74.28	55.24	51.72	52.60	129.88	213.52	
12	310.45	180.24	64.56	128.70	112.18	135.78	64.56	51.72	74.28	51.72	172.56	218.64	
13	199.44	85.08	35.88	118.08	113.36	151.12	67.80	94.80	59.16	34.12	193.04	230.16	
14	223.76	147.58	26.20	100.20	218.64	132.24	61.32	81.84	86.16	85.08	193.04	209.68	
15	107.76	193.04	64.56	61.32	263.19	106.68	44.68	78.60	80.76	61.32	223.76	157.02	
16	297.94	200.72	94.80	76.44	226.32	73.20	92.64	115.72	45.56	85.08	107.76	103.44	
17	343.81	142.86	49.96	109.92	230.16	58.08	98.04	99.12	48.20	94.80	69.96	196.88	
18	332.69	125.16	27.96	106.68	264.58	72.12	127.52	69.96	81.84	79.68	155.84	243.73	
19	275.70	86.16	58.08	98.04	243.73	72.12	125.16	76.44	52.60	44.68	87.24	214.80	
20	247.90	79.68	63.48	152.30	187.92	69.96	121.62	102.36	49.96	33.24	152.30	222.48	
21	252.07	107.76	61.32	243.73	228.88	73.20	72.12	198.16	52.60	56.12	193.04	214.80	
22	122.80	113.36	64.56	135.78	238.17	82.92	67.80	194.32	54.36	82.92	171.28	177.68	
23	207.12	127.52	61.32	164.10	144.04	98.04	115.72	176.40	36.76	123.98	118.08	71.04	
24	230.16	161.74	53.48	185.36	122.80	77.52	82.92	71.04	35.00	119.26	75.36	221.20	
25	245.12	141.68	38.52	187.92	74.28	69.96	99.12	53.48	63.48	121.62	145.22	281.26	
26	225.04	121.62	68.88	175.12	60.24	79.68	127.52	91.56	63.48	115.72	168.82	268.75	
27	230.16	71.04	91.56	145.22	74.28	66.72	108.84	94.80	53.48	73.20	165.28	270.14	
28	167.64	76.44	77.52	125.16	144.04	55.24	63.48	109.92	43.80	107.76	159.38	214.80	
29	108.84	103.44	80.76	125.16	121.62	58.08	101.28	106.68	34.12	133.42	173.84	159.38	
30	243.73	132.24	74.28	168.82	187.92	63.48	102.36	118.08	34.12	146.40		103.44	
31		113.36		243.73	219.92		113.36		33.24	157.02		232.72	
Total	7778.43	4690.34	2368.32	3985.62	5707.89	2931.15	2761.08	3318.54	2031.38	2389.50	3988.98	5696.44	47647.67 CMSDAY
Mean	259.28	151.30	78.94	128.57	184.13	97.70	89.07	110.62	65.53	77.08	137.55	183.76	130.18 CMS
Max	377.50	277.09	140.50	243.73	264.58	246.51	127.52	198.16	127.52	157.02	223.76	281.26	377.50 CMS
Min	107.76	71.04	26.20	52.60	60.24	55.24	44.68	42.92	33.24	33.24	69.96	71.04	26.20 CMS
Runoff	672.056	405.245	204.623	344.358	493.162	253.251	238.557	286.722	175.511	206.453	344.648	492.172	4116.759 MCM

Momentary Peak 401.50 CMS, at 51.89 M (MSL), at 14.00 Hours, on Apr 4, 1991

Runoff Yield 6.96 Liters/Second/Square KM, Momentary Peak Yield 21.48 Liters/Second/Square KM

WATER YEAR 1991

NAN RIVER BASIN

Nam Haeng at Ban Hua Muang, Nan (N.63)

Location — Lat. 18°-21'-48" N., Long. 100°-43'-41" E., on left bank at the bridge on road, Ban Hua Muang, Tambon Si Sa Ket, Amphoe Na Noi, Nan.

Drainage Area — 788 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank about 34 meters from the first staff gage.

Elevation — +11.00 m.(A.D.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1987 to date.

Rating Operation

Period of Rating — 1987 to date.

Rated by Float — -

Rated by Current Meter — 1987 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 30 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

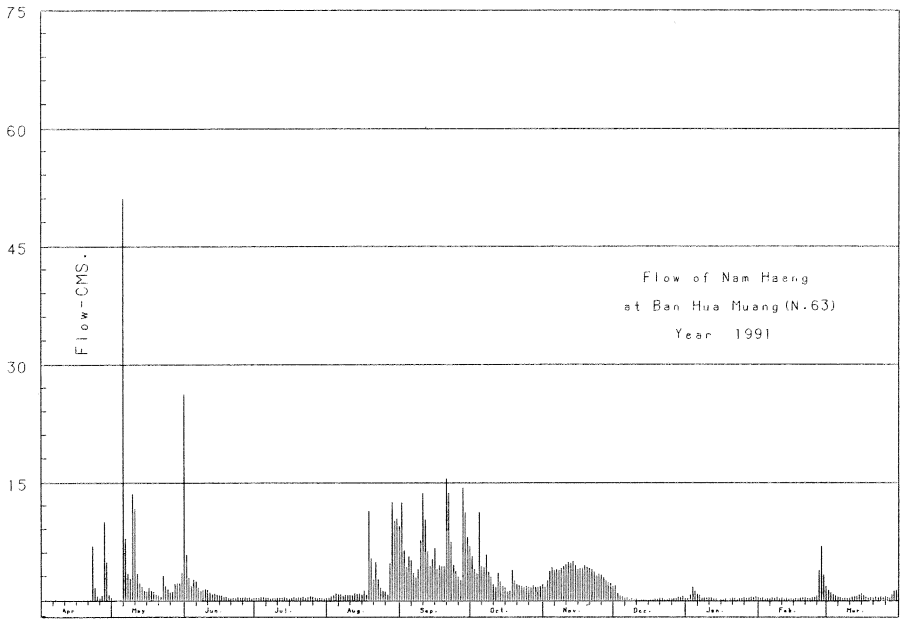
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.49	0.51	1.12	0.56	0.60	1.59	1.10	0.78	0.80	0.55	0.59	0.75	
2	0.51	0.50	0.88	0.58	0.62	1.16	0.97	0.86	0.71	0.68	0.58	0.71	
3	0.51	0.50	0.80	0.60	0.67	1.00	0.93	0.95	0.64	0.79	0.56	0.69	
4	0.49	0.50	0.86	0.62	0.69	1.10	1.51	1.00	0.64	0.73	0.55	0.64	
5	0.48	3.81	0.85	0.60	0.69	1.07	1.00	0.97	0.60	0.70	0.56	0.63	
6	0.47	1.26	0.77	0.57	0.67	0.93	0.99	0.97	0.59	0.66	0.58	0.60	
7	0.47	0.93	0.74	0.57	0.65	0.89	1.12	0.97	0.55	0.60	0.59	0.58	
8	0.46	0.87	0.74	0.56	0.66	0.97	0.95	0.98	0.55	0.57	0.61	0.57	
9	0.46	1.67	0.76	0.57	0.67	1.25	0.89	1.01	0.54	0.60	0.57	0.56	
10	0.46	1.53	0.74	0.57	0.65	1.67	0.81	1.02	0.53	0.59	0.58	0.58	
11	0.48	0.93	0.71	0.57	0.66	1.44	0.79	1.04	0.53	0.58	0.56	0.63	
12	0.45	0.83	0.69	0.60	0.70	1.14	0.94	1.04	0.53	0.56	0.57	0.64	
13	0.46	0.78	0.69	0.59	0.70	1.01	0.84	1.05	0.52	0.54	0.56	0.64	
14	0.48	0.74	0.68	0.59	0.69	1.07	0.80	1.02	0.51	0.52	0.54	0.68	
15	0.45	0.72	0.67	0.56	0.68	1.18	0.77	0.98	0.50	0.54	0.56	0.70	
16	0.46	0.77	0.64	0.59	0.73	0.97	0.73	0.98	0.50	0.54	0.56	0.67	
17	0.45	0.74	0.62	0.60	0.68	1.02	0.73	0.99	0.52	0.54	0.57	0.61	
18	0.44	0.72	0.61	0.59	1.52	1.00	0.97	1.01	0.54	0.53	0.58	0.59	
19	0.42	0.68	0.59	0.59	1.09	1.01	0.85	1.00	0.55	0.54	0.61	0.60	
20	0.46	0.64	0.55	0.61	0.86	1.80	0.82	0.98	0.59	0.60	0.59	0.60	
21	0.52	0.63	0.56	0.61	1.04	1.67	0.80	0.97	0.58	0.56	0.58	0.61	
22	1.20	0.91	0.58	0.59	0.87	1.23	0.80	0.95	0.53	0.54	0.59	0.61	
23	0.78	0.79	0.60	0.60	0.77	1.02	0.77	0.91	0.54	0.55	0.60	0.62	
24	0.63	0.76	0.60	0.65	0.74	0.95	0.80	0.92	0.54	0.58	0.62	0.61	
25	0.59	0.71	0.58	0.61	0.72	0.89	0.78	0.91	0.56	0.60	0.64	0.62	
26	0.64	0.72	0.62	0.60	0.69	0.86	0.78	0.89	0.55	0.59	0.96	0.60	
27	1.42	0.82	0.59	0.58	1.03	1.72	0.80	0.86	0.58	0.60	1.20	0.61	
28	1.04	0.82	0.59	0.56	1.59	1.50	0.79	0.83	0.61	0.61	0.92	0.69	
29	0.68	0.83	0.57	0.56	1.43	1.28	0.78	0.83	0.62	0.61	0.79	0.73	
30	0.58	0.94	0.56	0.56	1.44	1.19	0.80	0.79	0.63	0.62		0.75	
31		2.46		0.56	1.38		0.81		0.58	0.59		0.77	
Mean	0.58	0.97	0.69	0.59	0.86	1.19	0.88	0.95	0.57	0.59	0.63	0.64	
Max	1.42	3.81	1.12	0.65	1.59	1.80	1.51	1.05	0.80	0.79	1.20	0.77	3.81
Min	0.42	0.50	0.55	0.56	0.60	0.86	0.73	0.78	0.50	0.52	0.54	0.56	0.42

Annual Max Momentary Gage Height — 5.09 M (A.D), at 8.00 Hours, on May 5, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 0.09 M (A.D)

Left Bank Elevation — 5.92 M (A.D)

Right Bank Elevation — 5.07 M (A.D), Drainage Area — 788 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.09	0.13	5.88	0.28	0.40	12.46	5.60	1.70	1.90	0.25	0.37	1.40	
2	0.13	0.10	2.86	0.34	0.50	6.44	3.94	2.62	1.00	0.80	0.34	1.00	
3	0.13	0.10	1.90	0.40	0.75	4.30	3.46	3.70	0.60	1.80	0.28	0.85	
4	0.09	0.10	2.62	0.50	0.85	5.60	11.34	4.30	0.60	1.20	0.25	0.60	
5	0.08	51.22	2.50	0.40	0.85	5.21	4.30	3.94	0.40	0.90	0.28	0.55	
6	0.07	7.84	1.60	0.31	0.75	3.46	4.18	3.94	0.37	0.70	0.34	0.40	
7	0.07	3.46	1.30	0.31	0.65	2.98	5.88	3.94	0.25	0.40	0.37	0.34	
8	0.06	2.74	1.30	0.28	0.70	3.94	3.70	4.06	0.25	0.31	0.45	0.31	
9	0.06	13.65	1.50	0.31	0.75	7.70	2.98	4.43	0.22	0.40	0.31	0.28	
10	0.06	11.62	1.30	0.31	0.65	13.65	2.02	4.56	0.19	0.37	0.34	0.34	
11	0.08	3.46	1.00	0.31	0.70	10.36	1.80	4.82	0.19	0.34	0.28	0.55	
12	0.05	2.26	0.85	0.40	0.90	6.16	3.58	4.82	0.19	0.28	0.31	0.60	
13	0.06	1.70	0.85	0.37	0.90	4.43	2.38	4.95	0.16	0.22	0.28	0.60	
14	0.08	1.30	0.80	0.37	0.85	5.21	1.90	4.56	0.13	0.16	0.22	0.80	
15	0.05	1.10	0.75	0.28	0.80	6.72	1.60	4.06	0.10	0.22	0.28	0.90	
16	0.06	1.60	0.60	0.37	1.20	3.94	1.20	4.06	0.10	0.22	0.28	0.75	
17	0.05	1.30	0.50	0.40	0.80	4.56	1.20	4.18	0.16	0.22	0.31	0.45	
18	0.04	1.10	0.45	0.37	11.48	4.30	3.94	4.43	0.22	0.19	0.34	0.37	
19	0.02	0.80	0.37	0.37	5.47	4.43	2.50	4.30	0.25	0.22	0.45	0.40	
20	0.06	0.60	0.25	0.45	2.62	15.60	2.14	4.06	0.37	0.40	0.37	0.40	
21	0.16	0.55	0.28	0.45	4.82	13.65	1.90	3.94	0.34	0.28	0.34	0.45	
22	7.00	3.22	0.34	0.37	2.74	7.42	1.90	3.70	0.19	0.22	0.37	0.45	
23	1.70	1.80	0.40	0.40	1.60	4.56	1.60	3.22	0.22	0.25	0.40	0.50	
24	0.55	1.50	0.40	0.65	1.30	3.70	1.90	3.34	0.22	0.34	0.50	0.45	
25	0.37	1.00	0.34	0.45	1.10	2.98	1.70	3.22	0.28	0.40	0.60	0.50	
26	0.60	1.10	0.50	0.40	0.85	2.62	1.70	2.98	0.25	0.37	3.82	0.40	
27	10.08	2.14	0.37	0.34	4.69	14.40	1.90	2.62	0.34	0.40	7.00	0.45	
28	4.82	2.14	0.37	0.28	12.46	11.20	1.80	2.26	0.45	0.45	3.34	0.85	
29	0.80	2.26	0.31	0.28	10.22	8.12	1.70	2.26	0.50	0.45	1.80	1.20	
30	0.34	3.58	0.28	0.28	10.36	6.86	1.90	1.80	0.55	0.50		1.40	
31		26.22		0.28	9.52		2.02		0.34	0.37		1.60	
Total	27.81	151.69	32.77	11.31	92.23	206.96	89.66	110.77	11.33	13.63	24.62	20.14	792.92 CMSDAY
Mean	0.93	4.89	1.09	0.36	2.98	6.90	2.89	3.69	0.37	0.44	0.85	0.65	2.17 CMS
Max	10.08	51.22	5.88	0.65	12.46	15.60	11.34	4.95	1.90	1.80	7.00	1.60	51.22 CMS
Min	0.02	0.10	0.25	0.28	0.40	2.62	1.20	1.70	0.10	0.16	0.22	0.28	0.02 CMS
Runoff	2.403	13.106	2.831	0.977	7.969	17.881	7.747	9.571	0.979	1.178	2.127	1.740	68.508 MCM

Momentary Peak 80.16 CMS, at 5.09 M (A.D), at 8.00 Hours, on May 5, 1991
Runoff Yield 2.75 Liters/Second/Square KM, Momentary Peak Yield 101.73 Liters/Second/Square KM

WATER YEAR 1991

NAM MAE KOK BASIN

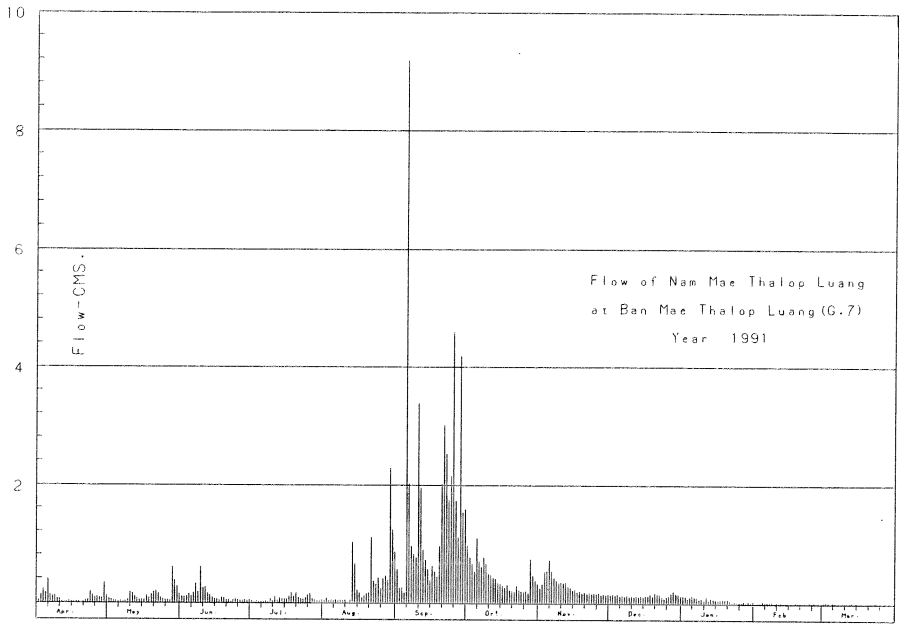
Nam Mae Thalop Luang, Ban Mae Thalop Luang, Chiang Mai (G.7)

Location	Lat. 19-42-40 N., Long. 99-12-50 E., on right bank about 200 meters downstream from damsite, Ban Mae Thalop Luang, Amphoe Fang, Chiang Mai.
Drainage Area	85 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 4 meters from the top staff gage.
Elevation	+4.608 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1986 to date.
Rating Operation	
Period of Rating	1986 to date.
Rated by Float	-
Rated by Current Meter	1986 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage- discharge relation defined by 63 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.71	0.73	0.75	0.70	0.71	0.92	1.01	0.82	0.77	0.75	0.66	0.68	
2	0.77	0.71	0.74	0.69	0.73	0.82	0.97	0.84	0.77	0.76	0.64	0.68	
3	0.81	0.71	0.75	0.69	0.71	0.82	0.94	0.91	0.77	0.73	0.67	0.67	
4	0.79	0.70	0.77	0.69	0.71	0.79	0.91	0.91	0.77	0.75	0.69	0.67	
5	0.87	0.69	0.76	0.69	0.71	1.82	1.03	0.96	0.76	0.76	0.69	0.65	
6	0.76	0.68	0.79	0.69	0.71	1.16	0.95	0.91	0.76	0.75	0.65	0.64	
7	0.75	0.68	0.84	0.70	0.71	1.01	0.93	0.88	0.76	0.74	0.69	0.62	
8	0.75	0.68	0.79	0.70	0.71	0.98	0.97	0.86	0.76	0.73	0.68	0.64	
9	0.73	0.72	0.93	0.73	0.71	0.97	0.94	0.85	0.75	0.73	0.64	0.65	
10	0.72	0.79	0.82	0.70	0.71	1.33	0.90	0.85	0.75	0.72	0.68	0.65	
11	0.70	0.78	0.82	0.74	0.70	1.15	0.89	0.85	0.75	0.75	0.67	0.63	
12	0.69	0.75	0.78	0.71	0.71	1.00	0.88	0.85	0.75	0.72	0.64	0.63	
13	0.70	0.73	0.76	0.73	1.02	0.96	0.87	0.83	0.75	0.73	0.64	0.64	
14	0.70	0.72	0.74	0.73	0.94	0.92	0.85	0.82	0.75	0.73	0.64	0.62	
15	0.70	0.71	0.73	0.73	0.81	0.86	0.84	0.81	0.75	0.72	0.64	0.62	
16	0.69	0.71	0.72	0.72	0.78	0.93	0.83	0.81	0.75	0.72	0.62	0.62	
17	0.69	0.76	0.71	0.75	0.74	0.91	0.82	0.80	0.76	0.72	0.62	0.62	
18	0.67	0.73	0.74	0.78	0.75	0.88	0.84	0.80	0.77	0.73	0.64	0.62	
19	0.66	0.77	0.73	0.75	0.78	1.01	0.81	0.79	0.76	0.72	0.65	0.63	
20	0.67	0.79	0.72	0.78	0.78	1.16	0.80	0.79	0.78	0.73	0.65	0.64	
21	0.71	0.80	0.71	0.74	1.03	1.29	0.80	0.78	0.78	0.71	0.65	0.60	
22	0.71	0.78	0.70	0.73	0.86	1.23	0.83	0.79	0.77	0.70	0.66	0.62	
23	0.80	0.74	0.71	0.72	0.84	1.12	0.81	0.78	0.75	0.69	0.67	0.63	
24	0.76	0.72	0.73	0.74	0.88	1.18	0.80	0.78	0.73	0.70	0.64	0.63	
25	0.74	0.72	0.71	0.76	0.82	1.45	0.80	0.78	0.75	0.69	0.67	0.61	
26	0.74	0.71	0.71	0.78	0.87	1.12	0.80	0.78	0.75	0.70	0.65	0.60	
27	0.74	0.71	0.71	0.73	0.89	1.03	0.79	0.77	0.79	0.70	0.63	0.62	
28	0.73	0.93	0.71	0.71	0.86	1.41	0.96	0.77	0.80	0.69	0.66	0.61	
29	0.85	0.86	0.71	0.71	1.20	1.09	0.89	0.77	0.78	0.69	0.69	0.60	
30	0.75	0.83	0.71	0.70	1.05	1.10	0.86	0.77	0.77	0.69		0.62	
31		0.77		0.71	0.99		0.84		0.76	0.68		0.61	
Mean	0.74	0.75	0.75	0.72	0.82	1.08	0.88	0.82	0.76	0.72	0.66	0.63	
Max	0.87	0.93	0.93	0.78	1.20	1.82	1.03	0.96	0.80	0.76	0.69	0.68	1.82
Min	0.66	0.68	0.70	0.69	0.70	0.79	0.79	0.77	0.73	0.68	0.62	0.60	0.60

Annual Max Momentary Gage Height 2.20 M (A.D), at 17.00 Hours, on Sep 28, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.50 M (A.D)
Left Bank Elevation 2.76 M (A.D)
Right Bank Elevation 3.92 M (A.D), Drainage Area 85 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.05	0.08	0.12	0.03	0.05	0.58	0.97	0.26	0.15	0.12	0.02	0.03	
2	0.15	0.05	0.10	0.03	0.08	0.26	0.78	0.32	0.15	0.13	0.02	0.03	
3	0.23	0.05	0.12	0.03	0.05	0.26	0.66	0.54	0.15	0.08	0.02	0.02	
4	0.18	0.03	0.15	0.03	0.05	0.18	0.54	0.54	0.15	0.12	0.03	0.02	
5	0.41	0.03	0.13	0.03	0.05	9.20	1.11	0.74	0.13	0.13	0.03	0.02	
6	0.13	0.03	0.18	0.03	0.05	2.02	0.70	0.54	0.13	0.12	0.02	0.02	
7	0.12	0.03	0.32	0.03	0.05	0.97	0.62	0.44	0.13	0.10	0.03	0.01	
8	0.12	0.03	0.18	0.03	0.05	0.82	0.78	0.38	0.13	0.08	0.03	0.02	
9	0.08	0.06	0.62	0.08	0.05	0.78	0.66	0.35	0.12	0.08	0.02	0.02	
10	0.06	0.18	0.26	0.03	0.05	3.40	0.50	0.35	0.12	0.06	0.03	0.02	
11	0.03	0.17	0.26	0.10	0.03	1.95	0.47	0.35	0.12	0.12	0.02	0.02	
12	0.03	0.12	0.17	0.05	0.05	0.90	0.44	0.35	0.12	0.06	0.02	0.02	
13	0.03	0.08	0.13	0.08	1.04	0.74	0.41	0.29	0.12	0.08	0.02	0.02	
14	0.03	0.06	0.10	0.08	0.66	0.58	0.35	0.26	0.12	0.08	0.02	0.01	
15	0.03	0.05	0.08	0.08	0.23	0.38	0.32	0.23	0.12	0.06	0.02	0.01	
16	0.03	0.05	0.06	0.06	0.17	0.62	0.29	0.23	0.12	0.06	0.01	0.01	
17	0.03	0.13	0.05	0.12	0.10	0.54	0.26	0.20	0.13	0.06	0.01	0.01	
18	0.02	0.08	0.10	0.17	0.12	0.44	0.32	0.20	0.15	0.08	0.02	0.01	
19	0.02	0.15	0.08	0.12	0.17	0.97	0.23	0.18	0.13	0.06	0.02	0.02	
20	0.02	0.18	0.06	0.17	0.17	2.02	0.20	0.18	0.17	0.08	0.02	0.02	
21	0.05	0.20	0.05	0.10	1.11	3.02	0.20	0.17	0.17	0.05	0.02	0.01	
22	0.05	0.17	0.03	0.08	0.38	2.54	0.29	0.18	0.15	0.03	0.02	0.01	
23	0.20	0.10	0.05	0.06	0.32	1.74	0.23	0.17	0.12	0.03	0.02	0.02	
24	0.13	0.06	0.08	0.10	0.44	2.16	0.20	0.17	0.08	0.03	0.02	0.02	
25	0.10	0.06	0.05	0.13	0.26	4.60	0.20	0.17	0.12	0.03	0.02	0.01	
26	0.10	0.05	0.05	0.17	0.41	1.74	0.20	0.17	0.12	0.03	0.02	0.01	
27	0.10	0.05	0.05	0.08	0.47	1.11	0.18	0.15	0.18	0.03	0.02	0.01	
28	0.08	0.62	0.05	0.05	0.38	4.20	0.74	0.15	0.20	0.03	0.02	0.01	
29	0.35	0.38	0.05	0.05	2.30	1.53	0.47	0.15	0.17	0.03	0.03	0.01	
30	0.12	0.29	0.05	0.03	1.25	1.60	0.38	0.15	0.15	0.03		0.01	
31		0.15		0.05	0.86		0.32		0.13	0.03		0.01	
Total	3.08	3.77	3.78	2.28	11.45	51.85	14.02	8.56	4.25	2.11	0.62	0.49	106.26 CMSDAY
Mean	0.10	0.12	0.13	0.07	0.37	1.73	0.45	0.29	0.14	0.07	0.02	0.02	0.29 CMS
Max	0.41	0.62	0.62	0.17	2.30	9.20	1.11	0.74	0.20	0.13	0.03	0.03	9.20 CMS
Min	0.02	0.03	0.03	0.03	0.03	0.18	0.18	0.15	0.08	0.03	0.01	0.01	0.01 CMS
Runoff	0.266	0.326	0.327	0.197	0.989	4.480	1.211	0.740	0.367	0.182	0.054	0.042	9.181 MCM

Momentary Peak 15.50 CMS, at 2.20 M (A.D), at 17.00 Hours, on Sep 28, 1991

Runoff Yield 3.42 Liters/Second/Square KM, Momentary Peak Yield 182.35 Liters/Second/Square KM

WATER YEAR 1991

CHAO PHRAYA RIVER BASIN

Chao Phraya River at Khai Chira Prawat, Nakhon Sawan (C.2)

Location — Lat. 15-40-15 N., Long. 100-06-45 E., on left bank at Khai Chira Prawat about 3 kilometers downstream from Dechatiwong Bridge, Amphoe Muang, Nakhon Sawan.

Drainage Area — 110,569 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — About 20 meters west of the gage site.

Elevation — +25.608 m.(M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1914 to date.

Rating Operation

Period of Rating — 1956 to date.

Rated by Float — -

Rated by Current Meter — 1956 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 145 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

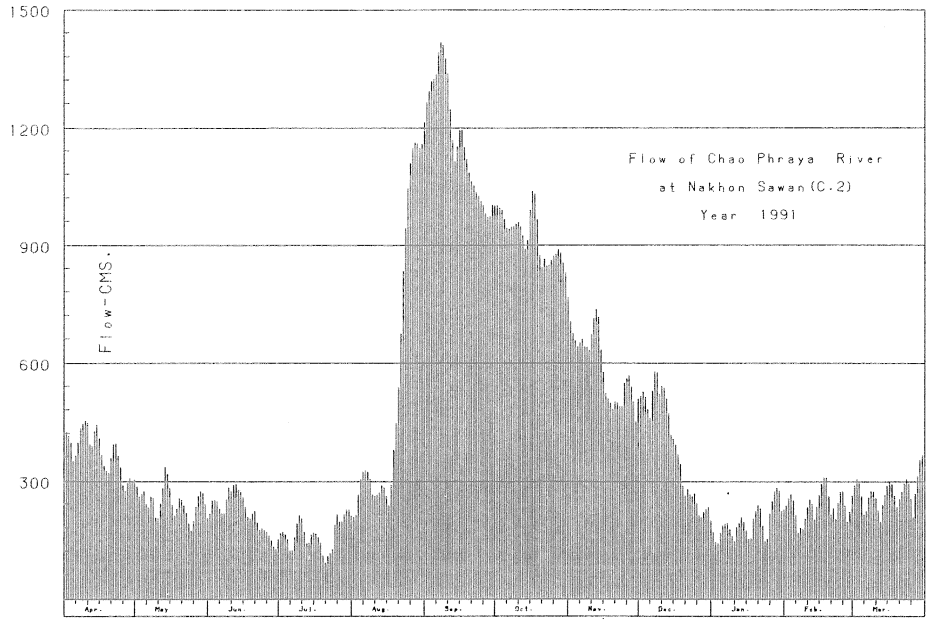
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	19.31	18.61	18.21	17.91	18.16	21.90	21.25	20.38	19.68	17.92	18.33	18.63	
2	19.26	18.46	18.40	17.92	18.20	21.96	21.24	20.28	19.73	17.74	18.44	18.72	
3	19.19	18.51	18.42	17.89	18.49	22.02	21.22	20.21	19.67	17.73	18.51	18.67	
4	18.95	18.54	18.39	17.79	18.71	22.03	21.16	20.16	19.55	17.92	18.42	18.48	
5	19.03	18.36	18.29	17.60	18.82	22.06	21.09	20.19	19.45	18.03	18.19	18.20	
6	19.18	18.30	18.21	17.59	18.83	22.18	21.09	20.22	19.74	18.06	17.92	18.26	
7	19.35	18.47	18.22	17.84	18.82	22.24	21.10	20.16	19.92	18.08	17.99	18.45	
8	19.39	18.44	18.43	18.07	18.71	22.22	21.11	20.15	19.92	17.98	17.98	18.55	
9	19.43	18.16	18.59	18.19	18.50	22.15	21.12	20.12	19.70	17.85	18.14	18.54	
10	19.40	18.14	18.54	18.14	18.47	22.06	21.14	20.27	19.78	17.77	18.32	18.45	
11	19.17	18.37	18.63	17.93	18.49	21.86	21.10	20.40	19.77	18.00	18.43	18.26	
12	19.14	18.59	18.65	17.72	18.52	21.67	21.04	20.48	19.66	18.08	18.36	18.10	
13	19.32	18.88	18.57	17.74	18.63	21.54	20.94	20.41	19.50	18.16	18.14	18.34	
14	19.38	18.79	18.53	17.88	18.59	21.63	21.00	20.13	19.28	18.09	18.31	18.50	
15	19.24	18.58	18.46	17.92	18.48	21.73	21.22	19.92	19.23	17.96	18.49	18.62	
16	19.03	18.34	18.32	17.89	18.34	21.74	21.35	19.71	19.17	17.80	18.65	18.66	
17	18.90	18.19	18.17	17.84	18.63	21.63	21.33	19.66	19.04	17.82	18.74	18.65	
18	18.82	18.28	18.14	17.73	19.10	21.55	21.16	19.61	18.93	18.14	18.73	18.48	
19	18.80	18.45	18.21	17.51	19.40	21.47	20.89	19.55	18.62	18.26	18.48	18.31	
20	18.99	18.41	18.25	17.38	19.77	21.41	20.80	19.62	18.49	18.34	18.20	18.44	
21	19.16	18.33	18.09	17.49	20.27	21.39	20.87	19.62	18.58	18.29	18.29	18.53	
22	19.18	18.23	17.97	17.55	20.78	21.34	20.82	19.57	18.50	18.04	18.14	18.66	
23	19.02	18.07	17.98	17.61	21.09	21.32	20.82	19.58	18.47	17.77	18.38	18.71	
24	18.88	17.95	17.96	18.05	21.37	21.28	20.86	19.81	18.52	17.80	18.53	18.66	
25	18.63	18.10	17.92	18.20	21.53	21.26	20.89	19.86	18.38	18.22	18.55	18.44	
26	18.54	18.31	17.86	18.09	21.62	21.20	20.90	19.88	18.20	18.41	18.33	18.17	
27	18.66	18.48	17.78	18.10	21.66	21.17	20.94	19.78	18.16	18.54	18.10	18.51	
28	18.72	18.54	17.67	18.21	21.65	21.18	20.91	19.62	18.24	18.60	18.24	18.76	
29	18.68	18.52	17.61	18.27	21.62	21.26	20.84	19.42	18.29	18.55	18.48	18.97	
30	18.70	18.35	17.79	18.28	21.65	21.25	20.76	19.65	18.31	18.25		19.03	
31		18.15		18.18	21.78		20.57		18.12	18.28		18.89	
Mean	19.05	18.38	18.21	17.89	19.63	21.66	21.02	19.95	19.05	18.08	18.34	18.54	
Max	19.43	18.88	18.65	18.28	21.78	22.24	21.35	20.48	19.92	18.60	18.74	19.03	22.24
Min	18.54	17.95	17.61	17.38	18.16	21.17	20.57	19.42	18.12	17.73	17.92	18.10	17.38

Annual Max Momentary Gage Height — 22.29 M (MSL), at 16.00 Hours, on Sep 7, 1991

Zero Gage at Bottom Elevation — 0.00 M (MSL), River Bed — 15.17 M (MSL)

Left Bank Elevation — 25.36 M (MSL)

Right Bank Elevation — 26.22 M (MSL), Drainage Area — 110569 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	426.4	287.1	216.7	168.6	208.2	1266.0	1001.0	708.0	516.1	170.1	237.5	290.7	
2	414.8	260.1	249.7	170.1	215.0	1292.7	997.2	678.2	528.8	144.3	256.6	307.1	
3	398.9	268.8	253.1	165.6	265.3	1319.4	989.6	657.9	513.7	142.9	268.8	298.0	
4	350.0	274.3	247.9	151.4	305.3	1323.9	968.1	644.0	484.5	170.1	253.1	263.5	
5	366.2	242.7	230.6	124.4	325.4	1337.2	943.8	652.2	460.2	187.2	213.3	215.0	
6	396.9	232.3	216.7	123.0	327.2	1391.0	943.8	660.8	531.4	191.8	170.1	225.4	
7	436.0	261.8	218.5	158.5	325.4	1418.0	947.2	644.0	578.8	194.9	180.9	258.3	
8	445.6	256.6	254.9	193.3	305.3	1409.0	950.7	641.2	578.8	179.4	179.4	276.1	
9	455.3	208.2	283.4	213.3	267.0	1377.5	954.2	633.0	521.0	159.9	204.8	274.3	
10	448.0	204.8	274.3	204.8	261.8	1337.2	961.1	675.3	541.8	148.5	235.8	258.3	
11	394.8	244.5	290.7	171.7	265.3	1248.4	947.2	714.0	539.2	182.5	254.9	225.4	
12	388.7	283.4	294.4	141.4	270.7	1167.8	926.4	738.8	511.3	194.9	242.7	198.0	
13	428.8	336.3	279.8	144.3	290.7	1115.2	891.7	717.1	472.3	208.2	204.8	239.3	
14	443.2	319.9	272.5	164.2	283.4	1151.6	912.5	635.7	419.4	196.4	234.1	267.0	
15	410.2	281.6	260.1	170.1	263.5	1192.6	989.6	578.8	407.9	176.3	265.3	288.9	
16	366.2	239.3	235.8	165.6	239.3	1196.8	1039.5	523.6	394.8	152.8	294.4	296.2	
17	340.0	213.3	209.9	158.5	290.7	1151.6	1031.7	511.3	368.2	155.6	310.8	294.4	
18	325.4	228.9	204.8	142.9	380.5	1119.2	968.1	499.1	346.0	204.8	309.0	263.5	
19	321.7	258.3	216.7	111.6	448.0	1087.0	874.3	484.5	288.9	225.4	263.5	234.1	
20	358.0	251.4	223.7	93.6	539.2	1063.0	843.0	501.5	265.3	239.3	215.0	256.6	
21	392.8	237.5	196.4	108.8	675.3	1055.1	867.3	501.5	281.6	230.6	230.6	272.5	
22	396.9	220.2	177.8	117.3	836.4	1035.6	850.0	489.4	267.0	188.7	204.8	296.2	
23	364.1	193.3	179.4	125.8	943.8	1027.8	850.0	491.8	261.8	148.5	246.2	305.3	
24	336.3	174.8	176.3	190.2	1047.3	1012.4	863.9	549.7	270.7	152.8	272.5	296.2	
25	290.7	198.0	170.1	215.0	1111.2	1004.8	874.3	562.9	246.2	218.5	276.1	256.6	
26	274.3	234.1	161.3	196.4	1147.6	982.0	877.7	568.2	215.0	251.4	237.5	209.9	
27	296.2	263.5	150.0	198.0	1163.8	971.6	891.7	541.8	208.2	274.3	198.0	268.8	
28	307.1	274.3	134.3	216.7	1159.7	975.0	881.2	501.5	221.9	285.3	221.9	314.5	
29	299.9	270.7	125.8	227.1	1147.6	1004.8	856.9	452.9	230.6	276.1	263.5	354.0	
30	303.5	241.0	151.4	228.9	1159.7	1001.0	829.8	508.8	234.1	223.7		366.2	
31		206.5		211.6	1213.6		767.4		201.4	228.9		338.2	
Total	11176.9	7667.5	6557.0	5172.7	17683.2	35035.2	28490.9	17667.5	11906.9	6104.1	6945.9	8508.5	162916.3 CMSDAY
Mean	372.6	247.3	218.6	166.9	570.4	1167.8	919.1	588.9	384.1	196.9	239.5	274.5	445.1 CMS
Max	455.3	336.3	294.4	228.9	1213.6	1418.0	1039.5	738.8	578.8	285.3	310.8	366.2	1418.0 CMS
Min	274.3	174.8	125.8	93.6	208.2	971.6	767.4	452.9	201.4	142.9	170.1	198.0	93.6 CMS
Runoff	965.68	662.47	566.52	446.92	1527.83	3027.04	2461.61	1526.47	1028.76	527.39	600.13	735.13	14075.97 MCM

Momentary Peak 1440.50 CMS, at 22.29 M (MSL), at 16.00 Hours, on Sep 7, 1991

Runoff Yield 4.03 Liters/Second/Square KM, Momentary Peak Yield 13.03 Liters/Second/Square KM

WATER YEAR 1991

CHAO PHRAYA RIVER BASIN

Chao Phraya River at Ban Bang Kaeo, Ang Thong (C.7A)

Location — Lat. 14°-35'-05" N., Long. 100°-27'-12" E., on left bank about 40 meters downstream from Ang Thong Bridge, Ban Bang Kaeo, Amphoe Muang, Ang Thong.

Drainage Area — Flood plain.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — About 21 meters from the top staff gage.

Elevation — +7.15 m.(M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1971 to date.

Rating Operation

Period of Rating — 1976-1979, 1984 to date

Rated by Float — -

Rated by Current Meter — 1976-1979, 1984 to date

Stability of Channel Regimes — Fairly stable because of backwater effect.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 91 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

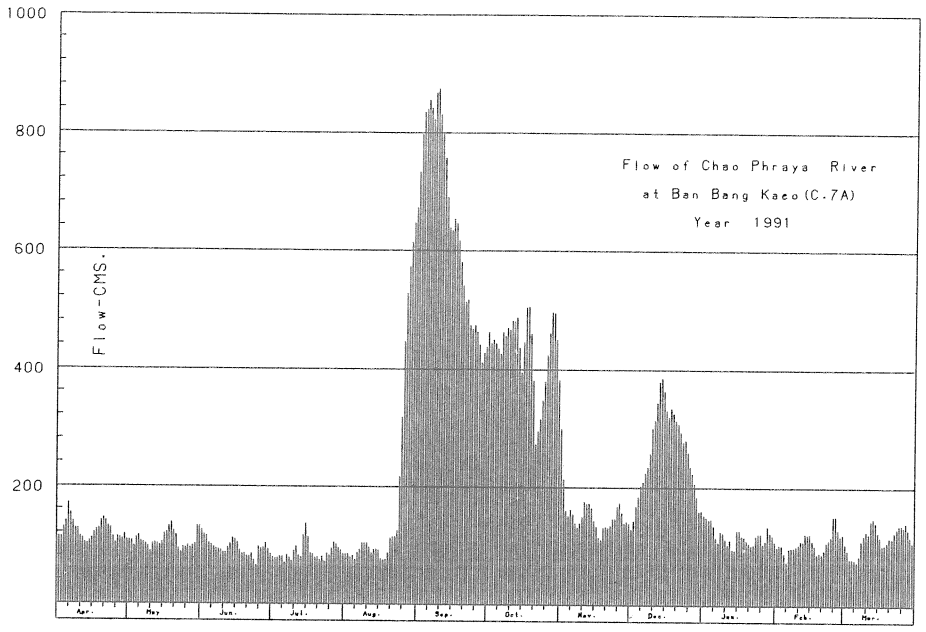
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.52	0.48	0.61	0.26	0.30	3.18	2.25	1.57	0.63	0.79	0.40	0.45	
2	0.52	0.47	0.56	0.25	0.31	3.36	2.18	1.14	0.72	0.76	0.43	0.36	
3	0.64	0.41	0.54	0.25	0.26	3.46	2.20	0.83	0.88	0.74	0.43	0.26	
4	0.70	0.51	0.45	0.28	0.28	3.48	2.18	0.78	0.96	0.74	0.32	0.25	
5	0.90	0.55	0.42	0.27	0.24	3.52	2.14	0.84	1.08	0.67	0.22	0.24	
6	0.80	0.47	0.40	0.19	0.33	3.49	2.11	0.80	1.11	0.52	0.39	0.22	
7	0.70	0.45	0.37	0.29	0.36	3.43	2.25	0.69	1.20	0.47	0.39	0.30	
8	0.63	0.44	0.37	0.26	0.45	3.55	2.23	0.65	1.24	0.60	0.40	0.48	
9	0.62	0.40	0.35	0.21	0.44	3.57	2.28	0.69	1.37	0.59	0.41	0.56	
10	0.53	0.34	0.33	0.35	0.45	3.45	2.27	0.77	1.57	0.51	0.44	0.60	
11	0.50	0.43	0.32	0.40	0.39	3.36	2.33	0.92	1.64	0.43	0.48	0.57	
12	0.45	0.45	0.39	0.29	0.32	3.25	2.32	0.90	1.77	0.49	0.48	0.73	
13	0.43	0.43	0.43	0.26	0.36	3.06	2.35	0.91	1.92	0.38	0.57	0.75	
14	0.47	0.42	0.51	0.55	0.37	2.89	2.15	0.86	1.95	0.36	0.57	0.71	
15	0.50	0.45	0.49	0.68	0.35	2.88	1.98	0.72	1.86	0.61	0.57	0.60	
16	0.58	0.56	0.46	0.52	0.24	2.94	2.18	0.66	1.70	0.62	0.49	0.53	
17	0.61	0.59	0.35	0.32	0.23	2.92	2.41	0.52	1.66	0.55	0.42	0.43	
18	0.63	0.65	0.31	0.30	0.23	2.82	2.42	0.50	1.73	0.53	0.32	0.43	
19	0.71	0.70	0.31	0.26	0.32	2.70	2.24	0.64	1.69	0.49	0.33	0.47	
20	0.75	0.60	0.28	0.26	0.51	2.55	1.93	0.66	1.63	0.45	0.32	0.52	
21	0.71	0.55	0.27	0.23	0.52	2.45	1.44	0.64	1.61	0.42	0.36	0.52	
22	0.66	0.37	0.31	0.27	0.53	2.46	1.55	0.67	1.54	0.44	0.47	0.59	
23	0.63	0.33	0.22	0.21	0.60	2.30	1.64	0.74	1.46	0.55	0.49	0.64	
24	0.53	0.39	0.15	0.31	1.16	2.27	1.79	0.75	1.48	0.57	0.54	0.67	
25	0.45	0.39	0.40	0.29	1.65	2.30	1.92	0.88	1.38	0.58	0.77	0.68	
26	0.52	0.41	0.37	0.38	2.19	2.25	2.10	0.91	1.26	0.44	0.78	0.65	
27	0.51	0.39	0.39	0.45	2.50	2.17	2.25	0.81	1.19	0.49	0.62	0.70	
28	0.50	0.41	0.44	0.43	2.67	2.05	2.38	0.70	1.10	0.66	0.54	0.63	
29	0.56	0.44	0.37	0.39	2.81	2.11	2.38	0.71	0.97	0.59	0.57	0.54	
30	0.48	0.66	0.30	0.35	2.92	2.15	2.20	0.69	0.83	0.55		0.47	
31		0.65		0.31	3.00		1.93		0.83	0.48		0.48	
Mean	0.59	0.48	0.38	0.32	0.88	2.88	2.13	0.78	1.35	0.55	0.47	0.52	
Max	0.90	0.70	0.61	0.68	3.00	3.57	2.42	1.57	1.95	0.79	0.78	0.75	3.57
Min	0.43	0.33	0.15	0.19	0.23	2.05	1.44	0.50	0.63	0.36	0.22	0.22	0.15

Annual Max Momentary Gage Height — 3.62 M (MSL), at 23.00 Hours, on Sep 6, 1991

Zero Gage at Bottom Elevation — 0.00 M (MSL), River Bed -7.12 M (MSL)

Left Bank Elevation — 7.61 M (MSL)

Right Bank Elevation — 7.68 M (MSL), Drainage Area Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	114.3	109.0	126.5	79.8	85.0	733.0	462.3	300.2	129.5	153.5	98.3	105.0	
2	114.3	107.7	119.7	78.5	86.3	797.6	444.6	214.7	143.0	149.0	102.3	93.0	
3	131.0	99.7	117.0	78.5	79.8	833.6	449.7	160.1	168.6	146.0	102.3	79.8	
4	140.0	113.0	105.0	82.4	82.4	840.8	444.6	152.0	182.2	146.0	87.7	78.5	
5	172.0	118.3	101.0	81.1	77.2	855.7	434.5	161.8	203.7	135.5	74.6	77.2	
6	155.0	107.7	98.3	70.9	89.0	844.4	426.9	155.0	209.2	114.3	97.0	74.6	
7	140.0	105.0	94.3	83.7	93.0	822.8	462.3	138.5	225.7	107.7	97.0	85.0	
8	129.5	103.7	94.3	79.8	105.0	867.2	457.3	132.5	233.0	125.0	98.3	109.0	
9	128.0	98.3	91.7	73.3	103.7	874.9	469.9	138.5	258.3	123.7	99.7	119.7	
10	115.7	90.3	89.0	91.7	105.0	830.0	467.4	150.5	300.2	113.0	103.7	125.0	
11	111.7	102.3	87.7	98.3	97.0	797.6	482.9	175.4	315.3	102.3	109.0	121.0	
12	105.0	105.0	97.0	83.7	87.7	758.0	480.3	172.0	343.5	110.3	109.0	144.5	
13	102.3	102.3	102.3	79.8	93.0	691.8	488.2	173.7	379.0	95.7	121.0	147.5	
14	107.7	101.0	113.0	118.3	94.3	638.5	437.0	165.2	386.5	93.0	121.0	141.5	
15	111.7	105.0	110.3	137.0	91.7	635.4	394.0	143.0	364.4	126.5	121.0	125.0	
16	122.3	119.7	106.3	114.3	77.2	653.7	444.6	134.0	328.3	128.0	110.3	115.7	
17	126.5	123.7	91.7	87.7	75.9	647.6	504.0	114.3	319.7	118.3	101.0	102.3	
18	129.5	132.5	86.3	85.0	75.9	617.1	506.6	111.7	334.8	115.7	87.7	102.3	
19	141.5	140.0	86.3	79.8	87.7	582.0	459.8	131.0	326.2	110.3	89.0	107.7	
20	147.5	125.0	82.4	79.8	113.0	540.8	381.5	134.0	313.2	105.0	87.7	114.3	
21	141.5	118.3	81.1	75.9	114.3	514.5	272.7	131.0	308.8	101.0	93.0	114.3	
22	134.0	94.3	86.3	81.1	115.7	517.1	295.8	135.5	293.7	103.7	107.7	123.7	
23	129.5	89.0	74.6	73.3	125.0	475.0	315.3	146.0	276.8	118.3	110.3	131.0	
24	115.7	97.0	66.5	86.3	218.3	467.4	347.8	147.5	280.9	121.0	117.0	135.5	
25	105.0	97.0	98.3	83.7	317.5	475.0	379.0	168.6	260.4	122.3	150.5	137.0	
26	114.3	99.7	94.3	95.7	447.1	462.3	424.3	173.7	236.7	103.7	152.0	132.5	
27	113.0	97.0	97.0	105.0	527.7	442.1	462.3	156.7	223.8	110.3	128.0	140.0	
28	111.7	99.7	103.7	102.3	573.6	411.7	496.1	140.0	207.3	134.0	117.0	129.5	
29	119.7	103.7	94.3	97.0	614.0	426.9	496.1	141.5	183.9	123.7	121.0	117.0	
30	109.0	134.0	85.0	91.7	647.6	437.0	449.7	138.5	160.1	118.3		107.7	
31		132.5		86.3	672.0		381.5		160.1	109.0		109.0	
Total	3738.9	3371.4	2881.2	2741.7	6172.6	19491.5	13419.0	4637.1	8056.8	3684.1	3114.1	3545.8	74854.2 CMSDAY
Mean	124.6	108.8	96.0	88.4	199.1	649.7	432.9	154.6	259.9	118.8	107.4	114.4	204.5 CMS
Max	172.0	140.0	126.5	137.0	672.0	874.9	506.6	300.2	386.5	153.5	152.0	147.5	874.9 CMS
Min	102.3	89.0	66.5	70.9	75.9	411.7	272.7	111.7	129.5	93.0	74.6	74.6	66.5 CMS
Runoff	323.04	291.29	248.94	236.88	533.31	1684.07	1159.40	400.65	696.11	318.31	269.06	306.36	6467.40 MCM

Momentary Peak 894.20 CMS, at 3.62 M (MSL), at 23.00 Hours, on Sep 6, 1991

Runoff Yield ********* Liters/Second/Square KM, Momentary Peak Yield ********* Liters/Second/Square KM

WATER YEAR 1991

CHAO PHRAYA RIVER BASIN

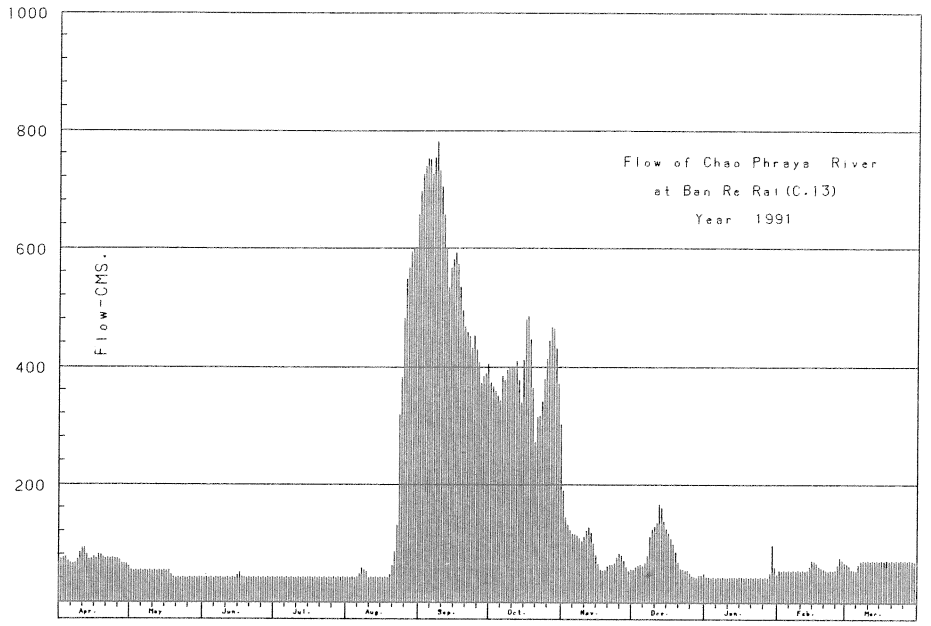
Chao Phraya River at Ban Re Rai, Chai Nat (C.13)

Location	Lat. 15-09-57 N., Long. 100-11-32 E., on left bank at Wat Pho Ngam about 1.5 kilometers downstream from Chao Phraya Diversion Dam, Amphoe Sanphaya, Chainat
Drainage Area	120,693 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 5 meters from the top staff gage.
Elevation	+18.946 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1947 to date.
Rating Operation	
Period of Rating	1953-1962, 1965-1968, 1972, 1975-1976, 1980 to date.
Rated by Float	-
Rated by Current Meter	1953-1962, 1965-1968, 1972, 1975-1976, 1980 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Flow regulated by Chao Phraya Diversion Dam above gage site which diverted for irrigation about 979,000 hectares. Stage-discharge relation defined by 98 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	6.32	6.10	5.94	5.94	5.94	9.98	8.58	7.39	6.13	5.97	6.10	6.25	
2	6.36	6.10	5.94	5.94	5.94	10.08	8.55	7.01	6.17	5.94	6.10	6.20	
3	6.36	6.10	5.94	5.94	5.94	10.13	8.50	6.91	6.22	5.94	6.10	6.13	
4	6.30	6.10	5.94	5.94	5.94	10.17	8.46	6.82	6.23	5.94	6.10	6.10	
5	6.25	6.10	5.94	5.94	5.94	10.17	8.40	6.77	6.21	5.94	6.10	6.10	
6	6.25	6.10	5.94	5.94	6.03	10.08	8.64	6.75	6.26	5.94	6.10	6.22	
7	6.25	6.10	5.94	5.94	6.15	10.18	8.61	6.74	6.40	5.94	6.10	6.30	
8	6.33	6.10	5.94	5.94	6.12	10.27	8.70	6.69	6.71	5.94	6.10	6.30	
9	6.44	6.10	5.94	5.94	6.07	10.10	8.71	6.65	6.84	5.94	6.10	6.30	
10	6.53	6.10	5.94	5.94	5.94	10.01	8.73	6.71	6.87	5.94	6.10	6.30	
11	6.53	6.10	5.94	5.94	5.94	9.84	8.72	6.81	6.94	5.94	6.10	6.30	
12	6.42	6.10	5.94	5.94	5.94	9.62	8.78	6.87	7.19	5.95	6.10	6.30	
13	6.32	6.10	5.94	5.94	5.94	9.36	8.61	6.79	7.15	5.94	6.10	6.30	
14	6.34	6.10	5.94	5.94	5.94	9.50	8.38	6.60	6.95	5.94	6.20	6.30	
15	6.37	6.10	5.99	5.94	5.94	9.55	8.78	6.41	6.85	5.94	6.30	6.30	
16	6.35	6.10	6.05	5.94	5.94	9.60	9.13	6.24	6.77	5.94	6.30	6.30	
17	6.41	6.10	5.97	5.94	5.94	9.52	9.15	6.13	6.69	5.94	6.25	6.30	
18	6.41	6.02	5.94	5.94	5.94	9.37	8.97	6.09	6.59	5.94	6.20	6.30	
19	6.36	5.94	5.94	5.94	6.00	9.20	8.53	6.12	6.47	5.94	6.15	6.30	
20	6.35	5.94	5.94	5.94	6.22	9.07	7.96	6.19	6.27	5.94	6.14	6.30	
21	6.35	5.94	5.94	5.94	6.46	9.03	8.23	6.24	6.15	5.94	6.10	6.30	
22	6.35	5.94	5.94	5.94	6.90	8.99	8.25	6.22	6.12	5.94	6.09	6.30	
23	6.35	5.94	5.94	5.94	8.26	8.89	8.40	6.27	6.10	5.94	6.10	6.30	
24	6.35	5.94	5.94	5.94	8.63	9.00	8.62	6.36	6.10	5.94	6.10	6.30	
25	6.35	5.94	5.94	5.94	9.14	8.88	8.79	6.44	6.05	5.94	6.10	6.30	
26	6.31	5.94	5.94	5.94	9.42	8.76	8.95	6.39	5.98	5.94	6.23	6.30	
27	6.26	5.94	5.94	5.94	9.50	8.58	9.07	6.31	5.95	5.94	6.35	6.30	
28	6.24	5.94	5.94	5.94	9.60	8.64	9.05	6.18	5.94	6.03	6.32	6.30	
29	6.25	5.94	5.94	5.94	9.63	8.67	8.89	6.10	5.98	6.58	6.26	6.30	
30	6.19	5.94	5.94	5.94	9.63	8.75	8.57	6.12	6.00	6.17		6.30	
31		5.94		5.94	9.84		8.16		6.02	6.02		6.30	
Mean	6.34	6.03	5.95	5.94	6.99	9.47	8.64	6.51	6.40	5.97	6.15	6.27	
Max	6.53	6.10	6.05	5.94	9.84	10.27	9.15	7.39	7.19	6.58	6.35	6.30	10.27
Min	6.19	5.94	5.94	5.94	5.94	8.58	7.96	6.09	5.94	5.94	6.09	6.10	5.94

Annual Max Momentary Gage Height 10.31 M (MSL), at 15.00 Hours, on Sep 8, 1991
Zero Gage at Bottom Elevation 0.00 M (MSL), River Bed 2.24 M (MSL)
Left Bank Elevation 17.09 M (MSL)
Right Bank Elevation 16.27 M (MSL), Drainage Area 120693 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	72.9	54.7	42.9	42.9	42.9	697.5	373.4	191.6	56.9	45.1	54.7	66.5	
2	76.7	54.7	42.9	42.9	42.9	726.2	368.0	145.2	59.8	42.9	54.7	62.0	
3	76.7	54.7	42.9	42.9	42.9	740.7	359.0	133.6	63.8	42.9	54.7	56.9	
4	71.0	54.7	42.9	42.9	42.9	752.3	352.5	123.3	64.7	42.9	54.7	54.7	
5	66.5	54.7	42.9	42.9	42.9	752.3	342.7	117.9	62.9	42.9	54.7	54.7	
6	66.5	54.7	42.9	42.9	49.5	726.2	384.6	115.8	67.4	42.9	54.7	63.8	
7	66.5	54.7	42.9	42.9	58.3	755.2	378.9	114.8	80.5	42.9	54.7	71.0	
8	73.8	54.7	42.9	42.9	56.1	782.7	396.0	109.6	111.7	42.9	54.7	71.0	
9	84.3	54.7	42.9	42.9	52.5	732.0	397.9	105.5	125.6	42.9	54.7	71.0	
10	93.1	54.7	42.9	42.9	42.9	705.9	401.8	111.7	129.0	42.9	54.7	71.0	
11	93.1	54.7	42.9	42.9	42.9	659.0	399.9	122.1	137.1	42.9	54.7	71.0	
12	82.4	54.7	42.9	42.9	42.9	600.3	411.5	129.0	167.2	43.7	54.7	71.0	
13	72.9	54.7	42.9	42.9	42.9	534.4	378.9	120.0	162.3	42.9	54.7	71.0	
14	74.8	54.7	42.9	42.9	42.9	569.0	339.5	100.3	138.2	42.9	62.0	71.0	
15	77.6	54.7	46.6	42.9	42.9	582.0	411.5	81.4	126.7	42.9	71.0	71.0	
16	75.7	54.7	51.0	42.9	42.9	595.0	481.6	65.6	117.9	42.9	71.0	71.0	
17	81.4	54.7	45.1	42.9	42.9	574.2	486.0	56.9	109.6	42.9	66.5	71.0	
18	81.4	48.8	42.9	42.9	42.9	536.8	448.2	53.9	99.3	42.9	62.0	71.0	
19	76.7	42.9	42.9	42.9	47.3	497.0	364.4	56.1	87.1	42.9	58.3	71.0	
20	75.7	42.9	42.9	42.9	63.8	468.7	272.5	61.3	68.3	42.9	57.6	71.0	
21	75.7	42.9	42.9	42.9	86.2	460.3	315.1	65.6	58.3	42.9	54.7	71.0	
22	75.7	42.9	42.9	42.9	132.5	452.1	318.4	63.8	56.1	42.9	53.9	71.0	
23	75.7	42.9	42.9	42.9	320.0	432.7	342.7	68.3	54.7	42.9	54.7	71.0	
24	75.7	42.9	42.9	42.9	382.7	454.0	380.8	76.7	54.7	42.9	54.7	71.0	
25	75.7	42.9	42.9	42.9	483.8	430.8	413.4	84.3	51.0	42.9	54.7	71.0	
26	71.9	42.9	42.9	42.9	549.0	407.6	444.3	79.5	45.9	42.9	64.7	71.0	
27	67.4	42.9	42.9	42.9	569.0	373.4	468.7	71.9	43.7	42.9	75.7	71.0	
28	65.6	42.9	42.9	42.9	595.0	384.6	464.5	60.5	42.9	49.5	72.9	71.0	
29	66.5	42.9	42.9	42.9	602.9	390.3	432.7	54.7	45.9	98.3	67.4	71.0	
30	61.3	42.9	42.9	42.9	602.9	405.7	371.6	56.1	47.3	59.8		71.0	
31		42.9		42.9	659.0		303.7		48.8	48.8		71.0	
Total	2250.9	1536.4	1301.0	1329.9	5911.1	17178.9	12004.7	2797.0	2585.3	1417.7	1712.9	2133.6	52159.4 CMSDAY
Mean	75.0	49.6	43.4	42.9	190.7	572.6	387.2	93.2	83.4	45.7	59.1	68.8	142.5 CMS
Max	93.1	54.7	51.0	42.9	659.0	782.7	486.0	191.6	167.2	98.3	75.7	71.0	782.7 CMS
Min	61.3	42.9	42.9	42.9	42.9	373.4	272.5	53.9	42.9	42.9	53.9	54.7	42.9 CMS
Runoff	194.48	132.74	112.41	114.90	510.72	1484.26	1037.21	241.66	223.37	122.49	147.99	184.34	4506.57 MCM

Momentary Peak 795.40 CMS, at 10.31 M (MSL), at 15.00 Hours, on Sep 8, 1991

Runoff Yield 1.18 Liters/Second/Square KM, Momentary Peak Yield 6.59 Liters/Second/Square KM

WATER YEAR 1991

CHAO PHRAYA RIVER BASIN

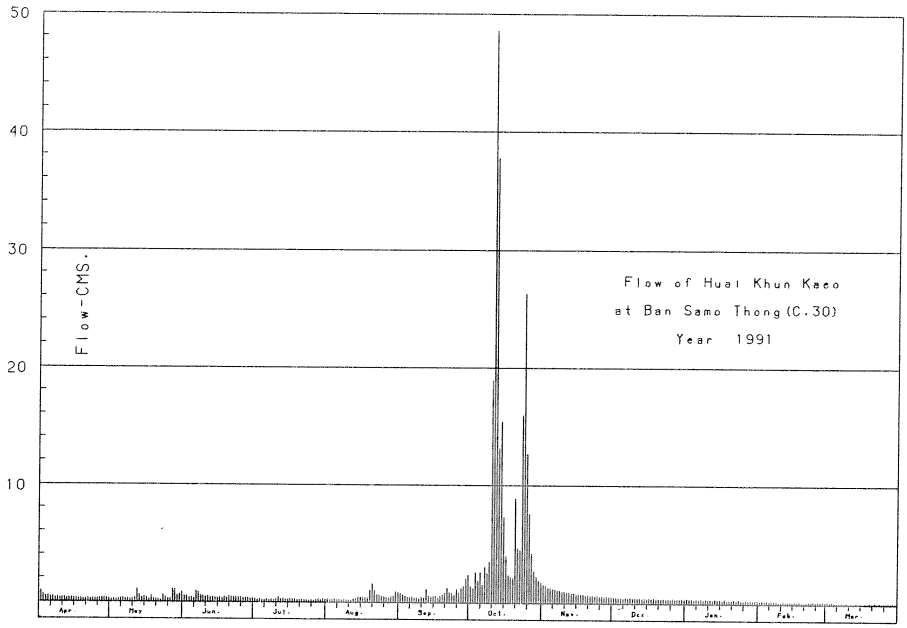
Huai Khun Kaeo at Ban Samo Thong, Uthai Thani (C.30)

Location	Lat. 15-21-04 N., Long. 99-32-22 E., on right bank infront of the Wat Samo Thong School, Ban Samo Thong, Tambon Khok Khwai, Amphoe Ban Rai, Uthai Thani.
Drainage Area	219 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 60 meters from the top staff gage.
Elevation	+11.75 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1982 to date.
Rating Operation	
Period of Rating	1983 to date.
Rated by Float	-
Rated by Current Meter	1983 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 119 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.89	0.64	0.76	0.65	0.64	0.83	1.01	1.05	0.74	0.70	0.63	0.61	
2	0.79	0.64	0.73	0.64	0.63	0.81	0.95	1.02	0.73	0.69	0.63	0.60	
3	0.74	0.64	0.70	0.64	0.63	0.75	1.25	0.99	0.73	0.68	0.63	0.60	
4	0.74	0.64	0.69	0.63	0.66	0.74	1.12	0.97	0.71	0.67	0.63	0.60	
5	0.72	0.68	0.68	0.63	0.63	0.73	1.26	0.96	0.72	0.68	0.63	0.59	
6	0.72	0.66	0.89	0.63	0.62	0.72	1.03	0.94	0.72	0.68	0.63	0.59	
7	0.69	0.65	0.85	0.63	0.62	0.71	1.32	0.93	0.72	0.68	0.62	0.59	
8	0.69	0.64	0.77	0.63	0.62	0.69	1.25	0.91	0.72	0.67	0.61	0.59	
9	0.68	0.64	0.74	0.63	0.62	0.67	1.36	0.90	0.72	0.67	0.60	0.58	
10	0.68	0.64	0.73	0.63	0.61	0.71	2.21	0.89	0.72	0.67	0.61	0.58	
11	0.71	0.68	0.74	0.71	0.62	0.69	3.03	0.88	0.72	0.66	0.61	0.58	
12	0.68	0.93	0.71	0.66	0.64	0.94	2.77	0.87	0.71	0.66	0.60	0.58	
13	0.67	0.77	0.71	0.66	0.68	0.75	1.97	0.85	0.71	0.67	0.61	0.58	
14	0.68	0.70	0.70	0.65	0.70	0.74	2.07	0.85	0.70	0.67	0.60	0.58	
15	0.67	0.72	0.70	0.65	0.72	0.76	1.66	0.84	0.71	0.66	0.61	0.58	
16	0.66	0.68	0.69	0.65	0.70	0.74	1.41	0.83	0.71	0.65	0.61	0.58	
17	0.66	0.65	0.68	0.65	0.70	0.71	1.22	0.83	0.71	0.67	0.61	0.58	
18	0.65	0.75	0.71	0.64	0.69	0.75	1.18	0.82	0.71	0.65	0.61	0.58	
19	0.65	0.66	0.70	0.63	0.91	0.81	1.17	0.81	0.69	0.64	0.60	0.59	
20	0.65	0.63	0.73	0.62	1.06	0.84	1.75	0.81	0.69	0.65	0.59	0.59	
21	0.66	0.62	0.72	0.62	0.89	0.97	1.47	0.80	0.69	0.66	0.60	0.59	
22	0.65	0.61	0.72	0.62	0.81	0.87	1.46	0.79	0.69	0.65	0.60	0.59	
23	0.65	0.79	0.71	0.61	0.78	0.84	2.09	0.79	0.69	0.66	0.61	0.59	
24	0.65	0.69	0.70	0.61	0.76	0.80	2.46	0.79	0.69	0.65	0.61	0.59	
25	0.66	0.66	0.70	0.61	0.72	0.93	1.95	0.78	0.69	0.64	0.61	0.59	
26	0.66	0.64	0.69	0.61	0.71	0.84	1.68	0.77	0.69	0.64	0.61	0.59	
27	0.69	0.93	0.69	0.63	0.71	0.97	1.43	0.77	0.69	0.64	0.61	0.59	
28	0.67	0.91	0.68	0.64	0.72	1.00	1.28	0.76	0.68	0.63	0.61	0.59	
29	0.66	0.78	0.67	0.63	0.76	1.16	1.19	0.76	0.69	0.64	0.61	0.59	
30	0.65	0.79	0.66	0.65	0.87	1.21	1.13	0.75	0.69	0.64		0.59	
31		0.85		0.65	0.87		1.08		0.69	0.64		0.59	
Mean	0.69	0.71	0.72	0.64	0.72	0.82	1.56	0.86	0.71	0.66	0.61	0.59	
Max	0.89	0.93	0.89	0.71	1.06	1.21	3.03	1.05	0.74	0.70	0.63	0.61	3.03
Min	0.65	0.61	0.66	0.61	0.61	0.67	0.95	0.75	0.68	0.63	0.59	0.58	0.58

Annual Max Momentary Gage Height 3.50 M (A.D), at 5.00 Hours, on Oct 12, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.52 M (A.D)
Left Bank Elevation 6.93 M (A.D)
Right Bank Elevation 6.39 M (A.D), Drainage Area 219 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.01	0.30	0.60	0.32	0.30	0.80	1.44	1.62	0.55	0.45	0.27	0.22	
2	0.68	0.30	0.53	0.30	0.27	0.73	1.23	1.49	0.53	0.42	0.27	0.20	
3	0.55	0.30	0.45	0.30	0.27	0.58	2.60	1.37	0.53	0.40	0.27	0.20	
4	0.55	0.30	0.42	0.27	0.35	0.55	1.94	1.30	0.47	0.38	0.27	0.20	
5	0.50	0.40	0.40	0.27	0.27	0.53	2.66	1.26	0.50	0.40	0.27	0.16	
6	0.50	0.35	1.01	0.27	0.25	0.50	1.53	1.19	0.50	0.40	0.27	0.16	
7	0.42	0.32	0.88	0.27	0.25	0.47	3.10	1.15	0.50	0.40	0.25	0.16	
8	0.42	0.30	0.62	0.27	0.25	0.42	2.60	1.09	0.50	0.38	0.22	0.16	
9	0.40	0.30	0.55	0.27	0.25	0.38	3.50	1.05	0.50	0.38	0.20	0.12	
10	0.40	0.30	0.53	0.27	0.22	0.47	18.97	1.01	0.50	0.38	0.22	0.12	
11	0.47	0.40	0.55	0.47	0.25	0.42	48.55	0.98	0.50	0.35	0.22	0.12	
12	0.40	1.15	0.47	0.35	0.30	1.19	37.83	0.95	0.47	0.35	0.20	0.12	
13	0.38	0.62	0.47	0.35	0.40	0.58	13.17	0.88	0.47	0.38	0.22	0.12	
14	0.40	0.45	0.45	0.32	0.45	0.55	15.48	0.88	0.45	0.38	0.20	0.12	
15	0.38	0.50	0.45	0.32	0.50	0.60	7.32	0.84	0.47	0.35	0.22	0.12	
16	0.35	0.40	0.42	0.32	0.45	0.55	4.01	0.80	0.47	0.32	0.22	0.12	
17	0.35	0.32	0.40	0.32	0.45	0.47	2.42	0.80	0.47	0.38	0.22	0.12	
18	0.32	0.58	0.47	0.30	0.42	0.58	2.21	0.77	0.47	0.32	0.22	0.12	
19	0.32	0.35	0.45	0.27	1.09	0.73	2.16	0.73	0.42	0.30	0.20	0.16	
20	0.32	0.27	0.53	0.25	1.67	0.84	8.90	0.73	0.42	0.32	0.16	0.16	
21	0.35	0.25	0.50	0.25	1.01	1.30	4.67	0.70	0.42	0.35	0.20	0.16	
22	0.32	0.22	0.50	0.25	0.73	0.95	4.56	0.68	0.42	0.32	0.20	0.16	
23	0.32	0.68	0.47	0.22	0.65	0.84	15.96	0.68	0.42	0.35	0.22	0.16	
24	0.32	0.42	0.45	0.22	0.60	0.70	26.34	0.68	0.42	0.32	0.22	0.16	
25	0.35	0.35	0.45	0.22	0.50	1.15	12.75	0.65	0.42	0.30	0.22	0.16	
26	0.35	0.30	0.42	0.22	0.47	0.84	7.66	0.62	0.42	0.30	0.22	0.16	
27	0.42	1.15	0.42	0.27	0.47	1.30	4.23	0.62	0.42	0.30	0.22	0.16	
28	0.38	1.09	0.40	0.30	0.50	1.40	2.78	0.60	0.40	0.27	0.22	0.16	
29	0.35	0.65	0.38	0.27	0.60	2.12	2.26	0.60	0.42	0.30	0.22	0.16	
30	0.32	0.68	0.35	0.32	0.95	2.36	1.98	0.58	0.42	0.30		0.16	
31		0.88		0.32	0.95		1.76		0.42	0.30		0.16	
Total	12.60	14.88	14.99	8.94	16.09	24.90	266.57	27.30	14.29	10.85	6.53	4.74	422.68 CMSDAY
Mean	0.42	0.48	0.50	0.29	0.52	0.83	8.60	0.91	0.46	0.35	0.23	0.15	1.15 CMS
Max	1.01	1.15	1.01	0.47	1.67	2.36	48.55	1.62	0.55	0.45	0.27	0.22	48.55 CMS
Min	0.32	0.22	0.35	0.22	0.22	0.38	1.23	0.58	0.40	0.27	0.16	0.12	0.12 CMS
Runoff	1.089	1.286	1.295	0.772	1.390	2.151	23.032	2.359	1.235	0.937	0.564	0.410	36.520 MCM

Momentary Peak 72.90 CMS, at 3.50 M (A.D), at 5.00 Hours, on Oct 12, 1991
Runoff Yield 5.27 Liters/Second/Square KM, Momentary Peak Yield 332.88 Liters/Second/Square KM

WATER YEAR 1991

SAKAE KRANG RIVER BASIN

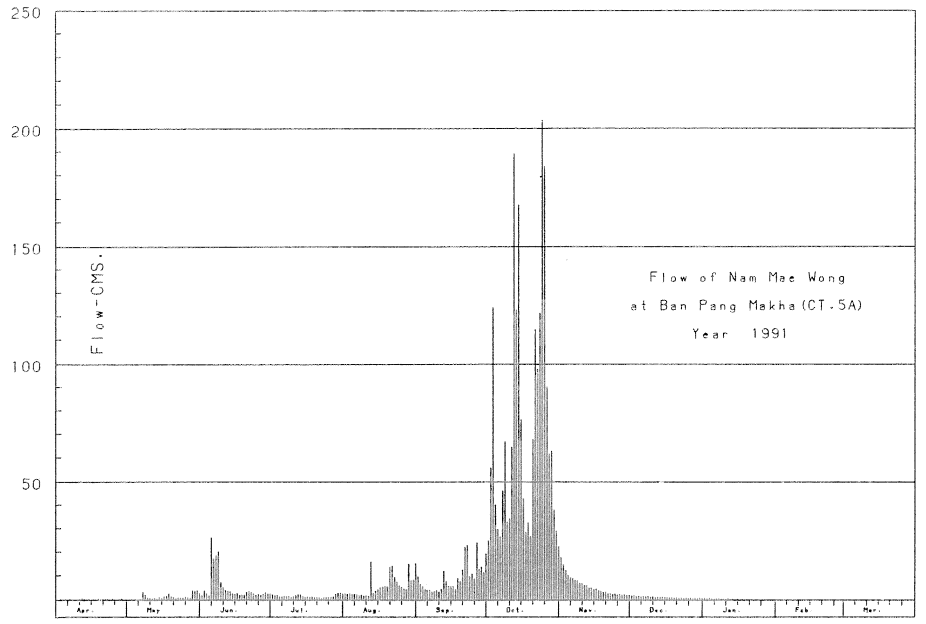
Nam Mae Wong at Ban Pang Makha, Kamphaeng Phet (CT.5A)

Location	Lat. 15-54-10 N., Long. 99-28-45 E., on left bank behind Wat Pang Makha, Amphoe Khanu Woralaksaburi, Kamphaeng Phet.
Drainage Area	938 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	Infront of the station office.
Elevation	+4.60 m. (A.D.)
Gage Reading Frequency	13-time daily readings at 06.00 - 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1969 to date.
Rating Operation	
Period of Rating	1969 to date.
Rated by Float	-
Rated by Current Meter	1969 to date.
Stability of Channel Regimes	Fairly stable by some scouring.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 97 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.01	0.01	0.23	0.25	0.29	0.63	1.02	0.87	0.22	0.09	-0.02	-0.06	
2	0.01	0.01	0.37	0.24	0.29	0.51	1.51	0.79	0.21	0.09	-0.02	-0.07	
3	0.01	0.01	0.30	0.22	0.29	0.45	2.19	0.73	0.20	0.09	-0.02	-0.07	
4	0.01	0.01	0.22	0.18	0.29	0.40	1.29	0.65	0.19	0.08	-0.03	-0.08	
5	0.01	0.00	1.05	0.18	0.29	0.38	1.12	0.62	0.18	0.08	-0.03	-0.08	
6	0.01	0.00	0.85	0.18	0.25	0.37	1.05	0.60	0.18	0.07	-0.03	-0.09	
7	0.01	0.34	0.89	0.18	0.23	0.34	1.38	0.58	0.18	0.07	-0.04	-0.10	
8	0.01	0.23	0.92	0.17	0.23	0.34	1.64	0.56	0.17	0.06	-0.04	-0.10	
9	0.01	0.12	0.54	0.14	0.21	0.37	1.17	0.53	0.17	0.06	-0.05	-0.10	
10	0.01	0.08	0.43	0.16	0.20	0.33	1.20	0.51	0.16	0.06	-0.05	-0.10	
11	0.08	0.07	0.37	0.22	0.21	0.39	1.61	0.49	0.15	0.06	-0.06	-0.11	
12	0.05	0.08	0.37	0.28	0.82	0.72	2.67	0.47	0.15	0.05	-0.06	-0.11	
13	0.04	0.07	0.34	0.24	0.32	0.56	2.18	0.43	0.15	0.05	-0.06	-0.11	
14	0.03	0.12	0.31	0.19	0.35	0.46	2.52	0.42	0.15	0.05	-0.06	-0.11	
15	0.02	0.09	0.29	0.16	0.40	0.46	1.74	0.40	0.15	0.04	-0.07	-0.12	
16	0.01	0.16	0.30	0.15	0.43	0.45	1.33	0.40	0.13	0.04	-0.07	-0.12	
17	0.04	0.21	0.25	0.16	0.45	0.40	1.09	0.38	0.13	0.04	-0.07	-0.10	
18	0.05	0.28	0.23	0.15	0.45	0.60	1.17	0.35	0.12	0.03	-0.07	-0.10	
19	0.03	0.19	0.26	0.14	0.46	0.56	1.06	0.34	0.12	0.03	-0.08	-0.10	
20	0.01	0.13	0.33	0.13	0.76	0.73	1.65	0.33	0.12	0.03	-0.08	-0.10	
21	0.04	0.09	0.35	0.11	0.78	0.97	2.11	0.31	0.11	0.03	-0.08	-0.11	
22	0.02	0.12	0.34	0.10	0.63	0.98	1.96	0.30	0.11	0.02	-0.08	-0.11	
23	0.03	0.10	0.28	0.12	0.54	0.63	2.17	0.29	0.10	0.02	-0.09	-0.11	
24	0.05	0.09	0.25	0.16	0.48	0.68	2.76	0.28	0.10	0.02	-0.09	-0.11	
25	0.05	0.16	0.26	0.12	0.43	0.59	2.63	0.27	0.10	0.01	-0.09	-0.11	
26	0.04	0.11	0.25	0.15	0.40	1.01	1.89	0.26	0.09	0.01	-0.09	-0.10	
27	0.04	0.11	0.29	0.18	0.40	0.74	1.58	0.25	0.09	0.00	-0.08	-0.10	
28	0.03	0.36	0.32	0.27	0.80	0.76	1.59	0.24	0.09	0.00	-0.07	-0.10	
29	0.02	0.36	0.30	0.32	0.56	0.70	1.26	0.23	0.09	0.00	-0.06	-0.10	
30	0.01	0.36	0.27	0.31	0.58	0.90	1.10	0.23	0.09	-0.01		-0.10	
31		0.30		0.30	0.80		0.97		0.09	-0.01		-0.10	
Mean	0.03	0.14	0.39	0.19	0.44	0.58	1.63	0.44	0.14	0.04	-0.06	-0.10	
Max	0.08	0.36	1.05	0.32	0.82	1.01	2.76	0.87	0.22	0.09	-0.02	-0.06	2.76
Min	0.01	0.00	0.22	0.10	0.20	0.33	0.97	0.23	0.09	-0.01	-0.09	-0.12	-0.12

Annual Max Momentary Gage Height 3.18 M (A.D), at 18.00 Hours, on Oct 24, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.32 M (A.D)
Left Bank Elevation 4.17 M (A.D)
Right Bank Elevation 4.69 M (A.D), Drainage Area 938 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.46	0.46	2.20	2.40	2.80	10.01	25.22	18.37	2.10	0.94	0.36	0.28	
2	0.46	0.46	4.23	2.30	2.80	7.04	56.35	15.14	2.00	0.94	0.36	0.26	
3	0.46	0.46	2.90	2.10	2.80	5.80	124.30	12.98	1.90	0.94	0.36	0.26	
4	0.46	0.46	2.10	1.72	2.80	4.80	40.38	10.55	1.81	0.88	0.34	0.24	
5	0.46	0.40	26.75	1.72	2.80	4.42	30.40	9.74	1.72	0.88	0.34	0.24	
6	0.46	0.40	17.55	1.72	2.40	4.23	26.75	9.20	1.72	0.82	0.34	0.22	
7	0.46	3.66	19.19	1.72	2.20	3.66	46.60	8.72	1.72	0.82	0.32	0.20	
8	0.46	2.20	20.52	1.63	2.20	3.66	67.52	8.24	1.63	0.76	0.32	0.20	
9	0.46	1.18	7.76	1.36	2.00	4.23	33.15	7.52	1.63	0.76	0.30	0.20	
10	0.46	0.88	5.40	1.54	1.90	3.47	34.80	7.04	1.54	0.76	0.30	0.20	
11	0.88	0.82	4.23	2.10	2.00	4.61	64.88	6.60	1.45	0.76	0.28	0.18	
12	0.70	0.88	4.23	2.70	16.32	12.62	189.65	6.20	1.45	0.70	0.28	0.18	
13	0.64	0.82	3.66	2.30	3.28	8.24	123.10	5.40	1.45	0.70	0.28	0.18	
14	0.58	1.18	3.09	1.81	3.85	6.00	167.90	5.20	1.45	0.70	0.28	0.18	
15	0.52	0.94	2.80	1.54	4.80	6.00	76.48	4.80	1.45	0.64	0.26	0.16	
16	0.46	1.54	2.90	1.45	5.40	5.80	43.10	4.80	1.27	0.64	0.26	0.16	
17	0.64	2.00	2.40	1.54	5.80	4.80	28.79	4.42	1.27	0.64	0.26	0.20	
18	0.70	2.70	2.20	1.45	5.80	9.20	33.15	3.85	1.18	0.58	0.26	0.20	
19	0.58	1.81	2.50	1.36	6.00	8.24	27.26	3.66	1.18	0.58	0.24	0.20	
20	0.46	1.27	3.47	1.27	14.06	12.98	68.40	3.47	1.18	0.58	0.24	0.20	
21	0.64	0.94	3.85	1.09	14.78	22.82	114.70	3.09	1.09	0.58	0.24	0.18	
22	0.52	1.18	3.66	1.00	10.01	23.28	97.90	2.90	1.09	0.52	0.24	0.18	
23	0.58	1.00	2.70	1.18	7.76	10.01	121.90	2.80	1.00	0.52	0.22	0.18	
24	0.70	0.94	2.40	1.54	6.40	11.36	203.60	2.70	1.00	0.52	0.22	0.18	
25	0.70	1.54	2.50	1.18	5.40	8.96	183.85	2.60	1.00	0.46	0.22	0.18	
26	0.64	1.09	2.40	1.45	4.80	24.71	90.64	2.50	0.94	0.46	0.22	0.20	
27	0.64	1.09	2.80	1.72	4.80	13.34	62.30	2.40	0.94	0.40	0.24	0.20	
28	0.58	4.04	3.28	2.60	15.50	14.06	63.15	2.30	0.94	0.40	0.26	0.20	
29	0.52	4.04	2.90	3.28	8.24	11.90	38.52	2.20	0.94	0.40	0.28	0.20	
30	0.46	4.04	2.60	3.09	8.72	19.60	29.30	2.20	0.94	0.38		0.20	
31		2.90		2.90	15.50		22.82		0.94	0.38		0.20	
Total	16.74	47.32	169.17	56.76	193.92	289.85	2336.86	181.59	41.92	20.04	8.12	6.24	3368.53 CMSDAY
Mean	0.56	1.53	5.64	1.83	6.26	9.66	75.38	6.05	1.35	0.65	0.28	0.20	9.20 CMS
Max	0.88	4.04	26.75	3.28	16.32	24.71	203.60	18.37	2.10	0.94	0.36	0.28	203.60 CMS
Min	0.46	0.40	2.10	1.00	1.90	3.47	22.82	2.20	0.94	0.38	0.22	0.16	0.16 CMS
Runoff	1.446	4.088	14.616	4.904	16.755	25.043	201.905	15.689	3.622	1.731	0.702	0.539	291.041 MCM

Momentary Peak 275.90 CMS, at 3.18 M (A.D), at 18.00 Hours, on Oct 24, 1991

Runoff Yield 9.81 Liters/Second/Square KM, Momentary Peak Yield 294.14 Liters/Second/Square KM

WATER YEAR 1991

SAKAE KRANG RIVER BASIN

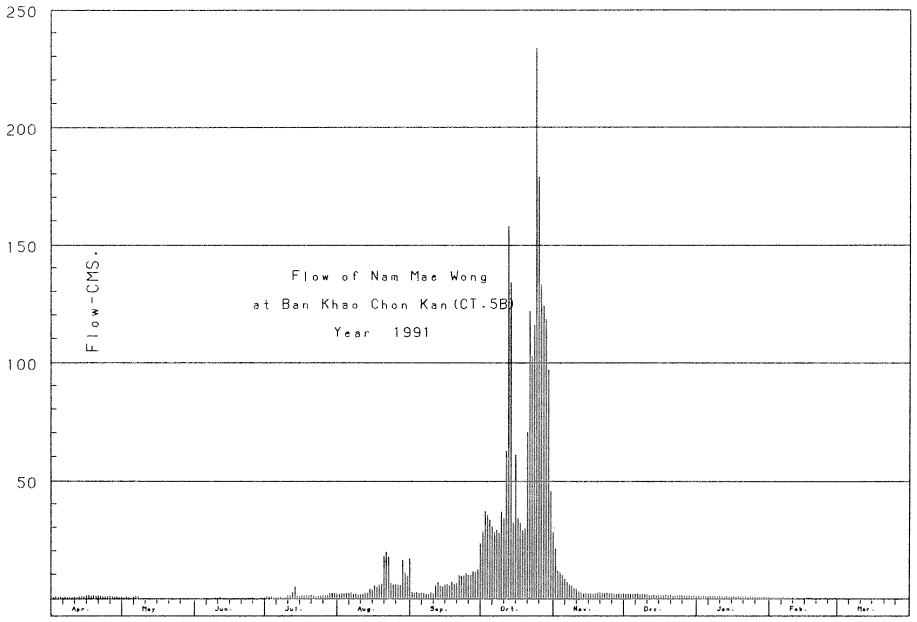
Nam Mae Wong at Ban Khao Chon Kan, Nakhon Sawan (CT.5B)

Location	Lat. 15°-54'-11" N., Long. 99°-27'-37" E., on right bank 8 kilometers upstream from CT.5A, Tambon Mae Lay, Amphoe Lat Yao, Nakhon Sawan.
Drainage Area	930 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 7.00 meters from the top staff gage.
Elevation	+13.173 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1987 to date.
Rating Operation	
Period of Rating	1988 to date.
Rated by Float	-
Rated by Current Meter	1988 to date.
Stability of Channel Regimes	Fairly stable by some scouring.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 50 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	4.86	4.86	4.70	4.89	5.05	5.10	6.00	5.85	5.05	4.93	4.83	4.76	
2	4.86	4.86	4.70	4.88	5.06	5.10	6.15	5.57	5.05	4.93	4.83	4.76	
3	4.86	4.86	4.75	4.86	5.07	5.10	6.12	5.55	5.05	4.93	4.83	4.76	
4	4.86	4.87	4.77	4.84	5.07	5.10	6.09	5.50	5.05	4.93	4.82	4.75	
5	4.86	4.88	4.79	4.84	5.09	5.10	6.04	5.45	5.05	4.92	4.82	4.75	
6	4.86	4.89	4.75	4.84	5.09	5.06	5.99	5.36	5.05	4.92	4.82	4.74	
7	4.86	4.90	4.75	4.84	5.05	5.04	6.01	5.27	5.04	4.92	4.81	4.74	
8	4.86	4.69	4.78	4.83	5.03	5.02	5.99	5.20	5.03	4.91	4.81	4.74	
9	4.86	4.69	4.80	4.80	5.01	5.11	6.14	5.17	5.03	4.91	4.81	4.74	
10	4.86	4.69	4.80	4.95	5.00	5.05	6.10	5.15	5.02	4.91	4.81	4.73	
11	4.86	4.70	4.84	4.99	5.04	5.21	6.50	5.12	4.98	4.90	4.80	4.73	
12	4.90	4.70	4.82	5.09	5.07	5.38	7.38	5.09	4.98	4.90	4.80	4.73	
13	4.89	4.70	4.77	5.20	5.10	5.20	7.20	5.07	4.98	4.90	4.80	4.72	
14	4.86	4.73	4.74	4.96	5.15	5.20	6.06	5.07	4.97	4.90	4.80	4.71	
15	4.98	4.73	4.70	4.91	5.15	5.28	6.48	5.07	4.97	4.89	4.80	4.71	
16	4.98	4.70	4.71	4.93	5.20	5.26	6.10	5.05	4.97	4.89	4.79	4.71	
17	4.95	4.70	4.73	4.97	5.19	5.23	6.06	5.05	4.97	4.89	4.79	4.71	
18	4.95	4.70	4.77	4.97	5.23	5.35	6.01	5.05	4.97	4.89	4.78	4.71	
19	4.95	4.69	4.77	4.97	5.31	5.30	6.02	5.10	4.97	4.88	4.78	4.70	
20	4.95	4.70	4.80	4.96	5.77	5.30	6.60	5.10	4.97	4.88	4.78	4.70	
21	4.90	4.70	4.80	4.94	5.82	5.50	7.10	5.10	4.96	4.88	4.78	4.70	
22	4.90	4.72	4.80	4.90	5.77	5.50	6.93	5.07	4.96	4.87	4.78	4.70	
23	4.90	4.71	4.78	4.91	5.31	5.49	7.05	5.07	4.96	4.87	4.78	4.70	
24	4.90	4.72	4.80	4.96	5.28	5.54	7.87	5.07	4.96	4.87	4.78	4.70	
25	4.90	4.72	4.80	4.95	5.27	5.50	7.52	5.06	4.95	4.87	4.78	4.70	
26	4.87	4.71	4.80	4.98	5.23	5.50	7.19	5.05	4.95	4.86	4.78	4.70	
27	4.87	4.71	4.80	5.00	5.25	5.57	7.12	5.05	4.94	4.86	4.79	4.70	
28	4.87	4.71	4.80	5.06	5.73	5.55	7.07	5.05	4.94	4.86	4.80	4.70	
29	4.86	4.71	4.80	5.09	5.55	5.60	6.88	5.05	4.93	4.86	4.81	4.70	
30	4.86	4.71	4.83	5.06	5.50	5.90	6.28	5.05	4.93	4.86		4.70	
31		4.71		5.06	5.74		5.99		4.93	4.85		4.70	
Mean	4.89	4.74	4.78	4.95	5.26	5.30	6.52	5.18	4.99	4.89	4.80	4.72	
Max	4.98	4.90	4.84	5.20	5.82	5.90	7.87	5.85	5.05	4.93	4.83	4.76	7.87
Min	4.86	4.69	4.70	4.80	5.00	5.02	5.99	5.05	4.93	4.85	4.78	4.70	4.69

Annual Max Momentary Gage Height 8.20 M (A.D), at 18.00 Hours, on Oct 20, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 3.72 M (A.D)
Left Bank Elevation 13.43 M (A.D)
Right Bank Elevation 13.25 M (A.D), Drainage Area 930 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.96	0.96	0.30	1.14	2.30	2.80	28.70	21.55	2.30	1.38	0.78	0.48	
2	0.96	0.96	0.30	1.08	2.40	2.80	37.55	11.89	2.30	1.38	0.78	0.48	
3	0.96	0.96	0.45	0.96	2.50	2.80	35.72	11.35	2.30	1.38	0.78	0.48	
4	0.96	1.02	0.51	0.84	2.50	2.80	33.92	10.00	2.30	1.38	0.72	0.45	
5	0.96	1.08	0.57	0.84	2.70	2.80	31.02	8.75	2.30	1.32	0.72	0.45	
6	0.96	1.14	0.45	0.84	2.70	2.40	28.21	7.12	2.30	1.32	0.72	0.42	
7	0.96	1.20	0.45	0.84	2.30	2.20	29.28	6.27	2.20	1.32	0.66	0.42	
8	0.96	0.27	0.54	0.78	2.10	2.00	28.21	5.60	2.10	1.26	0.66	0.42	
9	0.96	0.27	0.60	0.60	1.90	3.08	36.94	4.76	2.10	1.26	0.66	0.42	
10	0.96	0.27	0.60	1.50	1.80	2.30	34.50	4.20	2.00	1.26	0.66	0.39	
11	0.96	0.30	0.84	1.74	2.20	5.70	62.60	3.36	1.68	1.20	0.60	0.39	
12	1.20	0.30	0.72	2.70	2.50	7.31	158.30	2.70	1.68	1.20	0.60	0.39	
13	1.14	0.30	0.51	5.60	2.80	5.60	134.50	2.50	1.68	1.20	0.60	0.36	
14	0.96	0.39	0.42	1.56	4.20	5.60	32.18	2.50	1.62	1.20	0.60	0.33	
15	1.68	0.39	0.30	1.26	4.20	6.36	61.06	2.50	1.62	1.14	0.60	0.33	
16	1.68	0.30	0.33	1.38	5.60	6.17	34.50	2.30	1.62	1.14	0.57	0.33	
17	1.50	0.30	0.39	1.62	5.32	5.89	32.18	2.30	1.62	1.14	0.57	0.33	
18	1.50	0.30	0.51	1.62	5.89	7.02	29.28	2.30	1.62	1.14	0.54	0.33	
19	1.50	0.27	0.51	1.62	6.65	6.55	29.86	2.80	1.62	1.08	0.54	0.30	
20	1.50	0.30	0.60	1.56	18.19	6.55	71.00	2.80	1.62	1.08	0.54	0.30	
21	1.20	0.30	0.60	1.44	20.20	10.00	122.00	2.80	1.56	1.08	0.54	0.30	
22	1.20	0.36	0.60	1.20	18.19	10.00	102.80	2.50	1.56	1.02	0.54	0.30	
23	1.20	0.33	0.54	1.26	6.65	9.75	116.25	2.50	1.56	1.02	0.54	0.30	
24	1.20	0.36	0.60	1.56	6.36	11.08	233.90	2.50	1.56	1.02	0.54	0.30	
25	1.20	0.36	0.60	1.50	6.27	10.00	179.00	2.40	1.50	1.02	0.54	0.30	
26	1.02	0.33	0.60	1.68	5.89	10.00	133.25	2.30	1.50	0.96	0.54	0.30	
27	1.02	0.33	0.60	1.80	6.08	11.89	124.50	2.30	1.44	0.96	0.57	0.30	
28	1.02	0.33	0.60	2.40	16.71	11.35	118.55	2.30	1.44	0.96	0.60	0.30	
29	0.96	0.33	0.60	2.70	11.35	12.70	97.48	2.30	1.38	0.96	0.66	0.30	
30	0.96	0.33	0.78	2.40	10.00	23.80	46.04	2.30	1.38	0.96		0.30	
31		0.33		2.40	17.08		28.21		1.38	0.90		0.30	
Total	34.20	14.97	16.02	50.42	205.53	209.30	2271.49	141.75	54.84	35.64	17.97	11.10	3063.23 CMSDAY
Mean	1.14	0.48	0.53	1.63	6.63	6.98	73.27	4.73	1.77	1.15	0.62	0.36	8.37 CMS
Max	1.68	1.20	0.84	5.60	20.20	23.80	233.90	21.55	2.30	1.38	0.78	0.48	233.90 CMS
Min	0.96	0.27	0.30	0.60	1.80	2.00	28.21	2.30	1.38	0.90	0.54	0.30	0.27 CMS
Runoff	2.955	1.293	1.384	4.356	17.758	18.084	196.257	12.247	4.738	3.079	1.553	0.959	264.663 MCM

Momentary Peak 293.00 CMS, at 8.20 M (A.D), at 18.00 Hours, on Oct 20, 1991
Runoff Yield 9.00 Liters/Second/Square KM, Momentary Peak Yield 315.05 Liters/Second/Square KM

WATER YEAR 1991

SAKAE KRANG RIVER BASIN

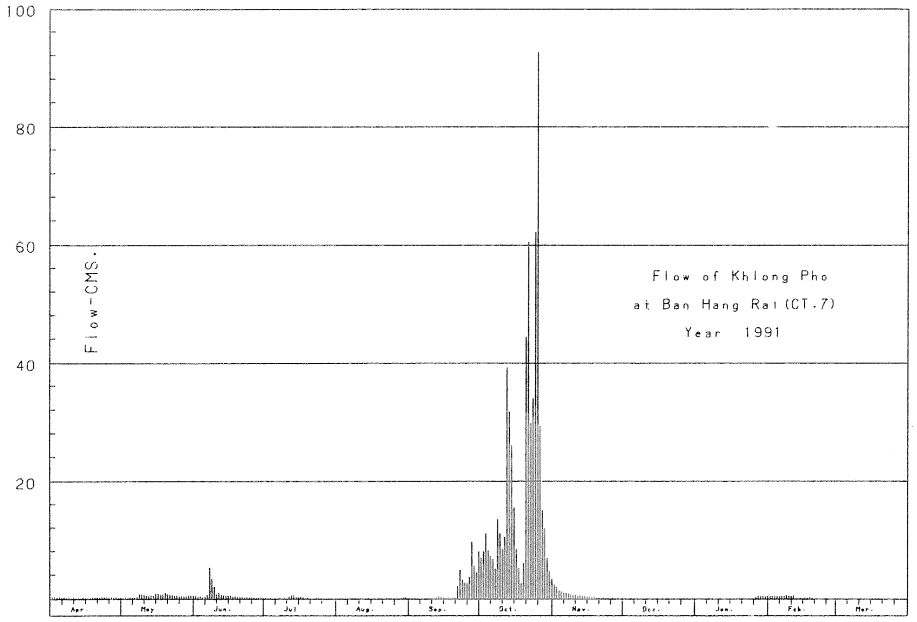
Khlong Pho at Ban Hang Rai, Nakhon Sawan (CT.7)

Location	Lat. 15-38-23 N., Long. 99-32-20 E., on right bank near the gage observer's house, Ban Hang Rai, Amphoe Lat Yao, Nakhon Sawan.
Drainage Area	457 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	Infront of gage observer's house.
Elevation	+4.660 m. (A.D.)
Gage Reading Frequency	13-time daily readings at 06.00 - 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1975 to date.
Rating Operation	
Period of Rating	1975 to 1984, 1988 to date.
Rated by Float	-
Rated by Current Meter	1975 to 1984, 1988 to date.
Stability of Channel Regimes	Fairly stable by some scouring.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 100 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.66	0.63	0.71	0.62	0.58	0.60	1.22	0.98	0.60	0.56	0.71	0.51	
2	0.65	0.63	0.69	0.61	0.57	0.59	1.26	0.94	0.60	0.56	0.71	0.52	
3	0.65	0.63	0.68	0.61	0.57	0.58	1.36	0.89	0.60	0.56	0.71	0.54	
4	0.65	0.63	0.67	0.60	0.57	0.58	1.27	0.85	0.60	0.56	0.71	0.52	
5	0.64	0.63	0.67	0.60	0.57	0.58	1.23	0.84	0.60	0.56	0.71	0.55	
6	0.64	0.62	0.75	0.60	0.57	0.58	1.21	0.82	0.59	0.56	0.70	0.55	
7	0.64	0.67	1.15	0.60	0.57	0.58	1.14	0.82	0.58	0.55	0.73	0.55	
8	0.64	0.80	1.04	0.60	0.57	0.58	1.42	0.77	0.58	0.55	0.74	0.55	
9	0.64	0.78	0.95	0.60	0.57	0.58	1.36	0.75	0.58	0.55	0.74	0.53	
10	0.64	0.75	0.77	0.60	0.58	0.58	1.28	0.74	0.57	0.55	0.73	0.51	
11	0.63	0.74	0.82	0.66	0.59	0.58	1.34	0.73	0.57	0.55	0.73	0.51	
12	0.63	0.73	0.78	0.76	0.58	0.66	1.89	0.73	0.57	0.55	0.60	0.51	
13	0.63	0.73	0.73	0.74	0.58	0.68	1.79	0.72	0.57	0.55	0.62	0.50	
14	0.63	0.74	0.74	0.67	0.58	0.67	1.70	0.71	0.57	0.55	0.62	0.50	
15	0.63	0.81	0.73	0.67	0.57	0.65	1.47	0.69	0.57	0.55	0.63	0.50	
16	0.63	0.80	0.71	0.64	0.57	0.64	1.28	0.68	0.57	0.55	0.63	0.49	
17	0.63	0.77	0.70	0.63	0.56	0.63	1.14	0.67	0.57	0.56	0.65	0.49	
18	0.63	0.77	0.68	0.62	0.56	0.63	1.00	0.66	0.57	0.55	0.65	0.50	
19	0.66	0.84	0.67	0.61	0.60	0.62	1.18	0.65	0.57	0.54	0.64	0.50	
20	0.66	0.78	0.66	0.60	0.61	0.65	1.96	0.64	0.57	0.53	0.52	0.50	
21	0.65	0.76	0.66	0.59	0.61	0.95	2.15	0.62	0.56	0.53	0.52	0.50	
22	0.65	0.75	0.65	0.59	0.60	1.13	1.76	0.62	0.56	0.53	0.51	0.49	
23	0.65	0.73	0.65	0.59	0.59	1.04	1.82	0.62	0.56	0.53	0.51	0.49	
24	0.65	0.72	0.65	0.59	0.58	1.00	2.17	0.62	0.56	0.53	0.52	0.49	
25	0.65	0.71	0.65	0.58	0.58	1.00	2.46	0.61	0.55	0.53	0.53	0.49	
26	0.65	0.70	0.64	0.58	0.58	1.06	1.75	0.61	0.55	0.68	0.54	0.50	
27	0.64	0.71	0.64	0.59	0.58	1.32	1.46	0.61	0.55	0.71	0.54	0.51	
28	0.64	0.68	0.64	0.60	0.60	1.16	1.38	0.61	0.56	0.71	0.55	0.52	
29	0.64	0.74	0.63	0.58	0.65	1.11	1.22	0.61	0.56	0.71	0.53	0.52	
30	0.63	0.72	0.63	0.58	0.64	1.26	1.12	0.61	0.56	0.71		0.53	
31		0.74		0.57	0.61		1.04		0.56	0.71		0.54	
Mean	0.64	0.72	0.72	0.62	0.59	0.78	1.48	0.71	0.57	0.58	0.63	0.51	
Max	0.66	0.84	1.15	0.76	0.65	1.32	2.46	0.98	0.60	0.71	0.74	0.55	2.46
Min	0.63	0.62	0.63	0.57	0.56	0.58	1.00	0.61	0.55	0.53	0.51	0.49	0.49

Annual Max Momentary Gage Height 2.75 M (A.D), at 24.00 Hours, on Oct 20, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.46 M (A.D)
Left Bank Elevation 4.42 M (A.D)
Right Bank Elevation 3.48 M (A.D), Drainage Area 457 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.38	0.29	0.54	0.26	0.16	0.20	7.02	2.56	0.20	0.12	0.54	0.02	
2	0.35	0.29	0.47	0.23	0.14	0.18	8.06	2.08	0.20	0.12	0.54	0.04	
3	0.35	0.29	0.44	0.23	0.14	0.16	11.26	1.53	0.20	0.12	0.54	0.08	
4	0.35	0.29	0.41	0.20	0.14	0.16	8.32	1.25	0.20	0.12	0.54	0.04	
5	0.32	0.29	0.41	0.20	0.14	0.16	7.28	1.18	0.20	0.12	0.54	0.10	
6	0.32	0.26	0.70	0.20	0.14	0.16	6.76	1.04	0.18	0.12	0.50	0.10	
7	0.32	0.41	5.45	0.20	0.14	0.16	5.24	1.04	0.16	0.10	0.62	0.10	
8	0.32	0.90	3.44	0.20	0.14	0.16	13.54	0.78	0.16	0.10	0.66	0.10	
9	0.32	0.82	2.20	0.20	0.14	0.16	11.26	0.70	0.16	0.10	0.66	0.06	
10	0.32	0.70	0.78	0.20	0.16	0.16	8.58	0.66	0.14	0.10	0.62	0.02	
11	0.29	0.66	1.04	0.38	0.18	0.16	10.54	0.62	0.14	0.10	0.62	0.02	
12	0.29	0.62	0.82	0.74	0.16	0.38	39.26	0.62	0.14	0.10	0.20	0.02	
13	0.29	0.62	0.62	0.66	0.16	0.44	31.95	0.58	0.14	0.10	0.26	0.00	
14	0.29	0.66	0.66	0.41	0.16	0.41	26.10	0.54	0.14	0.10	0.26	0.00	
15	0.29	0.97	0.62	0.41	0.14	0.35	15.64	0.47	0.14	0.10	0.29	0.00	
16	0.29	0.90	0.54	0.32	0.14	0.32	8.58	0.44	0.14	0.10	0.29	0.00	
17	0.29	0.78	0.50	0.29	0.12	0.29	5.24	0.41	0.14	0.12	0.35	0.00	
18	0.29	0.78	0.44	0.26	0.12	0.29	2.80	0.38	0.14	0.10	0.35	0.00	
19	0.38	1.18	0.41	0.23	0.20	0.26	6.08	0.35	0.14	0.08	0.32	0.00	
20	0.38	0.82	0.38	0.20	0.23	0.35	44.62	0.32	0.14	0.06	0.04	0.00	
21	0.35	0.74	0.38	0.18	0.23	2.20	60.50	0.26	0.12	0.06	0.04	0.00	
22	0.35	0.70	0.35	0.18	0.20	5.03	30.00	0.26	0.12	0.06	0.02	0.00	
23	0.35	0.62	0.35	0.18	0.18	3.44	34.08	0.26	0.12	0.06	0.02	0.00	
24	0.35	0.58	0.35	0.18	0.16	2.80	62.30	0.26	0.12	0.06	0.04	0.00	
25	0.35	0.54	0.35	0.16	0.16	2.80	92.75	0.23	0.10	0.06	0.06	0.00	
26	0.35	0.50	0.32	0.16	0.16	3.76	29.35	0.23	0.10	0.44	0.08	0.00	
27	0.32	0.54	0.32	0.18	0.16	9.82	15.22	0.23	0.10	0.54	0.08	0.02	
28	0.32	0.44	0.32	0.20	0.20	5.66	11.98	0.23	0.12	0.54	0.10	0.04	
29	0.32	0.66	0.29	0.16	0.35	4.61	7.02	0.23	0.12	0.54	0.06	0.04	
30	0.29	0.58	0.29	0.16	0.32	8.06	4.82	0.23	0.12	0.54		0.06	
31		0.66		0.14	0.23		3.44		0.12	0.54		0.08	
Total	9.78	19.09	24.19	7.90	5.40	53.09	629.59	19.97	4.46	5.52	9.24	0.94	789.17 CMSDAY
Mean	0.33	0.62	0.81	0.25	0.17	1.77	20.31	0.67	0.14	0.18	0.32	0.03	2.16 CMS
Max	0.38	1.18	5.45	0.74	0.35	9.82	92.75	2.56	0.20	0.54	0.66	0.10	92.75 CMS
Min	0.29	0.26	0.29	0.14	0.12	0.16	2.80	0.23	0.10	0.06	0.02	0.00	0.00 CMS
Runoff	0.845	1.649	2.090	0.683	0.467	4.587	54.397	1.725	0.385	0.477	0.798	0.081	68.184 MCM

Momentary Peak 126.20 CMS, at 2.75 M (A.D), at 24.00 Hours, on Oct 20, 1991

Runoff Yield 4.72 Liters/Second/Square KM, Momentary Peak Yield 276.15 Liters/Second/Square KM

WATER YEAR 1991

SAKAE KRANG RIVER BASIN

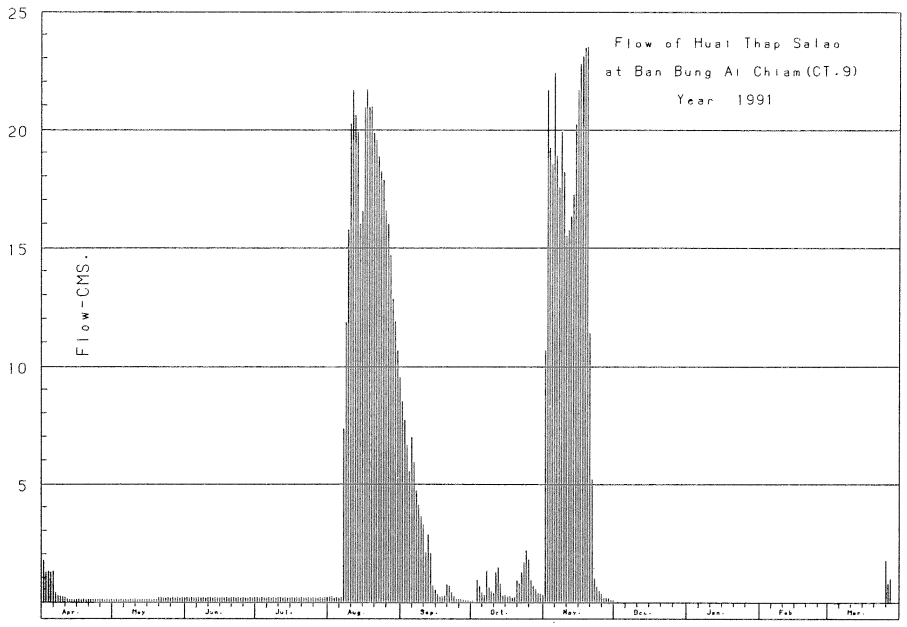
Huai Thap Salao at Ban Bung Ai Chiam, Uthai Thani (CT.9)

Location	Lat. 15-31-38 N., Long. 99-28-10 E., on left bank about 9 kilometers upstream from CT.6, Ban Bung Ai Chiam, King Amphoe Lan Sak, Uthai Thani.
Drainage Area	522 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+123.45 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank about 100 meters from the gage observer's house.
Elevation	+129.00 m. (M.S.L.)
Gage Reading Frequency	13-time daily readings at 06.00 - 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1977 to date.
Rating Operation	
Period of Rating	1977 to date.
Rated by Float	-
Rated by Current Meter	1977 to date.
Stability of Channel Regimes	Fairly stable by some silting.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 30 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	124.43	124.18	124.20	124.20	124.21	124.87	124.17	124.97	124.16	124.11	124.10	124.10	
2	124.37	124.18	124.20	124.20	124.21	124.83	124.16	125.35	124.16	124.11	124.10	124.10	
3	124.38	124.18	124.20	124.20	124.20	124.77	124.33	125.28	124.16	124.11	124.10	124.10	
4	124.37	124.18	124.20	124.20	124.20	124.71	124.30	125.26	124.13	124.11	124.10	124.10	
5	124.38	124.18	124.20	124.20	124.20	124.79	124.24	125.37	124.13	124.11	124.10	124.10	
6	124.24	124.18	124.20	124.20	124.20	124.73	124.22	125.27	124.13	124.11	124.10	124.10	
7	124.22	124.18	124.20	124.20	124.81	124.66	124.40	125.23	124.13	124.11	124.10	124.10	
8	124.21	124.18	124.20	124.20	125.02	124.62	124.29	125.30	124.13	124.11	124.10	124.10	
9	124.21	124.18	124.20	124.20	125.17	124.59	124.25	125.25	124.13	124.11	124.10	124.10	
10	124.20	124.18	124.20	124.20	125.31	124.56	124.24	125.16	124.13	124.11	124.10	124.10	
11	124.19	124.18	124.20	124.20	125.35	124.46	124.37	125.17	124.12	124.11	124.10	124.10	
12	124.18	124.18	124.20	124.20	125.32	124.53	124.40	125.19	124.12	124.11	124.10	124.10	
13	124.18	124.18	124.20	124.20	125.30	124.46	124.31	125.22	124.12	124.11	124.10	124.10	
14	124.18	124.18	124.20	124.20	125.18	124.30	124.22	125.31	124.12	124.11	124.10	124.10	
15	124.18	124.18	124.20	124.20	125.20	124.27	124.22	125.35	124.12	124.11	124.10	124.10	
16	124.18	124.18	124.20	124.20	125.33	124.23	124.21	125.38	124.12	124.11	124.10	124.10	
17	124.18	124.18	124.20	124.20	125.35	124.21	124.21	125.39	124.12	124.11	124.10	124.10	
18	124.18	124.18	124.20	124.20	125.33	124.21	124.20	125.40	124.12	124.11	124.10	124.10	
19	124.18	124.18	124.20	124.20	125.33	124.22	124.20	125.40	124.12	124.11	124.10	124.10	
20	124.18	124.20	124.20	124.20	125.30	124.31	124.33	125.00	124.12	124.11	124.10	124.10	
21	124.18	124.20	124.20	124.20	125.29	124.30	124.31	124.69	124.11	124.11	124.10	124.10	
22	124.18	124.20	124.20	124.20	125.27	124.25	124.37	124.34	124.11	124.11	124.10	124.10	
23	124.18	124.20	124.20	124.20	125.25	124.21	124.42	124.29	124.11	124.11	124.10	124.10	
24	124.18	124.20	124.20	124.20	125.24	124.19	124.47	124.26	124.11	124.11	124.10	124.10	
25	124.18	124.20	124.20	124.20	125.20	124.19	124.43	124.23	124.11	124.11	124.10	124.43	
26	124.18	124.20	124.20	124.20	125.18	124.18	124.33	124.21	124.11	124.11	124.10	124.31	
27	124.18	124.20	124.20	124.20	125.13	124.18	124.30	124.20	124.11	124.11	124.10	124.34	
28	124.18	124.20	124.20	124.20	125.06	124.17	124.27	124.19	124.11	124.11	124.10	124.14	
29	124.18	124.20	124.20	124.20	125.02	124.17	124.24	124.18	124.11	124.11	124.10	124.08	
30	124.18	124.20	124.20	124.20	124.97	124.17	124.23	124.17	124.11	124.11		124.06	
31		124.20		124.20	124.92		124.22		124.11	124.11		124.06	
Mean	124.22	124.19	124.20	124.20	125.00	124.41	124.29	124.93	124.12	124.11	124.10	124.12	
Max	124.43	124.20	124.20	124.20	125.35	124.87	124.47	125.40	124.16	124.11	124.10	124.43	125.40
Min	124.18	124.18	124.20	124.20	124.20	124.17	124.16	124.17	124.11	124.11	124.10	124.06	124.06

Annual Max Momentary Gage Height 125.41 M (MSL), at 6.00 Hours, on Nov 2, 1991
Zero Gage at Bottom Elevation 123.45 M (MSL), River Bed 124.07 M (MSL)
Left Bank Elevation 127.54 M (MSL)
Right Bank Elevation 127.42 M (MSL), Drainage Area 522 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.80	0.12	0.20	0.20	0.25	8.53	0.08	10.71	0.04	0.00	0.00	0.00	
2	1.26	0.12	0.20	0.20	0.25	7.77	0.04	21.70	0.04	0.00	0.00	0.00	
3	1.34	0.12	0.20	0.20	0.20	6.66	0.94	19.24	0.04	0.00	0.00	0.00	
4	1.26	0.12	0.20	0.20	0.20	5.58	0.70	18.58	0.00	0.00	0.00	0.00	
5	1.34	0.12	0.20	0.20	0.20	7.02	0.40	22.42	0.00	0.00	0.00	0.00	
6	0.40	0.12	0.20	0.20	0.20	5.94	0.30	18.91	0.00	0.00	0.00	0.00	
7	0.30	0.12	0.20	0.20	7.39	4.76	1.50	17.59	0.00	0.00	0.00	0.00	
8	0.25	0.12	0.20	0.20	11.90	4.12	0.65	19.90	0.00	0.00	0.00	0.00	
9	0.25	0.12	0.20	0.20	15.79	3.67	0.45	18.25	0.00	0.00	0.00	0.00	
10	0.20	0.12	0.20	0.20	20.26	3.28	0.40	15.52	0.00	0.00	0.00	0.00	
11	0.16	0.12	0.20	0.20	21.70	2.10	1.26	15.79	0.00	0.00	0.00	0.00	
12	0.12	0.12	0.20	0.20	20.62	2.89	1.50	16.33	0.00	0.00	0.00	0.00	
13	0.12	0.12	0.20	0.20	19.90	2.10	0.78	17.26	0.00	0.00	0.00	0.00	
14	0.12	0.12	0.20	0.20	16.06	0.70	0.30	20.26	0.00	0.00	0.00	0.00	
15	0.12	0.12	0.20	0.20	16.60	0.55	0.30	21.70	0.00	0.00	0.00	0.00	
16	0.12	0.12	0.20	0.20	20.98	0.35	0.25	22.78	0.00	0.00	0.00	0.00	
17	0.12	0.12	0.20	0.20	21.70	0.25	0.25	23.14	0.00	0.00	0.00	0.00	
18	0.12	0.12	0.20	0.20	20.98	0.25	0.20	23.50	0.00	0.00	0.00	0.00	
19	0.12	0.12	0.20	0.20	20.98	0.30	0.20	23.50	0.00	0.00	0.00	0.00	
20	0.12	0.20	0.20	0.20	19.90	0.78	0.94	11.40	0.00	0.00	0.00	0.00	
21	0.12	0.20	0.20	0.20	19.57	0.70	0.78	5.24	0.00	0.00	0.00	0.00	
22	0.12	0.20	0.20	0.20	18.91	0.45	1.26	1.02	0.00	0.00	0.00	0.00	
23	0.12	0.20	0.20	0.20	18.25	0.25	1.70	0.65	0.00	0.00	0.00	0.00	
24	0.12	0.20	0.20	0.20	17.92	0.16	2.20	0.50	0.00	0.00	0.00	0.00	
25	0.12	0.20	0.20	0.20	16.60	0.16	1.80	0.35	0.00	0.00	0.00	1.80	
26	0.12	0.20	0.20	0.20	16.06	0.12	0.94	0.25	0.00	0.00	0.00	0.78	
27	0.12	0.20	0.20	0.20	14.71	0.12	0.70	0.20	0.00	0.00	0.00	1.02	
28	0.12	0.20	0.20	0.20	12.90	0.08	0.55	0.16	0.00	0.00	0.00	0.00	
29	0.12	0.20	0.20	0.20	11.90	0.08	0.40	0.12	0.00	0.00	0.00	0.00	
30	0.12	0.20	0.20	0.20	10.71	0.08	0.35	0.08	0.00	0.00		0.00	
31		0.20		0.20	9.56		0.30		0.00	0.00		0.00	
Total	10.84	4.68	6.00	6.20	423.15	69.80	22.42	387.05	0.12	0.00	0.00	3.60	933.86 CMSDAY
Mean	0.36	0.15	0.20	0.20	13.65	2.33	0.72	12.90	0.00	0.00	0.00	0.12	2.55 CMS
Max	1.80	0.20	0.20	0.20	21.70	8.53	2.20	23.50	0.04	0.00	0.00	1.80	23.50 CMS
Min	0.12	0.12	0.20	0.20	0.20	0.08	0.04	0.08	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	0.937	0.404	0.518	0.536	36.560	6.031	1.937	33.441	0.010	0.000	0.000	0.311	80.686 MCM

Momentary Peak 23.92 CMS, at 125.41 M (MSL), at 6.00 Hours, on Nov 2, 1991

Runoff Yield 4.89 Liters/Second/Square KM, Momentary Peak Yield 45.82 Liters/Second/Square KM

WATER YEAR 1991

PASAK RIVER BASIN

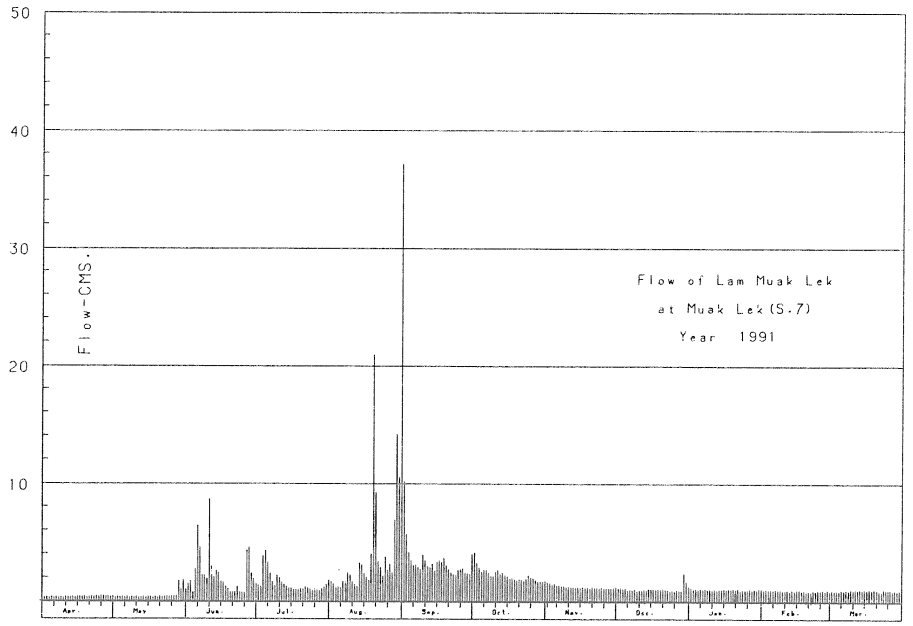
Lam Muak Lek at Muak Lek, Saraburi (S.7)

Location	Lat. 14-38-04 N., Long. 101-12-37 E., on left bank about 50 meters upstream from the bridge of Saraburi - Nakhon Ratchasima Highway, Tambon Muak Lek, Amphoe Muak Lek, Saraburi.
Drainage Area	177 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	Near automatic gage building.
Elevation	+6.919 m. (A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1965 to date.
Rating Operation	
Period of Rating	1965 to date.
Rated by Float	-
Rated by Current Meter	1965 to date.
Stability of Channel Regimes	Rather unstable.
Overbank Flow Conditions	No overbank flow.
General Description	Records poor. Stage-discharge relation defined by 27 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.40	0.41	0.73	0.70	0.76	1.59	1.08	0.75	0.66	0.65	0.63	0.61	
2	0.39	0.41	0.76	0.69	0.72	1.23	0.98	0.73	0.66	0.64	0.63	0.61	
3	0.40	0.41	0.58	1.04	0.67	1.08	0.92	0.72	0.65	0.64	0.63	0.61	
4	0.40	0.41	0.91	1.10	0.67	1.00	0.88	0.72	0.65	0.64	0.63	0.61	
5	0.40	0.41	1.30	0.98	0.67	0.95	0.89	0.71	0.63	0.64	0.63	0.62	
6	0.40	0.41	1.12	0.86	0.75	0.95	0.90	0.70	0.63	0.64	0.63	0.62	
7	0.40	0.41	0.84	0.75	0.73	0.93	0.86	0.70	0.63	0.64	0.63	0.62	
8	0.39	0.41	0.83	0.70	0.86	0.90	0.83	0.69	0.63	0.64	0.62	0.62	
9	0.39	0.41	0.80	0.83	0.84	1.06	0.82	0.68	0.62	0.63	0.62	0.63	
10	0.40	0.41	1.48	0.81	0.75	1.00	0.88	0.68	0.62	0.63	0.62	0.63	
11	0.41	0.41	0.93	0.74	0.71	0.94	0.89	0.68	0.63	0.63	0.62	0.63	
12	0.42	0.41	0.81	0.72	0.69	0.92	0.85	0.67	0.63	0.63	0.61	0.63	
13	0.41	0.41	0.89	0.68	0.98	0.96	0.86	0.67	0.63	0.63	0.62	0.63	
14	0.41	0.41	0.86	0.66	0.95	0.89	0.84	0.67	0.64	0.64	0.61	0.63	
15	0.41	0.41	0.76	0.65	0.86	0.99	0.82	0.67	0.65	0.64	0.62	0.63	
16	0.42	0.41	0.74	0.64	0.81	1.00	0.80	0.67	0.64	0.64	0.62	0.63	
17	0.42	0.41	0.69	0.63	0.78	0.98	0.80	0.67	0.64	0.64	0.61	0.63	
18	0.42	0.41	0.64	0.63	1.06	1.03	0.79	0.66	0.64	0.64	0.61	0.63	
19	0.42	0.41	0.59	0.64	2.23	0.95	0.77	0.66	0.64	0.64	0.60	0.63	
20	0.42	0.42	0.57	0.65	1.52	0.90	0.79	0.67	0.64	0.64	0.60	0.63	
21	0.42	0.43	0.58	0.67	0.99	0.87	0.78	0.67	0.64	0.64	0.59	0.62	
22	0.43	0.44	0.69	0.67	0.93	0.84	0.77	0.66	0.62	0.62	0.61	0.62	
23	0.44	0.43	0.59	0.64	0.83	0.84	0.79	0.66	0.61	0.62	0.61	0.63	
24	0.44	0.44	0.56	0.62	1.04	0.89	0.84	0.67	0.61	0.63	0.61	0.63	
25	0.45	0.44	0.57	0.62	0.90	0.91	0.81	0.66	0.61	0.63	0.62	0.63	
26	0.45	0.44	1.10	0.62	0.96	0.91	0.80	0.65	0.62	0.64	0.62	0.62	
27	0.45	0.49	1.12	0.62	0.86	0.87	0.78	0.66	0.62	0.63	0.61	0.61	
28	0.44	0.77	0.86	0.64	1.34	0.85	0.75	0.65	0.61	0.63	0.62	0.61	
29	0.43	0.63	0.79	0.68	1.85	0.85	0.76	0.67	0.86	0.63	0.61	0.61	
30	0.43	0.77	0.73	0.71	1.61	1.06	0.75	0.67	0.75	0.64		0.61	
31		0.63		0.77	2.93		0.76		0.69	0.64		0.60	
Mean	0.42	0.46	0.81	0.72	1.04	0.97	0.83	0.68	0.65	0.64	0.62	0.62	
Max	0.45	0.77	1.48	1.10	2.93	1.59	1.08	0.75	0.86	0.65	0.63	0.63	2.93
Min	0.39	0.41	0.56	0.62	0.67	0.84	0.75	0.65	0.61	0.62	0.59	0.60	0.39

Annual Max Momentary Gage Height 5.14 M (A.D), at 3.00 Hours, on Aug 31, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.09 M (A.D)
Left Bank Elevation 6.98 M (A.D)
Right Bank Elevation 6.73 M (A.D), Drainage Area 177 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.40	0.42	1.58	1.40	1.76	10.26	4.22	1.70	1.20	1.15	1.05	0.95	
2	0.38	0.42	1.76	1.35	1.52	5.73	3.35	1.58	1.20	1.10	1.05	0.95	
3	0.40	0.42	0.84	3.86	1.25	4.22	2.90	1.52	1.15	1.10	1.05	0.95	
4	0.40	0.42	2.83	4.40	1.25	3.50	2.60	1.52	1.15	1.10	1.05	0.95	
5	0.40	0.42	6.50	3.35	1.25	3.13	2.68	1.46	1.05	1.10	1.05	1.00	
6	0.40	0.42	4.60	2.45	1.70	3.13	2.75	1.40	1.05	1.10	1.05	1.00	
7	0.40	0.42	2.30	1.70	1.58	2.98	2.45	1.40	1.05	1.10	1.05	1.00	
8	0.38	0.42	2.23	1.40	2.45	2.75	2.23	1.35	1.05	1.10	1.00	1.00	
9	0.38	0.42	2.00	2.23	2.30	4.04	2.15	1.30	1.00	1.05	1.00	1.05	
10	0.40	0.42	8.74	2.08	1.70	3.50	2.60	1.30	1.00	1.05	1.00	1.05	
11	0.42	0.42	2.98	1.64	1.46	3.05	2.68	1.30	1.05	1.05	1.00	1.05	
12	0.44	0.42	2.08	1.52	1.35	2.90	2.38	1.25	1.05	1.05	0.95	1.05	
13	0.42	0.42	2.68	1.30	3.35	3.20	2.45	1.25	1.05	1.05	1.00	1.05	
14	0.42	0.42	2.45	1.20	3.13	2.68	2.30	1.25	1.10	1.10	0.95	1.05	
15	0.42	0.42	1.76	1.15	2.45	3.43	2.15	1.25	1.15	1.10	1.00	1.05	
16	0.44	0.42	1.64	1.10	2.08	3.50	2.00	1.25	1.10	1.10	1.00	1.05	
17	0.44	0.42	1.35	1.05	1.88	3.35	2.00	1.25	1.10	1.10	0.95	1.05	
18	0.44	0.42	1.10	1.05	4.04	3.77	1.94	1.20	1.10	1.10	0.95	1.05	
19	0.44	0.42	0.87	1.10	21.00	3.13	1.82	1.20	1.10	1.10	0.90	1.05	
20	0.44	0.44	0.81	1.15	9.28	2.75	1.94	1.25	1.10	1.10	0.90	1.05	
21	0.44	0.46	0.84	1.25	3.43	2.53	1.88	1.25	1.10	1.10	0.87	1.00	
22	0.46	0.48	1.35	1.25	2.98	2.30	1.82	1.20	1.00	1.00	0.95	1.00	
23	0.48	0.46	0.87	1.10	2.23	2.30	1.94	1.20	0.95	1.00	0.95	1.05	
24	0.48	0.48	0.78	1.00	3.86	2.68	2.30	1.25	0.95	1.05	0.95	1.05	
25	0.50	0.48	0.81	1.00	2.75	2.83	2.08	1.20	0.95	1.05	1.00	1.05	
26	0.50	0.48	4.40	1.00	3.20	2.83	2.00	1.15	1.00	1.10	1.00	1.00	
27	0.50	0.58	4.60	1.00	2.45	2.53	1.88	1.20	1.00	1.05	0.95	0.95	
28	0.48	1.82	2.45	1.10	6.98	2.38	1.70	1.15	0.95	1.05	1.00	0.95	
29	0.46	1.05	1.94	1.30	14.20	2.38	1.76	1.25	2.45	1.05	0.95	0.95	
30	0.46	1.82	1.58	1.46	10.55	4.04	1.70	1.25	1.70	1.10		0.95	
31		1.05		1.82	37.18		1.76		1.35	1.10		0.90	
Total	13.02	17.58	70.72	49.76	156.59	101.80	70.41	39.08	35.20	33.45	28.57	31.25	647.43 CMSDAY
Mean	0.43	0.57	2.36	1.61	5.05	3.39	2.27	1.30	1.14	1.08	0.99	1.01	1.77 CMS
Max	0.50	1.82	8.74	4.40	37.18	10.26	4.22	1.70	2.45	1.15	1.05	1.05	37.18 CMS
Min	0.38	0.42	0.78	1.00	1.25	2.30	1.70	1.15	0.95	1.00	0.87	0.90	0.38 CMS
Runoff	1.125	1.519	6.110	4.299	13.529	8.796	6.083	3.377	3.041	2.890	2.468	2.700	55.938 MCM

Momentary Peak 115.44 CMS, at 5.14 M (A.D), at 3.00 Hours, on Aug 31, 1991
Runoff Yield 9.99 Liters/Second/Square KM, Momentary Peak Yield 652.20 Liters/Second/Square KM

WATER YEAR 1991

PASAK RIVER BASIN

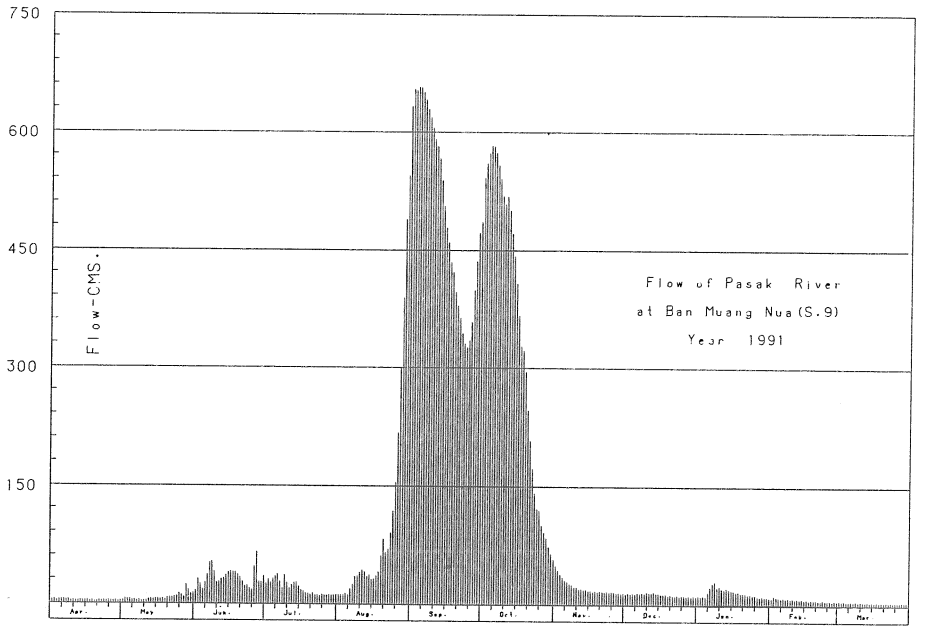
Pasak River at Ban Muang Nua, Saraburi (S.9)

Location	Lat. 14-37-33 N., Long. 101-01-00 E., on left bank at Ban Muang Nua railway bridge, Amphoe Kaeng Khoi, Saraburi.
Drainage Area	14,374 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+7.492 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank under tamarind tree along the measuring line.
Elevation	+23.099 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1973 to date.
Rating Operation	
Period of Rating	1973 to date.
Rated by Float	-
Rated by Current Meter	1973 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 31 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	8.30	8.27	8.74	8.98	8.60	15.18	14.28	9.42	8.66	8.55	8.48	8.32	
2	8.29	8.34	9.11	9.08	8.58	15.16	14.42	9.32	8.67	8.55	8.57	8.32	
3	8.26	8.36	8.95	9.01	8.60	15.20	14.53	9.24	8.67	8.55	8.53	8.31	
4	8.28	8.31	8.82	9.10	8.63	15.19	14.60	9.15	8.67	8.55	8.48	8.30	
5	8.32	8.29	9.01	9.18	8.60	15.15	14.60	9.09	8.67	8.75	8.47	8.30	
6	8.30	8.27	9.20	9.21	8.82	15.07	14.53	9.03	8.69	8.89	8.47	8.29	
7	8.30	8.26	9.48	9.04	8.97	14.98	14.41	8.99	8.69	9.01	8.46	8.29	
8	8.28	8.26	9.48	8.85	9.16	14.89	14.26	8.94	8.68	9.04	8.45	8.29	
9	8.24	8.23	9.29	9.19	9.19	14.79	14.09	8.90	8.69	8.89	8.44	8.28	
10	8.24	8.21	9.01	8.99	9.26	14.67	14.00	8.88	8.72	8.91	8.44	8.28	
11	8.24	8.27	9.01	8.85	9.31	14.60	14.08	8.84	8.71	8.84	8.43	8.28	
12	8.24	8.34	9.08	8.92	9.29	14.47	13.94	8.83	8.71	8.84	8.43	8.28	
13	8.24	8.35	9.12	9.01	9.18	14.25	13.70	8.82	8.72	8.86	8.42	8.26	
14	8.24	8.35	9.19	9.00	9.20	13.98	13.46	8.81	8.69	8.84	8.41	8.25	
15	8.24	8.34	9.27	8.91	9.10	13.76	13.18	8.79	8.66	8.81	8.40	8.25	
16	8.24	8.36	9.28	8.80	9.10	13.60	12.84	8.77	8.65	8.78	8.39	8.25	
17	8.23	8.35	9.28	8.73	9.19	13.40	12.49	8.76	8.65	8.76	8.37	8.25	
18	8.22	8.34	9.26	8.68	9.27	13.29	12.43	8.76	8.63	8.73	8.37	8.24	
19	8.22	8.34	9.22	8.63	9.61	13.09	12.17	8.75	8.60	8.71	8.38	8.24	
20	8.22	8.40	9.14	8.61	9.88	12.94	11.67	8.75	8.60	8.68	8.36	8.24	
21	8.22	8.46	9.03	8.65	9.66	12.81	11.28	8.75	8.59	8.67	8.36	8.24	
22	8.25	8.46	8.91	8.60	9.73	12.64	10.90	8.74	8.58	8.65	8.35	8.23	
23	8.23	8.46	8.90	8.56	9.99	12.51	10.54	8.74	8.59	8.63	8.35	8.23	
24	8.24	8.52	8.85	8.55	10.29	12.47	10.33	8.73	8.57	8.62	8.34	8.23	
25	8.24	8.62	8.78	8.59	10.70	12.55	10.30	8.72	8.56	8.59	8.30	8.22	
26	8.24	8.55	9.38	8.59	11.38	12.76	10.10	8.71	8.56	8.56	8.31	8.23	
27	8.24	8.49	9.68	8.58	12.22	13.11	10.00	8.69	8.55	8.54	8.30	8.24	
28	8.23	8.95	9.03	8.58	13.03	13.41	9.90	8.69	8.55	8.54	8.31	8.24	
29	8.22	8.77	9.00	8.59	13.84	13.70	9.77	8.68	8.54	8.53	8.32	8.25	
30	8.22	8.63	9.17	8.56	14.30	13.82	9.64	8.67	8.55	8.51		8.23	
31		8.65		8.58	15.00		9.54		8.56	8.46		8.23	
Mean	8.25	8.41	9.12	8.81	10.05	13.91	12.45	8.87	8.63	8.70	8.40	8.26	
Max	8.32	8.95	9.68	9.21	15.00	15.20	14.60	9.42	8.72	9.04	8.57	8.32	15.20
Min	8.22	8.21	8.74	8.55	8.58	12.47	9.54	8.67	8.54	8.46	8.30	8.22	8.21

Annual Max Momentary Gage Height 15.20 M (MSL), at 6.00 Hours, on Sep 3, 1991
Zero Gage at Bottom Elevation 7.49 M (MSL), River Bed 5.86 M (MSL)
Left Bank Elevation 21.92 M (MSL)
Right Bank Elevation 20.51 M (MSL), Drainage Area 14374 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	5.0	4.4	16.2	26.1	12.0	655.4	542.7	49.2	13.8	10.8	9.0	5.4	
2	4.8	5.8	32.0	30.6	11.5	652.8	560.0	43.2	14.1	10.8	11.2	5.4	
3	4.2	6.2	24.7	27.4	12.0	658.0	573.7	38.7	14.1	10.8	10.2	5.2	
4	4.6	5.2	18.9	31.5	12.9	656.7	582.5	34.0	14.1	10.8	9.0	5.0	
5	5.4	4.8	27.4	35.5	12.0	651.5	582.5	31.0	14.1	16.5	8.8	5.0	
6	5.0	4.4	36.5	37.1	18.9	641.2	573.7	28.3	14.7	22.1	8.8	4.8	
7	5.0	4.2	52.8	28.8	25.6	630.0	558.7	26.5	14.7	27.4	8.5	4.8	
8	4.6	4.2	52.8	20.3	34.5	618.7	540.3	24.3	14.4	28.8	8.3	4.8	
9	3.8	3.6	41.4	36.0	36.0	606.2	519.4	22.5	14.7	22.1	8.0	4.6	
10	3.8	3.2	27.4	26.5	39.8	591.2	508.3	21.6	15.6	22.9	8.0	4.6	
11	3.8	4.4	27.4	20.3	42.6	582.5	518.1	19.8	15.3	19.8	7.8	4.6	
12	3.8	5.8	30.6	23.4	41.4	566.3	500.9	19.3	15.3	19.8	7.8	4.6	
13	3.8	6.0	32.5	27.4	35.5	539.1	471.4	18.9	15.6	20.7	7.5	4.2	
14	3.8	6.0	36.0	27.0	36.5	505.8	442.1	18.5	14.7	19.8	7.3	4.0	
15	3.8	5.8	40.4	22.9	31.5	478.8	408.0	17.7	13.8	18.5	7.0	4.0	
16	3.8	6.2	40.9	18.0	31.5	459.2	366.8	17.1	13.5	17.4	6.8	4.0	
17	3.6	6.0	40.9	15.9	36.0	434.8	328.4	16.8	13.5	16.8	6.4	4.0	
18	3.4	5.8	39.8	14.4	40.4	421.4	322.2	16.8	12.9	15.9	6.4	3.8	
19	3.4	5.8	37.6	12.9	61.7	397.0	296.0	16.5	12.0	15.3	6.6	3.8	
20	3.4	7.0	33.5	12.3	82.4	378.8	246.0	16.5	12.0	14.4	6.2	3.8	
21	3.4	8.5	28.3	13.5	65.2	363.2	207.6	16.5	11.7	14.1	6.2	3.8	
22	4.0	8.5	22.9	12.0	70.4	344.4	173.0	16.2	11.5	13.5	6.0	3.6	
23	3.6	8.5	22.5	11.0	91.2	330.6	140.6	16.2	11.7	12.9	6.0	3.6	
24	3.8	10.0	20.3	10.8	118.1	326.4	121.7	15.9	11.2	12.6	5.8	3.6	
25	3.8	12.6	17.4	11.7	155.0	334.7	119.0	15.6	11.0	11.7	5.0	3.4	
26	3.8	10.8	46.8	11.7	217.1	357.6	101.0	15.3	11.0	11.0	5.2	3.6	
27	3.8	9.2	66.6	11.5	301.0	399.4	92.0	14.7	10.8	10.5	5.0	3.8	
28	3.6	24.7	28.3	11.5	389.7	436.0	84.0	14.7	10.8	10.5	5.2	3.8	
29	3.4	17.1	27.0	11.7	488.6	471.4	73.6	14.4	10.5	10.2	5.4	4.0	
30	3.4	12.9	35.0	11.0	545.2	486.2	63.8	14.1	10.8	9.8		3.6	
31		13.5		11.5	632.5		56.8		11.0	8.5		3.6	
Total	119.4	241.1	1004.8	622.2	3728.7	14975.3	10674.8	650.8	404.9	486.7	209.4	130.8	33248.9 CMSDAY
Mean	4.0	7.8	33.5	20.1	120.3	499.2	344.3	21.7	13.1	15.7	7.2	4.2	90.8 CMS
Max	5.4	24.7	66.6	37.1	632.5	658.0	582.5	49.2	15.6	28.8	11.2	5.4	658.0 CMS
Min	3.4	3.2	16.2	10.8	11.5	326.4	56.8	14.1	10.5	8.5	5.0	3.4	3.2 CMS
Runoff	10.32	20.83	86.81	53.76	322.16	1293.87	922.30	56.23	34.98	42.05	18.09	11.30	2872.71 MCM

Momentary Peak 658.28 CMS, at 15.20 M (MSL), at 6.00 Hours, on Sep 3, 1991

Runoff Yield 6.32 Liters/Second/Square KM, Momentary Peak Yield 45.80 Liters/Second/Square KM

WATER YEAR 1991

PASAK RIVER BASIN

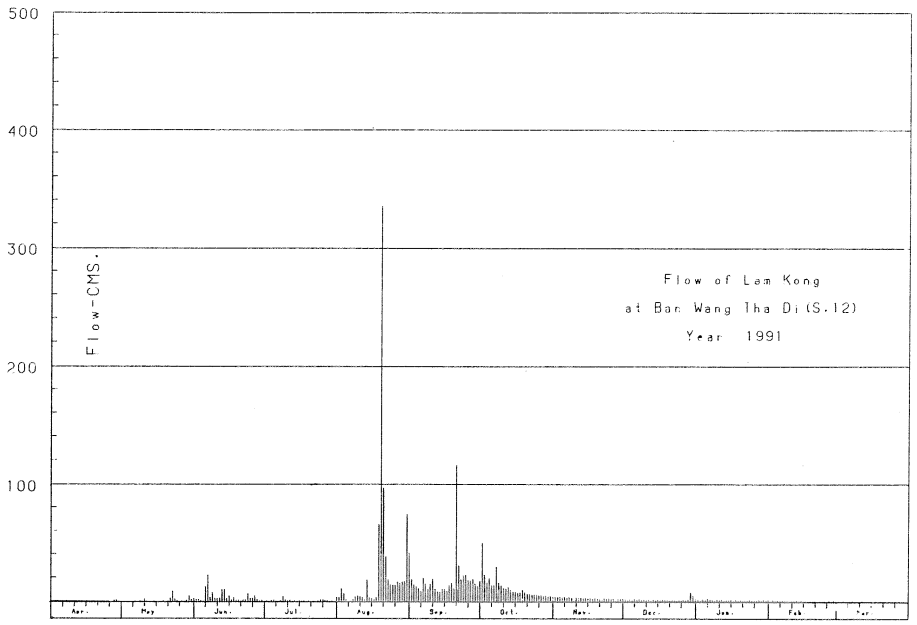
Lam Kong at Ban Wang Tha Di, Phetchabun (S.12)

Location	Lat. 15-59-50 N., Long. 101-14-28 E., on left bank at Ban Wang Tha Di, Amphoe Nong Phai, Phetchabun.
Drainage Area	471 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank along the gage line.
Elevation	+5.792 m. (A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1978 to date.
Rating Operation	
Period of Rating	1978 to date.
Rated by Float	-
Rated by Current Meter	1978 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	Overbank flow starts at elevation +5.19 m.(A.D.) and is included.
General Description	Records good. Stage-discharge relation defined by 119 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.59	0.44	0.81	0.60	0.94	1.96	2.82	1.00	0.82	0.83	0.68	0.63	
2	0.51	0.42	0.73	0.60	1.57	1.71	2.11	1.02	0.81	0.79	0.67	0.61	
3	0.48	0.43	0.56	0.60	1.28	1.66	1.83	1.01	0.81	0.77	0.66	0.59	
4	0.46	0.43	0.61	0.76	0.79	1.52	1.97	1.00	0.80	0.77	0.66	0.59	
5	0.45	0.42	1.65	0.66	0.40	1.44	1.71	0.99	0.80	0.87	0.65	0.59	
6	0.46	0.40	2.12	0.61	0.47	2.01	1.68	0.97	0.80	0.83	0.64	0.59	
7	0.46	0.40	0.94	0.58	0.83	1.75	2.33	0.97	0.78	0.77	0.65	0.59	
8	0.45	0.57	1.29	1.07	1.02	1.54	1.83	0.96	0.78	0.77	0.65	0.58	
9	0.45	0.63	0.91	0.84	1.13	1.75	1.68	0.95	0.77	0.77	0.64	0.56	
10	0.49	0.80	0.83	0.66	1.10	1.97	1.58	0.94	0.77	0.76	0.65	0.55	
11	0.46	0.54	0.93	0.62	0.94	1.51	1.52	0.93	0.77	0.74	0.65	0.55	
12	0.46	0.49	1.47	0.59	0.86	1.41	1.63	0.92	0.77	0.73	0.63	0.55	
13	0.47	0.48	1.52	0.57	1.92	1.35	1.46	0.92	0.76	0.72	0.62	0.54	
14	0.47	0.49	0.83	0.61	1.00	1.54	1.41	0.91	0.75	0.72	0.62	0.54	
15	0.47	0.45	1.11	0.57	0.85	1.50	1.36	0.90	0.74	0.72	0.62	0.55	
16	0.47	0.44	0.76	0.63	0.80	1.44	1.33	0.89	0.74	0.71	0.61	0.54	
17	0.44	0.58	0.93	0.59	0.94	1.67	1.30	0.89	0.74	0.71	0.62	0.54	
18	0.42	0.50	0.70	0.56	3.11	1.79	1.50	0.88	0.74	0.71	0.62	0.54	
19	0.42	0.45	0.65	0.54	5.60	1.56	1.32	0.88	0.74	0.70	0.62	0.54	
20	0.41	0.44	0.63	0.53	3.57	3.82	1.26	0.87	0.74	0.70	0.62	0.52	
21	0.40	0.92	0.68	0.53	2.55	2.36	1.22	0.87	0.73	0.70	0.61	0.52	
22	0.42	1.43	0.68	0.52	1.96	1.93	1.21	0.87	0.73	0.70	0.61	0.51	
23	0.44	0.79	1.28	0.53	1.71	2.10	1.18	0.86	0.73	0.70	0.59	0.51	
24	0.43	0.55	0.91	0.78	1.73	2.10	1.19	0.86	0.73	0.70	0.59	0.51	
25	0.41	0.52	0.92	0.80	1.69	1.94	1.15	0.84	0.72	0.70	0.58	0.52	
26	0.41	0.49	1.07	0.61	1.87	1.88	1.12	0.83	0.72	0.69	0.57	0.52	
27	0.69	0.57	0.73	0.61	1.79	1.97	1.09	0.83	0.72	0.70	0.58	0.52	
28	0.66	0.60	0.66	0.59	1.87	1.76	1.08	0.82	0.76	0.69	0.63	0.51	
29	0.53	1.12	0.63	0.56	1.87	1.67	1.07	0.85	1.37	0.69	0.66	0.52	
30	0.49	0.73	0.61	0.55	3.24	1.86	1.05	0.82	1.10	0.68		0.51	
31		0.83		1.03	2.61		1.03		0.86	0.68		0.51	
Mean	0.47	0.59	0.94	0.64	1.68	1.82	1.48	0.91	0.79	0.73	0.63	0.55	
Max	0.69	1.43	2.12	1.07	5.60	3.82	2.82	1.02	1.37	0.87	0.68	0.63	5.60
Min	0.40	0.40	0.56	0.52	0.40	1.35	1.03	0.82	0.72	0.68	0.57	0.51	0.40

Annual Max Momentary Gage Height 6.30 M (A.D), at 6.00 Hours, on Aug 19, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.03 M (A.D)
Left Bank Elevation 6.24 M (A.D)
Right Bank Elevation 5.18 M (A.D), Drainage Area 471 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.16	0.56	2.49	1.20	3.66	19.52	51.00	4.20	2.58	2.67	1.68	1.38	
2	0.84	0.48	1.98	1.20	11.89	14.38	22.93	4.42	2.49	2.34	1.62	1.26	
3	0.72	0.52	1.04	1.20	7.44	13.48	16.66	4.31	2.49	2.22	1.56	1.16	
4	0.64	0.52	1.26	2.16	2.34	11.04	19.74	4.20	2.40	2.22	1.56	1.16	
5	0.60	0.48	13.30	1.56	0.40	9.68	14.38	4.11	2.40	3.03	1.50	1.16	
6	0.64	0.40	23.16	1.26	0.68	20.63	13.84	3.93	2.40	2.67	1.44	1.16	
7	0.64	0.40	3.66	1.12	2.67	15.10	30.20	3.93	2.28	2.22	1.50	1.16	
8	0.60	1.08	7.57	4.97	4.42	11.38	16.66	3.84	2.28	2.22	1.50	1.12	
9	0.60	1.38	3.39	2.76	5.63	15.10	13.84	3.75	2.22	2.22	1.44	1.04	
10	0.76	2.40	2.67	1.56	5.30	19.74	12.06	3.66	2.22	2.16	1.50	1.00	
11	0.64	0.96	3.57	1.32	3.66	10.87	11.04	3.57	2.22	2.04	1.50	1.00	
12	0.64	0.76	10.19	1.16	2.94	9.17	12.94	3.48	2.22	1.98	1.38	1.00	
13	0.68	0.72	11.04	1.08	18.64	8.35	10.02	3.48	2.16	1.92	1.32	0.96	
14	0.68	0.76	2.67	1.26	4.20	11.38	9.17	3.39	2.10	1.92	1.32	0.96	
15	0.68	0.60	5.41	1.08	2.85	10.70	8.48	3.30	2.04	1.92	1.32	1.00	
16	0.68	0.56	2.16	1.38	2.40	9.68	8.09	3.21	2.04	1.86	1.26	0.96	
17	0.56	1.12	3.57	1.16	3.66	13.66	7.70	3.21	2.04	1.86	1.32	0.96	
18	0.48	0.80	1.80	1.04	66.60	15.82	10.70	3.12	2.04	1.86	1.32	0.96	
19	0.48	0.60	1.50	0.96	336.00	11.72	7.96	3.12	2.04	1.80	1.32	0.96	
20	0.44	0.56	1.38	0.92	96.90	116.80	7.18	3.03	2.04	1.80	1.32	0.88	
21	0.40	3.48	1.68	0.92	39.00	31.40	6.66	3.03	1.98	1.80	1.26	0.88	
22	0.48	9.51	1.68	0.88	19.52	18.86	6.53	3.03	1.98	1.80	1.26	0.84	
23	0.56	2.34	7.44	0.92	14.38	22.70	6.18	2.94	1.98	1.80	1.16	0.84	
24	0.52	1.00	3.39	2.28	14.74	22.70	6.29	2.94	1.98	1.80	1.16	0.84	
25	0.44	0.88	3.48	2.40	14.02	19.08	5.85	2.76	1.92	1.80	1.12	0.88	
26	0.44	0.76	4.97	1.26	17.54	17.76	5.52	2.67	1.92	1.74	1.08	0.88	
27	1.74	1.08	1.98	1.26	15.82	19.74	5.19	2.67	1.92	1.80	1.12	0.88	
28	1.56	1.20	1.56	1.16	17.54	15.28	5.08	2.58	2.16	1.74	1.38	0.84	
29	0.92	5.52	1.38	1.04	17.54	13.66	4.97	2.85	8.61	1.74	1.56	0.88	
30	0.76	1.98	1.26	1.00	74.60	17.32	4.75	2.58	5.30	1.68		0.84	
31		2.67		4.53	41.45		4.53		2.94	1.68		0.84	
Total	20.98	46.08	132.63	48.00	868.43	566.70	366.14	101.31	77.39	62.31	39.78	30.68	2360.43 CMSDAY
Mean	0.70	1.49	4.42	1.55	28.01	18.89	11.81	3.38	2.50	2.01	1.37	0.99	6.45 CMS
Max	1.74	9.51	23.16	4.97	336.00	116.80	51.00	4.42	8.61	3.03	1.68	1.38	336.00 CMS
Min	0.40	0.40	1.04	0.88	0.40	8.35	4.53	2.58	1.92	1.68	1.08	0.84	0.40 CMS
Runoff	1.813	3.981	11.459	4.147	75.032	48.963	31.634	8.753	6.686	5.384	3.437	2.651	203.941 MCM

Momentary Peak 485.00 CMS, at 6.30 M (A.D), at 6.00 Hours, on Aug 19, 1991
Runoff Yield 13.69 Liters/Second/Square KM, Momentary Peak Yield 1029.72 Liters/Second/Square KM

WATER YEAR 1991

PASAK RIVER BASIN

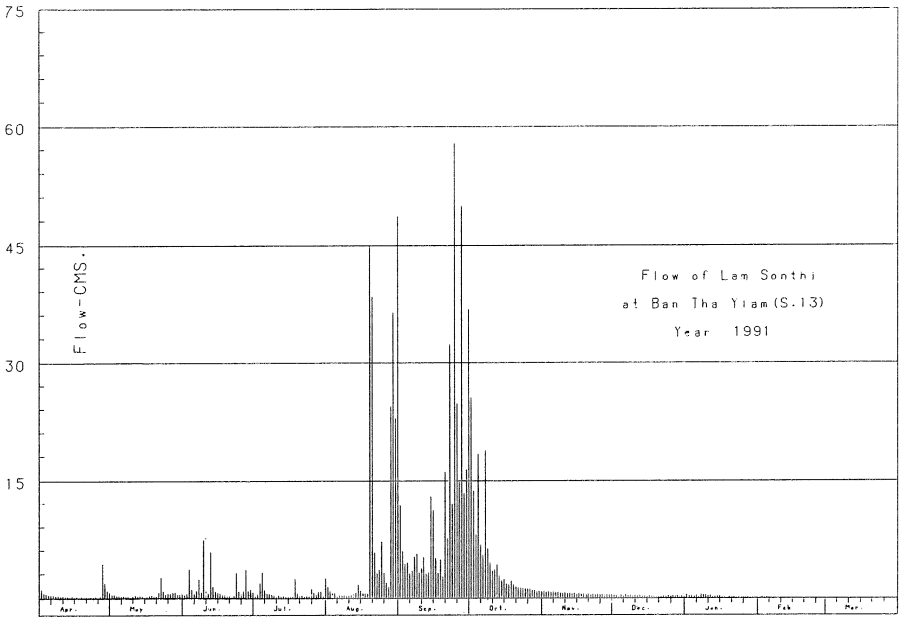
Lam Sonthi at Ban Tha Yiam, Lop Buri (S.13)

Location	Lat. 15-20-21 N., Long. 101-22-30 E., on left bank near Wat Tha Yiam, Amphoe Chai Badan, Lop Buri.
Drainage Area	359 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	About 15 meters from the top staff gage.
Elevation	+8.697 m.(A.D.)
Gage Reading Frequency	13-time daily readings at 06.00 - 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1978 to date.
Rating Operation	
Period of Rating	1978 to date.
Rated by Float	-
Rated by Current Meter	1978 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 40 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.44	0.33	0.32	0.33	0.52	1.82	3.23	0.40	0.31	0.31	0.25	0.19	
2	0.36	0.31	0.33	0.32	0.40	1.14	2.02	0.39	0.31	0.30	0.25	0.19	
3	0.33	0.30	0.85	0.60	0.36	0.92	1.40	0.39	0.31	0.29	0.25	0.19	
4	0.32	0.28	0.46	0.81	0.35	0.96	2.53	0.38	0.31	0.29	0.25	0.19	
5	0.31	0.27	0.35	0.43	0.33	0.77	1.23	0.38	0.31	0.31	0.25	0.19	
6	0.29	0.27	0.41	0.36	0.31	0.83	1.06	0.38	0.31	0.34	0.24	0.19	
7	0.29	0.26	0.67	0.33	0.30	1.04	2.59	0.37	0.30	0.32	0.24	0.19	
8	0.28	0.26	0.39	0.33	0.29	1.10	1.18	0.37	0.30	0.32	0.24	0.18	
9	0.28	0.25	1.31	0.30	0.28	0.79	0.95	0.36	0.30	0.31	0.24	0.18	
10	0.27	0.25	0.42	0.29	0.28	0.87	0.83	0.36	0.29	0.30	0.24	0.18	
11	0.27	0.31	0.35	0.29	0.29	1.03	0.84	0.35	0.29	0.29	0.24	0.18	
12	0.27	0.28	1.13	0.28	0.34	0.78	0.93	0.35	0.29	0.29	0.23	0.18	
13	0.26	0.27	0.51	0.27	0.36	0.79	0.73	0.35	0.28	0.28	0.23	0.18	
14	0.26	0.27	0.41	0.27	0.57	1.94	0.64	0.35	0.28	0.28	0.23	0.18	
15	0.26	0.25	0.36	0.26	0.41	1.74	0.66	0.34	0.28	0.27	0.22	0.18	
16	0.25	0.25	0.34	0.26	0.36	1.02	0.58	0.34	0.28	0.27	0.22	0.18	
17	0.25	0.30	0.32	0.26	0.34	0.80	0.55	0.34	0.28	0.27	0.22	0.18	
18	0.25	0.29	0.31	0.68	0.35	1.01	0.64	0.33	0.28	0.26	0.22	0.18	
19	0.25	0.27	0.30	0.35	4.80	0.71	0.55	0.33	0.28	0.26	0.21	0.18	
20	0.25	0.26	0.30	0.31	4.32	2.28	0.52	0.33	0.27	0.26	0.21	0.18	
21	0.25	0.39	0.28	0.29	1.12	1.34	0.49	0.32	0.27	0.26	0.21	0.18	
22	0.25	0.71	0.28	0.27	0.79	3.82	0.50	0.32	0.27	0.26	0.20	0.18	
23	0.25	0.40	0.79	0.27	0.84	1.84	0.47	0.32	0.27	0.26	0.20	0.18	
24	0.25	0.33	0.41	0.26	1.28	5.65	0.48	0.32	0.28	0.26	0.20	0.18	
25	0.25	0.34	0.35	0.47	0.80	3.17	0.48	0.32	0.28	0.25	0.19	0.18	
26	0.25	0.34	0.40	0.36	0.59	2.16	0.45	0.32	0.28	0.25	0.19	0.18	
27	0.94	0.38	0.85	0.32	0.51	5.14	0.44	0.32	0.28	0.25	0.19	0.18	
28	0.58	0.37	0.42	0.38	3.13	1.98	0.42	0.31	0.28	0.25	0.19	0.18	
29	0.42	0.33	0.44	0.39	4.15	2.32	0.41	0.31	0.27	0.25	0.19	0.18	
30	0.36	0.31	0.37	0.33	2.99	4.19	0.40	0.31	0.27	0.25		0.18	
31		0.33		0.69	5.06		0.40		0.34	0.25		0.18	
Mean	0.32	0.31	0.48	0.37	1.19	1.80	0.92	0.35	0.29	0.28	0.22	0.18	
Max	0.94	0.71	1.31	0.81	5.06	5.65	3.23	0.40	0.34	0.34	0.25	0.19	5.65
Min	0.25	0.25	0.28	0.26	0.28	0.71	0.40	0.31	0.27	0.25	0.19	0.18	0.18

Annual Max Momentary Gage Height 6.05 M (A.D), at 6.00 Hours, on Aug 20, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.14 M (A.D)
Left Bank Elevation 8.95 M (A.D)
Right Bank Elevation 8.16 M (A.D), Drainage Area 359 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.10	0.55	0.50	0.55	1.53	11.91	25.56	0.90	0.45	0.45	0.20	0.00	
2	0.70	0.45	0.55	0.50	0.90	6.07	13.73	0.85	0.45	0.40	0.20	0.00	
3	0.55	0.40	3.71	2.03	0.70	4.28	8.19	0.85	0.45	0.36	0.20	0.00	
4	0.50	0.32	1.20	3.38	0.65	4.60	18.36	0.80	0.45	0.36	0.20	0.00	
5	0.45	0.28	0.65	1.05	0.55	3.11	6.80	0.80	0.45	0.45	0.20	0.00	
6	0.36	0.28	0.95	0.70	0.45	3.54	5.42	0.80	0.45	0.60	0.16	0.00	
7	0.36	0.24	2.48	0.55	0.40	5.25	18.91	0.75	0.40	0.50	0.16	0.00	
8	0.32	0.24	0.85	0.55	0.36	5.74	6.39	0.75	0.40	0.50	0.16	0.00	
9	0.32	0.20	7.45	0.40	0.32	3.24	4.52	0.70	0.40	0.45	0.16	0.00	
10	0.28	0.20	1.00	0.36	0.32	3.87	3.54	0.70	0.36	0.40	0.16	0.00	
11	0.28	0.45	0.65	0.36	0.36	5.17	3.63	0.65	0.36	0.36	0.16	0.00	
12	0.28	0.32	5.99	0.32	0.60	3.17	4.36	0.65	0.36	0.36	0.12	0.00	
13	0.24	0.28	1.46	0.28	0.70	3.24	2.86	0.65	0.32	0.32	0.12	0.00	
14	0.24	0.28	0.95	0.28	1.84	13.00	2.29	0.65	0.32	0.32	0.12	0.00	
15	0.24	0.20	0.70	0.24	0.95	11.18	2.41	0.60	0.32	0.28	0.08	0.00	
16	0.20	0.20	0.60	0.24	0.70	5.09	1.91	0.60	0.32	0.28	0.08	0.00	
17	0.20	0.40	0.50	0.24	0.60	3.30	1.72	0.60	0.32	0.28	0.08	0.00	
18	0.20	0.36	0.45	2.54	0.65	5.01	2.29	0.55	0.32	0.24	0.08	0.00	
19	0.20	0.28	0.40	0.65	44.93	2.73	1.72	0.55	0.32	0.24	0.04	0.00	
20	0.20	0.24	0.40	0.45	38.47	16.09	1.53	0.55	0.28	0.24	0.04	0.00	
21	0.20	0.85	0.32	0.36	5.91	7.70	1.35	0.50	0.28	0.24	0.04	0.00	
22	0.20	2.73	0.32	0.28	3.24	32.37	1.40	0.50	0.28	0.24	0.00	0.00	
23	0.20	0.90	3.24	0.28	3.63	12.09	1.25	0.50	0.28	0.24	0.00	0.00	
24	0.20	0.55	0.95	0.24	7.21	57.95	1.30	0.50	0.32	0.24	0.00	0.00	
25	0.20	0.60	0.65	1.25	3.30	24.88	1.30	0.50	0.32	0.20	0.00	0.00	
26	0.20	0.60	0.90	0.70	1.97	15.00	1.15	0.50	0.32	0.20	0.00	0.00	
27	4.44	0.80	3.71	0.50	1.46	49.93	1.10	0.50	0.32	0.20	0.00	0.00	
28	1.91	0.75	1.00	0.80	24.44	13.36	1.00	0.45	0.32	0.20	0.00	0.00	
29	1.00	0.55	1.10	0.85	36.38	16.45	0.95	0.45	0.28	0.20	0.00	0.00	
30	0.70	0.45	0.75	0.55	22.98	36.86	0.90	0.45	0.28	0.20		0.00	
31		0.55		2.60	48.72		0.90		0.60	0.20		0.00	
Total	16.47	15.50	44.38	24.08	255.22	386.18	148.74	18.80	11.10	9.75	2.76	0.00	932.98 CMSDAY
Mean	0.55	0.50	1.48	0.78	8.23	12.87	4.80	0.63	0.36	0.31	0.10	0.00	2.55 CMS
Max	4.44	2.73	7.45	3.38	48.72	57.95	25.56	0.90	0.60	0.60	0.20	0.00	57.95 CMS
Min	0.20	0.20	0.32	0.24	0.32	2.73	0.90	0.45	0.28	0.20	0.00	0.00	0.00 CMS
Runoff	1.423	1.339	3.834	2.081	22.051	33.366	12.851	1.624	0.959	0.842	0.238	0.000	80.609 MCM

Momentary Peak 64.59 CMS, at 6.05 M (A.D), at 6.00 Hours, on Aug 20, 1991
Runoff Yield 7.10 Liters/Second/Square KM, Momentary Peak Yield 179.91 Liters/Second/Square KM

WATER YEAR 1991

PASAK RIVER BASIN

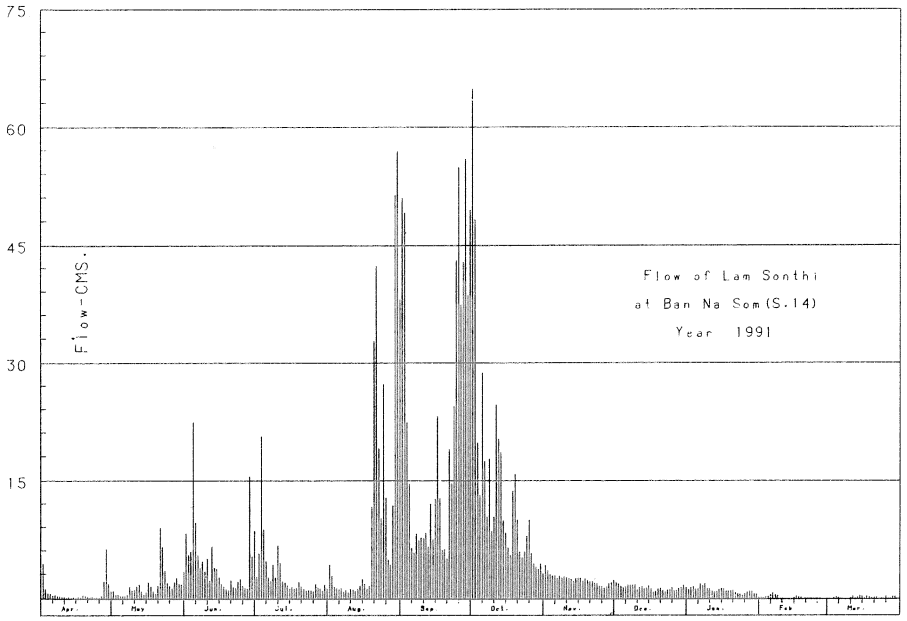
Lam Sonthi at Ban Na Som, Lop Buri (S.14)

Location	Lat. 15-13-24 N., Long. 101-16-51 E., on left bank at the bridge on road, Ban Na Som, Tambon Nong Yi To, Amphoe Chai Badan, Lop Buri.
Drainage Area	1,247 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank at the gage observer's house.
Elevation	+10.065 m.(A.D.)
Gage Reading Frequency	13-time daily readings at 06.00-18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1978 to date.
Rating Operation	
Period of Rating	1980 to date.
Rated by Float	-
Rated by Current Meter	1980 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 133 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.19	1.45	2.70	1.89	2.17	6.39	7.30	2.16	1.74	1.53	1.25	1.12	
2	1.52	1.34	2.35	2.37	1.91	6.26	6.20	2.03	1.68	1.57	1.21	1.16	
3	1.39	1.32	2.40	3.99	1.61	4.14	3.92	1.96	1.63	1.62	1.24	1.20	
4	1.35	1.29	4.15	2.76	1.54	3.41	3.24	1.91	1.57	1.52	1.29	1.27	
5	1.31	1.27	2.87	2.24	1.52	2.47	4.69	1.93	1.60	1.55	1.35	1.24	
6	1.31	1.26	2.35	1.87	1.55	2.39	3.68	1.86	1.64	1.68	1.39	1.17	
7	1.28	1.34	2.09	1.77	1.44	2.70	2.95	1.91	1.66	1.65	1.34	1.09	
8	1.26	1.60	2.22	2.16	1.48	2.61	3.72	1.87	1.64	1.68	1.30	1.02	
9	1.25	1.47	2.03	1.88	1.42	2.64	2.73	1.89	1.68	1.56	1.25	1.06	
10	1.23	1.52	2.29	2.52	1.52	2.64	2.94	1.86	1.52	1.53	1.22	1.23	
11	1.23	1.59	1.77	2.19	1.52	2.71	4.34	1.86	1.57	1.48	1.18	1.27	
12	1.23	1.67	2.49	1.75	1.45	2.49	3.96	1.82	1.62	1.43	1.14	1.21	
13	1.22	1.44	2.11	1.73	1.54	3.12	3.79	1.78	1.53	1.47	1.17	1.25	
14	1.22	1.34	2.07	1.63	1.62	2.62	2.90	1.84	1.57	1.52	1.21	1.30	
15	1.22	1.40	1.89	1.55	1.82	3.20	2.72	1.87	1.62	1.56	1.24	1.27	
16	1.23	1.71	1.67	1.58	1.67	4.21	2.47	1.84	1.53	1.53	1.27	1.22	
17	1.24	1.61	1.59	1.55	1.54	3.20	2.35	1.78	1.43	1.48	1.26	1.27	
18	1.30	1.44	1.53	1.56	1.61	2.44	3.30	1.83	1.45	1.45	1.23	1.26	
19	1.30	1.37	1.48	1.75	3.09	2.44	3.53	1.80	1.55	1.49	1.19	1.18	
20	1.25	1.62	1.80	1.59	5.02	2.29	2.90	1.74	1.55	1.48	1.16	1.24	
21	1.24	2.80	1.58	1.52	5.77	3.83	2.40	1.77	1.48	1.43	1.12	1.23	
22	1.23	2.48	1.57	1.49	3.85	3.41	2.31	1.72	1.45	1.38	1.08	1.16	
23	1.22	2.04	1.74	1.48	2.92	4.33	2.41	1.68	1.49	1.34	1.07	1.18	
24	1.21	1.72	1.84	1.49	4.57	5.82	2.66	1.63	1.53	1.32	1.12	1.23	
25	1.21	1.61	1.64	1.44	3.22	6.67	2.91	1.59	1.57	1.36	1.16	1.27	
26	1.27	1.56	1.55	1.69	2.27	5.39	2.37	1.55	1.48	1.44	1.19	1.19	
27	1.76	1.72	1.55	1.58	2.16	5.81	2.19	1.61	1.50	1.47	1.03	1.21	
28	2.46	1.84	3.49	1.53	3.10	6.74	2.11	1.68	1.54	1.44	1.07	1.28	
29	1.67	1.69	2.33	1.48	6.42	5.49	2.08	1.73	1.59	1.38	1.06	1.25	
30	1.46	1.65	2.75	1.65	6.80	6.28	2.18	1.78	1.64	1.34		1.20	
31		2.02		1.53	5.45		1.96		1.57	1.30		1.16	
Mean	1.38	1.62	2.13	1.85	2.70	3.94	3.20	1.81	1.57	1.48	1.20	1.21	
Max	2.46	2.80	4.15	3.99	6.80	6.74	7.30	2.16	1.74	1.68	1.39	1.30	7.30
Min	1.21	1.26	1.48	1.44	1.42	2.29	1.96	1.55	1.43	1.30	1.03	1.02	1.02

Annual Max Momentary Gage Height 7.35 M (A.D), at 6.00 Hours, on Oct 1, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.58 M (A.D)
Left Bank Elevation 11.51 M (A.D)
Right Bank Elevation 11.52 M (A.D), Drainage Area 1247 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	4.49	0.93	8.25	2.76	4.36	51.02	64.85	4.29	2.12	1.23	0.25	0.02	
2	1.18	0.54	5.57	5.71	2.86	49.19	48.34	3.52	1.86	1.40	0.13	0.06	
3	0.72	0.47	5.93	20.71	1.57	22.39	19.92	3.13	1.65	1.61	0.22	0.10	
4	0.58	0.37	22.50	8.76	1.27	14.70	13.13	2.86	1.40	1.18	0.37	0.31	
5	0.43	0.31	9.74	4.81	1.18	6.45	28.81	2.97	1.53	1.31	0.58	0.22	
6	0.43	0.28	5.57	2.67	1.31	5.86	17.46	2.63	1.70	1.86	0.72	0.07	
7	0.34	0.54	3.85	2.25	0.89	8.25	10.48	2.86	1.78	1.74	0.54	0.00	
8	0.28	1.53	4.68	4.29	1.03	7.49	17.86	2.67	1.70	1.86	0.40	0.00	
9	0.25	1.00	3.52	2.72	0.82	7.74	8.51	2.76	1.86	1.35	0.25	0.00	
10	0.19	1.18	5.13	6.81	1.18	7.74	10.38	2.63	1.18	1.23	0.16	0.19	
11	0.19	1.48	2.25	4.49	1.18	8.34	24.63	2.63	1.40	1.03	0.08	0.31	
12	0.19	1.82	6.59	2.16	0.93	6.59	20.37	2.46	1.61	0.85	0.04	0.13	
13	0.16	0.89	3.97	2.08	1.27	12.03	18.58	2.29	1.23	1.00	0.07	0.25	
14	0.16	0.54	3.74	1.65	1.61	7.57	10.02	2.55	1.40	1.18	0.13	0.40	
15	0.16	0.75	2.76	1.31	2.46	12.77	8.42	2.67	1.61	1.35	0.22	0.31	
16	0.19	1.99	1.82	1.44	1.82	23.17	6.45	2.55	1.23	1.23	0.31	0.16	
17	0.22	1.57	1.48	1.31	1.27	12.77	5.57	2.29	0.85	1.03	0.28	0.31	
18	0.40	0.89	1.23	1.35	1.57	6.23	13.68	2.50	0.93	0.93	0.19	0.28	
19	0.40	0.65	1.03	2.16	11.76	6.23	15.93	2.38	1.31	1.07	0.09	0.08	
20	0.25	1.61	2.38	1.48	32.81	5.13	10.02	2.12	1.31	1.03	0.06	0.22	
21	0.22	9.10	1.44	1.18	42.39	18.99	5.93	2.25	1.03	0.85	0.02	0.19	
22	0.19	6.52	1.40	1.07	19.19	14.70	5.27	2.04	0.93	0.68	0.00	0.06	
23	0.16	3.57	2.12	1.03	10.20	24.52	6.01	1.86	1.07	0.54	0.00	0.08	
24	0.13	2.04	2.55	1.07	27.36	43.05	7.91	1.65	1.23	0.47	0.02	0.19	
25	0.13	1.57	1.70	0.89	12.95	54.98	10.11	1.48	1.40	0.61	0.06	0.31	
26	0.31	1.35	1.31	1.91	5.01	37.38	5.71	1.31	1.03	0.89	0.09	0.09	
27	2.21	2.04	1.31	1.44	4.29	42.91	4.49	1.57	1.10	1.00	0.00	0.13	
28	6.37	2.55	15.52	1.23	11.85	56.01	3.97	1.86	1.27	0.89	0.00	0.34	
29	1.82	1.91	5.42	1.03	51.45	38.70	3.79	2.08	1.48	0.68	0.00	0.25	
30	0.96	1.74	8.68	1.74	56.93	49.47	4.42	2.29	1.70	0.54		0.10	
31		3.46		1.23	38.17		3.13		1.40	0.40		0.06	
Total	23.71	55.19	143.44	94.74	352.94	662.37	434.15	73.15	43.30	33.02	5.28	5.22	1926.51 CMSDAY
Mean	0.79	1.78	4.78	3.06	11.39	22.08	14.00	2.44	1.40	1.07	0.18	0.17	5.26 CMS
Max	6.37	9.10	22.50	20.71	56.93	56.01	64.85	4.29	2.12	1.86	0.72	0.40	64.85 CMS
Min	0.13	0.28	1.03	0.89	0.82	5.13	3.13	1.31	0.85	0.40	0.00	0.00	0.00 CMS
Runoff	2.049	4.768	12.393	8.186	30.494	57.229	37.511	6.320	3.741	2.853	0.456	0.451	166.450 MCM

Momentary Peak 65.66 CMS, at 7.35 M (A.D), at 6.00 Hours, on Oct 1, 1991

Runoff Yield 4.22 Liters/Second/Square KM, Momentary Peak Yield 52.65 Liters/Second/Square KM

WATER YEAR 1991

PASAK RIVER BASIN

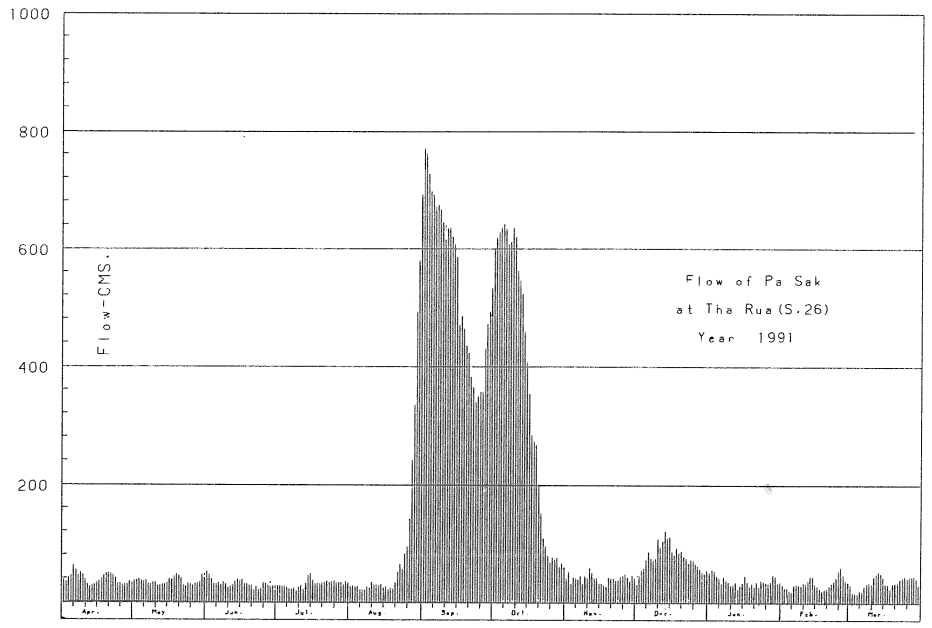
Pasak River at Tha Rua, Phra Nakhon Si Ayutthaya (S.26)

Location	Lat. 14-33-22 N., Long. 100-43-38 E., on right bank at the railway bridge, Amphoe Tha Rua, Phra Nakhon Si Ayutthaya.
Drainage Area	Flood plain.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 10 meters from the top staff gage.
Elevation	+9.710 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1984 to date.
Rating Operation	
Period of Rating	1985 to date.
Rated by Float	-
Rated by Current Meter	1985 to date.
Stability of Channel Regimes	Fairly stable because of backwater effect.
Overbank Flow Conditions	Overbank flow starts at elevation +9.45 m.(A.D.),records are channel flow only.
General Description	Records fair. Stage-discharge relation defined by 28 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.97	2.94	3.25	2.79	2.76	9.65	8.63	3.01	2.85	3.19	2.84	2.81	
2	2.92	2.98	3.13	2.75	2.77	9.60	8.76	3.22	3.09	3.31	2.69	2.54	
3	3.03	2.99	3.01	2.77	2.75	9.42	8.83	2.87	3.30	3.24	2.71	2.50	
4	3.12	2.96	2.84	2.75	2.75	9.25	8.87	3.05	3.34	3.11	2.59	2.48	
5	3.41	2.91	2.85	2.74	2.63	9.22	8.92	3.04	3.55	3.03	2.57	2.59	
6	3.30	2.98	2.87	2.65	2.61	9.09	8.86	2.98	3.76	2.88	2.80	2.57	
7	3.13	2.86	2.83	2.66	2.63	9.12	8.69	3.12	3.61	3.07	2.85	2.75	
8	3.19	2.82	2.89	2.68	2.72	9.07	8.71	2.85	3.54	2.98	2.80	2.88	
9	3.14	2.90	2.85	2.59	2.70	8.94	8.88	3.09	3.60	2.90	2.81	2.88	
10	2.98	2.89	2.73	2.73	2.89	8.90	8.77	3.05	4.05	2.82	2.90	2.87	
11	2.84	2.80	2.75	2.77	2.83	8.87	8.36	3.37	3.86	2.81	2.85	3.06	
12	2.73	2.78	2.82	2.65	2.81	8.87	8.23	3.20	4.02	2.91	2.97	3.17	
13	2.81	2.84	2.91	2.85	2.80	8.78	8.06	3.04	4.25	2.67	3.08	3.22	
14	2.81	2.82	3.00	3.12	2.82	8.68	7.56	3.04	4.07	2.77	3.08	3.19	
15	2.90	2.88	2.93	3.16	2.71	8.54	7.13	2.88	4.12	2.86	2.83	3.05	
16	2.93	2.99	2.97	2.95	2.75	7.65	6.67	2.85	3.75	3.12	2.76	2.84	
17	3.03	2.97	2.86	2.85	2.64	7.78	6.03	2.80	3.69	2.91	2.69	2.83	
18	3.10	3.09	2.83	2.85	2.68	7.60	5.93	2.77	3.84	2.79	2.57	2.68	
19	3.18	3.15	2.81	2.85	2.67	7.37	5.86	3.07	3.72	2.85	2.66	2.87	
20	3.18	3.11	2.79	2.86	2.88	7.26	5.17	3.02	3.78	2.78	2.67	2.87	
21	3.18	3.02	2.62	2.91	3.23	6.92	4.61	3.04	3.64	2.90	2.81	2.90	
22	3.12	2.82	2.74	2.92	3.45	6.77	4.08	2.95	3.59	2.76	2.86	2.99	
23	3.04	2.74	2.64	2.90	3.32	6.54	3.88	2.99	3.49	2.95	2.94	3.06	
24	2.85	2.87	2.64	2.90	3.70	6.62	3.67	3.07	3.56	2.93	3.04	3.08	
25	2.85	2.85	2.89	2.96	3.88	6.70	3.51	3.13	3.56	2.90	3.28	3.03	
26	2.82	2.78	2.85	2.87	4.50	6.69	3.61	3.16	3.48	2.85	3.36	3.06	
27	2.82	2.86	2.81	2.89	5.61	7.33	3.58	3.07	3.40	2.93	3.15	3.09	
28	2.85	2.86	2.90	2.88	6.50	7.66	3.60	2.93	3.33	3.13	2.95	3.08	
29	2.91	2.92	2.77	2.83	7.83	7.83	3.40	3.13	3.20	3.08	2.92	3.03	
30	2.90	3.13	2.76	2.91	8.49	8.13	3.47	3.03	3.18	2.89		2.82	
31		3.15		2.87	9.22		3.39		3.26	2.90		2.81	
Mean	3.00	2.92	2.85	2.83	3.69	8.16	6.38	3.03	3.60	2.94	2.86	2.89	
Max	3.41	3.15	3.25	3.16	9.22	9.65	8.92	3.37	4.25	3.31	3.36	3.22	9.65
Min	2.73	2.74	2.62	2.59	2.61	6.54	3.39	2.77	2.85	2.67	2.57	2.48	2.48

Annual Max Momentary Gage Height 9.68 M (A.D), at 12.00 Hours, on Sep 1, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -1.78 M (A.D)
Left Bank Elevation 9.55 M (A.D)
Right Bank Elevation 9.44 M (A.D), Drainage Area Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	39.1	37.5	54.0	29.6	28.3	771.7	600.6	41.2	32.7	50.8	32.1	30.5	
2	36.4	39.6	47.6	27.8	28.7	762.5	619.3	52.4	45.5	57.2	25.2	18.7	
3	42.3	40.1	41.2	28.7	27.8	729.2	629.6	33.7	56.7	53.5	26.1	17.0	
4	47.1	38.5	32.1	27.8	27.8	698.0	635.8	43.3	58.8	46.5	20.9	16.3	
5	62.7	35.9	32.7	27.4	22.6	692.6	643.6	42.8	72.7	42.3	20.0	20.9	
6	56.7	39.6	33.7	23.5	21.8	670.9	634.3	39.6	87.7	34.3	30.0	20.0	
7	47.6	33.2	31.6	23.9	22.6	675.8	609.2	47.1	77.0	44.4	32.7	27.8	
8	50.8	31.1	34.8	24.8	26.5	667.5	612.1	32.7	72.0	39.6	30.0	34.3	
9	48.1	35.3	32.7	20.9	25.7	646.7	637.4	45.5	76.2	35.3	30.5	34.3	
10	39.6	34.8	27.0	27.0	34.8	640.5	620.7	43.3	108.3	31.1	35.3	33.7	
11	32.1	30.0	27.8	28.7	31.6	635.8	563.6	60.4	94.8	30.5	32.7	43.9	
12	27.0	29.1	31.1	23.5	30.5	635.8	546.6	51.3	106.2	35.9	39.1	49.7	
13	30.5	32.1	35.9	32.7	30.0	622.1	524.3	42.8	123.1	24.4	44.9	52.4	
14	30.5	31.1	40.7	47.1	31.1	607.8	460.0	42.8	109.7	28.7	44.9	50.8	
15	35.3	34.3	36.9	49.2	26.1	587.7	407.8	34.3	113.3	33.2	31.6	43.3	
16	36.9	40.1	39.1	38.0	27.8	470.9	355.3	32.7	86.9	47.1	28.3	32.1	
17	42.3	39.1	33.2	32.7	23.1	487.5	284.9	30.0	82.7	35.9	25.2	31.6	
18	46.0	45.5	31.6	32.7	24.8	464.9	274.7	28.7	93.4	29.6	20.0	24.8	
19	50.3	48.7	30.5	32.7	24.4	436.9	267.6	44.4	84.8	32.7	23.9	33.7	
20	50.3	46.5	29.6	33.2	34.3	423.6	200.8	41.7	89.1	29.1	24.4	33.7	
21	50.3	41.7	22.2	35.9	52.9	383.1	152.4	42.8	79.1	35.3	30.5	35.3	
22	47.1	31.1	27.4	36.4	65.6	366.4	110.5	38.0	75.5	28.3	33.2	40.1	
23	42.8	27.4	23.1	35.3	57.7	340.9	96.2	40.1	68.4	38.0	37.5	43.9	
24	32.7	33.7	23.1	35.3	83.4	349.8	81.2	44.4	73.4	36.9	42.8	44.9	
25	32.7	32.7	34.8	38.5	96.2	358.7	69.8	47.6	73.4	35.3	55.6	42.3	
26	31.1	29.1	32.7	33.7	143.4	357.6	77.0	49.2	67.7	32.7	59.9	43.9	
27	31.1	33.2	30.5	34.8	242.2	432.1	74.8	44.4	62.0	36.9	48.7	45.5	
28	32.7	33.2	35.3	34.3	336.4	472.1	76.2	36.9	58.3	47.6	38.0	44.9	
29	35.9	36.4	28.7	31.6	494.1	494.1	62.0	47.6	51.3	44.9	36.4	42.3	
30	35.3	47.6	28.3	35.9	580.7	533.4	67.0	42.3	50.3	34.8		31.1	
31		48.7		33.7	692.6		61.5		54.5	35.3		30.5	
Total	1223.3	1136.9	989.9	997.3	3395.5	16416.6	11056.8	1264.0	2385.5	1168.1	980.4	1094.2	42108.5 CMSDAY
Mean	40.8	36.7	33.0	32.2	109.5	547.2	356.7	42.1	77.0	37.7	33.8	35.3	115.1 CMS
Max	62.7	48.7	54.0	49.2	692.6	771.7	643.6	60.4	123.1	57.2	59.9	52.4	771.7 CMS
Min	27.0	27.4	22.2	20.9	21.8	340.9	61.5	28.7	32.7	24.4	20.0	16.3	16.3 CMS
Runoff	105.69	98.23	85.53	86.17	293.37	1418.39	955.31	109.21	206.11	100.92	84.71	94.54	3638.17 MCM

Momentary Peak 777.30 CMS, at 9.68 M (A.D), at 12.00 Hours, on Sep 1, 1991
Runoff Yield ********* Liters/Second/Square KM, Momentary Peak Yield ********* Liters/Second/Square KM

WATER YEAR 1991

PASAK RIVER BASIN

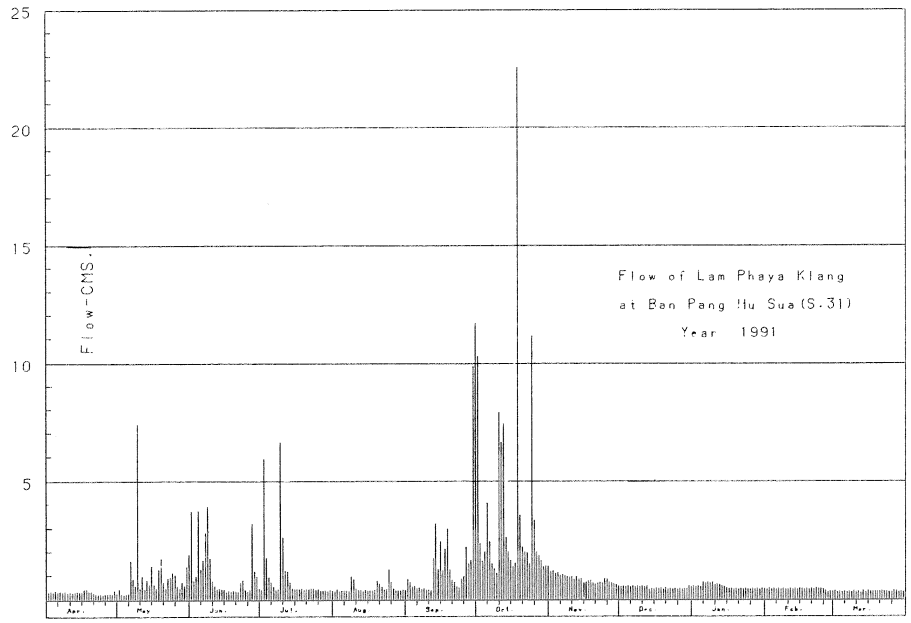
Lam Phaya Klang at Ban Pang Hu Sua, Lop Buri (S.31)

Location	Lat. 15-06-05 N., Long. 101-24-11 E., on left bank at the bridge of Dan Khun Tod - Chai Badan Highway, Tambon Sap Sombun, Amphoe Chai Badan, Lop Buri.
Drainage Area	381 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank downstream side at the abutment of the bridge.
Elevation	+7.083 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1986 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Fairly stable because of backwater effect.
Overbank Flow Conditions	No overbank flow.
General Description	Records poor. Stage-discharge relation defined by 15 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.25	0.29	0.57	0.27	0.26	0.35	0.93	0.39	0.31	0.31	0.29	0.26	
2	0.25	0.21	0.34	0.68	0.28	0.33	0.49	0.39	0.31	0.31	0.30	0.25	
3	0.25	0.21	0.36	0.44	0.26	0.31	0.43	0.38	0.31	0.31	0.29	0.25	
4	0.26	0.21	0.57	0.36	0.26	0.31	0.46	0.38	0.31	0.31	0.29	0.25	
5	0.25	0.22	0.40	0.33	0.27	0.30	0.59	0.37	0.31	0.33	0.29	0.25	
6	0.25	0.43	0.43	0.31	0.26	0.30	0.50	0.37	0.31	0.33	0.29	0.25	
7	0.25	0.35	0.52	0.28	0.26	0.29	0.42	0.37	0.31	0.33	0.29	0.25	
8	0.25	0.31	0.58	0.28	0.36	0.29	0.40	0.36	0.31	0.33	0.29	0.25	
9	0.24	0.74	0.44	0.71	0.35	0.28	0.38	0.36	0.31	0.33	0.29	0.26	
10	0.24	0.29	0.34	0.51	0.29	0.27	0.76	0.36	0.31	0.32	0.29	0.25	
11	0.24	0.36	0.31	0.39	0.28	0.27	0.71	0.35	0.31	0.32	0.29	0.25	
12	0.25	0.29	0.29	0.39	0.27	0.44	0.74	0.36	0.31	0.32	0.29	0.24	
13	0.25	0.34	0.29	0.33	0.26	0.54	0.51	0.35	0.29	0.31	0.29	0.26	
14	0.25	0.32	0.29	0.30	0.27	0.40	0.46	0.35	0.29	0.31	0.29	0.25	
15	0.24	0.41	0.28	0.29	0.27	0.50	0.43	0.33	0.29	0.30	0.29	0.26	
16	0.28	0.32	0.25	0.28	0.26	0.39	0.41	0.33	0.30	0.30	0.29	0.26	
17	0.29	0.29	0.26	0.29	0.27	0.47	0.42	0.34	0.30	0.29	0.29	0.25	
18	0.25	0.40	0.26	0.29	0.27	0.53	1.78	0.34	0.30	0.29	0.29	0.26	
19	0.26	0.44	0.26	0.28	0.34	0.40	0.56	0.33	0.29	0.29	0.29	0.25	
20	0.23	0.33	0.26	0.28	0.32	0.34	0.48	0.32	0.30	0.29	0.29	0.26	
21	0.21	0.30	0.25	0.28	0.31	0.33	0.46	0.33	0.29	0.29	0.29	0.26	
22	0.21	0.35	0.33	0.30	0.28	0.31	0.46	0.33	0.29	0.29	0.30	0.26	
23	0.21	0.36	0.34	0.29	0.28	0.30	0.42	0.33	0.29	0.29	0.30	0.25	
24	0.21	0.38	0.28	0.28	0.40	0.35	1.02	0.35	0.29	0.29	0.29	0.25	
25	0.21	0.37	0.26	0.28	0.33	0.36	0.55	0.35	0.29	0.29	0.29	0.25	
26	0.21	0.31	0.27	0.27	0.29	0.48	0.46	0.33	0.29	0.29	0.26	0.26	
27	0.22	0.30	0.54	0.27	0.27	0.42	0.45	0.33	0.29	0.29	0.25	0.26	
28	0.21	0.33	0.39	0.26	0.26	0.43	0.43	0.32	0.29	0.29	0.25	0.25	
29	0.27	0.31	0.36	0.26	0.27	0.89	0.41	0.32	0.30	0.29	0.26	0.25	
30	0.22	0.41	0.30	0.27	0.27	1.07	0.41	0.31	0.31	0.29		0.25	
31		0.45		0.26	0.27		0.41		0.31	0.29		0.25	
Mean	0.24	0.34	0.35	0.33	0.29	0.41	0.56	0.35	0.30	0.30	0.29	0.25	
Max	0.29	0.74	0.58	0.71	0.40	1.07	1.78	0.39	0.31	0.33	0.30	0.26	1.78
Min	0.21	0.21	0.25	0.26	0.26	0.27	0.38	0.31	0.29	0.29	0.25	0.24	0.21

Annual Max Momentary Gage Height 2.21 M (A.D), at 13.00 Hours, on Oct 18, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.23 M (A.D)
Left Bank Elevation 5.86 M (A.D)
Right Bank Elevation 6.18 M (A.D), Drainage Area 381 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.35	0.47	3.76	0.41	0.38	0.90	10.30	1.22	0.58	0.58	0.47	0.38	
2	0.35	0.23	0.82	5.98	0.44	0.74	2.38	1.22	0.58	0.58	0.50	0.35	
3	0.35	0.23	0.98	1.78	0.38	0.58	1.66	1.14	0.58	0.58	0.47	0.35	
4	0.38	0.23	3.76	0.98	0.38	0.58	2.02	1.14	0.58	0.58	0.47	0.35	
5	0.35	0.26	1.30	0.74	0.41	0.50	4.12	1.06	0.58	0.74	0.47	0.35	
6	0.35	1.66	1.66	0.58	0.38	0.50	2.50	1.06	0.58	0.74	0.47	0.35	
7	0.35	0.90	2.86	0.44	0.38	0.47	1.54	1.06	0.58	0.74	0.47	0.35	
8	0.35	0.58	3.94	0.44	0.98	0.47	1.30	0.98	0.58	0.74	0.47	0.35	
9	0.32	7.44	1.78	6.66	0.90	0.44	1.14	0.98	0.58	0.74	0.47	0.38	
10	0.32	0.47	0.82	2.68	0.47	0.41	7.96	0.98	0.58	0.66	0.47	0.35	
11	0.32	0.98	0.58	1.22	0.44	0.41	6.66	0.90	0.58	0.66	0.47	0.35	
12	0.35	0.47	0.47	1.22	0.41	1.78	7.44	0.98	0.58	0.66	0.47	0.32	
13	0.35	0.82	0.47	0.74	0.38	3.22	2.68	0.90	0.47	0.58	0.47	0.38	
14	0.35	0.66	0.47	0.50	0.41	1.30	2.02	0.90	0.47	0.58	0.47	0.35	
15	0.32	1.42	0.44	0.47	0.41	2.50	1.66	0.74	0.47	0.50	0.47	0.38	
16	0.44	0.66	0.35	0.44	0.38	1.22	1.42	0.74	0.50	0.50	0.47	0.38	
17	0.47	0.47	0.38	0.47	0.41	2.14	1.54	0.82	0.50	0.47	0.47	0.35	
18	0.35	1.30	0.38	0.47	0.41	3.04	22.58	0.82	0.50	0.47	0.47	0.38	
19	0.38	1.78	0.38	0.44	0.82	1.30	3.58	0.74	0.47	0.47	0.47	0.35	
20	0.29	0.74	0.38	0.44	0.66	0.82	2.26	0.66	0.50	0.47	0.47	0.38	
21	0.23	0.50	0.35	0.44	0.58	0.74	2.02	0.74	0.47	0.47	0.47	0.38	
22	0.23	0.90	0.74	0.50	0.44	0.58	2.02	0.74	0.47	0.47	0.50	0.38	
23	0.23	0.98	0.82	0.47	0.44	0.50	1.54	0.74	0.47	0.47	0.50	0.35	
24	0.23	1.14	0.44	0.44	1.30	0.90	11.20	0.90	0.47	0.47	0.47	0.35	
25	0.23	1.06	0.38	0.44	0.74	0.98	3.40	0.90	0.47	0.47	0.47	0.35	
26	0.23	0.58	0.41	0.41	0.47	2.26	2.02	0.74	0.47	0.47	0.38	0.38	
27	0.26	0.50	3.22	0.41	0.41	1.54	1.90	0.74	0.47	0.47	0.35	0.38	
28	0.23	0.74	1.22	0.38	0.38	1.66	1.66	0.66	0.47	0.47	0.35	0.35	
29	0.41	0.58	0.98	0.38	0.41	9.90	1.42	0.66	0.50	0.47	0.38	0.35	
30	0.26	1.42	0.50	0.41	0.41	11.70	1.42	0.58	0.58	0.47		0.35	
31		1.90		0.38	0.41		1.42		0.58	0.47		0.35	
Total	9.63	32.07	35.04	31.76	15.82	54.08	116.78	26.44	16.26	17.21	13.30	11.15	379.54 CMSDAY
Mean	0.32	1.03	1.17	1.02	0.51	1.80	3.77	0.88	0.52	0.56	0.46	0.36	1.04 CMS
Max	0.47	7.44	3.94	6.66	1.30	11.70	22.58	1.22	0.58	0.74	0.50	0.38	22.58 CMS
Min	0.23	0.23	0.35	0.38	0.38	0.41	1.14	0.58	0.47	0.47	0.35	0.32	0.23 CMS
Runoff	0.832	2.771	3.027	2.744	1.367	4.673	10.090	2.284	1.405	1.487	1.149	0.963	32.792 MCM

Momentary Peak 32.77 CMS, at 2.21 M (A.D), at 13.00 Hours, on Oct 18, 1991

Runoff Yield 2.72 Liters/Second/Square KM, Momentary Peak Yield 86.01 Liters/Second/Square KM

WATER YEAR 1991

SALAWIN RIVER BASIN

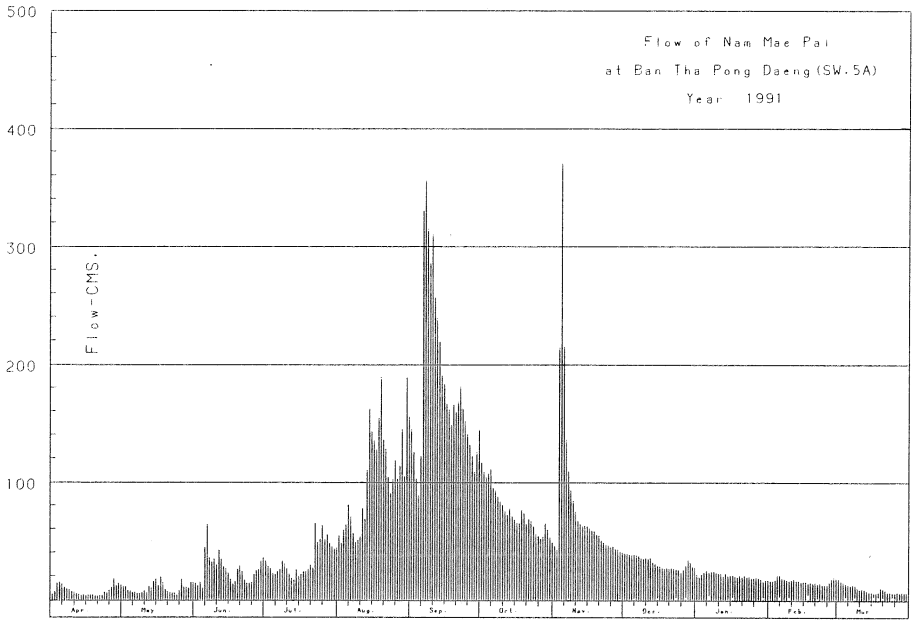
Nam Mae Pai at Ban Tha Pong Daeng, Mae Hong Son (SW.5A)

Location	Lat. 19-16-10 N., Long. 97-56-55 E., on left bank at Ban Tha Pong Daeng, Amphoe Muang, Mae Hong Son.
Drainage Area	4,466 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank near the station office.
Elevation	+8.372 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1980 to date.
Rating Operation	
Period of Rating	1984 to date.
Rated by Float	-
Rated by Current Meter	1984 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 178 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.80	0.92	0.95	1.18	1.36	2.06	1.86	1.29	1.24	1.05	0.99	1.00	
2	0.85	0.91	0.92	1.13	1.31	1.92	1.80	1.26	1.23	1.03	0.98	0.98	
3	0.95	0.87	0.97	1.11	1.40	1.76	1.77	2.56	1.23	1.05	1.00	0.96	
4	0.97	0.85	0.90	1.07	1.44	1.64	1.79	3.57	1.22	1.08	1.04	0.95	
5	0.94	0.84	1.28	1.06	1.58	1.90	1.82	2.57	1.23	1.09	1.05	0.93	
6	0.91	0.83	1.44	1.08	1.49	3.32	1.70	2.00	1.22	1.08	1.01	0.93	
7	0.89	0.82	1.20	1.11	1.38	3.48	1.68	1.81	1.22	1.08	1.01	0.93	
8	0.87	0.81	1.17	1.18	1.31	3.22	1.64	1.68	1.20	1.09	0.99	0.93	
9	0.85	0.83	1.19	1.15	1.33	3.04	1.60	1.61	1.20	1.07	0.99	0.89	
10	0.83	0.85	1.14	1.11	1.35	3.19	1.58	1.53	1.20	1.07	1.00	0.88	
11	0.82	0.83	1.26	1.06	1.55	2.85	1.53	1.47	1.20	1.06	1.00	0.88	
12	0.80	0.92	1.19	1.01	1.48	2.73	1.51	1.44	1.20	1.04	0.99	0.88	
13	0.79	0.89	1.13	1.00	1.81	2.60	1.55	1.43	1.17	1.06	0.98	0.85	
14	0.79	0.98	1.11	1.10	2.19	2.39	1.50	1.43	1.15	1.04	0.97	0.84	
15	0.79	1.00	1.07	1.04	2.05	2.34	1.47	1.43	1.14	1.04	0.97	0.83	
16	0.79	0.93	1.00	1.05	1.99	2.22	1.45	1.41	1.13	1.05	0.97	0.83	
17	0.80	1.03	0.95	1.09	1.94	2.18	1.45	1.40	1.12	1.03	0.96	0.82	
18	0.79	0.96	0.97	1.08	2.13	2.09	1.54	1.39	1.11	1.03	0.96	0.84	
19	0.79	0.88	1.11	1.11	2.38	2.21	1.52	1.37	1.12	1.04	0.96	0.89	
20	0.78	0.84	1.13	1.14	2.00	2.17	1.44	1.36	1.11	1.03	0.96	0.89	
21	0.78	0.84	1.08	1.12	1.94	2.23	1.48	1.33	1.12	1.04	0.95	0.86	
22	0.79	0.83	1.00	1.45	1.77	2.32	1.46	1.31	1.11	1.03	0.95	0.84	
23	0.83	0.82	0.95	1.31	1.66	2.19	1.43	1.30	1.11	1.03	0.94	0.83	
24	0.83	0.80	0.96	1.34	1.75	2.11	1.37	1.29	1.10	1.02	0.93	0.83	
25	0.86	0.85	0.96	1.43	1.87	2.03	1.36	1.28	1.08	1.02	0.94	0.83	
26	0.90	1.00	1.05	1.33	1.76	1.97	1.34	1.28	1.10	1.02	0.97	0.83	
27	1.01	0.91	1.10	1.37	1.84	1.90	1.35	1.27	1.14	1.02	1.00	0.83	
28	0.93	0.90	1.10	1.31	2.06	1.80	1.45	1.26	1.19	1.00	1.02	0.83	
29	0.95	0.90	1.18	1.28	1.77	1.92	1.40	1.25	1.16	0.98	1.01	0.83	
30	0.93	0.97	1.20	1.27	2.38	2.06	1.35	1.24	1.13	0.99		0.82	
31		0.96		1.27	2.14		1.31		1.12	0.99		0.82	
Mean	0.85	0.89	1.09	1.17	1.76	2.33	1.53	1.56	1.16	1.04	0.98	0.87	
Max	1.01	1.03	1.44	1.45	2.38	3.48	1.86	3.57	1.24	1.09	1.05	1.00	3.57
Min	0.78	0.80	0.90	1.00	1.31	1.64	1.31	1.24	1.08	0.98	0.93	0.82	0.78

Annual Max Momentary Gage Height 3.90 M (A.D), at 14.00 Hours, on Sep 6, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.15 M (A.D)
Left Bank Elevation 7.75 M (A.D)
Right Bank Elevation 5.27 M (A.D), Drainage Area 4466 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	5.20	12.40	14.50	34.00	55.20	145.08	117.33	46.80	40.80	22.00	17.30	18.00	
2	8.10	11.70	12.40	29.00	49.20	125.65	109.00	43.20	39.60	20.40	16.60	16.60	
3	14.50	9.26	15.90	27.00	60.00	103.80	105.10	214.45	39.60	22.00	18.00	15.20	
4	15.90	8.10	11.00	23.60	64.80	88.80	107.70	371.20	38.40	24.40	21.20	14.50	
5	13.80	7.52	45.60	22.80	81.60	122.88	111.78	215.84	39.60	25.20	22.00	13.10	
6	11.70	6.94	64.80	24.40	70.80	331.20	96.00	136.75	38.40	24.40	18.80	13.10	
7	10.42	6.36	36.00	27.00	57.60	356.80	93.60	110.39	38.40	24.40	18.80	13.10	
8	9.26	5.78	33.00	34.00	49.20	315.20	88.80	93.60	36.00	25.20	17.30	13.10	
9	8.10	6.94	35.00	31.00	51.60	286.40	84.00	85.20	36.00	23.60	17.30	10.42	
10	6.94	8.10	30.00	27.00	54.00	310.40	81.60	75.60	36.00	23.60	18.00	9.84	
11	6.36	6.94	43.20	22.80	78.00	257.50	75.60	68.40	36.00	22.80	18.00	9.84	
12	5.20	12.40	35.00	18.80	69.60	239.50	73.20	64.80	36.00	21.20	17.30	9.84	
13	4.68	10.42	29.00	18.00	110.39	220.00	78.00	63.60	33.00	22.80	16.60	8.10	
14	4.68	16.60	27.00	26.00	163.11	190.86	72.00	63.60	31.00	21.20	15.90	7.52	
15	4.68	18.00	23.60	21.20	143.69	183.93	68.40	63.60	30.00	21.20	15.90	6.94	
16	4.68	13.10	18.00	22.00	135.36	167.28	66.00	61.20	29.00	22.00	15.90	6.94	
17	5.20	20.40	14.50	25.20	128.43	161.73	66.00	60.00	28.00	20.40	15.20	6.36	
18	4.68	15.20	15.90	24.40	154.79	149.24	76.80	58.80	27.00	20.40	15.20	7.52	
19	4.68	9.84	27.00	27.00	189.48	165.89	74.40	56.40	28.00	21.20	15.20	10.42	
20	4.16	7.52	29.00	30.00	136.75	160.34	64.80	55.20	27.00	20.40	15.20	10.42	
21	4.16	7.52	24.40	28.00	128.43	168.66	69.60	51.60	28.00	21.20	14.50	8.68	
22	4.68	6.94	18.00	66.00	105.10	181.15	67.20	49.20	27.00	20.40	14.50	7.52	
23	6.94	6.36	14.50	49.20	91.20	163.11	63.60	48.00	27.00	20.40	13.80	6.94	
24	6.94	5.20	15.20	52.80	102.50	152.01	56.40	46.80	26.00	19.60	13.10	6.94	
25	8.68	8.10	15.20	63.60	118.71	140.91	55.20	45.60	24.40	19.60	13.80	6.94	
26	11.00	18.00	22.00	51.60	103.80	132.59	52.80	45.60	26.00	19.60	15.90	6.94	
27	18.80	11.70	26.00	56.40	114.55	122.88	54.00	44.40	30.00	19.60	18.00	6.94	
28	13.10	11.00	26.00	49.20	145.08	109.00	66.00	43.20	35.00	18.00	19.60	6.94	
29	14.50	11.00	34.00	45.60	105.10	125.65	60.00	42.00	32.00	16.60	18.80	6.94	
30	13.10	15.90	36.00	44.40	189.48	145.08	54.00	40.80	29.00	17.30		6.36	
31		15.20		44.40	156.18		49.20		28.00	17.30		6.36	
Total	254.82	330.44	791.70	1066.40	3263.73	5523.52	2358.11	2465.83	1000.20	658.40	487.70	298.36	18499.21 CMSDAY
Mean	8.49	10.66	26.39	34.40	105.28	184.12	76.07	82.19	32.26	21.24	16.82	9.62	50.54 CMS
Max	18.80	20.40	64.80	66.00	189.48	356.80	117.33	371.20	40.80	25.20	22.00	18.00	371.20 CMS
Min	4.16	5.20	11.00	18.00	49.20	88.80	49.20	40.80	24.40	16.60	13.10	6.36	4.16 CMS
Runoff	22.016	28.550	68.403	92.137	281.986	477.232	203.741	213.048	86.417	56.886	42.137	25.778	1598.332 MCM

Momentary Peak 424.00 CMS, at 3.90 M (A.D), at 14.00 Hours, on Sep 6, 1991

Runoff Yield 11.32 Liters/Second/Square KM, Momentary Peak Yield 94.94 Liters/Second/Square KM

WATER YEAR 1991

SALAWIN RIVER BASIN

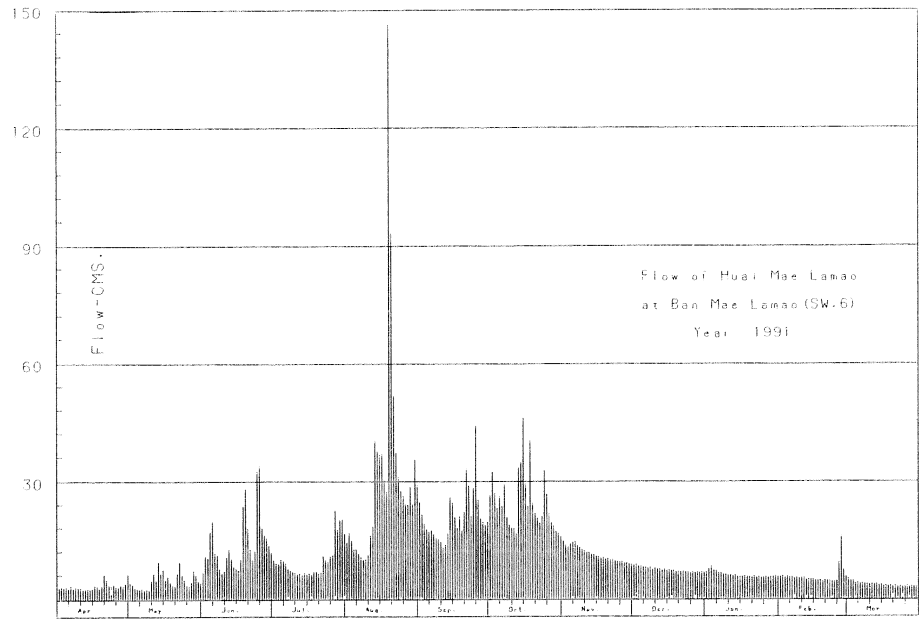
Huai Mae Lamao at Ban Mae Lamao, Tak (SW.6)

Location	Lat. 16-45- 44 N., Long. 98-45-14 E., on left bank downstream from the bridge on highway, at Ban Mae Lamao, Amphoe Mae Sot, Tak.
Drainage Area	1,038 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	About 6.25 meters from automatic gage building.
Elevation	+10.386 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1971 to date.
Rating Operation	
Period of Rating	1971 to date.
Rated by Float	-
Rated by Current Meter	1971 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 129 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.56	0.61	0.75	0.89	1.05	1.37	1.42	1.07	0.84	0.75	0.70	0.67	
2	0.56	0.59	0.92	0.85	1.13	1.28	1.59	1.03	0.84	0.80	0.70	0.65	
3	0.56	0.56	0.91	0.85	1.07	1.21	1.43	1.02	0.83	0.82	0.69	0.64	
4	0.56	0.54	1.14	0.89	0.99	1.17	1.32	1.04	0.82	0.78	0.70	0.62	
5	0.55	0.54	1.23	0.88	1.00	1.14	1.41	1.06	0.82	0.77	0.69	0.62	
6	0.58	0.54	0.95	0.85	0.95	1.16	1.34	1.06	0.81	0.75	0.69	0.61	
7	0.55	0.53	0.94	0.80	0.91	1.12	1.50	1.03	0.81	0.74	0.68	0.61	
8	0.56	0.53	0.79	0.77	0.89	1.09	1.26	1.01	0.81	0.73	0.68	0.61	
9	0.56	0.53	0.74	0.76	0.89	1.08	1.20	1.00	0.79	0.72	0.68	0.60	
10	0.55	0.64	0.76	0.74	0.94	1.06	1.18	0.98	0.80	0.72	0.68	0.60	
11	0.54	0.73	0.91	0.73	1.11	1.01	1.17	0.97	0.80	0.71	0.68	0.60	
12	0.54	0.65	0.99	0.73	1.19	1.03	1.13	0.96	0.79	0.71	0.66	0.60	
13	0.54	0.87	0.90	0.72	1.81	1.13	1.63	0.95	0.78	0.71	0.66	0.60	
14	0.54	0.74	0.82	0.74	1.74	1.40	1.66	0.94	0.79	0.70	0.66	0.59	
15	0.54	0.78	0.80	0.73	1.71	1.36	1.96	0.93	0.78	0.69	0.66	0.59	
16	0.58	0.65	0.77	0.73	1.72	1.26	1.50	0.92	0.78	0.70	0.65	0.58	
17	0.58	0.69	0.89	0.72	1.53	1.18	1.34	0.91	0.78	0.70	0.65	0.58	
18	0.54	0.63	1.34	0.75	1.44	1.26	1.81	0.91	0.77	0.70	0.65	0.58	
19	0.58	0.58	1.47	0.76	4.13	1.15	1.36	0.90	0.76	0.69	0.64	0.58	
20	0.73	0.58	1.17	0.73	3.03	1.30	1.29	0.90	0.76	0.69	0.65	0.57	
21	0.65	0.73	0.99	0.75	2.10	1.61	1.25	0.89	0.76	0.70	0.65	0.58	
22	0.59	0.87	0.89	0.93	1.73	1.49	1.22	0.89	0.76	0.69	0.64	0.57	
23	0.57	0.72	0.98	0.88	1.55	1.26	1.26	0.88	0.76	0.69	0.64	0.57	
24	0.60	0.65	1.59	0.87	1.45	1.47	1.60	0.87	0.75	0.69	0.63	0.57	
25	0.56	0.59	1.63	0.92	1.41	1.91	1.43	0.87	0.75	0.69	0.64	0.57	
26	0.56	0.57	1.18	0.93	1.35	1.38	1.28	0.87	0.75	0.69	0.86	0.58	
27	0.59	0.63	1.12	1.31	1.35	1.25	1.22	0.86	0.75	0.69	1.11	0.57	
28	0.57	0.77	1.09	1.16	1.48	1.22	1.19	0.85	0.75	0.69	0.79	0.57	
29	0.61	0.71	1.03	1.24	1.35	1.20	1.15	0.85	0.75	0.70	0.70	0.57	
30	0.73	0.64	0.96	1.24	1.68	1.22	1.13	0.84	0.75	0.70		0.56	
31		0.61		1.13	1.49		1.10		0.75	0.69		0.56	
Mean	0.58	0.65	1.02	0.87	1.49	1.26	1.37	0.94	0.78	0.72	0.69	0.59	
Max	0.73	0.87	1.63	1.31	4.13	1.91	1.96	1.07	0.84	0.82	1.11	0.67	4.13
Min	0.54	0.53	0.74	0.72	0.89	1.01	1.10	0.84	0.75	0.69	0.63	0.56	0.53

Annual Max Momentary Gage Height 5.15 M (A.D), at 9.00 Hours, on Aug 19, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.12 M (A.D)
Left Bank Elevation 8.61 M (A.D)
Right Bank Elevation 8.15 M (A.D), Drainage Area 1038 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.20	4.20	7.00	10.25	14.50	24.95	26.70	15.10	9.00	7.00	6.00	5.40	
2	3.20	3.80	11.00	9.25	16.90	21.80	32.65	13.90	9.00	8.00	6.00	5.00	
3	3.20	3.20	10.75	9.25	15.10	19.35	27.05	13.60	8.75	8.50	5.80	4.80	
4	3.20	2.80	17.20	10.25	12.75	18.10	23.20	14.20	8.50	7.60	6.00	4.40	
5	3.00	2.80	20.05	10.00	13.00	17.20	26.35	14.80	8.50	7.40	5.80	4.40	
6	3.60	2.80	11.75	9.25	11.75	17.80	23.90	14.80	8.25	7.00	5.80	4.20	
7	3.00	2.60	11.50	8.00	10.75	16.60	29.50	13.90	8.25	6.80	5.60	4.20	
8	3.20	2.60	7.80	7.40	10.25	15.70	21.10	13.30	8.25	6.60	5.60	4.20	
9	3.20	2.60	6.80	7.20	10.25	15.40	19.00	13.00	7.80	6.40	5.60	4.00	
10	3.00	4.80	7.20	6.80	11.50	14.80	18.40	12.50	8.00	6.40	5.60	4.00	
11	2.80	6.60	10.75	6.60	16.30	13.30	18.10	12.25	8.00	6.20	5.60	4.00	
12	2.80	5.00	12.75	6.60	18.70	13.90	16.90	12.00	7.80	6.20	5.20	4.00	
13	2.80	9.75	10.50	6.40	40.40	16.90	34.05	11.75	7.60	6.20	5.20	4.00	
14	2.80	6.80	8.50	6.80	37.90	26.00	35.10	11.50	7.80	6.00	5.20	3.80	
15	2.80	7.60	8.00	6.60	36.85	24.60	46.40	11.25	7.60	5.80	5.20	3.80	
16	3.60	5.00	7.40	6.60	37.20	21.10	29.50	11.00	7.60	6.00	5.00	3.60	
17	3.60	5.80	10.25	6.40	30.55	18.40	23.90	10.75	7.60	6.00	5.00	3.60	
18	2.80	4.60	23.90	7.00	27.40	21.10	40.40	10.75	7.40	6.00	5.00	3.60	
19	3.60	3.60	28.45	7.20	146.50	17.50	24.60	10.50	7.20	5.80	4.80	3.60	
20	6.60	3.60	18.10	6.60	93.35	22.50	22.15	10.50	7.20	5.80	5.00	3.40	
21	5.00	6.60	12.75	7.00	52.00	33.35	20.75	10.25	7.20	6.00	5.00	3.60	
22	3.80	9.75	10.25	11.25	37.55	29.15	19.70	10.25	7.20	5.80	4.80	3.40	
23	3.40	6.40	12.50	10.00	31.25	21.10	21.10	10.00	7.20	5.80	4.80	3.40	
24	4.00	5.00	32.65	9.75	27.75	28.45	33.00	9.75	7.00	5.80	4.60	3.40	
25	3.20	3.80	34.05	11.00	26.35	44.40	27.05	9.75	7.00	5.80	4.80	3.40	
26	3.20	3.40	18.40	11.25	24.25	25.30	21.80	9.75	7.00	5.80	9.50	3.60	
27	3.80	4.60	16.60	22.85	24.25	20.75	19.70	9.50	7.00	5.80	16.30	3.40	
28	3.40	7.40	15.70	17.80	28.80	19.70	18.70	9.25	7.00	5.80	7.80	3.40	
29	4.20	6.20	13.90	20.40	24.25	19.00	17.50	9.25	7.00	6.00	6.00	3.40	
30	6.60	4.80	12.00	20.40	35.80	19.70	16.90	9.00	7.00	6.00		3.20	
31		4.20		16.90	29.15		16.00		7.00	5.80		3.20	
Total	106.60	152.70	428.45	313.05	953.30	637.90	771.15	348.10	237.70	196.10	172.60	119.40	4437.05 CMSDAY
Mean	3.55	4.93	14.28	10.10	30.75	21.26	24.88	11.60	7.67	6.33	5.95	3.85	12.12 CMS
Max	6.60	9.75	34.05	22.85	146.50	44.40	46.40	15.10	9.00	8.50	16.30	5.40	146.50 CMS
Min	2.80	2.60	6.80	6.40	10.25	13.30	16.00	9.00	7.00	5.80	4.60	3.20	2.60 CMS
Runoff	9.210	13.193	37.018	27.048	82.365	55.115	66.627	30.076	20.537	16.943	14.913	10.316	383.361 MCM

Momentary Peak 197.50 CMS, at 5.15 M (A.D), at 9.00 Hours, on Aug 19, 1991
Runoff Yield 11.68 Liters/Second/Square KM, Momentary Peak Yield 190.27 Liters/Second/Square KM

WATER YEAR 1991

KHONG RIVER BASIN

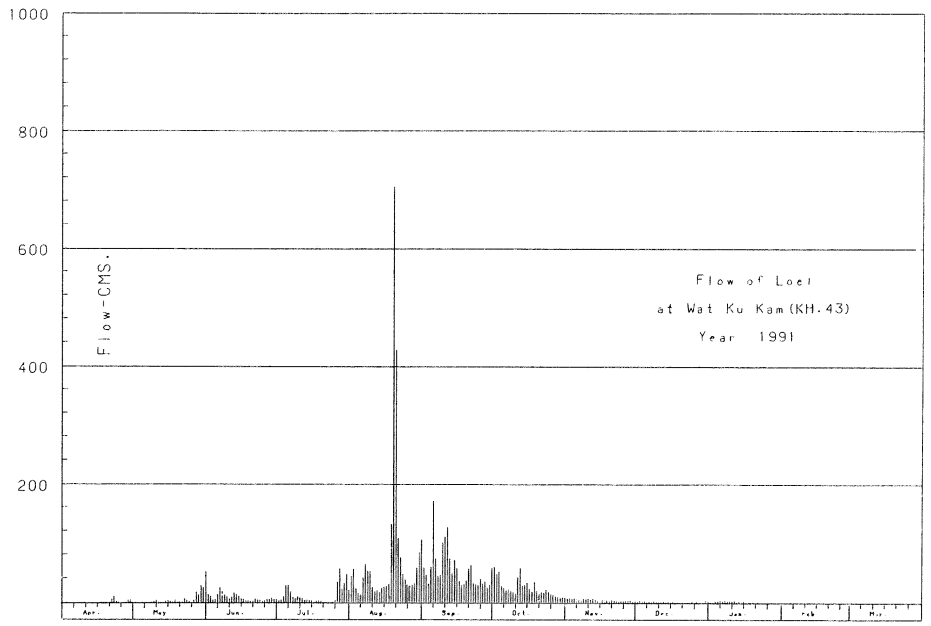
Loei River at Wat Ku Kam, Loei (Kh.43)

Location	Lat. 17-14-15 N., Long. 101-41-31 E., on left bank downstream from Wat Ku Kam at Ban Sai Khao, Amphoe Wang Saphung, Loei.
Drainage Area	991 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	Under tamarind tree along the measuring line.
Elevation	+10.667 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1966 to date.
Rating Operation	
Period of Rating	1966 - 1973, 1981 to date.
Rated by Float	-
Rated by Current Meter	1966 - 1973, 1981 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 172 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.52	0.56	1.03	0.68	1.70	1.94	1.96	0.85	0.67	0.63	0.58	0.57	
2	0.53	0.52	0.93	0.69	1.89	1.72	1.76	0.84	0.67	0.62	0.57	0.58	
3	0.51	0.50	0.72	0.94	1.28	1.48	1.81	0.83	0.66	0.62	0.57	0.56	
4	0.50	0.51	0.73	1.38	1.06	1.95	1.39	0.82	0.66	0.66	0.57	0.54	
5	0.49	0.50	1.03	1.42	1.02	3.52	1.29	0.81	0.65	0.67	0.56	0.53	
6	0.48	0.48	1.33	1.13	1.67	2.18	1.21	0.81	0.65	0.66	0.56	0.53	
7	0.47	0.47	1.13	0.91	2.02	1.70	1.22	0.80	0.65	0.67	0.56	0.52	
8	0.47	0.60	1.00	0.80	1.85	1.72	1.17	0.80	0.64	0.65	0.56	0.52	
9	0.46	0.60	0.90	0.94	1.82	2.64	1.11	0.79	0.63	0.65	0.56	0.52	
10	0.45	0.68	0.82	0.89	1.31	2.75	1.07	0.78	0.63	0.66	0.55	0.51	
11	0.46	0.59	0.90	0.80	1.15	2.97	1.65	0.77	0.63	0.65	0.55	0.51	
12	0.46	0.56	1.10	0.72	1.17	2.18	1.93	0.79	0.63	0.63	0.55	0.51	
13	0.46	0.56	1.01	0.70	1.12	1.77	1.40	0.77	0.62	0.62	0.55	0.51	
14	0.46	0.61	0.96	0.70	1.27	2.16	1.40	0.76	0.62	0.61	0.55	0.51	
15	0.46	0.67	0.82	0.64	1.34	1.93	1.50	0.75	0.62	0.61	0.54	0.51	
16	0.45	0.59	0.74	0.61	1.35	1.56	1.23	0.74	0.61	0.60	0.53	0.51	
17	0.44	0.61	0.67	0.62	1.47	1.40	1.14	0.73	0.61	0.60	0.53	0.51	
18	0.46	0.68	0.63	0.68	3.03	1.48	1.54	0.72	0.61	0.60	0.53	0.51	
19	0.45	0.59	0.62	0.66	8.14	1.57	1.16	0.71	0.61	0.59	0.53	0.50	
20	0.54	0.57	0.66	0.61	5.95	1.90	1.06	0.71	0.60	0.58	0.53	0.50	
21	0.77	0.61	0.78	0.58	2.72	2.02	1.10	0.70	0.60	0.58	0.53	0.50	
22	0.91	0.81	0.73	0.56	2.23	1.50	1.11	0.70	0.60	0.58	0.53	0.49	
23	0.62	0.66	0.68	0.54	1.75	1.44	1.21	0.69	0.60	0.57	0.53	0.48	
24	0.54	0.59	0.64	0.55	1.61	1.44	1.14	0.69	0.60	0.57	0.53	0.48	
25	0.51	0.56	0.66	0.71	1.49	1.63	1.05	0.68	0.60	0.57	0.53	0.48	
26	0.50	0.68	0.77	1.54	1.37	1.47	0.99	0.68	0.60	0.57	0.53	0.48	
27	0.55	1.12	0.77	1.91	1.44	1.54	0.95	0.68	0.59	0.58	0.55	0.48	
28	0.77	0.98	0.83	1.25	1.47	1.32	0.91	0.67	0.60	0.58	0.55	0.47	
29	0.70	1.41	0.78	1.47	1.92	1.42	0.88	0.67	0.61	0.58	0.55	0.47	
30	0.63	1.29	0.73	1.74	2.38	1.92	0.87	0.67	0.65	0.58		0.47	
31		1.83		1.19	2.69		0.86		0.64	0.58		0.47	
Mean	0.53	0.71	0.84	0.92	2.02	1.87	1.26	0.75	0.62	0.61	0.55	0.51	
Max	0.91	1.83	1.33	1.91	8.14	3.52	1.96	0.85	0.67	0.67	0.58	0.58	8.14
Min	0.44	0.47	0.62	0.54	1.02	1.32	0.86	0.67	0.59	0.57	0.53	0.47	0.44

Annual Max Momentary Gage Height 8.70 M (A.D), at 12.00 Hours, on Aug 19, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.24 M (A.D)
Left Bank Elevation 11.31 M (A.D)
Right Bank Elevation 10.26 M (A.D), Drainage Area 991 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.69	1.67	15.20	4.61	46.00	60.40	61.60	8.78	4.37	3.39	2.16	1.91	
2	0.93	0.69	11.20	4.86	57.40	47.20	49.60	8.53	4.37	3.14	1.91	2.16	
3	0.44	0.20	5.59	11.60	25.20	33.20	52.60	8.28	4.12	3.14	1.91	1.67	
4	0.20	0.44	5.84	29.20	16.40	61.00	29.60	8.04	4.12	4.12	1.91	1.18	
5	0.19	0.20	15.20	30.80	14.80	173.80	25.60	7.80	3.87	4.37	1.67	0.93	
6	0.18	0.18	27.20	19.20	44.20	74.80	22.40	7.80	3.87	4.12	1.67	0.93	
7	0.17	0.17	19.20	10.40	65.20	46.00	22.80	7.55	3.87	4.37	1.67	0.69	
8	0.17	2.65	14.00	7.55	55.00	47.20	20.80	7.55	3.63	3.87	1.67	0.69	
9	0.16	2.65	10.00	11.60	53.20	103.20	18.40	7.31	3.39	3.87	1.67	0.69	
10	0.15	4.61	8.04	9.76	26.40	112.00	16.80	7.06	3.39	4.12	1.43	0.44	
11	0.16	2.40	10.00	7.55	20.00	129.60	43.00	6.82	3.39	3.87	1.43	0.44	
12	0.16	1.67	18.00	5.59	20.80	74.80	59.80	7.31	3.39	3.39	1.43	0.44	
13	0.16	1.67	14.40	5.10	18.80	50.20	30.00	6.82	3.14	3.14	1.43	0.44	
14	0.16	2.90	12.40	5.10	24.80	73.60	30.00	6.57	3.14	2.90	1.43	0.44	
15	0.16	4.37	8.04	3.63	27.60	59.80	34.00	6.33	3.14	2.90	1.18	0.44	
16	0.15	2.40	6.08	2.90	28.00	37.60	23.20	6.08	2.90	2.65	0.93	0.44	
17	0.14	2.90	4.37	3.14	32.80	30.00	19.60	5.84	2.90	2.65	0.93	0.44	
18	0.16	4.61	3.39	4.61	134.40	33.20	36.40	5.59	2.90	2.65	0.93	0.44	
19	0.15	2.40	3.14	4.12	705.20	38.20	20.40	5.34	2.90	2.40	0.93	0.20	
20	1.18	1.91	4.12	2.90	429.00	58.00	16.40	5.34	2.65	2.16	0.93	0.20	
21	6.82	2.90	7.06	2.16	109.60	65.20	18.00	5.10	2.65	2.16	0.93	0.20	
22	10.40	7.80	5.84	1.67	77.80	34.00	18.40	5.10	2.65	2.16	0.93	0.19	
23	3.14	4.12	4.61	1.18	49.00	31.60	22.40	4.86	2.65	1.91	0.93	0.18	
24	1.18	2.40	3.63	1.43	40.60	31.60	19.60	4.86	2.65	1.91	0.93	0.18	
25	0.44	1.67	4.12	5.34	33.60	41.80	16.00	4.61	2.65	1.91	0.93	0.18	
26	0.20	4.61	6.82	36.40	28.80	32.80	13.60	4.61	2.65	1.91	0.93	0.18	
27	1.43	18.80	6.82	58.60	31.60	36.40	12.00	4.61	2.40	2.16	1.43	0.18	
28	6.82	13.20	8.28	24.00	32.80	26.80	10.40	4.37	2.65	2.16	1.43	0.17	
29	5.10	30.40	7.06	32.80	59.20	30.80	9.51	4.37	2.90	2.16	1.43	0.17	
30	3.39	25.60	5.84	48.40	86.80	59.20	9.27	4.37	3.87	2.16		0.17	
31		53.80		21.60	107.20		9.02		3.63	2.16		0.17	
Total	44.78	205.99	275.49	417.80	2502.20	1734.00	791.20	187.60	100.80	89.98	39.09	17.18	6406.11 CMSDAY
Mean	1.49	6.64	9.18	13.48	80.72	57.80	25.52	6.25	3.25	2.90	1.35	0.55	17.50 CMS
Max	10.40	53.80	27.20	58.60	705.20	173.80	61.60	8.78	4.37	4.37	2.16	2.16	705.20 CMS
Min	0.14	0.17	3.14	1.18	14.80	26.80	9.02	4.37	2.40	1.91	0.93	0.17	0.14 CMS
Runoff	3.869	17.798	23.802	36.098	216.190	149.818	68.360	16.209	8.709	7.774	3.377	1.484	553.488 MCM

Momentary Peak 779.00 CMS, at 8.70 M (A.D), at 12.00 Hours, on Aug 19, 1991
Runoff Yield 17.66 Liters/Second/Square KM, Momentary Peak Yield 786.07 Liters/Second/Square KM

WATER YEAR 1991

KHONG RIVER BASIN

Loei River at Ban Fak Na, Loei (Kh.58A)

Location — Lat. 17-29-35 N., Long. 101-44-19 E., on left bank at the bridge on road, Ban Fak Na, Amphoe Muang, Loei.

Drainage Area — 3,101 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +229.00 m.(M.S.L.)

Bench Mark — B.M.-Highways Dept.

Location — On left bank upstream side at the abutment of the bridge.

Elevation — +240.622 m.(M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1984 to date.

Rating Operation

Period of Rating — 1990 to date.

Rated by Float — -

Rated by Current Meter — 1990 to date.

Stability of Channel Regimes — Fairly stable.

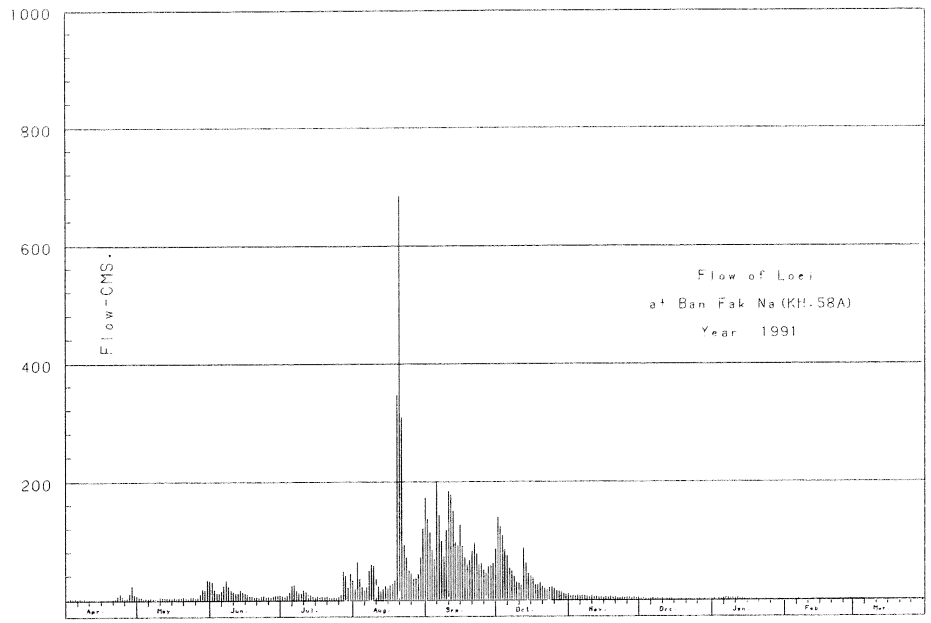
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 102 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	230.30	230.52	231.39	230.57	231.02	232.94	233.00	230.63	230.37	230.30	230.20	230.23	
2	230.32	230.43	230.98	230.56	231.96	232.67	232.78	230.61	230.35	230.29	230.19	230.24	
3	230.32	230.36	230.84	230.61	231.46	232.27	232.61	230.62	230.34	230.29	230.19	230.26	
4	230.32	230.34	230.78	230.87	231.15	232.01	232.29	230.64	230.34	230.32	230.20	230.26	
5	230.29	230.34	230.94	231.22	230.96	233.60	232.14	230.62	230.33	230.42	230.18	230.20	
6	230.29	230.33	231.18	231.22	231.10	233.04	231.78	230.60	230.32	230.40	230.17	230.17	
7	230.28	230.31	231.44	230.97	231.71	232.49	231.68	230.64	230.32	230.38	230.17	230.15	
8	230.28	230.28	231.15	230.80	231.86	232.10	231.55	230.55	230.32	230.39	230.18	230.16	
9	230.26	230.35	230.98	230.81	231.83	232.71	231.35	230.53	230.32	230.38	230.18	230.14	
10	230.25	230.47	230.87	230.95	231.48	233.46	231.34	230.59	230.32	230.39	230.19	230.12	
11	230.24	230.48	230.79	230.85	231.15	233.39	231.21	230.53	230.32	230.38	230.19	230.12	
12	230.22	230.46	230.82	230.74	230.93	233.12	232.32	230.51	230.31	230.35	230.18	230.09	
13	230.21	230.38	230.95	230.65	231.04	232.44	231.93	230.53	230.31	230.32	230.18	230.08	
14	230.23	230.36	230.89	230.60	231.20	232.39	231.61	230.50	230.31	230.32	230.18	230.06	
15	230.22	230.41	230.83	230.59	231.08	232.82	231.56	230.48	230.30	230.30	230.20	230.05	
16	230.21	230.44	230.71	230.56	231.20	232.36	231.49	230.48	230.28	230.28	230.18	230.04	
17	230.23	230.41	230.62	230.52	231.31	232.08	231.26	230.49	230.26	230.28	230.17	230.06	
18	230.22	230.39	230.56	230.50	231.41	231.87	231.23	230.50	230.25	230.28	230.16	230.06	
19	230.22	230.48	230.52	230.55	234.83	231.98	231.36	230.49	230.24	230.27	230.19	230.11	
20	230.23	230.48	230.50	230.53	236.90	232.24	231.15	230.45	230.25	230.25	230.17	230.08	
21	230.34	230.42	230.39	230.48	234.55	232.45	231.06	230.44	230.24	230.24	230.14	230.07	
22	230.58	230.37	230.61	230.44	232.40	232.19	231.00	230.43	230.25	230.23	230.16	230.08	
23	230.79	230.53	230.59	230.42	232.06	231.86	231.08	230.43	230.23	230.22	230.17	230.07	
24	230.52	230.51	230.53	230.46	231.71	231.91	231.16	230.44	230.22	230.22	230.18	230.06	
25	230.38	230.39	230.49	230.50	231.61	231.71	231.04	230.44	230.22	230.22	230.17	230.04	
26	230.33	230.45	230.52	230.74	231.45	231.64	230.96	230.44	230.23	230.22	230.17	230.03	
27	230.82	230.78	230.62	231.69	231.49	231.81	230.92	230.42	230.22	230.22	230.25	230.02	
28	231.22	231.05	230.63	231.55	231.61	231.84	230.85	230.43	230.24	230.22	230.30	230.02	
29	230.70	230.96	230.68	231.14	232.09	231.90	230.80	230.42	230.25	230.20	230.25	230.01	
30	230.61	231.45	230.64	231.63	232.74	232.32	230.70	230.40	230.27	230.20		230.01	
31		231.41		231.42	233.35		230.75		230.34	230.21		230.04	
Mean	230.38	230.53	230.78	230.81	231.96	232.39	231.48	230.51	230.29	230.29	230.19	230.10	
Max	231.22	231.45	231.44	231.69	236.90	233.60	233.00	230.64	230.37	230.42	230.30	230.26	236.90
Min	230.21	230.28	230.39	230.42	230.93	231.64	230.70	230.40	230.22	230.20	230.14	230.01	230.01

Annual Max Momentary Gage Height 237.05 M (MSL), at 12.00 Hours, on Aug 12, 1991
Zero Gage at Bottom Elevation 229.47 M (MSL), River Bed 229.47 M (MSL)
Left Bank Elevation 240.39 M (MSL)
Right Bank Elevation 238.43 M (MSL), Drainage Area 3101 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.60	5.66	31.60	6.56	18.64	137.20	142.00	7.73	3.44	2.60	1.60	1.90	
2	2.84	4.25	17.36	6.38	65.60	115.60	124.40	7.31	3.20	2.50	1.51	2.00	
3	2.84	3.32	13.00	7.31	35.60	84.20	110.80	7.52	3.08	2.50	1.51	2.20	
4	2.84	3.08	11.28	13.90	22.80	68.60	85.40	7.94	3.08	2.84	1.60	2.20	
5	2.50	3.08	16.08	25.12	16.72	200.00	76.40	7.52	2.96	4.10	1.42	1.60	
6	2.50	2.96	23.76	25.12	21.20	145.20	54.80	7.10	2.84	3.80	1.33	1.33	
7	2.40	2.72	34.40	17.04	50.60	101.20	48.80	7.94	2.84	3.56	1.33	1.15	
8	2.40	2.40	22.80	11.80	59.60	74.00	41.00	6.20	2.84	3.68	1.42	1.24	
9	2.20	3.20	17.36	12.10	57.80	118.80	30.00	5.84	2.84	3.56	1.42	1.06	
10	2.10	4.85	13.90	16.40	36.80	186.00	29.60	6.92	2.84	3.68	1.51	0.88	
11	2.00	5.00	11.54	13.30	22.80	179.00	24.76	5.84	2.84	3.56	1.51	0.88	
12	1.80	4.70	12.40	10.24	15.76	152.00	87.60	5.48	2.72	3.20	1.42	0.63	
13	1.70	3.56	16.40	8.15	19.28	97.20	63.80	5.84	2.72	2.84	1.42	0.56	
14	1.90	3.32	14.50	7.10	24.40	93.20	44.60	5.30	2.72	2.84	1.42	0.42	
15	1.80	3.95	12.70	6.92	20.56	127.60	41.60	5.00	2.60	2.60	1.60	0.35	
16	1.70	4.40	9.46	6.38	24.40	90.80	37.40	5.00	2.40	2.40	1.42	0.28	
17	1.90	3.95	7.52	5.66	28.40	72.80	26.56	5.15	2.20	2.40	1.33	0.42	
18	1.80	3.68	6.38	5.30	32.60	60.20	25.48	5.30	2.10	2.40	1.24	0.42	
19	1.80	5.00	5.66	6.20	348.20	66.80	30.40	5.15	2.00	2.30	1.51	0.79	
20	1.90	5.00	5.30	5.84	686.00	82.40	22.80	4.55	2.10	2.10	1.33	0.56	
21	3.08	4.10	3.68	5.00	309.00	98.00	19.92	4.40	2.00	2.00	1.06	0.49	
22	6.74	3.44	7.31	4.40	94.00	79.40	18.00	4.25	2.10	1.90	1.24	0.56	
23	11.54	5.84	6.92	4.10	71.60	59.60	20.56	4.25	1.90	1.80	1.33	0.49	
24	5.66	5.48	5.84	4.70	50.60	62.60	23.12	4.40	1.80	1.80	1.42	0.42	
25	3.56	3.68	5.15	5.30	44.60	50.60	19.28	4.40	1.80	1.80	1.33	0.28	
26	2.96	4.55	5.66	10.24	35.00	46.40	16.72	4.40	1.90	1.80	1.33	0.21	
27	12.40	11.28	7.52	49.40	37.40	56.60	15.44	4.10	1.80	1.80	2.10	0.14	
28	25.12	19.60	7.73	41.00	44.60	58.40	13.30	4.25	2.00	1.80	2.60	0.14	
29	9.20	16.72	8.78	22.48	73.40	62.00	11.80	4.10	2.10	1.60	2.10	0.07	
30	7.31	35.00	7.94	45.80	121.20	87.60	9.20	3.80	2.30	1.60		0.07	
31		32.60		33.20	175.00		10.50		3.08	1.70		0.28	
Total	131.09	220.37	369.93	442.44	2664.16	2914.00	1326.04	166.98	77.14	79.06	43.36	24.02	8458.59 CMSDAY
Mean	4.37	7.11	12.33	14.27	85.94	97.13	42.78	5.57	2.49	2.55	1.50	0.77	23.11 CMS
Max	25.12	35.00	34.40	49.40	686.00	200.00	142.00	7.94	3.44	4.10	2.60	2.20	686.00 CMS
Min	1.70	2.40	3.68	4.10	15.76	46.40	9.20	3.80	1.80	1.60	1.06	0.07	0.07 CMS
Runoff	11.326	19.040	31.962	38.227	230.183	251.770	114.570	14.427	6.665	6.831	3.746	2.075	730.822 MCM

Momentary Peak 714.00 CMS, at 237.05 M (MSL), at 12.00 Hours, on Aug 12, 1991

Runoff Yield 7.45 Liters/Second/Square KM, Momentary Peak Yield 230.25 Liters/Second/Square KM

WATER YEAR 1991

KHONG RIVER BASIN

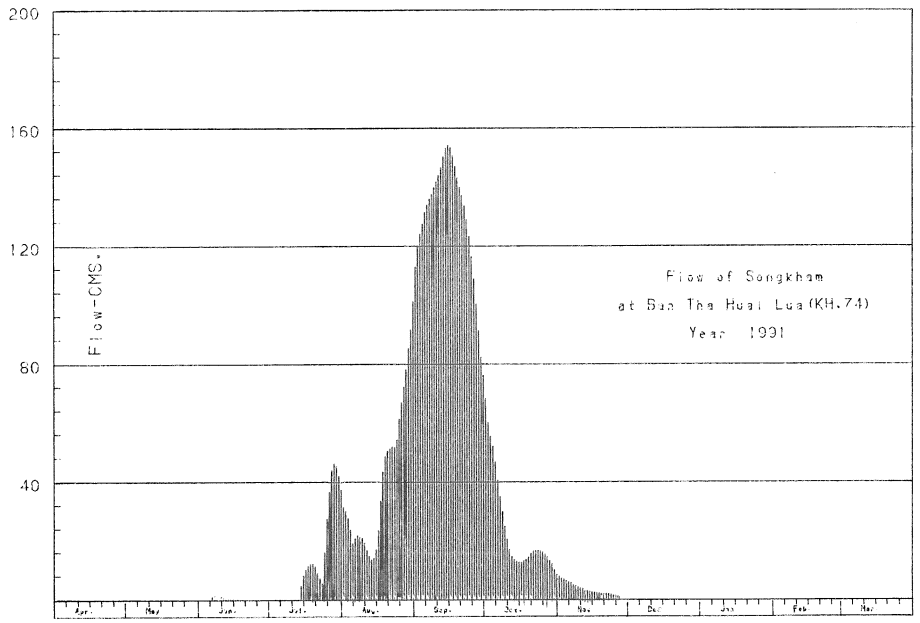
Songkram River at Ban Tha Huai Lua, Sakon Nakhon (Kh.74)

Location	Lat. 17-49-05 N., Long. 103-23-28 E., on left bank at Ban Tha Huai Lua, Amphoe Ban Muang, Sakon Nakhon.
Drainage Area	2,145 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank at the abutment of the bridge.
Elevation	+11.633 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.0o, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1983 to date.
Rating Operation	
Period of Rating	1984 to date.
Rated by Float	-
Rated by Current Meter	1984 to date.
Stability of Channel Regimes	Rather unstable because of backwater effect.
Overbank Flow Conditions	Overbank flow starts at elevation +3.96 m.(A.D.) and is included.
General Description	Records fair. Stage-discharge relation defined by 101 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.89	1.88	1.87	1.90	3.82	7.14	5.63	2.26	1.97	1.93	1.94	1.88	
2	1.89	1.88	1.87	1.90	3.73	7.33	5.29	2.23	1.97	1.93	1.94	1.88	
3	1.89	1.88	1.88	1.91	3.58	7.45	5.07	2.22	1.97	1.94	1.93	1.88	
4	1.89	1.88	1.90	1.91	3.31	7.54	4.91	2.20	1.97	1.94	1.93	1.88	
5	1.89	1.88	1.91	1.90	2.96	7.64	4.64	2.18	1.96	1.94	1.93	1.88	
6	1.89	1.88	1.97	1.90	3.09	7.71	4.33	2.17	1.95	1.94	1.93	1.88	
7	1.89	1.86	1.99	1.89	3.17	7.76	4.03	2.14	1.95	1.94	1.93	1.88	
8	1.89	1.86	1.97	1.89	3.12	7.80	3.72	2.13	1.95	1.95	1.93	1.88	
9	1.89	1.88	1.96	1.89	3.10	7.86	3.39	2.11	1.94	1.95	1.93	1.88	
10	1.89	1.89	1.97	1.89	2.97	7.91	3.07	2.10	1.94	1.95	1.93	1.88	
11	1.89	1.88	1.95	1.90	2.78	7.96	2.80	2.09	1.94	1.95	1.93	1.88	
12	1.89	1.88	1.94	1.90	2.62	8.03	2.62	2.06	1.95	1.95	1.93	1.88	
13	1.89	1.88	1.94	1.90	2.53	8.12	2.53	2.06	1.95	1.95	1.93	1.88	
14	1.89	1.88	1.94	2.13	2.57	8.19	2.49	2.05	1.95	1.94	1.93	1.88	
15	1.89	1.88	1.93	2.27	2.80	8.22	2.46	2.04	1.95	1.94	1.93	1.88	
16	1.88	1.88	1.92	2.34	3.29	8.20	2.45	2.04	1.95	1.95	1.93	1.88	
17	1.88	1.88	1.92	2.38	3.95	8.13	2.50	2.03	1.95	1.95	1.92	1.88	
18	1.88	1.88	1.92	2.41	4.47	8.04	2.54	2.03	1.94	1.95	1.91	1.88	
19	1.88	1.87	1.91	2.42	4.74	7.94	2.59	2.02	1.94	1.95	1.91	1.88	
20	1.89	1.87	1.90	2.38	4.83	7.86	2.69	2.02	1.93	1.94	1.91	1.88	
21	1.89	1.88	1.90	2.30	4.87	7.79	2.75	2.02	1.93	1.93	1.91	1.87	
22	1.89	1.88	1.89	2.23	4.90	7.70	2.77	2.02	1.92	1.93	1.90	1.87	
23	1.89	1.88	1.88	2.16	4.89	7.58	2.77	2.01	1.91	1.94	1.90	1.87	
24	1.89	1.88	1.89	2.73	5.01	7.43	2.76	2.00	1.93	1.96	1.90	1.87	
25	1.89	1.88	1.89	3.57	5.34	7.24	2.73	1.99	1.95	1.95	1.89	1.87	
26	1.89	1.88	1.89	4.12	5.57	7.02	2.68	1.98	1.94	1.94	1.89	1.87	
27	1.89	1.88	1.90	4.50	5.79	6.75	2.61	1.96	1.94	1.94	1.88	1.87	
28	1.89	1.88	1.90	4.62	6.01	6.45	2.51	1.94	1.93	1.94	1.88	1.87	
29	1.89	1.88	1.90	4.57	6.25	6.15	2.41	1.94	1.93	1.96	1.88	1.87	
30	1.89	1.88	1.91	4.41	6.46	5.94	2.34	1.96	1.93	1.99		1.86	
31		1.87		4.16	6.78		2.28		1.93	1.95		1.86	
Mean	1.89	1.88	1.92	2.59	4.17	7.56	3.17	2.07	1.94	1.95	1.92	1.88	
Max	1.89	1.89	1.99	4.62	6.78	8.22	5.63	2.26	1.97	1.99	1.94	1.88	8.22
Min	1.88	1.86	1.87	1.89	2.53	5.94	2.28	1.94	1.91	1.93	1.88	1.86	1.86

Annual Max Momentary Gage Height 8.22 M (A.D), at 5.00 Hours, on Sep 15, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.35 M (A.D)
Left Bank Elevation 5.35 M (A.D)
Right Bank Elevation 3.95 M (A.D), Drainage Area 2145 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.00	0.00	31.52	112.90	68.32	8.00	0.00	0.00	0.00	0.00	
2	0.00	0.00	0.00	0.00	30.08	119.68	60.18	7.25	0.00	0.00	0.00	0.00	
3	0.00	0.00	0.00	0.15	27.70	124.10	55.47	7.00	0.00	0.00	0.00	0.00	
4	0.00	0.00	0.00	0.15	23.84	127.52	52.11	6.50	0.00	0.00	0.00	0.00	
5	0.00	0.00	0.15	0.00	19.18	131.32	46.70	6.00	0.00	0.00	0.00	0.00	
6	0.00	0.00	1.05	0.00	20.87	133.99	40.57	5.75	0.00	0.00	0.00	0.00	
7	0.00	0.00	1.35	0.00	21.91	135.94	35.04	5.00	0.00	0.00	0.00	0.00	
8	0.00	0.00	1.05	0.00	21.26	137.50	29.92	4.75	0.00	0.00	0.00	0.00	
9	0.00	0.00	0.90	0.00	21.00	139.90	24.96	4.25	0.00	0.00	0.00	0.00	
10	0.00	0.00	1.05	0.00	19.31	141.90	20.61	4.00	0.00	0.00	0.00	0.00	
11	0.00	0.00	0.75	0.00	16.84	143.90	17.10	3.75	0.00	0.00	0.00	0.00	
12	0.00	0.00	0.60	0.00	14.76	146.70	14.76	3.00	0.00	0.00	0.00	0.00	
13	0.00	0.00	0.60	0.00	13.59	150.30	13.59	3.00	0.00	0.00	0.00	0.00	
14	0.00	0.00	0.60	4.75	14.11	153.10	13.08	2.75	0.00	0.00	0.00	0.00	
15	0.00	0.00	0.45	8.25	17.10	154.36	12.72	2.50	0.00	0.00	0.00	0.00	
16	0.00	0.00	0.30	10.20	23.56	153.50	12.60	2.50	0.00	0.00	0.00	0.00	
17	0.00	0.00	0.30	11.40	33.65	150.70	13.20	2.25	0.00	0.00	0.00	0.00	
18	0.00	0.00	0.30	12.12	43.30	147.10	13.72	2.25	0.00	0.00	0.00	0.00	
19	0.00	0.00	0.15	12.24	48.70	143.10	14.37	2.00	0.00	0.00	0.00	0.00	
20	0.00	0.00	0.00	11.40	50.50	139.90	15.67	2.00	0.00	0.00	0.00	0.00	
21	0.00	0.00	0.00	9.00	51.30	137.11	16.45	2.00	0.00	0.00	0.00	0.00	
22	0.00	0.00	0.00	7.25	51.90	133.60	16.71	2.00	0.00	0.00	0.00	0.00	
23	0.00	0.00	0.00	5.50	51.70	129.04	16.71	1.75	0.00	0.00	0.00	0.00	
24	0.00	0.00	0.00	16.19	54.21	123.34	16.58	1.50	0.00	0.00	0.00	0.00	
25	0.00	0.00	0.00	27.55	61.36	116.44	16.19	1.35	0.00	0.00	0.00	0.00	
26	0.00	0.00	0.00	36.66	66.88	108.86	15.54	1.20	0.00	0.00	0.00	0.00	
27	0.00	0.00	0.00	43.90	72.25	100.30	14.63	0.90	0.00	0.00	0.00	0.00	
28	0.00	0.00	0.00	46.30	78.10	91.30	13.33	0.00	0.00	0.00	0.00	0.00	
29	0.00	0.00	0.00	45.30	85.30	82.30	12.12	0.00	0.00	0.00	0.00	0.00	
30	0.00	0.00	0.15	42.10	91.60	76.12	10.20	0.00	0.00	0.00		0.00	
31		0.00		37.38	101.20		8.50		0.00	0.00		0.00	
Total	0.00	0.00	9.75	387.79	1278.58	3885.82	731.65	95.20	0.00	0.00	0.00	0.00	6388.79 CMSDAY
Mean	0.00	0.00	0.32	12.51	41.24	129.53	23.60	3.17	0.00	0.00	0.00	0.00	17.46 CMS
Max	0.00	0.00	1.35	46.30	101.20	154.36	68.32	8.00	0.00	0.00	0.00	0.00	154.36 CMS
Min	0.00	0.00	0.00	0.00	13.59	76.12	8.50	0.00	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	0.000	0.000	0.842	33.505	110.469	335.735	63.215	8.225	0.000	0.000	0.000	0.000	551.992 MCM

Momentary Peak 154.36 CMS, at 8.22 M (A.D), at 5.00 Hours, on Sep 15, 1991
Runoff Yield 8.14 Liters/Second/Square KM, Momentary Peak Yield 71.96 Liters/Second/Square KM

WATER YEAR 1991

KHONG RIVER BASIN

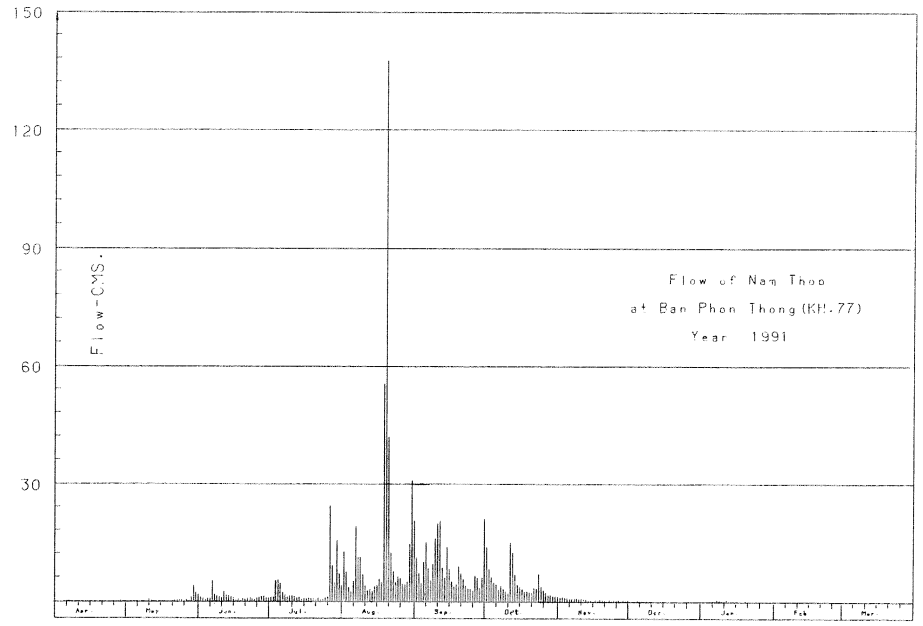
Nam Thop at Ban Phon Thong, Loei (Kh.77)

Location	Lat. 17-15-51 N., Long. 101-39-26 E., on left bank at Ban Phon Thong, Amphoe Wang Saphung, Loei.
Drainage Area	142 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank near the measuring line.
Elevation	+7.608 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1983 to date.
Rating Operation	
Period of Rating	1984 to date.
Rated by Float	-
Rated by Current Meter	1984 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 144 discharge measurements in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.40	0.41	0.65	0.61	1.52	1.44	1.57	0.64	0.46	0.40	0.39	0.35	
2	0.40	0.39	0.55	0.66	1.22	1.21	1.28	0.65	0.44	0.41	0.39	0.34	
3	0.39	0.39	0.50	1.08	0.97	1.03	1.14	0.63	0.44	0.43	0.37	0.34	
4	0.39	0.38	0.54	1.10	0.85	1.39	1.06	0.62	0.45	0.47	0.38	0.34	
5	0.39	0.38	0.58	1.03	1.07	1.62	1.01	0.60	0.45	0.45	0.36	0.35	
6	0.38	0.38	1.09	0.85	1.77	1.28	0.92	0.59	0.43	0.46	0.37	0.34	
7	0.38	0.38	0.80	0.74	1.45	1.09	0.98	0.58	0.43	0.47	0.36	0.32	
8	0.38	0.38	0.72	0.65	1.44	1.35	0.93	0.57	0.44	0.49	0.38	0.33	
9	0.38	0.42	0.64	0.72	1.19	1.65	0.86	0.56	0.43	0.48	0.37	0.32	
10	0.37	0.49	0.62	0.74	0.99	1.79	0.83	0.54	0.42	0.47	0.37	0.33	
11	0.37	0.47	0.85	0.67	0.90	1.82	1.61	0.55	0.41	0.48	0.37	0.34	
12	0.37	0.42	0.76	0.62	0.91	1.30	1.51	0.55	0.42	0.44	0.38	0.34	
13	0.36	0.40	0.71	0.62	0.88	1.13	1.18	0.54	0.42	0.44	0.37	0.38	
14	0.36	0.40	0.68	0.58	0.97	1.57	1.02	0.54	0.42	0.43	0.36	0.35	
15	0.37	0.40	0.60	0.55	1.01	1.27	0.96	0.52	0.42	0.43	0.36	0.35	
16	0.36	0.40	0.56	0.56	1.11	1.08	0.93	0.51	0.40	0.42	0.35	0.34	
17	0.37	0.40	0.53	0.57	1.05	0,98	0.85	0.50	0.39	0.42	0.34	0.34	
18	0.36	0.40	0.52	0.57	2.69	1.01	0.88	0.49	0.39	0.42	0.32	0.33	
19	0.36	0.41	0.51	0.56	3.96	1.32	0.84	0.50	0.39	0.45	0.32	0.34	
20	0.36	0.40	0.57	0.55	2.40	1.20	0.83	0.49	0.39	0.42	0.33	0.32	
21	0.38	0.47	0.61	0.57	1.50	1.12	0.94	0.48	0.39	0.42	0.35	0.33	
22	0.38	0.48	0.54	0.50	1.24	0.99	0.93	0.48	0.38	0.43	0.34	0.34	
23	0.38	0.48	0.51	0.49	1.06	0.94	1.20	0.47	0.37	0.42	0.33	0.34	
24	0.37	0.44	0.52	0.59	1.15	0.92	0.98	0.47	0.38	0.40	0.34	0.34	
25	0.36	0.45	0.62	0.67	1.13	0.90	0.91	0.47	0.41	0.39	0.35	0.33	
26	0.36	0.45	0.63	1.94	1.02	1.17	0.83	0.46	0.41	0.39	0.34	0.33	
27	0.38	0.44	0.70	1.32	1.02	1.13	0.78	0.46	0.40	0.39	0.34	0.34	
28	0.43	0.67	0.68	1.05	1.06	0.95	0.75	0.46	0.40	0.39	0.33	0.34	
29	0.41	1.00	0.61	1.63	1.60	1.13	0.72	0.46	0.41	0.40	0.36	0.32	
30	0.42	0.83	0.57	1.20	2.12	1.83	0.69	0.46	0.41	0.41		0.32	
31		0.76		0.99	1.82		0.66		0.40	0.40		0.35	
Mean	0.38	0.47	0.63	0.81	1.39	1.25	0.99	0.53	0.41	0.43	0.36	0.34	
Max	0.43	1.00	1.09	1.94	3.96	1.83	1.61	0.65	0.46	0.49	0.39	0.38	3.96
Min	0.36	0.38	0.50	0.49	0.85	0.90	0.66	0.46	0.37	0.39	0.32	0.32	0.32

Annual Max Momentary Gage Height 4.23 M (A.D), at 9.00 Hours, on Aug 19, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.65 M (A.D)
Left Bank Elevation 7.59 M (A.D)
Right Bank Elevation 7.92 M (A.D), Drainage Area 142 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.20	0.24	1.25	1.08	12.88	11.20	14.08	1.21	0.45	0.20	0.18	0.10	
2	0.20	0.18	0.83	1.29	7.52	7.36	8.48	1.25	0.37	0.24	0.18	0.08	
3	0.18	0.18	0.62	5.32	3.84	4.62	6.24	1.17	0.37	0.33	0.14	0.08	
4	0.18	0.16	0.79	5.60	2.50	10.24	5.04	1.12	0.41	0.49	0.16	0.08	
5	0.18	0.16	0.96	4.62	5.18	15.32	4.34	1.04	0.41	0.41	0.12	0.10	
6	0.16	0.16	5.46	2.50	19.36	8.48	3.24	1.00	0.33	0.45	0.14	0.08	
7	0.16	0.16	2.00	1.68	11.40	5.46	3.96	0.96	0.33	0.49	0.12	0.04	
8	0.16	0.16	1.57	1.25	11.20	9.60	3.36	0.91	0.37	0.58	0.16	0.06	
9	0.16	0.28	1.21	1.57	7.04	16.10	2.60	0.87	0.33	0.54	0.14	0.04	
10	0.14	0.58	1.12	1.68	4.08	19.92	2.30	0.79	0.28	0.49	0.14	0.06	
11	0.14	0.49	2.50	1.33	3.00	20.84	15.06	0.83	0.24	0.54	0.14	0.08	
12	0.14	0.28	1.78	1.12	3.12	8.80	12.64	0.83	0.28	0.37	0.16	0.08	
13	0.12	0.20	1.51	1.12	2.80	6.08	6.88	0.79	0.28	0.37	0.14	0.16	
14	0.12	0.20	1.38	0.96	3.84	14.08	4.48	0.79	0.28	0.33	0.12	0.10	
15	0.14	0.20	1.04	0.83	4.34	8.32	3.72	0.70	0.28	0.33	0.12	0.10	
16	0.12	0.20	0.87	0.87	5.76	5.32	3.36	0.66	0.20	0.28	0.10	0.08	
17	0.14	0.20	0.75	0.91	4.90	3.96	2.50	0.62	0.18	0.28	0.08	0.08	
18	0.12	0.20	0.70	0.91	55.70	4.34	2.80	0.58	0.18	0.28	0.04	0.06	
19	0.12	0.24	0.66	0.87	137.80	9.12	2.40	0.62	0.18	0.41	0.04	0.08	
20	0.12	0.20	0.91	0.83	42.00	7.20	2.30	0.58	0.18	0.28	0.06	0.04	
21	0.16	0.49	1.08	0.91	12.40	5.92	3.48	0.54	0.18	0.28	0.10	0.06	
22	0.16	0.54	0.79	0.62	7.84	4.08	3.36	0.54	0.16	0.33	0.08	0.08	
23	0.16	0.54	0.66	0.58	5.04	3.48	7.20	0.49	0.14	0.28	0.06	0.08	
24	0.14	0.37	0.70	1.00	6.40	3.24	3.96	0.49	0.16	0.20	0.08	0.08	
25	0.12	0.41	1.12	1.33	6.08	3.00	3.12	0.49	0.24	0.18	0.10	0.06	
26	0.12	0.41	1.17	24.68	4.48	6.72	2.30	0.45	0.24	0.18	0.08	0.06	
27	0.16	0.37	1.46	9.12	4.48	6.08	1.89	0.45	0.20	0.18	0.08	0.08	
28	0.33	1.33	1.38	4.90	5.04	3.60	1.73	0.45	0.20	0.18	0.06	0.08	
29	0.24	4.20	1.08	15.58	14.80	6.08	1.57	0.45	0.24	0.20	0.12	0.04	
30	0.28	2.30	0.91	7.20	30.76	21.16	1.42	0.45	0.24	0.24		0.04	
31		1.78		4.08	20.84		1.29		0.20	0.20		0.10	
Total	4.87	17.41	38.26	106.34	466.42	259.72	141.10	22.12	8.13	10.14	3.24	2.34	1080.09 CMSDAY
Mean	0.16	0.56	1.28	3.43	15.05	8.66	4.55	0.74	0.26	0.33	0.11	0.08	2.95 CMS
Max	0.33	4.20	5.46	24.68	137.80	21.16	15.06	1.25	0.45	0.58	0.18	0.16	137.80 CMS
Min	0.12	0.16	0.62	0.58	2.50	3.00	1.29	0.45	0.14	0.18	0.04	0.04	0.04 CMS
Runoff	0.421	1.504	3.306	9.188	40.299	22.440	12.191	1.911	0.702	0.876	0.280	0.202	93.320 MCM

Momentary Peak 159.70 CMS, at 4.23 M (A.D), at 9.00 Hours, on Aug 19, 1991
Runoff Yield 20.78 Liters/Second/Square KM, Momentary Peak Yield 1124.65 Liters/Second/Square KM

WATER YEAR 1991

KHONG RIVER BASIN

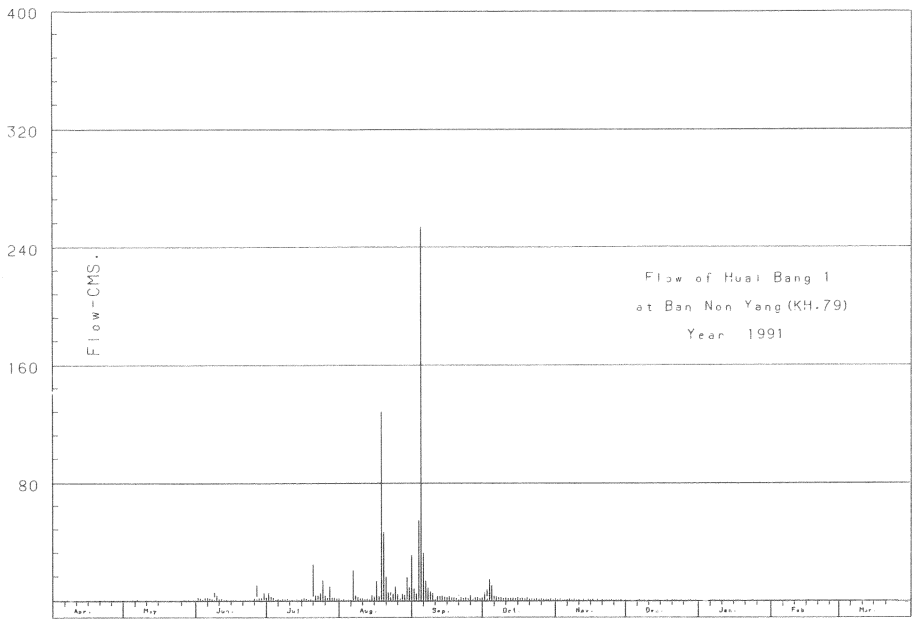
Huai Bang I at Ban Non Yang, Muk Dahan (Kh.79)

Location	Lat.16-28-49 N., Long. 104-20-08 E., on right bank at the bridge on highway, Ban Non Yang, Amphoe Kham Cha I, Muk Dahan.
Drainage Area	110 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	At abutment of the bridge.
Elevation	+9.673 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1984 to date.
Rating Operation	
Period of Rating	1984 to date.
Rated by Float	-
Rated by Current Meter	1984 to date.
Stability of Channel Regimes	Rather unstable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 29 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.43	0.42	0.83	1.11	0.61	1.33	1.13	0.58	0.48	0.44	0.41	0.39	
2	0.43	0.42	0.61	0.91	0.59	1.07	1.28	0.58	0.48	0.44	0.41	0.40	
3	0.43	0.42	0.51	0.71	0.58	3.00	1.65	0.57	0.48	0.44	0.41	0.38	
4	0.43	0.44	0.79	0.64	0.58	6.03	1.42	0.57	0.47	0.44	0.41	0.38	
5	0.43	0.44	0.79	0.61	0.53	2.37	0.97	0.57	0.47	0.45	0.40	0.39	
6	0.43	0.43	0.65	0.57	1.94	1.60	0.88	0.57	0.47	0.45	0.40	0.39	
7	0.43	0.43	0.55	0.54	1.00	1.34	0.83	0.56	0.47	0.45	0.41	0.38	
8	0.43	0.42	1.16	0.60	0.82	1.21	0.78	0.56	0.47	0.45	0.40	0.38	
9	0.43	0.42	0.95	0.56	0.72	1.10	0.75	0.55	0.46	0.45	0.41	0.38	
10	0.43	0.42	0.62	0.54	0.66	1.07	0.73	0.55	0.46	0.44	0.41	0.38	
11	0.43	0.42	0.57	0.55	0.63	1.03	0.75	0.54	0.46	0.44	0.41	0.37	
12	0.43	0.42	0.52	0.52	0.60	0.95	0.77	0.54	0.46	0.44	0.41	0.37	
13	0.43	0.42	0.49	0.60	0.58	0.93	0.70	0.53	0.46	0.44	0.41	0.37	
14	0.43	0.43	0.46	0.63	0.98	0.90	0.71	0.53	0.47	0.43	0.42	0.37	
15	0.43	0.42	0.45	0.62	0.92	0.87	0.78	0.53	0.46	0.43	0.41	0.38	
16	0.43	0.42	0.45	0.76	1.57	0.89	0.74	0.52	0.45	0.43	0.41	0.38	
17	0.42	0.42	0.44	0.59	0.94	0.83	0.69	0.52	0.45	0.43	0.39	0.37	
18	0.42	0.42	0.44	0.55	4.41	0.79	0.67	0.52	0.44	0.43	0.40	0.38	
19	0.42	0.42	0.44	0.53	2.77	0.76	0.75	0.52	0.45	0.43	0.40	0.38	
20	0.42	0.42	0.43	2.10	1.74	1.03	0.76	0.52	0.45	0.42	0.40	0.38	
21	0.42	0.43	0.43	0.96	1.17	0.82	0.66	0.51	0.49	0.42	0.40	0.38	
22	0.42	0.42	0.43	0.98	1.13	0.77	0.65	0.51	0.46	0.42	0.40	0.38	
23	0.42	0.42	0.42	1.10	1.10	0.75	0.63	0.51	0.45	0.42	0.40	0.39	
24	0.42	0.42	0.44	1.62	1.38	0.73	0.63	0.50	0.45	0.42	0.39	0.38	
25	0.42	0.42	0.83	0.93	1.04	0.97	0.62	0.50	0.45	0.42	0.39	0.38	
26	0.42	0.42	1.45	0.80	0.88	0.84	0.61	0.50	0.44	0.42	0.39	0.37	
27	0.42	0.43	0.74	1.38	1.10	0.84	0.60	0.50	0.44	0.41	0.39	0.37	
28	0.42	0.43	0.68	0.82	1.00	0.80	0.60	0.49	0.44	0.41	0.39	0.38	
29	0.42	0.44	1.13	0.75	1.72	0.72	0.59	0.49	0.44	0.41	0.38	0.37	
30	0.42	0.44	0.76	0.70	1.35	0.75	0.59	0.49	0.44	0.41		0.37	
31		0.43		0.66	2.30		0.58		0.44	0.41		0.37	
Mean	0.43	0.42	0.65	0.80	1.20	1.24	0.79	0.53	0.46	0.43	0.40	0.38	
Max	0.43	0.44	1.45	2.10	4.41	6.03	1.65	0.58	0.49	0.45	0.42	0.40	6.03
Min	0.42	0.42	0.42	0.52	0.53	0.72	0.58	0.49	0.44	0.41	0.38	0.37	0.37

Annual Max Momentary Gage Height 7.36 M (A.D), at 16.00 Hours, on Sep 4, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.05 M (A.D)
Left Bank Elevation 9.45 M (A.D)
Right Bank Elevation 9.44 M (A.D), Drainage Area 110 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.52	0.48	2.41	5.14	1.25	8.54	5.42	1.12	0.72	0.56	0.44	0.36	
2	0.52	0.48	1.25	2.99	1.16	4.64	7.68	1.12	0.72	0.56	0.44	0.40	
3	0.52	0.48	0.84	1.75	1.12	54.90	14.80	1.08	0.72	0.56	0.44	0.32	
4	0.52	0.56	2.15	1.40	1.12	254.00	10.20	1.08	0.68	0.56	0.44	0.32	
5	0.52	0.56	2.15	1.25	0.92	32.90	3.53	1.08	0.68	0.60	0.40	0.36	
6	0.52	0.52	1.45	1.08	20.96	13.80	2.76	1.08	0.68	0.60	0.40	0.36	
7	0.52	0.52	1.00	0.96	3.80	8.72	2.41	1.04	0.68	0.60	0.44	0.32	
8	0.52	0.48	5.84	1.20	2.34	6.56	2.10	1.04	0.68	0.60	0.40	0.32	
9	0.52	0.48	3.35	1.04	1.80	5.00	1.95	1.00	0.64	0.60	0.44	0.32	
10	0.52	0.48	1.30	0.96	1.50	4.64	1.85	1.00	0.64	0.56	0.44	0.32	
11	0.52	0.48	1.08	1.00	1.35	4.16	1.95	0.96	0.64	0.56	0.44	0.28	
12	0.52	0.48	0.88	0.88	1.20	3.35	2.05	0.96	0.64	0.56	0.44	0.28	
13	0.52	0.48	0.76	1.20	1.12	3.17	1.70	0.92	0.64	0.56	0.44	0.28	
14	0.52	0.52	0.64	1.35	3.62	2.90	1.75	0.92	0.68	0.52	0.48	0.28	
15	0.52	0.48	0.60	1.30	3.08	2.69	2.10	0.92	0.64	0.52	0.44	0.32	
16	0.52	0.48	0.60	2.00	13.20	2.83	1.90	0.88	0.60	0.52	0.44	0.32	
17	0.48	0.48	0.56	1.16	3.26	2.41	1.65	0.88	0.60	0.52	0.36	0.28	
18	0.48	0.48	0.56	1.00	128.84	2.15	1.55	0.88	0.56	0.52	0.40	0.32	
19	0.48	0.48	0.56	0.92	46.39	2.00	1.95	0.88	0.60	0.52	0.40	0.32	
20	0.48	0.48	0.52	25.00	16.60	4.16	2.00	0.88	0.60	0.48	0.40	0.32	
21	0.48	0.52	0.52	3.44	5.98	2.34	1.50	0.84	0.76	0.48	0.40	0.32	
22	0.48	0.48	0.52	3.62	5.42	2.05	1.45	0.84	0.64	0.48	0.40	0.32	
23	0.48	0.48	0.48	5.00	5.00	1.95	1.35	0.84	0.60	0.48	0.40	0.36	
24	0.48	0.48	0.56	14.20	9.44	1.85	1.35	0.80	0.60	0.48	0.36	0.32	
25	0.48	0.48	2.41	3.17	4.28	3.53	1.30	0.80	0.60	0.48	0.36	0.32	
26	0.48	0.48	10.80	2.20	2.76	2.48	1.25	0.80	0.56	0.48	0.36	0.28	
27	0.48	0.52	1.90	9.44	5.00	2.48	1.20	0.80	0.56	0.44	0.36	0.28	
28	0.48	0.52	1.60	2.34	3.80	2.20	1.20	0.76	0.56	0.44	0.36	0.32	
29	0.48	0.56	5.42	1.95	16.20	1.80	1.16	0.76	0.56	0.44	0.32	0.28	
30	0.48	0.56	2.00	1.70	8.90	1.95	1.16	0.76	0.56	0.44		0.28	
31		0.52		1.50	30.80		1.12		0.56	0.44		0.28	
Total	15.04	15.48	54.71	102.14	352.21	446.15	85.34	27.72	19.60	16.16	11.84	9.76	1156.15 CMSDAY
Mean	0.50	0.50	1.82	3.29	11.36	14.87	2.75	0.92	0.63	0.52	0.41	0.31	3.16 CMS
Max	0.52	0.56	10.80	25.00	128.84	254.00	14.80	1.12	0.76	0.60	0.48	0.40	254.00 CMS
Min	0.48	0.48	0.48	0.88	0.92	1.80	1.12	0.76	0.56	0.44	0.32	0.28	0.28 CMS
Runoff	1.299	1.337	4.727	8.825	30.431	38.547	7.373	2.395	1.693	1.396	1.023	0.843	99.891 MCM

Momentary Peak 380.28 CMS, at 7.36 M (A.D), at 16.00 Hours, on Sep 4, 1991
Runoff Yield 28.72 Liters/Second/Square KM, Momentary Peak Yield 3457.09 Liters/Second/Square KM

WATER YEAR 1991

KHONG RIVER BASIN

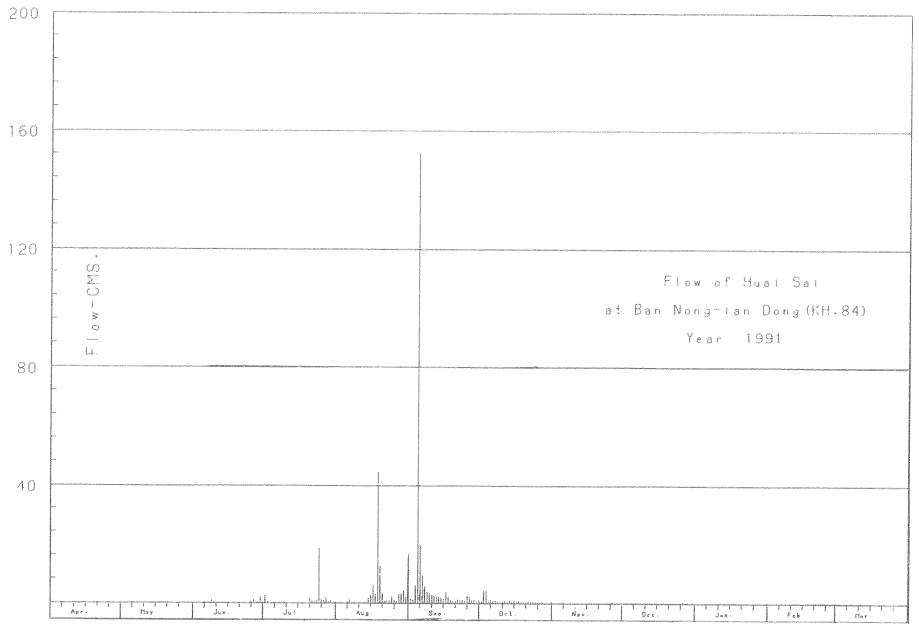
Huai Sai at Ban Nong Ian Dong, Muk Dahan (Kh.84)

Location	Lat. 16-32-15 N., Long. 104-24-20 E., on left bank at the bridge of Ban Huai Sai-Ban Nong Ian Dong Road, Amphoe Kham Cha-I, Muk Dahan.
Drainage Area	48 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-Highways Department.
Location	On left bank downstream side at the abutment of the bridge.
Elevation	+6.037 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1987 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Rather unstable.
Overbank Flow Conditions	Overbank flow starts at elevation +5.81 m.(A.D.) and is included.
General Description	Records fair. Stage-discharge relation defined by 28 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.83	0.81	1.18	1.55	1.14	1.51	1.46	1.26	1.18	1.16	1.17	1.17	
2	0.82	0.81	1.02	1.32	1.14	1.44	1.63	1.26	1.18	1.16	1.17	1.14	
3	0.81	0.83	0.97	1.16	1.13	1.69	1.64	1.25	1.18	1.17	1.15	1.13	
4	0.80	0.99	1.08	1.10	1.14	3.62	1.50	1.24	1.18	1.18	1.15	1.13	
5	0.80	0.97	1.14	1.08	1.30	1.96	1.43	1.23	1.18	1.18	1.15	1.13	
6	0.80	0.87	1.02	1.05	1.41	1.77	1.40	1.23	1.18	1.19	1.15	1.13	
7	0.79	0.86	1.12	1.09	1.19	1.68	1.39	1.22	1.18	1.19	1.15	1.13	
8	0.79	0.86	1.42	1.25	1.12	1.62	1.38	1.22	1.17	1.18	1.15	1.13	
9	0.79	0.87	1.14	1.08	1.09	1.59	1.37	1.21	1.17	1.18	1.15	1.13	
10	0.79	0.87	1.03	1.05	1.08	1.58	1.36	1.21	1.17	1.17	1.16	1.13	
11	0.79	0.86	1.01	1.02	1.09	1.56	1.35	1.21	1.17	1.16	1.17	1.13	
12	0.79	0.85	0.99	1.01	1.06	1.55	1.35	1.21	1.17	1.16	1.15	1.13	
13	0.78	0.84	0.98	1.01	1.12	1.54	1.41	1.21	1.17	1.15	1.15	1.13	
14	0.78	0.96	0.97	1.01	1.51	1.52	1.44	1.21	1.17	1.15	1.15	1.13	
15	0.78	0.90	0.96	1.02	1.58	1.51	1.39	1.20	1.17	1.15	1.15	1.13	
16	0.78	0.88	0.96	1.02	1.70	1.62	1.36	1.20	1.17	1.15	1.15	1.13	
17	0.77	0.88	0.96	1.02	1.58	1.54	1.34	1.20	1.16	1.15	1.15	1.13	
18	0.77	0.87	0.96	1.01	2.37	1.48	1.32	1.20	1.16	1.15	1.15	1.13	
19	0.77	0.86	0.96	0.99	1.83	1.47	1.32	1.20	1.16	1.15	1.14	1.13	
20	0.78	0.85	0.95	1.52	1.60	1.49	1.34	1.20	1.16	1.15	1.14	1.13	
21	0.79	0.85	0.95	1.29	1.38	1.47	1.32	1.20	1.16	1.15	1.14	1.13	
22	0.80	0.85	0.95	1.26	1.37	1.46	1.30	1.20	1.16	1.15	1.14	1.13	
23	0.80	0.85	0.98	1.31	1.35	1.46	1.29	1.19	1.17	1.15	1.13	1.12	
24	0.80	0.85	0.99	1.94	1.54	1.42	1.29	1.19	1.17	1.15	1.13	1.12	
25	0.80	0.84	1.25	1.43	1.45	1.57	1.29	1.18	1.18	1.15	1.13	1.12	
26	0.81	0.84	1.47	1.44	1.32	1.54	1.28	1.18	1.19	1.15	1.13	1.12	
27	0.81	0.90	1.17	1.52	1.59	1.45	1.27	1.18	1.19	1.15	1.13	1.12	
28	0.81	0.87	1.22	1.29	1.59	1.46	1.27	1.18	1.19	1.15	1.13	1.12	
29	0.81	0.87	1.54	1.30	1.64	1.44	1.26	1.18	1.18	1.15	1.16	1.12	
30	0.81	0.86	1.19	1.22	1.53	1.45	1.26	1.18	1.18	1.15		1.12	
31		0.89		1.18	1.89		1.26		1.17	1.15		1.12	
Mean	0.79	0.87	1.08	1.21	1.41	1.62	1.36	1.21	1.17	1.16	1.15	1.13	
Max	0.83	0.99	1.54	1.94	2.37	3.62	1.64	1.26	1.19	1.19	1.17	1.17	3.62
Min	0.77	0.81	0.95	0.99	1.06	1.42	1.26	1.18	1.16	1.15	1.13	1.12	0.77

Annual Max Momentary Gage Height 6.25 M (A.D), at 10.00 Hours, on Sep 4, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.87 M (A.D)
Left Bank Elevation 5.80 M (A.D)
Right Bank Elevation 5.79 M (A.D), Drainage Area 48 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.03	0.01	0.46	2.45	0.38	1.61	1.24	0.62	0.46	0.42	0.44	0.44	
2	0.02	0.01	0.22	0.76	0.38	1.16	4.34	0.62	0.46	0.42	0.44	0.38	
3	0.01	0.03	0.17	0.42	0.36	6.02	4.62	0.60	0.46	0.44	0.40	0.36	
4	0.00	0.19	0.28	0.30	0.38	152.70	1.40	0.58	0.46	0.46	0.40	0.36	
5	0.00	0.17	0.38	0.28	0.70	19.92	1.12	0.56	0.46	0.46	0.40	0.36	
6	0.00	0.07	0.22	0.25	1.04	9.59	1.00	0.56	0.46	0.48	0.40	0.36	
7	0.00	0.06	0.34	0.29	0.48	5.74	0.97	0.54	0.46	0.48	0.40	0.36	
8	0.00	0.06	1.08	0.60	0.34	4.06	0.94	0.54	0.44	0.46	0.40	0.36	
9	0.00	0.07	0.38	0.28	0.29	3.29	0.91	0.52	0.44	0.46	0.40	0.36	
10	0.00	0.07	0.23	0.25	0.28	3.08	0.88	0.52	0.44	0.44	0.42	0.36	
11	0.00	0.06	0.21	0.22	0.29	2.66	0.85	0.52	0.44	0.42	0.44	0.36	
12	0.00	0.05	0.19	0.21	0.26	2.45	0.85	0.52	0.44	0.42	0.40	0.36	
13	0.00	0.04	0.18	0.21	0.34	2.24	1.04	0.52	0.44	0.40	0.40	0.36	
14	0.00	0.16	0.17	0.21	1.61	1.82	1.16	0.52	0.44	0.40	0.40	0.36	
15	0.00	0.10	0.16	0.22	3.08	1.61	0.97	0.50	0.44	0.40	0.40	0.36	
16	0.00	0.08	0.16	0.22	6.30	4.06	0.88	0.50	0.44	0.40	0.40	0.36	
17	0.00	0.08	0.16	0.22	3.08	2.24	0.82	0.50	0.42	0.40	0.40	0.36	
18	0.00	0.07	0.16	0.21	44.76	1.32	0.76	0.50	0.42	0.40	0.40	0.36	
19	0.00	0.06	0.16	0.19	12.65	1.28	0.76	0.50	0.42	0.40	0.38	0.36	
20	0.00	0.05	0.15	1.82	3.50	1.36	0.82	0.50	0.42	0.40	0.38	0.36	
21	0.00	0.05	0.15	0.68	0.94	1.28	0.76	0.50	0.42	0.40	0.38	0.36	
22	0.00	0.05	0.15	0.62	0.91	1.24	0.70	0.50	0.42	0.40	0.38	0.36	
23	0.00	0.05	0.18	0.73	0.85	1.24	0.68	0.48	0.44	0.40	0.36	0.34	
24	0.00	0.05	0.19	18.78	2.24	1.08	0.68	0.48	0.44	0.40	0.36	0.34	
25	0.00	0.04	0.60	1.12	1.20	2.87	0.68	0.46	0.46	0.40	0.36	0.34	
26	0.01	0.04	1.28	1.16	0.76	2.24	0.66	0.46	0.48	0.40	0.36	0.34	
27	0.01	0.10	0.44	1.82	3.29	1.20	0.64	0.46	0.48	0.40	0.36	0.34	
28	0.01	0.07	0.54	0.68	3.29	1.24	0.64	0.46	0.48	0.40	0.36	0.34	
29	0.01	0.07	2.24	0.70	4.62	1.16	0.62	0.46	0.46	0.40	0.42	0.34	
30	0.01	0.06	0.48	0.54	2.03	1.20	0.62	0.46	0.46	0.40		0.34	
31		0.09		0.46	15.95		0.62		0.44	0.40		0.34	
Total	0.11	2.16	11.71	36.90	116.58	242.96	33.63	15.46	13.84	12.96	11.44	11.08	508.83 CMSDAY
Mean	0.00	0.07	0.39	1.19	3.76	8.10	1.08	0.52	0.45	0.42	0.39	0.36	1.39 CMS
Max	0.03	0.19	2.24	18.78	44.76	152.70	4.62	0.62	0.48	0.48	0.44	0.44	152.70 CMS
Min	0.00	0.01	0.15	0.19	0.26	1.08	0.62	0.46	0.42	0.40	0.36	0.34	0.00 CMS
Runoff	0.010	0.187	1.012	3.188	10.073	20.992	2.906	1.336	1.196	1.120	0.988	0.957	43.963 MCM

Momentary Peak 572.50 CMS, at 6.25 M (A.D), at 10.00 Hours, on Sep 4, 1991

Runoff Yield 28.96 Liters/Second/Square KM, Momentary Peak Yield 11927.08 Liters/Second/Square KM

WATER YEAR 1991

KHONG RIVER BASIN

Huai Khan Thae Yai at Ban Kham Cha-I, Muk Dahan (KH.85)

Location — Lat. 16-31-12 N., Long. 104-21-58 E., on left bank at the bridge on road, Ban Kham Cha-I, Muk Dahan.

Drainage Area — 28 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-Highways Department.

Location — On right bank downstream side at the abutment of the bridge.

Elevation — +6.657 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1987 to date.

Rating Operation

Period of Rating — 1987 to date.

Rated by Float — -

Rated by Current Meter — 1987 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — Overbank flow starts at elevation +5.31 m.(A.D.) and is included.

General Description — Records fair. Stage-discharge relation defined by 28 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

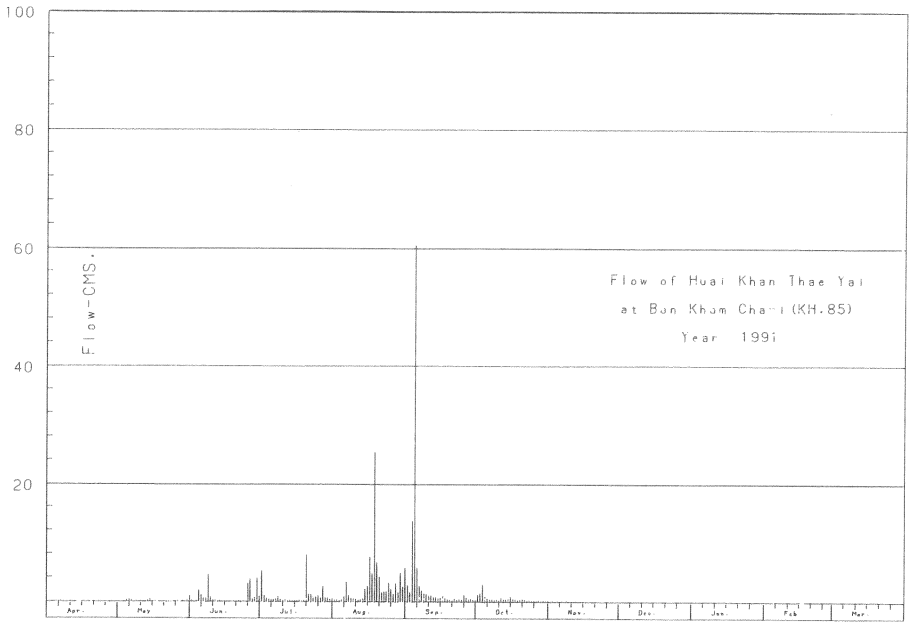
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.44	0.39	0.47	1.29	0.54	1.01	0.74	0.48	0.40	0.35	0.35	0.34	
2	0.43	0.39	0.47	0.73	0.52	0.81	0.79	0.47	0.35	0.35	0.36	0.34	
3	0.43	0.39	0.43	0.60	0.51	2.06	1.03	0.46	0.33	0.35	0.36	0.34	
4	0.43	0.53	0.87	0.57	0.51	4.49	0.70	0.46	0.32	0.35	0.35	0.34	
5	0.43	0.55	0.74	0.55	0.69	1.36	0.59	0.46	0.32	0.36	0.35	0.34	
6	0.43	0.47	0.58	0.52	1.09	0.99	0.56	0.46	0.32	0.37	0.35	0.34	
7	0.43	0.45	0.61	0.58	0.71	0.87	0.55	0.46	0.32	0.36	0.35	0.34	
8	0.42	0.43	1.24	0.66	0.63	0.80	0.54	0.46	0.32	0.36	0.35	0.34	
9	0.42	0.43	0.64	0.53	0.57	0.76	0.53	0.45	0.32	0.35	0.35	0.34	
10	0.42	0.44	0.53	0.51	0.55	0.73	0.52	0.45	0.32	0.35	0.35	0.34	
11	0.43	0.43	0.50	0.50	0.54	0.71	0.61	0.45	0.32	0.35	0.35	0.34	
12	0.43	0.42	0.48	0.49	0.52	0.66	0.57	0.44	0.34	0.35	0.35	0.34	
13	0.43	0.50	0.47	0.49	0.60	0.64	0.54	0.45	0.35	0.35	0.35	0.34	
14	0.42	0.55	0.46	0.49	0.91	0.62	0.58	0.44	0.35	0.35	0.35	0.34	
15	0.42	0.47	0.45	0.50	0.99	0.63	0.67	0.43	0.35	0.35	0.35	0.34	
16	0.42	0.43	0.44	0.51	1.55	0.70	0.60	0.43	0.35	0.34	0.35	0.34	
17	0.41	0.42	0.44	0.49	1.25	0.60	0.55	0.43	0.35	0.33	0.35	0.34	
18	0.39	0.42	0.44	0.48	2.80	0.57	0.53	0.42	0.35	0.33	0.35	0.33	
19	0.39	0.42	0.44	0.49	1.44	0.55	0.52	0.42	0.35	0.33	0.35	0.33	
20	0.39	0.43	0.44	1.58	1.20	0.63	0.58	0.42	0.35	0.33	0.35	0.33	
21	0.39	0.43	0.45	0.75	0.83	0.57	0.53	0.42	0.35	0.33	0.34	0.33	
22	0.39	0.42	0.44	0.76	0.85	0.54	0.51	0.42	0.35	0.33	0.34	0.33	
23	0.39	0.42	0.44	0.67	0.84	0.55	0.51	0.42	0.35	0.33	0.34	0.33	
24	0.39	0.40	0.44	0.68	1.07	0.56	0.50	0.42	0.35	0.32	0.34	0.33	
25	0.39	0.43	1.06	0.70	0.90	0.75	0.51	0.42	0.35	0.33	0.34	0.33	
26	0.39	0.44	1.14	0.64	0.76	0.63	0.49	0.41	0.35	0.33	0.34	0.33	
27	0.39	0.45	0.58	0.97	1.06	0.56	0.50	0.41	0.35	0.32	0.34	0.33	
28	0.39	0.45	0.63	0.65	0.83	0.55	0.49	0.41	0.35	0.32	0.35	0.33	
29	0.39	0.45	1.17	0.61	1.26	0.52	0.48	0.41	0.35	0.32	0.35	0.33	
30	0.39	0.51	0.68	0.58	0.96	0.53	0.49	0.40	0.35	0.32		0.33	
31		0.72		0.57	1.34		0.47		0.35	0.33		0.33	
Mean	0.41	0.45	0.61	0.65	0.93	0.86	0.57	0.44	0.34	0.34	0.35	0.34	
Max	0.44	0.72	1.24	1.58	2.80	4.49	1.03	0.48	0.40	0.37	0.36	0.34	4.49
Min	0.39	0.39	0.43	0.48	0.51	0.52	0.47	0.40	0.32	0.32	0.34	0.33	0.32

Annual Max Momentary Gage Height — 5.82 M (A.D), at 10.00 Hours, on Sep 4, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 0.23 M (A.D)

Left Bank Elevation — 5.38 M (A.D)

Right Bank Elevation — 5.30 M (A.D), Drainage Area — 28 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.18	0.09	0.24	5.18	0.42	2.87	1.20	0.26	0.10	0.05	0.05	0.04	
2	0.16	0.09	0.24	1.15	0.36	1.56	1.45	0.24	0.05	0.05	0.06	0.04	
3	0.16	0.09	0.16	0.60	0.33	13.78	3.01	0.22	0.03	0.05	0.06	0.04	
4	0.16	0.39	1.92	0.51	0.33	60.56	1.00	0.22	0.02	0.05	0.05	0.04	
5	0.16	0.45	1.20	0.45	0.96	5.86	0.57	0.22	0.02	0.06	0.05	0.04	
6	0.16	0.24	0.54	0.36	3.43	2.73	0.48	0.22	0.02	0.07	0.05	0.04	
7	0.16	0.20	0.64	0.54	1.05	1.92	0.45	0.22	0.02	0.06	0.05	0.04	
8	0.14	0.16	4.69	0.84	0.72	1.50	0.42	0.22	0.02	0.06	0.05	0.04	
9	0.14	0.16	0.76	0.39	0.51	1.30	0.39	0.20	0.02	0.05	0.05	0.04	
10	0.14	0.18	0.39	0.33	0.45	1.15	0.36	0.20	0.02	0.05	0.05	0.04	
11	0.16	0.16	0.30	0.30	0.42	1.05	0.64	0.20	0.02	0.05	0.05	0.04	
12	0.16	0.14	0.26	0.28	0.36	0.84	0.51	0.18	0.04	0.05	0.05	0.04	
13	0.16	0.30	0.24	0.28	0.60	0.76	0.42	0.20	0.05	0.05	0.05	0.04	
14	0.14	0.45	0.22	0.28	2.17	0.68	0.54	0.18	0.05	0.05	0.05	0.04	
15	0.14	0.24	0.20	0.30	2.73	0.72	0.88	0.16	0.05	0.05	0.05	0.04	
16	0.14	0.16	0.18	0.33	7.71	1.00	0.60	0.16	0.05	0.04	0.05	0.04	
17	0.12	0.14	0.18	0.28	4.79	0.60	0.45	0.16	0.05	0.03	0.05	0.04	
18	0.09	0.14	0.18	0.26	25.50	0.51	0.39	0.14	0.05	0.03	0.05	0.03	
19	0.09	0.14	0.18	0.28	6.64	0.45	0.36	0.14	0.05	0.03	0.05	0.03	
20	0.09	0.16	0.18	8.01	4.30	0.72	0.54	0.14	0.05	0.03	0.05	0.03	
21	0.09	0.16	0.20	1.25	1.68	0.51	0.39	0.14	0.05	0.03	0.04	0.03	
22	0.09	0.14	0.18	1.30	1.80	0.42	0.33	0.14	0.05	0.03	0.04	0.03	
23	0.09	0.14	0.18	0.88	1.74	0.45	0.33	0.14	0.05	0.03	0.04	0.03	
24	0.09	0.10	0.18	0.92	3.29	0.48	0.30	0.14	0.05	0.02	0.04	0.03	
25	0.09	0.16	3.22	1.00	2.10	1.25	0.33	0.14	0.05	0.03	0.04	0.03	
26	0.09	0.18	3.82	0.76	1.30	0.72	0.28	0.12	0.05	0.03	0.04	0.03	
27	0.09	0.20	0.54	2.59	3.22	0.48	0.30	0.12	0.05	0.02	0.04	0.03	
28	0.09	0.20	0.72	0.80	1.68	0.45	0.28	0.12	0.05	0.02	0.05	0.03	
29	0.09	0.20	4.06	0.64	4.88	0.36	0.26	0.12	0.05	0.02	0.05	0.03	
30	0.09	0.33	0.92	0.54	2.52	0.39	0.28	0.10	0.05	0.02		0.03	
31		1.10		0.51	5.67		0.24		0.05	0.03		0.03	
Total	3.75	6.99	26.92	32.14	93.66	106.07	17.98	5.16	1.33	1.24	1.40	1.10	297.74 CMSDAY
Mean	0.12	0.23	0.90	1.04	3.02	3.54	0.58	0.17	0.04	0.04	0.05	0.04	0.81 CMS
Max	0.18	1.10	4.69	8.01	25.50	60.56	3.01	0.26	0.10	0.07	0.06	0.04	60.56 CMS
Min	0.09	0.09	0.16	0.26	0.33	0.36	0.24	0.10	0.02	0.02	0.04	0.03	0.02 CMS
Runoff	0.324	0.604	2.326	2.777	8.092	9.164	1.553	0.446	0.115	0.107	0.121	0.095	25.725 MCM

Momentary Peak 93.40 CMS, at 5.82 M (A.D), at 10.00 Hours, on Sep 4, 1991
Runoff Yield 29.05 Liters/Second/Square KM, Momentary Peak Yield 3335.71 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

Chi River at Wat Tai Kosum, Maha Sarakham (E.1)

Location — Lat. 16°-15'-02" N., Long. 103°-04'-25" E., on right bank at Wat Tai Kosum about 800 meters north-east of Amphoe Kosum Phisai Office, Maha Sarakham.

Drainage Area — 29,788 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +136.64 m. (M.S.L.)

Bench Mark — B.M.-H.D.

Location — On right bank about 30 meters from the top staff gage.

Elevation — +150.883 m. (M.S.L.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1936-1943, 1951 to date.

Rating Operation

Period of Rating — 1965-1973, 1981 to date.

Rated by Float —

Rated by Current Meter — 1965-1973, 1981 to date.

Stability of Channel Regimes — Stable.

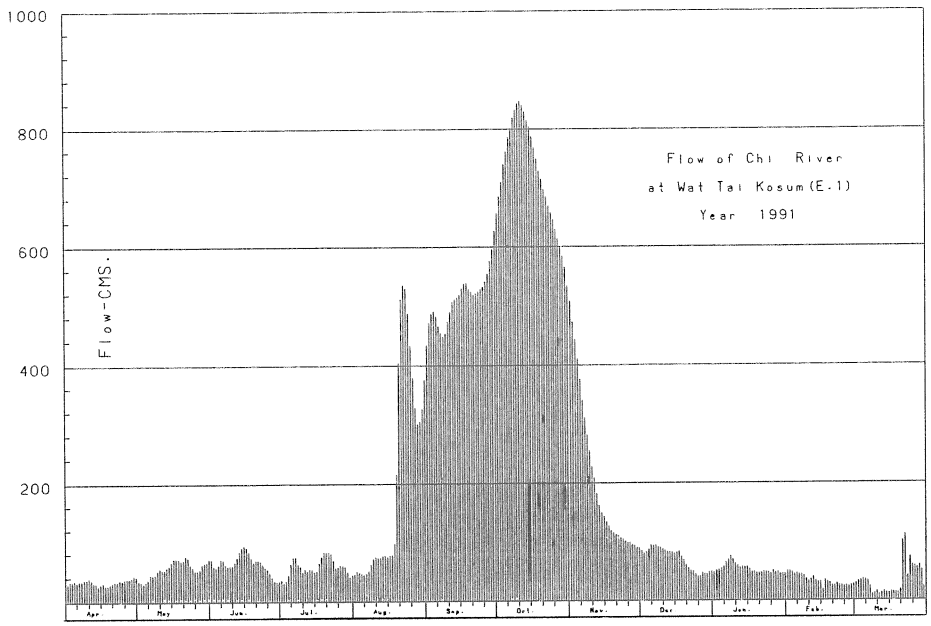
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Flow regulated by Nam Phong Dam above gage site. Stage-discharge relation defined by 36 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	137.43	137.57	138.36	137.56	137.83	143.48	145.42	144.16	138.63	137.90	137.92	137.41	
2	137.51	137.48	138.16	137.47	137.93	143.83	145.62	143.85	138.57	137.94	137.95	137.46	
3	137.54	137.45	138.08	137.53	137.92	143.98	145.81	143.56	138.59	137.99	137.87	137.56	
4	137.54	137.48	138.20	137.82	137.85	144.01	146.02	143.24	138.70	138.02	137.81	137.57	
5	137.50	137.62	138.37	138.21	137.80	143.94	146.18	142.87	138.82	138.11	137.83	137.58	
6	137.53	137.80	138.37	138.43	137.84	143.78	146.34	142.48	138.83	138.23	137.82	137.49	
7	137.56	137.81	138.19	138.46	137.96	143.68	146.45	142.10	138.82	138.35	137.78	137.26	
8	137.60	137.81	138.16	138.23	138.18	143.61	146.56	141.75	138.78	138.44	137.76	136.81	
9	137.64	137.99	138.14	138.12	138.40	143.67	146.66	141.40	138.74	138.36	137.58	136.82	
10	137.67	138.08	138.18	137.95	138.44	143.85	146.73	141.07	138.71	138.22	137.52	136.97	
11	137.62	137.99	138.27	138.02	138.43	144.01	146.75	140.77	138.64	138.12	137.56	136.76	
12	137.49	138.03	138.45	137.98	138.42	144.15	146.71	140.38	138.62	138.07	137.71	136.89	
13	137.43	138.09	138.63	138.02	138.50	144.20	146.63	140.05	138.59	138.08	137.49	136.94	
14	137.33	138.17	138.78	138.04	138.49	144.22	146.54	139.88	138.61	138.09	137.47	136.89	
15	137.38	138.28	138.82	137.92	138.46	144.27	146.46	139.76	138.54	138.07	137.45	136.84	
16	137.45	138.39	138.77	137.97	138.49	144.36	146.35	139.62	138.60	138.00	137.07	136.95	
17	137.35	138.41	138.65	138.23	138.53	144.44	146.23	139.47	138.61	137.91	137.52	136.90	
18	137.31	138.37	138.42	138.48	138.90	144.44	146.09	139.33	138.46	137.90	137.48	136.90	
19	137.42	138.34	138.29	138.61	140.90	144.36	145.95	139.24	138.31	137.87	137.39	136.85	
20	137.48	138.34	138.33	138.63	143.18	144.31	145.84	139.21	138.17	137.84	137.30	137.05	
21	137.51	138.50	138.35	138.61	144.20	144.27	145.72	139.16	138.03	137.88	137.26	138.96	
22	137.51	138.42	138.30	138.58	144.42	144.28	145.62	139.09	137.96	137.90	137.39	139.17	
23	137.58	138.21	138.21	138.33	144.36	144.32	145.51	139.03	137.91	137.91	137.27	137.73	
24	137.57	138.09	138.09	138.09	143.99	144.35	145.42	138.97	137.82	137.87	137.31	138.43	
25	137.61	138.00	138.04	138.12	143.46	144.39	145.34	138.93	137.72	137.85	137.26	138.13	
26	137.64	137.96	137.90	138.16	142.91	144.46	145.21	138.91	137.70	137.93	137.25	138.10	
27	137.64	138.04	137.69	138.17	142.34	144.59	145.10	138.86	137.89	137.89	137.25	138.06	
28	137.68	138.19	137.54	138.11	141.99	144.78	144.99	138.81	137.80	137.88	137.28	138.13	
29	137.78	138.27	137.48	137.93	142.03	144.96	144.86	138.75	137.82	137.83	137.31	137.97	
30	137.72	138.26	137.55	137.70	142.30	145.19	144.68	138.72	137.88	137.80		137.25	
31		138.40		137.78	142.88		144.40		137.90	137.83		136.94	
Mean	137.53	138.06	138.23	138.11	140.24	144.21	145.88	140.45	138.35	138.00	137.51	137.44	
Max	137.78	138.50	138.82	138.63	144.42	145.19	146.75	144.16	138.83	138.44	137.95	139.17	146.75
Min	137.31	137.45	137.48	137.47	137.80	143.48	144.40	138.72	137.70	137.80	137.07	136.76	136.76

Annual Max Momentary Gage Height 146.75 M (MSL), at 6.00 Hours, on Oct 11, 1991
Zero Gage at Bottom Elevation 136.64 M (MSL), River Bed 136.39 M (MSL)
Left Bank Elevation 147.31 M (MSL)
Right Bank Elevation 150.38 M (MSL), Drainage Area 29788 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	31.0	36.0	71.0	35.6	46.2	436.0	658.2	508.6	84.5	49.0	49.9	30.4	
2	33.8	32.8	61.0	32.4	50.3	472.3	685.2	474.5	81.5	50.8	51.2	32.1	
3	34.9	31.7	57.1	34.5	49.9	488.8	710.9	444.0	82.5	53.1	47.8	35.6	
4	34.9	32.8	63.0	45.8	47.0	492.1	739.8	412.0	88.0	54.4	45.4	36.0	
5	33.5	37.8	71.5	63.5	45.0	484.4	762.2	376.4	94.0	58.5	46.2	36.3	
6	34.5	45.0	71.5	74.5	46.6	466.9	785.5	342.0	94.5	64.5	45.8	33.2	
7	35.6	45.4	62.5	76.0	51.7	456.4	802.0	311.0	94.0	70.5	44.2	25.1	
8	37.0	45.4	61.0	64.5	62.0	449.0	818.5	283.0	92.0	75.0	43.4	11.3	
9	38.6	53.1	60.0	59.0	73.0	455.3	833.5	255.0	90.0	71.0	36.3	11.6	
10	39.8	57.1	62.0	51.2	75.0	474.5	844.0	228.9	88.5	64.0	34.2	16.1	
11	37.8	53.1	66.5	54.4	74.5	492.1	847.0	208.6	85.0	59.0	35.6	9.8	
12	33.2	54.8	75.5	52.6	74.0	507.5	841.0	183.2	84.0	56.7	41.4	13.7	
13	31.0	57.5	84.5	54.4	78.0	513.0	829.0	161.8	82.5	57.1	33.2	15.2	
14	27.6	61.5	92.0	55.3	77.5	515.2	815.5	150.7	83.5	57.5	32.4	13.7	
15	29.3	67.0	94.0	49.9	76.0	520.7	803.5	143.1	80.0	56.7	31.7	12.2	
16	31.7	72.5	91.5	52.2	77.5	530.6	787.0	134.7	83.0	53.5	19.1	15.5	
17	28.3	73.5	85.5	64.5	79.5	539.4	769.3	126.5	83.5	49.5	34.2	14.0	
18	26.8	71.5	74.0	77.0	98.0	539.4	749.6	119.5	76.0	49.0	32.8	14.0	
19	30.7	70.0	67.5	83.5	217.0	530.6	730.0	115.0	68.5	47.8	29.6	12.5	
20	32.8	70.0	69.5	84.5	406.0	525.1	714.9	113.5	61.5	46.6	26.5	18.5	
21	33.8	78.0	70.5	83.5	513.0	520.7	698.7	111.0	54.8	48.2	25.1	101.0	
22	33.8	74.0	68.0	82.0	537.2	521.8	685.2	107.5	51.7	49.0	29.6	111.5	
23	36.3	63.5	63.5	69.5	530.6	526.2	670.3	104.5	49.5	49.5	25.5	42.2	
24	36.0	57.5	57.5	57.5	489.9	529.5	658.2	101.5	45.8	47.8	26.8	74.5	
25	37.4	53.5	55.3	59.0	434.0	533.9	647.4	99.5	41.8	47.0	25.1	59.5	
26	38.6	51.7	49.0	61.0	380.0	541.6	629.9	98.5	41.0	50.3	24.8	58.0	
27	38.6	55.3	40.6	61.5	330.2	555.9	615.0	96.0	48.6	48.6	24.8	56.2	
28	40.2	62.5	34.9	58.5	302.2	576.8	600.8	93.5	45.0	48.2	25.8	59.5	
29	44.2	66.5	32.8	50.3	305.4	597.2	585.6	90.5	45.8	46.2	26.8	52.2	
30	41.8	66.0	35.2	41.0	327.0	627.1	565.8	89.0	48.2	45.0		24.8	
31		73.0		44.2	377.2		535.0		49.0	46.2		15.2	
Total	1043.5	1770.0	1948.4	1833.3	6331.4	15420.0	22418.5	6083.5	2198.2	1670.2	995.2	1061.4	62773.6 CMSDAY
Mean	34.8	57.1	64.9	59.1	204.2	514.0	723.2	202.8	70.9	53.9	34.3	34.2	171.5 CMS
Max	44.2	78.0	94.0	84.5	537.2	627.1	847.0	508.6	94.5	75.0	51.2	111.5	847.0 CMS
Min	26.8	31.7	32.8	32.4	45.0	436.0	535.0	89.0	41.0	45.0	19.1	9.8	9.8 CMS
Runoff	90.16	152.93	168.34	158.40	547.03	1332.29	1936.96	525.61	189.92	144.31	85.99	91.70	5423.64 MCM

Momentary Peak 847.00 CMS, at 146.75 M (MSL), at 6.00 Hours, on Oct 11, 1991
Runoff Yield 5.76 Liters/Second/Square KM, Momentary Peak Yield 28.43 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

Chi River at Ban Non Puai, Chaiyaphum (E.5)

Location — Lat. 15-46-07 N., Long. 101-49-03 E., on left bank near Ban Non Puai about 30 meters downstream from Ban Ta Ngo, Amphoe Ban Khwao, Chaiyaphum.

Drainage Area — 4,254 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +190.00 m. (M.S.L.)

Bench Mark — B.M.-H.D.

Location — Infront of the station office.

Elevation — +197.543 m. (M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1958 to date.

Rating Operation

Period of Rating — 1967-1971, 1973, 1979, 1982 to date.

Rated by Float — -

Rated by Current Meter — 1967-1971, 1973, 1979, 1982 to date.

Stability of Channel Regimes — Rather unstable.

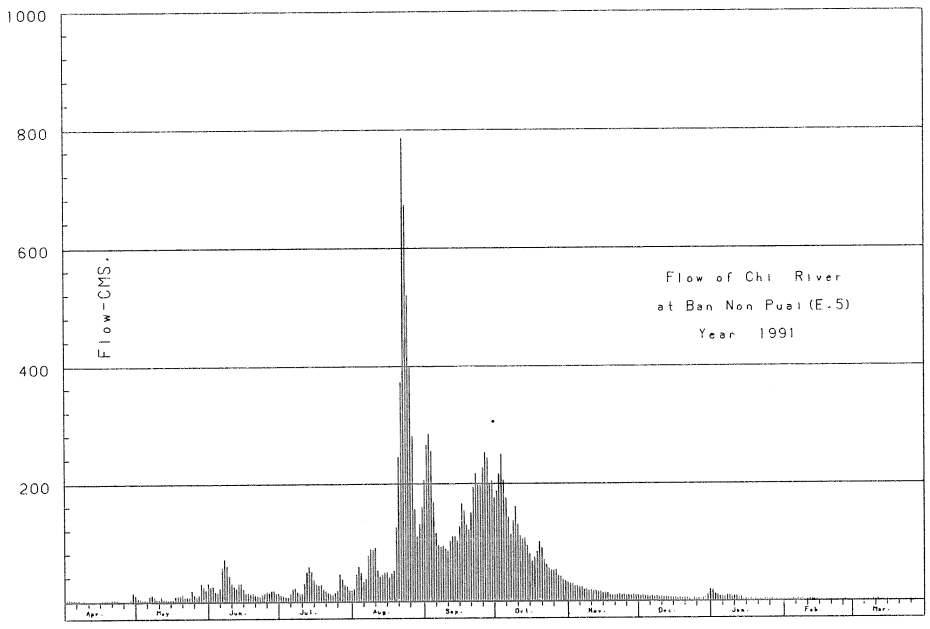
Overbank Flow Conditions — Overbank flow starts at elevation +197.68 m.(M.S.L.),records are channel flow only.

General Description — Records good. Stage-discharge relation defined by 33 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	190.38	190.45	190.78	190.55	190.72	195.63	194.17	190.84	190.53	190.68	190.40	190.32	
2	190.39	190.43	190.77	190.51	190.99	195.91	194.78	190.82	190.53	190.60	190.39	190.32	
3	190.37	190.39	190.67	190.48	191.13	195.48	195.38	190.79	190.51	190.54	190.39	190.36	
4	190.36	190.33	190.63	190.50	191.03	193.75	194.54	190.78	190.50	190.51	190.39	190.36	
5	190.37	190.35	190.75	190.60	190.86	192.31	193.90	190.77	190.49	190.49	190.38	190.35	
6	190.34	190.51	191.11	190.74	190.93	191.65	193.08	190.75	190.50	190.50	190.38	190.34	
7	190.30	190.59	191.25	190.74	191.29	191.49	192.27	190.72	190.49	190.52	190.38	190.32	
8	190.31	190.50	191.15	190.67	191.42	191.60	192.93	190.71	190.49	190.54	190.38	190.30	
9	190.29	190.42	190.97	190.60	191.38	191.39	193.57	190.69	190.48	190.50	190.37	190.31	
10	190.22	190.41	190.85	190.63	191.48	191.37	192.81	190.69	190.48	190.51	190.37	190.32	
11	190.19	190.49	190.77	190.83	191.06	191.86	192.16	190.69	190.47	190.49	190.36	190.31	
12	190.18	190.42	190.75	191.04	190.97	192.16	192.02	190.67	190.46	190.47	190.36	190.30	
13	190.16	190.39	190.83	191.12	190.98	192.14	192.03	190.66	190.46	190.46	190.35	190.29	
14	190.19	190.40	190.85	191.05	191.03	191.93	191.59	190.65	190.45	190.44	190.35	190.28	
15	190.22	190.36	190.72	190.90	191.03	192.65	191.32	190.63	190.45	190.43	190.35	190.29	
16	190.31	190.36	190.64	190.82	190.95	193.69	191.21	190.62	190.44	190.42	190.34	190.28	
17	190.33	190.52	190.63	190.81	191.00	193.37	191.26	190.63	190.44	190.41	190.34	190.27	
18	190.31	190.53	190.61	190.81	191.06	192.78	191.35	190.55	190.43	190.41	190.34	190.26	
19	190.31	190.56	190.62	190.73	192.62	192.48	191.87	190.54	190.44	190.42	190.35	190.24	
20	190.39	190.58	190.58	190.67	195.31	193.30	191.48	190.53	190.44	190.41	190.33	190.24	
21	190.35	190.50	190.53	190.64	196.69	194.29	191.22	190.58	190.44	190.41	190.31	190.24	
22	190.32	190.48	190.52	190.60	197.76	194.77	191.16	190.57	190.44	190.40	190.30	190.25	
23	190.27	190.51	190.57	190.58	197.54	194.40	191.09	190.56	190.43	190.39	190.32	190.25	
24	190.22	190.69	190.63	190.62	197.21	194.37	191.07	190.56	190.43	190.40	190.33	190.25	
25	190.18	190.59	190.67	190.70	196.81	194.98	191.07	190.55	190.42	190.39	190.31	190.26	
26	190.14	190.48	190.63	191.01	195.85	195.43	191.07	190.53	190.41	190.39	190.30	190.22	
27	190.19	190.59	190.70	190.91	193.47	195.25	190.98	190.54	190.40	190.40	190.30	190.22	
28	190.42	190.83	190.68	190.82	192.16	194.45	190.95	190.55	190.43	190.41	190.30	190.21	
29	190.65	190.78	190.63	190.77	192.77	194.52	190.91	190.54	190.46	190.40	190.30	190.20	
30	190.54	190.70	190.62	190.71	193.52	193.94	190.87	190.53	190.54	190.39		190.21	
31		190.84		190.68	194.55		190.85		190.72	190.39		190.20	
Mean	190.31	190.52	190.74	190.74	192.76	193.44	192.10	190.64	190.47	190.46	190.35	190.28	
Max	190.65	190.84	191.25	191.12	197.76	195.91	195.38	190.84	190.72	190.68	190.40	190.36	197.76
Min	190.14	190.33	190.52	190.48	190.72	191.37	190.85	190.53	190.40	190.39	190.30	190.20	190.14

Annual Max Momentary Gage Height 197.84 M (MSL), at 11.00 Hours, on Aug 22, 1991
Zero Gage at Bottom Elevation 190.00 M (MSL), River Bed 185.17 M (MSL)
Left Bank Elevation 197.67 M (MSL)
Right Bank Elevation 197.90 M (MSL), Drainage Area 4254 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	4.20	6.75	26.40	11.25	21.60	265.80	187.53	31.60	10.35	18.70	4.50	3.30	
2	4.35	5.85	25.60	9.45	46.00	285.75	217.90	29.80	10.35	13.50	4.35	3.30	
3	4.05	4.35	18.05	8.10	60.30	257.04	251.24	27.20	9.45	10.80	4.35	3.90	
4	3.90	3.45	15.45	9.00	50.00	169.60	205.90	26.40	9.00	9.45	4.35	3.90	
5	4.05	3.75	24.00	13.50	33.40	116.22	175.60	25.60	8.55	8.55	4.20	3.75	
6	3.60	9.45	58.10	23.20	40.00	96.55	143.02	24.00	9.00	9.00	4.20	3.60	
7	3.00	13.05	73.50	23.20	77.90	92.34	114.94	21.60	8.55	9.90	4.20	3.30	
8	3.15	9.00	62.50	18.05	90.52	95.20	137.17	20.80	8.55	10.80	4.20	3.00	
9	2.85	5.40	44.00	13.50	87.80	88.90	162.40	19.35	8.10	9.00	4.05	3.15	
10	1.80	4.95	32.50	15.45	92.08	86.70	132.49	19.35	8.10	9.45	4.05	3.30	
11	1.40	8.55	25.60	30.70	53.00	102.38	111.42	19.35	7.65	8.55	3.90	3.15	
12	1.30	5.40	24.00	51.00	44.00	111.42	107.02	18.05	7.20	7.65	3.90	3.00	
13	1.10	4.35	30.70	59.20	45.00	110.78	107.33	17.40	7.20	7.20	3.75	2.85	
14	1.40	4.50	32.50	52.00	50.00	104.37	94.94	16.75	6.75	6.30	3.75	2.70	
15	1.80	3.90	21.60	37.00	50.00	127.10	81.20	15.45	6.75	5.85	3.75	2.85	
16	3.15	3.90	16.10	29.80	42.00	167.20	69.10	14.80	6.30	5.40	3.60	2.70	
17	3.45	9.90	15.45	28.90	47.00	154.40	74.60	15.45	6.30	4.95	3.60	2.55	
18	3.15	10.35	14.15	28.90	53.00	131.42	84.50	11.25	5.85	4.95	3.60	2.40	
19	3.15	11.70	14.80	22.40	126.14	121.66	102.66	10.80	6.30	5.40	3.75	2.10	
20	4.35	12.60	12.60	18.05	247.18	151.60	92.08	10.35	6.30	4.95	3.45	2.10	
21	3.75	9.00	10.35	16.10	372.30	193.41	70.20	12.60	6.30	4.95	3.15	2.10	
22	3.30	8.10	9.90	13.50	787.20	217.40	63.60	12.15	6.30	4.50	3.00	2.25	
23	2.55	9.45	12.15	12.60	672.80	198.90	56.00	11.70	5.85	4.35	3.30	2.25	
24	1.80	19.35	15.45	14.80	521.70	197.40	54.00	11.70	5.85	4.50	3.45	2.25	
25	1.30	13.05	18.05	20.00	399.30	228.14	54.00	11.25	5.40	4.35	3.15	2.40	
26	0.90	8.10	15.45	48.00	281.25	254.14	54.00	10.35	4.95	4.35	3.00	1.80	
27	1.40	13.05	20.00	38.00	158.40	243.70	45.00	10.80	4.50	4.50	3.00	1.80	
28	5.40	30.70	18.70	29.80	111.42	201.40	42.00	11.25	5.85	4.95	3.00	1.65	
29	16.75	26.40	15.45	25.60	131.08	204.90	38.00	10.80	7.20	4.50	3.00	1.50	
30	10.80	20.00	14.80	20.80	160.40	177.24	34.30	10.35	10.80	4.35		1.65	
31		31.60		18.70	206.40		32.50		21.60	4.35		1.50	
Total	107.15	329.95	737.90	760.55	5159.17	4953.06	3196.64	508.30	241.20	220.00	107.55	82.05	16403.52 CMSDAY
Mean	3.57	10.64	24.60	24.53	166.42	165.10	103.12	16.94	7.78	7.10	3.71	2.65	44.82 CMS
Max	16.75	31.60	73.50	59.20	787.20	285.75	251.24	31.60	21.60	18.70	4.50	3.90	787.20 CMS
Min	0.90	3.45	9.90	8.10	21.60	86.70	32.50	10.35	4.50	4.35	3.00	1.50	0.90 CMS
Runoff	9.258	28.508	63.755	65.712	445.752	427.944	276.190	43.917	20.840	19.008	9.292	7.089	1417.264 MCM

Momentary Peak 830.40 CMS, at 197.84 M (MSL), at 11.00 Hours, on Aug 22, 1991
Runoff Yield 10.54 Liters/Second/Square KM, Momentary Peak Yield 195.20 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

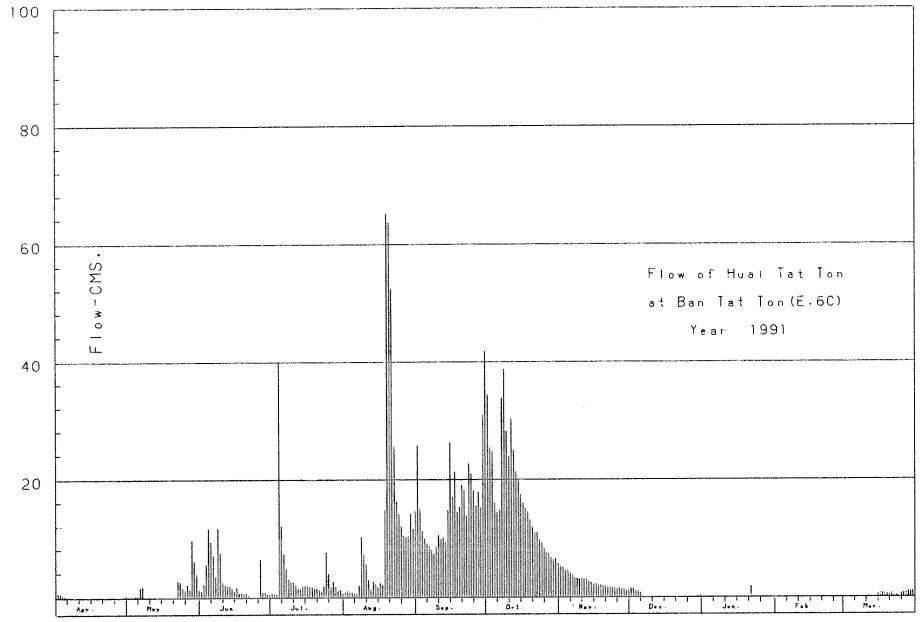
Huai Tat Ton at Ban Tat Ton, Chaiyaphum (E.6C).

Location	Lat. 15-57-36 N., Long. 102-01-57 E., on right bank about 5 kilometers upstream from E.6A station at Ban Tat Ton, Amphoe Muang, Chaiyaphum.
Drainage Area	300 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	Near the automatic gage building.
Elevation	+6.840 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1973 to date.
Rating Operation	
Period of Rating	1973 to date.
Rated by Float	-
Rated by Current Meter	1973 to date.
Stability of Channel Regimes	Rather unstable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 29 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.04	-0.04	0.09	0.03	0.07	2.87	3.47	0.68	0.16	-0.18	-0.22	-0.24	
2	0.03	-0.05	0.24	0.03	0.09	1.85	2.83	0.65	0.14	-0.19	-0.22	-0.23	
3	0.00	-0.05	0.73	0.01	0.06	1.45	2.80	0.59	0.09	-0.20	-0.22	-0.23	
4	-0.04	-0.05	1.50	3.83	0.05	1.29	1.97	0.58	0.08	-0.20	-0.22	-0.24	
5	-0.05	-0.03	1.22	1.54	0.04	1.20	1.80	0.53	0.06	-0.20	-0.22	-0.24	
6	-0.08	0.17	0.92	0.97	0.02	1.13	1.84	0.47	-0.09	-0.20	-0.22	-0.18	
7	-0.09	0.21	0.45	0.63	0.23	1.04	3.44	0.42	-0.10	-0.21	-0.22	-0.13	
8	-0.12	-0.05	1.49	0.37	1.32	0.97	3.75	0.39	-0.10	-0.21	-0.22	-0.15	
9	-0.13	-0.08	1.00	0.32	0.95	1.12	3.05	0.39	-0.10	-0.21	-0.23	-0.10	
10	-0.13	-0.08	0.29	0.30	0.72	1.37	2.73	0.39	-0.09	-0.21	-0.23	-0.07	
11	-0.14	-0.08	0.24	0.24	0.35	1.28	3.19	0.39	-0.10	-0.22	-0.23	-0.06	
12	-0.14	-0.08	0.22	0.17	0.12	1.33	2.80	0.37	-0.10	-0.22	-0.23	-0.07	
13	-0.14	-0.09	0.20	0.13	0.32	1.21	2.51	0.33	-0.10	-0.22	-0.23	-0.09	
14	-0.15	-0.09	0.17	0.22	0.25	1.83	2.37	0.29	-0.13	-0.22	-0.23	-0.06	
15	-0.15	-0.09	0.11	0.23	0.19	2.91	2.14	0.26	-0.18	-0.22	-0.23	0.00	
16	-0.15	-0.10	0.17	0.21	0.27	2.08	1.96	0.25	-0.19	-0.22	-0.23	0.04	
17	-0.15	-0.10	0.05	0.20	0.24	2.51	1.88	0.23	-0.19	-0.21	-0.23	0.03	
18	-0.14	-0.10	0.04	0.18	1.83	1.81	1.80	0.22	-0.20	-0.21	-0.23	0.03	
19	-0.14	-0.11	0.04	0.16	4.94	1.89	1.66	0.22	-0.20	-0.20	-0.24	0.03	
20	-0.13	-0.11	0.03	0.14	4.88	2.30	1.52	0.20	-0.20	-0.20	-0.24	0.03	
21	-0.13	-0.11	0.01	0.12	4.44	2.23	1.40	0.19	-0.20	0.21	-0.25	0.02	
22	-0.13	0.33	-0.20	0.09	2.85	1.74	1.42	0.18	-0.20	-0.21	-0.25	0.01	
23	-0.12	0.33	-0.30	0.22	2.01	2.62	1.28	0.17	-0.21	-0.21	-0.25	0.00	
24	-0.12	0.16	-0.40	0.99	1.77	2.48	1.20	0.16	-0.20	-0.22	-0.25	0.01	
25	-0.13	0.13	-0.32	0.52	1.54	2.21	1.10	0.15	-0.21	-0.22	-0.25	0.03	
26	-0.13	0.24	0.83	0.17	1.35	1.91	0.99	0.15	-0.21	-0.22	-0.25	0.03	
27	-0.10	0.14	0.08	0.33	1.33	2.17	0.95	0.14	-0.22	-0.22	-0.24	0.05	
28	-0.12	1.27	0.05	0.18	1.34	1.89	0.88	0.12	-0.22	-0.22	-0.24	0.07	
29	-0.03	0.80	0.02	0.10	1.77	3.23	0.81	0.11	-0.10	-0.22	-0.22	0.08	
30	-0.04	0.49	0.01	0.12	1.48	3.94	0.85	0.10	-0.01	-0.22		0.08	
31		0.13		0.03	1.81		0.73		-0.01	-0.22		0.09	
Mean	-0.10	0.09	0.30	0.41	1.25	1.93	1.97	0.31	-0.11	-0.20	-0.23	-0.05	
Max	0.04	1.27	1.50	3.83	4.94	3.94	3.75	0.68	0.16	0.21	-0.22	0.09	4.94
Min	-0.15	-0.11	-0.40	0.01	0.02	0.97	0.73	0.10	-0.22	-0.22	-0.25	-0.24	-0.40

Annual Max Momentary Gage Height 5.05 M (A.D), at 18.00 Hours, on Aug 19, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.39 M (A.D)
Left Bank Elevation 7.55 M (A.D)
Right Bank Elevation 6.77 M (A.D), Drainage Area 300 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.78	0.30	1.13	0.71	0.99	25.91	34.40	5.35	1.62	0.00	0.00	0.00	
2	0.71	0.25	2.18	0.71	1.13	15.00	25.39	5.13	1.48	0.00	0.00	0.00	
3	0.50	0.25	5.73	0.57	0.92	11.40	25.00	4.67	1.13	0.00	0.00	0.00	
4	0.30	0.25	11.85	40.04	0.85	9.97	16.08	4.60	1.06	0.00	0.00	0.00	
5	0.25	0.35	9.41	12.21	0.78	9.25	14.55	4.23	0.92	0.00	0.00	0.00	
6	0.10	1.69	7.15	7.53	0.64	8.72	14.91	3.79	0.05	0.00	0.00	0.00	
7	0.05	1.97	3.65	4.98	2.11	8.05	33.95	3.44	0.00	0.00	0.00	0.00	
8	0.00	0.25	11.76	3.09	10.23	7.53	38.75	3.23	0.00	0.00	0.00	0.00	
9	0.00	0.10	7.75	2.74	7.38	8.65	28.30	3.23	0.00	0.00	0.00	0.00	
10	0.00	0.10	2.53	2.60	5.65	10.68	24.09	3.23	0.05	0.00	0.00	0.15	
11	0.00	0.10	2.18	2.18	2.95	9.89	30.30	3.23	0.00	0.00	0.00	0.20	
12	0.00	0.10	2.04	1.69	1.34	10.32	25.00	3.09	0.00	0.00	0.00	0.15	
13	0.00	0.05	1.90	1.41	2.74	9.33	21.46	2.81	0.00	0.00	0.00	0.05	
14	0.00	0.05	1.69	2.04	2.25	14.82	19.85	2.53	0.00	0.00	0.00	0.20	
15	0.00	0.05	1.27	2.11	1.83	26.43	17.61	2.32	0.00	0.00	0.00	0.50	
16	0.00	0.00	1.69	1.97	2.39	17.07	15.99	2.25	0.00	0.00	0.00	0.78	
17	0.00	0.00	0.85	1.90	2.18	21.46	15.27	2.11	0.00	0.00	0.00	0.71	
18	0.00	0.00	0.78	1.76	14.82	14.64	14.55	2.04	0.00	0.00	0.00	0.71	
19	0.00	0.00	0.78	1.62	65.32	15.36	13.29	2.04	0.00	0.00	0.00	0.71	
20	0.00	0.00	0.71	1.48	63.66	19.05	12.03	1.90	0.00	0.00	0.00	0.71	
21	0.00	0.00	0.57	1.34	52.50	18.42	10.95	1.83	0.00	1.97	0.00	0.64	
22	0.00	2.81	0.00	1.13	25.65	14.01	11.13	1.76	0.00	0.00	0.00	0.57	
23	0.00	2.81	0.00	2.04	16.44	22.74	9.89	1.69	0.00	0.00	0.00	0.50	
24	0.00	1.62	0.00	7.68	14.28	21.12	9.25	1.62	0.00	0.00	0.00	0.57	
25	0.00	1.41	0.00	4.15	12.21	18.24	8.50	1.55	0.00	0.00	0.00	0.71	
26	0.00	2.18	6.48	1.69	10.50	15.54	7.68	1.55	0.00	0.00	0.00	0.71	
27	0.00	1.48	1.06	2.81	10.32	17.88	7.38	1.48	0.00	0.00	0.00	0.85	
28	0.00	9.81	0.85	1.76	10.41	15.36	6.85	1.34	0.00	0.00	0.00	0.99	
29	0.35	6.25	0.64	1.20	14.28	30.88	6.32	1.27	0.00	0.00	0.00	1.06	
30	0.30	3.93	0.57	1.34	11.67	41.92	6.63	1.20	0.45	0.00		1.06	
31		1.41		0.71	14.64		5.73		0.45	0.00		1.13	
Total	3.34	39.57	87.20	119.19	383.06	489.64	531.08	80.51	7.21	1.97	0.00	13.66	1756.43 CMSDAY
Mean	0.11	1.28	2.91	3.84	12.36	16.32	17.13	2.68	0.23	0.06	0.00	0.44	4.80 CMS
Max	0.78	9.81	11.85	40.04	65.32	41.92	38.75	5.35	1.62	1.97	0.00	1.13	65.32 CMS
Min	0.00	0.00	0.00	0.57	0.64	7.53	5.73	1.20	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	0.289	3.419	7.534	10.298	33.096	42.305	45.885	6.956	0.623	0.170	0.000	1.180	151.756 MCM

Momentary Peak 68.53 CMS, at 5.05 M (A.D), at 18.00 Hours, on Aug 19, 1991
Runoff Yield 16.00 Liters/Second/Square KM, Momentary Peak Yield 228.42 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

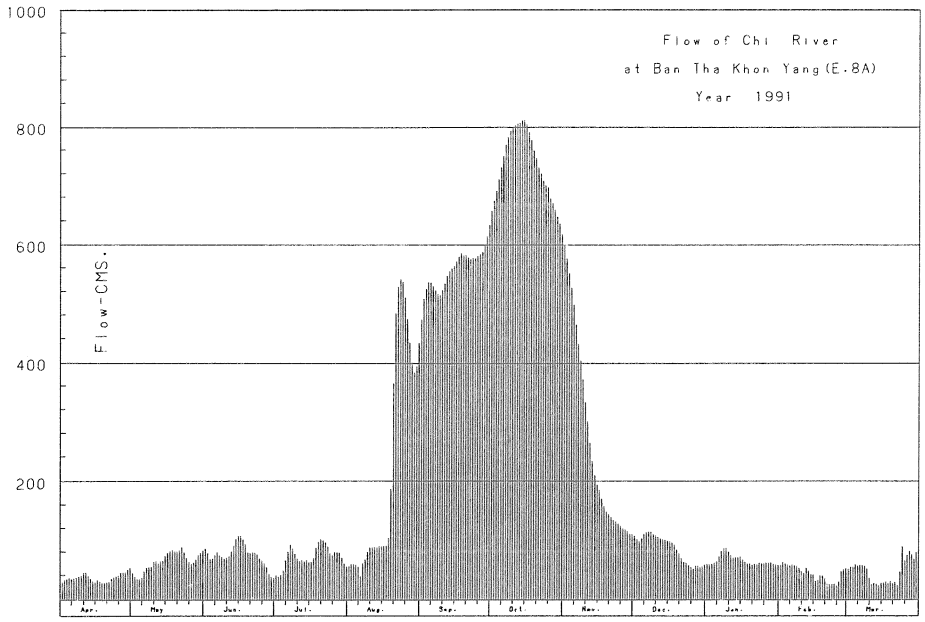
Chi River at Ban Tha Khon Yang, Maha Sarakham (E.8A)

Location	Lat. 16-13-51 N., Long. 103-16-29 E., on right bank at the bridge of Maha Sarakham-Kalasin Highway, Tambon Tha Khon Yang, Amphoe Kantharawichai, Maha Sarakham.
Drainage Area	30,764 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+133.21 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	Near the automatic gage building.
Elevation	+144.420 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1955 to date.
Rating Operation	
Period of Rating	1955-1957, 1965-1976, 1982 to date.
Rated by Float	-
Rated by Current Meter	1955-1957, 1965-1976, 1982 to date.
Stability of Channel Regimes	Farily stable because of backwater effect.
Overbank Flow Conditions	Overbank starts at elevation + 142.56 m.(M.S.L.) and is included.
General Description	Records fair. Flow regulated by Nam Phong Dam above gage site. Stage-discharge relation defined by 36 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	134.32	134.52	135.39	134.46	134.73	140.96	142.77	142.29	135.80	134.81	134.78	134.61	
2	134.36	134.43	135.21	134.44	134.79	141.34	142.90	142.07	135.70	134.77	134.86	134.66	
3	134.39	134.39	135.02	134.46	134.82	141.54	143.01	141.83	135.61	134.81	134.84	134.69	
4	134.40	134.37	135.02	134.57	134.76	141.65	143.15	141.55	135.72	134.84	134.76	134.77	
5	134.39	134.42	135.16	134.98	134.70	141.66	143.27	141.24	135.87	134.93	134.75	134.74	
6	134.39	134.54	135.24	135.25	134.45	141.58	143.37	140.85	135.92	135.12	134.77	134.75	
7	134.42	134.66	135.15	135.51	134.82	141.51	143.46	140.43	135.95	135.28	134.76	134.76	
8	134.43	134.66	135.07	135.36	135.01	141.43	143.51	140.09	135.93	135.39	134.71	134.71	
9	134.46	134.69	135.04	135.20	135.25	141.42	143.56	139.68	135.86	135.39	134.65	134.62	
10	134.51	134.92	135.05	135.02	135.40	141.50	143.58	139.21	135.81	135.27	134.56	134.41	
11	134.52	134.92	135.13	134.95	135.42	141.64	143.60	138.80	135.76	135.14	134.50	134.27	
12	134.46	134.84	135.27	134.96	135.41	141.77	143.61	138.32	135.72	135.06	134.65	134.28	
13	134.40	134.91	135.49	134.93	135.42	141.87	143.61	137.87	135.69	135.06	134.55	134.28	
14	134.33	134.96	135.69	134.97	135.45	141.90	143.63	137.54	135.65	135.08	134.49	134.22	
15	134.32	135.11	135.81	134.89	135.45	141.95	143.63	137.29	135.64	135.09	134.47	134.29	
16	134.36	135.21	135.79	134.88	135.45	142.02	143.60	137.12	135.60	135.01	134.33	134.31	
17	134.34	135.30	135.69	135.06	135.48	142.11	143.55	136.90	135.58	134.89	134.37	134.32	
18	134.29	135.31	135.51	135.39	135.75	142.16	143.49	136.67	135.49	134.83	134.45	134.30	
19	134.31	135.28	135.25	135.61	137.16	142.13	143.42	136.53	135.34	134.82	134.46	134.33	
20	134.31	135.26	135.21	135.68	139.61	142.13	143.35	136.44	135.19	134.78	134.39	134.29	
21	134.32	135.30	135.25	135.64	141.07	142.09	143.26	136.36	135.03	134.80	134.28	134.31	
22	134.40	135.43	135.24	135.60	141.58	142.07	143.21	136.29	134.90	134.80	134.25	134.24	
23	134.41	135.25	135.16	135.45	141.72	142.08	143.13	136.23	134.84	134.85	134.28	134.53	
24	134.45	135.04	135.04	135.20	141.66	142.08	143.07	136.19	134.76	134.84	134.26	135.42	
25	134.45	134.89	134.94	135.15	141.38	142.11	143.06	136.11	134.65	134.84	134.23	134.96	
26	134.51	134.83	134.82	135.24	140.96	142.14	142.92	136.06	134.61	134.85	134.32	135.14	
27	134.53	134.88	134.68	135.25	140.47	142.19	142.87	136.02	134.74	134.87	134.55	135.29	
28	134.52	134.98	134.50	135.22	140.02	142.30	142.78	135.95	134.70	134.85	134.58	135.16	
29	134.59	135.16	134.42	135.07	139.84	142.42	142.70	135.87	134.67	134.82	134.60	135.02	
30	134.63	135.21	134.41	134.81	139.96	142.59	142.60	135.85	134.68	134.76		135.26	
31		135.30		134.68	140.45		142.45		134.76	134.74		135.04	
Mean	134.42	134.93	135.15	135.09	137.37	141.88	143.23	138.12	135.36	134.95	134.53	134.64	
Max	134.63	135.43	135.81	135.68	141.72	142.59	143.63	142.29	135.95	135.39	134.86	135.42	143.63
Min	134.29	134.37	134.41	134.44	134.45	140.96	142.45	135.85	134.61	134.74	134.23	134.22	134.22

Annual Max Momentary Gage Height 143.64 M (MSL), at 24.00 Hours, on Oct 14, 1991
Zero Gage at Bottom Elevation 133.21 M (MSL), River Bed 133.29 M (MSL)
Left Bank Elevation 142.55 M (MSL)
Right Bank Elevation 143.85 M (MSL), Drainage Area 30764 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	29.6	45.6	87.5	40.8	57.2	474.8	658.1	599.9	108.0	60.4	59.2	52.4	
2	32.8	38.4	78.5	39.2	59.6	508.6	676.0	577.0	103.0	58.8	62.4	54.4	
3	35.2	35.2	69.0	40.8	60.8	526.6	691.5	553.0	98.5	60.4	61.6	55.6	
4	36.0	33.6	69.0	49.6	58.4	536.5	712.5	527.5	104.0	61.6	58.4	58.8	
5	35.2	37.6	76.0	67.2	56.0	537.4	732.6	499.6	111.5	65.2	58.0	57.6	
6	35.2	47.2	80.0	80.5	40.0	530.2	750.6	466.0	114.0	74.0	58.8	58.0	
7	37.6	54.4	75.5	93.5	60.8	523.9	770.4	432.4	115.5	82.0	58.4	58.4	
8	38.4	54.4	71.5	86.0	68.5	516.7	782.4	405.2	114.5	87.5	56.4	56.4	
9	40.8	55.6	70.0	78.0	80.5	515.8	794.4	372.4	111.0	87.5	54.0	52.8	
10	44.8	64.8	70.5	69.0	88.0	523.0	799.2	334.8	108.5	81.5	48.8	36.8	
11	45.6	64.8	74.5	66.0	89.0	535.6	804.0	302.0	106.0	75.0	44.0	26.2	
12	40.8	61.6	81.5	66.4	88.5	547.3	806.6	266.4	104.0	71.0	54.0	26.8	
13	36.0	64.4	92.5	65.2	89.0	557.0	806.6	234.9	102.5	71.0	48.0	26.8	
14	30.4	66.4	102.5	66.8	90.5	560.0	811.8	211.8	100.5	72.0	43.2	23.2	
15	29.6	73.5	108.5	63.6	90.5	565.0	811.8	195.4	100.0	72.5	41.6	27.4	
16	32.8	78.5	107.5	63.2	90.5	572.0	804.0	185.2	98.0	68.5	30.4	28.8	
17	31.2	83.0	102.5	71.0	92.0	581.0	792.0	172.0	97.0	63.6	33.6	29.6	
18	27.4	83.5	93.5	87.5	105.5	586.0	777.6	158.2	92.5	61.2	40.0	28.0	
19	28.8	82.0	80.5	98.5	187.6	583.0	760.8	149.8	85.0	60.8	40.8	30.4	
20	28.8	81.0	78.5	102.0	366.8	583.0	747.0	144.4	77.5	59.2	35.2	27.4	
21	29.6	83.0	80.5	100.0	484.3	579.0	730.8	139.6	69.5	60.0	26.8	28.8	
22	36.0	89.5	80.0	98.0	530.2	577.0	721.8	135.4	64.0	60.0	25.0	24.4	
23	36.8	80.5	76.0	90.5	542.8	578.0	709.5	131.8	61.6	62.0	26.8	46.4	
24	40.0	70.0	70.0	78.0	537.4	578.0	700.5	129.4	58.4	61.6	25.6	89.0	
25	40.0	63.6	65.6	75.5	512.2	581.0	699.0	124.6	54.0	61.6	23.8	66.4	
26	44.8	61.2	60.8	80.0	474.8	584.0	678.8	121.6	52.4	62.0	29.6	75.0	
27	46.4	63.2	55.2	80.5	435.6	589.0	671.8	119.2	57.6	62.8	48.0	82.5	
28	45.6	67.2	44.0	79.0	399.6	601.0	659.4	115.5	56.0	62.0	50.4	76.0	
29	51.2	76.0	37.6	71.5	385.2	614.4	649.0	111.5	54.8	60.8	52.0	69.0	
30	53.2	78.5	36.8	60.4	394.8	634.8	636.0	110.5	55.2	58.4		81.0	
31		83.0		55.2	434.0		618.0		58.4	57.6		70.0	
Total	1120.6	2021.2	2276.0	2263.4	7050.6	16779.6	22764.5	8027.0	2693.4	2062.5	1294.8	1524.3	69877.9 CMSDAY
Mean	37.4	65.2	75.9	73.0	227.4	559.3	734.3	267.6	86.9	66.5	44.6	49.2	190.9 CMS
Max	53.2	89.5	108.5	102.0	542.8	634.8	811.8	599.9	115.5	87.5	62.4	89.0	811.8 CMS
Min	27.4	33.6	36.8	39.2	40.0	474.8	618.0	110.5	52.4	57.6	23.8	23.2	23.2 CMS
Runoff	96.82	174.63	196.65	195.56	609.17	1449.76	1966.85	693.53	232.71	178.20	111.87	131.70	6037.45 MCM

Momentary Peak 814.40 CMS, at 143.64 M (MSL), at 24.00 Hours, on Oct 14, 1991

Runoff Yield 6.21 Liters/Second/Square KM, Momentary Peak Yield 26.47 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

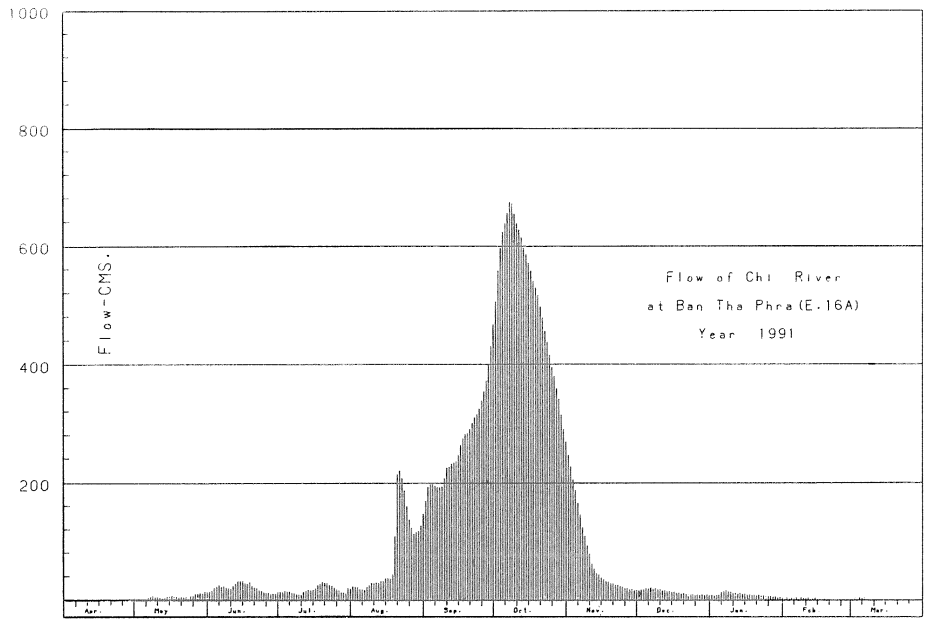
Chi River at Ban Tha Phra, Khon Kaen (E.16A)

Location	Lat. 16-21-14 N., Long. 102-45-09 E., on left bank about 400 meters upstream from the bridge of Khon Kaen-Maha Sarakham Highway, Tambon Don Han, Amphoe Muang, Khon Kaen.
Drainage Area	13,171 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+142.71 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank at the abutment of the bridge.
Elevation	+157.374 m. (M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1957 to date.
Rating Operation	
Period of Rating	1963, 1965 to date.
Rated by Float	-
Rated by Current Meter	1963, 1965 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 37 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	142.53	142.74	143.42	143.41	143.89	147.93	151.86	149.28	143.56	143.14	142.87	142.81	
2	142.52	142.72	143.57	143.45	143.91	148.35	152.07	148.95	143.59	143.12	142.85	142.81	
3	142.52	142.71	143.76	143.51	143.83	148.45	152.19	148.59	143.67	143.12	142.84	142.81	
4	142.53	142.73	143.92	143.50	143.71	148.46	152.26	148.25	143.71	143.20	142.84	142.82	
5	142.55	142.74	144.01	143.45	143.62	148.40	152.30	147.85	143.74	143.36	142.85	142.83	
6	142.56	142.81	143.93	143.39	143.63	148.34	152.34	147.44	143.77	143.51	142.86	142.84	
7	142.56	143.04	143.91	143.31	143.82	148.35	152.39	146.99	143.72	143.55	142.86	142.85	
8	142.55	143.05	143.84	143.27	144.05	148.36	152.38	146.59	143.71	143.50	142.86	143.12	
9	142.54	142.99	143.74	143.19	144.17	148.63	152.34	146.20	143.67	143.41	142.85	143.40	
10	142.54	142.92	143.72	143.22	144.21	148.92	152.30	145.83	143.63	143.35	142.85	143.49	
11	142.54	142.86	143.93	143.41	144.20	148.96	152.27	145.37	143.58	143.31	142.84	143.88	
12	142.53	142.83	144.17	143.56	144.23	149.03	152.24	145.05	143.54	143.30	142.83	144.23	
13	142.55	142.89	144.32	143.61	144.33	149.07	152.19	144.84	143.50	143.31	142.82	144.46	
14	142.57	143.01	144.38	143.59	144.38	149.09	152.16	144.71	143.47	143.29	142.80	144.85	
15	142.61	143.08	144.34	143.61	144.50	149.28	152.11	144.58	143.45	143.26	142.78	145.17	
16	142.65	143.11	144.20	143.77	144.54	149.54	152.07	144.44	143.41	143.21	142.77	145.36	
17	142.65	143.03	144.11	143.98	144.50	149.72	152.01	144.35	143.37	143.18	142.74	145.55	
18	142.64	142.99	144.31	144.15	144.74	149.81	151.97	144.27	143.35	143.17	142.70	145.74	
19	142.63	142.97	143.92	144.26	146.59	149.84	151.91	144.19	143.31	143.15	142.68	145.98	
20	142.61	142.95	143.85	144.25	148.74	149.93	151.83	144.12	143.28	143.15	142.65	146.16	
21	142.60	143.00	143.74	144.17	148.86	150.09	151.73	144.06	143.26	143.14	142.64	146.14	
22	142.60	142.97	143.61	144.07	148.63	150.21	151.61	144.00	143.24	143.13	142.63	146.01	
23	142.63	142.96	143.51	143.94	148.24	150.30	151.49	143.94	143.21	143.10	142.62	146.95	
24	142.66	143.04	143.44	143.83	147.74	150.42	151.35	143.84	143.20	143.06	142.60	146.97	
25	142.66	143.15	143.39	143.67	147.28	150.59	151.19	143.78	143.18	143.05	142.57	147.03	
26	142.64	143.25	143.33	143.53	146.94	150.76	151.03	143.72	143.16	143.03	142.55	147.01	
27	142.66	143.31	143.28	143.43	146.71	150.96	150.83	143.68	143.16	142.99	142.52	147.08	
28	142.71	143.30	143.27	143.36	146.75	151.21	150.61	143.64	143.18	142.96	142.56	146.95	
29	142.74	143.34	143.31	143.35	146.82	151.45	150.29	143.59	143.18	142.93	142.60	146.77	
30	142.74	143.42	143.38	143.74	147.03	151.66	149.92	143.57	143.17	142.90		146.76	
31		143.44		143.72	147.47		149.62		143.16	142.88		146.87	
Mean	142.60	143.01	143.79	143.64	145.55	149.54	151.71	145.32	143.42	143.19	142.74	145.02	
Max	142.74	143.44	144.38	144.26	148.86	151.66	152.39	149.28	143.77	143.55	142.87	147.08	152.39
Min	142.52	142.71	143.27	143.19	143.62	147.93	149.62	143.57	143.16	142.88	142.52	142.81	142.52

Annual Max Momentary Gage Height 152.39 M (MSL), at 24.00 Hours, on Oct 7, 1991
Zero Gage at Bottom Elevation 142.71 M (MSL), River Bed 141.06 M (MSL)
Left Bank Elevation 152.79 M (MSL)
Right Bank Elevation 152.59 M (MSL), Drainage Area 13171 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.3	3.4	14.4	14.2	23.8	170.5	505.8	248.0	17.2	8.8	4.7	4.1	
2	1.2	3.2	17.4	15.0	24.2	193.3	559.7	227.4	17.8	8.4	4.5	4.1	
3	1.2	3.1	21.2	16.2	22.6	198.7	596.9	206.4	19.4	8.4	4.4	4.1	
4	1.3	3.3	24.4	16.0	20.2	199.3	624.0	187.7	20.2	10.0	4.4	4.2	
5	1.5	3.4	26.2	15.0	18.4	196.0	640.0	166.5	20.8	13.2	4.5	4.3	
6	1.6	4.1	24.6	13.8	18.6	192.7	656.0	146.0	21.4	16.2	4.6	4.4	
7	1.6	7.1	24.2	12.2	22.4	193.3	676.0	125.6	20.4	17.0	4.6	4.5	
8	1.5	7.3	22.8	11.4	27.0	193.8	672.0	109.6	20.2	16.0	4.6	0.0	
9	1.4	6.4	20.8	9.8	29.4	208.7	656.0	94.0	19.4	14.2	4.5	0.0	
10	1.4	5.3	20.4	10.4	30.2	225.5	640.0	79.2	18.6	13.0	4.5	0.0	
11	1.4	4.6	24.6	14.2	30.0	228.0	628.0	63.1	17.6	12.2	4.4	0.0	
12	1.3	4.3	29.4	17.2	30.6	232.4	616.0	53.5	16.8	12.0	4.3	0.0	
13	1.5	4.9	32.4	18.2	32.6	234.9	596.9	47.2	16.0	12.2	4.2	0.0	
14	1.7	6.6	33.6	17.8	33.6	236.1	587.6	43.3	15.4	11.8	4.0	0.0	
15	2.1	7.7	32.8	18.2	37.0	248.0	572.1	39.4	15.0	11.2	3.8	0.0	
16	2.5	8.2	30.0	21.4	38.2	264.2	559.7	35.2	14.2	10.2	3.7	0.0	
17	2.5	6.9	28.2	25.6	37.0	276.4	541.1	33.0	13.4	9.6	3.4	0.0	
18	2.4	6.4	32.2	29.0	44.2	282.7	531.1	31.4	13.0	9.4	3.0	0.0	
19	2.3	6.1	24.4	31.2	109.6	284.8	517.3	29.8	12.2	9.0	2.8	0.0	
20	2.1	5.8	23.0	31.0	214.7	291.1	498.9	28.4	11.6	9.0	2.5	0.0	
21	2.0	6.5	20.8	29.4	221.7	302.3	479.4	27.2	11.2	8.8	2.4	0.0	
22	2.0	6.1	18.2	27.4	208.7	310.7	457.8	26.0	10.8	8.6	2.3	0.0	
23	2.3	5.9	16.2	24.8	187.2	317.0	438.4	24.8	10.2	8.0	2.2	0.0	
24	2.6	7.1	14.8	22.6	161.0	325.7	417.5	22.8	10.0	7.4	2.0	0.0	
25	2.6	9.0	13.8	19.4	138.6	340.1	397.0	21.6	9.6	7.3	1.7	0.0	
26	2.4	11.0	12.6	16.6	123.6	354.6	381.0	20.4	9.2	6.9	1.5	0.0	
27	2.6	12.2	11.6	14.6	114.4	374.0	361.0	19.6	9.2	6.4	1.2	0.0	
28	3.1	12.0	11.4	13.2	116.0	399.3	341.9	18.8	9.6	5.9	1.6	0.0	
29	3.4	12.8	12.2	13.0	118.8	432.0	316.3	17.8	9.6	5.4	2.0	0.0	
30	3.4	14.4	13.6	20.8	127.3	466.8	290.4	17.4	9.4	5.0		0.0	
31		14.8		20.4	147.5		269.4		9.2	4.8		0.0	
Total	60.2	219.9	652.2	580.0	2509.1	8172.9	16025.2	2211.1	448.6	306.3	98.3	29.7	31313.5 CMSDAY
Mean	2.0	7.1	21.7	18.7	80.9	272.4	516.9	73.7	14.5	9.9	3.4	1.0	85.6 CMS
Max	3.4	14.8	33.6	31.2	221.7	466.8	676.0	248.0	21.4	17.0	4.7	4.5	676.0 CMS
Min	1.2	3.1	11.4	9.8	18.4	170.5	269.4	17.4	9.2	4.8	1.2	0.0	0.0 CMS
Runoff	5.20	19.00	56.35	50.11	216.79	706.14	1384.58	191.04	38.76	26.46	8.49	2.57	2705.49 MCM

Momentary Peak 676.00 CMS, at 152.39 M (MSL), at 24.00 Hours, on Oct 7, 1991

Runoff Yield 6.50 Liters/Second/Square KM, Momentary Peak Yield 51.33 Liters/Second/Square KM

Q min but WL not min

WATER YEAR 1991

CHI RIVER BASIN

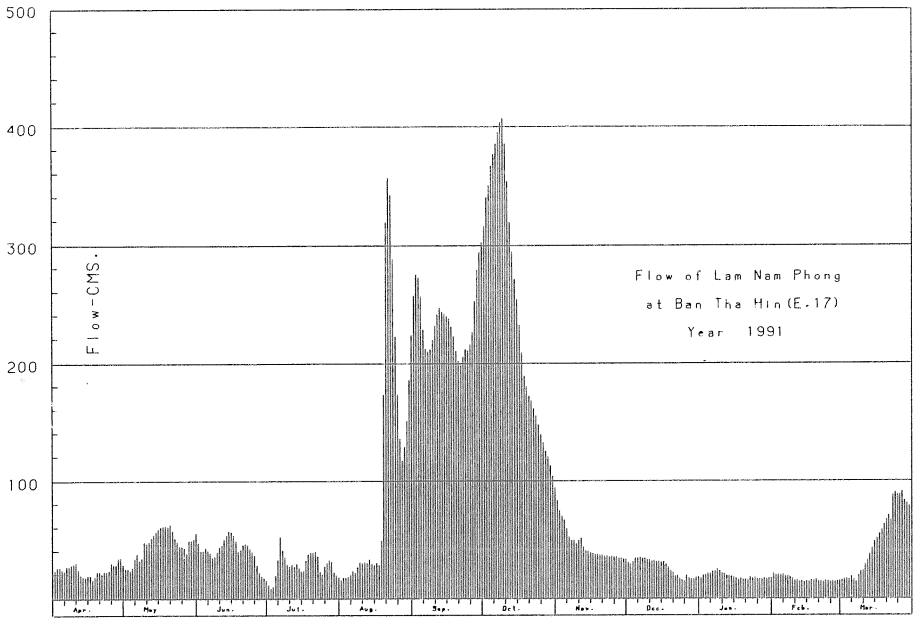
Lam Nam Phong at Ban Tha Hin, Khon Kaen (E.17).

Location	Lat. 16-26-20 N., Long. 102-56-52 E., on left bank at the bridge of Khon Kaen-Kalasin Highway, Ban Tha Hin, Tambon Tha Hin, Amphoe Muang, Khon Kaen.
Drainage Area	14,426 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+140.821 m.(M.S.L.).
Bench Mark	B.M.-H.D.
Location	Near the automatic gage building.
Elevation	+151.215 m.(M.S.L.).
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1954 to date.
Rating Operation	
Period of Rating	1965-1973, 1984 to date.
Rated by Float	-
Rated by Current Meter	1965-1973, 1984 to date.
Stability of Channel Regimes	Fairly stable because of backwater effect.
Overbank Flow Conditions	Overbank flow starts at elevation +150.71 m.(M.S.L.),records are channel flow only.
General Description	Records fair. Stage-discharge relation defined by 36 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	142.72	142.78	143.63	142.10	142.34	149.02	150.01	146.96	144.11	143.02	143.31	142.90	
2	142.80	142.76	143.39	141.96	142.43	149.33	150.40	146.56	143.98	143.18	143.26	142.92	
3	142.83	142.72	143.38	142.01	142.45	149.29	150.56	146.37	144.17	143.27	143.24	142.98	
4	142.72	142.81	143.49	142.54	142.46	149.00	150.81	146.19	144.34	143.32	143.24	142.90	
5	142.70	143.15	143.40	143.11	142.56	148.46	150.95	145.84	144.39	143.35	143.25	143.16	
6	142.84	143.28	143.31	143.83	142.68	148.11	151.08	145.44	144.39	143.45	143.19	142.89	
7	142.86	143.08	143.18	143.43	142.64	148.07	151.23	145.30	144.37	143.53	143.14	142.77	
8	142.90	143.14	143.19	143.18	142.85	148.10	151.34	145.28	144.33	143.64	143.11	143.24	
9	142.96	143.68	143.36	142.95	143.00	148.28	151.39	145.12	144.30	143.54	142.97	143.47	
10	142.98	143.61	143.50	142.85	142.99	148.52	151.33	145.26	144.25	143.39	142.86	143.56	
11	142.75	143.69	143.58	142.92	143.00	148.72	151.14	145.41	144.21	143.28	142.82	143.95	
12	142.56	143.81	143.74	142.86	143.00	148.82	150.91	144.93	144.20	143.22	142.78	144.25	
13	142.45	143.88	143.89	142.95	143.10	148.76	150.69	144.78	144.17	143.15	142.76	144.53	
14	142.46	143.99	143.99	142.82	142.97	148.72	150.49	144.72	144.15	143.16	142.74	144.90	
15	142.50	144.05	143.99	142.69	142.89	148.69	150.29	144.68	144.14	143.05	142.76	145.20	
16	142.53	144.11	143.87	142.68	142.98	148.64	150.05	144.61	144.13	142.97	142.78	145.40	
17	142.32	144.15	143.71	143.08	142.93	148.51	149.74	144.58	144.02	142.92	142.82	145.58	
18	142.49	144.14	143.36	143.27	143.71	148.33	149.48	144.57	143.76	142.96	142.86	145.78	
19	142.64	144.14	143.44	143.35	147.20	148.08	149.33	144.55	143.57	142.93	142.89	146.00	
20	142.67	144.18	143.57	143.32	150.08	147.89	149.21	144.53	143.39	142.89	142.81	146.23	
21	142.57	144.02	143.60	143.36	150.65	147.81	149.14	144.49	143.20	142.89	142.77	146.37	
22	142.68	143.79	143.59	143.22	150.44	147.97	149.04	144.48	143.17	143.04	142.77	146.20	
23	142.65	143.66	143.47	142.68	149.55	148.10	148.92	144.47	143.02	143.01	142.81	147.11	
24	142.71	143.54	143.34	142.55	148.34	148.09	148.78	144.46	142.86	143.01	142.82	147.22	
25	142.97	143.51	143.24	142.85	147.21	148.20	148.62	144.45	142.82	142.96	142.77	147.16	
26	142.91	143.47	142.92	143.00	146.26	148.41	148.46	144.43	143.18	142.92	142.76	147.13	
27	142.94	143.31	142.64	143.10	145.78	148.92	148.30	144.38	143.03	142.94	142.77	147.22	
28	143.15	143.72	142.49	143.01	146.08	149.40	148.17	144.34	142.92	142.97	142.78	146.95	
29	143.15	143.70	142.44	142.66	146.65	149.65	148.00	144.32	142.96	142.98	142.79	146.82	
30	142.92	143.77	142.30	142.52	147.51	149.80	147.70	144.27	143.07	142.98		146.75	
31		143.94		142.44	148.35		147.36		143.06	143.04		146.89	
Mean	142.74	143.60	143.37	142.88	145.00	148.59	149.77	144.99	143.73	143.13	142.92	145.11	
Max	143.15	144.18	143.99	143.83	150.65	149.80	151.39	146.96	144.39	143.64	143.31	147.22	151.39
Min	142.32	142.72	142.30	141.96	142.34	147.81	147.36	144.27	142.82	142.89	142.74	142.77	141.96

Annual Max Momentary Gage Height 151.40 M (MSL), at 6.00 Hours, on Oct 9, 1991
Zero Gage at Bottom Elevation 140.82 M (MSL), River Bed 140.46 M (MSL)
Left Bank Elevation 151.68 M (MSL)
Right Bank Elevation 150.70 M (MSL), Drainage Area 14426 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	24.3	25.6	47.2	11.6	16.1	257.9	315.6	84.1	31.0	17.7	21.2	16.3	
2	26.1	25.2	40.7	9.1	17.8	275.3	340.2	74.9	29.3	19.7	20.6	16.5	
3	26.8	24.3	40.5	10.0	18.2	273.0	350.8	70.8	31.9	20.7	20.4	17.3	
4	24.3	26.3	43.4	20.1	18.4	256.8	367.3	67.0	34.3	21.3	20.4	16.3	
5	23.8	34.5	41.0	33.5	20.6	229.1	376.6	60.0	35.0	21.7	20.5	19.4	
6	27.0	37.9	38.7	52.7	23.3	212.3	385.4	52.5	35.0	22.9	19.8	16.2	
7	27.5	32.7	35.3	41.8	22.4	210.4	395.9	50.1	34.7	23.9	19.2	14.7	
8	28.4	34.2	35.5	35.3	27.3	211.8	403.7	49.8	34.1	25.2	18.8	20.4	
9	29.8	48.6	40.0	29.5	30.7	220.4	407.3	47.0	33.7	24.0	17.1	23.1	
10	30.2	46.7	43.7	27.3	30.5	232.0	386.1	49.4	33.0	22.2	15.8	24.2	
11	25.0	48.8	45.9	28.9	30.7	242.0	353.8	52.0	32.4	20.9	15.3	28.9	
12	20.6	52.2	50.2	27.5	30.7	247.2	319.7	43.8	32.3	20.1	14.9	33.0	
13	18.2	54.1	54.4	29.5	33.2	244.1	294.4	41.3	31.9	19.3	14.6	37.0	
14	18.4	57.2	57.2	26.6	30.0	242.0	271.6	40.2	31.6	19.4	14.4	43.3	
15	19.2	59.0	57.2	23.6	28.2	240.5	254.0	39.6	31.5	18.1	14.6	48.4	
16	19.9	60.7	53.9	23.3	30.2	238.0	232.9	38.4	31.3	17.1	14.9	51.8	
17	15.7	61.9	49.4	32.7	29.1	231.5	209.0	37.9	29.8	16.5	15.3	55.0	
18	19.0	61.6	40.0	37.6	49.4	222.8	189.7	37.7	26.6	17.0	15.8	58.8	
19	22.4	61.6	42.1	39.7	173.6	210.8	180.3	37.4	24.3	16.7	16.2	63.0	
20	23.1	62.9	45.6	38.9	320.0	202.0	172.7	37.0	22.2	16.2	15.2	67.8	
21	20.8	58.1	46.4	40.0	356.7	198.4	168.3	36.4	19.9	16.2	14.7	70.8	
22	23.3	51.6	46.1	36.3	342.8	205.6	162.0	36.2	19.5	18.0	14.7	67.2	
23	22.6	48.0	42.9	23.3	288.1	211.8	155.4	36.1	17.7	17.6	15.2	87.9	
24	24.0	44.8	39.4	20.4	223.3	211.3	148.3	35.9	15.8	17.6	15.3	90.7	
25	30.0	44.0	36.8	27.3	174.0	216.6	140.1	35.8	15.3	17.0	14.7	89.2	
26	28.6	42.9	28.9	30.7	136.0	226.7	132.4	35.5	19.7	16.5	14.6	88.4	
27	29.3	38.7	22.4	33.2	117.8	252.5	125.8	34.8	17.9	16.8	14.7	90.7	
28	34.5	49.7	19.0	30.9	129.0	279.4	120.5	34.3	16.5	17.1	14.9	83.8	
29	34.5	49.1	18.0	22.9	151.6	293.9	113.5	34.0	17.0	17.3	15.0	80.9	
30	28.9	51.1	15.3	19.7	186.0	302.8	104.2	33.3	18.3	17.3		79.3	
31		55.8		18.0	223.8		94.4		18.2	18.0		82.5	
Total	746.2	1449.8	1217.1	881.9	3309.5	7098.9	7671.9	1363.2	821.7	590.0	478.8	1582.8	27211.8 CMSDAY
Mean	24.9	46.8	40.6	28.4	106.8	236.6	247.5	45.4	26.5	19.0	16.5	51.1	74.3 CMS
Max	34.5	62.9	57.2	52.7	356.7	302.8	407.3	84.1	35.0	25.2	21.2	90.7	407.3 CMS
Min	15.7	24.3	15.3	9.1	16.1	198.4	94.4	33.3	15.3	16.2	14.4	14.7	9.1 CMS
Runoff	64.47	125.26	105.16	76.20	285.94	613.34	662.85	117.78	70.99	50.98	41.37	136.75	2351.10 MCM

Momentary Peak 408.00 CMS, at 151.40 M (MSL), at 6.00 Hours, on Oct 9, 1991

Runoff Yield 5.15 Liters/Second/Square KM, Momentary Peak Yield 28.28 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

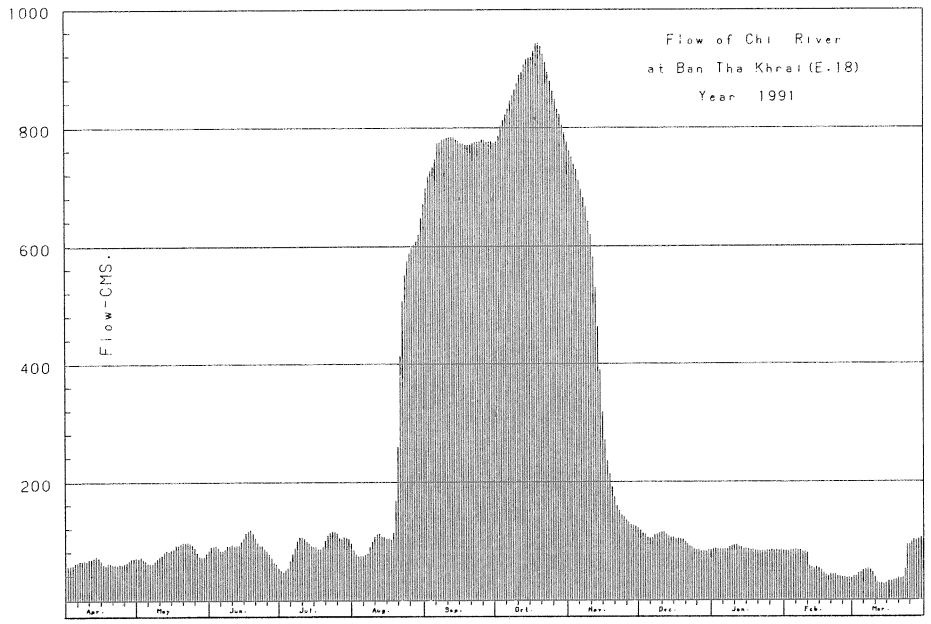
Chi River at Ban Tha Khrai, Roi Et (E.18)

Location	Lat. 16-01-59 N., Long. 103-54-38 E., on left bank at Ban Tha Khrai, Amphoe Selaphum, Roi Et.
Drainage Area	41,594 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+122.244 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank at the abutment of the bridge.
Elevation	+135.187 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1954 to date.
Rating Operation	
Period of Rating	1974 to date.
Rated by Float	-
Rated by Current Meter	1974 to date.
Stability of Channel Regimes	Fairly stable because of backwater effect.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 126 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	123.98	124.22	124.52	123.83	124.45	130.71	131.29	131.30	125.08	124.28	124.12	123.61	
2	123.98	124.24	124.55	123.79	124.32	130.87	131.36	131.23	125.00	124.28	124.12	123.64	
3	124.02	124.19	124.56	123.84	124.28	130.93	131.46	131.16	124.95	124.27	124.16	123.72	
4	124.07	124.13	124.51	123.93	124.27	130.99	131.52	131.10	124.86	124.24	124.21	123.78	
5	124.11	124.08	124.43	124.15	124.29	131.08	131.57	130.99	124.81	124.25	124.22	123.82	
6	124.13	124.06	124.41	124.33	124.31	131.28	131.63	130.89	124.85	124.24	124.20	123.88	
7	124.14	124.07	124.47	124.51	124.36	131.28	131.69	130.80	124.92	124.28	124.17	123.88	
8	124.14	124.13	124.55	124.69	124.52	131.32	131.74	130.69	124.96	124.38	124.11	123.86	
9	124.14	124.21	124.56	124.81	124.69	131.32	131.78	130.53	124.99	124.50	124.06	123.76	
10	124.18	124.24	124.58	124.79	124.81	131.34	131.83	130.36	125.04	124.54	124.03	123.61	
11	124.20	124.30	124.56	124.76	124.88	131.34	131.88	130.07	125.03	124.53	123.99	123.43	
12	124.23	124.39	124.56	124.69	124.88	131.35	131.90	129.63	124.96	124.46	123.92	123.36	
13	124.26	124.42	124.58	124.63	124.83	131.34	131.95	129.07	124.88	124.36	123.90	123.33	
14	124.24	124.41	124.67	124.57	124.80	131.32	131.98	128.39	124.85	124.30	123.94	123.32	
15	124.13	124.43	124.78	124.54	124.77	131.30	131.99	127.71	124.84	124.26	123.91	123.35	
16	124.03	124.46	124.89	124.52	124.76	131.28	132.00	127.19	124.80	124.24	123.84	123.44	
17	124.01	124.58	124.96	124.48	124.74	131.27	132.02	126.79	124.80	124.22	123.76	123.46	
18	124.06	124.56	124.97	124.46	124.90	131.26	132.05	126.50	124.80	124.21	123.67	123.47	
19	124.08	124.62	124.90	124.54	125.68	131.25	132.05	126.23	124.77	124.18	123.64	123.51	
20	124.04	124.64	124.77	124.70	126.77	131.26	132.04	125.98	124.71	124.14	123.70	123.55	
21	124.01	124.66	124.64	124.84	128.30	131.27	132.01	125.78	124.58	124.14	123.71	123.56	
22	124.02	124.66	124.57	124.91	129.11	131.29	131.97	125.64	124.49	124.11	123.69	123.56	
23	124.04	124.62	124.55	124.93	129.50	131.29	131.91	125.56	124.37	124.12	123.64	123.88	
24	124.04	124.59	124.48	124.94	129.70	131.30	131.86	125.49	124.28	124.15	123.60	124.52	
25	124.05	124.49	124.41	124.88	129.82	131.32	131.80	125.42	124.22	124.17	123.60	124.57	
26	124.08	124.36	124.32	124.79	129.89	131.31	131.73	125.34	124.19	124.19	123.58	124.69	
27	124.16	124.27	124.24	124.76	129.94	131.29	131.66	125.28	124.12	124.17	123.57	124.76	
28	124.19	124.23	124.10	124.79	129.98	131.29	131.61	125.24	124.09	124.18	123.56	124.75	
29	124.22	124.26	124.04	124.79	130.08	131.30	131.53	125.23	124.12	124.20	123.56	124.77	
30	124.21	124.34	123.93	124.75	130.31	131.27	131.46	125.16	124.18	124.19		124.82	
31		124.44		124.62	130.51		131.38		124.18	124.16		124.75	
Mean	124.11	124.36	124.54	124.57	126.53	131.23	131.76	128.02	124.67	124.26	123.87	123.88	
Max	124.26	124.66	124.97	124.94	130.51	131.35	132.05	131.30	125.08	124.54	124.22	124.82	132.05
Min	123.98	124.06	123.93	123.79	124.27	130.71	131.29	125.16	124.09	124.11	123.56	123.32	123.32

Annual Max Momentary Gage Height 132.06 M (MSL), at 24.00 Hours, on Oct 18, 1991
Zero Gage at Bottom Elevation 122.24 M (MSL), River Bed 120.27 M (MSL)
Left Bank Elevation 132.11 M (MSL)
Right Bank Elevation 132.35 M (MSL), Drainage Area 41594 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	57.5	71.4	89.8	50.0	85.5	698.3	776.6	762.0	118.0	87.0	83.0	39.5	
2	57.5	72.6	91.6	48.0	77.5	719.1	787.0	750.8	114.0	87.0	83.0	40.8	
3	59.6	69.5	92.3	50.5	75.1	726.9	803.2	739.6	111.5	86.7	84.0	44.5	
4	62.4	65.8	89.2	55.0	74.4	734.7	813.4	730.0	107.0	86.0	85.2	47.5	
5	64.6	62.9	84.3	67.1	75.7	747.2	821.9	712.4	104.5	86.3	85.5	49.5	
6	65.8	61.8	83.0	78.1	76.9	775.2	833.0	696.5	106.5	86.0	85.0	52.5	
7	66.5	62.4	86.7	89.2	80.0	775.2	845.0	683.0	110.0	87.0	84.2	52.5	
8	66.5	65.8	91.6	100.2	89.8	781.0	855.4	666.5	112.0	89.5	82.8	51.5	
9	66.5	70.8	92.3	107.7	100.2	781.0	863.8	643.2	113.5	92.5	81.5	46.5	
10	68.9	72.6	93.5	106.4	107.7	784.0	875.8	619.8	116.0	93.5	80.7	39.5	
11	70.1	76.3	92.3	104.5	112.6	784.0	888.8	582.4	115.5	93.3	58.0	31.3	
12	72.0	81.8	92.3	100.2	112.6	785.5	894.0	529.6	112.0	91.5	54.5	28.4	
13	73.8	83.7	93.5	96.6	109.1	784.0	907.0	464.7	108.0	89.0	53.5	27.2	
14	72.6	83.0	99.0	92.9	107.0	781.0	914.8	389.9	106.5	87.5	55.5	26.8	
15	65.8	84.3	105.8	91.0	105.2	778.0	917.4	320.0	106.0	86.5	54.0	28.0	
16	60.1	86.1	113.3	89.8	104.5	775.2	920.0	271.1	104.0	86.0	50.5	31.8	
17	59.1	93.5	118.2	87.3	103.3	773.8	929.2	237.2	104.0	85.5	46.5	32.7	
18	61.8	92.3	118.9	86.1	114.0	772.4	943.0	214.0	104.0	85.2	42.2	33.2	
19	62.9	95.9	114.0	91.0	169.5	771.0	943.0	192.4	102.5	84.5	40.8	35.0	
20	60.7	97.2	105.2	100.9	259.8	772.4	938.4	174.6	99.5	83.5	43.5	36.8	
21	59.1	98.4	97.2	109.8	415.0	773.8	924.6	160.6	94.5	83.5	44.0	37.2	
22	59.6	98.4	92.9	114.7	507.2	776.6	911.3	150.8	92.2	82.8	43.1	37.2	
23	60.7	95.9	91.6	116.1	552.0	776.6	893.9	145.2	89.3	83.0	40.8	52.5	
24	60.7	94.1	87.3	116.8	575.0	778.0	879.8	140.4	87.0	83.8	39.0	93.0	
25	61.3	88.0	83.0	112.6	589.4	781.0	863.0	136.2	85.5	84.2	39.0	94.3	
26	62.9	80.0	77.5	106.4	597.8	779.5	847.6	131.7	84.8	84.8	38.1	98.6	
27	67.7	74.4	72.6	104.5	603.8	776.6	832.6	128.4	83.0	84.2	37.7	102.0	
28	69.5	72.0	64.0	106.4	608.6	776.6	822.1	126.2	82.2	84.5	37.2	101.5	
29	71.4	73.8	60.7	106.4	620.6	778.0	805.3	125.7	83.0	85.0	37.2	102.5	
30	70.8	78.7	55.0	103.9	648.2	773.8	791.4	122.0	84.5	84.8		105.0	
31		84.9		95.9	672.3		776.4		84.5	84.0		101.5	
Total	1938.4	2488.3	2728.6	2886.0	8530.3	23070.4	26818.7	11746.9	3125.5	2678.6	1690.0	1700.8	89402.5 CMSDAY
Mean	64.6	80.3	91.0	93.1	275.2	769.0	865.1	391.6	100.8	86.4	58.3	54.9	244.3 CMS
Max	73.8	98.4	118.9	116.8	672.3	785.5	943.0	762.0	118.0	93.5	85.5	105.0	943.0 CMS
Min	57.5	61.8	55.0	48.0	74.4	698.3	776.4	122.0	82.2	82.8	37.2	26.8	26.8 CMS
Runoff	167.48	214.99	235.75	249.35	737.02	1993.28	2317.14	1014.93	270.04	231.43	146.02	146.95	7724.38 MCM

Momentary Peak 947.60 CMS, at 132.06 M (MSL), at 24.00 Hours, on Oct 18, 1991
Runoff Yield 5.87 Liters/Second/Square KM, Momentary Peak Yield 22.78 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

Chi River at Maha Chana Chai, Yasothon (E.20A)

Location — Lat. 15-31-59 N., Long. 104-15-24 E., on right bank about 800 meters upstream from E.20 station, Amphoe Maha Chana Chai, Yasothon.

Drainage Area — 47,818 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +112.00 m. (M.S.L.)

Bench Mark — B.M.-H.D.

- Location — On right bank at the abutment of the bridge.
- Elevation — +127.138 m. (M.S.L.)

Gage Reading Frequency — 13-time daily readings at 06.00 -18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 13 readings.

Period of Available Gage Records — 1973 to date.

Rating Operation

- Period of Rating — 1974 to date.
- Rated by Float — -
- Rated by Current Meter — 1974 to date.

Stability of Channel Regimes — Rather unstable because of backwater effect.

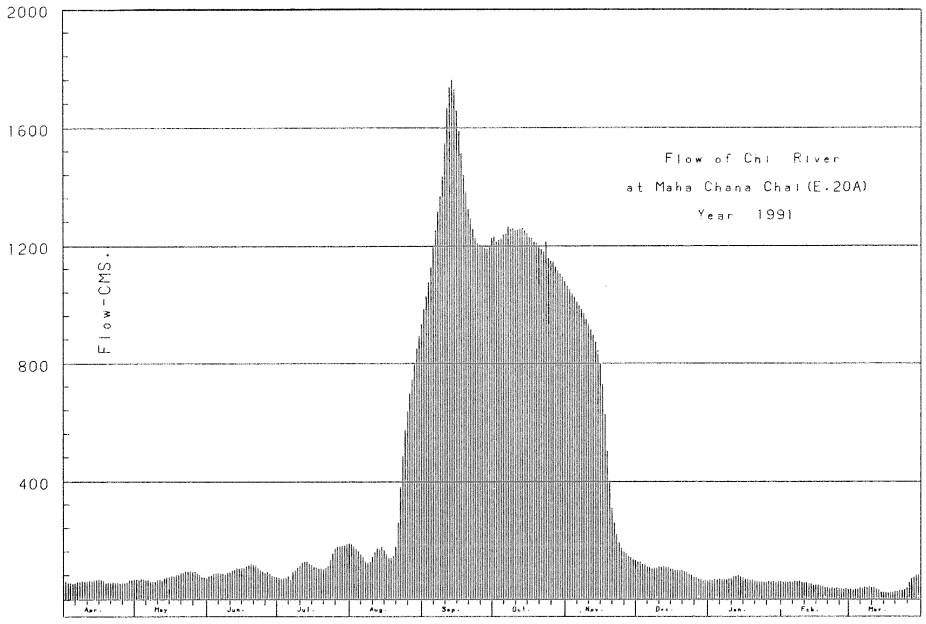
Overbank Flow Conditions — Overbank flow starts at elevation +119.17 m.(M.S.L.),records are channel flow only.

General Description — Records fair. Stage-discharge relation defined by 162 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	115.29	115.38	115.52	115.45	116.68	121.14	122.02	121.68	116.45	115.50	115.43	114.93	
2	115.24	115.39	115.58	115.42	116.60	121.27	121.99	121.65	116.41	115.51	115.42	114.92	
3	115.21	115.40	115.63	115.43	116.52	121.40	122.00	121.62	116.34	115.54	115.40	114.93	
4	115.21	115.41	115.65	115.47	116.42	121.54	122.01	121.59	116.28	115.56	115.39	114.97	
5	115.23	115.39	115.65	115.52	116.33	121.72	122.03	121.55	116.22	115.56	115.42	115.01	
6	115.26	115.34	115.65	115.36	116.22	121.85	122.04	121.51	116.15	115.56	115.44	115.04	
7	115.29	115.30	115.63	115.69	116.08	121.98	122.08	121.48	116.12	115.54	115.45	115.08	
8	115.30	115.28	115.61	115.77	116.01	122.09	122.07	121.44	116.12	115.55	115.45	115.10	
9	115.31	115.29	115.66	115.86	116.07	122.22	122.07	121.39	116.15	115.57	115.42	115.11	
10	115.30	115.34	115.71	115.95	116.23	122.41	122.06	121.34	116.18	115.64	115.39	115.09	
11	115.31	115.37	115.74	116.03	116.41	122.58	122.06	121.29	116.20	115.71	115.36	115.06	
12	115.33	115.34	115.79	116.08	116.52	122.67	122.07	121.23	116.21	115.75	115.33	114.98	
13	115.35	115.44	115.83	116.06	116.49	122.70	122.07	121.17	116.19	115.76	115.29	114.87	
14	115.38	115.49	115.84	116.01	116.57	122.68	122.06	121.08	116.16	115.72	115.25	114.80	
15	115.40	115.52	115.85	115.96	116.47	122.61	122.04	120.95	116.11	115.64	115.23	114.76	
16	115.38	115.53	115.86	115.90	116.32	122.53	122.02	120.69	116.07	115.59	115.22	114.73	
17	115.32	115.54	115.90	115.86	116.20	122.44	122.01	120.30	116.05	115.55	115.20	114.74	
18	115.24	115.57	115.96	115.84	116.19	122.35	121.99	119.72	116.03	115.53	115.15	114.77	
19	115.22	115.61	115.99	115.82	116.28	122.27	121.98	119.14	116.02	115.51	115.10	114.80	
20	115.23	115.65	115.99	115.82	116.58	122.19	121.96	118.42	116.01	115.48	115.05	114.82	
21	115.24	115.69	115.94	115.84	117.31	122.13	121.94	117.95	115.99	115.45	115.02	114.84	
22	115.23	115.71	115.86	115.94	118.19	122.07	121.92	117.53	115.93	115.43	115.03	114.86	
23	115.22	115.73	115.76	116.13	118.90	122.01	121.99	117.24	115.85	115.41	115.04	114.88	
24	115.21	115.73	115.73	116.38	119.37	121.98	121.88	117.01	115.78	115.41	115.03	114.89	
25	115.21	115.72	115.69	116.53	119.71	121.97	121.86	116.87	115.70	115.41	114.99	115.07	
26	115.23	115.70	115.70	116.58	120.01	121.96	121.85	116.77	115.63	115.43	114.98	115.40	
27	115.26	115.67	115.65	116.61	120.23	121.95	121.82	116.69	115.59	115.43	114.97	115.58	
28	115.34	115.58	115.55	116.61	120.45	121.94	121.79	116.60	115.54	115.43	114.96	115.69	
29	115.37	115.51	115.53	116.64	120.67	121.96	121.77	116.54	115.49	115.42	114.95	115.77	
30	115.38	115.47	115.48	116.67	120.83	122.01	121.74	116.49	115.48	115.43		115.81	
31		115.47		116.70	120.99		121.71		115.47	115.43		115.84	
Mean	115.28	115.50	115.73	116.00	117.54	122.09	121.96	119.63	116.00	115.53	115.22	115.07	
Max	115.40	115.73	115.99	116.70	120.99	122.70	122.08	121.68	116.45	115.76	115.45	115.84	122.70
Min	115.21	115.28	115.48	115.36	116.01	121.14	121.71	116.49	115.47	115.41	114.95	114.73	114.73

Annual Max Momentary Gage Height 122.71 M (MSL), at 11.00 Hours, on Sep 13, 1991
Zero Gage at Bottom Elevation 112.00 M (MSL), River Bed 112.58 M (MSL)
Left Bank Elevation 119.16 M (MSL)
Right Bank Elevation 119.83 M (MSL), Drainage Area 47818 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	61.3	67.6	77.6	72.5	188.1	985.6	1231.2	1066.0	130.0	66.0	61.8	35.4	
2	57.8	68.3	82.4	70.4	180.2	1030.5	1215.0	1052.5	126.8	66.6	61.2	34.9	
3	55.7	69.0	86.7	71.1	172.3	1076.0	1220.0	1039.0	121.8	68.4	60.0	35.4	
4	55.7	69.7	88.5	73.9	162.4	1127.8	1225.6	1026.3	117.6	69.6	59.4	37.3	
5	57.1	68.3	88.5	77.6	153.5	1198.0	1236.8	1011.5	113.4	69.6	61.2	39.1	
6	59.2	64.8	88.5	66.2	142.6	1254.0	1242.4	996.7	108.5	69.6	62.4	40.5	
7	61.3	62.0	86.7	92.1	128.8	1316.4	1264.8	985.6	106.4	68.4	63.0	42.4	
8	62.0	60.6	84.9	99.3	121.9	1369.2	1259.2	970.8	106.4	69.0	63.0	43.3	
9	62.7	61.3	89.4	107.4	127.8	1433.8	1259.2	952.5	108.5	70.2	61.2	43.8	
10	62.0	64.8	93.9	115.9	143.6	1547.0	1253.6	935.0	110.6	74.4	59.4	42.9	
11	62.7	66.9	96.6	123.9	161.4	1666.0	1253.6	917.5	112.0	78.6	57.6	41.5	
12	64.1	64.8	101.1	128.8	172.3	1738.1	1259.2	896.5	112.7	81.0	55.8	37.7	
13	65.5	71.8	104.7	126.8	169.3	1763.0	1259.2	875.5	111.3	81.6	53.4	31.9	
14	67.6	75.3	105.6	121.9	177.3	1728.4	1253.6	844.0	109.2	79.2	51.0	27.0	
15	69.0	77.6	106.5	116.9	167.4	1659.8	1242.4	802.0	105.7	74.4	49.8	25.0	
16	67.6	78.4	107.4	111.0	152.5	1590.5	1231.2	729.2	102.9	71.4	49.2	23.5	
17	63.4	79.2	111.0	107.4	140.7	1514.0	1225.6	630.0	101.5	69.0	48.0	24.0	
18	57.8	81.6	116.9	105.6	139.7	1443.0	1215.0	502.8	100.1	67.8	45.7	25.5	
19	56.4	84.9	119.9	103.8	148.6	1383.8	1210.0	401.0	99.4	66.6	43.3	27.0	
20	57.1	88.5	119.9	103.8	178.2	1326.4	1200.0	310.2	98.7	64.8	41.0	28.4	
21	57.8	92.1	115.0	105.6	261.2	1292.8	1190.0	263.0	97.3	63.0	39.6	29.8	
22	57.1	93.9	107.4	115.0	380.5	1259.2	1180.0	221.7	93.1	61.8	40.1	31.2	
23	56.4	95.7	98.4	133.7	488.0	1225.6	1215.0	195.6	87.5	60.6	40.5	32.6	
24	55.7	95.7	95.7	158.5	574.3	1210.0	1160.0	174.9	82.8	60.6	40.1	33.3	
25	55.7	94.8	92.1	173.3	638.9	1205.0	1150.0	163.6	78.0	60.6	38.2	41.9	
26	57.1	93.0	93.0	178.2	698.2	1200.0	1145.0	155.6	73.8	61.8	37.7	60.0	
27	59.2	90.3	88.5	181.2	746.9	1195.0	1130.0	149.2	71.4	61.8	37.3	70.8	
28	64.8	82.4	80.0	181.2	798.0	1190.0	1115.5	142.0	68.4	61.8	36.8	77.4	
29	66.9	76.8	78.4	184.2	852.2	1200.0	1106.5	137.2	65.4	61.2	36.3	82.2	
30	67.6	73.9	74.6	187.1	893.8	1225.6	1093.0	133.2	64.8	61.8		84.7	
31		73.9		190.1	935.4		1079.5		64.2	61.8		86.8	
Total	1824.3	2387.9	2879.8	3784.4	10396.0	40354.5	37322.1	18680.6	3050.2	2103.0	1454.0	1317.2	125554.0 CMSDAY
Mean	60.8	77.0	96.0	122.1	335.4	1345.2	1203.9	622.7	98.4	67.8	50.1	42.5	343.0 CMS
Max	69.0	95.7	119.9	190.1	935.4	1763.0	1264.8	1066.0	130.0	81.6	63.0	86.8	1763.0 CMS
Min	55.7	60.6	74.6	66.2	121.9	985.6	1079.5	133.2	64.2	60.6	36.3	23.5	23.5 CMS
Runoff	157.62	206.31	248.81	326.97	898.21	3486.63	3224.63	1614.00	263.54	181.70	125.63	113.81	10847.87 MCM

Momentary Peak 1771.30 CMS, at 122.71 M (MSL), at 11.00 Hours, on Sep 13, 1991

Runoff Yield 7.17 Liters/Second/Square KM, Momentary Peak Yield 37.04 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

Chi River at Ban Kaeng Ko, Chaiyaphum (E.21)

Location — Lat. 15-45-07 N., Long. 102-15-24 E., on left bank about 75 meters upstream from the bridge on highway, Amphoe Muang, Chaiyaphum.

Drainage Area — 8,912 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m. (A.D.)

Bench Mark — B.M.-H.D.

Location — Infront of the automatic gage building.

Elevation — +9.433 m. (A.D.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1955-1957, 1967 to date.

Rating Operation

Period of Rating — 1968-1971, 1973-1974, 1982 to date.

Rated by Float —

Rated by Current Meter — 1968-1971, 1973-1974, 1982 to date.

Stability of Channel Regimes — Rather unstable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 33 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

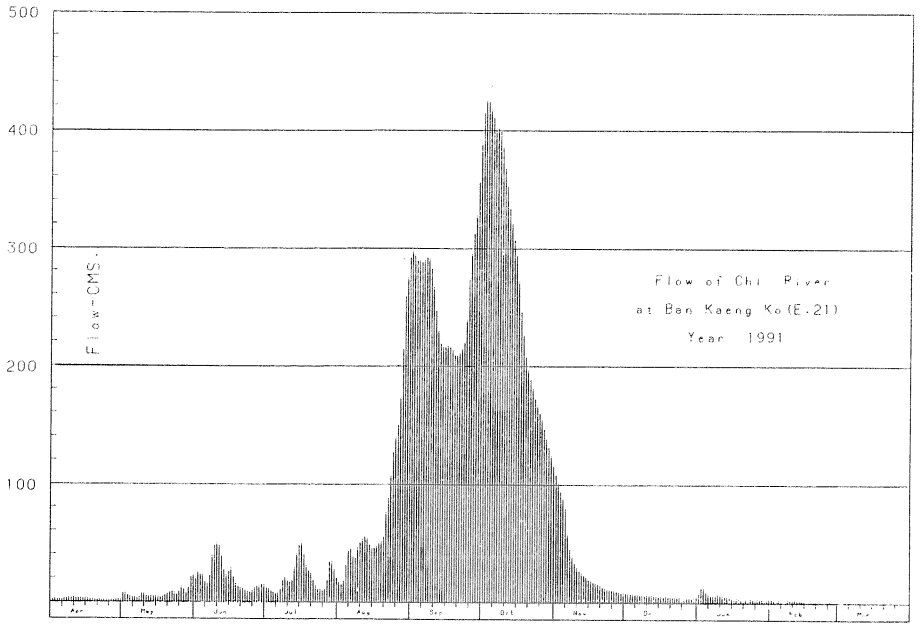
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.81	2.09	2.38	2.23	2.32	8.06	8.75	4.54	2.12	2.08	1.86	1.66	
2	1.79	2.09	2.47	2.20	2.29	8.04	8.80	4.24	2.10	2.24	1.85	1.63	
3	1.79	2.03	2.45	2.16	2.34	8.00	8.80	3.94	2.10	2.23	1.85	1.63	
4	1.77	1.97	2.44	2.11	2.57	8.00	8.77	3.61	2.09	2.14	1.85	1.61	
5	1.77	1.94	2.33	2.08	2.74	7.99	8.73	3.22	2.07	2.07	1.85	1.61	
6	1.83	1.91	2.29	2.08	2.77	8.00	8.67	2.93	2.06	2.04	1.84	1.61	
7	1.88	1.88	2.43	2.20	2.67	8.02	8.68	2.77	2.05	2.02	1.83	1.63	
8	1.89	1.93	2.68	2.36	2.66	8.01	8.67	2.67	2.04	2.03	1.82	1.65	
9	1.90	2.09	2.81	2.40	2.78	7.95	8.60	2.60	2.04	2.06	1.81	1.66	
10	1.89	2.06	2.84	2.35	2.84	7.83	8.51	2.54	2.04	2.05	1.80	1.66	
11	1.89	1.99	2.80	2.32	2.88	7.67	8.43	2.50	2.04	2.03	1.79	1.66	
12	1.88	1.97	2.68	2.35	2.91	7.49	8.32	2.47	2.04	2.00	1.78	1.65	
13	1.86	1.98	2.51	2.53	2.89	7.37	8.23	2.44	2.03	1.99	1.76	1.64	
14	1.85	1.99	2.43	2.71	2.82	7.33	8.13	2.41	2.01	1.98	1.74	1.62	
15	1.85	1.96	2.48	2.81	2.77	7.33	8.03	2.38	2.00	1.97	1.70	1.59	
16	1.83	1.94	2.53	2.83	2.78	7.34	7.87	2.35	2.00	1.94	1.66	1.58	
17	1.81	1.94	2.41	2.70	2.80	7.33	7.66	2.33	2.00	1.93	1.64	1.58	
18	1.79	1.94	2.30	2.56	2.83	7.29	7.45	2.31	2.00	1.92	1.65	1.59	
19	1.76	2.03	2.25	2.50	2.85	7.24	7.22	2.31	2.00	1.91	1.68	1.57	
20	1.75	2.07	2.22	2.46	2.91	7.23	7.04	2.28	1.99	1.90	1.68	1.55	
21	1.74	2.12	2.22	2.36	3.16	7.26	6.88	2.25	1.97	1.90	1.67	1.54	
22	1.73	2.14	2.17	2.27	3.67	7.31	6.71	2.23	1.96	1.89	1.65	1.53	
23	1.72	2.10	2.13	2.20	4.48	7.38	6.52	2.21	1.97	1.88	1.63	1.52	
24	1.72	2.05	2.12	2.20	5.22	7.60	6.38	2.20	1.97	1.86	1.65	1.50	
25	1.72	2.12	2.15	2.16	5.64	7.88	6.22	2.19	1.96	1.85	1.65	1.49	
26	1.72	2.25	2.22	2.19	5.94	8.04	6.05	2.18	1.94	1.84	1.66	1.48	
27	1.74	2.19	2.26	2.36	6.54	8.17	5.84	2.16	1.93	1.83	1.66	1.47	
28	1.75	2.10	2.25	2.61	7.31	8.28	5.61	2.13	1.91	1.83	1.67	1.47	
29	1.77	2.22	2.29	2.61	7.77	8.45	5.36	2.12	1.91	1.82	1.66	1.47	
30	1.81	2.41	2.28	2.51	7.89	8.62	5.11	2.11	1.94	1.84		1.47	
31		2.43		2.40	8.02		4.85		1.98	1.86		1.46	
Mean	1.80	2.06	2.39	2.38	3.87	7.75	7.45	2.62	2.01	1.97	1.74	1.57	
Max	1.90	2.43	2.84	2.83	8.02	8.62	8.80	4.54	2.12	2.24	1.86	1.66	8.80
Min	1.72	1.88	2.12	2.08	2.29	7.23	4.85	2.11	1.91	1.82	1.63	1.46	1.46

Annual Max Momentary Gage Height — 8.81 M (A.D), at 11.00 Hours, on Oct 2, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -1.19 M (A.D)

Left Bank Elevation — 9.87 M (A.D)

Right Bank Elevation — 9.76 M (A.D), Drainage Area 8912 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.92	8.04	20.16	12.78	17.04	298.10	415.25	109.14	8.92	7.78	3.52	1.56	
2	2.70	8.04	25.47	11.40	15.54	295.40	425.00	101.62	8.30	13.24	3.40	1.38	
3	2.70	6.48	24.25	10.16	18.08	290.00	425.00	94.88	8.30	12.78	3.40	1.38	
4	2.50	5.19	23.64	8.61	31.99	290.00	419.15	88.20	8.04	9.54	3.40	1.26	
5	2.50	4.68	17.56	7.78	43.80	288.65	411.35	80.40	7.52	7.52	3.40	1.26	
6	3.16	4.17	15.54	7.78	45.90	290.00	399.65	57.83	7.26	6.74	3.28	1.26	
7	3.76	3.76	23.03	11.40	38.90	292.70	401.60	45.90	7.00	6.22	3.16	1.38	
8	3.88	4.51	39.60	19.12	38.20	291.35	399.65	38.90	6.74	6.48	3.04	1.50	
9	4.00	8.04	48.74	21.20	46.60	283.25	386.00	34.00	6.74	7.26	2.92	1.56	
10	3.88	7.26	50.96	18.60	50.96	267.40	368.45	29.98	6.74	7.00	2.80	1.56	
11	3.88	5.53	48.00	17.04	53.92	247.84	352.85	27.30	6.74	6.48	2.70	1.56	
12	3.76	5.19	39.60	18.60	56.21	230.10	334.20	25.47	6.74	5.70	2.60	1.50	
13	3.52	5.36	27.97	29.31	54.66	219.75	321.20	23.64	6.48	5.53	2.40	1.44	
14	3.40	5.53	23.03	41.70	49.48	216.75	307.55	21.81	5.96	5.36	2.20	1.32	
15	3.40	5.02	26.08	48.74	45.90	216.75	294.05	20.16	5.70	5.19	1.80	1.15	
16	3.16	4.68	29.31	50.22	46.60	217.50	272.60	18.60	5.70	4.68	1.56	1.10	
17	2.92	4.68	21.81	41.00	48.00	216.75	246.72	17.56	5.70	4.51	1.44	1.10	
18	2.70	4.68	16.00	31.32	50.22	213.75	226.50	16.52	5.70	4.34	1.50	1.15	
19	2.40	6.48	13.70	27.30	51.70	210.00	208.50	16.52	5.70	4.17	1.68	1.05	
20	2.30	7.52	12.32	24.86	56.21	209.25	197.70	15.08	5.53	4.00	1.68	0.95	
21	2.20	8.92	12.32	19.12	76.68	211.50	189.50	13.70	5.19	4.00	1.62	0.90	
22	2.10	9.54	10.47	14.62	89.40	215.25	181.45	12.78	5.02	3.88	1.50	0.85	
23	2.00	8.30	9.23	11.40	107.58	220.50	173.30	11.86	5.19	3.76	1.38	0.80	
24	2.00	7.00	8.92	11.40	127.90	240.00	167.70	11.40	5.19	3.52	1.50	0.70	
25	2.00	8.92	9.85	10.16	140.74	273.90	161.30	11.09	5.02	3.40	1.50	0.68	
26	2.00	13.70	12.32	11.09	150.90	295.40	154.75	10.78	4.68	3.28	1.56	0.66	
27	2.20	11.09	14.16	19.12	174.10	312.95	147.40	10.16	4.51	3.16	1.56	0.64	
28	2.30	8.30	13.70	34.70	215.25	328.20	139.81	9.23	4.17	3.16	1.62	0.64	
29	2.50	12.32	15.54	34.70	259.81	356.75	132.10	8.92	4.17	3.04	1.56	0.64	
30	2.92	21.81	15.08	27.97	275.20	389.90	124.78	8.61	4.68	3.28		0.64	
31		23.03		21.20	292.70		117.50		5.36	3.52		0.62	
Total	85.66	247.77	668.36	674.40	2770.17	7929.64	8502.56	992.04	188.69	172.52	65.68	34.19	22331.68 CMSDAY
Mean	2.86	7.99	22.28	21.75	89.36	264.32	274.28	33.07	6.09	5.57	2.26	1.10	61.02 CMS
Max	4.00	23.03	50.96	50.22	292.70	389.90	425.00	109.14	8.92	13.24	3.52	1.56	425.00 CMS
Min	2.00	3.76	8.92	7.78	15.54	209.25	117.50	8.61	4.17	3.04	1.38	0.62	0.62 CMS
Runoff	7.401	21.407	57.746	58.268	239.343	685.121	734.621	85.712	16.303	14.906	5.675	2.954	1929.457 MCM

Momentary Peak 427.00 CMS, at 8.81 M (A.D), at 11.00 Hours, on Oct 2, 1991

Runoff Yield 6.85 Liters/Second/Square KM, Momentary Peak Yield 47.91 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

Chi River at Ban Khai, Chaiyaphum (E.23)

Location — Lat. 15-40-49 N., Long. 102-00-47 E., on left bank at the bridge on highway, Amphoe Muang, Chaiyaphum.

Drainage Area — 6,835 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +174.00 m. (M.S.L.)

Bench Mark — B.M.-H.D.

Location — Near automatic gage building.

Elevation — +181.926 m. (M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1954-1956, 1967 to date.

Rating Operation

Period of Rating — 1968-1974,1982 to date.

Rated by Float — -

Rated by Current Meter — 1968-1974,1982 to date.

Stability of Channel Regimes — Rather unstable.

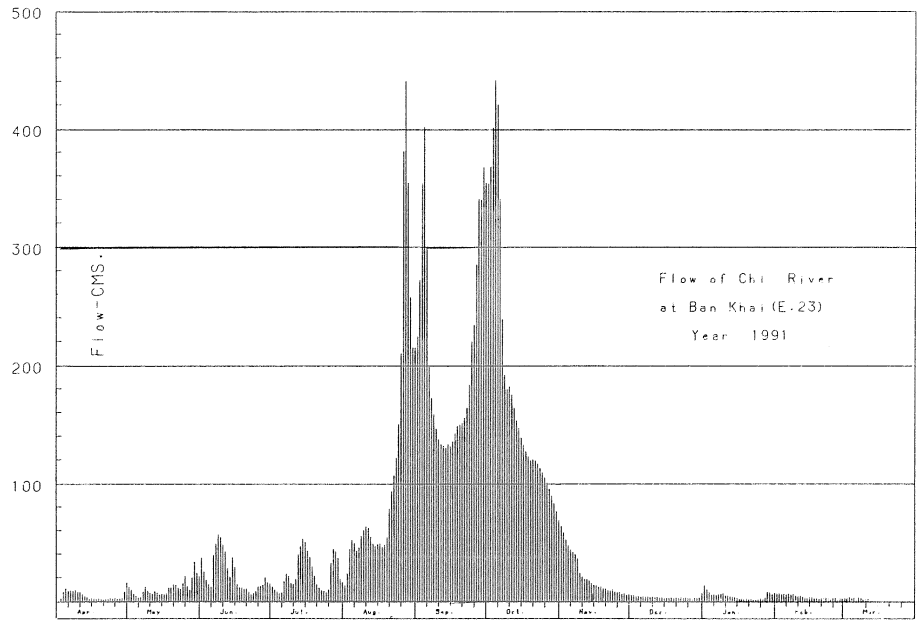
Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 21 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	177.16	177.58	177.97	177.60	177.61	182.36	182.48	180.05	177.42	177.61	177.46	177.30	
2	177.27	177.53	177.81	177.53	177.79	182.42	182.49	179.82	177.41	177.55	177.45	177.32	
3	177.50	177.45	177.71	177.50	178.83	182.48	182.51	179.51	177.38	177.47	177.44	177.34	
4	177.55	177.38	177.63	177.44	179.47	182.51	182.53	179.12	177.37	177.43	177.44	177.32	
5	177.52	177.34	177.59	177.48	179.32	182.44	182.52	178.74	177.37	177.42	177.44	177.32	
6	177.51	177.33	178.08	177.69	178.54	182.31	182.47	178.43	177.36	177.42	177.44	177.33	
7	177.52	177.50	179.28	177.78	178.96	182.17	182.39	178.20	177.37	177.42	177.43	177.33	
8	177.52	177.59	179.75	177.75	179.69	182.04	182.28	177.96	177.36	177.45	177.43	177.32	
9	177.50	177.52	179.66	177.66	179.91	181.91	182.22	177.80	177.36	177.45	177.41	177.29	
10	177.48	177.46	179.18	177.63	180.02	181.78	182.23	177.74	177.36	177.41	177.39	177.29	
11	177.44	177.45	178.51	177.72	179.99	181.72	182.19	177.72	177.35	177.39	177.39	177.27	
12	177.39	177.51	177.85	178.20	179.63	181.69	182.10	177.71	177.34	177.38	177.37	177.22	
13	177.34	177.46	177.75	179.12	179.29	181.67	181.99	177.70	177.34	177.35	177.32	177.18	
14	177.30	177.43	177.98	179.54	179.05	181.71	181.91	177.65	177.33	177.33	177.30	177.17	
15	177.29	177.43	177.87	179.38	179.25	181.69	181.81	177.63	177.31	177.32	177.33	177.16	
16	177.28	177.42	177.63	178.55	179.26	181.75	181.71	177.61	177.31	177.31	177.34	177.13	
17	177.28	177.46	177.59	177.98	179.03	181.86	181.62	177.60	177.32	177.30	177.32	177.09	
18	177.28	177.57	177.57	177.87	179.17	181.93	181.54	177.59	177.32	177.29	177.30	177.07	
19	177.28	177.57	177.56	177.76	179.64	181.95	181.49	177.57	177.32	177.28	177.30	177.06	
20	177.25	177.64	177.55	177.63	180.54	181.96	181.50	177.55	177.32	177.27	177.30	177.05	
21	177.24	177.62	177.48	177.57	180.93	182.01	181.49	177.53	177.32	177.27	177.32	177.04	
22	177.28	177.58	177.44	177.53	181.24	182.10	181.43	177.51	177.33	177.26	177.32	177.02	
23	177.30	177.54	177.45	177.50	181.53	182.24	181.36	177.50	177.33	177.24	177.32	177.03	
24	177.31	177.66	177.51	177.49	181.95	182.35	181.28	177.49	177.32	177.23	177.30	177.05	
25	177.30	177.75	177.59	177.53	182.33	182.38	181.20	177.49	177.32	177.23	177.33	177.03	
26	177.27	177.60	177.60	177.91	182.50	182.43	181.10	177.48	177.30	177.22	177.31	176.99	
27	177.29	177.54	177.63	178.81	182.53	182.47	180.99	177.45	177.30	177.32	177.29	176.92	
28	177.30	177.73	177.74	178.48	182.48	182.47	180.84	177.45	177.31	177.50	177.30	176.88	
29	177.50	177.93	177.66	177.97	182.41	182.49	180.69	177.43	177.32	177.47	177.30	176.86	
30	177.67	177.80	177.64	177.72	182.34	182.48	180.48	177.42	177.32	177.44		176.84	
31		177.75		177.66	182.34		180.24		177.46	177.46		176.82	
Mean	177.37	177.55	177.94	177.93	180.24	182.13	181.71	177.95	177.34	177.37	177.36	177.13	
Max	177.67	177.93	179.75	179.54	182.53	182.51	182.53	180.05	177.46	177.61	177.46	177.34	182.53
Min	177.16	177.33	177.44	177.44	177.61	181.67	180.24	177.42	177.30	177.22	177.29	176.82	176.82

Annual Max Momentary Gage Height 182.54 M (MSL), at 21.00 Hours, on Aug 27, 1991
Zero Gage at Bottom Elevation 174.00 M (MSL), River Bed 173.07 M (MSL)
Left Bank Elevation 183.86 M (MSL)
Right Bank Elevation 183.61 M (MSL), Drainage Area 6835 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.02	12.36	37.60	13.20	13.73	225.40	354.60	64.75	6.20	13.73	7.60	3.00	
2	2.55	10.26	25.70	10.26	24.35	272.40	368.31	59.00	5.85	11.10	7.25	3.50	
3	9.00	7.25	19.15	9.00	45.44	354.60	401.79	53.15	5.00	7.95	6.90	4.00	
4	11.10	5.00	14.79	6.90	52.55	401.79	441.39	47.78	4.75	6.55	6.90	3.50	
5	9.84	4.00	12.78	8.30	50.30	299.81	421.61	44.72	4.75	6.20	6.90	3.50	
6	9.42	3.75	40.32	17.97	43.12	200.90	340.90	42.24	4.50	6.20	6.90	3.75	
7	9.84	9.00	49.70	23.70	46.48	173.40	240.10	40.80	4.75	6.20	6.55	3.75	
8	9.84	12.78	57.25	21.75	55.85	159.00	192.20	36.80	4.50	7.25	6.55	3.50	
9	9.00	9.84	55.40	16.38	61.25	147.35	180.80	25.00	4.50	7.25	5.85	2.85	
10	8.30	7.60	48.32	14.79	64.00	137.80	182.70	21.10	4.50	5.85	5.25	2.85	
11	6.90	7.25	42.88	19.80	63.25	134.20	175.80	19.80	4.25	5.25	5.25	2.55	
12	5.25	9.42	28.50	40.80	54.95	132.40	165.00	19.15	4.00	5.00	4.75	1.80	
13	4.00	7.60	21.75	47.78	49.85	131.20	154.15	18.50	4.00	4.25	3.50	1.26	
14	3.00	6.55	38.40	53.60	47.20	133.60	147.35	15.85	3.75	3.75	3.00	1.14	
15	2.85	6.55	29.90	51.20	49.25	132.40	139.75	14.79	3.25	3.50	3.75	1.02	
16	2.70	6.20	14.79	43.20	49.40	136.00	133.60	13.73	3.25	3.25	4.00	0.66	
17	2.70	7.60	12.78	38.40	47.04	143.50	128.20	13.20	3.50	3.00	3.50	0.27	
18	2.70	11.94	11.94	29.90	48.23	149.05	123.40	12.78	3.50	2.85	3.00	0.21	
19	2.70	11.94	11.52	22.40	55.10	150.75	120.50	11.94	3.50	2.70	3.00	0.18	
20	2.25	15.32	11.10	14.79	78.90	151.60	121.00	11.10	3.50	2.55	3.00	0.15	
21	2.10	14.26	8.30	11.94	93.79	156.00	120.50	10.26	3.50	2.55	3.50	0.12	
22	2.70	12.36	6.90	10.26	108.00	165.00	117.50	9.42	3.75	2.40	3.50	0.06	
23	3.00	10.68	7.25	9.00	122.80	184.60	114.00	9.00	3.75	2.10	3.50	0.09	
24	3.25	16.38	9.42	8.65	150.75	220.50	110.00	8.65	3.50	1.95	3.00	0.15	
25	3.00	21.75	12.78	10.26	210.70	235.20	106.00	8.65	3.50	1.95	3.75	0.09	
26	2.55	13.20	13.20	32.80	382.00	286.10	101.10	8.30	3.00	1.80	3.25	0.00	
27	2.85	10.68	14.79	45.28	441.39	340.90	96.37	7.25	3.00	3.50	2.85	0.00	
28	3.00	20.45	21.10	42.64	354.60	340.90	90.10	7.25	3.25	9.00	3.00	0.00	
29	9.00	34.40	16.38	37.60	258.71	368.31	84.15	6.55	3.50	7.95	3.00	0.00	
30	16.91	25.00	15.32	19.80	215.60	354.60	76.80	6.20	3.50	6.90		0.00	
31		21.75		16.38	215.60		69.50		7.60	7.60		0.00	
Total	163.32	373.12	710.01	748.73	3554.18	6419.26	5619.17	667.71	127.65	162.08	132.75	43.95	18721.93 CMSDAY
Mean	5.44	12.04	23.67	24.15	114.65	213.98	181.26	22.26	4.12	5.23	4.58	1.42	51.15 CMS
Max	16.91	34.40	57.25	53.60	441.39	401.79	441.39	64.75	7.60	13.73	7.60	4.00	441.39 CMS
Min	1.02	3.75	6.90	6.90	13.73	131.20	69.50	6.20	3.00	1.80	2.85	0.00	0.00 CMS
Runoff	14.111	32.238	61.345	64.690	307.081	554.624	485.496	57.690	11.029	14.004	11.470	3.797	1617.575 MCM

Momentary Peak 461.18 CMS, at 182.54 M (MSL), at 21.00 Hours, on Aug 27, 1991
Runoff Yield 7.48 Liters/Second/Square KM, Momentary Peak Yield 67.47 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

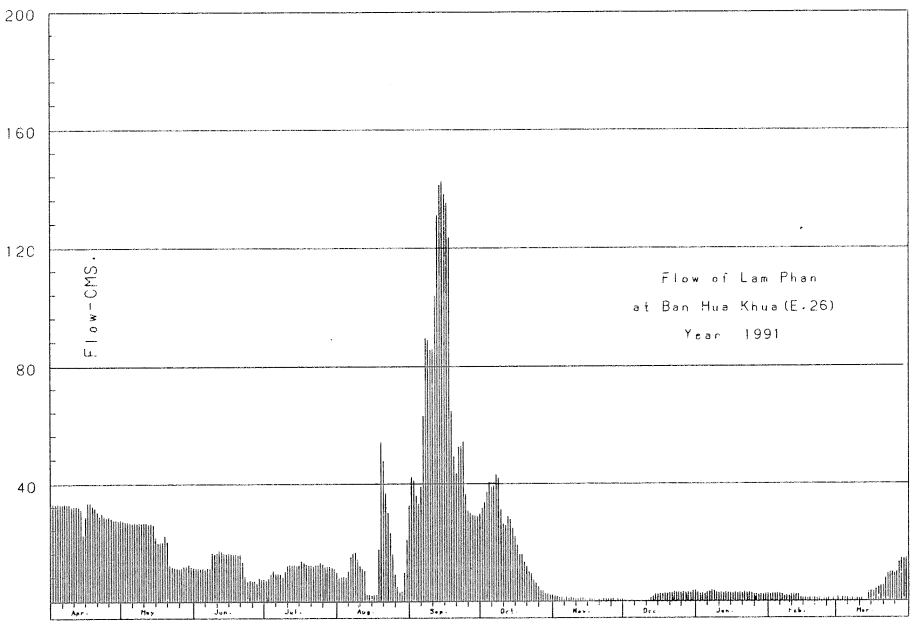
Lam Phan at Ban Hua Khua, Kalasin (E.26)

Location	Lat. 16-24-36 N., Long. 103-28-15 E., on right bank at the bridge on the road, Amphoe Yang Talat, Kalasin.
Drainage Area	6,565 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+134.633 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank upstream side at the abutment of the bridge.
Elevation	+145.395 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1954 to date.
Rating Operation	
Period of Rating	1971-1976, 1982 to date.
Rated by Float	-
Rated by Current Meter	1971-1976, 1982 to date.
Stability of Channel Regimes	Rather unstable because of backwater effect.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Flow regulated by Lam Pao Dam. Stage-discharge relation defined by 35 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	135.71	135.50	134.87	134.67	134.70	137.16	136.80	134.73	134.56	134.87	134.81	134.68	
2	135.71	135.50	134.86	134.69	134.72	137.13	136.87	134.69	134.55	134.83	134.81	134.67	
3	135.71	135.49	134.86	134.77	134.72	136.96	137.00	134.67	134.55	134.83	134.83	134.65	
4	135.71	135.49	134.86	134.82	134.72	136.85	137.11	134.66	134.55	134.83	134.83	134.65	
5	135.71	135.48	134.85	134.78	134.81	137.06	137.06	134.66	134.55	134.88	134.83	134.64	
6	135.71	135.48	134.86	134.77	135.07	137.66	137.07	134.66	134.55	134.92	134.78	134.62	
7	135.71	135.48	134.87	134.76	135.13	138.05	137.19	134.64	134.55	134.96	134.73	134.62	
8	135.70	135.48	135.14	134.73	135.16	138.04	137.15	134.64	134.55	134.95	134.73	134.62	
9	135.68	135.48	135.13	134.82	135.01	138.00	136.78	134.64	134.55	134.86	134.73	134.61	
10	135.68	135.48	135.15	134.91	134.91	138.00	136.57	134.62	134.55	134.86	134.77	134.61	
11	135.68	135.48	135.19	134.91	134.85	138.20	136.54	134.62	134.55	134.85	134.80	134.61	
12	135.68	135.47	135.18	134.92	134.83	138.46	136.68	134.62	134.62	134.86	134.80	134.62	
13	135.65	135.47	135.13	134.91	134.79	138.56	136.63	134.60	134.72	134.86	134.76	134.80	
14	135.33	135.46	135.13	134.91	134.75	138.57	136.51	134.60	134.78	134.87	134.63	134.88	
15	135.56	135.30	135.13	134.91	134.75	138.53	136.36	134.60	134.81	134.84	134.63	134.90	
16	135.72	135.26	135.12	134.98	134.75	138.50	136.21	134.59	134.80	134.85	134.63	134.92	
17	135.72	135.26	135.12	134.96	134.78	138.39	136.04	134.59	134.81	134.85	134.63	134.98	
18	135.69	135.26	135.11	134.92	136.13	137.69	136.05	134.59	134.82	134.85	134.63	135.10	
19	135.66	135.33	135.11	134.92	137.46	137.35	135.91	134.59	134.83	134.85	134.63	135.12	
20	135.62	135.27	135.11	134.91	137.32	137.20	135.79	134.59	134.84	134.85	134.63	135.16	
21	135.56	134.91	134.97	134.90	136.98	137.43	135.65	134.59	134.86	134.88	134.62	135.41	
22	135.60	134.89	134.73	134.91	136.73	137.43	135.58	134.60	134.88	134.87	134.62	135.59	
23	135.56	134.87	134.65	134.92	136.43	137.47	135.38	134.60	134.89	134.86	134.62	135.61	
24	135.55	134.87	134.66	134.95	136.04	136.97	135.25	134.60	134.86	134.86	134.62	135.63	
25	135.55	134.86	134.66	134.93	135.57	136.76	135.14	134.60	134.87	134.81	134.62	135.60	
26	135.54	134.86	134.65	134.89	135.10	136.72	134.98	134.60	134.87	134.78	134.62	135.61	
27	135.52	134.90	134.62	134.89	134.87	136.70	134.93	134.60	134.87	134.78	134.62	135.90	
28	135.51	134.89	134.71	134.89	134.89	136.68	134.84	134.59	134.86	134.78	134.62	135.95	
29	135.51	134.93	134.68	134.88	135.61	136.68	134.80	134.58	134.87	134.79	134.62	135.96	
30	135.51	134.88	134.68	134.85	136.31	136.71	134.77	134.57	134.92	134.80		135.96	
31		134.87		134.80	136.83		134.75		134.96	134.81		135.12	
Mean	135.63	135.23	134.93	134.86	135.44	137.53	136.08	134.62	134.74	134.85	134.70	135.09	
Max	135.72	135.50	135.19	134.98	137.46	138.57	137.19	134.73	134.96	134.96	134.83	135.96	138.57
Min	135.33	134.86	134.62	134.67	134.70	136.68	134.75	134.57	134.55	134.78	134.62	134.61	134.55

Annual Max Momentary Gage Height 138.58 M (MSL), at 1.00 Hours, on Sep 14, 1991
Zero Gage at Bottom Elevation 134.63 M (MSL), River Bed 133.87 M (MSL)
Left Bank Elevation 140.55 M (MSL)
Right Bank Elevation 140.87 M (MSL), Drainage Area 6565 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	33.20	27.30	11.47	7.30	7.90	42.34	32.00	2.04	0.68	3.16	2.68	1.64	
2	33.20	27.30	11.26	7.70	8.32	41.32	33.75	1.72	0.60	2.84	2.68	1.56	
3	33.20	27.02	11.26	9.37	8.32	36.24	37.40	1.56	0.60	2.84	2.84	1.40	
4	33.20	27.02	11.26	10.42	8.32	33.25	40.64	1.48	0.60	2.84	2.84	1.40	
5	33.20	26.74	11.05	9.58	10.21	39.14	39.14	1.48	0.60	3.24	2.84	1.32	
6	33.20	26.74	11.26	9.37	15.36	63.32	39.43	1.48	0.60	3.56	2.44	1.16	
7	33.20	26.74	11.47	9.16	16.35	89.70	43.36	1.32	0.60	3.88	2.04	1.16	
8	32.90	26.74	16.51	8.53	16.84	88.90	42.00	1.32	0.60	3.80	2.04	1.16	
9	32.34	26.74	16.35	10.42	14.36	85.70	31.52	1.32	0.60	3.08	2.04	1.08	
10	32.34	26.74	16.67	12.31	12.31	85.70	26.51	1.16	0.60	3.08	2.36	1.08	
11	32.34	26.74	17.34	12.31	11.05	104.10	25.82	1.16	0.60	3.00	2.60	1.08	
12	32.34	26.46	17.17	12.52	10.63	131.14	29.12	1.16	1.16	3.08	2.60	1.16	
13	31.50	26.46	16.35	12.31	2.52	141.54	27.92	1.00	1.96	3.08	2.28	2.60	
14	22.61	26.18	16.35	12.31	2.20	142.58	25.13	1.00	2.44	3.16	1.24	3.24	
15	28.98	21.80	16.35	12.31	2.20	138.42	22.10	1.00	2.68	2.92	1.24	3.40	
16	33.50	20.08	16.18	13.78	2.20	135.30	19.19	0.92	2.60	3.00	1.24	3.56	
17	33.50	20.08	16.18	13.36	2.44	123.86	16.02	0.92	2.68	3.00	1.24	4.04	
18	32.62	20.08	16.02	12.52	17.67	64.73	16.20	0.92	2.76	3.00	1.24	5.00	
19	31.78	22.61	16.02	12.52	54.14	49.30	13.68	0.92	2.84	3.00	1.24	5.16	
20	30.66	20.51	16.02	12.31	47.98	43.70	11.98	0.92	2.92	3.00	1.24	5.48	
21	28.98	12.31	13.57	12.10	36.82	52.82	10.30	0.92	3.08	3.24	1.16	7.80	
22	30.10	11.89	8.53	12.31	30.32	52.82	9.50	1.00	3.24	3.16	1.16	9.60	
23	28.98	11.47	6.90	12.52	23.50	54.58	7.50	1.00	3.32	3.08	1.16	9.82	
24	28.70	11.47	7.10	13.15	16.02	36.53	6.25	1.00	3.08	3.08	1.16	10.06	
25	28.70	11.26	7.10	12.73	9.40	31.04	5.32	1.00	3.16	2.68	1.16	9.70	
26	28.42	11.26	6.90	11.89	5.00	30.08	4.04	1.00	3.16	2.44	1.16	9.82	
27	27.86	12.10	6.30	11.89	3.16	29.60	3.64	1.00	3.16	2.44	1.16	13.50	
28	27.58	11.89	8.11	11.89	3.32	29.12	2.92	0.92	3.08	2.44	1.16	14.40	
29	27.58	12.73	7.50	11.68	9.82	29.12	2.60	0.84	3.16	2.52	1.16	14.58	
30	27.58	11.68	7.50	11.05	21.10	29.84	2.36	0.76	3.56	2.60		14.58	
31		11.47		10.00	32.75		2.20		3.88	2.68		5.16	
Total	924.29	629.61	372.05	351.62	462.53	2055.83	629.54	34.24	64.60	92.92	51.40	166.70	5835.33 CMSDAY
Mean	30.81	20.31	12.40	11.34	14.92	68.53	20.31	1.14	2.08	3.00	1.77	5.38	15.94 CMS
Max	33.50	27.30	17.34	13.78	54.14	142.58	43.36	2.04	3.88	3.88	2.84	14.58	142.58 CMS
Min	22.61	11.26	6.30	7.30	2.20	29.12	2.20	0.76	0.60	2.44	1.16	1.08	0.60 CMS
Runoff	79.859	54.398	32.145	30.380	39.963	177.624	54.392	2.958	5.581	8.028	4.441	14.403	504.173 MCM

Momentary Peak 143.62 CMS, at 138.58 M (MSL), at 1.00 Hours, on Sep 14, 1991

Runoff Yield 2.43 Liters/Second/Square KM, Momentary Peak Yield 21.88 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

Lam Nam Phong at Ban Pha Nok Khao, Loei (E.29)

Location — Lat. 16-50-45 N., Long. 101-56-54 E., on right bank in the vicinity of the forestry office about 400 meters from the bridge on highway, Ban Pha Nok Khao, Amphoe Phu Kradung, Loei.

Drainage Area — 945 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +225.00 m. (M.S.L.)

Bench Mark — B.M.-H.D.

Location — Infront of the automatic gage building.

Elevation — +236.945 m. (M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1956-1958, 1967 to date.

Rating Operation

Period of Rating — 1978 to date.

Rated by Float — -

Rated by Current Meter — 1978 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 189 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

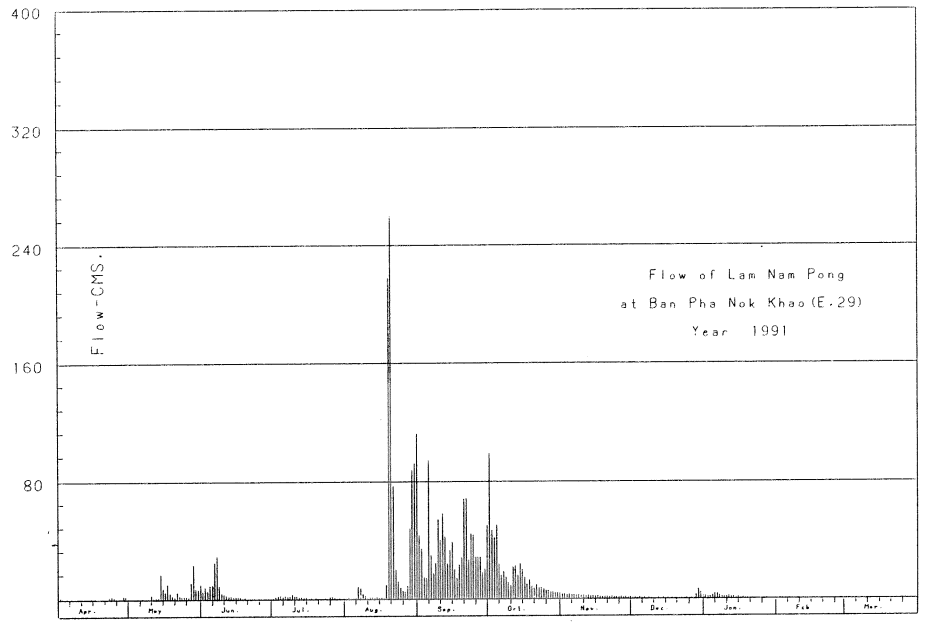
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	226.01	225.85	226.51	225.84	225.90	229.19	231.66	226.34	225.98	226.11	225.86	225.81	
2	225.89	225.81	226.83	225.99	225.96	228.71	229.37	226.30	225.98	226.05	225.86	225.85	
3	225.82	225.80	226.60	226.15	225.90	227.41	229.13	226.29	225.97	226.04	225.85	225.84	
4	225.80	225.78	226.95	226.14	225.86	227.33	229.58	226.29	225.97	226.24	225.84	225.82	
5	225.78	225.81	227.03	226.07	226.00	231.49	228.01	226.26	225.95	226.32	225.83	225.80	
6	225.76	225.81	228.09	226.12	226.90	228.47	227.47	226.25	225.94	226.38	225.83	225.77	
7	225.76	225.79	228.42	226.11	226.83	227.58	227.68	226.24	225.94	226.17	225.83	225.78	
8	225.75	225.78	226.94	226.06	226.37	228.05	227.40	226.21	225.93	226.09	225.82	225.78	
9	225.74	225.88	226.44	226.36	226.17	229.78	227.10	226.20	225.93	226.08	225.82	225.76	
10	225.73	226.28	226.28	226.19	226.06	229.01	226.99	226.18	225.92	226.10	225.82	225.78	
11	225.78	225.94	226.20	226.11	226.01	229.96	227.89	226.17	225.92	226.09	225.81	225.77	
12	225.78	225.96	226.14	226.05	225.98	229.14	227.91	226.16	225.92	226.06	225.81	225.75	
13	225.73	225.98	226.09	225.99	225.98	228.04	227.48	226.14	225.91	226.02	225.81	225.74	
14	225.73	227.54	226.06	225.98	226.00	228.68	228.05	226.13	225.91	225.99	225.81	225.74	
15	225.83	226.79	226.04	225.97	225.96	228.97	227.74	226.13	225.91	225.97	225.80	225.73	
16	225.87	226.51	226.00	225.94	225.94	227.75	227.37	226.11	225.90	225.95	225.79	225.73	
17	225.80	227.03	225.97	225.92	225.93	227.35	227.02	226.09	225.90	225.95	225.79	225.72	
18	225.77	226.43	225.94	225.92	226.99	227.97	227.27	226.00	225.91	225.94	225.79	225.72	
19	225.74	226.11	225.91	225.92	235.06	228.35	226.89	226.07	225.89	225.92	225.79	225.73	
20	225.68	225.99	225.90	225.90	235.97	230.46	226.81	226.06	225.88	225.90	225.79	225.71	
21	225.81	226.53	225.80	225.87	230.84	230.50	227.01	226.06	225.88	225.89	225.78	225.73	
22	226.04	226.17	225.87	225.85	227.76	228.20	226.84	226.06	225.88	225.88	225.78	225.73	
23	226.11	226.01	225.86	225.85	227.17	229.27	226.82	226.05	225.88	225.87	225.79	225.72	
24	225.93	226.10	225.85	225.88	226.85	229.20	226.76	226.03	225.87	225.87	225.79	225.73	
25	225.85	226.02	225.85	226.08	226.63	228.38	226.66	226.03	225.87	225.87	225.78	225.73	
26	225.81	225.96	225.84	226.02	226.50	228.35	226.59	226.02	225.87	225.87	225.78	225.72	
27	225.84	227.13	225.84	225.95	226.93	228.38	226.52	226.02	225.88	225.86	225.78	225.70	
28	226.17	228.01	225.85	225.90	229.46	227.58	226.46	226.00	226.29	225.87	225.78	225.70	
29	226.05	226.71	225.85	225.90	231.24	227.79	226.44	225.99	226.75	225.87	225.80	225.70	
30	225.91	226.73	225.85	225.91	231.43	229.54	226.40	225.99	226.44	225.88		225.72	
31		227.06		225.89	232.18		226.37		226.22	225.86		225.70	
Mean	225.84	226.30	226.29	225.99	227.70	228.70	227.47	226.13	225.98	226.00	225.81	225.75	
Max	226.17	228.01	228.42	226.36	235.97	231.49	231.66	226.34	226.75	226.38	225.86	225.85	235.97
Min	225.68	225.78	225.80	225.84	225.86	227.33	226.37	225.99	225.87	225.86	225.78	225.70	225.68

Annual Max Momentary Gage Height — 236.56 M (MSL), at 24.00 Hours, on Aug 19, 1991

Zero Gage at Bottom Elevation — 225.00 M (MSL), River Bed — 225.70 M (MSL)

Left Bank Elevation — 236.83 M (MSL)

Right Bank Elevation — 238.13 M (MSL), Drainage Area — 945 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.56	0.75	5.08	0.70	1.00	43.31	98.72	3.72	1.40	2.16	0.80	0.55	
2	0.95	0.55	7.94	1.45	1.30	34.19	46.73	3.40	1.40	1.80	0.80	0.75	
3	0.60	0.50	5.80	2.40	1.00	15.34	42.17	3.33	1.35	1.74	0.75	0.70	
4	0.50	0.40	9.10	2.34	0.80	14.22	50.72	3.33	1.35	2.98	0.70	0.60	
5	0.40	0.55	10.02	1.92	1.50	94.13	23.74	3.12	1.25	3.56	0.65	0.50	
6	0.30	0.55	24.86	2.22	8.60	30.18	16.18	3.05	1.20	4.04	0.65	0.35	
7	0.30	0.45	29.48	2.16	7.94	17.72	19.12	2.98	1.20	2.52	0.65	0.40	
8	0.25	0.40	9.00	1.86	3.96	24.30	15.20	2.77	1.15	2.04	0.60	0.40	
9	0.20	0.90	4.52	3.88	2.52	54.52	11.00	2.70	1.15	1.98	0.60	0.30	
10	0.15	3.26	3.26	2.64	1.86	39.89	9.50	2.58	1.10	2.10	0.60	0.40	
11	0.40	1.20	2.70	2.16	1.56	57.94	22.06	2.52	1.10	2.04	0.55	0.35	
12	0.40	1.30	2.34	1.80	1.40	42.36	22.34	2.46	1.10	1.86	0.55	0.25	
13	0.15	1.40	2.04	1.45	1.40	24.16	16.32	2.34	1.05	1.62	0.55	0.20	
14	0.15	17.16	1.86	1.40	1.50	33.62	24.30	2.28	1.05	1.45	0.55	0.20	
15	0.65	7.55	1.74	1.35	1.30	39.13	19.96	2.28	1.05	1.35	0.50	0.15	
16	0.85	5.08	1.50	1.20	1.20	20.10	14.78	2.16	1.00	1.25	0.45	0.15	
17	0.50	10.02	1.35	1.10	1.15	14.50	9.88	2.04	1.00	1.25	0.45	0.10	
18	0.35	4.44	1.20	1.10	9.50	23.18	13.38	1.50	1.05	1.20	0.45	0.10	
19	0.20	2.16	1.05	1.10	218.36	28.50	8.51	1.92	0.95	1.10	0.45	0.15	
20	0.00	1.45	1.00	1.00	260.22	67.80	7.75	1.86	0.90	1.00	0.45	0.05	
21	0.55	5.24	0.50	0.85	77.30	68.80	9.74	1.86	0.90	0.95	0.40	0.15	
22	1.74	2.52	0.85	0.75	20.24	26.40	8.03	1.86	0.90	0.90	0.40	0.15	
23	2.16	1.56	0.80	0.75	11.98	44.83	7.84	1.80	0.90	0.85	0.45	0.10	
24	1.15	2.10	0.75	0.90	8.13	43.50	7.27	1.68	0.85	0.85	0.45	0.15	
25	0.75	1.62	0.75	1.98	6.07	28.92	6.34	1.68	0.85	0.85	0.40	0.15	
26	0.55	1.30	0.70	1.62	5.00	28.50	5.72	1.62	0.85	0.85	0.40	0.10	
27	0.70	11.42	0.70	1.25	8.90	28.92	5.16	1.62	0.90	0.80	0.40	0.00	
28	2.52	23.74	0.75	1.00	48.44	17.72	4.68	1.50	3.33	0.85	0.40	0.00	
29	1.80	6.80	0.75	1.00	87.38	20.66	4.52	1.45	7.18	0.85	0.50	0.00	
30	1.05	6.98	0.75	1.05	92.51	49.96	4.20	1.45	4.52	0.90		0.10	
31		10.44		0.95	112.76		3.96		2.84	0.80		0.00	
Total	21.83	133.79	133.14	47.33	1006.78	1077.30	559.82	68.86	46.82	48.49	15.55	7.55	3167.26 CMSDAY
Mean	0.73	4.32	4.44	1.53	32.48	35.91	18.06	2.30	1.51	1.56	0.54	0.24	8.65 CMS
Max	2.52	23.74	29.48	3.88	260.22	94.13	98.72	3.72	7.18	4.04	0.80	0.75	260.22 CMS
Min	0.00	0.40	0.50	0.70	0.80	14.22	3.96	1.45	0.85	0.80	0.40	0.00	0.00 CMS
Runoff	1.886	11.559	11.503	4.089	86.986	93.079	48.368	5.950	4.045	4.190	1.344	0.652	273.651 MCM

Momentary Peak 287.36 CMS, at 236.56 M (MSL), at 24.00 Hours, on Aug 19, 1991
Runoff Yield 9.16 Liters/Second/Square KM, Momentary Peak Yield 304.08 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

Chi River at Ban Nong O, Chaiyaphum (E.32A)

Location — Lat. 15-54-40 N., Long. 101-42-40 E., on left bank about 500 meters north of Ban Nong O, about 600 meters upstream from E.32 gaging station, Amphoe Ban Khwao, Chaiyaphum.

Drainage Area — 2,905 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +198.00 m. (M.S.L.)

Bench Mark — B.M.-H.D.

Location — On right bank at the automatic gage building.

Elevation — +210.804 m. (M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1966 to date.

Rating Operation

Period of Rating — 1968 to date.

Rated by Float — -

Rated by Current Meter — 1968 to date.

Stability of Channel Regimes — Unstable because of backwater effect.

Overbank Flow Conditions — Overbank flow starts at elevation +210.67 m.(M.S.L.),records are channel flow only.

General Description — Records good. Stage-discharge relation defined by 107 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

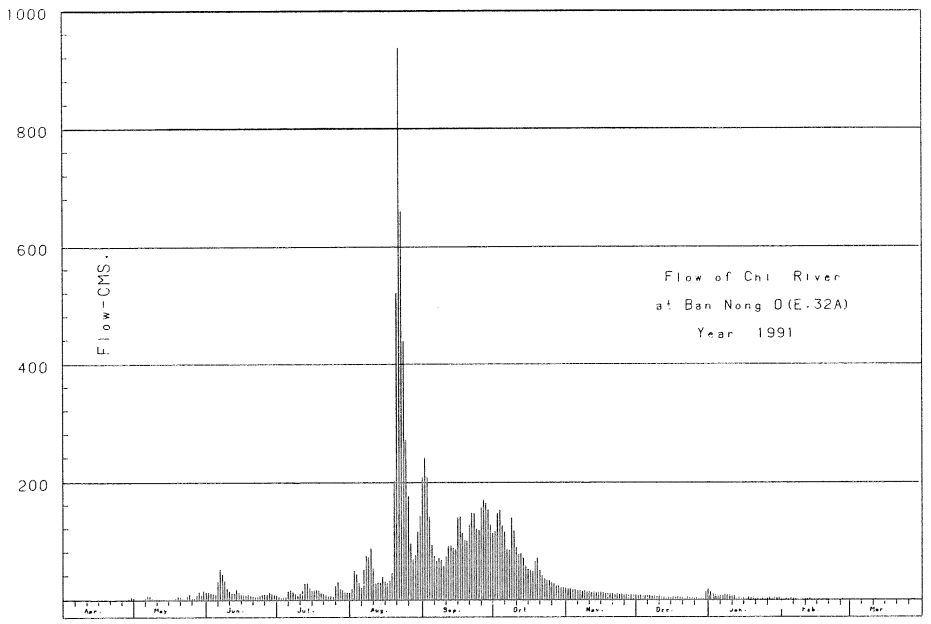
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	198.59	198.69	199.53	199.03	199.99	207.57	203.88	199.97	199.21	199.56	198.91	198.77	
2	198.59	198.62	199.48	198.95	201.38	206.78	204.89	199.91	199.17	199.38	198.90	198.78	
3	198.62	198.60	199.33	198.94	201.19	204.68	205.10	199.87	199.15	199.23	198.89	198.79	
4	198.62	198.57	199.33	199.05	200.45	203.13	204.19	199.82	199.15	199.15	198.89	198.77	
5	198.59	198.80	200.63	199.71	200.08	202.38	203.83	199.77	199.16	199.14	198.87	198.74	
6	198.57	199.19	201.50	199.74	201.46	202.05	202.83	199.75	199.14	199.19	198.86	198.73	
7	198.55	199.05	201.19	199.60	202.43	202.29	202.84	199.70	199.13	199.27	198.86	198.72	
8	198.54	198.75	200.62	199.31	202.31	202.12	204.67	199.68	199.12	199.26	198.85	198.71	
9	198.54	198.68	200.03	199.17	202.92	201.75	203.94	199.64	199.10	199.20	198.84	198.71	
10	198.54	198.73	199.62	199.40	201.56	202.40	202.99	199.61	199.09	199.15	198.84	198.70	
11	198.54	198.74	199.40	199.68	200.44	203.03	202.52	199.57	199.07	199.12	198.83	198.69	
12	198.53	198.70	199.49	200.40	200.47	203.09	202.57	199.55	199.06	199.10	198.82	198.68	
13	198.52	198.72	199.81	200.51	200.53	202.91	202.30	199.52	199.03	199.06	198.82	198.68	
14	198.57	198.67	199.56	200.08	200.98	202.85	201.77	199.50	199.01	199.04	198.81	198.67	
15	198.57	198.65	199.31	199.75	200.60	204.63	201.50	199.48	199.02	199.01	198.80	198.66	
16	198.54	198.68	199.21	199.73	200.42	204.72	201.46	199.47	199.02	198.99	198.80	198.66	
17	198.53	198.73	199.21	199.85	200.67	203.76	201.36	199.44	199.01	198.97	198.80	198.67	
18	198.63	198.81	199.24	199.70	201.23	203.39	202.07	199.41	199.01	198.97	198.80	198.66	
19	198.66	199.10	199.21	199.47	206.58	203.30	202.26	199.39	199.01	198.98	198.78	198.65	
20	198.58	198.95	199.03	199.31	209.93	204.25	201.46	199.36	198.99	198.97	198.77	198.64	
21	198.55	198.88	198.98	199.20	210.91	204.90	201.07	199.31	198.98	198.97	198.76	198.63	
22	198.52	198.77	199.07	199.13	210.41	204.91	200.87	199.34	198.97	198.95	198.78	198.63	
23	198.51	199.16	199.12	199.08	209.51	204.00	200.67	199.32	198.95	198.97	198.78	198.62	
24	198.50	199.27	199.30	199.08	208.08	203.97	200.71	199.31	198.94	198.97	198.76	198.61	
25	198.50	198.89	199.28	200.20	205.86	205.24	200.54	199.27	198.95	198.96	198.75	198.62	
26	198.49	198.78	199.36	200.59	203.20	205.63	200.39	199.26	198.95	198.97	198.74	198.61	
27	198.55	199.26	199.56	199.95	202.14	205.47	200.28	199.24	198.95	198.96	198.73	198.61	
28	198.78	199.56	199.32	199.77	202.49	205.12	200.18	199.23	198.95	198.94	198.73	198.61	
29	199.00	199.25	199.28	199.59	203.84	204.26	200.10	199.23	199.05	198.93	198.75	198.61	
30	198.83	199.65	199.17	199.48	204.76	203.74	200.03	199.22	199.64	198.93		198.61	
31		199.57		199.46	206.76		199.99		199.88	198.92		198.62	
Mean	198.59	198.92	199.57	199.58	203.34	203.94	202.04	199.50	199.09	199.07	198.81	198.67	
Max	199.00	199.65	201.50	200.59	210.91	207.57	205.10	199.97	199.88	199.56	198.91	198.79	210.91
Min	198.49	198.57	198.98	198.94	199.99	201.75	199.99	199.22	198.94	198.92	198.73	198.61	198.49

Annual Max Momentary Gage Height — 211.04 M (MSL), at 24.00 Hours, on Aug 20, 1991

Zero Gage at Bottom Elevation — 198.00 M (MSL), River Bed — 197.49 M (MSL)

Left Bank Elevation — 210.66 M (MSL)

Right Bank Elevation — 211.01 M (MSL), Drainage Area — 2905 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.90	1.90	13.45	5.95	20.35	241.50	117.40	20.05	8.65	13.90	4.15	2.70	
2	0.90	1.20	12.70	4.75	49.50	209.30	147.70	19.15	8.05	11.20	4.00	2.80	
3	1.20	1.00	10.45	4.60	44.75	141.40	154.00	18.55	7.75	8.95	3.90	2.90	
4	1.20	0.70	10.45	6.25	29.00	94.90	126.70	17.80	7.75	7.75	3.90	2.70	
5	0.90	3.00	32.60	16.15	21.70	74.50	115.90	17.05	7.90	7.60	3.70	2.40	
6	0.70	8.35	52.50	16.60	51.50	66.25	85.90	16.75	7.60	8.35	3.60	2.30	
7	0.50	6.25	44.75	14.50	75.75	72.25	86.20	16.00	7.45	9.55	3.60	2.20	
8	0.40	2.50	32.40	10.15	72.75	68.00	141.10	15.70	7.30	9.40	3.50	2.10	
9	0.40	1.80	20.95	8.05	88.60	58.75	119.20	15.10	7.00	8.50	3.40	2.10	
10	0.40	2.30	14.80	11.50	54.00	75.00	90.70	14.65	6.85	7.75	3.40	2.00	
11	0.40	2.40	11.50	15.70	28.80	91.90	78.00	14.05	6.55	7.30	3.30	1.90	
12	0.30	2.00	12.85	28.00	29.40	93.70	79.25	13.75	6.40	7.00	3.20	1.80	
13	0.20	2.20	17.65	30.20	30.60	88.30	72.50	13.30	5.95	6.40	3.20	1.80	
14	0.70	1.70	13.90	21.70	39.60	86.50	59.25	13.00	5.65	6.10	3.10	1.70	
15	0.70	1.50	10.15	16.75	32.00	139.90	52.50	12.70	5.80	5.65	3.00	1.60	
16	0.40	1.80	8.65	16.45	28.40	142.60	51.50	12.55	5.80	5.35	3.00	1.60	
17	0.30	2.30	8.65	18.25	33.40	113.80	49.00	12.10	5.65	5.05	3.00	1.70	
18	1.30	3.10	9.10	16.00	45.75	102.70	66.75	11.65	5.65	5.05	3.00	1.60	
19	1.60	7.00	8.65	12.55	202.30	100.00	71.50	11.35	5.65	5.20	2.80	1.50	
20	0.80	4.75	5.95	10.15	520.90	128.50	51.50	10.90	5.35	5.05	2.70	1.40	
21	0.50	3.80	5.20	8.50	938.41	148.00	41.75	10.15	5.20	5.05	2.60	1.30	
22	0.20	2.70	6.55	7.45	661.05	148.30	37.40	10.60	5.05	4.75	2.80	1.30	
23	0.10	7.90	7.30	6.70	440.75	121.00	33.40	10.30	4.75	5.05	2.80	1.20	
24	0.00	9.55	10.00	6.70	271.60	120.10	34.20	10.15	4.60	5.05	2.60	1.10	
25	0.00	3.90	9.70	24.00	177.10	158.20	30.80	9.55	4.75	4.90	2.50	1.20	
26	0.00	2.80	10.90	31.80	97.00	169.90	27.80	9.40	4.75	5.05	2.40	1.10	
27	0.50	9.40	13.90	19.75	68.50	165.10	25.60	9.10	4.75	4.90	2.30	1.10	
28	2.80	13.90	10.30	17.05	77.25	154.60	23.60	8.95	4.75	4.60	2.30	1.10	
29	5.50	9.25	9.70	14.35	116.20	128.80	22.00	8.95	6.25	4.45	2.50	1.10	
30	3.30	15.25	8.05	12.70	143.80	113.20	20.95	8.80	15.10	4.45		1.10	
31		14.05		12.40	208.60		20.35		18.70	4.30		1.20	
Total	27.10	150.25	443.70	445.65	4699.31	3616.95	2134.40	392.10	213.40	203.65	90.25	53.60	12470.36 CMSDAY
Mean	0.90	4.85	14.79	14.38	151.59	120.57	68.85	13.07	6.88	6.57	3.11	1.73	34.07 CMS
Max	5.50	15.25	52.50	31.80	938.41	241.50	154.00	20.05	18.70	13.90	4.15	2.90	938.41 CMS
Min	0.00	0.70	5.20	4.60	20.35	58.75	20.35	8.80	4.60	4.30	2.30	1.10	0.00 CMS
Runoff	2.341	12.982	38.336	38.504	406.020	312.505	184.412	33.877	18.438	17.595	7.798	4.631	1077.439 MCM

Momentary Peak 1064.39 CMS, at 211.04 M (MSL), at 24.00 Hours, on Aug 20, 1991

Runoff Yield 11.73 Liters/Second/Square KM, Momentary Peak Yield 366.40 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

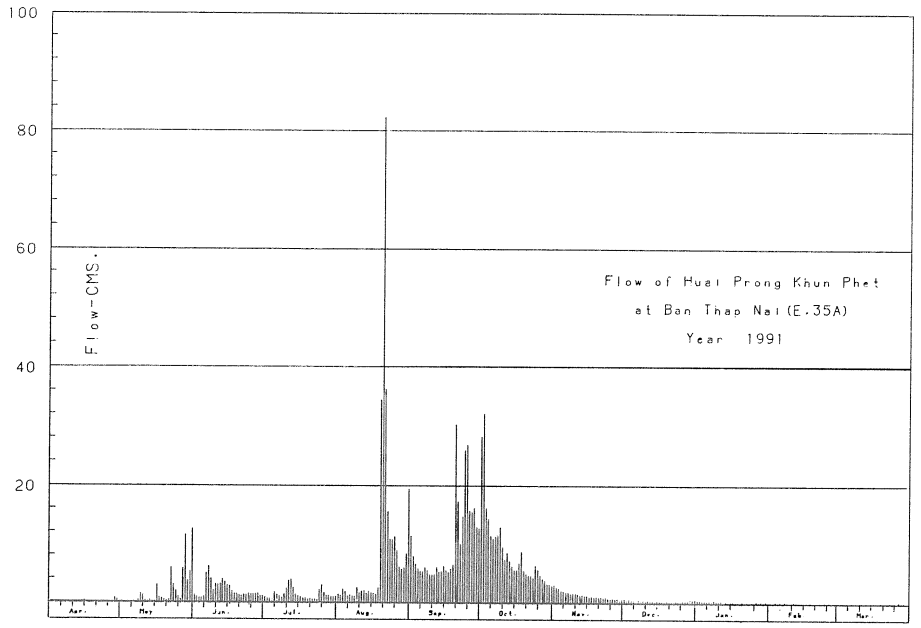
Huai Prong Khun Phet at Ban Thap Nai, Chaiyaphum (E.35A)

Location	Lat. 15-44-27 N., Long. 101-38-07 E., on left bank about 6 kilometers upstream from E.35 station at Ban Thap Nai, King Amphoe Nong Bua Raheo, Chaiyaphum.
Drainage Area	422 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+211.00 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	Near the automatic gage building.
Elevation	+216.534 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1973 to date.
Rating Operation	
Period of Rating	1973 - 1981, 1985 to date.
Rated by Float	-
Rated by Current Meter	1973 - 1981, 1985 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records poor. Stage-discharge relation defined by 62 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	212.16	212.29	212.68	212.56	212.72	214.10	215.50	213.03	212.48	212.42	212.27	212.23	
2	212.18	212.26	212.57	212.53	212.64	213.76	215.77	212.97	212.47	212.40	212.27	212.24	
3	212.25	212.23	212.55	212.52	212.88	213.59	214.57	212.92	212.46	212.38	212.27	212.26	
4	212.24	212.22	212.51	212.50	212.82	213.49	214.39	212.86	212.44	212.36	212.27	212.26	
5	212.22	212.25	212.60	212.78	212.64	213.43	214.11	212.82	212.43	212.40	212.26	212.23	
6	212.20	212.22	213.36	212.70	212.66	213.40	214.05	212.80	212.43	212.39	212.26	212.23	
7	212.19	212.16	213.54	212.61	212.64	213.52	214.10	212.78	212.42	212.41	212.26	212.23	
8	212.19	212.42	213.24	212.56	212.60	213.43	214.10	212.75	212.41	212.39	212.26	212.22	
9	212.15	212.74	212.84	212.70	212.96	213.34	214.26	212.74	212.39	212.36	212.25	212.21	
10	212.14	212.64	213.08	212.93	212.75	213.32	213.92	212.73	212.38	212.35	212.25	212.21	
11	212.13	212.38	213.03	213.16	212.82	213.33	213.68	212.71	212.38	212.34	212.25	212.21	
12	212.14	212.32	213.08	213.21	212.86	213.52	213.81	212.68	212.37	212.33	212.24	212.21	
13	212.16	212.36	213.20	212.93	212.76	213.39	213.66	212.67	212.37	212.33	212.25	212.21	
14	212.32	212.33	213.14	212.70	212.81	213.42	213.53	212.66	212.36	212.33	212.25	212.21	
15	212.32	212.28	213.02	212.61	212.78	213.55	213.45	212.64	212.36	212.32	212.25	212.21	
16	212.23	213.05	213.02	212.56	212.73	213.43	213.44	212.61	212.35	212.30	212.24	212.21	
17	212.20	212.54	212.82	212.53	212.72	213.40	213.62	212.60	212.35	212.29	212.23	212.22	
18	212.17	212.52	212.75	212.50	212.93	213.47	213.83	212.60	212.35	212.29	212.23	212.22	
19	212.16	212.40	212.71	212.47	215.92	213.57	213.44	212.59	212.34	212.29	212.23	212.22	
20	212.15	212.33	212.68	212.47	218.50	215.65	213.34	212.59	212.34	212.28	212.23	212.22	
21	212.14	212.44	212.62	212.46	216.03	214.66	213.32	212.58	212.33	212.28	212.25	212.22	
22	212.14	213.51	212.70	212.44	214.52	213.97	213.30	212.56	212.33	212.28	212.24	212.22	
23	212.13	213.04	212.66	212.44	214.06	214.44	213.26	212.55	212.32	212.28	212.23	212.22	
24	212.14	212.85	212.74	212.87	214.04	215.34	213.55	212.53	212.32	212.27	212.23	212.22	
25	212.15	212.59	212.73	213.03	214.10	215.41	213.46	212.51	212.32	212.27	212.23	212.21	
26	212.14	212.46	212.69	212.78	213.85	214.52	213.31	212.50	212.33	212.29	212.24	212.23	
27	212.16	213.47	212.74	212.67	213.53	214.51	213.23	212.49	212.35	212.29	212.24	212.25	
28	212.53	214.13	212.72	212.64	213.46	214.56	213.16	212.48	212.33	212.29	212.24	212.24	
29	212.41	213.16	212.65	212.62	213.51	214.26	213.08	212.48	212.46	212.29	212.24	212.23	
30	212.28	213.42	212.61	212.57	213.80	214.23	213.05	212.48	212.41	212.29		212.21	
31		214.22		212.59	214.83		213.02		212.44	212.28		212.20	
Mean	212.20	212.68	212.84	212.67	213.54	213.93	213.75	212.66	212.38	212.32	212.25	212.22	
Max	212.53	214.22	213.54	213.21	218.50	215.65	215.77	213.03	212.48	212.42	212.27	212.26	218.50
Min	212.13	212.16	212.51	212.44	212.60	213.32	213.02	212.48	212.32	212.27	212.23	212.20	212.13

Annual Max Momentary Gage Height 218.80 M (MSL), at 13.00 Hours, on Aug 20, 1991
Zero Gage at Bottom Elevation 211.00 M (MSL), River Bed 211.39 M (MSL)
Left Bank Elevation 219.32 M (MSL)
Right Bank Elevation 219.08 M (MSL), Drainage Area 422 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.13	0.29	1.42	0.98	1.58	11.40	28.25	3.05	0.74	0.56	0.26	0.21	
2	0.15	0.25	1.01	0.89	1.26	8.04	32.29	2.75	0.71	0.50	0.26	0.22	
3	0.24	0.21	0.95	0.86	2.30	6.63	16.26	2.50	0.68	0.46	0.26	0.25	
4	0.22	0.20	0.83	0.80	2.00	5.93	14.30	2.20	0.62	0.42	0.26	0.25	
5	0.20	0.24	1.10	1.82	1.26	5.51	11.50	2.00	0.59	0.50	0.25	0.21	
6	0.17	0.20	5.02	1.50	1.34	5.30	10.90	1.90	0.59	0.48	0.25	0.21	
7	0.16	0.13	6.28	1.14	1.26	6.14	11.40	1.82	0.56	0.53	0.25	0.21	
8	0.16	0.56	4.24	0.98	1.10	5.51	11.40	1.70	0.53	0.48	0.25	0.20	
9	0.12	1.66	2.10	1.50	2.70	4.88	13.00	1.66	0.48	0.42	0.24	0.18	
10	0.12	1.26	3.30	2.55	1.70	4.74	9.60	1.62	0.46	0.40	0.24	0.18	
11	0.11	0.46	3.05	3.76	2.00	4.81	7.34	1.54	0.46	0.38	0.24	0.18	
12	0.12	0.34	3.30	4.06	2.20	6.14	8.50	1.42	0.44	0.36	0.22	0.18	
13	0.13	0.42	4.00	2.55	1.74	5.23	7.18	1.38	0.44	0.36	0.24	0.18	
14	0.34	0.36	3.64	1.50	1.95	5.44	6.21	1.34	0.42	0.36	0.24	0.18	
15	0.34	0.27	3.00	1.14	1.82	6.35	5.65	1.26	0.42	0.34	0.24	0.18	
16	0.21	3.15	3.00	0.98	1.62	5.51	5.58	1.14	0.40	0.30	0.22	0.18	
17	0.17	0.92	2.00	0.89	1.58	5.30	6.86	1.10	0.40	0.29	0.21	0.20	
18	0.14	0.86	1.70	0.80	2.55	5.79	8.70	1.10	0.40	0.29	0.21	0.20	
19	0.13	0.50	1.54	0.71	34.61	6.49	5.58	1.07	0.38	0.29	0.21	0.20	
20	0.12	0.36	1.42	0.71	82.40	30.45	4.88	1.07	0.38	0.27	0.21	0.20	
21	0.12	0.62	1.18	0.68	36.31	17.29	4.74	1.04	0.36	0.27	0.24	0.20	
22	0.12	6.07	1.50	0.62	15.68	10.10	4.60	0.98	0.36	0.27	0.22	0.20	
23	0.11	3.10	1.34	0.62	11.00	14.82	4.36	0.95	0.34	0.27	0.21	0.20	
24	0.12	2.15	1.66	2.25	10.80	25.96	6.35	0.89	0.34	0.26	0.21	0.20	
25	0.12	1.07	1.62	3.05	11.40	26.95	5.72	0.83	0.34	0.26	0.21	0.18	
26	0.12	0.68	1.46	1.82	8.90	15.68	4.67	0.80	0.36	0.29	0.22	0.21	
27	0.13	5.79	1.66	1.38	6.21	15.56	4.18	0.77	0.40	0.29	0.22	0.24	
28	0.89	11.70	1.58	1.26	5.72	16.14	3.76	0.74	0.36	0.29	0.22	0.22	
29	0.53	3.76	1.30	1.18	6.07	13.00	3.30	0.74	0.68	0.29	0.22	0.21	
30	0.27	5.44	1.14	1.01	8.40	12.70	3.15	0.74	0.53	0.29		0.18	
31		12.60		1.07	19.38		3.00		0.62	0.27		0.17	
Total	6.01	65.62	67.34	45.06	288.84	313.79	273.21	42.10	14.79	11.04	6.73	6.21	1140.74 CMSDA
Mean	0.20	2.12	2.24	1.45	9.32	10.46	8.81	1.40	0.48	0.36	0.23	0.20	3.12 CMS
Max	0.89	12.60	6.28	4.06	82.40	30.45	32.29	3.05	0.74	0.56	0.26	0.25	82.40 CMS
Min	0.11	0.13	0.83	0.62	1.10	4.74	3.00	0.74	0.34	0.26	0.21	0.17	0.11 CMS
Runoff	0.519	5.670	5.818	3.893	24.956	27.111	23.605	3.637	1.278	0.954	0.581	0.537	98.560 MCM

Momentary Peak 89.00 CMS, at 218.80 M (MSL), at 13.00 Hours, on Aug 20, 1991

Runoff Yield 7.39 Liters/Second/Square KM, Momentary Peak Yield 210.90 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

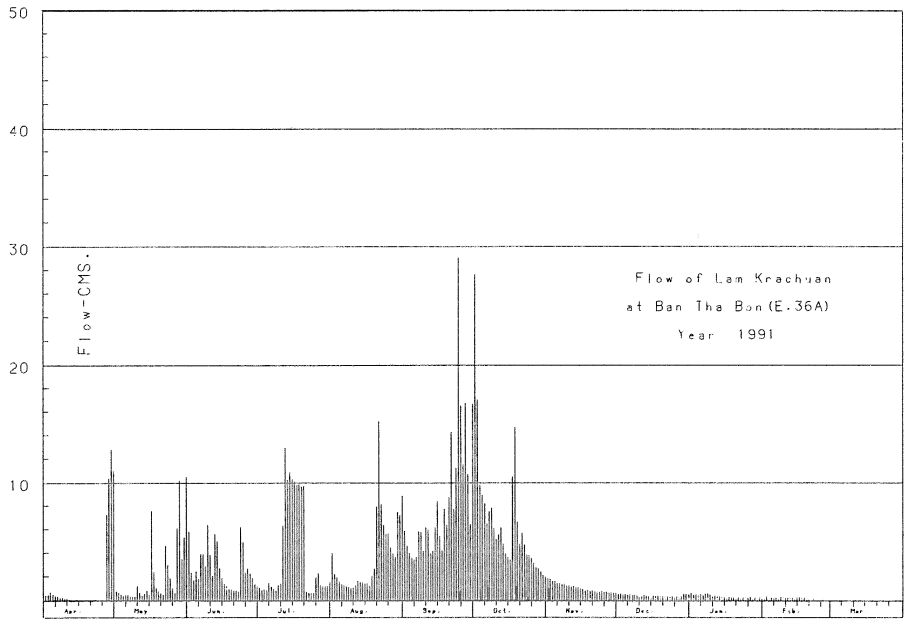
Lam Krachuan at Ban Tha Bon, Chaiyaphum (E.36A)

Location	Lat. 15-43-24 N., Long. 101-40-04 E., on right bank about 2 kilometers upstream from E.36 station at Ban Tha Bon, King Amphoe Nong Bua Raheo, Chaiyaphum.
Drainage Area	290 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+211.00 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank about 10 meters from the automatic gage building.
Elevation	+218.820 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1970 to date.
Rating Operation	
Period of Rating	1972 - 1981, 1988 to date.
Rated by Float	-
Rated by Current Meter	1972 - 1981, 1988 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 93 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	213.25	213.37	214.03	213.42	213.85	214.03	215.45	213.58	213.31	213.32	213.23	213.12	
2	213.28	213.32	213.64	213.39	213.63	213.92	214.84	213.56	213.30	213.29	213.23	213.11	
3	213.33	213.29	213.54	213.39	213.58	213.85	214.36	213.54	213.29	213.29	213.21	213.11	
4	213.30	213.25	213.67	213.39	213.53	213.81	214.29	213.53	213.29	213.27	213.19	213.12	
5	213.25	213.28	213.57	213.50	213.49	213.79	214.24	213.51	213.29	213.29	213.19	213.13	
6	213.22	213.26	213.84	213.45	213.46	213.81	214.09	213.50	213.30	213.28	213.19	213.13	
7	213.20	213.24	213.84	213.40	213.45	214.03	214.18	213.49	213.28	213.30	213.20	213.12	
8	213.18	213.22	213.72	213.38	213.43	214.02	214.21	213.49	213.27	213.32	213.21	213.10	
9	213.17	213.23	214.08	213.46	213.42	213.87	214.05	213.47	213.27	213.28	213.21	213.09	
10	213.15	213.45	213.84	213.50	213.42	214.06	213.97	213.46	213.26	213.26	213.20	213.11	
11	213.14	213.34	213.60	214.07	213.47	214.04	214.00	213.45	213.26	213.26	213.19	213.11	
12	213.12	213.26	214.01	214.59	213.53	213.85	214.06	213.45	213.27	213.24	213.20	213.10	
13	213.10	213.30	213.95	214.39	213.52	213.87	213.93	213.44	213.26	213.23	213.19	213.09	
14	213.10	213.38	213.70	214.44	213.51	214.06	213.85	213.43	213.25	213.22	213.19	213.07	
15	213.10	213.27	213.57	214.40	213.50	214.25	213.81	213.42	213.24	213.21	213.20	213.06	
16	213.09	214.19	213.50	214.38	213.49	213.99	213.79	213.40	213.25	213.21	213.21	213.03	
17	213.09	213.65	213.45	214.36	213.46	213.88	214.41	213.38	213.25	213.21	213.21	213.01	
18	213.08	213.43	213.41	214.36	213.60	214.20	214.70	213.38	213.24	213.21	213.21	213.01	
19	213.08	213.35	213.39	214.35	213.69	214.08	214.10	213.37	213.24	213.21	213.19	213.01	
20	213.08	213.31	213.38	214.35	214.22	214.28	213.93	213.37	213.24	213.20	213.18	213.01	
21	213.09	213.29	213.37	213.34	214.73	214.67	214.02	213.36	213.24	213.20	213.18	213.01	
22	213.09	213.92	213.36	213.33	214.23	214.20	213.93	213.36	213.23	213.20	213.15	213.00	
23	213.09	213.73	214.06	213.31	214.08	214.47	213.84	213.36	213.23	213.20	213.14	213.00	
24	213.08	213.58	213.95	213.33	214.01	215.53	213.83	213.35	213.23	213.21	213.13	212.99	
25	213.06	213.41	213.65	213.58	214.01	214.81	213.81	213.35	213.23	213.20	213.10	212.98	
26	213.05	213.33	213.69	213.64	213.90	214.49	213.75	213.34	213.23	213.21	213.09	212.97	
27	214.16	214.05	213.64	213.47	213.85	214.82	213.71	213.33	213.22	213.20	213.09	212.96	
28	214.40	214.39	213.57	213.44	213.81	214.43	213.69	213.33	213.23	213.20	213.09	212.95	
29	214.58	213.80	213.49	213.45	214.18	214.08	213.66	213.33	213.31	213.20	213.11	212.94	
30	214.45	213.98	213.44	213.45	214.15	214.82	213.61	213.32	213.29	213.20		212.94	
31		214.41		213.51	214.29		213.59		213.30	213.20		212.93	
Mean	213.31	213.53	213.67	213.74	213.76	214.20	214.05	213.42	213.26	213.24	213.18	213.04	
Max	214.58	214.41	214.08	214.59	214.73	215.53	215.45	213.58	213.31	213.32	213.23	213.13	215.53
Min	213.05	213.22	213.36	213.31	213.42	213.79	213.59	213.32	213.22	213.20	213.09	212.93	212.93

Annual Max Momentary Gage Height 216.55 M (MSL), at 11.00 Hours, on Aug 20, 1991
Zero Gage at Bottom Elevation 211.00 M (MSL), River Bed 212.52 M (MSL)
Left Bank Elevation 219.98 M (MSL)
Right Bank Elevation 219.78 M (MSL), Drainage Area 290 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.45	0.88	5.93	1.10	4.05	5.93	27.70	1.98	0.64	0.68	0.39	0.14	
2	0.54	0.68	2.38	0.96	2.31	4.72	17.11	1.86	0.60	0.57	0.39	0.12	
3	0.72	0.57	1.74	0.96	1.98	4.05	9.88	1.74	0.57	0.57	0.33	0.12	
4	0.60	0.45	2.59	0.96	1.68	3.69	8.97	1.68	0.57	0.51	0.28	0.14	
5	0.45	0.54	1.92	1.50	1.45	3.52	8.32	1.56	0.57	0.57	0.28	0.16	
6	0.36	0.48	3.96	1.25	1.30	3.69	6.59	1.50	0.60	0.54	0.28	0.16	
7	0.30	0.42	3.96	1.00	1.25	5.93	7.58	1.45	0.54	0.60	0.30	0.14	
8	0.26	0.36	2.96	0.92	1.15	5.82	7.93	1.45	0.51	0.68	0.33	0.10	
9	0.24	0.39	6.48	1.30	1.10	4.23	6.15	1.35	0.51	0.54	0.33	0.09	
10	0.20	1.25	3.96	1.50	1.10	6.26	5.27	1.30	0.48	0.48	0.30	0.12	
11	0.18	0.76	2.10	6.37	1.35	6.04	5.60	1.25	0.48	0.48	0.28	0.12	
12	0.14	0.48	5.71	13.05	1.68	4.05	6.26	1.25	0.51	0.42	0.30	0.10	
13	0.10	0.60	5.05	10.27	1.62	4.23	4.83	1.20	0.48	0.39	0.28	0.09	
14	0.10	0.92	2.80	10.92	1.56	6.26	4.05	1.15	0.45	0.36	0.28	0.07	
15	0.10	0.51	1.92	10.40	1.50	8.45	3.69	1.10	0.42	0.33	0.30	0.06	
16	0.09	7.69	1.50	10.14	1.45	5.49	3.52	1.00	0.45	0.33	0.33	0.03	
17	0.09	2.45	1.25	9.88	1.30	4.32	10.53	0.92	0.45	0.33	0.33	0.01	
18	0.08	1.15	1.05	9.88	2.10	7.80	14.80	0.92	0.42	0.33	0.33	0.01	
19	0.08	0.80	0.96	9.75	2.73	6.48	6.70	0.88	0.42	0.33	0.28	0.01	
20	0.08	0.64	0.92	9.75	8.06	8.84	4.83	0.88	0.42	0.30	0.26	0.01	
21	0.09	0.57	0.88	0.76	15.29	14.32	5.82	0.84	0.42	0.30	0.26	0.01	
22	0.09	4.72	0.84	0.72	8.19	7.80	4.83	0.84	0.39	0.30	0.20	0.00	
23	0.09	3.04	6.26	0.64	6.48	11.31	3.96	0.84	0.39	0.30	0.18	0.00	
24	0.08	1.98	5.05	0.72	5.71	29.17	3.87	0.80	0.39	0.33	0.16	0.00	
25	0.06	1.05	2.45	1.98	5.71	16.62	3.69	0.80	0.39	0.30	0.10	0.00	
26	0.05	0.72	2.73	2.38	4.50	11.57	3.20	0.76	0.39	0.33	0.09	0.00	
27	7.36	6.15	2.38	1.35	4.05	16.78	2.88	0.72	0.36	0.30	0.09	0.00	
28	10.40	10.27	1.92	1.20	3.69	10.79	2.73	0.72	0.39	0.30	0.09	0.00	
29	12.90	3.60	1.45	1.25	7.58	6.48	2.52	0.72	0.64	0.30	0.12	0.00	
30	11.05	5.38	1.20	1.25	7.25	16.78	2.17	0.68	0.57	0.30		0.00	
31		10.53		1.56	8.97		2.04		0.60	0.30		0.00	
Total	47.33	70.03	84.30	125.67	118.14	251.42	208.02	34.14	15.02	12.70	7.47	1.81	976.05 CMSDAY
Mean	1.58	2.26	2.81	4.05	3.81	8.38	6.71	1.14	0.48	0.41	0.26	0.06	2.67 CMS
Max	12.90	10.53	6.48	13.05	15.29	29.17	27.70	1.98	0.64	0.68	0.39	0.16	29.17 CMS
Min	0.05	0.36	0.84	0.64	1.10	3.52	2.04	0.68	0.36	0.30	0.09	0.00	0.00 CMS
Runoff	4.089	6.051	7.284	10.858	10.207	21.723	17.973	2.950	1.298	1.097	0.645	0.156	84.331 MCM

Momentary Peak 49.55 CMS, at 216.55 M (MSL), at 11.00 Hours, on Aug 20, 1991

Runoff Yield 9.20 Liters/Second/Square KM, Momentary Peak Yield 170.86 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

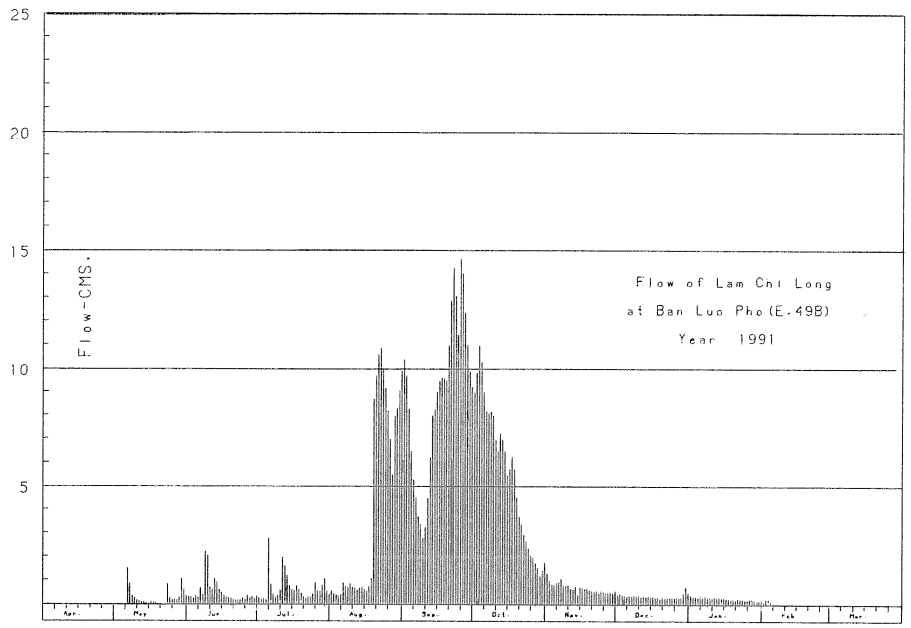
Lam Chi Long at Ban Lup Pho, Chaiyaphum (E.49B)

Location	Lat. 15-47-28 N., Long. 101-52-20 E., on right bank at the bridge on road, Ban Lup Pho, Tambon Talat Raeng, Amphoe Ban Khwao, Chaiyaphum.
Drainage Area	331 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+196.182 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank upstream side at the abutment of the bridge.
Elevation	+200.251 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1987 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Unstable.
Overbank Flow Conditions	No overbank flow.
General Description	Records poor. Stage-discharge relation defined by 23 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	196.65	196.67	197.09	197.06	197.13	197.84	197.70	197.23	197.11	197.10	197.01	196.42	
2	196.65	196.70	197.08	197.05	197.11	197.77	197.78	197.20	197.11	197.09	197.04	196.42	
3	196.65	196.76	197.06	197.05	197.11	197.63	197.90	197.18	197.11	197.08	197.05	196.42	
4	196.65	196.82	197.09	197.04	197.09	197.54	197.83	197.17	197.10	197.08	197.02	196.42	
5	196.65	196.95	197.08	197.35	197.11	197.49	197.70	197.19	197.10	197.09	197.01	196.42	
6	196.65	197.25	197.15	197.18	197.19	197.45	197.62	197.19	197.10	197.08	196.99	196.42	
7	196.65	197.18	197.11	197.11	197.16	197.41	197.61	197.21	197.10	197.09	196.97	196.42	
8	196.65	197.10	197.31	197.08	197.16	197.39	197.62	197.17	197.10	197.08	196.94	196.42	
9	196.65	197.06	197.30	197.10	197.18	197.35	197.60	197.17	197.10	197.08	196.93	196.42	
10	196.65	197.03	197.16	197.14	197.16	197.38	197.56	197.17	197.10	197.07	196.92	196.42	
11	196.65	197.02	197.14	197.29	197.15	197.45	197.54	197.15	197.09	197.08	196.91	196.42	
12	196.65	197.01	197.21	197.26	197.14	197.53	197.57	197.14	197.09	197.08	196.90	196.42	
13	196.65	197.00	197.19	197.22	197.15	197.60	197.56	197.16	197.09	197.07	196.89	196.42	
14	196.65	196.98	197.14	197.17	197.16	197.63	197.54	197.11	197.09	197.07	196.88	196.42	
15	196.65	196.97	197.12	197.14	197.14	197.70	197.50	197.16	197.09	197.06	196.87	196.42	
16	196.65	197.01	197.11	197.13	197.13	197.75	197.51	197.15	197.08	197.06	196.86	196.42	
17	196.65	197.00	197.07	197.17	197.16	197.76	197.53	197.15	197.08	197.05	196.85	196.42	
18	196.65	196.99	197.06	197.14	197.21	197.76	197.51	197.15	197.08	197.05	196.84	196.42	
19	196.65	196.98	197.06	197.12	197.67	197.75	197.45	197.14	197.06	197.05	196.82	196.42	
20	196.65	196.97	197.04	197.08	197.77	197.90	197.41	197.13	197.07	197.05	196.80	196.42	
21	196.65	196.95	197.03	197.06	197.86	198.08	197.39	197.13	197.07	197.05	196.74	196.42	
22	196.65	196.93	197.03	197.07	197.89	198.21	197.36	197.13	197.07	197.05	196.69	196.42	
23	196.65	197.18	197.04	197.09	197.80	198.10	197.34	197.12	197.07	197.04	196.66	196.42	
24	196.65	197.06	197.06	197.11	197.72	197.94	197.32	197.13	197.07	197.04	196.60	196.42	
25	196.65	197.04	197.05	197.19	197.62	198.25	197.30	197.13	197.07	197.04	196.56	196.42	
26	196.65	197.04	197.10	197.13	197.56	198.19	197.29	197.12	197.07	197.04	196.49	196.42	
27	196.65	197.04	197.07	197.13	197.50	198.03	197.27	197.12	197.07	197.05	196.47	196.42	
28	196.65	197.07	197.08	197.17	197.60	197.90	197.25	197.12	197.07	197.03	196.43	196.42	
29	196.65	197.21	197.06	197.21	197.63	197.79	197.22	197.12	197.12	197.03	196.42	196.42	
30	196.65	197.14	197.09	197.13	197.71	197.72	197.24	197.13	197.16	197.04		196.42	
31		197.09		197.11	197.79		197.27		197.12	197.03		196.42	
Mean	196.65	197.01	197.11	197.14	197.38	197.74	197.49	197.15	197.09	197.06	196.81	196.42	
Max	196.65	197.25	197.31	197.35	197.89	198.25	197.90	197.23	197.16	197.10	197.05	196.42	198.25
Min	196.65	196.67	197.03	197.04	197.09	197.35	197.22	197.11	197.06	197.03	196.42	196.42	196.42

Annual Max Momentary Gage Height 198.28 M (MSL), at 18.00 Hours, on Sep 25, 1991
Zero Gage at Bottom Elevation 196.18 M (MSL), River Bed 196.66 M (MSL)
Left Bank Elevation 199.37 M (MSL)
Right Bank Elevation 199.84 M (MSL), Drainage Area 331 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.35	0.27	0.57	10.40	9.00	1.33	0.44	0.38	0.13	0.00	
2	0.00	0.00	0.32	0.24	0.44	9.70	9.80	1.00	0.44	0.35	0.21	0.00	
3	0.00	0.00	0.27	0.24	0.44	8.30	11.00	0.88	0.44	0.32	0.24	0.00	
4	0.00	0.00	0.35	0.21	0.35	6.50	10.30	0.81	0.38	0.32	0.16	0.00	
5	0.00	0.00	0.32	2.83	0.44	5.31	9.00	0.94	0.38	0.35	0.13	0.00	
6	0.00	1.55	0.69	0.88	0.94	4.53	8.20	0.94	0.38	0.32	0.08	0.00	
7	0.00	0.88	0.44	0.44	0.75	3.75	8.10	1.11	0.38	0.35	0.04	0.00	
8	0.00	0.38	2.24	0.32	0.75	3.41	8.20	0.81	0.38	0.32	0.00	0.00	
9	0.00	0.27	2.10	0.38	0.88	2.83	8.00	0.81	0.38	0.32	0.00	0.00	
10	0.00	0.18	0.75	0.63	0.75	3.26	7.00	0.81	0.38	0.30	0.00	0.00	
11	0.00	0.16	0.63	1.99	0.69	4.53	6.50	0.69	0.35	0.32	0.00	0.00	
12	0.00	0.13	1.11	1.66	0.63	6.25	7.25	0.63	0.35	0.32	0.00	0.00	
13	0.00	0.10	0.94	1.22	0.69	8.00	7.00	0.75	0.35	0.30	0.00	0.00	
14	0.00	0.06	0.63	0.81	0.75	8.30	6.50	0.44	0.35	0.30	0.00	0.00	
15	0.00	0.04	0.50	0.63	0.63	9.00	5.50	0.75	0.35	0.27	0.00	0.00	
16	0.00	0.13	0.44	0.57	0.57	9.50	5.75	0.69	0.32	0.27	0.00	0.00	
17	0.00	0.10	0.30	0.81	0.75	9.60	6.25	0.69	0.32	0.24	0.00	0.00	
18	0.00	0.08	0.27	0.63	1.11	9.60	5.75	0.69	0.32	0.24	0.00	0.00	
19	0.00	0.06	0.27	0.50	8.70	9.50	4.53	0.63	0.27	0.24	0.00	0.00	
20	0.00	0.04	0.21	0.32	9.70	11.00	3.75	0.57	0.30	0.24	0.00	0.00	
21	0.00	0.00	0.18	0.27	10.60	12.89	3.41	0.57	0.30	0.24	0.00	0.00	
22	0.00	0.00	0.18	0.30	10.90	14.26	2.97	0.57	0.30	0.24	0.00	0.00	
23	0.00	0.88	0.21	0.35	10.00	13.10	2.68	0.50	0.30	0.21	0.00	0.00	
24	0.00	0.27	0.27	0.44	9.20	11.42	2.39	0.57	0.30	0.21	0.00	0.00	
25	0.00	0.21	0.24	0.94	8.20	14.67	2.10	0.57	0.30	0.21	0.00	0.00	
26	0.00	0.21	0.38	0.57	7.00	14.05	1.99	0.50	0.30	0.21	0.00	0.00	
27	0.00	0.21	0.30	0.57	5.50	12.37	1.77	0.50	0.30	0.24	0.00	0.00	
28	0.00	0.30	0.32	0.81	8.00	11.00	1.55	0.50	0.30	0.18	0.00	0.00	
29	0.00	1.11	0.27	1.11	8.30	9.90	1.22	0.50	0.50	0.18	0.00	0.00	
30	0.00	0.63	0.35	0.57	9.10	9.20	1.44	0.57	0.75	0.21		0.00	
31		0.35		0.44	9.90		1.77		0.50	0.18		0.00	
Total	0.00	8.33	15.83	21.95	127.23	266.13	170.67	21.32	11.41	8.38	0.99	0.00	652.24 CMSDA
Mean	0.00	0.27	0.53	0.71	4.10	8.87	5.51	0.71	0.37	0.27	0.03	0.00	1.78 CMS
Max	0.00	1.55	2.24	2.83	10.90	14.67	11.00	1.33	0.75	0.38	0.24	0.00	14.67 CMS
Min	0.00	0.00	0.18	0.21	0.35	2.83	1.22	0.44	0.27	0.18	0.00	0.00	0.00 CMS
Runoff	0.000	0.720	1.368	1.896	10.993	22.994	14.746	1.842	0.986	0.724	0.086	0.000	56.354 MCM

Momentary Peak 14.99 CMS, at 198.28 M (MSL), at 18.00 Hours, on Sep 25, 1991
Runoff Yield 5.38 Liters/Second/Square KM, Momentary Peak Yield 45.29 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

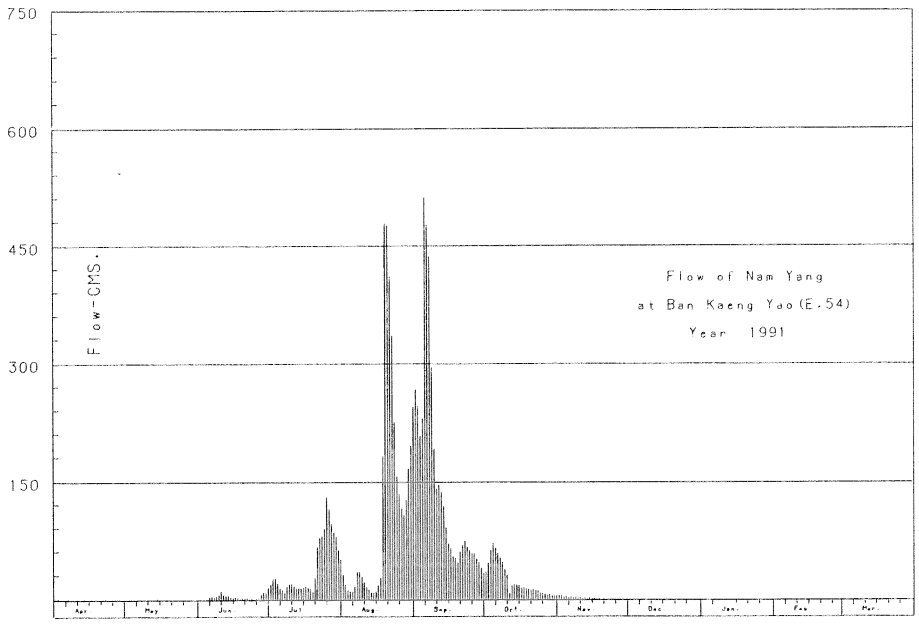
Nam Yang at Ban Kaeng Yao, Kalasin (E.54)

Location	Lat. 16-26-29 N., Long. 104-02-07 E., on left bank at Ban Kaeng Yao about 2 kilometers downstream from proposed of USBR Damsite, Amphoe Kuchinarai, Kalasin.
Drainage Area	1,511 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank at abutment of the bridge.
Elevation	+11.648 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1969 to date.
Rating Operation	
Period of Rating	1969 - 1977, 1983 to date.
Rated by Float	-
Rated by Current Meter	1969 - 1977, 1983 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 85 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.81	0.63	0.72	1.80	2.08	6.59	2.13	1.21	0.68	0.54	0.47	0.39	
2	0.83	0.64	0.76	1.96	1.77	6.25	2.36	1.17	0.67	0.55	0.54	0.39	
3	0.82	0.62	0.89	1.99	1.53	5.67	2.92	1.09	0.69	0.55	0.48	0.44	
4	0.74	0.61	1.08	1.80	1.42	6.02	3.17	1.11	0.68	0.51	0.48	0.44	
5	0.71	0.61	1.08	1.62	1.45	9.70	3.02	1.02	0.68	0.60	0.50	0.44	
6	0.77	0.64	1.08	1.49	1.65	9.29	2.77	1.00	0.57	0.56	0.46	0.43	
7	0.72	0.63	1.01	1.39	2.15	8.82	2.58	1.00	0.65	0.58	0.46	0.39	
8	0.69	0.65	1.11	1.68	2.13	6.99	2.38	1.00	0.63	0.63	0.46	0.39	
9	0.70	0.64	1.29	1.81	2.03	5.42	2.21	0.96	0.62	0.64	0.46	0.41	
10	0.75	0.62	1.45	1.79	1.86	4.56	2.06	0.95	0.61	0.65	0.43	0.41	
11	0.68	0.61	1.34	1.68	1.68	4.64	1.36	0.90	0.56	0.61	0.44	0.40	
12	0.73	0.62	1.22	1.62	1.53	4.48	1.75	0.93	0.55	0.67	0.49	0.48	
13	0.70	0.74	1.15	1.59	1.40	4.16	1.77	0.92	0.58	0.55	0.43	0.46	
14	0.69	0.87	1.07	1.61	1.36	3.61	1.78	0.90	0.55	0.56	0.43	0.44	
15	0.69	0.81	1.02	1.66	1.46	3.17	1.74	0.88	0.51	0.54	0.44	0.44	
16	0.83	0.78	0.99	1.67	1.73	2.97	1.64	0.85	0.53	0.49	0.41	0.40	
17	0.82	0.80	0.94	1.64	2.00	2.64	1.63	0.83	0.50	0.49	0.44	0.40	
18	0.70	0.78	0.90	1.57	5.26	2.54	1.60	0.83	0.51	0.47	0.44	0.39	
19	0.68	0.75	0.90	1.44	9.31	2.38	1.55	0.85	0.51	0.46	0.44	0.39	
20	0.70	0.80	0.93	2.00	9.29	2.83	1.53	0.82	0.51	0.45	0.45	0.38	
21	0.84	0.79	0.90	3.06	8.49	3.11	1.52	0.80	0.52	0.45	0.42	0.46	
22	0.81	0.75	0.85	3.34	7.54	3.25	1.52	0.80	0.52	0.44	0.41	0.45	
23	0.72	0.72	0.83	3.37	5.94	3.06	1.46	0.76	0.54	0.44	0.38	0.43	
24	0.72	0.70	0.85	3.59	4.83	2.89	1.38	0.76	0.50	0.45	0.40	0.41	
25	0.68	0.71	0.85	4.36	4.43	2.78	1.33	0.78	0.59	0.44	0.39	0.40	
26	0.67	0.73	0.99	4.10	4.11	2.75	1.32	0.75	0.52	0.45	0.38	0.40	
27	0.71	0.74	1.30	3.71	3.92	2.54	1.26	0.73	0.52	0.46	0.38	0.40	
28	0.76	0.73	1.37	3.49	4.30	2.37	1.27	0.72	0.50	0.47	0.39	0.39	
29	0.72	0.71	1.39	3.36	4.98	2.25	1.20	0.72	0.47	0.46	0.40	0.40	
30	0.65	0.76	1.61	2.92	5.48	2.11	1.14	0.66	0.47	0.43		0.40	
31		0.75		2.48	6.24		1.14		0.52	0.43		0.41	
Mean	0.73	0.71	1.06	2.31	3.66	4.33	1.82	0.89	0.56	0.52	0.44	0.41	
Max	0.84	0.87	1.61	4.36	9.31	9.70	3.17	1.21	0.69	0.67	0.54	0.48	9.70
Min	0.65	0.61	0.72	1.39	1.36	2.11	1.14	0.66	0.47	0.43	0.38	0.38	0.38

Annual Max Momentary Gage Height 10.16 M (A.D), at 17.00 Hours, on Sep 5, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.01 M (A.D)
Left Bank Elevation 11.71 M (A.D)
Right Bank Elevation 11.69 M (A.D), Drainage Area 1511 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.10	0.36	0.60	20.00	32.18	268.30	34.73	5.65	0.46	0.24	0.17	0.09	
2	1.30	0.38	0.80	26.06	19.10	245.75	46.46	5.05	0.44	0.25	0.24	0.09	
3	1.20	0.34	1.90	27.59	12.75	208.05	63.36	3.90	0.48	0.25	0.18	0.14	
4	0.70	0.32	3.80	20.00	10.00	230.80	71.65	4.15	0.46	0.21	0.18	0.14	
5	0.55	0.32	3.80	15.00	10.75	513.00	66.21	3.20	0.46	0.30	0.20	0.14	
6	0.85	0.38	3.80	11.75	15.75	477.15	59.07	3.00	0.27	0.26	0.16	0.13	
7	0.60	0.36	3.10	9.25	35.75	437.60	53.64	3.00	0.40	0.28	0.16	0.09	
8	0.48	0.40	4.15	16.50	34.73	296.30	47.48	3.00	0.36	0.36	0.16	0.09	
9	0.50	0.38	6.85	20.30	29.63	192.70	38.81	2.60	0.34	0.38	0.16	0.11	
10	0.75	0.34	10.75	19.70	21.80	141.30	31.16	2.50	0.32	0.40	0.13	0.11	
11	0.46	0.32	8.00	16.50	16.50	145.90	8.50	2.00	0.26	0.32	0.14	0.10	
12	0.65	0.34	5.80	15.00	12.75	136.90	18.50	2.30	0.25	0.44	0.19	0.18	
13	0.50	0.70	4.75	14.25	9.50	119.30	19.10	2.20	0.28	0.25	0.13	0.16	
14	0.48	1.70	3.70	14.75	8.50	91.50	19.40	2.00	0.25	0.26	0.13	0.14	
15	0.48	1.10	3.20	16.00	11.00	71.65	18.20	1.80	0.21	0.24	0.14	0.14	
16	1.30	0.90	2.90	16.25	17.90	64.79	15.50	1.50	0.23	0.19	0.11	0.10	
17	1.20	1.00	2.40	15.50	28.10	55.36	15.25	1.30	0.20	0.19	0.14	0.10	
18	0.50	0.90	2.00	13.75	183.10	52.50	14.50	1.30	0.21	0.17	0.14	0.09	
19	0.46	0.75	2.00	10.50	478.85	47.48	13.25	1.50	0.21	0.16	0.14	0.09	
20	0.50	1.00	2.30	28.10	477.15	60.79	12.75	1.20	0.21	0.15	0.15	0.08	
21	1.40	0.95	2.00	67.36	411.20	68.95	12.50	1.00	0.22	0.15	0.12	0.16	
22	1.10	0.75	1.50	79.30	336.50	75.25	12.50	1.00	0.22	0.14	0.11	0.15	
23	0.60	0.60	1.30	80.65	225.60	67.36	11.00	0.80	0.24	0.14	0.08	0.13	
24	0.60	0.50	1.50	90.55	157.30	62.50	9.00	0.80	0.20	0.15	0.10	0.11	
25	0.46	0.55	1.50	130.30	134.15	59.36	7.75	0.90	0.29	0.14	0.09	0.10	
26	0.44	0.65	2.90	116.00	116.55	58.50	7.50	0.75	0.22	0.15	0.08	0.10	
27	0.55	0.70	7.00	96.50	107.00	52.50	6.40	0.65	0.22	0.16	0.08	0.10	
28	0.80	0.65	8.75	86.05	127.00	46.97	6.55	0.60	0.20	0.17	0.09	0.09	
29	0.60	0.55	9.25	80.20	166.30	40.85	5.50	0.60	0.17	0.16	0.10	0.10	
30	0.40	0.80	14.75	63.36	196.30	33.71	4.60	0.42	0.17	0.13		0.10	
31		0.75		50.79	245.10		4.60		0.22	0.13		0.11	
Total	21.51	19.74	127.05	1287.81	3688.79	4423.07	755.42	60.67	8.67	6.92	4.00	3.56	10407.21 CMSDAY
Mean	0.72	0.64	4.24	41.54	118.99	147.44	24.37	2.02	0.28	0.22	0.14	0.11	28.44 CMS
Max	1.40	1.70	14.75	130.30	478.85	513.00	71.65	5.65	0.48	0.44	0.24	0.18	513.00 CMS
Min	0.40	0.32	0.60	9.25	8.50	33.71	4.60	0.42	0.17	0.13	0.08	0.08	0.08 CMS
Runoff	1.858	1.706	10.977	111.267	318.712	382.153	65.268	5.242	0.749	0.598	0.346	0.308	899.183 MCM

Momentary Peak 554.40 CMS, at 10.16 M (A.D), at 17.00 Hours, on Sep 5, 1991

Runoff Yield 18.82 Liters/Second/Square KM, Momentary Peak Yield 366.91 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

Nam Yang at Ban Kut Chim Khum Mai, Kalasin (E.57)

Location — Lat. 16°-41'-05" N., Long. 104°-05'-10" E., on right bank at the bridge on highway Ban Kut Chim Khum Mai, Amphoe Khao Wong, Kalasin.

Drainage Area — 98 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On right bank at the abutment of the bridge.

Elevation — +7.757 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1969-1971, 1983 to date.

Rating Operation

Period of Rating — 1969-1970, 1984 to date.

Rated by Float — -

Rated by Current Meter — 1969-1970, 1984 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — Overbank flow starts at elevation + 6.09 m. (A.D.) and is included.

General Description — Records fair.Stage-discharge relation defined by 18 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

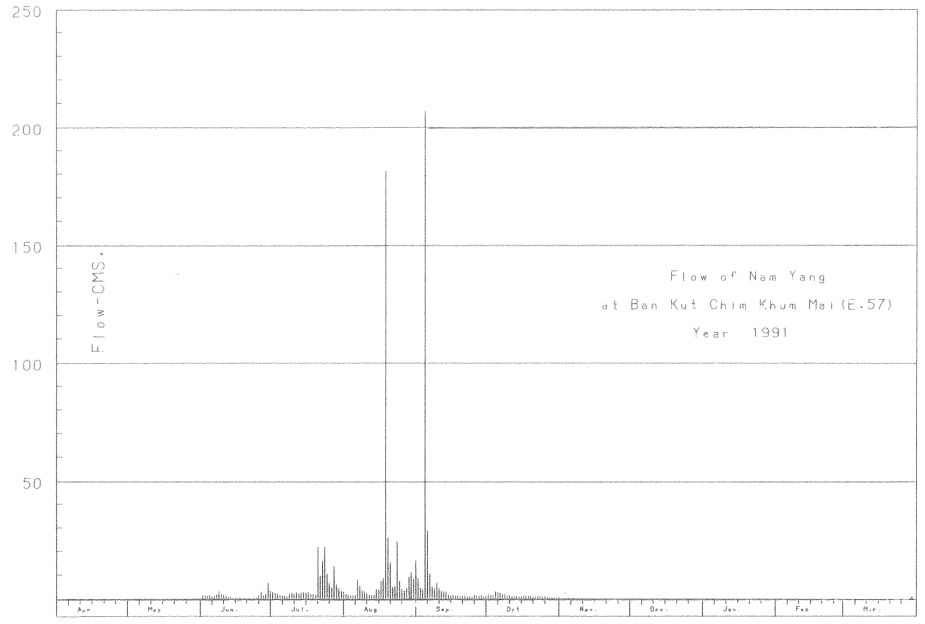
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	-0.34	-0.34	0.20	0.31	0.25	0.69	0.22	0.08	0.02	0.02	-0.02	-0.07	
2	-0.34	-0.34	0.16	0.29	0.20	0.47	0.20	0.07	0.02	0.02	-0.02	-0.07	
3	-0.34	-0.34	0.17	0.23	0.18	0.41	0.17	0.07	0.02	0.03	-0.03	-0.08	
4	-0.34	-0.34	0.18	0.19	0.15	3.89	0.36	0.06	0.02	0.03	-0.03	-0.08	
5	-0.34	-0.34	0.13	0.18	0.20	1.23	0.31	0.06	0.02	0.05	-0.03	-0.09	
6	-0.34	-0.34	0.13	0.15	0.68	0.77	0.27	0.06	0.02	0.04	-0.04	-0.10	
7	-0.34	-0.34	0.23	0.13	0.51	0.50	0.23	0.05	0.02	0.03	-0.04	-0.10	
8	-0.34	-0.34	0.33	0.22	0.40	0.44	0.20	0.05	0.02	0.03	-0.04	-0.11	
9	-0.34	-0.34	0.24	0.28	0.33	0.61	0.18	0.05	0.02	0.02	-0.05	-0.11	
10	-0.34	-0.34	0.18	0.24	0.26	0.44	0.16	0.05	0.02	0.02	-0.05	-0.12	
11	-0.34	-0.34	0.15	0.30	0.21	0.37	0.15	0.04	0.01	0.01	-0.06	-0.13	
12	-0.34	-0.34	0.11	0.26	0.17	0.36	0.14	0.04	0.01	0.01	-0.06	-0.14	
13	-0.34	-0.34	0.10	0.29	0.20	0.32	0.13	0.03	0.01	0.00	-0.07	-0.15	
14	-0.34	-0.34	0.09	0.32	0.42	0.22	0.12	0.03	0.01	0.00	-0.07	-0.17	
15	-0.34	-0.34	0.09	0.30	0.42	0.18	0.12	0.03	0.01	0.00	-0.08	-0.18	
16	-0.34	-0.34	0.08	0.29	0.65	0.18	0.18	0.03	0.00	-0.01	-0.08	-0.20	
17	-0.34	-0.34	0.07	0.24	0.69	0.17	0.16	0.03	-0.01	-0.01	-0.09	-0.22	
18	-0.34	-0.34	0.07	0.20	3.62	0.15	0.16	0.03	-0.01	-0.01	-0.10	-0.23	
19	-0.34	-0.34	0.07	0.21	1.16	0.14	0.15	0.03	-0.01	-0.01	-0.10	-0.33	
20	-0.34	-0.34	0.06	1.06	0.89	0.15	0.15	0.03	-0.01	-0.01	-0.11	-0.33	
21	-0.34	-0.34	0.06	0.73	0.49	0.14	0.14	0.03	-0.02	-0.02	-0.12	-0.24	
22	-0.34	-0.34	0.06	0.91	0.49	0.13	0.14	0.03	-0.02	-0.02	-0.14	-0.24	
23	-0.34	-0.34	0.05	1.06	1.11	0.12	0.13	0.03	-0.02	-0.02	-0.16	-0.25	
24	-0.34	-0.34	0.09	0.77	0.65	0.11	0.13	0.03	-0.02	-0.02	-0.17	-0.25	
25	-0.34	-0.34	0.19	0.58	0.42	0.18	0.12	0.03	-0.02	-0.02	-0.18	-0.26	
26	-0.34	-0.34	0.34	0.48	0.35	0.17	0.11	0.02	-0.02	-0.02	-0.19	-0.27	
27	-0.34	-0.34	0.18	0.85	0.46	0.16	0.10	0.02	-0.03	-0.02	-0.20	-0.28	
28	-0.34	-0.34	0.24	0.57	0.72	0.16	0.09	0.02	-0.03	-0.02	-0.20	-0.29	
29	-0.34	-0.34	0.61	0.44	0.78	0.14	0.08	0.02	-0.03	-0.02	-0.18	-0.30	
30	-0.34	-0.34	0.36	0.38	0.69	0.13	0.08	0.02	-0.03	-0.02		-0.30	
31		-0.34		0.31	0.91		0.08		-0.03	-0.02		-0.30	
Mean	-0.34	-0.34	0.17	0.41	0.60	0.44	0.16	0.04	0.00	0.00	-0.09	-0.19	
Max	-0.34	-0.34	0.61	1.06	3.62	3.89	0.36	0.08	0.02	0.05	-0.02	-0.07	3.89
Min	-0.34	-0.34	0.05	0.13	0.15	0.11	0.08	0.02	-0.03	-0.02	-0.20	-0.33	-0.34

Annual Max Momentary Gage Height — 6.98 M (A.D), at 10.00 Hours, on Sep 4, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.34 M (A.D)

Left Bank Elevation — 6.08 M (A.D)

Right Bank Elevation — 6.46 M (A.D), Drainage Area 98 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	2.00	3.10	2.50	8.80	2.20	0.80	0.20	0.20	0.00	0.00	
2	0.00	0.00	1.60	2.90	2.00	5.05	2.00	0.70	0.20	0.20	0.00	0.00	
3	0.00	0.00	1.70	2.30	1.80	4.15	1.70	0.70	0.20	0.30	0.00	0.00	
4	0.00	0.00	1.80	1.90	1.50	207.00	3.60	0.60	0.20	0.30	0.00	0.00	
5	0.00	0.00	1.30	1.80	2.00	29.35	3.10	0.60	0.20	0.50	0.00	0.00	
6	0.00	0.00	1.30	1.50	8.60	11.10	2.70	0.60	0.20	0.40	0.00	0.00	
7	0.00	0.00	2.30	1.30	5.65	5.50	2.30	0.50	0.20	0.30	0.00	0.00	
8	0.00	0.00	3.30	2.20	4.00	4.60	2.00	0.50	0.20	0.30	0.00	0.00	
9	0.00	0.00	2.40	2.80	3.30	7.20	1.80	0.50	0.20	0.20	0.00	0.00	
10	0.00	0.00	1.80	2.40	2.60	4.60	1.60	0.50	0.20	0.20	0.00	0.00	
11	0.00	0.00	1.50	3.00	2.10	3.70	1.50	0.40	0.10	0.10	0.00	0.00	
12	0.00	0.00	1.10	2.60	1.70	3.60	1.40	0.40	0.10	0.10	0.00	0.00	
13	0.00	0.00	1.00	2.90	2.00	3.20	1.30	0.30	0.10	0.00	0.00	0.00	
14	0.00	0.00	0.90	3.20	4.30	2.20	1.20	0.30	0.10	0.00	0.00	0.00	
15	0.00	0.00	0.90	3.00	4.30	1.80	1.20	0.30	0.10	0.00	0.00	0.00	
16	0.00	0.00	0.80	2.90	8.00	1.80	1.80	0.30	0.00	0.00	0.00	0.00	
17	0.00	0.00	0.70	2.40	8.80	1.70	1.60	0.30	0.00	0.00	0.00	0.00	
18	0.00	0.00	0.70	2.00	181.80	1.50	1.60	0.30	0.00	0.00	0.00	0.00	
19	0.00	0.00	0.70	2.10	26.40	1.40	1.50	0.30	0.00	0.00	0.00	0.00	
20	0.00	0.00	0.60	22.40	15.60	1.50	1.50	0.30	0.00	0.00	0.00	0.00	
21	0.00	0.00	0.60	9.90	5.35	1.40	1.40	0.30	0.00	0.00	0.00	0.00	
22	0.00	0.00	0.60	16.40	5.35	1.30	1.40	0.30	0.00	0.00	0.00	0.00	
23	0.00	0.00	0.50	22.40	24.40	1.20	1.30	0.30	0.00	0.00	0.00	0.00	
24	0.00	0.00	0.90	11.10	8.00	1.10	1.30	0.30	0.00	0.00	0.00	0.00	
25	0.00	0.00	1.90	6.70	4.30	1.80	1.20	0.30	0.00	0.00	0.00	0.00	
26	0.00	0.00	3.40	5.20	3.50	1.70	1.10	0.20	0.00	0.00	0.00	0.00	
27	0.00	0.00	1.80	14.00	4.90	1.60	1.00	0.20	0.00	0.00	0.00	0.00	
28	0.00	0.00	2.40	6.55	9.60	1.60	0.90	0.20	0.00	0.00	0.00	0.00	
29	0.00	0.00	7.20	4.60	11.40	1.40	0.80	0.20	0.00	0.00	0.00	0.00	
30	0.00	0.00	3.60	3.80	8.80	1.30	0.80	0.20	0.00	0.00		0.00	
31		0.00		3.10	16.40		0.80		0.00	0.00		0.00	
Total	0.00	0.00	51.30	172.45	390.95	324.15	49.60	11.70	2.50	3.10	0.00	0.00	1005.75 CMSDAY
Mean	0.00	0.00	1.71	5.56	12.61	10.81	1.60	0.39	0.08	0.10	0.00	0.00	2.75 CMS
Max	0.00	0.00	7.20	22.40	181.80	207.00	3.60	0.80	0.20	0.50	0.00	0.00	207.00 CMS
Min	0.00	0.00	0.50	1.30	1.50	1.10	0.80	0.20	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	0.000	0.000	4.432	14.900	33.778	28.007	4.285	1.011	0.216	0.268	0.000	0.000	86.897 MCM

Momentary Peak 569.20 CMS, at 6.98 M (A.D), at 10.00 Hours, on Sep 4, 1991

Runoff Yield 28.04 Liters/Second/Square KM, Momentary Peak Yield 5808.16 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

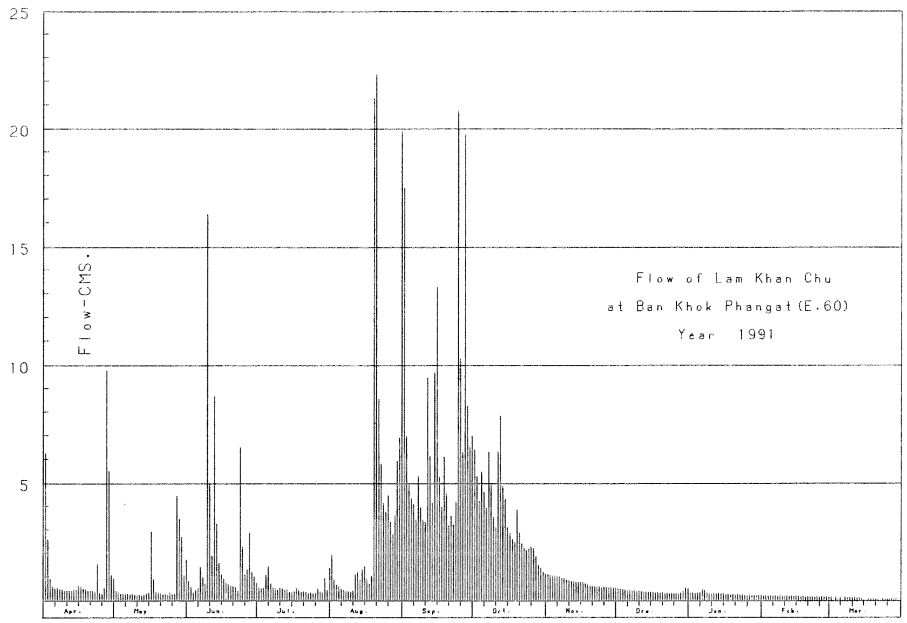
Lam Khan Chu at Ban Khok Phangat, Chaiyaphum (E.60)

Location	Lat. 15-29-14 N., Long. 101-33-32 E., on left bank about 500 meters from Ban Khok Phangat, Amphoe Bamnet Narong, Chaiyaphum.
Drainage Area	205 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	About 8 meters from the top staff gage.
Elevation	+7.326 m. (A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1977 to date.
Rating Operation	
Period of Rating	1978 to date.
Rated by Float	-
Rated by Current Meter	1978 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records poor. Stage-discharge relation defined by 39 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.64	0.93	1.14	1.01	1.59	4.26	2.67	1.30	1.00	0.85	0.74	0.68	
2	1.79	0.87	1.02	1.00	1.17	2.78	2.44	1.28	0.97	0.85	0.73	0.68	
3	1.20	0.83	0.88	1.00	1.08	2.39	2.22	1.27	0.97	0.85	0.73	0.68	
4	1.03	0.81	0.93	1.27	1.03	2.25	2.48	1.26	0.95	0.84	0.73	0.67	
5	1.00	0.81	1.01	1.42	0.97	2.18	2.31	1.25	0.94	0.88	0.73	0.67	
6	0.99	0.80	1.41	1.11	0.95	2.02	2.14	1.24	0.93	0.97	0.73	0.67	
7	0.98	0.79	1.24	1.02	0.92	2.44	2.65	1.22	0.93	0.94	0.73	0.67	
8	0.95	0.79	1.09	0.98	0.90	2.15	2.37	1.20	0.93	0.88	0.73	0.67	
9	0.93	0.78	4.13	0.96	0.90	2.01	2.05	1.18	0.92	0.84	0.73	0.66	
10	0.92	0.77	2.38	1.00	0.92	1.99	1.94	1.16	0.91	0.83	0.73	0.66	
11	0.92	0.76	1.58	0.98	1.29	3.21	2.65	1.15	0.91	0.83	0.73	0.65	
12	0.93	0.75	3.08	0.96	1.34	2.61	2.94	1.14	0.90	0.83	0.73	0.65	
13	0.95	0.75	1.98	0.95	1.18	2.20	2.36	1.13	0.89	0.83	0.73	0.64	
14	0.96	0.84	1.47	0.90	1.37	3.24	2.24	1.13	0.89	0.83	0.72	0.63	
15	1.05	0.84	1.30	0.89	1.43	3.76	1.93	1.13	0.88	0.82	0.71	0.62	
16	1.03	1.89	1.19	0.90	1.18	2.44	1.87	1.12	0.88	0.81	0.70	0.61	
17	0.99	1.20	1.12	1.01	1.10	2.15	1.80	1.10	0.87	0.79	0.70	0.60	
18	0.96	0.88	1.08	0.93	1.26	2.61	1.76	1.07	0.86	0.79	0.70	0.60	
19	0.94	0.87	1.06	0.90	4.62	2.29	2.12	1.05	0.86	0.79	0.70	0.60	
20	0.93	0.83	1.03	0.89	4.71	1.95	1.88	1.04	0.85	0.79	0.69	0.60	
21	0.91	0.80	1.01	0.88	3.06	2.06	1.75	1.04	0.84	0.79	0.69	0.60	
22	0.89	0.79	0.94	0.85	2.55	1.97	1.69	1.03	0.84	0.78	0.69	0.60	
23	1.46	0.78	2.69	0.85	2.19	2.21	1.65	1.03	0.83	0.77	0.69	0.60	
24	0.83	0.86	1.70	0.84	2.10	4.57	1.68	1.02	0.83	0.76	0.69	0.60	
25	0.82	0.81	1.30	0.84	2.28	3.33	1.70	1.02	0.83	0.75	0.69	0.60	
26	0.99	0.79	1.37	0.98	1.99	2.64	1.68	1.02	0.83	0.75	0.69	0.60	
27	3.26	2.27	1.88	0.91	1.86	4.48	1.57	1.02	0.83	0.75	0.69	0.60	
28	2.49	2.03	1.34	0.86	2.06	3.01	1.45	1.01	0.83	0.74	0.69	0.60	
29	1.27	1.82	1.24	1.22	2.57	2.69	1.40	1.01	0.92	0.74	0.69	0.60	
30	1.22	1.28	1.12	0.95	2.77	2.78	1.34	1.00	1.00	0.74		0.60	
31		1.53		1.41	4.49		1.30		0.98	0.74		0.60	
Mean	1.21	1.02	1.49	0.99	1.87	2.69	2.00	1.12	0.90	0.81	0.71	0.63	
Max	3.26	2.27	4.13	1.42	4.71	4.57	2.94	1.30	1.00	0.97	0.74	0.68	4.71
Min	0.82	0.75	0.88	0.84	0.90	1.95	1.30	1.00	0.83	0.74	0.69	0.60	0.60

Annual Max Momentary Gage Height 5.22 M (A.D), at 18.00 Hours, on Aug 19, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.27 M (A.D)
Left Bank Elevation 7.67 M (A.D)
Right Bank Elevation 7.29 M (A.D), Drainage Area 205 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	6.30	0.45	0.83	0.57	1.97	17.54	6.45	1.15	0.55	0.35	0.24	0.18	
2	2.61	0.37	0.59	0.55	0.89	7.00	5.30	1.11	0.51	0.35	0.23	0.18	
3	0.95	0.33	0.38	0.55	0.71	5.05	4.28	1.09	0.51	0.35	0.23	0.18	
4	0.61	0.31	0.45	1.09	0.61	4.40	5.50	1.07	0.48	0.34	0.23	0.17	
5	0.55	0.31	0.57	1.46	0.51	4.12	4.65	1.05	0.46	0.38	0.23	0.17	
6	0.54	0.30	1.43	0.77	0.48	3.48	3.96	1.03	0.45	0.51	0.23	0.17	
7	0.52	0.29	1.03	0.59	0.43	5.30	6.35	0.99	0.45	0.46	0.23	0.17	
8	0.48	0.29	0.73	0.52	0.40	4.00	4.95	0.95	0.45	0.38	0.23	0.17	
9	0.45	0.28	16.37	0.49	0.40	3.44	3.60	0.91	0.43	0.34	0.23	0.16	
10	0.43	0.27	5.00	0.55	0.43	3.36	3.16	0.87	0.42	0.33	0.23	0.16	
11	0.43	0.26	1.94	0.52	1.13	9.51	6.35	0.85	0.42	0.33	0.23	0.15	
12	0.45	0.25	8.73	0.49	1.25	6.15	7.89	0.83	0.40	0.33	0.23	0.15	
13	0.48	0.25	3.32	0.48	0.91	4.20	4.90	0.81	0.39	0.33	0.23	0.14	
14	0.49	0.34	1.61	0.40	1.33	9.69	4.36	0.81	0.39	0.33	0.22	0.13	
15	0.65	0.34	1.15	0.39	1.49	13.33	3.12	0.81	0.38	0.32	0.21	0.12	
16	0.61	2.97	0.93	0.40	0.91	5.30	2.90	0.79	0.38	0.31	0.20	0.11	
17	0.54	0.95	0.79	0.57	0.75	4.00	2.65	0.75	0.37	0.29	0.20	0.10	
18	0.49	0.38	0.71	0.45	1.07	6.15	2.51	0.69	0.36	0.29	0.20	0.10	
19	0.46	0.37	0.67	0.40	21.32	4.56	3.88	0.65	0.36	0.29	0.20	0.10	
20	0.45	0.33	0.61	0.39	22.31	3.20	2.93	0.63	0.35	0.29	0.19	0.10	
21	0.42	0.30	0.57	0.38	8.61	3.64	2.48	0.63	0.34	0.29	0.19	0.10	
22	0.39	0.29	0.46	0.35	5.85	3.28	2.27	0.61	0.34	0.28	0.19	0.10	
23	1.58	0.28	6.55	0.35	4.16	4.24	2.15	0.61	0.33	0.27	0.19	0.10	
24	0.33	0.36	2.30	0.34	3.80	20.77	2.24	0.59	0.33	0.26	0.19	0.10	
25	0.32	0.31	1.15	0.34	4.52	10.26	2.30	0.59	0.33	0.25	0.19	0.10	
26	0.54	0.29	1.33	0.52	3.36	6.30	2.24	0.59	0.33	0.25	0.19	0.10	
27	9.81	4.48	2.93	0.42	2.86	19.78	1.91	0.59	0.33	0.25	0.19	0.10	
28	5.55	3.52	1.25	0.36	3.64	8.31	1.55	0.57	0.33	0.24	0.19	0.10	
29	1.09	2.72	1.03	0.99	5.95	6.55	1.40	0.57	0.43	0.24	0.19	0.10	
30	0.99	1.11	0.79	0.48	6.95	7.00	1.25	0.55	0.55	0.24		0.10	
31		1.79		1.43	19.89		1.15		0.52	0.24		0.10	
Total	39.51	25.09	66.20	17.59	128.89	213.91	110.63	23.74	12.67	9.71	6.13	4.01	658.08 CMSDAY
Mean	1.32	0.81	2.21	0.57	4.16	7.13	3.57	0.79	0.41	0.31	0.21	0.13	1.80 CMS
Max	9.81	4.48	16.37	1.46	22.31	20.77	7.89	1.15	0.55	0.51	0.24	0.18	22.31 CMS
Min	0.32	0.25	0.38	0.34	0.40	3.20	1.15	0.55	0.33	0.24	0.19	0.10	0.10 CMS
Runoff	3.414	2.168	5.720	1.520	11.136	18.482	9.558	2.051	1.095	0.839	0.530	0.346	56.858 MCM

Momentary Peak 28.24 CMS, at 5.22 M (A.D), at 18.00 Hours, on Aug 19, 1991

Runoff Yield 8.77 Liters/Second/Square KM, Momentary Peak Yield 137.76 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

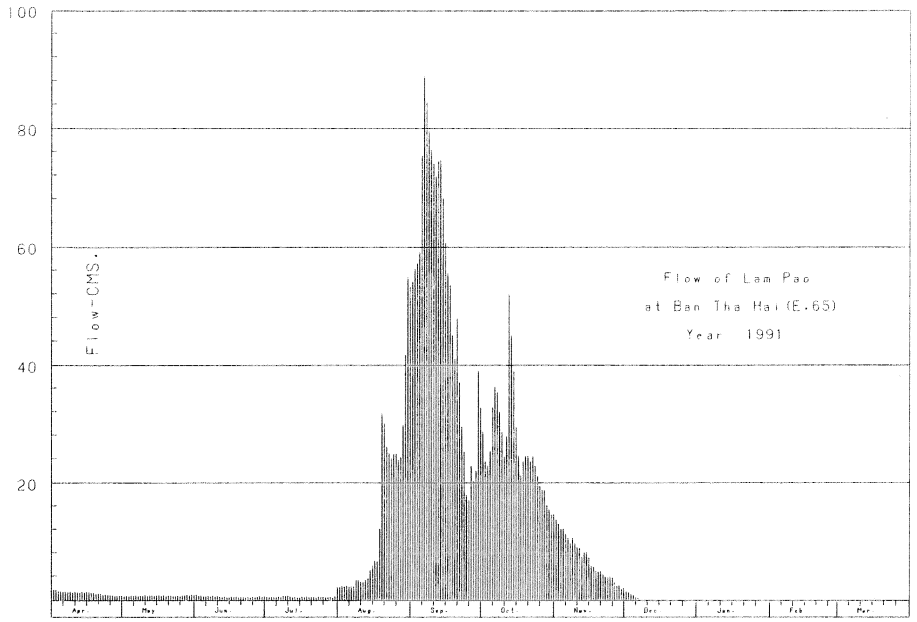
Lam Pao at Ban Tha Hai, Udon Thani (E.65)

Location	Lat. 16-56-54 N., Long. 103-10-16 E., on left bank at the bridge on highway, Ban Tha Hai, Amphoe Si That, Udon Thani.
Drainage Area	1,949 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank at the abutment of the bridge.
Elevation	+10.695 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1983 to date.
Rating Operation	
Period of Rating	1983 to date.
Rated by Float	-
Rated by Current Meter	1983 to date.
Stability of Channel Regimes	Fairly stable because of backwater effect.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 58 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.68	1.42	1.48	1.37	1.77	4.89	4.59	4.41	4.23	3.87	3.44	2.86	
2	1.65	1.42	1.45	1.37	1.78	4.95	4.53	4.40	4.23	3.85	3.41	2.83	
3	1.63	1.42	1.43	1.35	1.79	4.98	4.52	4.39	4.22	3.85	3.39	2.83	
4	1.60	1.43	1.42	1.37	1.79	5.03	4.55	4.39	4.22	3.85	3.38	2.82	
5	1.60	1.44	1.41	1.37	1.78	5.41	4.64	4.38	4.21	3.87	3.36	2.81	
6	1.59	1.43	1.41	1.37	1.77	5.67	4.68	4.37	4.21	3.86	3.35	2.79	
7	1.59	1.42	1.42	1.36	1.79	5.59	4.67	4.36	4.20	3.85	3.32	2.76	
8	1.59	1.41	1.42	1.41	2.00	5.50	4.63	4.37	4.20	3.83	3.29	2.73	
9	1.58	1.44	1.41	1.44	1.98	5.43	4.59	4.36	4.18	3.81	3.28	2.73	
10	1.59	1.45	1.39	1.42	1.92	5.38	4.54	4.35	4.17	3.80	3.26	2.70	
11	1.59	1.44	1.37	1.38	1.93	5.33	4.58	4.35	4.17	3.78	3.25	2.69	
12	1.58	1.43	1.37	1.36	1.98	5.39	4.84	4.33	4.17	3.77	3.21	2.67	
13	1.58	1.43	1.37	1.36	2.03	5.39	4.77	4.34	4.15	3.75	3.21	2.64	
14	1.58	1.43	1.36	1.35	2.16	5.25	4.71	4.34	4.14	3.73	3.18	2.61	
15	1.58	1.43	1.36	1.35	2.25	5.08	4.60	4.33	4.14	3.71	3.17	2.58	
16	1.58	1.44	1.36	1.36	2.32	4.93	4.54	4.31	4.12	3.70	3.15	2.56	
17	1.57	1.45	1.36	1.37	2.32	4.87	4.50	4.31	4.11	3.68	3.14	2.54	
18	1.55	1.43	1.36	1.37	2.82	4.77	4.53	4.30	4.08	3.66	3.12	2.52	
19	1.53	1.43	1.35	1.36	3.99	4.73	4.54	4.30	4.06	3.64	3.09	2.50	
20	1.53	1.42	1.34	1.35	3.91	4.80	4.54	4.30	4.03	3.62	3.09	2.47	
21	1.52	1.42	1.35	1.35	3.71	4.69	4.53	4.29	4.00	3.59	3.06	2.44	
22	1.50	1.42	1.34	1.34	3.65	4.60	4.54	4.28	3.98	3.57	3.03	2.40	
23	1.48	1.42	1.34	1.37	3.61	4.55	4.52	4.28	3.96	3.54	3.01	2.37	
24	1.46	1.41	1.35	1.38	3.64	4.46	4.50	4.28	3.94	3.53	3.01	2.33	
25	1.45	1.42	1.36	1.36	3.65	4.45	4.48	4.28	3.93	3.53	2.96	2.29	
26	1.44	1.43	1.36	1.37	3.59	4.52	4.47	4.26	3.91	3.55	2.95	2.27	
27	1.43	1.47	1.39	1.36	3.62	4.49	4.47	4.25	3.90	3.51	2.90	2.23	
28	1.42	1.46	1.39	1.35	3.89	4.51	4.44	4.25	3.90	3.49	2.89	2.19	
29	1.42	1.46	1.38	1.34	4.43	4.71	4.43	4.24	3.90	3.46	2.89	2.16	
30	1.42	1.48	1.39	1.38	4.91	4.64	4.42	4.24	3.89	3.46		2.08	
31		1.49		1.74	4.86		4.42		3.89	3.44		2.05	
Mean	1.54	1.44	1.38	1.38	2.83	4.97	4.56	4.32	4.08	3.68	3.17	2.53	
Max	1.68	1.49	1.48	1.74	4.91	5.67	4.84	4.41	4.23	3.87	3.44	2.86	5.67
Min	1.42	1.41	1.34	1.34	1.77	4.45	4.42	4.24	3.89	3.44	2.89	2.05	1.34

Annual Max Momentary Gage Height 5.70 M (A.D), at 14.00 Hours, on Sep 6, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.85 M (A.D)
Left Bank Elevation 6.83 M (A.D)
Right Bank Elevation 6.51 M (A.D), Drainage Area 1949 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.90	0.76	0.94	0.61	2.35	54.20	28.67	13.82	1.50	0.00	0.00	0.00	
2	1.75	0.76	0.85	0.61	2.40	56.25	23.69	13.00	1.50	0.00	0.00	0.00	
3	1.65	0.76	0.79	0.55	2.45	57.30	22.86	12.20	1.00	0.00	0.00	0.00	
4	1.50	0.79	0.76	0.61	2.45	59.05	25.35	12.20	1.00	0.00	0.00	0.00	
5	1.50	0.82	0.73	0.61	2.40	75.45	32.90	11.40	0.50	0.00	0.00	0.00	
6	1.45	0.79	0.73	0.61	2.35	88.85	36.30	10.60	0.50	0.00	0.00	0.00	
7	1.45	0.76	0.76	0.58	2.45	84.45	35.45	9.80	0.00	0.00	0.00	0.00	
8	1.45	0.73	0.76	0.73	3.50	79.50	32.05	10.60	0.00	0.00	0.00	0.00	
9	1.40	0.82	0.73	0.82	3.40	76.35	28.67	9.80	0.00	0.00	0.00	0.00	
10	1.45	0.85	0.67	0.76	3.10	74.10	24.52	9.00	0.00	0.00	0.00	0.00	
11	1.45	0.82	0.61	0.64	3.15	71.85	27.84	9.00	0.00	0.00	0.00	0.00	
12	1.40	0.79	0.61	0.58	3.40	74.55	52.00	7.40	0.00	0.00	0.00	0.00	
13	1.40	0.79	0.61	0.58	3.80	74.55	45.00	8.20	0.00	0.00	0.00	0.00	
14	1.40	0.79	0.58	0.55	5.10	68.25	39.00	8.20	0.00	0.00	0.00	0.00	
15	1.40	0.79	0.58	0.55	6.00	60.80	29.50	7.40	0.00	0.00	0.00	0.00	
16	1.40	0.82	0.58	0.58	6.70	55.55	24.52	5.80	0.00	0.00	0.00	0.00	
17	1.35	0.85	0.58	0.61	6.70	53.60	21.20	5.80	0.00	0.00	0.00	0.00	
18	1.25	0.79	0.58	0.61	12.30	45.00	23.69	5.00	0.00	0.00	0.00	0.00	
19	1.15	0.79	0.55	0.58	31.80	41.00	24.52	5.00	0.00	0.00	0.00	0.00	
20	1.15	0.76	0.52	0.55	30.20	48.00	24.52	5.00	0.00	0.00	0.00	0.00	
21	1.10	0.76	0.55	0.55	26.20	37.15	23.69	4.50	0.00	0.00	0.00	0.00	
22	1.00	0.76	0.52	0.52	25.00	29.50	24.52	4.00	0.00	0.00	0.00	0.00	
23	0.94	0.76	0.52	0.61	24.20	25.35	22.86	4.00	0.00	0.00	0.00	0.00	
24	0.88	0.73	0.55	0.64	24.80	17.92	21.20	4.00	0.00	0.00	0.00	0.00	
25	0.85	0.76	0.58	0.58	25.00	17.10	19.56	4.00	0.00	0.00	0.00	0.00	
26	0.82	0.79	0.58	0.61	23.85	22.86	18.74	3.00	0.00	0.00	0.00	0.00	
27	0.79	0.91	0.67	0.58	24.40	20.38	18.74	2.50	0.00	0.00	0.00	0.00	
28	0.76	0.88	0.67	0.55	29.80	22.03	16.28	2.50	0.00	0.00	0.00	0.00	
29	0.76	0.88	0.64	0.52	41.75	39.00	15.46	2.00	0.00	0.00	0.00	0.00	
30	0.76	0.94	0.67	0.64	54.85	32.90	14.64	2.00	0.00	0.00		0.00	
31		0.97		2.20	53.30		14.64		0.00	0.00		0.00	
Total	37.51	24.97	19.47	20.32	489.15	1562.84	812.58	211.72	6.00	0.00	0.00	0.00	3184.56 CMSDAY
Mean	1.25	0.81	0.65	0.66	15.78	52.09	26.21	7.06	0.19	0.00	0.00	0.00	8.70 CMS
Max	1.90	0.97	0.94	2.20	54.85	88.85	52.00	13.82	1.50	0.00	0.00	0.00	88.85 CMS
Min	0.76	0.73	0.52	0.52	2.35	17.10	14.64	2.00	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	3.241	2.157	1.682	1.756	42.263	135.029	70.207	18.293	0.518	0.000	0.000	0.000	275.146 MCM

Momentary Peak 90.50 CMS, at 5.70 M (A.D), at 14.00 Hours, on Sep 6, 1991

Runoff Yield 4.46 Liters/Second/Square KM, Momentary Peak Yield 46.43 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

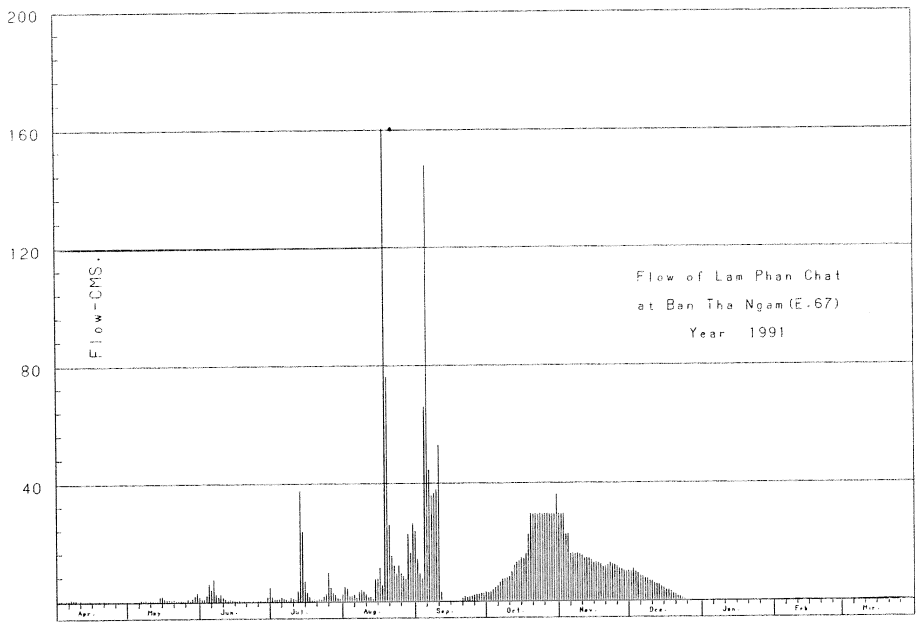
Lam Phan Chat at Ban Tha Ngam, Udon Thani (E.67)

Location	Lat. 16°-57'-17" N., Long. 103°-29'-40" E., on left bank at the bridge on road, Ban Tha Ngam, Tambon Sam Ran, Amphoe Kham Muang, Kalasin.
Drainage Area	420 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank downstream side at the abutment of the bridge.
Elevation	+13.649 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1983 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Rather unstable because of backwater effect.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 70 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.39	1.32	1.49	1.55	1.79	2.21	3.34	3.62	3.52	3.17	2.69	2.16	
2	1.38	1.32	1.46	1.48	1.77	2.01	3.34	3.62	3.53	3.16	2.68	2.15	
3	1.38	1.31	1.62	1.45	1.59	1.94	3.38	3.61	3.52	3.16	2.67	2.14	
4	1.38	1.33	1.85	1.50	1.57	3.90	3.40	3.61	3.51	3.15	2.65	2.11	
5	1.41	1.36	1.75	1.56	1.63	5.54	3.42	3.60	3.50	3.17	2.63	2.08	
6	1.45	1.38	1.93	1.48	1.51	3.29	3.45	3.60	3.49	3.16	2.61	2.07	
7	1.45	1.41	1.63	1.44	1.70	3.00	3.47	3.60	3.48	3.14	2.59	2.05	
8	1.42	1.41	1.58	1.43	1.72	3.02	3.48	3.60	3.47	3.12	2.57	2.03	
9	1.39	1.40	1.63	1.53	1.70	3.06	3.48	3.60	3.46	3.11	2.55	2.02	
10	1.38	1.38	1.56	1.52	1.62	3.56	3.49	3.59	3.45	3.09	2.54	2.00	
11	1.37	1.36	1.47	1.46	1.55	3.35	3.52	3.58	3.44	3.07	2.54	1.98	
12	1.36	1.36	1.43	1.70	1.55	3.19	3.55	3.58	3.43	3.06	2.52	1.95	
13	1.36	1.37	1.44	3.06	1.48	3.20	3.56	3.58	3.42	3.04	2.50	1.93	
14	1.36	1.58	1.44	2.59	1.92	3.21	3.57	3.57	3.41	3.01	2.48	1.90	
15	1.36	1.58	1.40	1.90	1.94	3.20	3.58	3.56	3.39	2.99	2.46	1.87	
16	1.36	1.50	1.38	1.68	2.10	3.21	3.58	3.56	3.38	2.97	2.44	1.85	
17	1.37	1.46	1.37	1.55	1.82	3.20	3.60	3.56	3.37	2.94	2.41	1.81	
18	1.36	1.44	1.36	1.49	5.72	3.21	3.61	3.55	3.34	2.92	2.40	1.79	
19	1.35	1.44	1.35	1.45	4.16	3.23	3.62	3.54	3.32	2.90	2.38	1.77	
20	1.36	1.44	1.35	1.44	2.67	3.26	3.62	3.54	3.30	2.89	2.35	1.74	
21	1.34	1.40	1.35	1.46	2.25	3.28	3.62	3.55	3.28	2.88	2.33	1.71	
22	1.34	1.40	1.33	1.46	2.13	3.27	3.62	3.56	3.26	2.86	2.31	1.67	
23	1.34	1.38	1.32	1.59	2.01	3.27	3.62	3.55	3.25	2.84	2.30	1.64	
24	1.34	1.36	1.33	1.63	2.12	3.29	3.62	3.55	3.22	2.82	2.27	1.62	
25	1.33	1.36	1.34	2.04	2.02	3.30	3.62	3.54	3.20	2.79	2.25	1.58	
26	1.33	1.47	1.34	1.79	1.97	3.31	3.62	3.53	3.20	2.78	2.22	1.58	
27	1.33	1.42	1.35	1.67	1.93	3.32	3.62	3.53	3.19	2.77	2.19	1.52	
28	1.32	1.50	1.36	1.61	2.55	3.33	3.62	3.52	3.18	2.76	2.17	1.48	
29	1.32	1.60	1.60	1.52	2.30	3.32	3.62	3.52	3.20	2.73	2.16	1.44	
30	1.32	1.66	1.80	1.47	2.68	3.34	3.63	3.52	3.20	2.72		1.41	
31		1.55		1.64	2.60		3.62		3.19	2.71		1.40	
Mean	1.37	1.43	1.49	1.65	2.13	3.23	3.54	3.57	3.36	2.96	2.44	1.82	
Max	1.45	1.66	1.93	3.06	5.72	5.54	3.63	3.62	3.53	3.17	2.69	2.16	5.72
Min	1.32	1.31	1.32	1.43	1.48	1.94	3.34	3.52	3.18	2.71	2.16	1.40	1.31

Annual Max Momentary Gage Height 7.16 M (A.D), at 19.00 Hours, on Aug 18, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.85 M (A.D)
Left Bank Elevation 11.44 M (A.D)
Right Bank Elevation 9.83 M (A.D), Drainage Area 420 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.47	0.26	0.95	1.50	4.85	14.25	3.00	29.53	10.00	0.00	0.00	0.00	
2	0.44	0.26	0.80	0.90	4.55	9.25	3.00	29.53	10.75	0.00	0.00	0.00	
3	0.44	0.23	2.30	0.75	1.90	7.80	4.00	22.77	10.00	0.00	0.00	0.00	
4	0.44	0.29	6.00	1.00	1.70	66.00	4.50	22.77	9.25	0.00	0.00	0.00	
5	0.55	0.38	4.25	1.60	2.45	148.10	5.30	16.00	8.50	0.00	0.00	0.00	
6	0.75	0.44	7.60	0.90	1.10	44.70	6.50	16.00	8.10	0.00	0.00	0.00	
7	0.75	0.55	2.45	0.70	3.50	36.00	7.30	16.00	7.70	0.00	0.00	0.00	
8	0.60	0.55	1.80	0.65	3.80	36.60	7.70	16.00	7.30	0.00	0.00	0.00	
9	0.47	0.50	2.45	1.30	3.50	37.80	7.70	16.00	6.90	0.00	0.00	0.00	
10	0.44	0.44	1.60	1.20	2.30	53.10	8.10	15.25	6.50	0.00	0.00	0.00	
11	0.41	0.38	0.85	0.80	1.50	3.25	10.00	14.50	6.10	0.00	0.00	0.00	
12	0.38	0.38	0.65	3.50	1.50	0.00	12.25	14.50	5.70	0.00	0.00	0.00	
13	0.38	0.41	0.70	37.80	0.90	0.00	13.00	14.50	5.30	0.00	0.00	0.00	
14	0.38	1.80	0.70	23.75	7.40	0.20	13.75	13.75	4.90	0.00	0.00	0.00	
15	0.38	1.80	0.50	7.00	7.80	0.00	14.50	13.00	4.25	0.00	0.00	0.00	
16	0.38	1.00	0.44	3.20	11.50	0.20	14.50	13.00	4.00	0.00	0.00	0.00	
17	0.41	0.80	0.41	1.50	5.40	0.00	16.00	13.00	3.75	0.00	0.00	0.00	
18	0.38	0.70	0.38	0.95	160.40	0.20	22.77	12.25	3.00	0.00	0.00	0.00	
19	0.35	0.70	0.35	0.75	76.40	0.60	29.53	11.50	2.50	0.00	0.00	0.00	
20	0.38	0.70	0.35	0.70	26.10	1.20	29.53	11.50	2.00	0.00	0.00	0.00	
21	0.32	0.50	0.35	0.80	15.25	1.60	29.53	12.25	1.60	0.00	0.00	0.00	
22	0.32	0.50	0.29	0.80	12.25	1.40	29.53	13.00	1.20	0.00	0.00	0.00	
23	0.32	0.44	0.26	1.90	9.25	1.40	29.53	12.25	1.00	0.00	0.00	0.00	
24	0.32	0.38	0.29	2.45	12.00	1.80	29.53	12.25	0.40	0.00	0.00	0.00	
25	0.29	0.38	0.32	10.00	9.50	2.00	29.53	11.50	0.00	0.00	0.00	0.00	
26	0.29	0.85	0.32	4.85	8.40	2.25	29.53	10.75	0.00	0.00	0.00	0.00	
27	0.29	0.60	0.35	3.05	7.60	2.50	29.53	10.75	0.00	0.00	0.00	0.00	
28	0.26	1.00	0.38	2.15	22.75	2.75	29.53	10.00	0.00	0.00	0.00	0.00	
29	0.26	2.00	2.00	1.20	16.50	2.50	29.53	10.00	0.00	0.00	0.00	0.00	
30	0.26	2.90	5.00	0.85	26.40	3.00	36.30	10.00	0.00	0.00		0.00	
31		1.50		2.60	24.00		29.53		0.00	0.00		0.00	
Total	12.11	23.62	45.09	121.10	492.45	480.45	564.53	444.10	130.70	0.00	0.00	0.00	2314.15 CMSDAY
Mean	0.40	0.76	1.50	3.91	15.89	16.02	18.21	14.80	4.22	0.00	0.00	0.00	6.32 CMS
Max	0.75	2.90	7.60	37.80	160.40	148.10	36.30	29.53	10.75	0.00	0.00	0.00	160.40 CMS
Min	0.26	0.23	0.26	0.65	0.90	0.00	3.00	10.00	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	1.046	2.041	3.896	10.463	42.548	41.511	48.775	38.370	11.292	0.000	0.000	0.000	199.943 MCM

Momentary Peak 299.40 CMS, at 7.16 M (A.D), at 19.00 Hours, on Aug 18, 1991
Runoff Yield 15.05 Liters/Second/Square KM, Momentary Peak Yield 712.86 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

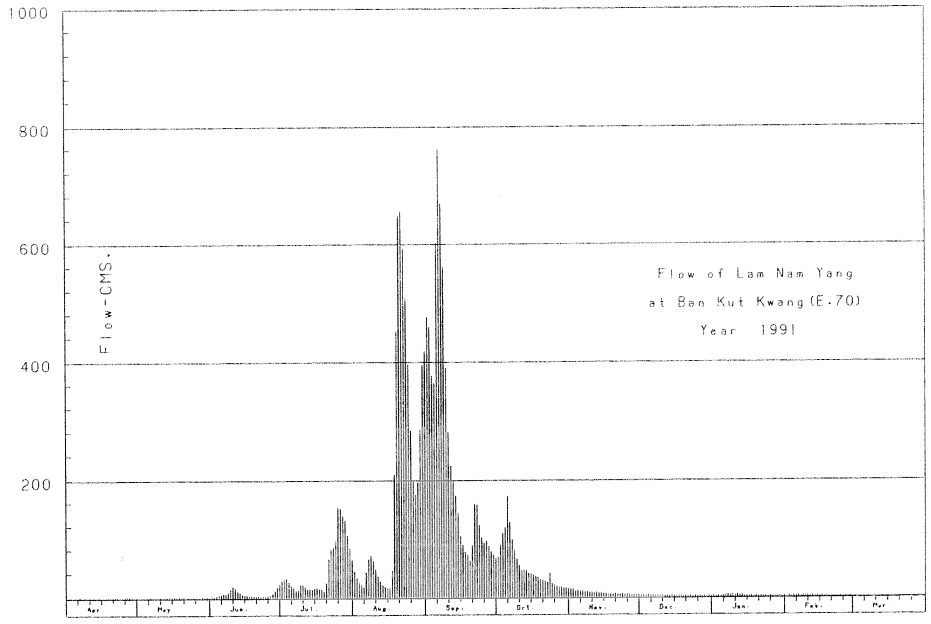
Lam Nam Yang at Ban Kut Kwang, Roi Et (E.70)

Location	Lat. 16°17'15" N., Long. 104°00'33" E., on right bank at bridge on highway, Ban Kut Kwang, Amphoe Phon Thong, Roi Et.
Drainage Area	3,168 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank at the abutment of the bridge.
Elevation	+11.914 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1983 to date
Rating Operation	
Period of Rating	1984 to date
Rated by Float	-
Rated by Current Meter	1984 to date
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 50 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.19	0.14	0.31	1.42	1.90	7.40	2.40	0.99	0.44	0.36	0.29	0.18	
2	0.19	0.12	0.32	1.54	1.56	7.23	2.79	0.95	0.43	0.33	0.30	0.18	
3	0.19	0.12	0.33	1.53	1.36	6.43	3.16	0.87	0.42	0.32	0.33	0.18	
4	0.18	0.13	0.51	1.40	1.23	6.31	3.33	0.86	0.41	0.31	0.33	0.18	
5	0.18	0.14	0.57	1.18	1.10	8.46	4.10	0.85	0.40	0.39	0.33	0.17	
6	0.18	0.14	0.63	1.04	1.83	9.75	3.45	0.81	0.39	0.47	0.33	0.17	
7	0.18	0.14	0.60	0.92	2.33	9.01	3.00	0.78	0.38	0.47	0.33	0.17	
8	0.19	0.14	0.73	0.89	2.44	8.12	2.62	0.76	0.38	0.47	0.33	0.17	
9	0.22	0.14	1.00	1.27	2.28	6.57	2.33	0.72	0.38	0.46	0.33	0.16	
10	0.24	0.14	1.12	1.20	1.95	5.40	2.10	0.70	0.38	0.45	0.32	0.16	
11	0.25	0.14	1.02	1.08	1.67	4.76	1.93	0.69	0.37	0.47	0.32	0.16	
12	0.22	0.15	0.84	1.00	1.40	4.43	1.94	0.69	0.37	0.44	0.31	0.16	
13	0.19	0.20	0.70	0.96	1.22	4.10	1.89	0.69	0.37	0.39	0.30	0.15	
14	0.18	0.29	0.60	0.99	1.09	3.67	1.80	0.67	0.36	0.37	0.30	0.15	
15	0.18	0.26	0.52	1.04	1.06	3.10	1.75	0.65	0.36	0.35	0.30	0.15	
16	0.18	0.25	0.47	1.03	1.06	2.79	1.69	0.62	0.38	0.34	0.29	0.15	
17	0.17	0.24	0.42	1.01	1.94	2.56	1.64	0.60	0.37	0.33	0.28	0.15	
18	0.17	0.23	0.38	0.96	4.57	2.45	1.59	0.58	0.35	0.32	0.27	0.15	
19	0.18	0.22	0.35	0.86	7.17	2.28	1.52	0.58	0.33	0.30	0.26	0.15	
20	0.19	0.21	0.36	1.34	8.84	2.78	1.44	0.57	0.32	0.29	0.25	0.14	
21	0.19	0.20	0.37	2.34	8.91	3.89	1.39	0.56	0.32	0.28	0.25	0.15	
22	0.19	0.19	0.35	2.66	8.38	3.88	1.37	0.56	0.32	0.28	0.25	0.15	
23	0.21	0.19	0.34	2.71	7.67	3.39	1.82	0.55	0.32	0.28	0.24	0.14	
24	0.24	0.20	0.34	2.96	6.63	3.03	1.28	0.52	0.31	0.27	0.24	0.14	
25	0.25	0.20	0.37	3.81	5.43	2.87	1.20	0.51	0.31	0.27	0.23	0.13	
26	0.24	0.20	0.44	3.80	4.44	2.96	1.14	0.50	0.31	0.27	0.22	0.13	
27	0.23	0.22	0.67	3.62	4.13	2.76	1.11	0.47	0.31	0.28	0.21	0.12	
28	0.21	0.28	0.91	3.50	4.40	2.56	1.06	0.46	0.31	0.28	0.20	0.12	
29	0.19	0.27	1.07	3.10	5.46	2.47	1.04	0.46	0.31	0.29	0.19	0.11	
30	0.17	0.23	1.29	2.70	6.61	2.33	1.00	0.45	0.31	0.29		0.11	
31		0.21		2.28	6.84		0.97		0.31	0.29		0.10	
Mean	0.20	0.19	0.60	1.81	3.77	4.59	1.93	0.66	0.36	0.35	0.28	0.15	
Max	0.25	0.29	1.29	3.81	8.91	9.75	4.10	0.99	0.44	0.47	0.33	0.18	9.75
Min	0.17	0.12	0.31	0.86	1.06	2.28	0.97	0.45	0.31	0.27	0.19	0.10	0.10

Annual Max Momentary Gage Height 9.86 M (A.D), at 4.00 Hours, on Sep 6, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -1.89 M (A.D)
Left Bank Elevation 11.19 M (A.D)
Right Bank Elevation 9.91 M (A.D), Drainage Area 3168 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.90	1.40	3.10	28.70	46.00	478.00	70.00	15.70	4.60	3.60	2.90	1.80	
2	1.90	1.20	3.20	32.90	33.60	459.30	89.50	14.50	4.45	3.30	3.00	1.80	
3	1.90	1.20	3.30	32.55	26.80	377.00	109.60	12.40	4.30	3.20	3.30	1.80	
4	1.80	1.30	5.65	28.00	22.90	365.00	120.10	12.20	4.15	3.10	3.30	1.80	
5	1.80	1.40	6.55	21.40	19.00	603.20	174.00	12.00	4.00	3.90	3.30	1.70	
6	1.80	1.40	7.60	17.20	43.20	762.50	128.50	11.20	3.90	5.05	3.30	1.70	
7	1.80	1.40	7.00	13.60	66.50	669.20	100.00	10.60	3.80	5.05	3.30	1.70	
8	1.90	1.40	9.60	12.80	72.00	562.40	81.00	10.20	3.80	5.05	3.30	1.70	
9	2.20	1.40	16.00	24.10	64.00	391.00	66.50	9.40	3.80	4.90	3.30	1.60	
10	2.40	1.40	19.60	22.00	48.00	281.00	55.00	9.00	3.80	4.75	3.20	1.60	
11	2.50	1.40	16.60	18.40	37.45	224.80	47.20	8.80	3.70	5.05	3.20	1.60	
12	2.20	1.50	11.80	16.00	28.00	198.40	47.60	8.80	3.70	4.60	3.10	1.60	
13	1.90	2.00	9.00	14.80	22.60	174.00	45.60	8.80	3.70	3.90	3.00	1.50	
14	1.80	2.90	7.00	15.70	18.70	143.90	42.00	8.40	3.60	3.70	3.00	1.50	
15	1.80	2.60	5.80	17.20	17.80	106.00	40.25	8.00	3.60	3.50	3.00	1.50	
16	1.80	2.50	5.05	16.90	17.80	89.50	38.15	7.40	3.80	3.40	2.90	1.50	
17	1.70	2.40	4.30	16.30	47.60	78.00	36.40	7.00	3.70	3.30	2.80	1.50	
18	1.70	2.30	3.80	14.80	209.60	72.50	34.65	6.70	3.50	3.20	2.70	1.50	
19	1.80	2.20	3.50	12.20	452.70	64.00	32.20	6.70	3.30	3.00	2.60	1.50	
20	1.90	2.10	3.60	26.20	648.80	89.00	29.40	6.55	3.20	2.90	2.50	1.40	
21	1.90	2.00	3.70	67.00	657.20	159.30	27.70	6.40	3.20	2.80	2.50	1.50	
22	1.90	1.90	3.50	83.00	593.60	158.60	27.10	6.40	3.20	2.80	2.50	1.50	
23	2.10	1.90	3.40	85.50	508.40	124.30	42.80	6.25	3.20	2.80	2.40	1.40	
24	2.40	2.00	3.40	98.00	397.00	101.80	24.40	5.80	3.10	2.70	2.40	1.40	
25	2.50	2.00	3.70	153.70	283.70	93.50	22.00	5.65	3.10	2.70	2.30	1.30	
26	2.40	2.00	4.60	153.00	199.20	98.00	20.20	5.50	3.10	2.70	2.20	1.30	
27	2.30	2.20	8.40	140.40	176.10	88.00	19.30	5.05	3.10	2.80	2.10	1.20	
28	2.10	2.80	13.30	132.00	196.00	78.00	17.80	4.90	3.10	2.80	2.00	1.20	
29	1.90	2.70	18.10	106.00	286.40	73.50	17.20	4.90	3.10	2.90	1.90	1.10	
30	1.70	2.30	24.70	85.00	395.00	66.50	16.00	4.75	3.10	2.90		1.10	
31		2.10		64.00	418.00		15.10		3.10	2.90		1.00	
Total	59.70	59.30	238.85	1569.35	6053.65	7230.20	1637.25	249.95	110.80	109.25	81.30	46.30	17445.90 CMSDAY
Mean	1.99	1.91	7.96	50.62	195.28	241.01	52.81	8.33	3.57	3.52	2.80	1.49	47.67 CMS
Max	2.50	2.90	24.70	153.70	657.20	762.50	174.00	15.70	4.60	5.05	3.30	1.80	762.50 CMS
Min	1.70	1.20	3.10	12.20	17.80	64.00	15.10	4.75	3.10	2.70	1.90	1.00	1.00 CMS
Runoff	5.158	5.124	20.637	135.592	523.035	624.689	141.458	21.596	9.573	9.439	7.024	4.000	1507.326 MCM

Momentary Peak 776.80 CMS, at 9.86 M (A.D), at 4.00 Hours, on Sep 6, 1991

Runoff Yield 15.05 Liters/Second/Square KM, Momentary Peak Yield 245.20 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

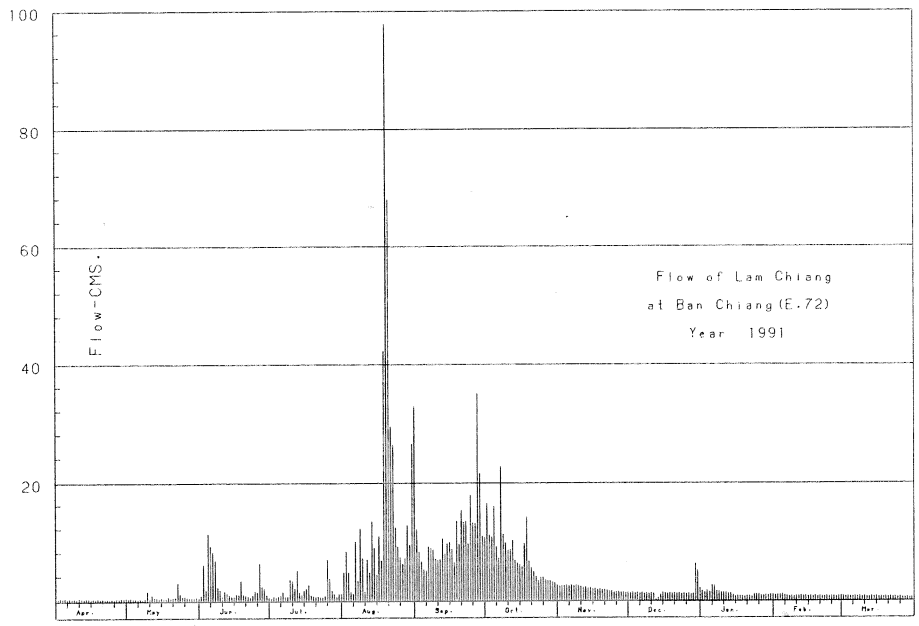
Lam Chiang at Ban Chiang, Chaiyaphum (E.72)

Location	Lat. 16-01-28 N., Long. 101-30-10 E., on right bank at Ban Chiang School, Tambon Ban Chiang, Amphoe Nong Bua Daeng, Chaiyaphum.
Drainage Area	325 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 3.00 meters from the top staff gage.
Elevation	+6.490 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1984 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records poor. Stage-discharge relation defined by 8 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.47	0.48	0.61	0.50	0.99	1.57	1.89	0.79	0.68	0.71	0.63	0.59	
2	0.49	0.48	1.10	0.57	1.29	1.27	1.50	0.79	0.68	0.70	0.62	0.59	
3	0.48	0.46	0.74	0.55	1.00	1.15	1.47	0.80	0.68	0.72	0.64	0.59	
4	0.47	0.44	1.52	0.58	0.70	1.03	1.86	0.80	0.68	0.70	0.64	0.59	
5	0.46	0.44	1.36	0.63	0.67	0.94	1.35	0.80	0.68	0.81	0.63	0.59	
6	0.46	0.44	1.27	0.70	1.41	1.35	1.19	0.80	0.68	0.79	0.60	0.59	
7	0.46	0.44	1.17	0.59	0.88	1.33	2.34	0.80	0.67	0.72	0.60	0.59	
8	0.46	0.45	0.78	0.57	1.58	1.30	1.51	0.80	0.67	0.70	0.60	0.59	
9	0.46	0.72	0.73	0.90	1.20	1.19	1.39	0.79	0.67	0.69	0.60	0.58	
10	0.48	0.56	0.60	0.87	0.70	1.16	1.30	0.78	0.67	0.68	0.60	0.58	
11	0.48	0.62	0.71	0.75	1.17	1.17	1.31	0.77	0.67	0.68	0.61	0.58	
12	0.47	0.55	0.68	1.03	0.99	1.46	1.43	0.77	0.44	0.67	0.61	0.58	
13	0.46	0.50	0.63	0.69	1.68	1.26	1.16	0.76	0.51	0.66	0.61	0.58	
14	0.46	0.49	0.60	0.64	1.34	1.38	1.13	0.76	0.64	0.63	0.60	0.58	
15	0.45	0.50	0.59	0.73	0.97	1.41	1.10	0.75	0.68	0.60	0.60	0.57	
16	0.45	0.47	0.64	0.75	1.48	1.31	1.08	0.75	0.68	0.60	0.60	0.57	
17	0.45	0.48	0.65	0.82	1.17	1.14	1.38	0.74	0.67	0.61	0.60	0.57	
18	0.45	0.55	0.87	0.63	3.67	1.68	1.73	0.74	0.67	0.59	0.60	0.57	
19	0.45	0.50	0.65	0.59	6.98	1.38	1.15	0.74	0.67	0.59	0.60	0.56	
20	0.45	0.53	0.61	0.58	5.28	1.81	1.06	0.73	0.67	0.59	0.60	0.56	
21	0.45	0.55	0.59	0.58	2.81	1.66	1.01	0.73	0.67	0.59	0.60	0.56	
22	0.44	0.85	0.57	0.58	2.60	1.68	0.94	0.72	0.67	0.58	0.60	0.56	
23	0.44	0.65	0.62	0.53	1.60	1.38	0.87	0.71	0.66	0.65	0.60	0.55	
24	0.44	0.60	0.72	0.62	1.34	2.00	0.92	0.70	0.66	0.64	0.60	0.55	
25	0.44	0.56	0.69	1.18	1.20	1.65	0.92	0.70	0.66	0.64	0.59	0.55	
26	0.45	0.51	1.13	0.90	1.12	1.64	0.89	0.70	0.66	0.62	0.59	0.54	
27	0.46	0.53	0.79	0.73	1.20	3.19	0.88	0.70	0.65	0.62	0.59	0.53	
28	0.47	0.49	0.75	0.65	1.62	2.26	0.87	0.69	0.65	0.62	0.59	0.53	
29	0.48	0.50	0.64	0.59	1.37	1.49	0.86	0.69	1.12	0.63	0.62	0.52	
30	0.49	0.52	0.50	0.65	2.62	1.46	0.84	0.68	1.02	0.63		0.52	
31		0.52		0.65	3.04		0.80		0.76	0.63		0.52	
Mean	0.46	0.53	0.78	0.69	1.80	1.49	1.23	0.75	0.69	0.65	0.61	0.57	
Max	0.49	0.85	1.52	1.18	6.98	3.19	2.34	0.80	1.12	0.81	0.64	0.59	6.98
Min	0.44	0.44	0.50	0.50	0.67	0.94	0.80	0.68	0.44	0.58	0.59	0.52	0.44

Annual Max Momentary Gage Height 6.98 M (A.D), at 18.00 Hours, on Aug 19, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.50 M (A.D)
Left Bank Elevation 8.18 M (A.D)
Right Bank Elevation 7.66 M (A.D), Drainage Area 325 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.41	0.44	0.87	0.50	4.78	12.11	16.46	2.49	1.36	1.61	1.01	0.77	
2	0.47	0.44	6.10	0.71	8.47	8.21	11.20	2.49	1.36	1.50	0.94	0.77	
3	0.44	0.38	1.94	0.65	4.90	6.70	10.81	2.60	1.36	1.72	1.08	0.77	
4	0.41	0.32	11.46	0.74	1.50	5.26	16.04	2.60	1.36	1.50	1.08	0.77	
5	0.38	0.32	9.38	1.01	1.29	4.18	9.25	2.60	1.36	2.71	1.01	0.77	
6	0.38	0.32	8.21	1.50	10.03	9.25	7.18	2.60	1.36	2.49	0.80	0.77	
7	0.38	0.32	6.94	0.77	3.48	8.99	22.76	2.60	1.29	1.72	0.80	0.77	
8	0.38	0.35	2.38	0.71	12.24	8.60	11.33	2.60	1.29	1.50	0.80	0.77	
9	0.38	1.72	1.83	3.70	7.30	7.18	9.77	2.49	1.29	1.43	0.80	0.74	
10	0.44	0.68	0.80	3.37	1.50	6.82	8.60	2.38	1.29	1.36	0.80	0.74	
11	0.44	0.94	1.61	2.05	6.94	6.94	8.73	2.27	1.29	1.36	0.87	0.74	
12	0.41	0.65	1.36	5.26	4.78	10.68	10.29	2.27	0.32	1.29	0.87	0.74	
13	0.38	0.50	1.01	1.43	13.58	8.08	6.82	2.16	0.53	1.22	0.87	0.74	
14	0.38	0.47	0.80	1.08	9.12	9.64	6.46	2.16	1.08	1.01	0.80	0.74	
15	0.35	0.50	0.77	1.83	4.54	10.03	6.10	2.05	1.36	0.80	0.80	0.71	
16	0.35	0.41	1.08	2.05	10.94	8.73	5.86	2.05	1.36	0.80	0.80	0.71	
17	0.35	0.44	1.15	2.82	6.94	6.58	9.64	1.94	1.29	0.87	0.80	0.71	
18	0.35	0.65	3.37	1.01	42.35	13.58	14.26	1.94	1.29	0.77	0.80	0.71	
19	0.35	0.50	1.15	0.77	97.80	9.64	6.70	1.94	1.29	0.77	0.80	0.68	
20	0.35	0.59	0.87	0.74	68.08	15.34	5.62	1.83	1.29	0.77	0.80	0.68	
21	0.35	0.65	0.77	0.74	29.45	13.31	5.02	1.83	1.29	0.77	0.80	0.68	
22	0.32	3.15	0.71	0.74	26.40	13.58	4.18	1.72	1.29	0.74	0.80	0.68	
23	0.32	1.15	0.94	0.59	12.50	9.64	3.37	1.61	1.22	1.15	0.80	0.65	
24	0.32	0.80	1.72	0.94	9.12	18.00	3.94	1.50	1.22	1.08	0.80	0.65	
25	0.32	0.68	1.43	7.06	7.30	13.17	3.94	1.50	1.22	1.08	0.77	0.65	
26	0.35	0.53	6.46	3.70	6.34	13.04	3.59	1.50	1.22	0.94	0.77	0.62	
27	0.38	0.59	2.49	1.83	7.30	35.15	3.48	1.50	1.15	0.94	0.77	0.59	
28	0.41	0.47	2.05	1.15	12.77	21.64	3.37	1.43	1.15	0.94	0.77	0.59	
29	0.44	0.50	1.08	0.77	9.51	11.07	3.26	1.43	6.34	1.01	0.94	0.56	
30	0.47	0.56	0.50	1.15	26.68	10.68	3.04	1.36	5.14	1.01		0.56	
31		0.56		1.15	32.90		2.60		2.16	1.01		0.56	
Total	11.46	20.58	81.23	52.52	500.83	335.82	243.67	61.44	47.82	37.87	24.55	21.59	1439.38 CMSDAY
Mean	0.38	0.66	2.71	1.69	16.16	11.19	7.86	2.05	1.54	1.22	0.85	0.70	3.93 CMS
Max	0.47	3.15	11.46	7.06	97.80	35.15	22.76	2.60	6.34	2.71	1.08	0.77	97.80 CMS
Min	0.32	0.32	0.50	0.50	1.29	4.18	2.60	1.36	0.32	0.74	0.77	0.56	0.32 CMS
Runoff	0.990	1.778	7.018	4.538	43.272	29.015	21.053	5.308	4.132	3.272	2.121	1.865	124.362 MCM

Momentary Peak 97.80 CMS, at 6.98 M (A.D), at 18.00 Hours, on Aug 19, 1991

Runoff Yield 12.10 Liters/Second/Square KM, Momentary Peak Yield 300.92 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

Lam Chao at Ban Wang Taku, Chaiyaphum (E.73)

Location — Lat. 15-57-02 N., Long. 101-26-46 E., on left bank at Ban Wang Taku, Tambon Ban Chiang, Amphoe Nong Bua Daeng, Chaiyaphum.

Drainage Area — 267 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank about 2.00 meters from the top staff gage.

Elevation — +7.543 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1984 to date.

Rating Operation

Period of Rating — 1987 to date.

Rated by Float —

Rated by Current Meter — 1987 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 93 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

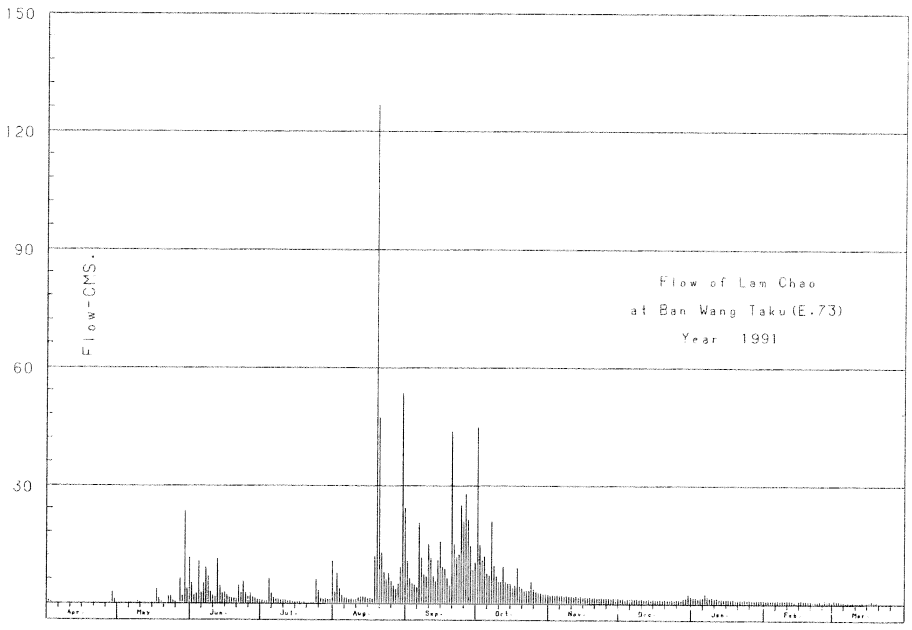
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.70	0.52	1.49	0.66	1.12	2.22	4.86	1.00	0.79	0.89	0.68	0.69	
2	0.57	0.49	1.01	0.65	1.82	1.66	2.62	0.99	0.79	0.83	0.67	0.67	
3	0.50	0.48	1.04	0.62	1.31	1.51	2.24	0.99	0.71	0.79	0.67	0.64	
4	0.49	0.48	2.21	1.67	1.00	1.44	2.33	0.99	0.77	0.82	0.67	0.63	
5	0.49	0.47	1.13	1.11	0.87	1.36	1.83	0.98	0.78	0.88	0.68	0.61	
6	0.48	0.47	1.48	0.82	0.81	3.14	1.75	0.95	0.77	1.07	0.67	0.55	
7	0.47	0.46	2.00	0.79	0.78	2.31	3.19	0.94	0.78	0.90	0.67	0.57	
8	0.47	0.56	1.73	0.73	0.75	1.78	2.08	0.94	0.77	0.84	0.67	0.58	
9	0.47	0.63	1.17	0.69	0.73	1.73	1.75	0.95	0.76	0.85	0.67	0.58	
10	0.47	0.50	0.96	0.69	0.70	2.64	1.57	0.91	0.75	0.83	0.67	0.58	
11	0.47	0.50	0.91	0.66	0.87	2.28	1.55	0.92	0.75	0.81	0.67	0.57	
12	0.47	0.49	2.26	0.65	0.88	1.75	2.04	0.93	0.75	0.78	0.68	0.58	
13	0.47	0.48	1.42	0.64	0.92	1.56	1.56	0.90	0.74	0.77	0.68	0.57	
14	0.47	0.47	1.07	0.62	0.86	2.25	1.48	0.91	0.69	0.76	0.70	0.56	
15	0.49	0.50	1.14	0.60	0.84	2.72	1.47	0.89	0.73	0.76	0.69	0.56	
16	0.47	0.47	0.98	0.60	0.80	2.02	1.33	0.87	0.71	0.74	0.68	0.62	
17	0.46	1.28	0.88	0.58	0.79	1.98	1.41	0.87	0.71	0.73	0.67	0.65	
18	0.45	0.78	0.82	0.57	2.34	1.66	2.01	0.87	0.71	0.74	0.65	0.61	
19	0.45	0.60	0.83	0.56	8.60	1.43	1.40	0.86	0.72	0.73	0.63	0.59	
20	0.45	0.52	0.76	0.53	4.99	4.79	1.30	0.85	0.72	0.72	0.62	0.50	
21	0.45	0.49	1.43	0.53	2.42	2.65	1.20	0.85	0.72	0.72	0.60	0.51	
22	0.44	0.94	1.12	0.53	1.87	2.30	1.20	0.85	0.70	0.71	0.61	0.50	
23	0.44	0.92	1.55	0.51	1.62	2.39	1.21	0.83	0.71	0.71	0.62	0.50	
24	0.44	0.67	1.09	1.64	1.81	3.51	1.54	0.83	0.70	0.70	0.62	0.49	
25	0.44	0.55	0.93	1.19	1.59	3.17	1.26	0.82	0.70	0.70	0.62	0.51	
26	0.44	0.50	1.07	0.83	1.40	3.76	1.17	0.81	0.70	0.69	0.68	0.48	
27	0.52	1.67	0.90	0.77	1.28	3.22	1.12	0.80	0.69	0.68	0.66	0.49	
28	1.14	0.97	0.80	0.77	1.50	2.59	1.08	0.81	0.78	0.70	0.64	0.49	
29	0.73	3.41	0.75	0.77	2.01	1.94	1.05	0.81	0.86	0.71	0.71	0.49	
30	0.58	1.27	0.68	0.70	5.33	2.17	1.03	0.81	1.02	0.68		0.49	
31		2.30		2.22	3.47		1.02		0.90	0.68		0.48	
Mean	0.51	0.80	1.19	0.80	1.81	2.33	1.70	0.89	0.75	0.77	0.66	0.56	
Max	1.14	3.41	2.26	2.22	8.60	4.79	4.86	1.00	1.02	1.07	0.71	0.69	8.60
Min	0.44	0.46	0.68	0.51	0.70	1.36	1.02	0.80	0.69	0.68	0.60	0.48	0.44

Annual Max Momentary Gage Height — 9.20 M (A.D), at 7.00 Hours, on Aug 19, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 0.01 M (A.D)

Left Bank Elevation — 7.50 M (A.D)

Right Bank Elevation — 8.26 M (A.D), Drainage Area — 267 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.90	0.26	5.13	0.74	2.82	10.90	45.08	2.20	1.26	1.66	0.82	0.86	
2	0.41	0.18	2.25	0.70	7.66	6.38	14.90	2.15	1.26	1.42	0.78	0.78	
3	0.20	0.16	2.40	0.58	3.96	5.27	11.10	2.15	0.94	1.26	0.78	0.66	
4	0.18	0.16	10.80	6.46	2.20	4.78	12.00	2.15	1.18	1.38	0.78	0.62	
5	0.18	0.14	2.88	2.76	1.58	4.26	7.74	2.10	1.22	1.62	0.82	0.54	
6	0.16	0.14	5.06	1.38	1.34	20.48	7.10	1.95	1.18	2.55	0.78	0.35	
7	0.14	0.12	9.10	1.26	1.22	11.80	21.08	1.90	1.22	1.70	0.78	0.41	
8	0.14	0.38	6.94	1.02	1.10	7.34	9.74	1.90	1.18	1.46	0.78	0.44	
9	0.14	0.62	3.12	0.86	1.02	6.94	7.10	1.95	1.14	1.50	0.78	0.44	
10	0.14	0.20	2.00	0.86	0.90	15.10	5.69	1.75	1.10	1.42	0.78	0.44	
11	0.14	0.20	1.75	0.74	1.58	11.50	5.55	1.80	1.10	1.34	0.78	0.41	
12	0.14	0.18	11.30	0.70	1.62	7.10	9.42	1.85	1.10	1.22	0.82	0.44	
13	0.14	0.16	4.64	0.66	1.80	5.62	5.62	1.70	1.06	1.18	0.82	0.41	
14	0.14	0.14	2.55	0.58	1.54	11.20	5.06	1.75	0.86	1.14	0.90	0.38	
15	0.18	0.20	2.94	0.50	1.46	15.90	4.99	1.66	1.02	1.14	0.86	0.38	
16	0.14	0.14	2.10	0.50	1.30	9.26	4.08	1.58	0.94	1.06	0.82	0.58	
17	0.12	3.78	1.62	0.44	1.26	8.94	4.57	1.58	0.94	1.02	0.78	0.70	
18	0.10	1.22	1.38	0.41	12.10	6.38	9.18	1.58	0.94	1.06	0.70	0.54	
19	0.10	0.50	1.42	0.38	126.75	4.71	4.50	1.54	0.98	1.02	0.62	0.47	
20	0.10	0.26	1.14	0.29	47.42	43.82	3.90	1.50	0.98	0.98	0.58	0.20	
21	0.10	0.18	4.71	0.29	12.90	15.20	3.30	1.50	0.98	0.98	0.50	0.23	
22	0.08	1.90	2.82	0.29	8.06	11.70	3.30	1.50	0.90	0.94	0.54	0.20	
23	0.08	1.80	5.55	0.23	6.06	12.60	3.36	1.42	0.94	0.94	0.58	0.20	
24	0.08	0.78	2.65	6.22	7.58	24.92	5.48	1.42	0.90	0.90	0.58	0.18	
25	0.08	0.35	1.85	3.24	5.83	20.84	3.66	1.38	0.90	0.90	0.58	0.23	
26	0.08	0.20	2.55	1.42	4.50	28.14	3.12	1.34	0.90	0.86	0.82	0.16	
27	0.26	6.46	1.70	1.18	3.78	21.44	2.82	1.30	0.86	0.82	0.74	0.18	
28	2.94	2.05	1.30	1.18	5.20	14.60	2.60	1.34	1.22	0.90	0.66	0.18	
29	1.02	23.72	1.10	1.18	9.18	8.62	2.45	1.34	1.54	0.94	0.94	0.18	
30	0.44	3.72	0.82	0.90	53.57	10.46	2.35	1.34	2.30	0.82		0.18	
31		11.70		10.90	24.44		2.30		1.70	0.82		0.16	
Total	9.05	62.00	105.57	48.85	361.73	386.20	233.14	50.62	34.74	36.95	21.50	12.13	1362.48 CMSDAY
Mean	0.30	2.00	3.52	1.58	11.67	12.87	7.52	1.69	1.12	1.19	0.74	0.39	3.72 CMS
Max	2.94	23.72	11.30	10.90	126.75	43.82	45.08	2.20	2.30	2.55	0.94	0.86	126.75 CMS
Min	0.08	0.12	0.82	0.23	0.90	4.26	2.30	1.30	0.86	0.82	0.50	0.16	0.08 CMS
Runoff	0.782	5.357	9.121	4.221	31.253	33.368	20.143	4.374	3.002	3.192	1.858	1.048	117.718 MCM

Momentary Peak 142.60 CMS, at 9.20 M (A.D), at 7.00 Hours, on Aug 19, 1991
Runoff Yield 13.94 Liters/Second/Square KM, Momentary Peak Yield 534.08 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

Lam Pao at Ban Nong Muang, Kalasin (E.75)

Location — Lat. 16-34-36 N., Long. 103-26-32 E., on left bank about 3 kilometers downstream from Lam Pao Damsite, Tambon Lam Pao, Amphoe Muang, Kalasin.

Drainage Area — 6,054 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +138.02 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — On left bank infront of the station office.

Elevation — B.M.1=+149.762 m.(M.S.L.),B.M.2=+149.759 m.(M.S.L.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1987 to date.

Rating Operation

Period of Rating — 1987 to date.

Rated by Float — -

Rated by Current Meter — 1987 to date.

Stability of Channel Regimes — Stable.

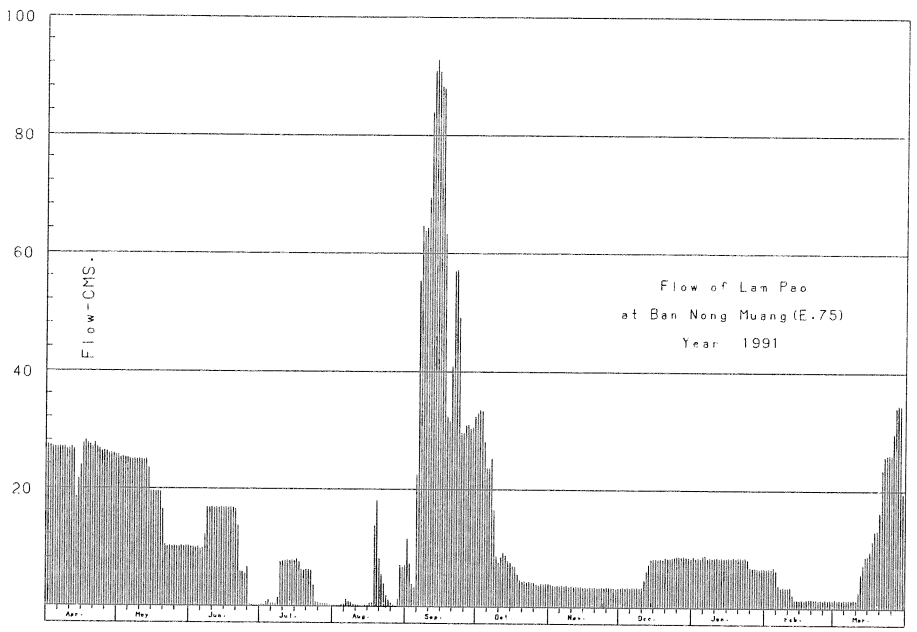
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 80 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	139.84	139.79	139.26	138.64	138.63	139.32	140.00	138.93	138.89	139.18	139.08	138.76	
2	139.84	139.78	139.25	138.64	138.63	139.12	140.01	138.91	138.89	139.17	139.08	138.75	
3	139.83	139.78	139.25	138.69	138.64	138.92	140.01	138.91	138.89	139.17	139.08	138.75	
4	139.83	139.78	139.25	138.73	138.64	138.89	139.86	138.91	138.89	139.17	139.09	138.75	
5	139.83	139.78	139.24	138.68	138.66	139.70	139.73	138.91	138.89	139.19	139.07	138.75	
6	139.83	139.77	139.24	138.66	138.73	140.58	139.73	138.91	138.89	139.19	138.92	138.75	
7	139.83	139.77	139.35	138.66	138.71	140.79	139.78	138.91	138.89	139.17	138.90	138.75	
8	139.83	139.77	139.51	138.76	138.68	140.77	139.50	138.91	138.89	139.17	138.90	138.75	
9	139.82	139.77	139.51	139.13	138.65	140.78	139.18	138.90	138.89	139.17	138.90	138.75	
10	139.82	139.77	139.51	139.13	138.64	140.89	139.13	138.90	138.89	139.17	138.90	138.75	
11	139.83	139.77	139.51	139.14	138.64	141.18	139.17	138.90	138.98	139.17	138.90	138.85	
12	139.82	139.77	139.51	139.14	138.63	141.32	139.21	138.90	139.06	139.17	138.82	139.04	
13	139.57	139.77	139.51	139.14	138.61	141.36	139.19	138.90	139.11	139.17	138.75	139.12	
14	139.67	139.73	139.51	139.14	138.63	141.32	139.14	138.90	139.16	139.17	138.75	139.19	
15	139.74	139.60	139.51	139.14	138.64	141.27	139.13	138.89	139.16	139.17	138.75	139.19	
16	139.85	139.60	139.51	139.15	138.67	141.26	139.10	138.89	139.16	139.17	138.75	139.23	
17	139.86	139.60	139.51	139.13	138.69	140.76	139.09	138.89	139.16	139.17	138.75	139.32	
18	139.85	139.60	139.51	139.06	139.41	139.98	139.03	138.89	139.16	139.17	138.75	139.38	
19	139.84	139.60	139.51	139.06	139.55	139.96	138.97	138.89	139.16	139.17	138.77	139.39	
20	139.83	139.50	139.50	139.06	139.16	140.22	138.96	138.89	139.17	139.17	138.76	139.49	
21	139.85	139.27	139.41	139.06	139.02	140.62	138.96	138.89	139.17	139.17	138.76	139.73	
22	139.83	139.26	139.05	139.06	138.93	140.62	138.95	138.89	139.17	139.17	138.75	139.79	
23	139.82	139.26	139.04	138.91	138.80	140.43	138.95	138.89	139.17	139.17	138.75	139.80	
24	139.81	139.26	139.03	138.69	138.73	139.90	138.95	138.89	139.18	139.16	138.75	139.80	
25	139.81	139.26	139.08	138.68	138.69	139.90	138.94	138.89	139.18	139.09	138.75	139.80	
26	139.81	139.26	138.65	138.67	138.64	139.94	138.93	138.89	139.18	139.09	138.75	139.90	
27	139.80	139.26	138.64	138.67	138.63	139.94	138.92	138.89	139.18	139.09	138.75	140.03	
28	139.80	139.26	138.62	138.65	138.74	139.92	138.93	138.88	139.18	139.08	138.75	140.04	
29	139.80	139.26	138.62	138.65	139.10	139.93	138.93	138.88	139.18	139.08	138.75	140.04	
30	139.79	139.26	138.64	138.64	139.09	139.98	138.93	138.88	139.17	139.08		139.60	
31		139.26		138.63	139.10		138.93		139.17	139.08		139.29	
Mean	139.81	139.55	139.24	138.88	138.80	140.32	139.23	138.90	139.07	139.15	138.84	139.28	
Max	139.86	139.79	139.51	139.15	139.55	141.36	140.01	138.93	139.18	139.19	139.09	140.04	141.36
Min	139.57	139.26	138.62	138.63	138.61	138.89	138.92	138.88	138.89	139.08	138.75	138.75	138.61

Annual Max Momentary Gage Height 141.38 M (MSL), at 12.00 Hours, on Sep 13, 1991
Zero Gage at Bottom Elevation 138.02 M (MSL), River Bed 137.78 M (MSL)
Left Bank Elevation 149.58 M (MSL)
Right Bank Elevation 150.00 M (MSL), Drainage Area 6054 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	27.40	25.65	10.20	0.32	0.24	11.50	33.00	3.95	3.35	8.60	6.60	1.52	
2	27.40	25.30	10.00	0.32	0.24	7.40	33.35	3.65	3.35	8.40	6.60	1.40	
3	27.05	25.30	10.00	0.72	0.32	3.80	33.35	3.65	3.35	8.40	6.60	1.40	
4	27.05	25.30	10.00	1.16	0.32	3.35	28.10	3.65	3.35	8.40	6.80	1.40	
5	27.05	25.30	9.80	0.64	0.48	22.50	23.55	3.65	3.35	8.80	6.40	1.40	
6	27.05	24.95	9.80	0.48	1.16	55.36	23.55	3.65	3.35	8.80	3.80	1.40	
7	27.05	24.95	12.25	0.48	0.92	64.74	25.30	3.65	3.35	8.40	3.50	1.40	
8	27.05	24.95	16.80	1.52	0.64	63.82	16.50	3.65	3.35	8.40	3.50	1.40	
9	26.70	24.95	16.80	7.60	0.40	64.28	8.60	3.50	3.35	8.40	3.50	1.40	
10	26.70	24.95	16.80	7.60	0.32	69.52	7.60	3.50	3.35	8.40	3.50	1.40	
11	27.05	24.95	16.80	7.80	0.32	83.80	8.40	3.50	4.70	8.40	3.50	2.75	
12	26.70	24.95	16.80	7.80	0.24	90.80	9.20	3.50	6.20	8.40	2.30	5.80	
13	18.60	24.95	16.80	7.80	0.08	92.80	8.80	3.50	7.20	8.40	1.40	7.40	
14	21.60	23.55	16.80	7.80	0.24	90.80	7.80	3.50	8.20	8.40	1.40	8.80	
15	23.90	19.50	16.80	7.80	0.32	88.30	7.60	3.35	8.20	8.40	1.40	8.80	
16	27.75	19.50	16.80	8.00	0.56	87.80	7.00	3.35	8.20	8.40	1.40	9.60	
17	28.10	19.50	16.80	7.60	0.72	63.36	6.80	3.35	8.20	8.40	1.40	11.50	
18	27.75	19.50	16.80	6.20	13.80	32.30	5.60	3.35	8.20	8.40	1.40	13.00	
19	27.40	19.50	16.80	6.20	18.00	31.60	4.55	3.35	8.20	8.40	1.64	13.25	
20	27.05	16.50	16.50	6.20	8.20	40.80	4.40	3.35	8.40	8.40	1.52	16.20	
21	27.75	10.40	13.80	6.20	5.40	57.08	4.40	3.35	8.40	8.40	1.52	23.55	
22	27.05	10.20	6.00	6.20	3.95	57.08	4.25	3.35	8.40	8.40	1.40	25.65	
23	26.70	10.20	5.80	3.65	2.00	49.20	4.25	3.35	8.40	8.40	1.40	26.00	
24	26.35	10.20	5.60	0.72	1.16	29.50	4.25	3.35	8.60	8.20	1.40	26.00	
25	26.35	10.20	6.60	0.64	0.72	29.50	4.10	3.35	8.60	6.80	1.40	26.00	
26	26.35	10.20	0.40	0.56	0.32	30.90	3.95	3.35	8.60	6.80	1.40	29.50	
27	26.00	10.20	0.32	0.56	0.24	30.90	3.80	3.35	8.60	6.80	1.40	34.05	
28	26.00	10.20	0.16	0.40	1.28	30.20	3.95	3.20	8.60	6.60	1.40	34.40	
29	26.00	10.20	0.16	0.40	7.00	30.55	3.95	3.20	8.60	6.60	1.40	34.40	
30	25.65	10.20	0.32	0.32	6.80	32.30	3.95	3.20	8.40	6.60		19.50	
31		10.20		0.24	7.00		3.95		8.40	6.60		10.80	
Total	790.60	576.40	329.31	113.93	83.39	1445.84	347.85	103.65	202.80	249.20	80.88	401.07	4724.92 CMSDAY
Mean	26.35	18.59	10.98	3.68	2.69	48.19	11.22	3.45	6.54	8.04	2.79	12.94	12.91 CMS
Max	28.10	25.65	16.80	8.00	18.00	92.80	33.35	3.95	8.60	8.80	6.80	34.40	92.80 CMS
Min	18.60	10.20	0.16	0.24	0.08	3.35	3.80	3.20	3.35	6.60	1.40	1.40	0.08 CMS
Runoff	68.308	49.801	28.452	9.844	7.205	124.921	30.054	8.955	17.522	21.531	6.988	34.652	408.233 MCM

Momentary Peak 93.80 CMS, at 141.38 M (MSL), at 12.00 Hours, on Sep 13, 1991

Runoff Yield 2.13 Liters/Second/Square KM, Momentary Peak Yield 15.49 Liters/Second/Square KM

WATER YEAR 1991

CHI RIVER BASIN

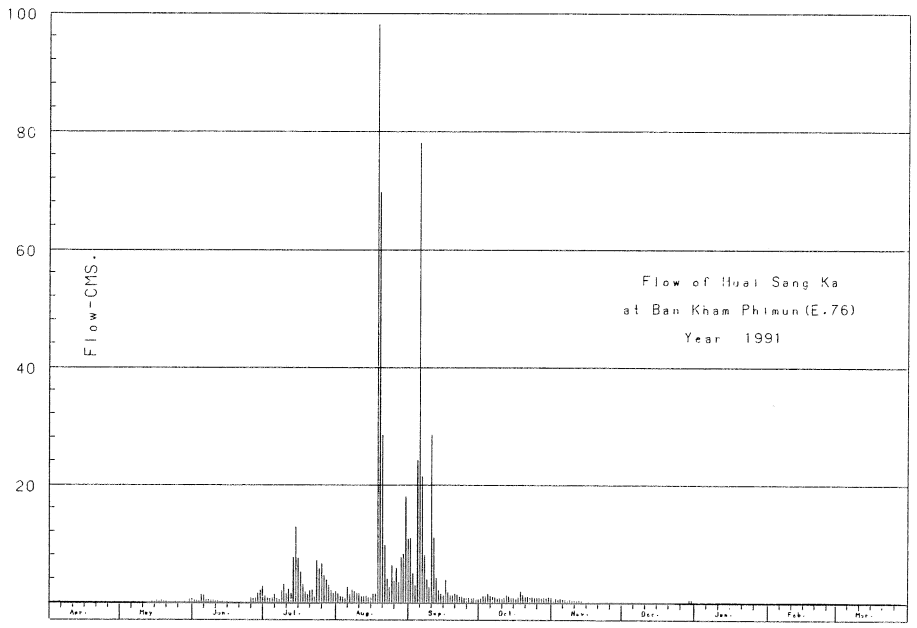
Huai Sang Ka at Ban Kham Phimun, Kalasin (E.76)

Location	Lat. 16°-55'-16" N., Long. 103°-35'-30" E., on left bank at the bridge on road near Ban Kham Phimun, Tambon Thung Khlong, Amphoe Kham Muang, Kalasin.
Drainage Area	163 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank downstream side at the abutment of the bridge.
Elevation	+8.404 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1987 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	Overbank flow starts at elevation + 5.58 m.(A.D.) and is included.
General Description	Records good. Stage-discharge relation defined by 115 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.09	0.10	0.26	0.44	0.52	1.60	0.33	0.34	0.09	0.14	0.08	0.04	
2	0.09	0.11	0.20	0.39	0.45	1.00	0.46	0.32	0.09	0.11	0.07	0.04	
3	0.08	0.11	0.22	0.32	0.41	0.74	0.43	0.31	0.10	0.13	0.10	0.03	
4	0.08	0.11	0.48	0.38	0.36	2.72	0.54	0.31	0.09	0.11	0.07	0.03	
5	0.09	0.11	0.48	0.50	0.70	5.45	0.45	0.31	0.09	0.12	0.05	0.03	
6	0.08	0.11	0.29	0.33	0.50	2.52	0.44	0.27	0.08	0.10	0.03	0.02	
7	0.08	0.11	0.27	0.30	0.65	1.31	0.40	0.28	0.08	0.10	0.08	0.03	
8	0.08	0.11	0.24	0.63	0.59	0.89	0.36	0.27	0.07	0.09	0.06	0.02	
9	0.07	0.11	0.24	0.77	0.55	0.70	0.35	0.23	0.08	0.10	0.05	0.02	
10	0.05	0.11	0.22	0.54	0.53	3.03	0.35	0.22	0.07	0.07	0.05	0.02	
11	0.04	0.12	0.19	0.65	0.44	1.62	0.37	0.23	0.07	0.09	0.04	0.03	
12	0.05	0.12	0.17	0.55	0.43	0.90	0.49	0.23	0.08	0.06	0.05	0.02	
13	0.05	0.10	0.15	1.27	0.46	0.64	0.43	0.23	0.08	0.07	0.04	0.01	
14	0.05	0.15	0.14	1.80	0.38	0.51	0.39	0.19	0.07	0.05	0.21	0.01	
15	0.05	0.17	0.13	1.26	0.40	0.48	0.35	0.20	0.06	0.08	0.13	0.01	
16	0.04	0.21	0.12	1.03	0.51	0.88	0.34	0.13	0.06	0.06	0.09	0.01	
17	0.04	0.20	0.11	0.77	0.53	0.57	0.40	0.14	0.07	0.07	0.05	0.01	
18	0.04	0.22	0.10	0.60	5.87	0.49	0.62	0.11	0.06	0.06	0.04	0.02	
19	0.04	0.19	0.10	0.49	5.19	0.46	0.48	0.15	0.06	0.05	0.03	0.01	
20	0.06	0.16	0.10	0.62	3.03	0.54	0.43	0.15	0.07	0.07	0.02	0.03	
21	0.08	0.14	0.09	0.65	1.49	0.49	0.42	0.14	0.06	0.09	0.02	0.03	
22	0.10	0.13	0.11	0.43	0.90	0.44	0.41	0.12	0.06	0.09	0.06	0.02	
23	0.10	0.12	0.10	1.22	0.70	0.42	0.40	0.11	0.06	0.08	0.04	0.02	
24	0.11	0.14	0.10	1.09	1.15	0.40	0.40	0.11	0.06	0.08	0.04	0.01	
25	0.11	0.15	0.40	1.18	0.86	0.38	0.40	0.11	0.06	0.07	0.04	0.01	
26	0.11	0.14	0.32	0.95	1.09	0.36	0.38	0.10	0.06	0.06	0.03	0.02	
27	0.11	0.13	0.40	0.88	0.81	0.37	0.38	0.10	0.06	0.05	0.03	0.01	
28	0.11	0.13	0.53	0.75	1.29	0.37	0.38	0.10	0.06	0.05	0.03	0.01	
29	0.10	0.13	0.64	0.64	1.33	0.35	0.39	0.09	0.30	0.07	0.04	0.01	
30	0.10	0.27	0.72	0.53	2.24	0.33	0.40	0.11	0.24	0.07		0.02	
31		0.31		0.61	1.60		0.38		0.19	0.09		0.01	
Mean	0.08	0.15	0.25	0.73	1.16	1.03	0.41	0.19	0.09	0.08	0.06	0.02	
Max	0.11	0.31	0.72	1.80	5.87	5.45	0.62	0.34	0.30	0.14	0.21	0.04	5.87
Min	0.04	0.10	0.09	0.30	0.36	0.33	0.33	0.09	0.06	0.05	0.02	0.01	0.01

Annual Max Momentary Gage Height 7.09 M (A.D), at 14.00 Hours, on Aug 18, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.01 M (A.D)
Left Bank Elevation 5.57 M (A.D)
Right Bank Elevation 6.04 M (A.D), Drainage Area 163 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.18	0.20	0.58	1.20	1.60	11.00	0.79	0.82	0.18	0.28	0.16	0.08	
2	0.18	0.22	0.40	0.97	1.25	5.10	1.30	0.76	0.18	0.22	0.14	0.08	
3	0.16	0.22	0.46	0.76	1.05	2.98	1.15	0.73	0.20	0.26	0.20	0.06	
4	0.16	0.22	1.40	0.94	0.88	24.28	1.70	0.73	0.18	0.22	0.14	0.06	
5	0.18	0.22	1.40	1.50	2.70	78.20	1.25	0.73	0.18	0.24	0.10	0.06	
6	0.16	0.22	0.67	0.79	1.50	21.56	1.20	0.61	0.16	0.20	0.06	0.04	
7	0.16	0.22	0.61	0.70	2.35	8.10	1.00	0.64	0.16	0.20	0.16	0.06	
8	0.16	0.22	0.52	2.21	1.95	4.12	0.88	0.61	0.14	0.18	0.12	0.04	
9	0.14	0.22	0.52	3.19	1.75	2.70	0.85	0.49	0.16	0.20	0.10	0.04	
10	0.10	0.22	0.46	1.70	1.65	28.62	0.85	0.46	0.14	0.14	0.10	0.04	
11	0.08	0.24	0.38	2.35	1.20	11.20	0.91	0.49	0.14	0.18	0.08	0.06	
12	0.10	0.24	0.34	1.75	1.15	4.20	1.45	0.49	0.16	0.12	0.10	0.04	
13	0.10	0.20	0.30	7.70	1.30	2.28	1.15	0.49	0.16	0.14	0.08	0.02	
14	0.10	0.30	0.28	13.00	0.94	1.55	0.97	0.38	0.14	0.10	0.43	0.02	
15	0.10	0.34	0.26	7.60	1.00	1.40	0.85	0.40	0.12	0.16	0.26	0.02	
16	0.08	0.43	0.24	5.37	1.55	4.04	0.82	0.26	0.12	0.12	0.18	0.02	
17	0.08	0.40	0.22	3.19	1.65	1.85	1.00	0.28	0.14	0.14	0.10	0.02	
18	0.08	0.46	0.20	2.00	98.20	1.45	2.14	0.22	0.12	0.12	0.08	0.04	
19	0.08	0.38	0.20	1.45	69.73	1.30	1.40	0.30	0.12	0.10	0.06	0.02	
20	0.12	0.32	0.20	2.14	28.62	1.70	1.15	0.30	0.14	0.14	0.04	0.06	
21	0.16	0.28	0.18	2.35	9.90	1.45	1.10	0.28	0.12	0.18	0.04	0.06	
22	0.20	0.26	0.22	1.15	4.20	1.20	1.05	0.24	0.12	0.18	0.12	0.04	
23	0.20	0.24	0.20	7.20	2.70	1.10	1.00	0.22	0.12	0.16	0.08	0.04	
24	0.22	0.28	0.20	5.91	6.50	1.00	1.00	0.22	0.12	0.16	0.08	0.02	
25	0.22	0.30	1.00	6.80	3.88	0.94	1.00	0.22	0.12	0.14	0.08	0.02	
26	0.22	0.28	0.76	4.65	5.91	0.88	0.94	0.20	0.12	0.12	0.06	0.04	
27	0.22	0.26	1.00	4.04	3.48	0.91	0.94	0.20	0.12	0.10	0.06	0.02	
28	0.22	0.26	1.65	3.05	7.90	0.91	0.94	0.20	0.12	0.10	0.06	0.02	
29	0.20	0.26	2.28	2.28	8.30	0.85	0.97	0.18	0.70	0.14	0.08	0.02	
30	0.20	0.61	2.84	1.65	18.08	0.79	1.00	0.22	0.52	0.14		0.04	
31		0.73		2.07	11.00		0.94		0.38	0.18		0.02	
Total	4.56	9.25	19.97	101.66	303.87	227.66	33.69	12.37	5.60	5.06	3.35	1.22	728.26 CMSDAY
Mean	0.15	0.30	0.67	3.28	9.80	7.59	1.09	0.41	0.18	0.16	0.12	0.04	1.99 CMS
Max	0.22	0.73	2.84	13.00	98.20	78.20	2.14	0.82	0.70	0.28	0.43	0.08	98.20 CMS
Min	0.08	0.20	0.18	0.70	0.88	0.79	0.79	0.18	0.12	0.10	0.04	0.02	0.02 CMS
Runoff	0.394	0.799	1.725	8.783	26.254	19.670	2.911	1.069	0.484	0.437	0.289	0.105	62.922 MCM

Momentary Peak 721.00 CMS, at 7.09 M (A.D), at 14.00 Hours, on Aug 18, 1991
Runoff Yield 12.21 Liters/Second/Square KM, Momentary Peak Yield 4423.32 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

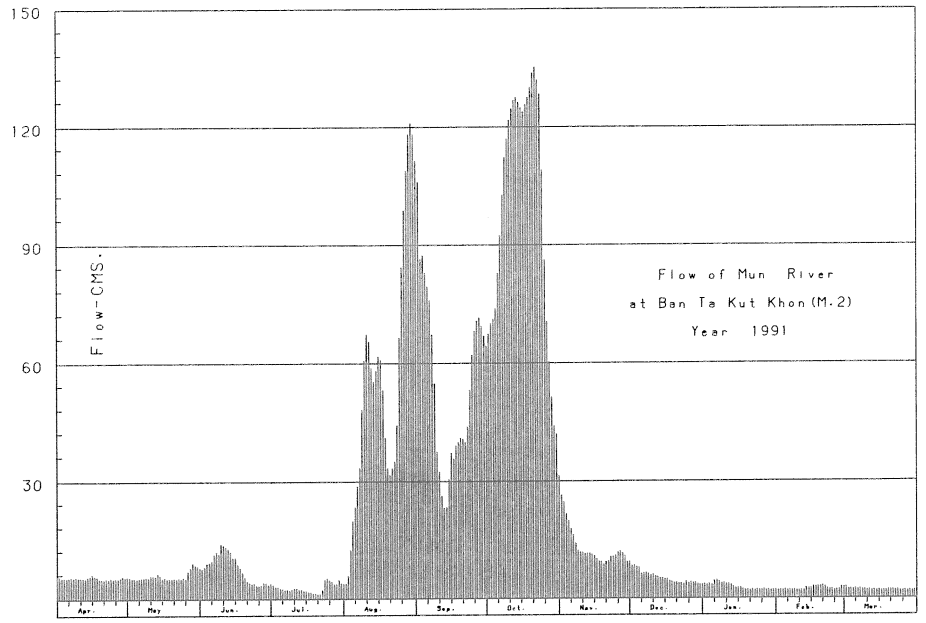
Mun River at Ban Ta Kut Khon, Nakhon Ratchasima (M.2)

Location	Lat. 15°-00'-03" N., Long. 105°-15'-57" E., on right bank at about 100 meters west of Ban Tha Chang School, and about 30 meters south of pumping railway station, Amphoe Chakkarat, Nakhon Ratchasima.
Drainage Area	4,800 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+157.85 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	Near the automatic gage building.
Elevation	+165.802 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1950 to date.
Rating Operation	
Period of Rating	1960, 1969-1971, 1982 to date.
Rated by Float	-
Rated by Current Meter	1960, 1969-1971, 1982 to date.
Stability of Channel Reqimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 57 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	160.43	160.40	160.66	160.09	160.16	164.53	163.54	161.95	160.75	160.10	159.81	159.98	
2	160.41	160.38	160.73	160.03	160.45	164.07	163.62	161.85	160.75	160.11	159.81	159.90	
3	160.39	160.35	160.80	160.00	161.11	164.10	163.66	161.70	160.72	160.11	159.82	159.87	
4	160.39	160.36	160.84	159.96	161.59	163.98	163.73	161.59	160.69	160.10	159.83	159.88	
5	160.41	160.37	160.86	159.91	161.79	163.89	163.98	161.48	160.53	160.23	159.83	159.88	
6	160.41	160.37	161.02	159.87	162.06	163.79	164.22	161.37	160.53	160.30	159.82	159.87	
7	160.41	160.41	161.06	159.86	162.28	163.54	164.46	161.24	160.57	160.21	159.82	159.88	
8	160.41	160.40	161.03	159.85	162.87	163.12	164.66	161.08	160.51	160.16	159.81	159.86	
9	160.41	160.41	161.22	159.87	163.33	162.45	164.76	161.06	160.48	160.16	159.80	159.84	
10	160.38	160.45	161.21	159.96	163.54	162.23	164.85	161.04	160.49	160.14	159.80	159.83	
11	160.37	160.44	161.16	159.93	163.49	161.94	164.91	161.03	160.45	160.11	159.79	159.81	
12	160.38	160.46	161.14	159.90	163.26	161.77	164.95	161.02	160.41	160.10	159.82	159.79	
13	160.42	160.54	161.06	159.86	163.13	161.79	164.96	161.04	160.39	159.99	159.93	159.79	
14	160.47	160.46	160.94	159.82	163.24	162.15	164.94	161.00	160.36	159.95	159.93	159.79	
15	160.50	160.39	160.95	159.78	163.36	162.44	164.91	160.98	160.34	159.93	159.90	159.79	
16	160.47	160.40	160.79	159.74	163.33	162.38	164.89	160.91	160.32	159.97	159.99	159.79	
17	160.42	160.37	160.69	159.69	163.06	162.52	164.93	160.86	160.27	159.86	160.01	159.77	
18	160.37	160.36	160.58	159.64	162.61	162.56	164.96	160.84	160.20	159.84	160.00	159.79	
19	160.33	160.38	160.41	159.59	162.27	162.60	165.01	160.79	160.18	159.82	160.04	159.82	
20	160.33	160.37	160.27	159.54	162.20	162.59	165.07	160.83	160.17	159.82	160.04	159.84	
21	160.35	160.36	160.18	159.50	162.27	162.56	165.10	160.87	160.16	159.83	160.02	159.82	
22	160.35	160.38	160.16	159.87	162.35	162.71	165.04	160.95	160.14	159.83	159.89	159.81	
23	160.37	160.38	160.16	160.33	162.72	163.05	164.98	160.97	160.13	159.83	159.88	159.80	
24	160.35	160.40	160.09	160.37	163.52	163.37	164.59	160.98	160.21	159.85	159.86	159.78	
25	160.35	160.38	160.08	160.31	164.02	163.57	164.07	161.06	160.17	159.86	159.83	159.78	
26	160.37	160.59	160.07	160.23	164.37	163.64	163.64	161.07	160.19	159.85	159.81	159.77	
27	160.41	160.70	160.21	160.14	164.59	163.67	163.31	161.04	160.19	159.83	159.88	159.77	
28	160.43	160.81	160.17	160.12	164.78	163.60	162.99	160.97	160.17	159.82	159.97	159.77	
29	160.42	160.77	160.12	160.32	164.84	163.53	162.71	160.85	160.13	159.82	160.00	159.77	
30	160.41	160.73	160.15	160.15	164.78	163.45	162.64	160.84	160.08	159.81		159.77	
31		160.70		160.13	164.64		162.18		160.11	159.82		159.76	
Mean	160.40	160.46	160.63	159.95	162.97	163.05	164.27	161.11	160.35	159.97	159.89	159.82	
Max	160.50	160.81	161.22	160.37	164.84	164.53	165.10	161.95	160.75	160.30	160.04	159.98	165.10
Min	160.33	160.35	160.07	159.50	160.16	161.77	162.18	160.79	160.08	159.81	159.79	159.76	159.50

Annual Max Momentary Gage Height 165.10 M (MSL), at 1.00 Hours, on Oct 21, 1991
Zero Gage at Bottom Elevation 157.85 M (MSL), River Bed 158.94 M (MSL)
Left Bank Elevation 166.06 M (MSL)
Right Bank Elevation 165.90 M (MSL), Drainage Area 4800 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	5.64	5.40	7.60	3.54	3.96	106.11	67.42	26.55	8.50	3.60	2.14	2.90	
2	5.48	5.28	8.30	3.18	5.80	86.36	70.06	24.65	8.50	3.66	2.14	2.50	
3	5.34	5.10	9.00	3.00	12.59	87.50	71.38	21.80	8.20	3.66	2.18	2.38	
4	5.34	5.16	9.40	2.80	19.83	82.96	73.78	19.83	7.90	3.60	2.22	2.42	
5	5.48	5.22	9.60	2.55	23.51	79.63	82.96	17.98	6.44	4.38	2.22	2.42	
6	5.48	5.22	11.48	2.38	28.70	75.94	92.34	16.22	6.44	4.80	2.18	2.38	
7	5.48	5.48	11.97	2.34	33.54	67.42	102.82	14.26	6.76	4.26	2.18	2.42	
8	5.48	5.40	11.60	2.30	48.29	55.04	112.22	12.22	6.28	3.96	2.14	2.34	
9	5.48	5.48	13.98	2.38	60.90	37.45	117.04	11.97	6.04	3.96	2.10	2.26	
10	5.28	5.80	13.84	2.80	67.42	32.39	121.60	11.73	6.12	3.84	2.10	2.22	
11	5.22	5.72	13.21	2.65	65.79	26.36	124.73	11.60	5.80	3.66	2.06	2.14	
12	5.28	5.88	12.96	2.50	58.88	23.13	126.85	11.48	5.48	3.60	2.18	2.06	
13	5.56	6.52	11.97	2.34	55.31	23.51	127.38	11.73	5.34	2.95	2.65	2.06	
14	5.96	5.88	10.49	2.18	58.32	30.60	126.32	11.23	5.16	2.75	2.65	2.06	
15	6.20	5.34	10.62	2.02	61.80	37.22	124.73	10.99	5.04	2.65	2.50	2.06	
16	5.96	5.40	8.90	1.86	60.90	35.84	123.68	10.12	4.92	2.85	2.95	2.06	
17	5.56	5.22	7.90	1.67	53.42	39.08	125.79	9.60	4.62	2.34	3.06	1.98	
18	5.22	5.16	6.84	1.52	41.27	40.04	127.38	9.40	4.20	2.26	3.00	2.06	
19	4.98	5.28	5.48	1.38	33.31	41.00	130.08	8.90	4.08	2.18	3.24	2.18	
20	4.98	5.22	4.62	1.28	31.70	40.76	133.56	9.30	4.02	2.18	3.24	2.26	
21	5.10	5.16	4.08	1.20	33.31	40.04	135.30	9.70	3.96	2.22	3.12	2.18	
22	5.10	5.28	3.96	2.38	35.15	43.97	131.82	10.62	3.84	2.22	2.46	2.14	
23	5.22	5.28	3.96	4.98	44.24	53.15	128.44	10.86	3.78	2.22	2.42	2.10	
24	5.10	5.40	3.54	5.22	66.76	62.10	108.93	10.99	4.26	2.30	2.34	2.02	
25	5.10	5.28	3.48	4.86	84.46	68.41	86.36	11.97	4.02	2.34	2.22	2.02	
26	5.22	6.92	3.42	4.38	98.71	70.72	70.72	12.10	4.14	2.30	2.14	1.98	
27	5.48	8.00	4.26	3.84	108.93	71.71	60.30	11.73	4.14	2.22	2.42	1.98	
28	5.64	9.10	4.02	3.72	118.02	69.40	51.53	10.86	4.02	2.18	2.85	1.98	
29	5.56	8.70	3.72	4.92	121.08	67.09	43.97	9.50	3.78	2.18	3.00	1.98	
30	5.48	8.30	3.90	3.90	118.02	64.55	42.08	9.40	3.48	2.14		1.98	
31		8.00		3.78	111.28		31.26		3.66	2.18		1.94	
Total	162.40	184.58	238.10	89.85	1765.20	1659.48	3072.83	389.29	162.92	91.64	72.10	67.46	7955.85 CMSDAY
Mean	5.41	5.95	7.94	2.90	56.94	55.32	99.12	12.98	5.26	2.96	2.49	2.18	21.74 CMS
Max	6.20	9.10	13.98	5.22	121.08	106.11	135.30	26.55	8.50	4.80	3.24	2.90	135.30 CMS
Min	4.98	5.10	3.42	1.20	3.96	23.13	31.26	8.90	3.48	2.14	2.06	1.94	1.20 CMS
Runoff	14.031	15.948	20.572	7.763	152.513	143.379	265.493	33.635	14.076	7.918	6.229	5.829	687.386 MCM

Momentary Peak 135.30 CMS, at 165.10 M (MSL), at 1.00 Hours, on Oct 21, 1991

Runoff Yield 4.53 Liters/Second/Square KM, Momentary Peak Yield 28.19 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

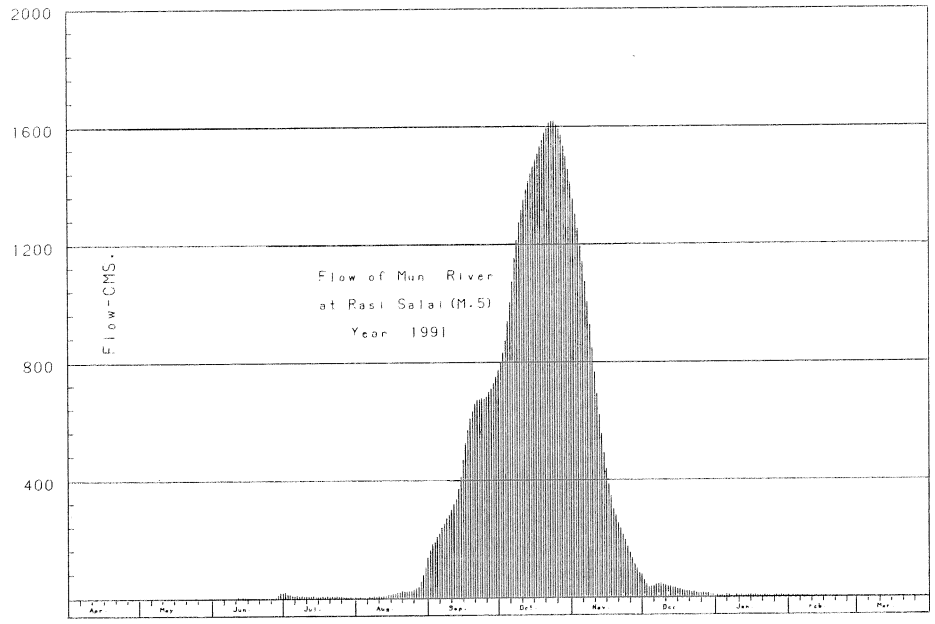
Mun River at Rasi Salai, Si Sa Ket (M.5)

Location	Lat. 15°-20'-16" N., Long. 104°-09'-29" E., on left bank infront of Amphoe Rasi Salai Office, Si Sa Ket.
Drainage Area	44,275 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+110.00 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 2.5 meters from the top staff gage.
Elevation	+122.385 m. (M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1955 to date.
Rating Operation	
Period of Rating	1972 to date.
Rated by Float	-
Rated by Current Meter	1972 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 47 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	110.12	110.07	110.19	110.76	110.34	112.63	116.90	118.84	111.36	110.46	110.41	110.26	
2	110.12	110.07	110.19	110.67	110.35	112.81	117.03	118.69	111.12	110.48	110.41	110.26	
3	110.12	110.07	110.17	110.61	110.34	112.91	117.20	118.53	111.00	110.50	110.41	110.25	
4	110.12	110.05	110.16	110.56	110.33	113.06	117.43	118.34	111.00	110.50	110.39	110.25	
5	110.12	110.07	110.14	110.51	110.33	113.19	117.68	118.15	111.05	110.53	110.39	110.25	
6	110.12	110.07	110.15	110.49	110.36	113.37	117.93	117.93	111.10	110.54	110.39	110.25	
7	110.11	110.07	110.18	110.47	110.39	113.52	118.20	117.68	111.15	110.52	110.39	110.25	
8	110.11	110.06	110.23	110.46	110.42	113.66	118.40	117.40	111.16	110.52	110.39	110.24	
9	110.10	110.05	110.25	110.44	110.42	113.78	118.60	117.10	111.12	110.50	110.38	110.24	
10	110.10	110.05	110.30	110.44	110.42	113.91	118.73	116.76	111.07	110.51	110.38	110.23	
11	110.10	110.06	110.37	110.42	110.42	114.07	118.83	116.41	111.04	110.51	110.38	110.22	
12	110.10	110.06	110.36	110.46	110.42	114.21	118.93	116.05	111.01	110.51	110.37	110.22	
13	110.09	110.07	110.33	110.46	110.47	114.46	119.00	115.68	110.98	110.51	110.37	110.21	
14	110.09	110.07	110.37	110.43	110.58	114.77	119.07	115.30	110.95	110.50	110.36	110.21	
15	110.09	110.09	110.35	110.42	110.63	115.15	119.13	114.94	110.91	110.50	110.36	110.21	
16	110.09	110.06	110.29	110.42	110.66	115.49	119.19	114.59	110.88	110.48	110.36	110.21	
17	110.08	110.09	110.27	110.43	110.68	115.76	119.25	114.28	110.85	110.48	110.35	110.20	
18	110.08	110.10	110.24	110.43	110.72	115.97	119.31	113.94	110.81	110.46	110.34	110.20	
19	110.08	110.11	110.23	110.44	110.77	116.12	119.37	113.75	110.80	110.46	110.32	110.19	
20	110.08	110.12	110.23	110.44	110.81	116.24	119.43	113.54	110.77	110.45	110.32	110.18	
21	110.08	110.15	110.22	110.44	110.82	116.30	119.48	113.34	110.75	110.45	110.32	110.17	
22	110.07	110.15	110.21	110.43	110.81	116.32	119.52	113.15	110.74	110.45	110.31	110.16	
23	110.07	110.13	110.20	110.43	110.80	116.33	119.54	112.96	110.72	110.44	110.29	110.15	
24	110.07	110.13	110.20	110.44	110.83	116.33	119.54	112.75	110.70	110.44	110.28	110.15	
25	110.06	110.12	110.20	110.41	110.87	116.36	119.51	112.52	110.68	110.44	110.28	110.15	
26	110.06	110.14	110.25	110.40	110.94	116.43	119.47	112.29	110.67	110.44	110.27	110.14	
27	110.08	110.20	110.35	110.38	111.03	116.50	119.41	112.06	110.67	110.44	110.27	110.14	
28	110.10	110.20	110.61	110.36	111.30	116.59	119.32	111.86	110.65	110.44	110.27	110.13	
29	110.08	110.20	110.72	110.35	111.58	116.68	119.22	111.69	110.58	110.42	110.26	110.12	
30	110.08	110.20	110.76	110.33	111.95	116.79	119.11	111.60	110.53	110.42		110.10	
31		110.19		110.33	112.32		118.99		110.48	110.41		110.11	
Mean	110.09	110.11	110.29	110.45	110.75	114.99	118.80	115.07	110.88	110.47	110.35	110.20	
Max	110.12	110.20	110.76	110.76	112.32	116.79	119.54	118.84	111.36	110.54	110.41	110.26	119.54
Min	110.06	110.05	110.14	110.33	110.33	112.63	116.90	111.60	110.48	110.41	110.26	110.10	110.05

Annual Max Momentary Gage Height 119.54 M (MSL), at 18.00 Hours, on Oct 23, 1991
Zero Gage at Bottom Elevation 110.00 M (MSL), River Bed 109.16 M (MSL)
Left Bank Elevation 123.33 M (MSL)
Right Bank Elevation 122.65 M (MSL), Drainage Area 44275 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.2	0.7	1.9	21.6	5.2	165.7	800.0	1354.4	63.2	8.8	7.3	3.2	
2	1.2	0.7	1.9	16.5	5.5	183.0	831.2	1304.8	46.4	9.4	7.3	3.2	
3	1.2	0.7	1.7	13.5	5.2	193.0	875.0	1253.6	38.0	10.0	7.3	3.0	
4	1.2	0.5	1.6	11.8	4.9	208.0	937.1	1196.0	38.0	10.0	6.7	3.0	
5	1.2	0.7	1.4	10.3	4.9	221.0	1004.6	1139.5	41.5	10.9	6.7	3.0	
6	1.2	0.7	1.5	9.7	5.8	239.0	1075.7	1075.7	45.0	11.2	6.7	3.0	
7	1.1	0.7	1.8	9.1	6.7	255.2	1154.0	1004.6	48.5	10.6	6.7	3.0	
8	1.1	0.6	2.6	8.8	7.6	270.6	1214.0	929.0	49.2	10.6	6.7	2.8	
9	1.0	0.5	3.0	8.2	7.6	284.6	1276.0	848.0	46.4	10.0	6.4	2.8	
10	1.0	0.5	4.0	8.2	7.6	300.2	1317.6	767.2	42.9	10.3	6.4	2.6	
11	1.0	0.6	6.1	7.6	7.6	319.4	1350.8	693.1	40.8	10.3	6.4	2.4	
12	1.0	0.6	5.8	8.8	7.6	337.3	1387.4	623.0	38.7	10.3	6.1	2.4	
13	0.9	0.7	4.9	8.8	9.1	370.4	1414.0	557.6	36.6	10.3	6.1	2.2	
14	0.9	0.7	6.1	7.9	12.4	413.8	1440.6	494.0	34.5	10.0	5.8	2.2	
15	0.9	0.9	5.5	7.6	14.5	470.5	1463.4	439.0	31.7	10.0	5.8	2.2	
16	0.9	0.6	3.8	7.6	16.0	525.3	1486.2	388.6	29.6	9.4	5.8	2.2	
17	0.8	0.9	3.4	7.9	17.0	571.2	1509.0	346.4	27.5	9.4	5.5	2.0	
18	0.8	1.0	2.8	7.9	19.2	608.6	1531.8	303.8	24.7	8.8	5.2	2.0	
19	0.8	1.1	2.6	8.2	22.2	635.8	1554.6	281.0	24.0	8.8	4.6	1.9	
20	0.8	1.2	2.6	8.2	24.7	659.0	1577.4	257.4	22.2	8.5	4.6	1.8	
21	0.8	1.5	2.4	8.2	25.4	671.0	1596.4	236.0	21.0	8.5	4.6	1.7	
22	0.7	1.5	2.2	7.9	24.7	675.0	1611.6	217.0	20.4	8.5	4.3	1.6	
23	0.7	1.3	2.0	7.9	24.0	677.0	1619.2	198.0	19.2	8.2	3.8	1.5	
24	0.7	1.3	2.0	8.2	26.1	677.0	1619.2	177.0	18.0	8.2	3.6	1.5	
25	0.6	1.2	2.0	7.3	28.9	683.0	1607.8	155.8	17.0	8.2	3.6	1.5	
26	0.6	1.4	3.0	7.0	33.8	697.3	1592.6	135.1	16.5	8.2	3.4	1.4	
27	0.8	2.0	5.5	6.4	40.1	712.0	1569.8	115.8	16.5	8.2	3.4	1.4	
28	1.0	2.0	13.5	5.8	59.0	730.9	1535.6	99.8	15.5	8.2	3.4	1.3	
29	0.8	2.0	19.2	5.5	78.6	749.8	1497.6	86.3	12.4	7.6	3.2	1.2	
30	0.8	2.0	21.6	4.9	107.0	773.8	1455.8	80.0	10.9	7.6		1.0	
31		1.9		4.9	137.8		1410.2		9.4	7.3		1.1	
Total	27.7	32.7	138.4	272.2	796.7	14278.4	42316.2	16757.5	946.2	286.3	157.4	66.1	76075.8 CMSDAY
Mean	0.9	1.1	4.6	8.8	25.7	475.9	1365.0	558.6	30.5	9.2	5.4	2.1	207.9 CMS
Max	1.2	2.0	21.6	21.6	137.8	773.8	1619.2	1354.4	63.2	11.2	7.3	3.2	1619.2 CMS
Min	0.6	0.5	1.4	4.9	4.9	165.7	800.0	80.0	9.4	7.3	3.2	1.0	0.5 CMS
Runoff	2.39	2.83	11.96	23.52	68.83	1233.65	3656.12	1447.85	81.75	24.74	13.60	5.71	6572.95 MCM

Momentary Peak 1619.20 CMS, at 119.54 M (MSL), at 18.00 Hours, on Oct 23, 1991

Runoff Yield 4.69 Liters/Second/Square KM, Momentary Peak Yield 36.57 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

Mun River at Satuk, Buri Ram (M.6A)

Location — Lat. 15°-17'-44" N., Long. 103°-17'-51" E., on right bank at Satuk, Buri Ram.

Drainage Area — 28,275 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +124.00 m. (M.S.L.)

Bench Mark — B.M.-B.M.P.1383

Location — Infront of the post office and about 80 meters from staff gage line.

Elevation — +132.328 m.(M.S.L.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1964 to date.

Rating Operation

Period of Rating — 1976 to date.

Rated by Float — -

Rated by Current Meter — 1976 to date.

Stability of Channel Regimes — Unstable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 50 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

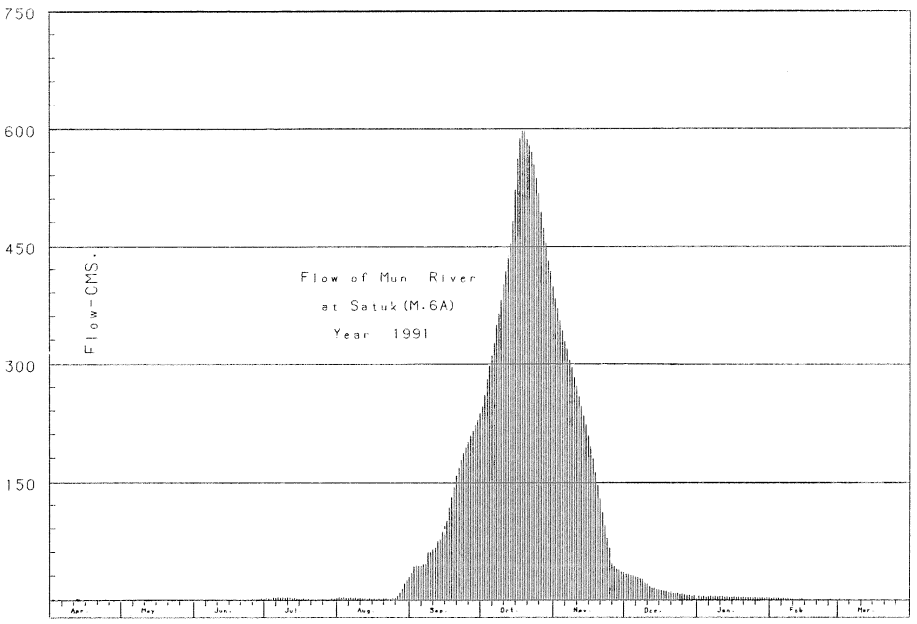
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	124.29	124.22	124.32	124.55	124.66	125.77	128.53	129.30	125.74	124.86	124.64	124.51	
2	124.31	124.22	124.33	124.57	124.67	126.04	128.63	129.25	125.73	124.85	124.64	124.51	
3	124.30	124.21	124.35	124.61	124.69	126.13	128.77	129.18	125.71	124.84	124.63	124.51	
4	124.29	124.21	124.35	124.67	124.69	126.07	128.87	129.12	125.68	124.83	124.62	124.50	
5	124.29	124.21	124.37	124.72	124.65	126.10	128.95	129.05	125.66	124.85	124.61	124.49	
6	124.28	124.22	124.47	124.70	124.67	126.15	129.04	129.00	125.63	124.84	124.61	124.48	
7	124.28	124.21	124.43	124.70	124.66	126.19	129.15	128.92	125.61	124.83	124.60	124.47	
8	124.27	124.21	124.44	124.69	124.66	126.25	129.22	128.86	125.57	124.83	124.59	124.46	
9	124.27	124.21	124.43	124.67	124.64	126.27	129.29	128.79	125.47	124.83	124.59	124.47	
10	124.26	124.23	124.42	124.66	124.61	126.31	129.37	128.71	125.41	124.82	124.59	124.47	
11	124.26	124.23	124.40	124.65	124.58	126.36	129.43	128.62	125.35	124.82	124.58	124.46	
12	124.26	124.22	124.38	124.62	124.55	126.48	129.49	128.53	125.29	124.81	124.57	124.46	
13	124.25	124.22	124.37	124.60	124.53	126.52	129.55	128.44	125.26	124.80	124.56	124.46	
14	124.25	124.21	124.36	124.57	124.55	126.66	129.63	128.34	125.22	124.80	124.53	124.45	
15	124.25	124.22	124.34	124.56	124.54	126.79	129.73	128.21	125.19	124.78	124.50	124.44	
16	124.25	124.22	124.33	124.54	124.53	126.88	129.83	128.06	125.16	124.77	124.51	124.43	
17	124.24	124.22	124.31	124.53	124.52	127.14	129.89	127.90	125.15	124.76	124.52	124.42	
18	124.24	124.21	124.32	124.52	124.52	127.30	129.91	127.69	125.11	124.75	124.52	124.41	
19	124.24	124.21	124.33	124.50	124.53	127.47	129.91	127.50	125.08	124.74	124.53	124.40	
20	124.24	124.20	124.34	124.49	124.54	127.64	129.89	127.28	125.07	124.73	124.52	124.40	
21	124.24	124.21	124.36	124.47	124.53	127.77	129.87	127.06	125.04	124.72	124.51	124.40	
22	124.23	124.22	124.39	124.45	124.54	127.88	129.85	126.80	125.02	124.71	124.50	124.42	
23	124.23	124.22	124.42	124.44	124.54	127.97	129.81	126.54	125.02	124.70	124.51	124.42	
24	124.23	124.23	124.43	124.46	124.58	128.05	129.77	126.36	124.99	124.70	124.50	124.41	
25	124.23	124.23	124.45	124.48	124.67	128.12	129.72	126.19	124.98	124.69	124.50	124.40	
26	124.23	124.22	124.48	124.48	124.86	128.20	129.66	126.06	124.96	124.69	124.51	124.39	
27	124.23	124.26	124.51	124.48	125.06	128.27	129.61	125.95	124.94	124.68	124.52	124.38	
28	124.23	124.27	124.53	124.49	125.25	128.34	129.55	125.87	124.91	124.67	124.52	124.37	
29	124.23	124.27	124.54	124.53	125.43	128.39	129.48	125.80	124.89	124.66	124.52	124.36	
30	124.22	124.28	124.55	124.59	125.56	128.46	129.43	125.77	124.88	124.66		124.35	
31		124.32		124.63	125.64		129.36		124.87	124.65		124.34	
Mean	124.25	124.23	124.40	124.57	124.73	127.07	129.46	127.77	125.24	124.76	124.55	124.43	
Max	124.31	124.32	124.55	124.72	125.64	128.46	129.91	129.30	125.74	124.86	124.64	124.51	129.91
Min	124.22	124.20	124.31	124.44	124.52	125.77	128.53	125.77	124.87	124.65	124.50	124.34	124.20

Annual Max Momentary Gage Height — 129.91 M (MSL), at 6.00 Hours, on Oct 18, 1991

Zero Gage at Bottom Elevation — 124.00 M (MSL), River Bed — 121.09 M (MSL)

Left Bank Elevation — 132.10 M (MSL)

Right Bank Elevation — 133.14 M (MSL), Drainage Area — 28275 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.5	0.1	0.6	2.5	3.6	35.6	247.2	384.0	34.3	5.9	3.4	2.1	
2	0.5	0.1	0.7	2.7	3.7	43.0	261.2	372.0	33.9	5.7	3.4	2.1	
3	0.5	0.1	0.7	3.1	3.9	45.2	281.5	356.0	32.9	5.6	3.3	2.1	
4	0.5	0.1	0.7	3.7	3.9	43.8	297.9	344.0	31.6	5.4	3.2	2.0	
5	0.5	0.1	0.9	4.2	3.5	44.5	311.5	330.0	30.7	5.7	3.1	1.9	
6	0.4	0.1	1.7	4.0	3.7	45.8	328.0	320.0	29.3	5.6	3.1	1.8	
7	0.4	0.1	1.3	4.0	3.6	46.8	350.0	306.4	28.5	5.4	3.0	1.7	
8	0.3	0.1	1.4	3.9	3.6	61.0	364.8	296.2	26.8	5.4	2.9	1.6	
9	0.3	0.1	1.3	3.7	3.4	62.2	381.6	284.5	23.0	5.4	2.9	1.7	
10	0.3	0.2	1.2	3.6	3.1	64.6	402.2	272.5	20.9	5.3	2.9	1.7	
11	0.3	0.2	1.0	3.5	2.8	67.6	418.4	259.8	18.7	5.3	2.8	1.6	
12	0.3	0.1	0.9	3.2	2.5	75.2	435.2	247.2	16.7	5.1	2.7	1.6	
13	0.3	0.1	0.9	3.0	2.3	77.8	454.0	235.2	15.8	5.0	2.6	1.6	
14	0.3	0.1	0.8	2.7	2.5	86.9	482.0	223.4	14.6	5.0	2.3	1.5	
15	0.3	0.1	0.7	2.6	2.4	95.4	522.0	210.0	13.8	4.8	2.0	1.4	
16	0.3	0.1	0.7	2.4	2.3	101.2	562.6	195.4	13.0	4.7	2.1	1.3	
17	0.2	0.1	0.5	2.3	2.2	118.8	587.8	181.0	12.8	4.6	2.2	1.2	
18	0.2	0.1	0.6	2.2	2.2	131.0	597.8	162.7	11.8	4.5	2.2	1.1	
19	0.2	0.1	0.7	2.0	2.3	144.6	597.8	147.0	11.0	4.4	2.3	1.0	
20	0.2	0.0	0.7	1.9	2.4	158.4	587.8	129.4	10.8	4.3	2.2	1.0	
21	0.2	0.1	0.8	1.7	2.3	169.4	579.4	113.2	10.0	4.2	2.1	1.0	
22	0.2	0.1	0.9	1.5	2.4	179.2	571.0	96.0	9.5	4.1	2.0	1.2	
23	0.2	0.1	1.2	1.4	2.4	187.3	554.2	79.1	9.5	4.0	2.1	1.2	
24	0.2	0.2	1.3	1.6	2.8	194.5	538.0	67.6	8.7	4.0	2.0	1.1	
25	0.2	0.2	1.5	1.8	3.7	201.0	518.0	46.8	8.5	3.9	2.0	1.0	
26	0.2	0.1	1.8	1.8	5.9	209.0	494.0	43.5	8.0	3.9	2.1	0.9	
27	0.2	0.3	2.1	1.8	10.5	216.0	474.0	40.7	7.5	3.8	2.2	0.9	
28	0.2	0.3	2.3	1.9	15.5	223.4	454.0	38.8	6.8	3.7	2.2	0.9	
29	0.2	0.3	2.4	2.3	21.5	228.9	432.4	37.0	6.3	3.6	2.2	0.8	
30	0.1	0.4	2.5	2.9	26.4	237.8	418.4	35.6	6.2	3.6		0.7	
31		0.6		3.3	29.8		399.6		6.1	3.5		0.7	
Total	8.7	4.8	34.8	83.2	183.1	3595.9	13904.3	5855.0	518.0	145.4	73.5	42.4	24449.1 CMSDAY
Mean	0.3	0.2	1.2	2.7	5.9	119.9	448.5	195.2	16.7	4.7	2.5	1.4	66.8 CMS
Max	0.5	0.6	2.5	4.2	29.8	237.8	597.8	384.0	34.3	5.9	3.4	2.1	597.8 CMS
Min	0.1	0.0	0.5	1.4	2.2	35.6	247.2	35.6	6.1	3.5	2.0	0.7	0.0 CMS
Runoff	0.75	0.41	3.01	7.19	15.82	310.69	1201.33	505.87	44.76	12.56	6.35	3.66	2112.40 MCM

Momentary Peak 597.81 CMS, at 129.91 M (MSL), at 6.00 Hours, on Oct 18, 1991
Runoff Yield 2.36 Liters/Second/Square KM, Momentary Peak Yield 21.14 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

Mun River at Seri Prachathipatai Bridge, Ubon Ratchathani (M.7)

Location — Lat. 15°-13'-17" N., Long. 104°-51'-39" E., on left bank at the Seri Prachathipatai Bridge, Amphoe Muang, Ubon Ratchathani.

Drainage Area — 106,673 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +105.00 m.(M.S.L.)

Bench Mark — B.M.-Department of Lands.

Location — On left bank at the abutment of 200 years Krung Ratanakosin Bridge.

Elevation — +117.652 m.(M.S.L.)

Gage Reading Frequency — 3-5 time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1944 to date.

Rating Operation

Period of Rating — 1956 - 1958, 1964 - 1981, 1983 to date.

Rated by Float — -

Rated by Current Meter — 1956 - 1958, 1964 - 1981, 1983 to date.

Stability of Channel Regimes — Rather unstable.

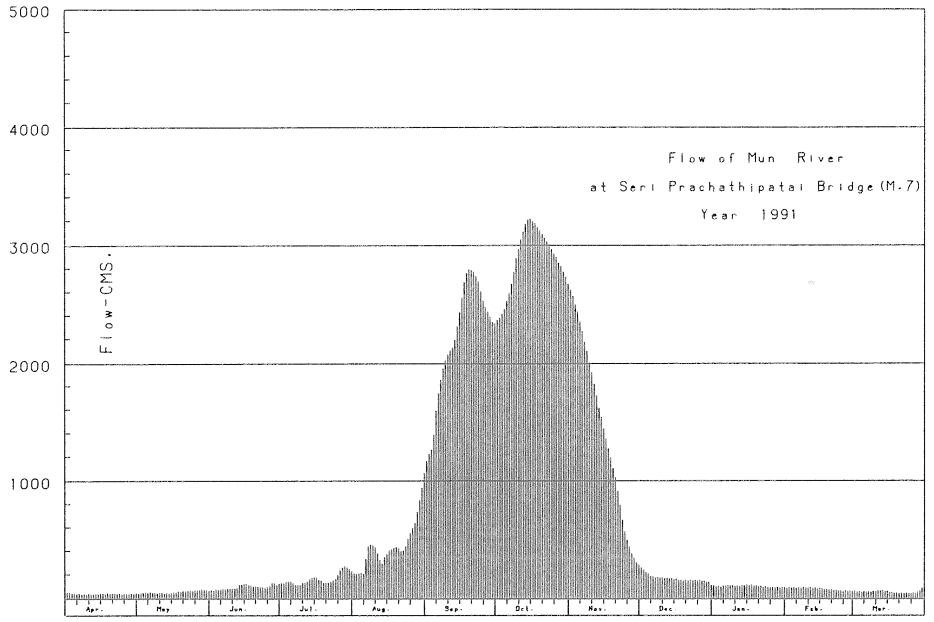
Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 21 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	106.78	106.75	106.86	107.15	107.56	110.17	112.36	112.35	107.43	106.84	106.77	106.65	
2	106.76	106.75	106.86	107.18	107.53	110.30	112.40	112.25	107.36	106.83	106.78	106.64	
3	106.74	106.77	106.89	107.21	107.56	110.36	112.45	112.14	107.30	106.82	106.78	106.63	
4	106.73	106.77	106.90	107.25	107.56	110.63	112.52	112.03	107.24	106.81	106.77	106.63	
5	106.72	106.77	106.91	107.23	107.55	111.02	112.61	111.90	107.19	106.83	106.77	106.63	
6	106.71	106.77	106.91	107.16	107.96	111.30	112.70	111.75	107.15	106.85	106.77	106.63	
7	106.70	106.77	106.92	107.11	108.33	111.50	112.79	111.61	107.13	106.85	106.77	106.63	
8	106.70	106.76	106.92	107.08	108.36	111.68	112.92	111.47	107.13	106.85	106.78	106.63	
9	106.70	106.75	106.95	107.10	108.36	111.79	113.04	111.31	107.13	106.84	106.78	106.64	
10	106.71	106.75	106.93	107.16	108.29	111.88	113.12	111.15	107.11	106.84	106.78	106.65	
11	106.71	106.75	106.93	107.17	108.14	111.93	113.19	110.98	107.11	106.83	106.78	106.66	
12	106.71	106.74	106.98	107.25	107.93	111.98	113.24	110.79	107.10	106.83	106.77	106.67	
13	106.71	106.74	107.09	107.32	107.84	112.08	113.28	110.61	107.10	106.84	106.76	106.67	
14	106.72	106.75	107.12	107.41	108.01	112.28	113.32	110.46	107.09	106.86	106.75	106.66	
15	106.72	106.75	107.15	107.43	108.11	112.47	113.32	110.29	107.08	106.87	106.75	106.64	
16	106.72	106.77	107.13	107.40	108.20	112.65	113.30	110.12	107.07	106.87	106.74	106.63	
17	106.73	106.79	107.10	107.32	108.24	112.81	113.27	109.96	107.05	106.87	106.73	106.60	
18	106.74	106.80	107.06	107.26	108.27	112.91	113.23	109.80	107.03	106.85	106.71	106.59	
19	106.74	106.81	107.03	107.20	108.31	112.94	113.18	109.63	107.03	106.84	106.71	106.58	
20	106.73	106.82	107.01	107.16	108.26	112.94	113.13	109.45	107.03	106.83	106.70	106.57	
21	106.73	106.84	107.00	107.18	108.19	112.92	113.07	109.20	107.03	106.82	106.69	106.57	
22	106.73	106.86	106.99	107.24	108.19	112.88	113.03	108.92	107.03	106.81	106.68	106.57	
23	106.72	106.85	106.98	107.28	108.33	112.82	112.98	108.61	107.03	106.80	106.67	106.57	
24	106.71	106.85	106.98	107.37	108.53	112.72	112.92	108.33	107.03	106.80	106.66	106.58	
25	106.71	106.85	106.99	107.50	108.69	112.62	112.86	108.13	107.03	106.79	106.66	106.58	
26	106.71	106.86	107.06	107.65	108.80	112.54	112.80	107.95	107.03	106.78	106.66	106.58	
27	106.71	106.88	107.19	107.73	108.92	112.49	112.73	107.80	107.02	106.78	106.66	106.59	
28	106.71	106.89	107.15	107.75	109.14	112.41	112.67	107.68	107.00	106.78	106.66	106.61	
29	106.72	106.89	107.10	107.73	109.40	112.34	112.60	107.58	106.98	106.78	106.66	106.67	
30	106.73	106.86	107.13	107.67	109.65	112.31	112.52	107.50	106.96	106.78		106.75	
31		106.86		107.61	109.96		112.42		106.87	106.77		106.80	
Mean	106.72	106.80	107.01	107.33	108.33	112.06	112.90	110.06	107.09	106.82	106.73	106.63	
Max	106.78	106.89	107.19	107.75	109.96	112.94	113.32	112.35	107.43	106.87	106.78	106.80	113.32
Min	106.70	106.74	106.86	107.08	107.53	110.17	112.36	107.50	106.87	106.77	106.66	106.57	106.57

Annual Max Momentary Gage Height 113.32 M (MSL), at 1.00 Hours, on Oct 15, 1991
Zero Gage at Bottom Elevation 105.00 M (MSL), River Bed 100.78 M (MSL)
Left Bank Elevation 120.28 M (MSL)
Right Bank Elevation 116.52 M (MSL), Drainage Area 106673 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	56.1	50.2	72.0	130.0	218.2	1170.0	2366.0	2630.0	269.0	113.0	96.1	67.1	
2	52.2	50.2	72.0	136.0	209.3	1235.0	2390.0	2570.0	248.0	110.6	98.5	64.7	
3	48.2	54.1	78.0	142.0	218.2	1265.0	2420.0	2504.0	230.0	108.2	98.5	62.2	
4	46.3	54.1	80.0	150.0	218.2	1400.0	2464.0	2438.0	212.0	105.7	96.1	62.2	
5	44.3	54.1	82.0	146.0	215.3	1596.0	2528.0	2360.0	197.6	110.6	96.1	62.2	
6	42.4	54.1	82.0	132.0	338.0	1750.0	2600.0	2270.0	187.9	115.4	96.1	62.2	
7	40.4	54.1	84.0	122.0	449.0	1860.0	2672.0	2186.0	183.1	115.4	96.1	62.2	
8	40.4	52.2	84.0	116.0	458.0	1959.0	2778.0	2102.0	183.1	115.4	98.5	62.2	
9	40.4	50.2	90.0	120.0	458.0	2024.0	2890.0	2010.5	183.1	113.0	98.5	64.7	
10	42.4	50.2	86.0	132.0	437.0	2078.0	2972.0	1922.5	178.3	113.0	98.5	67.1	
11	42.4	50.2	86.0	134.0	392.0	2108.0	3049.0	1829.0	178.3	110.6	98.5	69.5	
12	42.4	48.2	96.0	150.0	329.0	2138.0	3120.0	1724.5	175.8	110.6	96.1	71.9	
13	42.4	48.2	118.0	164.0	302.0	2198.0	3180.0	1625.5	175.8	113.0	93.7	71.9	
14	44.3	50.2	124.0	182.1	353.0	2318.0	3224.0	1543.0	173.4	117.8	91.3	69.5	
15	44.3	50.2	130.0	186.1	383.0	2432.0	3224.0	1449.5	171.0	120.3	91.3	64.7	
16	44.3	54.1	126.0	180.0	410.0	2560.0	3210.0	1360.0	168.6	120.3	88.8	62.2	
17	46.3	58.0	120.0	164.0	422.0	2688.0	3189.0	1280.0	163.8	120.3	86.4	55.0	
18	48.2	60.0	112.0	152.0	431.0	2769.0	3161.0	1200.0	158.9	115.4	81.6	53.0	
19	48.2	62.0	106.0	140.0	443.0	2796.0	3128.0	1115.0	158.9	113.0	81.6	51.0	
20	46.3	64.0	102.0	132.0	428.0	2796.0	3098.0	1032.5	158.9	110.6	79.2	49.0	
21	46.3	68.0	100.0	136.0	407.0	2778.0	3062.0	920.0	158.9	108.2	76.8	49.0	
22	46.3	72.0	98.0	148.0	407.0	2744.0	3038.0	798.0	158.9	105.7	74.3	49.0	
23	44.3	70.0	96.0	156.0	449.0	2696.0	3008.0	674.0	158.9	103.3	71.9	49.0	
24	42.4	70.0	96.0	174.0	509.0	2616.0	2972.0	571.4	158.9	103.3	69.5	51.0	
25	42.4	70.0	98.0	200.5	561.5	2536.0	2936.0	502.6	158.9	100.9	69.5	51.0	
26	42.4	72.0	112.0	245.0	600.0	2478.0	2900.0	440.6	158.9	98.5	69.5	51.0	
27	42.4	76.0	138.0	269.0	648.0	2444.0	2858.0	388.9	156.5	98.5	69.5	53.0	
28	42.4	78.0	130.0	275.0	736.0	2396.0	2822.0	347.6	151.7	98.5	69.5	57.4	
29	44.3	78.0	120.0	269.0	840.0	2354.0	2780.0	314.0	146.8	98.5	69.5	71.9	
30	46.3	72.0	126.0	251.0	940.0	2336.0	2732.0	290.0	142.0	98.5		91.3	
31		72.0		233.0	1072.0		2672.0		120.3	96.1		103.3	
Total	1341.7	1866.6	3044.0	5266.7	14281.7	66518.0	89443.0	42399.1	5426.2	3382.2	2501.5	1931.4	237402.1 CMSDAY
Mean	44.7	60.2	101.5	169.9	460.7	2217.3	2885.3	1413.3	175.0	109.1	86.3	62.3	648.6 CMS
Max	56.1	78.0	138.0	275.0	1072.0	2796.0	3224.0	2630.0	269.0	120.3	98.5	103.3	3224.0 CMS
Min	40.4	48.2	72.0	116.0	209.3	1170.0	2366.0	290.0	120.3	96.1	69.5	49.0	40.4 CMS
Runoff	115.92	161.27	263.00	455.04	1233.94	5747.16	7727.88	3663.28	468.82	292.22	216.13	166.87	20511.54 MCM

Momentary Peak 3224.00 CMS, at 113.32 M (MSL), at 1.00 Hours, on Oct 15, 1991
Runoff Yield 6.08 Liters/Second/Square KM, Momentary Peak Yield 30.22 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

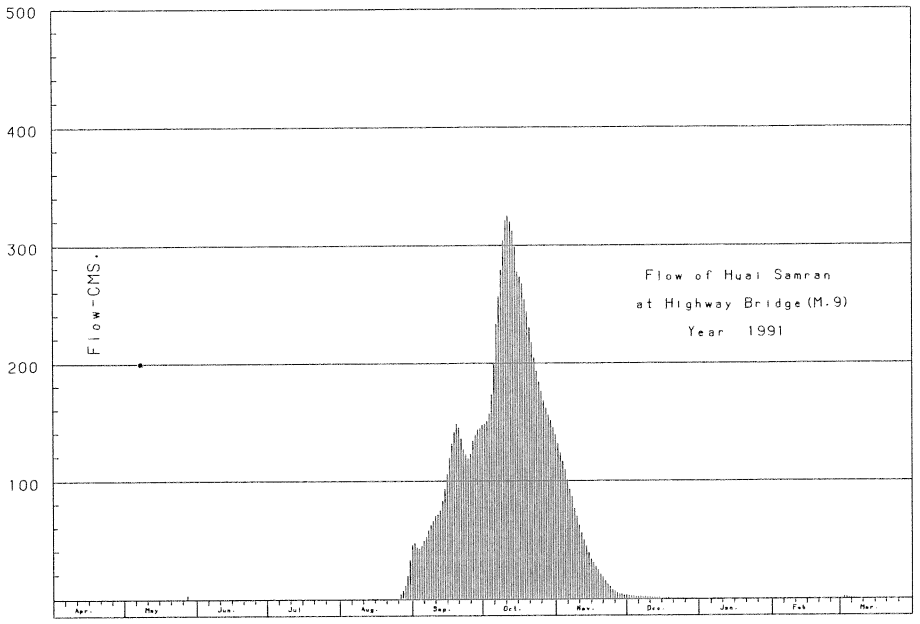
Huai Samran at Muang, Si Sa Ket (M.9)

Location	Lat. 15°-07'-00" N., Long. 104°-19'-20" E., on right bank at the bridge on highway, Amphoe Muang, Si Sa Ket.
Drainage Area	3,026 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+109.00 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank at the abutment of the bridge.
Elevation	+123.034 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1954 to date.
Rating Operation	
Period of Rating	1954, 1972 - 1981, 1987 to date.
Rated by Float	-
Rated by Current Meter	1954, 1972 - 1981, 1987 to date.
Stability of Channel Regimes	Unstable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 48 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	109.09	108.98	109.01	109.07	109.04	113.63	117.34	116.92	109.81	109.29	109.12	109.25	
2	109.09	108.97	108.98	109.03	109.06	113.44	117.38	116.69	109.79	109.29	109.13	109.57	
3	109.08	108.97	109.17	109.06	109.05	113.36	117.54	116.47	109.73	109.28	109.13	109.55	
4	109.05	108.97	109.18	109.02	109.09	113.52	117.86	116.22	109.69	109.27	109.13	109.49	
5	109.03	109.00	109.11	109.00	109.11	113.74	118.36	115.95	109.65	109.28	109.14	109.46	
6	109.03	108.99	109.08	109.01	109.13	113.95	118.87	115.66	109.62	109.29	109.16	109.38	
7	109.03	108.98	109.02	109.01	109.14	114.22	119.21	115.45	109.59	109.28	109.16	109.22	
8	109.06	108.98	109.01	109.01	109.24	114.47	119.53	115.04	109.62	109.29	109.17	109.17	
9	109.01	108.98	109.02	109.01	109.20	114.60	119.85	114.79	109.57	109.30	109.17	109.15	
10	109.01	109.00	109.05	109.01	109.16	114.78	120.06	114.44	109.57	109.25	109.15	109.14	
11	109.01	108.00	109.04	109.02	109.17	114.85	120.10	114.11	109.55	109.23	109.14	109.13	
12	109.01	108.99	109.05	109.12	109.24	114.97	120.05	113.81	109.55	109.24	109.14	109.13	
13	109.01	108.96	109.10	109.04	109.30	115.31	119.95	113.50	109.51	109.22	109.13	109.13	
14	109.01	108.95	109.11	109.03	109.29	115.67	119.79	113.19	109.51	109.21	109.13	109.13	
15	109.02	108.95	109.07	109.02	109.30	116.11	119.50	112.80	109.49	109.20	109.13	109.13	
16	109.02	108.96	109.02	109.01	109.30	116.57	119.45	112.56	109.48	109.20	109.13	109.13	
17	109.00	109.04	109.01	109.01	109.27	116.91	119.36	112.33	109.42	109.17	109.14	109.12	
18	109.00	109.11	109.02	109.01	109.27	117.18	119.18	112.08	109.41	109.16	109.14	109.12	
19	108.98	109.11	109.03	109.01	109.29	117.33	119.02	111.81	109.42	109.16	109.14	109.11	
20	108.99	109.03	109.02	109.01	109.31	117.26	118.83	111.59	109.45	109.17	109.14	109.15	
21	108.99	108.99	109.03	109.01	109.34	117.04	118.63	111.34	109.39	109.17	109.12	109.17	
22	109.00	108.97	109.06	109.01	109.30	116.78	118.43	111.06	109.39	109.18	109.11	109.16	
23	109.00	108.97	109.06	109.01	109.25	116.64	118.23	110.80	109.37	109.20	109.11	109.15	
24	108.99	108.96	109.05	109.03	109.28	116.55	118.08	110.56	109.36	109.19	109.11	109.16	
25	108.99	108.93	109.03	109.04	109.25	116.65	117.92	110.36	109.34	109.19	109.13	109.14	
26	108.99	108.94	109.02	109.04	110.01	116.97	117.76	110.18	109.34	109.18	109.13	109.13	
27	109.33	109.95	109.03	109.08	110.51	117.12	117.64	110.06	109.34	109.18	109.12	109.14	
28	109.29	109.06	109.02	109.08	110.95	117.22	117.51	109.98	109.34	109.16	109.13	109.14	
29	109.14	109.02	109.21	109.07	111.68	117.26	117.40	109.92	109.32	109.16	109.21	109.13	
30	109.00	108.99	109.26	109.05	112.76	117.31	117.27	109.87	109.32	109.15		109.13	
31		108.98		109.05	113.57		117.11		109.31	109.14		109.13	
Mean	109.04	108.99	109.06	109.03	109.67	115.71	118.62	112.98	109.49	109.22	109.14	109.20	
Max	109.33	109.95	109.26	109.12	113.57	117.33	120.10	116.92	109.81	109.30	109.21	109.57	120.10
Min	108.98	108.00	108.98	109.00	109.04	113.36	117.11	109.87	109.31	109.14	109.11	109.11	108.00

Annual Max Momentary Gage Height 120.12 M (MSL), at 15.00 Hours, on Oct 11, 1991
Zero Gage at Bottom Elevation 109.00 M (MSL), River Bed 109.01 M (MSL)
Left Bank Elevation 121.56 M (MSL)
Right Bank Elevation 123.38 M (MSL), Drainage Area 3026 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.14	0.08	0.11	0.14	0.12	47.14	148.56	132.04	2.85	0.47	0.16	0.35	
2	0.14	0.07	0.08	0.11	0.13	43.78	150.32	123.97	2.75	0.47	0.16	1.65	
3	0.14	0.07	0.19	0.13	0.13	42.46	157.50	117.00	2.45	0.44	0.16	1.55	
4	0.13	0.07	0.19	0.11	0.14	45.16	173.00	109.50	2.25	0.41	0.16	1.25	
5	0.11	0.10	0.16	0.10	0.16	49.12	200.60	101.40	2.05	0.44	0.17	1.10	
6	0.11	0.09	0.14	0.11	0.16	53.05	233.29	92.88	1.90	0.47	0.18	0.74	
7	0.11	0.08	0.11	0.11	0.17	58.18	256.41	87.15	1.75	0.44	0.18	0.26	
8	0.13	0.08	0.11	0.11	0.32	63.10	279.42	76.50	1.90	0.47	0.19	0.19	
9	0.11	0.08	0.11	0.11	0.20	66.00	304.00	70.46	1.65	0.50	0.19	0.18	
10	0.11	0.10	0.13	0.11	0.18	70.22	321.40	62.50	1.65	0.35	0.18	0.17	
11	0.11	0.00	0.12	0.11	0.19	71.90	325.00	56.09	1.55	0.29	0.17	0.16	
12	0.11	0.09	0.13	0.16	0.32	74.78	320.50	50.39	1.55	0.32	0.17	0.16	
13	0.11	0.06	0.15	0.12	0.50	83.37	312.00	44.80	1.35	0.26	0.16	0.16	
14	0.11	0.05	0.16	0.11	0.47	93.16	299.20	39.74	1.35	0.23	0.16	0.16	
15	0.11	0.05	0.14	0.11	0.50	106.20	277.20	33.90	1.25	0.20	0.16	0.16	
16	0.11	0.06	0.11	0.11	0.50	120.07	273.60	30.68	1.20	0.20	0.16	0.16	
17	0.10	0.12	0.11	0.11	0.41	131.67	267.12	27.69	0.90	0.19	0.17	0.16	
18	0.10	0.16	0.11	0.11	0.41	141.84	254.33	24.44	0.85	0.18	0.17	0.16	
19	0.08	0.16	0.11	0.11	0.47	148.12	243.37	21.12	0.90	0.18	0.17	0.16	
20	0.09	0.11	0.11	0.11	0.53	145.12	230.61	18.49	1.05	0.19	0.17	0.18	
21	0.09	0.09	0.11	0.11	0.62	136.52	217.45	15.74	0.77	0.19	0.16	0.19	
22	0.10	0.07	0.13	0.11	0.50	127.10	204.80	12.90	0.77	0.19	0.16	0.18	
23	0.10	0.07	0.13	0.11	0.35	122.32	192.94	10.30	0.71	0.20	0.16	0.18	
24	0.09	0.06	0.13	0.11	0.44	119.45	184.48	8.04	0.68	0.20	0.16	0.18	
25	0.09	0.03	0.11	0.12	0.35	122.65	176.00	6.28	0.62	0.20	0.16	0.17	
26	0.09	0.04	0.11	0.12	3.96	133.89	168.00	4.98	0.62	0.19	0.16	0.16	
27	0.59	3.60	0.11	0.14	7.59	139.56	162.12	4.26	0.62	0.19	0.16	0.17	
28	0.47	0.13	0.11	0.14	11.80	143.44	156.15	3.78	0.62	0.18	0.16	0.17	
29	0.17	0.11	0.23	0.14	19.56	145.12	151.20	3.42	0.56	0.18	0.23	0.16	
30	0.10	0.09	0.38	0.13	33.34	147.24	145.54	3.15	0.56	0.18		0.16	
31		0.08		0.13	46.06		139.18		0.53	0.17		0.16	
Total	4.15	6.05	4.13	3.66	130.58	2991.73	6925.29	1393.59	40.21	8.77	4.90	10.94	11524.00 CMSDAY
Mean	0.14	0.20	0.14	0.12	4.21	99.72	223.40	46.45	1.30	0.28	0.17	0.35	31.49 CMS
Max	0.59	3.60	0.38	0.16	46.06	148.12	325.00	132.04	2.85	0.50	0.23	1.65	325.00 CMS
Min	0.08	0.00	0.08	0.10	0.12	42.46	139.18	3.15	0.53	0.17	0.16	0.16	0.00 CMS
Runoff	0.359	0.523	0.357	0.316	11.282	258.485	598.345	120.406	3.474	0.758	0.423	0.945	995.674 MCM

Momentary Peak 326.80 CMS, at 120.12 M (MSL), at 15.00 Hours, on Oct 11, 1991
Runoff Yield 10.41 Liters/Second/Square KM, Momentary Peak Yield 108.00 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

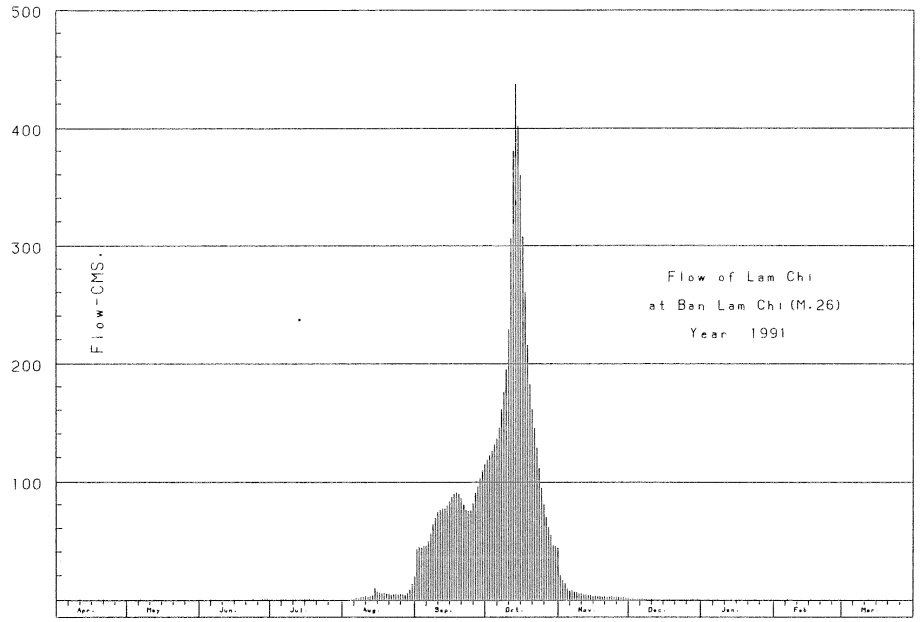
Lam Chi at Ban Lam Chi, Surin (M.26)

Location	Lat. 14°-54'-03" N., Long. 103°-24'-21" E., on left bank at railway bridge, Ban Lam Chi, Amphoe Muang, Surin.
Drainage Area	2,927 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+127.00 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	Near the automatic gage building.
Elevation	+135.010 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1954 to date.
Rating Operation	
Period of Rating	1967-1968, 1978 to date.
Rated by Float	-
Rated by Current Meter	1967-1968, 1978 to date.
Stability of Channel Regimes	Rather unstable because of backwater effect.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 71 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	127.44	127.46	127.53	127.57	127.53	130.67	135.10	130.26	127.74	127.68	127.53	127.53	
2	127.44	127.46	127.53	127.60	127.59	131.04	135.18	129.86	127.68	127.68	127.54	127.46	
3	127.44	127.45	127.53	127.71	127.60	131.13	135.27	129.64	127.68	127.68	127.53	127.45	
4	127.44	127.48	127.53	127.71	127.58	131.51	135.36	129.14	127.69	127.65	127.52	127.45	
5	127.44	127.50	127.54	127.70	127.66	131.79	135.45	128.98	127.69	127.55	127.50	127.45	
6	127.44	127.50	127.54	127.68	127.83	132.17	135.59	128.97	127.71	127.52	127.55	127.45	
7	127.45	127.50	127.54	127.61	127.84	132.59	135.78	128.89	127.72	127.53	127.66	127.45	
8	127.46	127.48	127.51	127.69	128.02	132.98	135.94	128.80	127.68	127.53	127.54	127.46	
9	127.51	127.47	127.51	127.73	128.16	133.29	136.11	128.70	127.68	127.53	127.54	127.45	
10	127.51	127.54	127.51	127.64	128.20	133.53	136.39	128.64	127.66	127.53	127.54	127.46	
11	127.52	127.50	127.50	127.59	128.10	133.63	136.84	128.59	127.63	127.52	127.59	127.46	
12	127.51	127.51	127.50	127.69	128.15	133.68	137.14	128.53	127.60	127.55	127.58	127.46	
13	127.50	127.55	127.51	127.68	128.43	133.69	137.30	128.48	127.57	127.54	127.58	127.49	
14	127.50	127.51	127.54	127.72	129.26	133.78	137.21	128.40	127.54	127.55	127.54	127.51	
15	127.50	127.48	127.54	127.72	128.91	133.95	137.06	128.33	127.51	127.54	127.51	127.49	
16	127.50	127.50	127.54	127.72	128.76	134.08	136.85	128.26	127.52	127.53	127.49	127.48	
17	127.54	127.50	127.52	127.72	128.75	134.20	136.59	128.20	127.53	127.53	127.50	127.48	
18	127.61	127.51	127.51	127.71	128.73	134.23	136.29	128.18	127.54	127.52	127.51	127.49	
19	127.56	127.53	127.52	127.63	128.71	134.20	136.00	128.15	127.55	127.55	127.51	127.49	
20	127.57	127.53	127.56	127.60	128.59	134.04	135.78	128.12	127.60	127.54	127.51	127.49	
21	127.55	127.50	127.62	127.63	128.50	133.83	135.58	128.15	127.65	127.54	127.53	127.49	
22	127.46	127.50	127.59	127.60	128.61	133.64	135.32	128.15	127.65	127.54	127.58	127.47	
23	127.44	127.49	127.67	127.56	128.63	133.58	134.92	128.15	127.64	127.54	127.56	127.46	
24	127.44	127.54	127.68	127.56	128.60	133.63	134.39	128.11	127.65	127.55	127.57	127.46	
25	127.46	127.60	127.68	127.56	128.56	133.86	133.83	128.06	127.66	127.57	127.58	127.47	
26	127.44	127.50	127.68	127.55	128.51	134.22	133.34	128.01	127.66	127.56	127.59	127.47	
27	127.45	127.50	127.77	127.58	128.49	134.45	132.90	127.98	127.67	127.58	127.52	127.47	
28	127.46	127.49	127.77	127.51	128.71	134.68	132.50	127.97	127.66	127.60	127.52	127.47	
29	127.45	127.46	127.76	127.51	129.07	134.87	132.00	127.95	127.66	127.57	127.54	127.45	
30	127.44	127.46	127.65	127.51	129.54	134.99	131.43	127.85	127.67	127.54		127.44	
31		127.57		127.55	130.16		130.87		127.67	127.54		127.44	
Mean	127.48	127.50	127.58	127.63	128.44	133.40	135.17	128.52	127.64	127.56	127.54	127.47	
Max	127.61	127.60	127.77	127.73	130.16	134.99	137.30	130.26	127.74	127.68	127.66	127.53	137.30
Min	127.44	127.45	127.50	127.51	127.53	130.67	130.87	127.85	127.51	127.52	127.49	127.44	127.44

Annual Max Momentary Gage Height 137.32 M (MSL), at 9.00 Hours, on Oct 13, 1991
Zero Gage at Bottom Elevation 127.00 M (MSL), River Bed 127.06 M (MSL)
Left Bank Elevation 138.73 M (MSL)
Right Bank Elevation 138.74 M (MSL), Drainage Area 2927 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.16	0.24	0.52	0.68	0.52	43.37	119.00	21.32	1.36	1.12	0.52	0.52	
2	0.16	0.24	0.52	0.80	0.76	44.30	122.20	16.66	1.12	1.12	0.56	0.24	
3	0.16	0.20	0.52	1.24	0.80	44.53	126.50	14.40	1.12	1.12	0.52	0.20	
4	0.16	0.32	0.52	1.24	0.72	45.47	131.60	9.56	1.16	1.00	0.48	0.20	
5	0.16	0.40	0.56	1.20	1.04	46.17	137.00	8.12	1.16	0.60	0.40	0.20	
6	0.16	0.40	0.56	1.12	1.72	49.42	146.30	8.03	1.24	0.48	0.60	0.20	
7	0.20	0.40	0.56	0.84	1.76	56.62	161.40	7.31	1.28	0.52	1.04	0.20	
8	0.24	0.32	0.44	1.16	2.48	63.72	176.40	6.50	1.12	0.52	0.56	0.24	
9	0.44	0.28	0.44	1.32	3.04	69.61	195.10	5.70	1.12	0.52	0.56	0.20	
10	0.44	0.56	0.44	0.96	3.20	74.20	229.60	5.28	1.04	0.52	0.56	0.24	
11	0.48	0.40	0.40	0.76	2.80	76.26	306.20	4.95	0.92	0.48	0.76	0.24	
12	0.44	0.44	0.40	1.16	3.00	77.36	381.20	4.65	0.80	0.60	0.72	0.24	
13	0.40	0.60	0.44	1.12	4.15	77.58	438.00	4.40	0.68	0.56	0.72	0.36	
14	0.40	0.44	0.56	1.28	10.64	79.72	402.00	4.00	0.56	0.60	0.56	0.44	
15	0.40	0.32	0.56	1.28	7.49	83.80	360.00	3.72	0.44	0.56	0.44	0.36	
16	0.40	0.40	0.56	1.28	6.18	87.00	308.50	3.44	0.48	0.52	0.36	0.32	
17	0.56	0.40	0.48	1.28	6.10	90.00	261.40	3.20	0.52	0.52	0.40	0.32	
18	0.84	0.44	0.44	1.24	5.94	90.75	215.80	3.12	0.56	0.48	0.44	0.36	
19	0.64	0.52	0.48	0.92	5.78	90.00	183.00	3.00	0.60	0.60	0.44	0.36	
20	0.68	0.52	0.64	0.80	4.95	86.00	161.40	2.88	0.80	0.56	0.44	0.36	
21	0.60	0.40	0.88	0.92	4.50	80.92	145.60	3.00	1.00	0.56	0.52	0.36	
22	0.24	0.40	0.76	0.80	5.07	76.48	129.20	3.00	1.00	0.56	0.72	0.28	
23	0.16	0.36	1.08	0.64	5.21	75.20	111.80	3.00	0.96	0.56	0.64	0.24	
24	0.16	0.56	1.12	0.64	5.00	76.26	94.75	2.84	1.00	0.60	0.68	0.24	
25	0.24	0.80	1.12	0.64	4.80	81.64	80.92	2.64	1.04	0.68	0.72	0.28	
26	0.16	0.40	1.12	0.60	4.55	90.50	70.56	2.44	1.04	0.64	0.76	0.28	
27	0.20	0.40	1.48	0.72	4.45	96.50	62.20	2.32	1.08	0.72	0.48	0.28	
28	0.24	0.36	1.48	0.44	5.78	103.40	55.00	2.28	1.04	0.80	0.48	0.28	
29	0.20	0.24	1.44	0.44	8.93	109.80	46.70	2.20	1.04	0.68	0.56	0.20	
30	0.16	0.24	1.00	0.44	13.40	114.60	45.27	1.80	1.08	0.56		0.16	
31		0.68		0.60	20.12		43.87		1.08	0.56		0.16	
Total	9.88	12.68	21.52	28.56	154.88	2281.18	5448.47	165.76	29.44	19.92	16.64	8.56	8197.49 CMSDAY
Mean	0.33	0.41	0.72	0.92	5.00	76.04	175.76	5.53	0.95	0.64	0.57	0.28	22.40 CMS
Max	0.84	0.80	1.48	1.32	20.12	114.60	438.00	21.32	1.36	1.12	1.04	0.52	438.00 CMS
Min	0.16	0.20	0.40	0.44	0.52	43.37	43.87	1.80	0.44	0.48	0.36	0.16	0.16 CMS
Runoff	0.854	1.096	1.859	2.468	13.382	197.094	470.748	14.322	2.544	1.721	1.438	0.740	708.263 MCM

Momentary Peak 446.40 CMS, at 137.32 M (MSL), at 9.00 Hours, on Oct 13, 1991

Runoff Yield 7.65 Liters/Second/Square KM, Momentary Peak Yield 152.51 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

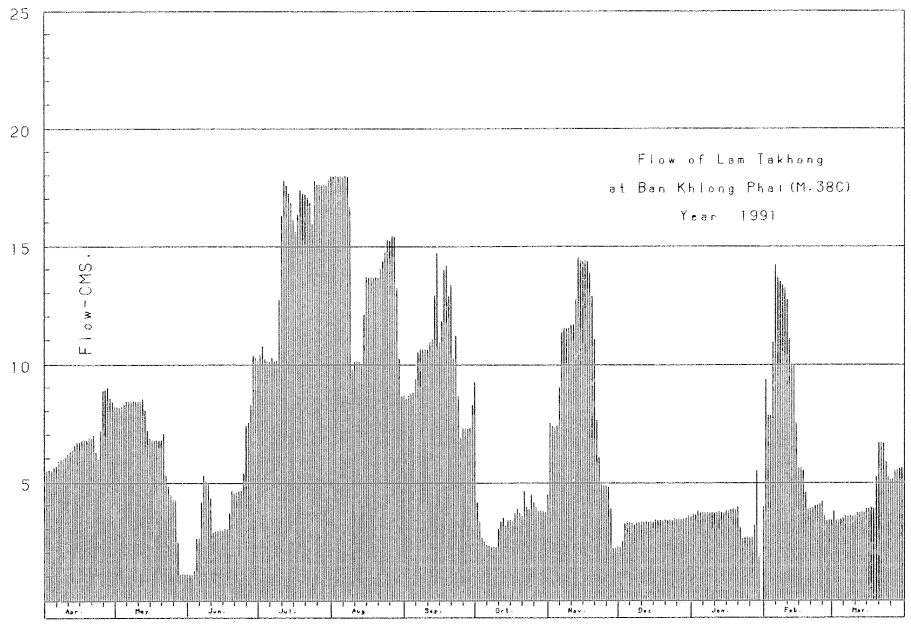
Lam Takhong at Ban Khlong Phai, Nakhon Ratchasima (M.38C)

Location	Lat. 14°-52'-06" N., Long. 101°-33'-53" E., on left bank about 500 meters downstream from Lam Takhong Dam, Tambon Khlong Phai, Amphoe Sikhiu, Nakhon Ratchasima.
Drainage Area	1,292 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+242.00 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 20 meters from the measuring line.
Elevation	+251.841 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1962 to date.
Rating Operation	
Period of Rating	1962-1965, 1967 - 1974, 1979 - 1981, 1983 to date.
Rated by Float	-
Rated by Current Meter	1962-1965, 1967 - 1974, 1979 - 1981, 1983 to date.
Stability of Channel Regimes	Fairly stable with variable water surface slope.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Flow regulated by Lam Takhong Reservoir diverted for irrigation of about 62,080 hectares. Stage-discharge relation defined by 36 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	245.24	245.50	244.56	245.68	246.14	245.53	245.08	245.44	244.78	245.01	245.60	245.03	
2	245.24	245.50	244.55	245.71	246.14	245.54	244.96	245.43	244.82	245.01	245.47	244.97	
3	245.24	245.50	244.60	245.67	246.14	245.55	244.85	245.42	244.95	245.03	245.47	244.97	
4	245.25	245.51	244.84	245.66	246.14	245.55	244.82	245.43	244.95	245.02	245.72	244.98	
5	245.26	245.52	244.84	245.66	246.14	245.60	244.80	245.57	244.96	245.02	245.93	244.99	
6	245.28	245.52	245.08	245.67	246.14	245.69	244.79	245.75	244.95	245.02	245.90	245.00	
7	245.29	245.52	245.22	245.66	246.14	245.70	244.78	245.76	244.94	245.02	245.89	245.00	
8	245.29	245.52	245.19	245.66	246.07	245.70	244.78	245.76	244.95	245.02	245.88	245.00	
9	245.30	245.52	245.18	245.84	245.63	245.70	244.78	245.76	244.96	245.02	245.87	245.00	
10	245.31	245.52	245.10	246.05	245.66	245.70	244.91	245.77	244.96	245.02	245.84	245.00	
11	245.32	245.52	244.89	246.13	245.66	245.72	244.96	245.77	244.96	245.02	245.73	245.02	
12	245.33	245.53	244.89	246.12	245.66	245.73	244.99	245.84	244.96	245.03	245.65	245.02	
13	245.35	245.49	244.90	246.10	245.65	245.85	244.93	245.95	244.96	245.02	245.65	245.02	
14	245.36	245.41	244.90	246.08	245.80	245.96	244.97	245.94	244.96	245.02	245.44	245.02	
15	245.36	245.38	244.90	246.04	245.90	245.72	244.97	245.94	244.96	245.03	245.25	245.04	
16	245.37	245.37	244.91	246.01	245.90	245.78	244.96	245.94	244.97	245.03	245.25	245.04	
17	245.37	245.37	244.91	246.05	245.90	245.92	245.02	245.94	244.97	245.04	245.24	245.05	
18	245.37	245.37	245.02	246.11	245.90	245.93	245.04	245.91	244.97	245.04	245.13	245.04	
19	245.38	245.37	245.14	246.10	245.90	245.85	245.02	245.85	244.97	245.04	245.04	245.21	
20	245.38	245.37	245.13	246.10	245.90	245.88	245.00	245.73	244.97	245.05	245.04	245.36	
21	245.39	245.40	245.13	246.09	245.92	245.67	245.14	245.45	244.97	244.92	245.05	245.36	
22	245.32	245.22	245.14	246.08	245.94	245.74	245.05	245.30	244.97	244.84	245.06	245.36	
23	245.29	245.16	245.14	246.03	245.96	245.54	245.04	245.18	244.97	244.85	245.06	245.28	
24	245.41	245.12	245.23	246.13	245.99	245.38	245.12	245.17	244.98	244.85	245.07	245.21	
25	245.56	245.09	245.43	246.12	245.99	245.42	245.08	245.17	244.98	244.85	245.08	245.20	
26	245.56	245.09	245.44	246.12	246.00	245.42	245.05	245.16	244.98	244.85	245.00	245.20	
27	245.57	244.82	245.51	246.12	246.00	245.42	245.03	245.04	244.98	244.94	244.97	245.24	
28	245.53	244.56	245.68	246.12	245.87	245.42	245.03	244.77	244.98	245.24	244.97	245.24	
29	245.52	244.56	245.67	246.12	245.67	245.51	245.03	244.77	244.99	244.71	244.97	245.25	
30	245.50	244.56	245.66	246.13	245.54	245.59	245.02	244.78	245.00	244.16		245.26	
31		244.56		246.14	245.54		245.12		245.00	245.05		245.26	
Mean	245.36	245.27	245.09	245.98	245.90	245.66	244.97	245.52	244.96	244.96	245.39	245.12	
Max	245.57	245.53	245.68	246.14	246.14	245.96	245.14	245.95	245.00	245.24	245.93	245.36	246.14
Min	245.24	244.56	244.55	245.66	245.54	245.38	244.78	244.77	244.78	244.16	244.97	244.97	244.16

Annual Max Momentary Gage Height 246.23 M (MSL), at 18.00 Hours, on Sep 20, 1991
Zero Gage at Bottom Elevation 242.00 M (MSL), River Bed 243.57 M (MSL)
Left Bank Elevation 251.61 M (MSL)
Right Bank Elevation 253.08 M (MSL), Drainage Area 1292 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	5.53	8.20	1.14	10.40	17.99	8.56	4.20	7.54	2.29	3.67	9.40	3.82	
2	5.53	8.20	1.10	10.80	17.99	8.68	3.36	7.43	2.52	3.67	7.87	3.42	
3	5.53	8.20	1.30	10.27	17.99	8.80	2.70	7.32	3.30	3.82	7.87	3.42	
4	5.63	8.32	2.64	10.15	17.99	8.80	2.52	7.43	3.30	3.75	10.95	3.48	
5	5.72	8.44	2.64	10.15	17.99	9.40	2.40	9.04	3.36	3.75	14.22	3.54	
6	5.91	8.44	4.20	10.27	17.99	10.53	2.34	11.40	3.30	3.75	13.70	3.60	
7	6.00	8.44	5.34	10.15	17.99	10.65	2.29	11.55	3.24	3.75	13.55	3.60	
8	6.00	8.44	5.07	10.15	16.71	10.65	2.29	11.55	3.30	3.75	13.39	3.60	
9	6.10	8.44	4.99	12.77	9.78	10.65	2.29	11.55	3.36	3.75	13.23	3.60	
10	6.20	8.44	4.35	16.35	10.15	10.65	3.06	11.70	3.36	3.75	12.77	3.60	
11	6.30	8.44	2.94	17.81	10.15	10.95	3.36	11.70	3.36	3.75	11.10	3.75	
12	6.40	8.56	2.94	17.62	10.15	11.10	3.54	12.77	3.36	3.82	10.02	3.75	
13	6.60	8.09	3.00	17.25	10.02	12.93	3.18	14.57	3.36	3.75	10.02	3.75	
14	6.70	7.21	3.00	16.89	12.15	14.75	3.42	14.40	3.36	3.75	7.54	3.75	
15	6.70	6.90	3.00	16.17	13.70	10.95	3.42	14.40	3.36	3.82	5.63	3.90	
16	6.80	6.80	3.06	15.63	13.70	11.85	3.36	14.40	3.42	3.82	5.63	3.90	
17	6.80	6.80	3.06	16.35	13.70	14.05	3.75	14.40	3.42	3.90	5.53	3.98	
18	6.80	6.80	3.75	17.43	13.70	14.22	3.90	13.88	3.42	3.90	4.59	3.90	
19	6.90	6.80	4.67	17.25	13.70	12.93	3.75	12.93	3.42	3.90	3.90	5.25	
20	6.90	6.80	4.59	17.25	13.70	13.39	3.60	11.10	3.42	3.98	3.90	6.70	
21	7.00	7.10	4.59	17.07	14.05	10.27	4.67	7.65	3.42	3.12	3.98	6.70	
22	6.30	5.34	4.67	16.89	14.40	11.25	3.98	6.10	3.42	2.64	4.05	6.70	
23	6.00	4.83	4.67	15.99	14.75	8.68	3.90	4.99	3.42	2.70	4.05	5.91	
24	7.21	4.51	5.43	17.81	15.28	6.90	4.51	4.91	3.48	2.70	4.13	5.25	
25	8.92	4.27	7.43	17.62	15.28	7.32	4.20	4.91	3.48	2.70	4.20	5.15	
26	8.92	4.27	7.54	17.62	15.45	7.32	3.98	4.83	3.48	2.70	3.60	5.15	
27	9.04	2.52	8.32	17.62	15.45	7.32	3.82	3.90	3.48	3.24	3.42	5.53	
28	8.56	1.14	10.40	17.62	13.23	7.32	3.82	2.24	3.48	5.53	3.42	5.53	
29	8.44	1.14	10.27	17.62	10.27	8.32	3.82	2.24	3.54	1.91	3.42	5.63	
30	8.20	1.14	10.15	17.81	8.68	9.28	3.75	2.29	3.60	0.02		5.72	
31		1.14		17.99	8.68		4.51		3.60	3.98		5.72	
Total	203.64	194.16	140.25	472.77	432.76	308.47	107.69	275.12	103.63	107.04	219.08	141.30	2705.91 CMSDAY
Mean	6.79	6.26	4.68	15.25	13.96	10.28	3.47	9.17	3.34	3.45	7.55	4.56	7.39 CMS
Max	9.04	8.56	10.40	17.99	17.99	14.75	4.67	14.57	3.60	5.53	14.22	6.70	17.99 CMS
Min	5.53	1.14	1.10	10.15	8.68	6.90	2.29	2.24	2.29	0.02	3.42	3.42	0.02 CMS
Runoff	17.594	16.775	12.118	40.847	37.390	26.652	9.304	23.770	8.954	9.248	18.929	12.208	233.791 MCM

Momentary Peak 19.67 CMS, at 246.23 M (MSL), at 18.00 Hours, on Sep 20, 1991

Runoff Yield 5.72 Liters/Second/Square KM, Momentary Peak Yield 15.22 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

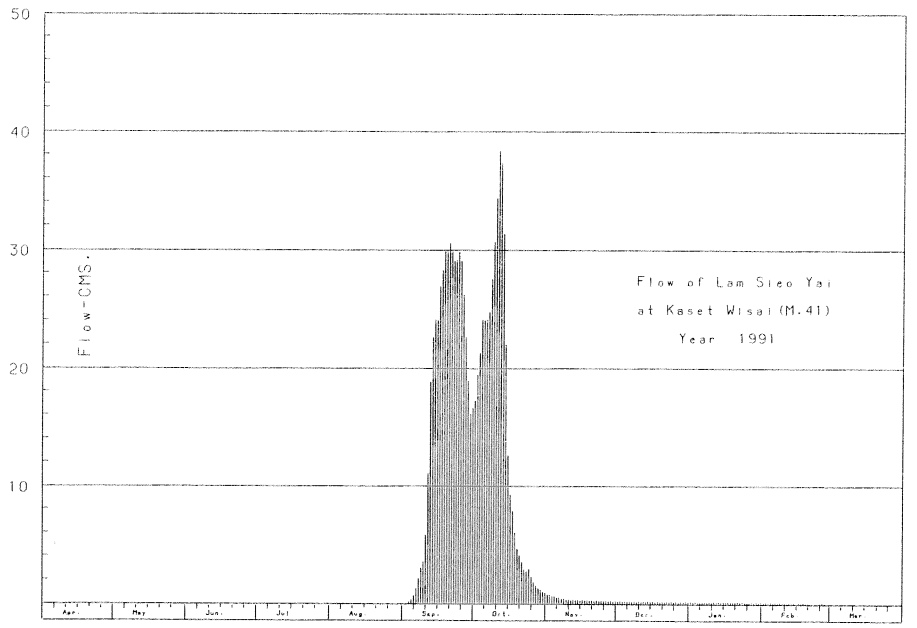
Lam Sieo Yai at Kaset Wisai, Roi Et (M.41)

Location	Lat. 15°38'46" N., Long. 103°33'55" E., on left bank at Tambon Kaset Wisai, Amphoe Kaset Wisai, Roi Et.
Drainage Area	1,310 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+125.30 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank at the automatic gage building.
Elevation	+128.419 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1971 to date.
Rating Operation	
Period of Rating	1971-1974, 1983 to date.
Rated by Float	-
Rated by Current Meter	1971-1974, 1983 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Record: fair. Stage-discharge relation defined by 25 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	125.88	125.70	125.70	125.85	125.73	125.62	127.94	126.91	126.48	126.35	126.24	126.06	
2	125.87	125.69	125.70	125.84	125.72	125.87	127.98	126.89	126.47	126.34	126.24	126.06	
3	125.86	125.69	125.77	125.84	125.71	126.29	128.01	126.86	126.46	126.31	126.24	126.06	
4	125.85	125.69	125.81	125.84	125.69	126.64	128.05	126.83	126.45	126.31	126.23	126.06	
5	125.85	125.70	125.81	125.83	125.67	126.88	128.05	126.80	126.45	126.30	126.22	126.05	
6	125.85	125.69	125.81	125.81	125.69	127.05	128.05	126.78	126.44	126.30	126.23	126.02	
7	125.85	125.67	125.82	125.80	125.67	127.19	128.06	126.75	126.44	126.30	126.22	126.03	
8	125.84	125.67	125.88	125.79	125.66	127.31	128.10	126.73	126.43	126.30	126.22	126.03	
9	125.83	125.72	125.90	125.78	125.65	127.36	128.14	126.71	126.41	126.31	126.22	126.02	
10	125.83	125.72	125.90	125.76	125.63	127.55	128.19	126.69	126.40	126.32	126.21	126.03	
11	125.83	125.72	125.90	125.75	125.61	127.80	128.23	126.67	126.40	126.33	126.21	126.03	
12	125.81	125.71	125.89	125.73	125.61	127.97	128.22	126.66	126.39	126.32	126.21	126.04	
13	125.81	125.71	125.89	125.72	125.60	128.03	128.15	126.65	126.39	126.32	126.22	126.00	
14	125.81	125.70	125.88	125.71	125.59	128.05	128.02	126.65	126.39	126.33	126.20	125.99	
15	125.80	125.70	125.88	125.70	125.58	128.05	127.84	126.64	126.39	126.33	126.19	126.00	
16	125.80	125.70	125.87	125.70	125.56	128.09	127.73	126.63	126.39	126.32	126.20	126.00	
17	125.77	125.69	125.86	125.68	125.55	128.11	127.67	126.62	126.38	126.30	126.19	126.00	
18	125.76	125.69	125.85	125.67	125.58	128.13	127.56	126.61	126.38	126.31	126.20	125.99	
19	125.75	125.68	125.84	125.66	125.59	128.13	127.46	126.59	126.38	126.31	126.19	125.97	
20	125.75	125.68	125.84	125.64	125.60	128.14	127.41	126.59	126.37	126.32	126.17	125.95	
21	125.75	125.70	125.83	125.63	125.57	128.13	127.36	126.58	126.36	126.33	126.15	125.94	
22	125.74	125.69	125.82	125.62	125.53	128.12	127.29	126.57	126.37	126.33	126.15	125.92	
23	125.74	125.69	125.81	125.61	125.53	128.12	127.27	126.56	126.37	126.31	126.15	125.92	
24	125.73	125.69	125.82	125.70	125.52	128.13	127.30	126.55	126.37	126.26	126.15	125.92	
25	125.72	125.70	125.82	125.70	125.51	128.12	127.22	126.54	126.35	126.25	126.16	125.93	
26	125.71	125.69	125.86	125.75	125.51	128.08	127.15	126.52	126.34	126.25	126.16	125.94	
27	125.71	125.71	125.86	125.76	125.51	128.03	127.09	126.51	126.34	126.25	126.15	125.95	
28	125.71	125.72	125.86	125.76	125.53	127.97	127.05	126.51	126.34	126.26	126.07	125.95	
29	125.71	125.72	125.86	125.76	125.56	127.92	127.02	126.49	126.35	126.25	126.06	125.95	
30	125.70	125.71	125.86	125.75	125.60	127.93	126.98	126.48	126.35	126.26		125.95	
31		125.71		125.74	125.61		126.94		126.36	126.24		125.93	
Mean	125.79	125.70	125.84	125.74	125.60	127.63	127.66	126.65	126.39	126.30	126.19	125.99	
Max	125.88	125.72	125.90	125.85	125.73	128.14	128.23	126.91	126.48	126.35	126.24	126.06	128.23
Min	125.70	125.67	125.70	125.61	125.51	125.62	126.94	126.48	126.34	126.24	126.06	125.92	125.51

Annual Max Momentary Gage Height 128.24 M (MSL), at 18.00 Hours, on Oct 11, 1991
Zero Gage at Bottom Elevation 125.30 M (MSL), River Bed 125.10 M (MSL)
Left Bank Elevation 128.88 M (MSL)
Right Bank Elevation 128.75 M (MSL), Drainage Area 1310 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.04	0.00	0.00	0.03	0.01	0.00	17.24	0.84	0.27	0.22	0.18	0.10	
2	0.03	0.00	0.00	0.03	0.00	0.03	19.48	0.78	0.27	0.22	0.18	0.10	
3	0.03	0.00	0.01	0.03	0.00	0.20	21.30	0.72	0.26	0.20	0.18	0.10	
4	0.03	0.00	0.02	0.03	0.00	0.36	24.10	0.66	0.26	0.20	0.17	0.10	
5	0.03	0.00	0.02	0.03	0.00	0.76	24.10	0.60	0.26	0.20	0.17	0.10	
6	0.03	0.00	0.02	0.02	0.00	1.38	24.10	0.56	0.26	0.20	0.17	0.09	
7	0.03	0.00	0.02	0.02	0.00	2.14	24.80	0.50	0.26	0.20	0.17	0.09	
8	0.03	0.00	0.04	0.02	0.00	3.10	27.60	0.46	0.25	0.20	0.17	0.09	
9	0.03	0.00	0.04	0.02	0.00	3.60	30.64	0.42	0.24	0.20	0.17	0.09	
10	0.03	0.00	0.04	0.01	0.00	5.90	34.44	0.39	0.24	0.21	0.16	0.09	
11	0.03	0.00	0.04	0.01	0.00	11.10	38.44	0.38	0.24	0.21	0.16	0.09	
12	0.02	0.00	0.04	0.01	0.00	18.92	37.36	0.38	0.24	0.21	0.16	0.10	
13	0.02	0.00	0.04	0.00	0.00	22.70	31.40	0.37	0.24	0.21	0.17	0.08	
14	0.02	0.00	0.04	0.00	0.00	24.10	22.00	0.37	0.24	0.21	0.16	0.08	
15	0.02	0.00	0.04	0.00	0.00	24.10	12.66	0.36	0.24	0.21	0.16	0.08	
16	0.02	0.00	0.03	0.00	0.00	26.90	9.28	0.36	0.24	0.21	0.16	0.08	
17	0.01	0.00	0.03	0.00	0.00	28.36	7.93	0.35	0.23	0.20	0.16	0.08	
18	0.01	0.00	0.03	0.00	0.00	29.88	6.04	0.35	0.23	0.20	0.16	0.08	
19	0.01	0.00	0.03	0.00	0.00	29.88	4.72	0.33	0.23	0.20	0.16	0.07	
20	0.01	0.00	0.03	0.00	0.00	30.64	4.12	0.33	0.23	0.21	0.15	0.06	
21	0.01	0.00	0.03	0.00	0.00	29.88	3.60	0.33	0.22	0.21	0.14	0.06	
22	0.01	0.00	0.02	0.00	0.00	29.12	2.92	0.32	0.23	0.21	0.14	0.05	
23	0.01	0.00	0.02	0.00	0.00	29.12	2.76	0.32	0.23	0.20	0.14	0.05	
24	0.01	0.00	0.02	0.00	0.00	29.88	3.00	0.31	0.23	0.18	0.14	0.05	
25	0.00	0.00	0.02	0.00	0.00	29.12	2.36	0.30	0.22	0.18	0.14	0.05	
26	0.00	0.00	0.03	0.01	0.00	26.20	1.90	0.29	0.22	0.18	0.14	0.06	
27	0.00	0.00	0.03	0.01	0.00	22.70	1.55	0.29	0.22	0.18	0.14	0.06	
28	0.00	0.00	0.03	0.01	0.00	18.92	1.38	0.29	0.22	0.18	0.11	0.06	
29	0.00	0.00	0.03	0.01	0.00	16.12	1.24	0.28	0.22	0.18	0.10	0.06	
30	0.00	0.00	0.03	0.01	0.00	16.68	1.08	0.27	0.22	0.18		0.06	
31		0.00		0.01	0.00		0.94		0.22	0.18		0.05	
Total	0.52	0.00	0.82	0.32	0.01	511.79	444.48	12.51	7.38	6.18	4.51	2.36	990.88 CMSDAY
Mean	0.02	0.00	0.03	0.01	0.00	17.06	14.34	0.42	0.24	0.20	0.16	0.08	2.71 CMS
Max	0.04	0.00	0.04	0.03	0.01	30.64	38.44	0.84	0.27	0.22	0.18	0.10	38.44 CMS
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.94	0.27	0.22	0.18	0.10	0.05	0.00 CMS
Runoff	0.045	0.000	0.071	0.028	0.001	44.219	38.403	1.081	0.638	0.534	0.390	0.204	85.612 MCM

Momentary Peak 39.52 CMS, at 128.24 M (MSL), at 18.00 Hours, on Oct 11, 1991

Runoff Yield 2.07 Liters/Second/Square KM, Momentary Peak Yield 30.17 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

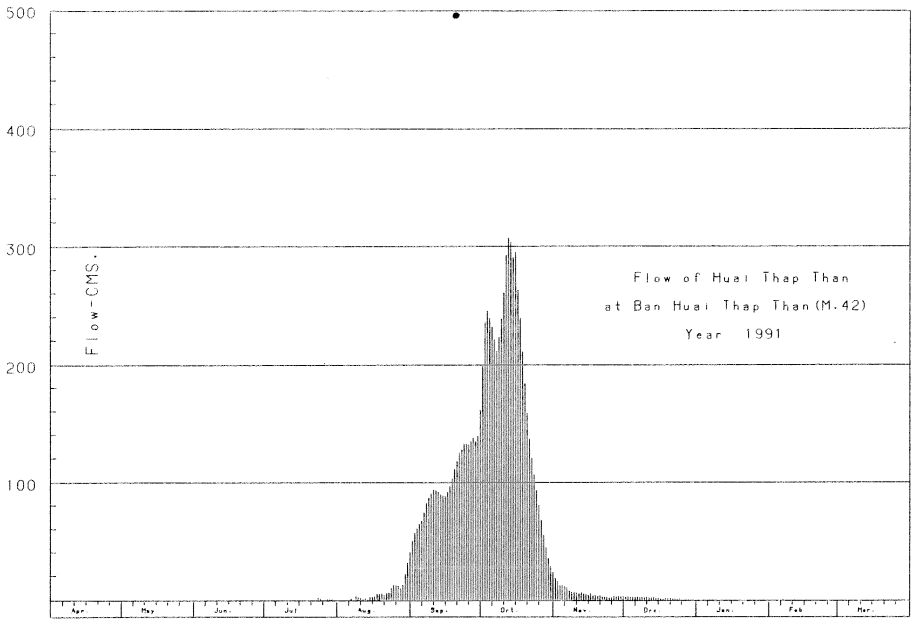
Huai Thap Than at Ban Huai Thap Than, Si Sa Ket (M.42)

Location	Lat. 15°-02'-42" N., Long. 104°-01'-29" E., on left bank at the bridge on highway, Amphoe Uthumphon Phisai, Si Sa Ket.
Drainage Area	1,794 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank under tamarind tree infront of the joss house, about 120 meters from the gage site.
Elevation	+9.820 m. (A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1972 to date.
Rating Operation	
Period of Rating	1972 - 1981, 1987 to date.
Rated by Float	-
Rated by Current Meter	1972 - 1981, 1987 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 36 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.37	0.34	0.41	0.40	0.43	5.62	8.99	3.13	0.93	0.54	0.40	0.39	
2	0.37	0.34	0.39	0.39	0.42	5.94	9.23	2.82	0.91	0.54	0.41	0.44	
3	0.37	0.34	0.38	0.37	0.42	6.17	9.29	2.46	0.89	0.53	0.42	0.38	
4	0.37	0.34	0.40	0.37	0.40	6.32	9.25	2.41	0.88	0.50	0.43	0.38	
5	0.37	0.34	0.38	0.38	0.40	6.47	9.21	2.33	0.86	0.49	0.44	0.38	
6	0.38	0.34	0.36	0.37	0.62	6.77	9.14	2.07	0.86	0.48	0.44	0.40	
7	0.37	0.34	0.36	0.35	0.53	7.05	9.07	1.77	0.86	0.46	0.44	0.40	
8	0.37	0.34	0.36	0.37	1.03	7.23	9.15	1.51	0.84	0.48	0.41	0.38	
9	0.37	0.34	0.34	0.37	0.80	7.35	9.25	1.52	0.83	0.47	0.40	0.37	
10	0.37	0.34	0.36	0.36	0.73	7.46	9.38	1.41	0.81	0.47	0.42	0.37	
11	0.37	0.34	0.44	0.38	0.65	7.46	9.54	1.42	0.81	0.46	0.47	0.38	
12	0.36	0.34	0.44	0.41	0.64	7.39	9.61	1.51	0.83	0.44	0.43	0.39	
13	0.35	0.33	0.43	0.39	0.60	7.33	9.59	1.38	0.79	0.44	0.43	0.39	
14	0.36	0.33	0.41	0.37	0.86	7.28	9.53	1.25	0.73	0.46	0.43	0.38	
15	0.36	0.33	0.39	0.37	0.92	7.28	9.55	1.17	0.69	0.45	0.40	0.36	
16	0.34	0.31	0.37	0.37	0.93	7.41	9.39	1.34	0.65	0.45	0.40	0.37	
17	0.33	0.33	0.36	0.37	1.37	7.56	9.25	1.08	0.63	0.43	0.37	0.37	
18	0.34	0.32	0.36	0.37	1.31	7.75	9.07	1.07	0.67	0.43	0.41	0.38	
19	0.34	0.31	0.36	0.36	1.39	7.96	8.88	1.05	0.70	0.44	0.40	0.37	
20	0.34	0.30	0.36	0.40	1.16	8.12	8.67	1.03	0.70	0.44	0.40	0.37	
21	0.34	0.31	0.43	0.40	1.38	8.25	8.43	0.95	0.69	0.44	0.41	0.37	
22	0.33	0.30	0.41	0.40	1.55	8.31	8.18	0.92	0.66	0.43	0.38	0.37	
23	0.33	0.31	0.40	0.82	2.13	8.37	7.85	0.85	0.59	0.43	0.37	0.36	
24	0.33	0.30	0.44	0.63	2.41	8.38	7.46	0.80	0.62	0.45	0.40	0.36	
25	0.33	0.29	0.45	0.52	2.50	8.36	6.99	0.85	0.60	0.47	0.39	0.36	
26	0.33	0.27	0.44	0.51	2.31	8.41	6.50	0.94	0.57	0.46	0.39	0.36	
27	0.34	0.41	0.43	0.66	2.10	8.44	5.89	0.96	0.54	0.44	0.40	0.36	
28	0.34	0.39	0.42	0.59	2.40	8.41	5.25	0.97	0.54	0.44	0.40	0.36	
29	0.34	0.40	0.43	0.51	3.47	8.46	4.66	0.97	0.54	0.43	0.40	0.36	
30	0.34	0.39	0.41	0.49	4.30	8.70	4.02	0.93	0.54	0.43		0.36	
31		0.40		0.46	4.99		3.56		0.54	0.42		0.36	
Mean	0.35	0.34	0.40	0.44	1.46	7.53	8.19	1.43	0.72	0.46	0.41	0.38	
Max	0.38	0.41	0.45	0.82	4.99	8.70	9.61	3.13	0.93	0.54	0.47	0.44	9.61
Min	0.33	0.27	0.34	0.35	0.40	5.62	3.56	0.80	0.54	0.42	0.37	0.36	0.27

Annual Max Momentary Gage Height 9.61 M (A.D), at 18.00 Hours, on Oct 12, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.31 M (A.D)
Left Bank Elevation 10.07 M (A.D)
Right Bank Elevation 10.09 M (A.D), Drainage Area 1794 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.21	0.12	0.35	0.30	0.45	50.96	199.92	18.93	3.28	1.00	0.30	0.27	
2	0.21	0.12	0.27	0.27	0.40	56.96	236.10	15.98	3.16	1.00	0.35	0.50	
3	0.21	0.12	0.24	0.21	0.40	61.50	246.30	13.22	3.04	0.95	0.40	0.24	
4	0.21	0.12	0.30	0.21	0.30	64.64	239.50	12.87	2.98	0.80	0.45	0.24	
5	0.21	0.12	0.24	0.24	0.30	67.94	232.70	12.31	2.86	0.75	0.50	0.24	
6	0.24	0.12	0.18	0.21	1.42	75.05	222.00	10.49	2.86	0.70	0.50	0.30	
7	0.21	0.12	0.18	0.15	0.95	82.55	211.59	8.39	2.86	0.60	0.50	0.30	
8	0.21	0.12	0.18	0.21	3.88	87.44	223.50	6.76	2.74	0.70	0.35	0.24	
9	0.21	0.12	0.12	0.21	2.50	90.80	239.50	6.82	2.68	0.65	0.30	0.21	
10	0.21	0.12	0.18	0.18	2.08	93.88	261.60	6.16	2.56	0.65	0.40	0.21	
11	0.21	0.12	0.50	0.24	1.60	93.88	293.70	6.22	2.56	0.60	0.65	0.24	
12	0.18	0.12	0.50	0.35	1.54	91.92	308.20	6.76	2.68	0.50	0.45	0.27	
13	0.15	0.09	0.45	0.27	1.30	90.24	303.95	5.98	2.44	0.50	0.45	0.27	
14	0.18	0.09	0.35	0.21	2.86	88.84	291.65	5.20	2.08	0.60	0.45	0.24	
15	0.18	0.09	0.27	0.21	3.22	88.84	295.75	4.72	1.84	0.55	0.30	0.18	
16	0.12	0.03	0.21	0.21	3.28	92.48	263.30	5.74	1.60	0.55	0.30	0.21	
17	0.09	0.09	0.18	0.21	5.92	96.80	239.50	4.18	1.48	0.45	0.21	0.21	
18	0.12	0.06	0.18	0.21	5.56	104.00	211.59	4.12	1.72	0.45	0.35	0.24	
19	0.12	0.03	0.18	0.18	6.04	111.32	184.80	4.00	1.90	0.50	0.30	0.21	
20	0.12	0.00	0.18	0.30	4.66	118.50	158.70	3.88	1.90	0.50	0.30	0.21	
21	0.12	0.03	0.45	0.30	5.98	125.25	137.11	3.40	1.84	0.50	0.35	0.21	
22	0.09	0.00	0.35	0.30	7.00	128.68	121.50	3.22	1.66	0.45	0.24	0.21	
23	0.09	0.03	0.30	2.62	10.91	132.76	106.75	2.80	1.25	0.45	0.21	0.18	
24	0.09	0.00	0.50	1.48	12.87	133.44	93.88	2.50	1.42	0.55	0.30	0.18	
25	0.09	0.00	0.55	0.90	13.50	132.08	80.93	2.80	1.30	0.65	0.27	0.18	
26	0.09	0.00	0.50	0.85	12.17	135.57	68.60	3.34	1.15	0.55	0.27	0.18	
27	0.12	0.35	0.45	1.66	10.70	137.88	56.01	3.46	1.00	0.50	0.30	0.18	
28	0.12	0.27	0.40	1.25	12.80	135.57	44.80	3.52	1.00	0.50	0.30	0.18	
29	0.12	0.30	0.45	0.85	22.67	139.42	36.08	3.52	1.00	0.45	0.30	0.18	
30	0.12	0.27	0.35	0.75	31.80	162.00	28.72	3.28	1.00	0.45		0.18	
31		0.30		0.60	40.75		23.66		1.00	0.40		0.18	
Total	4.65	3.47	9.54	16.14	229.81	3071.19	5661.89	194.57	62.84	18.45	10.35	7.07	9289.97 CMSDAY
Mean	0.15	0.11	0.32	0.52	7.41	102.37	182.64	6.49	2.03	0.60	0.36	0.23	25.38 CMS
Max	0.24	0.35	0.55	2.62	40.75	162.00	308.20	18.93	3.28	1.00	0.65	0.50	308.20 CMS
Min	0.09	0.00	0.12	0.15	0.30	50.96	23.66	2.50	1.00	0.40	0.21	0.18	0.00 CMS
Runoff	0.402	0.300	0.824	1.394	19.856	265.351	489.187	16.811	5.429	1.594	0.894	0.611	802.654 MCM

Momentary Peak 308.20 CMS, at 9.61 M (A.D), at 18.00 Hours, on Oct 12, 1991

Runoff Yield 14.15 Liters/Second/Square KM, Momentary Peak Yield 171.79 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

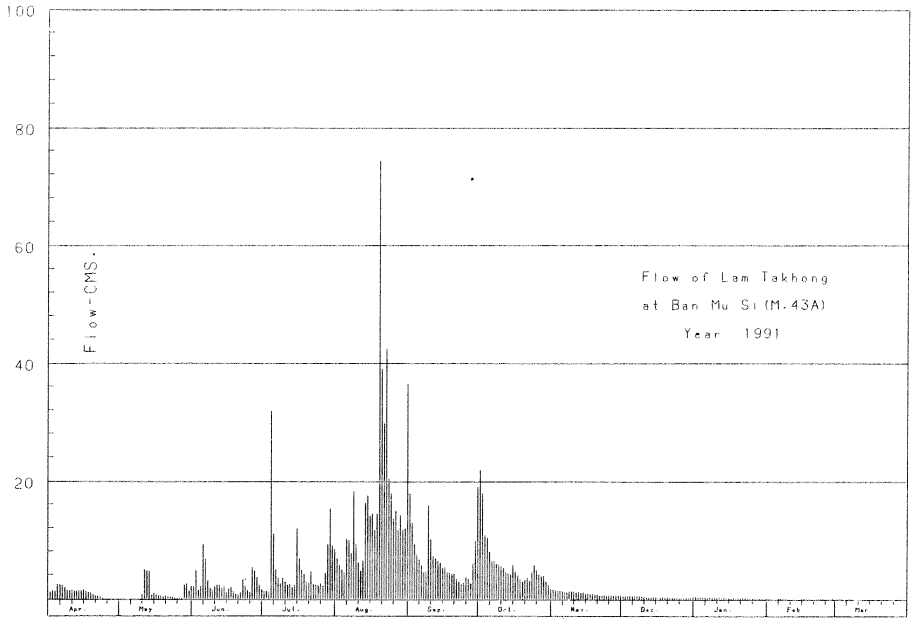
Lam Takhong at Ban Mu Si, Nakhon Ratchasima (M.43A)

Location	Lat. 14°-30'-43" N., Long. 101°-22'-49" E., on left bank about 2 kilometers downstream from M.43, Amphoe Pak Chong, Nakhon Ratchasima.
Drainage Area	173 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank downstream side at the abutment of the bridge.
Elevation	+6.135 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1989 to date.
Rating Operation	
Period of Rating	1989 to date.
Rated by Float	-
Rated by Current Meter	1989 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 28 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.36	0.01	0.45	0.36	0.70	1.05	1.16	0.41	0.26	0.21	0.09	0.12	
2	0.38	0.01	0.61	0.38	0.65	0.90	1.05	0.39	0.26	0.20	0.09	0.11	
3	0.38	0.01	0.40	0.35	0.62	0.78	0.83	0.39	0.26	0.20	0.09	0.10	
4	0.47	0.01	0.44	1.41	0.59	0.72	0.82	0.38	0.25	0.20	0.09	0.10	
5	0.47	0.01	0.78	0.84	0.81	0.69	0.74	0.38	0.25	0.19	0.09	0.08	
6	0.46	0.01	0.69	0.62	0.80	0.65	0.68	0.36	0.25	0.18	0.08	0.09	
7	0.44	0.02	0.52	0.54	0.73	0.60	0.68	0.36	0.25	0.18	0.08	0.07	
8	0.39	0.02	0.43	0.49	1.06	0.60	0.66	0.37	0.25	0.18	0.12	0.06	
9	0.39	0.02	0.39	0.54	0.78	1.00	0.65	0.38	0.24	0.19	0.10	0.06	
10	0.39	0.30	0.44	0.51	0.67	0.81	0.64	0.37	0.22	0.18	0.09	0.05	
11	0.38	0.62	0.47	0.47	0.61	0.71	0.63	0.36	0.21	0.18	0.08	0.04	
12	0.38	0.61	0.46	0.47	0.68	0.70	0.60	0.36	0.20	0.17	0.08	0.04	
13	0.38	0.60	0.43	0.44	1.01	0.68	0.58	0.35	0.20	0.17	0.07	0.03	
14	0.39	0.30	0.44	0.46	1.04	0.67	0.58	0.35	0.20	0.16	0.07	0.03	
15	0.40	0.33	0.36	0.87	0.94	0.63	0.65	0.33	0.21	0.16	0.06	0.04	
16	0.37	0.29	0.41	0.70	0.95	0.63	0.60	0.32	0.20	0.15	0.07	0.03	
17	0.36	0.28	0.44	0.61	0.86	0.60	0.57	0.32	0.20	0.15	0.08	0.03	
18	0.33	0.24	0.36	0.58	0.95	0.59	0.53	0.32	0.19	0.15	0.09	0.02	
19	0.31	0.23	0.32	0.50	2.17	0.58	0.51	0.31	0.19	0.14	0.07	0.01	
20	0.26	0.25	0.29	0.50	1.56	0.58	0.52	0.30	0.19	0.14	0.06	0.01	
21	0.24	0.23	0.34	0.60	1.36	0.53	0.54	0.29	0.18	0.14	0.07	0.04	
22	0.21	0.22	0.53	0.48	1.63	0.51	0.52	0.29	0.18	0.14	0.10	0.02	
23	0.09	0.18	0.45	0.46	1.12	0.48	0.60	0.28	0.17	0.13	0.12	0.00	
24	0.04	0.13	0.40	0.46	1.05	0.49	0.65	0.28	0.16	0.13	0.10	0.00	
25	0.02	0.12	0.35	0.48	0.92	0.55	0.61	0.27	0.15	0.13	0.10	0.00	
26	0.02	0.12	0.63	0.45	0.97	0.53	0.57	0.27	0.16	0.13	0.10	0.00	
27	0.02	0.12	0.61	0.59	0.86	0.49	0.56	0.28	0.16	0.11	0.10	0.00	
28	0.01	0.47	0.55	0.78	0.94	0.66	0.56	0.28	0.16	0.12	0.11	0.00	
29	0.01	0.48	0.46	0.98	0.86	0.80	0.51	0.28	0.16	0.11	0.12	0.00	
30	0.01	0.39	0.41	0.77	0.87	1.08	0.46	0.27	0.19	0.11		0.01	
31		0.45		0.75	1.51		0.41		0.22	0.10		0.00	
Mean	0.28	0.23	0.46	0.59	0.98	0.68	0.63	0.33	0.21	0.16	0.09	0.04	
Max	0.47	0.62	0.78	1.41	2.17	1.08	1.16	0.41	0.26	0.21	0.12	0.12	2.17
Min	0.01	0.01	0.29	0.35	0.59	0.48	0.41	0.27	0.15	0.10	0.06	0.00	0.00

Annual Max Momentary Gage Height 2.96 M (A.D), at 23.00 Hours, on Aug 21, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.02 M (A.D)
Left Bank Elevation 3.86 M (A.D)
Right Bank Elevation 3.27 M (A.D), Drainage Area 173 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.28	0.02	2.25	1.28	7.00	17.95	22.02	1.73	0.64	0.44	0.18	0.24	
2	1.44	0.02	4.93	1.44	5.85	13.00	17.95	1.52	0.64	0.40	0.18	0.22	
3	1.44	0.02	1.60	1.20	5.16	9.40	10.90	1.52	0.64	0.40	0.18	0.20	
4	2.51	0.02	2.12	32.06	4.52	7.60	10.60	1.44	0.60	0.40	0.18	0.20	
5	2.51	0.02	9.40	11.20	10.30	6.77	8.20	1.44	0.60	0.38	0.18	0.16	
6	2.38	0.02	6.77	5.16	10.00	5.85	6.54	1.28	0.60	0.36	0.16	0.18	
7	2.12	0.04	3.26	3.62	7.90	4.70	6.54	1.28	0.60	0.36	0.16	0.14	
8	1.52	0.04	1.99	2.77	18.32	4.70	6.08	1.36	0.60	0.36	0.24	0.12	
9	1.52	0.04	1.52	3.62	9.40	16.10	5.85	1.44	0.56	0.38	0.20	0.12	
10	1.52	0.80	2.12	3.08	6.31	10.30	5.62	1.36	0.48	0.36	0.18	0.10	
11	1.44	5.16	2.51	2.51	4.93	7.30	5.39	1.28	0.44	0.36	0.16	0.08	
12	1.44	4.93	2.38	2.51	6.54	7.00	4.70	1.28	0.40	0.34	0.16	0.08	
13	1.44	4.70	1.99	2.12	16.47	6.54	4.34	1.20	0.40	0.34	0.14	0.06	
14	1.52	0.80	2.12	2.38	17.58	6.31	4.34	1.20	0.40	0.32	0.14	0.06	
15	1.60	1.04	1.28	12.10	14.24	5.39	5.85	1.04	0.44	0.32	0.12	0.08	
16	1.36	0.76	1.73	7.00	14.55	5.39	4.70	0.96	0.40	0.30	0.14	0.06	
17	1.28	0.72	2.12	4.93	11.80	4.70	4.16	0.96	0.40	0.30	0.16	0.06	
18	1.04	0.56	1.28	4.34	14.55	4.52	3.44	0.96	0.38	0.30	0.18	0.04	
19	0.88	0.52	0.96	2.90	74.56	4.34	3.08	0.88	0.38	0.28	0.14	0.02	
20	0.64	0.60	0.76	2.90	39.08	4.34	3.26	0.80	0.38	0.28	0.12	0.02	
21	0.56	0.52	1.12	4.70	29.92	3.44	3.62	0.76	0.36	0.28	0.14	0.08	
22	0.44	0.48	3.44	2.64	42.50	3.08	3.26	0.76	0.36	0.28	0.20	0.04	
23	0.18	0.36	2.25	2.38	20.54	2.64	4.70	0.72	0.34	0.26	0.24	0.00	
24	0.08	0.26	1.60	2.38	17.95	2.77	5.85	0.72	0.32	0.26	0.20	0.00	
25	0.04	0.24	1.20	2.64	13.62	3.80	4.93	0.68	0.30	0.26	0.20	0.00	
26	0.04	0.24	5.39	2.25	15.17	3.44	4.16	0.68	0.32	0.26	0.20	0.00	
27	0.04	0.24	4.93	4.52	11.80	2.77	3.98	0.72	0.32	0.22	0.20	0.00	
28	0.02	2.51	3.80	9.40	14.24	6.08	3.98	0.72	0.32	0.24	0.22	0.00	
29	0.02	2.64	2.38	15.48	11.80	10.00	3.08	0.72	0.32	0.22	0.24	0.00	
30	0.02	1.52	1.73	9.10	12.10	19.06	2.38	0.68	0.38	0.22		0.02	
31		2.25		8.50	36.68		1.73		0.48	0.20		0.00	
Total	32.32	32.09	80.93	173.11	525.38	209.28	185.23	32.09	13.80	9.68	5.14	2.38	1301.43 CMSDAY
Mean	1.08	1.04	2.70	5.58	16.95	6.98	5.98	1.07	0.45	0.31	0.18	0.08	3.56 CMS
Max	2.51	5.16	9.40	32.06	74.56	19.06	22.02	1.73	0.64	0.44	0.24	0.24	74.56 CMS
Min	0.02	0.02	0.76	1.20	4.52	2.64	1.73	0.68	0.30	0.20	0.12	0.00	0.00 CMS
Runoff	2.792	2.773	6.992	14.957	45.393	18.082	16.004	2.773	1.192	0.836	0.444	0.206	112.444 MCM

Momentary Peak 132.38 CMS, at 2.96 M (A.D), at 23.00 Hours, on Aug 21, 1991

Runoff Yield 20.55 Liters/Second/Square KM, Momentary Peak Yield 765.20 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

Huai Khayung at Ban Nam Om, Si Sa Ket (M.66)

Location — Lat. 14°-38'-23" N., Long. 104°-39'-45" E., on right bank about 50 meters upstream from the bridge of Kantharalak-Det Udom Road, Ban Nam Om, Amphoe Kantharalak, Si Sa Ket.

Drainage Area — 586 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m. (A.D.)

Bench Mark — B.M.-H.D.

Location — At the automatic gage building.

Elevation — +6.581 m. (A.D.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1965 to date.

Rating Operation

Period of Rating — 1965-1968, 1972 - 1981, 1987 to date.

Rated by Float —

Rated by Current Meter — 1965-1968, 1972 - 1981, 1987 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 45 discharge discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

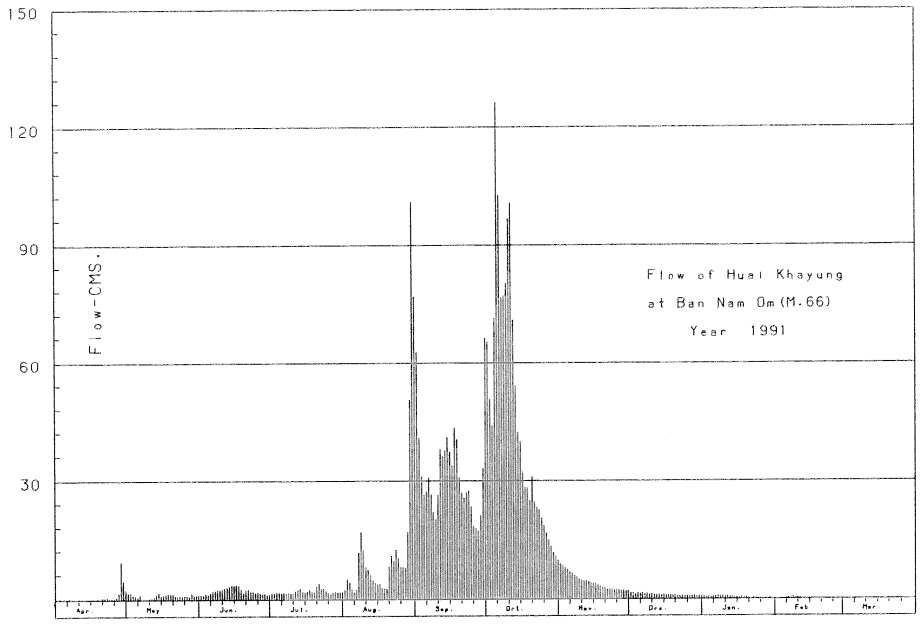
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	-0.16	0.09	0.01	0.05	0.19	2.63	2.71	0.60	0.09	-0.06	-0.15	-0.21	
2	-0.15	0.07	0.01	0.08	0.38	1.88	2.23	0.57	0.07	-0.09	-0.15	-0.21	
3	-0.15	0.01	0.05	0.09	0.33	1.51	1.99	0.55	0.04	-0.09	-0.17	-0.21	
4	-0.15	-0.04	0.04	0.10	0.20	1.32	2.91	0.52	0.07	-0.09	-0.17	-0.21	
5	-0.15	-0.08	0.09	0.09	0.12	1.36	4.50	0.49	0.06	-0.08	-0.16	-0.22	
6	-0.15	0.01	0.14	0.08	0.18	1.49	3.88	0.46	0.06	-0.05	-0.15	-0.23	
7	-0.15	-0.14	0.17	0.08	0.74	1.33	3.09	0.44	0.04	-0.06	-0.11	-0.23	
8	-0.15	-0.15	0.19	0.08	0.95	1.15	3.10	0.41	0.04	-0.06	-0.09	-0.23	
9	-0.15	-0.15	0.20	0.08	0.76	1.08	3.21	0.39	0.03	-0.06	-0.13	-0.24	
10	-0.16	-0.15	0.20	0.06	0.55	1.32	3.71	0.36	0.03	-0.06	-0.14	-0.24	
11	-0.16	-0.10	0.22	0.13	0.52	1.77	3.82	0.36	0.02	-0.06	-0.15	-0.24	
12	-0.17	-0.06	0.24	0.20	0.44	1.71	2.90	0.35	0.01	-0.07	-0.16	-0.25	
13	-0.17	0.02	0.25	0.21	0.37	1.76	2.34	0.34	0.00	-0.07	-0.16	-0.25	
14	-0.19	0.10	0.28	0.14	0.31	1.89	1.93	0.31	0.00	-0.11	-0.16	-0.25	
15	-0.17	-0.02	0.28	0.12	0.30	1.75	1.85	0.30	0.00	-0.11	-0.17	-0.25	
16	-0.16	0.01	0.28	0.12	0.29	1.61	1.55	0.29	-0.01	-0.11	-0.18	-0.25	
17	-0.15	0.03	0.28	0.20	0.23	1.97	1.40	0.28	-0.01	-0.11	-0.18	-0.25	
18	-0.14	0.04	0.19	0.11	0.21	1.87	1.39	0.25	-0.02	-0.11	-0.18	-0.25	
19	-0.13	0.05	0.09	0.12	0.21	1.50	1.27	0.23	-0.01	-0.11	-0.18	-0.24	
20	-0.12	0.05	0.17	0.25	0.57	1.34	1.50	0.21	-0.02	-0.11	-0.19	-0.23	
21	-0.09	0.00	0.19	0.30	0.70	1.29	1.25	0.20	-0.04	-0.13	-0.25	-0.23	
22	-0.11	-0.03	0.15	0.22	0.64	1.35	1.20	0.20	-0.04	-0.11	-0.25	-0.23	
23	-0.12	-0.03	0.12	0.21	0.76	1.36	1.17	0.18	-0.05	-0.15	-0.22	-0.23	
24	-0.15	-0.02	0.10	0.16	0.67	1.21	1.09	0.17	-0.05	-0.14	-0.23	-0.22	
25	-0.13	-0.04	0.10	0.08	0.56	1.01	1.01	0.17	-0.05	-0.14	-0.23	-0.21	
26	-0.10	-0.04	0.08	0.05	0.55	0.98	0.94	0.17	-0.06	-0.14	-0.22	-0.21	
27	0.09	-0.03	0.06	0.10	0.55	0.96	0.87	0.16	-0.05	-0.14	-0.20	-0.21	
28	0.63	0.08	0.05	0.12	0.95	1.11	0.80	0.15	-0.05	-0.14	-0.20	-0.20	
29	0.35	-0.01	0.03	0.11	2.22	1.59	0.74	0.14	-0.06	-0.14	-0.24	-0.20	
30	0.19	0.02	0.03	0.10	3.83	2.74	0.69	0.13	-0.06	-0.14		-0.20	
31		0.01		0.10	3.10		0.64		-0.06	-0.14		-0.20	
Mean	-0.08	-0.02	0.14	0.13	0.72	1.53	1.99	0.31	0.00	-0.10	-0.18	-0.23	
Max	0.63	0.10	0.28	0.30	3.83	2.74	4.50	0.60	0.09	-0.05	-0.09	-0.20	4.50
Min	-0.19	-0.15	0.01	0.05	0.12	0.96	0.64	0.13	-0.06	-0.15	-0.25	-0.25	-0.25

Annual Max Momentary Gage Height — 4.65 M (A.D), at 1.00 Hours, on Oct 5, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.51 M (A.D)

Left Bank Elevation — 5.76 M (A.D)

Right Bank Elevation — 6.00 M (A.D), Drainage Area 586 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.20	1.68	1.08	1.38	2.43	62.90	65.30	9.00	1.68	0.70	0.25	0.00	
2	0.25	1.52	1.08	1.60	5.02	40.96	50.90	8.44	1.52	0.55	0.25	0.00	
3	0.25	1.08	1.38	1.68	4.32	31.30	44.02	8.07	1.30	0.55	0.15	0.00	
4	0.25	0.80	1.30	1.75	2.50	26.46	71.30	7.52	1.52	0.55	0.15	0.00	
5	0.25	0.60	1.68	1.68	1.90	27.48	126.50	6.97	1.45	0.60	0.20	0.00	
6	0.25	1.08	2.05	1.60	2.35	30.79	102.80	6.41	1.45	0.75	0.25	0.00	
7	0.25	0.30	2.28	1.60	11.96	26.71	76.70	6.04	1.30	0.70	0.45	0.00	
8	0.25	0.25	2.43	1.60	17.15	22.15	77.00	5.49	1.30	0.70	0.55	0.00	
9	0.25	0.25	2.50	1.60	12.44	20.40	80.30	5.16	1.23	0.70	0.35	0.00	
10	0.20	0.25	2.50	1.45	8.07	26.46	96.85	4.74	1.23	0.70	0.30	0.00	
11	0.20	0.50	2.78	1.98	7.52	38.02	100.70	4.74	1.15	0.70	0.25	0.00	
12	0.15	0.70	3.06	2.50	6.04	36.46	71.00	4.60	1.08	0.65	0.20	0.00	
13	0.15	1.15	3.20	2.64	4.88	37.76	54.20	4.46	1.00	0.65	0.20	0.00	
14	0.05	1.75	3.62	2.05	4.04	41.23	42.34	4.04	1.00	0.45	0.20	0.00	
15	0.15	0.90	3.62	1.90	3.90	37.50	40.15	3.90	1.00	0.45	0.15	0.00	
16	0.20	1.08	3.62	1.90	3.76	33.86	32.32	3.76	0.95	0.45	0.10	0.00	
17	0.25	1.23	3.62	2.50	2.92	43.46	28.50	3.62	0.95	0.45	0.10	0.00	
18	0.30	1.30	2.43	1.83	2.64	40.69	28.24	3.20	0.90	0.45	0.10	0.00	
19	0.35	1.38	1.68	1.90	2.64	31.05	25.18	2.92	0.95	0.45	0.10	0.00	
20	0.40	1.38	2.28	3.20	8.44	26.97	31.05	2.64	0.90	0.45	0.05	0.00	
21	0.55	1.00	2.43	3.90	11.00	25.69	24.67	2.50	0.80	0.35	0.00	0.00	
22	0.45	0.85	2.13	2.78	9.80	27.22	23.40	2.50	0.80	0.45	0.00	0.00	
23	0.40	0.85	1.90	2.64	12.44	27.48	22.65	2.35	0.75	0.25	0.00	0.00	
24	0.25	0.90	1.75	2.20	10.40	23.65	20.65	2.28	0.75	0.30	0.00	0.00	
25	0.35	0.80	1.75	1.60	8.26	18.65	18.65	2.28	0.75	0.30	0.00	0.00	
26	0.50	0.80	1.60	1.38	8.07	17.90	16.90	2.28	0.70	0.30	0.00	0.00	
27	1.68	0.85	1.45	1.75	8.07	17.40	15.15	2.20	0.75	0.30	0.00	0.00	
28	9.60	1.60	1.38	1.90	17.15	21.15	13.40	2.13	0.75	0.30	0.00	0.00	
29	4.60	0.95	1.23	1.83	50.60	33.34	11.96	2.05	0.70	0.30	0.00	0.00	
30	2.43	1.15	1.23	1.75	101.05	66.20	10.80	1.98	0.70	0.30		0.00	
31		1.08		1.75	77.00		9.80		0.70	0.30		0.00	
Total	25.41	30.01	65.04	61.82	428.76	961.29	1433.38	128.27	32.01	15.10	4.35	0.00	3185.44 CMSDAY
Mean	0.85	0.97	2.17	1.99	13.83	32.04	46.24	4.28	1.03	0.49	0.15	0.00	8.70 CMS
Max	9.60	1.75	3.62	3.90	101.05	66.20	126.50	9.00	1.68	0.75	0.55	0.00	126.50 CMS
Min	0.05	0.25	1.08	1.38	1.90	17.40	9.80	1.98	0.70	0.25	0.00	0.00	0.00 CMS
Runoff	2.195	2.593	5.619	5.341	37.045	83.055	123.844	11.083	2.766	1.305	0.376	0.000	275.222 MCM

Momentary Peak 132.50 CMS, at 4.65 M (A.D), at 1.00 Hours, on Oct 5, 1991

Runoff Yield 14.85 Liters/Second/Square KM, Momentary Peak Yield 226.11 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

Lam Se Bok at Ban Tha Bo Baeng, Ubon Ratchathani (M.69)

Location — Lat. 15°-30'-11" N., Long. 104°-58'-01" E., On left bank about 100 meters upstream from the bridge of Ubon-Trakan Phutphon Highway, Amphoe Trakan Phutphon, Ubon Ratchathani.

Drainage Area — 2,132 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — Beside the automatic gage building.

Elevation — +9.985 m.(A.D.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1969 to date

Rating Operation

Period of Rating — 1971, 1973 to date.

Rated by Float — -

Rated by Current Meter — 1971, 1973 to date.

Stability of Channel Regimes — Fairly stable because of backwater effect.

Overbank Flow Conditions — Overbank flow starts at elevation +7.27 m.(A.D.) and is included.

General Description — Records fair. Stage-discharge relation defined by 22 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

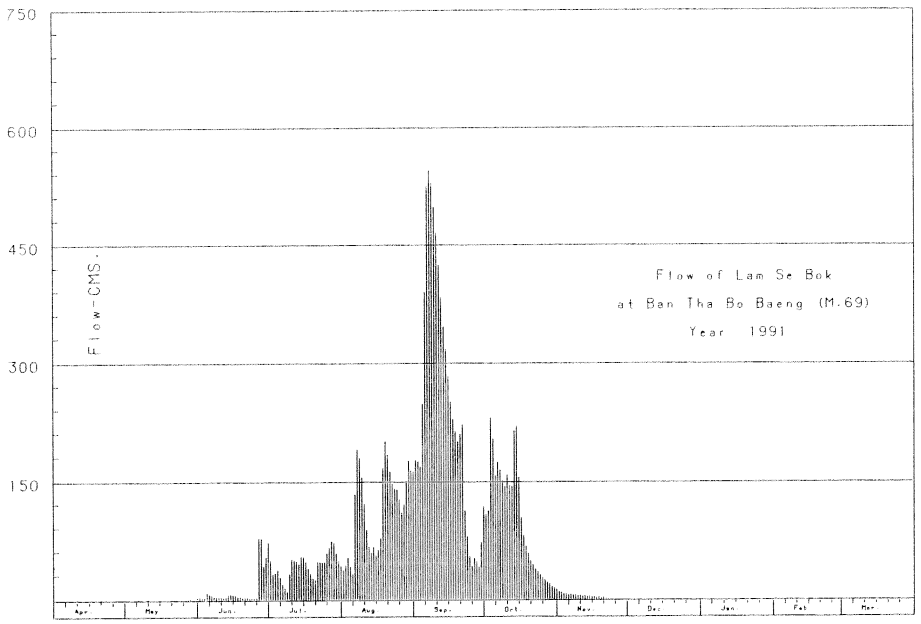
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.70	0.76	1.01	2.85	2.53	5.51	6.10	4.78	1.26	0.83	0.79	0.66	
2	0.70	0.76	0.97	2.33	2.69	5.49	6.13	4.68	1.21	0.82	0.79	0.66	
3	0.71	0.76	0.95	2.38	2.96	5.35	6.49	4.60	1.17	0.82	0.78	0.66	
4	0.72	0.76	1.40	2.54	2.64	6.69	6.44	4.51	1.13	0.82	0.78	0.66	
5	0.72	0.75	1.30	2.22	2.37	8.70	6.32	4.40	1.10	0.84	0.78	0.66	
6	0.72	0.75	1.19	1.88	4.72	10.43	6.37	4.30	1.06	0.86	0.78	0.65	
7	0.71	0.76	1.07	1.64	5.76	10.70	6.34	4.19	1.05	0.86	0.78	0.65	
8	0.71	0.76	1.05	1.47	5.56	10.48	6.30	4.07	1.05	0.86	0.78	0.65	
9	0.71	0.75	1.06	2.38	5.12	10.10	6.27	3.94	1.04	0.87	0.79	0.67	
10	0.72	0.81	1.01	2.89	4.48	9.67	6.32	3.82	1.03	0.87	0.80	0.66	
11	0.72	0.79	0.98	2.89	3.85	9.15	6.27	3.69	1.03	0.86	0.80	0.67	
12	0.72	0.77	1.05	2.83	3.29	8.60	6.27	3.55	1.02	0.87	0.80	0.68	
13	0.72	0.75	1.23	2.76	3.12	8.10	6.46	3.40	1.03	0.86	0.80	0.68	
14	0.73	0.74	1.30	2.97	3.28	7.69	6.47	3.27	1.02	0.84	0.79	0.67	
15	0.73	0.76	1.27	2.99	3.03	7.20	6.31	3.15	1.02	0.84	0.78	0.67	
16	0.73	0.76	1.18	2.81	3.18	6.73	6.08	3.01	1.01	0.84	0.76	0.65	
17	0.72	0.78	1.12	2.60	3.58	6.38	5.91	2.89	0.99	0.84	0.75	0.63	
18	0.73	0.78	1.06	2.36	5.33	6.11	5.80	2.77	0.98	0.83	0.74	0.62	
19	0.73	0.79	1.02	2.16	5.93	5.92	5.70	2.65	0.97	0.82	0.73	0.62	
20	0.72	0.80	0.99	2.06	5.63	6.06	5.61	2.52	0.96	0.81	0.72	0.60	
21	0.70	0.85	0.97	2.81	5.26	6.25	5.54	2.37	0.95	0.80	0.71	0.59	
22	0.69	0.87	0.96	2.82	4.97	6.13	5.48	2.18	0.95	0.80	0.69	0.60	
23	0.69	0.85	0.95	2.79	4.84	5.90	5.42	1.98	0.95	0.80	0.67	0.58	
24	0.69	0.84	0.97	2.82	4.83	5.66	5.37	1.81	0.93	0.79	0.65	0.58	
25	0.70	0.84	1.01	3.10	4.59	5.52	5.30	1.66	0.93	0.79	0.65	0.59	
26	0.71	0.84	3.56	3.26	4.27	5.64	5.24	1.55	0.92	0.78	0.66	0.59	
27	0.71	0.86	3.57	3.49	4.48	5.59	5.17	1.47	0.91	0.77	0.67	0.59	
28	0.71	0.86	2.69	3.41	5.04	5.51	5.10	1.40	0.88	0.77	0.67	0.61	
29	0.73	0.85	2.96	3.10	5.51	5.83	5.02	1.34	0.86	0.77	0.67	0.66	
30	0.74	0.84	3.44	2.84	5.26	6.15	4.95	1.29	0.86	0.78		0.71	
31		1.01		2.67	5.24		4.87		0.85	0.78		0.76	
Mean	0.71	0.80	1.44	2.65	4.30	7.11	5.85	3.04	1.00	0.82	0.74	0.64	
Max	0.74	1.01	3.57	3.49	5.93	10.70	6.49	4.78	1.26	0.87	0.80	0.76	10.70
Min	0.69	0.74	0.95	1.47	2.37	5.35	4.87	1.29	0.85	0.77	0.65	0.58	0.58

Annual Max Momentary Gage Height — 10.73 M (A.D), at 10.00 Hours, on Sep 7, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 0.78 M (A.D)

Left Bank Elevation — 7.26 M (A.D)

Right Bank Elevation — 7.46 M (A.D), Drainage Area — 2132 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.40	0.76	3.32	49.90	38.26	177.15	108.00	11.10	0.33	0.07	0.06	0.02	
2	0.40	0.76	2.84	32.41	43.56	176.08	114.00	9.20	0.29	0.07	0.06	0.02	
3	0.46	0.76	2.60	33.76	54.30	168.54	230.80	8.00	0.26	0.07	0.05	0.02	
4	0.52	0.76	9.60	38.58	41.86	249.38	204.80	7.05	0.23	0.07	0.05	0.02	
5	0.52	0.70	7.60	29.44	33.49	391.00	158.40	6.72	0.21	0.08	0.05	0.02	
6	0.52	0.70	5.84	20.34	134.62	525.18	174.40	6.50	0.19	0.08	0.05	0.02	
7	0.46	0.76	4.04	14.82	191.60	546.21	164.80	6.26	0.18	0.08	0.05	0.02	
8	0.46	0.76	3.80	11.00	179.85	529.07	152.00	5.99	0.18	0.08	0.05	0.02	
9	0.46	0.70	3.92	33.76	156.15	499.47	144.80	5.71	0.17	0.09	0.06	0.02	
10	0.52	1.10	3.32	51.50	121.69	465.98	158.40	5.44	0.17	0.09	0.06	0.02	
11	0.52	0.94	2.96	51.50	90.05	425.47	144.80	5.16	0.17	0.08	0.06	0.02	
12	0.52	0.82	3.80	49.10	67.50	383.50	144.80	4.85	0.16	0.09	0.06	0.03	
13	0.52	0.70	6.48	46.30	60.70	347.20	215.20	4.52	0.17	0.08	0.06	0.03	
14	0.58	0.64	7.60	54.70	67.10	317.68	220.40	4.23	0.16	0.08	0.06	0.02	
15	0.58	0.76	7.12	55.50	57.10	283.25	155.20	3.97	0.16	0.08	0.05	0.02	
16	0.58	0.76	5.68	48.30	63.10	251.95	105.00	3.66	0.16	0.08	0.05	0.02	
17	0.52	0.88	4.72	40.50	79.10	230.00	82.20	3.40	0.15	0.08	0.04	0.02	
18	0.58	0.88	3.92	33.22	167.46	213.13	69.00	3.13	0.14	0.07	0.04	0.01	
19	0.58	0.94	3.44	27.82	201.87	201.25	59.00	2.87	0.14	0.07	0.04	0.01	
20	0.52	1.00	3.08	25.12	183.80	210.00	50.00	2.58	0.13	0.06	0.04	0.01	
21	0.40	1.50	2.84	48.30	163.69	221.88	44.20	2.25	0.13	0.06	0.03	0.01	
22	0.37	1.70	2.72	48.70	148.08	114.00	39.60	1.84	0.13	0.06	0.03	0.01	
23	0.37	1.50	2.60	47.50	141.08	81.00	35.40	1.42	0.13	0.06	0.02	0.01	
24	0.37	1.40	2.84	48.70	140.54	55.00	32.20	1.08	0.12	0.06	0.02	0.01	
25	0.40	1.40	3.32	59.90	127.62	42.60	28.00	0.78	0.12	0.06	0.02	0.01	
26	0.46	1.40	78.30	66.30	110.51	53.00	25.60	0.61	0.11	0.05	0.02	0.01	
27	0.46	1.60	78.70	75.50	121.69	48.20	22.80	0.53	0.11	0.05	0.02	0.01	
28	0.46	1.60	43.56	72.30	151.85	41.80	20.00	0.46	0.09	0.05	0.02	0.01	
29	0.58	1.50	54.30	59.90	177.15	72.60	17.04	0.40	0.08	0.05	0.02	0.02	
30	0.64	1.40	73.50	49.50	163.69	118.00	15.10	0.35	0.08	0.05		0.03	
31		3.32		42.88	162.62		13.18		0.08	0.05		0.05	
Total	14.73	34.40	438.36	1367.05	3641.68	7439.57	3149.12	120.06	4.93	2.15	1.24	0.57	16213.86 CMSDAY
Mean	0.49	1.11	14.61	44.10	117.47	247.99	101.58	4.00	0.16	0.07	0.04	0.02	44.30 CMS
Max	0.64	3.32	78.70	75.50	201.87	546.21	230.80	11.10	0.33	0.09	0.06	0.05	546.21 CMS
Min	0.37	0.64	2.60	11.00	33.49	41.80	13.18	0.35	0.08	0.05	0.02	0.01	0.01 CMS
Runoff	1.273	2.972	37.874	118.113	314.641	642.779	272.084	10.373	0.426	0.186	0.107	0.049	1400.878 MCM

Momentary Peak 548.55 CMS, at 10.73 M (A.D), at 10.00 Hours, on Sep 7, 1991

Runoff Yield 20.78 Liters/Second/Square KM, Momentary Peak Yield 257.29 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

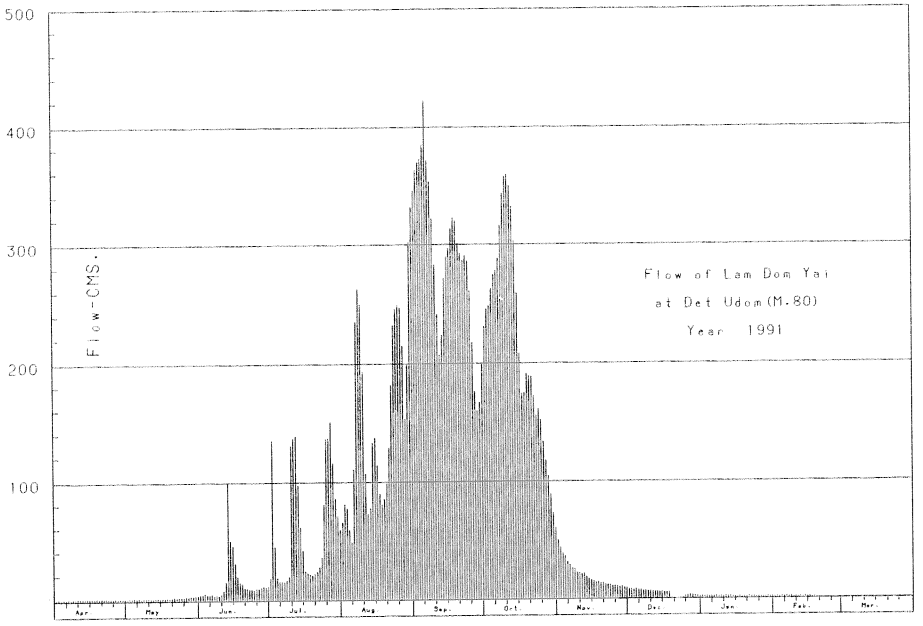
Lam Dom Yai at Det Udom, Ubon Ratchathani (M.80)

Location	Lat. 14°-53'-53" N., Long. 105°-05'-08" E., on left bank about 20 meters downstream from the bridge on road, Amphoe Det Udom, Ubon Ratchathani.
Drainage Area	3,363 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+117.262 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	Near the automatic gage building.
Elevation	+130.912 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1965 to date.
Rating Operation	
Period of Rating	1965 to date.
Rated by Float	-
Rated by Current Meter	1965 to date.
Stability of Channel Regimes	Fairly stable because of backwater effect.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 26 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	121.43	121.46	121.54	119.02	120.25	125.33	123.43	119.85	118.68	121.48	121.45	121.36	
2	121.43	121.46	121.55	121.69	120.60	125.63	123.67	119.69	118.67	121.48	121.44	121.36	
3	121.43	121.49	121.56	119.74	120.54	125.74	123.72	119.57	118.66	121.48	121.45	121.36	
4	121.43	121.49	121.55	119.02	120.08	125.78	123.96	119.50	118.67	121.49	121.46	121.36	
5	121.43	121.48	121.55	118.93	119.82	125.98	124.16	119.39	118.66	121.49	121.46	121.36	
6	121.43	121.46	121.55	118.92	121.19	126.61	124.21	119.31	118.64	121.49	121.47	121.36	
7	121.43	121.46	121.54	118.92	123.50	125.77	124.39	119.26	118.63	121.48	121.46	121.36	
8	121.45	121.46	121.54	118.95	123.97	125.47	124.85	119.23	118.63	121.49	121.46	121.36	
9	121.46	121.49	121.54	119.07	123.74	124.94	125.29	119.15	118.62	121.48	121.45	121.36	
10	121.47	121.48	121.55	121.61	122.79	124.29	125.54	119.12	118.61	121.49	121.44	121.36	
11	121.48	121.48	121.60	121.72	121.13	123.60	125.56	119.11	118.60	121.49	121.45	121.35	
12	121.48	121.48	121.68	121.77	120.42	123.02	125.41	119.11	118.60	121.50	121.45	121.35	
13	121.48	121.49	120.97	120.94	120.54	123.30	125.11	119.03	118.59	121.49	121.45	121.35	
14	121.48	121.49	119.86	120.14	121.64	124.11	124.62	118.96	118.59	121.48	121.44	121.35	
15	121.48	121.49	119.76	119.66	121.74	124.41	123.90	118.94	118.58	121.46	121.44	121.35	
16	121.46	121.49	119.39	119.21	121.26	124.52	123.04	118.89	118.58	121.46	121.43	121.35	
17	121.46	121.49	119.06	119.17	120.78	124.81	122.47	118.87	118.57	121.46	121.42	121.35	
18	121.47	121.49	118.91	119.12	120.59	124.95	122.49	118.87	118.56	121.45	121.41	121.35	
19	121.47	121.50	118.86	119.11	120.68	124.91	122.76	118.85	118.65	121.44	121.42	121.35	
20	121.47	121.51	118.76	119.13	120.96	124.60	122.72	118.84	119.73	121.45	121.40	121.35	
21	121.47	121.51	118.73	119.21	121.56	124.45	122.72	118.82	120.46	121.47	121.40	121.34	
22	121.47	121.51	118.72	119.29	122.61	124.36	122.43	118.81	120.95	121.46	121.39	121.34	
23	121.47	121.51	118.70	119.51	123.45	124.42	122.10	118.78	121.33	121.45	121.38	121.34	
24	121.47	121.51	118.70	120.60	123.67	124.35	122.21	118.77	121.50	121.46	121.38	121.34	
25	121.47	121.51	118.72	121.71	123.73	123.92	122.02	118.76	121.51	121.45	121.36	121.34	
26	121.47	121.52	118.72	121.72	123.70	123.20	121.66	118.75	121.51	121.45	121.35	121.34	
27	121.46	121.52	118.77	122.01	123.16	122.51	121.34	118.74	121.52	121.45	121.36	121.34	
28	121.46	121.52	118.78	121.31	122.06	122.19	121.07	118.74	121.51	121.46	121.37	121.34	
29	121.46	121.52	118.78	120.71	122.90	122.32	120.77	118.72	121.51	121.46	121.37	121.34	
30	121.46	121.53	118.78	120.37	124.62	122.90	120.42	118.70	121.50	121.46		121.34	
31		121.54		120.08	125.11		120.11		121.50	121.46		121.34	
Mean	121.46	121.49	120.06	120.08	122.03	124.41	123.17	119.04	119.62	121.47	121.42	121.35	
Max	121.48	121.54	121.68	122.01	125.11	126.61	125.56	119.85	121.52	121.50	121.47	121.36	126.61
Min	121.43	121.46	118.70	118.92	119.82	122.19	120.11	118.70	118.56	121.44	121.35	121.34	118.56

Annual Max Momentary Gage Height 126.05 M (MSL), at 24.00 Hours, on Sep 5, 1991
Zero Gage at Bottom Elevation 117.26 M (MSL), River Bed 117.46 M (MSL)
Left Bank Elevation 130.68 M (MSL)
Right Bank Elevation 129.88 M (MSL), Drainage Area 3363 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.30	1.60	4.40	18.60	66.00	345.80	231.80	50.00	8.40	1.80	1.50	0.60	
2	1.30	1.60	5.00	135.50	81.00	363.80	246.20	43.60	8.10	1.80	1.40	0.60	
3	1.30	1.90	5.60	45.60	78.00	370.40	249.20	38.80	7.80	1.80	1.50	0.60	
4	1.30	1.90	5.00	18.60	59.20	372.80	263.60	36.00	8.10	1.90	1.60	0.60	
5	1.30	1.80	5.00	15.90	48.80	384.80	275.60	31.60	7.80	1.90	1.60	0.60	
6	1.30	1.60	5.00	15.60	110.50	422.60	278.60	28.40	7.20	1.90	1.70	0.60	
7	1.30	1.60	4.40	15.60	236.00	372.20	289.40	26.40	6.90	1.80	1.60	0.60	
8	1.50	1.60	4.40	16.50	264.20	354.20	317.00	25.20	6.90	1.90	1.60	0.60	
9	1.60	1.90	4.40	20.10	250.40	322.40	343.40	22.50	6.60	1.80	1.50	0.60	
10	1.70	1.80	5.00	131.50	193.40	283.40	358.40	21.60	6.30	1.90	1.40	0.60	
11	1.80	1.80	8.00	137.00	107.50	242.00	359.60	21.30	6.00	1.90	1.50	0.50	
12	1.80	1.80	16.00	139.50	72.80	207.20	350.60	21.30	6.00	2.00	1.50	0.50	
13	1.80	1.90	99.50	98.00	78.00	224.00	332.60	18.90	5.80	1.90	1.50	0.50	
14	1.80	1.90	50.40	61.60	133.00	272.60	303.20	16.80	5.80	1.80	1.40	0.50	
15	1.80	1.90	46.40	42.40	138.00	290.60	260.00	16.20	5.60	1.60	1.40	0.50	
16	1.60	1.90	31.60	24.40	114.00	297.20	208.40	14.70	5.60	1.60	1.30	0.50	
17	1.60	1.90	19.80	23.10	90.00	314.60	174.50	14.10	5.40	1.60	1.20	0.50	
18	1.70	1.90	15.30	21.60	80.50	323.00	175.50	14.10	5.20	1.50	1.10	0.50	
19	1.70	2.00	13.80	21.30	85.00	320.60	191.60	13.50	0.00	1.40	1.20	0.50	
20	1.70	2.60	10.80	21.90	99.00	302.00	189.20	13.20	0.00	1.50	1.00	0.50	
21	1.70	2.60	9.90	24.40	129.00	293.00	189.20	12.60	0.00	1.70	1.00	0.40	
22	1.70	2.60	9.60	27.60	182.60	287.60	172.50	12.30	0.00	1.60	0.90	0.40	
23	1.70	2.60	9.00	36.40	233.00	291.20	156.00	11.40	0.30	1.50	0.80	0.40	
24	1.70	2.60	9.00	81.00	246.20	287.00	161.50	11.10	2.00	1.60	0.80	0.40	
25	1.70	2.60	9.60	136.50	249.80	261.20	152.00	10.80	2.60	1.50	0.60	0.40	
26	1.70	3.20	9.60	137.00	248.00	218.00	134.00	10.50	2.60	1.50	0.50	0.40	
27	1.60	3.20	11.10	151.50	215.60	176.60	118.00	10.20	3.20	1.50	0.60	0.40	
28	1.60	3.20	11.40	116.50	154.00	160.50	104.50	10.20	2.60	1.60	0.70	0.40	
29	1.60	3.20	11.40	86.50	200.00	167.00	89.50	9.60	2.60	1.60	0.70	0.40	
30	1.60	3.80	11.40	70.80	303.20	200.00	72.80	9.00	2.00	1.60		0.40	
31		4.40		59.20	332.60		60.40		2.00	1.60		0.40	
Total	47.80	70.90	461.80	1951.70	4879.30	8728.30	6808.80	595.90	139.40	52.60	35.10	15.40	23787.00 CMSDAY
Mean	1.59	2.29	15.39	62.96	157.40	290.94	219.64	19.86	4.50	1.70	1.13	0.50	64.99 CMS
Max	1.80	4.40	99.50	151.50	332.60	422.60	359.60	50.00	8.40	2.00	1.90	0.60	422.60 CMS
Min	1.30	1.60	4.40	15.60	48.80	160.50	60.40	9.00	0.00	1.40	0.50	0.40	0.00 CMS
Runoff	4.130	6.126	39.900	168.627	421.572	754.125	588.280	51.486	12.044	4.545	3.033	1.331	2055.197 MCM

Momentary Peak 389.00 CMS, at 126.05 M (MSL), at 24.00 Hours, on Sep 5, 1991
Runoff Yield 19.33 Liters/Second/Square KM, Momentary Peak Yield 115.67 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

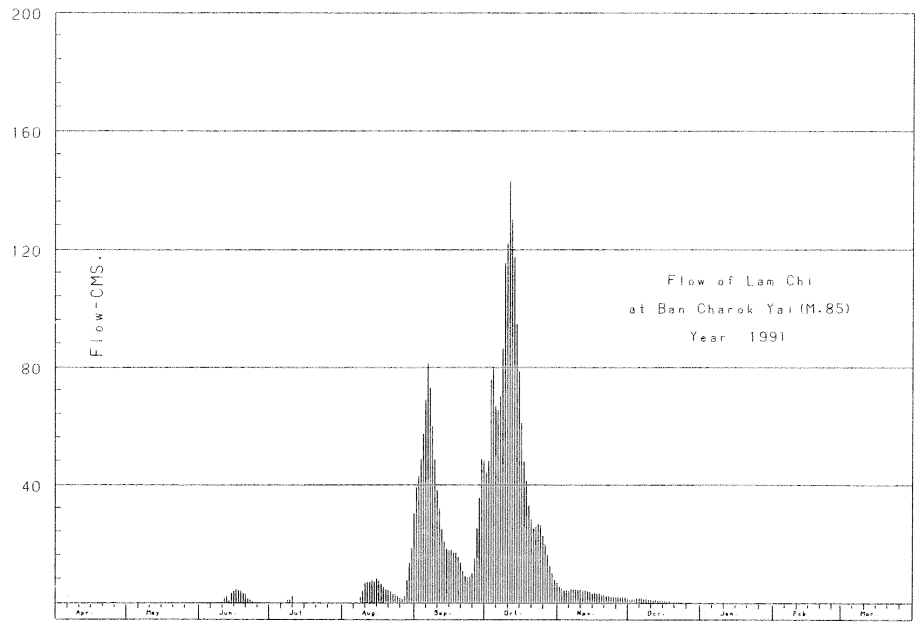
Lam Chi at Ban Charok Yai, Buri Ram (M.85)

Location	Lat. 14°-37'-54" N., Long. 103°-14'-03" E., on right bank at the bridge of Prasat-Prakhonchai Highway near guidepost 104 at Ban Charok Yai, Tambon Lavia, Amphoe Prakhon Chai, Buri Ram.
Drainage Area	1,046 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank at the abutment of the bridge.
Elevation	+6.546 m.(A.D.)
Gage Reading Frequency	3-5 time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 3-5 readings.
Period of Available Gage Records	1969 - 1971, 1979 to date.
Rating Operation	
Period of Rating	1969 - 1971, 1979, 1981 to date.
Rated by Float	-
Rated by Current Meter	1969 - 1971, 1979, 1981 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 36 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.09	0.01	0.04	0.20	0.12	3.16	3.24	1.27	0.65	0.36	0.30	0.18	
2	0.08	0.01	0.04	0.31	0.10	3.22	3.29	1.17	0.64	0.40	0.37	0.18	
3	0.08	0.01	0.04	0.30	0.11	3.30	3.55	1.10	0.65	0.41	0.38	0.19	
4	0.07	0.00	0.04	0.27	0.18	3.40	3.58	1.08	0.69	0.38	0.29	0.19	
5	0.07	0.00	0.04	0.21	0.20	3.50	3.48	1.07	0.73	0.37	0.27	0.18	
6	0.07	0.00	0.05	0.23	0.38	3.59	3.47	1.14	0.70	0.38	0.25	0.17	
7	0.07	0.00	0.04	0.34	0.36	3.53	3.51	1.14	0.66	0.38	0.22	0.17	
8	0.07	0.00	0.04	0.61	0.77	3.42	3.62	1.11	0.65	0.37	0.20	0.17	
9	0.07	0.02	0.20	0.60	1.04	3.30	3.78	1.12	0.64	0.36	0.20	0.17	
10	0.07	0.03	0.51	0.82	1.42	3.14	3.81	1.10	0.62	0.36	0.22	0.17	
11	0.06	0.06	0.72	0.36	1.43	2.99	3.89	1.10	0.60	0.35	0.25	0.17	
12	0.05	0.07	0.79	0.26	1.47	2.77	3.84	1.07	0.59	0.34	0.23	0.17	
13	0.05	0.06	0.58	0.23	1.50	2.58	3.79	1.06	0.59	0.39	0.23	0.17	
14	0.05	0.06	0.97	0.19	1.48	2.45	3.67	0.99	0.57	0.36	0.22	0.16	
15	0.04	0.05	1.06	0.17	1.59	2.42	3.57	0.94	0.57	0.32	0.20	0.16	
16	0.04	0.05	1.13	0.16	1.50	2.42	3.43	0.97	0.56	0.33	0.21	0.16	
17	0.04	0.05	1.09	0.13	1.38	2.37	3.29	0.95	0.55	0.34	0.20	0.16	
18	0.04	0.05	1.05	0.11	1.23	2.36	3.20	0.92	0.54	0.36	0.21	0.15	
19	0.04	0.05	0.96	0.13	1.14	2.28	3.02	0.88	0.52	0.34	0.21	0.15	
20	0.03	0.04	0.87	0.14	1.07	2.11	2.88	0.84	0.50	0.32	0.21	0.15	
21	0.03	0.04	0.76	0.13	1.01	1.84	2.78	0.82	0.49	0.30	0.21	0.15	
22	0.03	0.04	0.61	0.13	0.93	1.68	2.79	0.81	0.49	0.26	0.21	0.15	
23	0.03	0.04	0.48	0.13	0.87	1.61	2.83	0.79	0.50	0.23	0.21	0.15	
24	0.03	0.04	0.36	0.12	0.81	1.66	2.81	0.77	0.48	0.28	0.21	0.15	
25	0.03	0.04	0.26	0.12	0.68	1.75	2.68	0.77	0.45	0.34	0.20	0.14	
26	0.02	0.03	0.25	0.12	0.62	2.24	2.54	0.76	0.43	0.48	0.20	0.14	
27	0.02	0.03	0.28	0.11	0.81	2.78	2.31	0.75	0.42	0.34	0.20	0.14	
28	0.02	0.04	0.28	0.10	1.53	3.08	2.03	0.75	0.37	0.30	0.20	0.13	
29	0.02	0.04	0.27	0.09	2.09	3.30	1.75	0.75	0.35	0.28	0.19	0.13	
30	0.01	0.05	0.23	0.09	2.47	3.29	1.55	0.65	0.30	0.27		0.13	
31		0.04		0.12	2.94		1.41		0.29	0.27		0.13	
Mean	0.05	0.03	0.47	0.23	1.07	2.72	3.08	0.95	0.54	0.34	0.23	0.16	
Max	0.09	0.07	1.13	0.82	2.94	3.59	3.89	1.27	0.73	0.48	0.38	0.19	3.89
Min	0.01	0.00	0.04	0.09	0.10	1.61	1.41	0.65	0.29	0.23	0.19	0.13	0.00

Annual Max Momentary Gage Height 3.94 M (A.D), at 18.00 Hours, on Oct 11, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -2.75 M (A.D)
Left Bank Elevation 5.36 M (A.D)
Right Bank Elevation 5.34 M (A.D), Drainage Area 1046 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.00	0.00	0.00	39.46	44.50	5.76	1.40	0.18	0.00	0.00	
2	0.00	0.00	0.00	0.03	0.00	43.00	48.25	4.99	1.34	0.30	0.21	0.00	
3	0.00	0.00	0.00	0.00	0.00	49.00	76.00	4.50	1.40	0.33	0.24	0.00	
4	0.00	0.00	0.00	0.00	0.00	57.70	80.20	4.36	1.64	0.24	0.00	0.00	
5	0.00	0.00	0.00	0.00	0.00	69.00	66.74	4.29	1.91	0.21	0.00	0.00	
6	0.00	0.00	0.00	0.00	0.24	81.60	65.61	4.78	1.70	0.24	0.00	0.00	
7	0.00	0.00	0.00	0.12	0.18	73.20	70.40	4.78	1.46	0.24	0.00	0.00	
8	0.00	0.00	0.00	1.16	2.19	59.96	86.40	4.57	1.40	0.21	0.00	0.00	
9	0.00	0.00	0.00	1.10	4.08	49.00	115.60	4.64	1.34	0.18	0.00	0.00	
10	0.00	0.00	0.65	2.54	6.96	38.44	122.15	4.50	1.22	0.18	0.00	0.00	
11	0.00	0.00	1.84	0.18	7.04	32.15	143.35	4.50	1.10	0.15	0.00	0.00	
12	0.00	0.00	2.33	0.00	7.36	25.25	130.10	4.29	1.05	0.12	0.00	0.00	
13	0.00	0.00	1.00	0.00	7.60	20.82	117.55	4.22	1.05	0.27	0.00	0.00	
14	0.00	0.00	3.59	0.00	7.44	18.45	94.90	3.73	0.95	0.18	0.00	0.00	
15	0.00	0.00	4.22	0.00	8.41	17.94	78.80	3.38	0.95	0.06	0.00	0.00	
16	0.00	0.00	4.71	0.00	7.60	17.94	61.09	3.59	0.90	0.09	0.00	0.00	
17	0.00	0.00	4.43	0.00	6.64	17.15	48.25	3.45	0.85	0.12	0.00	0.00	
18	0.00	0.00	4.15	0.00	5.44	17.00	41.50	3.24	0.80	0.18	0.00	0.00	
19	0.00	0.00	3.52	0.00	4.78	15.82	33.28	2.96	0.70	0.12	0.00	0.00	
20	0.00	0.00	2.89	0.00	4.29	13.71	28.40	2.68	0.60	0.06	0.00	0.00	
21	0.00	0.00	2.12	0.00	3.87	10.90	25.50	2.54	0.57	0.00	0.00	0.00	
22	0.00	0.00	1.16	0.00	3.31	9.30	25.75	2.47	0.57	0.00	0.00	0.00	
23	0.00	0.00	0.54	0.00	2.89	8.60	26.90	2.33	0.60	0.00	0.00	0.00	
24	0.00	0.00	0.18	0.00	2.47	9.10	26.30	2.19	0.54	0.00	0.00	0.00	
25	0.00	0.00	0.00	0.00	1.58	10.00	23.04	2.19	0.45	0.12	0.00	0.00	
26	0.00	0.00	0.00	0.00	1.22	15.26	20.06	2.12	0.39	0.54	0.00	0.00	
27	0.00	0.00	0.00	0.00	2.47	25.50	16.25	2.05	0.36	0.12	0.00	0.00	
28	0.00	0.00	0.00	0.00	7.87	35.62	12.83	2.05	0.21	0.00	0.00	0.00	
29	0.00	0.00	0.00	0.00	13.49	49.00	10.00	2.05	0.15	0.00	0.00	0.00	
30	0.00	0.00	0.00	0.00	18.79	48.25	8.05	1.40	0.00	0.00		0.00	
31		0.00		0.00	30.40		6.88		0.00	0.00		0.00	
Total	0.00	0.00	37.33	5.13	168.61	978.12	1754.63	104.60	27.60	4.44	0.45	0.00	3080.91 CMSDAY
Mean	0.00	0.00	1.24	0.17	5.44	32.60	56.60	3.49	0.89	0.14	0.02	0.00	8.42 CMS
Max	0.00	0.00	4.71	2.54	30.40	81.60	143.35	5.76	1.91	0.54	0.24	0.00	143.35 CMS
Min	0.00	0.00	0.00	0.00	0.00	8.60	6.88	1.40	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	0.000	0.000	3.225	0.443	14.568	84.510	151.600	9.037	2.385	0.384	0.039	0.000	266.191 MCM

Momentary Peak 162.60 CMS, at 3.94 M (A.D), at 18.00 Hours, on Oct 11, 1991

Runoff Yield 8.05 Liters/Second/Square KM, Momentary Peak Yield 155.45 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

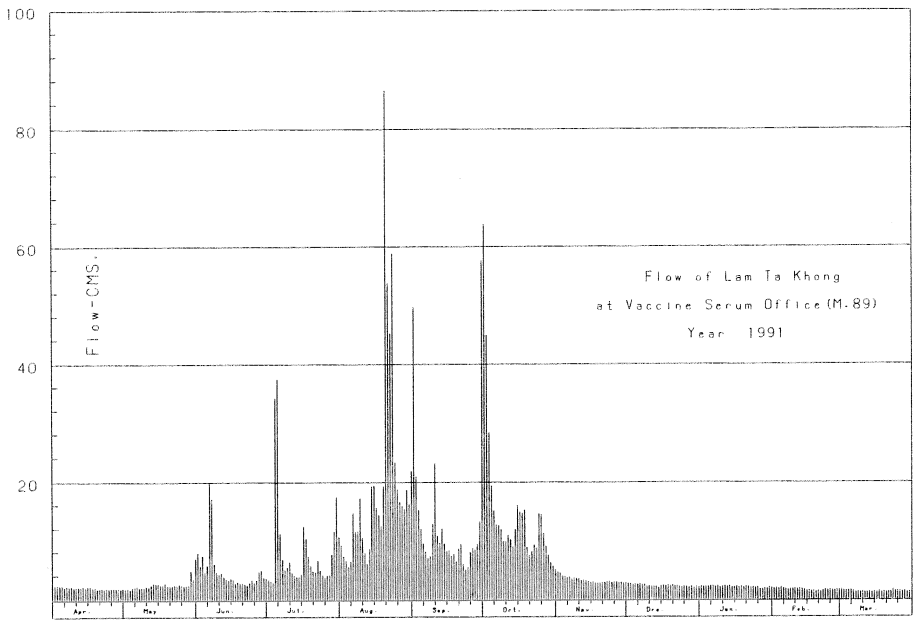
Lam Takhong at Vaccine Serum Office, Nakhon Ratchasima (M.89)

Location	Lat. 14°-41'-46" N., Long. 101°-25'-07" E., on left bank at the bridge infront of Vaccine Serum Office, Amphoe Pak Chong, Nakhon Ratchasima.
Drainage Area	665 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank at the abutment of the bridge.
Elevation	+8.909 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1970 to date.
Rating Operation	
Period of Rating	1971 to date.
Rated by Float	-
Rated by Current Meter	1971 to date.
Stability of Channel Regimes	Rather unstable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 31 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.20	1.15	1.56	1.29	1.62	3.11	3.51	1.39	1.24	1.19	1.16	1.14	
2	1.20	1.15	1.45	1.26	1.53	2.14	2.97	1.37	1.23	1.19	1.16	1.13	
3	1.20	1.14	1.54	1.25	1.49	1.90	2.42	1.34	1.22	1.18	1.16	1.12	
4	1.19	1.16	1.38	2.61	1.44	1.75	2.08	1.33	1.22	1.19	1.17	1.13	
5	1.18	1.18	1.45	2.72	1.49	1.64	1.89	1.32	1.22	1.20	1.16	1.13	
6	1.18	1.18	2.10	1.71	1.87	1.57	1.78	1.32	1.22	1.19	1.14	1.11	
7	1.18	1.17	1.98	1.51	1.73	1.52	1.78	1.30	1.22	1.19	1.14	1.10	
8	1.18	1.16	1.47	1.41	1.73	1.53	1.75	1.31	1.21	1.19	1.14	1.10	
9	1.17	1.17	1.38	1.43	1.99	1.79	1.66	1.31	1.19	1.18	1.15	1.10	
10	1.17	1.18	1.36	1.48	1.68	2.23	1.65	1.30	1.19	1.18	1.15	1.10	
11	1.18	1.18	1.37	1.38	1.56	1.70	1.70	1.28	1.19	1.19	1.15	1.10	
12	1.18	1.21	1.33	1.34	1.47	1.64	1.67	1.28	1.19	1.19	1.15	1.10	
13	1.18	1.23	1.30	1.33	1.60	1.75	1.61	1.28	1.18	1.19	1.15	1.10	
14	1.17	1.23	1.29	1.32	2.07	1.64	1.75	1.26	1.17	1.18	1.13	1.10	
15	1.18	1.22	1.31	1.36	2.08	1.58	1.93	1.25	1.19	1.18	1.12	1.10	
16	1.18	1.20	1.29	1.77	1.91	1.58	1.88	1.25	1.20	1.18	1.12	1.10	
17	1.17	1.21	1.24	1.68	1.86	1.54	1.87	1.24	1.20	1.18	1.12	1.11	
18	1.16	1.23	1.25	1.53	1.77	1.55	1.90	1.23	1.20	1.18	1.11	1.10	
19	1.15	1.20	1.24	1.45	2.07	1.49	1.61	1.24	1.20	1.18	1.11	1.10	
20	1.15	1.19	1.23	1.39	4.10	1.60	1.54	1.24	1.20	1.18	1.11	1.10	
21	1.15	1.19	1.22	1.38	3.23	1.63	1.57	1.25	1.20	1.18	1.11	1.10	
22	1.15	1.21	1.21	1.50	2.98	1.46	1.63	1.26	1.20	1.17	1.13	1.11	
23	1.15	1.19	1.25	1.40	3.38	1.41	1.60	1.26	1.18	1.17	1.13	1.13	
24	1.15	1.22	1.28	1.35	2.24	1.43	1.87	1.25	1.18	1.17	1.13	1.12	
25	1.15	1.20	1.25	1.31	2.05	1.57	1.86	1.25	1.18	1.17	1.13	1.11	
26	1.15	1.20	1.28	1.34	1.96	1.60	1.72	1.25	1.18	1.15	1.13	1.11	
27	1.15	1.20	1.39	1.35	1.93	1.59	1.62	1.25	1.18	1.15	1.13	1.11	
28	1.15	1.20	1.40	1.55	1.90	1.63	1.54	1.24	1.18	1.15	1.13	1.11	
29	1.15	1.40	1.32	1.73	2.05	1.81	1.48	1.24	1.17	1.16	1.13	1.10	
30	1.15	1.29	1.30	2.00	1.94	3.34	1.44	1.24	1.18	1.17		1.10	
31		1.51		1.69	2.18		1.41		1.18	1.16		1.10	
Mean	1.17	1.21	1.38	1.54	2.03	1.76	1.83	1.28	1.20	1.18	1.14	1.11	
Max	1.20	1.51	2.10	2.72	4.10	3.34	3.51	1.39	1.24	1.20	1.17	1.14	4.10
Min	1.15	1.14	1.21	1.25	1.44	1.41	1.41	1.23	1.17	1.15	1.11	1.10	1.10

Annual Max Momentary Gage Height 4.72 M (A.D), at 20.00 Hours, on Aug 20, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.48 M (A.D)
Left Bank Elevation 9.17 M (A.D)
Right Bank Elevation 8.77 M (A.D), Drainage Area 665 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.50	1.95	8.00	3.49	9.24	49.74	63.77	4.86	2.94	2.39	2.06	1.84	
2	2.50	1.95	5.90	3.16	7.40	21.00	45.10	4.58	2.83	2.39	2.06	1.73	
3	2.50	1.84	7.60	3.05	6.62	15.40	28.60	4.16	2.72	2.28	2.06	1.62	
4	2.39	2.06	4.72	34.30	5.72	12.10	19.52	4.02	2.72	2.39	2.17	1.73	
5	2.28	2.28	5.90	37.60	6.62	9.68	15.18	3.88	2.72	2.50	2.06	1.73	
6	2.28	2.28	20.00	11.22	14.74	8.20	12.76	3.88	2.72	2.39	1.84	1.51	
7	2.28	2.17	17.16	7.00	11.66	7.20	12.76	3.60	2.72	2.39	1.84	1.40	
8	2.28	2.06	6.26	5.18	11.66	7.40	12.10	3.74	2.61	2.39	1.84	1.40	
9	2.17	2.17	4.72	5.54	17.38	12.98	10.12	3.74	2.39	2.28	1.95	1.40	
10	2.17	2.28	4.44	6.44	10.56	23.25	9.90	3.60	2.39	2.28	1.95	1.40	
11	2.28	2.28	4.58	4.72	8.00	11.00	11.00	3.38	2.39	2.39	1.95	1.40	
12	2.28	2.61	4.02	4.16	6.26	9.68	10.34	3.38	2.39	2.39	1.95	1.40	
13	2.28	2.83	3.60	4.02	8.80	12.10	9.02	3.38	2.28	2.39	1.95	1.40	
14	2.17	2.83	3.49	3.88	19.28	9.68	12.10	3.16	2.17	2.28	1.73	1.40	
15	2.28	2.72	3.74	4.44	19.52	8.40	16.06	3.05	2.39	2.28	1.62	1.40	
16	2.28	2.50	3.49	12.54	15.62	8.40	14.96	3.05	2.50	2.28	1.62	1.40	
17	2.17	2.61	2.94	10.56	14.52	7.60	14.74	2.94	2.50	2.28	1.62	1.51	
18	2.06	2.83	3.05	7.40	12.54	7.80	15.40	2.83	2.50	2.28	1.51	1.40	
19	1.95	2.50	2.94	5.90	19.28	6.62	9.02	2.94	2.50	2.28	1.51	1.40	
20	1.95	2.39	2.83	4.86	86.60	8.80	7.60	2.94	2.50	2.28	1.51	1.40	
21	1.95	2.39	2.72	4.72	53.82	9.46	8.20	3.05	2.50	2.28	1.51	1.40	
22	1.95	2.61	2.61	6.80	45.40	6.08	9.46	3.16	2.50	2.17	1.73	1.51	
23	1.95	2.39	3.05	5.00	59.00	5.18	8.80	3.16	2.28	2.17	1.73	1.73	
24	1.95	2.72	3.38	4.30	23.50	5.54	14.74	3.05	2.28	2.17	1.73	1.62	
25	1.95	2.50	3.05	3.74	18.80	8.20	14.52	3.05	2.28	2.17	1.73	1.51	
26	1.95	2.50	3.38	4.16	16.72	8.80	11.44	3.05	2.28	1.95	1.73	1.51	
27	1.95	2.50	4.86	4.30	16.06	8.60	9.24	3.05	2.28	1.95	1.73	1.51	
28	1.95	2.50	5.00	7.80	15.40	9.46	7.60	2.94	2.28	1.95	1.73	1.51	
29	1.95	5.00	3.88	11.66	18.80	13.42	6.44	2.94	2.17	2.06	1.73	1.40	
30	1.95	3.49	3.60	17.60	16.28	57.60	5.72	2.94	2.28	2.17		1.40	
31		7.00		10.78	22.00		5.18		2.28	2.06		1.40	
Total	64.55	82.74	154.91	260.32	617.80	389.37	451.39	101.50	76.29	69.91	52.15	46.37	2367.30 CMSDAY
Mean	2.15	2.67	5.16	8.40	19.93	12.98	14.56	3.38	2.46	2.26	1.80	1.50	6.47 CMS
Max	2.50	7.00	20.00	37.60	86.60	57.60	63.77	4.86	2.94	2.50	2.17	1.84	86.60 CMS
Min	1.95	1.84	2.61	3.05	5.72	5.18	5.18	2.83	2.17	1.95	1.51	1.40	1.40 CMS
Runoff	5.577	7.149	13.384	22.492	53.378	33.642	39.000	8.770	6.591	6.040	4.506	4.006	204.535 MCM

Momentary Peak 113.72 CMS, at 4.72 M (A.D), at 20.00 Hours, on Aug 20, 1991

Runoff Yield 9.73 Liters/Second/Square KM, Momentary Peak Yield 171.01 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

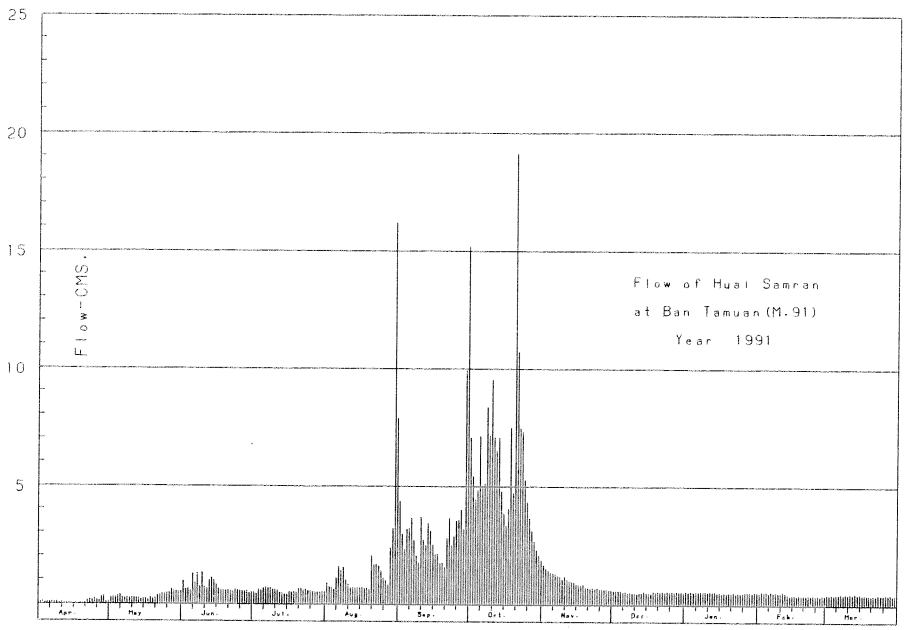
Huai Samran at Ban Tamuan, Si Sa Ket (M.91)

Location	Lat. 14°-29'-48" N., Long. 104°-03'-29" E., on right bank about 15 kilometers from the highway at Ban Tamuan, Tambon Lalom, Amphoe Khukhan, Si Sa Ket.
Drainage Area	128 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 1.50 meters from the top staff gage.
Elevation	+8.051 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1977 to date.
Rating Operation	
Period of Rating	1977 - 1978, 1983 to date.
Rated by Float	-
Rated by Current Meter	1977 - 1978, 1983 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 71 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.05	1.15	1.36	1.23	1.34	1.88	2.24	1.49	1.27	1.25	1.24	1.21	
2	1.05	1.15	1.28	1.22	1.31	1.69	2.03	1.46	1.26	1.25	1.25	1.21	
3	1.04	1.16	1.28	1.27	1.30	1.59	1.89	1.45	1.27	1.25	1.25	1.21	
4	1.04	1.17	1.26	1.27	1.28	1.72	1.95	1.43	1.26	1.25	1.25	1.21	
5	1.04	1.20	1.42	1.30	1.39	1.72	2.25	1.43	1.25	1.25	1.24	1.21	
6	1.04	1.14	1.34	1.30	1.47	1.78	1.97	1.42	1.25	1.25	1.25	1.22	
7	1.04	1.14	1.42	1.30	1.44	1.65	1.99	1.41	1.24	1.25	1.24	1.22	
8	1.04	1.14	1.31	1.29	1.47	1.55	2.40	1.40	1.24	1.25	1.24	1.22	
9	1.03	1.14	1.43	1.28	1.37	1.50	2.25	1.38	1.24	1.25	1.24	1.22	
10	1.02	1.14	1.30	1.27	1.33	1.79	2.53	1.40	1.23	1.25	1.24	1.22	
11	1.02	1.15	1.29	1.26	1.30	1.65	2.24	1.38	1.23	1.25	1.25	1.22	
12	1.01	1.14	1.36	1.24	1.30	1.62	2.17	1.36	1.23	1.25	1.24	1.22	
13	1.01	1.13	1.39	1.22	1.30	1.75	2.24	1.36	1.24	1.25	1.21	1.23	
14	1.00	1.12	1.36	1.21	1.30	1.71	1.94	1.35	1.25	1.24	1.20	1.22	
15	1.00	1.12	1.33	1.21	1.30	1.62	1.81	1.34	1.24	1.24	1.20	1.22	
16	1.00	1.12	1.28	1.24	1.30	1.56	1.74	1.33	1.23	1.23	1.20	1.21	
17	0.99	1.11	1.27	1.24	1.29	1.56	1.84	1.33	1.23	1.23	1.20	1.21	
18	0.99	1.14	1.26	1.24	1.29	1.50	2.29	1.33	1.25	1.23	1.20	1.21	
19	0.99	1.13	1.26	1.24	1.28	1.50	1.93	1.31	1.25	1.23	1.20	1.20	
20	0.99	1.13	1.26	1.28	1.55	1.47	3.43	1.30	1.25	1.24	1.20	1.20	
21	1.10	1.19	1.25	1.29	1.49	1.66	2.66	1.30	1.25	1.24	1.20	1.20	
22	1.11	1.20	1.25	1.27	1.49	1.78	2.29	1.30	1.25	1.23	1.20	1.20	
23	1.11	1.21	1.27	1.27	1.48	1.62	2.27	1.30	1.25	1.23	1.20	1.21	
24	1.12	1.22	1.27	1.26	1.44	1.67	2.01	1.30	1.25	1.23	1.20	1.21	
25	1.11	1.22	1.25	1.25	1.39	1.77	1.88	1.29	1.25	1.24	1.20	1.21	
26	1.08	1.22	1.26	1.24	1.36	1.77	1.78	1.29	1.25	1.24	1.19	1.21	
27	1.16	1.28	1.25	1.24	1.33	1.83	1.71	1.29	1.25	1.25	1.19	1.21	
28	1.17	1.25	1.25	1.23	1.60	1.72	1.64	1.28	1.25	1.24	1.20	1.21	
29	1.05	1.25	1.23	1.24	1.72	2.57	1.59	1.28	1.25	1.24	1.20	1.20	
30	1.05	1.24	1.23	1.24	3.18	3.09	1.55	1.27	1.25	1.24		1.20	
31		1.24		1.25	2.34		1.52		1.24	1.24		1.20	
Mean	1.05	1.17	1.30	1.25	1.48	1.74	2.07	1.35	1.25	1.24	1.22	1.21	
Max	1.17	1.28	1.43	1.30	3.18	3.09	3.43	1.49	1.27	1.25	1.25	1.23	3.43
Min	0.99	1.11	1.23	1.21	1.28	1.47	1.52	1.27	1.23	1.23	1.19	1.20	0.99

Annual Max Momentary Gage Height 3.59 M (A.D), at 19.00 Hours, on Aug 30, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.54 M (A.D)
Left Bank Elevation 7.13 M (A.D)
Right Bank Elevation 7.96 M (A.D), Drainage Area 128 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.11	0.30	1.01	0.51	0.91	4.38	7.10	1.71	0.63	0.57	0.54	0.45	
2	0.11	0.30	0.66	0.48	0.77	3.01	5.47	1.54	0.60	0.57	0.57	0.45	
3	0.10	0.32	0.66	0.63	0.72	2.34	4.45	1.49	0.63	0.57	0.57	0.45	
4	0.10	0.35	0.60	0.63	0.66	3.22	4.88	1.37	0.60	0.57	0.57	0.45	
5	0.10	0.42	1.31	0.72	1.15	3.22	7.18	1.37	0.57	0.57	0.54	0.45	
6	0.10	0.28	0.91	0.72	1.60	3.66	5.02	1.31	0.57	0.57	0.57	0.48	
7	0.10	0.28	1.31	0.72	1.43	2.74	5.17	1.26	0.54	0.57	0.54	0.48	
8	0.10	0.28	0.77	0.69	1.60	2.08	8.40	1.20	0.54	0.57	0.54	0.48	
9	0.09	0.28	1.37	0.66	1.06	1.77	7.18	1.10	0.54	0.57	0.54	0.48	
10	0.08	0.28	0.72	0.63	0.86	3.73	9.57	1.20	0.51	0.57	0.54	0.48	
11	0.08	0.30	0.69	0.60	0.72	2.74	7.10	1.10	0.51	0.57	0.57	0.48	
12	0.06	0.28	1.01	0.54	0.72	2.54	6.55	1.01	0.51	0.57	0.54	0.48	
13	0.06	0.25	1.15	0.48	0.72	3.44	7.10	1.01	0.54	0.57	0.45	0.51	
14	0.05	0.23	1.01	0.45	0.72	3.15	4.81	0.96	0.57	0.54	0.42	0.48	
15	0.05	0.23	0.86	0.45	0.72	2.54	3.87	0.91	0.54	0.54	0.42	0.48	
16	0.05	0.23	0.66	0.54	0.72	2.15	3.37	0.86	0.51	0.51	0.42	0.45	
17	0.05	0.20	0.63	0.54	0.69	2.15	4.09	0.86	0.51	0.51	0.42	0.45	
18	0.05	0.28	0.60	0.54	0.69	1.77	7.50	0.86	0.57	0.51	0.42	0.45	
19	0.05	0.25	0.60	0.54	0.66	1.77	4.74	0.77	0.57	0.51	0.42	0.42	
20	0.05	0.25	0.60	0.66	2.08	1.60	19.16	0.72	0.57	0.54	0.42	0.42	
21	0.18	0.40	0.57	0.69	1.71	2.81	10.74	0.72	0.57	0.54	0.42	0.42	
22	0.20	0.42	0.57	0.63	1.71	3.66	7.50	0.72	0.57	0.51	0.42	0.42	
23	0.20	0.45	0.63	0.63	1.66	2.54	7.34	0.72	0.57	0.51	0.42	0.45	
24	0.23	0.48	0.63	0.60	1.43	2.88	5.32	0.72	0.57	0.51	0.42	0.45	
25	0.20	0.48	0.57	0.57	1.15	3.58	4.38	0.69	0.57	0.54	0.42	0.45	
26	0.15	0.48	0.60	0.54	1.01	3.58	3.66	0.69	0.57	0.54	0.40	0.45	
27	0.32	0.66	0.57	0.54	0.86	4.02	3.15	0.69	0.57	0.57	0.40	0.45	
28	0.35	0.57	0.57	0.51	2.40	3.22	2.67	0.66	0.57	0.54	0.42	0.45	
29	0.11	0.57	0.51	0.54	3.22	9.93	2.34	0.66	0.57	0.54	0.42	0.42	
30	0.11	0.54	0.51	0.54	16.22	15.19	2.08	0.63	0.57	0.54		0.42	
31		0.54		0.57	7.91		1.90		0.54	0.54		0.42	
Total	3.59	11.18	22.86	18.09	58.48	105.41	183.79	29.51	17.37	16.95	13.76	14.07	495.06 CMSDAY
Mean	0.12	0.36	0.76	0.58	1.89	3.51	5.93	0.98	0.56	0.55	0.47	0.45	1.35 CMS
Max	0.35	0.66	1.37	0.72	16.22	15.19	19.16	1.71	0.63	0.57	0.57	0.51	19.16 CMS
Min	0.05	0.20	0.51	0.45	0.66	1.60	1.90	0.63	0.51	0.51	0.40	0.42	0.05 CMS
Runoff	0.310	0.966	1.975	1.563	5.053	9.107	15.879	2.550	1.501	1.464	1.189	1.216	42.773 MCM

Momentary Peak 21.17 CMS, at 3.59 M (A.D), at 19.00 Hours, on Aug 30, 1991

Runoff Yield 10.57 Liters/Second/Square KM, Momentary Peak Yield 165.39 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

Huai Tha at Ban Alang, Si Sa Ket (M.98)

Location — Lat. 14°-52'-39" N., Long. 104°-26'-16" E., on left bank at the bridge of Si Sa Ket-Kantharalak Highway near guidepost 27+734, Tambon Tam Yae, Amphoe Muang, Si Sa Ket.

Drainage Area — 1,092 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On right bank at the abutment of the bridge.

Elevation — +8.568 m.(A.D.)

Gage Reading Frequency — 3- 5 time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 3-5 readings.

Period of Available Gage Records — 1978 to date.

Rating Operation

Period of Rating — 1979 - 1981, 1987 to date.

Rated by Float — -

Rated by Current Meter — 1979 - 1981, 1987 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 35 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

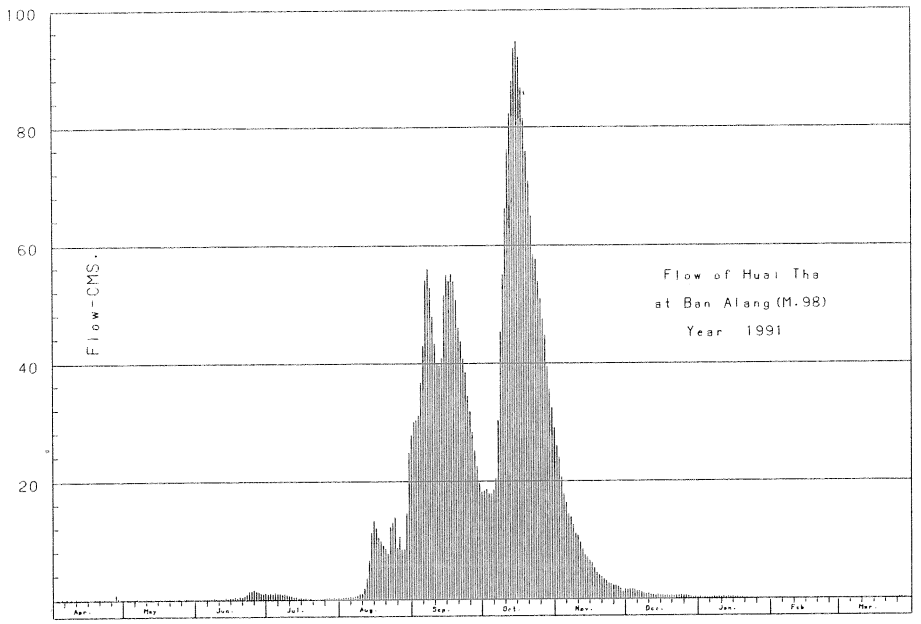
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.27	0.26	0.26	0.58	0.32	2.73	2.04	2.49	0.68	0.33	0.23	0.13	
2	0.26	0.26	0.26	0.58	0.35	2.74	2.05	2.37	0.68	0.31	0.24	0.15	
3	0.25	0.26	0.27	0.58	0.35	2.79	2.01	2.18	0.70	0.31	0.24	0.12	
4	0.27	0.26	0.27	0.60	0.37	3.08	2.00	2.00	0.67	0.32	0.26	0.12	
5	0.27	0.26	0.26	0.59	0.40	3.40	2.05	1.91	0.64	0.33	0.26	0.22	
6	0.27	0.26	0.26	0.57	0.40	3.91	2.16	1.77	0.63	0.33	0.23	0.22	
7	0.27	0.26	0.26	0.56	0.42	4.00	2.74	1.74	0.61	0.33	0.28	0.22	
8	0.27	0.26	0.31	0.56	0.52	3.86	3.52	1.64	0.55	0.34	0.21	0.23	
9	0.27	0.26	0.28	0.55	0.55	3.64	3.95	1.54	0.54	0.34	0.22	0.23	
10	0.27	0.26	0.27	0.52	0.58	3.42	4.44	1.51	0.55	0.34	0.21	0.22	
11	0.27	0.26	0.27	0.46	0.71	3.26	4.86	1.43	0.53	0.34	0.21	0.21	
12	0.26	0.26	0.27	0.42	0.91	3.23	5.11	1.33	0.50	0.34	0.20	0.21	
13	0.26	0.26	0.36	0.38	1.18	3.30	5.33	1.26	0.49	0.35	0.19	0.21	
14	0.26	0.26	0.31	0.34	1.55	3.80	5.54	1.22	0.51	0.35	0.18	0.21	
15	0.26	0.26	0.35	0.31	1.70	3.95	5.59	1.18	0.50	0.34	0.18	0.21	
16	0.26	0.26	0.36	0.32	1.61	3.91	5.49	1.14	0.47	0.34	0.16	0.21	
17	0.26	0.26	0.40	0.31	1.49	3.96	5.28	1.07	0.46	0.32	0.16	0.21	
18	0.26	0.26	0.37	0.28	1.44	3.90	5.07	0.99	0.45	0.32	0.16	0.21	
19	0.26	0.26	0.42	0.27	1.39	3.77	4.85	0.96	0.44	0.32	0.17	0.22	
20	0.26	0.26	0.45	0.25	1.34	3.55	4.64	0.92	0.44	0.28	0.16	0.22	
21	0.26	0.28	0.48	0.21	1.28	3.44	4.39	0.89	0.44	0.26	0.15	0.21	
22	0.26	0.29	0.57	0.18	1.62	3.29	4.10	0.85	0.44	0.26	0.14	0.23	
23	0.26	0.27	0.64	0.16	1.67	3.18	4.07	0.82	0.48	0.23	0.15	0.22	
24	0.26	0.27	0.67	0.17	1.74	2.96	3.90	0.80	0.49	0.21	0.15	0.21	
25	0.26	0.27	0.68	0.31	1.36	2.83	3.78	0.78	0.47	0.17	0.15	0.21	
26	0.26	0.27	0.66	0.34	1.50	2.62	3.62	0.76	0.45	0.15	0.15	0.31	
27	0.56	0.27	0.64	0.32	1.33	2.44	3.49	0.75	0.44	0.18	0.15	0.27	
28	0.30	0.27	0.58	0.32	1.34	2.28	3.22	0.69	0.34	0.27	0.14	0.25	
29	0.27	0.26	0.59	0.32	1.78	2.12	3.02	0.62	0.33	0.25	0.13	0.23	
30	0.26	0.26	0.59	0.31	2.42	2.02	2.86	0.67	0.33	0.23		0.20	
31		0.26		0.32	2.59		2.66		0.34	0.22		0.20	
Mean	0.27	0.26	0.41	0.39	1.17	3.25	3.80	1.28	0.50	0.29	0.19	0.21	
Max	0.56	0.29	0.68	0.60	2.59	4.00	5.59	2.49	0.70	0.35	0.28	0.31	5.59
Min	0.25	0.26	0.26	0.16	0.32	2.02	2.00	0.62	0.33	0.15	0.13	0.12	0.12

Annual Max Momentary Gage Height — 5.60 M (A.D), at 6.00 Hours, on Oct 15, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.16 M (A.D)

Left Bank Elevation — 7.09 M (A.D)

Right Bank Elevation — 7.45 M (A.D), Drainage Area 1092 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.24	0.22	0.22	1.10	0.34	30.21	18.54	26.13	1.68	0.36	0.16	0.03	
2	0.22	0.22	0.22	1.10	0.40	30.38	18.70	24.09	1.68	0.32	0.18	0.05	
3	0.20	0.22	0.24	1.10	0.40	31.23	18.06	20.86	1.80	0.32	0.18	0.02	
4	0.24	0.22	0.24	1.20	0.44	36.72	17.90	17.90	1.62	0.34	0.22	0.02	
5	0.24	0.22	0.22	1.15	0.50	43.00	18.70	16.55	1.44	0.36	0.22	0.14	
6	0.24	0.22	0.22	1.05	0.50	54.03	20.52	14.48	1.38	0.36	0.16	0.14	
7	0.24	0.22	0.22	1.00	0.54	56.10	30.38	14.06	1.26	0.36	0.26	0.14	
8	0.24	0.22	0.32	1.00	0.80	52.88	45.40	12.66	0.95	0.38	0.12	0.16	
9	0.24	0.22	0.26	0.95	0.95	47.88	54.95	11.26	0.90	0.38	0.14	0.16	
10	0.24	0.22	0.24	0.80	1.10	43.40	66.22	10.84	0.95	0.38	0.12	0.14	
11	0.24	0.22	0.24	0.62	1.88	40.20	76.24	9.79	0.85	0.38	0.12	0.12	
12	0.22	0.22	0.24	0.54	3.70	39.60	82.45	8.49	0.70	0.38	0.10	0.12	
13	0.22	0.22	0.42	0.46	6.66	41.00	87.95	7.62	0.68	0.40	0.09	0.12	
14	0.22	0.22	0.32	0.38	11.40	51.50	93.38	7.14	0.75	0.40	0.08	0.12	
15	0.22	0.22	0.40	0.32	13.50	54.95	94.73	6.66	0.70	0.38	0.08	0.12	
16	0.22	0.22	0.42	0.34	12.24	54.03	92.04	6.18	0.64	0.38	0.06	0.12	
17	0.22	0.22	0.50	0.32	10.57	55.18	86.70	5.37	0.62	0.34	0.06	0.12	
18	0.22	0.22	0.44	0.26	9.92	53.80	81.45	4.50	0.60	0.34	0.06	0.12	
19	0.22	0.22	0.54	0.24	9.27	50.81	76.00	4.20	0.58	0.34	0.07	0.14	
20	0.22	0.22	0.60	0.20	8.62	46.00	70.96	3.80	0.58	0.26	0.06	0.14	
21	0.22	0.26	0.66	0.12	7.86	43.80	65.07	3.50	0.58	0.22	0.05	0.12	
22	0.22	0.28	1.05	0.08	12.38	40.80	58.40	3.10	0.58	0.22	0.04	0.16	
23	0.22	0.24	1.44	0.06	13.08	38.62	57.71	2.80	0.66	0.16	0.05	0.14	
24	0.22	0.24	1.62	0.07	14.06	34.44	53.80	2.60	0.68	0.12	0.05	0.12	
25	0.22	0.24	1.68	0.32	8.88	31.97	51.04	2.44	0.64	0.07	0.05	0.12	
26	0.22	0.24	1.56	0.38	10.70	28.34	47.44	2.28	0.60	0.05	0.05	0.32	
27	1.00	0.24	1.44	0.34	8.49	25.28	44.80	2.20	0.58	0.08	0.05	0.24	
28	0.30	0.24	1.10	0.34	8.62	22.56	39.40	1.74	0.38	0.24	0.04	0.20	
29	0.24	0.22	1.15	0.34	14.62	19.84	35.58	1.32	0.36	0.20	0.03	0.16	
30	0.22	0.22	1.15	0.32	24.94	18.22	32.54	1.62	0.36	0.16		0.10	
31		0.22		0.34	27.83		29.02		0.38	0.14		0.10	
Total	7.64	7.04	19.37	16.84	245.19	1216.77	1666.07	256.18	26.16	8.82	2.95	4.02	3477.05 CMSDAY
Mean	0.25	0.23	0.65	0.54	7.91	40.56	53.74	8.54	0.84	0.28	0.10	0.13	9.50 CMS
Max	1.00	0.28	1.68	1.20	27.83	56.10	94.73	26.13	1.80	0.40	0.26	0.32	94.73 CMS
Min	0.20	0.22	0.22	0.06	0.34	18.22	17.90	1.32	0.36	0.05	0.03	0.02	0.02 CMS
Runoff	0.660	0.608	1.674	1.455	21.184	105.129	143.948	22.134	2.260	0.762	0.255	0.347	300.417 MCM

Momentary Peak 95.00 CMS, at 5.60 M (A.D), at 6.00 Hours, on Oct 15, 1991

Runoff Yield 8.70 Liters/Second/Square KM, Momentary Peak Yield 87.00 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

Huai Tako at Ban Khok Kachao, Buriram (M.99)

Location — Lat. 14°-36'-22" N., Long. 103°-06'-30" E., on left bank at the bridge of Chokchai-Det Udom Highway near guidepost 103-104 and about 2.5 kilometers from Amphoe Prakhon Chai, Ban Khok Kachao, Amphoe Prakhon Chai, Buri Ram.

Drainage Area — 88 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M. of Highways Dept.

Location — On right bank at the abutment of the bridge.

Elevation — +3.606 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1979 to date.

Rating Operation

Period of Rating — 1980 to date.

Rated by Float — -

Rated by Current Meter — 1980 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 17 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

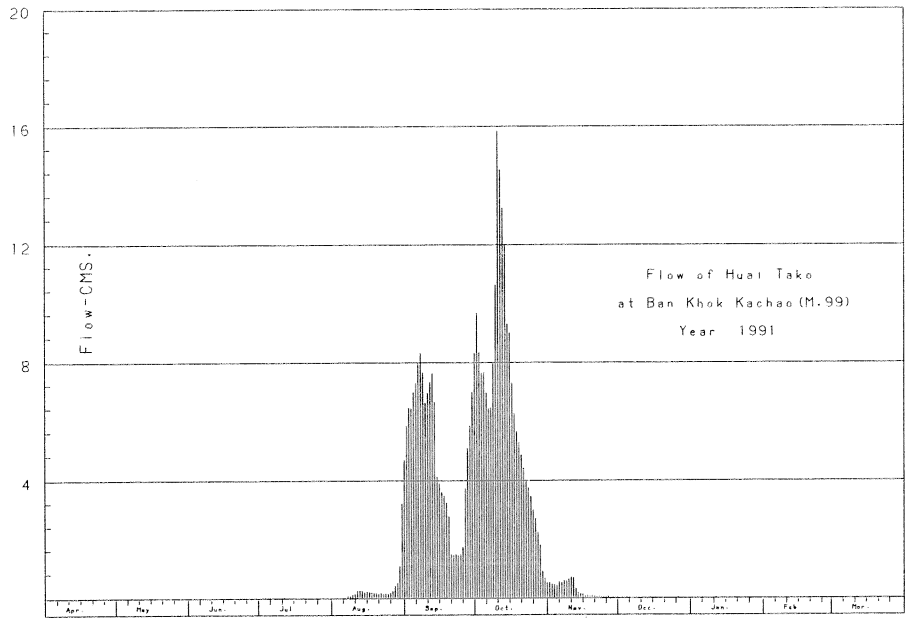
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.00	0.00	0.24	1.76	1.89	1.16	0.57	0.54	0.36	0.16	
2	0.00	0.00	0.00	0.00	0.25	1.79	1.85	1.15	0.57	0.54	0.36	0.15	
3	0.00	0.00	0.00	0.54	0.26	1.79	1.83	1.13	0.56	0.55	0.35	0.15	
4	0.00	0.00	0.00	0.54	0.29	1.81	1.83	1.13	0.56	0.54	0.35	0.14	
5	0.00	0.00	0.00	0.55	0.31	1.82	1.81	1.17	0.56	0.54	0.34	0.14	
6	0.00	0.00	0.00	0.59	0.40	1.84	1.79	1.17	0.55	0.53	0.34	0.13	
7	0.00	0.00	0.00	0.56	0.71	1.85	1.79	1.19	0.54	0.53	0.34	0.12	
8	0.00	0.00	0.00	0.54	0.74	1.83	1.84	1.20	0.53	0.53	0.35	0.10	
9	0.00	0.00	0.00	0.53	0.78	1.80	1.91	1.21	0.53	0.53	0.35	0.10	
10	0.00	0.00	0.00	0.53	0.87	1.81	1.99	1.23	0.53	0.52	0.35	0.08	
11	0.00	0.00	0.00	0.52	1.00	1.82	1.97	1.23	0.53	0.51	0.37	0.07	
12	0.00	0.00	0.00	0.50	1.02	1.83	1.95	1.07	0.54	0.51	0.35	0.06	
13	0.00	0.00	0.00	0.49	0.99	1.80	1.93	0.91	0.54	0.50	0.35	0.05	
14	0.00	0.00	0.00	0.47	0.95	1.66	1.88	0.86	0.55	0.49	0.34	0.03	
15	0.00	0.00	0.00	0.46	0.95	1.64	1.87	0.82	0.55	0.49	0.33	0.02	
16	0.00	0.00	0.00	0.45	0.96	1.62	1.82	0.76	0.54	0.47	0.32	0.02	
17	0.00	0.00	0.00	0.44	0.92	1.61	1.78	0.75	0.54	0.47	0.30	0.01	
18	0.00	0.00	0.00	0.43	0.91	1.59	1.75	0.74	0.53	0.46	0.30	0.00	
19	0.00	0.00	0.00	0.42	0.89	1.55	1.73	0.73	0.53	0.46	0.29	0.00	
20	0.00	0.00	0.00	0.40	0.87	1.40	1.71	0.73	0.53	0.45	0.29	0.00	
21	0.00	0.00	0.00	0.38	0.88	1.39	1.68	0.72	0.52	0.45	0.27	0.00	
22	0.00	0.00	0.00	0.36	0.87	1.40	1.65	0.70	0.52	0.44	0.27	0.00	
23	0.00	0.00	0.00	0.35	0.86	1.39	1.63	0.69	0.51	0.44	0.26	0.00	
24	0.00	0.00	0.00	0.33	0.87	1.40	1.61	0.67	0.51	0.43	0.25	0.00	
25	0.00	0.00	0.00	0.31	0.90	1.43	1.57	0.65	0.51	0.43	0.23	0.00	
26	0.00	0.00	0.00	0.29	1.01	1.63	1.54	0.64	0.52	0.42	0.23	0.00	
27	0.00	0.00	0.00	0.27	1.11	1.72	1.50	0.60	0.52	0.40	0.20	0.00	
28	0.00	0.00	0.00	0.25	1.17	1.76	1.44	0.59	0.53	0.39	0.18	0.00	
29	0.00	0.00	0.00	0.25	1.32	1.81	1.29	0.58	0.53	0.38	0.17	0.00	
30	0.00	0.00	0.00	0.24	1.59	1.85	1.22	0.58	0.53	0.37		0.00	
31		0.00		0.23	1.70		1.17		0.54	0.36		0.00	
Mean	0.00	0.00	0.00	0.39	0.86	1.68	1.72	0.89	0.54	0.47	0.30	0.05	
Max	0.00	0.00	0.00	0.59	1.70	1.85	1.99	1.23	0.57	0.55	0.37	0.16	1.99
Min	0.00	0.00	0.00	0.00	0.24	1.39	1.17	0.58	0.51	0.36	0.17	0.00	0.00

Annual Max Momentary Gage Height — 1.99 M (A.D), at 18.00 Hours, on Oct 10, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.18 M (A.D)

Left Bank Elevation — 2.36 M (A.D)

Right Bank Elevation — 2.29 M (A.D), Drainage Area 88 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.00	0.00	0.01	5.88	9.67	0.53	0.05	0.04	0.03	0.01	
2	0.00	0.00	0.00	0.00	0.02	6.47	8.34	0.50	0.05	0.04	0.03	0.01	
3	0.00	0.00	0.00	0.04	0.02	6.47	7.67	0.46	0.05	0.05	0.03	0.01	
4	0.00	0.00	0.00	0.04	0.02	7.00	7.67	0.46	0.05	0.04	0.03	0.00	
5	0.00	0.00	0.00	0.05	0.02	7.34	7.00	0.55	0.05	0.04	0.02	0.00	
6	0.00	0.00	0.00	0.05	0.03	8.00	6.47	0.55	0.05	0.04	0.02	0.00	
7	0.00	0.00	0.00	0.05	0.08	8.34	6.47	0.59	0.04	0.04	0.02	0.00	
8	0.00	0.00	0.00	0.04	0.09	7.67	8.00	0.61	0.04	0.04	0.03	0.00	
9	0.00	0.00	0.00	0.04	0.12	6.67	10.65	0.65	0.04	0.04	0.03	0.00	
10	0.00	0.00	0.00	0.04	0.17	7.00	15.85	0.72	0.04	0.04	0.03	0.00	
11	0.00	0.00	0.00	0.04	0.26	7.34	14.55	0.72	0.04	0.04	0.03	0.00	
12	0.00	0.00	0.00	0.04	0.29	7.67	13.25	0.36	0.04	0.04	0.03	0.00	
13	0.00	0.00	0.00	0.04	0.25	6.67	11.95	0.20	0.04	0.04	0.03	0.00	
14	0.00	0.00	0.00	0.04	0.22	4.16	9.33	0.17	0.05	0.04	0.02	0.00	
15	0.00	0.00	0.00	0.04	0.22	3.90	9.00	0.14	0.05	0.04	0.02	0.00	
16	0.00	0.00	0.00	0.04	0.23	3.63	7.34	0.11	0.04	0.04	0.02	0.00	
17	0.00	0.00	0.00	0.03	0.20	3.49	6.28	0.10	0.04	0.04	0.02	0.00	
18	0.00	0.00	0.00	0.03	0.20	3.25	5.69	0.09	0.04	0.04	0.02	0.00	
19	0.00	0.00	0.00	0.03	0.18	2.81	5.29	0.09	0.04	0.04	0.02	0.00	
20	0.00	0.00	0.00	0.03	0.17	1.51	4.90	0.09	0.04	0.04	0.02	0.00	
21	0.00	0.00	0.00	0.03	0.18	1.46	4.43	0.08	0.04	0.04	0.02	0.00	
22	0.00	0.00	0.00	0.03	0.17	1.51	4.03	0.07	0.04	0.03	0.02	0.00	
23	0.00	0.00	0.00	0.03	0.17	1.46	3.76	0.07	0.04	0.03	0.02	0.00	
24	0.00	0.00	0.00	0.02	0.17	1.51	3.49	0.06	0.04	0.03	0.02	0.00	
25	0.00	0.00	0.00	0.02	0.19	1.74	3.03	0.06	0.04	0.03	0.01	0.00	
26	0.00	0.00	0.00	0.02	0.27	3.76	2.71	0.06	0.04	0.03	0.01	0.00	
27	0.00	0.00	0.00	0.02	0.42	5.09	2.27	0.05	0.04	0.03	0.01	0.00	
28	0.00	0.00	0.00	0.02	0.55	5.88	1.81	0.05	0.04	0.03	0.01	0.00	
29	0.00	0.00	0.00	0.02	1.09	7.00	0.94	0.05	0.04	0.03	0.01	0.00	
30	0.00	0.00	0.00	0.01	3.25	8.34	0.68	0.05	0.04	0.03		0.00	
31		0.00		0.01	4.70		0.55		0.04	0.03		0.00	
Total	0.00	0.00	0.00	0.94	13.96	153.02	203.07	8.29	1.32	1.15	0.63	0.03	382.41 CMSDAY
Mean	0.00	0.00	0.00	0.03	0.45	5.10	6.55	0.28	0.04	0.04	0.02	0.00	1.04 CMS
Max	0.00	0.00	0.00	0.05	4.70	8.34	15.85	0.72	0.05	0.05	0.03	0.01	15.85 CMS
Min	0.00	0.00	0.00	0.00	0.01	1.46	0.55	0.05	0.04	0.03	0.01	0.00	0.00 CMS
Runoff	0.000	0.000	0.000	0.081	1.206	13.221	17.545	0.716	0.114	0.099	0.054	0.003	33.040 MCM

Momentary Peak 15.85 CMS, at 1.99 M (A.D), at 18.00 Hours, on Oct 10, 1991

Runoff Yield 11.87 Liters/Second/Square KM, Momentary Peak Yield 180.11 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

Huai Saneng at Ban Bu Chek, Surin (M.100)

Location — Lat. 14°-37'-01" N., Long. 103°-28'-44" E., on left bank at the bridge of Chokchai-Det Udom Highway near guidepost 145-146 and about 8 kilometers from Amphoe Prasat, Tambon Ta Bao, Amphoe Prasat, Surin.

Drainage Area — 131 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-Highways Dept.

Location — On right bank at the abutment of the bridge.

Elevation — +3.332 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1979 to date.

Rating Operation

Period of Rating — 1979 to date.

Rated by Float — -

Rated by Current Meter — 1979 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 17 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

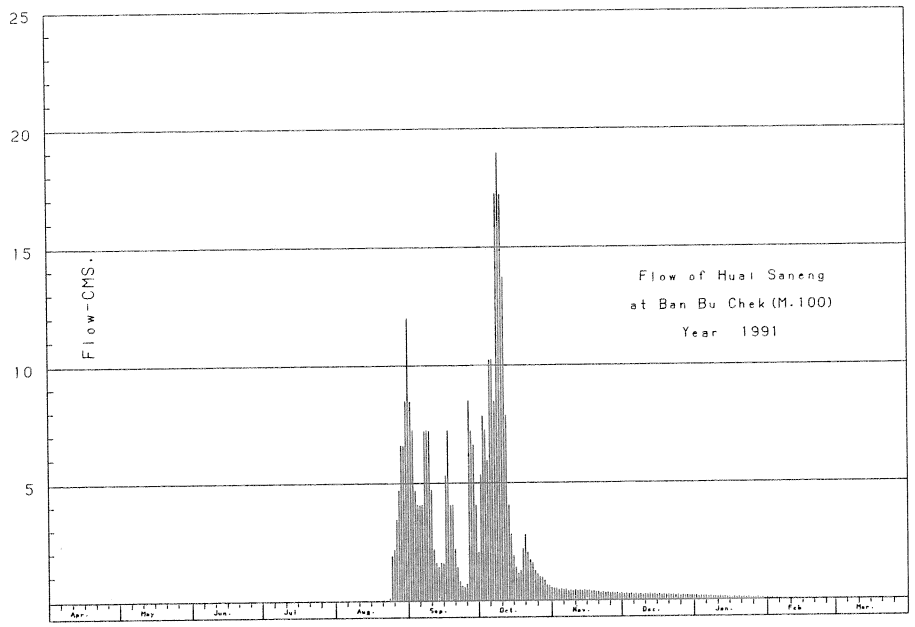
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.42	0.29	0.40	0.40	0.45	1.70	1.65	1.44	1.10	0.89	0.67	0.46	
2	0.41	0.29	0.39	0.45	0.44	1.68	1.69	1.43	1.09	0.88	0.66	0.45	
3	0.41	0.29	0.39	0.44	0.44	1.64	1.68	1.42	1.08	0.87	0.66	0.45	
4	0.40	0.29	0.38	0.43	0.44	1.63	1.66	1.42	1.07	0.87	0.65	0.44	
5	0.40	0.28	0.38	0.42	0.47	1.63	1.71	1.42	1.06	0.86	0.64	0.44	
6	0.39	0.28	0.40	0.42	0.54	1.63	1.71	1.41	1.05	0.85	0.64	0.43	
7	0.41	0.27	0.40	0.41	0.53	1.68	1.70	1.38	1.04	0.84	0.63	0.43	
8	0.38	0.27	0.40	0.41	0.56	1.68	1.75	1.38	1.03	0.83	0.63	0.42	
9	0.38	0.26	0.40	0.41	0.53	1.68	1.76	1.37	1.02	0.82	0.62	0.42	
10	0.37	0.26	0.40	0.40	0.52	1.64	1.75	1.39	1.02	0.81	0.62	0.41	
11	0.36	0.26	0.40	0.41	0.50	1.60	1.73	1.37	1.05	0.81	0.61	0.41	
12	0.35	0.26	0.40	0.41	0.49	1.56	1.69	1.37	1.05	0.80	0.61	0.40	
13	0.35	0.26	0.40	0.41	0.50	1.55	1.63	1.40	1.04	0.79	0.60	0.40	
14	0.35	0.26	0.40	0.41	0.51	1.56	1.61	1.39	1.03	0.78	0.59	0.39	
15	0.35	0.28	0.41	0.42	0.53	1.56	1.58	1.39	1.02	0.78	0.58	0.39	
16	0.34	0.28	0.40	0.42	0.52	1.65	1.55	1.37	1.01	0.77	0.57	0.39	
17	0.33	0.28	0.40	0.42	0.51	1.68	1.53	1.33	1.00	0.76	0.56	0.38	
18	0.33	0.27	0.40	0.41	0.50	1.63	1.54	1.32	1.00	0.76	0.55	0.38	
19	0.33	0.27	0.40	0.41	0.50	1.63	1.60	1.29	0.99	0.75	0.54	0.37	
20	0.32	0.28	0.40	0.41	0.49	1.60	1.61	1.25	0.98	0.75	0.53	0.36	
21	0.32	0.32	0.40	0.41	0.49	1.55	1.59	1.22	0.97	0.74	0.52	0.35	
22	0.31	0.31	0.41	0.40	0.52	1.51	1.57	1.21	0.96	0.74	0.51	0.34	
23	0.31	0.31	0.48	0.40	0.82	1.47	1.56	1.20	0.95	0.73	0.50	0.33	
24	0.34	0.30	0.47	0.40	1.58	1.46	1.54	1.19	0.94	0.72	0.50	0.33	
25	0.34	0.29	0.46	0.40	1.60	1.50	1.53	1.18	0.93	0.72	0.49	0.33	
26	0.33	0.29	0.45	0.39	1.62	1.70	1.52	1.16	0.93	0.71	0.48	0.33	
27	0.33	0.40	0.44	0.39	1.64	1.68	1.52	1.15	0.93	0.71	0.47	0.32	
28	0.32	0.40	0.43	0.38	1.67	1.67	1.51	1.13	0.92	0.70	0.47	0.32	
29	0.31	0.40	0.42	0.38	1.67	1.63	1.49	1.12	0.91	0.69	0.46	0.31	
30	0.30	0.40	0.41	0.38	1.70	1.59	1.47	1.12	0.90	0.68		0.31	
31		0.40		0.46	1.72		1.44		0.89	0.67		0.31	
Mean	0.35	0.30	0.41	0.41	0.81	1.61	1.61	1.31	1.00	0.78	0.57	0.38	
Max	0.42	0.40	0.48	0.46	1.72	1.70	1.76	1.44	1.10	0.89	0.67	0.46	1.76
Min	0.30	0.26	0.38	0.38	0.44	1.46	1.44	1.12	0.89	0.67	0.46	0.31	0.26

Annual Max Momentary Gage Height — 1.76 M (A.D), at 6.00 Hours, on Oct 9, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 0.26 M (A.D)

Left Bank Elevation — 2.06 M (A.D)

Right Bank Elevation — 2.09 M (A.D), Drainage Area — 131 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.00	0.00	0.01	8.50	5.35	0.54	0.28	0.18	0.07	0.01	
2	0.00	0.00	0.00	0.01	0.01	7.24	7.87	0.51	0.28	0.17	0.06	0.01	
3	0.00	0.00	0.00	0.01	0.01	4.72	7.24	0.48	0.27	0.17	0.06	0.01	
4	0.00	0.00	0.00	0.01	0.01	4.09	5.98	0.48	0.27	0.17	0.06	0.01	
5	0.00	0.00	0.00	0.00	0.01	4.09	10.25	0.48	0.26	0.16	0.06	0.01	
6	0.00	0.00	0.00	0.00	0.03	4.09	10.25	0.46	0.26	0.16	0.06	0.01	
7	0.00	0.00	0.00	0.00	0.03	7.24	8.50	0.42	0.25	0.15	0.05	0.01	
8	0.00	0.00	0.00	0.00	0.03	7.24	17.25	0.42	0.25	0.15	0.05	0.00	
9	0.00	0.00	0.00	0.00	0.03	7.24	19.00	0.42	0.24	0.14	0.05	0.00	
10	0.00	0.00	0.00	0.00	0.02	4.72	17.25	0.43	0.24	0.14	0.05	0.00	
11	0.00	0.00	0.00	0.00	0.02	2.20	13.75	0.42	0.26	0.14	0.04	0.00	
12	0.00	0.00	0.00	0.00	0.02	1.60	7.87	0.42	0.26	0.13	0.04	0.00	
13	0.00	0.00	0.00	0.00	0.02	1.45	4.09	0.43	0.25	0.13	0.04	0.00	
14	0.00	0.00	0.00	0.00	0.02	1.60	2.83	0.43	0.25	0.12	0.04	0.00	
15	0.00	0.00	0.00	0.00	0.03	1.60	1.90	0.43	0.24	0.12	0.04	0.00	
16	0.00	0.00	0.00	0.00	0.02	5.35	1.45	0.42	0.24	0.12	0.03	0.00	
17	0.00	0.00	0.00	0.00	0.02	7.24	1.15	0.40	0.23	0.11	0.03	0.00	
18	0.00	0.00	0.00	0.00	0.02	4.09	1.30	0.39	0.23	0.11	0.03	0.00	
19	0.00	0.00	0.00	0.00	0.02	4.09	2.20	0.38	0.23	0.11	0.03	0.00	
20	0.00	0.00	0.00	0.00	0.02	2.20	2.83	0.36	0.22	0.11	0.03	0.00	
21	0.00	0.00	0.00	0.00	0.02	1.45	2.05	0.34	0.22	0.10	0.02	0.00	
22	0.00	0.00	0.00	0.00	0.02	0.85	1.75	0.34	0.21	0.10	0.02	0.00	
23	0.00	0.00	0.02	0.00	0.14	0.62	1.60	0.33	0.21	0.10	0.02	0.00	
24	0.00	0.00	0.01	0.00	1.90	0.59	1.30	0.33	0.20	0.09	0.02	0.00	
25	0.00	0.00	0.01	0.00	2.20	0.70	1.15	0.32	0.20	0.09	0.02	0.00	
26	0.00	0.00	0.01	0.00	3.46	8.50	1.00	0.31	0.20	0.09	0.02	0.00	
27	0.00	0.00	0.01	0.00	4.72	7.24	1.00	0.31	0.20	0.09	0.01	0.00	
28	0.00	0.00	0.01	0.00	6.61	6.61	0.85	0.30	0.19	0.08	0.01	0.00	
29	0.00	0.00	0.00	0.00	6.61	4.09	0.67	0.29	0.19	0.08	0.01	0.00	
30	0.00	0.00	0.00	0.00	8.50	2.05	0.62	0.29	0.18	0.07		0.00	
31		0.00		0.01	12.00		0.54		0.18	0.07		0.00	
Total	0.00	0.00	0.07	0.04	46.58	123.29	160.84	11.88	7.19	3.75	1.07	0.07	354.78 CMSDAY
Mean	0.00	0.00	0.00	0.00	1.50	4.11	5.19	0.40	0.23	0.12	0.04	0.00	0.97 CMS
Max	0.00	0.00	0.02	0.01	12.00	8.50	19.00	0.54	0.28	0.18	0.07	0.01	19.00 CMS
Min	0.00	0.00	0.00	0.00	0.01	0.59	0.54	0.29	0.18	0.07	0.01	0.00	0.00 CMS
Runoff	0.000	0.000	0.006	0.003	4.025	10.652	13.897	1.026	0.621	0.324	0.092	0.006	30.653 MCM

Momentary Peak 19.00 CMS, at 1.76 M (A.D), at 6.00 Hours, on Oct 9, 1991
Runoff Yield 7.40 Liters/Second/Square KM, Momentary Peak Yield 145.04 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

Huai Thap Than at Ban Yaeng, Surin (M.101)

Location — Lat. 14°-37'-42" N., Long. 103°-42'-12" E., on left bank at the bride of Chokchai-Det Udom Highway near guidepost 170-171 and about 17 kilometers from Amphoe Sangkha, Ban Yaeng, Tambon Kra Thiam, Amphoe Sangkha, Surin.

Drainage Area — 390 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-Highways Dept.

Location — On right bank at the abutment of the bridge.

Elevation — +8.945 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1979 to date.

Rating Operation

Period of Rating — 1980 to date.

Rated by Float — -

Rated by Current Meter — 1980 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 19 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

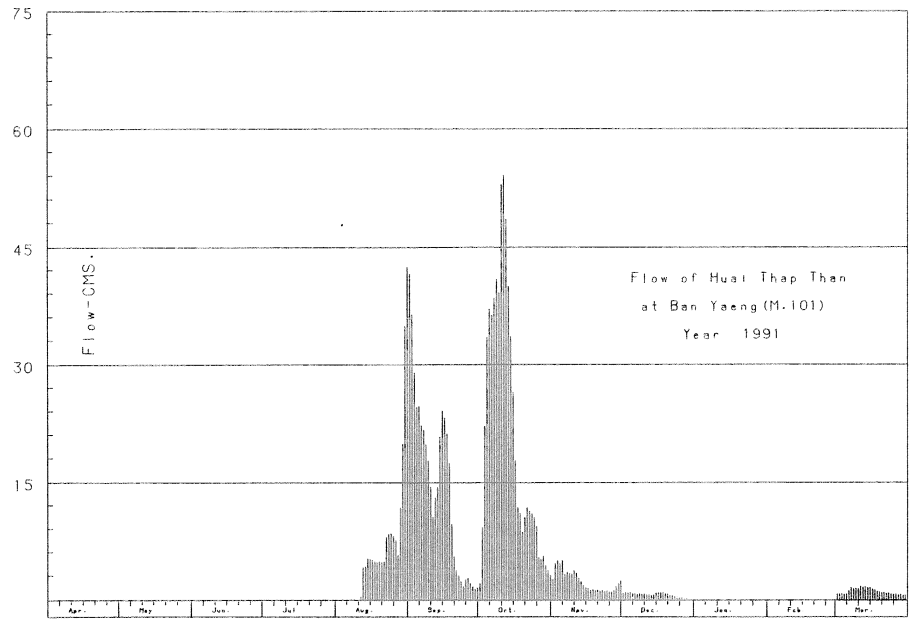
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	4.98	4.80	4.80	4.87	4.96	7.24	6.13	6.19	5.88	5.54	5.40	5.85	
2	4.97	4.79	4.79	4.88	4.96	7.17	6.57	6.34	5.89	5.52	5.42	5.87	
3	4.96	4.78	4.79	4.98	4.96	7.06	6.94	6.37	5.90	5.52	5.41	5.86	
4	4.95	4.78	4.78	4.97	4.96	6.99	7.13	6.34	5.89	5.51	5.40	5.86	
5	4.95	4.77	4.78	4.97	4.96	6.99	7.18	6.37	5.88	5.49	5.40	5.85	
6	4.94	4.77	4.77	4.96	4.96	6.94	7.17	6.24	5.87	5.48	5.39	5.97	
7	4.94	4.76	4.80	4.96	4.97	6.93	7.20	6.27	5.86	5.47	5.42	6.04	
8	4.93	4.76	4.80	4.96	4.97	6.89	7.23	6.25	5.86	5.52	5.43	6.03	
9	4.93	4.75	4.81	4.96	4.97	6.84	7.21	6.25	5.86	5.51	5.43	6.02	
10	4.92	4.75	4.82	4.96	4.98	6.75	7.36	6.28	5.85	5.50	5.42	6.03	
11	4.92	4.74	4.82	4.98	5.74	6.62	7.37	6.26	5.84	5.44	5.42	6.08	
12	4.91	4.74	4.82	4.98	6.31	6.71	7.32	6.20	5.83	5.44	5.41	6.07	
13	4.91	4.73	4.85	4.98	6.32	6.75	7.22	6.16	5.82	5.45	5.41	6.06	
14	4.90	4.73	4.85	4.98	6.38	6.91	7.13	6.10	5.82	5.45	5.40	6.05	
15	4.90	4.71	4.85	4.98	6.38	6.98	7.02	6.05	5.90	5.46	5.40	6.04	
16	4.89	4.73	4.84	4.98	6.37	6.96	6.84	6.02	5.89	5.45	5.39	6.02	
17	4.89	4.73	4.84	4.99	6.36	6.92	6.67	5.98	5.91	5.44	5.39	5.98	
18	4.88	4.73	4.83	4.99	6.35	6.83	6.64	5.98	5.90	5.43	5.38	5.95	
19	4.88	4.72	4.83	4.99	6.36	6.59	6.55	5.98	5.88	5.42	5.37	5.92	
20	4.87	4.74	4.84	4.98	6.35	6.40	6.62	5.97	5.85	5.42	5.37	5.91	
21	4.87	4.81	4.84	4.97	6.36	6.28	6.67	5.96	5.82	5.42	5.36	5.90	
22	4.86	4.80	4.85	4.96	6.52	6.23	6.65	5.96	5.80	5.41	5.35	5.89	
23	4.86	4.80	4.85	4.96	6.54	6.15	6.64	5.95	5.77	5.41	5.34	5.88	
24	4.85	4.79	4.86	4.96	6.54	6.08	6.62	5.94	5.73	5.40	5.34	5.87	
25	4.85	4.79	4.86	4.95	6.53	6.18	6.58	5.93	5.68	5.40	5.33	5.86	
26	4.84	4.78	4.86	4.95	6.51	6.20	6.39	5.91	5.65	5.39	5.33	5.85	
27	4.83	4.78	4.86	4.95	6.41	6.13	6.38	5.97	5.63	5.39	5.32	5.84	
28	4.82	4.78	4.86	4.95	6.67	6.06	6.40	6.06	5.61	5.43	5.32	5.83	
29	4.81	4.79	4.86	4.94	6.89	6.01	6.33	6.13	5.59	5.42	5.31	5.82	
30	4.80	4.79	4.86	4.94	7.15	6.03	6.28	6.16	5.58	5.41		5.81	
31		4.80		4.96	7.25		6.23		5.57	5.40		5.80	
Mean	4.89	4.77	4.83	4.96	6.00	6.63	6.80	6.12	5.80	5.45	5.38	5.93	
Max	4.98	4.81	4.86	4.99	7.25	7.24	7.37	6.37	5.91	5.54	5.43	6.08	7.37
Min	4.80	4.71	4.77	4.87	4.96	6.01	6.13	5.91	5.57	5.39	5.31	5.80	4.71

Annual Max Momentary Gage Height — 7.75 M (A.D), at 6.00 Hours, on Sep 1, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 2.33 M (A.D)

Left Bank Elevation — 7.71 M (A.D)

Right Bank Elevation — 7.72 M (A.D), Drainage Area — 390 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.00	0.00	0.00	41.66	2.17	2.71	0.92	0.14	0.08	0.80	
2	0.00	0.00	0.00	0.00	0.00	36.40	9.25	4.64	0.96	0.12	0.08	0.88	
3	0.00	0.00	0.00	0.00	0.00	28.98	22.26	5.12	1.00	0.12	0.08	0.84	
4	0.00	0.00	0.00	0.00	0.00	24.71	33.60	4.64	0.96	0.11	0.08	0.84	
5	0.00	0.00	0.00	0.00	0.00	24.71	37.10	5.12	0.92	0.10	0.08	0.80	
6	0.00	0.00	0.00	0.00	0.00	22.26	36.40	3.28	0.88	0.10	0.08	1.28	
7	0.00	0.00	0.00	0.00	0.00	21.77	38.50	3.64	0.84	0.09	0.08	1.60	
8	0.00	0.00	0.00	0.00	0.00	19.89	40.87	3.40	0.84	0.12	0.09	1.55	
9	0.00	0.00	0.00	0.00	0.00	17.84	39.29	3.40	0.84	0.11	0.09	1.50	
10	0.00	0.00	0.00	0.00	0.00	14.45	53.06	3.76	0.80	0.10	0.08	1.55	
11	0.00	0.00	0.00	0.00	0.48	10.54	54.17	3.52	0.76	0.09	0.08	1.80	
12	0.00	0.00	0.00	0.00	4.16	13.05	48.62	2.80	0.72	0.09	0.08	1.75	
13	0.00	0.00	0.00	0.00	4.32	14.45	40.08	2.44	0.68	0.09	0.08	1.70	
14	0.00	0.00	0.00	0.00	5.28	20.79	33.60	1.90	0.68	0.09	0.08	1.65	
15	0.00	0.00	0.00	0.00	5.28	24.22	26.46	1.65	1.00	0.09	0.08	1.60	
16	0.00	0.00	0.00	0.00	5.12	23.24	17.84	1.50	0.96	0.09	0.08	1.50	
17	0.00	0.00	0.00	0.00	4.96	21.28	11.89	1.32	1.04	0.09	0.08	1.32	
18	0.00	0.00	0.00	0.00	4.80	17.43	11.08	1.32	1.00	0.09	0.08	1.20	
19	0.00	0.00	0.00	0.00	4.96	9.75	8.75	1.32	0.92	0.08	0.07	1.08	
20	0.00	0.00	0.00	0.00	4.80	5.60	10.54	1.28	0.80	0.08	0.07	1.04	
21	0.00	0.00	0.00	0.00	4.96	3.76	11.89	1.24	0.68	0.08	0.07	1.00	
22	0.00	0.00	0.00	0.00	8.00	3.16	11.35	1.24	0.60	0.08	0.07	0.96	
23	0.00	0.00	0.00	0.00	8.50	2.35	11.08	1.20	0.54	0.08	0.07	0.92	
24	0.00	0.00	0.00	0.00	8.50	1.80	10.54	1.16	0.46	0.08	0.07	0.88	
25	0.00	0.00	0.00	0.00	8.25	2.62	9.50	1.12	0.36	0.08	0.07	0.84	
26	0.00	0.00	0.00	0.00	7.75	2.80	5.44	1.04	0.30	0.08	0.07	0.80	
27	0.00	0.00	0.00	0.00	5.79	2.17	5.28	1.28	0.26	0.08	0.06	0.76	
28	0.00	0.00	0.00	0.00	11.89	1.70	5.60	1.70	0.22	0.09	0.06	0.72	
29	0.00	0.00	0.00	0.00	19.89	1.45	4.48	2.17	0.19	0.08	0.06	0.68	
30	0.00	0.00	0.00	0.00	35.00	1.55	3.76	2.44	0.18	0.08		0.64	
31		0.00		0.00	42.45		3.16		0.17	0.08		0.60	
Total	0.00	0.00	0.00	0.00	205.14	436.38	657.61	73.35	21.48	2.88	2.20	35.08	1434.12 CMSDAY
Mean	0.00	0.00	0.00	0.00	6.62	14.55	21.21	2.45	0.69	0.09	0.08	1.13	3.92 CMS
Max	0.00	0.00	0.00	0.00	42.45	41.66	54.17	5.12	1.04	0.14	0.09	1.80	54.17 CMS
Min	0.00	0.00	0.00	0.00	0.00	1.45	2.17	1.04	0.17	0.08	0.06	0.60	0.00 CMS
Runoff	0.000	0.000	0.000	0.000	17.724	37.703	56.818	6.337	1.856	0.249	0.190	3.031	123.908 MCM

Momentary Peak 131.75 CMS, at 7.75 M (A.D), at 6.00 Hours, on Sep 1, 1991

Runoff Yield 10.05 Liters/Second/Square KM, Momentary Peak Yield 337.82 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

Huai Sen at Ban Phon Chai, Surin (M.102)

Location — Lat. 14°-36'-50" N., Long. 103°-53'-24" E., on left bank at the bridge of Chokchai-Det Udom Highway near guidepost 192-193 and about 4 kilometers from Amphoe Sangkha, Ban Phon Chai, Tambon Sangkha, Amphoe Sangkha, Surin.

Drainage Area — 207 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m. (A.D.)

Bench Mark — B.M. of Highways Dept.

Location — On right bank at the abutment of the bridge.

Elevation — +3.511 m. (A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1979 to date.

Rating Operation

Period of Rating — 1980 to date.

Rated by Float — -

Rated by Current Meter — 1980 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 18 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

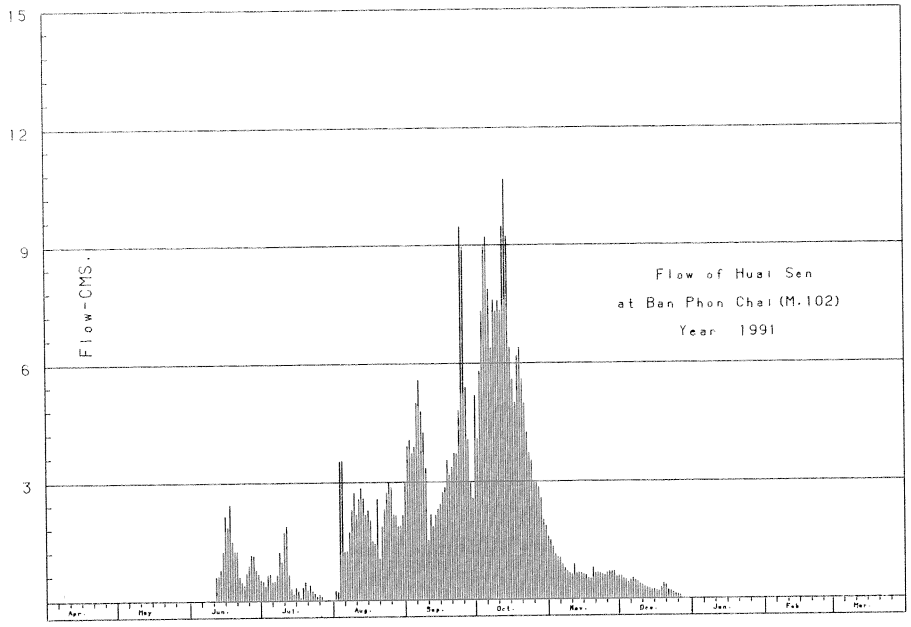
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	-0.06	-0.32	-0.21	0.85	0.80	1.15	1.16	0.99	0.87	0.58	0.33	0.11	
2	-0.07	-0.33	-0.21	0.83	0.78	1.16	1.25	0.97	0.86	0.57	0.33	0.10	
3	-0.08	-0.34	-0.22	0.89	1.13	1.14	1.32	0.95	0.85	0.56	0.32	0.10	
4	-0.09	-0.35	-0.18	0.89	1.13	1.15	1.38	0.94	0.84	0.55	0.31	0.08	
5	-0.10	-0.36	-0.22	0.85	0.96	1.21	1.39	0.94	0.85	0.53	0.31	0.07	
6	-0.11	-0.40	-0.22	0.85	0.96	1.24	1.34	0.92	0.86	0.53	0.30	0.06	
7	-0.12	-0.39	-0.21	0.89	1.01	1.20	1.28	0.91	0.85	0.53	0.30	0.05	
8	-0.13	-0.40	-0.20	0.96	1.05	1.17	1.33	0.90	0.84	0.53	0.29	0.04	
9	-0.14	-0.41	-0.17	0.93	1.08	1.12	1.32	0.89	0.83	0.51	0.28	0.03	
10	-0.15	-0.42	-0.05	1.01	1.04	0.99	1.33	0.88	0.82	0.50	0.27	0.02	
11	-0.66	-0.42	0.88	1.02	1.07	1.04	1.32	0.92	0.81	0.50	0.26	0.01	
12	-0.18	-0.43	0.88	0.89	1.09	1.02	1.40	0.89	0.81	0.49	0.26	0.00	
13	-0.19	-0.44	0.91	0.81	1.07	1.04	1.44	0.89	0.80	0.48	0.25	0.00	
14	-0.20	-0.45	0.96	0.77	1.04	1.05	1.39	0.89	0.79	0.46	0.23	-0.01	
15	-0.21	-0.45	1.04	0.82	1.05	1.06	1.28	0.88	0.79	0.46	0.21	-0.01	
16	-0.22	-0.45	1.02	0.79	1.03	1.08	1.24	0.88	0.78	0.45	0.22	-0.02	
17	-0.22	-0.45	1.06	0.73	0.99	1.09	1.21	0.86	0.78	0.44	0.22	-0.03	
18	-0.23	-0.45	0.99	0.82	0.98	1.13	1.27	0.86	0.81	0.43	0.21	-0.04	
19	-0.24	-0.45	0.96	0.85	1.07	1.11	1.28	0.91	0.83	0.42	0.20	-0.05	
20	-0.24	-0.45	0.96	0.80	0.94	1.12	1.24	0.89	0.82	0.41	0.20	-0.06	
21	-0.23	-0.43	0.88	0.83	1.02	1.14	1.21	0.89	0.79	0.40	0.19	-0.07	
22	-0.24	-0.44	0.85	0.80	1.05	1.14	1.17	0.89	0.78	0.40	0.17	-0.06	
23	-0.25	-0.44	0.83	0.77	1.08	1.20	1.14	0.88	0.76	0.40	0.16	-0.07	
24	-0.26	-0.45	0.90	0.74	1.10	1.40	1.13	0.88	0.75	0.39	0.15	-0.10	
25	-0.27	-0.46	0.92	0.76	1.09	1.38	1.10	0.89	0.74	0.38	0.14	-0.12	
26	-0.28	-0.46	0.95	0.74	1.04	1.23	1.10	0.90	0.73	0.37	0.14	-0.12	
27	-0.25	-0.35	0.95	0.70	1.04	1.16	1.09	0.90	0.71	0.36	0.13	-0.12	
28	-0.25	-0.34	0.91	0.68	1.02	1.10	1.07	0.90	0.69	0.35	0.13	-0.13	
29	-0.27	-0.33	0.89	0.68	1.02	1.07	1.03	0.87	0.65	0.34	0.12	-0.14	
30	-0.28	-0.33	0.86	0.67	1.04	1.22	1.02	0.87	0.61	0.34		-0.15	
31		-0.32		0.68	1.10		1.00		0.59	0.33		-0.15	
Mean	-0.21	-0.40	0.56	0.82	1.03	1.14	1.23	0.90	0.78	0.45	0.23	-0.03	
Max	-0.06	-0.32	1.06	1.02	1.13	1.40	1.44	0.99	0.87	0.58	0.33	0.11	1.44
Min	-0.66	-0.46	-0.22	0.67	0.78	0.99	1.00	0.86	0.59	0.33	0.12	-0.15	-0.66

Annual Max Momentary Gage Height — 1.45 M (A.D), at 6.00 Hours, on Oct 13, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.67 M (A.D)

Left Bank Elevation — 2.11 M (A.D)

Right Bank Elevation — 2.23 M (A.D), Drainage Area 207 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.00	0.48	0.25	3.90	4.08	1.51	0.57	0.00	0.00	0.00	
2	0.00	0.00	0.00	0.38	0.20	4.08	5.80	1.33	0.52	0.00	0.00	0.00	
3	0.00	0.00	0.00	0.66	3.54	3.72	7.34	1.15	0.48	0.00	0.00	0.00	
4	0.00	0.00	0.00	0.66	3.54	3.90	8.96	1.06	0.43	0.00	0.00	0.00	
5	0.00	0.00	0.00	0.48	1.24	5.00	9.23	1.06	0.48	0.00	0.00	0.00	
6	0.00	0.00	0.00	0.48	1.24	5.60	7.88	0.88	0.52	0.00	0.00	0.00	
7	0.00	0.00	0.00	0.66	1.74	4.80	6.40	0.79	0.48	0.00	0.00	0.00	
8	0.00	0.00	0.00	1.24	2.30	4.26	7.61	0.70	0.43	0.00	0.00	0.00	
9	0.00	0.00	0.00	0.97	2.72	3.36	7.34	0.66	0.38	0.00	0.00	0.00	
10	0.00	0.00	0.00	1.74	2.16	1.51	7.61	0.61	0.34	0.00	0.00	0.00	
11	0.00	0.00	0.61	1.88	2.58	2.16	7.34	0.88	0.29	0.00	0.00	0.00	
12	0.00	0.00	0.61	0.66	2.86	1.88	9.50	0.66	0.29	0.00	0.00	0.00	
13	0.00	0.00	0.79	0.29	2.58	2.16	10.70	0.66	0.25	0.00	0.00	0.00	
14	0.00	0.00	1.24	0.17	2.16	2.30	9.23	0.66	0.23	0.00	0.00	0.00	
15	0.00	0.00	2.16	0.34	2.30	2.44	6.40	0.61	0.23	0.00	0.00	0.00	
16	0.00	0.00	1.88	0.23	2.02	2.72	5.60	0.61	0.20	0.00	0.00	0.00	
17	0.00	0.00	2.44	0.08	1.51	2.86	5.00	0.52	0.20	0.00	0.00	0.00	
18	0.00	0.00	1.51	0.34	1.42	3.54	6.20	0.52	0.29	0.00	0.00	0.00	
19	0.00	0.00	1.24	0.48	2.58	3.18	6.40	0.79	0.38	0.00	0.00	0.00	
20	0.00	0.00	1.24	0.25	1.06	3.36	5.60	0.66	0.34	0.00	0.00	0.00	
21	0.00	0.00	0.61	0.38	1.88	3.72	5.00	0.66	0.23	0.00	0.00	0.00	
22	0.00	0.00	0.48	0.25	2.30	3.72	4.26	0.66	0.20	0.00	0.00	0.00	
23	0.00	0.00	0.38	0.17	2.72	4.80	3.72	0.61	0.15	0.00	0.00	0.00	
24	0.00	0.00	0.70	0.10	3.00	9.50	3.54	0.61	0.13	0.00	0.00	0.00	
25	0.00	0.00	0.88	0.15	2.86	8.96	3.00	0.66	0.10	0.00	0.00	0.00	
26	0.00	0.00	1.15	0.10	2.16	5.40	3.00	0.70	0.08	0.00	0.00	0.00	
27	0.00	0.00	1.15	0.00	2.16	4.08	2.86	0.70	0.02	0.00	0.00	0.00	
28	0.00	0.00	0.79	0.00	1.88	3.00	2.58	0.70	0.00	0.00	0.00	0.00	
29	0.00	0.00	0.66	0.00	1.88	2.58	2.02	0.57	0.00	0.00	0.00	0.00	
30	0.00	0.00	0.52	0.00	2.16	5.20	1.88	0.57	0.00	0.00		0.00	
31		0.00		0.00	3.00		1.60		0.00	0.00		0.00	
Total	0.00	0.00	21.04	13.62	66.00	117.69	177.68	22.76	8.24	0.00	0.00	0.00	427.03 CMSDAY
Mean	0.00	0.00	0.70	0.44	2.13	3.92	5.73	0.76	0.27	0.00	0.00	0.00	1.17 CMS
Max	0.00	0.00	2.44	1.88	3.54	9.50	10.70	1.51	0.57	0.00	0.00	0.00	10.70 CMS
Min	0.00	0.00	0.00	0.00	0.20	1.51	1.60	0.52	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	0.000	0.000	1.818	1.177	5.702	10.168	15.352	1.966	0.712	0.000	0.000	0.000	36.895 MCM

Momentary Peak 11.00 CMS, at 1.45 M (A.D), at 6.00 Hours, on Oct 13, 1991

Runoff Yield 5.64 Liters/Second/Square KM, Momentary Peak Yield 53.14 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

Huai Haet at Ban Kut Ngong, Si Sa Ket (M.123)

Location — Lat. 15°-03'-53" N., Long. 104°-20'-56" E., on right bank at the bridge of Si Sa Ket- Kantharalak Highway, Amphoe Muang, Si Sa Ket.

Drainage Area — 387 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-Highway Department.

Location — On right bank at the abutment of the bridge.

Elevation — +7.887 m.(A.D.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean Of 24 readings.

Period of Available Gage Records — 1983 to date.

Rating Operation

Period of Rating — 1984 to date.

Rated by Float —

Rated by Current Meter — 1984 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 18 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

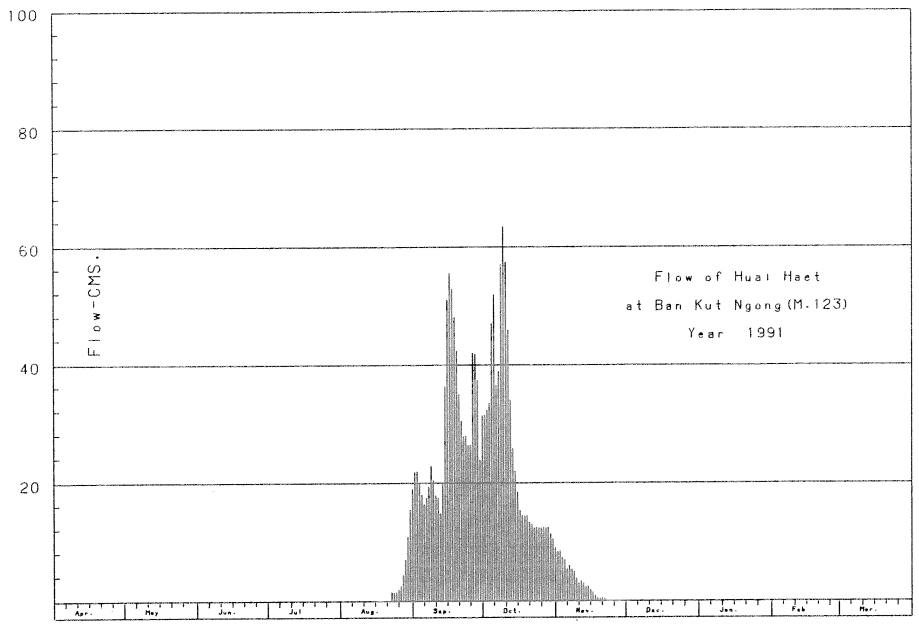
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.46	3.49	3.36	3.55	3.64	4.34	4.53	4.07	3.86	3.77	3.69	3.60	
2	3.45	3.48	3.35	3.56	3.62	4.34	4.55	4.07	3.86	3.77	3.69	3.59	
3	3.45	3.48	3.40	3.57	3.62	4.30	4.57	4.05	3.86	3.78	3.70	3.59	
4	3.45	3.48	3.40	3.58	3.62	4.26	4.84	4.04	3.86	3.77	3.70	3.58	
5	3.45	3.48	3.40	3.58	3.64	4.23	4.94	4.01	3.85	3.78	3.70	3.58	
6	3.44	3.47	3.40	3.60	3.68	4.25	4.63	4.02	3.85	3.78	3.70	3.58	
7	3.43	3.46	3.40	3.60	3.71	4.29	4.68	4.01	3.86	3.77	3.68	3.57	
8	3.42	3.46	3.40	3.59	3.84	4.36	5.04	4.00	3.85	3.77	3.68	3.55	
9	3.41	3.45	3.40	3.59	3.84	4.31	5.17	3.98	3.85	3.77	3.68	3.54	
10	3.41	3.45	3.39	3.59	3.83	4.26	5.05	3.96	3.85	3.77	3.68	3.54	
11	3.40	3.44	3.39	3.61	3.85	4.25	4.82	3.97	3.85	3.77	3.68	3.53	
12	3.39	3.44	3.38	3.64	3.84	4.20	4.58	3.96	3.85	3.76	3.68	3.53	
13	3.38	3.43	3.40	3.66	3.85	4.30	4.42	3.95	3.84	3.76	3.68	3.53	
14	3.37	3.42	3.47	3.67	3.84	4.63	4.34	3.95	3.84	3.76	3.68	3.53	
15	3.36	3.41	3.47	3.67	3.86	4.92	4.27	3.94	3.83	3.74	3.68	3.51	
16	3.35	3.41	3.47	3.67	3.85	5.01	4.21	3.93	3.82	3.74	3.68	3.50	
17	3.34	3.42	3.46	3.67	3.84	4.96	4.19	3.92	3.80	3.74	3.68	3.50	
18	3.33	3.42	3.46	3.67	3.83	4.86	4.19	3.91	3.80	3.73	3.68	3.49	
19	3.32	3.41	3.46	3.67	3.85	4.75	4.19	3.91	3.82	3.73	3.66	3.48	
20	3.31	3.40	3.46	3.66	3.88	4.60	4.17	3.91	3.81	3.74	3.66	3.48	
21	3.30	3.39	3.44	3.67	3.90	4.51	4.16	3.91	3.80	3.73	3.65	3.47	
22	3.30	3.38	3.44	3.67	3.93	4.46	4.15	3.90	3.79	3.72	3.64	3.46	
23	3.39	3.37	3.44	3.67	3.93	4.46	4.15	3.88	3.79	3.71	3.63	3.45	
24	3.39	3.36	3.44	3.66	3.93	4.43	4.15	3.87	3.79	3.72	3.63	3.44	
25	3.38	3.35	3.44	3.66	3.94	4.43	4.15	3.87	3.79	3.72	3.63	3.44	
26	3.40	3.35	3.45	3.66	3.95	4.74	4.15	3.87	3.80	3.72	3.62	3.42	
27	3.50	3.35	3.47	3.65	3.99	4.74	4.15	3.86	3.79	3.71	3.62	3.42	
28	3.50	3.35	3.49	3.65	4.04	4.65	4.15	3.85	3.79	3.71	3.61	3.41	
29	3.50	3.35	3.51	3.65	4.12	4.38	4.13	3.85	3.79	3.70	3.61	3.40	
30	3.49	3.35	3.53	3.65	4.21	4.53	4.11	3.85	3.78	3.69		3.39	
31		3.35		3.64	4.28		4.08		3.78	3.69		3.39	
Mean	3.40	3.41	3.43	3.63	3.86	4.49	4.42	3.94	3.82	3.74	3.67	3.50	
Max	3.50	3.49	3.53	3.67	4.28	5.01	5.17	4.07	3.86	3.78	3.70	3.60	5.17
Min	3.30	3.35	3.35	3.55	3.62	4.20	4.08	3.85	3.78	3.69	3.61	3.39	3.30

Annual Max Momentary Gage Height — 5.19 M (A.D), at 1.00 Hours, on Oct 9, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 0.34 M (A.D)

Left Bank Elevation — 6.73 M (A.D)

Right Bank Elevation — 6.70 M (A.D), Drainage Area — 387 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.00	0.00	0.00	22.00	31.50	8.50	0.00	0.00	0.00	0.00	
2	0.00	0.00	0.00	0.00	0.00	22.00	32.50	8.50	0.00	0.00	0.00	0.00	
3	0.00	0.00	0.00	0.00	0.00	20.00	33.50	7.50	0.00	0.00	0.00	0.00	
4	0.00	0.00	0.00	0.00	0.00	18.00	47.00	7.00	0.00	0.00	0.00	0.00	
5	0.00	0.00	0.00	0.00	0.00	16.50	52.00	5.50	0.00	0.00	0.00	0.00	
6	0.00	0.00	0.00	0.00	0.00	17.50	36.50	6.00	0.00	0.00	0.00	0.00	
7	0.00	0.00	0.00	0.00	0.00	19.50	39.00	5.50	0.00	0.00	0.00	0.00	
8	0.00	0.00	0.00	0.00	0.00	23.00	57.00	5.00	0.00	0.00	0.00	0.00	
9	0.00	0.00	0.00	0.00	0.00	20.50	63.50	4.00	0.00	0.00	0.00	0.00	
10	0.00	0.00	0.00	0.00	0.00	18.00	57.50	3.00	0.00	0.00	0.00	0.00	
11	0.00	0.00	0.00	0.00	0.00	17.50	46.00	3.50	0.00	0.00	0.00	0.00	
12	0.00	0.00	0.00	0.00	0.00	15.00	34.00	3.00	0.00	0.00	0.00	0.00	
13	0.00	0.00	0.00	0.00	0.00	20.00	26.00	2.50	0.00	0.00	0.00	0.00	
14	0.00	0.00	0.00	0.00	0.00	36.50	22.00	2.50	0.00	0.00	0.00	0.00	
15	0.00	0.00	0.00	0.00	0.00	51.00	18.50	2.00	0.00	0.00	0.00	0.00	
16	0.00	0.00	0.00	0.00	0.00	55.50	15.50	1.50	0.00	0.00	0.00	0.00	
17	0.00	0.00	0.00	0.00	0.00	53.00	14.50	1.00	0.00	0.00	0.00	0.00	
18	0.00	0.00	0.00	0.00	0.00	48.00	14.50	0.50	0.00	0.00	0.00	0.00	
19	0.00	0.00	0.00	0.00	0.00	42.50	14.50	0.50	0.00	0.00	0.00	0.00	
20	0.00	0.00	0.00	0.00	0.00	35.00	13.50	0.50	0.00	0.00	0.00	0.00	
21	0.00	0.00	0.00	0.00	0.00	30.50	13.00	0.50	0.00	0.00	0.00	0.00	
22	0.00	0.00	0.00	0.00	1.50	28.00	12.50	0.00	0.00	0.00	0.00	0.00	
23	0.00	0.00	0.00	0.00	1.50	28.00	12.50	0.00	0.00	0.00	0.00	0.00	
24	0.00	0.00	0.00	0.00	1.50	26.50	12.50	0.00	0.00	0.00	0.00	0.00	
25	0.00	0.00	0.00	0.00	2.00	26.50	12.50	0.00	0.00	0.00	0.00	0.00	
26	0.00	0.00	0.00	0.00	2.50	42.00	12.50	0.00	0.00	0.00	0.00	0.00	
27	0.00	0.00	0.00	0.00	4.50	42.00	12.50	0.00	0.00	0.00	0.00	0.00	
28	0.00	0.00	0.00	0.00	7.00	37.50	12.50	0.00	0.00	0.00	0.00	0.00	
29	0.00	0.00	0.00	0.00	11.00	24.00	11.50	0.00	0.00	0.00	0.00	0.00	
30	0.00	0.00	0.00	0.00	15.50	31.50	10.50	0.00	0.00	0.00		0.00	
31		0.00		0.00	19.00		9.00		0.00	0.00		0.00	
Total	0.00	0.00	0.00	0.00	66.00	887.50	800.50	78.50	0.00	0.00	0.00	0.00	1832.50 CMSDAY
Mean	0.00	0.00	0.00	0.00	2.13	29.58	25.82	2.62	0.00	0.00	0.00	0.00	5.01 CMS
Max	0.00	0.00	0.00	0.00	19.00	55.50	63.50	8.50	0.00	0.00	0.00	0.00	63.50 CMS
Min	0.00	0.00	0.00	0.00	0.00	15.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	0.000	0.000	0.000	0.000	5.702	76.680	69.163	6.782	0.000	0.000	0.000	0.000	158.328 MCM

Momentary Peak 64.50 CMS, at 5.19 M (A.D), at 1.00 Hours, on Oct 9, 1991
Runoff Yield 12.94 Liters/Second/Square KM, Momentary Peak Yield 166.67 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

Huai Ta Thieo at Ban Na Hai, Ubon Ratchathani (M.127)

Location — Lat. 15-38-37 N., Long. 104-55-57 E., on left bank at the bridge on road, Ban Na Hai, Tambon Na Samai, Amphoe Trakan Phutphon, Ubon Ratchathani.

Drainage Area — 414 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank downstream side at the abutment of the bridge.

Elevation — +11.514 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1984 to date.

Rating Operation

Period of Rating — 1987 to date.

Rated by Float — -

Rated by Current Meter — 1987 to date.

Stability of Channel Regimes — Rather unstable because of backwater effect.

Overbank Flow Conditions — Overbank flow starts at elevation +6.58 m.(A.D.) and is included.

General Description — Records fair. Stage-discharge relation defined by 19 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

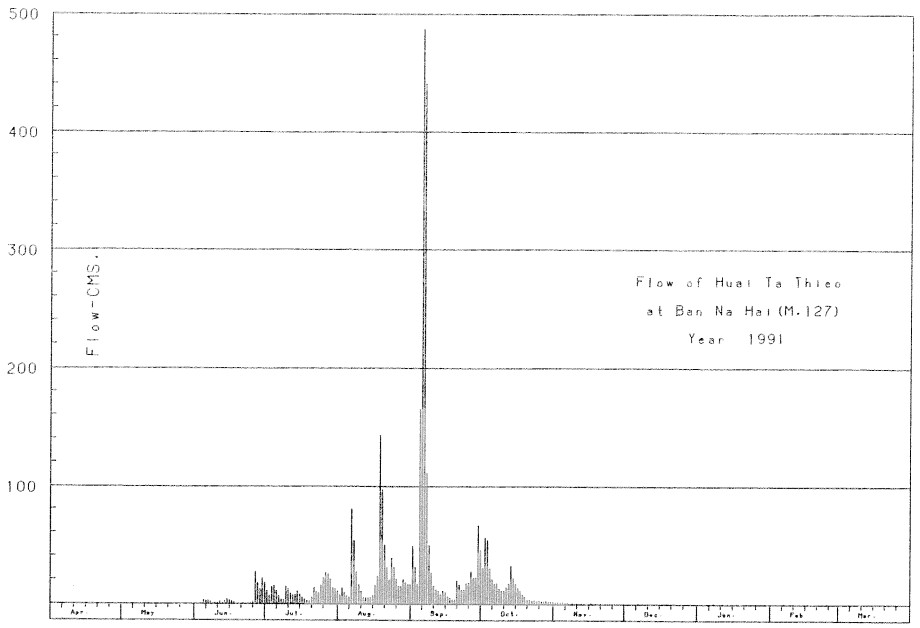
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.96	1.04	1.35	1.96	1.86	2.88	2.47	1.46	1.34	1.31	1.30	1.29	
2	0.96	1.03	1.40	1.84	2.04	2.50	3.02	1.45	1.35	1.31	1.32	1.29	
3	0.95	1.01	1.32	2.09	1.94	2.16	2.99	1.44	1.33	1.31	1.31	1.28	
4	0.95	1.01	1.65	2.11	1.82	4.65	2.48	1.44	1.33	1.31	1.30	1.28	
5	0.94	1.00	1.59	1.98	1.80	7.72	2.27	1.42	1.33	1.33	1.30	1.28	
6	0.94	0.99	1.56	1.82	3.45	7.33	2.16	1.41	1.32	1.34	1.30	1.28	
7	0.94	0.98	1.49	1.71	2.98	3.91	2.17	1.40	1.32	1.33	1.30	1.28	
8	0.93	0.97	1.42	1.62	2.40	2.90	2.04	1.40	1.32	1.35	1.32	1.27	
9	0.93	1.07	1.39	2.10	2.16	2.38	1.97	1.39	1.32	1.35	1.33	1.26	
10	0.92	1.07	1.43	2.02	1.95	2.10	1.99	1.39	1.32	1.34	1.33	1.26	
11	0.92	1.06	1.48	1.91	1.78	2.02	2.06	1.39	1.32	1.33	1.32	1.26	
12	0.91	1.04	1.43	1.84	1.75	1.96	2.19	1.38	1.32	1.34	1.32	1.26	
13	0.91	1.04	1.54	1.87	1.77	1.88	2.51	1.38	1.32	1.33	1.30	1.26	
14	0.90	1.03	1.72	1.95	1.77	1.96	2.29	1.37	1.31	1.32	1.29	1.25	
15	0.90	1.02	1.63	1.88	1.85	1.94	2.16	1.36	1.31	1.31	1.28	1.26	
16	0.90	1.01	1.52	1.79	2.12	1.82	2.06	1.36	1.31	1.31	1.28	1.27	
17	0.89	1.01	1.44	1.68	2.33	1.75	1.96	1.36	1.31	1.31	1.28	1.26	
18	0.89	1.00	1.38	1.59	4.36	1.70	1.88	1.36	1.31	1.30	1.28	1.26	
19	0.90	1.00	1.33	1.53	3.70	1.66	1.80	1.36	1.31	1.30	1.28	1.26	
20	1.08	0.99	1.31	1.80	2.91	2.23	1.67	1.35	1.31	1.30	1.27	1.26	
21	1.04	1.07	1.32	2.05	2.48	2.14	1.63	1.35	1.31	1.30	1.27	1.26	
22	1.01	1.07	1.31	1.96	2.26	2.01	1.62	1.35	1.30	1.30	1.27	1.26	
23	1.00	1.06	1.30	1.90	2.66	1.99	1.61	1.35	1.29	1.30	1.27	1.26	
24	0.99	1.05	1.43	2.14	2.50	2.19	1.58	1.34	1.29	1.30	1.27	1.26	
25	0.98	1.04	1.50	2.30	2.26	2.19	1.58	1.34	1.28	1.34	1.27	1.25	
26	0.91	1.03	2.41	2.38	2.09	2.42	1.56	1.34	1.31	1.33	1.28	1.25	
27	1.05	1.03	2.20	2.37	2.11	2.30	1.55	1.34	1.31	1.32	1.27	1.26	
28	1.05	1.02	2.01	2.26	2.27	2.29	1.55	1.34	1.30	1.32	1.30	1.26	
29	1.05	1.02	2.28	2.07	2.19	3.22	1.53	1.34	1.29	1.29	1.30	1.26	
30	1.04	1.01	2.21	2.02	2.17	2.81	1.49	1.34	1.29	1.30		1.25	
31		1.01		1.95	2.14		1.48		1.30	1.30		1.25	
Mean	0.96	1.03	1.58	1.95	2.32	2.70	1.98	1.38	1.31	1.32	1.29	1.26	
Max	1.08	1.07	2.41	2.38	4.36	7.72	3.02	1.46	1.35	1.35	1.33	1.29	7.72
Min	0.89	0.97	1.30	1.53	1.75	1.66	1.48	1.34	1.28	1.29	1.27	1.25	0.89

Annual Max Momentary Gage Height — 8.50 M (A.D), at 24.00 Hours, on Sep 5, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 0.95 M (A.D)

Left Bank Elevation — 7.89 M (A.D)

Right Bank Elevation — 6.57 M (A.D), Drainage Area — 414 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.75	10.80	7.80	49.00	30.15	1.60	0.70	0.55	0.50	0.45	
2	0.00	0.00	1.00	7.20	13.20	31.50	56.00	1.50	0.75	0.55	0.60	0.45	
3	0.00	0.00	0.60	14.70	10.20	16.80	54.50	1.40	0.65	0.55	0.55	0.40	
4	0.00	0.00	3.50	15.30	6.60	166.00	30.60	1.40	0.65	0.55	0.50	0.40	
5	0.00	0.00	2.90	11.40	6.00	487.40	21.15	1.20	0.65	0.65	0.50	0.40	
6	0.00	0.00	2.60	6.60	81.00	440.60	16.80	1.10	0.60	0.70	0.50	0.40	
7	0.00	0.00	1.90	4.20	54.00	111.70	17.10	1.00	0.60	0.65	0.50	0.40	
8	0.00	0.00	1.20	3.20	27.00	50.00	13.20	1.00	0.60	0.75	0.60	0.35	
9	0.00	0.00	0.95	15.00	16.80	26.10	11.10	0.95	0.60	0.75	0.65	0.30	
10	0.00	0.00	1.30	12.60	10.50	15.00	11.70	0.95	0.60	0.70	0.65	0.30	
11	0.00	0.00	1.80	9.30	5.60	12.60	13.80	0.95	0.60	0.65	0.60	0.30	
12	0.00	0.00	1.30	7.20	5.00	10.80	17.70	0.90	0.60	0.70	0.60	0.30	
13	0.00	0.00	2.40	8.10	5.40	8.40	31.95	0.90	0.60	0.65	0.50	0.30	
14	0.00	0.00	4.40	10.50	5.40	10.80	22.05	0.85	0.55	0.60	0.45	0.25	
15	0.00	0.00	3.30	8.40	7.50	10.20	16.80	0.80	0.55	0.55	0.40	0.30	
16	0.00	0.00	2.20	5.80	15.60	6.60	13.80	0.80	0.55	0.55	0.40	0.35	
17	0.00	0.00	1.40	3.80	23.85	5.00	10.80	0.80	0.55	0.55	0.40	0.30	
18	0.00	0.00	0.90	2.90	143.20	4.00	8.40	0.80	0.55	0.50	0.40	0.30	
19	0.00	0.00	0.65	2.30	97.00	3.60	6.00	0.80	0.55	0.50	0.40	0.30	
20	0.00	0.00	0.55	6.00	50.50	19.35	3.70	0.75	0.55	0.50	0.35	0.30	
21	0.00	0.00	0.60	13.50	30.60	16.20	3.30	0.75	0.55	0.50	0.35	0.30	
22	0.00	0.00	0.55	10.80	20.70	12.30	3.20	0.75	0.50	0.50	0.35	0.30	
23	0.00	0.00	0.50	9.00	38.70	11.70	3.10	0.75	0.45	0.50	0.35	0.30	
24	0.00	0.00	1.30	16.20	31.50	17.70	2.80	0.70	0.45	0.50	0.35	0.30	
25	0.00	0.00	2.00	22.50	20.70	17.70	2.80	0.70	0.40	0.70	0.35	0.25	
26	0.00	0.00	27.45	26.10	14.70	27.90	2.60	0.70	0.55	0.65	0.40	0.25	
27	0.00	0.00	18.00	25.65	15.30	22.50	2.50	0.70	0.55	0.60	0.35	0.30	
28	0.00	0.00	12.30	20.70	21.15	22.05	2.50	0.70	0.50	0.60	0.50	0.30	
29	0.00	0.00	21.60	14.10	17.70	67.20	2.30	0.70	0.45	0.45	0.50	0.30	
30	0.00	0.00	18.45	12.60	17.10	45.50	1.90	0.70	0.45	0.50		0.25	
31		0.00		10.50	16.20		1.80		0.50	0.50		0.25	
Total	0.00	0.00	138.35	346.95	836.50	1746.20	436.10	27.60	17.40	18.15	13.55	9.95	3590.75 CMSDAY
Mean	0.00	0.00	4.61	11.19	26.98	58.21	14.07	0.92	0.56	0.59	0.47	0.32	9.81 CMS
Max	0.00	0.00	27.45	26.10	143.20	487.40	56.00	1.60	0.75	0.75	0.65	0.45	487.40 CMS
Min	0.00	0.00	0.50	2.30	5.00	3.60	1.80	0.70	0.40	0.45	0.35	0.25	0.00 CMS
Runoff	0.000	0.000	11.953	29.976	72.274	150.872	37.679	2.385	1.503	1.568	1.171	0.860	310.241 MCM

Momentary Peak 587.00 CMS, at 8.50 M (A.D), at 24.00 Hours, on Sep 5, 1991
Runoff Yield 23.70 Liters/Second/Square KM, Momentary Peak Yield 1417.87 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

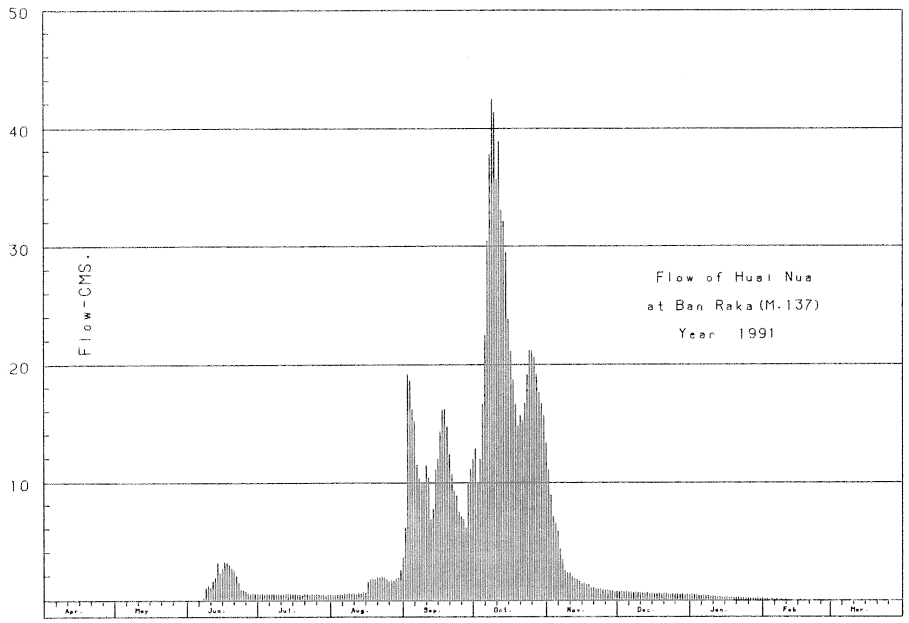
Huai Nua at Ban Raka, Si Sa Ket (M.137)

Location	Lat. 14°-47'-31" N., Long. 104°-10'-40" E., on right bank at the bridge on road, Ban Raka, Tambon Khok Phet, Amphoe Khu Khan, Si Sa Ket.
Drainage Area	397 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank upstream side at the abutment of the bridge.
Elevation	+4.625 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1987 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Rather unstable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 14 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	-0.63	-1.11	-0.13	1.19	1.16	1.55	1.73	1.69	1.23	1.17	0.96	0.66	
2	-0.64	-1.11	-0.06	1.19	1.16	1.86	1.66	1.63	1.23	1.17	0.95	0.64	
3	-0.66	-1.10	0.02	1.18	1.17	1.85	1.71	1.58	1.23	1.16	0.94	0.63	
4	-0.69	-1.10	0.10	1.18	1.17	1.80	1.81	1.56	1.23	1.15	0.94	0.62	
5	-0.72	-1.10	0.20	1.19	1.18	1.78	1.92	1.54	1.23	1.15	0.93	0.61	
6	-0.75	-1.10	0.30	1.19	1.19	1.70	2.03	1.49	1.22	1.14	0.92	0.60	
7	-0.78	-1.09	1.07	1.18	1.20	1.67	2.11	1.45	1.22	1.14	0.92	0.59	
8	-0.81	-1.08	1.30	1.18	1.20	1.66	2.15	1.41	1.22	1.13	0.91	0.57	
9	-0.84	-1.06	1.31	1.18	1.20	1.66	2.14	1.40	1.22	1.12	0.90	0.56	
10	-0.86	-1.04	1.30	1.17	1.20	1.70	2.09	1.40	1.21	1.11	0.89	0.55	
11	-0.88	-1.02	1.34	1.17	1.20	1.67	2.12	1.38	1.21	1.10	0.88	0.53	
12	-0.90	-1.00	1.37	1.20	1.21	1.57	2.06	1.36	1.21	1.10	0.87	0.51	
13	-0.92	-0.98	1.44	1.19	1.21	1.60	2.05	1.36	1.21	1.09	0.86	0.50	
14	-0.93	-0.96	1.40	1.19	1.22	1.69	2.02	1.34	1.20	1.08	0.85	0.49	
15	-0.94	-0.94	1.42	1.18	1.22	1.71	1.94	1.33	1.20	1.07	0.84	0.48	
16	-0.95	-0.90	1.44	1.17	1.34	1.76	1.90	1.33	1.20	1.06	0.83	0.46	
17	-0.96	-0.86	1.44	1.17	1.36	1.80	1.85	1.32	1.20	1.05	0.82	0.43	
18	-0.97	-0.83	1.43	1.16	1.36	1.80	1.81	1.32	1.20	1.04	0.81	0.38	
19	-0.98	-0.80	1.42	1.16	1.36	1.77	1.77	1.30	1.19	1.03	0.80	0.33	
20	-0.99	-0.76	1.41	1.17	1.37	1.72	1.79	1.29	1.19	1.02	0.79	0.28	
21	-1.01	-0.72	1.38	1.17	1.37	1.68	1.78	1.28	1.19	1.02	0.78	0.23	
22	-1.02	-0.67	1.34	1.17	1.38	1.64	1.81	1.28	1.18	1.01	0.77	0.18	
23	-1.03	-0.62	1.27	1.17	1.37	1.63	1.86	1.27	1.18	1.01	0.76	0.13	
24	-1.05	-0.56	1.25	1.17	1.36	1.59	1.90	1.26	1.18	1.00	0.75	0.08	
25	-1.06	-0.50	1.23	1.17	1.34	1.58	1.90	1.25	1.18	1.00	0.74	0.03	
26	-1.07	-0.44	1.22	1.17	1.35	1.57	1.89	1.25	1.18	0.99	0.73	0.01	
27	-1.09	-0.40	1.20	1.16	1.35	1.55	1.86	1.25	1.18	0.99	0.72	-0.02	
28	-1.10	-0.36	1.20	1.16	1.36	1.66	1.83	1.24	1.17	0.98	0.71	-0.05	
29	-1.10	-0.31	1.20	1.15	1.37	1.69	1.81	1.23	1.17	0.98	0.69	-0.08	
30	-1.11	-0.27	1.20	1.15	1.41	1.71	1.79	1.23	1.17	0.97		-0.13	
31		-0.20		1.15	1.46		1.74		1.17	0.97		-0.14	
Mean	-0.91	-0.81	1.07	1.17	1.28	1.69	1.90	1.37	1.20	1.06	0.84	0.34	
Max	-0.63	-0.20	1.44	1.20	1.46	1.86	2.15	1.69	1.23	1.17	0.96	0.66	2.15
Min	-1.11	-1.11	-0.13	1.15	1.16	1.55	1.66	1.23	1.17	0.97	0.69	-0.14	-1.11

Annual Max Momentary Gage Height 2.15 M (A.D), at 6.00 Hours, on Oct 8, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -1.33 M (A.D)
Left Bank Elevation 3.32 M (A.D)
Right Bank Elevation 3.46 M (A.D), Drainage Area 397 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.00	0.55	0.47	6.20	12.91	11.13	0.74	0.50	0.16	0.01	
2	0.00	0.00	0.00	0.55	0.47	19.20	10.02	8.91	0.74	0.50	0.15	0.01	
3	0.00	0.00	0.00	0.52	0.50	18.70	11.97	7.16	0.74	0.47	0.14	0.01	
4	0.00	0.00	0.00	0.52	0.50	16.20	16.70	6.52	0.74	0.44	0.14	0.00	
5	0.00	0.00	0.00	0.55	0.52	15.26	22.52	5.88	0.74	0.44	0.13	0.00	
6	0.00	0.00	0.00	0.55	0.55	11.50	30.44	4.37	0.68	0.41	0.12	0.00	
7	0.00	0.00	0.27	0.52	0.58	10.39	37.78	3.45	0.68	0.41	0.12	0.00	
8	0.00	0.00	1.10	0.52	0.58	10.02	42.50	2.53	0.68	0.38	0.11	0.00	
9	0.00	0.00	1.22	0.52	0.58	10.02	41.32	2.30	0.68	0.36	0.10	0.00	
10	0.00	0.00	1.10	0.50	0.58	11.50	35.72	2.30	0.63	0.33	0.10	0.00	
11	0.00	0.00	1.58	0.50	0.58	10.39	38.96	2.06	0.63	0.30	0.09	0.00	
12	0.00	0.00	1.94	0.58	0.63	6.84	33.08	1.82	0.63	0.30	0.09	0.00	
13	0.00	0.00	3.22	0.55	0.63	7.80	32.20	1.82	0.63	0.29	0.08	0.00	
14	0.00	0.00	2.30	0.55	0.68	11.13	29.56	1.58	0.58	0.28	0.08	0.00	
15	0.00	0.00	2.76	0.52	0.68	11.97	23.84	1.46	0.58	0.27	0.07	0.00	
16	0.00	0.00	3.22	0.50	1.58	14.32	21.20	1.46	0.58	0.26	0.06	0.00	
17	0.00	0.00	3.22	0.50	1.82	16.20	18.70	1.34	0.58	0.25	0.06	0.00	
18	0.00	0.00	2.99	0.47	1.82	16.20	16.70	1.34	0.58	0.24	0.06	0.00	
19	0.00	0.00	2.76	0.47	1.82	14.79	14.79	1.10	0.55	0.23	0.05	0.00	
20	0.00	0.00	2.53	0.50	1.94	12.44	15.73	1.05	0.55	0.22	0.05	0.00	
21	0.00	0.00	2.06	0.50	1.94	10.76	15.26	1.00	0.55	0.22	0.04	0.00	
22	0.00	0.00	1.58	0.50	2.06	9.28	16.70	1.00	0.52	0.21	0.04	0.00	
23	0.00	0.00	0.94	0.50	1.94	8.91	19.20	0.94	0.52	0.21	0.04	0.00	
24	0.00	0.00	0.84	0.50	1.82	7.48	21.20	0.89	0.52	0.20	0.04	0.00	
25	0.00	0.00	0.74	0.50	1.58	7.16	21.20	0.84	0.52	0.20	0.03	0.00	
26	0.00	0.00	0.68	0.50	1.70	6.84	20.70	0.84	0.52	0.19	0.03	0.00	
27	0.00	0.00	0.58	0.47	1.70	6.20	19.20	0.84	0.52	0.19	0.03	0.00	
28	0.00	0.00	0.58	0.47	1.82	10.02	17.70	0.79	0.50	0.18	0.02	0.00	
29	0.00	0.00	0.58	0.44	1.94	11.13	16.70	0.74	0.50	0.18	0.02	0.00	
30	0.00	0.00	0.58	0.44	2.53	11.97	15.73	0.74	0.50	0.17		0.00	
31		0.00		0.44	3.68		13.38		0.50	0.17		0.00	
Total	0.00	0.00	39.37	15.70	40.22	340.82	703.61	78.20	18.61	9.00	2.25	0.03	1247.81 CMSDAY
Mean	0.00	0.00	1.31	0.51	1.30	11.36	22.70	2.61	0.60	0.29	0.08	0.00	3.41 CMS
Max	0.00	0.00	3.22	0.58	3.68	19.20	42.50	11.13	0.74	0.50	0.16	0.01	42.50 CMS
Min	0.00	0.00	0.00	0.44	0.47	6.20	10.02	0.74	0.50	0.17	0.02	0.00	0.00 CMS
Runoff	0.000	0.000	3.402	1.356	3.475	29.447	60.792	6.756	1.608	0.778	0.194	0.003	107.811 MCM

Momentary Peak 42.50 CMS, at 2.15 M (A.D), at 6.00 Hours, on Oct 8, 1991

Runoff Yield 8.59 Liters/Second/Square KM, Momentary Peak Yield 107.05 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

Huai Samran at Ban Tapang, Si Sa Ket (M.138)

Location — Lat. 14-46-54 N., Long. 104-07-32 E., on right bank at the bridge on road, Ban Tapang, Tambon Khok Phet, Amphoe Khu Khan, Si Sa Ket.

Drainage Area — 1,038 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-Highways Department.

Location — On right bank downstream side at the abutment of the bridge.

Elevation — +5.108 m.(A.D.)

Gage Reading Frequency — 3-time daily readings at 06.00, 12.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 3 readings.

Period of Available Gage Records — 1987 to date.

Rating Operation

Period of Rating — 1987 to date.

Rated by Float —

Rated by Current Meter — 1987 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 23 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

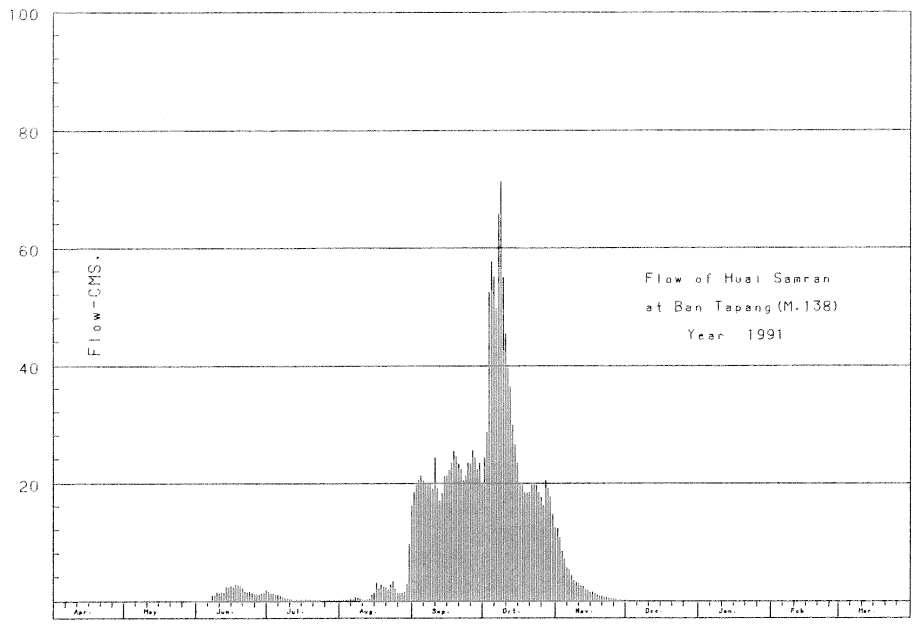
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.27	1.00	0.88	2.40	2.17	2.76	2.83	2.67	2.10	1.54	1.34	1.22	
2	1.25	0.99	0.89	2.38	2.18	2.78	2.87	2.64	1.99	1.53	1.34	1.21	
3	1.24	0.98	0.90	2.37	2.19	2.79	3.02	2.60	1.96	1.53	1.34	1.20	
4	1.21	0.99	0.89	2.36	2.20	2.80	3.04	2.57	1.90	1.50	1.33	1.19	
5	1.20	0.96	0.95	2.35	2.21	2.79	3.03	2.54	1.87	1.50	1.33	1.18	
6	1.18	0.98	1.78	2.34	2.25	2.78	3.01	2.53	1.86	1.49	1.32	1.17	
7	1.17	0.95	2.34	2.31	2.31	2.78	3.07	2.51	1.85	1.49	1.32	1.16	
8	1.16	0.94	2.35	2.30	2.31	2.78	3.09	2.48	1.83	1.48	1.32	1.15	
9	1.15	0.91	2.39	2.29	2.25	2.77	3.03	2.47	1.89	1.48	1.32	1.14	
10	1.15	0.88	2.38	2.27	2.24	2.83	2.99	2.46	1.88	1.47	1.32	1.13	
11	1.17	0.87	2.39	2.18	2.19	2.77	2.95	2.45	1.88	1.47	1.32	1.13	
12	1.16	0.85	2.39	2.18	2.16	2.74	2.93	2.44	1.88	1.48	1.32	1.13	
13	1.15	0.85	2.44	2.19	2.28	2.76	2.88	2.42	1.88	1.48	1.31	1.13	
14	1.15	0.85	2.43	2.20	2.35	2.80	2.85	2.41	1.88	1.48	1.31	1.12	
15	1.14	0.83	2.44	2.19	2.38	2.80	2.82	2.40	1.87	1.49	1.29	1.12	
16	1.15	0.86	2.44	2.18	2.47	2.81	2.78	2.40	1.85	1.47	1.28	1.10	
17	1.14	0.86	2.45	2.20	2.43	2.82	2.78	2.39	1.83	1.47	1.28	1.10	
18	1.13	0.86	2.45	2.21	2.45	2.84	2.76	2.35	1.78	1.47	1.27	1.09	
19	1.13	0.85	2.44	2.20	2.44	2.83	2.76	2.34	1.74	1.46	1.27	1.08	
20	1.12	0.86	2.43	2.19	2.43	2.82	2.76	2.33	1.72	1.45	1.26	1.07	
21	1.07	0.86	2.40	2.18	2.42	2.81	2.78	2.32	1.70	1.45	1.26	1.07	
22	1.04	0.85	2.40	2.19	2.45	2.79	2.78	2.31	1.68	1.44	1.25	1.07	
23	1.03	0.86	2.40	2.16	2.48	2.80	2.78	2.30	1.66	1.43	1.25	1.06	
24	1.01	0.83	2.39	2.14	2.42	2.82	2.76	2.29	1.66	1.41	1.24	1.06	
25	1.00	0.82	2.37	2.12	2.38	2.82	2.75	2.26	1.65	1.38	1.24	1.05	
26	0.98	0.82	2.36	2.10	2.37	2.84	2.73	2.23	1.64	1.37	1.24	1.05	
27	1.04	0.83	2.36	2.10	2.39	2.83	2.79	2.20	1.64	1.36	1.24	1.04	
28	1.03	0.85	2.37	2.10	2.40	2.81	2.77	2.17	1.62	1.35	1.23	1.03	
29	1.02	0.86	2.39	2.08	2.46	2.82	2.75	2.16	1.60	1.35	1.23	1.02	
30	1.00	0.85	2.41	2.07	2.62	2.78	2.71	2.14	1.58	1.34		1.01	
31		0.87		2.09	2.73		2.67		1.56	1.34		0.99	
Mean	1.12	0.88	2.13	2.21	2.36	2.80	2.86	2.39	1.79	1.45	1.29	1.11	
Max	1.27	1.00	2.45	2.40	2.73	2.84	3.09	2.67	2.10	1.54	1.34	1.22	3.09
Min	0.98	0.82	0.88	2.07	2.16	2.74	2.67	2.14	1.56	1.34	1.23	0.99	0.82

Annual Max Momentary Gage Height — 3.09 M (A.D), at 15.00 Hours, on Oct 7, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.64 M (A.D)

Left Bank Elevation — 3.94 M (A.D)

Right Bank Elevation — 3.96 M (A.D), Drainage Area 1038 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.03	0.00	0.00	1.60	0.29	18.46	24.51	12.52	0.25	0.05	0.03	0.02	
2	0.03	0.00	0.00	1.40	0.29	19.88	28.79	10.84	0.20	0.05	0.03	0.02	
3	0.02	0.00	0.00	1.30	0.30	20.59	52.40	8.60	0.18	0.05	0.03	0.02	
4	0.02	0.00	0.00	1.20	0.30	21.30	57.80	7.22	0.15	0.05	0.03	0.02	
5	0.02	0.00	0.00	1.10	0.33	20.59	55.10	5.84	0.14	0.05	0.03	0.02	
6	0.02	0.00	0.10	1.00	0.45	19.88	49.70	5.38	0.13	0.05	0.03	0.02	
7	0.02	0.00	1.00	0.70	0.70	19.88	65.90	4.46	0.13	0.05	0.03	0.02	
8	0.02	0.00	1.10	0.60	0.70	19.88	71.30	3.52	0.12	0.05	0.03	0.01	
9	0.01	0.00	1.50	0.57	0.45	19.17	55.10	3.28	0.15	0.05	0.03	0.01	
10	0.01	0.00	1.40	0.51	0.42	24.51	45.50	3.04	0.14	0.05	0.03	0.01	
11	0.02	0.00	1.50	0.29	0.30	19.17	39.50	2.80	0.14	0.05	0.03	0.01	
12	0.02	0.00	1.50	0.29	0.28	17.04	36.50	2.56	0.14	0.05	0.03	0.01	
13	0.01	0.00	2.56	0.30	0.54	18.46	29.86	2.08	0.14	0.05	0.03	0.01	
14	0.01	0.00	2.32	0.30	1.10	21.30	26.65	1.84	0.14	0.05	0.03	0.01	
15	0.01	0.00	2.56	0.30	1.40	21.30	23.44	1.60	0.14	0.05	0.03	0.01	
16	0.01	0.00	2.56	0.29	3.28	22.37	19.88	1.60	0.13	0.05	0.03	0.01	
17	0.01	0.00	2.80	0.30	2.32	23.44	19.88	1.50	0.12	0.05	0.03	0.01	
18	0.01	0.00	2.80	0.33	2.80	25.58	18.46	1.10	0.10	0.05	0.03	0.01	
19	0.01	0.00	2.56	0.30	2.56	24.51	18.46	1.00	0.09	0.05	0.03	0.01	
20	0.01	0.00	2.32	0.30	2.32	23.44	18.46	0.90	0.08	0.05	0.03	0.01	
21	0.01	0.00	1.60	0.29	2.08	22.37	19.88	0.80	0.08	0.05	0.03	0.01	
22	0.00	0.00	1.60	0.30	2.80	20.59	19.88	0.70	0.08	0.04	0.03	0.01	
23	0.00	0.00	1.60	0.28	3.52	21.30	19.88	0.60	0.07	0.04	0.03	0.01	
24	0.00	0.00	1.50	0.27	2.08	23.44	18.46	0.57	0.07	0.04	0.02	0.01	
25	0.00	0.00	1.30	0.26	1.40	23.44	17.75	0.48	0.07	0.04	0.02	0.00	
26	0.00	0.00	1.20	0.25	1.30	25.58	16.33	0.39	0.07	0.04	0.02	0.00	
27	0.00	0.00	1.20	0.25	1.50	24.51	20.59	0.30	0.07	0.04	0.02	0.00	
28	0.00	0.00	1.30	0.25	1.60	22.37	19.17	0.29	0.06	0.04	0.02	0.00	
29	0.00	0.00	1.50	0.24	3.04	23.44	17.75	0.28	0.06	0.04	0.02	0.00	
30	0.00	0.00	1.84	0.23	9.72	19.88	14.91	0.27	0.06	0.03		0.00	
31		0.00		0.24	16.33		12.52		0.06	0.03		0.00	
Total	0.33	0.00	43.22	15.84	66.50	647.67	954.31	86.36	3.56	1.43	0.81	0.31	1820.34 CMSDAY
Mean	0.01	0.00	1.44	0.51	2.15	21.59	30.78	2.88	0.11	0.05	0.03	0.01	4.97 CMS
Max	0.03	0.00	2.80	1.60	16.33	25.58	71.30	12.52	0.25	0.05	0.03	0.02	71.30 CMS
Min	0.00	0.00	0.00	0.23	0.28	17.04	12.52	0.27	0.06	0.03	0.02	0.00	0.00 CMS
Runoff	0.029	0.000	3.734	1.369	5.746	55.959	82.452	7.462	0.308	0.124	0.070	0.027	157.277 MCM

Momentary Peak 71.30 CMS, at 3.09 M (A.D), at 15.00 Hours, on Oct 7, 1991

Runoff Yield 4.79 Liters/Second/Square KM, Momentary Peak Yield 68.69 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

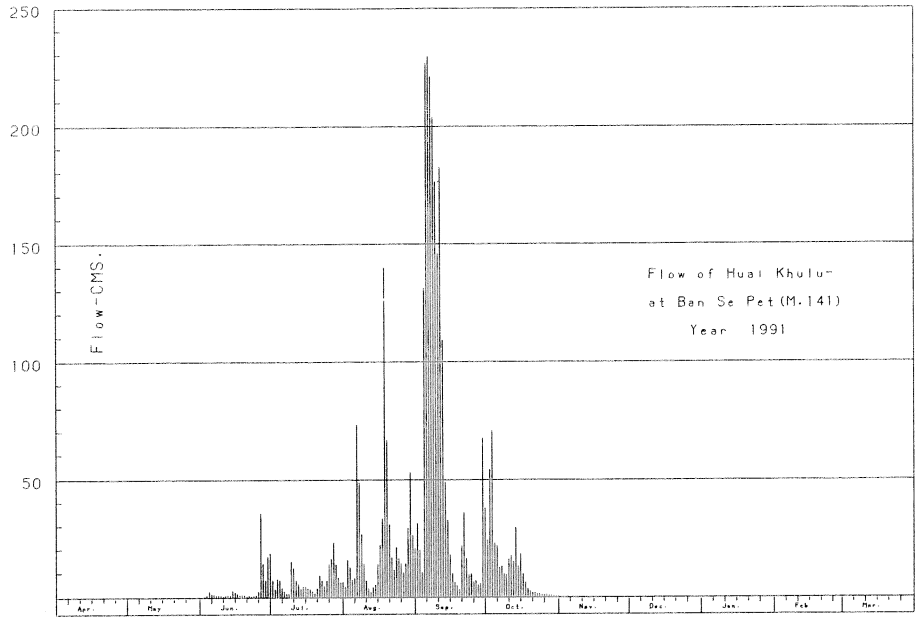
Huai Khulu at Ban Se Pet, Ubon Ratchathani (M.141)

Location	Lat. 15°-32'-24" N., Long. 104°-58'-46" E., on left bank at the bridge on road, Ban Se Pet, Amphoe Trakan Phutpon, Ubon Ratchathani.
Drainage Area	382 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-Highway Department.
Location	On left bank downstream side at the abutment of the bridge.
Elevation	+7.494 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1987 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	Overbank flow starts at elevation +5.92 m.(A.D.) and is included.
General Description	Records fair. Stage-discharge relation defined by 20 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.53	1.53	1.54	2.13	1.99	2.91	2.70	1.52	1.32	1.22	1.18	1.12	
2	0.53	1.53	1.55	1.93	2.45	2.58	3.43	1.52	1.32	1.21	1.16	1.12	
3	0.53	1.53	1.62	2.14	2.35	2.27	3.73	1.51	1.31	1.19	1.15	1.11	
4	0.53	1.53	1.87	2.13	2.12	4.67	2.67	1.51	1.31	1.18	1.15	1.11	
5	0.53	1.53	1.75	1.96	2.17	5.96	2.63	1.50	1.30	1.35	1.17	1.11	
6	0.53	1.53	1.68	1.84	3.78	6.00	2.34	1.49	1.30	1.32	1.17	1.11	
7	0.53	1.53	1.65	1.76	3.31	5.89	2.37	1.47	1.29	1.30	1.17	1.12	
8	0.53	1.53	1.63	1.72	2.78	5.66	2.25	1.46	1.28	1.29	1.17	1.12	
9	0.53	1.53	1.61	2.44	2.40	5.30	2.22	1.45	1.27	1.29	1.17	1.12	
10	0.53	1.56	1.60	2.33	2.12	4.88	2.47	1.44	1.26	1.30	1.17	1.12	
11	0.53	1.67	1.62	2.12	1.94	5.38	2.51	1.44	1.26	1.29	1.16	1.11	
12	0.53	1.60	1.63	2.03	1.83	4.35	2.44	1.43	1.26	1.26	1.16	1.10	
13	0.53	1.54	1.66	1.94	1.96	3.32	2.86	1.42	1.26	1.24	1.16	1.10	
14	0.53	1.54	1.87	1.97	2.03	2.94	2.36	1.41	1.26	1.23	1.15	1.10	
15	0.53	1.54	1.83	1.99	2.40	2.52	2.53	1.40	1.26	1.22	1.15	1.10	
16	0.53	1.54	1.73	1.93	2.64	2.25	2.25	1.40	1.25	1.21	1.15	1.10	
17	0.53	1.54	1.68	1.93	2.96	2.08	2.07	1.40	1.25	1.20	1.15	1.10	
18	0.53	1.54	1.66	1.84	4.80	2.00	1.94	1.40	1.25	1.20	1.14	1.10	
19	0.53	1.54	1.64	1.78	3.66	1.92	1.86	1.39	1.24	1.20	1.14	1.10	
20	0.53	1.53	1.61	1.95	2.90	2.63	1.82	1.38	1.24	1.20	1.14	1.09	
21	0.53	1.64	1.59	2.21	2.49	3.03	1.79	1.37	1.24	1.19	1.13	1.09	
22	0.53	1.57	1.60	2.12	2.30	2.48	1.76	1.36	1.23	1.19	1.13	1.08	
23	0.53	1.54	1.58	1.99	2.62	2.22	1.74	1.35	1.23	1.19	1.13	1.08	
24	0.53	1.54	1.69	2.12	2.48	2.25	1.72	1.34	1.23	1.19	1.12	1.08	
25	0.53	1.54	1.86	2.39	2.40	2.09	1.71	1.33	1.23	1.19	1.11	1.07	
26	0.53	1.54	3.02	2.47	2.27	2.10	1.69	1.33	1.23	1.18	1.11	1.07	
27	0.53	1.54	2.41	2.68	2.41	2.03	1.66	1.33	1.23	1.18	1.11	1.06	
28	0.53	1.54	2.11	2.40	2.85	2.04	1.63	1.34	1.22	1.18	1.12	1.06	
29	0.53	1.54	2.50	2.17	3.40	3.68	1.59	1.34	1.22	1.18	1.12	1.05	
30	0.53	1.54	2.55	2.08	2.77	3.07	1.58	1.32	1.22	1.18		1.05	
31		1.54		2.07	2.60		1.55		1.22	1.18		1.04	
Mean	0.53	1.55	1.81	2.08	2.62	3.35	2.19	1.41	1.26	1.22	1.15	1.09	
Max	0.53	1.67	3.02	2.68	4.80	6.00	3.73	1.52	1.32	1.35	1.18	1.12	6.00
Min	0.53	1.53	1.54	1.72	1.83	1.92	1.55	1.32	1.22	1.18	1.11	1.04	0.53

Annual Max Momentary Gage Height 6.00 M (A.D), at 1.00 Hours, on Sep 6, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.28 M (A.D)
Left Bank Elevation 6.04 M (A.D)
Right Bank Elevation 5.91 M (A.D), Drainage Area 382 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.00	7.60	4.82	31.67	24.30	0.56	0.22	0.12	0.08	0.02	
2	0.00	0.00	0.65	3.74	15.80	20.10	54.50	0.56	0.22	0.11	0.06	0.02	
3	0.00	0.00	0.90	7.80	12.95	10.82	70.71	0.53	0.21	0.09	0.05	0.01	
4	0.00	0.00	2.87	7.60	7.40	131.30	23.25	0.53	0.21	0.08	0.05	0.01	
5	0.00	0.00	1.70	4.28	8.40	226.62	21.85	0.50	0.20	0.25	0.07	0.01	
6	0.00	0.00	1.20	2.54	73.56	229.70	12.68	0.48	0.20	0.22	0.07	0.01	
7	0.00	0.00	1.05	1.78	48.77	221.23	13.49	0.44	0.19	0.20	0.07	0.02	
8	0.00	0.00	0.95	1.46	27.10	203.56	10.30	0.42	0.18	0.19	0.07	0.02	
9	0.00	0.00	0.85	15.50	14.30	176.80	9.52	0.40	0.17	0.19	0.07	0.02	
10	0.00	0.00	0.80	12.41	7.40	146.00	16.40	0.38	0.16	0.20	0.07	0.02	
11	0.00	0.00	0.90	7.40	3.92	182.72	17.65	0.38	0.16	0.19	0.06	0.01	
12	0.00	0.00	0.95	5.60	2.43	109.50	15.50	0.36	0.16	0.16	0.06	0.00	
13	0.00	0.00	1.10	3.92	4.28	49.24	29.90	0.34	0.16	0.14	0.06	0.00	
14	0.00	0.00	2.87	4.46	5.60	32.78	13.22	0.32	0.16	0.13	0.05	0.00	
15	0.00	0.00	2.43	4.82	14.30	18.00	18.35	0.30	0.16	0.12	0.05	0.00	
16	0.00	0.00	1.54	3.74	22.20	10.30	10.30	0.30	0.15	0.11	0.05	0.00	
17	0.00	0.00	1.20	3.74	33.52	6.60	6.40	0.30	0.15	0.10	0.05	0.00	
18	0.00	0.00	1.10	2.54	140.40	5.00	3.92	0.30	0.15	0.10	0.04	0.00	
19	0.00	0.00	1.00	1.94	66.72	3.56	2.76	0.29	0.14	0.10	0.04	0.00	
20	0.00	0.00	0.85	4.10	31.30	21.85	2.32	0.28	0.14	0.10	0.04	0.00	
21	0.00	0.00	0.77	9.26	17.00	36.26	2.02	0.27	0.14	0.09	0.03	0.00	
22	0.00	0.00	0.80	7.40	11.60	16.70	1.78	0.26	0.13	0.09	0.03	0.00	
23	0.00	0.00	0.74	4.82	21.50	9.52	1.62	0.25	0.13	0.09	0.03	0.00	
24	0.00	0.00	1.25	7.40	16.70	10.30	1.46	0.24	0.13	0.09	0.02	0.00	
25	0.00	0.00	2.76	14.03	14.30	6.80	1.38	0.23	0.13	0.09	0.01	0.00	
26	0.00	0.00	35.84	16.40	10.82	7.00	1.25	0.23	0.13	0.08	0.01	0.00	
27	0.00	0.00	14.60	23.60	14.60	5.60	1.10	0.23	0.13	0.08	0.01	0.00	
28	0.00	0.00	7.20	14.30	29.55	5.80	0.95	0.24	0.12	0.08	0.02	0.00	
29	0.00	0.00	17.30	8.40	53.00	67.86	0.77	0.24	0.12	0.08	0.02	0.00	
30	0.00	0.00	19.05	6.60	26.75	37.94	0.74	0.22	0.12	0.08		0.00	
31		0.00		6.40	20.80		0.65		0.12	0.08		0.00	
Total	0.00	0.00	125.22	225.58	781.79	2041.13	391.04	10.38	4.89	3.83	1.34	0.17	3585.37 CMSDAY
Mean	0.00	0.00	4.17	7.28	25.22	68.04	12.61	0.35	0.16	0.12	0.05	0.01	9.80 CMS
Max	0.00	0.00	35.84	23.60	140.40	229.70	70.71	0.56	0.22	0.25	0.08	0.02	229.70 CMS
Min	0.00	0.00	0.00	1.46	2.43	3.56	0.65	0.22	0.12	0.08	0.01	0.00	0.00 CMS
Runoff	0.000	0.000	10.819	19.490	67.547	176.354	33.786	0.897	0.422	0.331	0.116	0.015	309.776 MCM

Momentary Peak 229.70 CMS, at 6.00 M (A.D), at 1.00 Hours, on Sep 6, 1991
Runoff Yield 25.64 Liters/Second/Square KM, Momentary Peak Yield 601.31 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

Huai Khayung at Ban Ta Nuad Hua Saphan, Si Sa Ket (M.142)

Location — Lat. 14°-30'-32" N., Long. 104°-37'-28" E.,on left bank at the bridge on road, Ban Ta Nuad Hua Saphan, Amphoe Kantharalak, Si Sa Ket.

Drainage Area — 241 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-Highways Dept.

Location — On left bank downstream side at the abutment of the bridge.

Elevation — +10.184 m.(A.D.)

Gage Reading Frequency — 3-time daily readings at 06.00, 12.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 3 readings.

Period of Available Gage Records — 1990 to date.

Rating Operation

Period of Rating — 1990 to date.

Rated by Float — -

Rated by Current Meter — 1990 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 40 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

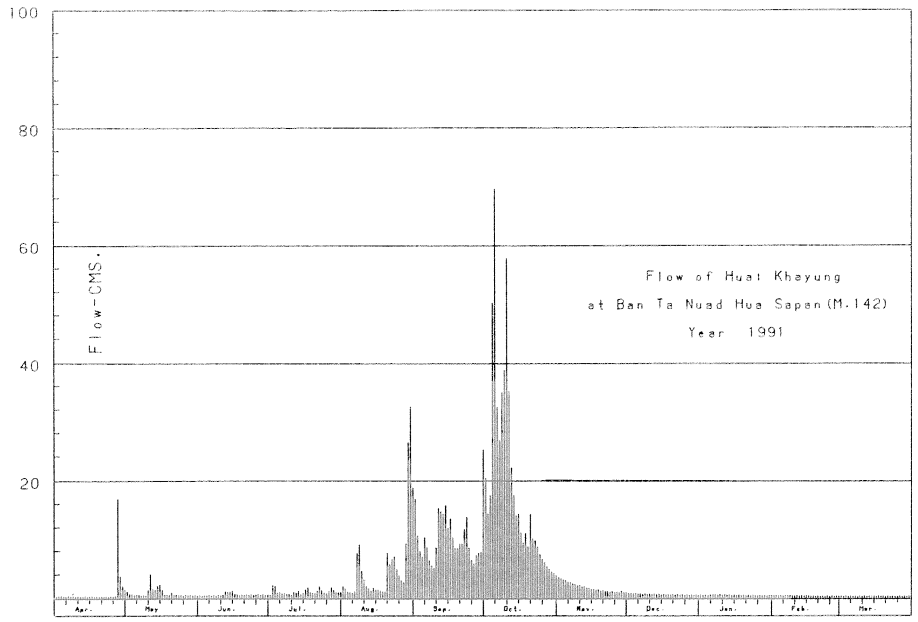
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.32	0.64	0.38	0.48	0.78	2.42	2.70	1.04	0.58	0.45	0.43	0.36	
2	0.31	0.51	0.37	0.81	0.72	1.85	2.22	1.00	0.57	0.45	0.41	0.36	
3	0.34	0.48	0.37	0.81	0.63	1.59	2.47	0.98	0.56	0.45	0.41	0.36	
4	0.33	0.45	0.41	0.60	0.58	1.47	4.35	0.95	0.56	0.44	0.41	0.36	
5	0.33	0.44	0.42	0.59	0.59	1.83	5.14	0.92	0.55	0.44	0.40	0.35	
6	0.33	0.43	0.41	0.56	0.62	1.66	3.50	0.90	0.54	0.49	0.43	0.35	
7	0.33	0.41	0.40	0.55	1.55	1.41	3.15	0.88	0.53	0.47	0.46	0.35	
8	0.32	0.40	0.40	0.53	1.70	1.29	3.63	0.84	0.53	0.48	0.42	0.35	
9	0.32	0.40	0.43	0.48	1.19	1.25	3.83	0.83	0.53	0.50	0.41	0.35	
10	0.32	0.70	0.43	0.47	0.96	1.64	4.69	0.82	0.52	0.48	0.41	0.36	
11	0.32	1.11	0.43	0.60	0.81	2.30	3.64	0.80	0.52	0.48	0.40	0.36	
12	0.32	0.71	0.65	0.60	0.72	2.24	2.84	0.79	0.52	0.47	0.40	0.36	
13	0.32	0.70	0.60	0.64	0.67	2.21	2.48	0.76	0.51	0.46	0.40	0.36	
14	0.31	0.79	0.64	0.52	0.74	2.34	2.18	0.74	0.51	0.45	0.39	0.36	
15	0.31	0.83	0.65	0.53	0.70	1.98	2.21	0.72	0.50	0.45	0.39	0.36	
16	0.31	0.70	0.53	0.69	0.68	2.15	1.91	0.71	0.50	0.45	0.38	0.36	
17	0.31	0.47	0.48	0.77	0.66	1.83	1.73	0.70	0.49	0.45	0.38	0.36	
18	0.30	0.46	0.46	0.62	0.61	1.63	1.89	0.69	0.49	0.44	0.37	0.36	
19	0.30	0.46	0.44	0.56	0.64	1.64	1.67	0.67	0.49	0.44	0.37	0.35	
20	0.29	0.59	0.47	0.57	1.54	1.71	2.22	0.67	0.49	0.44	0.36	0.35	
21	0.32	0.47	0.46	0.64	1.33	1.72	1.80	0.65	0.48	0.44	0.36	0.34	
22	0.31	0.45	0.47	0.80	1.43	1.96	1.78	0.64	0.47	0.43	0.36	0.34	
23	0.30	0.44	0.48	0.66	1.47	2.17	1.66	0.63	0.47	0.43	0.37	0.34	
24	0.32	0.43	0.47	0.60	1.22	1.64	1.53	0.63	0.47	0.43	0.37	0.34	
25	0.33	0.41	0.49	0.57	1.06	1.42	1.44	0.62	0.47	0.43	0.36	0.35	
26	0.33	0.42	0.49	0.64	0.94	1.33	1.36	0.61	0.46	0.42	0.37	0.36	
27	2.43	0.42	0.48	0.77	0.91	1.51	1.29	0.61	0.46	0.42	0.37	0.33	
28	1.04	0.42	0.48	0.67	1.72	1.54	1.22	0.64	0.46	0.41	0.37	0.34	
29	0.80	0.42	0.46	0.61	3.13	1.57	1.17	0.62	0.46	0.41	0.37	0.34	
30	0.68	0.40	0.45	0.58	3.50	3.04	1.12	0.60	0.46	0.41		0.34	
31		0.39		0.62	2.58		1.07		0.45	0.43		0.33	
Mean	0.44	0.53	0.47	0.62	1.17	1.81	2.38	0.76	0.50	0.45	0.39	0.35	
Max	2.43	1.11	0.65	0.81	3.50	3.04	5.14	1.04	0.58	0.50	0.46	0.36	5.14
Min	0.29	0.39	0.37	0.47	0.58	1.25	1.07	0.60	0.45	0.41	0.36	0.33	0.29

Annual Max Momentary Gage Height — 5.58 M (A.D), at 6.00 Hours, on Oct 5, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.67 M (A.D)

Left Bank Elevation — 7.71 M (A.D)

Right Bank Elevation — 8.02 M (A.D), Drainage Area 241 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.44	1.30	0.56	0.76	2.08	16.94	20.50	3.78	1.04	0.70	0.66	0.52	
2	0.42	0.83	0.54	2.26	1.72	10.70	14.54	3.50	1.01	0.70	0.62	0.52	
3	0.48	0.76	0.54	2.26	1.25	8.21	17.54	3.36	0.98	0.70	0.62	0.52	
4	0.46	0.70	0.62	1.10	1.04	7.13	50.20	3.15	0.98	0.68	0.62	0.52	
5	0.46	0.68	0.64	1.07	1.07	10.50	69.58	2.94	0.95	0.68	0.60	0.50	
6	0.46	0.66	0.62	0.98	1.20	8.84	32.60	2.80	0.92	0.78	0.66	0.50	
7	0.46	0.62	0.60	0.95	7.85	6.59	26.95	2.68	0.89	0.74	0.72	0.50	
8	0.44	0.60	0.60	0.89	9.20	5.62	34.97	2.44	0.89	0.76	0.64	0.50	
9	0.44	0.60	0.66	0.76	4.83	5.30	38.90	2.38	0.89	0.80	0.62	0.50	
10	0.44	1.60	0.66	0.74	3.22	8.66	57.95	2.32	0.86	0.76	0.62	0.52	
11	0.44	4.27	0.66	1.10	2.26	15.50	35.16	2.20	0.86	0.76	0.60	0.52	
12	0.44	1.66	1.35	1.10	1.72	14.78	22.36	2.14	0.86	0.74	0.60	0.52	
13	0.44	1.60	1.10	1.30	1.45	14.42	17.66	1.96	0.83	0.72	0.60	0.52	
14	0.42	2.14	1.30	0.86	1.84	15.98	14.08	1.84	0.83	0.70	0.58	0.52	
15	0.42	2.38	1.35	0.89	1.60	12.00	14.42	1.72	0.80	0.70	0.58	0.52	
16	0.42	1.60	0.89	1.55	1.50	13.75	11.30	1.66	0.80	0.70	0.56	0.52	
17	0.42	0.74	0.76	2.02	1.40	10.50	9.50	1.60	0.78	0.70	0.56	0.52	
18	0.40	0.72	0.72	1.20	1.15	8.57	11.10	1.55	0.78	0.68	0.54	0.52	
19	0.40	0.72	0.68	0.98	1.30	8.66	8.93	1.45	0.78	0.68	0.54	0.50	
20	0.38	1.07	0.74	1.01	7.76	9.30	14.54	1.45	0.78	0.68	0.52	0.50	
21	0.44	0.74	0.72	1.30	5.94	9.40	10.20	1.35	0.76	0.68	0.52	0.48	
22	0.42	0.70	0.74	2.20	6.77	11.80	10.00	1.30	0.74	0.66	0.52	0.48	
23	0.40	0.68	0.76	1.40	7.13	13.97	8.84	1.25	0.74	0.66	0.54	0.48	
24	0.44	0.66	0.74	1.10	5.06	8.66	7.67	1.25	0.74	0.66	0.54	0.48	
25	0.46	0.62	0.78	1.01	3.92	6.68	6.86	1.20	0.74	0.66	0.52	0.50	
26	0.46	0.64	0.78	1.30	3.08	5.94	6.18	1.15	0.72	0.64	0.54	0.52	
27	17.06	0.64	0.76	2.02	2.87	7.49	5.62	1.15	0.72	0.64	0.54	0.46	
28	3.78	0.64	0.76	1.45	9.40	7.76	5.06	1.30	0.72	0.62	0.54	0.48	
29	2.20	0.64	0.72	1.15	26.65	8.03	4.69	1.20	0.72	0.62	0.54	0.48	
30	1.50	0.60	0.70	1.04	32.60	25.30	4.34	1.10	0.72	0.62		0.48	
31		0.58		1.20	18.94		3.99		0.70	0.66		0.46	
Total	35.84	32.39	23.05	38.95	177.80	316.98	596.23	59.17	25.53	21.48	16.86	15.56	1359.84 CMSDAY
Mean	1.19	1.04	0.77	1.26	5.74	10.57	19.23	1.97	0.82	0.69	0.58	0.50	3.72 CMS
Max	17.06	4.27	1.35	2.26	32.60	25.30	69.58	3.78	1.04	0.80	0.72	0.52	69.58 CMS
Min	0.38	0.58	0.54	0.74	1.04	5.30	3.99	1.10	0.70	0.62	0.52	0.46	0.38 CMS
Runoff	3.097	2.798	1.992	3.365	15.362	27.387	51.514	5.112	2.206	1.856	1.457	1.344	117.490 MCM

Momentary Peak 82.20 CMS, at 5.58 M (A.D), at 6.00 Hours, on Oct 5, 1991
Runoff Yield 15.42 Liters/Second/Square KM, Momentary Peak Yield 341.08 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

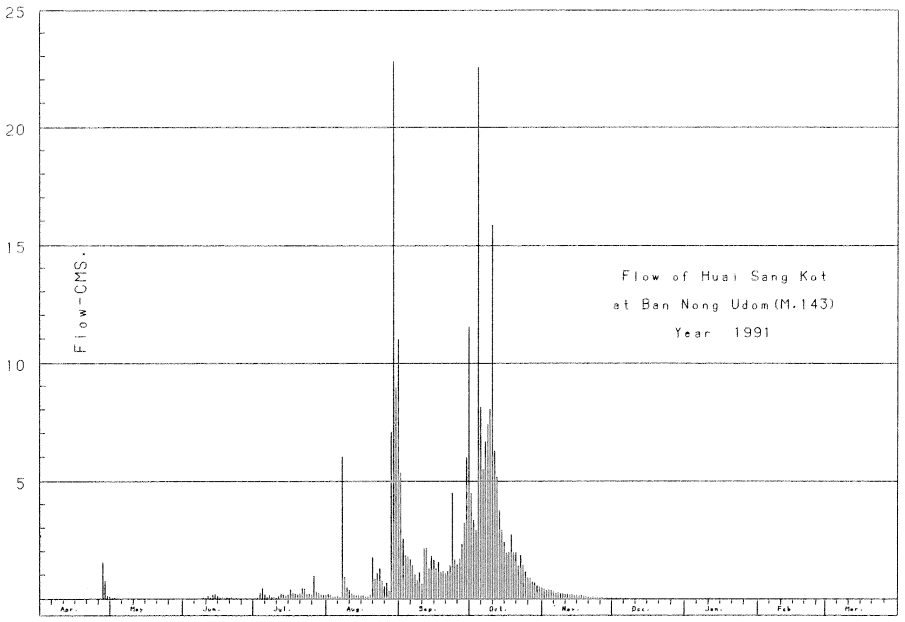
Huai Sang Kot at Ban Nong Udom, Si Sa Ket (M.143)

Location	Lat. 14°-29'-03" N., Long. 104°-39'-50" E., on left bank at the bridge on road, Ban Nong Udom, Amphoe Kantharalak, Si Sa Ket.
Drainage Area	46 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank upstream side on the bridge.
Elevation	+6.919 m.(A.D.)
Gage Reading Frequency	3-time daily readings at 06.00, 12.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 3 readings.
Period of Available Gage Records	1990 to date.
Rating Operation	
Period of Rating	1990 to date.
Rated by Float	-
Rated by Current Meter	1990 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	Overbank flow starts at elevation +4.42 m.(A.D.),records are channel flow only.
General Description	Records fair. Stage-discharge relation defined by 36 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.50	0.65	0.52	0.56	0.80	2.31	2.15	0.94	0.62	0.52	0.48	0.46	
2	0.50	0.60	0.52	0.60	0.76	1.73	1.90	0.92	0.62	0.48	0.48	0.46	
3	0.50	0.68	0.52	0.82	0.71	1.53	1.81	0.91	0.61	0.51	0.48	0.46	
4	0.50	0.57	0.52	0.97	0.68	1.50	4.39	0.92	0.61	0.51	0.48	0.46	
5	0.50	0.57	0.59	0.80	0.74	1.47	2.78	0.86	0.60	0.51	0.48	0.46	
6	0.50	0.57	0.60	0.69	0.70	1.37	2.34	0.84	0.59	0.50	0.48	0.46	
7	0.50	0.57	0.60	0.75	2.43	1.23	2.53	0.84	0.59	0.50	0.48	0.46	
8	0.50	0.56	0.58	0.70	1.17	1.12	2.66	0.83	0.59	0.52	0.48	0.46	
9	0.50	0.53	0.59	0.67	0.99	1.25	2.76	0.81	0.57	0.63	0.48	0.46	
10	0.50	0.53	0.63	0.65	0.90	1.05	3.72	0.80	0.57	0.60	0.47	0.46	
11	0.50	0.54	0.72	0.71	0.82	1.62	2.47	0.79	0.56	0.60	0.47	0.46	
12	0.50	0.57	0.68	0.82	0.76	1.62	2.28	0.79	0.56	0.59	0.47	0.46	
13	0.50	0.55	0.78	0.77	0.76	1.33	2.00	0.78	0.56	0.58	0.47	0.46	
14	0.50	0.61	0.78	0.75	0.74	1.51	1.81	0.77	0.56	0.57	0.47	0.46	
15	0.50	0.59	0.73	0.77	0.74	1.46	1.69	0.76	0.55	0.56	0.47	0.46	
16	0.50	0.59	0.67	0.92	0.73	1.32	1.56	0.75	0.55	0.55	0.47	0.46	
17	0.50	0.59	0.64	0.84	0.71	1.43	1.56	0.75	0.55	0.54	0.47	0.46	
18	0.50	0.58	0.61	0.80	0.70	1.27	1.77	0.74	0.55	0.53	0.47	0.46	
19	0.50	0.58	0.62	0.79	0.76	1.27	1.56	0.71	0.54	0.53	0.47	0.46	
20	0.50	0.56	0.65	0.81	1.50	1.24	1.56	0.71	0.54	0.53	0.47	0.46	
21	0.50	0.55	0.65	0.97	1.15	1.27	1.38	0.70	0.54	0.52	0.47	0.46	
22	0.50	0.54	0.62	0.94	1.24	1.37	1.53	0.69	0.53	0.50	0.46	0.46	
23	0.52	0.53	0.63	0.81	1.33	2.16	1.38	0.68	0.53	0.50	0.46	0.46	
24	0.52	0.53	0.58	0.79	1.10	1.46	1.28	0.67	0.53	0.50	0.46	0.46	
25	0.52	0.53	0.58	0.79	1.00	1.40	1.17	0.66	0.53	0.50	0.46	0.46	
26	0.52	0.52	0.57	1.19	1.08	1.48	1.16	0.66	0.52	0.50	0.46	0.46	
27	1.43	0.53	0.59	0.87	0.89	1.67	1.10	0.65	0.52	0.50	0.46	0.46	
28	1.10	0.54	0.58	0.82	2.60	1.88	1.07	0.64	0.52	0.50	0.46	0.46	
29	0.73	0.54	0.57	0.78	4.41	2.42	1.03	0.63	0.52	0.50	0.46	0.46	
30	0.67	0.55	0.56	0.76	2.90	3.23	0.99	0.62	0.52	0.50		0.46	
31		0.54		0.75	3.17		0.98		0.52	0.50		0.46	
Mean	0.57	0.56	0.62	0.80	1.26	1.57	1.88	0.76	0.56	0.53	0.47	0.46	
Max	1.43	0.68	0.78	1.19	4.41	3.23	4.39	0.94	0.62	0.63	0.48	0.46	4.41
Min	0.50	0.52	0.52	0.56	0.68	1.05	0.98	0.62	0.52	0.48	0.46	0.46	0.46

Annual Max Momentary Gage Height 5.02 M (A.D), at 12.00 Hours, on Aug 29, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.36 M (A.D)
Left Bank Elevation 5.53 M (A.D)
Right Bank Elevation 4.41 M (A.D), Drainage Area 46 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.02	0.07	0.03	0.04	0.22	5.36	4.50	0.43	0.06	0.03	0.02	0.01	
2	0.02	0.05	0.03	0.05	0.17	2.59	3.35	0.40	0.06	0.02	0.02	0.01	
3	0.02	0.09	0.03	0.25	0.11	1.89	2.94	0.39	0.06	0.03	0.02	0.01	
4	0.02	0.04	0.03	0.48	0.09	1.80	22.59	0.40	0.06	0.03	0.02	0.01	
5	0.02	0.04	0.05	0.22	0.15	1.71	8.18	0.31	0.05	0.03	0.02	0.01	
6	0.02	0.04	0.05	0.10	0.10	1.42	5.54	0.28	0.05	0.02	0.02	0.01	
7	0.02	0.04	0.05	0.16	6.08	1.07	6.68	0.28	0.05	0.02	0.02	0.01	
8	0.02	0.04	0.04	0.10	0.93	0.81	7.46	0.26	0.05	0.03	0.02	0.01	
9	0.02	0.03	0.05	0.09	0.51	1.12	8.06	0.23	0.04	0.06	0.02	0.01	
10	0.02	0.03	0.06	0.07	0.37	0.64	15.88	0.22	0.04	0.05	0.01	0.01	
11	0.02	0.03	0.12	0.11	0.25	2.17	6.32	0.21	0.04	0.05	0.01	0.01	
12	0.02	0.04	0.09	0.25	0.17	2.17	5.19	0.21	0.04	0.05	0.01	0.01	
13	0.02	0.04	0.20	0.18	0.17	1.32	3.80	0.20	0.04	0.04	0.01	0.01	
14	0.02	0.06	0.20	0.16	0.15	1.83	2.94	0.18	0.04	0.04	0.01	0.01	
15	0.02	0.05	0.14	0.18	0.15	1.68	2.42	0.17	0.04	0.04	0.01	0.01	
16	0.02	0.05	0.09	0.40	0.14	1.29	1.98	0.16	0.04	0.04	0.01	0.01	
17	0.02	0.05	0.07	0.28	0.11	1.59	1.98	0.16	0.04	0.03	0.01	0.01	
18	0.02	0.04	0.06	0.22	0.10	1.17	2.77	0.15	0.04	0.03	0.01	0.01	
19	0.02	0.04	0.06	0.21	0.17	1.17	1.98	0.11	0.03	0.03	0.01	0.01	
20	0.02	0.04	0.07	0.23	1.80	1.10	1.98	0.11	0.03	0.03	0.01	0.01	
21	0.02	0.04	0.07	0.48	0.88	1.17	1.45	0.10	0.03	0.03	0.01	0.01	
22	0.02	0.03	0.06	0.43	1.10	1.42	1.89	0.10	0.03	0.02	0.01	0.01	
23	0.03	0.03	0.06	0.23	1.32	4.55	1.45	0.09	0.03	0.02	0.01	0.01	
24	0.03	0.03	0.04	0.21	0.76	1.68	1.19	0.09	0.03	0.02	0.01	0.01	
25	0.03	0.03	0.04	0.21	0.53	1.50	0.93	0.08	0.03	0.02	0.01	0.01	
26	0.03	0.03	0.04	0.98	0.71	1.74	0.90	0.08	0.03	0.02	0.01	0.01	
27	1.59	0.03	0.05	0.33	0.36	2.34	0.76	0.07	0.03	0.02	0.01	0.01	
28	0.76	0.03	0.04	0.25	7.10	3.26	0.69	0.07	0.03	0.02	0.01	0.01	
29	0.14	0.03	0.04	0.20	22.82	6.02	0.60	0.06	0.03	0.02	0.01	0.01	
30	0.09	0.04	0.04	0.17	9.00	11.54	0.51	0.06	0.03	0.02		0.01	
31		0.03		0.16	11.06		0.50		0.03	0.02		0.01	
Total	3.14	1.26	2.00	7.43	67.58	69.12	127.41	5.66	1.23	0.93	0.38	0.31	286.45 CMSDAY
Mean	0.10	0.04	0.07	0.24	2.18	2.30	4.11	0.19	0.04	0.03	0.01	0.01	0.78 CMS
Max	1.59	0.09	0.20	0.98	22.82	11.54	22.59	0.43	0.06	0.06	0.02	0.01	22.82 CMS
Min	0.02	0.03	0.03	0.04	0.09	0.64	0.50	0.06	0.03	0.02	0.01	0.01	0.01 CMS
Runoff	0.271	0.109	0.173	0.642	5.839	5.972	11.008	0.489	0.106	0.080	0.033	0.027	24.749 MCM

Momentary Peak 30.26 CMS, at 5.02 M (A.D), at 12.00 Hours, on Aug 29, 1991

Runoff Yield 17.01 Liters/Second/Square KM, Momentary Peak Yield 657.83 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

Huai Tha at Ban Non Tum Tha Won, Si Sa Ket (M.144)

Location — Lat. 14°-30'-44" N., Long. 104°-27'-28" E., on left bank at the bridge on road, Ban Non Tum Tha Won, Amphoe Khun Han, Si Sa Ket.

Drainage Area — 124 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank about 10 meters from the top staff gage.

Elevation — +13.954 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1990 to date.

Rating Operation

Period of Rating — 1990 to date.

Rated by Float — -

Rated by Current Meter — 1990 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 42 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

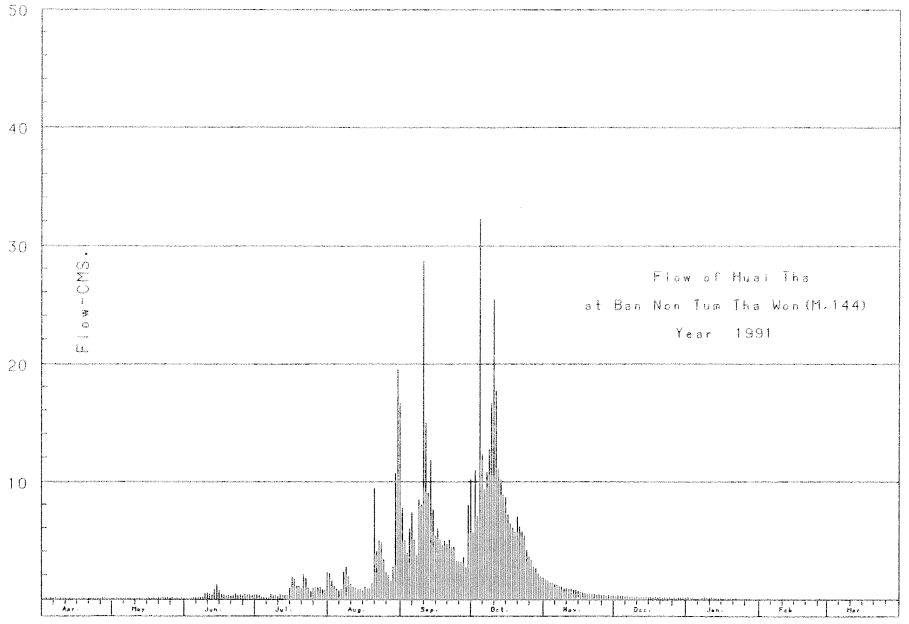
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.94	0.96	0.94	1.14	1.82	2.86	2.52	1.68	1.10	1.01	0.92	0.87	
2	0.94	0.96	0.94	1.13	1.63	2.41	3.31	1.63	1.10	1.00	0.92	0.87	
3	0.94	0.96	0.94	1.03	1.48	2.19	2.74	1.60	1.10	0.98	0.92	0.87	
4	0.94	0.95	0.97	1.03	1.36	2.58	5.35	1.56	1.09	0.97	0.91	0.87	
5	0.93	0.95	1.01	1.00	1.30	2.81	3.48	1.53	1.08	0.97	0.91	0.87	
6	0.94	0.95	1.00	1.00	1.38	2.41	3.09	1.50	1.06	0.97	0.91	0.86	
7	0.94	0.94	0.99	1.18	1.84	2.16	3.30	1.48	1.05	0.97	0.91	0.86	
8	0.94	0.94	1.02	1.12	1.96	2.98	3.54	1.44	1.04	1.04	0.90	0.86	
9	0.94	0.93	1.19	1.10	1.76	2.91	3.97	1.40	1.04	1.00	0.90	0.86	
10	0.94	0.93	1.25	1.08	1.53	5.07	4.82	1.39	1.04	1.00	0.90	0.86	
11	0.93	0.93	1.18	1.16	1.45	3.79	4.08	1.38	1.03	0.99	0.90	0.86	
12	0.93	0.92	1.16	1.14	1.40	3.05	3.33	1.37	1.03	0.98	0.90	0.86	
13	0.93	0.92	1.34	1.12	1.36	3.43	3.22	1.35	1.03	0.96	0.89	0.85	
14	0.93	0.92	1.53	1.12	1.35	2.85	3.03	1.33	1.03	0.96	0.89	0.85	
15	0.93	0.95	1.30	1.38	1.33	2.48	3.00	1.32	1.02	0.95	0.89	0.85	
16	0.92	0.95	1.18	1.73	1.42	2.57	2.78	1.26	1.02	0.95	0.89	0.85	
17	0.92	0.95	1.14	1.67	1.38	2.41	2.64	1.26	1.02	0.95	0.89	0.85	
18	0.92	0.95	1.11	1.48	1.37	2.33	2.59	1.23	1.02	0.95	0.89	0.85	
19	0.92	0.96	1.10	1.45	1.55	2.39	2.52	1.21	1.02	0.94	0.88	0.86	
20	0.92	0.99	1.10	1.40	3.12	2.34	2.75	1.20	1.02	0.94	0.88	0.86	
21	0.92	1.01	1.09	1.78	2.22	2.42	2.60	1.19	1.01	0.94	0.88	0.86	
22	0.93	1.01	1.22	1.70	2.41	2.30	2.54	1.18	1.01	0.94	0.88	0.85	
23	0.93	0.99	1.10	1.39	2.37	2.29	2.47	1.17	1.00	0.93	0.88	0.85	
24	0.94	0.99	1.18	1.30	2.09	2.06	2.25	1.16	1.00	0.93	0.88	0.85	
25	0.94	0.98	1.12	1.42	1.84	2.04	2.14	1.15	0.99	0.93	0.87	0.85	
26	0.94	0.97	1.16	1.41	1.76	2.03	2.07	1.13	0.99	0.93	0.87	0.85	
27	1.01	0.96	1.15	1.42	1.63	2.13	1.96	1.13	0.98	0.93	0.87	0.85	
28	0.90	0.95	1.15	1.42	1.94	1.94	1.91	1.12	0.98	0.93	0.87	0.84	
29	0.90	0.95	1.14	1.35	3.28	2.91	1.82	1.11	1.01	0.92	0.87	0.84	
30	0.89	0.95	1.14	1.31	4.26	3.22	1.73	1.10	1.01	0.92		0.84	
31		0.95		1.82	3.97		1.70		1.01	0.92		0.84	
Mean	0.93	0.96	1.13	1.32	1.92	2.65	2.88	1.32	1.03	0.96	0.89	0.86	
Max	1.01	1.01	1.53	1.82	4.26	5.07	5.35	1.68	1.10	1.04	0.92	0.87	5.35
Min	0.89	0.92	0.94	1.00	1.30	1.94	1.70	1.10	0.98	0.92	0.87	0.84	0.84

Annual Max Momentary Gage Height — 6.00 M (A.D), at 18.00 Hours, on Sep 10, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 0.90 M (A.D)

Left Bank Elevation — 12.41 M (A.D)

Right Bank Elevation — 11.56 M (A.D), Drainage Area — 124 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.14	0.16	0.14	0.41	2.28	7.76	5.72	1.78	0.35	0.21	0.12	0.09	
2	0.14	0.16	0.14	0.39	1.60	5.06	10.98	1.60	0.35	0.20	0.12	0.09	
3	0.14	0.16	0.14	0.24	1.20	3.95	7.04	1.50	0.35	0.18	0.12	0.09	
4	0.14	0.15	0.17	0.24	0.90	6.08	32.35	1.40	0.34	0.17	0.11	0.09	
5	0.13	0.15	0.21	0.20	0.75	7.46	12.34	1.32	0.32	0.17	0.11	0.09	
6	0.14	0.15	0.20	0.20	0.95	5.06	9.33	1.25	0.29	0.17	0.11	0.08	
7	0.14	0.14	0.19	0.47	2.36	3.80	10.90	1.20	0.27	0.17	0.11	0.08	
8	0.14	0.14	0.23	0.38	2.84	8.56	12.82	1.10	0.26	0.26	0.10	0.08	
9	0.14	0.13	0.49	0.35	2.06	8.07	16.70	1.00	0.26	0.20	0.10	0.08	
10	0.14	0.13	0.62	0.32	1.32	28.71	25.54	0.97	0.26	0.20	0.10	0.08	
11	0.13	0.13	0.47	0.44	1.13	15.01	17.80	0.95	0.24	0.19	0.10	0.08	
12	0.13	0.12	0.44	0.41	1.00	9.05	11.14	0.92	0.24	0.18	0.10	0.08	
13	0.13	0.12	0.85	0.38	0.90	11.94	10.26	0.88	0.24	0.16	0.10	0.08	
14	0.13	0.12	1.32	0.38	0.88	7.70	8.91	0.83	0.24	0.16	0.10	0.08	
15	0.13	0.15	0.75	0.95	0.83	5.48	8.70	0.80	0.23	0.15	0.10	0.08	
16	0.12	0.15	0.47	1.96	1.05	6.02	7.28	0.65	0.23	0.15	0.10	0.08	
17	0.12	0.15	0.41	1.74	0.95	5.06	6.44	0.65	0.23	0.15	0.10	0.08	
18	0.12	0.15	0.37	1.20	0.92	4.65	6.14	0.57	0.23	0.15	0.10	0.08	
19	0.12	0.16	0.35	1.13	1.37	4.95	5.72	0.52	0.23	0.14	0.09	0.08	
20	0.12	0.19	0.35	1.00	9.54	4.70	7.10	0.50	0.23	0.14	0.09	0.08	
21	0.12	0.21	0.34	2.13	4.10	5.12	6.20	0.49	0.21	0.14	0.09	0.08	
22	0.13	0.21	0.55	1.85	5.06	4.50	5.84	0.47	0.21	0.14	0.09	0.08	
23	0.13	0.19	0.35	0.97	4.85	4.45	5.42	0.45	0.20	0.13	0.09	0.08	
24	0.14	0.19	0.47	0.75	3.45	3.30	4.25	0.44	0.20	0.13	0.09	0.08	
25	0.14	0.18	0.38	1.05	2.36	3.20	3.70	0.42	0.19	0.13	0.09	0.08	
26	0.14	0.17	0.44	1.02	2.06	3.15	3.35	0.39	0.19	0.13	0.09	0.08	
27	0.21	0.16	0.42	1.05	1.60	3.65	2.84	0.39	0.18	0.13	0.09	0.08	
28	0.10	0.15	0.42	1.05	2.76	2.76	2.64	0.38	0.18	0.13	0.09	0.07	
29	0.10	0.15	0.41	0.88	10.74	8.07	2.28	0.37	0.21	0.12	0.09	0.07	
30	0.10	0.15	0.41	0.77	19.60	10.26	1.96	0.35	0.21	0.12		0.07	
31		0.15		2.28	16.70		1.85		0.21	0.12		0.07	
Total	3.95	4.82	12.50	26.59	108.11	207.53	273.54	24.54	7.58	4.92	2.89	2.49	679.46 CMSDAY
Mean	0.13	0.16	0.42	0.86	3.49	6.92	8.82	0.82	0.24	0.16	0.10	0.08	1.86 CMS
Max	0.21	0.21	1.32	2.28	19.60	28.71	32.35	1.78	0.35	0.26	0.12	0.09	32.35 CMS
Min	0.10	0.12	0.14	0.20	0.75	2.76	1.85	0.35	0.18	0.12	0.09	0.07	0.07 CMS
Runoff	0.341	0.416	1.080	2.297	9.341	17.931	23.634	2.120	0.655	0.425	0.250	0.215	58.705 MCM

Momentary Peak 41.60 CMS, at 6.00 M (A.D), at 18.00 Hours, on Sep 10, 1991

Runoff Yield 14.97 Liters/Second/Square KM, Momentary Peak Yield 335.48 Liters/Second/Square KM

WATER YEAR 1991

MUN RIVER BASIN

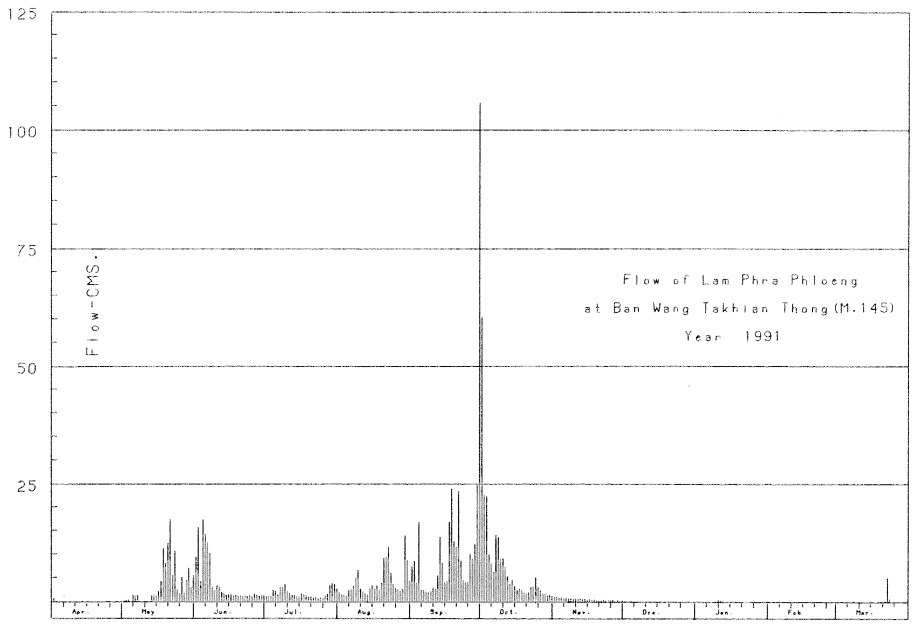
Lam Phra Phloeng at Ban Wang Takhian Thong, Nakhon Ratchasima (M.145)

Location	Lat. 14°-29'-57" N., Long. 101°-41'-34" E., on right bank at Ban Wang Takhian Thong, Tambon Wang Ka Tha, Amphoe Pak Chong, Nakhon Ratchasima.
Drainage Area	335 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 12 meters from the top staff gage.
Elevation	+7.980 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1990 to date.
Rating Operation	
Period of Rating	1990 to date.
Rated by Float	-
Rated by Current Meter	1990 to date.
Stability of Channel Regimes	Rather unstable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 109 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.18	0.07	1.15	0.26	0.40	0.98	3.40	0.24	0.05	-0.03	-0.06	-0.11	
2	-0.02	0.07	1.58	0.24	0.34	1.08	1.98	0.22	0.03	-0.03	-0.09	-0.10	
3	-0.09	0.08	0.70	0.27	0.29	0.66	1.97	0.21	0.03	-0.04	-0.10	-0.06	
4	-0.11	-0.07	1.69	0.48	0.28	1.65	1.19	0.20	0.02	0.01	-0.12	-0.11	
5	-0.08	0.33	1.50	0.44	0.46	0.50	1.03	0.19	0.01	-0.02	-0.10	-0.13	
6	-0.08	0.26	1.37	0.34	0.51	0.47	0.90	0.18	0.01	-0.04	-0.10	-0.14	
7	-0.08	0.30	1.21	0.57	0.58	0.44	1.48	0.17	0.00	0.00	-0.08	-0.15	
8	-0.10	0.00	0.57	0.55	0.79	0.40	1.46	0.16	0.00	-0.03	-0.09	-0.15	
9	-0.09	-0.04	0.46	0.65	0.92	0.46	1.10	0.16	0.00	0.03	-0.09	-0.17	
10	-0.08	-0.04	0.62	0.46	0.53	0.54	1.13	0.15	-0.01	0.12	-0.09	-0.20	
11	-0.10	-0.06	0.55	0.37	0.43	0.52	0.97	0.15	-0.01	0.03	-0.09	-0.19	
12	-0.11	-0.07	0.43	0.31	0.35	0.82	0.82	0.15	-0.02	-0.01	-0.10	-0.22	
13	-0.11	0.29	0.35	0.28	0.33	1.45	0.66	0.15	-0.02	-0.02	-0.10	-0.24	
14	-0.08	0.29	0.32	0.25	0.53	1.06	0.73	0.14	-0.02	-0.03	-0.10	-0.21	
15	-0.08	0.29	0.32	0.23	0.60	0.69	0.58	0.12	-0.02	-0.04	-0.10	-0.22	
16	-0.09	0.43	0.31	0.35	0.53	0.71	0.49	0.12	-0.03	-0.05	-0.12	-0.23	
17	-0.10	0.72	0.29	0.34	0.60	1.66	0.51	0.11	-0.03	-0.05	-0.13	-0.26	
18	-0.11	1.29	0.28	0.28	0.49	2.05	0.49	0.11	-0.04	-0.06	-0.14	-0.26	
19	-0.11	1.03	0.27	0.24	0.66	1.40	0.40	0.10	-0.04	-0.07	-0.17	-0.26	
20	-0.11	1.36	0.27	0.22	1.12	1.30	0.38	0.10	-0.05	-0.07	-0.15	-0.10	
21	-0.11	1.68	0.27	0.20	1.15	2.02	0.40	0.10	-0.05	-0.07	-0.16	0.03	
22	-0.11	0.84	0.26	0.19	1.30	1.09	0.57	0.10	-0.05	-0.07	-0.18	0.80	
23	-0.11	1.25	0.26	0.18	0.88	0.73	0.57	0.10	-0.05	-0.07	-0.18	0.15	
24	-0.11	0.48	0.26	0.18	0.64	0.69	0.80	0.09	-0.06	-0.07	-0.16	0.04	
25	-0.10	0.38	0.25	0.21	0.55	0.69	0.57	0.09	-0.06	-0.07	-0.16	-0.05	
26	-0.09	0.79	0.38	0.26	0.49	1.18	0.46	0.08	-0.06	-0.06	-0.13	-0.07	
27	-0.08	0.37	0.29	0.36	0.47	1.12	0.39	0.07	-0.06	-0.06	-0.15	-0.09	
28	-0.04	0.74	0.27	0.62	0.50	1.34	0.35	0.06	-0.06	-0.06	-0.13	-0.09	
29	-0.09	0.95	0.27	0.66	1.48	2.09	0.31	0.06	-0.05	-0.06	-0.12	-0.10	
30	-0.10	0.56	0.26	0.65	1.09	4.33	0.29	0.05	-0.05	-0.06		-0.07	
31		0.83		0.51	0.73		0.27		0.01	-0.06		-0.09	
Mean	-0.08	0.50	0.57	0.36	0.65	1.14	0.86	0.13	-0.02	-0.04	-0.12	-0.10	
Max	0.18	1.68	1.69	0.66	1.48	4.33	3.40	0.24	0.05	0.12	-0.06	0.80	4.33
Min	-0.11	-0.07	0.25	0.18	0.28	0.40	0.27	0.05	-0.06	-0.07	-0.18	-0.26	-0.26

Annual Max Momentary Gage Height 5.13 M (A.D), at 7.00 Hours, on Sep 30, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.02 M (A.D)
Left Bank Elevation 7.75 M (A.D)
Right Bank Elevation 7.62 M (A.D), Drainage Area 335 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.90	0.41	9.65	1.30	2.00	7.46	60.60	1.20	0.35	0.17	0.14	0.09	
2	0.18	0.41	15.78	1.20	1.70	8.74	22.72	1.10	0.29	0.17	0.11	0.10	
3	0.11	0.44	4.30	1.35	1.45	3.98	22.53	1.05	0.29	0.16	0.10	0.14	
4	0.09	0.13	17.63	2.56	1.40	16.95	10.17	1.00	0.26	0.23	0.08	0.09	
5	0.12	1.65	14.50	2.28	2.42	2.70	8.09	0.95	0.23	0.18	0.10	0.07	
6	0.12	1.30	12.58	1.70	2.78	2.49	6.50	0.90	0.23	0.16	0.10	0.06	
7	0.12	1.50	10.43	3.26	3.34	2.28	14.20	0.85	0.20	0.20	0.12	0.05	
8	0.10	0.20	3.26	3.10	5.20	2.00	13.90	0.80	0.20	0.17	0.11	0.05	
9	0.11	0.16	2.42	3.90	6.74	2.42	9.00	0.80	0.20	0.29	0.11	0.03	
10	0.12	0.16	3.66	2.42	2.94	3.02	9.39	0.75	0.19	0.60	0.11	0.00	
11	0.10	0.14	3.10	1.85	2.21	2.86	7.34	0.75	0.19	0.29	0.11	0.01	
12	0.09	0.13	2.21	1.55	1.75	5.54	5.54	0.75	0.18	0.19	0.10	0.00	
13	0.09	1.45	1.75	1.40	1.65	13.75	3.98	0.75	0.18	0.18	0.10	0.00	
14	0.12	1.45	1.60	1.25	2.94	8.48	4.60	0.70	0.18	0.17	0.10	0.00	
15	0.12	1.45	1.60	1.15	3.50	4.22	3.34	0.60	0.18	0.16	0.10	0.00	
16	0.11	2.21	1.55	1.75	2.94	4.40	2.63	0.60	0.17	0.15	0.08	0.00	
17	0.10	4.50	1.45	1.70	3.50	17.12	2.78	0.55	0.17	0.15	0.07	0.00	
18	0.09	11.47	1.40	1.40	2.63	24.15	2.63	0.55	0.16	0.14	0.06	0.00	
19	0.09	8.09	1.35	1.20	3.98	13.00	2.00	0.50	0.16	0.13	0.03	0.00	
20	0.09	12.44	1.35	1.10	9.26	11.60	1.90	0.50	0.15	0.13	0.05	0.10	
21	0.09	17.46	1.35	1.00	9.65	23.52	2.00	0.50	0.15	0.13	0.04	0.29	
22	0.09	5.78	1.30	0.95	11.60	8.87	3.26	0.50	0.15	0.13	0.02	5.30	
23	0.09	10.95	1.30	0.90	6.26	4.60	3.26	0.50	0.15	0.13	0.02	0.75	
24	0.09	2.56	1.30	0.90	3.82	4.22	5.30	0.47	0.14	0.13	0.04	0.32	
25	0.10	1.90	1.25	1.05	3.10	4.22	3.26	0.47	0.14	0.13	0.04	0.15	
26	0.11	5.20	1.90	1.30	2.63	10.04	2.42	0.44	0.14	0.14	0.07	0.13	
27	0.12	1.85	1.45	1.80	2.49	9.26	1.95	0.41	0.14	0.14	0.05	0.11	
28	0.16	4.70	1.35	3.66	2.70	12.16	1.75	0.38	0.14	0.14	0.07	0.11	
29	0.11	7.10	1.35	3.98	14.20	24.99	1.55	0.38	0.15	0.14	0.08	0.10	
30	0.10	3.18	1.30	3.90	8.87	105.80	1.45	0.35	0.15	0.14		0.13	
31		5.66		2.78	4.60		1.35		0.23	0.14		0.11	
Total	4.03	116.03	125.42	59.64	134.25	364.84	241.39	20.05	5.84	5.51	2.31	8.29	1087.60 CMSDAY
Mean	0.13	3.74	4.18	1.92	4.33	12.16	7.79	0.67	0.19	0.18	0.08	0.27	2.97 CMS
Max	0.90	17.46	17.63	3.98	14.20	105.80	60.60	1.20	0.35	0.60	0.14	5.30	105.80 CMS
Min	0.09	0.13	1.25	0.90	1.40	2.00	1.35	0.35	0.14	0.13	0.02	0.00	0.00 CMS
Runoff	0.348	10.025	10.836	5.153	11.599	31.522	20.856	1.732	0.505	0.476	0.200	0.716	93.969 MCM

Momentary Peak 162.70 CMS, at 5.13 M (A.D), at 7.00 Hours, on Sep 30, 1991
Runoff Yield 8.87 Liters/Second/Square KM, Momentary Peak Yield 485.67 Liters/Second/Square KM

WATER YEAR 1991

TONLE SAP BASIN

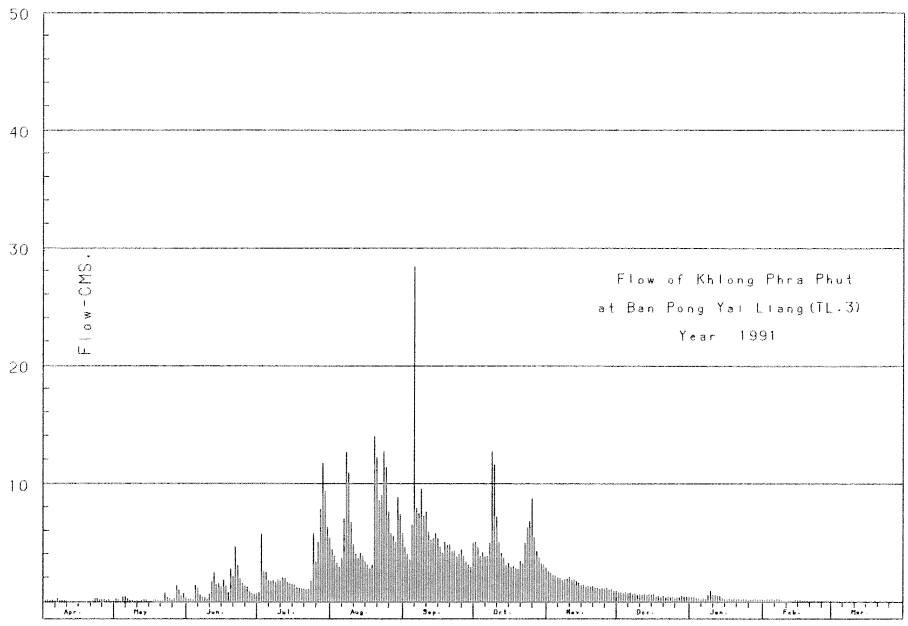
Khlong Phra Phut at Ban Pong Yai Liang, Chanthaburi (TL.3)

Location	Lat. 12°-58'-05" N., Long. 102°-17'-20" E., on left bank downstream from the bridge of Pong Nam Ron - Wang Nam Yen Highway, Ban Pong Yai Liang, Amphoe Pong Nam Ron, Chanthaburi.
Drainage Area	79 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+190.67 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 6 meters from the top staff gage.
Elevation	+195.973 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1983 to date.
Rating Operation	
Period of Rating	1986 to date.
Rated by Float	-
Rated by Current Meter	1986 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 39 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	190.96	191.00	190.99	191.08	191.40	191.41	191.43	191.27	191.08	191.02	190.97	190.94	
2	190.96	190.97	190.99	191.47	191.36	191.37	191.41	191.25	191.07	191.02	190.98	190.92	
3	190.96	190.94	190.98	191.26	191.32	191.34	191.36	191.24	191.07	191.01	190.99	190.93	
4	190.96	191.02	191.15	191.26	191.30	191.51	191.38	191.23	191.07	191.00	190.98	190.93	
5	190.95	191.03	191.12	191.19	191.35	192.29	191.36	191.22	191.07	191.00	190.98	190.91	
6	191.00	191.00	191.05	191.19	191.53	191.57	191.36	191.21	191.07	191.00	190.99	190.91	
7	190.96	190.97	191.02	191.19	191.76	191.55	191.43	191.20	191.06	191.00	191.00	190.91	
8	190.95	190.95	191.01	191.18	191.69	191.64	191.76	191.20	191.06	191.04	190.96	190.91	
9	190.95	190.95	191.00	191.20	191.52	191.54	191.72	191.21	191.05	191.10	190.95	190.91	
10	190.95	190.96	191.06	191.19	191.42	191.56	191.54	191.22	191.05	191.05	190.94	190.90	
11	190.94	190.94	191.19	191.22	191.37	191.48	191.43	191.20	191.05	191.04	190.95	190.91	
12	190.92	190.95	191.26	191.21	191.35	191.44	191.38	191.20	191.05	191.04	190.95	190.90	
13	190.92	190.98	191.15	191.18	191.38	191.45	191.35	191.19	191.05	191.03	190.94	190.90	
14	190.92	190.97	191.16	191.16	191.36	191.47	191.31	191.17	191.05	191.01	190.97	190.92	
15	190.92	190.94	191.13	191.16	191.33	191.45	191.32	191.15	191.05	190.99	190.97	190.93	
16	190.92	190.93	191.20	191.15	191.31	191.41	191.30	191.15	191.05	190.99	190.96	190.93	
17	190.92	190.97	191.14	191.13	191.29	191.38	191.30	191.14	191.03	190.99	190.96	190.93	
18	190.92	190.97	191.08	191.12	191.31	191.43	191.29	191.14	191.03	190.99	190.96	190.93	
19	190.91	190.96	191.28	191.12	191.81	191.42	191.28	191.14	191.02	191.00	190.96	190.94	
20	190.91	190.95	191.23	191.11	191.74	191.42	191.33	191.14	191.03	190.99	190.95	190.90	
21	190.94	190.96	191.41	191.11	191.60	191.39	191.32	191.13	191.02	190.99	190.95	190.94	
22	191.01	191.07	191.31	191.11	191.62	191.39	191.43	191.12	191.02	190.99	190.95	190.91	
23	191.00	191.02	191.21	191.19	191.76	191.36	191.50	191.12	191.02	190.99	190.94	190.91	
24	190.98	191.00	191.17	191.47	191.71	191.37	191.52	191.12	191.02	190.99	190.93	190.91	
25	190.97	190.98	191.14	191.33	191.56	191.40	191.61	191.12	191.01	190.98	190.93	190.91	
26	190.98	191.00	191.13	191.43	191.47	191.36	191.45	191.12	191.01	190.97	190.92	190.90	
27	190.97	191.15	191.09	191.57	191.46	191.33	191.39	191.11	191.02	190.99	190.91	190.91	
28	190.96	191.10	191.06	191.72	191.43	191.31	191.35	191.11	191.03	190.98	190.93	190.91	
29	190.94	191.04	191.06	191.63	191.61	191.30	191.32	191.10	191.03	190.98	190.96	190.88	
30	190.93	191.06	191.06	191.50	191.55	191.43	191.31	191.09	191.02	190.97		190.89	
31		191.01		191.45	191.47		191.29		191.02	190.97		190.91	
Mean	190.95	190.99	191.13	191.27	191.49	191.46	191.40	191.17	191.04	191.00	190.96	190.91	
Max	191.01	191.15	191.41	191.72	191.81	192.29	191.76	191.27	191.08	191.10	191.00	190.94	192.29
Min	190.91	190.93	190.98	191.08	191.29	191.30	191.28	191.09	191.01	190.97	190.91	190.88	190.88

Annual Max Momentary Gage Height 193.20 M (MSL), at 3.00 Hours, on Sep 5, 1991
Zero Gage at Bottom Elevation 190.67 M (MSL), River Bed 190.63 M (MSL)
Left Bank Elevation 194.96 M (MSL)
Right Bank Elevation 195.92 M (MSL), Drainage Area 79 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.18	0.30	0.27	0.86	4.50	4.69	5.07	2.67	0.86	0.44	0.21	0.12	
2	0.18	0.21	0.27	5.83	3.90	4.05	4.69	2.45	0.79	0.44	0.24	0.06	
3	0.18	0.12	0.24	2.56	3.30	3.60	3.90	2.34	0.79	0.37	0.27	0.09	
4	0.18	0.44	1.45	2.56	3.00	6.62	4.20	2.23	0.79	0.30	0.24	0.09	
5	0.15	0.51	1.18	1.81	3.75	28.48	3.90	2.12	0.79	0.30	0.24	0.03	
6	0.30	0.30	0.65	1.81	7.06	7.94	3.90	2.01	0.79	0.30	0.27	0.03	
7	0.18	0.21	0.44	1.81	12.76	7.50	5.07	1.90	0.72	0.30	0.30	0.03	
8	0.15	0.15	0.37	1.72	10.94	9.64	12.76	1.90	0.72	0.58	0.18	0.03	
9	0.15	0.15	0.30	1.90	6.84	7.28	11.72	2.01	0.65	1.00	0.15	0.03	
10	0.15	0.18	0.72	1.81	4.88	7.72	7.28	2.12	0.65	0.65	0.12	0.00	
11	0.12	0.12	1.81	2.12	4.05	6.02	5.07	1.90	0.65	0.58	0.15	0.03	
12	0.06	0.15	2.56	2.01	3.75	5.26	4.20	1.90	0.65	0.58	0.15	0.00	
13	0.06	0.24	1.45	1.72	4.20	5.45	3.75	1.81	0.65	0.51	0.12	0.00	
14	0.06	0.21	1.54	1.54	3.90	5.83	3.15	1.63	0.65	0.37	0.21	0.06	
15	0.06	0.12	1.27	1.54	3.45	5.45	3.30	1.45	0.65	0.27	0.21	0.09	
16	0.06	0.09	1.90	1.45	3.15	4.69	3.00	1.45	0.65	0.27	0.18	0.09	
17	0.06	0.21	1.36	1.27	2.89	4.20	3.00	1.36	0.51	0.27	0.18	0.09	
18	0.06	0.21	0.86	1.18	3.15	5.07	2.89	1.36	0.51	0.27	0.18	0.09	
19	0.03	0.18	2.78	1.18	14.07	4.88	2.78	1.36	0.44	0.30	0.18	0.12	
20	0.03	0.15	2.23	1.09	12.24	4.88	3.45	1.36	0.51	0.27	0.15	0.00	
21	0.12	0.18	4.69	1.09	8.60	4.35	3.30	1.27	0.44	0.27	0.15	0.12	
22	0.37	0.79	3.15	1.09	9.12	4.35	5.07	1.18	0.44	0.27	0.15	0.03	
23	0.30	0.44	2.01	1.81	12.76	3.90	6.40	1.18	0.44	0.27	0.12	0.03	
24	0.24	0.30	1.63	5.83	11.46	4.05	6.84	1.18	0.44	0.27	0.09	0.03	
25	0.21	0.24	1.36	3.45	7.72	4.50	8.86	1.18	0.37	0.24	0.09	0.03	
26	0.24	0.30	1.27	5.07	5.83	3.90	5.45	1.18	0.37	0.21	0.06	0.00	
27	0.21	1.45	0.93	7.94	5.64	3.45	4.35	1.09	0.44	0.27	0.03	0.03	
28	0.18	1.00	0.72	11.72	5.07	3.15	3.75	1.09	0.51	0.24	0.09	0.03	
29	0.12	0.58	0.72	9.38	8.86	3.00	3.30	1.00	0.51	0.24	0.18	0.00	
30	0.09	0.72	0.72	6.40	7.50	5.07	3.15	0.93	0.44	0.21		0.00	
31		0.37		5.45	5.83		2.89		0.44	0.21		0.03	
Total	4.48	10.62	40.85	97.00	204.17	178.97	150.44	48.61	18.26	11.07	4.89	1.41	770.77 CMSDAY
Mean	0.15	0.34	1.36	3.13	6.59	5.97	4.85	1.62	0.59	0.36	0.17	0.05	2.11 CMS
Max	0.37	1.45	4.69	11.72	14.07	28.48	12.76	2.67	0.86	1.00	0.30	0.12	28.48 CMS
Min	0.03	0.09	0.24	0.86	2.89	3.00	2.78	0.93	0.37	0.21	0.03	0.00	0.00 CMS
Runoff	0.387	0.918	3.529	8.381	17.640	15.463	12.998	4.200	1.578	0.956	0.422	0.122	66.595 MCM

Momentary Peak 64.00 CMS, at 193.20 M·(MSL), at 3.00 Hours, on Sep 5, 1991

Runoff Yield 26.66 Liters/Second/Square KM, Momentary Peak Yield 810.12 Liters/Second/Square KM

WATER YEAR 1991

TONLE SAP BASIN

Khlong Ta Khong at Ban Khlong Ta Khong, Chanthaburi (TL.4)

Location — Lat. 12°-54'-57" N., Long. 102°-19'-30" E., on left bank downstream from the bridge of Amphoe Pong Nam Ron - Ban Pong Nam Ron Highway, Ban Ta Khong, Amphoe Pong Nam Ron, Chanthaburi.

Drainage Area — 96 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +176.80 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — On left bank about 30 meters from the top staff gage.

Elevation — +186.762 m.(M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1984 to date.

Rating Operation

Period of Rating — 1986 to date.

Rated by Float — -

Rated by Current Meter — 1986 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 35 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

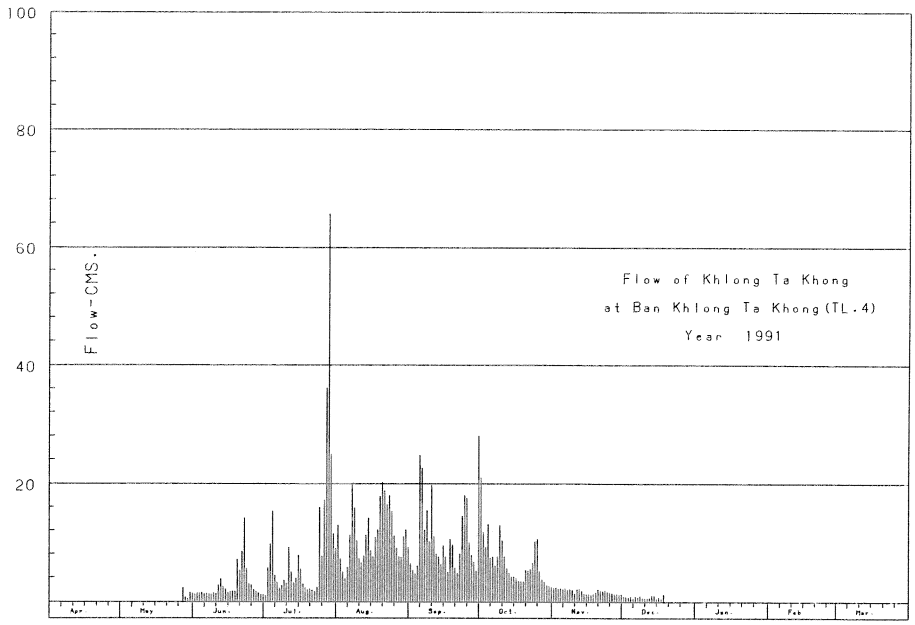
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	176.88	176.95	177.65	177.63	178.73	178.26	179.24	177.82	177.61	178.65	178.60	177.90	
2	176.85	176.95	177.70	178.19	178.33	178.15	178.65	177.82	177.58	178.65	178.55	177.88	
3	176.84	176.95	177.69	178.51	178.12	178.10	178.48	177.81	177.58	178.65	178.52	177.86	
4	176.82	176.95	177.72	178.89	178.02	178.22	178.75	177.80	177.59	178.64	178.48	177.85	
5	176.82	176.95	177.68	178.07	178.21	179.48	178.33	177.80	177.55	178.65	178.48	177.85	
6	176.82	176.95	177.68	177.93	178.62	179.34	178.35	177.80	177.59	178.65	178.48	177.82	
7	176.82	176.95	177.68	177.82	179.18	178.68	178.23	177.78	177.59	178.65	178.47	177.80	
8	176.82	176.95	177.65	177.86	178.92	178.90	178.36	177.78	177.60	178.65	178.45	177.80	
9	176.82	176.95	177.73	177.99	178.56	178.55	178.73	177.78	177.56	178.65	178.45	177.75	
10	176.82	176.95	177.66	177.91	178.32	179.16	178.56	177.67	177.54	178.65	178.40	177.72	
11	176.82	176.95	177.88	178.47	178.26	178.60	178.35	177.80	177.56	178.65	178.40	177.70	
12	176.82	176.95	178.02	178.13	178.37	178.39	178.19	177.79	177.57	178.65	178.40	177.70	
13	176.82	176.95	177.83	177.93	178.62	178.36	178.10	177.76	177.61	178.65	178.40	177.70	
14	176.82	176.95	177.80	178.01	178.82	178.24	178.05	177.67	177.63	178.65	178.34	177.65	
15	176.82	176.95	177.73	178.38	178.44	178.50	178.04	177.67	177.52	178.65	178.34	177.63	
16	176.82	176.95	177.74	178.17	178.35	178.35	178.02	177.66	177.56	178.65	178.34	177.63	
17	176.82	176.95	177.75	177.91	178.60	178.13	177.97	177.65	177.54	178.65	178.27	177.63	
18	176.82	176.95	177.73	177.81	178.68	178.57	177.95	177.65	177.67	178.65	178.27	177.60	
19	176.82	176.95	178.37	177.78	179.05	178.51	177.96	177.72	178.35	178.63	178.27	177.60	
20	176.82	176.95	178.13	177.79	179.19	178.19	178.15	177.78	177.55	178.63	178.26	177.55	
21	176.82	177.45	178.33	177.76	179.10	178.11	178.14	177.76	177.49	178.63	178.25	177.44	
22	176.82	177.45	178.89	177.74	178.96	178.39	178.18	177.75	178.15	178.63	178.15	177.33	
23	176.82	177.45	178.19	177.84	179.06	178.84	178.27	177.75	178.20	178.63	178.13	177.31	
24	176.82	177.41	177.91	178.93	178.88	179.06	178.54	177.73	178.39	178.62	178.13	177.31	
25	176.82	177.38	177.86	178.37	178.61	179.02	178.58	177.70	178.64	178.61	178.05	177.25	
26	176.82	177.43	177.79	179.00	178.47	178.53	178.13	177.68	178.64	178.60	178.03	177.25	
27	176.82	177.83	177.76	180.06	178.36	178.38	178.00	177.67	178.64	178.60	178.00	177.27	
28	176.82	177.59	177.69	181.20	178.34	178.27	177.94	177.66	178.64	178.60	177.95	177.22	
29	176.82	177.53	177.67	179.48	178.61	178.15	177.88	177.65	178.64	178.60	177.93	177.20	
30	176.82	177.70	177.64	178.64	178.68	179.66	177.85	177.65	178.64	178.59		177.17	
31		177.70		178.46	178.47		177.83		178.64	178.60		177.13	
Mean	176.82	177.16	177.85	178.34	178.61	178.57	178.25	177.73	177.91	178.63	178.30	177.56	
Max	176.88	177.83	178.89	181.20	179.19	179.66	179.24	177.82	178.64	178.65	178.60	177.90	181.20
Min	176.82	176.95	177.64	177.63	178.02	178.10	177.83	177.65	177.49	178.59	177.93	177.13	176.82

Annual Max Momentary Gage Height — 182.30 M (MSL), at 14.00 Hours, on Jul 28, 1991

Zero Gage at Bottom Elevation — 176.80 M (MSL), River Bed — 175.89 M (MSL)

Left Bank Elevation — 184.84 M (MSL)

Right Bank Elevation — 184.11 M (MSL), Drainage Area — 96 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	1.20	1.08	12.95	6.52	21.04	2.36	0.96	0.00	0.00	0.00	
2	0.00	0.00	1.50	5.70	7.36	5.30	11.75	2.36	0.78	0.00	0.00	0.00	
3	0.00	0.00	1.44	9.74	5.00	4.80	9.32	2.28	0.78	0.00	0.00	0.00	
4	0.00	0.00	1.64	15.44	4.00	6.04	13.25	2.20	0.84	0.00	0.00	0.00	
5	0.00	0.00	1.38	4.50	5.92	24.96	7.36	2.20	0.60	0.00	0.00	0.00	
6	0.00	0.00	1.38	3.24	11.30	22.64	7.60	2.20	0.84	0.00	0.00	0.00	
7	0.00	0.00	1.38	2.36	20.08	12.20	6.16	2.06	0.84	0.00	0.00	0.00	
8	0.00	0.00	1.20	2.68	15.92	15.60	7.72	2.06	0.90	0.00	0.00	0.00	
9	0.00	0.00	1.71	3.72	10.44	10.30	12.95	2.06	0.66	0.00	0.00	0.00	
10	0.00	0.00	1.26	3.08	7.24	19.76	10.44	1.32	0.54	0.00	0.00	0.00	
11	0.00	0.00	2.84	9.18	6.52	11.00	7.60	2.20	0.66	0.00	0.00	0.00	
12	0.00	0.00	4.00	5.10	7.84	8.08	5.70	2.13	0.72	0.00	0.00	0.00	
13	0.00	0.00	2.44	3.24	11.30	7.72	4.80	1.92	0.96	0.00	0.00	0.00	
14	0.00	0.00	2.20	3.90	14.32	6.28	4.30	1.32	1.08	0.00	0.00	0.00	
15	0.00	0.00	1.71	7.96	8.76	9.60	4.20	1.32	0.42	0.00	0.00	0.00	
16	0.00	0.00	1.78	5.50	7.60	7.60	4.00	1.26	0.66	0.00	0.00	0.00	
17	0.00	0.00	1.85	3.08	11.00	5.10	3.56	1.20	0.54	0.00	0.00	0.00	
18	0.00	0.00	1.71	2.28	12.20	10.58	3.40	1.20	1.32	0.00	0.00	0.00	
19	0.00	0.00	7.84	2.06	18.00	9.74	3.48	1.64	0.00	0.00	0.00	0.00	
20	0.00	0.00	5.10	2.13	20.24	5.70	5.30	2.06	0.00	0.00	0.00	0.00	
21	0.00	0.15	7.36	1.92	18.80	4.90	5.20	1.92	0.00	0.00	0.00	0.00	
22	0.00	0.15	15.44	1.78	16.56	8.08	5.60	1.85	0.00	0.00	0.00	0.00	
23	0.00	0.15	5.70	2.52	18.16	14.64	6.64	1.85	0.00	0.00	0.00	0.00	
24	0.00	0.03	3.08	16.08	15.28	18.16	10.16	1.71	0.00	0.00	0.00	0.00	
25	0.00	0.00	2.68	7.84	11.15	17.52	10.72	1.50	0.00	0.00	0.00	0.00	
26	0.00	0.09	2.13	17.20	9.18	10.02	5.10	1.38	0.00	0.00	0.00	0.00	
27	0.00	2.44	1.92	36.32	7.72	7.96	3.80	1.32	0.00	0.00	0.00	0.00	
28	0.00	0.84	1.44	65.80	7.48	6.64	3.32	1.26	0.00	0.00	0.00	0.00	
29	0.00	0.48	1.32	24.96	11.15	5.30	2.84	1.20	0.00	0.00	0.00	0.00	
30	0.00	1.50	1.14	11.60	12.20	28.24	2.60	1.20	0.00	0.00		0.00	
31		1.50		9.04	9.18		2.44		0.00	0.00		0.00	
Total	0.00	7.33	87.77	291.03	354.85	330.98	212.35	52.54	14.10	0.00	0.00	0.00	1350.95 CMSDAY
Mean	0.00	0.24	2.93	9.39	11.45	11.03	6.85	1.75	0.45	0.00	0.00	0.00	3.69 CMS
Max	0.00	2.44	15.44	65.80	20.24	28.24	21.04	2.36	1.32	0.00	0.00	0.00	65.80 CMS
Min	0.00	0.00	1.14	1.08	4.00	4.80	2.44	1.20	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	0.000	0.633	7.583	25.145	30.659	28.597	18.347	4.539	1.218	0.000	0.000	0.000	116.722 MCM

Momentary Peak 102.60 CMS, at 182.30 M (MSL), at 14.00 Hours, on Jul 28, 1991
Runoff Yield 38.45 Liters/Second/Square KM, Momentary Peak Yield 1068.75 Liters/Second/Square KM

WATER YEAR 1991

TONLE SAP BASIN

Khlong Thung Krang at Ban Thung Krang, Chanthaburi (TL.6)

Location — Lat. 13°-01'-36" N., Long. 102°-16'-21" E., on right bank at the bridge of Chanthaburi-Sa Kaeo Highway, Tambon Thap Sai, Amphoe Pong Nam Ron, Chanthaburi.

Drainage Area — 42 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +183.10 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — On right bank about 20 meters from the top staff gage.

Elevation — +187.655 m.(M.S.L.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1987 to date.

Rating Operation

Period of Rating — 1987 to date.

Rated by Float — -

Rated by Current Meter — 1987 to date.

Stability of Channel Regimes — Fairly stable.

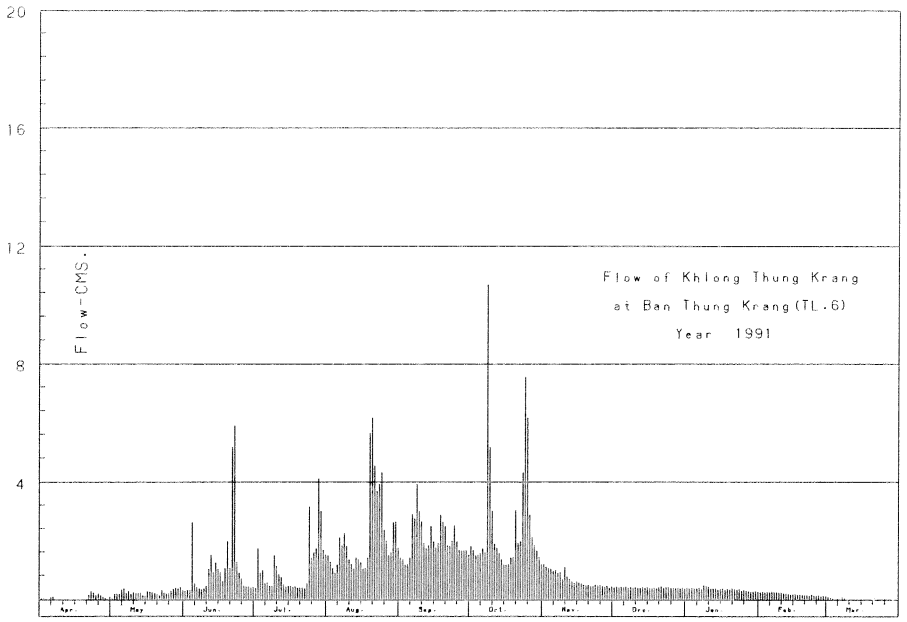
Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 35 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	183.67	183.66	183.88	183.94	184.14	184.13	184.18	184.10	183.97	183.95	183.87	183.69	
2	183.64	183.81	183.92	184.17	184.11	184.12	184.16	184.09	183.97	183.95	183.87	183.68	
3	183.58	183.80	183.91	184.06	184.08	184.10	184.14	184.08	183.97	183.95	183.87	183.64	
4	183.56	183.81	184.25	184.07	184.06	184.10	184.14	184.08	183.97	183.95	183.86	183.64	
5	183.70	183.93	184.01	184.01	184.10	184.13	184.15	184.07	183.97	183.95	183.87	183.65	
6	183.70	183.94	183.96	184.01	184.21	184.27	184.17	184.07	183.97	183.95	183.87	183.64	
7	183.62	183.84	183.95	183.99	184.18	184.26	184.15	184.06	183.96	183.94	183.87	183.69	
8	183.59	183.89	183.92	183.98	184.22	184.33	184.59	184.06	183.96	183.99	183.85	183.67	
9	183.55	183.81	183.95	184.14	184.18	184.28	184.39	184.03	183.96	183.99	183.86	183.60	
10	183.56	183.85	183.98	184.09	184.12	184.25	184.28	184.09	183.96	183.97	183.84	183.64	
11	183.54	183.84	184.08	184.05	184.10	184.19	184.19	184.04	183.96	183.94	183.84	183.62	
12	183.54	183.84	184.14	184.04	184.08	184.17	184.17	184.03	183.96	183.95	183.81	183.61	
13	183.54	183.83	184.06	184.00	184.13	184.18	184.15	184.02	183.96	183.94	183.80	183.62	
14	183.53	183.76	184.11	183.98	184.12	184.24	184.12	184.01	183.96	183.93	183.79	183.61	
15	183.54	183.72	184.08	183.99	184.11	184.20	184.10	184.02	183.96	183.94	183.80	183.65	
16	183.53	183.88	184.06	183.98	184.08	184.17	184.10	184.01	183.95	183.94	183.78	183.62	
17	183.53	183.89	184.02	183.97	184.08	184.19	184.10	184.01	183.95	183.92	183.77	183.62	
18	183.55	183.84	184.08	183.97	184.13	184.27	184.13	184.00	183.95	183.93	183.77	183.62	
19	183.53	183.84	184.20	183.96	184.41	184.25	184.13	184.00	183.95	183.93	183.77	183.60	
20	183.53	183.78	184.08	183.95	184.43	184.24	184.28	184.00	183.96	183.94	183.75	183.62	
21	183.78	183.76	184.39	183.95	184.36	184.18	184.19	183.99	183.97	183.93	183.76	183.66	
22	183.89	183.92	184.42	183.95	184.32	184.18	184.20	183.99	183.96	183.93	183.75	183.62	
23	183.86	183.83	184.11	184.01	184.33	184.20	184.35	184.00	183.97	183.93	183.77	183.62	
24	183.75	183.82	184.06	184.29	184.35	184.24	184.48	184.00	183.96	183.91	183.76	183.62	
25	183.83	183.81	184.03	184.13	184.23	184.20	184.43	184.00	183.96	183.91	183.73	183.64	
26	183.74	183.89	183.99	184.15	184.20	184.16	184.27	183.98	183.95	183.91	183.74	183.60	
27	183.71	183.94	183.98	184.17	184.14	184.16	184.21	183.98	183.95	183.90	183.73	183.56	
28	183.65	183.95	183.97	184.34	184.15	184.16	184.18	183.98	183.95	183.86	183.73	183.56	
29	183.65	183.95	183.96	184.28	184.25	184.16	184.16	183.96	183.95	183.89	183.73	183.58	
30	183.70	183.96	183.96	184.16	184.25	184.14	184.13	183.97	183.95	183.88		183.62	
31		183.92		184.14	184.17		184.10		183.95	183.87		183.62	
Mean	183.64	183.85	184.05	184.06	184.19	184.20	184.21	184.02	183.96	183.93	183.80	183.63	
Max	183.89	183.96	184.42	184.34	184.43	184.33	184.59	184.10	183.97	183.99	183.87	183.69	184.59
Min	183.53	183.66	183.88	183.94	184.06	184.10	184.10	183.96	183.95	183.86	183.73	183.56	183.53

Annual Max Momentary Gage Height 184.85 M (MSL), at 15.00 Hours, on Oct 8, 1991
Zero Gage at Bottom Elevation 183.10 M (MSL), River Bed 183.01 M (MSL)
Left Bank Elevation 186.50 M (MSL)
Right Bank Elevation 186.43 M (MSL), Drainage Area 42 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.07	0.06	0.28	0.38	1.52	1.44	1.84	1.20	0.44	0.40	0.27	0.09	
2	0.04	0.21	0.34	1.76	1.28	1.36	1.68	1.13	0.44	0.40	0.27	0.08	
3	0.00	0.20	0.32	0.92	1.06	1.20	1.52	1.06	0.44	0.40	0.27	0.04	
4	0.00	0.21	2.65	0.99	0.92	1.20	1.52	1.06	0.44	0.40	0.26	0.04	
5	0.10	0.36	0.57	0.57	1.20	1.44	1.60	0.99	0.44	0.40	0.27	0.05	
6	0.10	0.38	0.42	0.57	2.13	2.91	1.76	0.99	0.44	0.40	0.27	0.04	
7	0.02	0.24	0.40	0.48	1.84	2.78	1.60	0.92	0.42	0.38	0.27	0.09	
8	0.00	0.29	0.34	0.46	2.26	3.93	10.71	0.92	0.42	0.48	0.25	0.07	
9	0.00	0.21	0.40	1.52	1.84	3.04	5.19	0.71	0.42	0.48	0.26	0.00	
10	0.00	0.25	0.46	1.13	1.36	2.65	3.04	1.13	0.42	0.44	0.24	0.04	
11	0.00	0.24	1.06	0.85	1.20	1.92	1.92	0.78	0.42	0.38	0.24	0.02	
12	0.00	0.24	1.52	0.78	1.06	1.76	1.76	0.71	0.42	0.40	0.21	0.01	
13	0.00	0.23	0.92	0.50	1.44	1.84	1.60	0.64	0.42	0.38	0.20	0.02	
14	0.00	0.16	1.28	0.46	1.36	2.52	1.36	0.57	0.42	0.36	0.19	0.01	
15	0.00	0.12	1.06	0.48	1.28	2.00	1.20	0.64	0.42	0.38	0.20	0.05	
16	0.00	0.28	0.92	0.46	1.06	1.76	1.20	0.57	0.40	0.38	0.18	0.02	
17	0.00	0.29	0.64	0.44	1.06	1.92	1.20	0.57	0.40	0.34	0.17	0.02	
18	0.00	0.24	1.06	0.44	1.44	2.91	1.44	0.50	0.40	0.36	0.17	0.02	
19	0.00	0.24	2.00	0.42	5.67	2.65	1.44	0.50	0.40	0.36	0.17	0.00	
20	0.00	0.18	1.06	0.40	6.21	2.52	3.04	0.50	0.42	0.38	0.15	0.02	
21	0.18	0.16	5.19	0.40	4.56	1.84	1.92	0.48	0.44	0.36	0.16	0.06	
22	0.29	0.34	5.94	0.40	3.72	1.84	2.00	0.48	0.42	0.36	0.15	0.02	
23	0.26	0.23	1.28	0.57	3.93	2.00	4.35	0.50	0.44	0.36	0.17	0.02	
24	0.15	0.22	0.92	3.17	4.35	2.52	7.56	0.50	0.42	0.32	0.16	0.02	
25	0.23	0.21	0.71	1.44	2.39	2.00	6.21	0.50	0.42	0.32	0.13	0.04	
26	0.14	0.29	0.48	1.60	2.00	1.68	2.91	0.46	0.40	0.32	0.14	0.00	
27	0.11	0.38	0.46	1.76	1.52	1.68	2.13	0.46	0.40	0.30	0.13	0.00	
28	0.05	0.40	0.44	4.14	1.60	1.68	1.84	0.46	0.40	0.26	0.13	0.00	
29	0.05	0.40	0.42	3.04	2.65	1.68	1.68	0.42	0.40	0.29	0.13	0.00	
30	0.10	0.42	0.42	1.68	2.65	1.52	1.44	0.44	0.40	0.28		0.02	
31		0.34		1.52	1.76		1.20		0.40	0.27		0.02	
Total	1.89	8.02	33.96	33.73	68.32	62.19	79.86	20.79	12.98	11.34	5.81	0.93	339.82 CMSDAY
Mean	0.06	0.26	1.13	1.09	2.20	2.07	2.58	0.69	0.42	0.37	0.20	0.03	0.93 CMS
Max	0.29	0.42	5.94	4.14	6.21	3.93	10.71	1.20	0.44	0.48	0.27	0.09	10.71 CMS
Min	0.00	0.06	0.28	0.38	0.92	1.20	1.20	0.42	0.40	0.26	0.13	0.00	0.00 CMS
Runoff	0.163	0.693	2.934	2.914	5.903	5.373	6.900	1.796	1.121	0.980	0.502	0.080	29.360 MCM

Momentary Peak 18.60 CMS, at 184.85 M (MSL), at 15.00 Hours, on Oct 8, 1991

Runoff Yield 22.11 Liters/Second/Square KM, Momentary Peak Yield 442.86 Liters/Second/Square KM

WATER YEAR 1991

THA CHIN RIVER BASIN

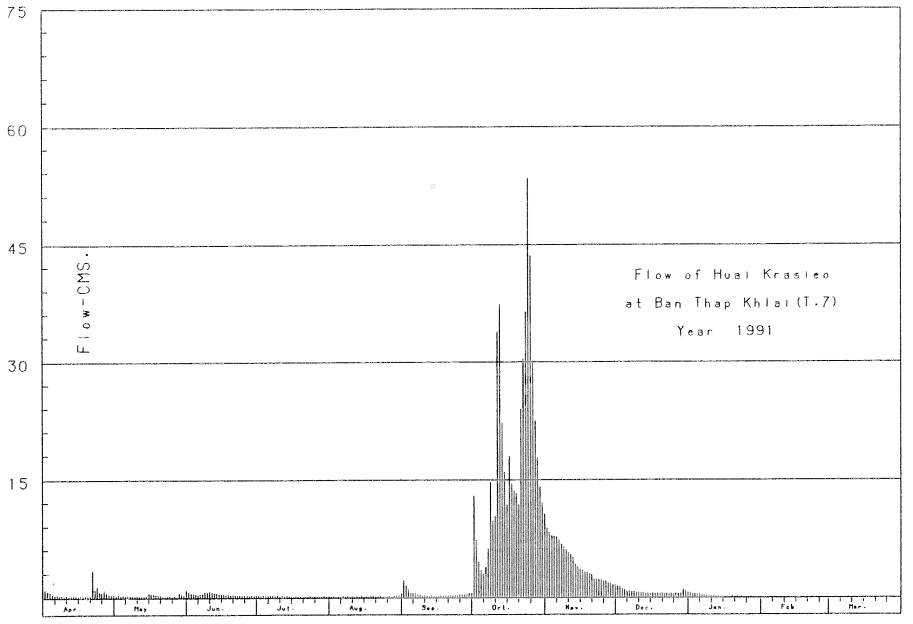
Huai Krasieo at Ban Thap Khlai, Uthai Thani (T.7)

Location	Lat. 15-03-06 N., Long. 99-35-18 E., on right bank in the vicinity of Wat Thap Khlai at Ban Thap Khlai, Amphoe Ban Rai, Uthai Thani.
Drainage Area	607 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank under the coconut tree and about 50 meters from the top staff gage.
Elevation	+3.689 m.(A.D.)
Gage Reading Frequency	13-time daily readings at 06.00 - 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1982 to date.
Rating Operation	
Period of Rating	1984 to date.
Rated by Float	-
Rated by Current Meter	1984 to date.
Stability of Channel Regimes	Fairly stable by some scouring.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 48 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.25	0.07	0.19	0.06	0.01	0.44	1.24	1.01	0.34	0.17	-0.02	-0.04	
2	0.22	0.10	0.16	0.06	0.01	0.36	0.91	0.97	0.32	0.15	-0.02	-0.04	
3	0.18	0.07	0.14	0.06	0.01	0.26	0.70	0.95	0.28	0.13	-0.02	-0.04	
4	0.13	0.06	0.13	0.06	0.01	0.18	0.59	0.94	0.25	0.13	-0.02	-0.04	
5	0.10	0.05	0.11	0.06	0.01	0.17	0.55	0.94	0.22	0.12	-0.02	-0.04	
6	0.08	0.04	0.12	0.05	0.01	0.15	0.63	0.91	0.21	0.10	-0.02	-0.04	
7	0.07	0.04	0.15	0.05	0.01	0.12	0.84	0.88	0.21	0.10	-0.02	-0.04	
8	0.06	0.04	0.18	0.05	0.01	0.11	1.33	0.85	0.20	0.08	-0.02	-0.04	
9	0.05	0.04	0.20	0.04	0.01	0.06	1.06	0.83	0.19	0.07	-0.02	-0.04	
10	0.04	0.04	0.20	0.04	0.01	0.05	1.10	0.80	0.18	0.05	-0.02	-0.04	
11	0.04	0.03	0.18	0.04	0.01	0.04	2.13	0.78	0.18	0.04	-0.02	-0.04	
12	0.04	0.03	0.17	0.04	0.01	0.04	2.25	0.74	0.17	0.03	-0.02	-0.04	
13	0.04	0.03	0.15	0.04	0.01	0.04	1.69	0.67	0.16	0.02	-0.02	-0.04	
14	0.04	0.03	0.14	0.03	0.01	0.04	1.39	0.63	0.15	0.01	-0.02	-0.04	
15	0.04	0.15	0.13	0.02	0.01	0.04	1.18	0.61	0.15	0.01	-0.02	-0.04	
16	0.03	0.15	0.11	0.01	0.01	0.04	1.49	0.59	0.15	0.01	-0.02	-0.04	
17	0.03	0.13	0.11	0.01	0.01	0.05	1.32	0.57	0.15	0.01	-0.02	-0.04	
18	0.03	0.10	0.10	0.01	0.01	0.06	1.27	0.56	0.15	0.01	-0.02	-0.04	
19	0.03	0.10	0.09	0.01	0.05	0.06	1.25	0.55	0.15	0.01	-0.02	-0.04	
20	0.02	0.07	0.09	0.01	0.02	0.07	1.18	0.53	0.15	0.01	-0.02	-0.04	
21	0.59	0.03	0.08	0.01	0.02	0.07	1.76	0.47	0.15	0.01	-0.02	-0.04	
22	0.25	0.02	0.07	0.01	0.02	0.07	2.01	0.46	0.14	0.01	-0.02	-0.04	
23	0.32	0.03	0.07	0.01	0.02	0.08	2.22	0.46	0.14	0.00	-0.02	-0.04	
24	0.19	0.03	0.07	0.01	0.02	0.08	2.73	0.45	0.14	0.00	-0.02	-0.04	
25	0.16	0.02	0.07	0.01	0.02	0.10	2.45	0.44	0.14	0.00	-0.02	-0.04	
26	0.24	0.02	0.07	0.01	0.02	0.11	2.00	0.43	0.14	0.00	-0.03	-0.04	
27	0.17	0.01	0.06	0.01	0.02	0.12	1.70	0.41	0.14	0.00	-0.03	-0.04	
28	0.10	0.17	0.06	0.01	0.04	0.13	1.48	0.39	0.14	-0.01	-0.03	-0.04	
29	0.10	0.11	0.06	0.02	0.05	0.15	1.30	0.37	0.26	-0.01	-0.03	-0.04	
30	0.08	0.09	0.06	0.02	0.09	0.17	1.19	0.36	0.22	-0.01		-0.04	
31		0.25		0.01	0.14		1.11		0.19	-0.02		-0.04	
Mean	0.12	0.07	0.12	0.03	0.02	0.12	1.42	0.65	0.19	0.04	-0.02	-0.04	
Max	0.59	0.25	0.20	0.06	0.14	0.44	2.73	1.01	0.34	0.17	-0.02	-0.04	2.73
Min	0.02	0.01	0.06	0.01	0.01	0.04	0.55	0.36	0.14	-0.02	-0.03	-0.04	-0.04

Annual Max Momentary Gage Height 2.84 M (A.D), at 18.00 Hours, on Oct 24, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.38 M (A.D)
Left Bank Elevation 4.53 M (A.D)
Right Bank Elevation 3.95 M (A.D), Drainage Area 607 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.05	0.34	0.76	0.32	0.22	2.22	13.06	8.97	1.54	0.68	0.16	0.12	
2	0.90	0.40	0.64	0.32	0.22	1.66	7.36	8.32	1.42	0.60	0.16	0.12	
3	0.72	0.34	0.56	0.32	0.22	1.10	4.70	8.00	1.20	0.52	0.16	0.12	
4	0.52	0.32	0.52	0.32	0.22	0.72	3.51	7.84	1.05	0.52	0.16	0.12	
5	0.40	0.30	0.44	0.32	0.22	0.68	3.15	7.84	0.90	0.48	0.16	0.12	
6	0.36	0.28	0.48	0.30	0.22	0.60	3.93	7.36	0.85	0.40	0.16	0.12	
7	0.34	0.28	0.60	0.30	0.22	0.48	6.36	6.92	0.85	0.40	0.16	0.12	
8	0.32	0.28	0.72	0.30	0.22	0.44	14.80	6.50	0.80	0.36	0.16	0.12	
9	0.30	0.28	0.80	0.28	0.22	0.32	9.82	6.22	0.76	0.34	0.16	0.12	
10	0.28	0.28	0.80	0.28	0.22	0.30	10.50	5.80	0.72	0.30	0.16	0.12	
11	0.28	0.26	0.72	0.28	0.22	0.28	33.87	5.58	0.72	0.28	0.16	0.12	
12	0.28	0.26	0.68	0.28	0.22	0.28	37.40	5.14	0.68	0.26	0.16	0.12	
13	0.28	0.26	0.60	0.28	0.22	0.28	22.37	4.37	0.64	0.24	0.16	0.12	
14	0.28	0.26	0.56	0.26	0.22	0.28	16.00	3.93	0.60	0.22	0.16	0.12	
15	0.28	0.60	0.52	0.24	0.22	0.28	11.94	3.71	0.60	0.22	0.16	0.12	
16	0.26	0.60	0.44	0.22	0.22	0.28	18.00	3.51	0.60	0.22	0.16	0.12	
17	0.26	0.52	0.44	0.22	0.22	0.30	14.60	3.33	0.60	0.22	0.16	0.12	
18	0.26	0.40	0.40	0.22	0.22	0.32	13.63	3.24	0.60	0.22	0.16	0.12	
19	0.26	0.40	0.38	0.22	0.30	0.32	13.25	3.15	0.60	0.22	0.16	0.12	
20	0.24	0.34	0.38	0.22	0.24	0.34	11.94	2.97	0.60	0.22	0.16	0.12	
21	3.51	0.26	0.36	0.22	0.24	0.34	24.04	2.46	0.60	0.22	0.16	0.12	
22	1.05	0.24	0.34	0.22	0.24	0.34	30.48	2.38	0.56	0.22	0.16	0.12	
23	1.42	0.26	0.34	0.22	0.24	0.36	36.50	2.38	0.56	0.20	0.16	0.12	
24	0.76	0.26	0.34	0.22	0.24	0.36	53.54	2.30	0.56	0.20	0.16	0.12	
25	0.64	0.24	0.34	0.22	0.24	0.40	43.65	2.22	0.56	0.20	0.16	0.12	
26	1.00	0.24	0.34	0.22	0.24	0.44	30.20	2.14	0.56	0.20	0.14	0.12	
27	0.68	0.22	0.32	0.22	0.24	0.48	22.60	1.98	0.56	0.20	0.14	0.12	
28	0.40	0.68	0.32	0.22	0.28	0.52	17.80	1.84	0.56	0.18	0.14	0.12	
29	0.40	0.44	0.32	0.24	0.30	0.60	14.20	1.72	1.10	0.18	0.14	0.12	
30	0.36	0.38	0.32	0.24	0.38	0.68	12.12	1.66	0.90	0.18		0.12	
31		1.05		0.22	0.56		10.68		0.76	0.16		0.12	
Total	18.09	11.27	14.78	7.96	7.70	16.00	566.00	133.78	23.61	9.06	4.56	3.72	816.53 CMSDAY
Mean	0.60	0.36	0.49	0.26	0.25	0.53	18.26	4.46	0.76	0.29	0.16	0.12	2.23 CMS
Max	3.51	1.05	0.80	0.32	0.56	2.22	53.54	8.97	1.54	0.68	0.16	0.12	53.54 CMS
Min	0.24	0.22	0.32	0.22	0.22	0.28	3.15	1.66	0.56	0.16	0.14	0.12	0.12 CMS
Runoff	1.563	0.974	1.277	0.688	0.665	1.382	48.902	11.559	2.040	0.783	0.394	0.321	70.548 MCM

Momentary Peak 57.72 CMS, at 2.84 M (A.D), at 18.00 Hours, on Oct 24, 1991

Runoff Yield 3.68 Liters/Second/Square KM, Momentary Peak Yield 95.09 Liters/Second/Square KM

WATER YEAR 1991

NAKHON NAYOK RIVER BASIN

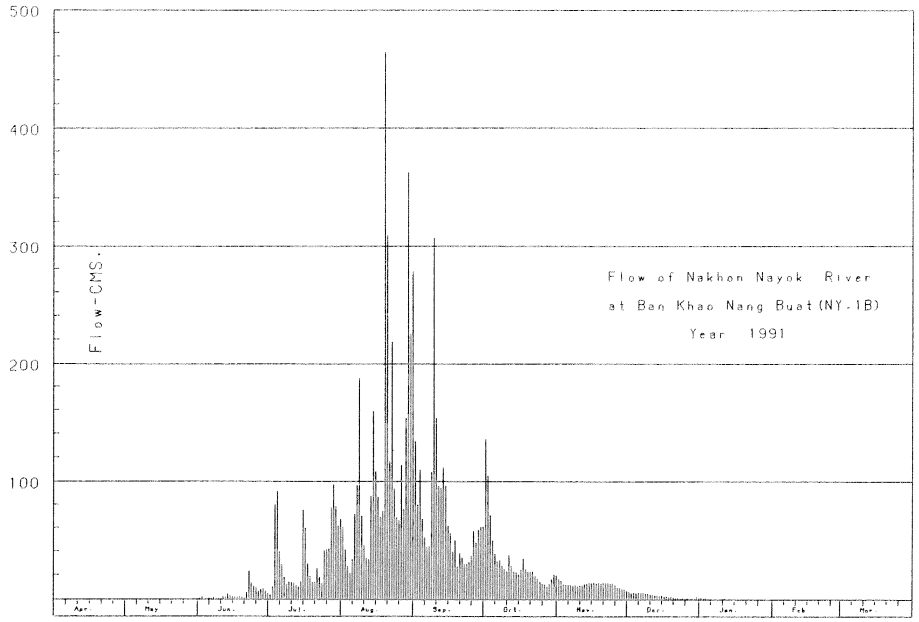
Nakhon Nayok River at Khao Nang Buat, Nakhon Nayok (NY.1B)

Location	Lat. 14°-14′-45″ N., Long. 101°-12′-38″ E., on right bank about 700 meters upstream from NY.1, Amphoe Muang, Nakhon Nayok.
Drainage Area	519 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank about 200 meters from the staff gage.
Elevation	+8.758 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1973 to date.
Rating Operation	
Period of Rating	1973 - 1980, 1991 to date.
Rated by Float	-
Rated by Current Meter	1973 - 1980, 1991 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	Overbank flow starts at elevation + 8.86 m.(M.S.L.) and is included.
General Description	Records good. Stage-discharge relation defined by 32 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.47	3.42	3.57	3.76	5.60	7.02	7.05	4.43	3.93	3.62	3.48	3.45	
2	3.47	3.41	3.68	4.16	5.14	6.03	6.52	4.36	3.89	3.61	3.48	3.43	
3	3.47	3.41	3.56	6.03	4.77	6.62	5.86	4.26	3.90	3.60	3.47	3.43	
4	3.46	3.41	3.52	6.27	4.59	5.80	5.34	4.22	3.90	3.58	3.47	3.43	
5	3.45	3.41	3.58	5.10	4.92	5.40	5.04	4.23	3.90	3.57	3.47	3.43	
6	3.45	3.41	3.60	4.81	5.87	5.18	4.88	4.22	3.90	3.57	3.47	3.42	
7	3.45	3.40	3.63	4.47	6.37	5.20	4.92	4.20	3.89	3.56	3.47	3.42	
8	3.45	3.40	3.57	4.22	7.81	6.59	4.80	4.21	3.87	3.55	3.47	3.42	
9	3.44	3.40	3.55	4.32	5.85	8.99	4.69	4.17	3.84	3.59	3.46	3.42	
10	3.44	3.40	3.57	4.33	5.23	7.34	4.64	4.19	3.82	3.57	3.46	3.41	
11	3.44	3.40	3.66	4.29	4.95	6.36	5.01	4.22	3.79	3.56	3.46	3.41	
12	3.43	3.40	3.66	4.18	4.94	6.31	4.77	4.25	3.77	3.55	3.45	3.41	
13	3.43	3.42	3.81	4.16	6.17	6.65	4.63	4.29	3.74	3.54	3.45	3.41	
14	3.43	3.42	3.75	4.35	7.43	6.36	4.59	4.30	3.74	3.53	3.45	3.41	
15	3.43	3.42	3.70	5.95	6.59	5.65	4.55	4.31	3.73	3.52	3.45	3.40	
16	3.43	3.43	3.63	5.59	6.16	5.48	4.67	4.31	3.71	3.52	3.45	3.40	
17	3.43	3.43	3.66	4.84	5.83	5.08	4.95	4.30	3.68	3.51	3.45	3.40	
18	3.43	3.42	3.66	4.48	5.92	5.34	4.70	4.30	3.67	3.51	3.45	3.39	
19	3.42	3.41	3.63	4.33	9.88	4.78	4.61	4.30	3.66	3.50	3.45	3.39	
20	3.42	3.41	3.61	4.32	9.00	5.05	4.63	4.31	3.65	3.50	3.44	3.39	
21	3.42	3.41	3.90	4.70	6.73	4.97	4.62	4.31	3.63	3.50	3.44	3.39	
22	3.42	3.43	4.65	4.47	8.19	4.82	4.51	4.29	3.61	3.49	3.43	3.39	
23	3.42	3.43	4.29	4.28	6.31	4.84	4.42	4.29	3.60	3.49	3.43	3.39	
24	3.44	3.44	4.19	5.12	5.81	4.86	4.35	4.28	3.58	3.49	3.43	3.39	
25	3.44	3.44	4.09	5.13	5.75	5.01	4.29	4.24	3.57	3.49	3.43	3.39	
26	3.44	3.44	3.98	5.15	6.69	5.53	4.23	4.12	3.57	3.49	3.43	3.38	
27	3.43	3.43	4.05	5.99	5.96	5.29	4.17	4.09	3.56	3.49	3.43	3.38	
28	3.43	3.44	4.05	6.38	7.33	5.56	4.26	4.07	3.54	3.49	3.43	3.38	
29	3.43	3.44	3.98	6.00	9.36	5.61	4.42	4.03	3.58	3.48	3.43	3.34	
30	3.42	3.49	3.85	5.65	8.26	5.62	4.54	3.99	3.67	3.48		3.34	
31		3.58		5.79	8.76		4.51		3.63	3.48		3.34	
Mean	3.44	3.43	3.79	4.92	6.52	5.78	4.81	4.24	3.73	3.53	3.45	3.40	
Max	3.47	3.58	4.65	6.38	9.88	8.99	7.05	4.43	3.93	3.62	3.48	3.45	9.88
Min	3.42	3.40	3.52	3.76	4.59	4.78	4.17	3.99	3.54	3.48	3.43	3.34	3.34

Annual Max Momentary Gage Height 10.18 M (MSL), at 19.00 Hours, on Aug 19, 1991
Zero Gage at Bottom Elevation 0.00 M (MSL), River Bed 2.71 M (MSL)
Left Bank Elevation 9.77 M (MSL)
Right Bank Elevation 8.85 M (MSL), Drainage Area 519 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.35	0.10	1.20	3.90	61.00	134.73	136.56	17.90	6.60	1.80	0.40	0.25	
2	0.35	0.05	2.70	11.20	42.60	80.50	105.00	15.80	5.85	1.65	0.40	0.15	
3	0.35	0.05	1.10	80.50	28.10	110.22	72.00	13.20	6.00	1.50	0.35	0.15	
4	0.30	0.05	0.70	92.50	22.70	69.00	50.60	12.40	6.00	1.30	0.35	0.15	
5	0.25	0.05	1.30	41.00	33.80	53.00	38.60	12.60	6.00	1.20	0.35	0.15	
6	0.25	0.05	1.50	29.40	72.50	44.20	32.20	12.40	6.00	1.20	0.35	0.10	
7	0.25	0.00	1.95	19.10	97.50	45.00	33.80	12.00	5.85	1.10	0.35	0.10	
8	0.25	0.00	1.20	12.40	187.80	108.50	29.00	12.20	5.55	1.00	0.35	0.10	
9	0.20	0.00	1.00	14.60	71.50	307.70	25.70	11.40	5.10	1.40	0.30	0.10	
10	0.20	0.00	1.20	14.90	46.20	154.33	24.20	11.80	4.80	1.20	0.30	0.05	
11	0.20	0.00	2.40	13.80	35.00	97.00	37.40	12.40	4.35	1.10	0.30	0.05	
12	0.15	0.00	2.40	11.60	34.60	94.50	28.10	13.00	4.05	1.00	0.25	0.05	
13	0.15	0.10	4.65	11.20	87.50	112.06	23.90	13.80	3.60	0.90	0.25	0.05	
14	0.15	0.10	3.75	15.50	160.10	97.00	22.70	14.00	3.60	0.80	0.25	0.05	
15	0.15	0.10	3.00	76.50	108.50	63.00	21.50	14.30	3.45	0.70	0.25	0.00	
16	0.15	0.15	1.95	60.60	87.00	56.20	25.10	14.30	3.15	0.70	0.25	0.00	
17	0.15	0.15	2.40	30.60	70.50	40.20	35.00	14.00	2.70	0.60	0.25	0.00	
18	0.15	0.10	2.40	19.40	75.00	50.60	26.00	14.00	2.55	0.60	0.25	0.00	
19	0.10	0.05	1.95	14.90	464.80	28.40	23.30	14.00	2.40	0.50	0.25	0.00	
20	0.10	0.05	1.65	14.60	309.00	39.00	23.90	14.30	2.25	0.50	0.20	0.00	
21	0.10	0.05	6.00	26.00	116.96	35.80	23.60	14.30	1.95	0.50	0.20	0.00	
22	0.10	0.15	24.50	19.10	219.10	29.80	20.30	13.80	1.65	0.45	0.15	0.00	
23	0.10	0.15	13.80	13.60	94.50	30.60	17.60	13.80	1.50	0.45	0.15	0.00	
24	0.20	0.20	11.80	41.80	69.50	31.40	15.50	13.60	1.30	0.45	0.15	0.00	
25	0.20	0.20	9.80	42.20	67.00	37.40	13.80	12.80	1.20	0.45	0.15	0.00	
26	0.20	0.20	7.60	43.00	114.51	58.20	12.60	10.40	1.20	0.45	0.15	0.00	
27	0.15	0.15	9.00	78.50	77.00	48.60	11.40	9.80	1.10	0.45	0.15	0.00	
28	0.15	0.20	9.00	98.00	153.71	59.40	13.20	9.40	0.90	0.45	0.15	0.00	
29	0.15	0.20	7.60	79.00	363.20	61.40	17.60	8.60	1.30	0.40	0.15	0.00	
30	0.10	0.45	5.25	63.00	225.40	61.80	21.20	7.80	2.55	0.40		0.00	
31		1.30		68.60	278.20		20.30		1.95	0.40		0.00	
Total	5.65	4.40	144.75	1161.00	3874.78	2239.54	1001.66	384.10	106.45	25.60	7.40	1.50	8956.83 CMSDAY
Mean	0.19	0.14	4.83	37.45	124.99	74.65	32.31	12.80	3.43	0.83	0.26	0.05	24.47 CMS
Max	0.35	1.30	24.50	98.00	464.80	307.70	136.56	17.90	6.60	1.80	0.40	0.25	464.80 CMS
Min	0.10	0.00	0.70	3.90	22.70	28.40	11.40	7.80	0.90	0.40	0.15	0.00	0.00 CMS
Runoff	0.488	0.380	12.506	100.310	334.781	193.496	86.543	33.186	9.197	2.212	0.639	0.130	773.870 MCM

Momentary Peak 535.00 CMS, at 10.18 M (MSL), at 19.00 Hours, on Aug 19, 1991

Runoff Yield 47.15 Liters/Second/Square KM, Momentary Peak Yield 1030.83 Liters/Second/Square KM

WATER YEAR 1991

NAKHON NAYOK RIVER BASIN

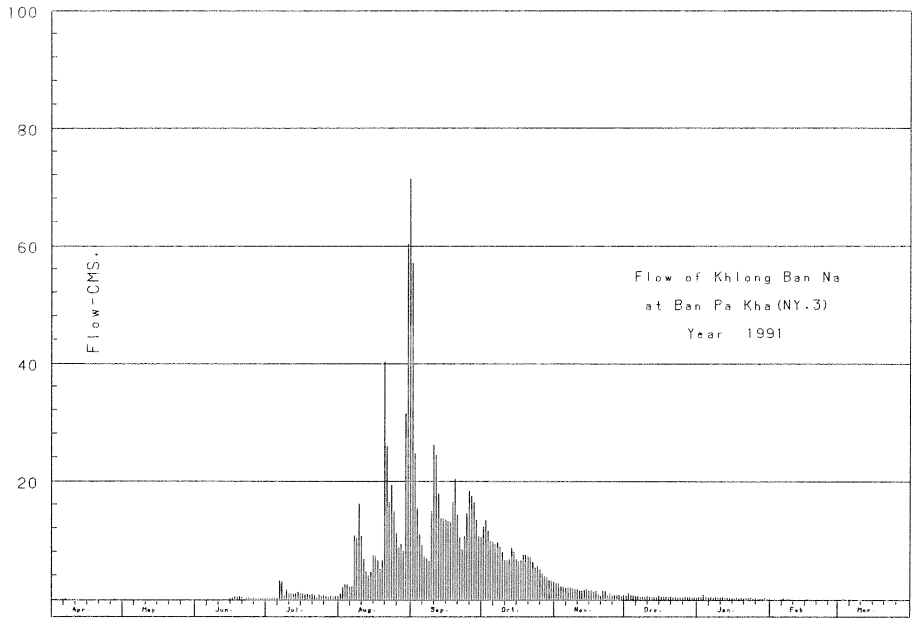
Khlong Ban Na at Ban Pa Kha, Nakhon Nayok (Ny.3)

Location	Lat. 14°-17′-07″ N., Long. 101°-04′-26″ E., on left bank near Wat Ban Pa Kha, Tambon Pa Kha, Amphoe Ban Na, Nakhon Nayok.
Drainage Area	203 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	About 10 meters from the top staff gage.
Elevation	+5.168 m. (A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1977 to date.
Rating Operation	
Period of Rating	1977 - 1978, 1980, 1988 to date.
Rated by Float	-
Rated by Current Meter	1977 - 1978, 1980, 1988 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 19 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.78	0.74	0.64	0.85	1.13	5.04	2.65	1.48	1.04	0.90	0.82	0.72	
2	0.76	0.80	0.62	0.85	1.34	3.68	2.77	1.46	1.12	0.97	0.82	0.82	
3	0.74	0.77	0.57	0.85	1.45	2.93	2.59	1.39	1.07	1.07	0.81	0.80	
4	0.75	0.70	0.54	0.89	1.42	2.53	2.40	1.37	1.04	0.98	0.80	0.79	
5	0.80	0.66	0.52	0.89	1.38	2.33	2.40	1.34	1.02	0.93	0.81	0.78	
6	0.80	0.63	0.50	1.56	1.37	2.10	2.34	1.32	0.98	0.93	0.81	0.77	
7	0.76	0.70	0.51	1.51	2.51	2.08	2.39	1.35	0.96	0.91	0.82	0.71	
8	0.70	0.72	0.50	1.05	2.46	2.02	2.29	1.30	0.94	0.92	0.79	0.64	
9	0.70	0.70	0.51	1.26	3.01	2.89	2.21	1.30	0.97	0.92	0.78	0.66	
10	0.70	0.70	0.52	1.14	2.50	3.79	2.04	1.27	1.00	0.91	0.79	0.61	
11	0.68	0.64	0.53	1.10	2.05	3.66	2.01	1.25	0.97	0.92	0.78	0.60	
12	0.67	0.69	0.52	1.10	1.78	3.15	2.04	1.22	0.94	0.90	0.77	0.56	
13	0.67	0.67	0.51	1.11	1.67	2.80	2.29	1.28	0.93	0.90	0.73	0.49	
14	0.68	0.62	0.53	1.20	1.77	2.78	2.20	1.29	0.95	0.90	0.75	0.45	
15	0.66	0.64	0.84	1.15	2.14	2.78	2.06	1.24	1.02	0.88	0.76	0.44	
16	0.65	0.68	0.93	1.10	2.11	2.74	2.00	1.23	0.95	0.88	0.77	0.44	
17	0.65	0.73	0.96	1.09	2.03	2.74	2.03	1.21	0.97	0.88	0.74	0.49	
18	0.63	0.75	0.98	1.09	1.83	3.03	2.14	1.21	0.94	0.87	0.72	0.59	
19	0.61	0.75	0.99	1.08	2.02	3.35	2.14	1.10	0.95	0.87	0.70	0.56	
20	0.59	0.72	0.95	1.09	4.53	2.84	2.12	0.99	0.97	0.88	0.70	0.53	
21	0.59	0.72	0.71	1.04	3.78	2.47	2.08	1.22	0.93	0.89	0.65	0.50	
22	0.73	0.72	0.88	0.93	3.02	2.26	2.00	1.23	0.91	0.88	0.67	0.47	
23	0.70	0.70	0.88	1.06	3.27	2.50	1.88	1.06	0.91	0.87	0.66	0.53	
24	0.71	0.66	0.87	1.03	2.89	2.86	1.90	1.11	0.91	0.86	0.66	0.49	
25	0.80	0.65	0.88	1.03	2.55	3.19	1.82	1.05	0.92	0.85	0.64	0.48	
26	0.70	0.60	0.85	1.01	2.29	3.11	1.73	1.05	0.94	0.84	0.69	0.49	
27	0.85	0.62	0.85	0.99	2.35	3.03	1.67	1.06	0.95	0.84	0.63	0.45	
28	0.68	0.71	0.85	1.00	2.22	2.76	1.62	1.05	0.93	0.84	0.66	0.41	
29	0.59	0.70	0.85	1.01	4.14	2.48	1.56	1.01	0.93	0.84	0.67	0.44	
30	0.56	0.67	0.85	0.99	5.12	2.48	1.53	1.05	0.91	0.84		0.43	
31		0.64		1.00	5.38		1.51		0.93	0.84		0.43	
Mean	0.70	0.69	0.72	1.07	2.50	2.88	2.08	1.22	0.96	0.89	0.74	0.57	
Max	0.85	0.80	0.99	1.56	5.38	5.04	2.77	1.48	1.12	1.07	0.82	0.82	5.38
Min	0.56	0.60	0.50	0.85	1.13	2.02	1.51	0.99	0.91	0.84	0.63	0.41	0.41

Annual Max Momentary Gage Height 6.04 M (A.D), at 15.00 Hours, on Aug 31, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.18 M (A.D)
Left Bank Elevation 6.75 M (A.D)
Right Bank Elevation 6.76 M (A.D), Drainage Area 203 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.16	0.08	0.00	0.30	1.12	57.22	12.40	2.88	0.76	0.40	0.24	0.04	
2	0.12	0.20	0.00	0.30	2.10	24.74	13.60	2.76	1.08	0.54	0.24	0.24	
3	0.08	0.14	0.00	0.30	2.70	15.46	11.80	2.35	0.88	0.88	0.22	0.20	
4	0.10	0.00	0.00	0.38	2.52	11.20	9.90	2.25	0.76	0.56	0.20	0.18	
5	0.20	0.00	0.00	0.38	2.30	9.27	9.90	2.10	0.68	0.46	0.22	0.16	
6	0.20	0.00	0.00	3.36	2.25	7.30	9.36	2.00	0.56	0.46	0.22	0.14	
7	0.12	0.00	0.00	3.06	11.00	7.14	9.81	2.15	0.52	0.42	0.24	0.02	
8	0.00	0.04	0.00	0.80	10.50	6.66	8.91	1.90	0.48	0.44	0.18	0.00	
9	0.00	0.00	0.00	1.70	16.42	14.98	8.19	1.90	0.54	0.44	0.16	0.00	
10	0.00	0.00	0.00	1.16	10.90	26.26	6.82	1.75	0.60	0.42	0.18	0.00	
11	0.00	0.00	0.00	1.00	6.90	24.48	6.58	1.65	0.54	0.44	0.16	0.00	
12	0.00	0.00	0.00	1.00	4.86	18.10	6.82	1.50	0.48	0.40	0.14	0.00	
13	0.00	0.00	0.00	1.04	4.09	13.90	8.91	1.80	0.46	0.40	0.06	0.00	
14	0.00	0.00	0.00	1.40	4.79	13.70	8.10	1.85	0.50	0.40	0.10	0.00	
15	0.00	0.00	0.28	1.20	7.62	13.70	6.98	1.60	0.68	0.36	0.12	0.00	
16	0.00	0.00	0.46	1.00	7.38	13.30	6.50	1.55	0.50	0.36	0.14	0.00	
17	0.00	0.06	0.52	0.96	6.74	13.30	6.74	1.45	0.54	0.36	0.08	0.00	
18	0.00	0.10	0.56	0.96	5.21	16.66	7.62	1.45	0.48	0.34	0.04	0.00	
19	0.00	0.10	0.58	0.92	6.66	20.50	7.62	1.00	0.50	0.34	0.00	0.00	
20	0.00	0.04	0.50	0.96	40.41	14.38	7.46	0.58	0.54	0.36	0.00	0.00	
21	0.00	0.04	0.02	0.76	26.12	10.60	7.14	1.50	0.46	0.38	0.00	0.00	
22	0.06	0.04	0.36	0.46	16.54	8.64	6.50	1.55	0.42	0.36	0.00	0.00	
23	0.00	0.00	0.36	0.84	19.54	10.90	5.56	0.84	0.42	0.34	0.00	0.00	
24	0.02	0.00	0.34	0.72	14.98	14.62	5.70	1.04	0.42	0.32	0.00	0.00	
25	0.20	0.00	0.36	0.72	11.40	18.58	5.14	0.80	0.44	0.30	0.00	0.00	
26	0.00	0.00	0.30	0.64	8.91	17.62	4.51	0.80	0.48	0.28	0.00	0.00	
27	0.30	0.00	0.30	0.58	9.45	16.66	4.09	0.84	0.50	0.28	0.00	0.00	
28	0.00	0.02	0.30	0.60	8.28	13.50	3.74	0.80	0.46	0.28	0.00	0.00	
29	0.00	0.00	0.30	0.64	31.66	10.70	3.36	0.64	0.46	0.28	0.00	0.00	
30	0.00	0.00	0.30	0.58	60.32	10.70	3.18	0.80	0.42	0.28		0.00	
31		0.00		0.60	71.50		3.06		0.46	0.28		0.00	
Total	1.56	0.86	5.84	29.32	435.17	474.77	226.00	46.08	17.02	12.16	2.94	0.98	1252.70 CMSDAY
Mean	0.05	0.03	0.19	0.95	14.04	15.83	7.29	1.54	0.55	0.39	0.10	0.03	3.42 CMS
Max	0.30	0.20	0.58	3.36	71.50	57.22	13.60	2.88	1.08	0.88	0.24	0.24	71.50 CMS
Min	0.00	0.00	0.00	0.30	1.12	6.66	3.06	0.58	0.42	0.28	0.00	0.00	0.00 CMS
Runoff	0.135	0.074	0.505	2.533	37.599	41.020	19.526	3.981	1.471	1.051	0.254	0.085	108.233 MCM

Momentary Peak 104.39 CMS, at 6.04 M (A.D), at 15.00 Hours, on Aug 31, 1991
Runoff Yield 16.86 Liters/Second/Square KM, Momentary Peak Yield 514.22 Liters/Second/Square KM

WATER YEAR 1991

NAKHON NAYOK RIVER BASIN

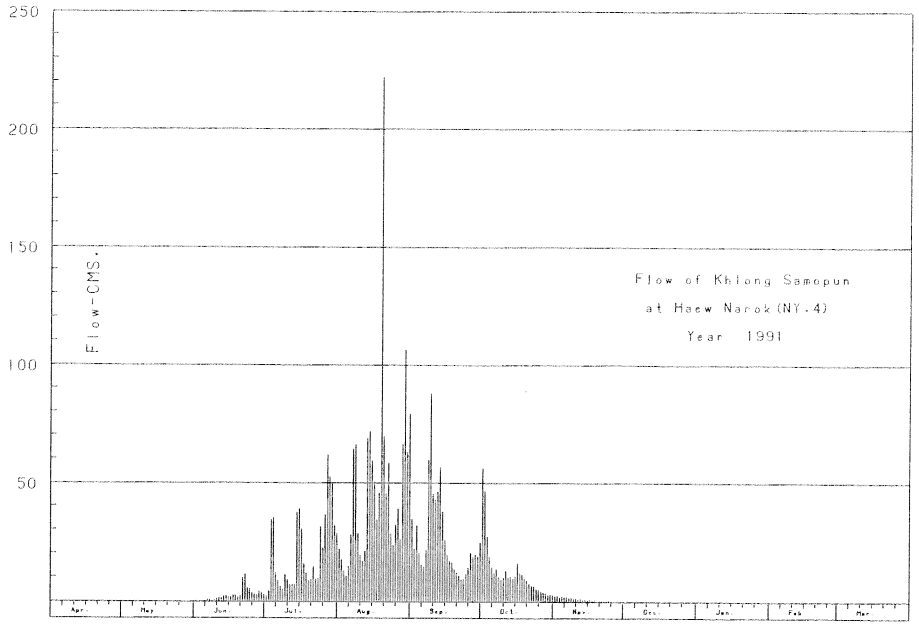
Khlong Samo Pun at Haew Narok, Prachin Buri (Ny.4)

Location	Lat. 14°-17'-23" N., Long. 101°-24'-16" E., on left bank at the bridge of Chanthaburi-Khao Yai Highway, Amphoe Muang, Prachin Buri.
Drainage Area	128 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+376.10 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank at the abutment of the bridge.
Elevation	+382.580 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1986 to date.
Rating Operation	
Period of Rating	1986 to date.
Rated by Float	-
Rated by Current Meter	1986 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 81 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	376.40	376.33	376.53	376.80	377.53	377.78	378.13	376.84	376.57	376.48	376.42	376.36	
2	376.39	376.33	376.52	376.97	377.41	377.53	377.98	376.82	376.58	376.48	376.42	376.35	
3	376.39	376.32	376.52	377.78	377.28	377.74	377.65	376.80	376.57	376.47	376.42	376.35	
4	376.38	376.32	376.52	377.79	377.22	377.48	377.44	376.80	376.57	376.47	376.42	376.35	
5	376.37	376.31	376.60	377.27	377.34	377.36	377.33	376.80	376.56	376.46	376.42	376.35	
6	376.36	376.30	376.69	377.15	377.66	377.33	377.26	376.78	376.56	376.47	376.42	376.34	
7	376.35	376.30	376.63	377.06	378.24	377.52	377.30	376.76	376.56	376.48	376.42	376.34	
8	376.35	376.29	376.62	376.99	378.27	378.18	377.21	376.75	376.55	376.48	376.41	376.34	
9	376.34	376.29	376.66	377.24	377.68	378.52	377.16	376.74	376.53	376.51	376.41	376.33	
10	376.33	376.29	376.73	377.16	377.46	377.96	377.19	376.72	376.53	376.51	376.41	376.33	
11	376.33	376.29	376.74	377.10	377.40	377.92	377.29	376.71	376.52	376.51	376.41	376.33	
12	376.33	376.30	376.76	377.08	377.50	377.98	377.20	376.71	376.51	376.50	376.41	376.33	
13	376.32	376.32	376.80	377.10	378.30	378.13	377.21	376.70	376.51	376.49	376.40	376.32	
14	376.34	376.32	376.85	377.83	378.34	377.84	377.19	376.68	376.51	376.48	376.40	376.31	
15	376.33	376.32	376.80	377.86	378.17	377.62	377.21	376.65	376.50	376.48	376.40	376.31	
16	376.32	376.33	376.77	377.71	378.04	377.46	377.37	376.65	376.51	376.47	376.39	376.30	
17	376.31	376.32	376.87	377.37	377.78	377.40	377.26	376.64	376.51	376.47	376.39	376.30	
18	376.31	376.33	376.83	377.25	377.97	377.38	377.23	376.64	376.50	376.47	376.39	376.29	
19	376.30	376.32	376.77	377.16	379.49	377.31	377.19	376.63	376.49	376.46	376.38	376.29	
20	376.29	376.32	376.81	377.16	378.31	377.26	377.15	376.63	376.48	376.46	376.37	376.28	
21	376.34	376.33	377.19	377.33	377.96	377.22	377.10	376.63	376.48	376.45	376.37	376.28	
22	376.40	376.47	377.25	377.18	378.16	377.17	377.07	376.62	376.48	376.45	376.37	376.28	
23	376.39	376.44	377.03	377.18	377.67	377.17	377.05	376.61	376.47	376.44	376.37	376.28	
24	376.38	376.43	377.00	377.73	377.57	377.25	377.01	376.61	376.47	376.44	376.36	376.28	
25	376.37	376.42	376.93	377.54	377.74	377.32	376.98	376.60	376.47	376.44	376.36	376.27	
26	376.38	376.41	376.88	377.81	377.86	377.49	376.96	376.59	376.47	376.43	376.36	376.27	
27	376.36	376.40	376.88	378.21	377.62	377.44	376.94	376.59	376.47	376.43	376.36	376.27	
28	376.36	376.41	376.95	378.07	378.27	377.46	376.91	376.58	376.47	376.42	376.36	376.26	
29	376.35	376.43	376.93	378.03	378.71	377.45	376.89	376.58	376.47	376.42	376.36	376.26	
30	376.34	376.44	376.86	377.74	378.22	377.59	376.87	376.57	376.47	376.42		376.25	
31		376.64		377.67	378.43		376.86		376.48	376.42		376.25	
Mean	376.35	376.36	376.80	377.43	377.92	377.58	377.21	376.68	376.51	376.46	376.39	376.30	
Max	376.40	376.64	377.25	378.21	379.49	378.52	378.13	376.84	376.58	376.51	376.42	376.36	379.49
Min	376.29	376.29	376.52	376.80	377.22	377.17	376.86	376.57	376.47	376.42	376.36	376.25	376.25

Annual Max Momentary Gage Height 379.90 M (MSL), at 16.00 Hours, on Aug 19, 1991
Zero Gage at Bottom Elevation 376.10 M (MSL), River Bed 375.63 M (MSL)
Left Bank Elevation 383.01 M (MSL)
Right Bank Elevation 383.56 M (MSL), Drainage Area 128 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.19	2.10	22.43	34.82	56.87	2.54	0.31	0.08	0.02	0.00	
2	0.00	0.00	0.16	4.60	17.60	22.43	46.78	2.32	0.34	0.08	0.02	0.00	
3	0.00	0.00	0.16	34.82	12.84	32.46	27.70	2.10	0.31	0.07	0.02	0.00	
4	0.00	0.00	0.16	35.41	10.86	20.40	18.80	2.10	0.31	0.07	0.02	0.00	
5	0.00	0.00	0.40	12.51	14.98	15.72	14.61	2.10	0.28	0.06	0.02	0.00	
6	0.00	0.00	0.94	8.80	28.18	14.61	12.18	1.88	0.28	0.07	0.02	0.00	
7	0.00	0.00	0.58	6.52	64.62	22.02	13.50	1.66	0.28	0.08	0.02	0.00	
8	0.00	0.00	0.52	5.00	66.81	60.32	10.53	1.55	0.25	0.08	0.01	0.00	
9	0.00	0.00	0.76	11.52	29.14	87.90	9.08	1.44	0.19	0.13	0.01	0.00	
10	0.00	0.00	1.33	9.08	19.60	45.56	9.92	1.22	0.19	0.13	0.01	0.00	
11	0.00	0.00	1.44	7.40	17.20	43.12	13.17	1.11	0.16	0.13	0.01	0.00	
12	0.00	0.00	1.66	6.96	21.20	46.78	10.20	1.11	0.13	0.10	0.01	0.00	
13	0.00	0.00	2.10	7.40	69.00	56.87	10.53	1.00	0.13	0.09	0.00	0.00	
14	0.00	0.00	2.65	37.77	72.24	38.36	9.92	0.88	0.13	0.08	0.00	0.00	
15	0.00	0.00	2.10	39.54	59.63	26.26	10.53	0.70	0.10	0.08	0.00	0.00	
16	0.00	0.00	1.77	30.69	50.72	19.60	16.09	0.70	0.13	0.07	0.00	0.00	
17	0.00	0.00	2.87	16.09	34.82	17.20	12.18	0.64	0.13	0.07	0.00	0.00	
18	0.00	0.00	2.43	11.85	46.17	16.46	11.19	0.64	0.10	0.07	0.00	0.00	
19	0.00	0.00	1.77	9.08	222.20	13.87	9.92	0.58	0.09	0.06	0.00	0.00	
20	0.00	0.00	2.21	9.08	69.81	12.18	8.80	0.58	0.08	0.06	0.00	0.00	
21	0.00	0.00	9.92	14.61	45.56	10.86	7.40	0.58	0.08	0.05	0.00	0.00	
22	0.00	0.07	11.85	9.64	58.94	9.36	6.74	0.52	0.08	0.05	0.00	0.00	
23	0.00	0.04	5.86	9.64	28.66	9.36	6.30	0.46	0.07	0.04	0.00	0.00	
24	0.00	0.03	5.20	31.87	24.07	11.85	5.42	0.46	0.07	0.04	0.00	0.00	
25	0.00	0.02	3.80	22.84	32.46	14.24	4.80	0.40	0.07	0.04	0.00	0.00	
26	0.00	0.01	2.98	36.59	39.54	20.80	4.40	0.37	0.07	0.03	0.00	0.00	
27	0.00	0.00	2.98	62.43	26.26	18.80	4.00	0.37	0.07	0.03	0.00	0.00	
28	0.00	0.01	4.20	52.76	66.81	19.60	3.40	0.34	0.07	0.02	0.00	0.00	
29	0.00	0.03	3.80	50.04	106.74	19.20	3.09	0.34	0.07	0.02	0.00	0.00	
30	0.00	0.04	2.76	32.46	63.16	24.89	2.87	0.31	0.07	0.02		0.00	
31		0.64		28.66	79.77		2.76		0.08	0.02		0.00	
Total	0.00	0.89	79.55	657.76	1522.02	805.90	383.68	31.00	4.72	2.02	0.19	0.00	3487.73 CMSDAY
Mean	0.00	0.03	2.65	21.22	49.10	26.86	12.38	1.03	0.15	0.07	0.01	0.00	9.53 CMS
Max	0.00	0.64	11.85	62.43	222.20	87.90	56.87	2.54	0.34	0.13	0.02	0.00	222.20 CMS
Min	0.00	0.00	0.16	2.10	10.86	9.36	2.76	0.31	0.07	0.02	0.00	0.00	0.00 CMS
Runoff	0.000	0.077	6.873	56.830	131.503	69.630	33.150	2.678	0.408	0.175	0.016	0.000	301.340 MCM

Momentary Peak 309.00 CMS, at 379.90 M (MSL), at 16.00 Hours, on Aug 19, 1991
Runoff Yield 74.45 Liters/Second/Square KM, Momentary Peak Yield 2414.06 Liters/Second/Square KM

WATER YEAR 1991

NAKHON NAYOK RIVER BASIN

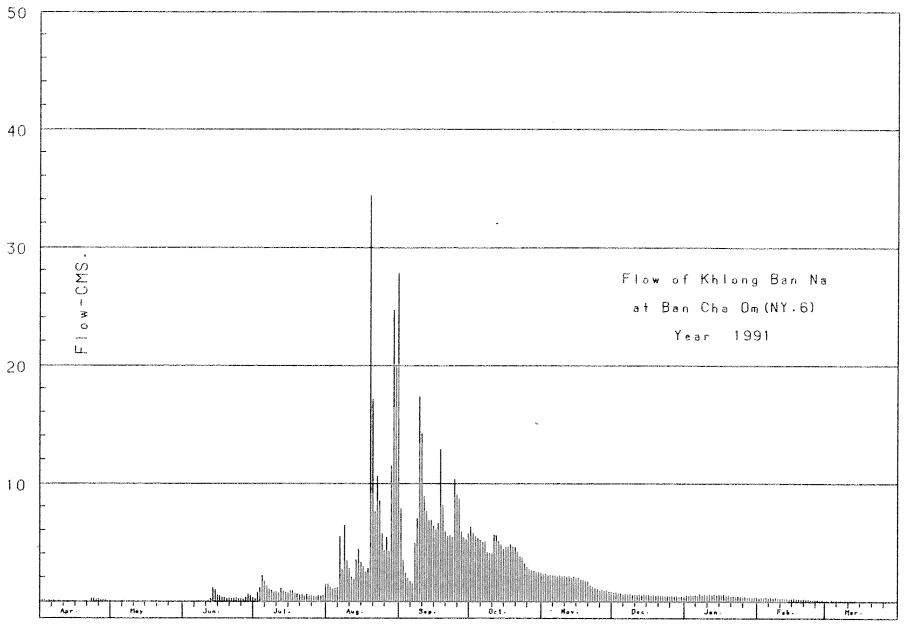
Khlong Ban Na at Ban Cha Om, Saraburi (Ny.6)

Location	Lat. 14°-24′-34″ N., Long. 101°-07′-30″ E., on right bank at the bridge of Ban Cha Om-Ban Kariang Kho Ma road, Tambon Cha Om, Amphoe Kaeng Khoi, Saraburi.
Drainage Area	116 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 50 meters from the top staff gage.
Elevation	+4.405 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00, and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1988 to date.
Rating Operation	
Period of Rating	1988 to date.
Rated by Float	-
Rated by Current Meter	1988 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relaton defined by 28 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.65	0.60	0.60	0.70	1.09	1.77	1.22	0.82	0.56	0.51	0.45	0.39	
2	0.63	0.60	0.60	0.91	1.01	1.38	1.18	0.82	0.56	0.51	0.45	0.39	
3	0.62	0.59	0.60	0.99	0.98	1.24	1.15	0.81	0.55	0.51	0.45	0.39	
4	0.62	0.59	0.60	1.21	0.98	1.16	1.14	0.81	0.54	0.51	0.45	0.39	
5	0.62	0.59	0.60	1.13	1.01	1.13	1.12	0.81	0.53	0.51	0.45	0.39	
6	0.61	0.59	0.60	1.03	1.59	1.08	1.11	0.80	0.53	0.51	0.45	0.39	
7	0.61	0.59	0.60	0.98	1.28	1.10	1.11	0.80	0.53	0.53	0.45	0.39	
8	0.61	0.59	0.60	0.94	1.66	1.28	1.03	0.80	0.53	0.52	0.44	0.38	
9	0.61	0.59	0.60	0.92	1.38	1.97	1.02	0.80	0.52	0.52	0.44	0.38	
10	0.60	0.59	0.60	0.91	1.29	1.78	1.02	0.79	0.52	0.52	0.44	0.38	
11	0.60	0.58	0.60	0.90	1.18	1.43	1.16	0.79	0.52	0.52	0.43	0.38	
12	0.60	0.58	0.71	0.98	1.16	1.33	1.16	0.79	0.52	0.52	0.43	0.38	
13	0.59	0.58	1.00	0.93	1.38	1.27	1.11	0.78	0.52	0.52	0.43	0.38	
14	0.59	0.58	0.97	0.90	1.49	1.27	1.09	0.78	0.52	0.52	0.42	0.37	
15	0.59	0.58	0.83	0.89	1.36	1.23	1.05	0.77	0.52	0.52	0.42	0.37	
16	0.58	0.58	0.80	0.95	1.31	1.20	1.07	0.77	0.52	0.52	0.42	0.37	
17	0.58	0.60	0.76	0.93	1.25	1.25	1.07	0.75	0.51	0.52	0.42	0.37	
18	0.58	0.59	0.73	0.89	1.29	1.70	1.09	0.74	0.51	0.51	0.41	0.37	
19	0.58	0.59	0.70	0.85	2.92	1.37	1.07	0.73	0.51	0.51	0.41	0.37	
20	0.58	0.59	0.69	0.85	2.24	1.19	1.07	0.72	0.51	0.50	0.41	0.37	
21	0.58	0.58	0.69	0.83	1.75	1.15	1.03	0.67	0.51	0.49	0.41	0.37	
22	0.71	0.58	0.72	0.81	1.93	1.16	1.00	0.64	0.50	0.49	0.40	0.37	
23	0.68	0.58	0.72	0.84	1.81	1.14	0.98	0.63	0.50	0.49	0.40	0.37	
24	0.67	0.58	0.70	0.82	1.61	1.53	0.93	0.61	0.50	0.49	0.40	0.37	
25	0.67	0.58	0.67	0.81	1.47	1.44	0.90	0.60	0.50	0.48	0.40	0.37	
26	0.66	0.58	0.65	0.80	1.58	1.41	0.87	0.60	0.49	0.47	0.39	0.37	
27	0.63	0.58	0.77	0.79	1.47	1.19	0.86	0.59	0.49	0.47	0.39	0.37	
28	0.62	0.59	0.87	0.80	1.98	1.14	0.85	0.59	0.49	0.46	0.39	0.37	
29	0.62	0.59	0.80	0.81	2.55	1.13	0.84	0.58	0.49	0.46	0.39	0.37	
30	0.61	0.59	0.72	0.80	2.36	1.17	0.84	0.57	0.48	0.46		0.37	
31		0.59		1.07	2.67		0.83		0.48	0.46		0.37	
Mean	0.62	0.59	0.70	0.90	1.58	1.32	1.03	0.73	0.51	0.50	0.42	0.38	
Max	0.71	0.60	1.00	1.21	2.92	1.97	1.22	0.82	0.56	0.53	0.45	0.39	2.92
Min	0.58	0.58	0.60	0.70	0.98	1.08	0.83	0.57	0.48	0.46	0.39	0.37	0.37

Annual Max Momentary Gage Height 3.25 M (A.D), at 6.00 Hours, on Aug 31, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.53 M (A.D)
Left Bank Elevation 4.17 M (A.D)
Right Bank Elevation 4.22 M (A.D), Drainage Area 116 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.20	0.10	0.10	0.30	1.56	7.98	6.34	2.36	0.80	0.55	0.35	0.16	
2	0.16	0.10	0.10	0.84	1.24	3.54	5.88	2.36	0.80	0.55	0.35	0.16	
3	0.14	0.09	0.10	1.16	1.12	2.48	5.55	2.28	0.75	0.55	0.35	0.16	
4	0.14	0.09	0.10	2.27	1.12	1.96	5.44	2.28	0.70	0.55	0.35	0.16	
5	0.14	0.09	0.10	1.78	1.24	1.78	5.22	2.28	0.65	0.55	0.35	0.16	
6	0.12	0.09	0.10	1.32	5.59	1.52	5.11	2.20	0.65	0.55	0.35	0.16	
7	0.12	0.09	0.10	1.12	2.76	5.00	5.11	2.20	0.65	0.65	0.35	0.16	
8	0.12	0.09	0.10	0.96	6.48	7.06	4.23	2.20	0.65	0.60	0.32	0.12	
9	0.12	0.09	0.10	0.88	3.54	17.46	4.12	2.20	0.60	0.60	0.32	0.12	
10	0.10	0.09	0.10	0.84	2.83	14.28	4.12	2.14	0.60	0.60	0.32	0.12	
11	0.10	0.08	0.10	0.80	2.08	9.02	5.66	2.14	0.60	0.60	0.29	0.12	
12	0.10	0.08	0.32	1.12	1.96	7.69	5.66	2.14	0.60	0.60	0.29	0.12	
13	0.09	0.08	1.20	0.92	3.54	6.94	5.11	2.08	0.60	0.60	0.29	0.12	
14	0.09	0.08	1.08	0.80	4.51	6.94	4.89	2.08	0.60	0.60	0.26	0.08	
15	0.09	0.08	0.59	0.77	3.38	6.46	4.45	2.02	0.60	0.60	0.26	0.08	
16	0.08	0.08	0.50	1.00	2.98	6.10	4.67	2.02	0.60	0.60	0.26	0.08	
17	0.08	0.10	0.42	0.92	2.55	6.70	4.67	1.90	0.55	0.60	0.26	0.08	
18	0.08	0.09	0.36	0.77	2.83	13.00	4.89	1.84	0.55	0.55	0.23	0.08	
19	0.08	0.09	0.30	0.65	34.46	8.21	4.67	1.78	0.55	0.55	0.23	0.08	
20	0.08	0.09	0.28	0.65	17.16	5.99	4.67	1.72	0.55	0.50	0.23	0.08	
21	0.08	0.08	0.28	0.59	7.70	5.55	4.23	1.42	0.55	0.47	0.23	0.08	
22	0.32	0.08	0.34	0.53	10.67	5.66	3.90	1.24	0.50	0.47	0.20	0.08	
23	0.26	0.08	0.34	0.62	8.57	5.44	3.72	1.18	0.50	0.47	0.20	0.08	
24	0.24	0.08	0.30	0.56	5.83	10.45	3.27	1.06	0.50	0.47	0.20	0.08	
25	0.24	0.08	0.24	0.53	4.33	9.16	3.00	1.00	0.50	0.44	0.20	0.08	
26	0.22	0.08	0.20	0.50	5.48	8.74	2.76	1.00	0.47	0.41	0.16	0.08	
27	0.16	0.08	0.44	0.48	4.33	5.99	2.68	0.95	0.47	0.41	0.16	0.08	
28	0.14	0.09	0.71	0.50	11.62	5.44	2.60	0.95	0.47	0.38	0.16	0.08	
29	0.14	0.09	0.50	0.53	24.75	5.33	2.52	0.90	0.47	0.38	0.16	0.08	
30	0.12	0.09	0.34	0.50	20.04	5.77	2.52	0.85	0.44	0.38		0.08	
31		0.09		1.48	27.82		2.44		0.44	0.38		0.08	
Total	4.15	2.69	9.84	26.69	234.07	207.64	134.10	52.77	17.96	16.21	7.68	3.28	717.08 CMSDAY
Mean	0.14	0.09	0.33	0.86	7.55	6.92	4.33	1.76	0.58	0.52	0.26	0.11	1.96 CMS
Max	0.32	0.10	1.20	2.27	34.46	17.46	6.34	2.36	0.80	0.65	0.35	0.16	34.46 CMS
Min	0.08	0.08	0.10	0.30	1.12	1.52	2.44	0.85	0.44	0.38	0.16	0.08	0.08 CMS
Runoff	0.359	0.232	0.850	2.306	20.224	17.940	11.586	4.559	1.552	1.401	0.664	0.283	61.956 MCM

Momentary Peak 43.75 CMS, at 3.25 M (A.D), at 6.00 Hours, on Aug 31, 1991

Runoff Yield 16.89 Liters/Second/Square KM, Momentary Peak Yield 377.16 Liters/Second/Square KM

WATER YEAR 1991

LOPBURI RIVER BASIN

Lopburi River at Ban Phraek, Phra Nakhon Si Ayutthaya (L.5)

Location — Lat. 14°38'40" N., Long. 100°34'46" E., on right bank in front of Amphoe Ban Phraek Office, Amphoe Ban Phraek, Phra Nakhon Si Ayutthaya.

Drainage Area — Flood plain.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On right bank about 32 meters from the top staff gage.

Elevation — +5.750 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1984 to date.

Rating Operation

Period of Rating — 1985 to date.

Rated by Float —

Rated by Current Meter — 1985 to date.

Stability of Channel Regimes — Fairly stable with variable water surface slope.

Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 16 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

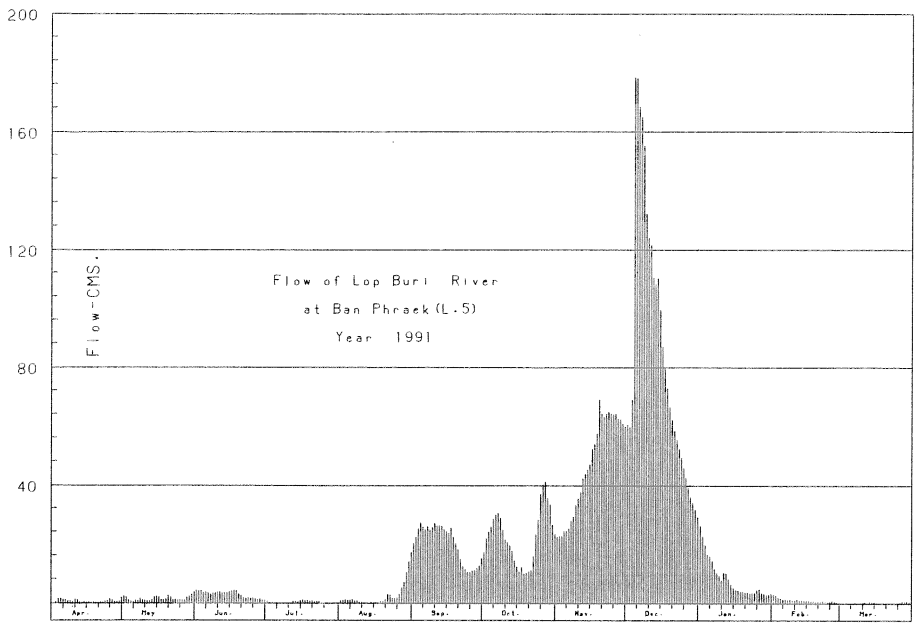
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	-0.13	0.39	0.65	0.03	0.07	2.33	2.07	2.51	4.15	2.78	0.49	-0.18	
2	-0.05	0.32	0.66	-0.02	0.15	2.51	2.46	2.52	4.14	2.53	0.41	-0.13	
3	0.21	0.15	0.64	-0.05	0.15	2.71	2.64	2.54	4.27	2.29	0.32	-0.08	
4	0.25	0.01	0.59	-0.07	0.15	2.86	2.76	2.65	4.78	2.02	0.25	-0.08	
5	0.20	-0.04	0.60	-0.10	0.16	2.75	2.94	2.67	4.78	1.94	0.22	-0.10	
6	0.13	0.08	0.53	-0.14	0.15	2.70	3.01	2.71	4.75	1.80	0.19	-0.13	
7	0.05	0.09	0.49	-0.15	0.10	2.76	3.06	2.90	4.74	1.51	0.17	-0.13	
8	0.02	0.24	0.51	-0.18	0.05	2.70	2.95	2.97	4.71	1.38	0.16	-0.11	
9	0.01	0.16	0.54	-0.21	-0.01	2.74	2.69	3.21	4.63	1.25	0.16	-0.08	
10	0.18	0.09	0.57	-0.24	-0.04	2.85	2.44	3.31	4.60	1.11	0.16	-0.06	
11	0.18	0.08	0.59	-0.21	-0.06	2.78	2.36	3.42	4.59	1.38	0.15	-0.04	
12	-0.01	0.05	0.56	0.06	-0.08	2.80	2.29	3.62	4.54	1.34	0.13	-0.02	
13	-0.03	0.15	0.55	0.01	-0.08	2.78	2.11	3.69	4.53	1.15	0.11	0.01	
14	-0.02	0.35	0.57	0.03	-0.07	2.70	1.81	3.74	4.54	0.89	0.10	-0.01	
15	-0.02	0.35	0.59	0.10	-0.06	2.64	1.58	3.81	4.49	0.76	0.09	-0.02	
16	-0.03	0.30	0.62	0.11	-0.05	2.61	1.42	3.97	4.42	0.71	0.07	-0.05	
17	-0.03	0.19	0.68	0.09	-0.04	2.74	1.56	4.02	4.37	0.66	0.05	-0.07	
18	-0.05	0.14	0.63	0.08	0.00	2.51	1.34	4.10	4.31	0.64	0.05	-0.07	
19	-0.04	0.22	0.51	0.06	0.04	2.34	1.36	4.27	4.24	0.61	0.03	-0.07	
20	-0.05	0.41	0.40	0.05	0.15	2.18	1.40	4.21	4.18	0.59	0.03	-0.07	
21	-0.04	0.35	0.28	0.05	0.50	1.84	1.47	4.20	4.12	0.57	0.03	-0.09	
22	-0.05	0.18	0.26	0.05	0.44	1.62	1.95	4.21	4.05	0.56	0.03	-0.10	
23	0.04	0.16	0.27	0.01	0.28	1.49	2.58	4.22	3.98	0.54	0.01	-0.09	
24	0.07	0.15	0.26	-0.07	0.23	1.41	2.91	4.21	3.88	0.57	0.01	-0.10	
25	0.24	0.13	0.25	-0.14	0.29	1.40	3.39	4.21	3.77	0.69	0.02	-0.10	
26	0.12	0.11	0.24	-0.15	0.48	1.44	3.53	4.21	3.64	0.70	0.04	-0.04	
27	0.02	0.17	0.20	-0.17	0.78	1.47	3.58	4.19	3.48	0.56	0.03	0.01	
28	-0.03	0.30	0.19	-0.16	0.99	1.53	3.32	4.18	3.34	0.49	-0.07	0.01	
29	0.03	0.39	0.16	-0.18	1.40	1.63	3.22	4.16	3.24	0.45	-0.15	0.01	
30	0.28	0.46	0.10	-0.15	1.75	1.86	2.80	4.14	3.13	0.46		0.01	
31		0.62		-0.10	2.08		2.58		2.97	0.50		0.01	
Mean	0.05	0.22	0.46	-0.06	0.32	2.29	2.44	3.63	4.17	1.08	0.11	-0.06	
Max	0.28	0.62	0.68	0.11	2.08	2.86	3.58	4.27	4.78	2.78	0.49	0.01	4.78
Min	-0.13	-0.04	0.10	-0.24	-0.08	1.40	1.34	2.51	2.97	0.45	-0.15	-0.18	-0.24

Annual Max Momentary Gage Height — 4.82 M (A.D), at 12.00 Hours, on Dec 4, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -1.61 M (A.D)

Left Bank Elevation — 5.68 M (A.D)

Right Bank Elevation — 5.60 M (A.D), Drainage Area Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.21	2.64	4.40	0.82	0.98	20.29	17.30	22.63	60.55	26.32	3.24	0.06	
2	0.50	2.22	4.48	0.62	1.30	22.63	21.98	22.76	59.96	22.89	2.76	0.21	
3	1.56	1.30	4.32	0.50	1.30	25.34	24.36	23.02	69.31	19.78	2.22	0.38	
4	1.80	0.74	3.93	0.42	1.30	27.56	26.04	24.50	178.40	16.80	1.80	0.38	
5	1.50	0.54	4.00	0.30	1.34	25.90	28.84	24.78	178.40	16.00	1.62	0.30	
6	1.22	1.02	3.51	0.18	1.30	25.20	29.97	25.34	168.50	14.60	1.46	0.21	
7	0.90	1.06	3.24	0.15	1.10	26.04	30.82	28.20	165.20	11.70	1.38	0.21	
8	0.78	1.74	3.37	0.06	0.90	25.20	29.00	29.32	155.30	10.52	1.34	0.27	
9	0.74	1.34	3.58	0.00	0.66	25.76	25.06	33.50	132.40	9.35	1.34	0.38	
10	1.42	1.06	3.79	0.00	0.54	27.40	21.72	35.52	124.00	8.09	1.34	0.46	
11	1.42	1.02	3.93	0.00	0.46	26.32	20.68	37.94	121.75	10.52	1.30	0.54	
12	0.66	0.90	3.72	0.94	0.38	26.60	19.78	42.38	110.50	10.16	1.22	0.62	
13	0.58	1.30	3.65	0.74	0.38	26.32	17.71	44.06	108.25	8.45	1.14	0.74	
14	0.62	2.40	3.79	0.82	0.42	25.20	14.70	45.38	110.50	6.32	1.10	0.66	
15	0.62	2.40	3.93	1.10	0.46	24.36	12.40	47.30	99.70	5.28	1.06	0.62	
16	0.58	2.10	4.16	1.14	0.50	23.94	10.88	52.38	87.10	4.88	0.98	0.50	
17	0.58	1.46	4.64	1.06	0.54	25.76	12.20	54.24	79.99	4.48	0.90	0.42	
18	0.50	1.26	4.24	1.02	0.70	22.63	10.16	57.60	72.97	4.32	0.90	0.42	
19	0.54	1.62	3.37	0.94	0.86	20.42	10.34	69.31	66.82	4.08	0.82	0.42	
20	0.50	2.76	2.70	0.90	1.30	18.48	10.70	64.33	62.32	3.93	0.82	0.42	
21	0.54	2.40	1.98	0.90	3.30	15.00	11.33	63.50	58.78	3.79	0.82	0.34	
22	0.50	1.42	1.86	0.90	2.94	12.80	16.10	64.33	55.50	3.72	0.82	0.30	
23	0.86	1.34	1.92	0.74	1.98	11.51	23.54	65.16	52.72	3.58	0.74	0.34	
24	0.98	1.30	1.86	0.42	1.68	10.79	28.36	64.33	49.40	3.79	0.74	0.30	
25	1.74	1.22	1.80	0.18	2.04	10.70	37.28	64.33	46.19	4.72	0.78	0.30	
26	1.18	1.14	1.74	0.15	3.18	11.06	40.36	64.33	42.86	4.80	0.86	0.54	
27	0.78	1.38	1.50	0.09	5.44	11.33	41.46	62.91	39.26	3.72	0.82	0.74	
28	0.58	2.10	1.46	0.12	7.12	11.90	35.74	62.32	36.18	3.24	0.42	0.74	
29	0.82	2.64	1.34	0.06	10.70	12.90	33.70	61.14	34.10	3.00	0.15	0.74	
30	1.98	3.06	1.10	0.15	14.10	15.20	26.60	59.96	32.04	3.06		0.74	
31		4.16		0.30	17.40		23.54		29.32	3.30		0.74	
Total	27.19	53.04	93.31	15.72	86.60	614.54	712.65	1416.80	2688.27	259.19	34.89	14.04	6016.24 CMSDAY
Mean	0.91	1.71	3.11	0.51	2.79	20.48	22.99	47.23	86.72	8.36	1.20	0.45	16.44 CMS
Max	1.98	4.16	4.64	1.14	17.40	27.56	41.46	69.31	178.40	26.32	3.24	0.74	178.40 CMS
Min	0.21	0.54	1.10	0.00	0.38	10.70	10.16	22.63	29.32	3.00	0.15	0.06	0.00 CMS
Runoff	2.349	4.583	8.062	1.358	7.482	53.096	61.573	122.412	232.267	22.394	3.014	1.213	519.803 MCM

Momentary Peak 191.60 CMS, at 4.82 M (A.D), at 12.00 Hours, on Dec 4, 1991

Runoff Yield ********* Liters/Second/Square KM, Momentary Peak Yield ********* Liters/Second/Square KM

WATER YEAR 1991

PRACHIN BURI RIVER BASIN

Prachin Buri River at Kabin Buri, Prachin Buri (Kgt.3)

Location — Lat. 13°-59'-05" N., Long. 101°-42'-32" E., on left bank infront of Amphoe Kabin Buri Office and about 500 meters downstream from the confluence of Lam Prong and Lam Hanuman, Amphoe Kabin Buri, Prachin Buri.

Drainage Area — 7,502 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — -0.49 m. (M.S.L.)

Bench Mark — B.M.-H.D.

Location — On left bank infront of Amphoe Kabin Buri Office.

Elevation — +10.795 m. (M.S.L.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1941 to date.

Rating Operation

Period of Rating — 1941-1943, 1945, 1964 to date.

Rated by Float — -

Rated by Current Meter — 1941-1943, 1945, 1964 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — Overbank flow starts at elevation + 9.42 m.(M.S.L.) and is included.

General Description — Records good. Stage-discharge relation defined by 40 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

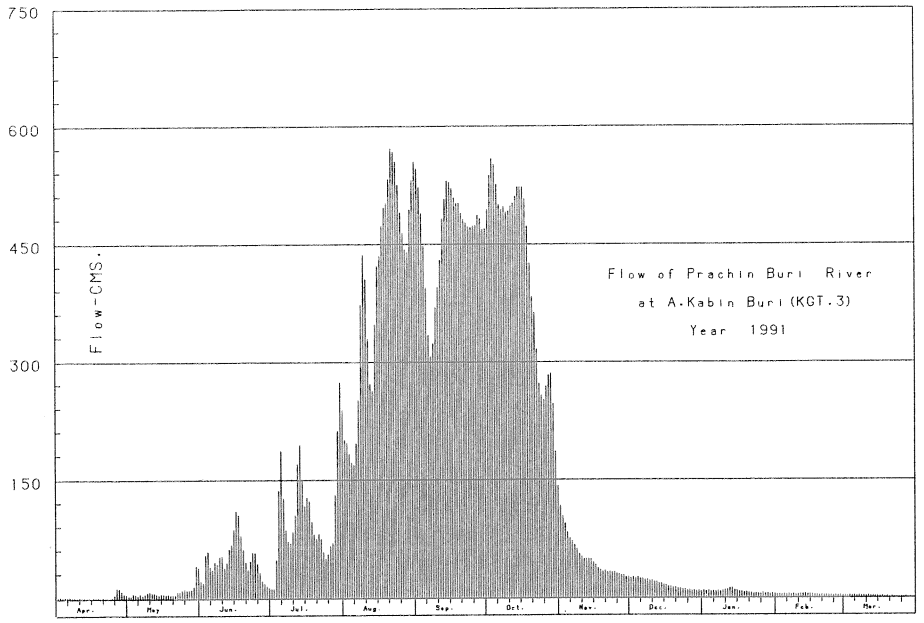
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.40	0.56	1.43	1.03	5.01	9.32	8.74	3.69	1.58	0.91	0.65	0.51	
2	0.41	0.51	1.36	1.06	4.94	9.06	9.21	3.43	1.60	0.90	0.63	0.51	
3	0.42	0.76	2.38	2.24	4.75	8.68	9.46	3.26	1.57	0.89	0.63	0.51	
4	0.40	0.67	2.51	4.00	4.58	8.20	9.37	3.02	1.59	0.88	0.64	0.51	
5	0.41	0.57	2.02	4.82	4.54	7.56	9.10	2.89	1.56	0.87	0.63	0.51	
6	0.41	0.70	1.89	3.85	4.94	6.80	8.81	2.79	1.52	0.88	0.64	0.50	
7	0.41	0.61	2.18	3.08	5.73	6.47	8.73	2.70	1.50	0.88	0.64	0.50	
8	0.37	0.68	2.09	2.80	7.29	6.67	8.77	2.57	1.48	0.88	0.64	0.50	
9	0.37	0.84	2.34	2.73	8.06	7.25	8.70	2.43	1.46	0.90	0.63	0.50	
10	0.38	0.87	2.34	3.04	7.70	7.56	8.71	2.32	1.45	0.98	0.65	0.50	
11	0.37	0.82	1.96	3.47	6.74	7.99	8.78	2.26	1.42	0.98	0.65	0.50	
12	0.37	0.77	2.15	4.55	6.00	8.61	8.83	2.25	1.38	1.10	0.68	0.50	
13	0.36	0.68	2.57	4.91	5.89	8.88	8.93	2.27	1.34	1.06	0.68	0.48	
14	0.36	0.65	2.71	4.23	6.98	9.15	9.06	2.24	1.31	0.97	0.66	0.46	
15	0.36	0.70	3.11	3.67	7.89	9.12	9.05	2.16	1.27	0.92	0.64	0.45	
16	0.36	0.67	3.56	3.85	8.05	9.04	9.05	2.06	1.23	0.88	0.62	0.45	
17	0.36	0.68	3.48	3.79	8.49	8.90	8.89	1.97	1.18	0.83	0.60	0.44	
18	0.35	0.66	2.93	3.29	8.77	8.83	8.50	1.89	1.15	0.83	0.58	0.43	
19	0.34	0.63	2.57	2.98	8.82	8.82	7.94	1.85	1.13	0.82	0.58	0.42	
20	0.34	0.60	2.15	2.85	9.16	8.69	7.42	1.86	1.10	0.80	0.56	0.40	
21	0.33	0.64	1.92	2.97	9.60	8.59	7.16	1.83	1.08	0.73	0.56	0.39	
22	0.34	0.87	2.18	2.87	9.56	8.55	6.59	1.82	1.04	0.71	0.55	0.40	
23	0.35	0.83	2.46	2.48	9.42	8.48	6.02	1.82	1.02	0.70	0.55	0.40	
24	0.35	0.99	2.47	2.26	9.09	8.48	5.81	1.81	0.99	0.71	0.53	0.40	
25	0.65	1.01	2.13	2.40	8.69	8.49	5.74	1.77	0.96	0.71	0.52	0.40	
26	1.09	0.94	1.78	2.65	8.39	8.51	5.96	1.72	0.95	0.76	0.52	0.38	
27	1.11	0.96	1.46	2.75	8.15	8.65	6.16	1.70	0.92	0.71	0.53	0.36	
28	0.88	1.00	1.30	3.92	8.10	8.60	6.18	1.67	0.92	0.70	0.52	0.35	
29	0.74	1.19	1.20	5.18	8.74	8.45	5.67	1.62	0.91	0.69	0.51	0.35	
30	0.63	2.06	1.09	6.03	9.15	8.45	4.79	1.60	0.91	0.68		0.37	
31		1.98		5.54	9.41		4.10		0.91	0.66		0.39	
Mean	0.47	0.84	2.19	3.40	7.50	8.36	7.75	2.24	1.24	0.84	0.60	0.44	
Max	1.11	2.06	3.56	6.03	9.60	9.32	9.46	3.69	1.60	1.10	0.68	0.51	9.60
Min	0.33	0.51	1.09	1.03	4.54	6.47	4.10	1.60	0.91	0.66	0.51	0.35	0.33

Annual Max Momentary Gage Height 9.64 M (MSL), at 15.00 Hours, on Aug 21, 1991

Zero Gage at Bottom Elevation -0.49 M (MSL), River Bed -0.63 M (MSL)

Left Bank Elevation 9.84 M (MSL)

Right Bank Elevation 9.41 M (MSL), Drainage Area 7502 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.2	4.0	21.9	12.1	201.7	546.8	494.6	118.4	26.4	9.7	5.2	3.3	
2	2.3	3.3	20.0	12.7	196.8	523.4	536.9	104.5	27.0	9.5	5.0	3.3	
3	2.4	6.9	55.2	49.6	183.7	489.2	559.4	96.0	26.1	9.3	5.0	3.3	
4	2.2	5.6	60.4	137.0	172.7	448.0	551.3	84.0	26.7	9.1	5.1	3.3	
5	2.3	4.1	40.8	188.4	170.1	394.8	527.0	77.5	25.8	8.9	5.0	3.3	
6	2.3	6.0	36.2	128.0	196.8	334.0	500.9	72.6	24.6	9.1	5.1	3.2	
7	2.3	4.7	47.2	87.0	252.1	307.6	493.7	68.5	24.0	9.1	5.1	3.2	
8	1.9	5.7	43.6	73.0	373.2	323.6	497.3	62.8	23.4	9.1	5.1	3.2	
9	1.9	8.3	53.6	69.9	436.1	370.0	491.0	57.2	22.8	9.5	5.0	3.2	
10	2.0	8.9	53.6	85.0	406.0	394.8	491.9	52.8	22.5	11.1	5.2	3.2	
11	1.9	7.9	38.6	106.5	329.2	430.1	498.2	50.4	21.6	11.1	5.2	3.2	
12	1.9	7.0	46.0	170.8	272.0	482.9	502.7	50.0	20.5	13.5	5.7	3.2	
13	1.8	5.7	62.8	194.7	263.7	507.2	511.7	50.8	19.5	12.7	5.7	3.0	
14	1.8	5.2	69.0	150.8	348.4	531.5	523.4	49.6	18.7	10.9	5.4	2.8	
15	1.8	6.0	88.5	117.2	421.6	528.8	522.5	46.4	17.7	9.9	5.1	2.7	
16	1.8	5.6	111.0	128.0	435.2	521.6	522.5	42.4	16.7	9.1	4.8	2.7	
17	1.8	5.7	107.0	124.4	472.6	509.0	508.1	39.0	15.5	8.1	4.5	2.6	
18	1.7	5.4	79.5	97.5	497.3	502.7	473.5	36.2	14.7	8.1	4.2	2.5	
19	1.6	5.0	62.8	82.0	501.8	501.8	425.9	34.8	14.2	7.9	4.2	2.4	
20	1.6	4.5	46.0	75.5	532.4	490.1	383.6	35.1	13.5	7.5	4.0	2.2	
21	1.5	5.1	37.2	81.5	572.0	481.1	362.8	34.1	13.1	6.5	4.0	2.1	
22	1.6	8.9	47.2	76.5	568.4	477.7	317.2	33.7	12.3	6.1	3.9	2.2	
23	1.7	8.1	58.4	59.2	555.8	471.8	273.5	33.7	11.9	6.0	3.9	2.2	
24	1.7	11.3	58.8	50.4	526.1	471.8	257.7	33.3	11.3	6.1	3.6	2.2	
25	5.2	11.7	45.2	56.0	490.1	472.6	252.8	32.1	10.7	6.1	3.5	2.2	
26	13.3	10.3	32.4	66.3	464.1	474.3	269.0	30.6	10.5	6.9	3.5	2.0	
27	13.8	10.7	22.8	70.8	443.7	486.5	284.0	30.0	9.9	6.1	3.6	1.8	
28	9.1	11.5	18.5	132.2	439.5	482.0	285.5	29.1	9.9	6.0	3.5	1.7	
29	6.6	15.8	16.0	213.6	494.6	469.2	247.9	27.6	9.7	5.9	3.3	1.7	
30	5.0	42.4	13.3	274.2	531.5	469.2	186.3	27.0	9.7	5.7		1.9	
31		39.3		238.8	554.9		143.0		9.7	5.4		2.1	
Total	99.0	290.6	1493.5	3409.6	12304.1	13894.1	12895.8	1540.2	540.6	260.0	132.4	81.9	46941.8 CMSDAY
Mean	3.3	9.4	49.8	110.0	396.9	463.1	416.0	51.3	17.4	8.4	4.6	2.6	128.3 CMS
Max	13.8	42.4	111.0	274.2	572.0	546.8	559.4	118.4	27.0	13.5	5.7	3.3	572.0 CMS
Min	1.5	3.3	13.3	12.1	170.1	307.6	143.0	27.0	9.7	5.4	3.3	1.7	1.5 CMS
Runoff	8.55	25.11	129.04	294.59	1063.07	1200.45	1114.20	133.07	46.71	22.46	11.44	7.08	4055.77 MCM

Momentary Peak 576.00 CMS, at 9.64 M (MSL), at 15.00 Hours, on Aug 21, 1991

Runoff Yield 17.10 Liters/Second/Square KM, Momentary Peak Yield 76.78 Liters/Second/Square KM

WATER YEAR 1991

PRACHIN BURI RIVER BASIN

Khlong Phra Sathung at Ban Khao Chakan, Prachin Buri (Kgt.9)

Location — Lat. 13°-40'-10" N., Long. 102°-04'-35" E., on right bank near Wat Khao Chakan, Tambon Khao Chakan, Amphoe Sa Kaeo, Prachin Buri.

Drainage Area — 2,279 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On right bank about 10 meters from the automatic gage building.

Elevation — +9.020 m.(A.D.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1967-1970, 1972 to date.

Rating Operation

Period of Rating — 1969-1970, 1989 to date.

Rated by Float —

Rated by Current Meter — 1969-1970, 1989 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 39 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

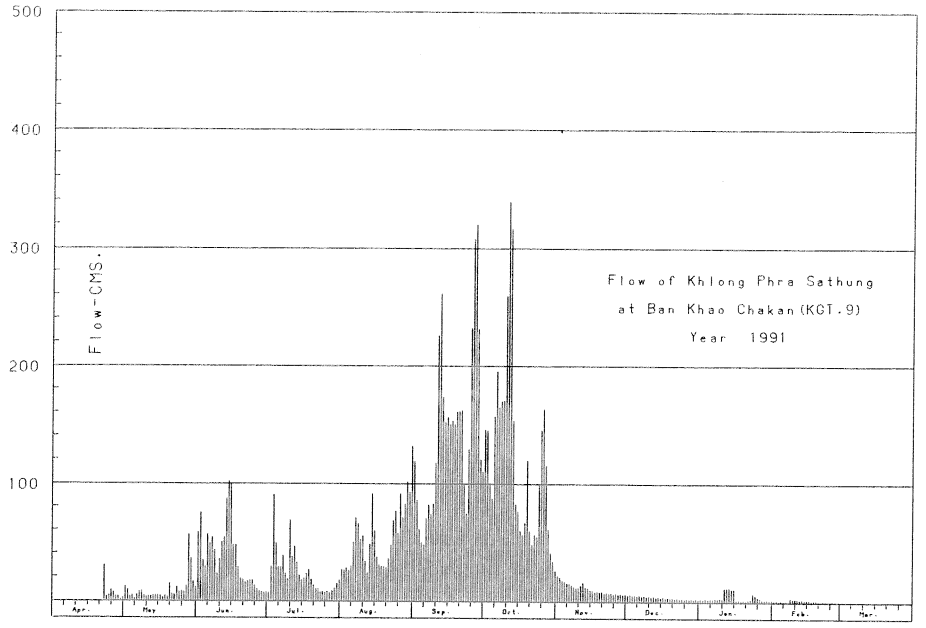
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.13	1.03	2.67	0.76	1.63	4.27	4.90	1.46	0.69	0.43	0.37	0.29	
2	0.12	0.93	3.17	1.74	1.63	3.47	4.89	1.39	0.68	0.43	0.36	0.28	
3	0.12	0.59	1.94	3.59	1.68	2.76	3.84	1.30	0.67	0.44	0.35	0.27	
4	0.12	0.63	1.72	2.39	1.62	2.41	3.49	1.23	0.66	0.45	0.34	0.27	
5	0.11	0.45	2.62	1.73	1.74	2.37	5.17	1.20	0.66	0.45	0.33	0.26	
6	0.11	0.64	2.40	1.70	2.44	3.02	6.01	1.17	0.65	0.46	0.32	0.26	
7	0.10	0.84	2.56	2.07	3.03	3.36	5.33	1.13	0.64	0.46	0.31	0.26	
8	0.09	0.84	2.21	1.51	2.91	3.12	5.46	1.04	0.63	0.49	0.52	0.26	
9	0.09	0.64	1.52	1.34	2.49	3.37	5.46	1.02	0.62	0.49	0.49	0.25	
10	0.09	0.55	1.97	2.99	2.60	4.25	7.31	1.01	0.61	0.50	0.47	0.25	
11	0.11	0.57	2.42	2.02	1.88	6.63	8.87	1.12	0.60	1.04	0.45	0.24	
12	0.13	0.60	2.56	2.32	1.54	7.35	8.42	1.21	0.59	1.02	0.43	0.23	
13	0.20	0.61	3.49	1.85	2.36	5.53	5.09	1.05	0.58	1.00	0.42	0.23	
14	0.20	0.65	3.87	1.46	3.60	5.06	3.36	0.99	0.57	0.98	0.41	0.23	
15	0.19	0.62	3.79	1.28	2.73	5.16	3.19	0.93	0.56	0.95	0.40	0.22	
16	0.18	0.60	2.34	1.34	2.03	5.01	2.73	0.88	0.55	0.39	0.39	0.21	
17	0.17	0.53	2.36	1.50	1.78	5.08	2.61	0.85	0.54	0.38	0.38	0.20	
18	0.16	0.60	1.70	1.65	1.75	5.02	2.93	0.84	0.53	0.37	0.37	0.20	
19	0.15	0.56	1.35	1.33	1.72	5.25	4.29	0.84	0.52	0.36	0.36	0.24	
20	0.25	1.14	1.29	1.09	1.69	5.27	2.71	0.83	0.51	0.35	0.35	0.24	
21	0.25	0.69	1.22	0.97	1.97	5.28	2.37	0.79	0.50	0.38	0.34	0.20	
22	1.78	0.68	1.26	0.94	2.36	3.81	2.63	0.78	0.49	0.44	0.33	0.19	
23	0.55	1.04	1.27	0.82	2.97	3.15	2.56	0.77	0.48	0.74	0.32	0.25	
24	0.66	0.79	1.30	0.80	3.20	4.51	3.81	0.76	0.47	0.70	0.31	0.25	
25	0.88	0.86	1.07	0.80	2.65	6.77	4.91	0.75	0.46	0.60	0.30	0.24	
26	0.80	0.79	0.93	0.82	3.61	8.25	5.31	0.74	0.46	0.50	0.30	0.23	
27	0.58	1.08	0.86	0.78	3.05	8.51	4.20	0.73	0.45	0.40	0.30	0.22	
28	0.60	2.63	0.80	0.85	3.38	6.74	2.75	0.72	0.45	0.40	0.30	0.21	
29	0.40	1.98	0.79	1.00	3.85	4.32	2.15	0.71	0.44	0.39	0.30	0.20	
30	0.46	1.25	0.78	1.15	3.63	4.06	1.89	0.70	0.44	0.38		0.19	
31		1.01		1.30	4.59		1.60		0.43	0.37		0.18	
Mean	0.33	0.85	1.94	1.48	2.52	4.77	4.20	0.96	0.55	0.54	0.37	0.23	
Max	1.78	2.63	3.87	3.59	4.59	8.51	8.87	1.46	0.69	1.04	0.52	0.29	8.87
Min	0.09	0.45	0.78	0.76	1.54	2.37	1.60	0.70	0.43	0.35	0.30	0.18	0.09

Annual Max Momentary Gage Height — 9.08 M (A.D), at 18.00 Hours, on Oct 11, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.59 M (A.D)

Left Bank Elevation — 10.11 M (A.D)

Right Bank Elevation — 11.53 M (A.D), Drainage Area 2279 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.0	12.3	58.4	7.2	26.8	118.9	145.5	22.3	6.0	2.4	1.7	0.9	
2	0.0	10.3	75.7	29.8	26.8	86.6	145.1	20.5	5.9	2.4	1.6	0.8	
3	0.0	4.5	35.3	91.1	28.2	61.4	101.0	18.3	5.7	2.5	1.5	0.7	
4	0.0	5.1	29.2	49.2	26.5	49.8	87.3	16.7	5.6	2.6	1.4	0.7	
5	0.0	2.6	56.7	29.5	29.8	48.5	157.4	16.0	5.6	2.6	1.3	0.6	
6	0.0	5.2	49.5	28.7	50.8	70.4	195.9	15.3	5.4	2.7	1.2	0.6	
7	0.0	8.6	54.7	39.1	70.8	82.6	164.6	14.5	5.2	2.7	1.1	0.6	
8	0.0	8.6	43.4	23.6	66.5	73.9	170.4	12.5	5.1	3.1	3.5	0.6	
9	0.0	5.2	23.8	19.3	52.4	82.9	170.4	12.1	4.9	3.1	3.1	0.5	
10	0.0	3.9	36.2	69.4	56.0	118.1	259.9	11.9	4.8	3.2	2.8	0.5	
11	0.0	4.2	50.1	37.6	33.6	225.9	339.6	14.2	4.6	12.5	2.6	0.4	
12	0.0	4.6	54.7	46.9	24.4	261.9	316.2	16.2	4.5	12.1	2.4	0.3	
13	0.0	4.8	87.3	32.8	48.2	173.6	153.8	12.7	4.3	11.7	2.2	0.3	
14	0.0	5.4	102.3	22.3	91.5	152.4	82.6	11.5	4.2	11.3	2.1	0.3	
15	0.0	4.9	99.0	17.8	60.4	156.9	76.4	10.3	4.0	10.7	2.0	0.2	
16	0.0	4.6	47.6	19.3	37.9	150.2	60.4	9.3	3.9	1.9	1.9	0.1	
17	0.0	3.6	48.2	23.3	30.9	153.3	56.3	8.8	3.8	1.8	1.8	0.0	
18	0.0	4.6	28.7	27.3	30.1	150.7	67.3	8.6	3.6	1.7	1.7	0.0	
19	0.0	4.0	19.5	19.0	29.2	161.0	119.8	8.6	3.5	1.6	1.6	0.4	
20	0.5	14.7	18.1	13.6	28.4	161.9	59.7	8.4	3.3	1.5	1.5	0.4	
21	0.5	6.0	16.5	11.1	36.2	162.3	48.5	7.7	3.2	1.8	1.4	0.0	
22	30.9	5.9	17.4	10.5	48.2	99.8	57.0	7.6	3.1	2.5	1.3	0.0	
23	3.9	12.5	17.6	8.3	68.6	75.0	54.7	7.4	3.0	6.9	1.2	0.5	
24	5.6	7.7	18.3	7.9	76.8	129.0	99.8	7.2	2.8	6.2	1.1	0.5	
25	9.3	9.0	13.2	7.9	57.7	232.9	145.9	7.0	2.7	4.6	1.0	0.4	
26	7.9	7.7	10.3	8.3	91.9	307.5	163.6	6.9	2.7	3.2	1.0	0.3	
27	4.3	13.4	9.0	7.6	71.5	320.8	116.0	6.7	2.6	2.0	1.0	0.2	
28	4.6	57.0	7.9	8.8	83.3	231.4	61.1	6.5	2.6	2.0	1.0	0.1	
29	2.0	36.4	7.7	11.7	101.5	121.0	41.6	6.4	2.5	1.9	1.0	0.0	
30	2.7	17.1	7.6	14.9	92.7	110.1	33.9	6.2	2.5	1.8		0.0	
31		11.9		18.3	132.4		26.0		2.4	1.7		0.0	
Total	72.2	306.3	1143.9	762.1	1710.0	4330.7	3777.7	338.3	124.0	128.7	49.0	10.9	12753.8 CMSDAY
Mean	2.4	9.9	38.1	24.6	55.2	144.4	121.9	11.3	4.0	4:2	1.7	0.4	34.8 CMS
Max	30.9	57.0	102.3	91.1	132.4	320.8	339.6	22.3	6.0	12.5	3.5	0.9	339.6 CMS
Min	0.0	2.6	7.6	7.2	24.4	48.5	26.0	6.2	2.4	1.5	1.0	0.0	0.0 CMS
Runoff	6.24	26.46	98.83	65.85	147.74	374.17	326.39	29.23	10.71	11.12	4.23	0.94	1101.93 MCM

Momentary Peak 350.82 CMS, at 9.08 M (A.D), at 18.00 Hours, on Oct 11, 1991
Runoff Yield 15.29 Liters/Second/Square KM, Momentary Peak Yield 153.94 Liters/Second/Square KM

WATER YEAR 1991

PRACHIN BURI RIVER BASIN

Khlong Phra Sathung at Ban Wang Khian, Prachin Buri (Kgt.10)

Location — Lat. 13°-48'-29" N., Long. 102°-03'-35" E., on left bank near Saha Charoen Sawmill, Ban Wang Khian, Amphoe Sa Kaeo, Prachin Buri.

Drainage Area — 2,523 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +23.741 m. (M.S.L.)

Bench Mark — B.M.-H.D.

Location — On left bank about 10 meters from the automatic gage building.

Elevation — +34.652 m. (M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1966 to date.

Rating Operation

Period of Rating — 1966 to date.

Rated by Float — -

Rated by Current Meter — 1966 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — Overbank flow starts at elevation +34.55 m.(M.S.L.) and is included.

General Description — Records good. Stage-discharge relation defined by 98 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

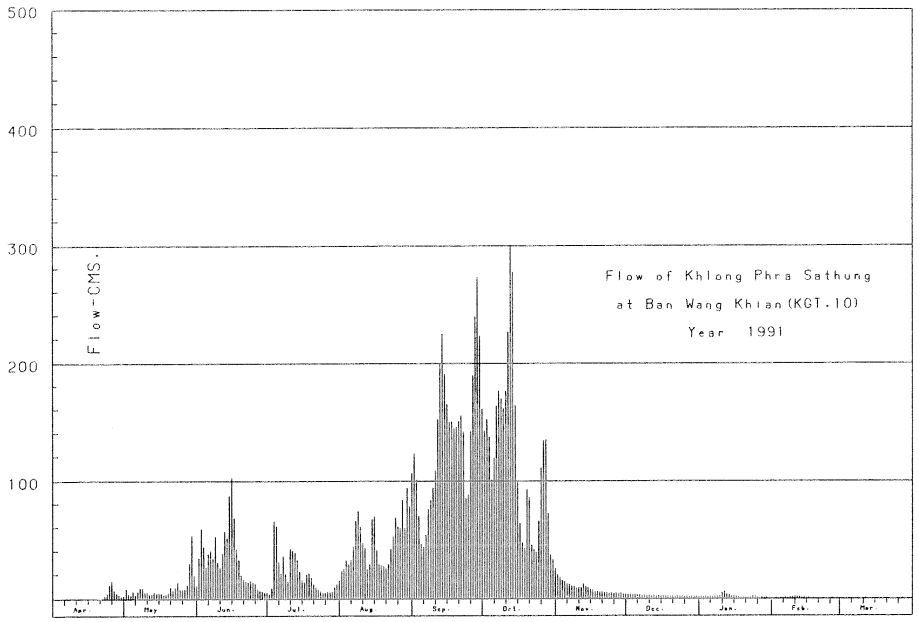
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	24.69	25.95	27.86	25.37	27.18	31.80	32.50	26.98	25.39	25.07	24.86	24.83	
2	24.67	25.36	29.24	26.00	27.28	30.97	32.85	26.77	25.36	25.06	24.86	24.84	
3	24.64	25.29	28.44	29.52	27.75	29.75	32.31	26.61	25.33	25.05	24.84	24.84	
4	24.63	25.68	27.35	29.34	27.56	28.55	30.98	26.47	25.33	25.04	24.88	24.87	
5	24.61	25.27	28.09	27.69	27.76	28.43	31.68	26.36	25.32	25.04	24.89	24.83	
6	24.60	25.66	28.22	27.01	28.43	28.97	33.22	26.28	25.30	25.06	24.91	24.83	
7	24.57	26.00	27.86	27.96	29.56	29.97	33.56	26.20	25.27	25.06	24.92	24.83	
8	24.51	25.95	28.87	27.02	29.92	30.30	33.41	26.12	25.26	25.14	24.94	24.82	
9	24.48	25.64	27.63	26.46	29.29	30.70	33.15	26.03	25.23	25.12	25.06	24.82	
10	24.56	25.55	27.35	28.35	28.63	31.28	33.57	26.01	25.23	25.56	25.11	24.80	
11	24.77	25.36	28.12	28.23	28.36	32.85	34.49	26.07	25.21	25.69	25.02	24.80	
12	24.72	25.42	29.10	28.17	27.29	34.04	35.02	26.31	25.19	25.42	25.00	24.78	
13	24.70	25.58	28.83	27.76	27.53	34.47	34.92	26.14	25.18	25.28	24.96	24.77	
14	24.70	25.51	30.43	27.15	29.63	33.88	33.24	26.00	25.17	25.18	24.92	24.77	
15	24.65	25.50	31.05	26.56	29.71	33.28	30.93	25.92	25.16	25.12	24.92	24.76	
16	24.63	25.43	29.67	26.47	28.29	32.75	29.44	25.81	25.16	25.07	24.90	24.76	
17	24.60	25.32	28.31	26.95	27.56	32.79	28.64	25.72	25.16	24.99	24.87	24.76	
18	24.59	25.31	27.80	27.06	27.46	32.56	28.34	25.70	25.14	24.95	24.86	24.76	
19	24.62	25.56	26.89	26.75	27.45	32.61	30.65	25.67	25.13	24.94	24.85	24.76	
20	24.61	26.02	26.65	26.32	27.30	32.80	30.39	25.65	25.12	24.92	24.83	24.75	
21	24.70	25.77	26.48	26.04	27.56	32.95	28.53	25.60	25.11	24.90	24.80	24.76	
22	25.17	26.05	26.46	25.90	28.32	32.48	28.34	25.57	25.12	24.97	24.80	24.75	
23	25.41	26.41	26.51	25.68	28.91	30.37	28.15	25.54	25.12	25.10	24.82	24.74	
24	26.25	25.89	26.47	25.58	29.66	30.47	29.56	25.53	25.12	25.12	24.81	24.75	
25	26.51	25.84	26.28	25.59	29.32	32.47	31.38	25.51	25.10	24.97	24.81	24.74	
26	25.76	25.84	25.92	25.63	29.23	33.86	32.19	25.51	25.07	24.93	24.81	24.78	
27	25.52	26.24	25.77	25.64	30.31	34.63	32.25	25.51	25.07	24.94	24.83	24.76	
28	25.24	27.62	25.64	25.64	29.24	34.90	29.82	25.48	25.07	24.94	24.84	24.74	
29	25.10	28.91	25.59	26.07	30.72	34.44	28.05	25.44	25.08	24.89	24.82	24.72	
30	25.09	26.92	25.55	26.27	30.08	33.14	27.78	25.40	25.08	24.84		24.72	
31		26.15		26.55	31.20		27.30		25.07	24.85		24.74	
Mean	24.91	25.90	27.61	26.80	28.66	32.08	31.18	25.93	25.18	25.07	24.89	24.78	
Max	26.51	28.91	31.05	29.52	31.20	34.90	35.02	26.98	25.39	25.69	25.11	24.87	35.02
Min	24.48	25.27	25.55	25.37	27.18	28.43	27.30	25.40	25.07	24.84	24.80	24.72	24.48

Annual Max Momentary Gage Height — 35.10 M (MSL), at 24.00 Hours, on Oct 12, 1991

Zero Gage at Bottom Elevation — 23.74 M (MSL), River Bed — 24.45 M (MSL)

Left Bank Elevation — 34.54 M (MSL)

Right Bank Elevation — 34.71 M (MSL), Drainage Area — 2523 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.66	9.00	34.62	4.09	24.10	123.40	142.90	21.22	4.23	2.35	1.34	1.22	
2	0.58	4.02	60.30	9.50	25.60	101.22	152.70	18.31	4.02	2.30	1.34	1.26	
3	0.46	3.54	44.62	66.04	32.80	71.10	137.58	16.32	3.81	2.25	1.26	1.26	
4	0.42	6.44	26.65	62.30	29.80	46.65	101.48	14.64	3.81	2.20	1.42	1.38	
5	0.34	3.42	38.53	31.84	32.96	44.44	120.16	13.36	3.74	2.20	1.46	1.22	
6	0.30	6.28	40.74	21.64	44.44	54.90	163.70	12.48	3.60	2.30	1.55	1.22	
7	0.24	9.50	34.62	36.32	66.92	76.18	176.40	11.60	3.42	2.30	1.60	1.22	
8	0.12	9.00	52.90	21.78	74.98	84.30	170.40	10.72	3.36	2.70	1.70	1.18	
9	0.08	6.12	30.88	14.52	61.30	94.30	161.50	9.80	3.18	2.60	2.30	1.18	
10	0.22	5.40	26.65	43.00	48.17	109.36	176.80	9.60	3.18	5.48	2.55	1.10	
11	0.98	4.02	39.04	40.91	43.18	152.70	227.20	10.20	3.06	6.52	2.10	1.10	
12	0.78	4.44	57.50	39.89	25.75	199.00	301.00	12.81	2.95	4.44	2.00	1.02	
13	0.70	5.64	52.10	32.96	29.35	225.60	277.40	10.94	2.90	3.48	1.80	0.98	
14	0.70	5.08	87.55	23.65	68.46	191.00	164.40	9.50	2.85	2.90	1.60	0.98	
15	0.50	5.00	103.30	15.72	70.22	165.80	100.18	8.70	2.80	2.60	1.60	0.94	
16	0.42	4.51	69.34	14.64	41.93	149.90	64.34	7.60	2.80	2.35	1.50	0.94	
17	0.30	3.74	42.28	20.80	29.80	151.02	48.36	6.78	2.80	1.95	1.38	0.94	
18	0.28	3.67	33.60	22.34	28.30	144.58	42.82	6.60	2.70	1.75	1.34	0.94	
19	0.38	5.48	19.96	18.05	28.15	145.98	93.05	6.36	2.65	1.70	1.30	0.94	
20	0.34	9.70	16.80	12.92	25.90	151.30	86.55	6.20	2.60	1.60	1.22	0.90	
21	0.70	7.23	14.76	9.90	29.80	155.55	46.27	5.80	2.55	1.50	1.10	0.94	
22	2.85	10.00	14.52	8.50	42.46	142.34	42.82	5.56	2.60	1.85	1.10	0.90	
23	4.37	13.92	15.12	6.44	53.70	86.05	39.55	5.32	2.60	2.50	1.18	0.86	
24	12.15	8.40	14.64	5.64	69.12	88.55	66.92	5.24	2.60	2.60	1.14	0.90	
25	15.12	7.90	12.48	5.72	61.90	142.06	112.06	5.08	2.50	1.85	1.14	0.86	
26	7.14	7.90	8.70	6.04	60.10	190.00	134.22	5.08	2.35	1.65	1.14	1.02	
27	5.16	12.04	7.23	6.12	84.55	240.00	135.90	5.08	2.35	1.70	1.22	0.94	
28	3.24	30.72	6.12	6.12	60.30	273.00	72.66	4.86	2.35	1.70	1.26	0.86	
29	2.50	53.70	5.72	10.20	94.80	223.20	37.85	4.58	2.40	1.46	1.18	0.78	
30	2.45	20.38	5.40	12.37	78.82	161.20	33.28	4.30	2.40	1.26		0.78	
31		11.05		15.60	107.20		25.90		2.35	1.30		0.86	
Total	64.48	297.24	1016.67	645.56	1574.86	4184.68	3656.35	274.64	91.51	75.34	42.82	31.62	11955.77 CMSDAY
Mean	2.15	9.59	33.89	20.82	50.80	139.49	117.95	9.15	2.95	2.43	1.48	1.02	32.67 CMS
Max	15.12	53.70	103.30	66.04	107.20	273.00	301.00	21.22	4.23	6.52	2.55	1.38	301.00 CMS
Min	0.08	3.42	5.40	4.09	24.10	44.44	25.90	4.30	2.35	1.26	1.10	0.78	0.08 CMS
Runoff	5.571	25.682	87.840	55.776	136.068	361.556	315.909	23.729	7.906	6.509	3.700	2.732	1032.979 MCM

Momentary Peak 325.00 CMS, at 35.10 M (MSL), at 24.00 Hours, on Oct 12, 1991

Runoff Yield 12.95 Liters/Second/Square KM, Momentary Peak Yield 128.81 Liters/Second/Square KM

WATER YEAR 1991

PRACHIN BURI RIVER BASIN

Khlong Phra Prong at Ban Kaeng, Prachin Buri (Kgt.12)

Location — Lat. 13°-56'-02" N., Long. 101°-58'-41" E., on left bank near the railway station at Ban Kaeng and about 200 meters upstream from Thot Saphon Sawmill, Amphoe Sa Kaeo, Prachin Buri.

Drainage Area — 1,540 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m. (A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank infront of the gage observer's house.

Elevation — +9.687 m. (A.D.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1966 to date.

Rating Operation

Period of Rating — 1966 to date.

Rated by Float — -

Rated by Current Meter — 1966 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 61 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

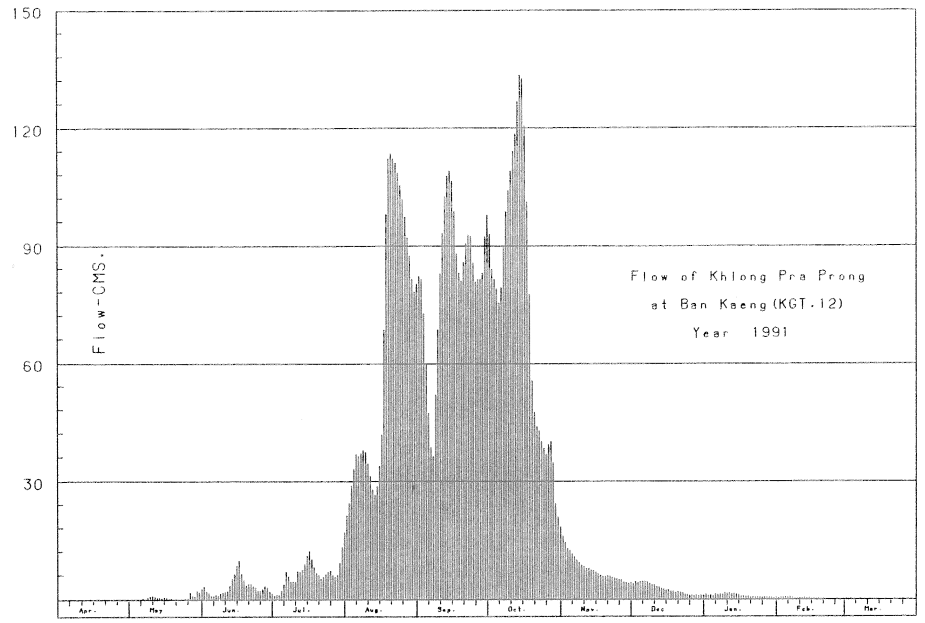
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.08	0.06	0.77	0.41	2.49	5.71	6.16	2.10	0.91	0.45	0.23	0.19	
2	0.06	0.05	0.59	0.42	2.74	5.67	5.79	1.96	0.97	0.41	0.23	0.17	
3	0.06	0.06	0.49	0.44	3.01	5.30	5.67	1.86	0.95	0.41	0.28	0.15	
4	0.05	0.07	0.40	0.59	3.27	4.71	5.57	1.81	0.97	0.40	0.26	0.13	
5	0.06	0.09	0.37	0.88	3.48	4.08	5.41	1.75	1.00	0.45	0.27	0.12	
6	0.05	0.15	0.43	1.31	3.45	3.58	5.58	1.67	0.97	0.45	0.28	0.13	
7	0.05	0.16	0.39	1.15	3.50	3.46	6.03	1.61	0.98	0.44	0.26	0.12	
8	0.05	0.23	0.47	0.99	3.54	4.32	6.40	1.54	0.90	0.46	0.26	0.12	
9	0.04	0.36	0.52	0.96	3.51	5.11	6.63	1.49	0.87	0.50	0.22	0.12	
10	0.04	0.35	0.54	0.98	3.35	5.74	6.83	1.44	0.84	0.51	0.21	0.11	
11	0.04	0.33	0.57	1.30	3.15	6.17	7.04	1.40	0.79	0.49	0.20	0.10	
12	0.04	0.24	0.84	1.30	2.96	6.56	7.23	1.39	0.75	0.47	0.21	0.09	
13	0.04	0.20	1.07	1.34	2.88	6.78	7.57	1.36	0.71	0.47	0.19	0.09	
14	0.03	0.17	1.24	1.51	3.00	6.84	7.83	1.33	0.66	0.46	0.18	0.08	
15	0.03	0.25	1.48	1.70	3.31	6.73	7.79	1.30	0.64	0.42	0.17	0.06	
16	0.03	0.21	1.58	1.79	3.78	6.40	7.31	1.23	0.62	0.38	0.16	0.05	
17	0.03	0.17	1.24	1.63	5.11	5.96	6.50	1.20	0.60	0.34	0.15	0.03	
18	0.02	0.15	1.01	1.42	6.38	5.74	5.51	1.14	0.57	0.34	0.15	0.03	
19	0.01	0.12	0.84	1.27	6.97	5.66	4.50	1.16	0.54	0.32	0.15	0.03	
20	0.01	0.10	0.87	1.19	7.02	5.86	4.09	1.17	0.55	0.29	0.15	0.03	
21	0.01	0.13	0.88	1.09	6.97	6.06	3.90	1.17	0.55	0.27	0.13	0.03	
22	0.01	0.16	0.81	1.13	6.92	6.16	3.83	1.11	0.50	0.27	0.11	0.03	
23	0.01	0.12	0.72	1.23	6.82	6.14	3.68	1.11	0.46	0.26	0.10	0.03	
24	0.02	0.13	0.62	1.28	6.68	5.86	3.57	1.07	0.43	0.27	0.10	0.03	
25	0.04	0.21	0.59	1.34	6.53	5.65	3.49	1.06	0.42	0.27	0.12	0.03	
26	0.11	0.51	0.69	1.20	6.35	5.67	3.62	1.03	0.40	0.26	0.13	0.03	
27	0.10	0.39	0.79	1.12	6.13	5.68	3.68	0.97	0.40	0.25	0.11	0.05	
28	0.07	0.30	0.73	1.21	5.93	5.74	3.36	0.92	0.41	0.23	0.11	0.04	
29	0.06	0.61	0.58	1.52	5.68	6.14	2.72	0.92	0.39	0.22	0.14	0.02	
30	0.07	0.52	0.47	1.88	5.53	6.37	2.47	0.93	0.40	0.22		0.01	
31		0.70		2.16	5.62		2.27		0.41	0.22		0.00	
Mean	0.04	0.24	0.75	1.22	4.71	5.66	5.23	1.34	0.66	0.36	0.18	0.07	
Max	0.11	0.70	1.58	2.16	7.02	6.84	7.83	2.10	1.00	0.51	0.28	0.19	7.83
Min	0.01	0.05	0.37	0.41	2.49	3.46	2.27	0.92	0.39	0.22	0.10	0.00	0.00

Annual Max Momentary Gage Height — 7.87 M (A.D), at 24.00 Hours, on Oct 14, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.23 M (A.D)

Left Bank Elevation — 9.62 M (A.D)

Right Bank Elevation — 8.56 M (A.D), Drainage Area 1540 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.16	0.12	3.32	1.16	21.37	82.33	92.94	16.30	4.17	1.40	0.59	0.47	
2	0.12	0.10	2.24	1.22	24.66	81.41	84.17	14.48	4.59	1.16	0.59	0.41	
3	0.12	0.12	1.64	1.34	28.97	72.90	81.41	13.18	4.45	1.16	0.74	0.35	
4	0.10	0.14	1.10	2.24	33.39	60.11	79.11	12.53	4.59	1.10	0.68	0.29	
5	0.12	0.18	1.01	3.98	36.96	47.42	75.43	11.80	4.80	1.40	0.71	0.26	
6	0.10	0.35	1.28	7.19	36.45	38.66	79.34	10.87	4.59	1.40	0.74	0.29	
7	0.10	0.38	1.07	5.90	37.30	36.62	89.82	10.21	4.66	1.34	0.68	0.26	
8	0.10	0.59	1.52	4.73	37.98	52.20	98.70	9.44	4.10	1.46	0.68	0.26	
9	0.08	0.98	1.82	4.52	37.47	68.62	104.22	8.90	3.92	1.70	0.56	0.26	
10	0.08	0.95	1.94	4.66	34.75	83.02	109.02	8.40	3.74	1.76	0.53	0.23	
11	0.08	0.89	2.12	7.10	31.35	93.18	114.06	8.00	3.44	1.64	0.50	0.20	
12	0.08	0.62	3.74	7.10	28.12	102.54	118.62	7.91	3.20	1.52	0.53	0.18	
13	0.08	0.50	5.29	7.46	26.78	107.82	126.85	7.64	2.96	1.52	0.47	0.18	
14	0.06	0.41	6.62	9.11	28.80	109.26	133.58	7.37	2.66	1.46	0.44	0.16	
15	0.06	0.65	8.80	11.20	34.07	106.62	132.54	7.10	2.54	1.22	0.41	0.12	
16	0.06	0.53	9.88	12.28	42.06	98.70	120.54	6.54	2.42	1.04	0.38	0.10	
17	0.06	0.41	6.62	10.43	68.62	88.14	101.10	6.30	2.30	0.92	0.35	0.06	
18	0.04	0.35	4.87	8.20	98.22	83.02	77.73	5.82	2.12	0.92	0.35	0.06	
19	0.02	0.26	3.74	6.86	112.38	81.18	55.80	5.98	1.94	0.86	0.35	0.06	
20	0.02	0.20	3.92	6.22	113.58	85.78	47.61	6.06	2.00	0.77	0.35	0.06	
21	0.02	0.29	3.98	5.43	112.38	90.54	44.10	6.06	2.00	0.71	0.29	0.06	
22	0.02	0.38	3.56	5.74	111.18	92.94	42.91	5.58	1.70	0.71	0.23	0.06	
23	0.02	0.26	3.02	6.54	108.78	92.46	40.36	5.58	1.46	0.68	0.20	0.06	
24	0.04	0.29	2.42	6.94	105.42	85.78	38.49	5.29	1.28	0.71	0.20	0.06	
25	0.08	0.53	2.24	7.46	101.82	80.95	37.13	5.22	1.22	0.71	0.26	0.06	
26	0.23	1.76	2.84	6.30	97.50	81.41	39.34	5.01	1.10	0.68	0.29	0.06	
27	0.20	1.07	3.44	5.66	92.22	81.64	40.36	4.59	1.10	0.65	0.23	0.10	
28	0.14	0.80	3.08	6.38	87.42	83.02	34.92	4.24	1.16	0.59	0.23	0.08	
29	0.12	2.36	2.18	9.22	81.64	92.46	24.38	4.24	1.07	0.56	0.32	0.04	
30	0.14	1.82	1.52	13.44	78.19	97.98	21.11	4.31	1.10	0.56		0.02	
31		2.90		17.08	80.26		18.51		1.16	0.56		0.00	
Total	2.65	21.19	100.82	213.09	1970.09	2458.71	2304.20	234.95	83.54	32.87	12.88	4.86	7439.85 CMSDAY
Mean	0.09	0.68	3.36	6.87	63.55	81.96	74.33	7.83	2.69	1.06	0.44	0.16	20.33 CMS
Max	0.23	2.90	9.88	17.08	113.58	109.26	133.58	16.30	4.80	1.76	0.74	0.47	133.58 CMS
Min	0.02	0.10	1.01	1.16	21.37	36.62	18.51	4.24	1.07	0.56	0.20	0.00	0.00 CMS
Runoff	0.229	1.831	8.711	18.411	170.216	212.433	199.083	20.300	7.218	2.840	1.113	0.420	642.803 MCM

Momentary Peak 134.62 CMS, at 7.87 M (A.D), at 24.00 Hours, on Oct 14, 1991
Runoff Yield 13.20 Liters/Second/Square KM, Momentary Peak Yield 87.42 Liters/Second/Square KM

WATER YEAR 1991

PRACHIN BURI RIVER BASIN

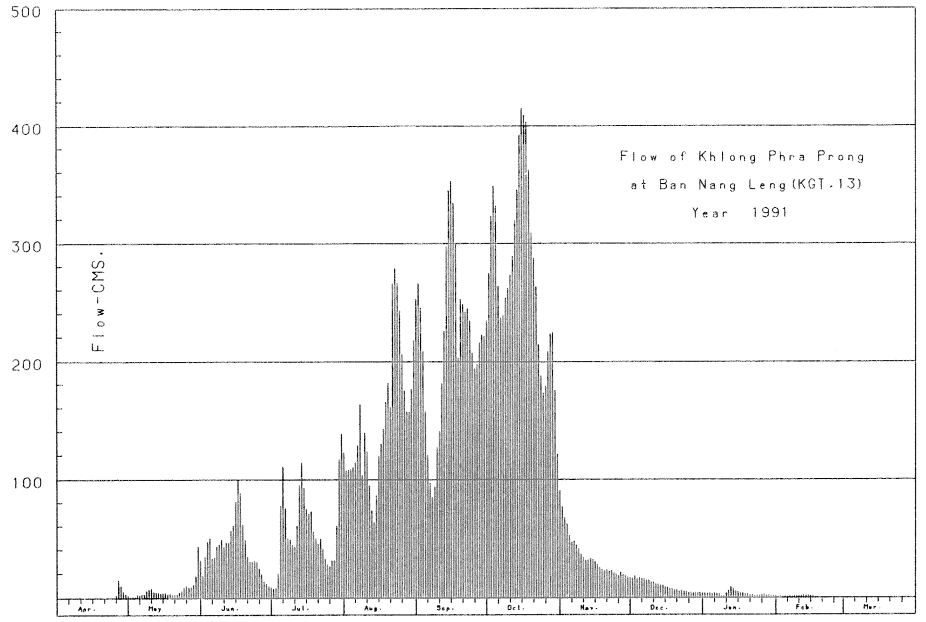
Khlong Phra Prong at Ban Nang Leng, Prachin Buri (Kgt.13)

Location	Lat. 13°58'04" N., Long. 101°44'20" E., on left bank about 40 meters upstream from the bridge on highway, at Ban Nang Leng, Amphoe Kabin Buri, Prachin Buri.
Drainage Area	5,347 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.16 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank near the gage site.
Elevation	+10.712 m. (M.S.L.)
Gage Reading Frequency	5 time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1967 to date.
Rating Operation	
Period of Rating	1967-1968, 1971-1976, 1982 to date.
Rated by Float	-
Rated by Current Meter	1967-1968, 1971-1976, 1982 to date.
Stability of Channel Regimes	Fairly stable because of backwater effect.
Overbank Flow Conditions	Overbank flow starts at elevation +10.14 m.(M.S.L.) and is included.
General Description	Records fair. Stage-discharge relation defined by 37 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.94	1.12	2.33	1.71	5.40	10.03	10.07	4.57	2.26	1.41	1.15	0.97	
2	0.94	1.11	3.10	1.80	5.43	9.92	10.25	4.27	2.33	1.42	1.15	0.96	
3	0.94	1.15	3.61	2.44	5.43	9.66	10.33	4.11	2.23	1.41	1.14	1.00	
4	0.94	1.29	3.69	4.58	5.47	9.07	10.28	3.77	2.25	1.41	1.14	0.98	
5	0.87	1.31	3.06	5.50	5.59	8.30	10.02	3.60	2.25	1.41	1.15	0.97	
6	0.87	1.31	3.07	4.54	5.94	7.62	9.87	3.61	2.21	1.41	1.15	0.97	
7	0.87	1.36	3.47	3.69	6.64	7.23	9.88	3.51	2.18	1.35	1.16	0.97	
8	0.87	1.61	3.51	3.67	7.85	7.53	9.97	3.37	2.15	1.20	1.18	0.97	
9	0.87	1.72	3.67	3.50	8.72	8.46	10.01	3.20	2.09	1.13	1.19	0.96	
10	0.88	1.73	3.45	3.46	8.38	8.75	10.06	3.07	2.06	1.44	1.19	0.96	
11	0.89	1.58	3.56	4.06	7.57	9.40	10.13	3.00	2.01	1.62	1.20	0.95	
12	0.89	1.53	3.56	5.08	6.77	9.79	10.24	2.98	1.97	1.84	1.21	0.95	
13	0.89	1.45	3.92	5.57	6.38	10.16	10.32	3.06	1.95	1.72	1.22	0.95	
14	0.87	1.44	4.05	5.03	7.26	10.32	10.43	3.01	1.91	1.62	1.21	0.94	
15	0.87	1.44	4.70	4.50	8.29	10.34	10.47	2.95	1.86	1.52	1.20	0.93	
16	0.87	1.44	5.23	4.38	8.53	10.29	10.46	2.82	1.80	1.46	1.17	0.92	
17	0.88	1.37	4.89	4.46	8.79	10.17	10.15	2.71	1.76	1.41	1.13	0.92	
18	0.89	1.36	4.10	3.88	9.19	9.61	9.64	2.61	1.72	1.38	1.10	0.91	
19	0.88	1.32	3.64	3.69	9.40	9.96	8.94	2.57	1.69	1.35	1.08	0.91	
20	0.87	1.28	3.12	3.55	9.12	9.94	8.64	2.60	1.65	1.29	1.07	0.90	
21	0.87	1.38	2.94	3.69	10.03	9.90	8.30	2.55	1.62	1.26	1.07	0.89	
22	0.87	1.53	2.95	3.36	10.09	9.92	7.55	2.56	1.62	1.23	1.07	0.89	
23	0.87	1.60	2.96	3.05	10.03	9.85	7.11	2.48	1.58	1.21	1.06	0.88	
24	0.87	1.84	2.94	2.82	9.91	9.65	6.83	2.41	1.54	1.24	1.04	0.88	
25	1.29	1.89	2.68	2.78	9.64	9.53	6.96	2.37	1.48	1.30	1.03	0.87	
26	2.16	1.80	2.41	2.97	9.32	9.56	7.44	2.48	1.47	1.29	1.01	0.85	
27	1.92	1.85	2.13	3.00	9.07	9.72	7.70	2.41	1.45	1.25	1.01	0.85	
28	1.56	1.94	2.01	4.05	9.06	9.77	7.71	2.33	1.44	1.23	1.00	0.84	
29	1.39	2.36	1.91	5.64	9.34	9.76	6.87	2.30	1.46	1.21	0.99	0.83	
30	1.20	3.44	1.82	6.15	9.73	9.85	5.76	2.26	1.46	1.18		0.82	
31		3.00		5.78	9.96		4.95		1.44	1.17		0.81	
Mean	1.03	1.63	3.28	3.95	8.14	9.47	8.95	2.98	1.84	1.37	1.12	0.92	
Max	2.16	3.44	5.23	6.15	10.09	10.34	10.47	4.57	2.33	1.84	1.22	1.00	10.47
Min	0.87	1.11	1.82	1.71	5.40	7.23	4.95	2.26	1.44	1.13	0.99	0.81	0.81

Annual Max Momentary Gage Height 10.47 M (MSL), at 6.00 Hours, on Oct 15, 1991
Zero Gage at Bottom Elevation 0.16 M (MSL), River Bed 0.27 M (MSL)
Left Bank Elevation 10.13 M (MSL)
Right Bank Elevation 10.23 M (MSL), Drainage Area 5347 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.32	1.36	18.60	7.65	108.00	266.60	275.40	77.95	17.20	4.10	1.60	0.41	
2	0.32	1.28	35.00	9.00	109.20	245.60	323.00	68.10	18.60	4.20	1.60	0.38	
3	0.32	1.60	48.30	20.80	109.20	209.20	349.40	63.30	16.60	4.10	1.52	0.50	
4	0.32	2.90	50.70	78.30	110.80	158.20	332.00	53.10	17.00	4.10	1.52	0.44	
5	0.14	3.10	34.00	112.00	115.60	121.00	264.40	48.00	17.00	4.10	1.60	0.41	
6	0.14	3.10	34.25	76.90	129.80	97.60	237.50	48.30	16.20	4.10	1.60	0.41	
7	0.14	3.60	44.25	50.70	164.00	85.90	239.00	45.30	15.60	3.50	1.68	0.41	
8	0.14	6.15	45.30	50.10	104.50	94.90	254.60	41.75	15.00	2.00	1.84	0.41	
9	0.14	7.80	50.10	45.00	140.00	127.40	262.20	37.50	13.80	1.44	1.92	0.38	
10	0.16	7.95	43.75	44.00	124.20	141.50	273.20	34.25	13.20	4.40	1.92	0.38	
11	0.18	5.80	46.80	61.80	96.10	182.00	289.80	32.50	12.20	6.30	2.00	0.35	
12	0.18	5.30	46.80	95.80	74.25	225.70	320.00	32.00	11.55	9.60	2.10	0.35	
13	0.18	4.50	57.60	114.80	64.50	297.60	345.60	34.00	11.25	7.80	2.20	0.35	
14	0.14	4.40	61.50	94.05	86.80	345.60	392.80	32.75	10.65	6.30	2.10	0.32	
15	0.14	4.40	82.50	75.50	120.60	353.20	415.20	31.25	9.90	5.20	2.00	0.29	
16	0.14	4.40	101.20	71.40	130.50	335.00	409.60	28.40	9.00	4.60	1.76	0.26	
17	0.16	3.70	89.15	74.10	143.50	300.20	403.25	26.20	8.40	4.10	1.44	0.26	
18	0.18	3.60	63.00	56.40	166.30	203.20	363.20	24.20	7.80	3.80	1.20	0.23	
19	0.16	3.20	49.20	50.70	182.00	252.80	309.00	23.40	7.35	3.50	1.06	0.23	
20	0.14	2.80	35.50	46.50	161.40	249.20	287.80	24.00	6.75	2.90	0.99	0.20	
21	0.14	3.80	31.00	50.70	266.60	242.00	264.00	23.00	6.30	2.60	0.99	0.18	
22	0.14	5.30	31.25	41.50	279.80	245.60	215.00	23.20	6.30	2.30	0.99	0.18	
23	0.14	6.00	31.50	33.75	266.60	234.50	188.60	21.60	5.80	2.10	0.92	0.16	
24	0.14	9.60	31.00	28.40	243.80	208.00	173.50	20.20	5.40	2.40	0.78	0.16	
25	2.90	10.35	25.60	27.60	206.80	194.30	180.00	19.40	4.80	3.00	0.71	0.14	
26	15.20	9.00	20.20	31.75	175.60	197.60	208.40	21.60	4.70	2.90	0.57	0.10	
27	10.80	9.75	14.60	32.50	158.20	216.60	224.00	20.20	4.50	2.50	0.57	0.10	
28	5.60	11.10	12.20	61.50	157.60	223.10	224.60	18.60	4.40	2.30	0.50	0.08	
29	3.90	19.20	10.65	117.60	177.20	221.80	175.50	18.00	4.60	2.10	0.47	0.06	
30	2.00	43.50	9.30	139.50	217.90	234.50	122.40	17.20	4.60	1.84		0.04	
31		32.50		123.20	252.80		91.25		4.40	1.76		0.02	
Total	44.70	241.04	1254.80	1923.50	4844.15	6510.40	8414.20	1009.25	310.85	115.94	40.15	8.19	24717.17 CMSDAY
Mean	1.49	7.78	41.83	62.05	156.26	217.01	271.43	33.64	10.03	3.74	1.38	0.26	67.53 CMS
Max	15.20	43.50	101.20	139.50	279.80	353.20	415.20	77.95	18.60	9.60	2.20	0.50	415.20 CMS
Min	0.14	1.28	9.30	7.65	64.50	85.90	91.25	17.20	4.40	1.44	0.47	0.02	0.02 CMS
Runoff	3.862	20.826	108.415	166.190	418.535	562.499	726.987	87.199	26.857	10.017	3.469	0.708	2135.563 MCM

Momentary Peak 415.20 CMS, at 10.47 M (MSL), at 6.00 Hours, on Oct 15, 1991

Runoff Yield 12.63 Liters/Second/Square KM, Momentary Peak Yield 77.65 Liters/Second/Square KM

WATER YEAR 1991

PRACHIN BURI RIVER BASIN

Huai Yang at Ban Thung Faek, Prachin Buri (Kgt.14)

Location — Lat. 14°-09'-30" N., Long. 101°-52'-52" E., on left bank about 2 kilometers from Kabin Buri-Nakhon Ratchasima highway, Ban Thung Faek, Amphoe Kabin Buri, Prachin Buri.

Drainage Area — 366 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +34.60 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — Near the automatic gage building.

Elevation — +42.429 m. (M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1966 to date.

Rating Operation

Period of Rating — 1966 - 1981, 1986 to date.

Rated by Float — -

Rated by Current Meter — 1966 - 1981, 1986 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 57 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

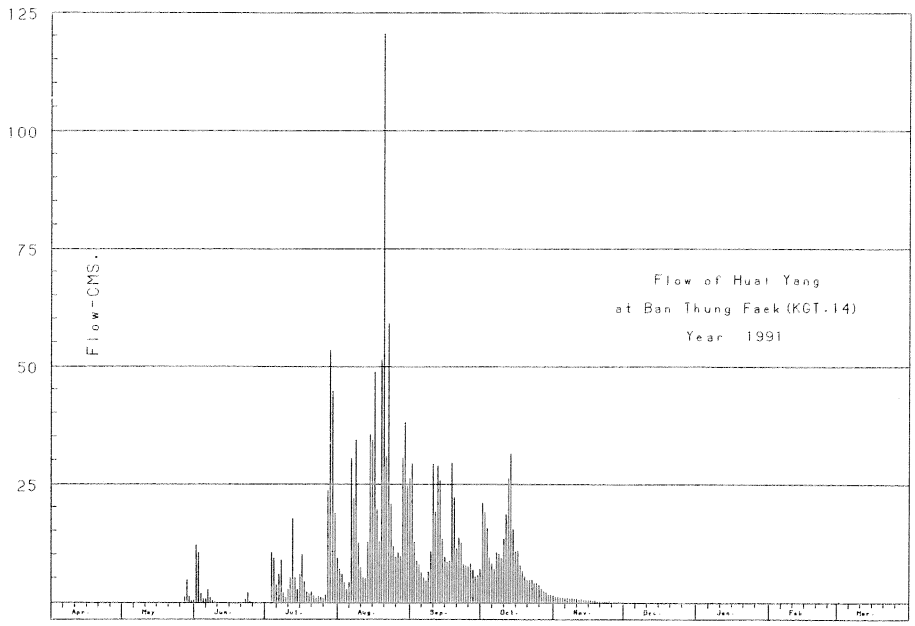
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	34.87	34.77	35.86	34.88	35.60	36.50	36.22	35.21	35.01	34.96	34.93	35.04	
2	34.96	34.78	35.78	34.98	35.55	35.88	36.14	35.20	35.01	34.96	34.94	34.89	
3	34.89	34.78	35.27	35.79	35.44	35.70	36.01	35.19	35.01	34.96	34.93	34.91	
4	34.85	34.79	35.14	35.72	35.35	35.65	35.73	35.18	35.02	35.03	34.93	34.88	
5	34.83	34.82	35.15	35.42	35.45	35.57	35.67	35.17	35.01	34.99	34.93	34.85	
6	34.80	34.91	35.34	35.55	36.54	35.50	35.60	35.16	35.00	35.00	34.92	34.85	
7	34.80	34.92	35.20	35.71	36.25	35.47	35.79	35.16	34.99	35.03	34.93	34.86	
8	34.79	34.90	35.08	35.28	36.66	35.57	35.77	35.15	34.99	34.99	34.93	34.84	
9	34.78	34.86	35.03	35.20	35.88	35.80	35.73	35.15	34.99	35.01	34.93	34.83	
10	34.77	34.94	35.01	35.35	35.62	36.50	35.91	35.14	34.98	35.05	34.93	34.83	
11	34.76	34.92	35.01	35.50	35.50	36.14	36.12	35.13	34.98	35.01	34.92	34.83	
12	34.75	34.87	35.00	36.09	35.50	36.49	36.40	35.13	34.99	34.99	34.92	34.84	
13	34.75	34.92	34.99	35.50	35.88	36.38	36.57	35.12	34.98	34.97	34.91	34.82	
14	34.75	34.95	34.98	35.35	36.70	35.91	36.00	35.11	34.98	34.96	34.90	34.81	
15	34.75	34.89	34.94	35.55	36.66	35.74	35.80	35.11	34.97	34.96	34.90	34.80	
16	34.75	34.87	34.94	35.76	37.06	35.68	35.80	35.09	34.97	34.95	34.90	34.80	
17	34.75	34.85	34.93	35.45	36.16	35.70	35.65	35.09	34.97	34.95	34.90	34.80	
18	34.75	34.85	34.91	35.31	35.89	36.51	35.58	35.09	34.97	34.95	34.91	34.80	
19	34.74	34.84	34.89	35.26	37.12	36.26	35.52	35.07	34.97	34.95	34.92	34.80	
20	34.74	34.84	34.89	35.31	38.61	35.82	35.47	35.06	34.97	34.94	34.92	34.80	
21	34.76	34.83	34.95	35.22	36.55	35.92	35.47	35.06	34.94	34.94	34.91	34.79	
22	34.79	34.83	35.13	35.17	37.31	35.88	35.48	35.06	34.94	34.93	34.90	34.78	
23	34.79	34.83	35.30	35.21	36.21	35.66	35.44	35.06	34.94	34.93	34.90	34.78	
24	34.79	34.86	35.04	35.20	35.84	35.64	35.43	35.06	34.95	34.93	34.90	34.78	
25	34.79	34.86	34.98	35.15	35.74	35.63	35.41	35.05	34.95	34.93	34.90	34.79	
26	34.80	34.91	34.94	35.25	35.78	35.67	35.36	35.04	34.94	34.93	34.89	34.79	
27	34.81	35.21	34.92	36.31	35.75	35.60	35.32	35.04	34.94	34.93	34.85	34.78	
28	34.80	35.48	34.93	37.17	36.54	35.52	35.29	35.04	34.94	34.93	34.83	34.81	
29	34.79	35.21	34.93	36.96	36.78	35.53	35.25	35.04	34.93	34.93	34.83	34.82	
30	34.78	35.08	34.89	36.13	36.34	35.60	35.24	35.04	34.94	34.93		34.80	
31		35.09		35.73	36.40		35.23		34.96	34.93		34.80	
Mean	34.79	34.92	35.08	35.56	36.21	35.85	35.69	35.11	34.97	34.96	34.91	34.83	
Max	34.96	35.48	35.86	37.17	38.61	36.51	36.57	35.21	35.02	35.05	34.94	35.04	38.61
Min	34.74	34.77	34.89	34.88	35.35	35.47	35.23	35.04	34.93	34.93	34.83	34.78	34.74

Annual Max Momentary Gage Height — 39.76 M (MSL), at 6.00 Hours, on Aug 20, 1991

Zero Gage at Bottom Elevation — 34.60 M (MSL), River Bed — 34.22 M (MSL)

Left Bank Elevation — 41.28 M (MSL)

Right Bank Elevation — 41.75 M (MSL), Drainage Area — 336 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	12.28	0.00	7.00	29.40	21.26	1.30	0.05	0.00	0.00	0.20	
2	0.00	0.00	10.50	0.00	6.10	12.74	19.14	1.20	0.05	0.00	0.00	0.00	
3	0.00	0.00	1.90	10.70	4.18	8.90	15.85	1.13	0.05	0.00	0.00	0.00	
4	0.00	0.00	0.78	9.30	2.85	7.95	9.50	1.06	0.10	0.15	0.00	0.00	
5	0.00	0.00	0.85	3.84	4.35	6.46	8.33	0.99	0.05	0.00	0.00	0.00	
6	0.00	0.00	2.72	6.10	30.64	5.20	7.00	0.92	0.00	0.00	0.00	0.00	
7	0.00	0.00	1.20	9.10	22.10	4.69	10.70	0.92	0.00	0.15	0.00	0.00	
8	0.00	0.00	0.40	2.00	34.42	6.46	10.30	0.85	0.00	0.00	0.00	0.00	
9	0.00	0.00	0.15	1.20	12.74	10.90	9.50	0.85	0.00	0.05	0.00	0.00	
10	0.00	0.00	0.05	2.85	7.38	29.40	13.44	0.78	0.00	0.25	0.00	0.00	
11	0.00	0.00	0.05	5.20	5.20	19.14	18.62	0.71	0.00	0.05	0.00	0.00	
12	0.00	0.00	0.00	17.85	5.20	29.10	26.40	0.71	0.00	0.00	0.00	0.00	
13	0.00	0.00	0.00	5.20	12.74	25.82	31.57	0.64	0.00	0.00	0.00	0.00	
14	0.00	0.00	0.00	2.85	35.70	13.44	15.60	0.57	0.00	0.00	0.00	0.00	
15	0.00	0.00	0.00	6.10	34.42	9.70	10.90	0.57	0.00	0.00	0.00	0.00	
16	0.00	0.00	0.00	10.10	48.96	8.52	10.90	0.45	0.00	0.00	0.00	0.00	
17	0.00	0.00	0.00	4.35	19.66	8.90	7.95	0.45	0.00	0.00	0.00	0.00	
18	0.00	0.00	0.00	2.33	12.97	29.71	6.64	0.45	0.00	0.00	0.00	0.00	
19	0.00	0.00	0.00	1.80	51.42	22.38	5.56	0.35	0.00	0.00	0.00	0.00	
20	0.00	0.00	0.00	2.33	120.62	11.36	4.69	0.30	0.00	0.00	0.00	0.00	
21	0.00	0.00	0.00	1.40	30.95	13.68	4.69	0.30	0.00	0.00	0.00	0.00	
22	0.00	0.00	0.71	0.99	59.22	12.74	4.86	0.30	0.00	0.00	0.00	0.00	
23	0.00	0.00	2.20	1.30	20.98	8.14	4.18	0.30	0.00	0.00	0.00	0.00	
24	0.00	0.00	0.20	1.20	11.82	7.76	4.01	0.30	0.00	0.00	0.00	0.00	
25	0.00	0.00	0.00	0.85	9.70	7.57	3.67	0.25	0.00	0.00	0.00	0.00	
26	0.00	0.00	0.00	1.70	10.50	8.33	2.98	0.20	0.00	0.00	0.00	0.00	
27	0.00	1.30	0.00	23.79	9.90	7.00	2.46	0.20	0.00	0.00	0.00	0.00	
28	0.00	4.86	0.00	53.47	30.64	5.56	2.10	0.20	0.00	0.00	0.00	0.00	
29	0.00	1.30	0.00	44.94	38.34	5.74	1.70	0.20	0.00	0.00	0.00	0.00	
30	0.00	0.40	0.00	18.88	24.66	7.00	1.60	0.20	0.00	0.00		0.00	
31		0.45		9.50	26.40		1.50		0.00	0.00		0.00	
Total	0.00	8.31	33.99	261.22	751.76	383.69	297.60	17.65	0.30	0.65	0.00	0.20	1755.37 CMSDAY
Mean	0.00	0.27	1.13	8.43	24.25	12.79	9.60	0.59	0.01	0.02	0.00	0.01	4.80 CMS
Max	0.00	4.86	12.28	53.47	120.62	29.71	31.57	1.30	0.10	0.25	0.00	0.20	120.62 CMS
Min	0.00	0.00	0.00	0.00	2.85	4.69	1.50	0.20	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	0.000	0.718	2.937	22.569	64.952	33.151	25.713	1.525	0.026	0.056	0.000	0.017	151.664 MCM

Momentary Peak 180.90 CMS, at 39.76 M (MSL), at 6.00 Hours, on Aug 20, 1991
Runoff Yield 14.27 Liters/Second/Square KM, Momentary Peak Yield 538.39 Liters/Second/Square KM

WATER YEAR 1991

PRACHIN BURI RIVER BASIN

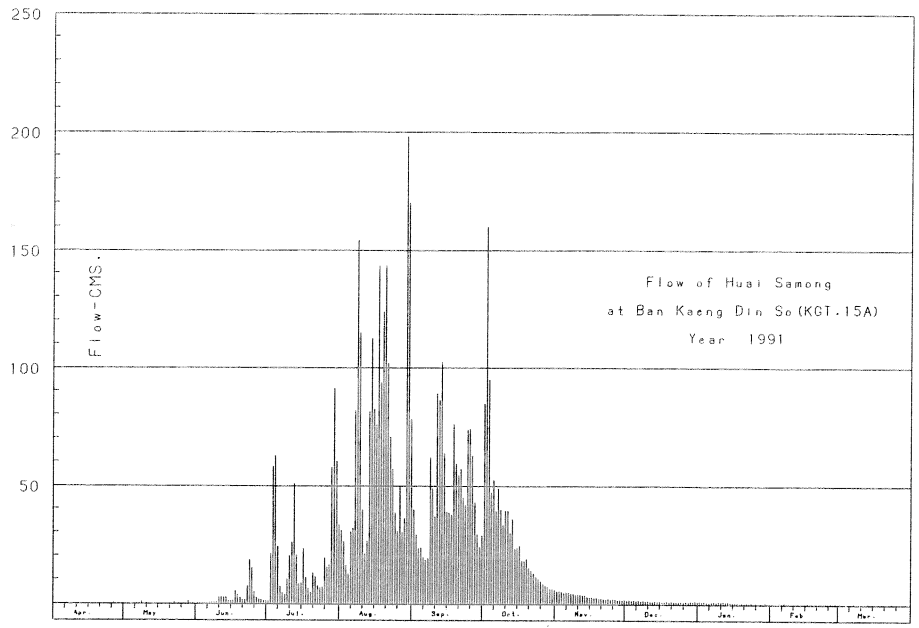
Huai Samong at Ban Kaeng Din So, Prachin Buri (Kgt.15A)

Location	Lat. 14°-03'-46" N., Long. 101°-55'-39" E., on right bank at Ban Kaeng Din So about 1 kilometer upstream from the Kgt.15 station, Amphoe Kabin Buri, Prachin Buri.
Drainage Area	530 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	Infront of the station office and near the rain gage.
Elevation	+9.615 m. (A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1968 to date.
Rating Operation	
Period of Rating	1968 to date.
Rated by Float	-
Rated by Current Meter	1968 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 112 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.61	0.54	0.69	0.80	2.68	3.00	4.34	1.36	0.90	0.78	0.66	0.63	
2	0.58	0.54	0.69	2.29	2.51	2.61	6.17	1.34	0.90	0.77	0.67	0.62	
3	0.56	0.53	0.65	3.56	2.05	2.39	4.64	1.33	0.89	0.77	0.67	0.61	
4	0.56	0.53	0.69	3.69	1.85	2.41	3.22	1.33	0.89	0.76	0.67	0.61	
5	0.55	0.54	0.63	2.43	2.67	2.24	3.39	1.31	0.88	0.74	0.67	0.60	
6	0.54	0.54	0.65	1.53	2.72	2.17	2.98	1.27	0.87	0.76	0.66	0.61	
7	0.54	0.69	0.72	1.25	4.25	2.22	3.27	1.24	0.86	0.75	0.66	0.60	
8	0.54	0.81	0.73	1.20	6.06	3.67	3.00	1.21	0.85	0.75	0.66	0.60	
9	0.54	0.66	0.72	1.72	5.20	3.27	2.77	1.20	0.84	0.77	0.66	0.60	
10	0.53	0.62	1.07	2.25	3.00	2.90	2.98	1.18	0.83	0.79	0.65	0.60	
11	0.53	0.60	1.05	2.50	2.29	4.46	2.99	1.18	0.82	0.77	0.65	0.60	
12	0.53	0.58	1.07	3.34	2.52	4.39	2.65	1.17	0.82	0.77	0.65	0.60	
13	0.53	0.58	1.04	2.28	4.24	4.84	2.86	1.15	0.81	0.75	0.64	0.60	
14	0.53	0.57	0.86	1.58	5.14	3.73	2.39	1.10	0.81	0.74	0.63	0.60	
15	0.53	0.57	0.83	1.63	4.28	2.97	2.40	1.07	0.80	0.73	0.64	0.60	
16	0.52	0.57	0.86	2.38	4.08	2.95	2.43	1.05	0.79	0.72	0.63	0.60	
17	0.53	0.62	1.37	1.77	5.85	2.93	2.17	1.04	0.79	0.70	0.63	0.60	
18	0.52	0.64	1.16	1.44	4.60	4.09	2.15	1.03	0.79	0.69	0.62	0.60	
19	0.52	0.58	1.05	1.31	5.43	3.59	2.21	1.01	0.78	0.68	0.62	0.60	
20	0.53	0.56	0.90	1.86	5.85	3.45	1.99	0.99	0.78	0.68	0.62	0.60	
21	0.55	0.62	0.90	1.76	4.83	3.53	1.92	0.99	0.78	0.69	0.62	0.60	
22	0.54	0.78	1.55	1.55	3.94	3.15	1.87	0.98	0.78	0.69	0.62	0.60	
23	0.53	0.65	2.19	1.46	3.52	3.05	1.78	0.97	0.77	0.68	0.62	0.60	
24	0.53	0.62	1.98	1.52	2.96	4.03	1.71	0.96	0.77	0.68	0.62	0.60	
25	0.69	0.60	1.30	2.23	2.67	4.03	1.66	0.95	0.77	0.67	0.62	0.60	
26	0.67	0.59	1.06	2.02	3.31	3.69	1.61	0.94	0.77	0.67	0.62	0.60	
27	0.62	0.65	0.96	2.06	2.65	3.10	1.56	0.93	0.76	0.69	0.62	0.60	
28	0.59	0.83	0.90	3.54	2.87	2.63	1.51	0.92	0.77	0.71	0.62	0.60	
29	0.57	0.68	0.86	4.53	6.74	2.42	1.45	0.92	0.80	0.69	0.62	0.60	
30	0.55	0.65	0.82	3.63	6.33	2.60	1.42	0.91	0.81	0.68		0.60	
31		0.67		2.77	4.16		1.39		0.80	0.68		0.58	
Mean	0.56	0.62	1.00	2.19	3.91	3.22	2.54	1.10	0.82	0.72	0.64	0.60	
Max	0.69	0.83	2.19	4.53	6.74	4.84	6.17	1.36	0.90	0.79	0.67	0.63	6.74
Min	0.52	0.53	0.63	0.80	1.85	2.17	1.39	0.91	0.76	0.67	0.62	0.58	0.52

Annual Max Momentary Gage Height 7.70 M (A.D), at 15.00 Hours, on Aug 29, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.38 M (A.D)
Left Bank Elevation 11.63 M (A.D)
Right Bank Elevation 9.47 M (A.D), Drainage Area 530 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.33	0.18	0.57	1.10	30.98	40.10	84.90	5.60	1.60	1.00	0.48	0.39	
2	0.26	0.18	0.57	21.07	26.56	29.16	160.28	5.40	1.60	0.95	0.51	0.36	
3	0.22	0.16	0.45	58.38	16.20	23.46	95.40	5.30	1.55	0.95	0.51	0.33	
4	0.22	0.16	0.57	62.67	12.75	23.96	47.16	5.30	1.55	0.90	0.51	0.33	
5	0.20	0.18	0.39	24.48	30.72	19.92	52.77	5.10	1.50	0.80	0.51	0.30	
6	0.18	0.18	0.45	7.45	32.02	18.43	39.48	4.73	1.45	0.90	0.48	0.33	
7	0.18	0.57	0.70	4.55	81.75	19.46	48.81	4.46	1.40	0.85	0.48	0.30	
8	0.18	1.15	0.75	4.10	154.38	62.01	40.10	4.19	1.35	0.85	0.48	0.30	
9	0.18	0.48	0.70	10.54	115.00	48.81	33.32	4.10	1.30	0.95	0.48	0.30	
10	0.16	0.36	2.93	20.15	40.10	37.00	39.48	3.92	1.25	1.05	0.45	0.30	
11	0.16	0.30	2.75	26.30	21.07	89.10	39.79	3.92	1.20	0.95	0.45	0.30	
12	0.16	0.26	2.93	51.12	26.82	86.65	30.20	3.83	1.20	0.95	0.45	0.30	
13	0.16	0.26	2.66	20.84	81.40	102.40	35.84	3.65	1.15	0.85	0.42	0.30	
14	0.16	0.24	1.40	8.20	112.90	63.99	23.46	3.20	1.15	0.80	0.39	0.30	
15	0.16	0.24	1.25	9.01	82.80	39.17	23.70	2.93	1.10	0.75	0.42	0.30	
16	0.14	0.24	1.40	23.22	75.80	38.55	24.48	2.75	1.05	0.70	0.39	0.30	
17	0.16	0.36	5.70	11.39	143.50	37.93	18.43	2.66	1.05	0.60	0.39	0.30	
18	0.14	0.42	3.74	6.40	94.00	76.15	18.05	2.57	1.05	0.57	0.36	0.30	
19	0.14	0.26	2.75	5.10	124.19	59.37	19.23	2.39	1.00	0.54	0.36	0.30	
20	0.16	0.22	1.60	12.92	143.50	54.75	15.13	2.23	1.00	0.54	0.36	0.30	
21	0.20	0.36	1.60	11.22	102.05	57.39	13.94	2.23	1.00	0.57	0.36	0.30	
22	0.18	1.00	7.75	7.75	70.96	44.90	13.09	2.16	1.00	0.57	0.36	0.30	
23	0.16	0.45	18.81	6.60	57.06	41.70	11.56	2.09	0.95	0.54	0.36	0.30	
24	0.16	0.36	14.96	7.30	38.86	74.05	10.37	2.02	0.95	0.54	0.36	0.30	
25	0.57	0.30	5.00	19.69	30.72	74.05	9.52	1.95	0.95	0.51	0.36	0.30	
26	0.51	0.28	2.84	15.66	50.13	62.67	8.67	1.88	0.95	0.51	0.36	0.30	
27	0.36	0.45	2.02	16.38	30.20	43.30	7.90	1.81	0.90	0.57	0.36	0.30	
28	0.28	1.25	1.60	57.72	36.13	29.68	7.15	1.74	0.95	0.65	0.36	0.30	
29	0.24	0.54	1.40	91.55	198.44	24.22	6.50	1.74	1.10	0.57	0.36	0.30	
30	0.20	0.45	1.20	60.69	169.96	28.90	6.20	1.67	1.15	0.54		0.30	
31		0.51		33.32	78.60		5.90		1.10	0.54		0.26	
Total	6.51	12.35	91.44	716.87	2309.55	1451.23	990.81	97.52	36.50	22.56	12.12	9.50	5756.96 CMSDAY
Mean	0.22	0.40	3.05	23.12	74.50	48.37	31.96	3.25	1.18	0.73	0.42	0.31	15.73 CMS
Max	0.57	1.25	18.81	91.55	198.44	102.40	160.28	5.60	1.60	1.05	0.51	0.39	198.44 CMS
Min	0.14	0.16	0.39	1.10	12.75	18.43	5.90	1.67	0.90	0.51	0.36	0.26	0.14 CMS
Runoff	0.562	1.067	7.900	61.938	199.545	125.386	85.606	8.426	3.154	1.949	1.047	0.821	497.401 MCM

Momentary Peak 295.00 CMS, at 7.70 M (A.D), at 15.00 Hours, on Aug 29, 1991
Runoff Yield 29.68 Liters/Second/Square KM, Momentary Peak Yield 556.60 Liters/Second/Square KM

WATER YEAR 1991

PRACHIN BURI RIVER BASIN

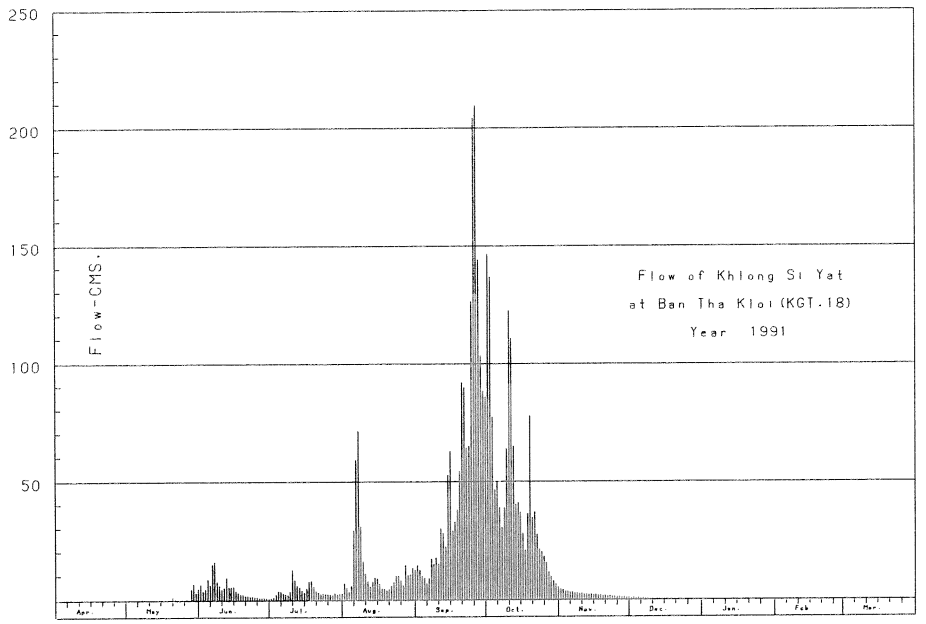
Khlong Si Yat at Ban Tha Kloi, Chachoengsao (Kgt.18)

Location	Lat. 13°-28'-29" N., Long. 101°-37'-44" E., on left bank at Ban Tha Kloi, Amphoe Sanam Chai Khet, Chachoengsao.
Drainage Area	951 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+34.20 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	Under the coconut tree infront of the station office.
Elevation	+41.426 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1969 to date.
Rating Operation	
Period of Rating	1969 to date.
Rated by Float	-
Rated by Current Meter	1969 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	Overbank flow starts at elevation + 40.25 m.(M.S.L.) and is included.
General Description	Records good. Stage-discharge relation defined by 110 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	35.03	35.05	36.41	35.37	36.47	37.03	40.88	36.20	35.39	35.15	35.10	35.10	
2	35.02	35.04	36.09	35.43	36.25	36.91	40.76	36.13	35.39	35.14	35.09	35.09	
3	35.02	35.04	36.18	35.81	36.05	36.71	39.66	36.08	35.38	35.12	35.10	35.08	
4	35.02	35.03	36.63	36.04	36.37	36.67	38.69	36.03	35.37	35.13	35.10	35.08	
5	35.00	35.05	36.40	36.08	37.91	36.45	38.83	35.99	35.35	35.15	35.09	35.08	
6	35.00	35.11	37.08	35.93	39.16	36.63	38.34	35.95	35.33	35.13	35.09	35.08	
7	35.00	35.31	37.13	35.78	39.52	37.22	37.96	35.92	35.32	35.13	35.09	35.09	
8	35.00	35.23	36.54	35.77	37.98	37.06	38.35	35.88	35.30	35.12	35.10	35.07	
9	34.99	35.18	36.35	36.03	37.15	37.23	39.30	35.86	35.28	35.14	35.11	35.06	
10	34.99	35.13	36.16	36.91	36.79	37.07	40.55	35.85	35.28	35.14	35.12	35.05	
11	34.98	35.13	36.26	36.61	36.52	37.94	40.35	35.81	35.27	35.14	35.11	35.05	
12	34.98	35.13	36.69	36.35	36.34	37.83	39.34	35.77	35.26	35.13	35.13	35.05	
13	34.98	35.12	36.33	36.31	36.53	37.53	38.40	35.75	35.25	35.12	35.13	35.04	
14	34.98	35.11	36.30	36.10	36.66	38.93	38.45	35.73	35.25	35.11	35.12	35.03	
15	34.98	35.11	36.34	36.01	36.65	39.28	38.25	35.75	35.25	35.11	35.10	35.03	
16	34.98	35.11	36.11	36.26	36.43	37.90	37.83	35.71	35.23	35.11	35.09	35.03	
17	34.99	35.11	35.94	36.51	36.24	38.06	37.44	35.70	35.23	35.12	35.11	35.03	
18	35.00	35.10	35.83	36.56	36.18	38.31	38.22	35.66	35.22	35.13	35.08	35.02	
19	35.02	35.22	35.75	36.32	36.13	38.99	39.68	35.63	35.20	35.13	35.19	35.03	
20	35.03	35.49	35.67	36.10	36.17	40.00	38.15	35.61	35.20	35.11	35.17	35.03	
21	35.06	35.28	35.63	35.94	36.34	39.96	38.27	35.59	35.19	35.11	35.17	35.02	
22	35.06	35.20	35.60	35.85	36.51	39.31	37.82	35.58	35.18	35.10	35.17	35.02	
23	35.06	35.18	35.56	35.88	36.74	39.34	37.47	35.57	35.18	35.09	35.20	35.02	
24	35.05	35.20	35.54	35.86	36.72	40.61	37.39	35.54	35.18	35.09	35.19	35.02	
25	35.05	35.23	35.50	35.77	36.55	41.39	37.28	35.52	35.18	35.10	35.20	35.02	
26	35.05	35.21	35.47	35.74	36.38	41.42	37.10	35.49	35.17	35.09	35.12	35.02	
27	35.05	35.21	35.45	35.75	37.05	40.85	36.86	35.47	35.17	35.10	35.10	35.01	
28	35.05	36.22	35.41	35.89	36.76	40.22	36.69	35.45	35.15	35.10	35.09	35.02	
29	35.05	36.43	35.40	35.82	36.76	39.92	36.55	35.44	35.14	35.09	35.09	35.01	
30	35.05	35.98	35.39	35.80	36.96	39.87	36.41	35.42	35.16	35.09		34.99	
31		36.21		35.86	36.92		36.28		35.15	35.09		34.97	
Mean	35.02	35.30	36.04	36.01	36.81	38.55	38.31	35.74	35.25	35.12	35.12	35.04	
Max	35.06	36.43	37.13	36.91	39.52	41.42	40.88	36.20	35.39	35.15	35.20	35.10	41.42
Min	34.98	35.03	35.39	35.37	36.05	36.45	36.28	35.42	35.14	35.09	35.08	34.97	34.97

Annual Max Momentary Gage Height 41.48 M (MSL), at 6.00 Hours, on Sep 26, 1991
Zero Gage at Bottom Elevation 34.20 M (MSL), River Bed 34.09 M (MSL)
Left Bank Elevation 41.63 M (MSL)
Right Bank Elevation 40.24 M (MSL), Drainage Area 951 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.06	0.10	6.71	0.91	7.37	14.68	146.40	4.80	0.97	0.30	0.20	0.20	
2	0.04	0.08	4.04	1.12	5.20	12.85	137.00	4.31	0.97	0.28	0.18	0.18	
3	0.04	0.08	4.66	2.64	3.80	10.13	77.40	3.98	0.94	0.24	0.20	0.16	
4	0.04	0.06	9.16	3.74	6.30	9.64	46.97	3.68	0.91	0.26	0.20	0.16	
5	0.00	0.10	6.60	3.98	29.81	7.15	50.35	3.45	0.85	0.30	0.18	0.16	
6	0.00	0.22	15.48	3.15	59.30	9.16	39.08	3.25	0.79	0.26	0.18	0.16	
7	0.00	0.73	16.28	2.52	71.80	17.72	30.86	3.10	0.76	0.26	0.18	0.18	
8	0.00	0.49	8.14	2.48	31.28	15.16	39.30	2.92	0.70	0.24	0.20	0.14	
9	0.00	0.36	6.10	3.68	16.60	17.88	64.00	2.84	0.64	0.28	0.22	0.12	
10	0.00	0.26	4.52	12.85	11.17	15.32	122.75	2.80	0.64	0.28	0.24	0.10	
11	0.00	0.26	5.28	8.92	7.92	30.44	110.75	2.64	0.61	0.28	0.22	0.10	
12	0.00	0.26	9.88	6.10	6.00	28.20	65.40	2.48	0.58	0.26	0.26	0.10	
13	0.00	0.24	5.90	5.70	8.03	22.81	40.40	2.40	0.55	0.24	0.26	0.08	
14	0.00	0.22	5.60	4.10	9.52	52.88	41.50	2.32	0.55	0.22	0.24	0.06	
15	0.00	0.22	6.00	3.56	9.40	63.30	37.10	2.40	0.55	0.22	0.20	0.06	
16	0.00	0.22	4.17	5.28	6.93	29.60	28.20	2.24	0.49	0.22	0.18	0.06	
17	0.00	0.22	3.20	7.81	5.12	32.96	21.28	2.20	0.49	0.24	0.22	0.06	
18	0.00	0.20	2.72	8.36	4.66	38.42	36.44	2.04	0.46	0.26	0.16	0.04	
19	0.04	0.46	2.40	5.80	4.31	54.44	78.20	1.92	0.40	0.26	0.38	0.06	
20	0.06	1.36	2.08	4.10	4.59	92.00	34.90	1.84	0.40	0.22	0.34	0.06	
21	0.12	0.64	1.92	3.20	6.00	90.20	37.54	1.76	0.38	0.22	0.34	0.04	
22	0.12	0.40	1.80	2.80	7.81	64.35	28.00	1.72	0.36	0.20	0.34	0.04	
23	0.12	0.36	1.64	2.92	10.52	65.40	21.79	1.68	0.36	0.18	0.40	0.04	
24	0.10	0.40	1.56	2.84	10.26	126.65	20.44	1.56	0.36	0.18	0.38	0.04	
25	0.10	0.49	1.40	2.48	8.25	204.50	18.68	1.48	0.36	0.20	0.40	0.04	
26	0.10	0.43	1.28	2.36	6.40	209.60	15.80	1.36	0.34	0.18	0.24	0.04	
27	0.10	0.43	1.20	2.40	15.00	144.00	12.14	1.28	0.34	0.20	0.20	0.02	
28	0.10	4.96	1.04	2.96	10.78	103.60	9.88	1.20	0.30	0.20	0.18	0.04	
29	0.10	6.93	1.00	2.68	10.78	88.40	8.25	1.16	0.28	0.18	0.18	0.02	
30	0.10	3.40	0.97	2.60	13.60	86.15	6.71	1.08	0.32	0.18		0.00	
31		4.88		2.84	13.00		5.44		0.30	0.18		0.00	
Total	1.34	29.46	142.73	126.88	421.51	1757.59	1432.95	71.89	16.95	7.22	7.10	2.56	4018.18 CMSDAY
Mean	0.04	0.95	4.76	4.09	13.60	58.59	46.22	2.40	0.55	0.23	0.24	0.08	10.98 CMS
Max	0.12	6.93	16.28	12.85	71.80	209.60	146.40	4.80	0.97	0.30	0.40	0.20	209.60 CMS
Min	0.00	0.06	0.97	0.91	3.80	7.15	5.44	1.08	0.28	0.18	0.16	0.00	0.00 CMS
Runoff	0.116	2.545	12.332	10.962	36.418	151.856	123.807	6.211	1.464	0.624	0.613	0.221	347.171 MCM

Momentary Peak 220.40 CMS, at 41.48 M (MSL), at 6.00 Hours, on Sep 26, 1991

Runoff Yield 11.54 Liters/Second/Square KM, Momentary Peak Yield 231.76 Liters/Second/Square KM

WATER YEAR 1991

PRACHIN BURI RIVER BASIN

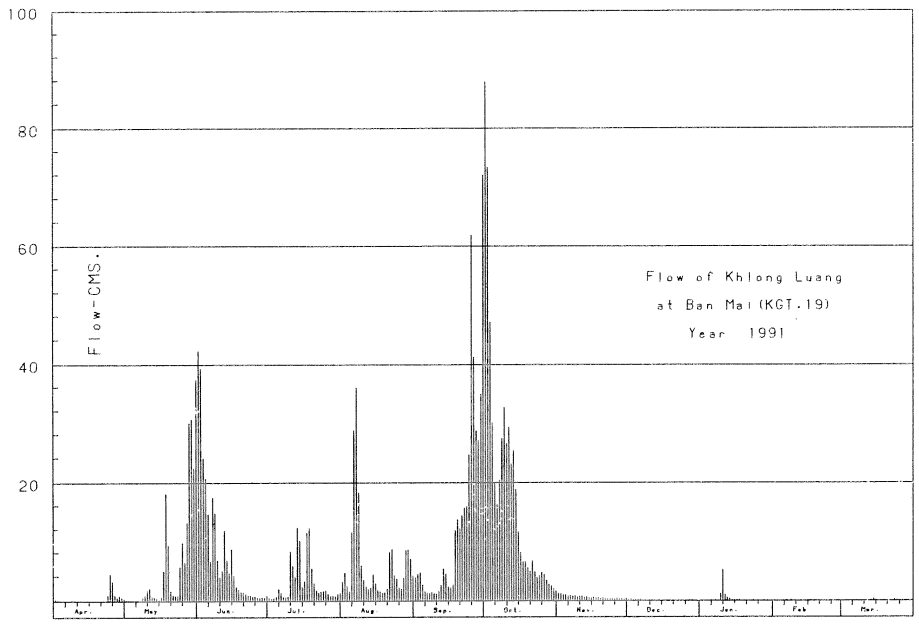
Khlong Luang at Ban Mai, Chon Buri (Kgt.19)

Location	Lat. 13°-23'-17" N., Long. 101°-20'-40" E., on left bank about 4 kilometers east of Khok Pho market and about 16 kilometers from Amphoe Phanat Nikhom, Chon Buri.
Drainage Area	535 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+20.124 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	Beside the Meteorological station.
Elevation	+25.658 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1965 to date.
Rating Operation	
Period of Rating	1965 - 1974, 1987 to date.
Rated by Float	-
Rated by Current Meter	1965 - 1974, 1987 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	Overbank flow starts at elevation +23.47 m.(M.S.L.) and is included.
General Description	Records good. Stage-discharge relation defined by 75 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	20.71	20.63	25.34	20.78	21.64	21.80	25.76	21.14	20.67	20.60	20.64	20.56	
2	20.60	20.60	25.26	20.76	21.96	21.89	25.68	21.09	20.67	20.60	20.61	20.55	
3	20.63	20.57	24.52	20.77	21.46	21.97	25.43	21.05	20.65	20.61	20.60	20.55	
4	20.59	20.57	24.20	20.92	21.23	21.51	24.89	21.02	20.63	20.62	20.59	20.54	
5	20.55	20.56	23.51	21.37	23.07	21.25	24.10	20.98	20.65	20.63	20.58	20.55	
6	20.52	20.56	22.32	21.13	24.82	21.13	23.72	20.96	20.64	20.61	20.58	20.55	
7	20.51	20.58	23.86	20.91	25.17	21.15	24.18	20.96	20.63	20.60	20.58	20.55	
8	20.49	20.85	23.52	20.84	23.94	21.16	24.74	20.92	20.64	20.63	20.64	20.55	
9	20.48	20.99	22.37	20.92	22.18	21.13	25.03	20.90	20.63	21.12	20.63	20.56	
10	20.48	21.26	21.79	22.59	21.69	21.07	24.70	20.89	20.63	22.05	20.62	20.56	
11	20.47	21.38	22.03	22.20	21.47	21.26	24.85	20.89	20.62	21.01	20.63	20.55	
12	20.46	20.93	23.10	21.80	21.33	21.49	24.44	20.86	20.59	20.77	20.62	20.53	
13	20.44	20.80	22.35	23.19	21.37	22.10	24.61	20.84	20.61	20.71	20.63	20.62	
14	20.44	20.74	21.96	22.87	21.91	21.90	23.99	20.82	20.63	20.67	20.61	20.74	
15	20.44	20.66	22.66	21.45	21.60	21.45	23.08	20.81	20.61	20.66	20.62	20.63	
16	20.44	20.88	21.84	21.65	21.31	21.38	22.56	20.80	20.62	20.65	20.61	20.61	
17	20.44	22.02	21.46	23.06	21.20	21.54	22.33	20.79	20.61	20.64	20.61	20.59	
18	20.44	23.93	21.32	23.16	21.15	23.10	22.31	20.77	20.58	20.63	20.60	20.57	
19	20.44	22.74	21.23	22.11	21.15	23.38	22.13	20.75	20.61	20.62	20.59	20.56	
20	20.44	21.24	21.16	21.58	21.37	23.16	21.98	20.75	20.60	20.61	20.59	20.56	
21	20.44	21.05	21.07	21.30	22.57	23.46	22.33	20.74	20.61	20.60	20.58	20.55	
22	20.47	21.00	21.03	21.18	22.66	23.65	21.99	20.74	20.60	20.61	20.58	20.54	
23	21.03	20.96	20.98	21.20	21.85	23.67	21.80	20.72	20.60	20.62	20.59	20.67	
24	21.92	22.14	20.95	21.26	21.73	24.56	21.84	20.71	20.60	20.61	20.59	20.71	
25	21.64	22.80	20.91	21.27	21.43	25.59	21.94	20.70	20.60	20.63	20.58	20.63	
26	21.03	22.31	20.87	21.07	21.34	25.31	21.90	20.73	20.60	20.64	20.59	20.59	
27	20.85	23.31	20.82	20.98	21.79	24.82	21.70	20.71	20.60	20.61	20.57	20.57	
28	20.96	24.89	20.82	20.95	22.63	24.72	21.53	20.71	20.61	20.59	20.57	20.54	
29	20.85	24.93	20.85	20.96	22.63	25.12	21.49	20.71	20.60	20.64	20.57	20.53	
30	20.70	24.37	20.95	21.06	22.41	25.67	21.34	20.70	20.61	20.63		20.53	
31		25.21		21.15	21.83		21.23		20.60	20.62		20.53	
Mean	20.66	21.79	22.17	21.50	22.06	22.71	23.21	20.84	20.62	20.70	20.60	20.58	
Max	21.92	25.21	25.34	23.19	25.17	25.67	25.76	21.14	20.67	22.05	20.64	20.74	25.76
Min	20.44	20.56	20.82	20.76	21.15	21.07	21.23	20.70	20.58	20.59	20.57	20.53	20.44

Annual Max Momentary Gage Height 25.78 M (MSL), at 15.00 Hours, on Sep 30, 1991
Zero Gage at Bottom Elevation 20.12 M (MSL), River Bed 20.42 M (MSL)
Left Bank Elevation 23.46 M (MSL)
Right Bank Elevation 23.72 M (MSL), Drainage Area 535 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.32	0.16	42.40	0.46	3.20	4.00	88.00	1.32	0.24	0.10	0.18	0.06	
2	0.10	0.10	39.28	0.42	4.80	4.45	73.40	1.17	0.24	0.10	0.12	0.05	
3	0.16	0.07	24.28	0.44	2.44	4.85	47.26	1.05	0.20	0.12	0.10	0.05	
4	0.09	0.07	20.70	0.74	1.59	2.64	30.12	0.96	0.16	0.14	0.09	0.04	
5	0.05	0.06	14.77	2.08	11.69	1.65	19.80	0.86	0.20	0.16	0.08	0.05	
6	0.02	0.06	6.62	1.29	28.86	1.29	16.38	0.82	0.18	0.12	0.08	0.05	
7	0.01	0.08	17.64	0.72	36.22	1.35	20.52	0.82	0.16	0.10	0.08	0.05	
8	0.00	0.60	14.84	0.58	18.36	1.38	27.48	0.74	0.18	0.16	0.18	0.05	
9	0.00	0.88	6.92	0.74	5.90	1.29	32.86	0.70	0.16	1.26	0.16	0.06	
10	0.00	1.68	3.95	8.33	3.45	1.11	26.80	0.68	0.16	5.25	0.14	0.06	
11	0.00	2.12	5.15	6.00	2.48	1.68	29.40	0.68	0.14	0.93	0.16	0.05	
12	0.00	0.76	11.90	4.00	1.92	2.56	23.28	0.62	0.09	0.44	0.14	0.03	
13	0.00	0.50	6.80	12.53	2.08	5.50	25.54	0.58	0.12	0.32	0.16	0.14	
14	0.00	0.38	4.80	10.29	4.55	4.50	18.81	0.54	0.16	0.24	0.12	0.38	
15	0.00	0.22	8.82	2.40	3.00	2.40	11.76	0.52	0.12	0.22	0.14	0.16	
16	0.00	0.66	4.20	3.25	1.84	2.12	8.12	0.50	0.14	0.20	0.12	0.12	
17	0.00	5.10	2.44	11.62	1.50	2.76	6.68	0.48	0.12	0.18	0.12	0.09	
18	0.00	18.27	1.88	12.32	1.35	11.90	6.56	0.44	0.08	0.16	0.10	0.07	
19	0.00	9.38	1.59	5.55	1.35	13.86	5.65	0.40	0.12	0.14	0.09	0.06	
20	0.00	1.62	1.38	2.92	2.08	12.32	4.90	0.40	0.10	0.12	0.09	0.06	
21	0.00	1.05	1.11	1.80	8.19	14.42	6.68	0.38	0.12	0.10	0.08	0.05	
22	0.00	0.90	0.99	1.44	8.82	15.80	4.95	0.38	0.10	0.12	0.08	0.04	
23	0.99	0.82	0.86	1.50	4.25	15.96	4.00	0.34	0.10	0.14	0.09	0.24	
24	4.60	5.70	0.80	1.68	3.65	24.84	4.20	0.32	0.10	0.12	0.09	0.32	
25	3.20	9.80	0.72	1.71	2.32	62.00	4.70	0.30	0.10	0.16	0.08	0.16	
26	0.99	6.56	0.64	1.11	1.96	41.20	4.50	0.36	0.10	0.18	0.09	0.09	
27	0.60	13.37	0.54	0.86	3.95	28.86	3.50	0.32	0.10	0.12	0.07	0.07	
28	0.82	30.12	0.54	0.80	8.61	27.14	2.72	0.32	0.12	0.09	0.07	0.04	
29	0.60	30.87	0.60	0.82	8.61	34.92	2.56	0.32	0.10	0.18	0.07	0.03	
30	0.30	22.47	0.80	1.08	7.16	72.10	1.96	0.30	0.12	0.16		0.03	
31		37.38		1.35	4.15		1.59		0.10	0.14		0.03	
Total	12.85	201.81	247.96	100.83	200.33	420.85	564.68	17.62	4.23	11.97	3.17	2.78	1789.08 CMSDAY
Mean	0.43	6.51	8.27	3.25	6.46	14.03	18.22	0.59	0.14	0.39	0.11	0.09	4.89 CMS
Max	4.60	37.38	42.40	12.53	36.22	72.10	88.00	1.32	0.24	5.25	0.18	0.38	88.00 CMS
Min	0.00	0.06	0.54	0.42	1.35	1.11	1.59	0.30	0.08	0.09	0.07	0.03	0.00 CMS
Runoff	1.110	17.436	21.424	8.712	17.309	36.361	48.788	1.522	0.365	1.034	0.274	0.240	154.577 MCM

Momentary Peak 92.00 CMS, at 25.78 M (MSL), at 15.00 Hours, on Sep 30, 1991
Runoff Yield 9.14 Liters/Second/Square KM, Momentary Peak Yield 171.96 Liters/Second/Square KM

WATER YEAR 1991

PRACHIN BURI RIVER BASIN

Khlong Yang at Ban Khlong Yang, Nakhon Nayok (Kgt.27)

Location — Lat. 14°-12′-02″ N., Long. 101°-22′-05″ E., on right bank at Ban Khlong Yang, Tambon Na Hin Lat, Amphoe Pak Phli, Nakhon Nayok.

Drainage Area — 45 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +11.50 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — On right bank on the top staff gage.

Elevation — +15.367 m.(M.S.L.)

Gage Reading Frequency — Recordings.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1982 to date.

Rating Operation

Period of Rating — 1983 to date.

Rated by Float — -

Rated by Current Meter — 1983 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — Overbank flow starts at elevation +15.07 m.(M.S.L.) and is included.

General Description — Records fair. Stage-discharge relation defined by 54 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

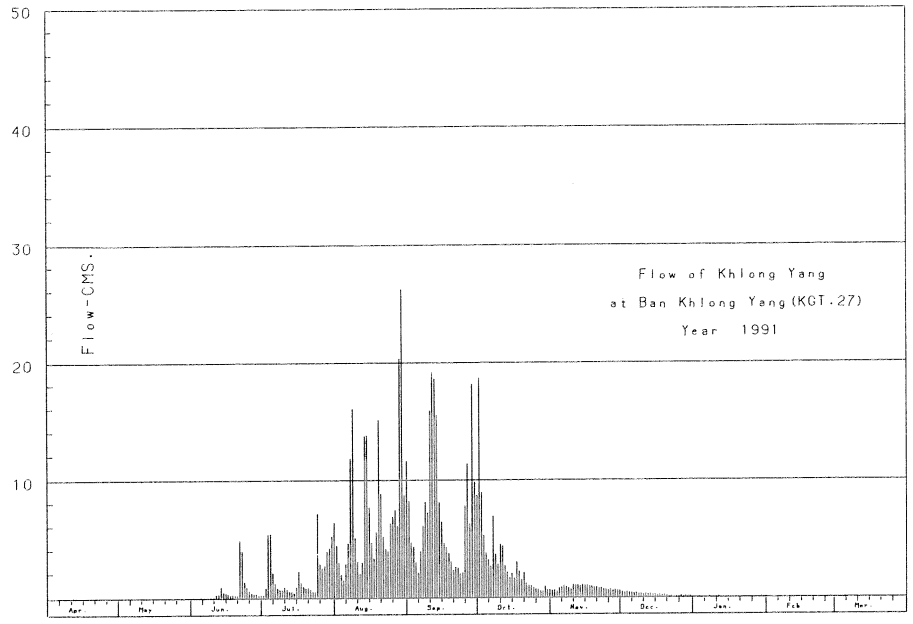
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	11.40	11.42	11.64	11.82	12.52	12.85	13.53	11.94	11.90	11.76	11.74	11.54	
2	11.40	11.41	11.63	12.00	12.35	12.54	12.90	11.93	11.90	11.75	11.73	11.53	
3	11.40	11.41	11.62	12.61	12.22	12.51	12.60	11.92	11.90	11.75	11.72	11.53	
4	11.40	11.40	11.62	12.62	12.13	12.35	12.45	11.98	11.89	11.75	11.72	11.52	
5	11.40	11.40	11.62	12.24	12.34	12.24	12.38	12.01	11.87	11.75	11.71	11.51	
6	11.40	11.40	11.62	12.08	12.54	12.46	12.31	12.03	11.87	11.75	11.71	11.50	
7	11.40	11.40	11.68	12.00	13.09	12.68	12.75	12.02	11.87	11.76	11.70	11.50	
8	11.40	11.40	11.69	11.95	13.37	12.84	12.44	11.98	11.86	11.77	11.70	11.49	
9	11.40	11.40	11.71	11.96	12.58	12.77	12.33	11.97	11.85	11.77	11.69	11.48	
10	11.40	11.40	11.75	12.00	12.36	13.36	12.53	12.05	11.84	11.76	11.69	11.47	
11	11.40	11.40	11.83	11.96	12.23	13.56	12.51	12.05	11.84	11.75	11.69	11.46	
12	11.40	11.40	11.84	11.93	12.35	13.53	12.32	12.04	11.85	11.75	11.68	11.45	
13	11.40	11.40	12.03	11.91	13.22	13.33	12.24	12.04	11.84	11.74	11.67	11.44	
14	11.40	11.40	11.91	11.89	13.22	12.84	12.18	12.05	11.83	11.74	11.66	11.43	
15	11.40	11.40	11.89	12.02	12.81	12.71	12.22	12.05	11.82	11.74	11.65	11.42	
16	11.40	11.40	11.85	12.25	12.54	12.54	12.16	12.04	11.82	11.73	11.64	11.41	
17	11.40	11.40	11.83	12.10	12.40	12.50	12.36	12.03	11.82	11.73	11.63	11.41	
18	11.40	11.40	11.83	12.03	12.63	12.45	12.25	12.01	11.82	11.72	11.62	11.40	
19	11.40	11.40	11.83	11.98	13.31	12.36	12.15	12.01	11.81	11.72	11.61	11.39	
20	11.40	11.40	11.81	12.00	12.89	12.27	12.24	12.00	11.81	11.72	11.60	11.39	
21	11.40	11.40	12.56	11.96	12.59	12.30	12.08	11.99	11.78	11.71	11.59	11.37	
22	11.40	11.40	12.47	11.92	12.49	12.30	12.05	11.98	11.79	11.71	11.58	11.39	
23	11.40	11.40	12.12	11.90	12.46	12.22	12.03	11.97	11.80	11.72	11.58	11.38	
24	11.40	11.40	12.00	12.77	12.70	12.24	12.00	11.95	11.78	11.72	11.58	11.37	
25	11.40	11.40	11.93	12.34	12.74	12.82	11.97	11.95	11.77	11.71	11.57	11.36	
26	11.40	11.40	11.90	12.29	12.79	13.06	11.95	11.95	11.79	11.71	11.56	11.38	
27	11.40	11.40	11.87	12.32	12.68	12.69	11.93	11.94	11.79	11.71	11.56	11.38	
28	11.40	11.40	11.85	12.46	13.63	13.50	11.91	11.94	11.79	11.74	11.55	11.38	
29	11.40	11.53	11.83	12.49	13.98	12.96	12.03	11.94	11.79	11.78	11.55	11.38	
30	11.40	11.53	11.82	12.60	12.88	12.88	11.94	11.92	11.77	11.76		11.38	
31		11.65		12.70	13.08		11.94		11.77	11.74		11.38	
Mean	11.40	11.42	11.85	12.16	12.75	12.72	12.28	11.99	11.83	11.74	11.64	11.43	
Max	11.40	11.65	12.56	12.77	13.98	13.56	13.53	12.05	11.90	11.78	11.74	11.54	13.98
Min	11.40	11.40	11.62	11.82	12.13	12.22	11.91	11.92	11.77	11.71	11.55	11.36	11.36

Annual Max Momentary Gage Height — 16.39 M (MSL), at 23.00 Hours, on Aug 28, 1991

Zero Gage at Bottom Elevation — 11.50 M (MSL), River Bed — 10.93 M (MSL)

Left Bank Elevation — 16.10 M (MSL)

Right Bank Elevation — 15.06 M (MSL), Drainage Area — 45 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.00	0.26	4.50	8.30	18.68	0.66	0.50	0.12	0.08	0.00	
2	0.00	0.00	0.00	0.90	3.00	4.70	9.00	0.62	0.50	0.10	0.06	0.00	
3	0.00	0.00	0.00	5.41	2.04	4.40	5.30	0.58	0.50	0.10	0.04	0.00	
4	0.00	0.00	0.00	5.52	1.48	3.00	3.85	0.82	0.47	0.10	0.04	0.00	
5	0.00	0.00	0.00	2.18	2.92	2.18	3.24	0.94	0.41	0.10	0.02	0.00	
6	0.00	0.00	0.00	1.22	4.70	3.94	2.68	1.02	0.41	0.10	0.02	0.00	
7	0.00	0.00	0.00	0.90	11.85	6.18	7.00	0.98	0.41	0.12	0.00	0.00	
8	0.00	0.00	0.00	0.70	16.12	8.16	3.76	0.82	0.38	0.14	0.00	0.00	
9	0.00	0.00	0.02	0.74	5.10	7.24	2.84	0.78	0.35	0.14	0.00	0.00	
10	0.00	0.00	0.10	0.90	3.08	15.96	4.60	1.10	0.32	0.12	0.00	0.00	
11	0.00	0.00	0.29	0.74	2.11	19.16	4.40	1.10	0.32	0.10	0.00	0.00	
12	0.00	0.00	0.32	0.62	3.00	18.68	2.76	1.06	0.35	0.10	0.00	0.00	
13	0.00	0.00	1.02	0.54	13.80	15.48	2.18	1.06	0.32	0.08	0.00	0.00	
14	0.00	0.00	0.54	0.47	13.80	8.16	1.78	1.10	0.29	0.08	0.00	0.00	
15	0.00	0.00	0.47	0.98	7.74	6.52	2.04	1.10	0.26	0.08	0.00	0.00	
16	0.00	0.00	0.35	2.25	4.70	4.70	1.66	1.06	0.26	0.06	0.00	0.00	
17	0.00	0.00	0.29	1.30	3.40	4.30	3.08	1.02	0.26	0.06	0.00	0.00	
18	0.00	0.00	0.29	1.02	5.63	3.85	2.25	0.94	0.26	0.04	0.00	0.00	
19	0.00	0.00	0.29	0.82	15.16	3.08	1.60	0.94	0.23	0.04	0.00	0.00	
20	0.00	0.00	0.23	0.90	8.86	2.39	2.18	0.90	0.23	0.04	0.00	0.00	
21	0.00	0.00	4.90	0.74	5.20	2.60	1.22	0.86	0.16	0.02	0.00	0.00	
22	0.00	0.00	4.03	0.58	4.21	2.60	1.10	0.82	0.18	0.02	0.00	0.00	
23	0.00	0.00	1.42	0.50	3.94	2.04	1.02	0.78	0.20	0.04	0.00	0.00	
24	0.00	0.00	0.90	7.24	6.40	2.18	0.90	0.70	0.16	0.04	0.00	0.00	
25	0.00	0.00	0.62	2.92	6.88	7.88	0.78	0.70	0.14	0.02	0.00	0.00	
26	0.00	0.00	0.50	2.53	7.48	11.40	0.70	0.70	0.18	0.02	0.00	0.00	
27	0.00	0.00	0.41	2.76	6.18	6.29	0.62	0.66	0.18	0.02	0.00	0.00	
28	0.00	0.00	0.35	3.94	20.31	18.20	0.54	0.66	0.18	0.08	0.00	0.00	
29	0.00	0.00	0.29	4.21	26.26	9.90	1.02	0.66	0.18	0.16	0.00	0.00	
30	0.00	0.00	0.26	5.30	8.72	8.72	0.66	0.58	0.14	0.12		0.00	
31		0.00		6.40	11.70		0.66		0.14	0.08		0.00	
Total	0.00	0.00	17.89	65.49	240.27	222.19	94.10	25.72	8.87	2.44	0.26	0.00	677.23 CMSDAY
Mean	0.00	0.00	0.60	2.11	7.75	7.41	3.04	0.86	0.29	0.08	0.01	0.00	1.85 CMS
Max	0.00	0.00	4.90	7.24	26.26	19.16	18.68	1.10	0.50	0.16	0.08	0.00	26.26 CMS
Min	0.00	0.00	0.00	0.26	1.48	2.04	0.54	0.58	0.14	0.02	0.00	0.00	0.00 CMS
Runoff	0.000	0.000	1.546	5.658	20.759	19.197	8.130	2.222	0.766	0.211	0.022	0.000	58.513 MCM

Momentary Peak 72.98 CMS, at 16.39 M (MSL), at 23.00 Hours, on Aug 28, 1991
Runoff Yield 41.12 Liters/Second/Square KM, Momentary Peak Yield 1621.78 Liters/Second/Square KM

WATER YEAR 1991

EAST* COAST-GULF BASIN

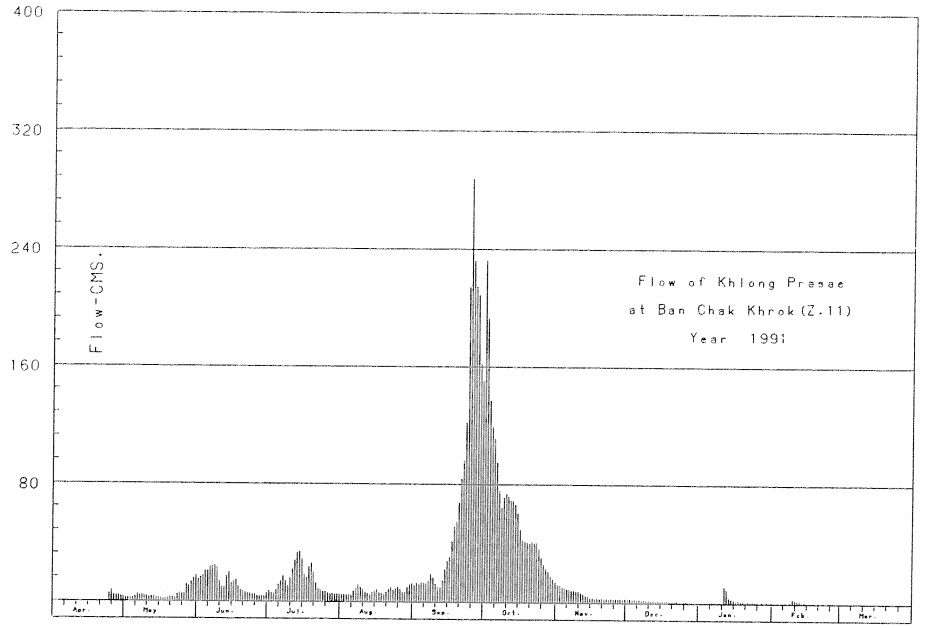
Khlong Prasae at Ban Chak Khrok, Rayong (Z.11)

Location	Lat. 12°-51'-20" N., Long. 101°-37'-10" E., on left bank near Khao Wang Sai at Ban Chak Khrok,Tambon Wang Ka Mo, Amphoe Klaeng, Rayong.
Drainage Area	1,280 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+2.63 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank near the Meteorological Station.
Elevation	+13.420 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1965-1974, 1989 to date.
Rating Operation	
Period of Rating	1989 to date.
Rated by Float	-
Rated by Current Meter	1989 to date
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 92 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.68	3.15	4.57	3.69	3.43	4.18	8.91	4.26	3.15	2.77	2.81	2.71	
2	2.68	3.11	4.65	3.58	3.41	4.30	8.84	4.18	3.14	2.77	2.82	2.70	
3	2.68	3.12	4.78	3.48	3.44	4.26	8.68	4.08	3.11	2.78	2.81	2.69	
4	2.64	3.13	5.00	3.80	3.42	4.33	8.57	3.97	3.10	2.82	2.80	2.68	
5	2.63	3.25	5.05	4.20	3.41	4.37	8.50	3.93	3.08	2.85	2.80	2.67	
6	2.63	3.43	5.28	4.40	3.68	4.27	8.33	3.89	3.07	2.93	2.80	2.66	
7	2.63	3.38	5.29	4.76	3.93	4.50	8.02	3.82	3.06	2.82	2.80	2.66	
8	2.63	3.37	5.35	4.44	4.17	4.86	7.75	3.79	3.05	2.82	2.80	2.65	
9	2.63	3.33	5.19	4.11	4.02	4.70	7.92	3.77	3.02	2.81	3.23	2.64	
10	2.63	3.27	4.44	4.60	3.82	4.24	7.98	3.74	2.98	2.81	3.14	2.64	
11	2.63	3.22	3.97	5.14	3.65	3.98	7.93	3.67	2.98	4.18	3.00	2.64	
12	2.63	3.29	3.98	5.59	3.52	4.00	7.88	3.53	2.96	3.91	2.93	2.67	
13	2.63	3.24	4.72	6.01	3.46	4.52	7.86	3.45	2.94	3.33	2.89	2.64	
14	2.63	3.15	4.98	6.09	3.60	5.12	7.81	3.36	2.94	3.18	2.86	2.64	
15	2.63	3.09	4.33	5.69	3.72	5.62	7.62	3.28	2.93	3.09	2.84	2.64	
16	2.63	3.06	4.39	4.83	3.80	5.80	7.14	3.25	2.93	3.03	2.82	2.64	
17	2.63	3.03	4.54	4.66	3.63	6.61	6.66	3.23	2.93	3.00	2.80	2.64	
18	2.63	3.05	4.03	5.25	3.51	7.20	6.61	3.21	2.92	2.97	2.79	2.61	
19	2.63	3.14	3.80	5.49	3.47	7.40	6.54	3.20	2.91	2.94	2.78	2.60	
20	2.63	3.21	3.67	4.94	3.62	7.83	6.54	3.20	2.89	2.92	2.77	2.60	
21	2.63	3.19	3.58	4.29	3.88	8.17	6.59	3.19	2.89	2.90	2.76	2.60	
22	2.63	3.18	3.53	3.92	3.96	8.34	6.56	3.19	2.88	2.88	2.75	2.60	
23	2.63	3.46	3.48	3.76	3.81	8.59	6.54	3.18	2.87	2.88	2.74	2.60	
24	3.53	3.49	3.46	3.68	3.87	8.88	6.27	3.18	2.87	2.86	2.74	2.60	
25	3.72	3.52	3.42	3.64	4.04	8.99	5.82	3.17	2.87	2.85	2.75	2.60	
26	3.36	3.47	3.35	3.57	3.83	8.91	5.43	3.17	2.85	2.84	2.74	2.60	
27	3.37	4.21	3.31	3.51	3.64	8.88	5.22	3.17	2.82	2.85	2.71	2.60	
28	3.33	4.03	3.29	3.50	3.61	8.87	5.02	3.16	2.79	2.86	2.73	2.60	
29	3.30	4.40	3.32	3.47	4.03	8.77	4.78	3.16	2.78	2.84	2.71	2.60	
30	3.21	4.58	3.51	3.45	4.19	8.73	4.59	3.16	2.77	2.83		2.60	
31		4.75		3.43	4.28		4.41		2.77	2.82		2.60	
Mean	2.82	3.43	4.21	4.35	3.74	6.31	7.01	3.48	2.94	2.97	2.82	2.63	
Max	3.72	4.75	5.35	6.09	4.28	8.99	8.91	4.26	3.15	4.18	3.23	2.71	8.99
Min	2.63	3.03	3.29	3.43	3.41	3.98	4.41	3.16	2.77	2.77	2.71	2.60	2.60

Annual Max Momentary Gage Height 9.00 M (MSL), at 15.00 Hours, on Sep 25, 1991
Zero Gage at Bottom Elevation 2.63 M (MSL), River Bed 2.31 M (MSL)
Left Bank Elevation 10.69 M (MSL)
Right Bank Elevation 10.70 M (MSL), Drainage Area 1280 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.24	2.70	15.47	7.31	4.97	11.72	232.00	12.44	2.70	0.65	0.85	0.35	
2	0.24	2.46	16.40	6.32	4.79	12.80	192.60	11.72	2.64	0.65	0.90	0.30	
3	0.24	2.52	17.96	5.42	5.06	12.44	137.40	10.82	2.46	0.70	0.85	0.27	
4	0.12	2.58	20.60	8.30	4.88	13.07	119.40	9.83	2.40	0.90	0.80	0.24	
5	0.09	3.40	21.20	11.90	4.79	13.43	111.00	9.47	2.28	1.05	0.80	0.21	
6	0.09	4.97	23.96	13.70	7.22	12.53	95.40	9.11	2.22	1.45	0.80	0.18	
7	0.09	4.52	24.08	17.72	9.47	14.70	76.00	8.48	2.16	0.90	0.80	0.18	
8	0.09	4.43	24.80	14.10	11.63	18.92	64.80	8.21	2.10	0.90	0.80	0.15	
9	0.09	4.07	22.88	11.09	10.28	17.00	71.40	8.03	1.92	0.85	3.24	0.12	
10	0.09	3.56	14.10	15.80	8.48	12.26	74.10	7.76	1.70	0.85	2.64	0.12	
11	0.09	3.16	9.83	22.28	6.95	9.92	71.85	7.13	1.70	11.72	1.80	0.12	
12	0.09	3.72	9.92	27.87	5.78	10.10	69.70	5.87	1.60	9.29	1.45	0.21	
13	0.09	3.32	17.24	33.33	5.24	14.92	68.90	5.15	1.50	4.07	1.25	0.12	
14	0.09	2.70	20.36	34.37	6.50	22.04	66.90	4.34	1.50	2.88	1.10	0.12	
15	0.09	2.34	13.07	29.17	7.58	28.26	60.70	3.64	1.45	2.34	1.00	0.12	
16	0.09	2.16	13.61	18.56	8.30	30.60	49.86	3.40	1.45	1.98	0.90	0.12	
17	0.09	1.98	15.14	16.52	6.77	41.54	42.24	3.24	1.45	1.80	0.80	0.12	
18	0.09	2.10	10.37	23.60	5.69	51.00	41.54	3.08	1.40	1.65	0.75	0.03	
19	0.09	2.64	8.30	26.57	5.33	55.10	40.56	3.00	1.35	1.50	0.70	0.00	
20	0.09	3.08	7.13	19.88	6.68	67.70	40.56	3.00	1.25	1.40	0.65	0.00	
21	0.09	2.94	6.32	12.71	9.02	84.20	41.26	2.94	1.25	1.30	0.60	0.00	
22	0.09	2.88	5.87	9.38	9.74	96.20	40.84	2.94	1.20	1.20	0.55	0.00	
23	0.09	5.24	5.42	7.94	8.39	121.80	40.56	2.88	1.15	1.20	0.50	0.00	
24	5.87	5.51	5.24	7.22	8.93	214.20	36.78	2.88	1.15	1.10	0.50	0.00	
25	7.58	5.78	4.88	6.86	10.46	288.00	30.86	2.82	1.15	1.05	0.55	0.00	
26	4.34	5.33	4.25	6.23	8.57	232.00	25.79	2.82	1.05	1.00	0.50	0.00	
27	4.43	11.99	3.89	5.69	6.86	214.20	23.24	2.82	0.90	1.05	0.35	0.00	
28	4.07	10.37	3.72	5.60	6.59	208.80	20.84	2.76	0.75	1.10	0.45	0.00	
29	3.80	13.70	3.98	5.33	10.37	162.00	17.96	2.76	0.70	1.00	0.35	0.00	
30	3.08	15.58	5.69	5.15	11.81	150.00	15.69	2.76	0.65	0.95		0.00	
31		17.60		4.97	12.62		13.80		0.65	0.90		0.00	
Total	35.72	159.33	375.68	440.89	239.75	2241.45	2034.53	166.10	47.83	59.38	27.23	3.08	5830.97 CMSDAY
Mean	1.19	5.14	12.52	14.22	7.73	74.72	65.63	5.54	1.54	1.92	0.94	0.10	15.93 CMS
Max	7.58	17.60	24.80	34.37	12.62	288.00	232.00	12.44	2.70	11.72	3.24	0.35	288.00 CMS
Min	0.09	1.98	3.72	4.97	4.79	9.92	13.80	2.76	0.65	0.65	0.35	0.00	0.00 CMS
Runoff	3.086	13.766	32.459	38.093	20.714	193.661	175.783	14.351	4.133	5.130	2.353	0.266	503.796 MCM

Momentary Peak 295.00 CMS, at 9.00 M (MSL), at 15.00 Hours, on Sep 25, 1991

Runoff Yield 12.45 Liters/Second/Square KM, Momentary Peak Yield 230.47 Liters/Second/Square KM

WATER YEAR 1991

EAST COAST-GULF BASIN

Chanthaburi River at Ban Puk, Chanthaburi (Z.13)

Location — Lat. 12°-45'-40" N., Long. 102°-18'-35" E., on left bank infront of Wat Ban Puk, Amphoe Makham, Chanthaburi.

Drainage Area — 671 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +6.30 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — On left bank about 20 meters from the top staff gage.

Elevation — +14.374 m.(M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1968 to date.

Rating Operation

Period of Rating — 1973 to date.

Rated by Float — -

Rated by Current Meter — 1973 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 34 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

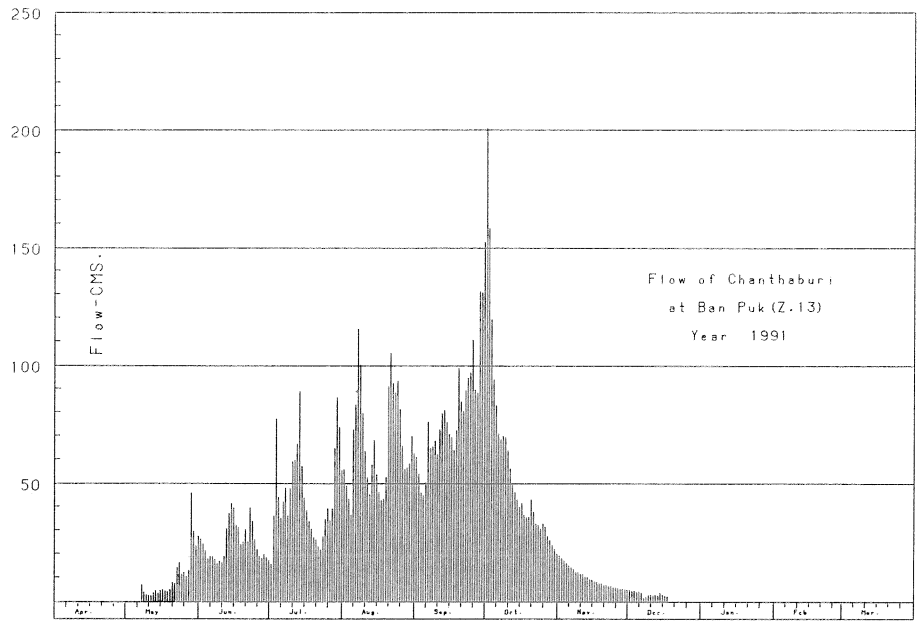
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	6.30	6.30	7.73	7.34	8.59	8.72	12.01	7.48	6.84	7.42	7.44	6.85	
2	6.30	6.30	7.67	8.05	8.41	8.54	11.04	7.45	6.83	7.38	7.43	6.83	
3	6.30	6.30	7.56	9.13	8.25	8.33	10.13	7.40	6.82	7.39	7.42	6.80	
4	6.30	6.30	7.44	8.27	8.06	8.29	9.53	7.37	6.80	7.46	7.42	6.78	
5	6.30	6.30	7.47	8.02	9.01	8.45	9.27	7.32	6.80	7.58	7.42	6.74	
6	6.30	6.30	7.48	8.22	9.27	9.10	8.97	7.30	6.78	7.81	7.42	6.71	
7	6.30	6.99	7.42	8.38	10.04	8.82	8.91	7.26	6.59	7.35	7.41	6.69	
8	6.30	6.78	7.36	8.04	9.68	8.83	8.95	7.22	6.60	6.84	7.41	6.66	
9	6.30	6.72	7.39	8.38	9.18	8.90	8.93	7.21	6.71	6.81	7.42	6.63	
10	6.30	6.68	7.38	8.68	8.79	8.75	8.80	7.19	6.70	6.80	7.34	6.60	
11	6.30	6.69	7.47	8.69	8.50	9.01	8.61	7.18	6.70	6.82	7.32	6.58	
12	6.30	6.79	7.87	8.86	8.31	9.18	8.44	7.14	6.70	6.90	7.30	6.55	
13	6.30	6.83	8.08	9.41	8.64	9.22	8.34	7.12	6.69	7.47	7.27	6.53	
14	6.30	6.77	8.20	8.63	8.90	9.09	8.24	7.09	6.76	7.76	7.25	6.49	
15	6.30	6.83	8.14	8.26	8.54	8.97	8.16	7.07	6.72	7.69	7.23	6.47	
16	6.30	6.85	7.93	8.11	8.33	8.93	8.20	7.05	6.65	7.63	7.20	6.45	
17	6.30	6.84	7.89	7.98	8.24	8.80	8.05	7.03	6.66	7.70	7.16	6.41	
18	6.30	6.80	7.66	7.87	8.25	9.01	8.03	7.01	7.17	7.81	7.15	6.38	
19	6.30	6.87	7.69	7.76	8.51	9.64	8.03	7.00	7.29	7.80	7.12	6.34	
20	6.30	7.02	7.86	7.72	9.46	9.30	8.25	6.97	7.28	7.80	7.09	6.43	
21	6.30	7.00	7.70	7.62	9.79	9.21	8.10	6.96	7.23	7.80	7.07	6.56	
22	6.30	7.30	8.14	7.58	9.49	9.42	7.94	6.95	7.19	7.77	7.04	6.53	
23	6.30	7.37	7.98	7.77	9.39	9.54	7.93	6.94	7.44	7.74	7.02	6.51	
24	6.30	7.19	7.72	8.00	9.51	9.60	7.87	6.92	7.60	7.70	7.00	6.49	
25	6.30	7.21	7.59	8.14	9.23	9.93	7.95	6.91	7.64	7.69	6.98	6.46	
26	6.30	7.13	7.47	7.99	8.84	9.42	7.90	6.89	7.46	7.68	6.95	6.44	
27	6.30	7.25	7.45	8.13	8.60	9.39	7.78	6.88	7.60	7.66	6.93	6.44	
28	6.30	8.33	7.50	8.82	8.61	10.42	7.71	6.87	7.66	7.62	6.90	6.39	
29	6.30	7.84	7.46	9.34	8.66	10.40	7.65	6.87	7.64	7.59	6.89	6.35	
30	6.30	7.64	7.40	9.04	8.95	10.91	7.58	6.84	7.61	7.57		6.30	
31		7.78		8.58	8.76		7.52		7.49	7.56		6.30	
Mean	6.30	6.95	7.67	8.28	8.86	9.20	8.54	7.10	7.05	7.50	7.21	6.54	
Max	6.30	8.33	8.20	9.41	10.04	10.91	12.01	7.48	7.66	7.81	7.44	6.85	12.01
Min	6.30	6.30	7.36	7.34	8.06	8.29	7.52	6.84	6.59	6.80	6.89	6.30	6.30

Annual Max Momentary Gage Height — 12.20 M (MSL), at 9.00 Hours, on Oct 1, 1991

Zero Gage at Bottom Elevation — 6.30 M (MSL), River Bed — 5.96 M (MSL)

Left Bank Elevation — 14.09 M (MSL)

Right Bank Elevation — 12.94 M (MSL), Drainage Area — 671 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	26.70	15.94	56.12	61.30	200.95	19.58	5.04	0.00	0.00	0.00	
2	0.00	0.00	24.93	36.80	49.46	54.22	158.32	18.80	4.88	0.00	0.00	0.00	
3	0.00	0.00	21.78	77.73	43.75	46.58	119.66	17.50	4.72	0.00	0.00	0.00	
4	0.00	0.00	18.54	44.45	37.14	45.15	94.46	16.72	4.40	0.00	0.00	0.00	
5	0.00	0.00	19.32	35.78	72.90	50.90	83.54	15.42	4.40	0.00	0.00	0.00	
6	0.00	0.00	19.58	42.70	83.54	76.50	71.30	14.90	4.12	0.00	0.00	0.00	
7	0.00	7.62	18.02	48.38	115.88	65.30	68.90	13.86	1.90	0.00	0.00	0.00	
8	0.00	4.12	16.46	36.46	100.76	65.70	70.50	12.82	2.00	0.00	0.00	0.00	
9	0.00	3.28	17.24	48.38	79.78	68.50	69.70	12.56	3.14	0.00	0.00	0.00	
10	0.00	2.80	16.98	59.70	64.10	62.50	64.50	12.07	3.00	0.00	0.00	0.00	
11	0.00	2.90	19.32	60.10	52.70	72.90	56.90	11.84	3.00	0.00	0.00	0.00	
12	0.00	4.26	30.97	66.90	45.86	79.78	50.54	10.92	3.00	0.00	0.00	0.00	
13	0.00	4.88	37.82	89.42	58.10	81.44	46.94	10.46	2.90	0.00	0.00	0.00	
14	0.00	3.98	42.00	57.70	68.50	76.10	43.40	9.78	3.84	0.00	0.00	0.00	
15	0.00	4.88	39.90	44.10	54.22	71.30	40.60	9.34	3.28	0.00	0.00	0.00	
16	0.00	5.20	32.86	38.85	46.58	69.70	42.00	8.90	2.50	0.00	0.00	0.00	
17	0.00	5.04	31.59	34.46	43.40	64.50	36.80	8.46	2.60	0.00	0.00	0.00	
18	0.00	4.40	24.64	30.97	43.75	72.90	36.12	8.02	0.00	0.00	0.00	0.00	
19	0.00	5.52	25.51	27.60	53.08	99.08	36.12	7.80	0.00	0.00	0.00	0.00	
20	0.00	8.24	30.66	26.40	91.52	84.80	43.75	7.26	0.00	0.00	0.00	0.00	
21	0.00	7.80	25.80	23.48	105.38	81.02	38.50	7.08	0.00	0.00	0.00	0.00	
22	0.00	14.90	39.90	22.34	92.78	89.84	33.18	6.90	0.00	0.00	0.00	0.00	
23	0.00	16.72	34.46	27.90	88.58	94.88	32.86	6.72	0.00	0.00	0.00	0.00	
24	0.00	12.07	26.40	35.10	93.62	97.40	30.97	6.36	0.00	0.00	0.00	0.00	
25	0.00	12.56	22.62	39.90	81.86	111.26	33.50	6.18	0.00	0.00	0.00	0.00	
26	0.00	10.69	19.32	34.78	66.10	89.84	31.90	5.84	0.00	0.00	0.00	0.00	
27	0.00	13.60	18.80	39.55	56.50	88.58	28.20	5.68	0.00	0.00	0.00	0.00	
28	0.00	46.58	20.10	65.30	56.90	131.84	26.10	5.52	0.00	0.00	0.00	0.00	
29	0.00	30.04	19.06	86.48	58.90	131.00	24.35	5.52	0.00	0.00	0.00	0.00	
30	0.00	24.06	17.50	74.10	70.50	152.73	22.34	5.04	0.00	0.00		0.00	
31		28.20		55.74	62.90		20.66		0.00	0.00		0.00	
Total	0.00	284.34	758.78	1427.49	2095.16	2437.54	1757.56	307.85	58.72	0.00	0.00	0.00	9127.44 CMSDAY
Mean	0.00	9.17	25.29	46.05	67.59	81.25	56.70	10.26	1.89	0.00	0.00	0.00	24.94 CMS
Max	0.00	46.58	42.00	89.42	115.88	152.73	200.95	19.58	5.04	0.00	0.00	0.00	200.95 CMS
Min	0.00	0.00	16.46	15.94	37.14	45.15	20.66	5.04	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	0.000	24.567	65.559	123.335	181.022	210.603	151.853	26.598	5.073	0.000	0.000	0.000	788.611 MCM

Momentary Peak 209.50 CMS, at 12.20 M (MSL), at 9.00 Hours, on Oct 1, 1991

Runoff Yield 37.17 Liters/Second/Square KM, Momentary Peak Yield 312.22 Liters/Second/Square KM

WATER YEAR 1991

EAST COAST-GULF BASIN

Khlong Phayat at Ban Chaman, Chanthaburi (Z.14)

Location — Lat. 12°-44'-25" N., Long. 102°-12'-39" E., on left bank at the bridge of Khlong Phayat near Wat Chaman, Amphoe Makham, Chanthaburi.

Drainage Area — 245 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank about 30 meters from the top staff gage.

Elevation — +8.170 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1968 to date.

Rating Operation

Period of Rating — 1986 to date.

Rated by Float — -

Rated by Current Meter — 1986 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 37 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

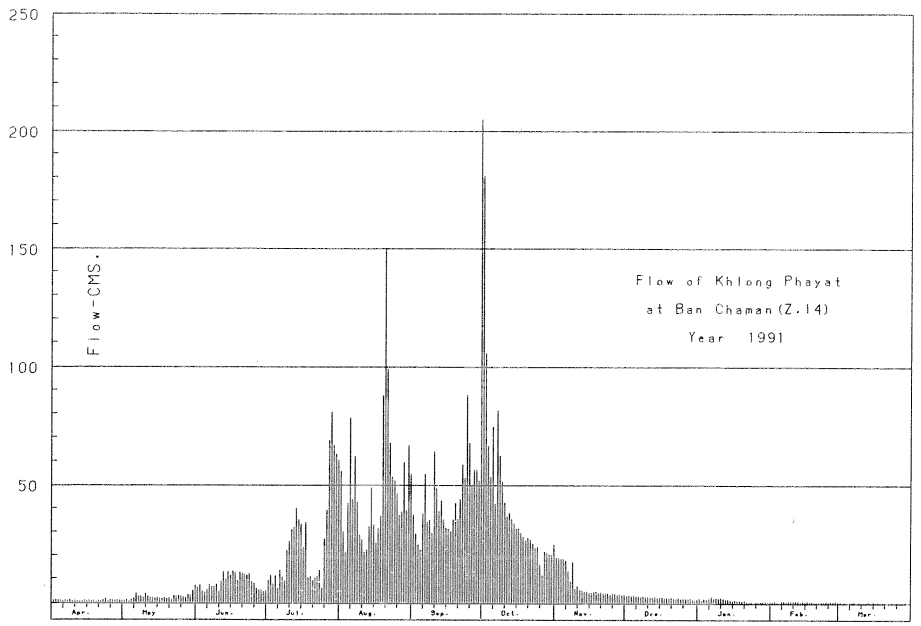
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.85	0.85	1.29	1.47	3.37	2.71	6.58	1.99	1.05	0.92	0.80	0.76	
2	0.86	0.85	1.35	1.58	2.43	2.40	4.76	1.97	1.04	0.88	0.81	0.77	
3	0.86	0.84	1.21	1.37	2.08	2.21	3.70	1.96	1.04	0.91	0.80	0.77	
4	0.83	0.87	1.14	1.58	2.91	2.13	3.29	1.95	1.05	0.91	0.78	0.78	
5	0.83	0.94	1.23	1.28	4.04	2.74	3.94	1.93	1.03	0.94	0.81	0.77	
6	0.85	1.11	1.36	1.69	2.97	3.33	2.90	1.68	1.02	0.98	0.80	0.77	
7	0.85	1.03	1.32	1.55	3.56	2.59	4.12	1.45	1.01	0.94	0.80	0.77	
8	0.86	1.00	1.31	1.44	2.94	2.62	3.58	1.90	1.01	0.94	0.80	0.77	
9	0.82	0.99	1.38	2.12	2.38	2.41	3.22	1.26	1.01	0.95	0.82	0.76	
10	0.83	1.10	1.20	2.26	2.29	3.63	2.93	1.32	0.99	0.94	0.81	0.77	
11	0.83	1.03	1.43	2.47	2.08	3.12	2.68	1.25	1.00	0.92	0.82	0.76	
12	0.82	0.96	1.66	2.50	2.13	2.78	2.75	1.22	0.99	0.91	0.80	0.77	
13	0.83	0.96	1.50	2.82	2.51	2.96	2.64	1.20	0.99	0.89	0.80	0.76	
14	0.85	0.95	1.66	2.64	3.14	2.63	2.58	1.19	0.97	0.88	0.79	0.76	
15	0.84	0.96	1.59	2.56	2.55	2.50	2.49	1.15	0.97	0.84	0.80	0.78	
16	0.84	0.93	1.69	2.16	2.24	2.47	2.48	1.14	0.97	0.85	0.80	0.77	
17	0.84	0.94	1.64	2.58	2.48	2.44	2.42	1.18	0.95	0.84	0.80	0.77	
18	0.83	0.94	1.46	1.53	2.70	2.63	2.34	1.18	0.95	0.83	0.79	0.77	
19	0.80	0.94	1.65	1.54	4.29	2.92	2.29	1.15	0.95	0.82	0.79	0.76	
20	0.83	0.94	1.64	1.47	5.86	2.64	2.32	1.15	0.95	0.86	0.79	0.77	
21	0.81	0.90	1.60	1.51	4.58	2.97	2.29	1.14	0.94	0.77	0.79	0.74	
22	0.87	1.05	1.59	1.57	3.75	3.46	2.23	1.14	0.93	0.78	0.79	0.76	
23	0.91	1.01	1.61	1.69	3.28	3.28	2.16	1.11	0.94	0.76	0.79	0.75	
24	0.83	1.05	1.44	1.29	3.24	4.29	2.17	1.09	0.92	0.80	0.79	0.74	
25	0.86	1.01	1.38	2.31	3.05	3.75	1.83	1.11	0.91	0.80	0.79	0.75	
26	0.85	0.97	1.27	2.80	2.70	3.17	1.59	1.10	0.91	0.80	0.79	0.75	
27	0.87	0.98	1.24	3.78	2.77	3.38	2.10	1.08	0.92	0.79	0.80	0.77	
28	0.85	1.09	1.22	4.10	3.49	3.39	2.07	1.08	0.92	0.80	0.79	0.77	
29	0.86	1.04	1.19	3.71	2.79	3.23	2.05	1.07	0.90	0.79	0.79	0.76	
30	0.83	1.23	1.19	3.60	3.71	7.13	2.03	1.07	0.83	0.79		0.77	
31		1.35		3.51	3.32		2.21		0.92	0.80		0.76	
Mean	0.84	0.99	1.41	2.21	3.08	3.06	2.80	1.34	0.97	0.86	0.80	0.76	
Max	0.91	1.35	1.69	4.10	5.86	7.13	6.58	1.99	1.05	0.98	0.82	0.78	7.13
Min	0.80	0.84	1.14	1.28	2.08	2.13	1.59	1.07	0.83	0.76	0.78	0.74	0.74

Annual Max Momentary Gage Height — 7.55 M (A.D), at 15.00 Hours, on Sep 30, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 0.36 M (A.D)

Left Bank Elevation — 8.41 M (A.D)

Right Bank Elevation — 8.17 M (A.D), Drainage Area — 245 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.30	1.30	6.64	9.86	56.37	37.52	180.92	19.59	3.40	2.00	0.80	0.48	
2	1.40	1.30	7.70	11.84	30.44	29.69	106.14	19.17	3.28	1.60	0.90	0.56	
3	1.40	1.20	5.36	8.06	21.64	24.88	66.60	18.96	3.28	1.90	0.80	0.56	
4	1.10	1.50	4.48	11.84	42.48	22.86	53.89	18.75	3.40	1.90	0.64	0.64	
5	1.10	2.20	5.68	6.48	78.72	38.28	74.98	18.33	3.16	2.20	0.90	0.56	
6	1.30	4.12	7.88	13.82	44.16	55.13	42.20	13.64	3.04	2.60	0.80	0.56	
7	1.30	3.16	7.16	11.30	62.26	34.49	81.76	9.50	2.92	2.20	0.80	0.56	
8	1.40	2.80	6.98	9.32	43.32	35.25	62.88	17.70	2.92	2.20	0.80	0.56	
9	1.00	2.70	8.24	22.61	29.18	29.94	51.72	6.16	2.92	2.30	1.00	0.48	
10	1.10	4.00	5.20	26.15	26.90	64.43	43.04	7.16	2.70	2.20	0.90	0.56	
11	1.10	3.16	9.14	31.46	21.64	48.62	36.77	6.00	2.80	2.00	1.00	0.48	
12	1.00	2.40	13.28	32.21	22.86	39.29	38.54	5.52	2.70	1.90	0.80	0.56	
13	1.10	2.40	10.40	40.28	32.47	43.88	35.75	5.20	2.70	1.70	0.80	0.48	
14	1.30	2.30	13.28	35.75	49.24	35.50	34.24	5.08	2.50	1.60	0.72	0.48	
15	1.20	2.40	12.02	33.73	33.48	32.21	31.96	4.60	2.50	1.20	0.80	0.64	
16	1.20	2.10	13.82	23.62	25.64	31.46	31.71	4.48	2.50	1.30	0.80	0.56	
17	1.20	2.20	12.92	34.24	31.71	30.70	30.19	4.96	2.30	1.20	0.80	0.56	
18	1.10	2.20	9.68	10.94	37.27	35.50	28.17	4.96	2.30	1.10	0.72	0.56	
19	0.80	2.20	13.10	11.12	88.22	42.76	26.90	4.60	2.30	1.00	0.72	0.48	
20	1.10	2.20	12.92	9.86	150.66	35.75	27.66	4.60	2.30	1.40	0.72	0.56	
21	0.90	1.80	12.20	10.58	99.24	44.16	26.90	4.48	2.20	0.56	0.72	0.32	
22	1.50	3.40	12.02	11.66	68.30	59.16	25.39	4.48	2.10	0.64	0.72	0.48	
23	1.90	2.92	12.38	13.82	53.58	53.58	23.62	4.12	2.20	0.48	0.72	0.40	
24	1.10	3.40	9.32	6.64	52.34	88.22	23.87	3.88	2.00	0.80	0.72	0.32	
25	1.40	2.92	8.24	27.41	46.50	68.30	16.37	4.12	1.90	0.80	0.72	0.40	
26	1.30	2.50	6.32	39.80	37.27	50.17	12.02	4.00	1.90	0.80	0.72	0.40	
27	1.50	2.60	5.84	69.32	39.04	56.68	22.10	3.76	2.00	0.72	0.80	0.56	
28	1.30	3.88	5.52	81.00	60.09	56.99	21.41	3.76	2.00	0.80	0.72	0.56	
29	1.40	3.28	5.08	66.94	39.55	52.03	20.95	3.64	1.80	0.72	0.72	0.48	
30	1.10	5.68	5.08	63.50	66.94	205.15	20.49	3.64	1.10	0.72		0.56	
31		7.70		60.71	54.82		24.88		2.00	0.80		0.48	
Total	36.90	87.92	267.88	845.87	1546.33	1482.58	1324.02	238.84	77.12	43.34	22.78	15.84	5989.42 CMSDAY
Mean	1.23	2.84	8.93	27.29	49.88	49.42	42.71	7.96	2.49	1.40	0.79	0.51	16.36 CMS
Max	1.90	7.70	13.82	81.00	150.66	205.15	180.92	19.59	3.40	2.60	1.00	0.64	205.15 CMS
Min	0.80	1.20	4.48	6.48	21.64	22.86	12.02	3.64	1.10	0.48	0.64	0.32	0.32 CMS
Runoff	3.188	7.596	23.145	73.083	133.603	128.095	114.395	20.636	6.663	3.745	1.968	1.369	517.486 MCM

Momentary Peak 224.95 CMS, at 7.55 M (A.D), at 15.00 Hours, on Sep 30, 1991
Runoff Yield 66.79 Liters/Second/Square KM, Momentary Peak Yield 918.16 Liters/Second/Square KM

WATER YEAR 1991

EAST COAST-GULF BASIN

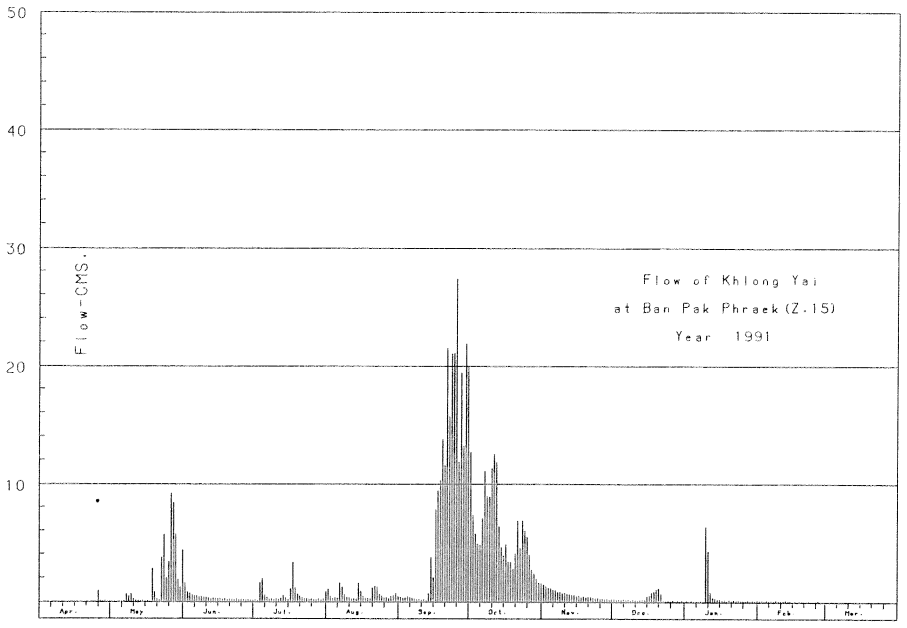
Khlong Yai at Ban Pak Phraek, Rayong (Z.15)

Location	Lat. 12°-55'-41" N., Long. 101°-19'-30" E., on right bank at Ban Pak Phraek, King Amphoe Pluak Daeng, Rayong.
Drainage Area	244 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+29.00 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	Near the Meteorological Station.
Elevation	+33.743 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1977 to date.
Rating Operation	
Period of Rating	1977 to date.
Rated by Float	-
Rated by Current Meter	1977 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	Overbank flow starts at elevation +30.68 m.(M.S.L.) and is included.
General Description	Records good. Stage-discharge relation defined by 101 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	28.85	28.90	29.70	29.00	29.53	29.16	31.47	29.68	29.05	28.96	28.97	28.91	
2	28.85	28.89	29.40	29.00	29.20	29.15	31.10	29.61	29.04	28.95	28.97	28.90	
3	28.85	28.89	29.32	29.73	29.13	29.13	30.87	29.58	29.04	28.95	28.96	28.90	
4	28.85	28.90	29.28	29.83	29.14	29.22	30.66	29.54	29.04	28.95	28.96	28.90	
5	28.85	28.91	29.23	29.27	29.15	29.16	30.65	29.50	29.04	28.95	28.96	28.90	
6	28.85	28.90	29.21	29.15	29.71	29.14	31.06	29.45	29.02	28.96	28.96	28.90	
7	28.85	29.32	29.19	29.09	29.61	29.09	31.40	29.41	29.02	28.96	28.96	28.89	
8	28.84	29.20	29.19	29.07	29.27	29.07	31.25	29.39	29.01	28.91	28.98	28.89	
9	28.84	29.31	29.18	29.08	29.18	29.04	31.25	29.35	29.01	30.96	28.97	28.88	
10	28.84	29.07	29.15	29.10	29.13	29.04	31.41	29.35	29.02	30.52	28.97	28.88	
11	28.84	29.00	29.13	29.09	29.11	29.03	31.46	29.33	29.00	29.36	28.97	28.89	
12	28.84	28.97	29.12	29.11	29.08	28.99	31.43	29.28	28.99	29.18	28.97	28.88	
13	28.84	28.96	29.12	29.27	29.10	29.32	30.97	29.27	28.99	29.11	28.96	28.88	
14	28.83	28.95	29.12	29.13	29.70	30.38	30.60	29.25	29.05	29.08	28.93	28.88	
15	28.83	28.94	29.12	29.08	29.44	29.88	30.41	29.23	29.19	29.05	28.93	28.88	
16	28.83	28.93	29.10	29.54	29.20	31.15	30.65	29.22	29.26	29.04	28.93	28.88	
17	28.83	28.92	29.10	30.28	29.14	31.29	30.28	29.19	29.35	29.03	28.93	28.88	
18	28.83	30.13	29.08	29.55	29.11	31.35	30.29	29.19	29.42	29.01	28.92	28.88	
19	28.83	29.38	29.06	29.31	29.12	31.51	30.12	29.18	29.49	29.00	28.92	28.88	
20	28.83	29.09	29.04	29.20	29.55	31.42	30.45	29.17	29.57	29.00	28.92	28.88	
21	28.84	29.03	29.03	29.15	29.64	31.72	31.03	29.20	29.33	28.99	28.92	28.88	
22	28.87	30.37	29.06	29.12	29.60	31.57	30.58	29.14	28.96	28.99	28.92	28.88	
23	28.89	30.86	29.07	29.09	29.31	31.71	31.04	29.13	28.96	28.98	28.92	28.88	
24	29.00	29.87	29.04	29.08	29.21	31.71	30.91	29.12	28.96	28.97	28.92	28.87	
25	29.46	30.28	29.03	29.08	29.16	31.85	30.82	29.11	28.95	28.97	28.92	28.87	
26	29.00	31.27	29.02	29.07	29.14	31.43	30.44	29.10	28.96	28.97	28.91	28.87	
27	28.95	31.21	29.01	29.06	29.12	31.67	30.08	29.09	28.95	28.97	28.89	28.87	
28	28.94	30.85	29.01	29.07	29.20	31.49	29.99	29.07	28.95	28.96	28.88	28.86	
29	28.92	29.82	28.98	29.06	29.25	31.73	29.83	29.07	28.95	28.97	28.89	28.86	
30	28.91	29.57	29.00	29.08	29.33	31.68	29.73	29.05	28.95	28.97		28.86	
31		30.54		29.39	29.21		29.70		28.95	28.97		28.85	
Mean	28.89	29.52	29.14	29.23	29.28	30.40	30.71	29.27	29.08	29.12	28.94	28.88	
Max	29.46	31.27	29.70	30.28	29.71	31.85	31.47	29.68	29.57	30.96	28.98	28.91	31.85
Min	28.83	28.89	28.98	29.00	29.08	28.99	29.70	29.05	28.95	28.91	28.88	28.85	28.83

Annual Max Momentary Gage Height 32.58 M (MSL), at 21.00 Hours, on Sep 25, 1991
Zero Gage at Bottom Elevation 29.00 M (MSL), River Bed 28.78 M (MSL)
Left Bank Elevation 30.67 M (MSL)
Right Bank Elevation 31.94 M (MSL), Drainage Area 244 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.05	0.10	1.60	0.20	1.16	0.42	12.81	1.54	0.25	0.16	0.17	0.11	
2	0.05	0.09	0.90	0.20	0.50	0.40	7.40	1.33	0.24	0.15	0.17	0.10	
3	0.05	0.09	0.74	1.69	0.36	0.36	5.85	1.26	0.24	0.15	0.16	0.10	
4	0.05	0.10	0.66	1.99	0.38	0.54	4.94	1.18	0.24	0.15	0.16	0.10	
5	0.05	0.11	0.56	0.64	0.40	0.42	4.90	1.10	0.24	0.15	0.16	0.10	
6	0.05	0.10	0.52	0.40	1.63	0.38	7.12	1.00	0.22	0.16	0.16	0.10	
7	0.05	0.74	0.48	0.29	1.33	0.29	11.20	0.92	0.22	0.16	0.16	0.09	
8	0.04	0.50	0.48	0.27	0.64	0.27	9.00	0.88	0.21	0.11	0.18	0.09	
9	0.04	0.72	0.46	0.28	0.46	0.24	9.00	0.80	0.21	6.42	0.17	0.08	
10	0.04	0.27	0.40	0.30	0.36	0.24	11.43	0.80	0.22	4.38	0.17	0.08	
11	0.04	0.20	0.36	0.29	0.32	0.23	12.58	0.76	0.20	0.82	0.17	0.09	
12	0.04	0.17	0.34	0.32	0.28	0.19	11.89	0.66	0.19	0.46	0.17	0.08	
13	0.04	0.16	0.34	0.64	0.30	0.74	6.49	0.64	0.19	0.32	0.16	0.08	
14	0.03	0.15	0.34	0.36	1.60	3.82	4.70	0.60	0.25	0.28	0.13	0.08	
15	0.03	0.14	0.34	0.28	0.98	2.14	3.94	0.56	0.48	0.25	0.13	0.08	
16	0.03	0.13	0.30	1.18	0.50	7.90	4.90	0.54	0.62	0.24	0.13	0.08	
17	0.03	0.12	0.30	3.42	0.38	9.48	3.42	0.48	0.80	0.23	0.13	0.08	
18	0.03	2.89	0.28	1.20	0.32	10.40	3.46	0.48	0.94	0.21	0.12	0.08	
19	0.03	0.86	0.26	0.72	0.34	13.83	2.86	0.46	1.08	0.20	0.12	0.08	
20	0.03	0.29	0.24	0.50	1.20	11.66	4.10	0.44	1.24	0.20	0.12	0.08	
21	0.04	0.23	0.23	0.40	1.42	21.56	6.91	0.50	0.76	0.19	0.12	0.08	
22	0.07	3.78	0.26	0.34	1.30	15.81	4.62	0.38	0.16	0.19	0.12	0.08	
23	0.09	5.80	0.27	0.29	0.72	21.13	6.98	0.36	0.16	0.18	0.12	0.08	
24	0.20	2.11	0.24	0.28	0.52	21.13	6.07	0.34	0.16	0.17	0.12	0.07	
25	1.02	3.42	0.23	0.28	0.42	27.45	5.60	0.32	0.15	0.17	0.12	0.07	
26	0.20	9.24	0.22	0.27	0.38	11.89	4.06	0.30	0.16	0.17	0.11	0.07	
27	0.15	8.52	0.21	0.26	0.34	19.53	2.74	0.29	0.15	0.17	0.09	0.07	
28	0.14	5.75	0.21	0.27	0.50	13.27	2.47	0.27	0.15	0.16	0.08	0.06	
29	0.12	1.96	0.18	0.26	0.60	21.99	1.99	0.27	0.15	0.17	0.09	0.06	
30	0.11	1.24	0.20	0.28	0.76	19.92	1.69	0.25	0.15	0.17		0.06	
31		4.46		0.88	0.52		1.60		0.15	0.17		0.05	
Total	2.94	54.44	12.15	18.98	20.92	257.63	186.72	19.71	10.58	17.11	4.01	2.51	607.70 CMSDAY
Mean	0.10	1.76	0.41	0.61	0.67	8.59	6.02	0.66	0.34	0.55	0.14	0.08	1.66 CMS
Max	1.02	9.24	1.60	3.42	1.63	27.45	12.81	1.54	1.24	6.42	0.18	0.11	27.45 CMS
Min	0.03	0.09	0.18	0.20	0.28	0.19	1.60	0.25	0.15	0.11	0.08	0.05	0.03 CMS
Runoff	0.254	4.704	1.050	1.640	1.807	22.259	16.133	1.703	0.914	1.478	0.346	0.217	52.505 MCM

Momentary Peak 76.38 CMS, at 32.58 M (MSL), at 21.00 Hours, on Sep 25, 1991

Runoff Yield 6.80 Liters/Second/Square KM, Momentary Peak Yield 313.03 Liters/Second/Square KM

WATER YEAR 1991

EAST COAST-GULF BASIN

Khlong Phlo at Ban Chamkho, Rayong (Z.18)

Location — Lat. 12°-57'-22" N., Long. 101°-40'-31" E., on right bank at the bridge on road, Ban Chamkho, Amphoe Klaeng, Rayong.

Drainage Area — 167 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +28.15 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — On left bank vicinity of the station office.

Elevation — +33.965 m.(M.S.L.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1982 to date.

Rating Operation

Period of Rating — 1983 to date.

Rated by Float —

Rated by Current Meter — 1983 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — Overbank flow starts at elevation +32.45 m.(M.S.L.),records are channel flow only.

General Description — Records good. Stage-discharge relation defined by 139 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

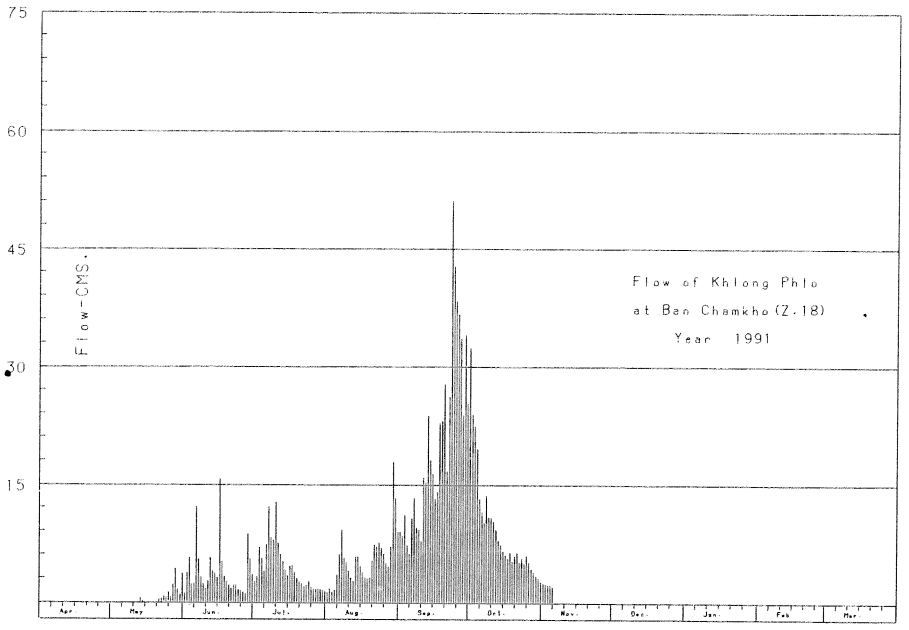
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	28.20	28.77	29.11	29.41	29.15	30.23	32.10	29.37	30.28	30.12	29.61	28.53	
2	28.20	28.77	29.58	29.49	29.23	30.17	31.56	29.34	30.28	30.17	29.57	28.51	
3	28.20	28.75	29.85	30.01	29.16	30.47	31.44	29.33	30.28	30.18	29.54	28.51	
4	28.20	28.75	29.33	29.84	29.20	30.04	31.22	29.32	30.28	30.18	29.51	28.40	
5	28.20	28.75	29.36	29.61	29.54	29.92	30.66	29.29	30.27	30.18	29.48	28.31	
6	28.20	28.75	30.56	30.06	29.90	30.42	30.50	29.35	30.26	30.18	29.45	28.22	
7	28.20	28.75	29.81	30.56	30.27	30.67	30.37	30.33	30.22	30.18	29.44	28.18	
8	28.20	28.75	29.50	30.15	29.85	30.30	30.69	30.33	30.19	30.17	29.42	28.15	
9	28.20	28.75	29.34	30.12	29.76	30.26	30.44	30.32	30.18	30.17	29.38	28.00	
10	28.20	28.75	29.24	30.62	29.60	30.11	30.43	30.32	30.17	30.42	29.35	27.90	
11	28.20	28.75	29.40	30.07	29.47	30.90	30.38	30.31	30.16	30.22	29.33	27.84	
12	28.20	28.67	29.85	29.90	29.42	30.84	30.27	30.30	30.14	30.19	29.27	27.84	
13	28.20	28.98	29.61	29.78	29.87	31.55	30.12	30.29	30.13	30.14	29.20	27.84	
14	28.20	28.85	29.56	29.62	29.86	31.10	30.05	30.29	30.10	30.11	29.17	27.84	
15	28.20	28.80	29.48	29.52	29.70	30.94	29.96	30.28	30.06	30.10	29.16	27.84	
16	28.20	28.77	30.89	29.70	29.57	30.65	29.89	30.27	30.03	30.04	29.11	27.84	
17	28.20	28.75	29.77	29.70	29.49	30.74	29.84	30.26	30.00	30.01	29.06	27.84	
18	28.20	28.76	29.51	29.58	29.45	31.47	29.94	30.25	29.97	29.99	29.03	27.84	
19	28.20	28.77	29.39	29.47	29.49	31.50	29.78	30.25	29.94	29.97	28.98	27.84	
20	28.20	28.78	29.31	29.40	29.80	31.83	29.87	30.34	29.99	29.92	28.94	27.84	
21	28.29	28.92	29.25	29.35	30.05	30.98	29.94	30.34	29.99	29.90	28.86	27.84	
22	28.82	28.96	29.32	29.30	30.02	31.73	29.77	30.34	29.97	29.87	28.83	27.84	
23	28.68	29.03	29.31	29.31	30.09	32.86	29.83	30.33	29.97	29.83	28.82	27.84	
24	28.62	28.98	29.22	29.41	30.01	32.57	29.75	30.30	29.96	29.80	28.70	27.84	
25	28.71	29.15	29.18	29.27	29.91	32.39	29.88	30.24	29.99	29.77	28.68	27.84	
26	28.67	28.99	29.14	29.23	29.74	32.32	29.76	30.31	30.02	29.76	28.66	27.84	
27	28.68	29.34	29.11	29.23	29.69	32.16	29.65	30.31	30.03	29.73	28.64	27.84	
28	28.68	29.65	30.21	29.22	30.03	31.55	29.58	30.30	30.07	29.71	28.63	27.84	
29	28.69	29.21	29.82	29.23	31.08	32.19	29.51	30.30	30.11	29.69	28.57	27.84	
30	28.69	29.09	29.53	29.19	30.66	31.66	29.46	30.29	30.13	29.66		27.84	
31		29.55		29.16	30.24		29.39		30.13	29.62		27.84	
Mean	28.35	28.91	29.55	29.63	29.78	31.15	30.19	30.11	30.11	30.00	29.12	27.98	
Max	28.82	29.65	30.89	30.62	31.08	32.86	32.10	30.34	30.28	30.42	29.61	28.53	32.86
Min	28.20	28.67	29.11	29.16	29.15	29.92	29.39	29.29	29.94	29.62	28.57	27.84	27.84

Annual Max Momentary Gage Height — 33.33 M (MSL), at 7.00 Hours, on Sep 23, 1991

Zero Gage at Bottom Elevation — 28.15 M (MSL), River Bed — 27.97 M (MSL)

Left Bank Elevation — 32.44 M (MSL)

Right Bank Elevation — 34.96 M (MSL), Drainage Area — 167 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	1.15	2.76	1.35	8.97	32.40	2.52	0.00	0.00	0.00	0.00	
2	0.00	0.00	3.86	3.24	1.75	8.43	23.98	2.34	0.00	0.00	0.00	0.00	
3	0.00	0.00	5.75	6.99	1.40	11.20	22.42	2.28	0.00	0.00	0.00	0.00	
4	0.00	0.00	2.28	5.68	1.60	7.26	19.64	2.22	0.00	0.00	0.00	0.00	
5	0.00	0.00	2.46	4.07	3.58	6.26	13.26	2.05	0.00	0.00	0.00	0.00	
6	0.00	0.00	12.16	7.44	6.10	10.70	11.50	0.00	0.00	0.00	0.00	0.00	
7	0.00	0.00	5.47	12.16	9.33	13.37	10.23	0.00	0.00	0.00	0.00	0.00	
8	0.00	0.00	3.30	8.25	5.75	9.60	13.59	0.00	0.00	0.00	0.00	0.00	
9	0.00	0.00	2.34	7.98	5.12	9.24	10.90	0.00	0.00	0.00	0.00	0.00	
10	0.00	0.00	1.80	12.82	4.00	7.89	10.80	0.00	0.00	0.00	0.00	0.00	
11	0.00	0.00	2.70	7.53	3.12	15.90	10.32	0.00	0.00	0.00	0.00	0.00	
12	0.00	0.00	5.75	6.10	2.82	15.24	9.33	0.00	0.00	0.00	0.00	0.00	
13	0.00	0.62	4.07	5.26	5.89	23.85	7.98	0.00	0.00	0.00	0.00	0.00	
14	0.00	0.15	3.72	4.14	5.82	18.20	7.35	0.00	0.00	0.00	0.00	0.00	
15	0.00	0.00	3.18	3.44	4.70	16.34	6.58	0.00	0.00	0.00	0.00	0.00	
16	0.00	0.00	15.79	4.70	3.79	13.15	6.03	0.00	0.00	0.00	0.00	0.00	
17	0.00	0.00	5.19	4.70	3.24	14.14	5.68	0.00	0.00	0.00	0.00	0.00	
18	0.00	0.00	3.37	3.86	3.00	22.81	6.42	0.00	0.00	0.00	0.00	0.00	
19	0.00	0.00	2.64	3.12	3.24	23.20	5.26	0.00	0.00	0.00	0.00	0.00	
20	0.00	0.00	2.16	2.70	5.40	27.78	5.89	0.00	0.00	0.00	0.00	0.00	
21	0.00	0.38	1.85	2.40	7.35	16.78	6.42	0.00	0.00	0.00	0.00	0.00	
22	0.06	0.54	2.22	2.10	7.08	26.25	5.19	0.00	0.00	0.00	0.00	0.00	
23	0.00	0.82	2.16	2.16	7.71	51.16	5.61	0.00	0.00	0.00	0.00	0.00	
24	0.00	0.62	1.70	2.76	6.99	42.92	5.05	0.00	0.00	0.00	0.00	0.00	
25	0.00	1.35	1.50	1.95	6.18	38.37	5.96	0.00	0.00	0.00	0.00	0.00	
26	0.00	0.66	1.30	1.75	4.98	36.76	5.12	0.00	0.00	0.00	0.00	0.00	
27	0.00	2.34	1.15	1.75	4.63	33.54	4.35	0.00	0.00	0.00	0.00	0.00	
28	0.00	4.35	8.79	1.70	7.17	23.85	3.86	0.00	0.00	0.00	0.00	0.00	
29	0.00	1.65	5.54	1.75	17.96	34.11	3.37	0.00	0.00	0.00	0.00	0.00	
30	0.00	1.06	3.51	1.55	13.26	25.28	3.06	0.00	0.00	0.00		0.00	
31		3.65		1.40	9.06		2.64		0.00	0.00		0.00	
Total	0.06	18.19	118.86	138.21	173.37	612.55	290.19	11.41	0.00	0.00	0.00	0.00	1362.84 CMSDAY
Mean	0.00	0.59	3.96	4.46	5.59	20.42	9.36	0.38	0.00	0.00	0.00	0.00	3.72 CMS
Max	0.06	4.35	15.79	12.82	17.96	51.16	32.40	2.52	0.00	0.00	0.00	0.00	51.16 CMS
Min	0.00	0.00	1.15	1.40	1.35	6.26	2.64	0.00	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	0.005	1.572	10.270	11.941	14.979	52.924	25.072	0.986	0.000	0.000	0.000	0.000	117.749 MCM

Momentary Peak 66.94 CMS, at 33.33 M (MSL), at 7.00 Hours, on Sep 23, 1991
Runoff Yield 22.30 Liters/Second/Square KM, Momentary Peak Yield 400.84 Liters/Second/Square KM

WATER YEAR 1991

CHANTHABURI RIVER BASIN

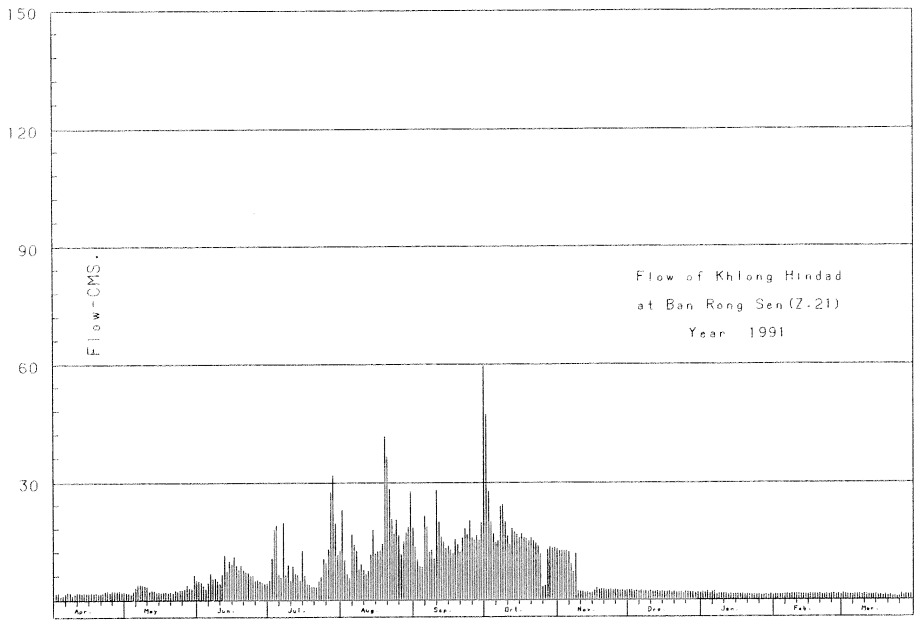
Khlong Hin Dat at Ban Rong Sen, Chanthaburi (Z.21)

Location	Lat. 12°47'23" N., Long. 102°15'33" E., on left bank at the bridge on highway, Ban Rong Sen, Amphoe Makham, Chanthaburi.
Drainage Area	66 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+21.20 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 40 meters from the top staff gage.
Elevation	+27.671 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1983 to date.
Rating Operation	
Period of Rating	1984 to date.
Rated by Float	-
Rated by Current Meter	1984 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 89 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	22.01	22.03	22.32	22.33	23.24	22.80	24.14	22.76	22.11	22.04	21.96	21.98	
2	22.00	21.99	22.31	22.66	22.62	22.63	23.44	22.75	22.11	22.03	21.93	21.98	
3	21.89	21.99	22.22	23.03	22.44	22.55	23.11	22.76	22.09	22.06	21.96	21.93	
4	21.88	22.06	22.16	23.07	22.37	22.53	22.98	22.75	22.08	22.01	21.93	21.95	
5	22.00	22.18	22.30	22.44	22.97	23.18	22.87	22.74	22.08	22.06	21.96	21.94	
6	22.03	22.25	22.44	22.38	22.83	23.05	22.88	22.58	22.08	22.05	21.95	21.93	
7	22.03	22.26	22.36	23.11	22.76	22.74	23.29	22.46	22.07	21.94	21.96	21.96	
8	21.89	22.23	22.38	22.42	22.51	22.76	23.30	22.72	22.07	21.96	21.96	21.94	
9	21.97	22.24	22.32	22.57	22.57	22.65	23.12	22.06	22.06	22.00	21.98	21.94	
10	22.01	22.20	22.29	22.34	22.49	23.45	22.95	22.08	22.07	21.98	21.94	21.94	
11	22.03	22.07	22.43	22.54	22.44	23.12	22.83	22.05	22.07	21.97	21.96	21.94	
12	22.00	22.11	22.70	22.45	22.48	22.94	23.03	22.04	22.06	21.95	21.97	21.94	
13	22.01	22.08	22.48	22.42	22.71	22.87	23.00	22.03	22.06	21.96	21.95	21.94	
14	22.02	22.04	22.61	22.34	23.02	22.78	22.96	22.01	22.06	21.96	21.96	21.91	
15	21.99	22.04	22.58	22.75	22.72	22.82	22.93	22.01	22.05	21.96	21.95	21.94	
16	22.00	22.01	22.67	22.41	22.74	22.76	22.97	22.11	22.04	21.94	21.95	21.92	
17	22.01	22.05	22.56	22.28	22.76	22.72	22.93	22.16	22.06	21.96	21.96	21.91	
18	22.00	22.04	22.49	22.24	22.84	22.90	22.91	22.13	22.05	21.95	21.95	21.90	
19	21.99	22.03	22.55	22.21	23.94	22.84	22.89	22.13	22.03	21.94	21.96	21.92	
20	22.00	22.04	22.50	22.19	23.75	22.73	22.92	22.13	22.04	21.93	21.96	21.90	
21	21.99	22.03	22.46	22.18	23.46	22.92	22.88	22.13	22.04	21.93	21.95	21.90	
22	22.08	22.11	22.46	22.33	23.15	23.04	22.86	22.12	22.03	21.93	21.94	21.86	
23	22.07	22.05	22.42	22.39	22.97	22.96	22.82	22.12	22.03	21.93	21.95	21.86	
24	22.04	22.12	22.41	22.65	23.13	23.13	22.70	22.11	22.01	21.93	21.95	21.83	
25	22.07	22.10	22.34	22.58	22.95	22.93	22.20	22.11	22.04	21.92	21.95	21.85	
26	22.07	22.13	22.34	22.78	22.71	22.89	22.24	22.10	22.04	21.92	21.96	21.96	
27	22.07	22.25	22.33	23.43	22.88	22.95	22.77	22.10	22.04	21.92	21.95	21.91	
28	22.07	22.15	22.29	23.58	22.99	22.90	22.80	22.09	22.02	21.91	21.94	21.93	
29	22.04	22.16	22.28	23.10	23.05	23.10	22.79	22.09	22.01	21.92	21.94	21.94	
30	22.03	22.43	22.28	22.69	23.43	24.56	22.79	22.09	22.01	21.94		21.93	
31		22.33		22.76	23.05		22.77		22.02	21.91		21.92	
Mean	22.01	22.12	22.41	22.60	22.90	22.94	22.94	22.25	22.05	21.96	21.95	21.92	
Max	22.08	22.43	22.70	23.58	23.94	24.56	24.14	22.76	22.11	22.06	21.98	21.98	24.56
Min	21.88	21.99	22.16	22.18	22.37	22.53	22.20	22.01	22.01	21.91	21.93	21.83	21.83

Annual Max Momentary Gage Height 26.30 M (MSL), at 6.00 Hours, on Sep 30, 1991
Zero Gage at Bottom Elevation 21.20 M (MSL), River Bed 20.73 M (MSL)
Left Bank Elevation 28.04 M (MSL)
Right Bank Elevation 28.65 M (MSL), Drainage Area 66 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.87	2.01	4.80	4.95	22.92	13.50	47.42	12.74	2.59	2.08	1.56	1.68	
2	1.80	1.74	4.65	10.84	10.08	10.27	27.88	12.55	2.59	2.01	1.38	1.68	
3	1.16	1.74	3.62	18.16	6.72	8.75	19.93	12.74	2.43	2.22	1.56	1.38	
4	1.12	2.22	3.04	19.04	5.55	8.37	17.08	12.55	2.36	1.87	1.38	1.50	
5	1.80	3.22	4.50	6.72	16.87	21.54	14.83	12.36	2.36	2.22	1.56	1.44	
6	2.01	3.95	6.72	5.70	14.07	18.60	15.02	9.32	2.36	2.15	1.50	1.38	
7	2.01	4.06	5.40	19.93	12.74	12.36	24.07	7.08	2.29	1.44	1.56	1.56	
8	1.16	3.73	5.70	6.36	7.99	12.74	24.30	11.98	2.29	1.56	1.56	1.44	
9	1.62	3.84	4.80	9.13	9.13	10.65	20.16	2.22	2.22	1.80	1.68	1.44	
10	1.87	3.40	4.39	5.10	7.62	28.15	16.45	2.36	2.29	1.68	1.44	1.44	
11	2.01	2.29	6.54	8.56	6.72	20.16	14.07	2.15	2.29	1.62	1.56	1.44	
12	1.80	2.59	11.60	6.90	7.44	16.24	18.16	2.08	2.22	1.50	1.62	1.44	
13	1.87	2.36	7.44	6.36	11.79	14.83	17.50	2.01	2.22	1.56	1.50	1.44	
14	1.94	2.08	9.89	5.10	17.94	13.12	16.66	1.87	2.22	1.56	1.56	1.26	
15	1.74	2.08	9.32	12.55	11.98	13.88	16.03	1.87	2.15	1.56	1.50	1.44	
16	1.80	1.87	11.03	6.18	12.36	12.74	16.87	2.59	2.08	1.44	1.50	1.32	
17	1.87	2.15	8.94	4.28	12.74	11.98	16.03	3.04	2.22	1.56	1.56	1.26	
18	1.80	2.08	7.62	3.84	14.26	15.40	15.61	2.77	2.15	1.50	1.50	1.20	
19	1.74	2.01	8.75	3.51	41.82	14.26	15.21	2.77	2.01	1.44	1.56	1.32	
20	1.80	2.08	7.80	3.31	36.50	12.17	15.82	2.77	2.08	1.38	1.56	1.20	
21	1.74	2.01	7.08	3.22	28.42	15.82	15.02	2.77	2.08	1.38	1.50	1.20	
22	2.36	2.59	7.08	4.95	20.85	18.38	14.64	2.68	2.01	1.38	1.44	1.04	
23	2.29	2.15	6.36	5.85	16.87	16.66	13.88	2.68	2.01	1.38	1.50	1.04	
24	2.08	2.68	6.18	10.65	20.39	20.39	11.60	2.59	1.87	1.38	1.50	0.92	
25	2.29	2.50	5.10	9.32	16.45	16.03	3.40	2.59	2.08	1.32	1.50	1.00	
26	2.29	2.77	5.10	13.12	11.79	15.21	3.84	2.50	2.08	1.32	1.56	1.56	
27	2.29	3.95	4.95	27.61	15.02	16.45	12.93	2.50	2.08	1.32	1.50	1.26	
28	2.29	2.95	4.39	31.74	17.29	15.40	13.50	2.43	1.94	1.26	1.44	1.38	
29	2.08	3.04	4.28	19.70	18.60	19.70	13.31	2.43	1.87	1.32	1.44	1.44	
30	2.01	6.54	4.28	11.41	27.61	59.72	13.31	2.43	1.87	1.44		1.38	
31		4.95		12.74	18.60		12.93		1.94	1.26		1.32	
Total	56.51	87.63	191.35	316.83	499.13	503.47	517.46	145.42	67.25	48.91	43.98	41.80	2519.74 CMSDAY
Mean	1.88	2.83	6.38	10.22	16.10	16.78	16.69	4.85	2.17	1.58	1.52	1.35	6.88 CMS
Max	2.36	6.54	11.60	31.74	41.82	59.72	47.42	12.74	2.59	2.22	1.68	1.68	59.72 CMS
Min	1.12	1.74	3.04	3.22	5.55	8.37	3.40	1.87	1.87	1.26	1.38	0.92	0.92 CMS
Runoff	4.882	7.571	16.533	27.374	43.125	43.500	44.709	12.564	5.810	4.226	3.800	3.612	217.706 MCM

Momentary Peak 127.10 CMS, at 26.30 M (MSL), at 6.00 Hours, on Sep 30, 1991
Runoff Yield 104.31 Liters/Second/Square KM, Momentary Peak Yield 1925.76 Liters/Second/Square KM

WATER YEAR 1991

EAST COAST-GULF BASIN

Khlong Tanot at Ban Khun Song, Chanthaburi (Z.28)

Location — Lat. 13-04-25 N., Long. 101-56-55 E., on right bank near Wat Khun Song, Tambon Kaeng Hang Maeo, Amphoe Tha Mai, Chanthaburi.

Drainage Area — 267 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On right bank about 10 meters from the top staff gage.

Elevation — +7.655 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1986 to date.

Rating Operation

Period of Rating — 1986 to date.

Rated by Float — -

Rated by Current Meter — 1986 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — Overbank flow starts at elevation +6.71 m.(A.D.) and is included.

General Description — Records good. Stage-discharge relation defined by 86 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

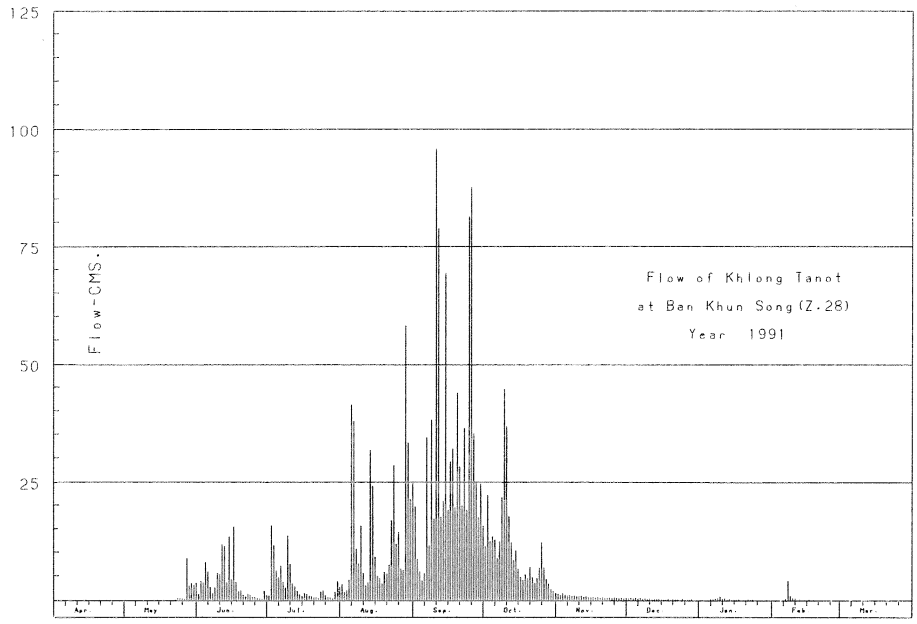
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.36	0.14	0.72	0.63	1.06	2.70	1.99	0.70	0.52	0.46	0.43	0.43	
2	0.34	0.14	1.18	2.39	0.80	1.72	2.88	0.67	0.52	0.46	0.43	0.43	
3	0.31	0.14	1.12	2.03	0.86	1.43	2.11	0.73	0.52	0.46	0.43	0.42	
4	0.29	0.14	1.65	1.47	1.22	1.19	2.19	0.69	0.52	0.48	0.43	0.41	
5	0.28	0.14	1.43	1.28	4.05	1.40	2.14	0.66	0.51	0.48	0.43	0.41	
6	0.28	0.14	1.00	1.57	3.85	3.65	1.75	0.65	0.51	0.48	0.47	0.40	
7	0.27	0.13	0.75	1.13	1.95	2.02	2.09	0.64	0.50	0.49	1.19	0.40	
8	0.26	0.13	0.96	0.98	1.62	3.87	2.83	0.63	0.49	0.54	0.62	0.39	
9	0.25	0.13	1.41	2.20	2.38	2.50	4.22	0.62	0.49	0.59	0.53	0.38	
10	0.24	0.12	1.35	1.63	1.39	6.37	3.79	0.61	0.49	0.51	0.50	0.38	
11	0.24	0.10	2.03	1.09	1.05	5.74	2.54	0.62	0.48	0.50	0.48	0.37	
12	0.21	0.09	2.01	1.00	1.12	2.52	2.09	0.60	0.48	0.48	0.46	0.37	
13	0.20	0.09	1.13	0.85	3.48	2.79	1.71	0.60	0.48	0.47	0.46	0.36	
14	0.19	0.09	2.20	0.68	3.01	5.33	1.90	0.58	0.48	0.46	0.45	0.36	
15	0.18	0.16	1.23	0.61	1.78	2.64	1.50	0.58	0.48	0.46	0.44	0.36	
16	0.17	0.16	2.36	0.76	1.33	3.33	1.30	0.57	0.47	0.46	0.44	0.35	
17	0.16	0.17	1.12	0.70	1.25	3.51	1.19	0.57	0.47	0.45	0.44	0.35	
18	0.14	0.19	0.84	0.65	1.10	2.67	1.37	0.56	0.47	0.45	0.44	0.35	
19	0.13	0.19	0.85	0.61	1.42	4.18	1.24	0.55	0.47	0.45	0.43	0.34	
20	0.13	0.22	0.66	0.57	1.39	3.27	1.54	0.55	0.47	0.45	0.43	0.34	
21	0.15	0.23	0.62	0.55	1.60	2.70	1.29	0.54	0.47	0.45	0.43	0.32	
22	0.15	0.43	0.73	0.53	2.46	3.78	1.12	0.54	0.47	0.45	0.42	0.30	
23	0.15	0.53	0.66	0.82	3.29	2.63	1.25	0.53	0.47	0.45	0.42	0.29	
24	0.15	0.50	0.60	0.85	2.04	5.84	1.54	0.53	0.47	0.44	0.42	0.29	
25	0.15	0.48	0.57	0.65	2.27	6.07	2.07	0.53	0.46	0.44	0.42	0.28	
26	0.14	0.47	0.54	0.59	1.52	3.70	1.53	0.52	0.46	0.44	0.41	0.27	
27	0.14	1.75	0.52	0.57	1.47	3.07	1.24	0.52	0.46	0.43	0.41	0.26	
28	0.14	1.04	0.50	0.50	4.85	2.52	1.08	0.52	0.46	0.43	0.41	0.26	
29	0.14	1.10	0.86	0.81	3.59	3.03	0.92	0.52	0.46	0.43	0.43	0.25	
30	0.14	1.06	0.65	1.18	2.80	2.37	0.81	0.52	0.46	0.43		0.25	
31		1.11		0.97	3.06		0.76		0.46	0.43		0.24	
Mean	0.20	0.37	1.08	1.00	2.10	3.28	1.81	0.59	0.48	0.46	0.47	0.34	
Max	0.36	1.75	2.36	2.39	4.85	6.37	4.22	0.73	0.52	0.59	1.19	0.43	6.37
Min	0.13	0.09	0.50	0.50	0.80	1.19	0.76	0.52	0.46	0.43	0.41	0.24	0.09

Annual Max Momentary Gage Height — 7.05 M (A.D), at 6.00 Hours, on Sep 25, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.34 M (A.D)

Left Bank Elevation — 8.36 M (A.D)

Right Bank Elevation — 6.70 M (A.D), Drainage Area 267 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	1.40	0.95	3.32	20.00	11.40	1.30	0.48	0.24	0.12	0.12	
2	0.00	0.00	4.16	15.97	1.80	8.70	22.42	1.15	0.48	0.24	0.12	0.12	
3	0.00	0.00	3.74	11.80	2.10	6.04	12.61	1.45	0.48	0.24	0.12	0.08	
4	0.00	0.00	8.00	6.36	4.44	4.23	13.49	1.25	0.48	0.32	0.12	0.04	
5	0.00	0.00	6.04	4.86	41.55	5.80	12.94	1.10	0.44	0.32	0.12	0.04	
6	0.00	0.00	2.90	7.23	37.90	34.50	9.00	1.05	0.44	0.32	0.28	0.00	
7	0.00	0.00	1.55	3.81	11.00	11.70	12.40	1.00	0.40	0.36	4.23	0.00	
8	0.00	0.00	2.66	2.78	7.70	38.26	21.72	0.95	0.36	0.56	0.90	0.00	
9	0.00	0.00	5.88	13.60	15.84	17.40	44.90	0.90	0.36	0.76	0.52	0.00	
10	0.00	0.00	5.40	7.80	5.72	96.13	36.83	0.85	0.36	0.44	0.40	0.00	
11	0.00	0.00	11.80	3.53	3.25	79.00	17.92	0.90	0.32	0.40	0.32	0.00	
12	0.00	0.00	11.60	2.90	3.74	17.66	12.40	0.80	0.32	0.32	0.24	0.00	
13	0.00	0.00	3.81	2.05	31.78	21.17	8.60	0.80	0.32	0.28	0.24	0.00	
14	0.00	0.00	13.60	1.20	24.35	69.39	10.50	0.72	0.32	0.24	0.20	0.00	
15	0.00	0.00	4.51	0.85	9.30	19.22	6.60	0.72	0.32	0.24	0.16	0.00	
16	0.00	0.00	15.58	1.60	5.24	29.38	5.00	0.68	0.28	0.24	0.16	0.00	
17	0.00	0.00	3.74	1.30	4.65	32.26	4.23	0.68	0.28	0.20	0.16	0.00	
18	0.00	0.00	2.00	1.05	3.60	19.61	5.56	0.64	0.28	0.20	0.16	0.00	
19	0.00	0.00	2.05	0.85	5.96	44.10	4.58	0.60	0.28	0.20	0.12	0.00	
20	0.00	0.00	1.10	0.68	5.72	28.42	6.96	0.60	0.28	0.20	0.12	0.00	
21	0.00	0.00	0.90	0.60	7.50	20.00	4.93	0.56	0.28	0.20	0.12	0.00	
22	0.00	0.12	1.45	0.52	16.88	36.66	3.74	0.56	0.28	0.20	0.08	0.00	
23	0.00	0.52	1.10	1.90	28.74	19.09	4.65	0.52	0.28	0.20	0.08	0.00	
24	0.00	0.40	0.80	2.05	11.90	81.50	6.96	0.52	0.28	0.16	0.08	0.00	
25	0.00	0.32	0.68	1.05	14.44	87.59	12.20	0.52	0.24	0.16	0.08	0.00	
26	0.00	0.28	0.56	0.76	6.78	35.30	6.87	0.48	0.24	0.16	0.04	0.00	
27	0.00	9.00	0.48	0.68	6.36	25.25	4.58	0.48	0.24	0.12	0.04	0.00	
28	0.00	3.18	0.40	0.40	58.35	17.66	3.46	0.48	0.24	0.12	0.04	0.00	
29	0.00	3.60	2.10	1.85	33.54	24.65	2.42	0.48	0.24	0.12	0.12	0.00	
30	0.00	3.32	1.05	4.16	21.30	15.71	1.85	0.48	0.24	0.12		0.00	
31		3.67		2.72	25.10		1.60		0.24	0.12		0.00	
Total	0.00	24.41	121.04	107.86	459.85	966.38	333.32	23.22	10.08	8.00	9.49	0.40	2064.05 CMSDAY
Mean	0.00	0.79	4.03	3.48	14.83	32.21	10.75	0.77	0.33	0.26	0.33	0.01	5.64 CMS
Max	0.00	9.00	15.58	15.97	58.35	96.13	44.90	1.45	0.48	0.76	4.23	0.12	96.13 CMS
Min	0.00	0.00	0.40	0.40	1.80	4.23	1.60	0.48	0.24	0.12	0.04	0.00	0.00 CMS
Runoff	0.000	2.109	10.458	9.319	39.731	83.495	28.799	2.006	0.871	0.691	0.820	0.035	178.334 MCM

Momentary Peak 116.50 CMS, at 7.05 M (A.D), at 6.00 Hours, on Sep 25, 1991
Runoff Yield 21.12 Liters/Second/Square KM, Momentary Peak Yield 436.33 Liters/Second/Square KM

WATER YEAR 1991

MAE KLONG RIVER BASIN

Khwae Noi River at Ban Lum Sum, Kanchanaburi (K.10)

Location — Lat. 14-05-40 N., Long. 99-10-28 E., on left bank about 100 meters upstream from Ban Lum Sum railway station, Amphoe Sai Yok, Kanchanaburi.

Drainage Area — 7,008 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +30.40 m. (M.S.L.)

Bench Mark — B.M.-H.D.

Location — Near the gage site.

Elevation — +52.057 m. (M.S.L.)

Gage Reading Frequency — 16-time daily readings at 03.00, 06.00-18.00, 21.00 and 24.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 16 readings.

Period of Available Gage Records — 1965 to date.

Rating Operation

Period of Rating — 1965 to date.

Rated by Float — -

Rated by Current Meter — 1965 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 199 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

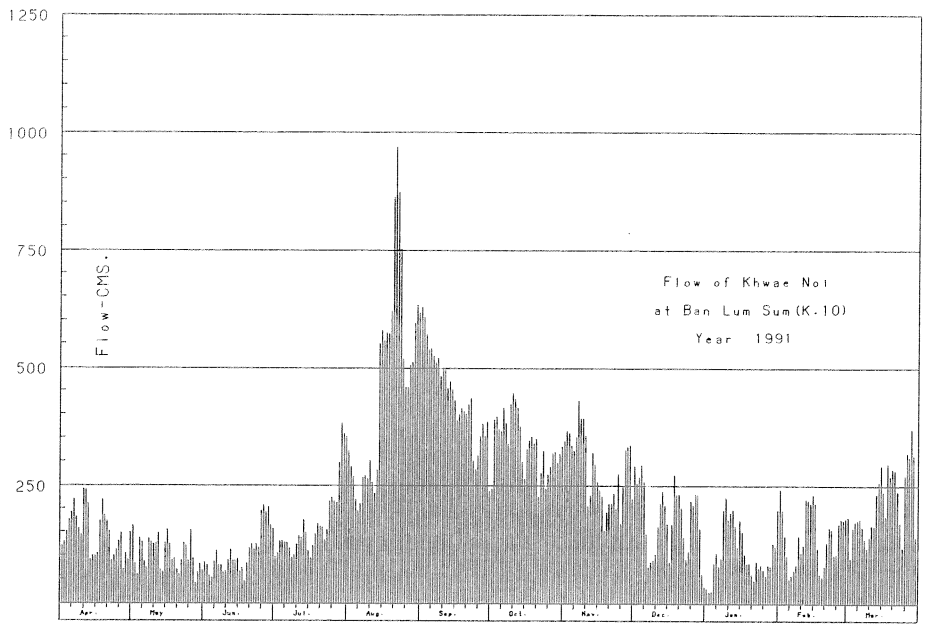
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	32.45	32.99	31.96	32.12	34.77	37.86	33.90	35.02	34.44	31.15	33.89	33.21	
2	32.53	31.93	31.91	32.24	34.42	37.64	35.48	35.23	34.03	31.05	33.37	32.09	
3	32.81	31.63	31.57	32.55	34.17	37.30	35.56	35.20	34.16	31.06	32.71	32.92	
4	33.15	32.63	31.53	32.56	33.65	37.00	35.27	34.90	34.44	31.93	32.15	33.07	
5	33.31	32.55	32.00	32.54	33.36	37.00	35.23	34.79	34.07	32.22	31.47	33.12	
6	33.65	32.01	32.29	32.52	33.52	36.85	35.75	35.11	32.75	31.87	31.57	33.14	
7	33.21	31.81	31.88	32.39	34.16	36.72	35.42	35.91	31.85	32.09	31.75	32.94	
8	32.88	32.64	31.90	32.12	34.19	36.80	34.94	35.52	31.97	33.37	31.89	32.61	
9	32.74	32.53	31.67	32.17	34.13	36.43	35.84	35.53	32.04	33.69	32.71	32.36	
10	33.87	32.48	31.70	32.47	34.55	36.61	36.06	35.13	32.19	33.15	32.24	32.68	
11	33.88	32.53	32.02	32.71	34.03	36.56	35.94	33.47	32.96	33.30	32.44	32.97	
12	33.52	32.79	32.34	32.65	33.78	36.16	35.76	33.75	33.55	33.40	33.66	32.97	
13	32.06	31.75	32.04	33.14	34.34	36.33	35.35	34.75	33.83	32.96	33.61	33.76	
14	32.15	31.71	32.01	32.79	37.12	36.14	34.52	34.46	33.48	32.39	33.55	34.06	
15	32.16	32.53	32.08	32.31	37.38	35.92	34.13	34.06	33.01	33.11	33.76	34.45	
16	32.22	32.85	31.72	32.11	37.16	35.48	34.83	33.85	31.99	32.82	33.54	33.81	
17	33.11	32.47	31.80	32.43	37.32	35.64	35.02	33.72	33.02	32.21	32.38	33.23	
18	33.64	32.04	31.41	32.76	37.32	35.73	35.10	32.86	34.23	31.94	31.62	34.48	
19	33.24	32.07	31.93	33.02	37.78	35.68	34.96	33.32	33.75	31.94	31.55	34.20	
20	33.11	31.78	32.38	32.97	40.07	35.61	35.05	33.52	33.77	31.61	31.87	34.36	
21	32.81	31.61	32.47	32.92	41.00	35.82	33.69	33.56	33.44	31.43	32.52	34.32	
22	32.04	32.04	32.35	32.60	40.19	35.97	34.27	33.79	32.65	32.01	32.93	33.84	
23	32.15	32.52	32.47	32.85	39.04	34.56	34.79	33.40	32.04	31.83	32.86	33.04	
24	32.34	32.43	32.40	33.61	36.78	34.35	33.90	34.24	32.29	31.88	32.18	32.40	
25	32.55	32.01	33.37	33.68	36.19	34.66	34.22	33.04	33.59	31.75	32.18	34.21	
26	32.79	32.84	33.49	33.59	36.20	35.11	34.40	33.95	33.49	31.59	33.01	34.74	
27	31.77	32.09	33.32	33.58	36.67	35.40	34.73	34.81	33.78	31.90	33.15	34.63	
28	32.22	31.34	33.46	34.52	36.71	35.13	34.75	34.87	33.74	31.85	33.11	35.29	
29	32.06	31.67	32.98	35.41	37.53	35.44	34.51	34.93	32.91	32.51	33.15	34.67	
30	32.78	31.92	32.90	35.19	37.89	33.82	34.70	33.65	31.64	32.40		32.66	
31		31.75		35.11	37.73		34.87		31.23	33.38		32.28	
Mean	32.77	32.19	32.25	33.02	36.23	35.99	34.93	34.34	33.11	32.25	32.65	33.50	
Max	33.88	32.99	33.49	35.41	41.00	37.86	36.06	35.91	34.44	33.69	33.89	35.29	41.00
Min	31.77	31.34	31.41	32.11	33.36	33.82	33.69	32.86	31.23	31.05	31.47	32.09	31.05

Annual Max Momentary Gage Height — 41.06 M (MSL), at 13.00 Hours, on Aug 21, 1991

Zero Gage at Bottom Elevation — 30.40 M (MSL), River Bed — 29.50 M (MSL)

Left Bank Elevation — 47.17 M (MSL)

Right Bank Elevation — 48.01 M (MSL), Drainage Area — 7008 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	124.0	167.2	87.0	99.0	323.3	630.3	245.0	345.9	293.6	32.0	244.1	184.8	
2	130.4	84.8	83.3	108.0	291.8	607.2	389.6	365.8	256.7	26.0	198.4	96.7	
3	152.8	63.1	59.0	132.0	269.3	571.5	397.2	363.0	268.4	26.6	144.8	161.6	
4	180.0	138.4	56.5	132.8	222.5	540.0	369.7	335.0	293.6	84.8	101.3	173.6	
5	193.4	132.0	90.0	131.2	197.6	540.0	365.8	325.1	260.3	106.5	52.5	177.6	
6	222.5	90.7	111.7	129.6	211.2	525.0	415.3	354.5	148.0	80.3	59.0	179.2	
7	184.8	75.8	81.0	119.2	268.4	512.0	383.9	431.0	78.8	96.7	71.5	163.2	
8	158.4	139.2	82.5	99.0	271.1	520.0	338.6	393.4	87.7	198.4	81.7	136.8	
9	147.2	130.4	65.9	102.7	265.7	483.0	424.0	394.3	93.0	226.1	144.8	117.0	
10	242.3	126.4	68.0	125.6	303.5	501.0	446.0	356.4	104.2	180.0	108.0	142.4	
11	243.2	130.4	91.5	144.8	256.7	496.0	434.0	207.0	164.8	192.5	123.2	165.6	
12	211.2	151.2	115.5	140.0	234.2	456.0	416.2	231.5	213.8	201.0	223.4	165.6	
13	94.5	71.5	93.0	179.2	284.6	473.0	377.2	321.5	238.7	164.8	218.9	232.4	
14	101.3	68.7	90.7	151.2	552.6	454.0	300.8	295.4	207.8	119.2	213.8	259.4	
15	102.0	130.4	96.0	113.3	579.9	432.0	265.7	259.4	168.8	176.8	232.4	294.5	
16	106.5	156.0	69.4	98.3	556.8	389.6	328.7	240.5	89.2	153.6	212.9	236.9	
17	176.8	125.6	75.0	122.4	573.6	404.8	345.9	228.8	169.6	105.7	118.5	186.5	
18	221.6	93.0	48.6	148.8	573.6	413.4	353.5	156.8	274.7	85.5	62.4	297.2	
19	187.4	95.2	84.8	169.6	621.9	408.6	340.4	194.2	231.5	85.5	57.7	272.0	
20	176.8	73.6	118.5	165.6	862.4	402.0	348.7	211.2	233.3	61.7	80.3	286.4	
21	152.8	61.7	125.6	161.6	969.2	422.0	226.1	214.6	204.4	49.9	129.6	282.8	
22	93.0	93.0	116.2	136.0	875.0	437.0	278.3	235.1	140.0	90.7	162.4	239.6	
23	101.3	129.6	125.6	156.0	754.2	304.4	325.1	201.0	93.0	77.3	156.8	171.2	
24	115.5	122.4	120.0	218.9	518.0	285.5	245.0	275.6	111.7	81.0	103.5	120.0	
25	132.0	90.7	198.4	225.2	459.0	313.4	273.8	171.2	217.2	71.5	103.5	272.9	
26	151.2	155.2	208.7	217.2	460.0	354.5	290.0	249.5	208.7	60.3	168.8	320.6	
27	72.9	96.7	194.2	216.3	507.0	382.0	319.7	326.9	234.2	82.5	180.0	310.7	
28	106.5	44.1	206.1	300.8	511.0	356.4	321.5	332.3	230.6	78.8	176.8	371.6	
29	94.5	65.9	166.4	383.0	595.6	385.8	299.9	337.7	160.8	128.8	180.0	314.3	
30	150.4	84.0	160.0	362.0	633.4	237.8	317.0	222.5	63.8	120.0		140.8	
31		71.5		354.5	616.6		332.3		36.9	199.3		111.0	
Total	4527.2	3258.4	3289.1	5343.8	14619.7	13238.2	10514.9	8577.1	5577.8	3443.8	4111.0	6584.9	83085.9 CMSDAY
Mean	150.9	105.1	109.6	172.4	471.6	441.3	339.2	285.9	179.9	111.1	141.8	212.4	227.0 CMS
Max	243.2	167.2	208.7	383.0	969.2	630.3	446.0	431.0	293.6	226.1	244.1	371.6	969.2 CMS
Min	72.9	44.1	48.6	98.3	197.6	237.8	226.1	156.8	36.9	26.0	52.5	96.7	26.0 CMS
Runoff	391.15	281.53	284.18	461.70	1263.14	1143.78	908.49	741.06	481.92	297.54	355.19	568.94	7178.62 MCM

Momentary Peak 976.88 CMS, at 41.06 M (MSL), at 13.00 Hours, on Aug 21, 1991
Runoff Yield 32.39 Liters/Second/Square KM, Momentary Peak Yield 139.40 Liters/Second/Square KM

WATER YEAR 1991

MAE KLONG RIVER BASIN

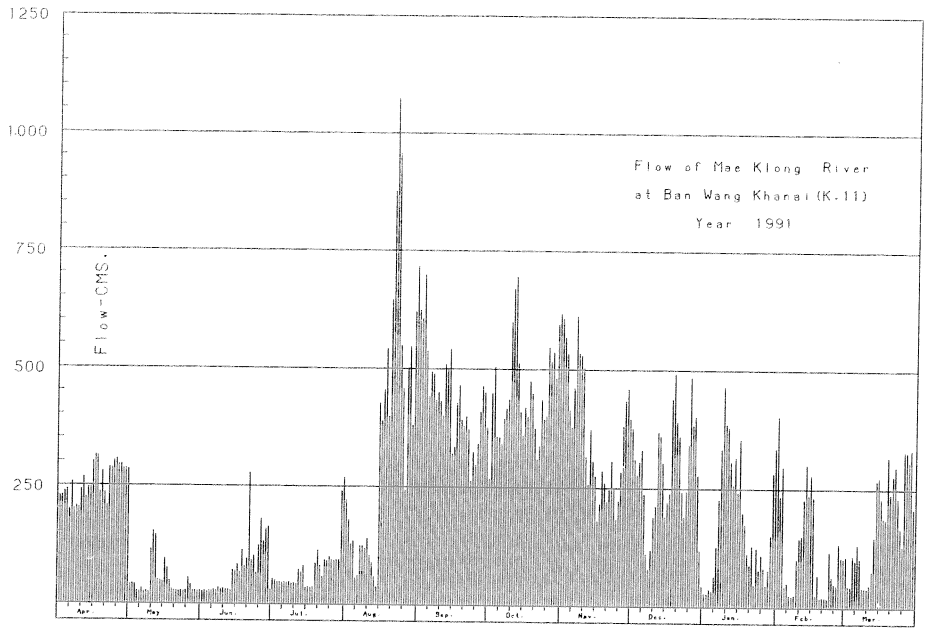
Mae Klong River at Ban Wang Khanai, Kanchanaburi (K.11)

Location	Lat. 13°-56'-55" N., Long. 99°-38'-42" E., on left bank about 3 kilometers downstream from Amphoe Tha Muang Office, Amphoe Tha Muang, Kanchanaburi.
Drainage Area	26,449 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+11.928 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	Along the gage line.
Elevation	+21.985 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1965 to date.
Rating Operation	
Period of Rating	1965-1969, 1972 to date.
Rated by Float	-
Rated by Current Meter	1965-1969, 1972 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Flow regulated by Vachiralongkorn Diversion Dam for irrigation of about 419,520 hectares above gage site. Stage-discharge relation defined by 76 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	12.26	11.37	11.30	11.42	12.23	13.63	12.42	13.58	12.82	11.30	12.92	11.69	
2	12.26	11.37	11.30	11.41	12.05	13.58	13.07	13.46	12.58	11.30	12.28	11.38	
3	12.30	11.37	11.30	11.40	11.79	13.86	13.26	13.35	12.46	11.34	12.53	11.38	
4	12.31	11.28	11.30	11.39	11.83	13.36	12.75	12.95	12.56	11.33	11.38	11.69	
5	12.14	11.28	11.30	11.39	11.44	13.05	12.75	12.83	12.66	11.48	11.41	11.65	
6	12.38	11.32	11.31	11.39	11.46	13.22	12.69	13.11	12.30	11.78	11.24	11.81	
7	12.14	11.28	11.31	11.39	11.78	13.21	12.89	13.60	11.70	12.25	11.24	11.66	
8	12.17	11.28	11.33	11.39	11.77	13.02	12.96	13.35	11.55	12.67	11.25	11.37	
9	12.15	11.28	11.32	11.38	11.75	13.08	13.03	13.34	11.74	13.13	11.66	11.36	
10	12.31	11.73	11.32	11.38	11.85	13.01	13.56	13.25	12.09	12.86	11.88	11.36	
11	12.42	11.92	11.32	11.38	11.67	12.91	13.77	12.60	12.19	12.83	11.90	11.39	
12	12.25	11.89	11.31	11.52	11.60	13.27	13.85	12.38	12.80	12.57	12.26	11.54	
13	12.33	11.41	11.31	11.50	11.45	13.24	13.28	12.81	12.76	12.38	12.55	11.89	
14	12.33	11.41	11.51	11.56	11.35	13.38	12.94	12.57	12.56	12.60	12.29	12.42	
15	12.55	11.39	11.51	11.34	13.00	12.62	12.76	12.45	12.09	12.31	12.46	12.44	
16	12.60	11.63	11.58	11.34	12.87	12.67	12.97	12.05	12.23	12.74	12.28	12.27	
17	12.59	11.54	11.50	11.34	13.09	13.00	12.90	12.21	12.30	12.14	11.27	12.09	
18	12.29	11.40	11.72	11.34	13.38	13.13	13.16	12.49	13.04	12.02	11.49	12.07	
19	12.47	11.32	11.55	11.59	12.90	12.88	13.07	12.39	13.22	11.71	11.17	12.61	
20	12.29	11.30	11.63	11.73	13.70	12.83	12.82	12.23	12.87	11.60	11.17	12.30	
21	12.18	11.30	12.46	11.56	14.37	12.90	12.58	12.33	12.76	11.80	11.16	12.46	
22	12.50	11.30	11.62	11.45	14.91	12.81	12.68	12.57	12.32	11.39	11.16	12.53	
23	12.50	11.30	11.67	11.62	14.59	12.40	13.03	12.35	12.09	11.77	11.74	12.27	
24	12.55	11.30	11.49	11.61	13.40	12.63	12.88	12.06	12.32	11.55	11.47	11.99	
25	12.57	11.30	11.77	11.66	13.10	12.53	12.91	12.24	12.70	11.70	11.40	11.79	
26	12.52	11.44	12.05	11.62	12.32	12.70	13.39	12.48	13.19	11.56	11.39	12.65	
27	12.53	11.37	11.82	11.62	13.25	12.94	13.29	12.84	12.85	11.39	11.82	12.65	
28	12.49	11.30	11.95	11.62	13.39	13.12	13.36	13.02	12.91	11.54	11.68	12.57	
29	12.49	11.30	11.98	11.63	12.84	13.08	13.18	13.11	12.46	11.91	11.66	12.66	
30	12.49	11.30	11.32	12.31	13.62	12.82	13.54	12.89	11.75	12.48		12.18	
31		11.30		12.42	13.91		13.61		11.37	12.67		11.61	
Mean	12.38	11.40	11.54	11.54	12.67	13.03	13.08	12.76	12.43	12.00	11.73	11.99	
Max	12.60	11.92	12.46	12.42	14.91	13.86	13.85	13.60	13.22	13.13	12.92	12.66	14.91
Min	12.14	11.28	11.30	11.34	11.35	12.40	12.42	12.05	11.37	11.30	11.16	11.36	11.16

Annual Max Momentary Gage Height 14.97 M (MSL), at 19.00 Hours, on Aug 22, 1991
Zero Gage at Bottom Elevation 11.93 M (MSL), River Bed 9.67 M (MSL)
Left Bank Elevation 22.22 M (MSL)
Right Bank Elevation 22.80 M (MSL), Drainage Area 26449 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	229.0	41.9	27.5	52.2	221.5	623.6	269.0	607.6	375.8	27.5	404.8	107.9	
2	229.0	41.9	27.5	50.2	181.0	607.6	449.0	569.2	310.6	27.5	234.0	44.0	
3	239.0	41.9	27.5	48.1	128.0	700.4	506.6	534.5	279.0	35.7	297.1	44.0	
4	241.5	26.3	27.5	46.1	136.0	537.6	356.5	413.5	305.2	33.7	44.0	107.9	
5	200.8	26.3	27.5	46.1	56.4	443.0	356.5	378.7	332.2	64.6	50.2	99.7	
6	259.0	31.6	29.6	46.1	60.5	494.2	340.3	461.0	239.0	126.0	24.0	132.0	
7	200.8	26.3	29.6	46.1	126.0	491.1	396.1	614.0	110.0	226.5	24.0	101.8	
8	207.4	26.3	33.7	46.1	124.0	434.0	416.4	534.5	79.1	334.9	24.6	41.9	
9	203.0	26.3	31.6	44.0	120.0	452.0	437.0	531.4	118.0	467.0	101.8	39.9	
10	241.5	116.0	31.6	44.0	140.0	431.0	601.2	503.5	189.8	387.4	146.0	39.9	
11	269.0	154.0	31.6	44.0	103.8	401.9	669.8	316.0	211.8	378.7	150.0	46.1	
12	226.5	148.0	29.6	72.9	89.4	509.7	697.0	259.0	370.0	307.9	229.0	77.0	
13	246.5	50.2	29.6	68.8	58.4	500.4	512.8	372.9	359.2	259.0	302.5	148.0	
14	246.5	50.2	70.8	81.1	37.8	543.8	410.6	307.9	305.2	316.0	236.5	269.0	
15	302.5	46.1	70.8	35.7	428.0	321.4	359.2	276.5	189.8	241.5	279.0	274.0	
16	316.0	95.6	85.3	35.7	390.3	334.9	419.3	181.0	221.5	353.8	234.0	231.5	
17	313.3	77.0	68.8	35.7	455.0	428.0	399.0	216.5	239.0	200.8	25.8	189.8	
18	236.5	48.1	114.0	35.7	543.8	467.0	476.0	286.5	440.0	174.4	66.7	185.4	
19	281.5	31.6	79.1	87.3	399.0	393.2	449.0	261.5	494.2	112.0	20.0	318.7	
20	236.5	27.5	95.6	116.0	646.0	378.7	375.8	221.5	390.3	89.4	20.0	239.0	
21	209.6	27.5	279.0	81.1	877.2	399.0	310.6	246.5	359.2	130.0	19.4	279.0	
22	289.0	27.5	93.5	58.4	1074.7	372.9	337.6	307.9	244.0	46.1	19.4	297.1	
23	289.0	27.5	103.8	93.5	956.4	264.0	437.0	251.5	189.8	124.0	118.0	231.5	
24	302.5	27.5	66.7	91.4	550.0	324.1	393.2	183.2	244.0	79.1	62.6	168.0	
25	307.9	27.5	124.0	101.8	458.0	297.1	401.9	224.0	343.0	110.0	48.1	128.0	
26	294.4	56.4	181.0	93.5	244.0	343.0	546.9	284.0	485.0	81.1	46.1	329.5	
27	237.1	41.9	134.0	93.5	503.5	410.6	515.9	381.6	384.5	46.1	134.0	329.5	
28	286.5	27.5	160.0	93.5	546.9	464.0	537.6	434.0	401.9	77.0	105.9	307.9	
29	286.5	27.5	166.0	95.6	381.6	452.0	482.0	461.0	279.0	152.0	101.8	332.2	
30	286.5	27.5	31.6	241.5	620.4	375.8	594.8	396.1	120.0	284.0		209.6	
31		27.5		269.0	717.4		617.2		41.9	334.9		91.4	
Total	7774.8	1478.9	2308.4	2394.7	11375.0	13196.0	14071.8	11017.0	8652.0	5628.6	3569.3	5441.2	86907.7 CMSDAY
Mean	259.2	47.7	76.9	77.2	366.9	439.9	453.9	367.2	279.1	181.6	123.1	175.5	237.5 CMS
Max	316.0	154.0	279.0	269.0	1074.7	700.4	697.0	614.0	494.2	467.0	404.8	332.2	1074.7 CMS
Min	200.8	26.3	27.5	35.7	37.8	264.0	269.0	181.0	41.9	27.5	19.4	39.9	19.4 CMS
Runoff	671.74	127.78	199.45	206.90	982.80	1140.13	1215.80	951.87	747.53	486.31	308.39	470.12	7508.83 MCM

Momentary Peak 1096.90 CMS, at 14.97 M (MSL), at 19.00 Hours, on Aug 22, 1991

Runoff Yield 8.98 Liters/Second/Square KM, Momentary Peak Yield 41.47 Liters/Second/Square KM

WATER YEAR 1991

MAE KLONG RIVER BASIN

Huai Mae Nam Noi at Ban Sai Yok Noi, Kanchanaburi (K.22B)

Location — Lat. 14-26-59 N., Long. 98-48-08 E., on right bank about 640 meters upstream from station K.22A, Amphoe Sai Yok, Kanchanaburi.

Drainage Area — 320 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +67.00 m.(M.S.L)

Bench Mark — B.M.-H.D.

Location — On right bank about 10 meters from the top staff gage.

Elevation — +73.578 m.(M.S.L)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1989 to date.

Rating Operation

Period of Rating — 1989 to date.

Rated by Float — -

Rated by Current Meter — 1989 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — Overbank flow starts at elevation +73.42 m.(M.S.L.), records are channel flow only.

General Description — Records good. Stage-discharge relation defined by 107 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

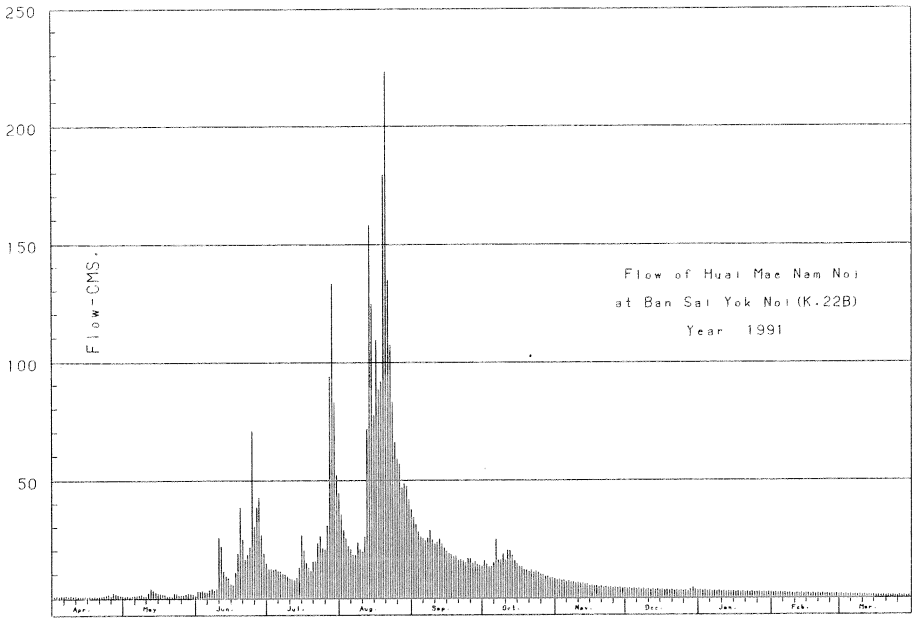
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	68.01	68.02	68.21	68.89	69.86	69.82	69.07	68.60	68.34	68.25	68.16	68.08	
2	68.01	68.02	68.22	68.87	69.63	69.72	69.00	68.59	68.34	68.25	68.15	68.07	
3	68.01	68.01	68.23	68.87	69.48	69.60	68.94	68.58	68.33	68.25	68.15	68.07	
4	68.01	68.01	68.21	68.87	69.35	69.52	68.93	68.57	68.33	68.24	68.15	68.07	
5	68.03	68.05	68.20	68.84	69.28	69.48	69.04	68.55	68.32	68.23	68.15	68.07	
6	68.02	68.03	68.26	68.81	69.18	69.45	69.47	68.55	68.32	68.23	68.14	68.06	
7	68.02	68.07	68.34	68.76	69.19	69.49	69.08	68.54	68.31	68.22	68.14	68.06	
8	68.02	68.07	68.24	68.73	69.41	69.63	69.08	68.52	68.31	68.22	68.13	68.06	
9	68.02	68.03	68.34	68.69	69.28	69.45	69.21	68.51	68.30	68.22	68.13	68.06	
10	68.01	68.01	69.49	68.64	69.25	69.39	69.09	68.51	68.30	68.21	68.12	68.05	
11	68.01	68.17	69.35	68.60	69.51	69.41	69.26	68.50	68.29	68.21	68.12	68.05	
12	68.00	68.34	68.81	68.59	70.92	69.48	69.27	68.49	68.29	68.20	68.12	68.05	
13	68.00	68.24	68.70	68.64	72.70	69.38	69.17	68.48	68.29	68.20	68.12	68.04	
14	68.00	68.19	68.63	68.91	72.08	69.32	69.08	68.47	68.28	68.20	68.11	68.04	
15	68.00	68.12	68.49	69.55	71.07	69.25	69.01	68.44	68.28	68.19	68.11	68.04	
16	68.00	68.10	68.44	69.26	71.77	69.22	68.96	68.43	68.27	68.19	68.11	68.04	
17	68.00	68.10	68.80	69.04	71.32	69.19	68.93	68.43	68.27	68.19	68.10	68.03	
18	68.00	68.06	69.21	68.91	71.39	69.16	68.87	68.42	68.26	68.19	68.10	68.03	
19	68.00	68.03	69.96	68.84	72.97	69.16	68.84	68.41	68.26	68.19	68.10	68.03	
20	68.00	68.01	69.47	69.05	73.30	69.09	68.82	68.41	68.26	68.18	68.10	68.03	
21	68.02	68.01	69.09	69.07	72.28	69.09	68.84	68.40	68.25	68.18	68.10	68.03	
22	68.02	68.15	69.20	69.39	71.73	69.08	68.80	68.40	68.25	68.18	68.10	68.03	
23	68.07	68.10	69.32	69.53	71.20	69.03	68.81	68.39	68.25	68.18	68.10	68.02	
24	68.08	68.06	70.91	69.30	70.79	69.12	68.80	68.39	68.24	68.18	68.09	68.02	
25	68.03	68.05	69.69	69.29	70.59	69.11	68.75	68.38	68.24	68.18	68.09	68.02	
26	68.15	68.05	69.97	69.69	70.52	69.03	68.72	68.37	68.24	68.17	68.09	68.02	
27	68.12	68.09	70.10	71.44	70.24	69.05	68.69	68.37	68.23	68.17	68.09	68.02	
28	68.06	68.13	69.54	72.25	70.28	69.01	68.67	68.36	68.28	68.16	68.09	68.01	
29	68.04	68.13	69.22	71.19	70.26	68.97	68.65	68.35	68.38	68.16	68.09	68.01	
30	68.02	68.08	69.02	70.39	70.07	68.96	68.63	68.35	68.27	68.16		68.01	
31		68.05		70.16	69.94		68.61		68.26	68.16		68.01	
Mean	68.03	68.08	68.99	69.32	70.61	69.29	68.94	68.46	68.29	68.20	68.12	68.04	
Max	68.15	68.34	70.91	72.25	73.30	69.82	69.47	68.60	68.38	68.25	68.16	68.08	73.30
Min	68.00	68.01	68.20	68.59	69.18	68.96	68.61	68.35	68.23	68.16	68.09	68.01	68.00

Annual Max Momentary Gage Height — 73.74 M (MSL), at 18.00 Hours, on Aug 13, 1991

Zero Gage at Bottom Elevation — 67.00 M (MSL), River Bed — 67.33 M (MSL)

Left Bank Elevation — 75.56 M (MSL)

Right Bank Elevation — 73.41 M (MSL), Drainage Area — 320 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.10	1.20	3.10	12.84	35.80	34.60	16.14	8.20	4.40	3.50	2.60	1.80	
2	1.10	1.20	3.20	12.52	29.32	31.80	14.60	8.04	4.40	3.50	2.50	1.70	
3	1.10	1.10	3.30	12.52	25.65	28.50	13.64	7.88	4.30	3.50	2.50	1.70	
4	1.10	1.10	3.10	12.52	22.56	26.60	13.48	7.72	4.30	3.40	2.50	1.70	
5	1.30	1.50	3.00	12.04	20.90	25.65	15.48	7.40	4.20	3.30	2.50	1.70	
6	1.20	1.30	3.60	11.56	18.56	24.94	25.41	7.40	4.20	3.30	2.40	1.60	
7	1.20	1.70	4.40	10.76	18.78	25.89	16.36	7.24	4.10	3.20	2.40	1.60	
8	1.20	1.70	3.40	10.28	23.99	29.32	16.36	6.92	4.10	3.20	2.30	1.60	
9	1.20	1.30	4.40	9.64	20.90	24.94	19.24	6.76	4.00	3.20	2.30	1.60	
10	1.10	1.10	25.89	8.84	20.19	23.51	16.58	6.76	4.00	3.10	2.20	1.50	
11	1.10	2.70	22.56	8.20	26.36	23.99	20.43	6.60	3.90	3.10	2.20	1.50	
12	1.00	4.40	11.56	8.04	71.80	25.65	20.66	6.44	3.90	3.00	2.20	1.50	
13	1.00	3.40	9.80	8.84	158.50	23.27	18.34	6.28	3.90	3.00	2.20	1.40	
14	1.00	2.90	8.68	13.16	124.70	21.85	16.36	6.12	3.80	3.00	2.10	1.40	
15	1.00	2.20	6.44	27.31	77.98	20.19	14.82	5.64	3.80	2.90	2.10	1.40	
16	1.00	2.00	5.64	20.43	109.57	19.48	13.96	5.48	3.70	2.90	2.10	1.40	
17	1.00	2.00	11.40	15.48	88.90	18.78	13.48	5.48	3.70	2.90	2.00	1.30	
18	1.00	1.60	19.24	13.16	92.05	18.12	12.52	5.32	3.60	2.90	2.00	1.30	
19	1.00	1.30	38.80	12.04	179.45	18.12	12.04	5.16	3.60	2.90	2.00	1.30	
20	1.00	1.10	25.41	15.70	223.50	16.58	11.72	5.16	3.60	2.80	2.00	1.30	
21	1.20	1.10	16.58	16.14	135.20	16.58	12.04	5.00	3.50	2.80	2.00	1.30	
22	1.20	2.50	19.00	23.51	107.68	16.36	11.40	5.00	3.50	2.80	2.00	1.30	
23	1.70	2.00	21.85	26.84	83.50	15.26	11.56	4.90	3.50	2.80	2.00	1.20	
24	1.80	1.60	71.40	21.38	66.65	17.24	11.40	4.90	3.40	2.80	1.90	1.20	
25	1.30	1.50	30.98	21.14	59.65	17.02	10.60	4.80	3.40	2.80	1.90	1.20	
26	2.50	1.50	39.10	30.98	57.20	15.26	10.12	4.70	3.40	2.70	1.90	1.20	
27	2.20	1.90	43.00	94.30	47.40	15.70	9.64	4.70	3.30	2.70	1.90	1.20	
28	1.60	2.30	27.08	133.63	48.80	14.82	9.32	4.60	3.80	2.60	1.90	1.10	
29	1.40	2.30	19.48	83.08	48.10	14.12	9.00	4.50	4.80	2.60	1.90	1.10	
30	1.20	1.80	15.04	52.65	42.10	13.96	8.68	4.50	3.70	2.60		1.10	
31		1.50		44.80	38.20		8.36		3.60	2.60		1.10	
Total	37.80	56.80	520.43	804.33	2123.94	638.10	433.74	179.60	119.40	92.40	62.50	43.30	5112.34 CMSDAY
Mean	1.26	1.83	17.35	25.95	68.51	21.27	13.99	5.99	3.85	2.98	2.16	1.40	13.97 CMS
Max	2.50	4.40	71.40	133.63	223.50	34.60	25.41	8.20	4.80	3.50	2.60	1.80	223.50 CMS
Min	1.00	1.10	3.00	8.04	18.56	13.96	8.36	4.50	3.30	2.60	1.90	1.10	1.00 CMS
Runoff	3.266	4.908	44.965	69.494	183.508	55.132	37.475	15.517	10.316	7.983	5.400	3.741	441.706 MCM

Momentary Peak 375.00 CMS, at 73.74 M (MSL), at 18.00 Hours, on Aug 13, 1991

Runoff Yield 43.65 Liters/Second/Square KM, Momentary Peak Yield 1171.87 Liters/Second/Square KM

WATER YEAR 1991

MAE KLONG RIVER BASIN

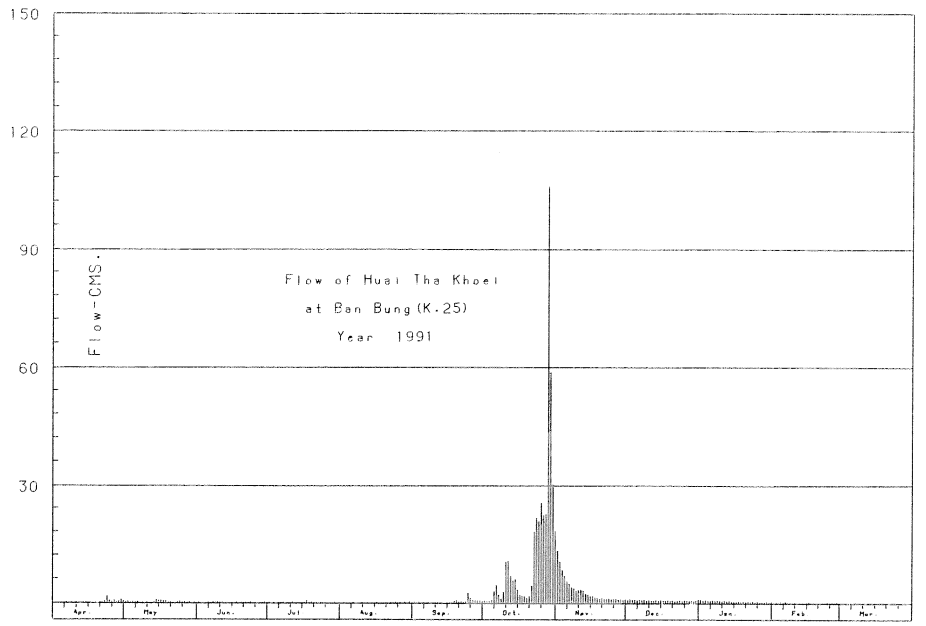
Huai Tha Khaei at Ban Bung, Ratchaburi (K.25)

Location	Lat. 13°25′42″ N., Long. 99°24′25″ E., on left bank at Ban Bung, Tambon Suan Phung, Amphoe Suan Phung, Ratchaburi.
Drainage Area	482 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank near the abutment of the bridge.
Elevation	+7.411 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1968 - 1970, 1982 to date.
Rating Operation	
Period of Rating	1982 to date.
Rated by Float	-
Rated by Current Meter	1982 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	Overbank flow starts at elevation +5.72 m.(A.D.) and is included.
General Description	Records good. Stage-discharge relation defined by 154 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.08	1.16	1.13	1.11	1.08	1.13	1.22	2.99	1.35	1.34	1.14	1.09	
2	1.09	1.15	1.12	1.10	1.09	1.13	1.21	2.74	1.38	1.30	1.13	1.09	
3	1.10	1.14	1.12	1.10	1.07	1.13	1.19	2.55	1.36	1.28	1.14	1.09	
4	1.09	1.13	1.12	1.10	1.07	1.12	1.36	2.37	1.33	1.27	1.13	1.08	
5	1.09	1.13	1.12	1.10	1.07	1.11	1.83	2.21	1.33	1.27	1.12	1.08	
6	1.09	1.12	1.12	1.10	1.07	1.11	2.09	2.11	1.33	1.26	1.12	1.09	
7	1.09	1.12	1.11	1.10	1.07	1.11	1.64	2.01	1.34	1.26	1.11	1.08	
8	1.09	1.11	1.18	1.10	1.07	1.10	1.48	1.94	1.32	1.26	1.11	1.07	
9	1.09	1.11	1.13	1.10	1.06	1.10	1.77	1.85	1.30	1.24	1.11	1.07	
10	1.10	1.09	1.12	1.10	1.06	1.09	2.76	1.86	1.30	1.23	1.11	1.07	
11	1.10	1.07	1.12	1.11	1.06	1.09	2.76	1.91	1.29	1.23	1.11	1.06	
12	1.11	1.08	1.12	1.11	1.07	1.09	2.40	1.83	1.29	1.23	1.12	1.07	
13	1.12	1.18	1.11	1.09	1.07	1.10	2.24	1.71	1.29	1.22	1.11	1.06	
14	1.10	1.31	1.11	1.09	1.08	1.09	2.26	1.65	1.29	1.21	1.11	1.06	
15	1.10	1.30	1.11	1.09	1.08	1.09	1.87	1.61	1.29	1.20	1.10	1.06	
16	1.09	1.26	1.11	1.10	1.08	1.09	1.67	1.58	1.29	1.19	1.10	1.06	
17	1.09	1.26	1.11	1.26	1.08	1.08	1.60	1.55	1.28	1.18	1.11	1.06	
18	1.09	1.18	1.11	1.13	1.09	1.25	1.60	1.51	1.27	1.18	1.11	1.06	
19	1.08	1.16	1.11	1.12	1.11	1.27	1.49	1.50	1.26	1.17	1.11	1.06	
20	1.09	1.12	1.11	1.11	1.14	1.17	1.58	1.49	1.26	1.16	1.10	1.05	
21	1.10	1.10	1.12	1.10	1.15	1.15	2.07	1.48	1.26	1.16	1.09	1.06	
22	1.23	1.09	1.13	1.10	1.14	1.14	3.31	1.47	1.26	1.16	1.09	1.06	
23	1.62	1.18	1.12	1.09	1.12	1.14	3.43	1.44	1.26	1.16	1.09	1.06	
24	1.22	1.15	1.12	1.09	1.11	1.77	3.40	1.42	1.25	1.16	1.10	1.06	
25	1.18	1.13	1.11	1.09	1.10	1.50	3.56	1.41	1.26	1.16	1.09	1.06	
26	1.26	1.13	1.11	1.10	1.10	1.35	3.45	1.40	1.26	1.16	1.09	1.06	
27	1.17	1.13	1.11	1.10	1.10	1.29	3.47	1.39	1.26	1.15	1.10	1.06	
28	1.16	1.13	1.11	1.11	1.12	1.25	4.89	1.37	1.25	1.15	1.10	1.05	
29	1.39	1.13	1.11	1.11	1.13	1.24	4.26	1.36	1.24	1.15	1.09	1.05	
30	1.19	1.13	1.11	1.10	1.15	1.24	3.69	1.36	1.25	1.14		1.05	
31		1.13		1.10	1.13		3.31		1.41	1.14		1.06	
Mean	1.15	1.15	1.12	1.11	1.09	1.18	2.41	1.77	1.29	1.21	1.11	1.07	
Max	1.62	1.31	1.18	1.26	1.15	1.77	4.89	2.99	1.41	1.34	1.14	1.09	4.89
Min	1.08	1.07	1.11	1.09	1.06	1.08	1.19	1.36	1.24	1.14	1.09	1.05	1.05

Annual Max Momentary Gage Height 5.92 M (A.D), at 14.00 Hours, on Oct 28, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.93 M (A.D)
Left Bank Elevation 5.88 M (A.D)
Right Bank Elevation 5.71 M (A.D), Drainage Area 482 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.20	0.40	0.33	0.28	0.20	0.33	0.55	13.46	0.88	0.85	0.35	0.23	
2	0.23	0.37	0.30	0.25	0.23	0.33	0.53	10.40	0.95	0.75	0.33	0.23	
3	0.25	0.35	0.30	0.25	0.18	0.33	0.48	8.50	0.90	0.70	0.35	0.23	
4	0.23	0.33	0.30	0.25	0.18	0.30	0.90	6.77	0.83	0.67	0.33	0.20	
5	0.23	0.33	0.30	0.25	0.18	0.28	3.07	5.57	0.83	0.67	0.30	0.20	
6	0.23	0.30	0.30	0.25	0.18	0.28	4.67	4.82	0.83	0.65	0.30	0.23	
7	0.23	0.30	0.28	0.25	0.18	0.28	2.02	4.07	0.85	0.65	0.28	0.20	
8	0.23	0.28	0.45	0.25	0.18	0.25	1.20	3.67	0.80	0.65	0.28	0.18	
9	0.23	0.28	0.33	0.25	0.15	0.25	2.74	3.18	0.75	0.60	0.28	0.18	
10	0.25	0.23	0.30	0.25	0.15	0.23	10.60	3.23	0.75	0.58	0.28	0.18	
11	0.25	0.18	0.30	0.28	0.15	0.23	10.60	3.51	0.72	0.58	0.28	0.15	
12	0.28	0.20	0.30	0.28	0.18	0.23	7.00	3.07	0.72	0.58	0.30	0.18	
13	0.30	0.45	0.28	0.23	0.18	0.25	5.80	2.41	0.72	0.55	0.28	0.15	
14	0.25	0.77	0.28	0.23	0.20	0.23	5.95	2.07	0.72	0.53	0.28	0.15	
15	0.25	0.75	0.28	0.23	0.20	0.23	3.29	1.86	0.72	0.50	0.25	0.15	
16	0.23	0.65	0.28	0.25	0.20	0.23	2.18	1.69	0.72	0.48	0.25	0.15	
17	0.23	0.65	0.28	0.65	0.20	0.20	1.80	1.52	0.70	0.45	0.28	0.15	
18	0.23	0.45	0.28	0.33	0.23	0.63	1.80	1.30	0.67	0.45	0.28	0.15	
19	0.20	0.40	0.28	0.30	0.28	0.67	1.23	1.25	0.65	0.42	0.28	0.15	
20	0.23	0.30	0.28	0.28	0.35	0.42	1.69	1.23	0.65	0.40	0.25	0.12	
21	0.25	0.25	0.30	0.25	0.37	0.37	4.52	1.20	0.65	0.40	0.23	0.15	
22	0.58	0.23	0.33	0.25	0.35	0.35	18.28	1.18	0.65	0.40	0.23	0.15	
23	1.91	0.45	0.30	0.23	0.30	0.35	21.70	1.10	0.65	0.40	0.23	0.15	
24	0.55	0.37	0.30	0.23	0.28	2.74	20.80	1.05	0.63	0.40	0.25	0.15	
25	0.45	0.33	0.28	0.23	0.25	1.25	25.72	1.02	0.65	0.40	0.23	0.15	
26	0.65	0.33	0.28	0.25	0.25	0.88	22.30	1.00	0.65	0.40	0.23	0.15	
27	0.42	0.33	0.28	0.25	0.25	0.72	22.90	0.97	0.65	0.37	0.25	0.15	
28	0.40	0.33	0.28	0.28	0.30	0.63	106.10	0.93	0.63	0.37	0.25	0.12	
29	0.97	0.33	0.28	0.28	0.33	0.60	58.60	0.90	0.60	0.37	0.23	0.12	
30	0.48	0.33	0.28	0.25	0.37	0.60	30.42	0.90	0.63	0.35		0.12	
31		0.33		0.25	0.33		18.28		1.02	0.35		0.15	
Total	11.42	11.58	8.94	8.34	7.36	14.67	417.72	93.83	22.77	15.92	7.94	5.12	625.61 CMSDAY
Mean	0.38	0.37	0.30	0.27	0.24	0.49	13.47	3.13	0.73	0.51	0.27	0.17	1.71 CMS
Max	1.91	0.77	0.45	0.65	0.37	2.74	106.10	13.46	1.02	0.85	0.35	0.23	106.10 CMS
Min	0.20	0.18	0.28	0.23	0.15	0.20	0.48	0.90	0.60	0.35	0.23	0.12	0.12 CMS
Runoff	0.987	1.001	0.772	0.721	0.636	1.267	36.091	8.107	1.967	1.375	0.686	0.442	54.053 MCM

Momentary Peak 269.40 CMS, at 5.92 M (A.D), at 14.00 Hours, on Oct 28, 1991
Runoff Yield 3.55 Liters/Second/Square KM, Momentary Peak Yield 558.92 Liters/Second/Square KM

WATER YEAR 1991

MAE KLONG RIVER BASIN

Huai Mae Nam Noi at Ban Mae Nam Noi, Kanchanaburi (K.31)

Location — Lat. 14°-26'-01" N., Long. 98°-48'-40" E., on right bank about 2 kilometers downstream from station K.22A, Amphoe Sai Yok, Kanchanaburi.

Drainage Area — 777 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +62.72 m.(M.S.L)

Bench Mark — B.M.-H.D.

Location — On right bank about 5 meters from the top staff gage.

Elevation — +70.537 m.(M.S.L)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1983 to date.

Rating Operation

Period of Rating — 1989 to date.

Rated by Float — -

Rated by Current Meter — 1989 to date.

Stability of Channel Regimes — Fairly stable by some silting.

Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 111 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

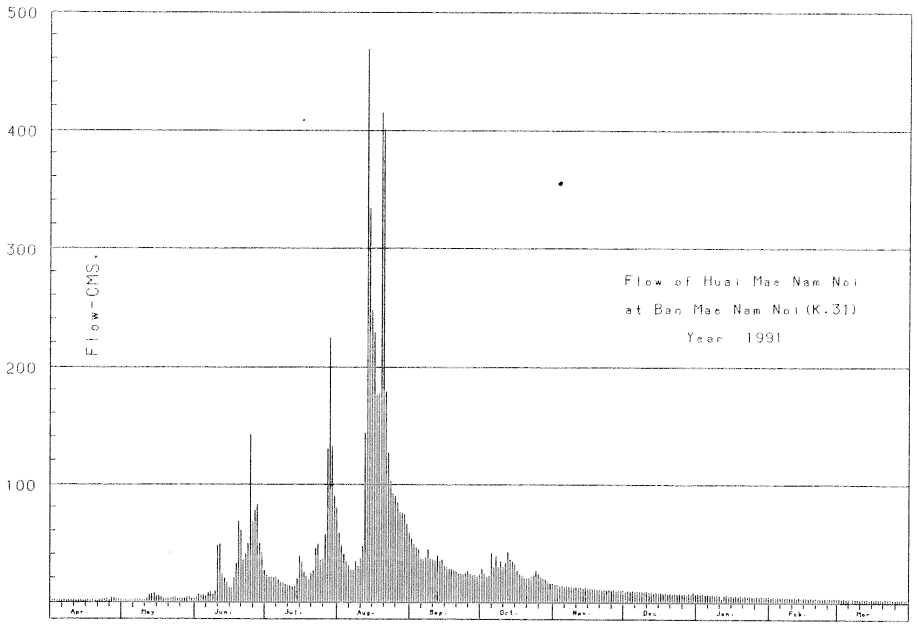
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	63.28	63.27	63.46	64.27	65.48	65.01	64.36	63.94	63.69	63.58	63.45	63.38	
2	63.27	63.27	63.55	64.24	65.16	64.89	64.22	63.92	63.69	63.58	63.45	63.38	
3	63.27	63.26	63.52	64.22	64.94	64.84	64.15	63.89	63.69	63.57	63.45	63.37	
4	63.27	63.26	63.53	64.23	64.72	64.79	64.16	63.88	63.69	63.56	63.45	63.37	
5	63.27	63.26	63.49	64.23	64.63	64.61	64.73	63.87	63.69	63.55	63.44	63.36	
6	63.27	63.31	63.63	64.15	64.50	64.58	64.40	63.87	63.68	63.55	63.44	63.36	
7	63.27	63.31	63.64	64.05	64.47	64.64	64.65	63.86	63.68	63.54	63.44	63.35	
8	63.27	63.30	63.57	64.01	64.72	64.80	64.40	63.84	63.67	63.54	63.43	63.35	
9	63.27	63.29	63.68	63.99	64.60	64.60	64.53	63.83	63.67	63.53	63.43	63.35	
10	63.27	63.26	65.15	63.92	64.62	64.58	64.39	63.83	63.67	63.53	63.43	63.34	
11	63.27	63.40	65.21	63.89	64.85	64.55	64.51	63.82	63.66	63.42	63.42	63.34	
12	63.27	63.54	64.33	63.88	66.65	64.68	64.75	63.81	63.65	63.52	63.42	63.34	
13	63.27	63.56	64.21	63.87	69.28	64.56	64.58	63.80	63.63	63.51	63.42	63.33	
14	63.27	63.62	64.02	64.19	68.70	64.58	64.54	63.80	63.63	63.50	63.41	63.33	
15	63.27	63.46	63.85	64.89	68.06	64.44	64.46	63.79	63.62	63.50	63.41	63.33	
16	63.27	63.48	63.79	64.72	67.85	64.39	64.29	63.78	63.62	63.49	63.40	63.33	
17	63.26	63.44	64.23	64.42	67.14	64.36	64.22	63.77	63.61	63.49	63.40	63.33	
18	63.25	63.36	64.69	64.25	67.15	64.33	64.18	63.76	63.61	63.49	63.40	63.33	
19	63.25	63.34	65.71	64.15	69.13	64.32	64.13	63.75	63.60	63.49	63.40	63.32	
20	63.25	63.34	65.54	64.35	69.09	64.27	64.10	63.74	63.60	63.48	63.40	63.32	
21	63.28	63.39	64.76	64.45	67.17	64.24	64.13	63.74	63.59	63.48	63.40	63.32	
22	63.31	63.43	64.96	65.09	66.39	64.24	64.15	63.73	63.59	63.48	63.39	63.32	
23	63.33	63.42	65.20	65.19	65.99	64.20	64.20	63.73	63.58	63.48	63.39	63.32	
24	63.34	63.37	67.40	64.77	65.77	64.26	64.30	63.73	63.58	63.48	63.39	63.32	
25	63.29	63.35	65.72	64.78	65.74	64.28	64.23	63.73	63.58	63.47	63.39	63.31	
26	63.39	63.34	65.95	65.43	65.64	64.21	64.15	63.73	63.57	63.47	63.39	63.31	
27	63.40	63.37	66.08	67.16	65.48	64.19	64.10	63.72	63.56	63.47	63.39	63.31	
28	63.32	63.42	65.23	68.54	65.46	64.18	64.09	63.72	63.57	63.46	63.39	63.30	
29	63.30	63.45	64.96	67.19	65.44	64.16	64.02	63.72	63.59	63.46	63.38	63.30	
30	63.29	63.33	64.48	66.27	65.26	64.20	63.98	63.71	63.63	63.46		63.30	
31		63.32		66.01	65.10		63.96		63.59	63.46		63.29	
Mean	63.29	63.37	64.58	64.80	66.10	64.47	64.29	63.79	63.63	63.50	63.41	63.33	
Max	63.40	63.62	67.40	68.54	69.28	65.01	64.75	63.94	63.69	63.58	63.45	63.38	69.28
Min	63.25	63.26	63.46	63.87	64.47	64.16	63.96	63.71	63.56	63.42	63.38	63.29	63.25

Annual Max Momentary Gage Height — 70.49 M (MSL), at 15.00 Hours, on Aug 13, 1991

Zero Gage at Bottom Elevation — 62.72 M (MSL), River Bed — 63.16 M (MSL)

Left Bank Elevation — 72.35 M (MSL)

Right Bank Elevation — 71.08 M (MSL), Drainage Area — 777 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.39	2.26	5.20	22.48	59.32	54.48	28.99	15.65	10.02	7.60	5.00	3.73	
2	2.26	2.26	7.00	21.76	48.44	49.32	24.33	15.20	10.02	7.60	5.00	3.73	
3	2.26	2.13	6.40	21.28	41.20	47.20	22.00	14.52	10.02	7.40	5.00	3.60	
4	2.26	2.13	6.60	21.52	34.60	45.08	22.33	14.30	10.02	7.20	5.00	3.60	
5	2.26	2.13	5.80	21.52	31.90	37.43	42.53	14.07	10.02	7.00	4.80	3.46	
6	2.26	2.79	8.60	19.60	28.00	36.33	30.32	14.07	9.80	7.00	4.80	3.46	
7	2.26	2.79	8.80	17.20	27.28	38.70	39.13	13.85	9.80	6.80	4.80	3.33	
8	2.26	2.66	7.40	16.24	34.60	45.50	30.32	13.40	9.57	6.80	4.60	3.33	
9	2.26	2.53	9.60	15.80	31.00	37.00	34.66	13.18	9.57	6.60	4.60	3.33	
10	2.26	2.13	48.10	14.40	37.85	36.33	29.99	13.18	9.57	6.60	4.60	3.20	
11	2.26	4.00	50.14	13.80	47.62	35.33	33.99	12.95	9.35	4.40	4.40	3.20	
12	2.26	6.80	23.92	13.60	143.90	40.40	43.38	12.73	9.13	6.40	4.40	3.20	
13	2.26	7.20	21.04	13.40	469.24	35.66	36.33	12.50	8.68	6.20	4.40	3.06	
14	2.26	8.40	16.48	20.56	334.00	36.33	35.00	12.50	8.68	6.00	4.20	3.06	
15	2.26	5.20	13.00	39.70	248.00	31.66	32.32	12.28	8.45	6.00	4.20	3.06	
16	2.26	5.60	11.80	34.60	230.00	29.99	26.66	12.05	8.45	5.80	4.00	3.06	
17	2.13	4.80	21.52	26.08	176.80	28.99	24.33	11.83	8.23	5.80	4.00	3.06	
18	2.00	3.46	33.70	22.00	177.50	27.99	22.99	11.60	8.23	5.80	4.00	3.06	
19	2.00	3.20	68.40	19.60	415.54	27.66	21.33	11.38	8.00	5.80	4.00	2.93	
20	2.00	3.20	61.60	24.40	401.22	25.99	20.33	11.15	8.00	5.60	4.00	2.93	
21	2.39	3.87	35.80	26.80	178.90	24.99	21.33	11.15	7.80	5.60	4.00	2.93	
22	2.79	4.60	41.80	46.06	127.40	24.99	22.00	10.93	7.80	5.60	3.87	2.93	
23	3.06	4.40	49.80	49.46	103.48	23.66	23.66	10.93	7.60	5.60	3.87	2.93	
24	3.20	3.60	143.00	36.10	92.04	25.66	26.99	10.93	7.60	5.60	3.87	2.93	
25	2.53	3.33	68.80	36.40	90.48	26.32	24.66	10.93	7.60	5.40	3.87	2.79	
26	3.87	3.20	78.00	57.62	85.28	23.99	22.00	10.93	7.40	5.40	3.87	2.79	
27	4.00	3.60	83.20	131.00	77.04	23.33	20.33	10.70	7.20	5.40	3.87	2.79	
28	2.93	4.40	50.82	225.40	76.08	22.99	20.00	10.70	7.40	5.20	3.87	2.66	
29	2.66	5.00	41.80	132.50	75.12	22.33	17.67	10.70	7.80	5.20	3.73	2.66	
30	2.53	3.06	27.52	90.80	66.48	23.66	16.55	10.48	8.68	5.20		2.66	
31		2.93		80.40	58.80		16.10		7.80	5.20		2.53	
Total	74.38	117.66	1055.64	1332.08	4049.11	989.29	832.55	370.77	268.29	187.80	124.62	95.99	9498.18 CMSDAY
Mean	2.48	3.80	35.19	42.97	130.62	32.98	26.86	12.36	8.65	6.06	4.30	3.10	25.95 CMS
Max	4.00	8.40	143.00	225.40	469.24	54.48	43.38	15.65	10.02	7.60	5.00	3.73	469.24 CMS
Min	2.00	2.13	5.20	13.40	27.28	22.33	16.10	10.48	7.20	4.40	3.73	2.53	2.00 CMS
Runoff	6.426	10.166	91.207	115.092	349.843	85.475	71.932	32.035	23.180	16.226	10.767	8.294	820.643 MCM

Momentary Peak 948.30 CMS, at 70.49 M (MSL), at 15.00 Hours, on Aug 13, 1991

Runoff Yield 33.40 Liters/Second/Square KM, Momentary Peak Yield 1220.46 Liters/Second/Square KM

WATER YEAR 1991

MAE KLONG RIVER BASIN

Huai Bong Ti at Ban Bong Ti Noi, Kanchanaburi (K.32A)

Location — Lat. 14-16-25 N., Long. 98-56-04 E., on right bank at Ban Bong Ti Noi, Amphoe Sai Yok, Kanchanaburi.

Drainage Area — 512 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On right bank about 8.50 meters from the top staff gage.

Elevation — +4.238 m.(A.D.)

Gage Reading Frequency — 16-time daily readings at 03.00, 06.00-18.00, 21.00 and 24.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 16 readings.

Period of Available Gage Records — 1984 to date

Rating Operation

Period of Rating — 1984 to date

Rated by Float —

Rated by Current Meter — 1984 to date

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 111 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

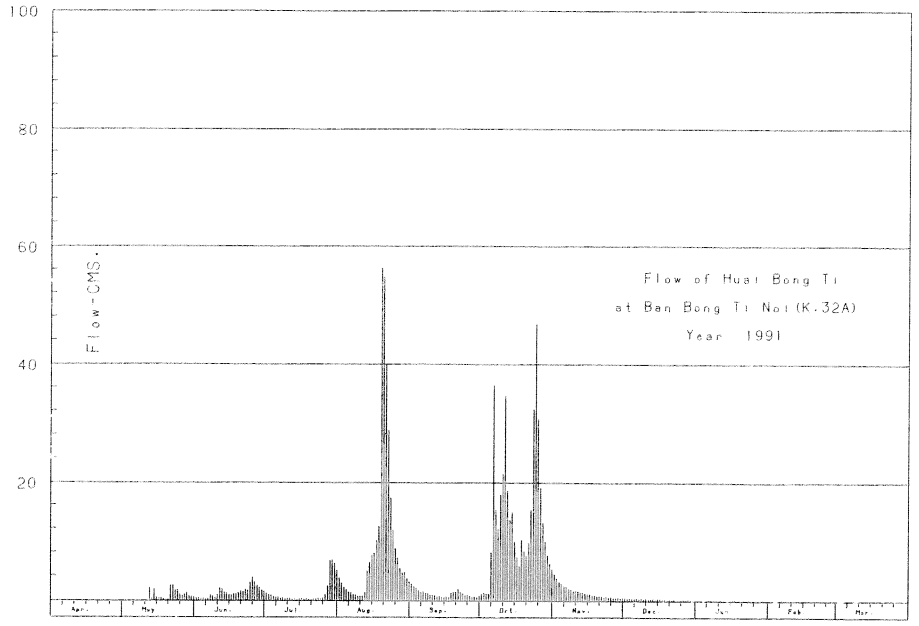
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.65	0.69	1.02	1.21	1.63	1.49	1.20	1.70	1.01	0.88	0.81	0.77	
2	0.65	0.68	1.00	1.19	1.51	1.44	1.26	1.61	1.00	0.88	0.81	0.77	
3	0.65	0.67	0.97	1.14	1.42	1.38	1.20	1.55	1.00	0.87	0.81	0.77	
4	0.65	0.67	0.95	1.11	1.34	1.33	1.22	1.50	0.99	0.87	0.81	0.77	
5	0.64	0.67	0.93	1.09	1.29	1.29	2.05	1.45	0.99	0.87	0.81	0.77	
6	0.64	0.67	0.93	1.07	1.24	1.28	3.47	1.42	0.98	0.87	0.80	0.77	
7	0.64	0.66	1.18	1.03	1.20	1.25	2.54	1.38	0.97	0.87	0.80	0.77	
8	0.64	0.66	1.11	1.00	1.16	1.22	2.33	1.35	0.97	0.86	0.80	0.76	
9	0.64	0.66	1.05	0.98	1.13	1.18	2.69	1.32	0.97	0.86	0.80	0.76	
10	0.64	0.66	1.17	0.97	1.11	1.15	2.86	1.31	0.97	0.85	0.80	0.76	
11	0.65	0.70	1.40	0.95	1.11	1.13	3.40	1.30	0.97	0.85	0.80	0.76	
12	0.65	1.41	1.35	0.93	1.27	1.12	2.72	1.28	0.96	0.85	0.80	0.76	
13	0.65	1.00	1.27	0.92	1.76	1.11	2.44	1.26	0.95	0.84	0.79	0.76	
14	0.65	1.35	1.22	0.92	1.89	1.10	2.52	1.24	0.95	0.84	0.79	0.76	
15	0.65	1.03	1.17	0.93	2.01	1.08	2.19	1.21	0.94	0.84	0.79	0.76	
16	0.64	1.03	1.15	0.97	2.03	1.08	1.97	1.19	0.94	0.84	0.79	0.76	
17	0.64	0.99	1.21	0.94	2.20	1.09	1.84	1.17	0.93	0.84	0.79	0.76	
18	0.64	0.92	1.19	0.93	2.36	1.26	2.20	1.15	0.92	0.84	0.79	0.76	
19	0.66	0.87	1.26	0.91	4.12	1.27	2.06	1.14	0.92	0.83	0.78	0.76	
20	0.66	0.86	1.30	0.89	4.07	1.27	1.99	1.12	0.91	0.83	0.78	0.76	
21	0.67	1.45	1.30	0.92	3.59	1.37	2.17	1.11	0.91	0.83	0.78	0.75	
22	0.67	1.48	1.36	0.95	3.18	1.30	2.54	1.09	0.90	0.83	0.78	0.75	
23	0.67	1.34	1.32	0.98	2.66	1.21	3.32	1.08	0.90	0.83	0.78	0.75	
24	0.68	1.33	1.54	0.98	2.32	1.17	3.82	1.08	0.89	0.82	0.78	0.75	
25	0.68	1.21	1.64	1.00	2.10	1.16	3.25	1.07	0.89	0.82	0.78	0.75	
26	0.69	1.15	1.53	1.16	1.96	1.12	2.75	1.05	0.89	0.82	0.78	0.75	
27	0.68	1.20	1.47	1.46	1.81	1.10	2.41	1.04	0.89	0.82	0.77	0.75	
28	0.69	1.23	1.40	1.93	1.72	1.09	2.18	1.03	0.89	0.82	0.77	0.75	
29	0.69	1.15	1.34	1.93	1.72	1.08	2.01	1.03	0.89	0.82	0.77	0.75	
30	0.70	1.09	1.29	1.89	1.62	1.13	1.87	1.02	0.88	0.82		0.74	
31		1.04		1.76	1.54		1.78		0.88	0.81		0.74	
Mean	0.66	0.98	1.23	1.13	1.94	1.21	2.33	1.24	0.94	0.84	0.79	0.76	
Max	0.70	1.48	1.64	1.93	4.12	1.49	3.82	1.70	1.01	0.88	0.81	0.77	4.12
Min	0.64	0.66	0.93	0.89	1.11	1.08	1.20	1.02	0.88	0.81	0.77	0.74	0.64

Annual Max Momentary Gage Height — 4.38 M (A.D), at 3.00 Hours, on Aug 19, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.13 M (A.D)

Left Bank Elevation — 9.04 M (A.D)

Right Bank Elevation — 10.11 M (A.D), Drainage Area 512 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.45	1.15	3.87	2.74	1.10	4.50	0.42	0.18	0.09	0.06	
2	0.00	0.00	0.40	1.06	2.88	2.41	1.37	3.69	0.40	0.18	0.09	0.06	
3	0.00	0.00	0.34	0.83	2.28	2.03	1.10	3.20	0.40	0.16	0.09	0.06	
4	0.00	0.00	0.30	0.69	1.79	1.73	1.19	2.80	0.38	0.16	0.09	0.06	
5	0.00	0.00	0.26	0.63	1.51	1.51	8.25	2.48	0.38	0.16	0.09	0.06	
6	0.00	0.00	0.26	0.58	1.28	1.46	36.56	2.28	0.36	0.16	0.08	0.06	
7	0.00	0.00	1.01	0.47	1.10	1.33	15.28	2.03	0.34	0.16	0.08	0.06	
8	0.00	0.00	0.69	0.40	0.92	1.19	12.05	1.85	0.34	0.15	0.08	0.05	
9	0.00	0.00	0.52	0.36	0.78	1.01	18.01	1.67	0.34	0.15	0.08	0.05	
10	0.00	0.00	0.96	0.34	0.69	0.87	21.52	1.61	0.34	0.14	0.08	0.05	
11	0.00	0.00	2.15	0.30	0.69	0.78	34.60	1.55	0.34	0.14	0.08	0.05	
12	0.00	2.22	1.85	0.26	1.42	0.74	18.60	1.46	0.32	0.14	0.08	0.05	
13	0.00	0.40	1.42	0.24	5.04	0.69	13.70	1.37	0.30	0.13	0.07	0.05	
14	0.00	1.85	1.19	0.24	6.39	0.65	14.94	1.28	0.30	0.13	0.07	0.05	
15	0.00	0.47	0.96	0.26	7.73	0.60	10.07	1.15	0.28	0.13	0.07	0.05	
16	0.00	0.47	0.87	0.34	7.99	0.60	7.27	1.06	0.28	0.13	0.07	0.05	
17	0.00	0.38	1.15	0.28	10.20	0.63	5.84	0.96	0.26	0.13	0.07	0.05	
18	0.00	0.24	1.06	0.26	12.50	1.37	10.20	0.87	0.24	0.13	0.07	0.05	
19	0.00	0.16	1.37	0.22	56.46	1.42	8.38	0.83	0.24	0.12	0.06	0.05	
20	0.00	0.15	1.55	0.19	54.81	1.42	7.49	0.74	0.22	0.12	0.06	0.05	
21	0.00	2.48	1.55	0.24	40.10	1.97	9.81	0.69	0.22	0.12	0.06	0.04	
22	0.00	2.67	1.91	0.30	28.92	1.55	15.28	0.63	0.20	0.12	0.06	0.04	
23	0.00	1.79	1.67	0.36	17.44	1.15	32.52	0.60	0.20	0.12	0.06	0.04	
24	0.00	1.73	3.12	0.36	11.90	0.96	47.00	0.60	0.19	0.10	0.06	0.04	
25	0.00	1.15	3.96	0.40	8.90	0.92	30.70	0.58	0.19	0.10	0.06	0.04	
26	0.00	0.87	3.04	0.92	7.16	0.74	19.20	0.52	0.19	0.10	0.06	0.04	
27	0.00	1.10	2.61	2.54	5.51	0.65	13.25	0.50	0.19	0.10	0.06	0.04	
28	0.00	1.24	2.15	6.83	4.68	0.63	9.94	0.47	0.19	0.10	0.06	0.04	
29	0.00	0.87	1.79	6.83	4.68	0.60	7.73	0.47	0.19	0.10	0.06	0.04	
30	0.00	0.63	1.51	6.39	3.78	0.78	6.17	0.45	0.18	0.10		0.03	
31		0.50		5.04	3.12		5.22		0.18	0.09		0.03	
Total	0.00	21.37	42.07	39.31	316.52	35.13	444.34	42.89	8.60	4.05	2.09	1.49	957.86 CMSDAY
Mean	0.00	0.69	1.40	1.27	10.21	1.17	14.33	1.43	0.28	0.13	0.07	0.05	2.62 CMS
Max	0.00	2.67	3.96	6.83	56.46	2.74	47.00	4.50	0.42	0.18	0.09	0.06	56.46 CMS
Min	0.00	0.00	0.26	0.19	0.69	0.60	1.10	0.45	0.18	0.09	0.06	0.03	0.00 CMS
Runoff	0.000	1.846	3.635	3.396	27.347	3.035	38.391	3.706	0.743	0.350	0.181	0.129	82.759 MCM

Momentary Peak 65.12 CMS, at 4.38 M (A.D), at 3.00 Hours, on Aug 19, 1991
Runoff Yield 5.11 Liters/Second/Square KM, Momentary Peak Yield 127.19 Liters/Second/Square KM

WATER YEAR 1991

MAE KLONG RIVER BASIN

Khwae Yai River at Ban Nong Bua, Kanchanaburi (K.35)

Location — Lat. 14°-03'-22" N., Long. 99°-27'-35" E., on left bank at Ban Nong Bua, Amphoe Muang, Kanchanaburi.

Drainage Area — 14,528 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank about 5 meters from the third staff gage.

Elevation — +7.667 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1984 to date

Rating Operation

Period of Rating — 1984 - 1985, 1987 to date

Rated by Float — -

Rated by Current Meter — 1984 - 1985, 1987 to date

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 28 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

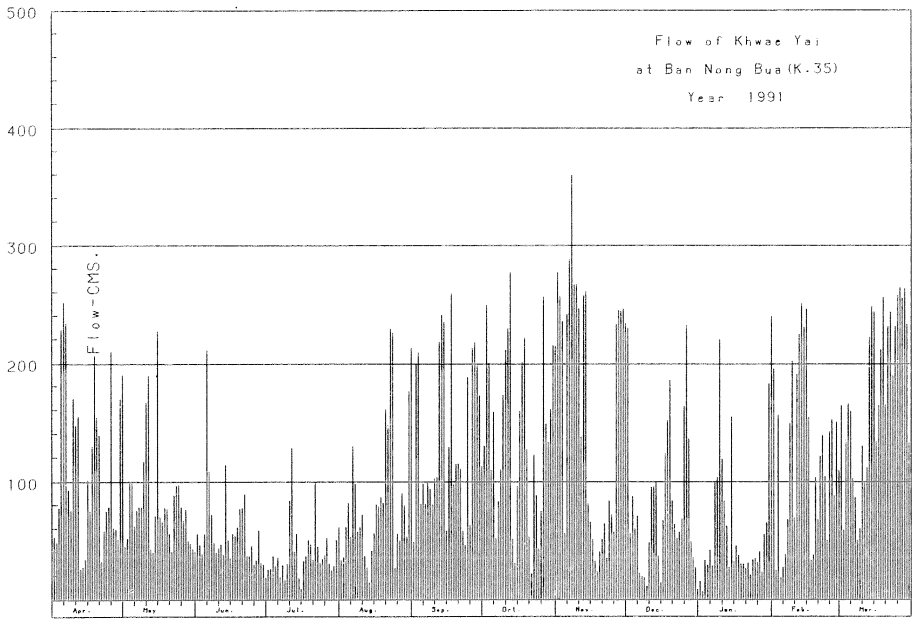
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.39	2.28	2.43	1.94	2.09	2.33	3.31	4.48	4.14	1.70	3.87	3.61	
2	2.33	2.37	2.30	1.95	2.14	3.90	4.29	4.34	2.44	1.42	1.92	2.48	
3	2.74	3.01	2.18	2.16	2.52	3.98	3.91	4.19	2.87	2.09	3.54	3.36	
4	4.13	2.99	2.43	2.02	2.80	2.80	3.10	2.44	2.49	2.03	1.78	3.62	
5	4.31	2.53	4.00	2.13	2.39	2.99	3.56	4.23	2.65	2.23	1.99	3.57	
6	4.17	2.72	3.09	1.78	3.30	2.79	2.37	4.55	1.86	2.01	2.18	3.03	
7	2.93	2.75	2.67	2.03	2.99	2.99	2.82	4.98	1.81	3.00	2.61	2.86	
8	2.72	2.76	2.33	1.73	2.46	2.94	3.11	4.41	1.77	3.04	3.48	2.35	
9	3.65	3.17	2.20	2.04	2.51	2.79	3.68	4.41	1.57	4.07	3.92	2.50	
10	3.46	3.63	2.26	2.83	2.66	3.03	4.00	4.27	2.32	3.20	2.62	3.31	
11	3.53	3.82	2.30	3.29	2.16	3.04	4.14	3.38	2.95	2.82	3.83	2.99	
12	1.96	2.24	2.18	2.22	1.98	4.05	4.48	4.35	2.96	2.53	4.10	3.13	
13	1.99	2.21	3.15	2.43	1.67	4.23	2.37	4.37	2.99	1.99	4.30	4.08	
14	2.11	2.64	2.36	1.77	2.22	4.18	2.05	2.80	2.16	3.53	4.15	4.28	
15	3.02	4.12	2.12	1.47	2.44	2.47	2.96	2.57	1.66	2.07	4.27	4.25	
16	2.70	2.64	2.43	2.08	2.79	3.30	3.57	2.36	2.60	2.28	3.52	3.34	
17	3.30	2.57	2.41	2.16	2.76	4.36	3.91	2.09	3.24	2.17	2.10	3.61	
18	3.96	2.75	2.51	2.36	2.86	2.98	4.08	1.91	3.50	2.04	2.17	4.00	
19	3.52	2.73	2.74	2.30	2.80	3.15	3.28	2.21	3.79	2.05	3.04	4.34	
20	3.40	2.43	2.74	2.10	3.58	3.16	2.39	2.37	2.83	1.96	2.61	3.61	
21	2.07	2.22	2.89	3.00	3.47	3.11	1.86	2.55	2.54	2.05	3.22	4.15	
22	2.47	2.88	2.15	2.28	4.14	2.47	3.23	2.12	2.38	1.84	3.40	4.25	
23	2.70	2.97	2.16	2.06	4.11	2.29	2.88	2.83	2.45	2.11	3.05	3.82	
24	2.76	2.97	2.28	2.11	1.98	3.81	2.25	2.66	2.62	2.12	2.35	4.15	
25	3.99	2.76	2.04	2.17	2.43	2.53	2.70	2.45	3.60	2.07	3.42	4.35	
26	2.50	2.59	2.09	2.38	2.35	4.01	4.34	4.17	4.16	2.22	3.51	4.39	
27	2.49	2.72	2.48	2.05	2.89	4.05	3.48	4.26	3.37	1.88	2.87	4.33	
28	2.36	2.35	2.05	1.93	2.77	3.89	3.34	4.25	2.34	2.42	3.49	4.39	
29	3.65	2.31	2.03	2.01	2.40	3.68	3.58	4.27	2.13	2.57	3.10	4.17	
30	3.82	2.25	1.78	2.36	3.71	3.13	4.03	4.17	1.99	3.76		3.33	
31		2.21		2.51	4.01		4.02		1.46	4.22		3.99	
Mean	3.04	2.73	2.43	2.18	2.75	3.28	3.33	3.48	2.63	2.44	3.12	3.67	
Max	4.31	4.12	4.00	3.29	4.14	4.36	4.48	4.98	4.16	4.22	4.30	4.39	4.98
Min	1.96	2.21	1.78	1.47	1.67	2.29	1.86	1.91	1.46	1.42	1.78	2.35	1.42

Annual Max Momentary Gage Height — 5.83 M (A.D), at 6.00 Hours, on Nov 7, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed 0.09 M (A.D)

Left Bank Elevation — 7.34 M (A.D)

Right Bank Elevation — 10.49 M (A.D), Drainage Area 14528 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	53.3	45.6	56.1	25.6	33.4	49.1	131.0	278.0	230.2	16.0	196.4	165.2	
2	49.1	51.9	47.0	26.0	36.4	200.0	249.7	257.0	56.8	7.6	24.8	59.6	
3	77.8	101.0	38.8	37.6	62.4	209.6	201.2	236.7	88.3	33.4	156.8	136.0	
4	228.9	99.1	56.1	29.2	82.0	82.0	110.0	56.8	60.3	29.8	19.2	166.4	
5	252.5	63.1	212.0	35.8	53.3	99.1	159.2	241.9	71.5	42.1	27.6	160.4	
6	234.1	76.4	109.0	19.2	130.0	81.3	51.9	288.5	22.4	28.6	38.8	103.0	
7	93.7	78.5	72.9	29.8	99.1	99.1	83.8	360.6	20.4	100.0	68.7	87.4	
8	76.4	79.2	49.1	17.2	58.2	94.6	111.0	267.5	18.8	104.0	149.6	50.5	
9	170.0	117.0	40.0	30.4	61.7	81.3	173.6	267.5	12.1	221.1	202.4	61.0	
10	147.2	167.6	44.2	84.7	72.2	103.0	212.0	247.1	48.4	120.0	69.4	131.0	
11	155.6	190.4	47.0	129.0	37.6	104.0	230.2	138.0	95.5	83.8	191.6	99.1	
12	26.4	42.8	38.8	41.4	27.2	218.5	278.0	258.5	96.4	63.1	225.0	113.0	
13	27.6	40.7	115.0	56.1	15.1	241.9	51.9	261.5	99.1	27.6	251.0	222.4	
14	34.6	70.8	51.2	18.8	41.4	235.4	31.0	82.0	37.6	155.6	231.5	248.4	
15	102.0	227.6	35.2	9.1	56.8	58.9	96.4	65.9	14.8	32.2	247.1	244.5	
16	75.0	70.8	56.1	32.8	81.3	130.0	160.4	51.2	68.0	45.6	154.4	134.0	
17	130.0	65.9	54.7	37.6	79.2	260.0	201.2	33.4	124.0	38.2	34.0	165.2	
18	207.2	78.5	61.7	51.2	87.4	98.2	222.4	24.4	152.0	30.4	38.2	212.0	
19	154.4	77.1	77.8	47.0	82.0	115.0	128.0	40.7	186.8	31.0	104.0	257.0	
20	140.0	56.1	77.8	34.0	161.6	116.0	53.3	51.9	84.7	26.4	68.7	165.2	
21	32.2	41.4	90.1	100.0	148.4	111.0	22.4	64.5	63.8	31.0	122.0	231.5	
22	58.9	89.2	37.0	45.6	230.2	58.9	123.0	35.2	52.6	21.6	140.0	244.5	
23	75.0	97.3	37.6	31.6	226.3	46.3	89.2	84.7	57.5	34.6	105.0	190.4	
24	79.2	97.3	45.6	34.6	27.2	189.2	43.5	72.2	69.4	35.2	50.5	231.5	
25	210.8	79.2	30.4	38.2	56.1	63.1	75.0	57.5	164.0	32.2	142.4	258.5	
26	61.0	67.3	33.4	52.6	50.5	213.3	257.0	234.1	232.8	41.4	153.2	264.5	
27	60.3	76.4	59.6	31.0	90.1	218.5	149.6	245.8	137.0	23.2	88.3	255.5	
28	51.2	50.5	31.0	25.2	79.9	198.8	134.0	244.5	49.8	55.4	150.8	264.5	
29	170.0	47.7	29.8	28.6	54.0	173.6	161.6	247.1	35.8	65.9	110.0	234.1	
30	190.4	43.5	19.2	51.2	177.2	113.0	215.9	234.1	27.6	183.2		133.0	
31		40.7		61.7	213.3		214.6		8.8	240.6		210.8	
Total	3424.8	2530.6	1754.2	1292.8	2711.5	4062.7	4422.0	5028.8	2487.2	2000.8	3561.4	5500.1	38776.9 CMSDAY
Mean	114.2	81.6	58.5	41.7	87.5	135.4	142.6	167.6	80.2	64.5	122.8	177.4	105.9 CMS
Max	252.5	227.6	212.0	129.0	230.2	260.0	278.0	360.6	232.8	240.6	251.0	264.5	360.6 CMS
Min	26.4	40.7	19.2	9.1	15.1	46.3	22.4	24.4	8.8	7.6	19.2	50.5	7.6 CMS
Runoff	295.90	218.64	151.56	111.70	234.27	351.02	382.06	434.49	214.89	172.87	307.70	475.21	3350.32 MCM

Momentary Peak 526.00 CMS, at 5.83 M (A.D), at 6.00 Hours, on Nov 7, 1991
Runoff Yield 7.29 Liters/Second/Square KM, Momentary Peak Yield 36.21 Liters/Second/Square KM

WATER YEAR 1991

MAE KLONG RIVER BASIN

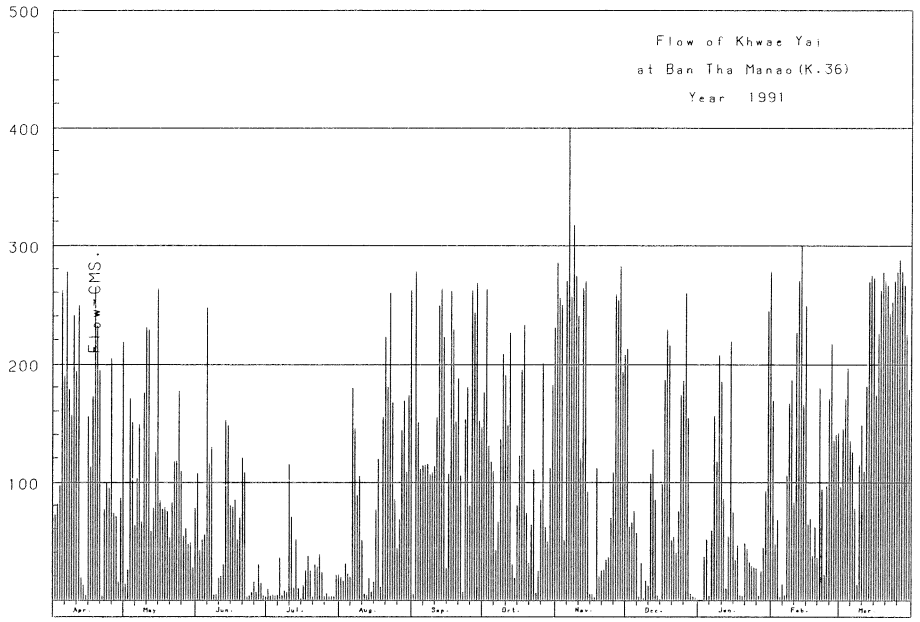
Khwae Yai River at Ban Tha Manao, Kanchanaburi (K.36)

Location	Lat. 14°09'48" N., Long. 99°16'38" E., on left bank at Ban Tha Manao, Amphoe Muang, Kanchanaburi.
Drainage Area	11,787 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank about 10 meters from the top staff gage.
Elevation	+6.888 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1984 to date
Rating Operation	
Period of Rating	1984 to date
Rated by Float	-
Rated by Current Meter	1984 to date
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 27 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.83	1.97	3.18	1.86	2.09	1.71	3.74	4.49	4.01	1.44	3.69	3.07	
2	2.92	2.22	2.46	1.60	2.04	4.44	4.35	4.30	2.71	1.45	2.53	3.50	
3	3.08	3.70	2.59	1.67	2.30	3.55	3.38	4.26	2.76	2.38	2.78	3.70	
4	4.34	3.55	2.63	1.60	2.15	3.21	3.27	2.58	2.86	2.59	1.57	3.89	
5	3.84	2.73	4.25	1.66	2.11	3.24	3.19	4.39	2.65	1.63	1.98	3.42	
6	4.44	3.14	3.25	2.38	3.77	3.24	2.47	5.19	1.56	2.67	1.62	3.34	
7	3.76	3.53	3.37	1.61	3.50	3.25	2.76	4.31	2.31	3.59	3.16	2.88	
8	3.60	2.76	1.68	1.84	3.00	3.17	3.43	4.69	1.53	3.27	3.67	1.97	
9	4.20	3.74	1.66	1.76	3.15	3.18	3.98	4.42	2.03	3.97	3.82	3.24	
10	3.87	4.13	2.09	3.25	2.58	3.23	3.85	4.20	1.95	3.81	2.93	3.53	
11	4.26	4.12	2.11	2.81	1.72	3.58	3.53	3.29	3.17	2.96	4.10	3.19	
12	2.10	2.67	2.29	1.91	1.63	4.26	4.10	4.35	3.36	1.90	4.39	3.78	
13	1.95	2.89	3.56	2.58	2.07	4.35	2.28	4.39	2.96	2.62	4.58	4.39	
14	1.66	3.34	3.53	1.90	1.81	4.08	2.09	3.03	1.61	4.05	3.66	4.42	
15	3.59	4.35	2.91	1.48	2.02	2.24	2.91	1.71	1.49	2.85	4.26	4.41	
16	3.23	2.95	2.89	1.94	2.87	3.17	3.31	1.67	3.09	2.34	2.74	3.72	
17	3.71	2.88	2.96	2.20	3.29	4.34	3.88	1.56	3.82	2.52	2.79	4.10	
18	4.36	2.89	2.58	2.40	1.92	4.12	4.15	3.22	4.12	1.65	2.40	4.34	
19	4.14	2.86	2.80	2.20	3.58	3.55	2.84	2.11	4.03	1.59	2.71	4.44	
20	3.88	2.60	3.30	1.59	4.08	3.83	2.30	2.20	2.58	2.55	2.37	4.39	
21	1.63	2.93	3.18	2.29	3.77	3.16	2.73	2.22	2.61	2.48	3.77	4.37	
22	2.87	3.27	1.59	2.25	4.33	1.77	3.21	2.34	2.43	2.32	3.05	4.21	
23	3.10	3.27	1.61	2.41	3.68	3.57	1.76	2.38	2.86	2.26	2.14	4.28	
24	3.06	3.75	1.79	2.18	2.96	3.77	2.20	2.80	3.72	2.25	3.07	4.39	
25	3.95	3.19	2.01	1.61	2.49	2.91	2.96	3.18	3.81	2.23	3.70	4.44	
26	2.84	2.62	1.76	1.71	2.79	4.34	3.92	4.32	4.33	1.63	4.04	4.50	
27	2.82	2.70	2.29	1.59	3.49	4.22	2.71	4.29	3.58	2.20	3.42	4.44	
28	2.02	2.54	2.00	1.57	3.69	4.38	2.56	4.47	1.70	2.50	3.46	4.37	
29	2.97	2.55	1.61	1.61	3.19	3.56	3.22	3.87	1.60	3.03	3.47	4.09	
30	4.05	2.25	1.59	2.14	3.72	3.51	3.79	3.97	1.52	4.23		3.76	
31		2.88		2.13	4.34		4.13		1.46	4.44		4.36	
Mean	3.30	3.06	2.52	1.99	2.91	3.50	3.19	3.47	2.72	2.63	3.17	3.90	
Max	4.44	4.35	4.25	3.25	4.34	4.44	4.35	5.19	4.33	4.44	4.58	4.50	5.19
Min	1.63	1.97	1.59	1.48	1.63	1.71	1.76	1.56	1.46	1.44	1.57	1.97	1.44

Annual Max Momentary Gage Height 7.30 M (A.D), at 19.00 Hours, on Nov 6, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.47 M (A.D)
Left Bank Elevation 8.89 M (A.D)
Right Bank Elevation 7.35 M (A.D), Drainage Area 11787 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	73.0	13.7	108.4	9.2	19.3	5.6	176.4	286.4	213.5	0.7	169.7	96.8	
2	81.9	26.3	42.2	3.6	16.9	278.4	264.0	256.0	62.4	0.9	47.4	145.5	
3	97.9	171.0	52.2	4.9	31.5	151.5	131.1	250.0	66.6	36.7	68.3	171.0	
4	262.4	151.5	55.6	3.6	22.4	111.6	118.2	51.4	76.0	52.2	3.1	196.7	
5	189.9	64.1	248.5	4.7	20.3	114.9	109.5	270.4	57.3	4.1	14.1	135.9	
6	278.4	104.2	116.0	36.7	180.5	114.9	42.9	400.5	2.9	59.0	4.0	126.3	
7	179.1	149.1	129.9	3.8	145.5	116.0	66.6	257.6	32.1	156.3	106.3	78.0	
8	157.5	66.6	5.0	8.5	89.5	107.4	137.1	318.4	2.3	118.2	167.0	13.7	
9	241.0	176.4	4.7	6.5	105.3	108.4	209.2	275.2	16.4	207.8	187.2	114.9	
10	193.9	230.9	19.3	116.0	51.4	113.8	191.2	241.0	12.8	185.8	82.9	149.1	
11	250.0	229.4	20.3	71.0	5.8	155.1	149.1	120.4	107.4	85.7	226.5	109.5	
12	19.8	59.0	30.8	11.0	4.1	250.0	226.5	264.0	128.7	10.5	270.4	181.8	
13	12.8	79.0	152.7	51.4	18.4	264.0	30.2	270.4	85.7	54.7	300.8	270.4	
14	4.7	126.3	149.1	10.5	7.5	223.6	19.3	92.6	3.8	219.3	165.6	275.2	
15	156.3	264.0	81.0	1.4	16.0	27.6	81.0	5.6	1.6	75.0	250.0	273.6	
16	113.8	84.8	79.0	12.3	77.0	107.4	122.7	4.9	98.9	34.1	64.9	173.7	
17	172.4	78.0	85.7	25.0	120.4	262.4	195.3	2.9	187.2	46.6	69.2	226.5	
18	265.6	79.0	51.4	38.0	11.4	229.4	233.8	112.7	229.4	4.5	38.0	262.4	
19	232.3	76.0	70.0	25.0	155.1	151.5	74.0	20.3	216.4	3.4	62.4	278.4	
20	195.3	53.0	121.5	3.4	223.6	188.5	31.5	25.0	51.4	49.0	36.0	270.4	
21	4.1	82.9	108.4	30.8	180.5	106.3	64.1	26.3	53.8	43.6	180.5	267.2	
22	77.0	118.2	3.4	28.2	260.8	6.7	111.6	34.1	40.1	32.8	94.7	242.5	
23	100.0	118.2	3.8	38.7	168.3	153.9	6.5	36.7	76.0	28.9	21.9	253.0	
24	95.8	177.8	7.0	24.0	85.7	180.5	25.0	70.0	173.7	28.2	96.8	270.4	
25	205.0	109.5	15.5	3.8	44.3	81.0	85.7	108.4	185.8	26.9	171.0	278.4	
26	74.0	54.7	6.5	5.6	69.2	262.4	200.8	259.2	260.8	4.1	217.8	288.0	
27	72.0	61.5	30.8	3.4	144.3	244.0	62.4	254.5	155.1	25.0	135.9	278.4	
28	16.0	48.2	15.0	3.1	169.7	268.8	49.8	283.2	5.4	45.0	140.7	267.2	
29	86.7	49.0	3.8	3.8	109.5	152.7	112.7	193.9	3.6	92.6	141.9	225.1	
30	219.3	28.2	3.4	21.9	173.7	146.7	183.1	207.8	2.2	245.5		179.1	
31		78.0		21.4	262.4		230.9		1.1	278.4		265.6	
Total	4127.9	3208.5	1820.9	631.2	2990.3	4685.0	3742.2	4999.8	2610.4	2255.5	3535.0	6364.7	40971.4 CMSDAY
Mean	137.6	103.5	60.7	20.4	96.5	156.2	120.7	166.7	84.2	72.8	121.9	205.3	111.9 CMS
Max	278.4	264.0	248.5	116.0	262.4	278.4	264.0	400.5	260.8	278.4	300.8	288.0	400.5 CMS
Min	4.1	13.7	3.4	1.4	4.1	5.6	6.5	2.9	1.1	0.7	3.1	13.7	0.7 CMS
Runoff	356.65	277.21	157.33	54.54	258.36	404.78	323.33	431.98	225.54	194.88	305.42	549.91	3539.93 MCM

Momentary Peak 906.09 CMS, at 7.30 M (A.D), at 19.00 Hours, on Nov 6, 1991
Runoff Yield 9.50 Liters/Second/Square KM, Momentary Peak Yield 76.87 Liters/Second/Square KM

WATER YEAR 1991

MAE KLONG RIVER BASIN

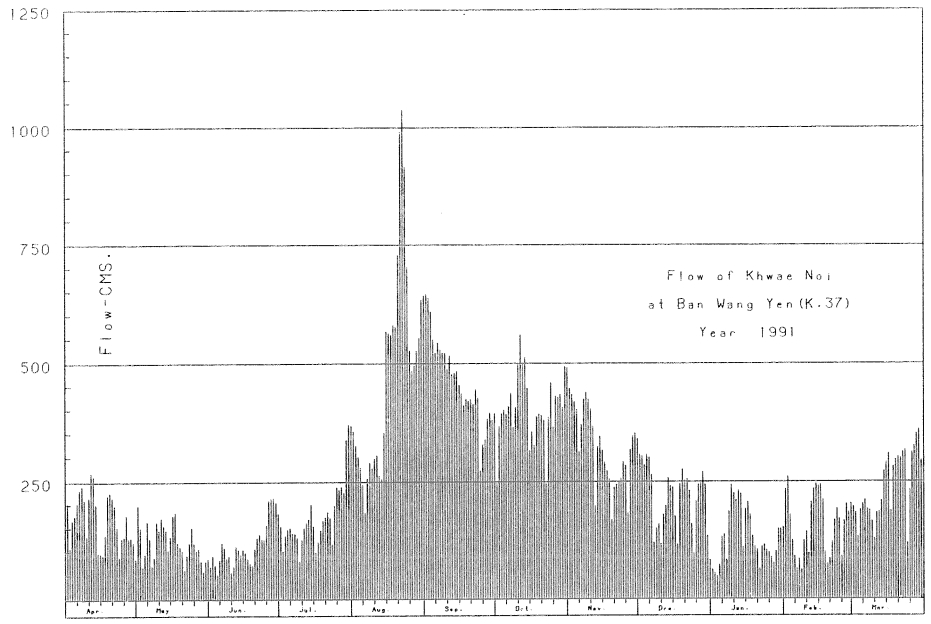
Khwae Noi River at Ban Wang Yen, Kanchanaburi (K.37)

Location	Lat. 13-55-57 N., Long. 99-25-37 E., on left bank at Ban Wang Yen, Amphoe Muang, Kanchanaburi.
Drainage Area	10,603 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank about 10 meters from the top staff gage.
Elevation	+9.150 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1984 to date
Rating Operation	
Period of Rating	1984 to date
Rated by Float	-
Rated by Current Meter	1984 to date
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	Overbank flow starts at elevation +8.14 m.(A.D.) and is included.
General Description	Records good. Stage-discharge relation defined by 34 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	4.07	4.04	2.93	3.70	5.05	6.67	4.36	5.59	4.75	2.87	4.28	4.02	
2	3.32	3.66	3.17	3.25	4.87	6.63	5.11	5.51	4.73	2.79	4.46	3.91	
3	3.79	2.94	2.98	3.54	4.73	6.50	5.28	5.42	4.62	2.73	3.88	3.51	
4	3.87	3.19	2.78	3.63	4.58	6.17	5.32	5.33	4.75	2.96	3.45	3.97	
5	4.08	3.78	3.07	3.67	4.35	6.00	5.27	4.78	4.72	3.51	3.15	4.07	
6	4.27	3.49	3.41	3.57	3.92	6.14	5.37	5.14	4.48	3.54	2.88	4.11	
7	4.33	2.96	3.32	3.57	4.43	6.05	5.53	5.46	3.41	3.08	3.08	3.98	
8	4.12	3.12	3.12	3.49	4.65	6.00	5.11	5.54	3.66	3.94	2.87	3.95	
9	3.53	3.77	3.15	3.05	4.57	6.01	5.35	5.45	3.72	4.34	3.44	3.78	
10	4.16	3.62	2.81	3.47	4.70	5.82	5.87	5.34	3.38	4.23	3.60	3.48	
11	4.51	3.83	2.95	3.66	4.75	5.97	6.24	5.11	3.88	4.11	3.21	3.91	
12	4.47	3.71	3.34	3.76	4.47	5.75	5.89	4.02	4.03	4.26	4.08	3.94	
13	4.06	3.62	3.29	3.81	4.43	5.77	5.95	4.85	4.44	4.22	4.28	4.10	
14	3.21	3.28	3.18	4.06	5.03	5.79	5.59	4.99	4.32	3.32	4.36	4.54	
15	3.21	3.51	3.29	3.69	6.28	5.63	4.81	4.81	4.30	3.98	4.33	4.65	
16	3.16	3.88	3.22	3.22	6.25	5.52	5.04	4.65	3.86	4.09	4.34	4.77	
17	3.55	3.92	3.11	3.43	6.24	5.38	4.87	4.54	3.38	3.88	4.13	3.95	
18	4.19	3.41	3.00	3.62	6.36	5.46	5.24	4.42	4.35	3.53	3.22	4.59	
19	4.24	3.34	2.97	3.80	6.33	5.43	5.27	3.80	4.56	3.33	3.00	4.68	
20	4.16	3.25	3.29	3.84	7.06	5.45	5.25	4.31	4.40	3.27	3.09	4.72	
21	4.04	2.88	3.49	3.93	8.22	5.40	5.20	4.34	4.43	2.89	3.42	4.71	
22	3.67	3.16	3.56	3.84	8.42	5.58	4.36	4.39	4.25	3.33	3.80	4.79	
23	3.14	3.41	3.48	3.39	7.90	5.47	5.23	4.43	3.73	3.38	3.98	4.81	
24	3.48	3.68	3.46	4.03	6.93	4.54	5.66	4.65	3.19	3.26	3.81	3.40	
25	3.52	3.40	3.72	4.32	6.04	4.88	5.11	4.61	4.10	3.23	3.15	4.28	
26	3.87	3.27	4.11	4.27	5.79	4.95	5.49	3.90	4.34	3.12	3.79	4.78	
27	3.49	3.29	4.15	4.32	5.86	5.21	5.48	4.82	4.37	3.01	4.06	4.87	
28	3.49	3.06	4.15	4.23	6.03	5.29	5.51	4.99	4.52	3.24	3.92	5.02	
29	3.41	2.84	4.09	4.95	6.20	5.20	5.35	5.03	4.35	3.65	4.06	5.08	
30	3.09	3.04	3.90	5.14	6.61	5.28	5.85	4.96	3.52	3.64		4.68	
31		3.09		5.13	6.65		5.83		3.06	3.68		3.28	
Mean	3.78	3.40	3.35	3.85	5.73	5.66	5.35	4.84	4.12	3.50	3.69	4.27	
Max	4.51	4.04	4.15	5.14	8.42	6.67	6.24	5.59	4.75	4.34	4.46	5.08	8.42
Min	3.09	2.84	2.78	3.05	3.92	4.54	4.36	3.80	3.06	2.73	2.87	3.28	2.73

Annual Max Momentary Gage Height 8.49 M (A.D), at 6.00 Hours, on Aug 22, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.13 M (A.D)
Left Bank Elevation 8.12 M (A.D)
Right Bank Elevation 9.35 M (A.D), Drainage Area 10603 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	204.5	200.4	69.0	156.5	356.3	647.7	246.0	448.3	307.0	63.0	234.0	197.7	
2	110.2	151.5	93.9	102.5	326.5	639.0	366.2	434.3	303.8	55.0	261.3	183.3	
3	167.8	70.0	74.0	136.5	303.8	610.7	394.6	418.5	286.2	49.0	179.4	132.8	
4	178.1	96.0	54.0	147.8	279.9	550.5	401.4	403.1	307.0	72.0	125.3	191.1	
5	205.8	166.5	83.3	152.8	244.5	522.0	392.9	311.8	302.2	132.8	91.8	204.5	
6	232.5	130.3	120.3	140.2	184.6	545.4	409.9	371.1	264.4	136.5	64.0	209.9	
7	241.5	72.0	110.2	140.2	256.6	530.4	437.8	425.5	120.3	84.4	84.4	192.4	
8	211.2	88.6	88.6	130.3	291.0	522.0	366.2	439.5	151.5	187.2	63.0	188.5	
9	135.2	165.3	91.8	81.2	278.4	523.7	406.5	423.7	159.0	243.0	124.0	166.5	
10	216.6	146.5	57.0	127.7	299.0	489.6	498.6	404.8	116.8	226.5	144.0	129.0	
11	269.1	172.9	71.0	151.5	307.0	516.6	562.2	366.2	179.4	209.9	98.1	183.3	
12	262.8	157.8	112.4	164.0	262.8	477.0	502.2	197.7	199.1	231.0	205.8	187.2	
13	203.1	146.5	106.9	170.3	256.6	480.6	513.0	323.2	258.2	225.0	234.0	208.5	
14	98.1	105.8	94.9	203.1	353.0	484.2	448.3	346.3	240.0	110.2	246.0	273.7	
15	98.1	132.8	106.9	155.3	568.9	455.4	316.6	316.6	237.0	192.4	241.5	291.0	
16	92.8	179.4	99.2	99.2	563.9	436.0	354.6	291.0	176.8	207.2	243.0	310.2	
17	137.7	184.6	87.5	122.8	562.2	411.6	326.5	273.7	116.8	179.4	212.6	188.5	
18	220.7	120.3	76.0	146.5	582.3	425.5	387.8	255.1	244.5	135.2	99.2	281.5	
19	228.0	112.4	73.0	169.0	577.3	420.2	392.9	169.0	276.8	111.3	76.0	295.8	
20	216.6	102.5	106.9	174.2	730.6	423.7	389.5	238.5	252.0	104.7	85.4	302.2	
21	200.4	64.0	130.3	185.9	989.8	415.0	381.0	243.0	256.6	65.0	121.5	300.6	
22	152.8	92.8	139.0	174.2	1037.8	446.5	246.0	250.5	229.5	111.3	169.0	313.4	
23	90.7	120.3	129.0	117.9	915.0	427.2	386.1	256.6	160.3	116.8	192.4	316.6	
24	129.0	154.0	126.5	199.1	703.3	273.7	460.8	291.0	96.0	103.6	170.3	119.0	
25	134.0	119.0	159.0	240.0	528.7	328.2	366.2	284.6	208.5	100.3	91.8	234.0	
26	178.1	104.7	209.9	232.5	484.2	339.7	430.7	182.0	243.0	88.6	167.8	311.8	
27	130.3	106.9	215.3	240.0	496.8	382.7	429.0	318.3	247.5	77.0	203.1	326.5	
28	130.3	82.3	215.3	226.5	527.0	396.3	434.3	346.3	270.6	101.4	184.6	351.3	
29	120.3	60.0	207.2	339.7	555.5	381.0	406.5	353.0	244.5	150.3	203.1	361.2	
30	85.4	80.2	182.0	371.1	634.7	394.6	495.0	341.4	134.0	149.0		295.8	
31		85.4		369.5	643.4		491.4		82.3	154.0		105.8	
Total	5081.7	3771.7	3490.3	5568.0	15101.4	13896.7	12640.7	9724.6	6671.6	4173.0	4616.4	7353.6	92089.7 CMSDAY
Mean	169.4	121.7	116.3	179.6	487.1	463.2	407.8	324.2	215.2	134.6	159.2	237.2	251.6 CMS
Max	269.1	200.4	215.3	371.1	1037.8	647.7	562.2	448.3	307.0	243.0	261.3	361.2	1037.8 CMS
Min	85.4	60.0	54.0	81.2	184.6	273.7	246.0	169.0	82.3	49.0	63.0	105.8	49.0 CMS
Runoff	439.06	325.87	301.56	481.08	1304.76	1200.68	1092.16	840.21	576.43	360.55	398.86	635.35	7956.55 MCM

Momentary Peak 1054.60 CMS, at 8.49 M (A.D), at 6.00 Hours, on Aug 22, 1991

Runoff Yield 23.73 Liters/Second/Square KM, Momentary Peak Yield 99.46 Liters/Second/Square KM

WATER YEAR 1991

PHETCHABURI RIVER BASIN

Phetchaburi River at Ban Rai Phaniat, Phetchaburi (B.1A)

Location — Lat. 13-04-22 N., Long. 99-56-37 E., on left bank, next to Muang Thamon Regulator, Ban Rai Phaniat, Tambon Ban Mo, Amphoe Muang, Phetchaburi.

Drainage Area — 4,188 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — 0.00 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — On left bank along the gage line.

Elevation — +4.667 m.(M.S.L.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1916 to date.

Rating Operation

Period of Rating — 1965, 1967 - 1971, 1990 to date.

Rated by Float — -

Rated by Current Meter — 1965, 1967 - 1971, 1990 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records fair.Flow regulated by Kaeng Krachan Reservoir and Phet Diversion Dam for irrigation about 27,800 hectares above gage site. Stage-discharge relation defined by 25 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

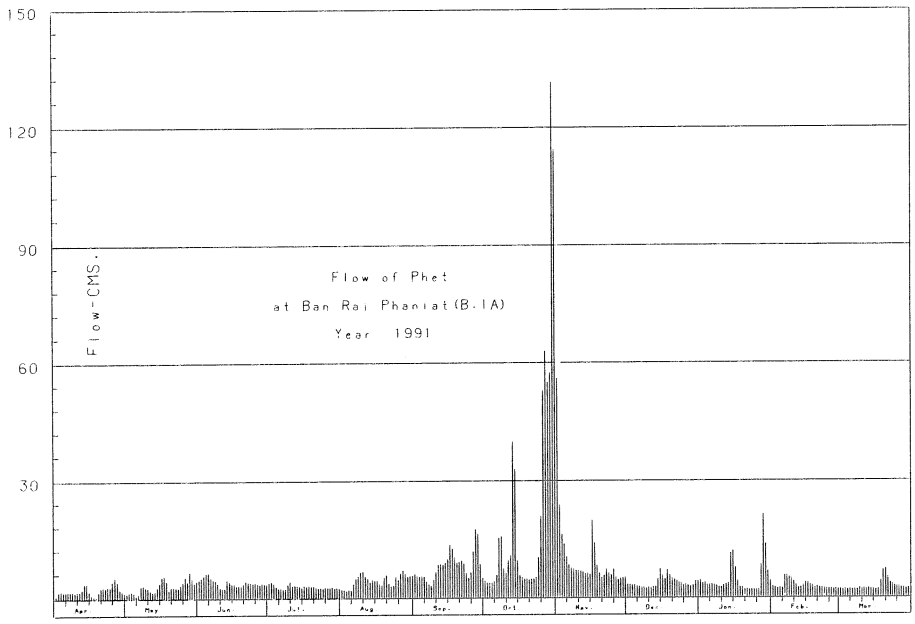
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.68	0.77	1.09	1.03	0.89	1.19	1.06	3.11	1.01	1.07	0.96	0.88	
2	0.83	0.79	1.11	1.06	0.86	1.14	1.04	2.02	1.00	1.03	0.93	0.88	
3	0.84	0.84	1.16	1.02	0.85	1.14	1.02	1.71	0.99	1.03	0.92	0.88	
4	0.82	0.78	1.19	0.97	0.86	1.14	1.04	1.59	0.98	1.00	0.92	0.88	
5	0.83	0.68	1.21	0.93	0.87	1.14	1.05	1.43	0.97	0.99	0.92	0.87	
6	0.83	0.74	1.13	0.91	1.01	1.05	1.17	1.31	0.95	1.00	1.16	0.88	
7	0.84	0.98	1.08	0.90	1.11	1.00	1.66	1.27	0.94	1.00	1.15	0.87	
8	0.83	0.98	1.08	0.89	1.14	0.98	1.69	1.25	0.93	0.96	1.13	0.88	
9	0.81	0.96	1.02	1.01	1.21	1.09	1.26	1.24	0.92	0.95	1.10	0.91	
10	0.82	0.92	0.95	1.05	1.23	1.21	1.20	1.23	0.93	0.95	1.06	0.89	
11	0.82	0.87	0.91	0.97	1.15	1.32	1.37	1.23	0.93	0.98	0.98	0.90	
12	0.91	0.82	0.93	1.00	1.10	1.32	1.45	1.21	0.94	1.01	0.93	0.90	
13	1.03	0.82	1.08	0.97	1.05	1.32	2.60	1.19	0.96	1.02	0.93	0.90	
14	1.02	0.95	1.06	0.97	1.08	1.34	2.36	1.19	1.09	1.47	0.99	0.90	
15	0.86	1.03	1.02	0.94	1.08	1.40	1.37	1.18	1.26	1.51	1.03	0.87	
16	0.72	1.14	1.01	0.97	1.07	1.58	1.16	1.86	1.15	1.28	1.03	0.87	
17	0.67	1.14	0.98	0.97	1.01	1.54	1.12	1.61	1.10	1.06	1.00	0.87	
18	0.66	1.07	0.97	0.97	1.00	1.42	1.10	1.30	1.24	0.95	0.97	1.07	
19	0.83	0.88	0.98	0.97	1.12	1.35	1.09	1.20	1.17	0.93	0.94	1.23	
20	0.94	0.94	1.01	0.96	1.17	1.35	1.09	1.11	1.10	0.89	0.95	1.26	
21	0.94	0.94	1.06	0.93	1.03	1.38	1.09	1.16	1.09	0.88	0.94	1.12	
22	0.94	0.94	1.05	0.93	0.96	1.33	1.10	1.25	1.06	0.88	0.92	1.03	
23	0.95	0.94	1.03	0.92	0.99	1.19	1.12	1.19	1.04	0.87	0.92	1.00	
24	0.96	0.99	1.03	0.92	1.13	1.12	1.42	1.17	1.02	0.88	0.90	0.97	
25	1.05	1.04	1.03	0.93	1.09	1.21	1.90	1.26	1.00	0.88	0.91	0.96	
26	1.12	1.14	1.03	0.94	1.19	1.50	3.01	1.12	1.00	0.87	0.89	0.94	
27	1.06	1.06	1.01	0.94	1.24	1.77	3.32	1.09	0.99	1.32	0.90	0.93	
28	0.90	1.21	1.02	0.94	1.18	1.71	3.08	1.10	0.95	1.92	0.89	0.91	
29	0.82	1.10	1.02	0.93	1.14	1.32	3.15	1.12	0.99	1.60	0.89	0.91	
30	0.78	1.03	1.00	0.92	1.14	1.12	4.92	1.12	1.05	1.22		0.91	
31		1.06		0.91	1.15		4.55		1.06	1.06		0.92	
Mean	0.87	0.95	1.04	0.96	1.07	1.29	1.79	1.36	1.03	1.08	0.97	0.94	
Max	1.12	1.21	1.21	1.06	1.24	1.77	4.92	3.11	1.26	1.92	1.16	1.26	4.92
Min	0.66	0.68	0.91	0.89	0.85	0.98	1.02	1.09	0.92	0.87	0.89	0.87	0.66

Annual Max Momentary Gage Height — 4.99 M (MSL), at 18.00 Hours, on Oct 30, 1991

Zero Gage at Bottom Elevation — 0.00 M (MSL), River Bed -1.26 M (MSL)

Left Bank Elevation — 5.14 M (MSL)

Right Bank Elevation — 5.11 M (MSL), Drainage Area 4188 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.64	1.36	4.85	3.95	2.32	6.35	4.40	56.23	3.65	4.55	3.06	2.24	
2	1.84	1.52	5.15	4.40	2.08	5.60	4.10	23.91	3.50	3.95	2.73	2.24	
3	1.92	1.92	5.90	3.80	2.00	5.60	3.80	16.42	3.39	3.95	2.62	2.24	
4	1.76	1.44	6.35	3.17	2.08	5.60	4.10	13.80	3.28	3.50	2.62	2.24	
5	1.84	0.64	6.68	2.73	2.16	5.60	4.25	10.67	3.17	3.39	2.62	2.16	
6	1.84	1.12	5.45	2.51	3.65	4.25	6.05	8.48	2.95	3.50	5.90	2.24	
7	1.92	3.28	4.70	2.40	5.15	3.50	15.32	7.76	2.84	3.50	5.75	2.16	
8	1.84	3.28	4.70	2.32	5.60	3.28	15.98	7.40	2.73	3.06	5.45	2.24	
9	1.68	3.06	3.80	3.65	6.68	4.85	7.58	7.22	2.62	2.95	5.00	2.51	
10	1.76	2.62	2.95	4.25	7.04	6.68	6.50	7.04	2.73	2.95	4.40	2.32	
11	1.76	2.16	2.51	3.17	5.75	8.66	9.56	7.04	2.73	3.28	3.28	2.40	
12	2.51	1.76	2.73	3.50	5.00	8.66	11.05	6.68	2.84	3.65	2.73	2.40	
13	3.95	1.76	4.70	3.17	4.25	8.66	40.00	6.35	3.06	3.80	2.73	2.40	
14	3.80	2.95	4.40	3.17	4.70	9.02	32.90	6.35	4.85	11.43	3.39	2.40	
15	2.08	3.95	3.80	2.84	4.70	10.10	9.56	6.20	7.58	12.20	3.95	2.16	
16	0.96	5.60	3.65	3.17	4.55	13.60	5.90	19.90	5.75	7.94	3.95	2.16	
17	0.56	5.60	3.28	3.17	3.65	12.80	5.30	14.22	5.00	4.40	3.50	2.16	
18	0.48	4.55	3.17	3.17	3.50	10.48	5.00	8.30	7.22	2.95	3.17	4.55	
19	1.84	2.24	3.28	3.17	5.30	9.20	4.85	6.50	6.05	2.73	2.84	7.04	
20	2.84	2.84	3.65	3.06	6.05	9.20	4.85	5.15	5.00	2.32	2.95	7.58	
21	2.84	2.84	4.40	2.73	3.95	9.74	4.85	5.90	4.85	2.24	2.84	5.30	
22	2.84	2.84	4.25	2.73	3.06	8.84	5.00	7.40	4.40	2.24	2.62	3.95	
23	2.95	2.84	3.95	2.62	3.39	6.35	5.30	6.35	4.10	2.16	2.62	3.50	
24	3.06	3.39	3.95	2.62	5.45	5.30	10.48	6.05	3.80	2.24	2.40	3.17	
25	4.25	4.10	3.95	2.73	4.85	6.68	20.90	7.58	3.50	2.24	2.51	3.06	
26	5.30	5.60	3.95	2.84	6.35	12.00	52.93	5.30	3.50	2.16	2.32	2.84	
27	4.40	4.40	3.65	2.84	7.22	17.74	63.28	4.85	3.39	8.66	2.40	2.73	
28	2.40	6.68	3.80	2.84	6.20	16.42	55.24	5.00	2.95	21.40	2.32	2.51	
29	1.76	5.00	3.80	2.73	5.60	8.66	57.55	5.30	3.39	14.00	2.32	2.51	
30	1.44	3.95	3.50	2.62	5.60	5.30	131.70	5.30	4.25	6.86		2.51	
31		4.40		2.51	5.75		114.30		4.40	4.40		2.62	
Total	69.06	99.69	124.90	94.58	143.63	248.72	722.58	304.65	123.47	158.60	94.99	92.54	2277.41 CMSDAY
Mean	2.30	3.22	4.16	3.05	4.63	8.29	23.31	10.15	3.98	5.12	3.28	2.99	6.22 CMS
Max	5.30	6.68	6.68	4.40	7.22	17.74	131.70	56.23	7.58	21.40	5.90	7.58	131.70 CMS
Min	0.48	0.64	2.51	2.32	2.00	3.28	3.80	4.85	2.62	2.16	2.32	2.16	0.48 CMS
Runoff	5.967	8.613	10.791	8.172	12.410	21.489	62.431	26.322	10.668	13.703	8.207	7.995	196.768 MCM

Momentary Peak 135.02 CMS, at 4.99 M (MSL), at 18.00 Hours, on Oct 30, 1991
Runoff Yield 1.49 Liters/Second/Square KM, Momentary Peak Yield 32.24 Liters/Second/Square KM

WATER YEAR 1991

PHETCHABURI RIVER BASIN

Phetchaburi River at Ban Song Phi Nong, Phetchaburi (B.3)

Location — Lat. 12-52-04 N., Long. 99-40-40 E., on left bank at Ban Song Phi Nong, Amphoe Tha Yang, Phetchaburi.

Drainage Area — 2,244 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +41.00 m. (M.S.L.)

Bench Mark — B.M.-H.D.

Location — Near the top staff gage.

Elevation — +50.534 m. (M.S.L.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1930 - 1942, 1954 to date.

Rating Operation

Period of Rating — 1954 - 1959, 1968 to date.

Rated by Float —

Rated by Current Meter — 1954 - 1959, 1968 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good.Flow regulated by Kaeng Krachan Reservoir. Stage-discharge relation defined by 42 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

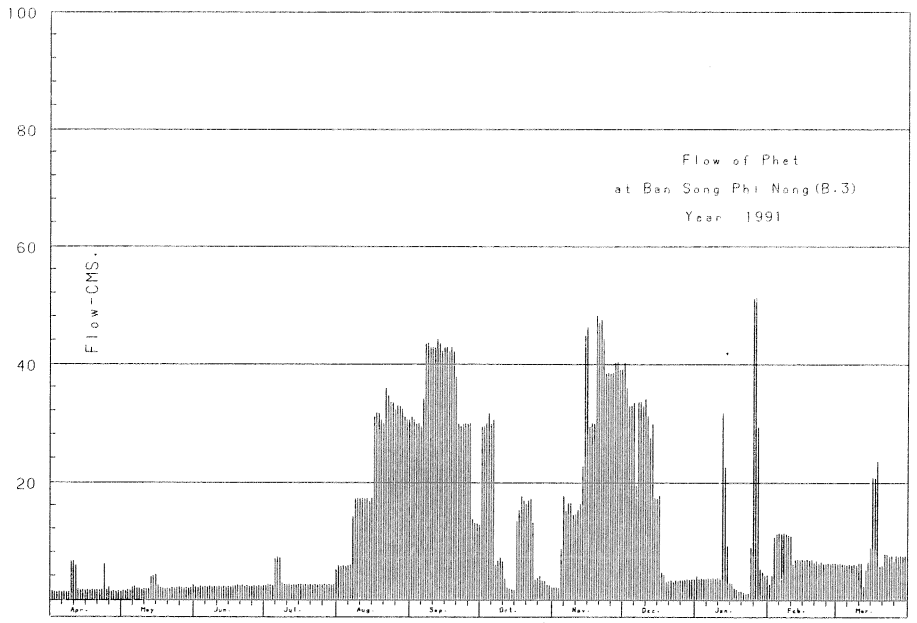
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	41.78	41.78	41.83	41.86	42.05	42.72	42.69	41.82	42.87	41.96	41.88	42.07	
2	41.76	41.78	41.83	41.87	42.05	42.71	42.69	41.83	42.80	41.94	41.97	42.07	
3	41.76	41.79	41.84	41.86	42.05	42.70	42.70	41.81	42.75	41.94	42.25	42.07	
4	41.76	41.79	41.84	41.86	42.05	42.70	42.73	42.19	42.75	41.94	42.27	42.06	
5	41.76	41.84	41.84	42.11	42.05	42.69	42.70	42.44	42.76	41.94	42.27	42.06	
6	41.76	41.84	41.84	42.12	42.06	42.77	42.71	42.38	42.48	41.94	42.27	42.06	
7	41.76	41.82	41.84	42.12	42.35	42.92	42.06	42.41	42.76	41.94	42.27	42.06	
8	41.76	41.81	41.84	41.89	42.43	42.92	42.09	42.41	42.76	41.94	42.27	42.06	
9	42.09	41.80	41.84	41.88	42.43	42.91	42.12	42.36	42.75	41.94	42.26	42.06	
10	42.09	41.80	41.84	41.87	42.43	42.91	42.08	42.36	42.77	41.94	42.26	42.07	
11	42.06	41.80	41.84	41.87	42.43	42.91	41.94	42.38	42.72	41.94	42.06	42.07	
12	41.80	41.81	41.84	41.87	42.43	42.93	41.83	42.41	42.65	42.73	42.10	41.85	
13	41.79	41.96	41.84	41.86	42.43	42.92	41.80	42.55	42.70	42.55	42.10	42.02	
14	41.79	41.96	41.84	41.87	42.42	42.90	41.80	42.94	42.43	42.21	42.10	42.08	
15	41.79	41.98	41.84	41.87	42.43	42.91	41.78	42.96	42.43	41.90	42.10	42.20	
16	41.79	41.86	41.84	41.87	42.72	42.91	42.33	42.69	42.44	41.88	42.10	42.51	
17	41.79	41.83	41.84	41.87	42.73	42.90	42.38	42.70	42.00	41.82	42.10	42.51	
18	41.79	41.81	41.86	41.87	42.73	42.91	42.44	42.70	41.97	41.79	42.10	42.57	
19	41.79	41.81	41.86	41.87	42.71	42.90	42.42	42.99	41.91	41.77	42.10	42.05	
20	41.79	41.81	41.86	41.87	42.70	42.83	42.41	42.97	41.91	41.76	42.08	42.05	
21	41.79	41.81	41.86	41.87	42.80	42.70	42.42	42.98	41.92	41.75	42.09	42.15	
22	41.79	41.82	41.85	41.87	42.78	42.69	42.43	42.93	41.91	41.73	42.07	42.14	
23	42.07	41.82	41.85	41.87	42.76	42.70	42.32	42.84	41.92	41.73	42.08	42.13	
24	41.80	41.82	41.85	41.87	42.76	42.70	41.93	42.84	41.92	42.20	42.07	42.13	
25	41.83	41.84	41.85	41.87	42.74	42.70	41.94	42.84	41.92	43.03	42.07	42.09	
26	41.77	41.82	41.85	41.87	42.75	42.70	41.96	42.84	41.93	43.03	42.07	42.13	
27	41.77	41.82	41.85	41.87	42.75	42.34	41.92	42.87	41.93	42.69	42.07	42.13	
28	41.77	41.82	41.85	41.87	42.74	42.32	41.91	42.87	41.93	42.02	42.07	42.13	
29	41.77	41.82	41.85	41.87	42.72	42.32	41.87	42.85	41.93	42.00	42.07	42.13	
30	41.77	41.82	41.85	41.87	42.71	42.31	41.85	42.85	41.93	41.96		42.13	
31		41.87		42.02	42.71		41.83		41.93	41.97		42.13	
Mean	41.82	41.83	41.84	41.90	42.51	42.75	42.20	42.60	42.32	42.06	42.12	42.13	
Max	42.09	41.98	41.86	42.12	42.80	42.93	42.73	42.99	42.87	43.03	42.27	42.57	43.03
Min	41.76	41.78	41.83	41.86	42.05	42.31	41.78	41.81	41.91	41.73	41.88	41.85	41.73

Annual Max Momentary Gage Height — 43.03 M (MSL), at 6.00 Hours, on Nov 21, 1991

Zero Gage at Bottom Elevation — 41.00 M (MSL), River Bed — 40.22 M (MSL)

Left Bank Elevation — 47.87 M (MSL)

Right Bank Elevation — 47.91 M (MSL), Drainage Area — 2244 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.68	1.68	2.23	2.56	5.85	31.20	29.50	2.12	40.41	4.08	2.78	6.27	
2	1.46	1.68	2.23	2.67	5.85	30.60	29.50	2.23	36.00	3.72	4.26	6.27	
3	1.46	1.79	2.34	2.56	5.85	30.00	30.00	2.01	33.00	3.72	10.70	6.27	
4	1.46	1.79	2.34	2.56	5.85	30.00	31.80	8.79	33.00	3.72	11.38	6.06	
5	1.46	2.34	2.34	7.11	5.85	29.50	30.00	17.76	33.60	3.72	11.38	6.06	
6	1.46	2.34	2.34	7.32	6.06	34.20	30.60	15.28	19.52	3.72	11.38	6.06	
7	1.46	2.12	2.34	7.32	14.20	43.64	6.06	16.44	33.60	3.72	11.38	6.06	
8	1.46	2.01	2.34	2.89	17.32	43.64	6.69	16.44	33.60	3.72	11.38	6.06	
9	6.69	1.90	2.34	2.78	17.32	42.97	7.32	14.56	33.00	3.72	11.04	6.06	
10	6.69	1.90	2.34	2.67	17.32	42.97	6.48	14.56	34.20	3.72	11.04	6.27	
11	6.06	1.90	2.34	2.67	17.32	42.97	3.72	15.28	31.20	3.72	6.06	6.27	
12	1.90	2.01	2.34	2.67	17.32	44.31	2.23	16.44	27.50	31.80	6.90	2.45	
13	1.79	4.08	2.34	2.56	17.32	43.64	1.90	22.70	30.00	22.70	6.90	5.22	
14	1.79	4.08	2.34	2.67	16.88	42.30	1.90	44.98	17.32	9.34	6.90	6.48	
15	1.79	4.44	2.34	2.67	17.32	42.97	1.68	46.32	17.32	3.00	6.90	9.00	
16	1.79	2.56	2.34	2.67	31.20	42.97	13.48	29.50	17.76	2.78	6.90	20.86	
17	1.79	2.23	2.34	2.67	31.80	42.30	15.28	30.00	4.80	2.12	6.90	20.86	
18	1.79	2.01	2.56	2.67	31.80	42.97	17.76	30.00	4.26	1.79	6.90	23.62	
19	1.79	2.01	2.56	2.67	30.60	42.30	16.88	48.33	3.18	1.57	6.90	5.85	
20	1.79	2.01	2.56	2.67	30.00	37.89	16.44	46.99	3.18	1.46	6.48	5.85	
21	1.79	2.01	2.56	2.67	36.00	30.00	16.88	47.66	3.36	1.35	6.69	7.95	
22	1.79	2.12	2.45	2.67	34.80	29.50	17.32	44.31	3.18	1.13	6.27	7.74	
23	6.27	2.12	2.45	2.67	33.60	30.00	13.12	38.52	3.36	1.13	6.48	7.53	
24	1.90	2.12	2.45	2.67	33.60	30.00	3.54	38.52	3.36	9.00	6.27	7.53	
25	2.23	2.34	2.45	2.67	32.40	30.00	3.72	38.52	3.36	51.25	6.27	6.69	
26	1.57	2.12	2.45	2.67	33.00	30.00	4.08	38.52	3.54	51.25	6.27	7.53	
27	1.57	2.12	2.45	2.67	33.00	13.84	3.36	40.41	3.54	29.50	6.27	7.53	
28	1.57	2.12	2.45	2.67	32.40	13.12	3.18	40.41	3.54	5.22	6.27	7.53	
29	1.57	2.12	2.45	2.67	31.20	13.12	2.67	39.15	3.54	4.80	6.27	7.53	
30	1.57	2.12	2.45	2.67	30.60	12.76	2.45	39.15	3.54	4.08		7.53	
31		2.67		5.22	30.60		2.23		3.54	4.26		7.53	
Total	69.39	70.86	71.85	98.95	704.23	1015.68	371.77	845.90	524.31	280.81	221.52	250.52	4525.79 CMSDAY
Mean	2.31	2.29	2.39	3.19	22.72	33.86	11.99	28.20	16.91	9.06	7.64	8.08	12.37 CMS
Max	6.69	4.44	2.56	7.32	36.00	44.31	31.80	48.33	40.41	51.25	11.38	23.62	51.25 CMS
Min	1.46	1.68	2.23	2.56	5.85	12.76	1.68	2.01	3.18	1.13	2.78	2.45	1.13 CMS
Runoff	5.995	6.122	6.208	8.549	60.845	87.755	32.121	73.086	45.300	24.262	19.139	21.645	391.028 MCM

Momentary Peak 51.10 CMS, at 43.03 M (MSL), at 6.00 Hours, on Nov 21, 1991

Runoff Yield 5.51 Liters/Second/Square KM, Momentary Peak Yield 22.77 Liters/Second/Square KM

WATER YEAR 1991

PHETCHABURI RIVER BASIN

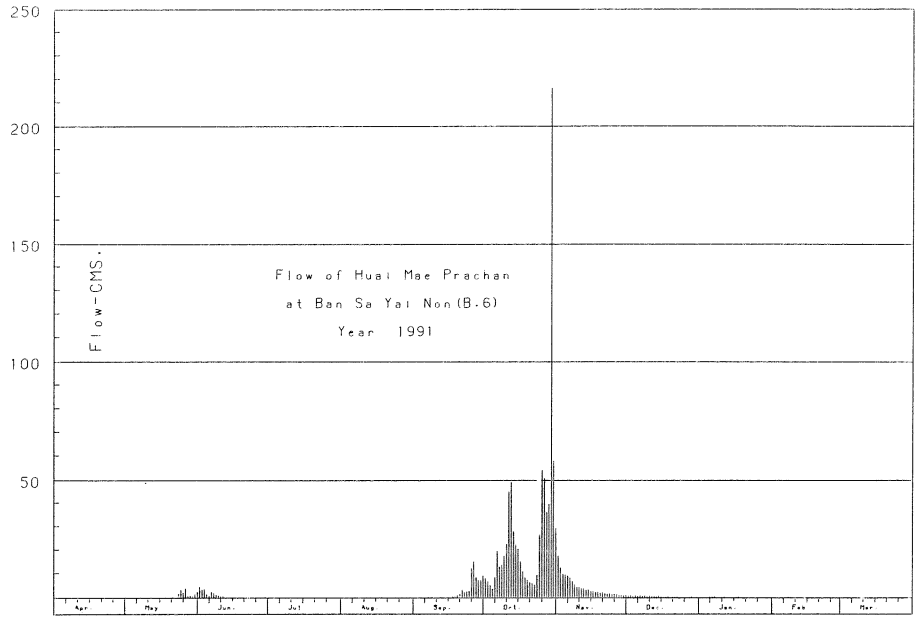
Huai Mae Prachan at Ban Sa Yai Non, Phetchaburi (B.6)

Location	Lat. 12°-55'-56" N., Long. 99°-47'-05" E., on left bank about 250 meters upstream from the bridge of Khuan Phet-Kaeng Krachan Reservoir Road, Amphoe Tha Yang, Phetchaburi.
Drainage Area	1,015 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+22.711 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	Near the automatic gage building.
Elevation	+33.033 m. (M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1941 - 1942, 1961 to date.
Rating Operation	
Period of Rating	1961 - 1962, 1964 to date.
Rated by Float	-
Rated by Current Meter	1961 - 1962, 1964 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 29 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	21.95	21.92	22.85	22.36	22.00	22.00	23.10	23.53	22.47	22.39	22.29	22.27	
2	21.95	21.95	22.76	22.31	22.00	22.00	23.01	23.33	22.46	22.39	22.26	22.27	
3	21.95	21.95	22.75	22.28	22.00	22.00	22.93	23.21	22.46	22.39	22.28	22.26	
4	21.95	21.95	22.56	22.27	22.00	22.00	22.76	23.18	22.46	22.39	22.28	22.26	
5	21.95	21.95	22.47	22.26	21.99	21.99	23.14	23.17	22.46	22.39	22.28	22.26	
6	21.95	21.94	22.66	22.24	21.99	21.99	23.60	23.12	22.46	22.39	22.29	22.26	
7	21.94	21.95	22.58	22.22	21.99	21.99	23.36	23.04	22.46	22.39	22.40	22.26	
8	21.94	21.95	22.53	22.21	21.98	21.99	23.39	22.93	22.45	22.38	22.34	22.26	
9	21.94	21.95	22.46	22.20	21.97	21.99	23.52	22.86	22.45	22.38	22.31	22.26	
10	21.94	21.95	22.44	22.19	21.97	22.01	23.70	22.84	22.45	22.38	22.30	22.25	
11	21.93	21.95	22.39	22.18	21.97	22.20	24.30	22.81	22.44	22.38	22.29	22.25	
12	21.92	21.95	22.36	22.17	21.97	22.18	24.41	22.77	22.44	22.37	22.28	22.22	
13	21.91	21.95	22.35	22.15	21.97	22.17	23.88	22.74	22.43	22.37	22.28	22.12	
14	21.90	21.95	22.34	22.13	21.97	22.16	23.68	22.73	22.43	22.37	22.28	22.11	
15	21.89	21.94	22.33	22.13	21.98	22.16	23.62	22.69	22.42	22.37	22.28	22.11	
16	21.87	21.90	22.31	22.12	21.99	22.31	23.45	22.66	22.41	22.37	22.28	22.11	
17	21.86	21.89	22.31	22.11	22.00	22.45	23.25	22.64	22.41	22.36	22.28	22.11	
18	21.85	21.86	22.31	22.08	22.00	22.47	23.13	22.63	22.40	22.36	22.28	22.11	
19	21.83	21.84	22.29	22.04	22.03	22.48	23.06	22.62	22.40	22.35	22.28	22.11	
20	21.80	21.84	22.30	22.03	22.02	22.57	23.01	22.61	22.39	22.35	22.28	22.11	
21	21.80	21.83	22.27	22.02	22.03	22.75	22.96	22.59	22.39	22.30	22.28	22.11	
22	21.80	21.83	22.28	22.01	22.02	22.64	22.94	22.57	22.38	22.30	22.28	22.11	
23	21.79	22.57	22.26	22.00	22.02	22.65	23.17	22.56	22.38	22.29	22.28	22.11	
24	21.79	22.75	22.28	22.00	22.01	22.69	23.83	22.55	22.38	22.29	22.28	22.11	
25	21.79	22.60	22.27	22.01	22.01	23.33	24.52	22.54	22.37	22.29	22.28	22.11	
26	21.79	22.86	22.25	22.01	22.00	23.44	24.45	22.52	22.37	22.29	22.28	22.11	
27	21.90	22.47	22.25	22.01	22.00	23.14	24.09	22.51	22.37	22.29	22.28	22.11	
28	21.94	22.45	22.35	22.01	22.00	23.05	24.17	22.50	22.38	22.29	22.28	22.11	
29	21.92	22.46	22.40	22.01	22.00	23.07	26.56	22.49	22.39	22.29	22.28	22.11	
30	21.91	22.55	22.38	22.01	22.00	23.16	24.60	22.48	22.39	22.29		22.11	
31		22.66		22.00	22.00		23.91		22.39	22.29		22.11	
Mean	21.89	22.11	22.41	22.12	22.00	22.43	23.66	22.78	22.42	22.35	22.29	22.17	
Max	21.95	22.86	22.85	22.36	22.03	23.44	26.56	23.53	22.47	22.39	22.40	22.27	26.56
Min	21.79	21.83	22.25	22.00	21.97	21.99	22.76	22.48	22.37	22.29	22.26	22.11	21.79

Annual Max Momentary Gage Height 26.99 M (MSL), at 9.00 Hours, on Oct 29, 1991
Zero Gage at Bottom Elevation 22.71 M (MSL), River Bed 20.17 M (MSL)
Left Bank Elevation 31.54 M (MSL)
Right Bank Elevation 30.39 M (MSL), Drainage Area 1015 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	4.50	0.30	0.00	0.00	8.00	17.90	0.85	0.45	0.00	0.00	
2	0.00	0.00	3.60	0.05	0.00	0.00	6.65	12.60	0.80	0.45	0.00	0.00	
3	0.00	0.00	3.50	0.00	0.00	0.00	5.45	10.20	0.80	0.45	0.00	0.00	
4	0.00	0.00	1.60	0.00	0.00	0.00	3.60	9.60	0.80	0.45	0.00	0.00	
5	0.00	0.00	0.85	0.00	0.00	0.00	8.80	9.40	0.80	0.45	0.00	0.00	
6	0.00	0.00	2.60	0.00	0.00	0.00	20.00	8.40	0.80	0.45	0.00	0.00	
7	0.00	0.00	1.80	0.00	0.00	0.00	13.20	7.10	0.80	0.45	0.50	0.00	
8	0.00	0.00	1.30	0.00	0.00	0.00	13.80	5.45	0.75	0.40	0.20	0.00	
9	0.00	0.00	0.80	0.00	0.00	0.00	17.60	4.60	0.75	0.40	0.05	0.00	
10	0.00	0.00	0.70	0.00	0.00	0.00	23.00	4.40	0.75	0.40	0.00	0.00	
11	0.00	0.00	0.45	0.00	0.00	0.00	45.00	4.10	0.70	0.40	0.00	0.00	
12	0.00	0.00	0.30	0.00	0.00	0.00	49.40	3.70	0.70	0.35	0.00	0.00	
13	0.00	0.00	0.25	0.00	0.00	0.00	28.40	3.40	0.65	0.35	0.00	0.00	
14	0.00	0.00	0.20	0.00	0.00	0.00	22.40	3.30	0.65	0.35	0.00	0.00	
15	0.00	0.00	0.15	0.00	0.00	0.00	20.60	2.90	0.60	0.35	0.00	0.00	
16	0.00	0.00	0.05	0.00	0.00	0.05	15.50	2.60	0.55	0.35	0.00	0.00	
17	0.00	0.00	0.05	0.00	0.00	0.75	11.00	2.40	0.55	0.30	0.00	0.00	
18	0.00	0.00	0.05	0.00	0.00	0.85	8.60	2.30	0.50	0.30	0.00	0.00	
19	0.00	0.00	0.00	0.00	0.00	0.90	7.40	2.20	0.50	0.25	0.00	0.00	
20	0.00	0.00	0.00	0.00	0.00	1.70	6.65	2.10	0.45	0.25	0.00	0.00	
21	0.00	0.00	0.00	0.00	0.00	3.50	5.90	1.90	0.45	0.00	0.00	0.00	
22	0.00	0.00	0.00	0.00	0.00	2.40	5.60	1.70	0.40	0.00	0.00	0.00	
23	0.00	1.70	0.00	0.00	0.00	2.50	9.40	1.60	0.40	0.00	0.00	0.00	
24	0.00	3.50	0.00	0.00	0.00	2.90	26.90	1.50	0.40	0.00	0.00	0.00	
25	0.00	2.00	0.00	0.00	0.00	12.60	54.00	1.40	0.35	0.00	0.00	0.00	
26	0.00	4.60	0.00	0.00	0.00	15.20	51.00	1.20	0.35	0.00	0.00	0.00	
27	0.00	0.85	0.00	0.00	0.00	8.80	36.60	1.10	0.35	0.00	0.00	0.00	
28	0.00	0.75	0.25	0.00	0.00	7.25	39.80	1.00	0.40	0.00	0.00	0.00	
29	0.00	0.80	0.50	0.00	0.00	7.55	216.60	0.95	0.45	0.00	0.00	0.00	
30	0.00	1.50	0.40	0.00	0.00	9.20	58.00	0.90	0.45	0.00		0.00	
31		2.60		0.00	0.00		29.40		0.45	0.00		0.00	
Total	0.00	18.30	23.90	0.35	0.00	76.15	868.25	131.90	18.20	7.60	0.75	0.00	1145.40 CMSDAY
Mean	0.00	0.59	0.80	0.01	0.00	2.54	28.01	4.40	0.59	0.25	0.03	0.00	3.13 CMS
Max	0.00	4.60	4.50	0.30	0.00	15.20	216.60	17.90	0.85	0.45	0.50	0.00	216.60 CMS
Min	0.00	0.00	0.00	0.00	0.00	0.00	3.60	0.90	0.35	0.00	0.00	0.00	0.00 CMS
Runoff	0.000	1.581	2.065	0.030	0.000	6.579	75.017	11.396	1.572	0.657	0.065	0.000	98.963 MCM

Momentary Peak 331.20 CMS, at 26.99 M (MSL), at 9.00 Hours, on Oct 29, 1991

Runoff Yield 3.08 Liters/Second/Square KM, Momentary Peak Yield 326.31 Liters/Second/Square KM

WATER YEAR 1991

PHETCHABURI RIVER BASIN

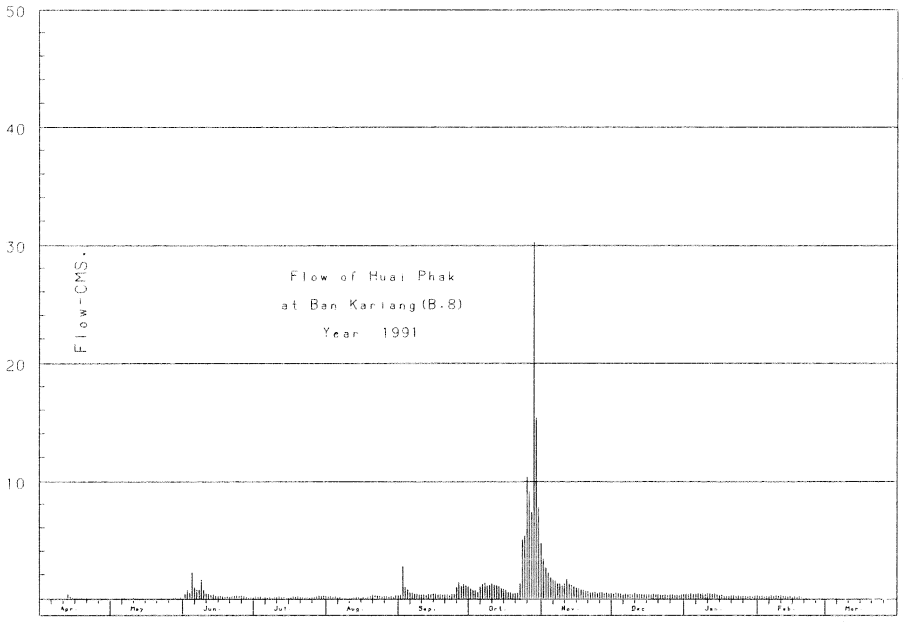
Huai Phak at Ban Kariang, Phetchaburi (B.8)

Location	Lat. 12-48-49 N., Long. 99-41-32 E., on left bank at Ban Kariang, Tambon Song Phi Nong, Amphoe Tha Yang, Phetchaburi.
Drainage Area	264 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	Infront of gage observer's house.
Elevation	+8.879 m. (A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1973 to date.
Rating Operation	
Period of Rating	1973 to date.
Rated by Float	-
Rated by Current Meter	1973 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 71 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.96	1.48	1.65	1.53	1.55	1.60	1.77	2.29	1.65	1.63	1.56	1.44	
2	0.98	1.48	1.74	1.53	1.54	2.18	1.75	2.16	1.67	1.63	1.56	1.43	
3	1.03	1.48	1.69	1.52	1.53	1.80	1.73	2.07	1.67	1.64	1.55	1.44	
4	1.03	1.48	2.09	1.52	1.53	1.76	1.71	2.01	1.63	1.64	1.55	1.42	
5	0.96	1.47	1.81	1.52	1.52	1.70	1.82	1.96	1.62	1.65	1.56	1.40	
6	0.93	1.47	1.74	1.51	1.51	1.67	1.86	1.93	1.63	1.65	1.57	1.38	
7	0.95	1.47	1.76	1.51	1.48	1.65	1.90	1.89	1.62	1.65	1.57	1.36	
8	0.94	1.47	1.95	1.51	1.47	1.63	1.83	1.87	1.61	1.65	1.57	1.33	
9	0.94	1.48	1.74	1.52	1.49	1.62	1.86	1.84	1.63	1.64	1.58	1.30	
10	0.93	1.48	1.66	1.53	1.49	1.60	1.87	1.87	1.66	1.64	1.57	1.27	
11	1.17	1.48	1.62	1.53	1.48	1.60	1.86	1.96	1.65	1.64	1.56	1.24	
12	1.63	1.47	1.60	1.52	1.50	1.59	1.85	1.88	1.64	1.65	1.55	1.21	
13	1.52	1.47	1.60	1.50	1.53	1.62	1.82	1.84	1.61	1.64	1.55	1.18	
14	1.49	1.46	1.58	1.50	1.50	1.63	1.79	1.82	1.62	1.62	1.55	1.16	
15	1.51	1.46	1.56	1.50	1.50	1.66	1.76	1.80	1.60	1.60	1.53	1.16	
16	1.51	1.46	1.55	1.52	1.50	1.64	1.74	1.77	1.62	1.59	1.54	1.15	
17	1.50	1.46	1.53	1.53	1.51	1.62	1.71	1.76	1.62	1.56	1.54	1.14	
18	1.49	1.46	1.53	1.54	1.53	1.61	1.68	1.74	1.62	1.55	1.54	1.14	
19	1.48	1.46	1.53	1.53	1.57	1.61	1.66	1.73	1.63	1.56	1.53	1.13	
20	1.48	1.47	1.54	1.52	1.60	1.60	1.66	1.71	1.62	1.57	1.50	1.13	
21	1.47	1.47	1.54	1.51	1.59	1.60	1.66	1.70	1.61	1.58	1.48	1.12	
22	1.45	1.47	1.57	1.51	1.58	1.59	1.89	1.70	1.61	1.57	1.46	1.11	
23	1.44	1.46	1.57	1.51	1.55	1.62	2.53	1.70	1.60	1.57	1.42	1.09	
24	1.45	1.46	1.57	1.51	1.55	1.64	2.56	1.68	1.60	1.56	1.42	1.09	
25	1.45	1.44	1.57	1.51	1.54	1.81	3.14	1.68	1.61	1.56	1.42	1.07	
26	1.45	1.44	1.56	1.53	1.54	1.90	3.00	1.68	1.60	1.56	1.42	1.06	
27	1.46	1.46	1.53	1.55	1.54	1.84	2.80	1.66	1.60	1.55	1.42	1.05	
28	1.47	1.49	1.50	1.56	1.54	1.86	4.47	1.66	1.59	1.55	1.44	1.04	
29	1.47	1.50	1.50	1.57	1.55	1.85	3.58	1.66	1.59	1.55	1.44	1.02	
30	1.47	1.50	1.51	1.56	1.57	1.81	2.84	1.65	1.60	1.56		1.00	
31		1.50		1.55	1.59		2.49		1.64	1.56		0.98	
Mean	1.30	1.47	1.63	1.52	1.53	1.70	2.15	1.82	1.62	1.60	1.52	1.19	
Max	1.63	1.50	2.09	1.57	1.60	2.18	4.47	2.29	1.67	1.65	1.58	1.44	4.47
Min	0.93	1.44	1.50	1.50	1.47	1.59	1.66	1.65	1.59	1.55	1.42	0.98	0.93

Annual Max Momentary Gage Height 5.30 M (A.D), at 17.00 Hours, on Oct 29, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.33 M (A.D)
Left Bank Elevation 6.50 M (A.D)
Right Bank Elevation 8.77 M (A.D), Drainage Area 264 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.10	0.46	0.19	0.23	0.35	0.86	3.39	0.46	0.42	0.26	0.05	
2	0.00	0.10	0.74	0.19	0.21	2.79	0.78	2.68	0.51	0.42	0.26	0.04	
3	0.00	0.10	0.56	0.17	0.19	0.98	0.70	2.18	0.51	0.44	0.23	0.05	
4	0.00	0.10	2.29	0.17	0.19	0.82	0.62	1.85	0.42	0.44	0.23	0.02	
5	0.00	0.08	1.02	0.17	0.17	0.58	1.06	1.64	0.40	0.46	0.26	0.00	
6	0.00	0.08	0.74	0.14	0.14	0.51	1.23	1.51	0.42	0.46	0.28	0.00	
7	0.00	0.08	0.82	0.14	0.10	0.46	1.39	1.35	0.40	0.46	0.28	0.00	
8	0.00	0.08	1.60	0.14	0.08	0.42	1.10	1.27	0.37	0.46	0.28	0.00	
9	0.00	0.10	0.74	0.17	0.11	0.40	1.23	1.14	0.42	0.44	0.30	0.00	
10	0.00	0.10	0.49	0.19	0.11	0.35	1.27	1.27	0.49	0.44	0.28	0.00	
11	0.00	0.10	0.40	0.19	0.10	0.35	1.23	1.64	0.46	0.44	0.26	0.00	
12	0.42	0.08	0.35	0.17	0.12	0.33	1.19	1.31	0.44	0.46	0.23	0.00	
13	0.17	0.08	0.35	0.12	0.19	0.40	1.06	1.14	0.37	0.44	0.23	0.00	
14	0.11	0.07	0.30	0.12	0.12	0.42	0.94	1.06	0.40	0.40	0.23	0.00	
15	0.14	0.07	0.26	0.12	0.12	0.49	0.82	0.98	0.35	0.35	0.19	0.00	
16	0.14	0.07	0.23	0.17	0.12	0.44	0.74	0.86	0.40	0.33	0.21	0.00	
17	0.12	0.07	0.19	0.19	0.14	0.40	0.62	0.82	0.40	0.26	0.21	0.00	
18	0.11	0.07	0.19	0.21	0.19	0.37	0.53	0.74	0.40	0.23	0.21	0.00	
19	0.10	0.07	0.19	0.19	0.28	0.37	0.49	0.70	0.42	0.26	0.19	0.00	
20	0.10	0.08	0.21	0.17	0.35	0.35	0.49	0.62	0.40	0.28	0.12	0.00	
21	0.08	0.08	0.21	0.14	0.33	0.35	0.49	0.58	0.37	0.30	0.10	0.00	
22	0.06	0.08	0.28	0.14	0.30	0.33	1.35	0.58	0.37	0.28	0.07	0.00	
23	0.05	0.07	0.28	0.14	0.23	0.40	5.10	0.58	0.35	0.28	0.02	0.00	
24	0.06	0.07	0.28	0.14	0.23	0.44	5.36	0.53	0.35	0.26	0.02	0.00	
25	0.06	0.05	0.28	0.14	0.21	1.02	10.43	0.53	0.37	0.26	0.02	0.00	
26	0.06	0.05	0.26	0.19	0.21	1.39	9.10	0.53	0.35	0.26	0.02	0.00	
27	0.07	0.07	0.19	0.23	0.21	1.14	7.40	0.49	0.35	0.23	0.02	0.00	
28	0.08	0.11	0.12	0.26	0.21	1.23	30.31	0.49	0.33	0.23	0.05	0.00	
29	0.08	0.12	0.12	0.28	0.23	1.19	15.34	0.49	0.33	0.23	0.05	0.00	
30	0.08	0.12	0.14	0.26	0.28	1.02	7.74	0.46	0.35	0.26		0.00	
31		0.12		0.23	0.33		4.76		0.44	0.26		0.00	
Total	2.09	2.62	14.29	5.47	6.03	20.09	115.73	33.41	12.40	10.74	5.11	0.16	228.14 CMSDAY
Mean	0.07	0.08	0.48	0.18	0.19	0.67	3.73	1.11	0.40	0.35	0.18	0.01	0.62 CMS
Max	0.42	0.12	2.29	0.28	0.35	2.79	30.31	3.39	0.51	0.46	0.30	0.05	30.31 CMS
Min	0.00	0.05	0.12	0.12	0.08	0.33	0.49	0.46	0.33	0.23	0.02	0.00	0.00 CMS
Runoff	0.181	0.226	1.235	0.473	0.521	1.736	9.999	2.887	1.071	0.928	0.442	0.014	19.711 MCM

Momentary Peak 56.05 CMS, at 5.30 M (A.D), at 17.00 Hours, on Oct 29, 1991

Runoff Yield 2.36 Liters/Second/Square KM, Momentary Peak Yield 212.31 Liters/Second/Square KM

WATER YEAR 1991

PHETCHABURI RIVER BASIN

Phetchaburi River at Ban Tha Yang, Phetchaburi (B.10)

Location — Lat. 12°-58'-24" N., Long. 99°-53'-10" E., on left bank at the bridge of Ban Tha Yang, Amphoe Tha Yang, Phetchaburi.

Drainage Area — 4,111 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank about 2.00 meters from the top staff gage.

Elevation — +9.443 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1983 to date.

Rating Operation

Period of Rating — 1985 to date.

Rated by Float — -

Rated by Current Meter — 1985 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — Overbank flow starts at elevation +6.18 m.(A.D.), records are channel flow only.

General Description — Records good. Stage-discharge relation defined by 59 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

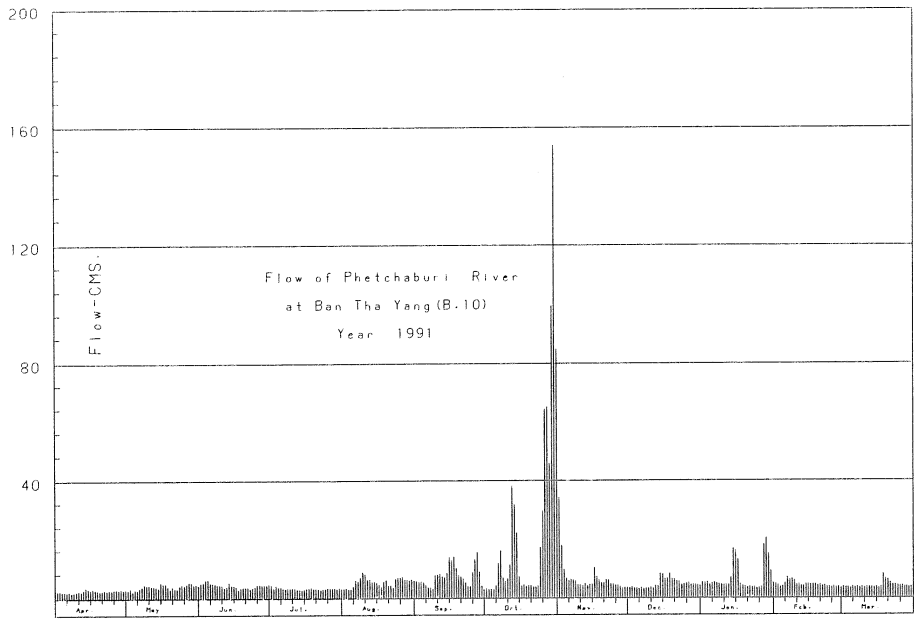
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.48	0.53	0.82	0.74	0.58	0.90	0.58	2.79	0.64	0.86	0.83	0.65	
2	0.46	0.58	0.88	0.61	0.59	0.89	0.56	1.87	0.66	0.86	0.74	0.67	
3	0.44	0.47	0.94	0.72	0.56	0.88	0.55	1.25	0.62	0.87	0.68	0.63	
4	0.42	0.52	0.98	0.67	0.54	0.88	0.56	1.00	0.59	0.79	0.68	0.62	
5	0.43	0.53	0.86	0.67	0.70	0.74	0.72	0.94	0.60	0.83	0.85	0.66	
6	0.43	0.59	0.82	0.57	0.93	0.65	1.39	0.96	0.62	0.85	1.03	0.65	
7	0.40	0.69	0.83	0.59	0.91	0.62	1.74	0.96	0.59	0.84	0.97	0.66	
8	0.39	0.77	0.75	0.58	1.02	0.59	1.03	0.91	0.58	0.79	0.98	0.65	
9	0.47	0.76	0.78	0.60	1.18	1.08	0.90	0.79	0.62	0.79	0.95	0.66	
10	0.46	0.74	0.73	0.59	1.11	1.11	1.01	0.74	0.63	0.78	0.79	0.65	
11	0.47	0.72	0.62	0.58	0.97	1.12	1.37	0.74	0.62	0.76	0.78	0.65	
12	0.55	0.71	0.71	0.57	0.96	1.06	2.99	0.81	0.71	0.79	0.74	0.67	
13	0.62	0.65	0.86	0.52	0.89	1.03	2.68	0.74	0.73	1.02	0.70	0.63	
14	0.59	0.64	0.77	0.53	0.88	1.15	2.13	0.76	1.12	1.79	0.82	0.64	
15	0.52	0.85	0.75	0.56	0.87	1.55	1.04	0.78	1.12	1.72	0.79	0.65	
16	0.57	0.80	0.67	0.57	0.77	1.47	0.74	1.30	0.98	1.51	0.76	0.63	
17	0.56	0.83	0.55	0.61	0.68	1.58	0.76	1.06	0.99	0.79	0.81	0.65	
18	0.49	0.67	0.60	0.62	0.88	1.28	0.71	0.94	1.14	0.74	0.78	1.12	
19	0.48	0.58	0.66	0.58	0.96	1.08	0.72	0.86	1.00	0.68	0.75	0.98	
20	0.49	0.66	0.63	0.56	0.71	1.06	0.72	0.83	0.97	0.66	0.76	0.97	
21	0.50	0.58	0.64	0.55	0.73	0.99	0.69	0.97	0.93	0.66	0.73	0.84	
22	0.49	0.56	0.59	0.54	0.66	0.87	0.68	0.94	0.89	0.67	0.72	0.79	
23	0.50	0.74	0.61	0.54	1.00	0.68	0.70	0.82	0.79	0.66	0.69	0.75	
24	0.51	0.76	0.70	0.58	1.02	0.72	1.81	0.78	0.79	0.62	0.66	0.75	
25	0.52	0.76	0.76	0.60	1.04	1.17	2.57	0.76	0.84	0.65	0.66	0.73	
26	0.54	0.79	0.80	0.61	1.04	1.49	4.12	0.74	0.85	0.65	0.67	0.71	
27	0.53	0.88	0.76	0.61	0.98	1.70	4.16	0.70	0.79	1.89	0.66	0.69	
28	0.54	0.84	0.73	0.59	0.95	1.17	3.35	0.59	0.78	2.03	0.65	0.66	
29	0.53	0.78	0.76	0.58	0.95	0.74	5.33	0.66	0.79	1.66	0.64	0.66	
30	0.52	0.77	0.79	0.59	0.95	0.52	6.87	0.62	0.75	1.19		0.65	
31		0.75		0.55	0.94		4.86		0.74	0.83		0.67	
Mean	0.50	0.69	0.75	0.59	0.87	1.03	1.87	0.95	0.79	0.98	0.77	0.71	
Max	0.62	0.88	0.98	0.74	1.18	1.70	6.87	2.79	1.14	2.03	1.03	1.12	6.87
Min	0.39	0.47	0.55	0.52	0.54	0.52	0.55	0.59	0.58	0.62	0.64	0.62	0.39

Annual Max Momentary Gage Height — 6.98 M (A.D), at 9.00 Hours, on Oct 30, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.22 M (A.D)

Left Bank Elevation — 6.17 M (A.D)

Right Bank Elevation — 7.63 M (A.D), Drainage Area 4111 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.66	3.01	5.09	4.48	3.36	5.85	3.36	34.30	3.78	5.47	5.19	3.85	
2	2.52	3.36	5.66	3.57	3.43	5.76	3.22	18.18	3.92	5.47	4.48	3.99	
3	2.38	2.59	6.23	4.34	3.22	5.66	3.15	10.05	3.64	5.57	4.06	3.71	
4	2.24	2.94	6.61	3.99	3.08	5.66	3.22	6.80	3.43	4.83	4.06	3.64	
5	2.31	3.01	5.47	3.99	4.20	4.48	4.34	6.23	3.50	5.19	5.38	3.92	
6	2.31	3.43	5.09	3.29	6.14	3.85	11.87	6.42	3.64	5.38	7.19	3.85	
7	2.10	4.13	5.19	3.43	5.95	3.64	16.42	6.42	3.43	5.28	6.52	3.92	
8	2.03	4.69	4.55	3.36	7.06	3.43	7.19	5.95	3.36	4.83	6.61	3.85	
9	2.59	4.62	4.76	3.50	9.14	7.84	5.85	4.83	3.64	4.83	6.33	3.92	
10	2.52	4.48	4.41	3.43	8.23	8.23	6.93	4.48	3.71	4.76	4.83	3.85	
11	2.59	4.34	3.64	3.36	6.52	8.36	11.61	4.48	3.64	4.62	4.76	3.85	
12	3.15	4.27	4.27	3.29	6.42	7.58	38.30	5.00	4.27	4.83	4.48	3.99	
13	3.64	3.85	5.47	2.94	5.76	7.19	32.10	4.48	4.41	7.06	4.20	3.71	
14	3.43	3.78	4.69	3.01	5.66	8.75	22.28	4.62	8.36	17.07	5.09	3.78	
15	2.94	5.38	4.55	3.22	5.57	13.95	7.32	4.76	8.36	16.16	4.83	3.85	
16	3.29	4.90	3.99	3.29	4.69	12.91	4.48	10.70	6.61	13.43	4.62	3.71	
17	3.22	5.19	3.15	3.57	4.06	14.34	4.62	7.58	6.71	4.83	5.00	3.85	
18	2.73	3.99	3.50	3.64	5.66	10.44	4.27	6.23	8.62	4.48	4.76	8.36	
19	2.66	3.36	3.92	3.36	6.42	7.84	4.34	5.47	6.80	4.06	4.55	6.61	
20	2.73	3.92	3.71	3.22	4.27	7.58	4.34	5.19	6.52	3.92	4.62	6.52	
21	2.80	3.36	3.78	3.15	4.41	6.71	4.13	6.52	6.14	3.92	4.41	5.28	
22	2.73	3.22	3.43	3.08	3.92	5.57	4.06	6.23	5.76	3.99	4.34	4.83	
23	2.80	4.48	3.57	3.08	6.80	4.06	4.20	5.09	4.83	3.92	4.13	4.55	
24	2.87	4.62	4.20	3.36	7.06	4.34	17.34	4.76	4.83	3.64	3.92	4.55	
25	2.94	4.62	4.62	3.50	7.32	9.01	29.97	4.62	5.28	3.85	3.92	4.41	
26	3.08	4.83	4.90	3.57	7.32	13.17	64.40	4.48	5.38	3.85	3.99	4.27	
27	3.01	5.66	4.62	3.57	6.61	15.90	65.40	4.20	4.83	18.46	3.92	4.13	
28	3.08	5.28	4.41	3.43	6.33	9.01	45.87	3.43	4.76	20.52	3.85	3.92	
29	3.01	4.76	4.62	3.36	6.33	4.48	99.72	3.92	4.83	15.38	3.78	3.92	
30	2.94	4.69	4.83	3.43	6.33	2.94	153.88	3.64	4.55	9.27		3.85	
31		4.55		3.15	6.23		84.94		4.48	5.19		3.99	
Total	83.30	129.31	136.93	106.96	177.50	228.53	773.12	209.06	156.02	224.06	137.82	134.43	2497.04 CMSDAY
Mean	2.78	4.17	4.56	3.45	5.73	7.62	24.94	6.97	5.03	7.23	4.75	4.34	6.82 CMS
Max	3.64	5.66	6.61	4.48	9.14	15.90	153.88	34.30	8.62	20.52	7.19	8.36	153.88 CMS
Min	2.03	2.59	3.15	2.94	3.08	2.94	3.15	3.43	3.36	3.64	3.78	3.64	2.03 CMS
Runoff	7.197	11.172	11.831	9.241	15.336	19.745	66.798	18.063	13.480	19.359	11.908	11.615	215.744 MCM

Momentary Peak 157.79 CMS, at 6.98 M (A.D), at 9.00 Hours, on Oct 30, 1991
Runoff Yield 1.66 Liters/Second/Square KM, Momentary Peak Yield 38.38 Liters/Second/Square KM

WATER YEAR 1991

WEST COAST-GULF BASIN

Khlong Kui at Ban Pong Kasang, Prachuap Khiri Khan (Ky.2)

Location: Lat. 12-06-55 N., Long. 99-44-20 E., on right bank at the culvert of the left irrigation canal of Yang Chum Project, Ban Pong Kasang, Tambon Hat Kham, Amphoe Kui Buri, Prachuap Khiri Khan.

Drainage Area: 92 sq.km.

Type of Gage: Staff gage.

Zero Gage at Bottom: +0.00 m.(A.D.)

Bench Mark: B.M.-H.D.

Location: On right bank at the measuring line.

Elevation: +8.405 m.(A.D.)

Gage Reading Frequency: 16-time daily readings at 03.00 - 18.00, 21.00 and 24.00 hours.

Basis of Mean Daily Gage Height: Arithmetic mean of 16 readings.

Period of Available Gage Records: 1979 to date.

Rating Operation

Period of Rating: 1979 to date.

Rated by Float: -

Rated by Current Meter: 1979 to date.

Stability of Channel Regimes: Fairly stable.

Overbank Flow Conditions: No overbank flow.

General Description: Records good. Stage-discharge relation defined by 125 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

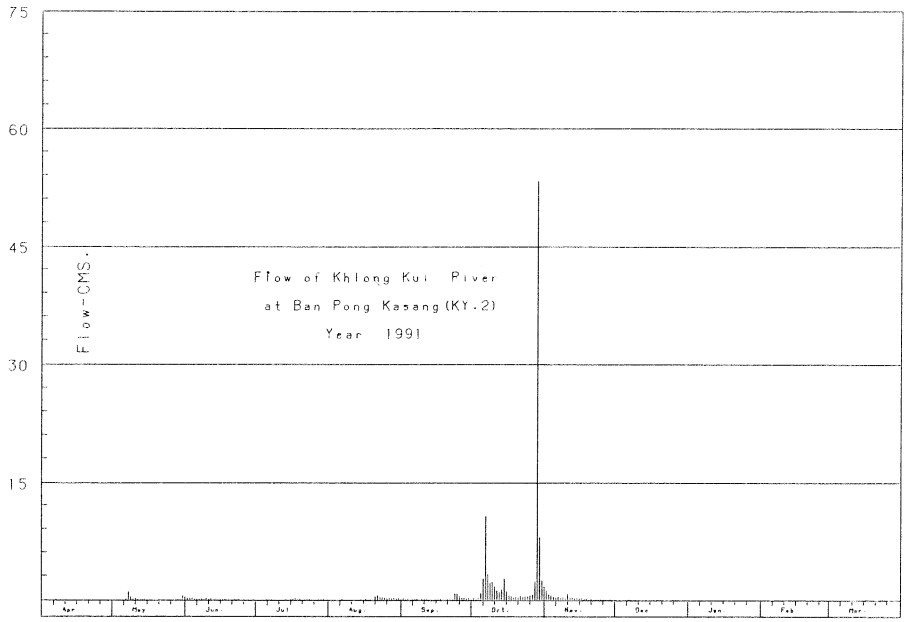
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.82	0.80	1.10	0.84	0.89	0.96	0.97	1.26	0.85	0.78	0.75	0.74	
2	0.82	0.80	1.03	0.84	0.88	0.95	0.96	1.19	0.85	0.78	0.75	0.74	
3	0.82	0.80	0.99	0.84	0.87	0.94	0.98	1.15	0.84	0.78	0.75	0.74	
4	0.82	0.80	0.97	0.84	0.86	0.93	1.22	1.12	0.84	0.78	0.75	0.74	
5	0.82	0.80	0.95	0.84	0.85	0.92	1.48	1.10	0.83	0.78	0.75	0.74	
6	0.82	0.89	0.94	0.84	0.85	0.92	2.01	1.09	0.83	0.78	0.75	0.74	
7	0.82	1.25	0.93	0.84	0.85	0.92	1.53	1.06	0.82	0.77	0.75	0.74	
8	0.82	1.10	0.98	0.84	0.85	0.94	1.41	1.04	0.82	0.77	0.75	0.74	
9	0.82	1.01	0.98	0.83	0.85	0.92	1.41	1.02	0.82	0.78	0.75	0.74	
10	0.82	0.97	0.95	0.83	0.85	0.91	1.33	1.18	0.82	0.79	0.75	0.74	
11	0.83	0.95	0.93	0.83	0.85	0.91	1.27	1.08	0.81	0.79	0.75	0.74	
12	0.83	0.94	0.92	0.83	0.85	0.89	1.24	1.04	0.81	0.78	0.74	0.74	
13	0.83	0.92	0.92	0.83	0.85	0.88	1.28	1.02	0.81	0.78	0.75	0.73	
14	0.83	0.90	0.92	0.84	0.85	0.88	1.48	0.99	0.81	0.77	0.75	0.73	
15	0.83	0.88	0.90	0.88	0.85	0.88	1.24	0.98	0.80	0.77	0.75	0.73	
16	0.83	0.87	0.89	0.93	0.88	0.88	1.16	0.97	0.80	0.77	0.75	0.73	
17	0.83	0.86	0.88	0.97	0.87	0.91	1.12	0.95	0.80	0.77	0.75	0.73	
18	0.83	0.86	0.88	0.94	0.90	0.90	1.09	0.94	0.80	0.76	0.75	0.73	
19	0.83	0.85	0.87	0.91	0.97	0.92	1.07	0.93	0.79	0.76	0.74	0.73	
20	0.82	0.85	0.87	0.90	1.16	0.95	1.07	0.92	0.79	0.76	0.74	0.73	
21	0.82	0.85	0.87	0.89	1.16	0.94	1.13	0.91	0.79	0.76	0.74	0.73	
22	0.83	0.86	0.87	0.89	1.10	0.93	1.12	0.91	0.79	0.76	0.74	0.73	
23	0.83	0.86	0.87	0.88	1.05	1.21	1.11	0.90	0.79	0.76	0.73	0.73	
24	0.81	0.87	0.86	0.87	1.02	1.20	1.13	0.90	0.79	0.75	0.73	0.73	
25	0.80	0.85	0.86	0.86	1.00	1.12	1.14	0.89	0.78	0.75	0.75	0.73	
26	0.80	0.85	0.85	0.87	0.99	1.06	1.19	0.88	0.78	0.75	0.74	0.73	
27	0.80	0.85	0.85	0.87	1.02	1.03	1.43	0.87	0.78	0.75	0.73	0.73	
28	0.80	0.85	0.85	0.90	0.99	1.00	3.21	0.87	0.78	0.75	0.74	0.73	
29	0.80	0.85	0.85	0.93	1.01	0.98	1.87	0.86	0.79	0.75	0.74	0.73	
30	0.80	1.15	0.84	0.92	0.99	0.97	1.45	0.86	0.79	0.75		0.73	
31		1.08		0.91	0.98		1.33		0.78	0.75		0.73	
Mean	0.82	0.90	0.91	0.87	0.93	0.96	1.34	1.00	0.81	0.77	0.75	0.73	
Max	0.83	1.25	1.10	0.97	1.16	1.21	3.21	1.26	0.85	0.79	0.75	0.74	3.21
Min	0.80	0.80	0.84	0.83	0.85	0.88	0.96	0.86	0.78	0.75	0.73	0.73	0.73

Annual Max Momentary Gage Height: 4.22 M (A.D), at 9.00 Hours, on Oct 28, 1991

Zero Gage at Bottom Elevation: 0.00 M (A.D), River Bed 0.63 M (A.D)

Left Bank Elevation: 6.04 M (A.D)

Right Bank Elevation: 8.23 M (A.D), Drainage Area 92 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.07	0.05	0.39	0.09	0.14	0.21	0.22	1.19	0.10	0.04	0.03	0.02	
2	0.07	0.05	0.29	0.09	0.13	0.20	0.21	0.76	0.10	0.04	0.03	0.02	
3	0.07	0.05	0.24	0.09	0.12	0.19	0.23	0.59	0.09	0.04	0.03	0.02	
4	0.07	0.05	0.22	0.09	0.11	0.18	0.93	0.47	0.09	0.04	0.03	0.02	
5	0.07	0.05	0.20	0.09	0.10	0.17	2.80	0.39	0.08	0.04	0.03	0.02	
6	0.07	0.14	0.19	0.09	0.10	0.17	10.82	0.38	0.08	0.04	0.03	0.02	
7	0.07	1.13	0.18	0.09	0.10	0.17	3.26	0.33	0.07	0.03	0.03	0.02	
8	0.07	0.39	0.23	0.09	0.10	0.19	2.27	0.31	0.07	0.03	0.03	0.02	
9	0.07	0.26	0.23	0.08	0.10	0.17	2.27	0.28	0.07	0.04	0.03	0.02	
10	0.07	0.22	0.20	0.08	0.10	0.16	1.68	0.72	0.07	0.05	0.03	0.02	
11	0.08	0.20	0.18	0.08	0.10	0.16	1.26	0.36	0.06	0.05	0.03	0.02	
12	0.08	0.19	0.17	0.08	0.10	0.14	1.06	0.31	0.06	0.04	0.02	0.02	
13	0.08	0.17	0.17	0.08	0.10	0.13	1.32	0.28	0.06	0.04	0.03	0.02	
14	0.08	0.15	0.17	0.09	0.10	0.13	2.80	0.24	0.06	0.03	0.03	0.02	
15	0.08	0.13	0.15	0.13	0.10	0.13	1.06	0.23	0.05	0.03	0.03	0.02	
16	0.08	0.12	0.14	0.18	0.13	0.13	0.64	0.22	0.05	0.03	0.03	0.02	
17	0.08	0.11	0.13	0.22	0.12	0.16	0.47	0.20	0.05	0.03	0.03	0.02	
18	0.08	0.11	0.13	0.19	0.15	0.15	0.38	0.19	0.05	0.03	0.03	0.02	
19	0.08	0.10	0.12	0.16	0.22	0.17	0.35	0.18	0.05	0.03	0.02	0.02	
20	0.07	0.10	0.12	0.15	0.64	0.20	0.35	0.17	0.05	0.03	0.02	0.02	
21	0.07	0.10	0.12	0.14	0.64	0.19	0.51	0.16	0.05	0.03	0.02	0.02	
22	0.08	0.11	0.12	0.14	0.39	0.18	0.47	0.16	0.05	0.03	0.02	0.02	
23	0.08	0.11	0.12	0.13	0.32	0.87	0.43	0.15	0.05	0.03	0.02	0.02	
24	0.06	0.12	0.11	0.12	0.28	0.80	0.51	0.15	0.05	0.03	0.02	0.02	
25	0.05	0.10	0.11	0.11	0.25	0.47	0.55	0.14	0.04	0.03	0.03	0.02	
26	0.05	0.10	0.10	0.12	0.24	0.33	0.76	0.13	0.04	0.03	0.02	0.02	
27	0.05	0.10	0.10	0.12	0.28	0.29	2.42	0.12	0.04	0.03	0.02	0.02	
28	0.05	0.10	0.10	0.15	0.24	0.25	53.32	0.12	0.04	0.03	0.02	0.02	
29	0.05	0.10	0.10	0.18	0.26	0.23	7.99	0.11	0.05	0.03	0.02	0.02	
30	0.05	0.59	0.09	0.17	0.24	0.22	2.58	0.11	0.05	0.03		0.02	
31		0.36		0.16	0.23		1.68		0.04	0.03		0.02	
Total	2.08	5.66	4.92	3.78	6.23	7.14	105.60	9.15	1.86	1.06	0.76	0.62	148.86 CMSDAY
Mean	0.07	0.18	0.16	0.12	0.20	0.24	3.41	0.30	0.06	0.03	0.03	0.02	0.41 CMS
Max	0.08	1.13	0.39	0.22	0.64	0.87	53.32	1.19	0.10	0.05	0.03	0.02	53.32 CMS
Min	0.05	0.05	0.09	0.08	0.10	0.13	0.21	0.11	0.04	0.03	0.02	0.02	0.02 CMS
Runoff	0.180	0.489	0.425	0.327	0.538	0.617	9.124	0.791	0.161	0.092	0.066	0.054	12.862 MCM

Momentary Peak 126.92 CMS, at 4.22 M (A.D), at 9.00 Hours, on Oct 28, 1991
Runoff Yield 4.42 Liters/Second/Square KM, Momentary Peak Yield 1379.57 Liters/Second/Square KM

WATER YEAR 1991

WEST COAST-GULF BASIN

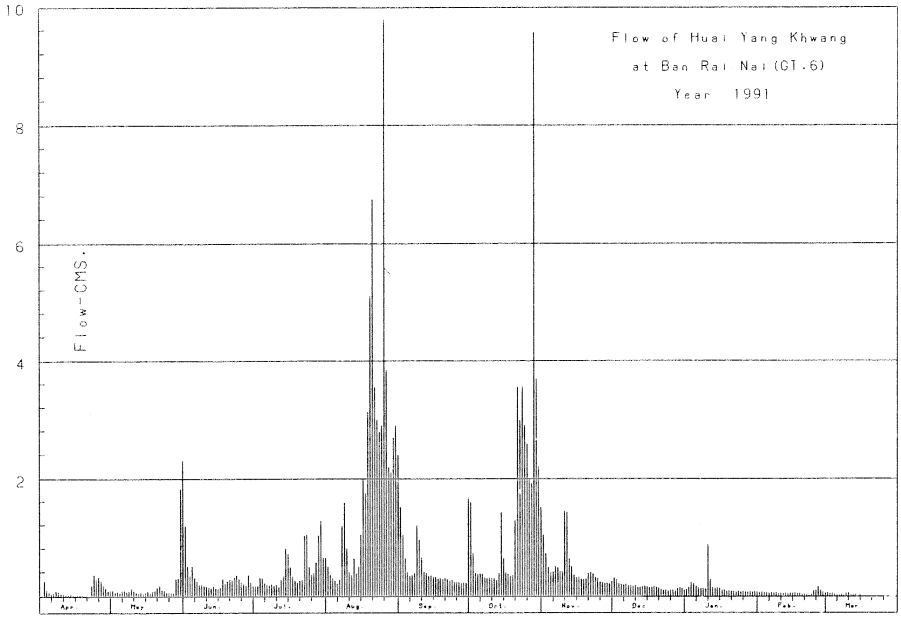
Huai Yang Khwang at Ban Rai Nai, Prachuap Khiri Khan (Gt.6)

Location	Lat. 11-10-31 N., Long. 99-21-27 E., on left bank at Ban Rai Nai, Amphoe Bang Saphan Noi, Prachuap Khiri Khan.
Drainage Area	37 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank near the Meteorological Station.
Elevation	+15.345 m.(A.D.)
Gage Reading Frequency	16-time daily readings at 03.00, 06.00 - 18.00, 21.00 and 24.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 16 readings.
Period of Available Gage Records	1978 to date.
Rating Operation	
Period of Rating	1978 to date.
Rated by Float	-
Rated by Current Meter	1978 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 82 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.42	0.49	0.80	0.54	0.71	0.84	0.85	0.78	0.64	0.51	0.47	0.46	
2	0.61	0.47	0.71	0.55	0.67	0.78	0.74	0.74	0.62	0.54	0.47	0.45	
3	0.50	0.47	0.66	0.64	0.63	0.73	0.69	0.71	0.58	0.59	0.47	0.45	
4	0.47	0.46	0.71	0.63	0.61	0.69	0.67	0.69	0.57	0.58	0.46	0.44	
5	0.45	0.50	0.64	0.59	0.58	0.66	0.68	0.70	0.57	0.55	0.46	0.43	
6	0.45	0.49	0.60	0.56	0.61	0.66	0.67	0.71	0.57	0.53	0.46	0.43	
7	0.50	0.48	0.57	0.56	0.80	0.69	0.64	0.71	0.56	0.53	0.46	0.43	
8	0.47	0.48	0.56	0.57	0.85	0.80	0.63	0.70	0.55	0.52	0.46	0.43	
9	0.45	0.53	0.55	0.55	0.75	0.77	0.64	0.70	0.55	0.52	0.45	0.45	
10	0.44	0.49	0.54	0.56	0.69	0.73	0.63	0.83	0.55	0.76	0.45	0.47	
11	0.43	0.47	0.53	0.54	0.66	0.70	0.63	0.83	0.54	0.62	0.45	0.43	
12	0.43	0.46	0.53	0.61	0.73	0.68	0.62	0.73	0.54	0.53	0.45	0.43	
13	0.43	0.46	0.54	0.66	0.68	0.66	0.69	0.71	0.54	0.53	0.45	0.43	
14	0.42	0.45	0.53	0.75	0.71	0.66	0.83	0.67	0.55	0.53	0.45	0.43	
15	0.42	0.46	0.52	0.74	0.78	0.65	0.73	0.65	0.54	0.52	0.46	0.42	
16	0.43	0.48	0.53	0.71	0.90	0.64	0.69	0.64	0.54	0.51	0.46	0.42	
17	0.43	0.46	0.63	0.65	0.87	0.63	0.67	0.63	0.54	0.50	0.45	0.41	
18	0.42	0.48	0.58	0.61	1.01	0.63	0.66	0.62	0.54	0.49	0.45	0.41	
19	0.42	0.50	0.60	0.59	1.15	0.63	0.66	0.63	0.54	0.49	0.44	0.40	
20	0.41	0.53	0.62	0.61	1.26	0.63	0.81	0.68	0.53	0.49	0.44	0.40	
21	0.41	0.55	0.62	0.61	1.04	0.62	1.04	0.69	0.52	0.48	0.44	0.40	
22	0.56	0.51	0.65	0.78	1.00	0.61	1.00	0.68	0.51	0.48	0.43	0.40	
23	0.67	0.49	0.66	0.78	0.98	0.61	1.04	0.65	0.50	0.48	0.44	0.39	
24	0.62	0.47	0.63	0.71	0.99	0.60	0.99	0.63	0.50	0.48	0.50	0.39	
25	0.64	0.46	0.59	0.67	1.44	0.59	0.96	0.60	0.50	0.48	0.50	0.39	
26	0.61	0.45	0.57	0.68	1.06	0.59	0.90	0.59	0.50	0.48	0.54	0.39	
27	0.56	0.46	0.56	0.72	0.92	0.59	0.89	0.59	0.50	0.48	0.51	0.38	
28	0.52	0.63	0.67	0.78	0.91	0.58	1.43	0.58	0.52	0.48	0.47	0.39	
29	0.50	0.63	0.59	0.81	0.97	0.59	1.05	0.58	0.54	0.48	0.46	0.40	
30	0.49	0.88	0.55	0.73	0.99	0.86	0.92	0.60	0.52	0.48		0.40	
31		0.93		0.73	0.94		0.84		0.51	0.47		0.41	
Mean	0.49	0.52	0.60	0.65	0.87	0.67	0.80	0.68	0.54	0.52	0.46	0.42	
Max	0.67	0.93	0.80	0.81	1.44	0.86	1.43	0.83	0.64	0.76	0.54	0.47	1.44
Min	0.41	0.45	0.52	0.54	0.58	0.58	0.62	0.58	0.50	0.47	0.43	0.38	0.38

Annual Max Momentary Gage Height 1.85 M (A.D), at 10.00 Hours, on Aug 25, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.46 M (A.D)
Left Bank Elevation 15.43 M (A.D)
Right Bank Elevation 6.39 M (A.D), Drainage Area 37 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.02	0.09	1.20	0.16	0.50	1.52	1.60	1.04	0.32	0.11	0.07	0.06	
2	0.27	0.07	0.50	0.18	0.37	1.04	0.73	0.73	0.28	0.16	0.07	0.05	
3	0.10	0.07	0.35	0.32	0.30	0.65	0.40	0.50	0.22	0.23	0.07	0.05	
4	0.07	0.06	0.50	0.30	0.27	0.40	0.37	0.40	0.20	0.22	0.06	0.04	
5	0.05	0.10	0.32	0.23	0.22	0.35	0.39	0.42	0.20	0.18	0.06	0.03	
6	0.05	0.09	0.25	0.19	0.27	0.35	0.37	0.50	0.20	0.14	0.06	0.03	
7	0.10	0.08	0.20	0.19	1.20	0.40	0.32	0.50	0.19	0.14	0.06	0.03	
8	0.07	0.08	0.19	0.20	1.60	1.20	0.30	0.42	0.18	0.13	0.06	0.03	
9	0.05	0.14	0.18	0.18	0.81	0.97	0.32	0.42	0.18	0.13	0.05	0.05	
10	0.04	0.09	0.16	0.19	0.40	0.65	0.30	1.44	0.18	0.89	0.05	0.07	
11	0.03	0.07	0.14	0.16	0.35	0.42	0.30	1.44	0.16	0.28	0.05	0.03	
12	0.03	0.06	0.14	0.27	0.65	0.39	0.28	0.65	0.16	0.14	0.05	0.03	
13	0.03	0.06	0.16	0.35	0.39	0.35	0.40	0.50	0.16	0.14	0.05	0.03	
14	0.02	0.05	0.14	0.81	0.50	0.35	1.44	0.37	0.18	0.14	0.05	0.03	
15	0.02	0.06	0.13	0.73	1.04	0.33	0.65	0.33	0.16	0.13	0.06	0.02	
16	0.03	0.08	0.14	0.50	2.00	0.32	0.40	0.32	0.16	0.11	0.06	0.02	
17	0.03	0.06	0.30	0.33	1.76	0.30	0.37	0.30	0.16	0.10	0.05	0.01	
18	0.02	0.08	0.22	0.27	3.14	0.30	0.35	0.28	0.16	0.09	0.05	0.01	
19	0.02	0.10	0.25	0.23	5.10	0.30	0.35	0.30	0.16	0.09	0.04	0.00	
20	0.01	0.14	0.28	0.27	6.76	0.30	1.28	0.39	0.14	0.09	0.04	0.00	
21	0.01	0.18	0.28	0.27	3.56	0.28	3.56	0.40	0.13	0.08	0.04	0.00	
22	0.19	0.11	0.33	1.04	3.00	0.27	3.00	0.39	0.11	0.08	0.03	0.00	
23	0.37	0.09	0.35	1.04	2.80	0.27	3.56	0.33	0.10	0.08	0.04	0.00	
24	0.28	0.07	0.30	0.50	2.90	0.25	2.90	0.30	0.10	0.08	0.10	0.00	
25	0.32	0.06	0.23	0.37	9.80	0.23	2.60	0.25	0.10	0.08	0.10	0.00	
26	0.27	0.05	0.20	0.39	3.84	0.23	2.00	0.23	0.10	0.08	0.16	0.00	
27	0.19	0.06	0.19	0.58	2.20	0.23	1.92	0.23	0.10	0.08	0.11	0.00	
28	0.13	0.30	0.37	1.04	2.10	0.22	9.60	0.22	0.13	0.08	0.07	0.00	
29	0.10	0.30	0.23	1.28	2.70	0.23	3.70	0.22	0.16	0.08	0.06	0.00	
30	0.09	1.84	0.18	0.65	2.90	1.68	2.20	0.25	0.13	0.08		0.00	
31		2.30		0.65	2.40		1.52		0.11	0.07		0.01	
Total	3.01	6.99	8.41	13.87	65.83	14.78	47.48	14.07	5.02	4.51	1.82	0.63	186.42 CMSDAY
Mean	0.10	0.23	0.28	0.45	2.12	0.49	1.53	0.47	0.16	0.15	0.06	0.02	0.51 CMS
Max	0.37	2.30	1.20	1.28	9.80	1.68	9.60	1.44	0.32	0.89	0.16	0.07	9.80 CMS
Min	0.01	0.05	0.13	0.16	0.22	0.22	0.28	0.22	0.10	0.07	0.03	0.00	0.00 CMS
Runoff	0.260	0.604	0.727	1.198	5.688	1.277	4.102	1.216	0.434	0.390	0.157	0.054	16.107 MCM

Momentary Peak 18.25 CMS, at 1.85 M (A.D), at 10.00 Hours, on Aug 25, 1991
Runoff Yield 13.77 Liters/Second/Square KM, Momentary Peak Yield 493.24 Liters/Second/Square KM

WATER YEAR 1991

WEST COAST-GULF BASIN

Khlong Bang Saphan Yai at Ban Wang Yao, Prachuap Khiri Khan (Gt.7)

Location — Lat. 11°14′02″ N., Long. 99°26′35″ E., on left bank near the bridge of Phet Kasem Highway at Ban Wang Yao, Tambon Ron Thong, Amphoe Bang Saphan, Prachuap Khiri Khan.

Drainage Area — 346 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-Highways Dept.

Location — On left bank at the abutment of the bridge.

Elevation — +8.084 m.(A.D.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1978 to date.

Rating Operation

Period of Rating — 1980 to date.

Rated by Float — -

Rated by Current Meter — 1980 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 79 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

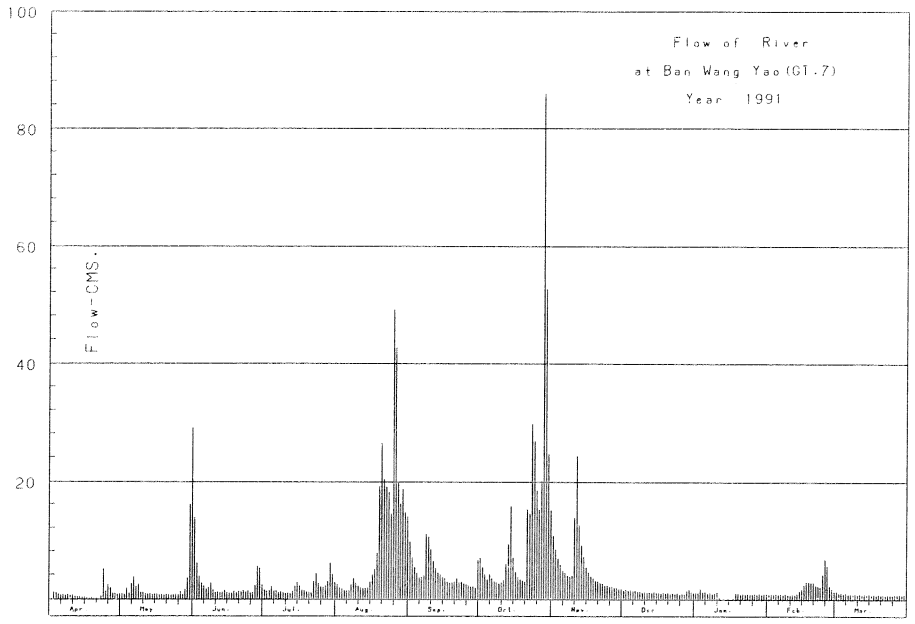
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.18	1.39	2.32	1.49	1.58	2.11	1.94	2.17	1.48	1.42	1.40	1.45	
2	1.42	1.39	1.89	1.45	1.53	1.94	1.84	2.03	1.49	1.43	1.39	1.42	
3	1.43	1.51	1.71	1.48	1.50	1.84	1.74	1.94	1.48	1.50	1.39	1.42	
4	1.38	1.42	1.61	1.54	1.48	1.76	1.67	1.86	1.48	1.45	1.39	1.41	
5	1.36	1.60	1.55	1.47	1.46	1.70	1.75	1.80	1.47	1.44	1.39	1.41	
6	1.36	1.70	1.51	1.46	1.48	1.70	1.68	1.76	1.46	1.42	1.38	1.39	
7	1.35	1.54	1.52	1.44	1.57	1.73	1.64	1.73	1.46	1.42	1.38	1.38	
8	1.36	1.59	1.61	1.44	1.69	2.18	1.61	1.70	1.45	1.41	1.39	1.39	
9	1.35	1.44	1.48	1.43	1.60	2.16	1.60	1.73	1.44	1.41	1.37	1.39	
10	1.34	1.42	1.44	1.42	1.56	2.03	1.62	2.32	1.43	1.45	1.37	1.38	
11	1.31	1.41	1.43	1.41	1.52	1.91	1.65	2.76	1.44	1.20	1.37	1.38	
12	1.28	1.40	1.43	1.41	1.52	1.82	1.87	2.26	1.43	1.06	1.38	1.37	
13	1.26	1.39	1.43	1.45	1.51	1.77	2.09	2.08	1.43	1.02	1.40	1.38	
14	1.25	1.38	1.48	1.56	1.53	1.74	2.42	1.95	1.44	1.00	1.47	1.37	
15	1.23	1.37	1.42	1.61	1.62	1.71	1.94	1.84	1.43	1.01	1.50	1.38	
16	1.21	1.37	1.41	1.55	1.74	1.68	1.78	1.77	1.42	1.02	1.58	1.37	
17	1.21	1.36	1.42	1.49	1.81	1.63	1.70	1.72	1.42	1.18	1.62	1.37	
18	1.21	1.36	1.45	1.47	2.00	1.60	1.67	1.68	1.42	1.42	1.63	1.36	
19	1.20	1.36	1.43	1.45	2.55	1.62	1.64	1.65	1.42	1.41	1.61	1.36	
20	1.19	1.36	1.45	1.43	2.84	1.62	1.63	1.63	1.42	1.40	1.61	1.36	
21	1.16	1.35	1.45	1.43	2.60	1.69	2.39	1.61	1.41	1.40	1.57	1.34	
22	1.31	1.35	1.46	1.63	2.55	1.61	2.36	1.59	1.41	1.40	1.56	1.35	
23	1.82	1.37	1.45	1.76	2.51	1.63	2.96	1.57	1.41	1.40	1.53	1.35	
24	1.45	1.36	1.46	1.59	2.36	1.59	2.86	1.56	1.41	1.40	1.75	1.36	
25	1.57	1.38	1.43	1.55	3.58	1.59	2.52	1.55	1.40	1.40	1.93	1.35	
26	1.53	1.44	1.42	1.53	3.39	1.56	2.39	1.54	1.40	1.40	1.85	1.35	
27	1.42	1.39	1.57	1.56	2.58	1.55	2.59	1.53	1.40	1.40	1.56	1.36	
28	1.40	1.49	1.85	1.63	2.43	1.54	4.46	1.52	1.46	1.40	1.50	1.36	
29	1.39	1.68	1.82	1.89	2.53	1.52	3.67	1.51	1.50	1.39	1.46	1.36	
30	1.38	2.43	1.57	1.74	2.37	1.92	2.77	1.50	1.43	1.39		1.35	
31		2.94		1.62	2.33		2.39		1.43	1.39		1.34	
Mean	1.34	1.51	1.55	1.53	2.04	1.75	2.16	1.80	1.44	1.34	1.51	1.37	
Max	1.82	2.94	2.32	1.89	3.58	2.18	4.46	2.76	1.50	1.50	1.93	1.45	4.46
Min	1.16	1.35	1.41	1.41	1.46	1.52	1.60	1.50	1.40	1.00	1.37	1.34	1.00

Annual Max Momentary Gage Height — 5.08 M (A.D), at 12.00 Hours, on Oct 28, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.34 M (A.D)

Left Bank Elevation — 8.74 M (A.D)

Right Bank Elevation — 8.94 M (A.D), Drainage Area 346 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.24	0.96	13.90	1.72	2.60	9.88	7.10	10.96	1.64	1.16	1.00	1.40	
2	1.16	0.96	6.35	1.40	2.10	7.10	5.60	8.51	1.72	1.24	0.96	1.16	
3	1.24	1.90	3.92	1.64	1.80	5.60	4.28	7.10	1.64	1.80	0.96	1.16	
4	0.92	1.16	2.90	2.20	1.64	4.52	3.50	5.90	1.64	1.40	0.96	1.08	
5	0.84	2.80	2.30	1.56	1.48	3.80	4.40	5.00	1.56	1.32	0.96	1.08	
6	0.84	3.80	1.90	1.48	1.64	3.80	3.60	4.52	1.48	1.16	0.92	0.96	
7	0.80	2.20	2.00	1.32	2.50	4.16	3.20	4.16	1.48	1.16	0.92	0.92	
8	0.84	2.70	2.90	1.32	3.70	11.14	2.90	3.80	1.40	1.08	0.96	0.96	
9	0.80	1.32	1.64	1.24	2.80	10.78	2.80	4.16	1.32	1.08	0.88	0.96	
10	0.76	1.16	1.32	1.16	2.40	8.51	3.00	13.90	1.24	1.40	0.88	0.92	
11	0.64	1.08	1.24	1.08	2.00	6.65	3.30	24.50	1.32	0.30	0.88	0.92	
12	0.54	1.00	1.24	1.08	2.00	5.30	6.05	12.70	1.24	0.00	0.92	0.88	
13	0.48	0.96	1.24	1.40	1.90	4.64	9.53	9.36	1.24	0.00	1.00	0.92	
14	0.45	0.92	1.64	2.40	2.10	4.28	16.00	7.25	1.32	0.00	1.56	0.88	
15	0.39	0.88	1.16	2.90	3.00	3.92	7.10	5.60	1.24	0.00	1.80	0.92	
16	0.33	0.88	1.08	2.30	4.28	3.60	4.76	4.64	1.16	0.00	2.60	0.88	
17	0.33	0.84	1.16	1.72	5.15	3.10	3.80	4.04	1.16	0.24	3.00	0.88	
18	0.33	0.84	1.40	1.56	8.00	2.80	3.50	3.60	1.16	1.16	3.10	0.84	
19	0.30	0.84	1.24	1.40	19.25	3.00	3.20	3.30	1.16	1.08	2.90	0.84	
20	0.27	0.84	1.40	1.24	26.50	3.00	3.10	3.10	1.16	1.00	2.90	0.84	
21	0.18	0.80	1.40	1.24	20.50	3.70	15.30	2.90	1.08	1.00	2.50	0.76	
22	0.64	0.80	1.48	3.10	19.25	2.90	14.70	2.70	1.08	1.00	2.40	0.80	
23	5.30	0.88	1.40	4.52	18.25	3.10	29.80	2.50	1.08	1.00	2.10	0.80	
24	1.40	0.84	1.48	2.70	14.70	2.70	27.00	2.40	1.08	1.00	4.40	0.84	
25	2.50	0.92	1.24	2.30	49.30	2.70	18.50	2.30	1.00	1.00	6.95	0.80	
26	2.10	1.32	1.16	2.10	42.70	2.40	15.30	2.20	1.00	1.00	5.75	0.80	
27	1.16	0.96	2.50	2.40	20.00	2.30	20.25	2.10	1.00	1.00	2.40	0.84	
28	1.00	1.72	5.75	3.10	16.25	2.20	86.00	2.00	1.48	1.00	1.80	0.84	
29	0.96	3.60	5.30	6.35	18.75	2.00	52.80	1.90	1.80	0.96	1.48	0.84	
30	0.92	16.25	2.50	4.28	14.90	6.80	24.75	1.80	1.24	0.96		0.80	
31		29.20		3.00	14.10		15.30		1.24	0.96		0.76	
Total	28.66	85.33	76.14	67.21	345.54	140.38	420.42	168.90	40.36	27.46	59.84	28.28	1488.52 CMSDAY
Mean	0.96	2.75	2.54	2.17	11.15	4.68	13.56	5.63	1.30	0.89	2.06	0.91	4.07 CMS
Max	5.30	29.20	13.90	6.35	49.30	11.14	86.00	24.50	1.80	1.80	6.95	1.40	86.00 CMS
Min	0.18	0.80	1.08	1.08	1.48	2.00	2.80	1.80	1.00	0.00	0.88	0.76	0.00 CMS
Runoff	2.476	7.373	6.578	5.807	29.855	12.129	36.324	14.593	3.487	2.373	5.170	2.443	128.608 MCM

Momentary Peak 119.10 CMS, at 5.08 M (A.D), at 12.00 Hours, on Oct 28, 1991

Runoff Yield 11.75 Liters/Second/Square KM, Momentary Peak Yield 344.22 Liters/Second/Square KM

WATER YEAR 1991

WEST COAST-GULF BASIN

Khlong Thap Sakae at Ban Klang, Prachuap Khiri Khan (Gt.9)

Location — Lat. 11°-29'-39" N., Long. 99°-36'-21" E., on right bank at Ban Klang, Tambon Thap Sakae, Amphoe Thap Sakae, Prachuap Khiri Khan.

Drainage Area — 120 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-Highways Dept.

Location — On right bank at the abutment of the bridge.

Elevation — +3.802 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00; 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1979 to date.

Rating Operation

Period of Rating — 1980 to date.

Rated by Float — -

Rated by Current Meter — 1980 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — Overbank flow starts at elevation +4.16 m.(A.D.) and is included.

General Description — Records good. Stage-discharge relation defined by 87 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

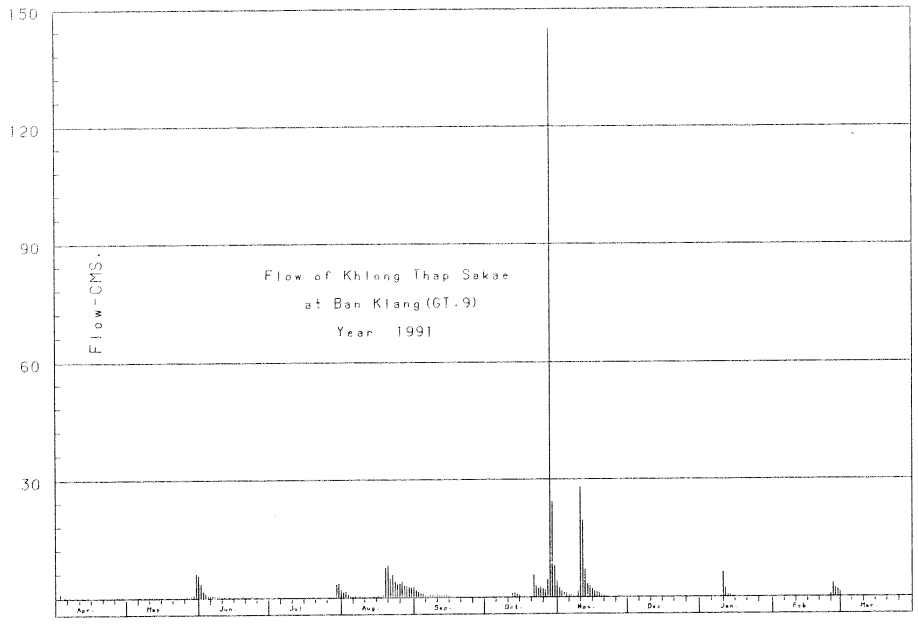
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.23	0.25	1.04	0.22	0.68	0.76	0.34	0.84	0.20	0.05	0.08	0.36	
2	0.65	0.30	0.73	0.21	0.68	0.66	0.28	0.69	0.19	0.06	0.09	0.25	
3	0.27	0.29	0.60	0.27	0.53	0.62	0.21	0.63	0.17	0.10	0.08	0.20	
4	0.33	0.27	0.50	0.36	0.40	0.56	0.18	0.57	0.15	0.13	0.07	0.17	
5	0.30	0.26	0.43	0.30	0.36	0.45	0.19	0.48	0.14	0.12	0.06	0.12	
6	0.28	0.26	0.41	0.28	0.34	0.41	0.23	0.43	0.13	0.09	0.05	0.11	
7	0.26	0.33	0.38	0.27	0.32	0.44	0.21	0.37	0.12	0.08	0.04	0.09	
8	0.25	0.31	0.38	0.26	0.33	0.50	0.18	0.34	0.12	0.06	0.05	0.08	
9	0.24	0.30	0.36	0.25	0.30	0.50	0.18	0.67	0.11	0.05	0.04	0.07	
10	0.24	0.29	0.34	0.23	0.29	0.52	0.17	2.66	0.10	1.37	0.04	0.07	
11	0.23	0.29	0.32	0.24	0.28	0.44	0.23	2.24	0.09	0.79	0.03	0.06	
12	0.23	0.28	0.32	0.22	0.28	0.36	0.59	1.42	0.10	0.50	0.02	0.06	
13	0.21	0.28	0.31	0.23	0.27	0.47	0.59	1.02	0.10	0.38	0.02	0.05	
14	0.20	0.26	0.32	0.24	0.28	0.46	0.54	0.89	0.09	0.31	0.02	0.05	
15	0.18	0.22	0.30	0.24	0.31	0.42	0.40	0.81	0.09	0.27	0.03	0.05	
16	0.18	0.20	0.29	0.25	0.38	0.36	0.32	0.69	0.08	0.23	0.03	0.05	
17	0.18	0.20	0.30	0.27	0.34	0.31	0.26	0.66	0.07	0.20	0.02	0.05	
18	0.17	0.18	0.31	0.28	0.44	0.26	0.22	0.58	0.08	0.15	0.01	0.05	
19	0.15	0.18	0.38	0.26	1.47	0.23	0.20	0.46	0.07	0.12	0.01	0.05	
20	0.14	0.18	0.36	0.25	1.53	0.22	0.17	0.40	0.06	0.11	0.01	0.04	
21	0.13	0.17	0.33	0.26	1.20	0.23	1.32	0.35	0.07	0.11	0.01	0.04	
22	0.21	0.17	0.31	0.25	1.32	0.22	0.90	0.33	0.06	0.10	0.00	0.04	
23	0.27	0.17	0.33	0.25	1.12	0.20	0.82	0.30	0.05	0.10	0.00	0.03	
24	0.26	0.31	0.29	0.24	0.99	0.18	0.85	0.30	0.05	0.10	0.02	0.03	
25	0.31	0.28	0.28	0.24	1.04	0.17	0.81	0.24	0.05	0.09	0.51	0.03	
26	0.41	0.28	0.26	0.27	1.10	0.16	0.72	0.25	0.05	0.09	1.03	0.03	
27	0.34	0.28	0.25	0.28	0.95	0.15	1.19	0.25	0.05	0.09	0.79	0.03	
28	0.30	0.40	0.24	0.26	0.90	0.14	5.05	0.21	0.06	0.07	0.76	0.03	
29	0.28	0.49	0.24	1.01	0.89	0.14	2.47	0.22	0.04	0.09	0.62	0.03	
30	0.27	1.36	0.24	1.03	0.83	0.31	1.52	0.18	0.03	0.08		0.03	
31		1.29		0.76	0.87		1.10		0.03	0.07		0.03	
Mean	0.26	0.33	0.37	0.32	0.68	0.36	0.72	0.65	0.09	0.20	0.16	0.08	
Max	0.65	1.36	1.04	1.03	1.53	0.76	5.05	2.66	0.20	1.37	1.03	0.36	5.05
Min	0.13	0.17	0.24	0.21	0.27	0.14	0.17	0.18	0.03	0.05	0.00	0.03	0.00

Annual Max Momentary Gage Height — 5.55 M (A.D), at 12.00 Hours, on Oct 28, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — -0.16 M (A.D)

Left Bank Elevation — 4.23 M (A.D)

Right Bank Elevation — 4.15 M (A.D), Drainage Area — 120 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.21	0.25	3.74	0.19	1.60	2.06	0.44	2.54	0.15	0.00	0.00	0.48	
2	1.45	0.35	1.88	0.17	1.60	1.50	0.31	1.65	0.13	0.00	0.00	0.25	
3	0.29	0.33	1.20	0.29	0.92	1.30	0.17	1.35	0.11	0.00	0.00	0.15	
4	0.42	0.29	0.80	0.48	0.57	1.04	0.12	1.08	0.08	0.04	0.00	0.11	
5	0.35	0.27	0.64	0.35	0.48	0.69	0.13	0.75	0.06	0.03	0.00	0.03	
6	0.31	0.27	0.59	0.31	0.44	0.59	0.21	0.64	0.04	0.00	0.00	0.01	
7	0.27	0.42	0.53	0.29	0.39	0.66	0.17	0.50	0.03	0.00	0.00	0.00	
8	0.25	0.37	0.53	0.27	0.42	0.80	0.12	0.44	0.03	0.00	0.00	0.00	
9	0.23	0.35	0.48	0.25	0.35	0.80	0.12	1.55	0.01	0.00	0.00	0.00	
10	0.23	0.33	0.44	0.21	0.33	0.88	0.11	28.20	0.00	6.50	0.00	0.00	
11	0.21	0.33	0.39	0.23	0.31	0.66	0.21	19.80	0.00	2.24	0.00	0.00	
12	0.21	0.31	0.39	0.19	0.31	0.48	1.16	7.04	0.00	0.80	0.00	0.00	
13	0.17	0.31	0.37	0.21	0.29	0.73	1.16	3.62	0.00	0.53	0.00	0.00	
14	0.15	0.27	0.39	0.23	0.31	0.71	0.96	2.84	0.00	0.37	0.00	0.00	
15	0.12	0.19	0.35	0.23	0.37	0.62	0.57	2.36	0.00	0.29	0.00	0.00	
16	0.12	0.15	0.33	0.25	0.53	0.48	0.39	1.65	0.00	0.21	0.00	0.00	
17	0.12	0.15	0.35	0.29	0.44	0.37	0.27	1.50	0.00	0.15	0.00	0.00	
18	0.11	0.12	0.37	0.31	0.66	0.27	0.19	1.12	0.00	0.08	0.00	0.00	
19	0.08	0.12	0.53	0.27	7.64	0.21	0.15	0.71	0.00	0.03	0.00	0.00	
20	0.06	0.12	0.48	0.25	8.36	0.19	0.11	0.57	0.00	0.01	0.00	0.00	
21	0.04	0.11	0.42	0.27	4.80	0.21	6.00	0.46	0.00	0.01	0.00	0.00	
22	0.17	0.11	0.37	0.25	6.00	0.19	2.90	0.42	0.00	0.00	0.00	0.00	
23	0.29	0.11	0.42	0.25	4.24	0.15	2.42	0.35	0.00	0.00	0.00	0.00	
24	0.27	0.37	0.33	0.23	3.44	0.12	2.60	0.35	0.00	0.00	0.00	0.00	
25	0.37	0.31	0.31	0.23	3.74	0.11	2.36	0.23	0.00	0.00	0.84	0.00	
26	0.59	0.31	0.27	0.29	4.10	0.09	1.82	0.25	0.00	0.00	3.68	0.00	
27	0.44	0.31	0.25	0.31	3.20	0.08	4.73	0.25	0.00	0.00	2.24	0.00	
28	0.35	0.57	0.23	0.27	2.90	0.06	145.00	0.17	0.00	0.00	2.06	0.00	
29	0.31	0.78	0.23	3.56	2.84	0.06	24.40	0.19	0.00	0.00	1.30	0.00	
30	0.29	6.40	0.23	3.68	2.48	0.37	8.24	0.12	0.00	0.00		0.00	
31		5.70		2.06	2.72		4.10		0.00	0.00		0.00	
Total	8.48	20.38	17.84	16.67	66.78	16.48	211.64	82.70	0.64	11.29	10.12	1.03	464.05 CMSDAY
Mean	0.28	0.66	0.59	0.54	2.15	0.55	6.83	2.76	0.02	0.36	0.35	0.03	1.27 CMS
Max	1.45	6.40	3.74	3.68	8.36	2.06	145.00	28.20	0.15	6.50	3.68	0.48	145.00 CMS
Min	0.04	0.11	0.23	0.17	0.29	0.06	0.11	0.12	0.00	0.00	0.00	0.00	0.00 CMS
Runoff	0.733	1.761	1.541	1.440	5.770	1.424	18.286	7.145	0.055	0.975	0.874	0.089	40.094 MCM

Momentary Peak 256.00 CMS, at 5.55 M (A.D), at 12.00 Hours, on Oct 28, 1991
Runoff Yield 10.57 Liters/Second/Square KM, Momentary Peak Yield 2133.33 Liters/Second/Square KM

WATER YEAR 1991

WEST COAST-GULF BASIN

Khlong Krut at Ban Nong Ya Plong, Prachuap Khiri Khan (Gt.10)

Location — Lat. 11-24-08 N., Long. 99-31-20 E., on left bank at the bridge of Phet Kasem Highway near the guidepost 379, Ban Nong Ya Plong, Tambon Chai Kasem, Amphoe Bang Saphan, Prachuap Khiri Khan.

Drainage Area — 112 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank at the abutment of the bridge.

Elevation — +5.507 m.(A.D.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1979 to date.

Rating Operation

Period of Rating — 1980 to date.

Rated by Float —

Rated by Current Meter — 1980 to date.

Stability of Channel Regimes — Fairly stable by some scouring.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 81 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

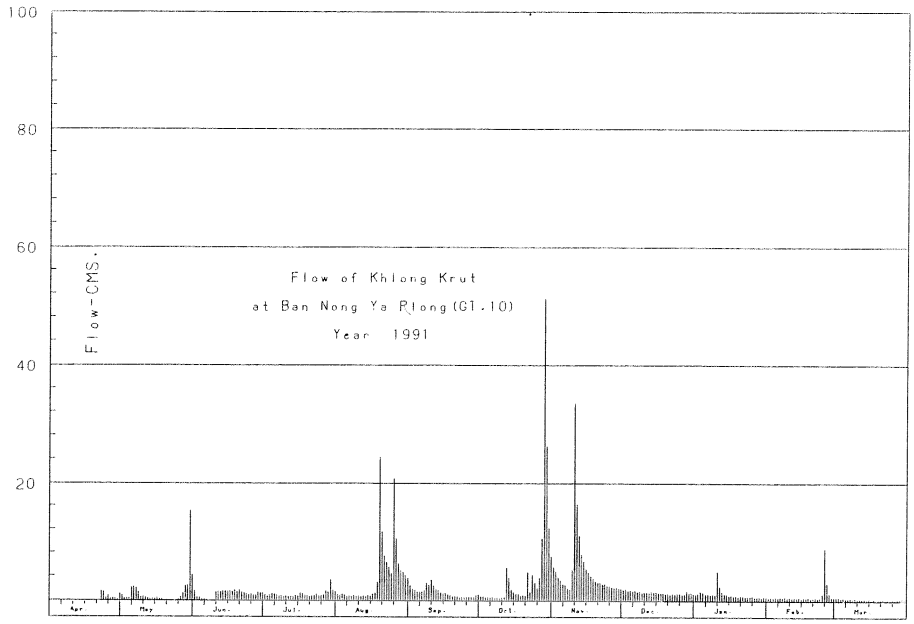
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.01	0.21	0.34	-0.08	-0.06	0.12	-0.12	0.43	0.05	-0.06	-0.18	-0.18	
2	0.01	0.09	0.16	-0.11	-0.10	0.07	-0.14	0.36	0.05	-0.05	-0.18	-0.18	
3	0.01	0.13	0.13	-0.09	-0.05	0.03	-0.16	0.28	0.03	0.02	-0.18	-0.19	
4	0.01	0.10	0.09	-0.04	-0.09	0.01	-0.17	0.22	0.03	-0.02	-0.17	-0.20	
5	0.01	0.43	0.06	-0.06	-0.12	0.01	-0.16	0.16	0.03	-0.05	-0.17	-0.20	
6	0.01	0.43	0.03	-0.09	-0.12	0.00	-0.17	0.13	0.02	-0.07	-0.17	-0.20	
7	0.01	0.42	0.02	-0.11	-0.11	0.04	-0.18	0.08	0.01	-0.07	-0.16	-0.20	
8	0.00	0.31	0.01	-0.11	-0.10	0.17	-0.19	0.04	0.01	-0.07	-0.16	-0.21	
9	0.00	0.17	0.00	-0.12	-0.11	0.13	-0.19	0.39	-0.01	-0.07	-0.17	-0.21	
10	0.00	0.16	0.00	-0.13	-0.12	0.24	-0.18	1.86	-0.02	0.37	-0.18	-0.22	
11	0.00	0.15	0.00	-0.13	-0.12	0.12	-0.15	1.11	-0.02	0.12	-0.18	-0.22	
12	0.00	0.10	0.01	-0.14	-0.12	0.06	0.42	0.81	-0.01	0.00	-0.18	-0.23	
13	0.00	0.09	0.01	-0.13	-0.12	0.03	0.26	0.60	0.00	-0.04	-0.18	-0.23	
14	0.00	0.08	0.02	-0.11	-0.11	-0.01	0.05	0.50	0.00	-0.07	-0.18	-0.23	
15	0.00	0.08	0.01	-0.10	-0.10	-0.04	-0.01	0.40	-0.01	-0.09	-0.20	-0.23	
16	0.00	0.13	0.01	-0.01	-0.06	-0.04	-0.04	0.34	-0.01	-0.10	-0.18	-0.22	
17	0.00	0.09	0.01	-0.05	-0.02	-0.06	-0.06	0.30	-0.02	-0.11	-0.18	-0.24	
18	0.00	0.06	0.03	-0.08	0.20	-0.10	-0.09	0.25	-0.04	-0.12	-0.18	-0.24	
19	0.00	0.04	0.01	-0.12	1.49	-0.12	-0.10	0.21	-0.04	-0.12	-0.20	-0.24	
20	0.00	0.03	0.03	-0.13	0.85	-0.14	-0.12	0.19	-0.05	-0.12	-0.19	-0.24	
21	0.00	0.03	-0.02	-0.13	0.58	-0.15	0.36	0.18	-0.06	-0.13	-0.19	-0.25	
22	0.35	0.04	-0.01	-0.09	0.50	-0.16	0.01	0.16	-0.06	-0.13	-0.19	-0.25	
23	0.32	0.03	-0.06	-0.06	0.42	-0.16	0.31	0.15	-0.05	-0.14	-0.19	-0.25	
24	0.14	0.04	-0.07	-0.10	0.34	-0.16	0.19	0.13	-0.05	-0.12	-0.04	-0.23	
25	0.21	0.08	-0.07	-0.10	1.33	-0.17	0.08	0.11	-0.05	-0.13	0.67	-0.23	
26	0.16	0.15	-0.08	-0.07	0.77	-0.17	0.26	0.09	-0.06	-0.15	0.18	-0.24	
27	0.11	0.30	-0.08	0.03	0.48	-0.15	0.78	0.09	-0.05	-0.15	-0.05	-0.23	
28	0.09	0.46	-0.02	-0.01	0.37	-0.14	2.45	0.08	0.01	-0.16	-0.15	-0.22	
29	0.06	0.46	-0.02	0.24	0.36	-0.10	1.58	0.08	-0.02	-0.16	-0.18	-0.22	
30	0.28	1.34	-0.04	0.03	0.30	-0.08	0.88	0.06	-0.03	-0.16		-0.23	
31		0.63		0.00	0.27		0.57		-0.06	-0.17		-0.24	
Mean	0.06	0.22	0.02	-0.07	0.21	-0.03	0.19	0.33	-0.02	-0.07	-0.13	-0.22	
Max	0.35	1.34	0.34	0.24	1.49	0.24	2.45	1.86	0.05	0.37	0.67	-0.18	2.45
Min	0.00	0.03	-0.08	-0.14	-0.12	-0.17	-0.19	0.04	-0.06	-0.17	-0.20	-0.25	-0.25

Annual Max Momentary Gage Height — 3.08 M (A.D), at 1.00 Hours, on Oct 28, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.32 M (A.D)

Left Bank Elevation — 4.28 M (A.D)

Right Bank Elevation — 4.30 M (A.D), Drainage Area 112 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.04	0.81	1.58	0.97	1.09	2.48	0.76	5.76	1.88	1.09	0.49	0.49	
2	0.04	0.32	0.60	0.81	0.85	2.05	0.67	4.92	1.88	1.15	0.49	0.49	
3	0.04	0.48	0.48	0.91	1.15	1.71	0.58	4.00	1.71	1.62	0.49	0.45	
4	0.04	0.36	0.32	1.21	0.91	1.54	0.54	3.40	1.71	1.33	0.54	0.40	
5	0.04	2.27	0.22	1.09	0.76	1.54	0.58	2.84	1.71	1.15	0.54	0.40	
6	0.04	2.27	0.11	0.91	0.76	1.45	0.54	2.57	1.62	1.03	0.54	0.40	
7	0.04	2.18	0.07	0.81	0.81	1.79	0.49	2.13	1.54	1.03	0.58	0.40	
8	0.00	1.37	0.04	0.81	0.85	2.93	0.45	1.79	1.54	1.03	0.58	0.36	
9	0.00	0.64	0.00	0.76	0.81	2.57	0.45	5.28	1.39	1.03	0.54	0.36	
10	0.00	0.60	1.45	0.72	0.76	3.60	0.49	33.56	1.33	5.04	0.49	0.32	
11	0.00	0.56	1.45	0.72	0.76	2.48	0.63	16.38	1.33	2.48	0.49	0.32	
12	0.00	0.36	1.54	0.67	0.76	1.96	5.64	11.16	1.39	1.45	0.49	0.28	
13	0.00	0.32	1.54	0.72	0.76	1.71	3.80	7.80	1.45	1.21	0.49	0.28	
14	0.00	0.29	1.62	0.81	0.81	1.39	1.88	6.60	1.45	1.03	0.49	0.28	
15	0.00	0.29	1.54	0.85	0.85	1.21	1.39	5.40	1.39	0.91	0.40	0.28	
16	0.00	0.48	1.54	1.39	1.09	1.21	1.21	4.68	1.39	0.85	0.49	0.32	
17	0.00	0.32	1.54	1.15	1.33	1.09	1.09	4.20	1.33	0.81	0.49	0.24	
18	0.00	0.22	1.71	0.97	3.20	0.85	0.91	3.70	1.21	0.76	0.49	0.24	
19	0.00	0.14	1.54	0.76	24.38	0.76	0.85	3.30	1.21	0.76	0.40	0.24	
20	0.00	0.11	1.71	0.72	11.80	0.67	0.76	3.11	1.15	0.76	0.45	0.24	
21	0.00	0.11	1.33	0.72	7.56	0.63	4.92	3.02	1.09	0.72	0.45	0.20	
22	1.65	0.14	1.39	0.91	6.60	0.58	1.54	2.84	1.09	0.72	0.45	0.20	
23	1.44	0.11	1.09	1.09	5.64	0.58	4.32	2.75	1.15	0.67	0.45	0.20	
24	0.52	0.14	1.03	0.85	4.68	0.58	3.11	2.57	1.15	0.76	1.21	0.28	
25	0.81	0.29	1.03	0.85	20.86	0.54	2.13	2.39	1.15	0.72	8.92	0.28	
26	0.60	0.56	0.97	1.03	10.52	0.54	3.80	2.22	1.09	0.63	3.02	0.24	
27	0.40	1.30	0.97	1.71	6.36	0.63	10.68	2.22	1.15	0.63	1.15	0.28	
28	0.32	2.54	1.33	1.39	5.04	0.67	51.35	2.13	1.54	0.58	0.63	0.32	
29	0.22	2.54	1.33	3.60	4.92	0.85	26.36	2.13	1.33	0.58	0.49	0.32	
30	1.19	15.40	1.21	1.71	4.20	0.97	12.28	1.96	1.27	0.58		0.28	
31		4.33		1.45	3.90		7.44		1.09	0.54		0.24	
Total	7.43	41.85	32.28	33.07	134.77	41.56	151.64	156.81	42.71	33.65	26.73	9.63	712.13 CMSDAY
Mean	0.25	1.35	1.08	1.07	4.35	1.39	4.89	5.23	1.38	1.09	0.92	0.31	1.95 CMS
Max	1.65	15.40	1.71	3.60	24.38	3.60	51.35	33.56	1.88	5.04	8.92	0.49	51.35 CMS
Min	0.00	0.11	0.00	0.67	0.76	0.54	0.45	1.79	1.09	0.54	0.40	0.20	0.00 CMS
Runoff	0.642	3.616	2.789	2.857	11.644	3.591	13.102	13.548	3.690	2.907	2.309	0.832	61.528 MCM

Momentary Peak 73.68 CMS, at 3.08 M (A.D), at 1.00 Hours, on Oct 28, 1991

Runoff Yield 17.37 Liters/Second/Square KM, Momentary Peak Yield 657.86 Liters/Second/Square KM

WATER YEAR 1991

WEST COAST-GULF BASIN

Huai Yang at Ban Chang Laek, Prachuap Khiri Khan (Gt.11)

Location — Lat. 11°03'44" N., Long. 99°22'31" E., on right bank at the bridge of Phet Kasem Highway near the guidepost 423, Ban Chang Laek, Tambon Pak Phaek, Amphoe Bang Saphan Noi, Prachuap Khiri Khan.

Drainage Area — 58 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-Highways Dept.

Location — On left bank at the abutment of the bridge.

Elevation — +9.576 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1979 to date.

Rating Operation

Period of Rating — 1980 to date.

Rated by Float — -

Rated by Current Meter — 1980 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 79 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

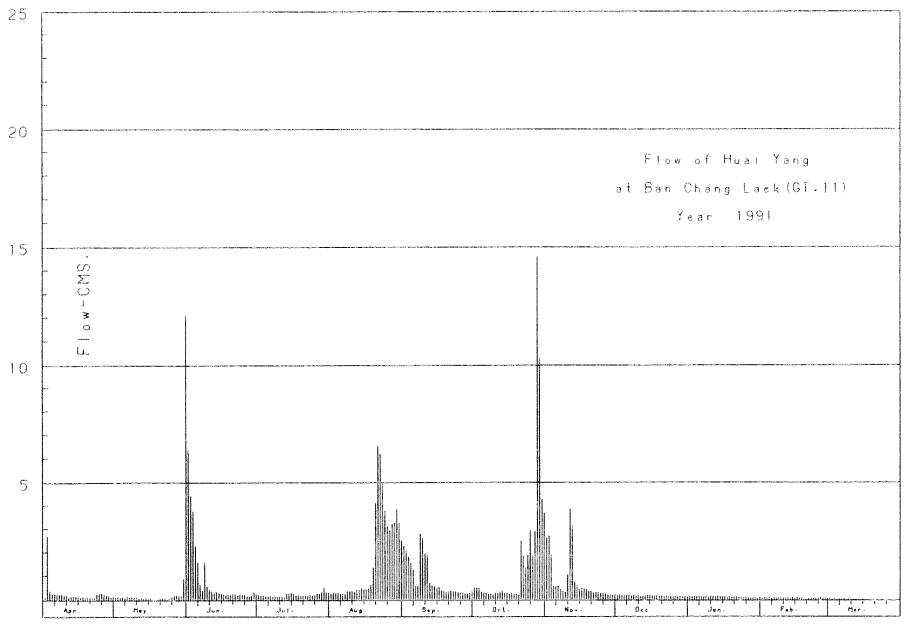
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.53	0.53	1.55	0.61	0.69	1.24	0.86	1.27	0.62	0.56	0.50	0.48	
2	1.28	0.52	1.43	0.60	0.70	1.22	0.87	1.28	0.62	0.56	0.50	0.47	
3	0.78	0.52	1.38	0.59	0.70	1.19	0.85	1.20	0.62	0.56	0.50	0.47	
4	0.68	0.52	1.24	0.58	0.69	1.14	0.76	0.90	0.61	0.56	0.50	0.46	
5	0.68	0.51	1.15	0.57	0.68	1.09	0.73	0.90	0.61	0.56	0.50	0.47	
6	0.67	0.54	0.92	0.57	0.66	0.91	0.69	0.89	0.60	0.55	0.50	0.47	
7	0.66	0.53	0.81	0.56	0.68	0.89	0.67	0.84	0.60	0.55	0.50	0.46	
8	0.65	0.52	1.15	0.55	0.77	1.29	0.66	0.76	0.59	0.55	0.50	0.46	
9	0.62	0.52	0.90	0.55	0.79	1.27	0.65	0.75	0.59	0.55	0.50	0.46	
10	0.60	0.50	0.82	0.54	0.77	1.21	0.70	1.05	0.58	0.55	0.48	0.45	
11	0.59	0.50	0.76	0.54	0.75	1.20	0.70	1.39	0.58	0.55	0.50	0.45	
12	0.58	0.50	0.72	0.54	0.81	0.97	0.74	1.32	0.58	0.56	0.50	0.45	
13	0.56	0.49	0.75	0.69	0.83	0.90	0.78	1.00	0.57	0.56	0.50	0.45	
14	0.55	0.49	0.72	0.68	0.84	0.90	0.70	0.90	0.63	0.56	0.50	0.44	
15	0.54	0.48	0.69	0.72	0.84	0.88	0.69	0.84	0.60	0.56	0.50	0.44	
16	0.53	0.47	0.64	0.65	0.82	0.86	0.68	0.85	0.59	0.54	0.50	0.44	
17	0.53	0.46	0.62	0.62	0.85	0.81	0.67	0.85	0.59	0.54	0.50	0.44	
18	0.52	0.47	0.62	0.60	0.92	0.78	0.65	0.83	0.57	0.54	0.50	0.43	
19	0.52	0.46	0.64	0.60	1.11	0.76	0.65	0.80	0.58	0.53	0.48	0.43	
20	0.51	0.46	0.65	0.59	1.41	0.76	0.65	0.76	0.57	0.52	0.49	0.43	
21	0.50	0.50	0.64	0.60	1.56	0.79	1.26	0.73	0.56	0.52	0.49	0.41	
22	0.51	0.49	0.62	0.60	1.54	0.78	1.20	0.75	0.57	0.52	0.49	0.42	
23	0.68	0.48	0.65	0.61	1.46	0.75	1.10	0.73	0.56	0.51	0.49	0.41	
24	0.68	0.48	0.64	0.61	1.38	0.74	1.20	0.71	0.55	0.51	0.47	0.41	
25	0.71	0.55	0.62	0.61	1.32	0.70	1.30	0.67	0.55	0.51	0.49	0.40	
26	0.62	0.61	0.59	0.70	1.30	0.69	1.20	0.65	0.55	0.50	0.50	0.40	
27	0.62	0.60	0.59	0.69	1.33	0.69	1.30	0.64	0.55	0.50	0.48	0.40	
28	0.59	0.58	0.58	0.73	1.33	0.70	1.91	0.63	0.55	0.51	0.48	0.40	
29	0.54	0.60	0.77	0.88	1.39	0.69	1.74	0.63	0.56	0.50	0.49	0.39	
30	0.54	1.02	0.64	0.72	1.33	0.79	1.42	0.62	0.55	0.50		0.39	
31		1.82		0.70	1.26		1.37		0.55	0.50		0.38	
Mean	0.62	0.57	0.82	0.63	1.02	0.92	0.95	0.87	0.58	0.54	0.49	0.43	
Max	1.28	1.82	1.55	0.88	1.56	1.29	1.91	1.39	0.63	0.56	0.50	0.48	1.91
Min	0.50	0.46	0.58	0.54	0.66	0.69	0.65	0.62	0.55	0.50	0.47	0.38	0.38

Annual Max Momentary Gage Height — 2.30 M (A.D), at 18.00 Hours, on Oct 28, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 0.21 M (A.D)

Left Bank Elevation — 8.28 M (A.D)

Right Bank Elevation — 8.23 M (A.D), Drainage Area — 58 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.13	0.13	6.40	0.21	0.29	2.32	0.52	2.63	0.22	0.16	0.10	0.08	
2	2.74	0.12	4.48	0.20	0.30	2.11	0.54	2.74	0.22	0.16	0.10	0.07	
3	0.38	0.12	3.79	0.19	0.30	1.85	0.50	1.90	0.22	0.16	0.10	0.07	
4	0.28	0.12	2.32	0.18	0.29	1.57	0.36	0.60	0.21	0.16	0.10	0.06	
5	0.28	0.11	1.62	0.17	0.28	1.30	0.33	0.60	0.21	0.16	0.10	0.07	
6	0.27	0.14	0.64	0.17	0.26	0.62	0.29	0.58	0.20	0.15	0.10	0.07	
7	0.26	0.13	0.42	0.16	0.28	0.58	0.27	0.48	0.20	0.15	0.10	0.06	
8	0.25	0.12	1.62	0.15	0.37	2.84	0.26	0.36	0.19	0.15	0.10	0.06	
9	0.22	0.12	0.60	0.15	0.39	2.63	0.25	0.35	0.19	0.15	0.10	0.06	
10	0.20	0.10	0.44	0.14	0.37	2.00	0.30	1.07	0.18	0.15	0.08	0.05	
11	0.19	0.10	0.36	0.14	0.35	1.90	0.30	3.90	0.18	0.15	0.10	0.05	
12	0.18	0.10	0.32	0.14	0.42	0.74	0.34	3.16	0.18	0.16	0.10	0.05	
13	0.16	0.09	0.35	0.29	0.46	0.60	0.38	0.80	0.17	0.16	0.10	0.05	
14	0.15	0.09	0.32	0.28	0.48	0.60	0.30	0.60	0.23	0.16	0.10	0.04	
15	0.14	0.08	0.29	0.32	0.48	0.56	0.29	0.48	0.20	0.16	0.10	0.04	
16	0.13	0.07	0.24	0.25	0.44	0.52	0.28	0.50	0.19	0.14	0.10	0.04	
17	0.13	0.06	0.22	0.22	0.50	0.42	0.27	0.50	0.19	0.14	0.10	0.04	
18	0.12	0.07	0.22	0.20	0.64	0.38	0.25	0.46	0.17	0.14	0.10	0.03	
19	0.12	0.06	0.24	0.20	1.40	0.36	0.25	0.40	0.18	0.13	0.08	0.03	
20	0.11	0.06	0.25	0.19	4.16	0.36	0.25	0.36	0.17	0.12	0.09	0.03	
21	0.10	0.10	0.24	0.20	6.56	0.39	2.53	0.33	0.16	0.12	0.09	0.01	
22	0.11	0.09	0.22	0.20	6.24	0.38	1.90	0.35	0.17	0.12	0.09	0.02	
23	0.28	0.08	0.25	0.21	4.96	0.35	1.35	0.33	0.16	0.11	0.09	0.01	
24	0.28	0.08	0.24	0.21	3.79	0.34	1.90	0.31	0.15	0.11	0.07	0.01	
25	0.31	0.15	0.22	0.21	3.16	0.30	2.95	0.27	0.15	0.11	0.09	0.00	
26	0.22	0.21	0.19	0.30	2.95	0.29	1.90	0.25	0.15	0.10	0.10	0.00	
27	0.22	0.20	0.19	0.29	3.27	0.29	2.95	0.24	0.15	0.10	0.08	0.00	
28	0.19	0.18	0.18	0.33	3.27	0.30	14.63	0.23	0.15	0.11	0.08	0.00	
29	0.14	0.20	0.37	0.56	3.90	0.29	10.28	0.23	0.16	0.10	0.09	0.00	
30	0.14	0.91	0.24	0.32	3.27	0.39	4.32	0.22	0.15	0.10		0.00	
31		12.15		0.30	2.53		3.69		0.15	0.10		0.00	
Total	8.43	16.34	27.48	7.08	56.36	27.58	54.93	25.23	5.60	4.19	2.73	1.10	237.05 CMSDAY
Mean	0.28	0.53	0.92	0.23	1.82	0.92	1.77	0.84	0.18	0.14	0.09	0.04	0.65 CMS
Max	2.74	12.15	6.40	0.56	6.56	2.84	14.63	3.90	0.23	0.16	0.10	0.08	14.63 CMS
Min	0.10	0.06	0.18	0.14	0.26	0.29	0.25	0.22	0.15	0.10	0.07	0.00	0.00 CMS
Runoff	0.728	1.412	2.374	0.612	4.870	2.383	4.746	2.180	0.484	0.362	0.236	0.095	20.481 MCM

Momentary Peak 27.60 CMS, at 2.30 M (A.D), at 18.00 Hours, on Oct 28, 1991

Runoff Yield 11.17 Liters/Second/Square KM, Momentary Peak Yield 475.86 Liters/Second/Square KM

WATER YEAR 1991

WEST COAST-GULF BASIN

Khlong Lam Chu at Ban Huai Sak, Prachuap Khiri Khan (Gt.12)

Location — Lat. 11-01-43 N., Long. 99-25-32 E., on left bank about 1.4 kilometers from Ban Huai Sak railway station, Amphoe Bang Saphan Noi, Prachuap Khiri Khan.

Drainage Area — 117 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank about 25 meters from the top staff gage.

Elevation — +10.00 m.(A.D.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1983 to date.

Rating Operation

Period of Rating — 1983 to date.

Rated by Float — -

Rated by Current Meter — 1983 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 88 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

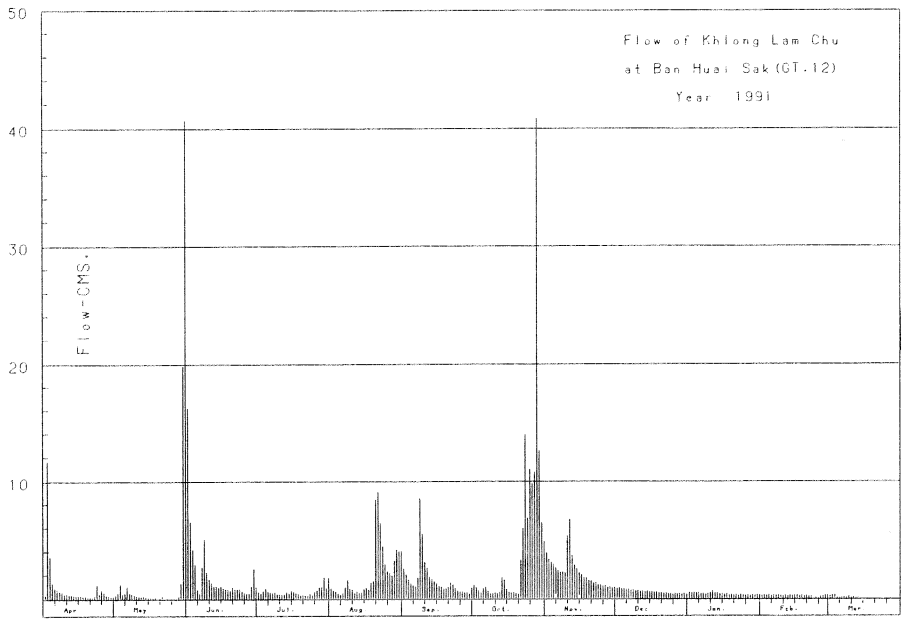
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.74	1.74	3.84	1.83	1.92	2.25	1.98	2.47	1.92	1.82	1.74	1.73	
2	3.40	1.80	2.84	1.81	1.86	2.17	1.94	2.38	1.92	1.83	1.74	1.73	
3	2.42	2.00	2.51	1.85	1.84	2.07	1.86	2.35	1.91	1.82	1.74	1.77	
4	2.01	1.76	2.31	1.92	1.81	2.02	1.83	2.31	1.90	1.82	1.74	1.65	
5	1.92	1.81	1.89	1.85	1.77	1.97	1.90	2.27	1.90	1.82	1.73	1.65	
6	1.88	1.94	1.79	1.82	1.80	1.96	1.95	2.22	1.89	1.81	1.73	1.65	
7	1.85	1.82	2.28	1.82	1.94	2.10	1.85	2.21	1.88	1.80	1.75	1.65	
8	1.82	1.77	2.63	1.82	2.08	3.07	1.81	2.20	1.87	1.79	1.74	1.66	
9	1.79	1.73	2.20	1.79	1.90	2.69	1.80	2.20	1.87	1.79	1.73	1.73	
10	1.77	1.70	2.09	1.76	1.88	2.35	1.83	2.67	1.86	1.83	1.72	1.65	
11	1.76	1.70	2.02	1.75	1.82	2.26	1.80	2.87	1.86	1.85	1.72	1.65	
12	1.74	1.68	1.96	1.78	1.84	2.13	1.84	2.43	1.85	1.82	1.72	1.65	
13	1.72	1.67	1.95	1.83	1.82	2.08	2.11	2.31	1.85	1.81	1.72	1.64	
14	1.71	1.65	1.94	1.81	1.81	2.05	2.08	2.25	1.85	1.80	1.73	1.63	
15	1.70	1.63	1.96	1.87	1.90	2.01	1.89	2.20	1.85	1.79	1.73	1.61	
16	1.70	1.62	1.91	1.83	1.91	1.97	1.84	2.16	1.84	1.79	1.73	1.61	
17	1.70	1.63	1.90	1.82	1.89	1.94	1.81	2.12	1.84	1.78	1.73	1.61	
18	1.68	1.63	1.88	1.77	2.02	1.91	1.83	2.10	1.83	1.75	1.72	1.61	
19	1.66	1.59	1.87	1.74	2.06	1.90	1.80	2.07	1.83	1.75	1.71	1.61	
20	1.65	1.58	1.93	1.72	3.05	1.95	1.79	2.05	1.82	1.75	1.71	1.61	
21	1.65	1.70	1.89	1.71	3.13	2.02	2.38	2.03	1.82	1.75	1.71	1.61	
22	1.69	1.48	1.90	1.73	2.82	2.00	2.76	2.02	1.81	1.75	1.69	1.61	
23	1.99	1.47	1.89	1.77	2.55	1.91	3.63	2.00	1.81	1.75	1.63	1.61	
24	1.79	1.47	1.86	1.74	2.31	1.87	2.88	1.98	1.79	1.75	1.63	1.61	
25	1.86	1.47	1.81	1.83	2.22	1.85	3.34	1.97	1.79	1.75	1.63	1.61	
26	1.82	1.53	1.78	1.88	2.18	1.84	3.20	1.96	1.80	1.74	1.67	1.61	
27	1.71	1.57	1.81	1.94	2.15	1.83	3.31	1.94	1.80	1.74	1.71	1.61	
28	1.69	1.69	1.96	1.93	2.37	1.82	5.85	1.94	1.79	1.74	1.72	1.61	
29	1.67	2.02	2.26	2.12	2.50	1.80	3.49	1.93	1.79	1.74	1.72	1.61	
30	1.66	4.17	1.93	1.91	2.49	1.93	2.83	1.93	1.79	1.74		1.61	
31		5.84		2.10	2.48		2.60		1.79	1.74		1.61	
Mean	1.84	1.90	2.09	1.83	2.13	2.06	2.38	2.18	1.84	1.78	1.71	1.64	
Max	3.40	5.84	3.84	2.12	3.13	3.07	5.85	2.87	1.92	1.85	1.75	1.77	5.85
Min	1.65	1.47	1.78	1.71	1.77	1.80	1.79	1.93	1.79	1.74	1.63	1.61	1.47

Annual Max Momentary Gage Height — 7.65 M (A.D), at 17.00 Hours, on Oct 28, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 1.61 M (A.D)

Left Bank Elevation — 10.26 M (A.D)

Right Bank Elevation — 9.24 M (A.D), Drainage Area — 117 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.38	0.38	16.24	0.62	0.98	2.60	1.22	3.99	0.98	0.58	0.38	0.36	
2	11.70	0.50	6.62	0.54	0.74	2.15	1.06	3.38	0.98	0.62	0.38	0.36	
3	3.64	1.30	4.27	0.70	0.66	1.65	0.74	3.20	0.94	0.58	0.38	0.44	
4	1.35	0.42	2.96	0.98	0.54	1.40	0.62	2.96	0.90	0.58	0.38	0.20	
5	0.98	0.54	0.86	0.70	0.44	1.18	0.90	2.72	0.90	0.58	0.36	0.20	
6	0.82	1.06	0.48	0.58	0.50	1.14	1.10	2.42	0.86	0.54	0.36	0.20	
7	0.70	0.58	2.78	0.58	1.06	1.80	0.70	2.36	0.82	0.50	0.40	0.20	
8	0.58	0.44	5.11	0.58	1.70	8.63	0.54	2.30	0.78	0.48	0.38	0.22	
9	0.48	0.36	2.30	0.48	0.90	5.53	0.50	2.30	0.78	0.48	0.36	0.36	
10	0.44	0.30	1.75	0.42	0.82	3.20	0.62	5.39	0.74	0.62	0.34	0.20	
11	0.42	0.30	1.40	0.40	0.58	2.66	0.50	6.86	0.74	0.70	0.34	0.20	
12	0.38	0.26	1.14	0.46	0.66	1.95	0.66	3.71	0.70	0.58	0.34	0.20	
13	0.34	0.24	1.10	0.62	0.58	1.70	1.85	2.96	0.70	0.54	0.34	0.18	
14	0.32	0.20	1.06	0.54	0.54	1.55	1.70	2.60	0.70	0.50	0.36	0.16	
15	0.30	0.16	1.14	0.78	0.90	1.35	0.86	2.30	0.70	0.48	0.36	0.12	
16	0.30	0.14	0.94	0.62	0.94	1.18	0.66	2.10	0.66	0.48	0.36	0.12	
17	0.30	0.16	0.90	0.58	0.86	1.06	0.54	1.90	0.66	0.46	0.36	0.12	
18	0.26	0.16	0.82	0.44	1.40	0.94	0.62	1.80	0.62	0.40	0.34	0.12	
19	0.22	0.09	0.78	0.38	1.60	0.90	0.50	1.65	0.62	0.40	0.32	0.12	
20	0.20	0.08	1.02	0.34	8.45	1.10	0.48	1.55	0.58	0.40	0.32	0.12	
21	0.20	0.30	0.86	0.32	9.17	1.40	3.38	1.45	0.58	0.40	0.32	0.12	
22	0.28	0.00	0.90	0.36	6.46	1.30	6.02	1.40	0.54	0.40	0.28	0.12	
23	1.26	0.00	0.86	0.44	4.55	0.94	14.00	1.30	0.54	0.40	0.16	0.12	
24	0.48	0.00	0.74	0.38	2.96	0.78	6.94	1.22	0.48	0.40	0.16	0.12	
25	0.74	0.00	0.54	0.62	2.42	0.70	11.10	1.18	0.48	0.40	0.16	0.12	
26	0.58	0.03	0.46	0.82	2.20	0.66	9.80	1.14	0.50	0.38	0.24	0.12	
27	0.32	0.07	0.54	1.06	2.05	0.62	10.80	1.06	0.50	0.38	0.32	0.12	
28	0.28	0.28	1.14	1.02	3.32	0.58	40.90	1.06	0.48	0.38	0.34	0.12	
29	0.24	1.40	2.66	1.90	4.20	0.50	12.60	1.02	0.48	0.38	0.34	0.12	
30	0.22	19.87	1.02	0.94	4.13	1.02	6.54	1.02	0.48	0.38		0.12	
31		40.76		1.80	4.06		4.90		0.48	0.38		0.12	
Total	28.71	70.38	63.39	21.00	70.37	52.17	143.35	70.30	20.90	14.78	9.48	5.52	570.35 CMSDAY
Mean	0.96	2.27	2.11	0.68	2.27	1.74	4.62	2.34	0.67	0.48	0.33	0.18	1.56 CMS
Max	11.70	40.76	16.24	1.90	9.17	8.63	40.90	6.86	0.98	0.70	0.40	0.44	40.90 CMS
Min	0.20	0.00	0.46	0.32	0.44	0.50	0.48	1.02	0.48	0.38	0.16	0.12	0.00 CMS
Runoff	2.481	6.081	5.477	1.814	6.080	4.507	12.385	6.074	1.806	1.277	0.819	0.477	49.278 MCM

Momentary Peak 70.30 CMS, at 7.65 M (A.D), at 17.00 Hours, on Oct 28, 1991
Runoff Yield 13.32 Liters/Second/Square KM, Momentary Peak Yield 600.85 Liters/Second/Square KM

WATER YEAR 1991

WEST COAST-GULF BASIN

Khlong Cha Kra at Ban Cha Kra Bon, Prachuap Khiri Khan (Gt.18)

Location — Lat.11-26-46 N., Long. 99-34-10 E., on left bank at the bridge of Phet Kasem Highway near the guidepost 371, Tambon Na Hu Kwang, Amphoe Thap Sakae, Prachuap Khiri Khan.

Drainage Area — 93 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank at the abutment of the bridge.

Elevation — +5.421 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1987 to date.

Rating Operation

Period of Rating — 1987 to date.

Rated by Float —

Rated by Current Meter — 1987 to date.

Stability of Channel Regimes — Fairly stable.

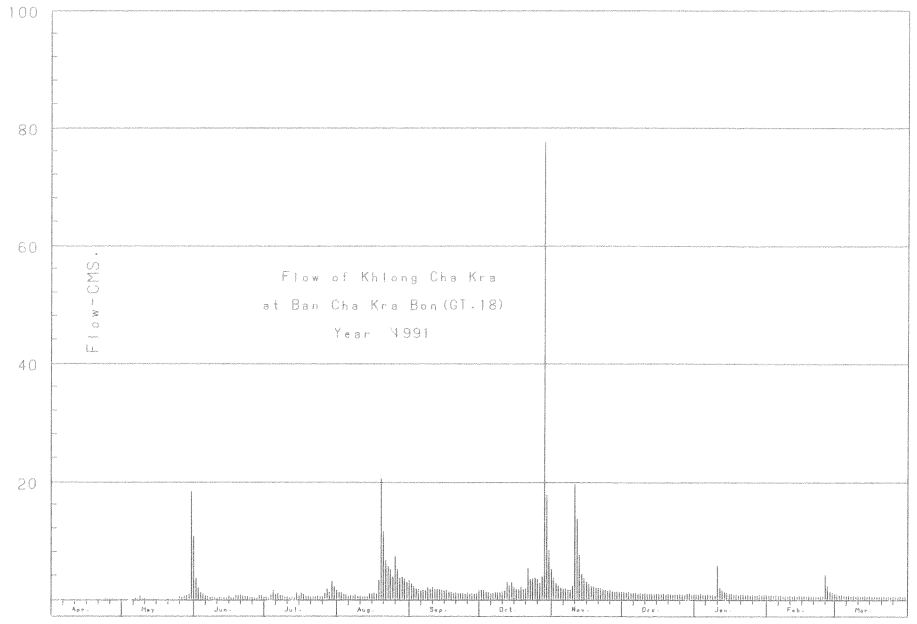
Overbank Flow Conditions — Overbank flow starts at elevation +4.42 m.(A.D.), records are channel flow only.

General Description — Records good. Stage-discharge relation defined by 88 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.40	0.48	1.53	0.64	0.94	1.32	1.04	1.51	0.91	0.80	0.76	0.82	
2	0.46	0.45	1.11	0.62	0.89	1.19	1.00	1.34	0.91	0.80	0.75	0.79	
3	0.43	0.43	0.92	0.81	0.84	1.10	0.94	1.21	0.92	0.83	0.75	0.77	
4	0.43	0.42	0.83	1.00	0.78	1.05	0.90	1.15	0.89	0.80	0.75	0.75	
5	0.42	0.42	0.76	0.83	0.74	1.02	0.87	1.10	0.89	0.80	0.74	0.75	
6	0.41	0.54	0.69	0.87	0.75	1.01	0.87	1.07	0.87	0.80	0.73	0.74	
7	0.40	0.56	0.66	0.79	0.75	1.03	0.92	1.05	0.87	0.78	0.73	0.73	
8	0.40	0.74	0.64	0.72	0.78	1.13	0.89	1.02	0.86	0.77	0.72	0.72	
9	0.40	0.56	0.60	0.69	0.74	1.09	0.92	1.23	0.85	0.77	0.72	0.72	
10	0.39	0.52	0.60	0.67	0.72	1.16	0.95	3.60	0.85	1.90	0.72	0.72	
11	0.38	0.50	0.60	0.63	0.70	1.07	1.01	2.96	0.84	1.16	0.72	0.72	
12	0.36	0.47	0.60	0.63	0.68	1.04	1.38	2.17	0.84	1.00	0.72	0.72	
13	0.34	0.46	0.60	0.62	0.70	1.07	1.21	1.65	0.84	0.95	0.72	0.72	
14	0.33	0.46	0.62	0.88	0.87	1.02	1.36	1.49	0.83	0.88	0.72	0.71	
15	0.32	0.46	0.73	0.77	0.87	1.01	1.14	1.38	0.83	0.85	0.74	0.71	
16	0.31	0.44	0.57	0.91	0.87	1.00	1.05	1.28	0.82	0.84	0.72	0.70	
17	0.00	0.42	0.59	0.81	0.86	0.95	1.07	1.22	0.83	0.81	0.71	0.70	
18	0.00	0.43	0.81	0.75	1.44	0.92	1.17	1.18	0.83	0.80	0.71	0.70	
19	0.00	0.42	0.74	0.71	3.70	0.89	1.07	1.14	0.82	0.79	0.71	0.70	
20	0.00	0.42	0.81	0.68	2.69	0.88	1.08	1.11	0.82	0.79	0.70	0.69	
21	0.00	0.42	0.72	0.68	2.03	0.88	1.82	1.09	0.82	0.79	0.70	0.70	
22	0.15	0.42	0.72	0.68	1.88	0.88	1.49	1.06	0.80	0.78	0.70	0.69	
23	0.59	0.44	0.69	0.72	1.77	0.86	1.48	1.02	0.80	0.78	0.70	0.69	
24	0.42	0.47	0.65	0.68	1.55	0.85	1.53	1.00	0.81	0.77	0.73	0.69	
25	0.55	0.70	0.62	0.69	2.15	0.88	1.47	1.00	0.80	0.77	1.62	0.69	
26	0.50	0.60	0.59	0.89	1.78	0.85	1.31	0.97	0.80	0.77	1.20	0.69	
27	0.46	0.74	0.57	1.11	1.50	0.84	1.57	0.95	0.79	0.77	0.96	0.69	
28	0.44	0.74	0.78	0.92	1.55	0.85	4.72	0.94	0.85	0.77	0.89	0.69	
29	0.43	0.85	0.74	1.41	1.47	0.84	3.41	0.94	0.84	0.76	0.85	0.69	
30	0.42	3.49	0.68	1.18	1.37	1.00	2.28	0.92	0.81	0.76		0.68	
31		2.60		1.00	1.41		1.80		0.80	0.76		0.68	
Mean	0.34	0.68	0.73	0.81	1.28	0.99	1.41	1.33	0.84	0.85	0.79	0.71	
Max	0.59	3.49	1.53	1.41	3.70	1.32	4.72	3.60	0.92	1.90	1.62	0.82	4.72
Min	0.00	0.42	0.57	0.62	0.68	0.84	0.87	0.92	0.79	0.76	0.70	0.68	0.00

Annual Max Momentary Gage Height 5.00 M (A.D), at 6.00 Hours, on Oct 28, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.56 M (A.D)
Left Bank Elevation 4.73 M (A.D)
Right Bank Elevation 4.41 M (A.D), Drainage Area 93 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.10	0.22	3.82	0.48	1.39	2.84	1.74	3.71	1.28	0.90	0.78	0.97	
2	0.19	0.17	1.98	0.44	1.21	2.27	1.60	2.93	1.28	0.90	0.75	0.87	
3	0.15	0.15	1.32	0.93	1.04	1.95	1.39	2.35	1.32	1.00	0.75	0.81	
4	0.15	0.13	1.00	1.60	0.84	1.77	1.25	2.12	1.21	0.90	0.75	0.75	
5	0.13	0.13	0.78	1.00	0.72	1.67	1.14	1.95	1.21	0.90	0.72	0.75	
6	0.11	0.31	0.58	1.14	0.75	1.63	1.14	1.85	1.14	0.90	0.69	0.72	
7	0.10	0.34	0.52	0.87	0.75	1.70	1.32	1.77	1.14	0.84	0.69	0.69	
8	0.10	0.72	0.48	0.66	0.84	2.05	1.21	1.67	1.11	0.81	0.66	0.66	
9	0.10	0.34	0.40	0.58	0.72	1.91	1.32	2.44	1.08	0.81	0.66	0.66	
10	0.09	0.28	0.40	0.54	0.66	2.16	1.42	19.60	1.08	5.90	0.66	0.66	
11	0.08	0.25	0.40	0.46	0.60	1.85	1.63	13.86	1.04	2.16	0.66	0.66	
12	0.06	0.21	0.40	0.46	0.56	1.74	3.11	7.61	1.04	1.60	0.66	0.66	
13	0.04	0.19	0.40	0.44	0.60	1.85	2.35	4.48	1.04	1.42	0.66	0.66	
14	0.03	0.19	0.44	1.18	1.14	1.67	3.02	3.61	1.00	1.18	0.66	0.63	
15	0.02	0.19	0.69	0.81	1.14	1.63	2.09	3.11	1.00	1.08	0.72	0.63	
16	0.01	0.16	0.36	1.28	1.14	1.60	1.77	2.66	0.97	1.04	0.66	0.60	
17	0.00	0.13	0.38	0.93	1.11	1.42	1.85	2.39	1.00	0.93	0.63	0.60	
18	0.00	0.15	0.93	0.75	3.38	1.32	2.19	2.23	1.00	0.90	0.63	0.60	
19	0.00	0.13	0.72	0.63	20.65	1.21	1.85	2.09	0.97	0.87	0.63	0.60	
20	0.00	0.13	0.93	0.56	11.57	1.18	1.88	1.98	0.97	0.87	0.60	0.58	
21	0.00	0.13	0.66	0.56	6.69	1.18	5.42	1.91	0.97	0.87	0.60	0.60	
22	0.00	0.13	0.66	0.56	5.78	1.18	3.61	1.81	0.90	0.84	0.60	0.58	
23	0.38	0.16	0.58	0.66	5.14	1.11	3.56	1.67	0.90	0.84	0.60	0.58	
24	0.13	0.21	0.50	0.56	3.93	1.08	3.82	1.60	0.93	0.81	0.69	0.58	
25	0.33	0.60	0.44	0.58	7.48	1.18	3.52	1.60	0.90	0.81	4.31	0.58	
26	0.25	0.40	0.38	1.21	5.19	1.08	2.79	1.50	0.90	0.81	2.30	0.58	
27	0.19	0.72	0.36	1.98	3.65	1.04	4.04	1.42	0.87	0.81	1.46	0.58	
28	0.16	0.72	0.84	1.32	3.93	1.08	77.80	1.39	1.08	0.81	1.21	0.58	
29	0.15	1.08	0.72	3.25	3.52	1.04	17.80	1.39	1.04	0.78	1.08	0.58	
30	0.13	18.55	0.56	2.23	3.07	1.60	8.36	1.32	0.93	0.78		0.56	
31		10.80		1.60	3.25		5.30		0.90	0.78		0.56	
Total	3.18	38.02	22.63	30.25	102.44	46.99	171.29	100.02	32.20	34.85	26.47	20.12	628.46 CMSDAY
Mean	0.11	1.23	0.75	0.98	3.30	1.57	5.53	3.33	1.04	1.12	0.91	0.65	1.72 CMS
Max	0.38	18.55	3.82	3.25	20.65	2.84	77.80	19.60	1.32	5.90	4.31	0.97	77.80 CMS
Min	0.00	0.13	0.36	0.44	0.56	1.04	1.14	1.32	0.87	0.78	0.60	0.56	0.00 CMS
Runoff	0.275	3.285	1.955	2.614	8.851	4.060	14.799	8.642	2.782	3.011	2.287	1.738	54.299 MCM

Momentary Peak 225.00 CMS, at 5.00 M (A.D), at 6.00 Hours, on Oct 28, 1991
Runoff Yield 18.46 Liters/Second/Square KM, Momentary Peak Yield 2419.35 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

Khlong Phum Duang at Khiri Ratthanikhom, Surat Thani (X.36)

Location — Lat. 9°-01'-46" N., Long. 98°-58'-00" E., on left bank at Ban Tha Khanon, Amphoe Khiri Ratthanikhom, Surat Thani.

Drainage Area — 3,012 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.446 m.(M.S.L)

Bench Mark — B.M.-H.D.

Location — On left bank near the sixth staff gage.

Elevation — +10.815 m.(M.S.L)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1963 to date.

Rating Operation

Period of Rating — 1989 to date.

Rated by Float — -

Rated by Current Meter — 1989 to date.

Stability of Channel Regimes — Stable.

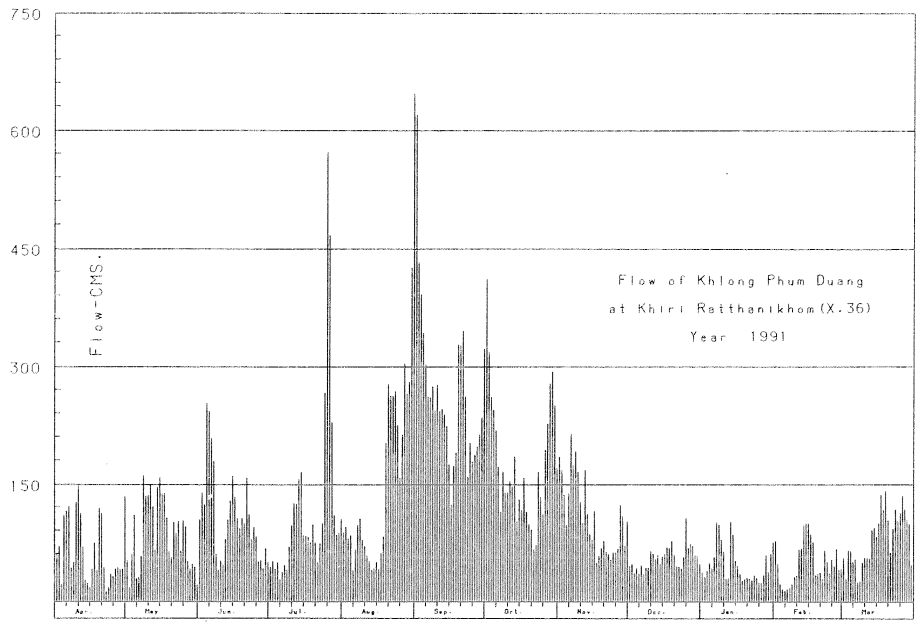
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 33 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.79	1.67	2.43	1.55	2.20	7.25	5.54	3.36	1.57	1.43	2.06	1.72	
2	1.96	1.08	2.83	1.66	2.31	5.71	4.69	3.16	1.62	1.34	1.61	1.30	
3	1.16	1.80	2.66	1.52	2.09	5.37	4.14	2.80	1.43	1.48	1.17	1.87	
4	2.49	2.50	4.05	1.65	2.16	4.92	3.96	2.34	1.53	1.62	1.02	1.87	
5	2.56	1.30	3.95	1.27	1.49	4.55	3.70	2.83	1.42	1.53	0.99	1.66	
6	2.62	1.32	3.59	1.44	1.90	4.13	3.21	3.65	1.59	1.75	1.02	1.70	
7	1.54	1.77	3.30	1.59	2.33	4.13	2.55	3.23	1.39	2.38	1.07	1.21	
8	1.64	3.09	1.80	1.49	2.45	4.26	3.15	3.43	1.54	2.35	1.15	1.22	
9	2.70	2.78	1.50	1.95	2.07	3.96	2.83	3.14	1.53	2.07	1.35	1.65	
10	2.96	2.79	1.68	2.34	1.96	4.28	2.84	2.70	1.86	1.85	1.36	1.73	
11	2.52	2.95	1.59	2.67	1.77	3.94	3.00	2.36	1.82	1.30	1.89	1.72	
12	1.95	2.63	2.08	2.67	1.66	3.98	2.93	3.18	1.72	1.30	1.92	1.73	
13	1.27	1.89	2.43	3.03	1.50	3.90	3.36	2.52	1.78	2.40	2.34	2.26	
14	1.17	2.92	2.72	3.15	1.52	3.76	2.39	2.17	1.62	2.18	2.36	2.29	
15	1.08	3.07	3.08	2.15	1.65	3.25	2.74	2.08	1.75	1.68	2.37	2.14	
16	1.51	2.82	2.77	2.14	1.50	2.65	2.57	2.55	1.80	1.57	2.17	2.36	
17	2.01	2.82	2.44	2.13	1.83	3.22	3.05	1.64	1.94	1.41	2.04	2.81	
18	1.49	2.46	2.29	2.02	2.14	3.41	2.55	1.76	1.91	1.23	1.39	2.57	
19	2.60	1.85	2.44	2.35	3.53	4.79	2.35	1.92	2.06	1.27	1.41	2.86	
20	2.53	1.73	2.36	2.02	4.30	4.77	2.26	2.06	1.78	1.32	1.45	2.41	
21	1.55	2.39	3.06	1.65	4.14	4.95	1.89	1.84	1.57	1.28	1.28	1.84	
22	0.93	2.19	2.51	2.00	4.15	4.14	1.98	1.81	1.55	1.26	1.87	2.28	
23	1.08	2.40	2.09	2.36	4.20	3.07	3.14	1.69	1.53	1.37	1.66	2.59	
24	1.40	1.87	2.30	4.19	3.77	3.53	2.77	1.83	1.74	1.32	1.43	2.40	
25	1.36	2.40	2.13	6.87	3.05	3.28	2.51	1.84	2.45	1.19	1.69	2.52	
26	1.51	2.32	1.65	6.01	3.64	3.38	3.45	1.90	1.93	1.20	1.56	2.80	
27	1.55	1.67	1.69	3.80	4.56	3.49	3.79	2.65	2.01	1.37	1.91	2.59	
28	1.50	1.51	1.53	2.50	4.18	3.64	4.30	2.47	1.95	1.78	1.51	2.42	
29	1.52	1.60	1.92	2.17	4.32	3.86	4.46	1.97	1.79	1.45	1.51	2.36	
30	2.78	1.56	1.64	2.20	5.66	4.74	4.02	2.39	1.76	1.82		1.62	
31		1.15		2.43	7.46		3.19		1.60	2.02		1.88	
Mean	1.82	2.14	2.42	2.48	2.95	4.14	3.20	2.44	1.73	1.60	1.61	2.08	
Max	2.96	3.09	4.05	6.87	7.46	7.25	5.54	3.65	2.45	2.40	2.37	2.86	7.46
Min	0.93	1.08	1.50	1.27	1.49	2.65	1.89	1.64	1.39	1.19	0.99	1.21	0.93

Annual Max Momentary Gage Height 7.69 M (MSL), at 6.00 Hours, on Sep 1, 1991
Zero Gage at Bottom Elevation 0.45 M (MSL), River Bed -0.51 M (MSL)
Left Bank Elevation 10.56 M (MSL)
Right Bank Elevation 10.21 M (MSL), Drainage Area 3012 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	59.85	52.05	105.46	44.25	88.00	620.90	412.64	186.16	45.55	36.87	78.18	55.30	
2	71.38	18.60	139.05	51.40	95.98	432.58	318.45	167.88	48.80	31.98	48.15	29.90	
3	22.62	60.50	124.64	42.30	80.22	393.18	262.66	136.50	36.87	39.82	23.14	65.26	
4	110.38	111.20	253.75	50.75	85.16	342.60	244.88	98.32	42.95	48.80	15.90	65.26	
5	116.24	29.90	243.90	28.34	40.41	303.90	219.40	139.05	36.28	42.95	14.60	51.40	
6	121.28	30.94	208.62	37.46	67.30	261.67	172.30	214.50	46.85	57.25	15.90	54.00	
7	43.60	58.55	180.40	46.85	97.54	261.67	115.40	174.10	34.58	101.44	18.15	25.22	
8	50.10	161.72	60.50	40.41	107.10	274.60	167.00	192.94	43.60	99.10	22.10	25.74	
9	128.00	134.80	41.00	70.70	78.86	244.88	139.05	166.12	42.95	78.86	32.50	50.75	
10	150.28	135.65	52.70	98.32	71.38	276.60	139.90	128.00	64.58	63.90	33.02	55.95	
11	112.88	149.40	46.85	125.48	58.55	242.92	153.80	99.88	61.86	29.90	66.62	55.30	
12	70.70	122.12	79.54	125.48	51.40	246.84	147.64	169.64	55.30	29.90	68.66	55.95	
13	28.34	66.62	105.46	156.44	41.00	239.00	186.16	112.88	59.20	103.00	98.32	92.32	
14	23.14	146.76	129.70	167.00	42.30	225.28	102.22	85.87	48.80	86.58	99.88	94.48	
15	18.60	159.96	160.84	84.45	50.75	175.90	131.40	79.54	57.25	52.70	100.66	83.74	
16	41.65	138.20	133.95	83.74	41.00	123.80	117.08	115.40	60.50	45.55	85.87	99.88	
17	74.78	138.20	106.28	83.03	62.54	173.20	158.20	50.10	70.02	35.69	76.82	137.35	
18	40.41	107.92	94.48	75.46	83.74	190.98	115.40	57.90	67.98	26.26	34.58	117.08	
19	119.60	63.90	106.28	99.10	202.74	328.95	99.10	68.66	78.18	28.34	35.69	141.60	
20	113.72	55.95	99.88	75.46	278.60	326.85	92.32	78.18	59.20	30.94	38.05	103.82	
21	44.25	102.22	159.08	50.75	262.66	345.75	66.62	63.22	45.55	28.86	28.86	63.22	
22	12.20	87.29	112.04	74.10	263.65	262.66	72.74	61.18	44.25	27.82	65.26	93.76	
23	18.60	103.00	80.22	99.88	268.60	159.96	166.12	53.35	42.95	33.54	51.40	118.76	
24	35.10	65.26	95.20	267.61	226.26	202.74	133.95	62.54	56.60	30.94	36.87	103.00	
25	33.02	103.00	83.03	573.02	158.20	178.60	112.04	63.22	107.10	24.18	53.35	112.88	
26	41.65	96.76	50.75	467.98	213.52	188.08	194.90	67.30	69.34	24.70	44.90	136.50	
27	44.25	52.05	53.35	229.20	304.92	198.82	228.22	123.80	74.78	33.54	67.98	118.76	
28	41.00	41.65	42.95	111.20	266.62	213.52	278.60	108.74	70.70	59.20	41.65	104.64	
29	42.30	47.50	68.66	85.87	280.60	235.08	294.72	72.06	59.85	38.05	41.65	99.88	
30	134.80	44.90	50.10	88.00	426.68	323.70	250.78	102.22	57.90	61.86		48.80	
31		22.10		105.46	647.36		170.52		47.50	75.46		65.94	
Total	1964.72	2708.67	3268.66	3739.49	5043.64	7995.21	5464.21	3299.25	1737.82	1507.98	1438.71	2526.44	40694.80 CMSDAY
Mean	65.49	87.38	108.96	120.63	162.70	266.51	176.26	109.97	56.06	48.64	49.61	81.50	111.19 CMS
Max	150.28	161.72	253.75	573.02	647.36	620.90	412.64	214.50	107.10	103.00	100.66	141.60	647.36 CMS
Min	12.20	18.60	41.00	28.34	40.41	123.80	66.62	50.10	34.58	24.18	14.60	25.22	12.20 CMS
Runoff	169.752	234.029	282.412	323.092	435.771	690.786	472.108	285.055	150.148	130.289	124.305	218.284	3516.031 MCM

Momentary Peak 676.43 CMS, at 7.69 M (MSL), at 6.00 Hours, on Sep 1, 1991
Runoff Yield 36.92 Liters/Second/Square KM, Momentary Peak Yield 224.58 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

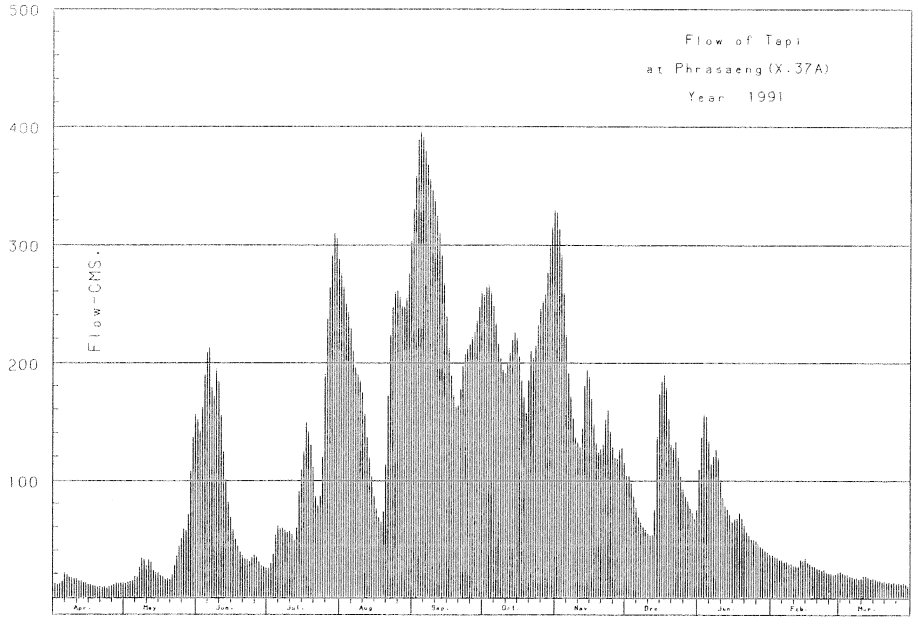
Tapi River at Phrasaeng, Surat Thani (X.37A)

Location	Lat. 8°-34'-03" N., Long. 99°-15'-15" E., on left bank at Tambon Yan Din Daeng, Amphoe Phrasaeng, Surat Thani.
Drainage Area	5,200 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+4.80 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	Near the automatic gage building.
Elevation	+10.240 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1969 to date.
Rating Operation	
Period of Rating	1969 to date.
Rated by Float	-
Rated by Current Meter	1969 to date.
Stability of Channel Regimes	Fairly stable because of backwater effect.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 82 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	5.31	5.32	8.18	5.71	9.81	10.27	9.62	10.25	7.35	7.46	5.96	5.64	
2	5.30	5.37	8.02	5.80	9.69	10.47	9.69	10.14	7.35	7.94	5.94	5.59	
3	5.30	5.37	8.33	5.99	9.54	10.68	9.71	9.95	7.23	8.24	5.91	5.58	
4	5.39	5.41	8.75	6.35	9.46	10.73	9.65	9.64	7.04	8.22	5.88	5.56	
5	5.60	5.51	9.02	6.52	9.29	10.69	9.52	9.21	6.84	7.88	5.87	5.53	
6	5.57	5.51	9.07	6.47	9.03	10.62	9.35	8.77	6.69	7.53	5.84	5.50	
7	5.51	5.73	8.59	6.47	8.83	10.54	9.12	8.47	6.58	7.66	5.83	5.49	
8	5.48	5.90	8.48	6.44	8.75	10.45	8.95	8.19	6.50	7.77	5.80	5.48	
9	5.47	5.89	8.82	6.39	8.67	10.39	8.80	7.93	6.44	7.63	5.79	5.46	
10	5.44	5.75	8.67	6.42	8.53	10.33	8.77	7.86	6.38	7.30	5.77	5.48	
11	5.40	5.88	8.23	6.35	8.24	10.23	8.88	7.80	6.33	7.02	5.75	5.52	
12	5.39	5.82	7.73	6.25	7.94	10.11	9.01	8.06	6.35	6.86	5.75	5.54	
13	5.36	5.66	7.29	6.47	7.64	9.95	9.16	8.61	6.80	6.82	5.88	5.49	
14	5.33	5.60	6.94	7.10	7.33	9.72	9.25	8.81	7.94	6.72	5.85	5.46	
15	5.31	5.60	6.67	7.45	7.04	9.42	9.18	8.72	8.51	6.60	5.90	5.45	
16	5.28	5.54	6.44	7.72	6.83	9.06	8.97	8.45	8.66	6.64	5.83	5.43	
17	5.27	5.51	6.27	8.14	6.68	8.74	8.68	8.11	8.75	6.65	5.79	5.42	
18	5.24	5.44	6.13	8.01	6.59	8.49	8.46	7.86	8.59	6.76	5.76	5.40	
19	5.23	5.45	6.03	7.83	6.78	8.34	8.26	7.71	8.19	6.67	5.74	5.38	
20	5.23	5.44	5.95	7.48	7.52	8.35	8.68	7.76	7.83	6.52	5.71	5.38	
21	5.22	5.55	5.90	7.02	8.49	8.57	9.03	7.84	7.78	6.41	5.68	5.36	
22	5.22	5.77	5.88	6.88	9.21	8.85	8.95	8.17	7.88	6.33	5.67	5.35	
23	5.20	5.94	5.85	7.04	9.51	9.00	9.09	8.30	7.63	6.27	5.67	5.35	
24	5.23	6.14	5.91	7.64	9.64	9.05	9.33	8.02	7.35	6.25	5.62	5.34	
25	5.26	6.27	5.97	8.75	9.66	9.11	9.49	7.80	7.14	6.24	5.61	5.33	
26	5.28	6.45	5.92	9.40	9.60	9.18	9.56	7.63	7.03	6.17	5.59	5.33	
27	5.34	6.43	5.84	9.69	9.51	9.25	9.63	7.62	6.96	6.13	5.57	5.32	
28	5.32	6.74	5.75	9.96	9.51	9.37	9.82	7.75	6.84	6.09	5.56	5.33	
29	5.34	7.42	5.74	10.11	9.59	9.51	10.02	7.79	6.75	6.05	5.60	5.31	
30	5.33	7.94	5.70	10.07	9.81	9.65	10.16	7.55	6.65	6.01		5.30	
31		8.24		9.92	10.05		10.26		6.80	5.98		5.31	
Mean	5.34	5.95	7.07	7.48	8.67	9.64	9.26	8.36	7.26	6.87	5.76	5.43	
Max	5.60	8.24	9.07	10.11	10.05	10.73	10.26	10.25	8.75	8.24	5.96	5.64	10.73
Min	5.20	5.32	5.70	5.71	6.59	8.34	8.26	7.55	6.33	5.98	5.56	5.30	5.20

Annual Max Momentary Gage Height 10.73 M (MSL), at 1.00 Hours, on Sep 4, 1991
Zero Gage at Bottom Elevation 4.80 M (MSL), River Bed 3.94 M (MSL)
Left Bank Elevation 10.20 M (MSL)
Right Bank Elevation 10.73 M (MSL), Drainage Area 5200 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	12.30	12.60	152.70	25.90	276.10	330.45	257.90	327.75	104.25	110.30	36.70	23.10	
2	12.00	14.10	142.30	29.50	264.55	358.15	264.55	313.80	104.25	137.40	35.80	21.15	
3	12.00	14.10	162.45	38.05	250.60	389.40	266.45	291.50	97.65	156.60	34.45	20.80	
4	14.70	15.30	190.50	54.25	243.40	397.15	260.75	259.80	87.20	155.30	33.10	20.10	
5	21.50	18.35	209.50	61.90	229.75	390.95	248.80	223.75	77.00	133.80	32.65	19.05	
6	20.45	18.35	213.25	59.65	210.25	380.10	234.25	191.90	69.55	114.15	31.30	18.00	
7	18.35	26.70	179.35	59.65	196.10	368.30	217.00	171.55	64.60	121.30	30.85	17.70	
8	17.40	34.00	172.20	58.30	190.50	355.25	204.50	153.35	61.00	127.35	29.50	17.40	
9	17.10	33.55	195.40	56.05	184.90	346.65	194.00	136.80	58.30	119.65	29.10	16.80	
10	16.20	27.50	184.90	57.40	175.45	338.55	191.90	132.60	55.60	101.50	28.30	17.40	
11	15.00	33.10	155.95	54.25	156.60	325.05	199.60	129.00	53.35	86.10	27.50	18.70	
12	14.70	30.40	125.15	49.75	137.40	310.20	208.75	144.90	54.25	78.00	27.50	19.40	
13	13.80	23.90	100.95	59.65	120.20	291.50	220.00	180.70	75.00	76.00	33.10	17.70	
14	12.90	21.50	82.00	90.50	103.15	267.40	226.75	194.70	137.40	71.00	31.75	16.80	
15	12.30	21.50	68.65	109.75	87.20	239.80	221.50	188.40	174.15	65.50	34.00	16.50	
16	11.40	19.40	58.30	124.60	76.50	212.50	205.90	170.25	184.20	67.30	30.85	15.90	
17	11.10	18.35	50.65	150.10	69.10	189.80	185.60	148.15	190.50	67.75	29.10	15.60	
18	10.20	16.20	44.35	141.65	65.05	172.85	170.90	132.60	179.35	73.00	27.90	15.00	
19	9.90	16.50	39.85	130.80	74.00	163.10	157.90	124.05	153.35	68.65	27.10	14.40	
20	9.90	16.20	36.25	111.40	113.60	163.75	185.60	126.80	130.80	61.90	25.90	14.40	
21	9.60	19.75	34.00	86.10	172.85	178.05	210.25	131.40	127.90	56.95	24.70	13.80	
22	9.60	28.30	33.10	79.00	223.75	197.50	204.50	152.05	133.80	53.35	24.30	13.50	
23	9.00	35.80	31.75	87.20	247.90	208.00	214.75	160.50	119.65	50.65	24.30	13.50	
24	9.90	44.80	34.45	120.20	259.80	211.75	232.75	142.30	104.25	49.75	22.30	13.20	
25	10.80	50.65	37.15	190.50	261.70	216.25	246.10	129.00	92.70	49.30	21.90	12.90	
26	11.40	58.75	34.90	238.00	256.00	221.50	252.40	119.65	86.65	46.15	21.15	12.90	
27	13.20	57.85	31.30	264.55	247.90	226.75	258.85	119.10	83.00	44.35	20.45	12.60	
28	12.60	72.00	27.50	292.60	247.90	235.75	277.20	126.25	77.00	42.55	20.10	12.90	
29	13.20	108.10	27.10	310.20	255.10	247.90	299.40	128.45	72.50	40.75	21.50	12.30	
30	12.90	137.40	25.50	305.40	276.10	260.75	316.20	115.25	67.75	38.95		12.00	
31		156.60		288.20	303.00		329.10		75.00	37.60		12.30	
Total	395.40	1201.60	2881.40	3785.05	5976.40	8195.10	7164.10	5066.30	3151.95	2502.90	817.15	497.80	41635.15 CMSDAY
Mean	13.18	38.76	96.05	122.10	192.79	273.17	231.10	168.88	101.68	80.74	28.18	16.06	113.76 CMS
Max	21.50	156.60	213.25	310.20	303.00	397.15	329.10	327.75	190.50	156.60	36.70	23.10	397.15 CMS
Min	9.00	12.60	25.50	25.90	65.05	163.10	157.90	115.25	53.35	37.60	20.10	12.00	9.00 CMS
Runoff	34.163	103.818	248.953	327.028	516.361	708.057	618.978	437.728	272.328	216.251	70.602	43.010	3597.277 MCM

Momentary Peak 397.15 CMS, at 10.73 M (MSL), at 1.00 Hours, on Sep 4, 1991
Runoff Yield 21.88 Liters/Second/Square KM, Momentary Peak Yield 76.37 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENNINSULA EAST COAST

Pattani River at Ban Tha Sap, Yala (X.40A)

Location — Lat. 06°-33'-03" N., Long. 101°-16'-08" E., on left bank at the bridge of Yala - Ban Niang road, Amphoe Muang, Yala.

Drainage Area — 3,302 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank between the fourth and the fifth staff gage.

Elevation — +6.568 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1988 to date.

Rating Operation

Period of Rating — 1989 to date.

Rated by Float — -

Rated by Current Meter — 1989 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 68 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

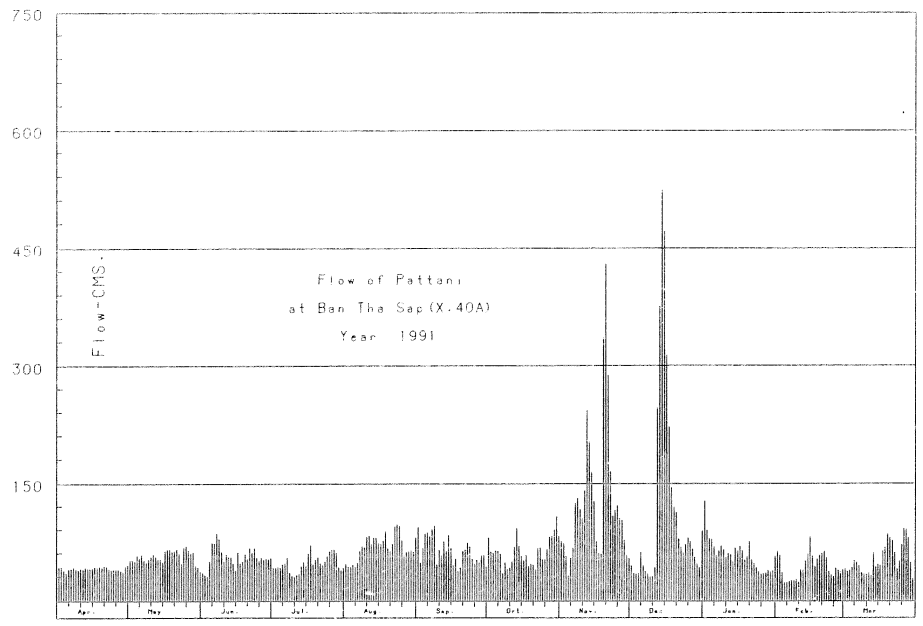
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.18	2.31	2.05	2.15	2.25	2.88	2.71	2.65	2.20	3.24	2.48	2.14	
2	2.17	2.31	1.98	2.17	2.18	2.26	2.47	2.63	2.04	2.83	2.42	2.09	
3	2.11	2.30	1.96	2.17	2.19	2.55	2.46	2.39	2.01	2.71	2.05	2.11	
4	2.03	2.41	2.29	2.17	2.22	2.77	2.49	1.99	2.03	2.69	1.81	2.18	
5	2.14	2.36	2.64	2.23	2.19	2.80	2.48	2.35	2.48	2.56	1.79	2.31	
6	2.13	2.41	2.62	2.26	2.26	2.73	2.44	2.55	2.22	2.41	1.84	2.29	
7	2.18	2.32	2.79	2.36	2.49	2.85	2.04	3.20	2.08	2.50	1.84	2.21	
8	2.12	2.26	2.69	2.06	2.57	2.89	2.28	3.26	2.02	2.58	1.86	2.06	
9	2.12	2.34	2.48	1.96	2.56	2.24	2.12	3.13	1.95	2.52	1.87	2.01	
10	2.13	2.37	2.31	1.95	2.72	2.51	2.17	2.99	1.95	2.38	1.82	2.02	
11	2.13	2.42	2.42	1.98	2.75	2.40	2.29	3.36	2.18	2.44	2.11	2.04	
12	2.16	2.39	2.37	2.03	2.61	2.65	2.57	4.24	4.26	2.43	2.12	1.99	
13	2.15	2.34	2.38	2.19	2.71	2.49	2.87	3.92	5.15	2.28	2.30	2.45	
14	2.13	2.33	2.26	2.29	2.72	2.76	2.57	3.59	5.98	2.54	2.44	2.19	
15	2.15	2.29	2.11	2.19	2.63	2.55	2.39	3.23	5.71	2.50	2.73	2.23	
16	2.17	2.48	2.46	2.44	2.61	2.22	2.32	2.66	4.74	2.57	2.39	2.20	
17	2.17	2.52	2.25	2.60	2.67	2.34	2.42	2.44	4.08	2.49	2.20	2.50	
18	2.18	2.51	2.29	2.24	2.81	2.10	2.19	2.44	3.40	2.33	2.34	2.55	
19	2.17	2.48	2.44	2.32	2.54	2.16	2.25	4.89	3.16	2.38	2.42	2.78	
20	2.19	2.48	2.35	2.38	2.48	2.49	2.22	5.47	3.08	2.66	2.44	2.71	
21	2.19	2.53	2.54	2.25	2.61	2.51	2.13	4.57	2.70	2.34	2.49	2.68	
22	2.13	2.43	2.45	2.22	2.89	2.64	2.53	3.60	2.55	2.25	2.36	2.46	
23	2.12	2.26	2.55	2.29	2.91	2.56	2.56	3.04	2.46	2.18	2.09	2.15	
24	2.11	2.54	2.37	2.40	2.90	2.35	2.33	3.11	2.60	2.07	1.99	2.30	
25	2.13	2.58	2.32	2.49	2.68	2.25	2.34	3.18	2.72	2.03	1.97	2.61	
26	2.11	2.49	2.36	2.51	2.41	2.32	2.51	3.00	2.65	2.02	2.15	2.85	
27	2.10	2.45	2.34	2.52	2.47	2.28	2.73	2.98	2.53	2.05	2.12	2.85	
28	2.05	2.46	2.34	2.45	2.47	2.40	2.73	2.67	2.37	2.10	2.07	2.71	
29	2.19	2.21	2.34	2.18	2.50	2.42	2.84	2.42	2.25	2.08	2.13	2.28	
30	2.21	2.16	2.35	2.10	2.47	2.18	3.03	2.35	2.16	2.09		1.89	
31		2.06		2.15	2.71		2.73		2.83	2.40		2.08	
Mean	2.14	2.38	2.37	2.25	2.55	2.48	2.46	3.14	2.92	2.41	2.16	2.32	
Max	2.21	2.58	2.79	2.60	2.91	2.89	3.03	5.47	5.98	3.24	2.73	2.85	5.98
Min	2.03	2.06	1.96	1.95	2.18	2.10	2.04	1.99	1.95	2.02	1.79	1.89	1.79

Annual Max Momentary Gage Height — 6.00 M (A.D), at 12.00 Hours, on Dec 14, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 0.13 M (A.D)

Left Bank Elevation — 9.04 M (A.D)

Right Bank Elevation — 8.81 M (A.D), Drainage Area — 3302 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	43.80	51.70	36.50	42.00	48.00	95.20	80.80	76.00	45.00	129.00	63.60	41.40	
2	43.20	51.70	33.00	43.20	43.80	48.60	62.90	74.40	36.00	90.70	59.40	38.50	
3	39.60	51.00	32.00	43.20	44.40	68.50	62.20	57.30	34.50	80.80	36.50	39.60	
4	35.50	58.70	50.40	43.20	46.20	85.60	64.30	33.50	35.50	79.20	24.50	43.80	
5	41.40	55.20	75.20	46.80	44.40	88.00	63.60	54.50	63.60	69.20	23.60	51.70	
6	40.80	58.70	73.60	48.60	48.60	82.40	60.80	68.50	46.20	58.70	26.00	50.40	
7	43.80	52.40	87.20	55.20	64.30	92.50	36.00	125.00	38.00	65.00	26.00	45.60	
8	40.20	48.60	79.20	37.00	69.90	96.10	49.80	131.00	35.00	70.60	27.00	37.00	
9	40.20	53.80	63.60	32.00	69.20	47.40	40.20	118.00	31.50	66.40	27.50	34.50	
10	40.80	55.90	51.70	31.50	81.60	65.70	43.20	105.10	31.50	56.60	25.00	35.00	
11	40.80	59.40	59.40	33.00	84.00	58.00	50.40	141.00	43.80	60.80	39.60	36.00	
12	42.60	57.30	55.90	35.50	72.80	76.00	69.90	244.20	246.80	60.10	40.20	33.50	
13	42.00	53.80	56.60	44.40	80.80	64.30	94.30	203.40	377.00	49.80	51.00	61.50	
14	40.80	53.10	48.60	50.40	81.60	84.80	69.90	164.90	524.20	67.80	60.80	44.40	
15	42.00	50.40	39.60	44.40	74.40	68.50	57.30	128.00	472.90	65.00	82.40	46.80	
16	43.20	63.60	62.20	60.80	72.80	46.20	52.40	76.80	314.00	69.90	57.30	45.00	
17	43.20	66.40	48.00	72.00	77.60	53.80	59.40	60.80	223.40	64.30	45.00	65.00	
18	43.80	65.70	50.40	47.40	88.90	39.00	44.40	60.80	145.00	53.10	53.80	68.50	
19	43.20	63.60	60.80	52.40	67.80	42.60	48.00	336.50	121.00	56.60	59.40	86.40	
20	44.40	63.60	54.50	56.60	63.60	64.30	46.20	430.90	113.20	76.80	60.80	80.80	
21	44.40	67.10	67.80	48.00	72.80	65.70	40.80	288.80	80.00	53.80	64.30	78.40	
22	40.80	60.10	61.50	46.20	96.10	75.20	67.10	166.00	68.50	48.00	55.20	62.20	
23	40.20	48.60	68.50	50.40	97.90	69.20	69.20	109.60	62.20	43.80	38.50	42.00	
24	39.60	67.80	55.90	58.00	97.00	54.50	53.10	116.00	72.00	37.50	33.50	51.00	
25	40.80	70.60	52.40	64.30	78.40	48.00	53.80	123.00	81.60	35.50	32.50	72.80	
26	39.60	64.30	55.20	65.70	58.70	52.40	65.70	106.00	76.00	35.00	42.00	92.50	
27	39.00	61.50	53.80	66.40	62.90	49.80	82.40	104.20	67.10	36.50	40.20	92.50	
28	36.50	62.20	53.80	61.50	62.90	58.00	82.40	77.60	55.90	39.00	37.50	80.80	
29	44.40	45.60	53.80	43.80	65.00	59.40	91.60	59.40	48.00	38.00	40.80	49.80	
30	45.60	42.60	54.50	39.00	62.90	43.80	108.70	54.50	42.60	38.50		28.50	
31		37.00		42.00	80.80		82.40		90.70	58.00		38.00	
Total	1246.20	1762.00	1695.60	1504.90	2160.10	1943.50	1953.20	3895.70	3722.70	1854.00	1273.90	1673.90	24685.70 CMSDAY
Mean	41.54	56.84	56.52	48.55	69.68	64.78	63.01	129.86	120.09	59.81	43.93	54.00	67.45 CMS
Max	45.60	70.60	87.20	72.00	97.90	96.10	108.70	430.90	524.20	129.00	82.40	92.50	524.20 CMS
Min	35.50	37.00	32.00	31.50	43.80	39.00	36.00	33.50	31.50	35.00	23.60	28.50	23.60 CMS
Runoff	107.672	152.237	146.500	130.023	186.633	167.918	168.756	336.589	321.641	160.186	110.065	144.625	2132.845 MCM

Momentary Peak 528.00 CMS, at 6.00 M (A.D), at 12.00 Hours, on Dec 14, 1991

Runoff Yield 20.43 Liters/Second/Square KM, Momentary Peak Yield 159.90 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

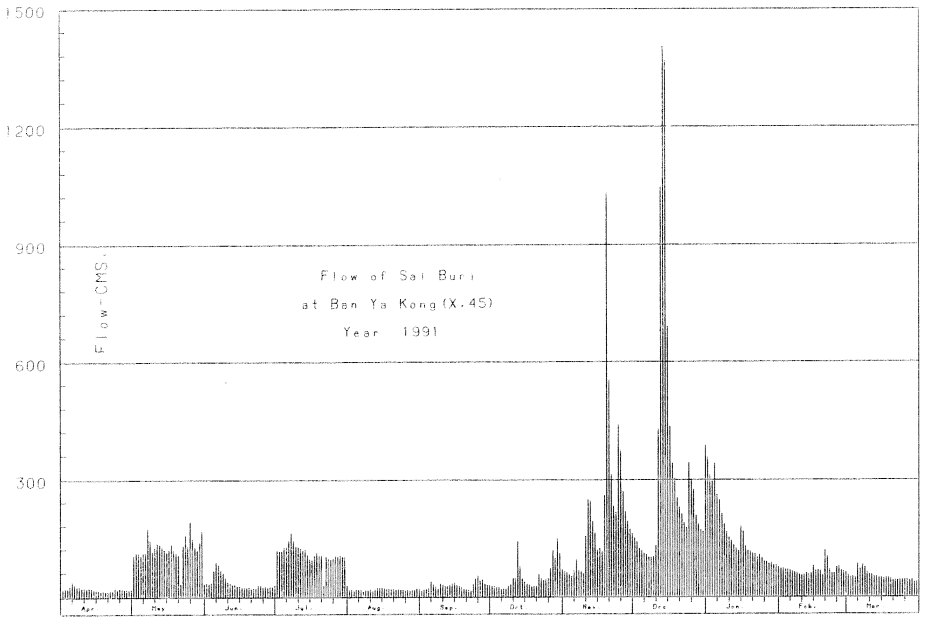
Sai Buri River at Ban Ya Kong, Narathiwat (X.45)

Location	Lat. 6°-19'-25" N., Long. 100°-30'-31" E., on right bank about 7 kilometers from Amphoe Ruso, Narathiwat.
Drainage Area	1,493. sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	Infront of the automatic gage building.
Elevation	+8.830 m.(A.D.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1970 to date.
Rating Operation	
Period of Rating	1982 to date.
Rated by Float	-
Rated by Current Meter	1982 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	Overbank flow starts at elevation +6.85 m.(A.D.), records are channel flow only.
General Description	Records good. Stage-discharge relation defined by 72 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.75	1.66	0.96	1.79	0.74	0.70	0.87	1.31	2.02	3.24	1.39	1.21	
2	0.76	1.74	0.95	1.76	0.72	0.73	0.86	1.28	1.94	3.00	1.38	1.16	
3	0.77	1.72	0.96	1.78	0.70	0.77	0.84	1.23	1.83	2.93	1.37	1.16	
4	0.85	1.68	1.34	1.83	0.74	0.78	0.82	1.16	1.78	3.17	1.35	1.14	
5	1.01	1.74	1.52	1.86	0.75	1.02	0.77	1.32	1.73	2.73	1.35	1.48	
6	0.90	1.72	1.48	1.96	0.73	0.91	0.76	1.59	1.69	2.66	1.31	1.38	
7	0.85	2.19	1.33	2.12	0.67	0.84	0.78	1.34	1.65	2.43	1.30	1.46	
8	0.83	1.96	1.29	1.96	0.70	0.79	0.86	1.30	1.63	2.27	1.27	1.42	
9	0.80	1.77	1.12	1.87	0.73	0.96	0.92	1.27	1.66	2.12	1.24	1.29	
10	0.79	1.83	1.01	1.86	0.75	0.91	1.12	2.04	1.87	2.03	1.22	1.24	
11	0.79	1.91	0.95	1.82	0.69	0.88	1.09	2.66	3.60	1.96	1.21	1.21	
12	0.79	1.90	0.92	1.80	0.73	0.85	1.96	2.63	5.87	1.89	1.28	1.19	
13	0.77	1.85	0.90	1.80	0.83	0.91	1.42	2.32	6.71	1.82	1.22	1.16	
14	0.74	1.79	0.88	1.70	0.80	0.93	1.11	2.10	6.63	1.78	1.27	1.14	
15	0.70	1.75	0.85	1.59	0.83	0.98	0.99	1.79	4.73	2.22	1.44	1.12	
16	0.69	1.79	0.83	1.57	0.79	0.89	0.93	1.83	3.64	2.14	1.32	1.12	
17	0.67	1.91	0.81	1.68	0.78	0.88	0.90	1.75	3.17	1.86	1.35	1.13	
18	0.66	1.79	0.83	1.73	0.77	0.82	0.86	2.73	2.96	1.79	1.32	1.14	
19	0.68	1.72	0.82	1.69	0.77	0.77	0.85	5.83	2.69	1.76	1.21	1.09	
20	0.66	1.70	0.79	1.68	0.77	0.74	0.87	4.18	2.53	1.73	1.79	1.05	
21	0.66	0.95	0.79	0.88	0.75	0.72	1.25	3.01	2.43	1.70	1.67	1.04	
22	0.70	1.88	0.80	1.66	0.74	0.71	1.10	2.56	2.28	1.65	1.35	1.06	
23	0.78	2.08	0.88	1.60	0.75	0.94	1.06	2.45	2.21	1.69	1.27	1.05	
24	0.75	1.86	0.89	1.60	0.73	1.09	1.06	3.66	3.17	1.63	1.25	1.07	
25	0.76	2.31	0.84	1.62	0.71	1.21	1.12	3.34	2.95	1.56	1.42	1.08	
26	0.76	1.99	0.84	1.66	0.72	1.05	1.37	2.79	2.81	1.53	1.43	1.06	
27	0.75	1.84	0.83	1.66	0.71	1.06	1.79	2.47	2.41	1.50	1.35	1.05	
28	0.73	1.80	0.83	1.67	0.71	0.95	1.60	2.31	2.26	1.51	1.31	1.05	
29	0.73	1.94	0.85	1.66	0.74	0.89	1.99	2.18	2.17	1.47	1.30	0.99	
30	0.73	2.13	0.89	1.64	0.78	0.88	1.73	2.09	2.12	1.45		0.98	
31		0.95		0.88	0.76		1.36		3.41	1.41		0.98	
Mean	0.76	1.80	0.97	1.69	0.74	0.89	1.13	2.28	2.86	2.02	1.34	1.15	
Max	1.01	2.31	1.52	2.12	0.83	1.21	1.99	5.83	6.71	3.24	1.79	1.48	6.71
Min	0.66	0.95	0.79	0.88	0.67	0.70	0.76	1.16	1.63	1.41	1.21	0.98	0.66

Annual Max Momentary Gage Height 7.37 M (A.D), at 22.00 Hours, on Dec 13, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -2.40 M (A.D)
Left Bank Elevation 6.84 M (A.D)
Right Bank Elevation 8.45 M (A.D), Drainage Area 1493 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	21.00	105.20	36.80	120.80	20.40	18.00	29.60	66.10	152.80	356.60	74.90	56.90	
2	21.60	114.80	36.00	117.20	19.20	19.80	28.80	63.20	141.60	311.00	73.80	52.80	
3	22.20	112.40	36.80	119.60	18.00	22.20	27.20	58.70	126.20	297.70	72.70	52.80	
4	28.00	107.60	69.40	126.20	20.40	22.80	25.60	52.80	119.60	343.30	70.50	51.20	
5	40.80	114.80	89.20	130.40	21.00	41.60	22.20	67.20	113.60	261.80	70.50	84.80	
6	32.00	112.40	84.80	144.40	19.80	32.80	21.60	96.90	108.80	250.60	66.10	73.80	
7	28.00	176.60	68.30	166.80	16.50	27.20	22.80	69.40	104.00	213.80	65.00	82.60	
8	26.40	144.40	64.10	144.40	18.00	23.40	28.80	65.00	101.60	188.50	62.30	78.20	
9	24.00	118.40	49.60	131.80	19.80	36.80	33.60	62.30	105.20	166.80	59.60	64.10	
10	23.40	126.20	40.80	130.40	21.00	32.80	49.60	155.60	131.80	154.20	57.80	59.60	
11	23.40	137.40	36.00	124.80	17.50	30.40	47.20	250.60	429.00	144.40	56.90	56.90	
12	23.40	136.00	33.60	122.00	19.80	28.00	144.40	245.80	1048.60	134.60	63.20	55.20	
13	22.20	129.00	32.00	122.00	26.40	32.80	78.20	196.20	1404.80	124.80	57.80	52.80	
14	20.40	120.80	30.40	110.00	24.00	34.40	48.80	164.00	1367.80	119.60	62.30	51.20	
15	18.00	116.00	28.00	96.90	26.40	38.40	39.20	120.80	690.10	181.00	80.40	49.60	
16	17.50	120.80	26.40	94.70	23.40	31.20	34.40	126.20	437.40	169.60	67.20	49.60	
17	16.50	137.40	24.80	107.60	22.80	30.40	32.00	116.00	343.30	130.40	70.50	50.40	
18	16.00	120.80	26.40	113.60	22.20	25.60	28.80	261.80	303.40	120.80	67.20	51.20	
19	17.00	112.40	25.60	108.80	22.20	22.20	28.00	1033.40	255.40	117.20	56.90	47.20	
20	16.00	110.00	23.40	107.60	22.20	20.40	29.60	555.60	229.80	113.60	120.80	44.00	
21	16.00	36.00	23.40	30.40	21.00	19.20	60.50	312.90	213.80	110.00	106.40	43.20	
22	18.00	133.20	24.00	105.20	20.40	18.60	48.00	234.60	190.00	104.00	70.50	44.80	
23	22.80	161.20	30.40	98.00	21.00	35.20	44.80	217.00	179.50	108.80	62.30	44.00	
24	21.00	130.40	31.20	98.00	19.80	47.20	44.80	441.60	343.30	101.60	60.50	45.60	
25	21.60	194.60	27.20	100.40	18.60	56.90	49.60	375.60	301.50	93.60	78.20	46.40	
26	21.60	148.60	27.20	105.20	19.20	44.00	72.70	271.40	274.90	90.30	79.30	44.80	
27	21.00	127.60	26.40	105.20	18.60	44.80	120.80	220.20	210.60	87.00	70.50	44.00	
28	19.80	122.00	26.40	106.40	18.60	36.00	98.00	194.60	187.00	88.10	66.10	44.00	
29	19.80	141.60	28.00	105.20	20.40	31.20	148.60	175.20	173.80	83.70	65.00	39.20	
30	19.80	168.20	31.20	102.80	22.80	30.40	113.60	162.60	166.80	81.50		38.40	
31		36.00		30.40	21.60		71.60		389.10	77.10		38.40	
Total	659.20	3872.80	1137.80	3427.20	643.00	934.70	1673.40	6433.30	*******	4926.00	2035.20	1637.70	37725.40 CMSDAY
Mean	21.97	124.93	37.93	110.55	20.74	31.16	53.98	214.44	333.71	158.90	70.18	52.83	103.07 CMS
Max	40.80	194.60	89.20	166.80	26.40	56.90	148.60	1033.40	1404.80	356.60	120.80	84.80	1404.80 CMS
Min	16.00	36.00	23.40	30.40	16.50	18.00	21.60	52.80	101.60	77.10	56.90	38.40	16.00 CMS
Runoff	56.955	334.610	98.306	296.110	55.555	80.758	144.582	555.837	893.817	425.607	175.841	141.497	3259.475 MCM

Momentary Peak 1736.10 CMS, at 7.37 M (A.D), at 22.00 Hours, on Dec 13, 1991
Runoff Yield 69.04 Liters/Second/Square KM, Momentary Peak Yield 1162.83 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

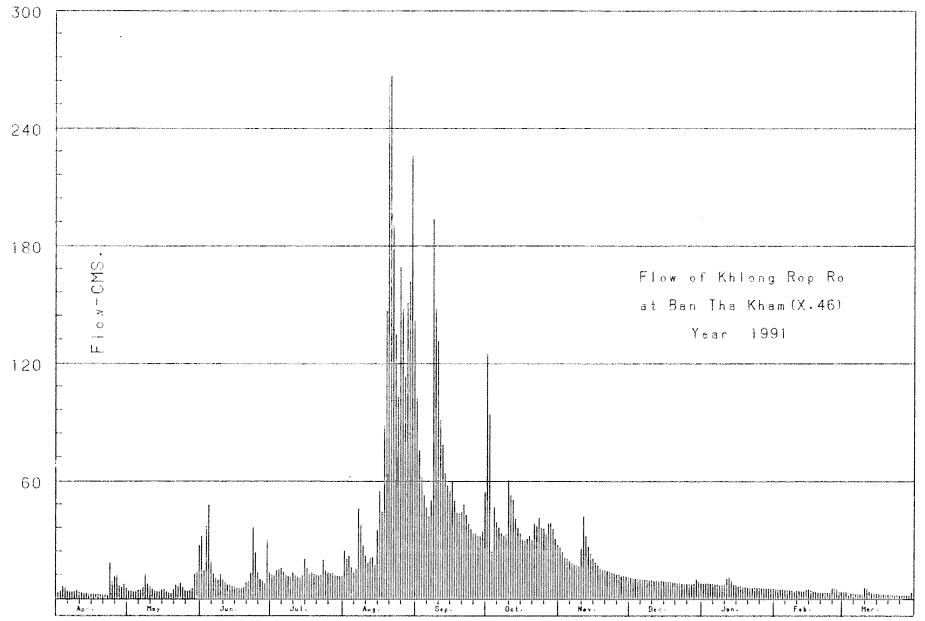
Khlong Rap Ro at Ban Tha Kham, Chumphon (X.46)

Location	Lat. 10°-36'-47" N., Long. 99°-07'-07" E., on left bank about 10 kilometers downstream from X.46A station at Ban Hat Taeng, Amphoe Tha Sae, Chumphon.
Drainage Area	751 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank near the autometic gage building.
Elevation	+5.913 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1971 to date.
Rating Operation	
Period of Rating	1976, 1985 to date.
Rated by Float	-
Rated by Current Meter	1976, 1985 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 39 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.47	0.52	1.57	0.94	1.34	3.18	3.60	1.40	0.86	0.70	0.56	0.48	
2	0.51	0.52	1.02	0.92	1.21	2.65	3.02	1.32	0.84	0.72	0.55	0.47	
3	0.64	0.49	1.72	1.02	1.26	2.34	1.33	1.23	0.84	0.71	0.55	0.45	
4	0.61	0.49	2.00	1.04	1.07	2.12	1.97	1.21	0.83	0.71	0.54	0.43	
5	0.52	0.54	1.16	1.06	0.98	1.96	1.77	1.18	0.82	0.70	0.54	0.42	
6	0.49	0.54	0.96	0.99	1.05	1.85	1.70	1.14	0.81	0.69	0.53	0.41	
7	0.49	0.62	0.85	0.92	1.95	2.05	1.61	1.12	0.81	0.68	0.53	0.41	
8	0.50	0.94	0.81	0.90	1.74	4.78	1.58	1.10	0.80	0.67	0.52	0.41	
9	0.53	0.71	0.94	0.88	1.43	4.01	1.59	1.09	0.79	0.67	0.52	0.40	
10	0.48	0.63	0.82	0.98	1.26	3.72	2.31	1.37	0.79	0.69	0.52	0.60	
11	0.46	0.57	0.74	0.92	1.15	2.96	2.12	1.85	0.78	0.83	0.51	0.57	
12	0.45	0.52	0.69	0.89	1.22	2.71	2.06	1.57	0.78	0.87	0.50	0.48	
13	0.44	0.50	0.67	0.85	1.24	2.39	1.82	1.41	0.77	0.77	0.50	0.44	
14	0.42	0.49	0.65	0.92	1.11	2.24	1.70	1.29	0.77	0.68	0.54	0.42	
15	0.42	0.55	0.64	1.21	1.66	2.17	1.61	1.22	0.77	0.67	0.56	0.42	
16	0.41	0.56	0.60	1.07	2.17	2.29	1.52	1.15	0.76	0.64	0.52	0.41	
17	0.41	0.49	0.59	0.94	1.91	2.05	1.50	1.11	0.76	0.63	0.50	0.41	
18	0.41	0.46	0.59	0.98	2.90	1.90	1.53	1.05	0.75	0.62	0.48	0.40	
19	0.40	0.45	0.61	0.95	3.99	1.88	1.57	1.03	0.74	0.61	0.46	0.39	
20	0.40	0.55	0.74	0.93	5.80	1.91	1.51	1.02	0.73	0.61	0.46	0.39	
21	0.39	0.68	0.77	0.92	5.87	2.00	1.75	1.01	0.72	0.60	0.45	0.38	
22	0.39	0.65	0.98	0.93	4.73	1.87	1.72	1.00	0.72	0.60	0.45	0.38	
23	1.15	0.73	1.70	1.19	3.78	1.75	1.83	0.98	0.71	0.60	0.45	0.37	
24	0.76	0.61	1.31	1.02	3.20	1.68	1.70	0.96	0.70	0.60	0.46	0.37	
25	0.89	0.53	0.98	0.98	4.38	1.61	1.68	0.94	0.70	0.59	0.59	0.36	
26	0.91	0.50	0.83	0.96	4.00	1.61	1.60	0.93	0.69	0.59	0.57	0.36	
27	0.66	0.53	0.79	0.97	3.39	1.57	1.75	0.90	0.69	0.58	0.56	0.36	
28	0.61	0.58	0.72	0.92	4.06	1.57	1.76	0.90	0.70	0.58	0.48	0.36	
29	0.70	0.95	1.51	0.90	4.25	1.64	1.68	0.89	0.82	0.57	0.48	0.35	
30	0.59	0.99	0.98	0.90	5.28	2.16	1.53	0.86	0.75	0.57		0.46	
31		1.43		0.90	3.90		1.43		0.72	0.57		0.40	
Mean	0.55	0.62	0.96	0.96	2.69	2.29	1.80	1.14	0.77	0.66	0.51	0.42	
Max	1.15	1.43	2.00	1.21	5.87	4.78	3.60	1.85	0.86	0.87	0.59	0.60	5.87
Min	0.39	0.45	0.59	0.85	0.98	1.57	1.33	0.86	0.69	0.57	0.45	0.35	0.35

Annual Max Momentary Gage Height 6.15 M (A.D), at 18.00 Hours, on Aug 20, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.29 M (A.D)
Left Bank Elevation 10.92 M (A.D)
Right Bank Elevation 10.69 M (A.D), Drainage Area 751 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.32	4.16	31.91	12.42	24.48	102.00	124.60	26.40	10.70	7.50	4.88	3.48	
2	3.98	4.16	14.40	11.96	20.32	75.70	94.00	23.84	10.30	7.90	4.70	3.32	
3	6.36	3.64	37.04	14.40	21.92	61.78	24.16	20.96	10.30	7.70	4.70	3.00	
4	5.79	3.64	48.00	15.00	15.90	52.80	46.80	20.32	10.10	7.70	4.52	2.68	
5	4.16	4.52	18.72	15.60	13.34	46.40	38.89	19.36	9.90	7.50	4.52	2.52	
6	3.64	4.52	12.88	13.57	15.30	42.00	36.30	18.08	9.70	7.31	4.34	2.36	
7	3.64	5.98	10.50	11.96	46.00	50.00	33.24	17.44	9.70	7.12	4.34	2.36	
8	3.80	12.42	9.70	11.50	37.78	193.72	32.24	16.80	9.50	6.93	4.16	2.36	
9	4.34	7.70	12.42	11.10	27.36	147.97	32.57	16.50	9.30	6.93	4.16	2.20	
10	3.48	6.17	9.90	13.34	21.92	131.44	60.52	25.44	9.30	7.31	4.16	5.60	
11	3.16	5.06	8.30	11.96	18.40	91.00	52.80	42.00	9.10	10.10	3.98	5.06	
12	3.00	4.16	7.31	11.30	20.64	78.59	50.40	31.91	9.10	10.90	3.80	3.48	
13	2.84	3.80	6.93	10.50	21.28	63.88	40.80	26.72	8.90	8.90	3.80	2.84	
14	2.52	3.64	6.55	11.96	17.12	57.64	36.30	22.88	8.90	7.12	4.52	2.52	
15	2.52	4.70	6.36	20.32	34.94	54.80	33.24	20.64	8.90	6.93	4.88	2.52	
16	2.36	4.88	5.60	15.90	54.80	59.69	30.26	18.40	8.70	6.36	4.16	2.36	
17	2.36	3.64	5.42	12.42	44.40	50.00	29.60	17.12	8.70	6.17	3.80	2.36	
18	2.36	3.16	5.42	13.34	88.00	44.00	30.59	15.30	8.50	5.98	3.48	2.20	
19	2.20	3.00	5.79	12.65	146.83	43.20	31.91	14.70	8.30	5.79	3.16	2.09	
20	2.20	4.70	8.30	12.19	261.70	44.40	29.93	14.40	8.10	5.79	3.16	2.09	
21	2.09	7.12	8.90	11.96	266.81	48.00	38.15	14.10	7.90	5.60	3.00	1.98	
22	2.09	6.55	13.34	12.19	190.52	42.80	37.04	13.80	7.90	5.60	3.00	1.98	
23	18.40	8.10	36.30	19.68	134.86	38.15	41.20	13.34	7.70	5.60	3.00	1.87	
24	8.70	5.79	23.52	14.40	103.00	35.62	36.30	12.88	7.50	5.60	3.16	1.87	
25	11.30	4.34	13.34	13.34	169.24	33.24	35.62	12.42	7.50	5.42	5.42	1.76	
26	11.73	3.80	10.10	12.88	147.40	33.24	32.90	12.19	7.31	5.42	5.06	1.76	
27	6.74	4.34	9.30	13.11	112.97	31.91	38.15	11.50	7.31	5.24	4.88	1.76	
28	5.79	5.24	7.90	11.96	150.82	31.91	38.52	11.50	7.50	5.24	3.48	1.76	
29	7.50	12.65	29.93	11.50	161.70	34.26	35.62	11.30	9.90	5.06	3.48	1.65	
30	5.42	13.57	13.34	11.50	225.90	54.40	30.59	10.70	8.50	5.06		3.16	
31		27.36		11.50	141.70		27.36		7.90	5.06		2.20	
Total	147.79	196.51	437.42	407.41	2757.35	1874.54	1280.60	552.94	272.92	206.84	117.70	79.15	8331.17 CMSDAY
Mean	4.93	6.34	14.58	13.14	88.95	62.48	41.31	18.43	8.80	6.67	4.06	2.55	22.76 CMS
Max	18.40	27.36	48.00	20.32	266.81	193.72	124.60	42.00	10.70	10.90	5.42	5.60	266.81 CMS
Min	2.09	3.00	5.42	10.50	13.34	31.91	24.16	10.70	7.31	5.06	3.00	1.65	1.65 CMS
Runoff	12.769	16.978	37.793	35.200	238.235	161.960	110.644	47.774	23.580	17.871	10.169	6.839	719.813 MCM

Momentary Peak 287.25 CMS, at 6.15 M (A.D), at 18.00 Hours, on Aug 20, 1991
Runoff Yield 30.31 Liters/Second/Square KM, Momentary Peak Yield 382.49 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENNINSULA EAST COAST

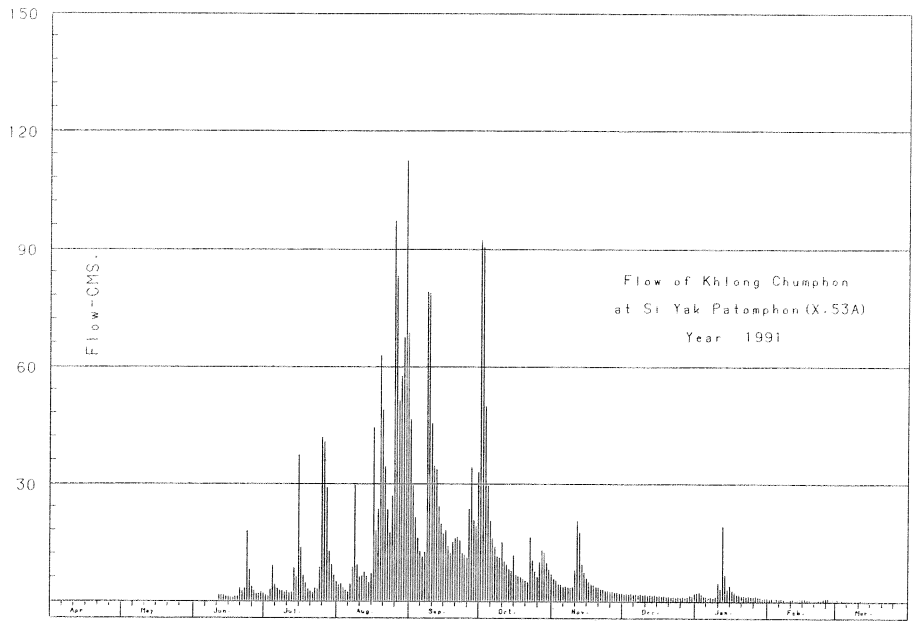
Khlong Chumphon at Ban Wang Phai, Chumphon (X.53A)

Location	Lat. 10°-30'-20" N., Long. 99°-07'-19" E., on left bank about 9.50 kilometers downstream from X.53 station, Tambon Wang Phai, Amphoe Muang, Chumphon.
Drainage Area	305 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank about 3.30 meters from the top staff gage.
Elevation	+9.522 m.(A.D.)
Gage Reading Frequency	5-time daily recordings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1991 to date.
Rating Operation	
Period of Rating	1991 to date.
Rated by Float	-
Rated by Current Meter	1991 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stream gaging began on June 11,1991. Stage-discharge relation defined by 46 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	*******	*******	*******	0.72	1.05	3.82	5.85	1.22	0.78	0.80	0.58	0.53	
2	*******	*******	*******	0.68	1.10	2.92	5.78	1.17	0.77	0.85	0.58	0.52	
3	*******	*******	*******	0.92	0.97	2.40	3.99	1.09	0.77	0.74	0.57	0.50	
4	*******	*******	*******	1.49	0.89	2.04	2.90	1.06	0.77	0.68	0.57	0.50	
5	*******	*******	*******	1.06	0.85	1.79	2.35	1.02	0.76	0.64	0.57	0.50	
6	*******	*******	*******	0.97	1.09	1.68	2.03	1.02	0.75	0.63	0.56	0.50	
7	*******	*******	*******	0.91	1.47	1.78	1.87	1.01	0.75	0.63	0.56	0.50	
8	*******	*******	*******	0.87	2.92	5.31	1.70	0.98	0.75	0.63	0.55	0.50	
9	*******	*******	*******	0.84	1.51	5.29	1.66	1.02	0.74	0.64	0.55	0.49	
10	*******	*******	*******	0.87	1.25	3.78	1.97	1.40	0.73	1.12	0.55	0.50	
11	*******	*******	0.74	0.79	1.27	3.17	1.60	2.34	0.72	0.94	0.54	0.50	
12	*******	*******	0.71	0.84	1.37	3.13	1.52	2.15	0.72	2.26	0.54	0.49	
13	*******	*******	0.70	1.46	1.26	2.59	1.44	1.54	0.72	1.29	0.53	0.48	
14	*******	*******	0.68	1.25	1.13	2.29	1.38	1.35	0.72	0.92	0.57	0.48	
15	*******	*******	0.65	3.33	1.34	2.11	1.71	1.24	0.71	1.05	0.55	0.47	
16	*******	*******	0.61	1.86	3.72	2.18	1.31	1.13	0.69	0.91	0.55	0.47	
17	*******	*******	0.62	1.30	2.16	1.88	1.26	1.09	0.69	0.82	0.55	0.46	
18	*******	*******	0.64	1.10	2.54	1.76	1.26	1.05	0.68	0.76	0.53	0.45	
19	*******	*******	0.68	0.96	4.60	1.96	1.20	1.02	0.67	0.74	0.50	0.44	
20	*******	*******	0.96	0.86	3.94	2.04	1.16	0.99	0.66	0.70	0.50	0.44	
21	*******	*******	0.86	0.83	3.16	2.05	1.14	0.95	0.65	0.68	0.50	0.44	
22	*******	*******	0.97	0.96	2.54	2.00	2.06	0.92	0.64	0.67	0.50	0.44	
23	*******	*******	2.17	0.95	2.14	1.76	1.62	0.90	0.64	0.67	0.52	0.44	
24	*******	*******	1.42	1.46	2.75	1.71	1.37	0.88	0.63	0.67	0.62	0.43	
25	*******	*******	1.03	3.57	6.06	1.67	1.27	0.87	0.63	0.67	0.60	0.43	
26	*******	*******	0.88	3.51	5.47	2.54	1.57	0.85	0.63	0.66	0.57	0.43	
27	*******	*******	0.79	2.87	4.06	3.16	1.82	0.84	0.63	0.65	0.55	0.43	
28	*******	*******	0.76	1.80	4.35	2.36	1.76	0.82	0.63	0.62	0.54	0.42	
29	*******	*******	0.87	1.53	4.81	2.24	1.57	0.81	0.72	0.58	0.53	0.42	
30	*******	*******	0.77	1.29	6.66	3.08	1.41	0.79	0.65	0.58		0.44	
31		*******		1.15	4.85		1.31		0.81	0.58		0.43	
Mean	*******	*******	*******	1.39	2.69	2.55	1.96	1.12	0.70	0.80	0.55	0.47	
Max	*******	*******	2.17	3.57	6.66	5.31	5.85	2.34	0.81	2.26	0.62	0.53	6.66
Min	*******	*******	*******	0.68	0.85	1.67	1.14	0.79	0.63	0.58	0.50	0.42	*******

Annual Max Momentary Gage Height 7.00 M (A.D), at 6.00 Hours, on Aug 30, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.05 M (A.D)
Left Bank Elevation 9.56 M (A.D)
Right Bank Elevation 9.18 M (A.D), Drainage Area 1493 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	*******	*******	*******	1.72	4.20	46.50	92.20	5.92	2.08	2.20	0.88	0.58	
2	*******	*******	*******	1.48	4.70	30.16	90.52	5.40	2.02	2.55	0.88	0.52	
3	*******	*******	*******	3.06	3.46	21.50	49.99	4.60	2.02	1.84	0.82	0.40	
4	*******	*******	*******	9.08	2.83	16.36	29.80	4.30	2.02	1.48	0.82	0.40	
5	*******	*******	*******	4.30	2.55	12.87	20.75	3.90	1.96	1.24	0.82	0.40	
6	*******	*******	*******	3.46	4.60	11.44	16.22	3.90	1.90	1.18	0.76	0.40	
7	*******	*******	*******	2.98	8.84	12.74	13.98	3.80	1.90	1.18	0.76	0.40	
8	*******	*******	*******	2.69	30.16	79.24	11.70	3.54	1.90	1.18	0.70	0.40	
9	*******	*******	*******	2.48	9.32	78.76	11.18	3.90	1.84	1.24	0.70	0.36	
10	*******	*******	*******	2.69	6.25	45.72	15.38	8.00	1.78	4.90	0.70	0.40	
11	*******	*******	1.84	2.14	6.47	34.66	10.40	20.60	1.72	3.22	0.64	0.40	
12	*******	*******	1.66	2.48	7.64	33.94	9.44	17.90	1.72	19.44	0.64	0.36	
13	*******	*******	1.60	8.72	6.36	24.44	8.48	9.68	1.72	6.69	0.58	0.32	
14	*******	*******	1.48	6.25	5.00	19.86	7.76	7.40	1.72	3.06	0.82	0.32	
15	*******	*******	1.30	37.54	7.28	17.34	11.83	6.14	1.66	4.20	0.70	0.28	
16	*******	*******	1.06	13.84	44.58	18.32	6.92	5.00	1.54	2.98	0.70	0.28	
17	*******	*******	1.12	6.80	18.04	14.12	6.36	4.60	1.54	2.34	0.70	0.24	
18	*******	*******	1.24	4.70	23.64	12.48	6.36	4.20	1.48	1.96	0.58	0.20	
19	*******	*******	1.48	3.38	63.00	15.24	5.70	3.90	1.42	1.84	0.40	0.16	
20	*******	*******	3.38	2.62	48.94	16.36	5.30	3.62	1.36	1.60	0.40	0.16	
21	*******	*******	2.62	2.41	34.48	16.50	5.10	3.30	1.30	1.48	0.40	0.16	
22	*******	*******	3.46	3.38	23.64	15.80	16.64	3.06	1.24	1.42	0.40	0.16	
23	*******	*******	18.18	3.30	17.76	12.48	10.66	2.90	1.24	1.42	0.52	0.16	
24	*******	*******	8.24	8.72	27.15	11.83	7.64	2.76	1.18	1.42	1.12	0.12	
25	*******	*******	4.00	41.86	97.30	11.31	6.47	2.69	1.18	1.42	1.00	0.12	
26	*******	*******	2.76	40.78	83.08	23.64	10.04	2.55	1.18	1.36	0.82	0.12	
27	*******	*******	2.14	29.26	51.46	34.48	13.28	2.48	1.18	1.30	0.70	0.12	
28	*******	*******	1.96	13.00	57.55	20.90	12.48	2.34	1.18	1.12	0.64	0.08	
29	*******	*******	2.69	9.56	67.63	19.16	10.04	2.27	1.72	0.88	0.58	0.08	
30	*******	*******	2.02	6.69	112.66	33.04	8.12	2.14	1.30	0.88		0.16	
31		*******		5.20	68.55		6.92		2.27	0.88		0.12	
Total	*******	*******	*******	286.57	949.12	761.19	537.66	156.79	50.27	79.90	20.18	8.38	******** CMSDAY
Mean	*******	*******	*******	9.24	30.62	25.37	17.34	5.23	1.62	2.58	0.70	0.27	******** CMS
Max	*******	*******	18.18	41.86	112.66	79.24	92.20	20.60	2.27	19.44	1.12	0.58	112.66 CMS
Min	*******	*******	*******	1.48	2.55	11.31	5.10	2.14	1.18	0.88	0.40	0.08	******** CMS
Runoff	*******	*******	*******	24.760	82.004	65.767	46.454	13.547	4.343	6.903	1.744	0.724	******** MCM

Momentary Peak 121.80 CMS, at 7.00 M (A.D), at 6.00 Hours, on Aug 30, 1991

Runoff Yield ********* Liters/Second/Square KM, Momentary Peak Yield 81.58 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENNINSULA EAST COAST

Khlong Tha Di at Ban Pak Prick, Nakhon Si Thammarat (X.55)

Location — Lat. 08°-23'-53" N., Long. 99°-50'-15" E., on left bank at the bridge on road, Ban Pak Prik, Amphoe Lan Saka, Nakhon Si Thammarat.

Drainage Area — 105 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank about 63.60 meters from the fourth staff gage.

Elevation — +6.833 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1967 to date.

Rating Operation

Period of Rating — 1967 - 1971, 1989 to date.

Rated by Float — -

Rated by Current Meter — 1967 - 1971, 1989 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — Overbank flow starts at elevation + 4.11 m.(A.D.) and is included.

General Description — Records fair. Stage-discharge relation defined by 59 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

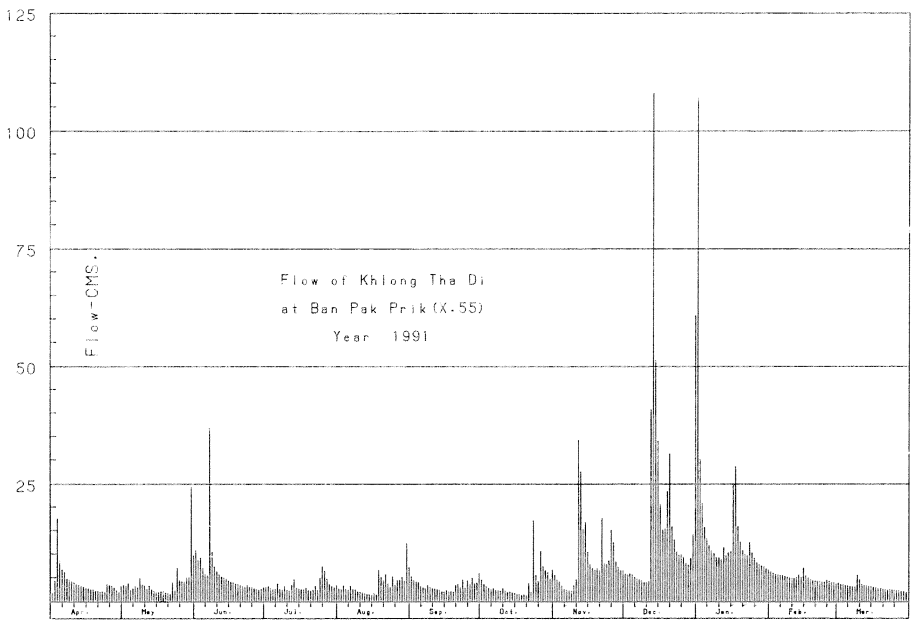
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.78	0.95	1.59	0.91	0.87	1.14	1.06	1.16	1.19	4.45	1.24	0.99	
2	1.04	0.92	1.45	0.93	0.85	1.05	0.97	1.06	1.16	2.70	1.20	0.97	
3	2.04	0.99	1.48	0.88	0.94	1.01	0.92	1.02	1.19	2.21	1.18	0.96	
4	1.45	0.84	1.31	0.86	0.86	1.01	0.89	0.93	1.17	1.92	1.17	0.95	
5	1.28	0.88	1.18	0.86	0.85	0.92	0.86	0.86	1.12	1.76	1.16	0.94	
6	1.22	0.92	1.15	0.98	0.93	0.90	0.88	0.84	1.08	1.66	1.15	0.93	
7	1.09	0.90	2.99	0.86	0.86	0.87	0.85	0.83	1.07	1.58	1.14	0.92	
8	1.07	1.10	1.57	0.85	0.85	0.95	0.84	0.82	1.04	1.55	1.12	0.92	
9	1.03	0.96	1.34	0.92	0.81	0.90	0.82	0.94	1.01	1.49	1.11	1.16	
10	1.00	0.92	1.24	0.85	0.80	0.88	0.88	1.07	1.00	1.49	1.10	1.07	
11	0.97	0.87	1.17	0.82	0.79	0.87	0.83	2.88	1.03	1.46	1.10	0.97	
12	0.95	0.93	1.13	0.95	0.77	0.86	0.80	2.58	3.16	1.63	1.11	0.95	
13	0.93	0.86	1.10	1.07	0.76	0.84	0.80	1.89	4.46	1.52	1.17	0.94	
14	0.91	0.82	1.08	0.89	0.75	0.81	0.79	1.99	3.57	1.56	1.11	0.93	
15	0.89	0.80	1.04	0.87	0.74	0.80	0.77	1.57	2.87	1.57	1.32	0.92	
16	0.87	0.79	1.02	0.86	0.77	0.84	0.76	1.38	2.20	2.45	1.15	0.91	
17	0.86	0.82	1.00	0.85	0.75	0.80	0.75	1.31	1.88	2.63	1.11	0.90	
18	0.85	0.81	0.98	0.89	1.27	0.82	0.74	1.27	1.89	1.93	1.07	0.88	
19	0.83	0.79	0.96	0.84	1.12	0.80	0.74	1.30	2.36	1.71	1.05	0.88	
20	0.82	0.77	0.95	0.83	1.05	0.95	0.73	1.25	2.75	1.59	1.04	0.87	
21	0.81	0.76	0.92	0.84	1.18	0.96	0.98	2.04	1.93	1.53	1.04	0.86	
22	0.81	1.00	0.91	0.93	0.98	0.90	0.80	1.41	1.74	1.52	1.03	0.85	
23	0.80	0.83	0.95	0.84	0.91	1.07	2.01	1.39	1.57	1.70	1.02	0.85	
24	0.97	1.31	0.91	1.10	1.13	0.89	1.16	1.44	1.52	1.56	1.01	0.85	
25	0.95	1.05	0.90	1.35	0.95	1.05	1.03	1.88	1.53	1.48	1.06	0.84	
26	0.93	1.02	0.88	1.25	1.05	0.96	1.58	1.70	1.49	1.42	1.03	0.84	
27	0.90	1.02	0.86	1.08	1.06	1.10	1.34	1.43	1.41	1.38	1.01	0.83	
28	0.84	1.10	0.85	0.97	1.11	0.98	1.26	1.33	1.37	1.36	1.00	0.82	
29	0.80	1.11	0.86	0.92	1.04	0.99	1.21	1.26	1.48	1.34	0.98	0.81	
30	0.93	2.41	0.90	0.90	1.69	1.23	1.08	1.25	1.82	1.30		0.80	
31		1.52		0.94	1.33		1.27		3.81	1.27		0.80	
Mean	0.99	0.99	1.16	0.93	0.96	0.99	0.98	1.40	1.83	1.77	1.10	0.91	
Max	2.04	2.41	2.99	1.35	1.69	1.23	2.01	2.88	4.46	4.45	1.32	1.16	4.46
Min	0.78	0.76	0.85	0.82	0.74	0.80	0.73	0.82	1.00	1.27	0.98	0.80	0.73

Annual Max Momentary Gage Height — 4.83 M (A.D), at 9.00 Hours, on Jan 1, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 0.57 M (A.D)

Left Bank Elevation — 4.81 M (A.D)

Right Bank Elevation — 4.10 M (A.D), Drainage Area — 105 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.80	3.50	10.85	3.10	2.70	5.40	4.60	5.60	5.90	107.05	6.40	3.90	
2	4.40	3.20	8.75	3.30	2.50	4.50	3.70	4.60	5.60	30.20	6.00	3.70	
3	17.72	3.90	9.20	2.80	3.40	4.10	3.20	4.20	5.90	20.78	5.80	3.60	
4	8.75	2.40	7.10	2.60	2.60	4.10	2.90	3.30	5.70	15.80	5.70	3.50	
5	6.80	2.80	5.80	2.60	2.50	3.20	2.60	2.60	5.20	13.40	5.60	3.40	
6	6.20	3.20	5.50	3.80	3.30	3.00	2.80	2.40	4.80	11.90	5.50	3.30	
7	4.90	3.00	36.87	2.60	2.60	2.70	2.50	2.30	4.70	10.70	5.40	3.20	
8	4.70	5.00	10.55	2.50	2.50	3.50	2.40	2.20	4.40	10.25	5.20	3.20	
9	4.30	3.60	7.40	3.20	2.10	3.00	2.20	3.40	4.10	9.35	5.10	5.60	
10	4.00	3.20	6.40	2.50	2.00	2.80	2.80	4.70	4.00	9.35	5.00	4.70	
11	3.70	2.70	5.70	2.20	1.90	2.70	2.30	34.34	4.30	8.90	5.00	3.70	
12	3.50	3.30	5.30	3.50	1.70	2.60	2.00	27.60	40.78	11.45	5.10	3.50	
13	3.30	2.60	5.00	4.70	1.60	2.40	2.00	15.35	108.08	9.80	5.70	3.40	
14	3.10	2.20	4.80	2.90	1.50	2.10	1.90	16.85	51.45	10.40	5.10	3.30	
15	2.90	2.00	4.40	2.70	1.40	2.00	1.70	10.55	34.11	10.55	7.20	3.20	
16	2.70	1.90	4.20	2.60	1.70	2.40	1.60	7.80	20.60	25.10	5.50	3.10	
17	2.60	2.20	4.00	2.50	1.50	2.00	1.50	7.10	15.20	28.66	5.10	3.00	
18	2.50	2.10	3.80	2.90	6.70	2.20	1.40	6.70	15.35	15.95	4.70	2.80	
19	2.30	1.90	3.60	2.40	5.20	2.00	1.40	7.00	23.48	12.65	4.50	2.80	
20	2.20	1.70	3.50	2.30	4.50	3.50	1.30	6.50	31.35	10.85	4.40	2.70	
21	2.10	1.60	3.20	2.40	5.80	3.60	3.80	17.72	15.95	9.95	4.40	2.60	
22	2.10	4.00	3.10	3.30	3.80	3.00	2.00	8.15	13.10	9.80	4.30	2.50	
23	2.00	2.30	3.50	2.40	3.10	4.70	17.18	7.90	10.55	12.50	4.20	2.50	
24	3.70	7.10	3.10	5.00	5.30	2.90	5.60	8.60	9.80	10.40	4.10	2.50	
25	3.50	4.50	3.00	7.50	3.50	4.50	4.30	15.20	9.95	9.20	4.60	2.40	
26	3.30	4.20	2.80	6.50	4.50	3.60	10.70	12.50	9.35	8.30	4.30	2.40	
27	3.00	4.20	2.60	4.80	4.60	5.00	7.40	8.45	8.15	7.80	4.10	2.30	
28	2.40	5.00	2.50	3.70	5.10	3.80	6.60	7.30	7.70	7.60	4.00	2.20	
29	2.00	5.10	2.60	3.20	4.40	3.90	6.10	6.60	9.20	7.40	3.80	2.10	
30	3.30	24.38	3.00	3.00	12.35	6.30	4.80	6.50	14.30	7.00		2.00	
31		9.80		3.40	7.30		6.70		60.86	6.70		2.00	
Total	119.77	128.58	182.12	102.90	113.65	101.50	121.98	274.01	563.91	479.74	145.80	95.10	2429.06 CMSDAY
Mean	3.99	4.15	6.07	3.32	3.67	3.38	3.93	9.13	18.19	15.48	5.03	3.07	6.64 CMS
Max	17.72	24.38	36.87	7.50	12.35	6.30	17.18	34.34	108.08	107.05	7.20	5.60	108.08 CMS
Min	1.80	1.60	2.50	2.20	1.40	2.00	1.30	2.20	4.00	6.70	3.80	2.00	1.30 CMS
Runoff	10.348	11.109	15.735	8.891	9.819	8.770	10.539	23.674	48.722	41.450	12.597	8.217	209.871 MCM

Momentary Peak 156.80 CMS, at 4.83 M (A.D), at 9.00 Hours, on Jan 1, 1991

Runoff Yield 63.21 Liters/Second/Square KM, Momentary Peak Yield 1493.33 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

Khlong Tha Sae at Tha Sae, Chumphon (X.64)

Location — Lat. 10°-39'-49" N., Long. 99°-10'-17" E., on left bank near the Land Cooperation Office, Tambon Ban Tha Kham, Amphoe Tha Sae, Chumphon.

Drainage Area — 957 sq.km.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +0.00 m. (A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank near the gage site.

Elevation — +11.196 m. (A.D.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1973 to date.

Rating Operation

Period of Rating — 1974-1975, 1982 to date.

Rated by Float —

Rated by Current Meter — 1974-1975, 1982 to date.

Stability of Channel Regimes — Fairly stable because of backwater effect.

Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Stage-discharge relation defined by 58 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

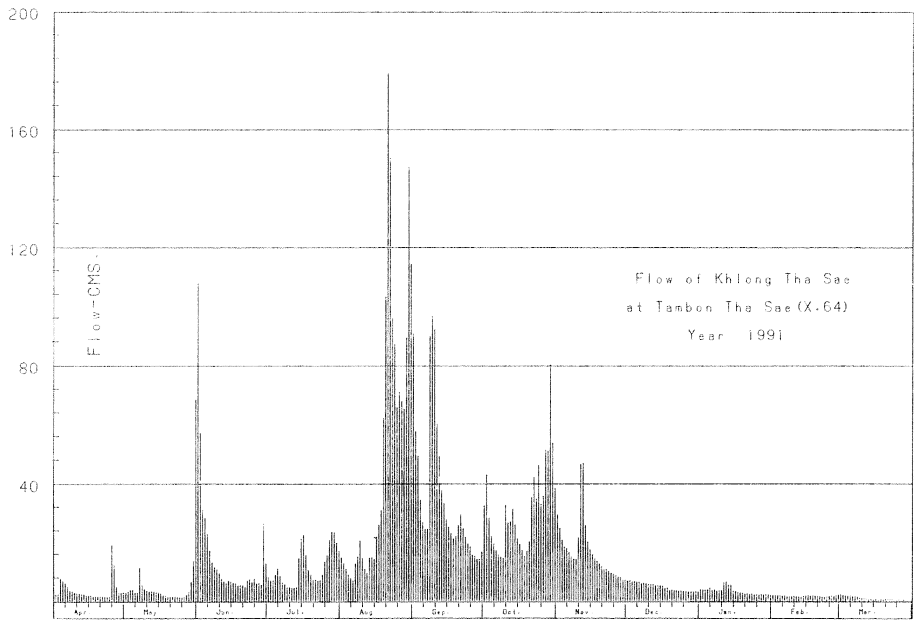
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.30	0.33	4.02	0.59	0.86	3.50	1.55	1.44	0.54	0.41	0.29	0.30	
2	0.30	0.36	2.39	0.54	0.78	2.41	1.92	1.26	0.54	0.41	0.28	0.29	
3	0.57	0.40	1.50	0.54	0.71	2.13	1.40	1.10	0.53	0.40	0.28	0.27	
4	0.53	0.40	1.40	0.63	0.63	1.62	1.15	1.01	0.53	0.41	0.27	0.27	
5	0.50	0.34	1.18	0.71	0.58	1.34	1.05	0.99	0.53	0.43	0.27	0.27	
6	0.45	0.33	0.96	0.61	0.54	1.25	0.96	0.93	0.52	0.40	0.27	0.26	
7	0.38	0.72	0.79	0.51	0.78	1.25	0.90	0.87	0.50	0.40	0.26	0.26	
8	0.36	0.47	0.73	0.49	0.87	3.48	0.87	0.84	0.50	0.39	0.26	0.25	
9	0.34	0.42	0.70	0.44	1.09	3.69	0.85	0.84	0.50	0.39	0.26	0.22	
10	0.32	0.38	0.65	0.44	0.85	3.55	1.56	1.13	0.49	0.40	0.26	0.22	
11	0.32	0.37	0.57	0.43	0.71	2.49	1.33	2.04	0.49	0.51	0.26	0.21	
12	0.30	0.37	0.53	0.43	0.65	2.13	1.35	2.05	0.49	0.53	0.25	0.21	
13	0.30	0.37	0.50	0.44	0.86	1.73	1.51	1.30	0.47	0.48	0.25	0.20	
14	0.27	0.35	0.54	0.85	0.86	1.58	1.31	1.07	0.47	0.48	0.26	0.20	
15	0.27	0.35	0.53	1.11	0.84	1.38	1.11	0.97	0.47	0.38	0.27	0.20	
16	0.27	0.32	0.51	1.17	1.14	1.28	1.05	0.90	0.46	0.38	0.28	0.20	
17	0.25	0.28	0.50	0.89	1.31	1.19	0.96	0.85	0.43	0.35	0.27	0.20	
18	0.25	0.27	0.47	0.69	1.49	1.12	0.88	0.81	0.43	0.35	0.27	0.20	
19	0.25	0.25	0.47	0.63	2.56	1.15	0.95	0.78	0.40	0.33	0.27	0.20	
20	0.25	0.25	0.47	0.55	3.89	1.30	1.08	0.74	0.40	0.32	0.26	0.20	
21	0.25	0.25	0.45	0.55	6.06	1.44	1.65	0.70	0.40	0.32	0.26	0.20	
22	0.24	0.25	0.54	0.54	5.24	1.26	1.89	0.70	0.39	0.31	0.25	0.20	
23	0.24	0.25	0.56	0.54	3.67	1.14	1.63	0.68	0.39	0.31	0.25	0.19	
24	0.24	0.23	0.52	0.63	3.38	1.05	2.03	0.65	0.38	0.30	0.25	0.19	
25	1.03	0.23	0.57	0.80	2.68	1.01	1.57	0.64	0.38	0.30	0.26	0.19	
26	0.75	0.25	0.50	0.89	2.85	0.90	1.67	0.62	0.37	0.30	0.27	0.19	
27	0.45	0.29	0.50	1.09	2.75	0.88	2.20	0.60	0.37	0.30	0.26	0.18	
28	0.35	0.35	0.48	1.21	2.66	0.84	2.19	0.59	0.36	0.30	0.28	0.18	
29	0.34	0.52	1.32	1.20	3.46	0.84	3.16	0.55	0.37	0.30	0.30	0.18	
30	0.34	0.81	0.78	1.06	5.15	0.94	2.28	0.55	0.37	0.30		0.18	
31		2.77		0.95	4.21		1.76		0.37	0.29		0.18	
Mean	0.37	0.44	0.85	0.71	2.07	1.66	1.48	0.94	0.45	0.37	0.27	0.22	
Max	1.03	2.77	4.02	1.21	6.06	3.69	3.16	2.05	0.54	0.53	0.30	0.30	6.06
Min	0.24	0.23	0.45	0.43	0.54	0.84	0.85	0.55	0.36	0.29	0.25	0.18	0.18

Annual Max Momentary Gage Height — 6.28 M (A.D), at 15.00 Hours, on Aug 21, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — -0.25 M (A.D)

Left Bank Elevation — 11.03 M (A.D)

Right Bank Elevation — 10.30 M (A.D), Drainage Area — 957 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.5	3.0	107.7	8.3	15.0	90.8	32.6	29.6	7.2	4.2	2.3	2.5	
2	2.5	3.4	57.3	7.2	13.0	57.9	43.3	25.0	7.2	4.2	2.2	2.3	
3	7.8	4.0	31.2	7.2	11.2	49.5	28.5	21.0	6.9	4.0	2.2	2.1	
4	6.9	4.0	28.5	9.2	9.2	34.6	22.2	18.7	6.9	4.2	2.1	2.1	
5	6.3	3.1	23.0	11.2	8.0	27.0	19.7	18.2	6.9	4.7	2.1	2.1	
6	5.1	3.0	17.5	8.8	7.2	24.7	17.5	16.7	6.7	4.0	2.1	1.9	
7	3.7	11.5	13.3	6.5	13.0	24.7	16.0	15.3	6.3	4.0	1.9	1.9	
8	3.4	5.6	11.8	6.0	15.3	90.1	15.3	14.5	6.3	3.8	1.9	1.7	
9	3.1	4.4	11.0	4.9	20.8	96.6	14.8	14.5	6.3	3.8	1.9	1.3	
10	2.8	3.7	9.7	4.9	14.8	92.3	32.9	21.7	6.0	4.0	1.9	1.3	
11	2.8	3.5	7.8	4.7	11.2	60.3	26.8	46.8	6.0	6.5	1.9	1.1	
12	2.5	3.5	6.9	4.7	9.7	49.5	27.3	47.1	6.0	6.9	1.7	1.1	
13	2.5	3.5	6.3	4.9	15.0	37.8	31.5	26.0	5.6	5.8	1.7	1.0	
14	2.1	3.2	7.2	14.8	15.0	33.5	26.2	20.3	5.6	5.8	1.9	1.0	
15	2.1	3.2	6.9	21.3	14.5	28.0	21.3	17.8	5.6	3.7	2.1	1.0	
16	2.1	2.8	6.5	22.7	22.0	25.5	19.7	16.0	5.4	3.7	2.2	1.0	
17	1.7	2.2	6.3	15.8	26.2	23.3	17.5	14.8	4.7	3.2	2.1	1.0	
18	1.7	2.1	5.6	10.8	31.0	21.5	15.5	13.8	4.7	3.2	2.1	1.0	
19	1.7	1.7	5.6	9.2	62.4	22.2	17.2	13.0	4.0	3.0	2.1	1.0	
20	1.7	1.7	5.6	7.4	103.2	26.0	20.5	12.0	4.0	2.8	1.9	1.0	
21	1.7	1.7	5.1	7.4	179.1	29.6	35.4	11.0	4.0	2.8	1.9	1.0	
22	1.6	1.7	7.2	7.2	150.4	25.0	42.4	11.0	3.8	2.7	1.7	1.0	
23	1.6	1.7	7.6	7.2	96.0	22.0	34.9	10.5	3.8	2.7	1.7	0.9	
24	1.6	1.5	6.7	9.2	87.1	19.7	46.5	9.7	3.7	2.5	1.7	0.9	
25	19.2	1.5	7.8	13.5	66.0	18.7	33.2	9.5	3.7	2.5	1.9	0.9	
26	12.3	1.7	6.3	15.8	71.1	16.0	36.0	9.0	3.5	2.5	2.1	0.9	
27	5.1	2.3	6.3	20.8	68.1	15.5	51.6	8.5	3.5	2.5	1.9	0.8	
28	3.2	3.2	5.8	23.8	65.4	14.5	51.3	8.3	3.4	2.5	2.2	0.8	
29	3.1	6.7	26.5	23.5	89.5	14.5	80.4	7.4	3.5	2.5	2.5	0.8	
30	3.1	13.8	13.0	20.0	147.3	17.0	54.0	7.4	3.5	2.5		0.8	
31		68.7		17.2	114.4		38.6		3.5	2.3		0.8	
Total	117.5	177.6	468.0	356.1	1572.1	1108.3	970.6	515.1	158.2	113.5	57.9	39.0	5653.9 CMSDAY
Mean	3.9	5.7	15.6	11.5	50.7	36.9	31.3	17.2	5.1	3.7	2.0	1.3	15.4 CMS
Max	19.2	68.7	107.7	23.8	179.1	96.6	80.4	47.1	7.2	6.9	2.5	2.5	179.1 CMS
Min	1.6	1.5	5.1	4.7	7.2	14.5	14.8	7.4	3.4	2.3	1.7	0.8	0.8 CMS
Runoff	10.15	15.34	40.44	30.77	135.83	95.76	83.86	44.50	13.67	9.81	5.00	3.37	488.50 MCM

Momentary Peak 186.80 CMS, at 6.28 M (A.D), at 15.00 Hours, on Aug 21, 1991
Runoff Yield 16.14 Liters/Second/Square KM, Momentary Peak Yield 195.19 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

Khlong Rattaphum at Ban Kamphaeng Phet, Songkhla (X.67)

Location — Lat. 7°-08'-35" N., Long. 100°-17'-20" E., on right bank about 3 meters upstream from the bridge of Phatthalung-Songkhla Highway, Amphoe Rattaphum, Songkhla.

Drainage Area — 272 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +16.00 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — On left bank under the santol tree.

Elevation — +20.413 m.(M.S.L.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1967 to date.

Rating Operation

Period of Rating — 1967-1970, 1972, 1983 to date.

Rated by Float — -

Rated by Current Meter — 1967-1970, 1972, 1983 to date.

Stability of Channel Regimes — Fairly stable by some scouring.

Overbank Flow Conditions — No overbank flow.

General Description — Records fair. Flow regulated by Rattaphum Weir for irrigation about 10,688 hectares. Stage-discharge relation defined by 23 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

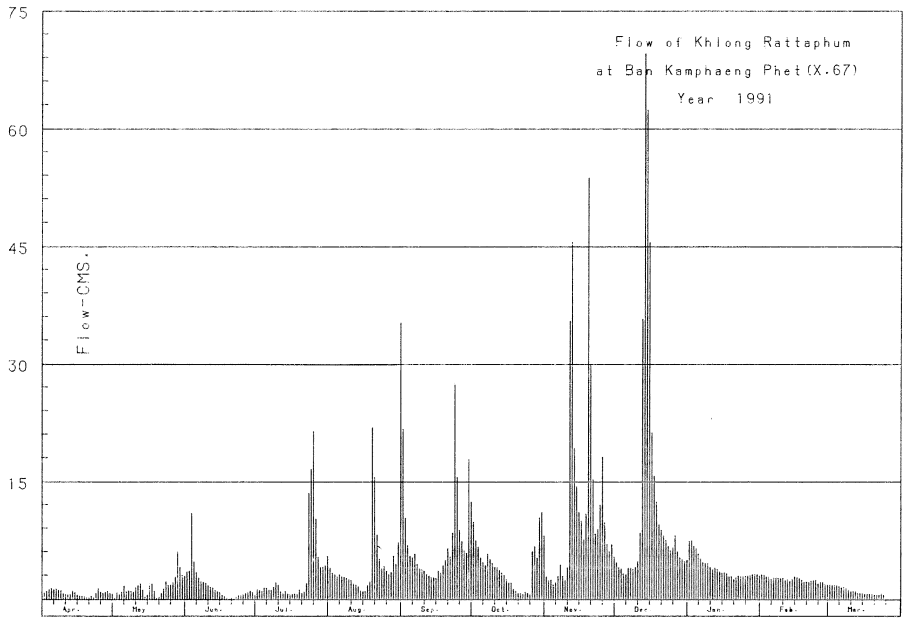
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	17.11	16.95	17.47	17.17	17.52	18.87	18.06	17.40	17.59	17.85	17.43	17.25	
2	17.13	17.12	17.48	17.15	17.45	18.10	17.86	17.33	17.53	17.86	17.42	17.24	
3	17.17	17.05	18.15	17.13	17.43	17.81	17.79	17.34	17.51	17.80	17.40	17.25	
4	17.18	17.12	17.60	17.20	17.40	17.67	17.65	17.25	17.44	17.77	17.39	17.24	
5	17.16	17.23	17.46	17.19	17.43	17.65	17.59	17.29	17.43	17.70	17.36	17.22	
6	17.17	17.13	17.38	17.16	17.40	17.70	17.55	17.40	17.52	17.64	17.37	17.20	
7	17.16	17.14	17.31	17.15	17.39	17.57	17.70	17.56	17.52	17.59	17.38	17.20	
8	17.14	17.13	17.30	17.21	17.37	17.51	17.63	17.40	17.50	17.58	17.37	17.19	
9	17.09	17.12	17.28	17.29	17.35	17.50	17.58	17.33	17.53	17.58	17.37	17.15	
10	17.05	17.20	17.24	17.25	17.33	17.48	17.53	17.52	17.60	17.53	17.37	17.13	
11	17.05	17.24	17.21	17.13	17.27	17.43	17.53	19.57	17.94	17.50	17.33	17.13	
12	17.06	17.27	17.20	17.09	17.25	17.41	17.49	19.99	19.58	17.52	17.34	17.13	
13	17.14	17.16	17.15	17.13	17.22	17.38	17.45	18.72	20.84	17.50	17.32	17.10	
14	17.11	16.98	17.13	17.08	17.15	17.38	17.42	18.40	20.60	17.47	17.35	17.10	
15	17.04	17.04	17.11	17.05	17.13	17.37	17.35	18.16	19.99	17.45	17.40	17.09	
16	17.01	17.29	17.04	17.06	17.13	17.48	17.29	18.07	18.84	17.46	17.38	17.07	
17	17.01	17.27	16.99	17.08	17.24	17.45	17.28	17.87	18.49	17.44	17.37	17.07	
18	17.01	17.14	16.95	17.06	17.31	17.55	17.17	18.14	18.26	17.40	17.33	17.07	
19	16.97	16.95	16.95	17.16	18.88	17.62	17.13	20.30	18.03	17.40	17.30	17.07	
20	16.98	16.97	16.95	17.10	18.48	17.77	17.10	19.30	17.97	17.35	17.30	17.05	
21	17.01	17.10	16.95	17.12	17.92	17.66	17.10	18.46	17.91	17.38	17.30	17.03	
22	16.96	17.18	16.98	17.28	17.64	17.94	17.07	17.93	17.86	17.41	17.32	17.05	
23	17.10	17.31	17.04	18.34	17.51	19.19	17.12	17.98	17.80	17.40	17.33	17.07	
24	17.19	17.24	17.02	18.55	17.54	18.48	17.10	18.23	17.74	17.40	17.33	17.05	
25	17.12	17.25	17.05	18.85	17.48	17.97	17.05	18.65	17.78	17.40	17.27	16.90	
26	17.09	17.29	17.09	18.09	17.43	17.85	17.73	18.05	17.91	17.41	17.30	16.88	
27	17.12	17.39	17.11	17.66	17.46	17.74	17.79	17.82	17.73	17.42	17.30	16.87	
28	17.13	17.73	17.14	17.53	17.67	17.71	17.65	17.73	17.65	17.43	17.25	16.85	
29	17.10	17.53	17.11	17.53	17.57	18.63	18.10	17.82	17.63	17.43	17.25	16.70	
30	17.07	17.42	17.03	17.55	17.84	18.26	18.16	17.66	17.60	17.43		16.70	
31		17.41		17.67	19.56		17.91		17.62	17.41		16.70	
Mean	17.09	17.20	17.20	17.39	17.57	17.80	17.51	18.09	18.09	17.51	17.34	17.06	
Max	17.19	17.73	18.15	18.85	19.56	19.19	18.16	20.30	20.84	17.86	17.43	17.25	20.84
Min	16.96	16.95	16.95	17.05	17.13	17.37	17.05	17.25	17.43	17.35	17.25	16.70	16.70

Annual Max Momentary Gage Height — 20.85 M (MSL), at 18.00 Hours, on Dec 12, 1991

Zero Gage at Bottom Elevation — 16.00 M (MSL), River Bed — 16.55 M (MSL)

Left Bank Elevation — 22.30 M (MSL)

Right Bank Elevation — 22.19 M (MSL), Drainage Area — 272 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.87	0.20	3.53	1.29	4.00	21.79	9.92	2.90	4.70	7.40	3.17	1.85	
2	1.01	0.94	3.62	1.15	3.35	10.40	7.52	2.41	4.10	7.52	3.08	1.78	
3	1.29	0.60	11.00	1.01	3.17	6.92	6.70	2.48	3.90	6.80	2.90	1.85	
4	1.36	0.94	4.80	1.50	2.90	5.50	5.30	1.85	3.26	6.50	2.83	1.78	
5	1.22	1.71	3.44	1.43	3.17	5.30	4.70	2.13	3.17	5.80	2.62	1.64	
6	1.29	1.01	2.76	1.22	2.90	5.80	4.30	2.90	4.00	5.20	2.69	1.50	
7	1.22	1.08	2.27	1.15	2.83	4.50	5.80	4.40	4.00	4.70	2.76	1.50	
8	1.08	1.01	2.20	1.57	2.69	3.90	5.10	2.90	3.80	4.60	2.69	1.43	
9	0.76	0.94	2.06	2.13	2.55	3.80	4.60	2.41	4.10	4.60	2.69	1.15	
10	0.60	1.50	1.78	1.85	2.41	3.62	4.10	4.00	4.80	4.10	2.69	1.01	
11	0.60	1.78	1.57	1.01	1.99	3.17	4.10	35.54	8.48	3.80	2.41	1.01	
12	0.64	1.99	1.50	0.76	1.85	2.99	3.71	45.55	35.76	4.00	2.48	1.01	
13	1.08	1.22	1.15	1.01	1.64	2.76	3.35	19.32	69.60	3.80	2.34	0.80	
14	0.87	0.32	1.01	0.72	1.15	2.76	3.08	14.40	62.40	3.53	2.55	0.80	
15	0.56	0.56	0.87	0.60	1.01	2.69	2.55	11.12	45.55	3.35	2.90	0.76	
16	0.44	2.13	0.56	0.64	1.01	3.62	2.13	10.04	21.28	3.44	2.76	0.68	
17	0.44	1.99	0.36	0.72	1.78	3.35	2.06	7.64	15.75	3.26	2.69	0.68	
18	0.44	1.08	0.20	0.64	2.27	4.30	1.29	10.88	12.44	2.90	2.41	0.68	
19	0.28	0.20	0.20	1.22	21.96	5.00	1.01	53.80	9.56	2.90	2.20	0.68	
20	0.32	0.28	0.20	0.80	15.60	6.50	0.80	29.90	8.84	2.55	2.20	0.60	
21	0.44	0.80	0.20	0.94	8.24	5.40	0.80	15.30	8.12	2.76	2.20	0.52	
22	0.24	1.36	0.32	2.06	5.20	8.48	0.68	8.36	7.52	2.99	2.34	0.60	
23	0.80	2.27	0.56	13.56	3.90	27.71	0.94	8.96	6.80	2.90	2.41	0.68	
24	1.43	1.78	0.48	16.65	4.20	15.60	0.80	12.02	6.20	2.90	2.41	0.60	
25	0.94	1.85	0.60	21.45	3.62	8.84	0.60	18.20	6.60	2.90	1.99	0.00	
26	0.76	2.13	0.76	10.28	3.17	7.40	6.10	9.80	8.12	2.99	2.20	0.00	
27	0.94	2.83	0.87	5.40	3.44	6.20	6.70	7.04	6.10	3.08	2.20	0.00	
28	1.01	6.10	1.08	4.10	5.50	5.90	5.30	6.10	5.30	3.17	1.85	0.00	
29	0.80	4.10	0.87	4.10	4.50	17.88	10.40	7.04	5.10	3.17	1.85	0.00	
30	0.68	3.08	0.52	4.30	7.28	12.44	11.12	5.40	4.80	3.17		0.00	
31		2.99		5.50	35.32		8.12		5.00	2.99		0.00	
Total	24.41	50.77	51.34	110.76	164.60	224.52	133.68	364.79	399.15	123.77	72.51	25.59	1745.89 CMSDAY
Mean	0.81	1.64	1.71	3.57	5.31	7.48	4.31	12.16	12.88	3.99	2.50	0.83	4.77 CMS
Max	1.43	6.10	11.00	21.45	35.32	27.71	11.12	53.80	69.60	7.52	3.17	1.85	69.60 CMS
Min	0.24	0.20	0.20	0.60	1.01	2.69	0.60	1.85	3.17	2.55	1.85	0.00	0.00 CMS
Runoff	2.109	4.387	4.436	9.570	14.221	19.399	11.550	31.518	34.487	10.694	6.265	2.211	150.845 MCM

Momentary Peak 69.90 CMS, at 20.85 M (MSL), at 18.00 Hours, on Dec 12, 1991

Runoff Yield 17.54 Liters/Second/Square KM, Momentary Peak Yield 256.99 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

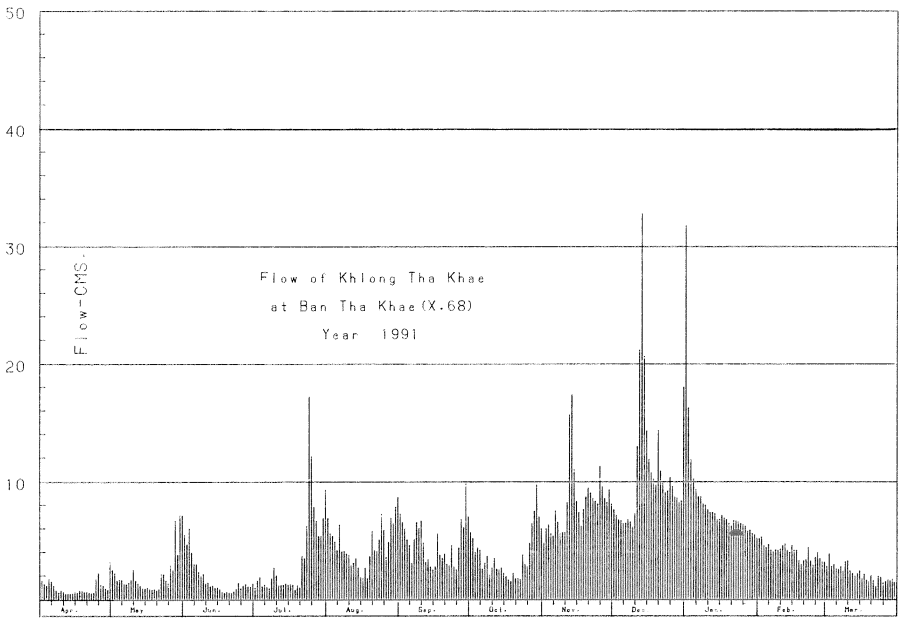
Khlong Tha Khae at Ban Tha Khae, Phatthalung (X.68)

Location	Lat. 7°-34'-01" N., Long. 100°-03'-05" E., on left bank downstream side of the bridge of Phatthalung-Hat Yai Highway, Tambon Tha Khae, Amphoe Muang, Phatthalung.
Drainage Area	Flood plain.
Type of Gage	Staff gage.
Zero Gage at Bottom	+11.800 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank near the gage observer's house.
Elevation	+14.916 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1967 to date.
Rating Operation	
Period of Rating	1967-1972, 1983 to date.
Rated by Float	-
Rated by Current Meter	1967-1972, 1983 to date.
Stability of Channel Regimes	Fairly stable because of backwater effect.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 20 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	12.77	12.88	13.18	12.67	13.31	13.34	13.20	13.11	13.37	14.87	13.15	12.91	
2	12.72	12.85	13.10	12.77	13.19	13.28	13.15	13.23	13.33	14.00	13.16	13.02	
3	12.70	12.77	13.23	12.81	13.17	13.23	13.03	13.26	13.30	13.70	13.09	12.91	
4	12.79	12.78	13.03	12.69	13.12	13.14	13.07	13.19	13.29	13.58	13.07	12.93	
5	12.76	12.78	12.93	12.71	13.05	13.09	13.05	13.17	13.27	13.51	13.10	12.89	
6	12.70	12.72	12.93	12.68	13.26	12.94	12.89	13.36	13.27	13.46	13.05	12.89	
7	12.63	12.72	12.86	12.66	13.04	13.14	12.94	13.28	13.30	13.46	13.04	12.91	
8	12.60	12.74	12.82	12.80	13.04	13.28	13.00	13.19	13.28	13.41	13.05	12.87	
9	12.63	12.78	12.84	12.90	13.02	13.23	12.83	13.20	13.24	13.40	13.05	12.95	
10	12.61	12.88	12.73	12.83	13.01	13.29	12.90	13.20	13.34	13.37	13.06	12.96	
11	12.58	12.77	12.74	12.70	12.92	13.11	12.98	13.42	13.78	13.35	13.09	12.87	
12	12.58	12.73	12.69	12.71	12.94	12.95	12.89	13.96	14.30	13.35	13.10	12.85	
13	12.58	12.70	12.70	12.71	12.98	12.97	12.88	14.07	14.92	13.34	13.05	12.82	
14	12.58	12.66	12.67	12.73	12.90	12.91	12.90	13.64	14.27	13.30	13.03	12.85	
15	12.61	12.66	12.67	12.71	12.81	12.88	12.85	13.43	13.87	13.30	13.09	12.87	
16	12.60	12.67	12.65	12.72	12.80	12.91	12.82	13.35	13.70	13.33	13.05	12.80	
17	12.63	12.65	12.61	12.71	12.90	13.19	12.78	13.25	13.62	13.31	13.05	12.84	
18	12.62	12.64	12.60	12.64	12.80	13.01	12.76	13.37	13.58	13.30	12.96	12.78	
19	12.61	12.65	12.61	12.70	13.00	12.98	12.85	13.46	13.54	13.27	12.93	12.75	
20	12.61	12.63	12.60	12.67	13.21	13.02	12.80	13.52	13.87	13.25	12.96	12.83	
21	12.60	12.65	12.59	13.00	13.05	12.93	12.80	13.49	13.63	13.29	12.97	12.77	
22	12.59	12.84	12.62	12.98	13.04	12.92	12.79	13.45	13.55	13.29	13.07	12.69	
23	12.60	12.84	12.65	13.25	13.14	13.09	13.01	13.43	13.49	13.28	12.96	12.82	
24	12.79	12.77	12.74	14.06	13.34	12.91	12.93	13.41	13.50	13.27	12.92	12.81	
25	12.85	12.73	12.66	13.72	13.22	12.88	12.91	13.66	13.59	13.26	12.99	12.74	
26	12.71	12.92	12.70	13.39	12.99	13.07	13.11	13.53	13.53	13.25	13.03	12.76	
27	12.70	12.88	12.72	13.29	13.12	13.30	13.27	13.45	13.46	13.21	12.98	12.78	
28	12.66	13.29	12.69	13.17	13.31	13.24	13.36	13.42	13.45	13.22	12.95	12.77	
29	12.64	13.01	12.68	13.17	13.27	13.55	13.54	13.51	13.42	13.19	12.95	12.79	
30	12.95	13.33	12.73	13.31	13.39	13.32	13.32	13.41	13.43	13.18		12.75	
31		13.33		13.51	13.46		13.23		14.11	13.15		12.74	
Mean	12.67	12.81	12.77	12.95	13.09	13.10	12.99	13.41	13.60	13.40	13.03	12.84	
Max	12.95	13.33	13.23	14.06	13.46	13.55	13.54	14.07	14.92	14.87	13.16	13.02	14.92
Min	12.58	12.63	12.59	12.64	12.80	12.88	12.76	13.11	13.24	13.15	12.92	12.69	12.58

Annual Max Momentary Gage Height 15.03 M (MSL), at 6.00 Hours, on Dec 13, 1991
Zero Gage at Bottom Elevation 11.80 M (MSL), River Bed 11.20 M (MSL)
Left Bank Elevation 15.54 M (MSL)
Right Bank Elevation 16.66 M (MSL), Drainage Area Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.62	2.52	5.50	1.02	6.92	7.28	5.70	4.80	7.64	31.80	5.20	2.80	
2	1.32	2.25	4.70	1.62	5.60	6.58	5.20	6.03	7.16	16.30	5.30	3.90	
3	1.20	1.62	6.03	1.89	5.40	6.03	4.00	6.36	6.80	11.90	4.60	2.80	
4	1.74	1.68	4.00	1.14	4.90	5.10	4.40	5.60	6.69	10.24	4.40	3.00	
5	1.56	1.68	3.00	1.26	4.20	4.60	4.20	5.40	6.47	9.33	4.70	2.61	
6	1.20	1.32	3.00	1.08	6.36	3.10	2.61	7.52	6.47	8.72	4.20	2.61	
7	0.78	1.32	2.34	0.96	4.10	5.10	3.10	6.58	6.80	8.72	4.10	2.80	
8	0.60	1.44	1.98	1.80	4.10	6.58	3.70	5.60	6.58	8.12	4.20	2.43	
9	0.78	1.68	2.16	2.70	3.90	6.03	2.07	5.70	6.14	8.00	4.20	3.20	
10	0.66	2.52	1.38	2.07	3.80	6.69	2.70	5.70	7.28	7.64	4.30	3.30	
11	0.52	1.62	1.44	1.20	2.90	4.80	3.50	8.24	13.02	7.40	4.60	2.43	
12	0.52	1.38	1.14	1.26	3.10	3.20	2.61	15.70	21.20	7.40	4.70	2.25	
13	0.52	1.20	1.20	1.26	3.50	3.40	2.52	17.42	32.82	7.28	4.20	1.98	
14	0.52	0.96	1.02	1.38	2.70	2.80	2.70	11.06	20.69	6.80	4.00	2.25	
15	0.66	0.96	1.02	1.26	1.89	2.52	2.25	8.36	14.35	6.80	4.60	2.43	
16	0.60	1.02	0.90	1.32	1.80	2.80	1.98	7.40	11.90	7.16	4.20	1.80	
17	0.78	0.90	0.66	1.26	2.70	5.60	1.68	6.25	10.78	6.92	4.20	2.16	
18	0.72	0.84	0.60	0.84	1.80	3.80	1.56	7.64	10.24	6.80	3.30	1.68	
19	0.66	0.90	0.66	1.20	3.70	3.50	2.25	8.72	9.72	6.47	3.00	1.50	
20	0.66	0.78	0.60	1.02	5.81	3.90	1.80	9.46	14.35	6.25	3.30	2.07	
21	0.60	0.90	0.56	3.70	4.20	3.00	1.80	9.08	10.92	6.69	3.40	1.62	
22	0.56	2.16	0.72	3.50	4.10	2.90	1.74	8.60	9.85	6.69	4.40	1.14	
23	0.60	2.16	0.90	6.25	5.10	4.60	3.80	8.36	9.08	6.58	3.30	1.98	
24	1.74	1.62	1.44	17.26	7.28	2.80	3.00	8.12	9.20	6.47	2.90	1.89	
25	2.25	1.38	0.96	12.18	5.92	2.52	2.80	11.34	10.37	6.36	3.60	1.44	
26	1.26	2.90	1.20	7.88	3.60	4.40	4.80	9.59	9.59	6.25	4.00	1.56	
27	1.20	2.52	1.32	6.69	4.90	6.80	6.47	8.60	8.72	5.81	3.50	1.68	
28	0.96	6.69	1.14	5.40	6.92	6.14	7.52	8.24	8.60	5.92	3.20	1.62	
29	0.84	3.80	1.08	5.40	6.47	9.85	9.72	9.33	8.24	5.60	3.20	1.74	
30	3.20	7.16	1.38	6.92	7.88	7.04	7.04	8.12	8.36	5.50		1.50	
31		7.16		9.33	8.72		6.03		18.06	5.20		1.44	
Total	30.83	67.04	54.03	112.05	144.27	143.46	115.25	248.92	338.09	257.12	116.80	67.61	1695.47 CMSDAY
Mean	1.03	2.16	1.80	3.61	4.65	4.78	3.72	8.30	10.91	8.29	4.03	2.18	4.63 CMS
Max	3.20	7.16	6.03	17.26	8.72	9.85	9.72	17.42	32.82	31.80	5.30	3.90	32.82 CMS
Min	0.52	0.78	0.56	0.84	1.80	2.52	1.56	4.80	6.14	5.20	2.90	1.14	0.52 CMS
Runoff	2.664	5.792	4.668	9.681	12.465	12.395	9.958	21.507	29.211	22.215	10.092	5.842	146.489 MCM

Momentary Peak 35.13 CMS, at 15.03 M (MSL), at 6.00 Hours, on Dec 13, 1991

Runoff Yield ********* Liters/Second/Square KM, Momentary Peak Yield ********* Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENNINSULA EAST COAST

Khlong Ban Tan at Ban Wang Kong, Nakhon Si Thammarat (X.70)

Location — Lat.08°-25'-35" N., Long. 99°-51'-53" E.,On left bank upstream side of the bridge, Ban Wang Kong, Amphoe Muang, Nakhon Si Thammarat.

Drainage Area — 39 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank about 10 meters from the top staff gage.

Elevation — +7.274 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1967 to date.

Rating Operation

Period of Rating — 1967 - 1971, 1980, 1989 to date.

Rated by Float — -

Rated by Current Meter — 1967 - 1971, 1980, 1989 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 58 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

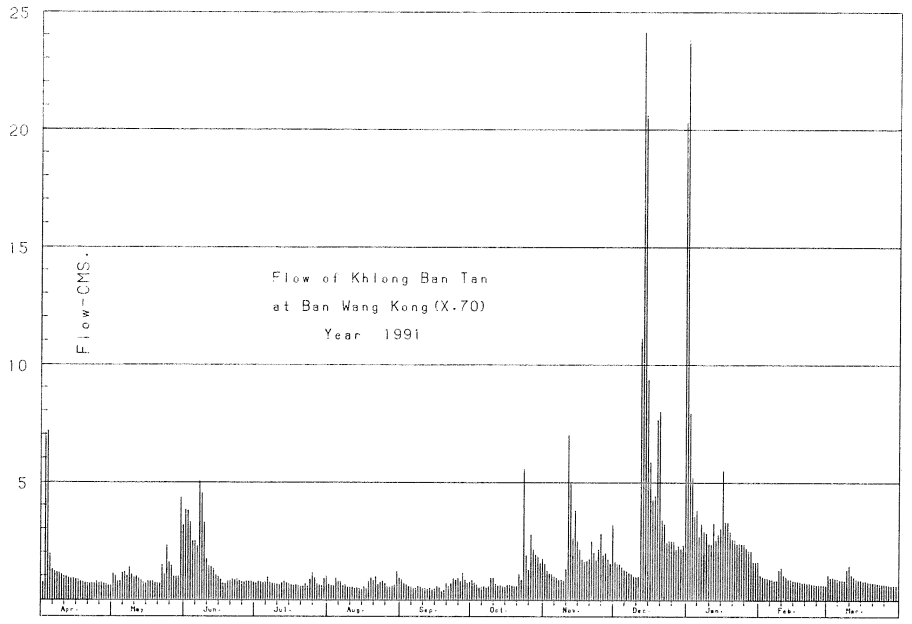
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.42	0.54	1.31	0.40	0.39	0.46	0.44	0.68	0.71	3.70	0.52	0.52	
2	1.86	0.51	1.30	0.43	0.37	0.40	0.41	0.58	0.67	1.99	0.49	0.48	
3	1.88	0.43	1.20	0.42	0.37	0.38	0.38	0.54	0.67	1.55	0.48	0.48	
4	0.82	0.43	1.00	0.41	0.48	0.36	0.34	0.53	0.63	1.25	0.47	0.47	
5	0.60	0.55	1.00	0.42	0.43	0.35	0.35	0.50	0.59	1.30	0.46	0.46	
6	0.57	0.56	0.93	0.49	0.42	0.33	0.36	0.48	0.57	1.05	0.45	0.45	
7	0.56	0.51	1.53	0.42	0.37	0.33	0.34	0.45	0.55	1.18	0.44	0.44	
8	0.55	0.63	1.44	0.40	0.38	0.36	0.36	0.45	0.53	1.10	0.44	0.44	
9	0.53	0.53	1.20	0.40	0.35	0.35	0.48	0.44	0.50	1.08	0.59	0.59	
10	0.50	0.49	0.75	0.39	0.35	0.33	0.48	0.60	0.49	0.96	0.62	0.65	
11	0.50	0.50	0.65	0.38	0.35	0.33	0.39	1.85	0.50	0.95	0.52	0.52	
12	0.48	0.47	0.64	0.41	0.33	0.32	0.37	1.51	2.39	1.19	0.49	0.49	
13	0.47	0.45	0.61	0.43	0.34	0.33	0.37	1.03	3.73	1.01	0.46	0.46	
14	0.47	0.41	0.52	0.41	0.33	0.31	0.36	1.30	3.41	1.07	0.45	0.45	
15	0.46	0.40	0.50	0.39	0.32	0.32	0.35	1.00	2.17	1.13	0.44	0.44	
16	0.45	0.43	0.46	0.38	0.35	0.36	0.38	0.88	1.66	1.60	0.43	0.43	
17	0.43	0.43	0.40	0.37	0.33	0.34	0.38	0.74	1.39	1.20	0.43	0.43	
18	0.42	0.43	0.40	0.38	0.43	0.28	0.37	0.70	1.42	1.20	0.42	0.42	
19	0.41	0.41	0.43	0.37	0.48	0.30	0.36	0.72	1.95	1.10	0.41	0.41	
20	0.40	0.40	0.44	0.36	0.45	0.40	0.36	0.74	2.00	1.02	0.41	0.41	
21	0.40	0.40	0.46	0.36	0.50	0.36	0.53	1.00	1.22	1.01	0.40	0.40	
22	0.40	0.66	0.45	0.40	0.39	0.40	0.45	0.83	1.18	0.96	0.40	0.40	
23	0.40	0.53	0.46	0.36	0.42	0.47	1.61	0.73	0.98	0.96	0.39	0.39	
24	0.43	0.94	0.44	0.46	0.43	0.45	0.80	0.88	1.00	0.96	0.39	0.39	
25	0.41	0.70	0.42	0.55	0.40	0.47	0.59	1.08	1.00	0.96	0.38	0.38	
26	0.41	0.65	0.42	0.48	0.35	0.43	1.07	0.80	0.99	0.90	0.38	0.38	
27	0.40	0.50	0.43	0.40	0.35	0.55	0.88	0.83	0.88	0.86	0.38	0.38	
28	0.39	0.50	0.43	0.38	0.36	0.45	0.81	0.74	0.93	0.86	0.37	0.37	
29	0.37	0.50	0.43	0.37	0.38	0.40	0.78	0.68	0.89	0.70	0.37	0.37	
30	0.37	1.41	0.42	0.47	0.57	0.42	0.69	1.17	0.94	0.70		0.37	
31		1.17		0.50	0.48		0.75		3.38	0.70		0.36	
Mean	0.56	0.56	0.70	0.41	0.40	0.38	0.54	0.82	1.29	1.17	0.44	0.44	
Max	1.88	1.41	1.53	0.55	0.57	0.55	1.61	1.85	3.73	3.70	0.62	0.65	3.73
Min	0.37	0.40	0.40	0.36	0.32	0.28	0.34	0.44	0.49	0.70	0.37	0.36	0.28

Annual Max Momentary Gage Height — 4.10 M (A.D), at 6.00 Hours, on Dec 13, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed — 0.03 M (A.D)

Left Bank Elevation — 5.88 M (A.D)

Right Bank Elevation — 5.76 M (A.D), Drainage Area — 39 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.76	1.12	3.85	0.70	0.67	0.88	0.82	1.54	1.63	23.80	1.06	1.06	
2	7.06	1.03	3.80	0.79	0.61	0.70	0.73	1.24	1.51	7.93	0.97	0.94	
3	7.18	0.79	3.30	0.76	0.61	0.64	0.64	1.12	1.51	5.20	0.94	0.94	
4	1.96	0.79	2.50	0.73	0.94	0.58	0.52	1.09	1.39	3.55	0.91	0.91	
5	1.30	1.15	2.50	0.76	0.79	0.55	0.55	1.00	1.27	3.80	0.88	0.88	
6	1.21	1.18	2.29	0.97	0.76	0.49	0.58	0.94	1.21	2.70	0.85	0.85	
7	1.18	1.03	5.08	0.76	0.61	0.49	0.52	0.85	1.15	3.22	0.82	0.82	
8	1.15	1.39	4.54	0.70	0.64	0.58	0.58	0.85	1.09	2.90	0.82	0.82	
9	1.09	1.09	3.30	0.70	0.55	0.55	0.94	0.82	1.00	2.82	1.27	1.27	
10	1.00	0.97	1.75	0.67	0.55	0.49	0.94	1.30	0.97	2.38	1.36	1.45	
11	1.00	1.00	1.45	0.64	0.55	0.49	0.67	7.00	1.00	2.35	1.06	1.06	
12	0.94	0.91	1.42	0.73	0.49	0.46	0.61	4.96	11.12	3.26	0.97	0.97	
13	0.91	0.85	1.33	0.79	0.52	0.49	0.61	2.62	24.13	2.54	0.88	0.88	
14	0.91	0.73	1.06	0.73	0.49	0.43	0.58	3.80	20.61	2.78	0.85	0.85	
15	0.88	0.70	1.00	0.67	0.46	0.46	0.55	2.50	9.36	3.02	0.82	0.82	
16	0.85	0.79	0.88	0.64	0.55	0.58	0.64	2.14	5.86	5.50	0.79	0.79	
17	0.79	0.79	0.70	0.61	0.49	0.52	0.64	1.72	4.25	3.30	0.79	0.79	
18	0.76	0.79	0.70	0.64	0.79	0.36	0.61	1.60	4.42	3.30	0.76	0.76	
19	0.73	0.73	0.79	0.61	0.94	0.40	0.58	1.66	7.65	2.90	0.73	0.73	
20	0.70	0.70	0.82	0.58	0.85	0.70	0.58	1.72	8.00	2.58	0.73	0.73	
21	0.70	0.70	0.88	0.58	1.00	0.58	1.09	2.50	3.40	2.54	0.70	0.70	
22	0.70	1.48	0.85	0.70	0.67	0.70	0.85	1.99	3.22	2.38	0.70	0.70	
23	0.70	1.09	0.88	0.58	0.76	0.91	5.56	1.69	2.44	2.38	0.67	0.67	
24	0.79	2.32	0.82	0.88	0.79	0.85	1.90	2.14	2.50	2.38	0.67	0.67	
25	0.73	1.60	0.76	1.15	0.70	0.91	1.27	2.82	2.50	2.38	0.64	0.64	
26	0.73	1.45	0.76	0.94	0.55	0.79	2.78	1.90	2.47	2.20	0.64	0.64	
27	0.70	1.00	0.79	0.70	0.55	1.15	2.14	1.99	2.14	2.08	0.64	0.64	
28	0.67	1.00	0.79	0.64	0.58	0.85	1.93	1.72	2.29	2.08	0.61	0.61	
29	0.61	1.00	0.79	0.61	0.64	0.70	1.84	1.54	2.17	1.60	0.61	0.61	
30	0.61	4.36	0.76	0.91	1.21	0.76	1.57	3.18	2.32	1.60		0.61	
31		3.18		1.00	0.94		1.75		20.30	1.60		0.58	
Total	39.30	37.71	51.14	22.87	21.25	19.04	35.57	61.94	154.88	113.05	24.14	25.39	606.28 CMSDAY
Mean	1.31	1.22	1.70	0.74	0.69	0.63	1.15	2.06	5.00	3.65	0.83	0.82	1.66 CMS
Max	7.18	4.36	5.08	1.15	1.21	1.15	5.56	7.00	24.13	23.80	1.36	1.45	24.13 CMS
Min	0.61	0.70	0.70	0.58	0.46	0.36	0.52	0.82	0.97	1.60	0.61	0.58	0.36 CMS
Runoff	3.396	3.258	4.418	1.976	1.836	1.645	3.073	5.352	13.382	9.768	2.086	2.194	52.383 MCM

Momentary Peak 28.30 CMS, at 4.10 M (A.D), at 6.00 Hours, on Dec 13, 1991

Runoff Yield 42.47 Liters/Second/Square KM, Momentary Peak Yield 725.64 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

Khlong Tam at Ban Khuan Lang(3), Songkhla (X.71)

Location — Lat. 6°-59'-55" N., Long. 100°-25'-58" E., on right bank downstream side of the bridge of Phet Kasem Highway at Khuan Lang(3), Amphoe Hat Yai, Songkhla.

Drainage Area — 127 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.65 m. (M.S.L.)

Bench Mark — B.M.-H.D.

Location — On left bank about 40 meters from the top staff gage.

Elevation — +7.064 m. (M.S.L.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1967 to date.

Rating Operation

Period of Rating — 1967-1972, 1983 to date.

Rated by Float —

Rated by Current Meter — 1967-1972, 1983 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 24 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

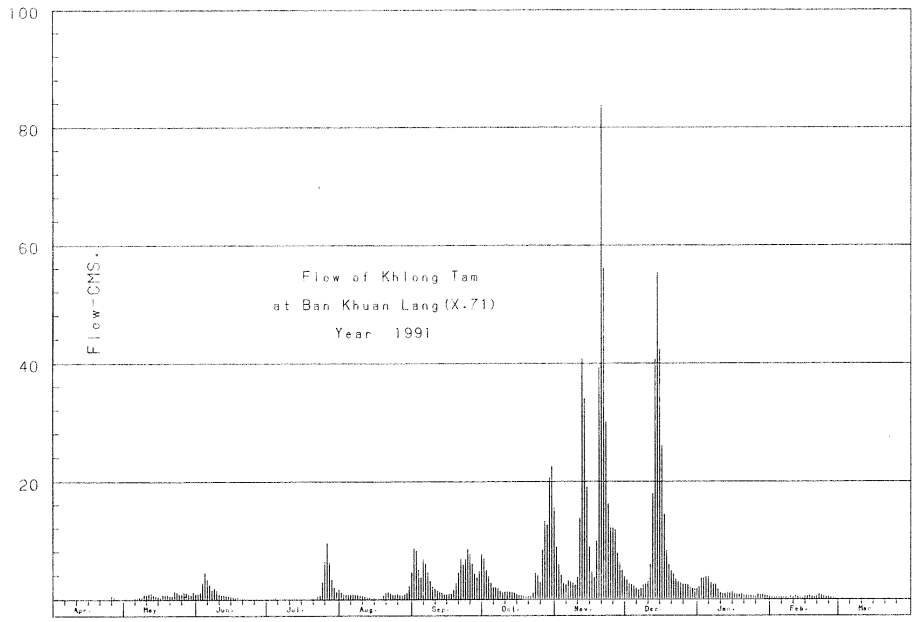
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.76	2.84	3.21	2.81	3.28	4.76	4.51	4.80	3.85	3.58	2.96	2.83	
2	2.74	2.81	3.27	2.83	3.13	4.71	4.18	4.35	3.72	3.91	2.95	2.85	
3	2.73	2.79	3.76	2.86	3.14	4.19	3.97	4.02	3.70	3.91	2.94	2.89	
4	2.74	2.87	4.10	2.88	3.15	3.94	3.75	3.74	3.63	3.97	3.01	2.83	
5	2.74	2.86	3.87	2.86	3.14	4.49	3.58	3.69	3.52	3.97	2.96	2.86	
6	2.76	2.99	3.69	2.82	3.14	4.37	3.56	3.83	3.40	3.76	2.98	2.88	
7	2.75	2.95	3.42	2.80	3.12	4.11	3.50	3.80	3.52	3.70	2.95	2.83	
8	2.74	2.93	3.52	2.81	3.11	3.82	3.36	3.74	3.68	3.71	2.82	2.77	
9	2.74	3.14	3.38	2.84	3.05	3.60	3.27	3.68	3.71	3.47	3.00	2.86	
10	2.71	3.12	3.19	2.84	3.02	3.50	3.32	3.95	3.80	3.27	2.91	2.87	
11	2.69	3.18	3.09	2.86	2.98	3.36	3.31	5.39	4.35	3.21	3.03	2.83	
12	2.69	3.23	3.08	2.86	2.94	3.33	3.32	7.21	5.81	3.22	2.96	2.80	
13	2.68	3.11	3.03	2.87	2.91	3.25	3.27	6.99	7.21	3.27	2.93	2.78	
14	2.71	2.99	3.00	2.86	2.88	3.16	3.26	5.91	7.50	3.25	2.94	2.78	
15	2.76	2.98	2.98	2.81	2.85	3.14	3.16	4.80	7.25	3.32	3.00	2.76	
16	2.71	2.92	2.94	2.82	2.83	3.18	3.09	4.13	6.51	3.21	3.05	2.80	
17	2.69	3.12	2.92	2.85	2.81	3.20	3.06	3.94	5.46	3.15	3.06	2.75	
18	2.67	3.08	2.92	2.84	2.96	3.43	3.00	4.93	4.71	3.15	2.98	2.77	
19	2.67	3.13	2.90	2.84	3.07	3.74	2.99	7.17	4.35	3.19	2.94	2.76	
20	2.65	3.02	2.86	2.83	3.28	4.10	3.01	7.85	4.18	3.11	3.11	2.75	
21	2.65	3.02	2.85	2.82	3.30	4.49	3.00	7.51	4.06	3.08	3.19	2.76	
22	2.64	3.35	2.83	2.99	3.21	4.34	3.26	6.78	3.89	3.07	3.08	2.75	
23	2.66	3.30	2.80	3.09	3.11	4.50	4.08	5.64	3.79	3.04	3.02	2.76	
24	2.67	3.14	2.81	3.77	3.10	4.74	4.00	5.20	3.74	3.01	2.95	2.74	
25	3.01	3.18	2.84	4.43	3.18	4.62	3.77	5.20	3.71	3.02	2.98	2.74	
26	2.96	3.28	2.80	4.89	3.11	4.37	4.72	5.16	3.70	3.17	2.94	2.74	
27	2.75	3.26	2.80	4.40	3.06	4.06	5.32	4.65	3.69	3.10	2.92	2.73	
28	2.77	3.14	2.81	3.87	3.15	3.92	5.26	4.39	3.56	3.13	2.90	2.72	
29	2.75	3.11	2.80	3.55	3.26	4.14	6.06	4.18	3.52	3.05	2.81	2.74	
30	2.74	3.30	2.80	3.32	3.64	4.62	6.23	3.96	3.46	3.03		2.71	
31		3.19		3.43	4.11		5.57		3.51	2.98		2.78	
Mean	2.73	3.08	3.11	3.14	3.13	3.97	3.86	5.02	4.34	3.32	2.97	2.79	
Max	3.01	3.35	4.10	4.89	4.11	4.76	6.23	7.85	7.50	3.97	3.19	2.89	7.85
Min	2.64	2.79	2.80	2.80	2.81	3.14	2.99	3.68	3.40	2.98	2.81	2.71	2.64

Annual Max Momentary Gage Height — 7.94 M (MSL), at 6.00 Hours, on Nov 20, 1991

Zero Gage at Bottom Elevation — 0.65 M (MSL), River Bed — 2.12 M (MSL)

Left Bank Elevation — 8.08 M (MSL)

Right Bank Elevation — 8.08 M (MSL), Drainage Area — 127 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.16	0.24	0.93	0.21	1.14	8.62	6.87	8.90	3.25	2.04	0.42	0.23	
2	0.14	0.21	1.11	0.23	0.76	8.27	4.90	5.90	2.60	3.55	0.40	0.25	
3	0.13	0.19	2.80	0.26	0.78	4.95	3.85	4.10	2.50	3.55	0.38	0.29	
4	0.14	0.27	4.50	0.28	0.80	3.70	2.75	2.70	2.22	3.85	0.52	0.23	
5	0.14	0.26	3.35	0.26	0.78	6.74	2.04	2.46	1.86	3.85	0.42	0.26	
6	0.16	0.48	2.46	0.22	0.78	6.02	1.98	3.15	1.50	2.80	0.46	0.28	
7	0.15	0.40	1.56	0.20	0.74	4.55	1.80	3.00	1.86	2.50	0.40	0.23	
8	0.14	0.36	1.86	0.21	0.72	3.10	1.38	2.70	2.42	2.55	0.22	0.17	
9	0.14	0.78	1.44	0.24	0.60	2.10	1.11	2.42	2.55	1.71	0.50	0.26	
10	0.11	0.74	0.88	0.24	0.54	1.80	1.26	3.75	3.00	1.11	0.32	0.27	
11	0.09	0.86	0.68	0.26	0.46	1.38	1.23	13.81	5.90	0.93	0.56	0.23	
12	0.09	0.99	0.66	0.26	0.38	1.29	1.26	40.72	17.91	0.96	0.42	0.20	
13	0.08	0.72	0.56	0.27	0.32	1.05	1.11	34.00	40.72	1.11	0.36	0.18	
14	0.11	0.48	0.50	0.26	0.28	0.82	1.08	19.01	55.40	1.05	0.38	0.18	
15	0.16	0.46	0.46	0.21	0.25	0.78	0.82	8.90	42.40	1.26	0.50	0.16	
16	0.11	0.34	0.38	0.22	0.23	0.86	0.68	4.65	26.03	0.93	0.60	0.20	
17	0.09	0.74	0.34	0.25	0.21	0.90	0.62	3.70	14.44	0.80	0.62	0.15	
18	0.07	0.66	0.34	0.24	0.42	1.59	0.50	9.84	8.27	0.80	0.46	0.17	
19	0.07	0.76	0.30	0.24	0.64	2.70	0.48	39.25	5.90	0.88	0.38	0.16	
20	0.05	0.54	0.26	0.23	1.14	4.50	0.52	83.75	4.90	0.72	0.72	0.15	
21	0.05	0.54	0.25	0.22	1.20	6.74	0.50	56.11	4.30	0.66	0.88	0.16	
22	0.04	1.35	0.23	0.48	0.93	5.84	1.08	30.04	3.45	0.64	0.66	0.15	
23	0.06	1.20	0.20	0.68	0.72	6.80	4.40	16.20	2.95	0.58	0.54	0.16	
24	0.07	0.78	0.21	2.85	0.70	8.48	4.00	12.10	2.70	0.52	0.40	0.14	
25	0.52	0.86	0.24	6.38	0.86	7.64	2.85	12.10	2.55	0.54	0.46	0.14	
26	0.42	1.14	0.20	9.53	0.72	6.02	8.34	11.74	2.50	0.84	0.38	0.14	
27	0.15	1.08	0.20	6.20	0.62	4.30	13.18	7.85	2.46	0.70	0.34	0.13	
28	0.17	0.78	0.21	3.35	0.80	3.60	12.64	6.14	1.98	0.76	0.30	0.12	
29	0.15	0.72	0.20	1.95	1.08	4.70	20.66	4.90	1.86	0.60	0.21	0.14	
30	0.14	1.20	0.20	1.26	2.26	7.64	22.56	3.80	1.68	0.56		0.11	
31		0.88		1.59	4.55		15.50		1.83	0.46		0.18	
Total	4.10	21.01	27.51	39.28	26.41	127.48	141.95	457.69	273.89	43.81	13.21	5.82	1182.16 CMSDAY
Mean	0.14	0.68	0.92	1.27	0.85	4.25	4.58	15.26	8.84	1.41	0.46	0.19	3.23 CMS
Max	0.52	1.35	4.50	9.53	4.55	8.62	22.56	83.75	55.40	3.85	0.88	0.29	83.75 CMS
Min	0.04	0.19	0.20	0.20	0.21	0.78	0.48	2.42	1.50	0.46	0.21	0.11	0.04 CMS
Runoff	0.354	1.815	2.377	3.394	2.282	11.014	12.264	39.544	23.664	3.785	1.141	0.503	102.139 MCM

Momentary Peak 93.10 CMS, at 7.94 M (MSL), at 6.00 Hours, on Nov 20, 1991

Runoff Yield 25.43 Liters/Second/Square KM, Momentary Peak Yield 733.07 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

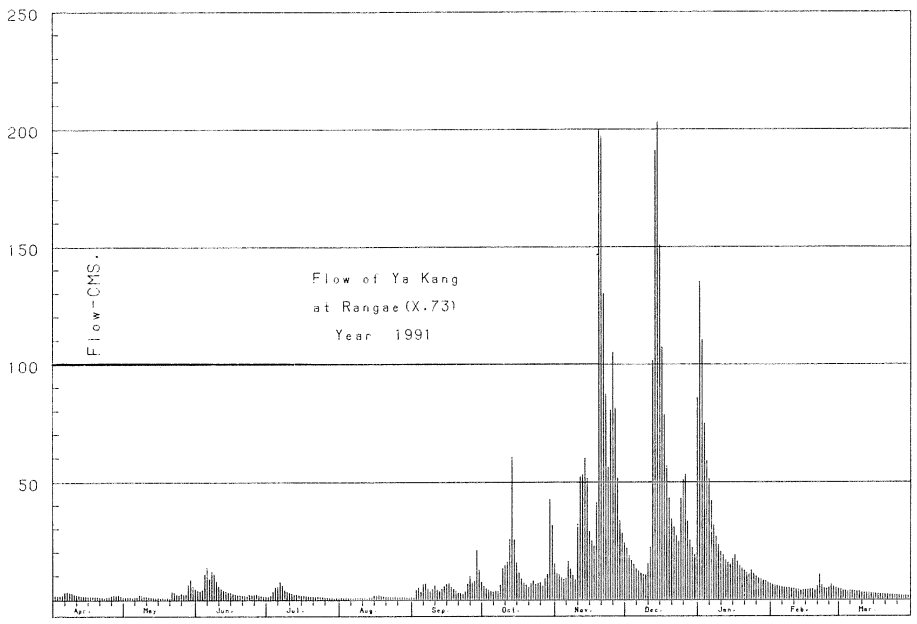
Khlong Tan Yong Mat at Rangae, Narathiwat (X.73)

Location	Lat. 6°-17'-44" N., Long. 101°-44'-04" E., on right bank about 20 meters upstream from the bridge on highway, Amphoe Rangae, Narathiwat.
Drainage Area	336 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank near the top staff gage.
Elevation	+6.096 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00,12.00,15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1967 to date.
Rating Operation	
Period of Rating	1985 to date.
Rated by Float	--
Rated by Current Meter	1985 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 21 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.85	0.74	1.09	0.78	0.71	0.74	1.28	1.70	2.33	5.71	1.34	1.15	
2	0.84	0.75	1.08	0.84	0.70	1.13	1.19	1.65	2.15	5.42	1.30	1.11	
3	0.83	0.74	1.13	1.07	0.71	1.21	1.12	1.57	2.04	4.52	1.31	1.09	
4	0.87	0.73	1.67	1.23	0.70	1.04	1.08	1.51	1.93	3.96	1.28	1.06	
5	1.02	0.75	1.86	1.28	0.69	1.35	1.03	1.56	1.82	3.66	1.25	1.09	
6	1.04	0.76	1.53	1.43	0.70	1.37	1.09	2.01	1.75	3.30	1.24	1.10	
7	1.01	0.89	1.74	1.30	0.71	1.18	1.06	1.82	1.70	2.83	1.22	1.07	
8	0.97	0.86	1.67	1.13	0.73	1.07	1.33	1.64	1.65	2.60	1.20	1.07	
9	0.92	0.80	1.45	1.05	0.72	1.15	1.82	1.51	1.65	2.42	1.19	1.06	
10	0.89	0.77	1.28	1.01	0.70	1.31	1.92	2.85	1.95	2.25	1.18	1.02	
11	0.85	0.75	1.18	0.96	0.69	1.14	1.99	3.70	2.35	2.16	1.15	1.00	
12	0.83	0.74	1.11	0.91	0.71	1.07	2.54	3.73	5.26	2.05	1.14	1.00	
13	0.82	0.72	1.06	0.90	0.74	1.16	4.02	4.01	6.10	1.98	1.11	0.99	
14	0.81	0.71	1.02	0.88	0.73	1.28	2.53	3.67	6.14	1.94	1.12	0.97	
15	0.80	0.70	0.99	0.86	0.85	1.35	1.98	2.71	5.85	2.07	1.14	0.96	
16	0.80	0.70	0.95	0.85	0.87	1.38	1.71	2.50	5.37	2.17	1.13	0.96	
17	0.79	0.70	0.91	0.83	0.87	1.25	1.53	2.38	4.63	2.02	1.16	0.93	
18	0.78	0.69	0.88	0.81	0.83	1.17	1.40	3.26	3.88	1.91	1.15	0.93	
19	0.77	0.69	0.87	0.79	0.79	1.07	1.32	6.13	3.34	1.84	1.11	0.92	
20	0.75	0.70	0.85	0.79	0.76	1.00	1.25	6.12	2.95	1.78	1.27	0.91	
21	0.74	1.05	0.84	0.80	0.75	0.96	1.37	5.66	2.80	1.71	1.67	0.90	
22	0.74	1.00	0.82	0.79	0.74	0.92	1.47	4.90	2.62	1.67	1.32	0.89	
23	0.75	0.91	0.90	0.77	0.75	1.05	1.34	3.86	2.49	1.78	1.21	0.88	
24	0.78	0.88	0.89	0.75	0.78	1.37	1.39	4.69	3.33	1.69	1.17	0.88	
25	0.83	0.95	0.91	0.74	0.74	1.62	1.39	5.33	3.65	1.61	1.23	0.87	
26	0.86	0.90	0.92	0.73	0.73	1.40	1.29	4.72	3.74	1.55	1.35	0.86	
27	0.84	0.92	0.87	0.72	0.75	1.46	1.55	3.68	2.91	1.51	1.27	0.85	
28	0.87	1.33	0.83	0.71	0.74	2.28	1.67	2.92	2.51	1.48	1.22	0.84	
29	0.81	1.50	0.81	0.70	0.72	1.79	3.32	2.67	2.34	1.45	1.18	0.84	
30	0.75	1.27	0.79	0.71	0.72	1.43	2.83	2.45	2.17	1.41		0.83	
31		1.17		0.71	0.74		1.96		4.85	1.37		0.83	
Mean	0.84	0.86	1.10	0.90	0.74	1.26	1.70	3.23	3.17	2.38	1.23	0.96	
Max	1.04	1.50	1.86	1.43	0.87	2.28	4.02	6.13	6.14	5.71	1.67	1.15	6.14
Min	0.74	0.69	0.79	0.70	0.69	0.74	1.03	1.51	1.65	1.37	1.11	0.83	0.69

Annual Max Momentary Gage Height 6.20 M (A.D), at 18.00 Hours, on Nov 19, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.04 M (A.D)
Left Bank Elevation 7.62 M (A.D)
Right Bank Elevation 6.63 M (A.D), Drainage Area 336 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.90	1.20	3.91	1.40	1.05	1.20	5.88	11.40	22.04	135.10	6.58	4.50	
2	1.82	1.25	3.82	1.82	1.00	4.30	4.90	10.65	18.80	110.40	6.10	4.10	
3	1.74	1.20	4.30	3.73	1.05	5.11	4.20	9.51	16.82	75.04	6.22	3.91	
4	2.06	1.15	10.95	5.33	1.00	3.46	3.82	8.73	14.98	58.96	5.88	3.64	
5	3.28	1.25	13.86	5.88	0.95	6.70	3.37	9.38	13.22	51.30	5.55	3.91	
6	3.46	1.30	8.99	7.69	1.00	6.94	3.91	16.28	12.15	42.30	5.44	4.00	
7	3.19	2.22	12.00	6.10	1.05	4.80	3.64	13.22	11.40	31.66	5.22	3.73	
8	2.86	1.98	10.95	4.30	1.15	3.73	6.46	10.50	10.65	27.00	5.00	3.73	
9	2.46	1.50	7.95	3.55	1.10	4.50	13.22	8.73	10.65	23.66	4.90	3.64	
10	2.22	1.35	5.88	3.19	1.00	6.22	14.82	32.10	15.30	20.60	4.80	3.28	
11	1.90	1.25	4.80	2.78	0.95	4.40	15.94	52.30	22.40	18.98	4.50	3.10	
12	1.74	1.20	4.10	2.38	1.05	3.73	25.86	53.05	101.52	17.00	4.40	3.10	
13	1.66	1.10	3.64	2.30	1.20	4.60	60.54	60.27	191.00	15.78	4.10	3.02	
14	1.58	1.05	3.28	2.14	1.15	5.88	25.67	51.55	203.20	15.14	4.20	2.86	
15	1.50	1.00	3.02	1.98	1.90	6.70	15.78	29.20	150.75	17.36	4.40	2.78	
16	1.50	1.00	2.70	1.90	2.06	7.06	11.55	25.10	107.32	19.16	4.30	2.78	
17	1.45	1.00	2.38	1.74	2.06	5.55	8.99	22.94	78.56	16.46	4.60	2.54	
18	1.40	0.95	2.14	1.58	1.74	4.70	7.30	41.38	56.88	14.66	4.50	2.54	
19	1.35	0.95	2.06	1.45	1.45	3.73	6.34	200.15	43.30	13.54	4.10	2.46	
20	1.25	1.00	1.90	1.45	1.30	3.10	5.55	197.10	34.30	12.60	5.77	2.38	
21	1.20	3.55	1.82	1.50	1.25	2.78	6.94	130.12	31.00	11.55	10.95	2.30	
22	1.20	3.10	1.66	1.45	1.20	2.46	8.21	87.50	27.40	10.95	6.34	2.22	
23	1.25	2.38	2.30	1.35	1.25	3.55	6.58	56.36	24.92	12.60	5.11	2.14	
24	1.40	2.14	2.22	1.25	1.40	6.94	7.18	80.48	43.05	11.25	4.70	2.14	
25	1.74	2.70	2.38	1.20	1.20	10.20	7.18	105.08	51.05	10.05	5.33	2.06	
26	1.98	2.30	2.46	1.15	1.15	7.30	5.99	81.46	53.30	9.25	6.70	1.98	
27	1.82	2.46	2.06	1.10	1.25	8.08	9.25	51.80	33.42	8.73	5.77	1.90	
28	2.06	6.46	1.74	1.05	1.20	21.14	10.95	33.64	25.29	8.34	5.22	1.82	
29	1.58	8.60	1.58	1.00	1.10	12.75	42.80	28.40	22.22	7.95	4.80	1.82	
30	1.25	5.77	1.45	1.05	1.10	7.69	31.66	24.20	19.16	7.43		1.74	
31		4.70		1.05	1.20		15.46		85.80	6.94		1.74	
Total	55.80	69.06	132.30	75.84	38.51	179.30	399.94	1542.58	1551.85	841.74	155.48	87.86	5130.26 CMSDAY
Mean	1.86	2.23	4.41	2.45	1.24	5.98	12.90	51.42	50.06	27.15	5.36	2.83	14.02 CMS
Max	3.46	8.60	13.86	7.69	2.06	21.14	60.54	200.15	203.20	135.10	10.95	4.50	203.20 CMS
Min	1.20	0.95	1.45	1.00	0.95	1.20	3.37	8.73	10.65	6.94	4.10	1.74	0.95 CMS
Runoff	4.821	5.967	11.431	6.553	3.327	15.492	34.555	133.279	134.080	72.726	13.433	7.591	443.254 MCM

Momentary Peak 221.50 CMS, at .20 M (A.D), at 18.00 Hours, on Nov 19, 1991

Runoff Yield 41.72 Liters/Second/Square KM, Momentary Peak Yield 659.23 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

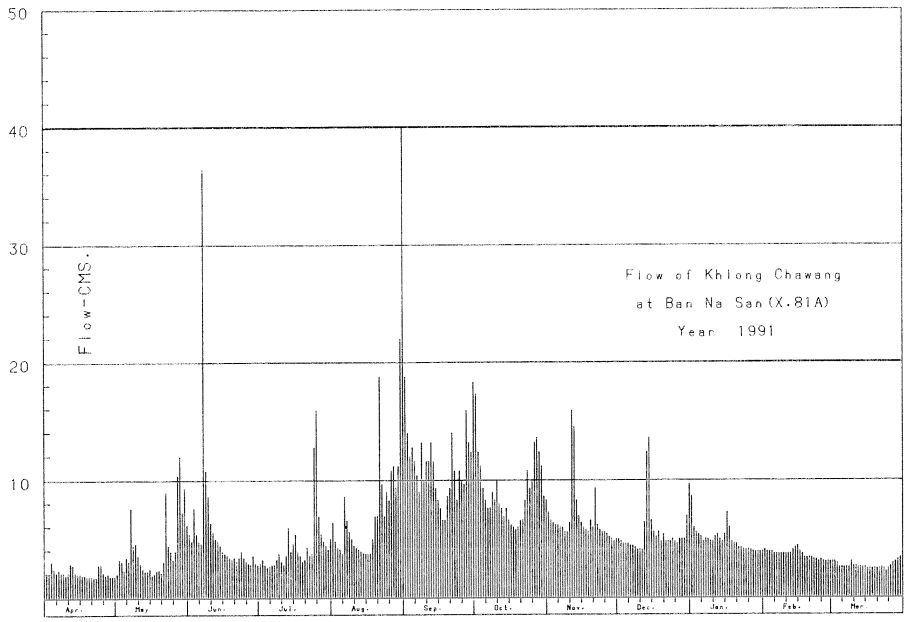
Khlong Chawang at Ban Na San, Surat Thani (X.81A)

Location	Lat. 08°-48'-23" N., Long. 99°-22'-18" E., on right bank at Wat Ban Na San, Amphoe Ban Na San, Surat Thani.
Drainage Area	220 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank at Wat Ban Na San's wall.
Elevation	+5.539 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1990 to date.
Rating Operation	
Period of Rating	1990 to date.
Rated by Float	-
Rated by Current Meter	1990 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 96 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.63	0.62	0.84	0.70	0.89	1.20	1.17	0.92	0.82	0.96	0.77	0.71	
2	0.62	0.72	0.81	0.72	0.81	1.10	1.06	0.90	0.81	0.87	0.76	0.71	
3	0.71	0.71	0.93	0.69	0.78	1.05	1.03	0.89	0.80	0.85	0.76	0.70	
4	0.66	0.65	0.84	0.67	0.77	1.07	0.98	0.88	0.80	0.84	0.76	0.67	
5	0.63	0.73	0.81	0.68	0.75	1.04	0.95	0.88	0.80	0.83	0.75	0.67	
6	0.65	0.71	0.80	0.69	0.96	1.01	0.93	0.87	0.79	0.81	0.75	0.67	
7	0.63	0.93	1.45	0.69	0.90	0.97	0.93	0.87	0.79	0.82	0.75	0.67	
8	0.63	0.79	1.02	0.72	0.85	1.08	0.97	0.85	0.78	0.82	0.75	0.67	
9	0.61	0.80	0.96	0.75	0.82	1.00	0.95	0.85	0.77	0.81	0.75	0.71	
10	0.63	0.74	0.89	0.71	0.79	1.04	1.00	0.89	0.77	0.81	0.75	0.68	
11	0.70	0.70	0.85	0.69	0.78	1.04	0.94	1.14	0.77	0.83	0.75	0.68	
12	0.69	0.66	0.82	0.74	0.77	1.08	0.93	1.11	0.89	0.84	0.75	0.67	
13	0.63	0.64	0.81	0.87	0.76	1.04	0.91	0.95	1.06	0.82	0.77	0.67	
14	0.62	0.64	0.79	0.76	0.75	0.98	0.93	0.91	1.09	0.81	0.78	0.67	
15	0.62	0.66	0.76	0.80	0.75	0.95	0.90	0.89	0.90	0.84	0.79	0.67	
16	0.61	0.61	0.75	0.84	0.75	0.93	0.88	0.87	0.85	0.92	0.76	0.66	
17	0.61	0.62	0.74	0.76	0.75	0.90	0.87	0.86	0.83	0.87	0.75	0.66	
18	0.60	0.65	0.73	0.74	0.82	0.90	0.86	0.85	0.85	0.81	0.73	0.66	
19	0.60	0.65	0.72	0.71	0.91	0.96	0.87	0.90	0.81	0.80	0.73	0.66	
20	0.60	0.63	0.73	0.72	0.91	0.98	0.90	0.87	0.84	0.80	0.73	0.66	
21	0.59	0.71	0.71	0.78	1.20	1.10	0.90	0.98	0.81	0.78	0.73	0.66	
22	0.59	0.97	0.73	0.74	0.99	1.02	0.95	0.88	0.81	0.78	0.72	0.67	
23	0.69	0.79	0.76	0.75	0.91	0.95	1.02	0.86	0.81	0.77	0.72	0.66	
24	0.69	0.76	0.73	1.07	0.97	1.02	0.98	0.85	0.82	0.77	0.71	0.64	
25	0.63	0.72	0.71	1.14	0.95	1.00	1.00	0.85	0.81	0.77	0.72	0.66	
26	0.61	0.76	0.70	0.91	1.02	0.99	1.08	0.84	0.80	0.77	0.71	0.68	
27	0.62	1.01	0.69	0.84	1.03	1.14	1.09	0.83	0.82	0.76	0.71	0.70	
28	0.60	1.05	0.74	0.81	0.98	1.08	1.06	0.82	0.82	0.76	0.71	0.71	
29	0.60	0.92	0.70	0.79	1.03	1.06	1.03	0.81	0.82	0.76	0.71	0.72	
30	0.60	0.98	0.69	0.77	1.25	1.19	0.96	0.82	0.91	0.76		0.73	
31		0.88		0.82	1.49		0.95		0.99	0.76		0.75	
Mean	0.63	0.76	0.81	0.78	0.91	1.03	0.97	0.89	0.84	0.81	0.74	0.68	
Max	0.71	1.05	1.45	1.14	1.49	1.20	1.17	1.14	1.09	0.96	0.79	0.75	1.49
Min	0.59	0.61	0.69	0.67	0.75	0.90	0.86	0.81	0.77	0.76	0.71	0.64	0.59

Annual Max Momentary Gage Height 1.66 M (A.D), at 3.00 Hours, on Aug 31, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.27 M (A.D)
Left Bank Elevation 6.88 M (A.D)
Right Bank Elevation 5.80 M (A.D), Drainage Area 220 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.13	2.02	5.40	2.90	6.40	18.80	17.36	7.28	5.00	8.64	4.09	3.07	
2	2.02	3.24	4.80	3.24	4.80	14.00	12.40	6.60	4.80	6.00	3.92	3.07	
3	3.07	3.07	7.62	2.79	4.26	12.00	11.20	6.40	4.60	5.60	3.92	2.90	
4	2.46	2.35	5.40	2.57	4.09	12.80	9.32	6.20	4.60	5.40	3.92	2.57	
5	2.13	3.41	4.80	2.68	3.75	11.60	8.30	6.20	4.60	5.20	3.75	2.57	
6	2.35	3.07	4.60	2.79	8.64	10.40	7.62	6.00	4.43	4.80	3.75	2.57	
7	2.13	7.62	36.45	2.79	6.60	8.98	7.62	6.00	4.43	5.00	3.75	2.57	
8	2.13	4.43	10.80	3.24	5.60	13.20	8.98	5.60	4.26	5.00	3.75	2.57	
9	1.91	4.60	8.64	3.75	5.00	10.00	8.30	5.60	4.09	4.80	3.75	3.07	
10	2.13	3.58	6.40	3.07	4.43	11.60	10.00	6.40	4.09	4.80	3.75	2.68	
11	2.90	2.90	5.60	2.79	4.26	11.60	7.96	15.92	4.09	5.20	3.75	2.68	
12	2.79	2.46	5.00	3.58	4.09	13.20	7.62	14.48	6.40	5.40	3.75	2.57	
13	2.13	2.24	4.80	6.00	3.92	11.60	6.94	8.30	12.40	5.00	4.09	2.57	
14	2.02	2.24	4.43	3.92	3.75	9.32	7.62	6.94	13.60	4.80	4.26	2.57	
15	2.02	2.46	3.92	4.60	3.75	8.30	6.60	6.40	6.60	5.40	4.43	2.57	
16	1.91	1.91	3.75	5.40	3.75	7.62	6.20	6.00	5.60	7.28	3.92	2.46	
17	1.91	2.02	3.58	3.92	3.75	6.60	6.00	5.80	5.20	6.00	3.75	2.46	
18	1.80	2.35	3.41	3.58	5.00	6.60	5.80	5.60	5.60	4.80	3.41	2.46	
19	1.80	2.35	3.24	3.07	6.94	8.64	6.00	6.60	4.80	4.60	3.41	2.46	
20	1.80	2.13	3.41	3.24	6.94	9.32	6.60	6.00	5.40	4.60	3.41	2.46	
21	1.72	3.07	3.07	4.26	18.80	14.00	6.60	9.32	4.80	4.26	3.41	2.46	
22	1.72	8.98	3.41	3.58	9.66	10.80	8.30	6.20	4.80	4.26	3.24	2.57	
23	2.79	4.43	3.92	3.75	6.94	8.30	10.80	5.80	4.80	4.09	3.24	2.46	
24	2.79	3.92	3.41	12.80	8.98	10.80	9.32	5.60	5.00	4.09	3.07	2.24	
25	2.13	3.24	3.07	15.92	8.30	10.00	10.00	5.60	4.80	4.09	3.24	2.46	
26	1.91	3.92	2.90	6.94	10.80	9.66	13.20	5.40	4.60	4.09	3.07	2.68	
27	2.02	10.40	2.79	5.40	11.20	15.92	13.60	5.20	5.00	3.92	3.07	2.90	
28	1.80	12.00	3.58	4.80	9.32	13.20	12.40	5.00	5.00	3.92	3.07	3.07	
29	1.80	7.28	2.90	4.43	11.20	12.40	11.20	4.80	5.00	3.92	3.07	3.24	
30	1.80	9.32	2.79	4.09	22.00	18.32	8.64	5.00	6.94	3.92		3.41	
31		6.20		5.00	40.01		8.30		9.66	3.92		3.75	
Total	64.02	133.21	167.89	140.89	256.93	339.58	280.80	202.24	174.99	152.80	105.01	84.14	2102.50 CMSDAY
Mean	2.13	4.30	5.60	4.54	8.29	11.32	9.06	6.74	5.64	4.93	3.62	2.71	5.74 CMS
Max	3.07	12.00	36.45	15.92	40.01	18.80	17.36	15.92	13.60	8.64	4.43	3.75	40.01 CMS
Min	1.72	1.91	2.79	2.57	3.75	6.60	5.80	4.80	4.09	3.92	3.07	2.24	1.72 CMS
Runoff	5.531	11.509	14.506	12.173	22.199	29.340	24.261	17.474	15.119	13.202	9.073	7.270	181.656 MCM

Momentary Peak 56.00 CMS, at 1.66 M (A.D), at 3.00 Hours, on Aug 31, 1991
Runoff Yield 26.11 Liters/Second/Square KM, Momentary Peak Yield 254.55 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

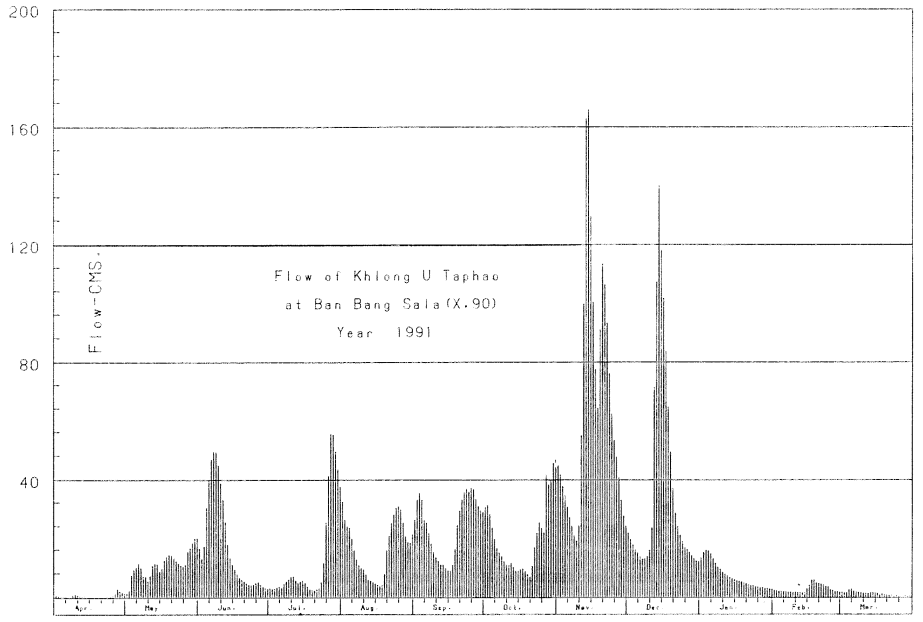
Khlong U Taphao at Ban Bang Sala, Songkhla (X.90)

Location	Lat. 6°-55'-39" N., Long. 100°-26'-37" E., on left bank about 5 meters upstream from the bridge on highway and near the Phatthana Tambon Street, Amphoe Hat Yai, Songkhla.
Drainage Area	1,562 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.680 m. (M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 28 meters from the top staff gage.
Elevation	+8.335 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1971 to date.
Rating Operation	
Period of Rating	1971-1972, 1979 to date.
Rated by Float	-
Rated by Current Meter	1971-1972, 1979 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 46 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.13	1.25	2.78	1.51	3.87	3.48	3.77	4.56	3.19	2.52	1.43	1.31	
2	1.11	1.42	2.50	1.48	3.49	3.91	3.80	4.39	3.03	2.69	1.40	1.29	
3	1.11	2.02	2.83	1.49	3.34	4.04	3.61	4.18	2.89	2.73	1.38	1.30	
4	1.09	2.18	3.75	1.55	3.30	3.91	3.31	3.99	2.75	2.73	1.37	1.45	
5	1.08	2.26	4.30	1.57	3.05	3.48	3.03	3.77	2.67	2.64	1.36	1.47	
6	1.07	2.36	4.67	1.53	2.73	3.43	2.80	3.54	2.55	2.51	1.35	1.39	
7	1.09	2.25	4.81	1.69	2.48	3.18	2.67	3.35	2.49	2.37	1.34	1.33	
8	1.23	1.98	4.80	1.80	2.31	2.92	2.57	3.12	2.49	2.27	1.33	1.32	
9	1.20	1.97	4.56	1.87	2.24	2.69	2.42	2.99	2.57	2.20	1.32	1.29	
10	1.13	1.80	4.24	1.96	2.19	2.54	2.33	3.35	2.74	2.12	1.32	1.27	
11	1.11	2.00	3.91	1.97	2.05	2.43	2.31	5.08	3.31	2.05	1.32	1.26	
12	1.10	2.30	3.44	1.84	1.87	2.33	2.38	6.99	5.84	2.00	1.30	1.25	
13	1.09	2.37	2.89	1.72	1.82	2.32	2.26	8.12	7.25	1.94	1.30	1.32	
14	1.08	2.34	2.52	1.79	1.76	2.24	2.16	8.15	7.87	1.91	1.31	1.31	
15	1.08	2.14	2.33	1.83	1.71	2.16	2.15	7.74	7.55	1.86	1.49	1.28	
16	1.07	2.22	2.20	1.74	1.65	2.16	2.20	7.01	7.06	1.83	1.63	1.26	
17	1.07	2.46	2.05	1.58	1.59	2.32	2.21	6.11	6.37	1.80	1.85	1.24	
18	1.03	2.56	1.94	1.46	1.64	2.77	2.15	5.52	5.54	1.78	1.85	1.21	
19	1.03	2.61	1.86	1.43	2.07	3.36	2.04	6.66	4.80	1.73	1.74	1.18	
20	1.06	2.60	1.79	1.42	2.73	3.69	1.97	7.43	4.14	1.71	1.70	1.16	
21	1.04	2.51	1.72	1.46	3.13	3.91	2.28	7.22	3.64	1.67	1.69	1.14	
22	1.09	2.43	1.67	1.51	3.41	4.06	2.82	6.75	3.34	1.63	1.65	1.13	
23	1.10	2.37	1.64	1.75	3.61	4.13	3.18	6.05	3.14	1.61	1.60	1.12	
24	1.11	2.30	1.67	2.38	3.75	4.07	3.43	5.43	2.98	1.58	1.57	1.11	
25	1.12	2.28	1.73	3.43	3.78	4.14	3.30	5.00	2.82	1.56	1.45	1.11	
26	1.34	2.32	1.77	4.37	3.71	4.12	3.20	4.71	2.76	1.54	1.41	1.11	
27	1.48	2.71	1.67	5.11	3.43	3.92	4.39	4.34	2.69	1.53	1.37	1.10	
28	1.38	2.79	1.58	5.10	3.11	3.78	4.21	3.90	2.59	1.51	1.36	1.09	
29	1.32	2.94	1.52	4.81	2.96	3.69	4.29	3.58	2.51	1.50	1.33	1.08	
30	1.27	3.04	1.49	4.49	2.93	3.66	4.60	3.35	2.43	1.49		1.09	
31		3.06		4.17	3.16		4.66		2.43	1.46		1.11	
Mean	1.14	2.32	2.69	2.32	2.74	3.29	2.98	5.21	3.82	1.95	1.47	1.23	
Max	1.48	3.06	4.81	5.11	3.87	4.14	4.66	8.15	7.87	2.73	1.85	1.47	8.15
Min	1.03	1.25	1.49	1.42	1.59	2.16	1.97	2.99	2.43	1.46	1.30	1.08	1.03

Annual Max Momentary Gage Height 8.78 M (MSL), at 7.00 Hours, on Dec 14, 1991
Zero Gage at Bottom Elevation 0.68 M (MSL), River Bed 0.47 M (MSL)
Left Bank Elevation 9.03 M (MSL)
Right Bank Elevation 8.88 M (MSL), Drainage Area 1562 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.75	1.35	16.46	3.08	32.49	26.20	30.79	44.84	21.86	13.34	2.44	1.66	
2	0.65	2.36	13.10	2.84	26.35	33.17	31.30	41.61	19.69	15.38	2.20	1.55	
3	0.65	7.50	17.09	2.92	24.10	35.38	28.16	37.76	17.87	15.86	2.08	1.60	
4	0.56	9.26	30.45	3.40	23.50	33.17	23.65	34.53	16.10	15.86	2.02	2.60	
5	0.52	10.22	39.90	3.56	19.95	26.20	19.69	30.79	15.14	14.78	1.96	2.76	
6	0.48	11.42	46.93	3.24	15.86	25.45	16.70	27.10	13.70	13.22	1.90	2.14	
7	0.56	10.10	49.60	4.52	12.86	21.72	15.14	24.25	12.98	11.54	1.84	1.78	
8	1.25	7.10	49.40	5.40	10.82	18.26	13.94	20.88	12.98	10.34	1.78	1.72	
9	1.10	7.00	44.84	6.03	9.98	15.38	12.14	19.17	13.94	9.50	1.72	1.55	
10	0.75	5.40	38.82	6.90	9.38	13.58	11.06	24.25	15.98	8.54	1.72	1.45	
11	0.65	7.30	33.17	7.00	7.80	12.26	10.82	55.00	23.65	7.80	1.72	1.40	
12	0.60	10.70	25.60	5.76	6.03	11.06	11.66	99.73	71.28	7.30	1.60	1.35	
13	0.56	11.54	17.87	4.76	5.58	10.94	10.22	162.92	107.25	6.70	1.60	1.72	
14	0.52	11.18	13.34	5.32	5.08	9.98	9.02	165.80	139.95	6.40	1.66	1.66	
15	0.52	8.78	11.06	5.67	4.68	9.02	8.90	129.50	118.10	5.94	2.92	1.50	
16	0.48	9.74	9.50	4.92	4.20	9.02	9.50	100.28	101.68	5.67	4.04	1.40	
17	0.48	12.62	7.80	3.64	3.72	10.94	9.62	77.43	83.58	5.40	5.85	1.30	
18	0.32	13.82	6.70	2.68	4.12	16.34	8.90	64.24	64.68	5.24	5.85	1.15	
19	0.32	14.42	5.94	2.44	8.00	24.40	7.70	90.96	49.40	4.84	4.92	1.00	
20	0.44	14.30	5.32	2.36	15.86	29.44	7.00	113.34	37.08	4.68	4.60	0.90	
21	0.36	13.22	4.76	2.68	21.02	33.17	10.46	106.32	28.64	4.36	4.52	0.80	
22	0.56	12.26	4.36	3.08	25.15	35.72	16.96	93.30	24.10	4.04	4.20	0.75	
23	0.60	11.54	4.12	5.00	28.16	36.91	21.72	76.05	21.16	3.88	3.80	0.70	
24	0.65	10.70	4.36	11.66	30.45	35.89	25.45	62.26	19.04	3.64	3.56	0.65	
25	0.70	10.46	4.84	25.45	30.96	37.08	23.50	53.40	16.96	3.48	2.60	0.65	
26	1.84	10.94	5.16	41.23	29.77	36.74	22.00	47.69	16.22	3.32	2.28	0.65	
27	2.84	15.62	4.36	55.60	25.45	33.34	41.61	40.66	15.38	3.24	2.02	0.60	
28	2.08	16.58	3.64	55.40	20.74	30.96	38.28	33.00	14.18	3.08	1.96	0.56	
29	1.72	18.52	3.16	49.60	18.78	29.44	39.72	27.70	13.22	3.00	1.78	0.52	
30	1.45	19.82	2.92	43.51	18.39	28.96	45.60	24.25	12.26	2.92		0.56	
31		20.08		37.59	21.44		46.74		12.26	2.68		0.65	
Total	24.96	345.85	524.57	417.24	520.67	730.12	627.95	1929.01	1150.31	225.97	81.14	39.28	6617.07 CMSDAY
Mean	0.83	11.16	17.49	13.46	16.80	24.34	20.26	64.30	37.11	7.29	2.80	1.27	18.08 CMS
Max	2.84	20.08	49.60	55.60	32.49	37.08	46.74	165.80	139.95	15.86	5.85	2.76	165.80 CMS
Min	0.32	1.35	2.92	2.36	3.72	9.02	7.00	19.17	12.26	2.68	1.60	0.52	0.32 CMS
Runoff	2.157	29.881	45.323	36.050	44.986	63.082	54.255	166.666	99.387	19.524	7.010	3.394	571.715 MCM

Momentary Peak 247.00 CMS, at 8.78 M (MSL), at 7.00 Hours, on Dec 14, 1991

Runoff Yield 11.57 Liters/Second/Square KM, Momentary Peak Yield 158.13 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

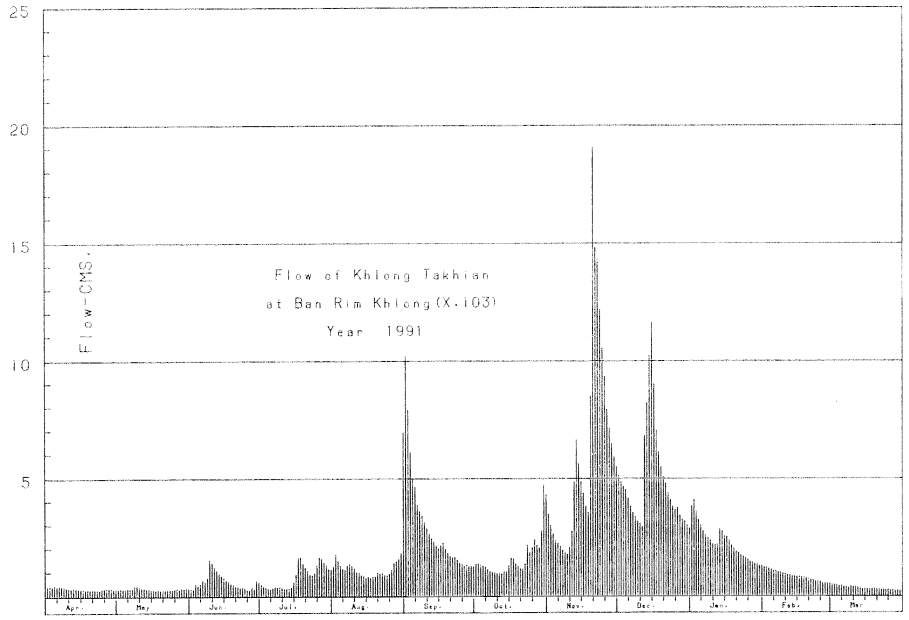
Khlong Takhian at Ban Rim Khlong, Surat Thani (X.103)

Location	Lat. 9°-25'-31" N., Long. 99°-09'-44" E., on right bank at Ban Rim Khlong, Amphoe Chaiya, Surat Thani.
Drainage Area	180 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+7.201 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank at the abutment of the bridge.
Elevation	+14.745 m.(M.S.L.)
Gage Reading Frequency	13-time daily readings at 06.00-18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1978 to date.
Rating Operation	
Period of Rating	1978 to date.
Rated by Float	-
Rated by Current Meter	1978 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 50 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	7.74	7.70	7.70	7.76	8.02	9.31	8.05	8.48	8.72	8.53	8.01	7.76	
2	7.74	7.70	7.70	7.74	8.17	9.09	8.06	8.40	8.68	8.57	8.00	7.76	
3	7.74	7.70	7.77	7.72	8.10	8.86	8.04	8.34	8.65	8.50	7.99	7.75	
4	7.75	7.70	7.75	7.71	8.03	8.70	8.03	8.29	8.63	8.44	7.97	7.74	
5	7.74	7.71	7.77	7.70	7.99	8.65	8.01	8.27	8.58	8.40	7.96	7.74	
6	7.74	7.70	7.83	7.72	7.97	8.54	7.98	8.24	8.53	8.36	7.95	7.73	
7	7.74	7.71	7.80	7.73	8.04	8.50	7.95	8.21	8.49	8.33	7.94	7.72	
8	7.73	7.74	7.86	7.73	8.05	8.47	7.94	8.18	8.46	8.31	7.93	7.72	
9	7.72	7.75	8.11	7.73	8.03	8.42	7.93	8.17	8.43	8.29	7.92	7.73	
10	7.71	7.73	8.07	7.72	7.99	8.38	7.92	8.23	8.41	8.26	7.91	7.73	
11	7.71	7.72	8.02	7.70	7.94	8.34	7.92	8.36	8.39	8.25	7.90	7.72	
12	7.71	7.71	7.97	7.71	7.93	8.31	7.92	8.68	8.95	8.26	7.89	7.72	
13	7.71	7.71	7.92	7.71	7.90	8.28	7.95	8.93	9.12	8.37	7.88	7.70	
14	7.70	7.70	7.89	7.73	7.88	8.25	7.95	8.79	9.31	8.36	7.87	7.69	
15	7.70	7.69	7.86	7.80	7.86	8.22	8.03	8.68	9.44	8.32	7.87	7.69	
16	7.70	7.68	7.83	7.91	7.87	8.25	8.13	8.61	9.20	8.32	7.87	7.69	
17	7.69	7.68	7.81	8.13	7.86	8.27	8.12	8.53	8.98	8.29	7.87	7.69	
18	7.69	7.68	7.78	8.14	7.87	8.22	8.06	8.49	8.86	8.25	7.86	7.70	
19	7.69	7.68	7.77	8.06	7.88	8.18	8.02	9.15	8.77	8.22	7.85	7.70	
20	7.69	7.68	7.74	8.01	7.93	8.15	7.99	10.04	8.71	8.20	7.84	7.69	
21	7.69	7.68	7.73	7.96	7.92	8.13	7.98	9.71	8.67	8.18	7.83	7.69	
22	7.68	7.68	7.72	7.91	7.92	8.14	8.06	9.67	8.61	8.16	7.82	7.68	
23	7.68	7.69	7.72	7.89	7.90	8.11	8.25	9.49	8.57	8.14	7.81	7.68	
24	7.70	7.68	7.72	7.93	7.89	8.07	8.19	9.34	8.53	8.13	7.80	7.68	
25	7.71	7.70	7.68	8.04	7.92	8.05	8.23	9.23	8.51	8.11	7.80	7.68	
26	7.71	7.71	7.68	8.14	7.97	8.03	8.30	9.09	8.52	8.09	7.79	7.67	
27	7.71	7.70	7.73	8.12	8.07	8.04	8.25	8.99	8.47	8.07	7.78	7.67	
28	7.71	7.71	7.70	8.08	8.09	8.02	8.23	8.91	8.44	8.06	7.77	7.66	
29	7.70	7.71	7.82	8.04	8.12	8.02	8.36	8.83	8.43	8.05	7.77	7.66	
30	7.70	7.71	7.80	7.99	8.18	8.02	8.66	8.77	8.40	8.03		7.66	
31		7.71		7.97	8.97		8.60		8.38	8.02		7.65	
Mean	7.71	7.70	7.81	7.88	8.01	8.33	8.10	8.77	8.67	8.25	7.88	7.70	
Max	7.75	7.75	8.11	8.14	8.97	9.31	8.66	10.04	9.44	8.57	8.01	7.76	10.04
Min	7.68	7.68	7.68	7.70	7.86	8.02	7.92	8.17	8.38	8.02	7.77	7.65	7.65

Annual Max Momentary Gage Height 10.11 M (MSL), at 15.00 Hours, on Nov 20, 1991
Zero Gage at Bottom Elevation 7.30 M (MSL), River Bed 7.56 M (MSL)
Left Bank Elevation 15.16 M (MSL)
Right Bank Elevation 14.98 M (MSL), Drainage Area 180 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.42	0.30	0.30	0.48	1.26	10.21	1.35	3.48	5.14	3.81	1.23	0.48	
2	0.42	0.30	0.30	0.42	1.78	7.92	1.38	3.00	4.86	4.09	1.20	0.48	
3	0.42	0.30	0.51	0.36	1.50	6.12	1.32	2.64	4.65	3.60	1.17	0.45	
4	0.45	0.30	0.45	0.33	1.29	5.00	1.29	2.35	4.51	3.24	1.11	0.42	
5	0.42	0.33	0.51	0.30	1.17	4.65	1.23	2.25	4.16	3.00	1.08	0.42	
6	0.42	0.30	0.69	0.36	1.11	3.88	1.14	2.10	3.81	2.76	1.05	0.39	
7	0.42	0.33	0.60	0.39	1.32	3.60	1.05	1.95	3.54	2.58	1.02	0.36	
8	0.39	0.42	0.78	0.39	1.35	3.42	1.02	1.82	3.36	2.46	0.99	0.36	
9	0.36	0.45	1.54	0.39	1.29	3.12	0.99	1.78	3.18	2.35	0.96	0.39	
10	0.33	0.39	1.41	0.36	1.17	2.88	0.96	2.05	3.06	2.20	0.93	0.39	
11	0.33	0.36	1.26	0.30	1.02	2.64	0.96	2.76	2.94	2.15	0.90	0.36	
12	0.33	0.33	1.11	0.33	0.99	2.46	0.96	4.86	6.80	2.20	0.87	0.36	
13	0.33	0.33	0.96	0.33	0.90	2.30	1.05	6.64	8.20	2.82	0.84	0.30	
14	0.30	0.30	0.87	0.39	0.84	2.15	1.05	5.63	10.21	2.76	0.81	0.28	
15	0.30	0.28	0.78	0.60	0.78	2.00	1.29	4.86	11.64	2.52	0.81	0.28	
16	0.30	0.26	0.69	0.93	0.81	2.15	1.62	4.37	9.00	2.52	0.81	0.28	
17	0.28	0.26	0.63	1.62	0.78	2.25	1.58	3.81	7.04	2.35	0.81	0.28	
18	0.28	0.26	0.54	1.66	0.81	2.00	1.38	3.54	6.12	2.15	0.78	0.30	
19	0.28	0.26	0.51	1.38	0.84	1.82	1.26	8.50	5.49	2.00	0.75	0.30	
20	0.28	0.26	0.42	1.23	0.99	1.70	1.17	19.06	5.07	1.90	0.72	0.28	
21	0.28	0.26	0.39	1.08	0.96	1.62	1.14	14.82	4.79	1.82	0.69	0.28	
22	0.26	0.26	0.36	0.93	0.96	1.66	1.38	14.34	4.37	1.74	0.66	0.26	
23	0.26	0.28	0.36	0.87	0.90	1.54	2.15	12.19	4.09	1.66	0.63	0.26	
24	0.30	0.26	0.36	0.99	0.87	1.41	1.86	10.54	3.81	1.62	0.60	0.26	
25	0.33	0.30	0.26	1.32	0.96	1.35	2.05	9.33	3.67	1.54	0.60	0.26	
26	0.33	0.33	0.26	1.66	1.11	1.29	2.40	7.92	3.74	1.47	0.57	0.24	
27	0.33	0.30	0.39	1.58	1.41	1.32	2.15	7.12	3.42	1.41	0.54	0.24	
28	0.33	0.33	0.30	1.44	1.47	1.26	2.05	6.48	3.24	1.38	0.51	0.22	
29	0.30	0.33	0.66	1.32	1.58	1.26	2.76	5.91	3.18	1.35	0.51	0.22	
30	0.30	0.33	0.60	1.17	1.82	1.26	4.72	5.49	3.00	1.29		0.22	
31		0.33		1.11	6.96		4.30		2.88	1.26		0.20	
Total	10.08	9.63	18.80	26.02	41.00	86.24	51.01	181.59	152.97	70.00	24.15	9.82	681.31 CMSDAY
Mean	0.34	0.31	0.63	0.84	1.32	2.87	1.65	6.05	4.93	2.26	0.83	0.32	1.86 CMS
Max	0.45	0.45	1.54	1.66	6.96	10.21	4.72	19.06	11.64	4.09	1.23	0.48	19.06 CMS
Min	0.26	0.26	0.26	0.30	0.78	1.26	0.96	1.78	2.88	1.26	0.51	0.20	0.20 CMS
Runoff	0.871	0.832	1.624	2.248	3.542	7.451	4.407	15.689	13.217	6.048	2.087	0.848	58.865 MCM

Momentary Peak 20.04 CMS, at 10.11 M (MSL), at 15.00 Hours, on Nov 20, 1991

Runoff Yield 10.34 Liters/Second/Square KM, Momentary Peak Yield 111.33 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

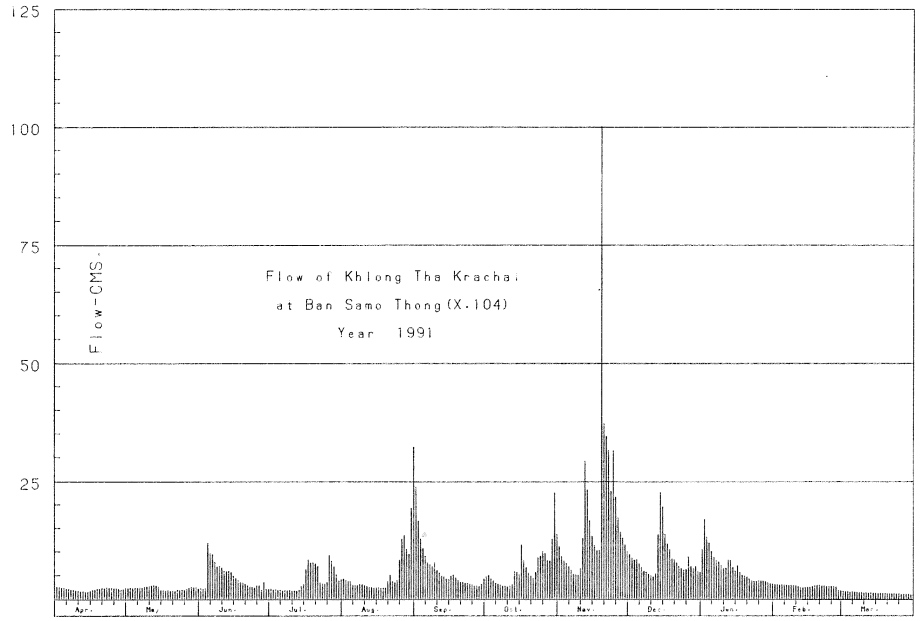
Khlong Tha Krachai at Ban Samo Thong, Surat Thani (X.104)

Location	Lat. 9°-34'-47" N., Long. 99°-08'-14" E., on left bank at Ban Samo Thong, Amphoe Tha Chana, Surat Thani.
Drainage Area	354 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+6.702 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank about 21 meters downstream from the top staff gage.
Elevation	+15.447 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1978 to date.
Rating Operation	
Period of Rating	1978 to date.
Rated by Float	-
Rated by Current Meter	1978 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 37 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	7.17	7.14	7.13	7.12	7.32	8.13	7.34	7.66	7.58	7.63	7.22	7.07	
2	7.16	7.14	7.13	7.11	7.30	7.89	7.36	7.56	7.54	7.90	7.22	7.07	
3	7.15	7.14	7.13	7.11	7.29	7.74	7.32	7.51	7.52	7.76	7.21	7.07	
4	7.14	7.14	7.70	7.10	7.28	7.64	7.30	7.48	7.52	7.70	7.21	7.06	
5	7.13	7.15	7.59	7.10	7.21	7.56	7.24	7.45	7.48	7.61	7.21	7.06	
6	7.12	7.15	7.58	7.09	7.20	7.49	7.23	7.41	7.44	7.55	7.20	7.06	
7	7.11	7.15	7.50	7.09	7.20	7.47	7.21	7.37	7.40	7.51	7.20	7.05	
8	7.10	7.16	7.45	7.09	7.22	7.45	7.19	7.36	7.39	7.50	7.20	7.05	
9	7.09	7.18	7.45	7.09	7.22	7.49	7.18	7.36	7.37	7.46	7.20	7.05	
10	7.08	7.19	7.44	7.08	7.20	7.41	7.17	7.43	7.35	7.43	7.19	7.04	
11	7.07	7.20	7.40	7.08	7.18	7.38	7.18	7.75	7.34	7.43	7.18	7.04	
12	7.07	7.20	7.40	7.08	7.16	7.35	7.22	8.29	7.37	7.52	7.15	7.04	
13	7.06	7.20	7.40	7.10	7.16	7.34	7.40	8.11	7.79	7.51	7.15	7.04	
14	7.06	7.17	7.39	7.18	7.15	7.32	7.39	7.89	8.09	7.44	7.15	7.04	
15	7.08	7.10	7.35	7.22	7.15	7.31	7.36	7.77	7.99	7.40	7.16	7.03	
16	7.10	7.09	7.33	7.42	7.15	7.35	7.68	7.68	7.79	7.46	7.16	7.03	
17	7.11	7.09	7.30	7.52	7.14	7.36	7.51	7.62	7.69	7.39	7.18	7.03	
18	7.12	7.09	7.27	7.49	7.14	7.33	7.44	7.62	7.63	7.36	7.20	7.03	
19	7.13	7.08	7.25	7.49	7.15	7.30	7.38	9.77	7.53	7.35	7.20	7.03	
20	7.14	7.08	7.23	7.48	7.29	7.27	7.35	8.50	7.52	7.34	7.20	7.02	
21	7.14	7.08	7.20	7.45	7.36	7.26	7.32	8.43	7.49	7.32	7.19	7.02	
22	7.15	7.10	7.17	7.26	7.29	7.25	7.39	8.35	7.45	7.30	7.19	7.02	
23	7.15	7.10	7.16	7.23	7.26	7.24	7.54	8.10	7.43	7.28	7.18	7.02	
24	7.14	7.10	7.15	7.23	7.30	7.23	7.56	8.35	7.41	7.29	7.18	7.02	
25	7.14	7.10	7.19	7.26	7.52	7.21	7.61	8.06	7.42	7.30	7.18	7.02	
26	7.13	7.11	7.20	7.57	7.74	7.19	7.59	7.91	7.55	7.30	7.17	7.01	
27	7.13	7.15	7.12	7.51	7.78	7.19	7.52	7.81	7.45	7.29	7.17	7.01	
28	7.10	7.16	7.27	7.45	7.63	7.18	7.51	7.75	7.43	7.28	7.09	7.01	
29	7.12	7.16	7.12	7.37	7.58	7.22	7.74	7.68	7.45	7.25	7.09	7.01	
30	7.14	7.15	7.12	7.30	7.98	7.32	8.09	7.61	7.40	7.24		7.00	
31		7.13		7.31	8.37		7.79		7.39	7.23		6.99	
Mean	7.12	7.13	7.30	7.26	7.35	7.40	7.42	7.85	7.52	7.43	7.18	7.03	
Max	7.17	7.20	7.70	7.57	8.37	8.13	8.09	9.77	8.09	7.90	7.22	7.07	9.77
Min	7.06	7.08	7.12	7.08	7.14	7.18	7.17	7.36	7.34	7.23	7.09	6.99	6.99

Annual Max Momentary Gage Height 9.83 M (MSL), at 18.00 Hours, on Nov 19, 1991
Zero Gage at Bottom Elevation 6.70 M (MSL), River Bed 6.48 M (MSL)
Left Bank Elevation 16.56 M (MSL)
Right Bank Elevation 16.15 M (MSL), Drainage Area 354 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.70	2.40	2.30	2.20	4.40	23.90	4.80	11.20	9.60	10.60	3.20	1.70	
2	2.60	2.40	2.30	2.10	4.00	16.70	5.20	9.20	8.80	17.00	3.20	1.70	
3	2.50	2.40	2.30	2.10	3.90	12.80	4.40	8.20	8.40	13.20	3.10	1.70	
4	2.40	2.40	12.00	2.00	3.80	10.80	4.00	7.60	8.40	12.00	3.10	1.60	
5	2.30	2.50	9.80	2.00	3.10	9.20	3.40	7.00	7.60	10.20	3.10	1.60	
6	2.20	2.50	9.60	1.90	3.00	7.80	3.30	6.20	6.80	9.00	3.00	1.60	
7	2.10	2.50	8.00	1.90	3.00	7.40	3.10	5.40	6.00	8.20	3.00	1.50	
8	2.00	2.60	7.00	1.90	3.20	7.00	2.90	5.20	5.80	8.00	3.00	1.50	
9	1.90	2.80	7.00	1.90	3.20	7.80	2.80	5.20	5.40	7.20	3.00	1.50	
10	1.80	2.90	6.80	1.80	3.00	6.20	2.70	6.60	5.00	6.60	2.90	1.40	
11	1.70	3.00	6.00	1.80	2.80	5.60	2.80	13.00	4.80	6.60	2.80	1.40	
12	1.70	3.00	6.00	1.80	2.60	5.00	3.20	29.33	5.40	8.40	2.50	1.40	
13	1.60	3.00	6.00	2.00	2.60	4.80	6.00	23.30	13.80	8.20	2.50	1.40	
14	1.60	2.70	5.80	2.80	2.50	4.40	5.80	16.70	22.70	6.80	2.50	1.40	
15	1.80	2.00	5.00	3.20	2.50	4.20	5.20	13.40	19.70	6.00	2.60	1.30	
16	2.00	1.90	4.60	6.40	2.50	5.00	11.60	11.60	13.80	7.20	2.60	1.30	
17	2.10	1.90	4.00	8.40	2.40	5.20	8.20	10.40	11.80	5.80	2.80	1.30	
18	2.20	1.90	3.70	7.80	2.40	4.60	6.80	10.40	10.60	5.20	3.00	1.30	
19	2.30	1.80	3.50	7.80	2.50	4.00	5.60	100.20	8.60	5.00	3.00	1.30	
20	2.40	1.80	3.30	7.60	3.90	3.70	5.00	37.30	8.40	4.80	3.00	1.20	
21	2.40	1.80	3.00	7.00	5.20	3.60	4.40	34.64	7.80	4.40	2.90	1.20	
22	2.50	2.00	2.70	3.60	3.90	3.50	5.80	31.60	7.00	4.00	2.90	1.20	
23	2.50	2.00	2.60	3.30	3.60	3.40	8.80	23.00	6.60	3.80	2.80	1.20	
24	2.40	2.00	2.50	3.30	4.00	3.30	9.20	31.60	6.20	3.90	2.80	1.20	
25	2.40	2.00	2.90	3.60	8.40	3.10	10.20	21.80	6.40	4.00	2.80	1.20	
26	2.30	2.10	3.00	9.40	12.80	2.90	9.80	17.30	9.00	4.00	2.70	1.10	
27	2.30	2.50	2.20	8.20	13.60	2.90	8.40	14.30	7.00	3.90	2.70	1.10	
28	2.00	2.60	3.70	7.00	10.60	2.80	8.20	13.00	6.60	3.80	1.90	1.10	
29	2.20	2.60	2.20	5.40	9.60	3.20	12.80	11.60	7.00	3.50	1.90	1.10	
30	2.40	2.50	2.20	4.00	19.40	4.40	22.70	10.20	6.00	3.40		1.00	
31		2.30		4.20	32.36		13.80		5.80	3.30		0.92	
Total	65.30	72.80	142.00	128.40	184.76	189.20	210.90	546.47	266.80	208.00	81.30	41.42	2137.35 CMSDAY
Mean	2.18	2.35	4.73	4.14	5.96	6.31	6.80	18.22	8.61	6.71	2.80	1.34	5.84 CMS
Max	2.70	3.00	12.00	9.40	32.36	23.90	22.70	100.20	22.70	17.00	3.20	1.70	100.20 CMS
Min	1.60	1.80	2.20	1.80	2.40	2.80	2.70	5.20	4.80	3.30	1.90	0.92	0.92 CMS
Runoff	5.642	6.290	12.269	11.094	15.963	16.347	18.222	47.215	23.052	17.971	7.024	3.579	184.667 MCM

Momentary Peak 103.95 CMS, at 9.83 M (MSL), at 18.00 Hours, on Nov 19, 1991

Runoff Yield 16.50 Liters/Second/Square KM, Momentary Peak Yield 293.64 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

Khlong Mai Siap at Ban Mai Siap, Nakhon Si Thammarat (X.105)

Location — Lat. 7°-51'-01" N., Long. 99°-55'-53" E., on left bank at the bridge of Nakhon Si Thammarat-Phatthalung Highway, at Ban Mai Siap, Amphoe Cha-Uat, Nakhon Si Thammarat.

Drainage Area — 155 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +10.45 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — Infront of the station office.

Elevation — +20.279 m.(M.S.L.)

Gage Reading Frequency — 13-time daily readings at 06.00-18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 13 readings.

Period of Available Gage Records — 1978 to date.

Rating Operation

Period of Rating — 1979 to date.

Rated by Float — -

Rated by Current Meter — 1979 to date.

Stability of Channel Regimes — Fairly stable.

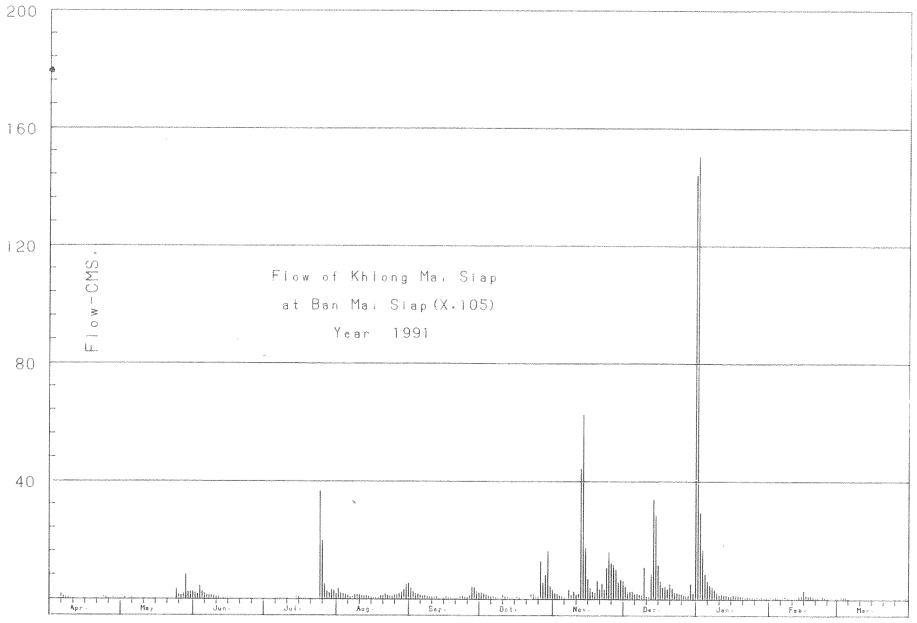
Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 14 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	11.17	11.41	11.61	11.14	11.85	11.87	11.62	11.60	11.92	15.69	11.33	11.29	
2	11.08	11.29	11.55	11.15	11.62	11.70	11.56	11.53	11.71	13.28	11.32	11.35	
3	11.09	11.23	11.95	11.15	11.56	11.59	11.48	11.45	11.70	12.78	11.31	11.34	
4	11.08	11.32	11.70	11.14	11.51	11.55	11.43	11.40	11.69	12.31	11.34	11.33	
5	11.55	11.30	11.57	11.16	11.45	11.46	11.40	11.29	11.55	12.12	11.21	11.23	
6	11.39	11.30	11.48	11.14	11.34	11.43	11.38	11.39	11.56	11.99	11.29	11.22	
7	11.33	11.14	11.46	11.13	11.37	11.47	11.35	11.80	11.53	11.89	11.39	11.19	
8	11.28	11.13	11.46	11.15	11.55	11.38	11.26	11.46	11.50	11.80	11.21	11.23	
9	11.23	11.12	11.42	11.16	11.50	11.36	11.29	11.70	12.46	11.63	11.20	11.25	
10	11.10	11.11	11.35	11.15	11.48	11.33	11.49	11.51	11.38	11.47	11.29	11.22	
11	11.08	11.12	11.44	11.15	11.44	11.33	11.37	11.58	11.38	11.51	11.23	11.20	
12	11.07	11.26	11.17	11.16	11.43	11.37	11.33	13.72	12.32	11.49	11.38	11.18	
13	11.06	11.25	11.16	11.15	11.42	11.25	11.35	14.19	13.42	11.46	11.38	11.25	
14	11.06	11.13	11.25	11.38	11.39	11.30	11.27	12.82	13.25	11.41	11.45	11.24	
15	11.06	11.14	11.30	11.34	11.32	11.36	11.23	12.19	12.51	11.40	11.74	11.23	
16	11.07	11.11	11.30	11.18	11.36	11.38	11.36	11.86	12.14	11.48	11.43	11.23	
17	11.06	11.10	11.27	11.16	11.29	11.32	11.27	11.69	11.90	11.44	11.41	11.19	
18	11.06	11.10	11.17	11.17	11.39	11.28	11.19	11.61	11.97	11.42	11.43	11.18	
19	11.15	11.10	11.16	11.17	11.44	11.23	11.19	12.13	11.84	11.39	11.34	11.17	
20	11.08	11.10	11.15	11.17	11.45	11.22	11.22	11.81	12.03	11.37	11.35	11.16	
21	11.06	11.10	11.14	11.16	11.56	11.33	11.21	12.04	11.87	11.35	11.22	11.17	
22	11.07	11.11	11.16	11.16	11.44	11.38	11.51	11.82	11.66	11.34	11.38	11.18	
23	11.40	11.12	11.16	11.15	11.41	11.41	11.51	12.45	11.63	11.32	11.36	11.19	
24	11.42	11.90	11.14	13.50	11.46	11.34	11.39	12.75	11.58	11.31	11.27	11.18	
25	11.18	11.50	11.15	12.91	11.49	11.39	11.36	12.55	11.56	11.30	11.28	11.17	
26	11.33	11.46	11.14	12.02	11.52	11.44	12.59	12.51	11.47	11.31	11.24	11.17	
27	11.29	11.55	11.15	11.72	11.56	11.93	12.06	12.41	11.42	11.32	11.28	11.17	
28	11.30	12.29	11.14	11.62	11.66	11.89	12.28	12.08	11.48	11.31	11.27	11.21	
29	11.24	11.66	11.14	11.79	11.81	11.69	12.77	12.16	12.04	11.29	11.27	11.28	
30	11.11	11.66	11.14	11.75	12.02	11.63	11.94	12.12	11.59	11.28		11.27	
31		11.69		11.56	12.05		11.81		15.60	11.30		11.18	
Mean	11.18	11.32	11.31	11.41	11.52	11.45	11.53	12.05	11.99	11.73	11.33	11.22	
Max	11.55	12.29	11.95	13.50	12.05	11.93	12.77	14.19	15.60	15.69	11.74	11.35	15.69
Min	11.06	11.10	11.14	11.13	11.29	11.22	11.19	11.29	11.38	11.28	11.20	11.16	11.06

Annual Max Momentary Gage Height 16.46 M (MSL), at 7.00 Hours, on Dec 31, 1991
Zero Gage at Bottom Elevation 10.45 M (MSL), River Bed 10.74 M (MSL)
Left Bank Elevation 20.59 M (MSL)
Right Bank Elevation 20.37 M (MSL), Drainage Area 155 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.34	1.05	2.06	0.28	3.60	3.76	2.12	2.00	4.16	150.30	0.79	0.67	
2	0.16	0.67	1.75	0.30	2.12	2.60	1.80	1.65	2.66	29.40	0.76	0.85	
3	0.18	0.49	4.40	0.30	1.80	1.95	1.40	1.25	2.60	16.60	0.73	0.82	
4	0.16	0.76	2.60	0.28	1.55	1.75	1.15	1.00	2.54	8.54	0.82	0.79	
5	1.75	0.70	1.85	0.32	1.25	1.30	1.00	0.67	1.75	6.12	0.43	0.49	
6	0.97	0.70	1.40	0.28	0.82	1.15	0.94	0.97	1.80	4.72	0.67	0.46	
7	0.79	0.28	1.30	0.26	0.91	1.35	0.85	3.20	1.65	3.92	0.97	0.38	
8	0.64	0.26	1.30	0.30	1.75	0.94	0.58	1.30	1.50	3.20	0.43	0.49	
9	0.49	0.24	1.10	0.32	1.50	0.88	0.67	2.60	10.76	2.18	0.40	0.55	
10	0.20	0.22	0.85	0.30	1.40	0.79	1.45	1.55	0.94	1.35	0.67	0.46	
11	0.16	0.24	1.20	0.30	1.20	0.79	0.91	1.90	0.94	1.55	0.49	0.40	
12	0.14	0.58	0.34	0.32	1.15	0.91	0.79	44.20	8.68	1.45	0.94	0.36	
13	0.12	0.55	0.32	0.30	1.10	0.55	0.85	62.60	33.88	1.30	0.94	0.55	
14	0.12	0.26	0.55	0.94	0.97	0.70	0.61	17.50	28.50	1.05	1.25	0.52	
15	0.12	0.28	0.70	0.82	0.76	0.88	0.49	6.89	11.56	1.00	2.84	0.49	
16	0.14	0.22	0.70	0.36	0.88	0.94	0.88	3.68	6.34	1.40	1.15	0.49	
17	0.12	0.20	0.61	0.32	0.67	0.76	0.61	2.54	4.00	1.20	1.05	0.38	
18	0.12	0.20	0.34	0.34	0.97	0.64	0.38	2.06	4.56	1.10	1.15	0.36	
19	0.30	0.20	0.32	0.34	1.20	0.49	0.38	6.23	3.52	0.97	0.82	0.34	
20	0.16	0.20	0.30	0.34	1.25	0.46	0.46	3.28	5.13	0.91	0.85	0.32	
21	0.12	0.20	0.28	0.32	1.80	0.79	0.43	5.24	3.76	0.85	0.46	0.34	
22	0.14	0.22	0.32	0.32	1.20	0.94	1.55	3.36	2.36	0.82	0.94	0.36	
23	1.00	0.24	0.32	0.30	1.05	1.05	1.55	10.60	2.18	0.76	0.88	0.38	
24	1.10	4.00	0.28	36.60	1.30	0.82	0.97	16.00	1.90	0.73	0.61	0.36	
25	0.36	1.50	0.30	19.75	1.45	0.97	0.88	12.20	1.80	0.70	0.64	0.34	
26	0.79	1.30	0.28	5.02	1.60	1.20	12.84	11.56	1.35	0.73	0.52	0.34	
27	0.67	1.75	0.30	2.72	1.80	4.24	5.46	9.96	1.10	0.76	0.64	0.34	
28	0.70	8.26	0.28	2.12	2.36	3.92	8.12	5.68	1.40	0.73	0.61	0.43	
29	0.52	2.36	0.28	3.14	3.28	2.54	16.40	6.56	5.24	0.67	0.61	0.64	
30	0.22	2.36	0.28	2.90	5.02	2.18	4.32	6.12	1.95	0.64		0.61	
31		2.54		1.80	5.35		3.28		144.00	0.70		0.36	
Total	12.80	33.03	26.91	82.31	53.06	42.24	74.12	254.35	304.51	246.35	24.06	14.67	1168.41 CMSDAY
Mean	0.43	1.07	0.90	2.66	1.71	1.41	2.39	8.48	9.82	7.95	0.83	0.47	3.19 CMS
Max	1.75	8.26	4.40	36.60	5.35	4.24	16.40	62.60	144.00	150.30	2.84	0.85	150.30 CMS
Min	0.12	0.20	0.28	0.26	0.67	0.46	0.38	0.67	0.94	0.64	0.40	0.32	0.12 CMS
Runoff	1.106	2.854	2.325	7.112	4.584	3.650	6.404	21.976	26.310	21.285	2.079	1.267	100.951 MCM

Momentary Peak 208.80 CMS, at 16.46 M (MSL), at 7.00 Hours, on Dec 31, 1991

Runoff Yield 20.60 Liters/Second/Square KM, Momentary Peak Yield 1347.10 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

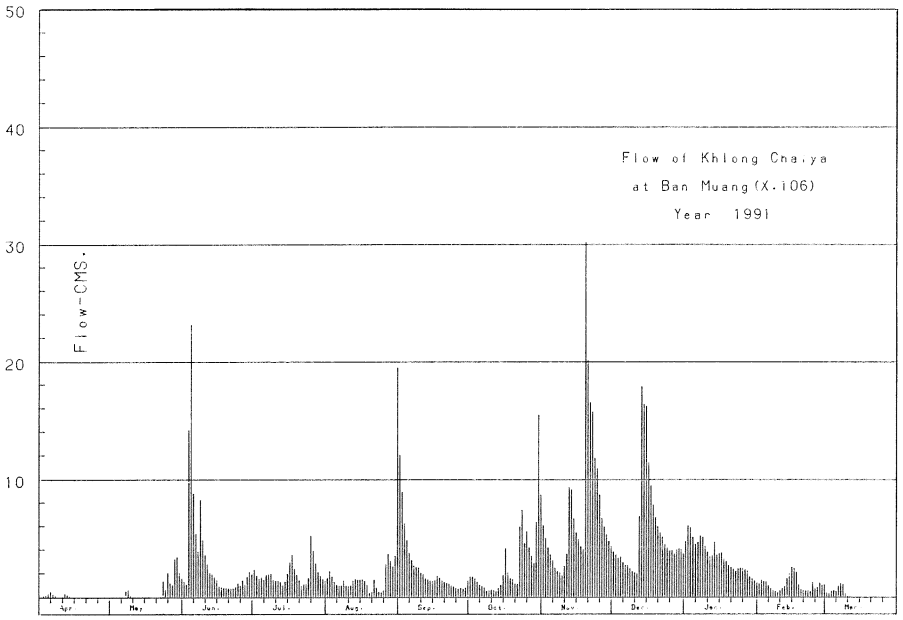
Khlong Chaiya at Ban Muang, Surat Thani (X.106)

Location	Lat. 9°-23'-46" N., Long. 99°-10'-31" E., on left bank at Ban Muang, Amphoe Chaiya, Surat Thani.
Drainage Area	309 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+7.063 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank infront of the gage observer's house.
Elevation	+10.248 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1978 to date.
Rating Operation	
Period of Rating	1978 to date.
Rated by Float	-
Rated by Current Meter	1978 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 11 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	6.82	6.82	7.16	7.35	7.23	8.30	7.25	7.77	7.53	7.63	7.13	6.95	
2	6.84	6.82	7.12	7.27	7.33	8.04	7.25	7.66	7.50	7.77	7.20	6.90	
3	6.86	6.82	8.45	7.21	7.25	7.79	7.21	7.57	7.47	7.75	7.17	6.97	
4	6.92	6.81	9.03	7.24	7.16	7.64	7.16	7.50	7.48	7.67	7.16	6.99	
5	6.96	6.81	8.03	7.19	7.11	7.52	7.11	7.45	7.43	7.60	7.10	6.96	
6	6.88	6.83	7.70	7.28	7.09	7.45	7.09	7.37	7.40	7.62	7.03	7.09	
7	6.85	6.97	7.53	7.29	7.10	7.40	7.05	7.33	7.40	7.68	6.99	7.13	
8	6.83	7.00	7.98	7.30	7.18	7.38	6.98	7.31	7.36	7.67	6.96	7.12	
9	6.82	6.86	7.64	7.20	7.10	7.37	6.99	7.27	7.33	7.58	6.93	6.92	
10	6.86	6.81	7.50	7.18	7.08	7.31	7.01	7.39	7.31	7.53	6.98	6.83	
11	6.90	6.79	7.41	7.18	7.10	7.29	6.99	7.51	7.30	7.48	7.04	6.81	
12	6.87	6.78	7.31	7.16	7.18	7.22	6.97	8.08	7.85	7.49	7.07	6.77	
13	6.84	6.74	7.29	7.10	7.21	7.20	7.04	8.06	8.70	7.62	7.22	6.73	
14	6.81	6.74	7.24	7.17	7.19	7.18	7.11	7.83	8.60	7.50	7.30	6.79	
15	6.80	6.73	7.19	7.30	7.20	7.17	7.28	7.71	8.59	7.51	7.38	6.82	
16	6.75	6.72	7.08	7.43	7.20	7.19	7.56	7.65	8.25	7.52	7.36	6.83	
17	6.74	6.72	7.06	7.50	7.18	7.26	7.31	7.58	8.09	7.47	7.32	6.76	
18	6.74	6.71	7.05	7.36	7.11	7.23	7.22	7.55	7.94	7.44	7.11	6.72	
19	6.73	6.70	7.04	7.28	6.92	7.18	7.20	9.43	7.84	7.40	7.02	6.71	
20	6.72	6.67	7.04	7.19	6.95	7.16	7.13	8.84	7.76	7.38	6.99	6.71	
21	6.72	6.66	7.03	7.10	7.20	7.14	7.13	8.61	7.71	7.35	6.98	6.76	
22	6.72	6.67	7.04	7.12	7.05	7.13	7.76	8.56	7.67	7.33	6.98	6.78	
23	6.72	7.17	7.06	7.13	6.96	7.10	7.90	8.28	7.60	7.36	6.96	6.79	
24	6.74	7.01	7.14	7.23	6.93	7.08	7.61	8.21	7.57	7.37	7.15	6.77	
25	6.74	7.31	7.10	7.68	7.00	7.04	7.72	8.02	7.54	7.36	7.03	6.77	
26	6.74	7.14	7.19	7.54	7.41	7.03	7.57	7.83	7.54	7.35	7.05	6.76	
27	6.72	7.11	7.11	7.42	7.51	7.04	7.49	7.76	7.51	7.33	7.14	6.77	
28	6.71	7.46	7.25	7.32	7.45	7.03	7.42	7.69	7.55	7.25	7.10	6.76	
29	6.70	7.48	7.32	7.26	7.39	7.05	7.80	7.63	7.56	7.21	7.11	6.76	
30	6.70	7.31	7.29	7.21	7.49	7.18	8.54	7.58	7.55	7.18		6.74	
31		7.22		7.17	8.80		8.02		7.51	7.14		6.71	
Mean	6.79	6.92	7.38	7.27	7.23	7.30	7.35	7.83	7.69	7.47	7.10	6.83	
Max	6.96	7.48	9.03	7.68	8.80	8.30	8.54	9.43	8.70	7.77	7.38	7.13	9.43
Min	6.70	6.66	7.03	7.10	6.92	7.03	6.97	7.27	7.30	7.14	6.93	6.71	6.66

Annual Max Momentary Gage Height 9.90 M (MSL), at 15.00 Hours, on Nov 19, 1991
Zero Gage at Bottom Elevation 7.06 M (MSL), River Bed 6.06 M (MSL)
Left Bank Elevation 10.68 M (MSL)
Right Bank Elevation 10.60 M (MSL), Drainage Area 309 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.06	0.06	1.30	2.35	1.65	12.10	1.75	6.10	3.87	4.77	1.15	0.45	
2	0.12	0.06	1.10	1.85	2.21	8.94	1.75	5.04	3.60	6.10	1.50	0.30	
3	0.18	0.06	14.20	1.55	1.75	6.30	1.55	4.23	3.33	5.90	1.35	0.51	
4	0.36	0.03	23.18	1.70	1.30	4.86	1.30	3.60	3.42	5.13	1.30	0.57	
5	0.48	0.03	8.83	1.45	1.05	3.78	1.05	3.15	2.97	4.50	1.00	0.48	
6	0.24	0.09	5.40	1.90	0.96	3.15	0.96	2.49	2.70	4.68	0.72	0.96	
7	0.15	0.51	3.87	1.95	1.00	2.70	0.80	2.21	2.70	5.22	0.57	1.15	
8	0.09	0.60	8.28	2.00	1.40	2.56	0.54	2.07	2.42	5.13	0.48	1.10	
9	0.06	0.18	4.86	1.50	1.00	2.49	0.57	1.85	2.21	4.32	0.39	0.36	
10	0.18	0.03	3.60	1.40	0.92	2.07	0.64	2.63	2.07	3.87	0.54	0.09	
11	0.30	0.00	2.79	1.40	1.00	1.95	0.57	3.69	2.00	3.42	0.76	0.03	
12	0.21	0.00	2.07	1.30	1.40	1.60	0.51	9.38	6.90	3.51	0.88	0.00	
13	0.12	0.00	1.95	1.00	1.55	1.50	0.76	9.16	17.90	4.68	1.60	0.00	
14	0.03	0.00	1.70	1.35	1.45	1.40	1.05	6.70	16.40	3.60	2.00	0.00	
15	0.00	0.00	1.45	2.00	1.50	1.35	1.90	5.50	16.25	3.69	2.56	0.06	
16	0.00	0.00	0.92	2.97	1.50	1.45	4.14	4.95	11.45	3.78	2.42	0.09	
17	0.00	0.00	0.84	3.60	1.40	1.80	2.07	4.32	9.49	3.33	2.14	0.00	
18	0.00	0.00	0.80	2.42	1.05	1.65	1.60	4.05	7.84	3.06	1.05	0.00	
19	0.00	0.00	0.76	1.90	0.36	1.40	1.50	30.17	6.80	2.70	0.68	0.00	
20	0.00	0.00	0.76	1.45	0.45	1.30	1.15	20.14	6.00	2.56	0.57	0.00	
21	0.00	0.00	0.72	1.00	1.50	1.20	1.15	16.55	5.50	2.35	0.54	0.00	
22	0.00	0.00	0.76	1.10	0.80	1.15	6.00	15.80	5.13	2.21	0.54	0.00	
23	0.00	1.35	0.84	1.15	0.48	1.00	7.40	11.84	4.50	2.42	0.48	0.00	
24	0.00	0.64	1.20	1.65	0.39	0.92	4.59	10.93	4.23	2.49	1.25	0.00	
25	0.00	2.07	1.00	5.22	0.60	0.76	5.60	8.72	3.96	2.42	0.72	0.00	
26	0.00	1.20	1.45	3.96	2.79	0.72	4.23	6.70	3.96	2.35	0.80	0.00	
27	0.00	1.05	1.05	2.88	3.69	0.76	3.51	6.00	3.69	2.21	1.20	0.00	
28	0.00	3.24	1.75	2.14	3.15	0.72	2.88	5.31	4.05	1.75	1.00	0.00	
29	0.00	3.42	2.14	1.80	2.63	0.80	6.40	4.77	4.14	1.55	1.05	0.00	
30	0.00	2.07	1.95	1.55	3.51	1.40	15.50	4.32	4.05	1.40		0.00	
31		1.60		1.35	19.50		8.72		3.69	1.20		0.00	
Total	2.58	18.29	101.52	60.84	63.94	73.78	92.14	222.37	177.22	106.30	31.24	6.15	956.37 CMSDAY
Mean	0.09	0.59	3.38	1.96	2.06	2.46	2.97	7.41	5.72	3.43	1.08	0.20	2.61 CMS
Max	0.48	3.42	23.18	5.22	19.50	12.10	15.50	30.17	17.90	6.10	2.56	1.15	30.17 CMS
Min	0.00	0.00	0.72	1.00	0.36	0.72	0.51	1.85	2.00	1.20	0.39	0.00	0.00 CMS
Runoff	0.223	1.580	8.771	5.257	5.524	6.375	7.961	19.213	15.312	9.184	2.699	0.531	82.630 MCM

Momentary Peak 40.00 CMS, at 9.90 M (MSL), at 15.00 Hours, on Nov 19, 1991

Runoff Yield 8.46 Liters/Second/Square KM, Momentary Peak Yield 129.45 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

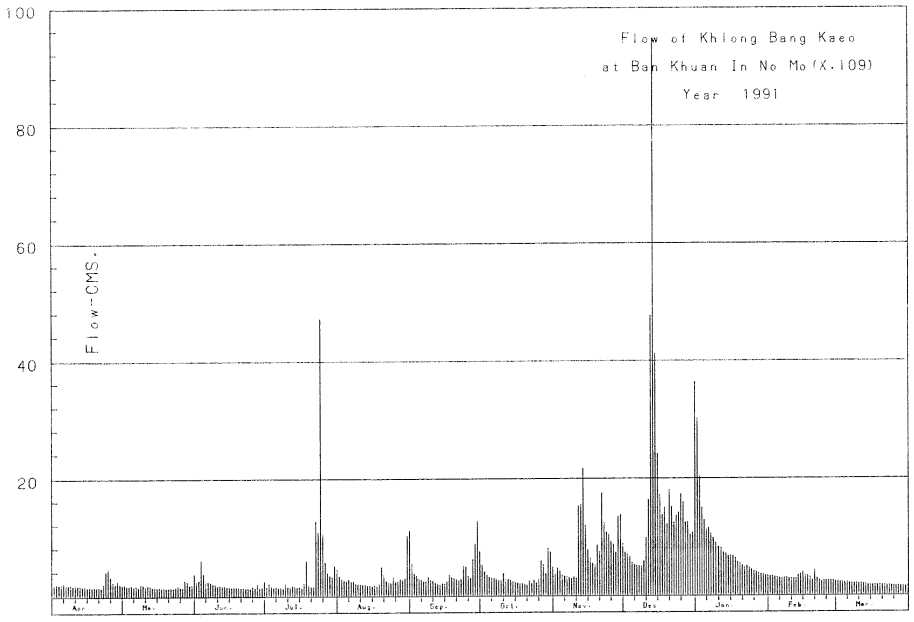
Khlong Bang Kaeo at Ban Khuan In No Mo, Phatthalung (X.109)

Location	Lat. 7°-20'-36" N., Long. 100°-03'-33" E., on left bank at Ban Khuan In Nomo, Amphoe Khao Chai Son, Phatthalung.
Drainage Area	133 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m. (A.D.)
Bench Mark	B.M.-H.D.
Location	Infront of the Health Office.
Elevation	+9.575 m.(A.D.)
Gage Reading Frequency	13-time daily readings at 06.00-18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1979 to date.
Rating Operation	
Period of Rating	1979 to date.
Rated by Float	-
Rated by Current Meter	1979 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 23 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.61	0.62	0.73	0.57	0.78	0.97	0.95	0.81	1.13	2.55	0.77	0.67	
2	0.62	0.59	0.70	0.64	0.72	0.82	0.85	0.90	1.10	1.99	0.77	0.66	
3	0.62	0.59	1.02	0.58	0.70	0.79	0.80	0.86	1.07	1.67	0.76	0.66	
4	0.62	0.60	0.82	0.57	0.68	0.73	0.76	0.79	0.98	1.53	0.75	0.65	
5	0.65	0.58	0.71	0.57	0.72	0.71	0.74	0.78	0.95	1.42	0.74	0.65	
6	0.62	0.59	0.68	0.56	0.67	0.68	0.74	0.76	0.93	1.44	0.73	0.64	
7	0.61	0.57	0.66	0.56	0.68	0.67	0.71	0.75	0.93	1.37	0.74	0.63	
8	0.61	0.62	0.64	0.55	0.64	0.76	0.70	0.72	0.92	1.32	0.74	0.63	
9	0.60	0.62	0.62	0.64	0.63	0.70	0.69	0.76	1.00	1.26	0.73	0.63	
10	0.60	0.58	0.60	0.58	0.62	0.69	0.82	0.73	1.32	1.21	0.72	0.63	
11	0.60	0.61	0.60	0.56	0.62	0.65	0.72	1.69	1.76	1.19	0.73	0.63	
12	0.60	0.59	0.59	0.60	0.61	0.63	0.72	1.70	3.41	1.13	0.72	0.62	
13	0.59	0.57	0.59	0.58	0.60	0.62	0.70	2.07	4.62	1.11	0.79	0.61	
14	0.58	0.56	0.58	0.57	0.60	0.64	0.68	1.47	3.11	1.08	0.80	0.60	
15	0.57	0.56	0.57	0.57	0.59	0.63	0.66	1.17	2.21	1.08	0.84	0.59	
16	0.57	0.56	0.57	0.56	0.60	0.68	0.65	1.05	1.81	1.08	0.78	0.60	
17	0.57	0.55	0.57	0.64	0.59	0.80	0.64	0.97	1.59	1.04	0.78	0.60	
18	0.57	0.56	0.57	1.01	0.62	0.76	0.64	0.94	1.67	0.99	0.75	0.60	
19	0.57	0.55	0.56	0.61	0.92	0.73	0.63	1.23	1.48	0.97	0.70	0.60	
20	0.57	0.55	0.56	0.58	0.80	0.72	0.61	1.14	1.86	0.94	0.86	0.60	
21	0.56	0.56	0.56	0.57	0.69	0.69	0.68	1.83	1.68	0.91	0.73	0.60	
22	0.63	0.55	0.55	1.52	0.65	0.72	0.64	1.50	1.50	0.93	0.69	0.59	
23	0.85	0.57	0.55	1.40	0.65	0.93	0.69	1.39	1.58	0.90	0.67	0.59	
24	0.93	0.59	0.55	3.39	0.76	0.92	0.65	1.36	1.61	0.88	0.68	0.59	
25	0.77	0.57	0.58	1.38	0.67	0.78	0.72	1.28	1.82	0.85	0.69	0.58	
26	0.67	0.56	0.56	0.99	0.67	0.74	1.01	1.24	1.73	0.84	0.68	0.58	
27	0.63	0.70	0.63	0.84	0.72	1.03	0.95	1.13	1.50	0.82	0.69	0.58	
28	0.68	0.67	0.56	0.79	0.70	1.25	0.82	1.57	1.50	0.81	0.68	0.58	
29	0.63	0.61	0.56	0.76	0.74	1.52	1.19	1.59	1.36	0.80	0.67	0.57	
30	0.61	0.61	0.69	0.94	1.35	1.15	1.14	1.25	1.38	0.79		0.57	
31		0.82		0.88	1.41		0.92		2.87	0.78		0.57	
Mean	0.63	0.59	0.62	0.82	0.72	0.80	0.77	1.18	1.69	1.15	0.74	0.61	
Max	0.93	0.82	1.02	3.39	1.41	1.52	1.19	2.07	4.62	2.55	0.86	0.67	4.62
Min	0.56	0.55	0.55	0.55	0.59	0.62	0.61	0.72	0.92	0.78	0.67	0.57	0.55

Annual Max Momentary Gage Height 4.90 M (A.D), at 2.00 Hours, on Dec 13, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.21 M (A.D)
Left Bank Elevation 7.56 M (A.D)
Right Bank Elevation 8.42 M (A.D), Drainage Area 133 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.89	1.98	2.97	1.53	3.42	5.55	5.32	3.71	7.39	30.13	3.33	2.43	
2	1.98	1.71	2.70	2.16	2.88	3.83	4.18	4.75	7.05	20.32	3.33	2.34	
3	1.98	1.71	6.13	1.62	2.70	3.51	3.60	4.29	6.71	15.05	3.24	2.34	
4	1.98	1.80	3.83	1.53	2.52	2.97	3.24	3.51	5.67	12.95	3.15	2.25	
5	2.25	1.62	2.79	1.53	2.88	2.79	3.06	3.42	5.32	11.30	3.06	2.25	
6	1.98	1.71	2.52	1.44	2.43	2.52	3.06	3.24	5.09	11.60	2.97	2.16	
7	1.89	1.53	2.34	1.44	2.52	2.43	2.79	3.15	5.09	10.58	3.06	2.07	
8	1.89	1.98	2.16	1.35	2.16	3.24	2.70	2.88	4.98	9.88	3.06	2.07	
9	1.80	1.98	1.98	2.16	2.07	2.70	2.61	3.24	5.90	9.04	2.97	2.07	
10	1.80	1.62	1.80	1.62	1.98	2.61	3.83	2.97	9.88	8.34	2.88	2.07	
11	1.80	1.89	1.80	1.44	1.98	2.25	2.88	15.35	16.40	8.09	2.97	2.07	
12	1.80	1.71	1.71	1.80	1.89	2.07	2.88	15.50	47.73	7.39	2.88	1.98	
13	1.71	1.53	1.71	1.62	1.80	1.98	2.70	21.72	94.80	7.17	3.51	1.89	
14	1.62	1.44	1.62	1.53	1.80	2.16	2.52	12.05	41.20	6.82	3.60	1.80	
15	1.53	1.44	1.53	1.53	1.71	2.07	2.34	7.85	24.18	6.82	4.06	1.71	
16	1.53	1.44	1.53	1.44	1.80	2.52	2.25	6.47	17.17	6.82	3.42	1.80	
17	1.53	1.35	1.53	2.16	1.71	3.60	2.16	5.55	13.85	6.36	3.42	1.80	
18	1.53	1.44	1.53	6.01	1.98	3.24	2.16	5.21	15.05	5.79	3.15	1.80	
19	1.53	1.35	1.44	1.89	4.98	2.97	2.07	8.62	12.20	5.55	2.70	1.80	
20	1.53	1.35	1.44	1.62	3.60	2.88	1.89	7.51	18.05	5.21	4.29	1.80	
21	1.44	1.44	1.44	1.53	2.61	2.61	2.52	17.53	15.20	4.87	2.97	1.80	
22	2.07	1.35	1.35	12.80	2.25	2.88	2.16	12.50	12.50	5.09	2.61	1.71	
23	4.18	1.53	1.35	11.00	2.25	5.09	2.61	10.86	13.70	4.75	2.43	1.71	
24	5.09	1.71	1.35	47.28	3.24	4.98	2.25	10.44	14.15	4.52	2.52	1.71	
25	3.33	1.53	1.62	10.72	2.43	3.42	2.88	9.32	17.35	4.18	2.61	1.62	
26	2.43	1.44	1.44	5.79	2.43	3.06	6.01	8.76	15.95	4.06	2.52	1.62	
27	2.07	2.70	2.07	4.06	2.88	6.24	5.32	7.39	12.50	3.83	2.61	1.62	
28	2.52	2.43	1.44	3.51	2.70	8.90	3.83	13.55	12.50	3.71	2.52	1.62	
29	2.07	1.89	1.44	3.24	3.06	12.80	8.09	13.85	10.44	3.60	2.43	1.53	
30	1.89	1.89	2.61	5.21	10.30	7.62	7.51	8.90	10.72	3.51		1.53	
31		3.83		4.52	11.15		4.98		36.40	3.42		1.53	
Total	62.64	54.32	61.17	147.08	94.11	115.49	106.40	254.09	535.12	250.75	88.27	58.50	1827.94 CMSDAY
Mean	2.09	1.75	2.04	4.74	3.04	3.85	3.43	8.47	17.26	8.09	3.04	1.89	4.99 CMS
Max	5.09	3.83	6.13	47.28	11.15	12.80	8.09	21.72	94.80	30.13	4.29	2.43	94.80 CMS
Min	1.44	1.35	1.35	1.35	1.71	1.98	1.89	2.88	4.98	3.42	2.43	1.53	1.35 CMS
Runoff	5.412	4.693	5.285	12.708	8.131	9.978	9.193	21.953	46.234	21.665	7.627	5.054	157.934 MCM

Momentary Peak 113.00 CMS, at 4.90 M (A.D), at 2.00 Hours, on Dec 13, 1991

Runoff Yield 37.55 Liters/Second/Square KM, Momentary Peak Yield 849.62 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

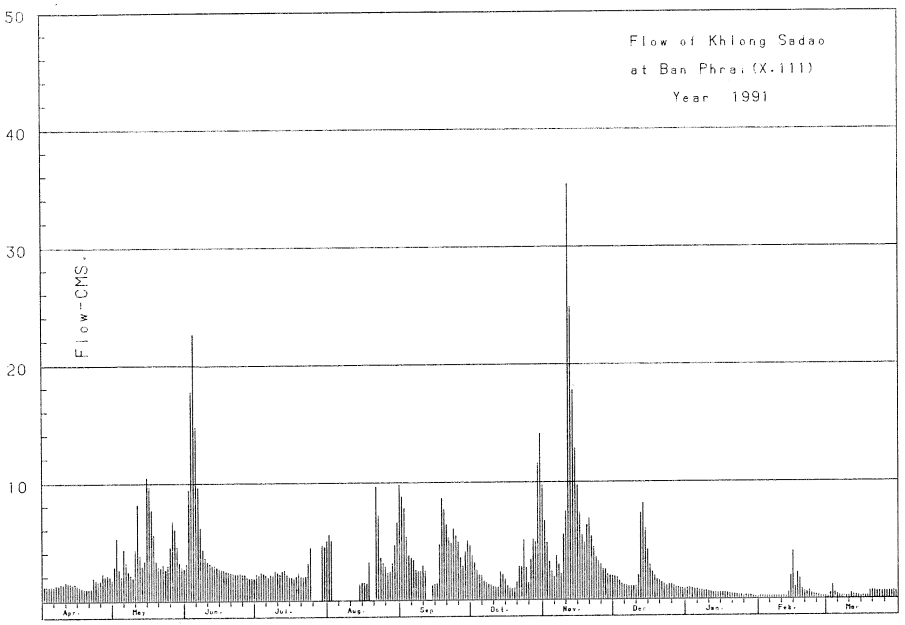
Khlong Sadao at Ban Phrai, Songkhla (X.111)

Location	Lat. 6°-39'-37" N., Long. 100°-26'-09" E., on left bank at Ban Phrai, Amphoe Sadao, Songkhla.
Drainage Area	256 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	Near the top staff gage.
Elevation	+5.698 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1979 to date.
Rating Operation	
Period of Rating	1979 to date.
Rated by Float	-
Rated by Current Meter	1979 to date.
Stability of Channel Regimes	Fairly stable by some scouring.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. No records on Jul.25-28, Aug.3-13,19-20, Sept.12-13,91. Stage-discharge relation defined by 39 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.71	1.37	1.47	1.11	2.23	2.96	1.70	2.53	1.00	0.50	0.07	0.06	
2	0.70	2.15	3.05	1.08	2.09	2.77	1.49	2.02	0.95	0.56	0.07	0.21	
3	0.69	1.28	3.76	1.16	*******	2.17	1.22	1.51	0.85	0.49	0.06	0.67	
4	0.71	1.03	3.96	1.13	*******	1.70	1.07	1.17	0.74	0.46	0.06	0.25	
5	0.69	1.89	3.61	1.07	*******	1.63	1.04	0.99	0.71	0.44	0.06	0.13	
6	0.74	1.50	3.08	1.00	*******	1.57	0.86	1.70	0.70	0.42	0.06	0.07	
7	0.74	1.21	2.40	1.08	*******	1.23	0.80	1.42	0.63	0.39	0.06	0.06	
8	0.79	1.08	1.88	1.06	*******	1.20	0.75	1.10	0.66	0.37	0.06	0.06	
9	0.77	1.00	1.64	1.24	*******	1.19	0.72	2.21	0.64	0.35	0.06	0.06	
10	0.86	1.88	1.53	1.16	*******	1.39	0.66	2.72	0.66	0.33	0.06	0.06	
11	0.82	2.85	1.47	1.09	*******	1.23	0.60	4.37	1.03	0.29	0.06	0.23	
12	0.80	1.72	1.41	1.21	*******	*******	0.61	4.04	2.68	0.26	0.06	0.12	
13	0.77	1.39	1.40	1.24	*******	*******	1.16	3.76	2.84	0.26	0.26	0.08	
14	0.79	1.56	1.35	1.09	0.81	0.71	1.08	3.45	2.34	0.25	1.00	0.07	
15	0.73	3.19	1.31	1.01	0.81	0.75	0.92	3.09	1.84	0.26	1.78	0.06	
16	0.68	3.09	1.27	1.00	0.80	0.78	0.69	2.69	1.38	0.26	0.56	0.06	
17	0.63	2.76	1.24	0.95	0.78	1.98	0.58	2.20	1.15	0.25	1.10	0.06	
18	0.59	2.23	1.21	1.03	1.51	2.93	0.53	2.03	1.02	0.23	0.90	0.06	
19	0.56	1.55	1.18	1.17	*******	2.75	0.53	2.43	0.90	0.20	0.46	0.35	
20	0.54	1.37	1.16	1.03	*******	2.45	0.82	2.58	0.84	0.17	0.32	0.35	
21	0.58	1.34	1.13	1.00	3.08	2.15	1.35	2.17	0.80	0.16	0.28	0.32	
22	0.99	1.44	1.11	1.03	2.66	2.02	1.33	1.93	0.73	0.15	0.35	0.30	
23	0.92	1.28	1.10	1.48	1.64	2.35	2.08	1.64	0.67	0.13	0.20	0.29	
24	0.85	1.42	1.14	1.92	1.48	2.19	1.31	1.51	0.71	0.12	0.13	0.30	
25	0.89	1.95	1.09	*******	1.36	2.06	0.82	1.42	0.72	0.11	0.12	0.30	
26	1.14	2.56	1.10	*******	1.15	1.63	1.57	1.25	0.65	0.11	0.10	0.30	
27	1.04	2.36	1.00	*******	1.19	1.37	2.10	1.24	0.58	0.10	0.06	0.30	
28	1.08	1.95	0.97	*******	1.47	1.80	2.04	1.07	0.54	0.10	0.06	0.31	
29	1.03	1.51	0.97	1.99	1.98	2.07	3.32	1.03	0.52	0.05	0.06	0.33	
30	0.92	1.36	0.96	1.94	2.50	1.97	3.56	1.01	0.49	0.04		0.29	
31		1.30		2.07	3.10		3.09		0.48	0.05		0.27	
Mean	0.79	1.76	1.67	*******	*******	*******	1.30	2.08	0.98	0.25	0.29	0.21	
Max	1.14	3.19	3.96	2.07	3.10	2.96	3.56	4.37	2.84	0.56	1.78	0.67	4.37
Min	0.54	1.00	0.96	*******	*******	*******	0.53	0.99	0.48	0.04	0.06	0.06	*******

Annual Max Momentary Gage Height 4.40 M (A.D), at 9.00 Hours, on Nov 11, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.38 M (A.D)
Left Bank Elevation 6.21 M (A.D)
Right Bank Elevation 6.13 M (A.D), Drainage Area 256 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.23	2.88	3.13	2.23	5.61	8.86	3.80	6.72	1.95	0.90	0.26	0.24	
2	1.20	5.32	9.45	2.15	5.09	7.80	3.18	4.83	1.83	0.99	0.26	0.47	
3	1.19	2.65	17.78	2.35	*******	5.39	2.50	3.23	1.58	0.89	0.24	1.16	
4	1.23	2.03	22.68	2.28	*******	3.80	2.13	2.38	1.30	0.84	0.24	0.52	
5	1.19	4.37	14.81	2.13	*******	3.59	2.05	1.93	1.23	0.81	0.24	0.35	
6	1.30	3.20	9.66	1.95	*******	3.41	1.60	3.80	1.20	0.78	0.24	0.26	
7	1.30	2.48	6.24	2.15	*******	2.53	1.45	3.00	1.10	0.73	0.24	0.24	
8	1.43	2.15	4.34	2.10	*******	2.45	1.33	2.20	1.14	0.71	0.24	0.24	
9	1.38	1.95	3.62	2.55	*******	2.43	1.25	5.54	1.11	0.68	0.24	0.24	
10	1.60	4.34	3.29	2.35	*******	2.93	1.14	7.55	1.14	0.65	0.24	0.24	
11	1.50	8.22	3.13	2.18	*******	2.53	1.05	35.32	2.03	0.58	0.24	0.50	
12	1.45	3.86	2.98	2.48	*******	*******	1.07	24.92	7.36	0.54	0.24	0.33	
13	1.38	2.93	2.95	2.55	*******	*******	2.35	17.78	8.17	0.54	0.54	0.27	
14	1.43	3.38	2.83	2.18	1.48	1.23	2.15	12.86	6.02	0.52	1.95	0.26	
15	1.28	10.52	2.73	1.98	1.48	1.33	1.75	9.73	4.22	0.54	4.04	0.24	
16	1.17	9.73	2.63	1.95	1.45	1.40	1.19	7.40	2.90	0.54	0.99	0.24	
17	1.10	7.75	2.55	1.83	1.40	4.69	1.02	5.50	2.33	0.52	2.20	0.24	
18	1.03	5.61	2.48	2.03	3.23	8.68	0.95	4.87	2.00	0.50	1.70	0.24	
19	0.99	3.35	2.40	2.38	*******	7.70	0.95	6.35	1.70	0.45	0.84	0.68	
20	0.96	2.88	2.35	2.03	*******	6.43	1.50	6.91	1.55	0.41	0.63	0.68	
21	1.02	2.80	2.28	1.95	9.66	5.32	2.83	5.39	1.45	0.39	0.57	0.63	
22	1.93	3.05	2.23	2.03	7.26	4.83	2.78	4.51	1.28	0.38	0.68	0.60	
23	1.75	2.65	2.20	3.15	3.62	6.05	5.06	3.62	1.16	0.35	0.45	0.58	
24	1.58	3.00	2.30	4.47	3.15	5.46	2.73	3.23	1.23	0.33	0.35	0.60	
25	1.68	4.58	2.18	*******	2.85	4.98	1.50	3.00	1.25	0.32	0.33	0.60	
26	2.30	6.83	2.20	*******	2.33	3.59	3.41	2.58	1.13	0.32	0.30	0.60	
27	2.05	6.09	1.95	*******	2.43	2.88	5.13	2.55	1.02	0.30	0.24	0.60	
28	2.15	4.58	1.88	*******	3.13	4.10	4.91	2.13	0.96	0.30	0.24	0.62	
29	2.03	3.23	1.88	4.72	4.69	5.02	11.59	2.03	0.93	0.23	0.24	0.65	
30	1.75	2.85	1.85	4.54	6.61	4.65	14.11	1.98	0.89	0.21		0.58	
31		2.70		5.02	9.80		9.73		0.87	0.23		0.56	
Total	43.58	131.96	142.98	*******	*******	*******	98.19	203.84	64.03	16.48	19.21	14.26	******** CMSDAY
Mean	1.45	4.26	4.77	*******	*******	*******	3.17	6.79	2.07	0.53	0.66	0.46	******** CMS
Max	2.30	10.52	22.68	5.02	9.80	8.86	14.11	35.32	8.17	0.99	4.04	1.16	35.32 CMS
Min	0.96	1.95	1.85	*******	*******	*******	0.95	1.93	0.87	0.21	0.24	0.24	******** CMS
Runoff	3.765	11.401	12.353	*******	*******	*******	8.484	17.612	5.532	1.424	1.660	1.232	******** MCM

Momentary Peak 36.40 CMS, at 4.40 M (A.D), at 9.00 Hours, on Nov 11, 1991

Runoff Yield ********* Liters/Second/Square KM, Momentary Peak Yield 142.19 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

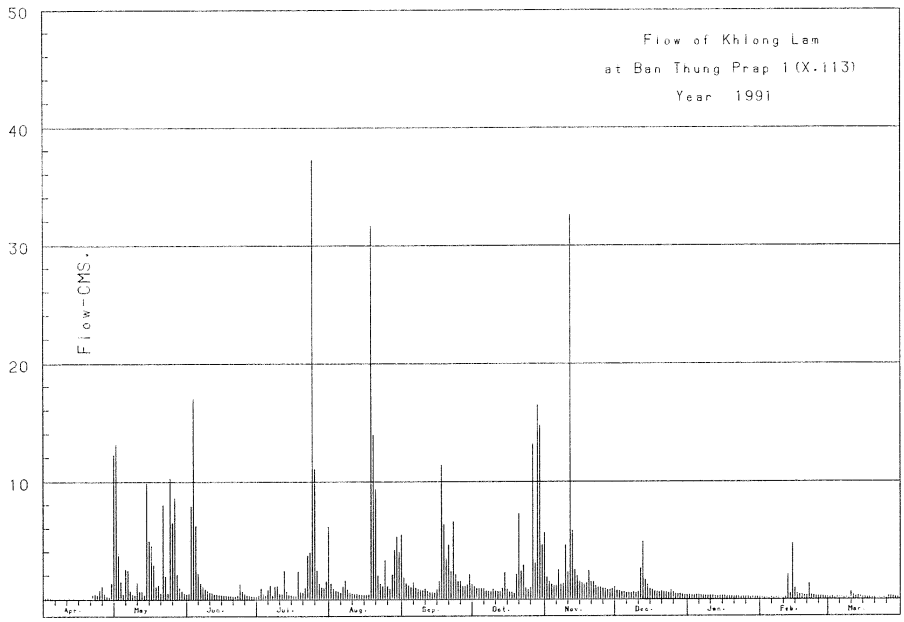
Khlong Lam at Ban Thung Prap (1), Songkhla (X.113)

Location	Lat. 6°37'59" N., Long. 100°23'46" E., on right bank at Ban Thung Prap (i), Amphoe Sadao, Songkhla.
Drainage Area	129 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	About 10 meters from the gage observer's house.
Elevation	+7.140 m.(A.D.)
Gage Reading Frequency	13-time daily readings at 06.00 - 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1979 to date.
Rating Operation	
Period of Rating	1979 to date.
Rated by Float	-
Rated by Current Meter	1979 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 36 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.16	4.17	1.50	1.37	1.94	2.13	1.80	2.14	1.64	1.43	1.22	1.24	
2	1.16	2.80	3.62	1.73	1.71	1.94	1.73	2.01	1.61	1.38	1.20	1.25	
3	1.16	2.01	4.46	1.47	1.63	1.84	1.70	1.90	1.58	1.38	1.20	1.20	
4	1.16	1.45	3.32	1.34	1.58	1.78	1.72	1.82	1.57	1.43	1.20	1.25	
5	1.16	2.36	2.24	1.67	1.54	1.98	1.70	1.86	1.54	1.40	1.22	1.23	
6	1.16	2.32	1.94	1.85	1.81	1.75	1.62	2.35	1.53	1.37	1.21	1.23	
7	1.16	1.62	1.79	1.34	2.04	1.68	1.60	1.90	1.53	1.37	1.21	1.21	
8	1.16	1.45	1.69	1.81	1.67	1.66	1.59	1.93	1.56	1.37	1.21	1.21	
9	1.16	1.40	1.61	1.84	1.55	1.63	1.69	2.96	1.54	1.32	1.21	1.21	
10	1.16	1.98	1.56	1.48	1.50	1.71	1.62	2.28	1.57	1.35	1.21	1.58	
11	1.16	1.60	1.52	1.45	1.47	1.60	1.58	5.27	2.38	1.34	1.22	1.37	
12	1.16	1.58	1.47	2.32	1.47	1.56	1.60	3.23	3.03	1.29	2.23	1.28	
13	1.13	1.40	1.44	1.59	1.42	1.54	1.72	2.35	2.06	1.30	1.50	1.34	
14	1.13	3.88	1.41	1.41	1.39	1.54	2.27	2.17	1.88	1.32	2.99	1.30	
15	1.12	3.05	1.38	1.34	1.40	1.67	1.69	2.02	1.71	1.33	1.73	1.24	
16	1.12	2.95	1.36	1.31	1.38	2.02	1.58	1.95	1.65	1.32	1.48	1.22	
17	1.12	2.49	1.34	1.30	1.43	4.02	1.55	1.90	1.61	1.29	1.43	1.21	
18	1.11	1.80	1.32	2.30	5.23	3.34	1.52	1.95	1.58	1.27	1.39	1.21	
19	1.11	1.87	1.30	1.56	4.23	2.66	2.21	2.32	1.57	1.28	1.36	1.20	
20	1.15	1.52	1.29	1.54	3.82	2.97	3.52	1.99	1.61	1.28	1.33	1.19	
21	1.40	3.64	1.28	1.75	2.19	2.30	2.31	2.01	1.58	1.27	1.92	1.18	
22	1.47	2.17	1.36	2.74	1.93	3.39	2.48	1.84	1.56	1.27	1.38	1.18	
23	1.38	1.53	1.94	2.81	1.82	2.21	1.75	1.78	1.54	1.25	1.35	1.18	
24	1.66	3.92	1.60	5.47	2.62	2.02	1.67	1.77	1.64	1.25	1.29	1.18	
25	1.81	3.37	1.46	3.99	1.82	2.01	1.75	1.73	1.57	1.25	1.29	1.19	
26	1.52	3.72	1.38	2.33	1.70	1.82	4.17	1.70	1.47	1.25	1.28	1.31	
27	1.26	2.22	1.32	1.94	2.21	1.82	2.61	1.67	1.48	1.25	1.27	1.31	
28	1.21	1.74	1.29	1.78	2.86	1.89	4.42	1.66	1.46	1.24	1.26	1.25	
29	1.94	1.62	1.27	1.73	3.13	2.22	4.29	1.71	1.45	1.24	1.24	1.23	
30	4.10	1.51	1.26	2.02	2.83	1.90	2.96	1.77	1.38	1.23		1.20	
31		1.47		3.30	3.17		3.20		1.40	1.23		1.19	
Mean	1.36	2.28	1.72	2.00	2.14	2.09	2.18	2.13	1.65	1.31	1.41	1.24	
Max	4.10	4.17	4.46	5.47	5.23	4.02	4.42	5.27	3.03	1.43	2.99	1.58	5.47
Min	1.11	1.40	1.26	1.30	1.38	1.54	1.52	1.66	1.38	1.23	1.20	1.18	1.11

Annual Max Momentary Gage Height 5.82 M (A.D), at 14.00 Hours, on Aug 18, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.48 M (A.D)
Left Bank Elevation 7.03 M (A.D)
Right Bank Elevation 6.50 M (A.D), Drainage Area 129 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.16	13.21	0.50	0.37	1.38	1.89	1.10	1.92	0.78	0.43	0.22	0.24	
2	0.16	4.00	7.94	0.96	0.92	1.38	0.96	1.53	0.72	0.38	0.20	0.25	
3	0.16	1.53	17.10	0.47	0.76	1.18	0.90	1.30	0.66	0.38	0.20	0.20	
4	0.16	0.45	6.30	0.34	0.66	1.06	0.94	1.14	0.64	0.43	0.20	0.25	
5	0.16	2.58	2.22	0.84	0.58	1.46	0.90	1.22	0.58	0.40	0.22	0.23	
6	0.16	2.46	1.38	1.20	1.12	1.00	0.74	2.55	0.56	0.37	0.21	0.23	
7	0.16	0.74	1.08	0.34	1.62	0.86	0.70	1.30	0.56	0.37	0.21	0.21	
8	0.16	0.45	0.88	1.12	0.84	0.82	0.68	1.36	0.62	0.37	0.21	0.21	
9	0.16	0.40	0.72	1.18	0.60	0.76	0.88	4.64	0.58	0.32	0.21	0.21	
10	0.16	1.46	0.62	0.48	0.50	0.92	0.74	2.34	0.64	0.35	0.21	0.66	
11	0.16	0.70	0.54	0.45	0.47	0.70	0.66	32.61	2.64	0.34	0.22	0.37	
12	0.16	0.66	0.47	2.46	0.47	0.62	0.70	5.85	4.92	0.29	2.19	0.28	
13	0.13	0.40	0.44	0.68	0.42	0.58	0.94	2.55	1.68	0.30	0.50	0.34	
14	0.13	9.92	0.41	0.41	0.39	0.58	2.31	2.01	1.26	0.32	4.76	0.30	
15	0.12	5.00	0.38	0.34	0.40	0.84	0.88	1.56	0.92	0.33	0.96	0.24	
16	0.12	4.60	0.36	0.31	0.38	1.56	0.66	1.40	0.80	0.32	0.48	0.22	
17	0.12	2.97	0.34	0.30	0.43	11.42	0.60	1.30	0.72	0.29	0.43	0.21	
18	0.11	1.10	0.32	2.40	31.69	6.40	0.54	1.40	0.66	0.27	0.39	0.21	
19	0.11	1.24	0.30	0.62	13.99	3.48	2.13	2.46	0.64	0.28	0.36	0.20	
20	0.15	0.54	0.29	0.58	9.38	4.68	7.32	1.48	0.72	0.28	0.33	0.19	
21	0.40	8.08	0.28	1.00	2.07	2.40	2.43	1.53	0.66	0.27	1.34	0.18	
22	0.47	2.01	0.36	3.76	1.36	6.65	2.94	1.18	0.62	0.27	0.38	0.18	
23	0.38	0.56	1.38	4.04	1.14	2.13	1.00	1.06	0.58	0.25	0.35	0.18	
24	0.82	10.32	0.70	37.28	3.36	1.56	0.84	1.04	0.78	0.25	0.29	0.18	
25	1.12	6.55	0.46	11.09	1.14	1.53	1.00	0.96	0.64	0.25	0.29	0.19	
26	0.54	8.64	0.38	2.49	0.90	1.14	13.21	0.90	0.47	0.25	0.28	0.31	
27	0.26	2.16	0.32	1.38	2.13	1.14	3.33	0.84	0.48	0.25	0.27	0.31	
28	0.21	0.98	0.29	1.06	4.24	1.28	16.50	0.82	0.46	0.24	0.26	0.25	
29	1.38	0.74	0.27	0.96	5.35	2.16	14.77	0.92	0.45	0.24	0.24	0.23	
30	12.30	0.52	0.26	1.56	4.12	1.30	4.64	1.04	0.38	0.23		0.20	
31		0.47		6.20	5.55		5.70		0.40	0.23		0.19	
Total	20.79	95.44	47.29	86.67	98.36	63.48	91.64	82.21	27.22	9.55	16.41	7.65	646.71 CMSDAY
Mean	0.69	3.08	1.58	2.80	3.17	2.12	2.96	2.74	0.88	0.31	0.57	0.25	1.77 CMS
Max	12.30	13.21	17.10	37.28	31.69	11.42	16.50	32.61	4.92	0.43	4.76	0.66	37.28 CMS
Min	0.11	0.40	0.26	0.30	0.38	0.58	0.54	0.82	0.38	0.23	0.20	0.18	0.11 CMS
Runoff	1.796	8.246	4.086	7.488	8.498	5.485	7.918	7.103	2.352	0.825	1.418	0.661	55.876 MCM

Momentary Peak 47.12 CMS, at 5.82 M (A.D), at 14.00 Hours, on Aug 18, 1991

Runoff Yield 13.70 Liters/Second/Square KM, Momentary Peak Yield 365.27 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

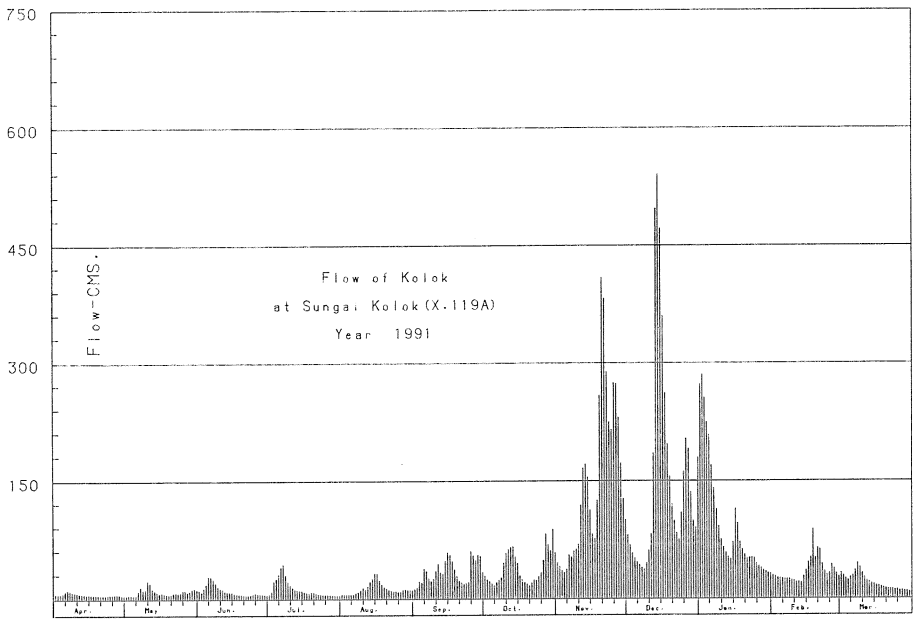
Kolok River at Sungai Kolok, Narathiwat (X.119A)

Location	Lat. 6°-01'-07" N., Long. 101°-58'-43" E., on left bank at the railway bridge near the Immigration Division, Amphoe Sungai Kolok, Narathiwat.
Drainage Area	1,358 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank about 5.80 meters from the top staff gage.
Elevation	+6.204 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1987 to date.
Rating Operation	
Period of Rating	1988 to date.
Rated by Float	-
Rated by Current Meter	1988 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 38 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.83	0.67	1.02	0.79	0.79	1.10	1.69	2.14	2.95	5.75	1.71	1.79	
2	0.81	0.73	0.94	0.97	0.78	1.19	1.55	2.02	2.67	5.86	1.66	1.70	
3	0.81	0.71	1.15	1.48	0.78	1.48	1.46	1.89	2.45	5.59	1.62	1.57	
4	0.85	0.69	1.35	1.59	0.79	1.42	1.38	1.80	2.29	5.25	1.60	1.52	
5	1.00	0.70	1.69	1.75	0.77	1.95	1.28	1.93	2.17	5.04	1.59	1.63	
6	1.06	1.01	1.66	2.01	0.77	1.87	1.43	2.39	2.07	4.50	1.56	1.70	
7	1.03	1.23	1.59	2.10	0.88	1.60	1.52	2.33	1.99	4.04	1.58	1.88	
8	0.94	1.06	1.41	1.73	0.92	1.49	1.63	2.50	1.91	3.59	1.56	2.13	
9	0.92	1.09	1.24	1.49	1.06	1.57	2.14	2.56	2.14	3.17	1.52	1.99	
10	0.87	1.50	1.15	1.32	1.17	1.87	2.45	2.69	2.52	2.83	1.49	1.79	
11	0.83	1.40	1.10	1.20	1.10	2.11	2.55	3.68	2.98	2.61	1.44	1.62	
12	0.81	1.14	1.00	1.11	1.26	1.81	2.61	4.44	4.71	2.46	1.43	1.50	
13	0.80	1.02	0.95	1.06	1.46	1.75	2.62	4.52	6.70	2.32	1.42	1.44	
14	0.78	0.92	0.94	1.05	1.58	2.21	2.34	4.27	6.82	2.27	1.66	1.38	
15	0.78	0.84	0.92	1.02	1.79	2.47	2.13	3.57	6.63	2.75	1.89	1.33	
16	0.76	0.88	0.86	0.96	1.78	2.40	1.70	2.97	6.26	3.60	2.15	1.29	
17	0.75	0.83	0.83	0.91	1.52	2.20	1.54	2.85	5.65	3.24	2.32	1.26	
18	0.73	0.80	0.80	0.87	1.34	1.93	1.43	3.78	4.88	2.76	3.09	1.23	
19	0.72	0.77	0.77	0.93	1.23	1.68	1.36	5.62	4.29	2.55	2.30	1.17	
20	0.71	0.80	0.75	0.93	1.13	1.50	1.29	6.43	3.70	2.41	2.58	1.14	
21	0.71	0.88	0.72	0.86	1.08	1.42	1.41	6.34	3.31	2.30	2.55	1.10	
22	0.71	0.90	0.71	0.82	1.02	1.36	1.54	5.89	3.00	2.31	2.10	1.12	
23	0.73	0.87	0.75	0.80	0.98	1.39	1.51	5.25	2.83	2.30	1.86	1.08	
24	0.74	0.90	0.81	0.77	0.97	1.44	1.67	5.13	3.50	2.30	1.72	1.06	
25	0.75	1.05	0.86	0.77	0.94	2.51	1.83	5.77	4.38	2.12	1.80	1.04	
26	0.77	1.01	0.83	0.76	0.95	2.38	2.23	5.76	4.98	2.04	2.08	1.02	
27	0.79	0.93	0.81	0.74	1.10	2.22	2.98	5.32	4.80	1.97	1.96	1.01	
28	0.74	0.98	0.79	0.73	1.07	2.40	2.69	4.53	3.96	1.90	1.77	0.99	
29	0.71	1.12	0.77	0.71	1.07	2.36	2.53	3.82	3.31	1.84	1.66	0.96	
30	0.69	1.14	0.73	0.70	1.04	1.83	3.10	3.33	3.14	1.80		0.93	
31		1.09		0.69	1.06		2.46		4.64	1.76		0.89	
Mean	0.80	0.96	1.00	1.08	1.10	1.83	1.94	3.85	3.79	3.07	1.85	1.36	
Max	1.06	1.50	1.69	2.10	1.79	2.51	3.10	6.43	6.82	5.86	3.09	2.13	6.82
Min	0.69	0.67	0.71	0.69	0.77	1.10	1.28	1.80	1.91	1.76	1.42	0.89	0.67

Annual Max Momentary Gage Height 6.86 M (A.D), at 18.00 Hours, on Dec 13, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.25 M (A.D)
Left Bank Elevation 8.10 M (A.D)
Right Bank Elevation 7.52 M (A.D), Drainage Area 1358 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	6.60	4.05	10.40	5.85	5.85	12.00	29.15	45.60	81.00	272.50	29.85	32.65	
2	6.20	4.95	8.80	9.40	5.70	14.25	24.50	40.80	68.15	285.20	28.10	29.50	
3	6.20	4.65	13.25	22.40	5.70	22.40	21.80	36.15	58.25	255.55	26.70	25.10	
4	7.00	4.35	18.50	25.70	5.85	20.60	19.40	33.00	51.60	224.75	26.00	23.60	
5	10.00	4.50	29.15	31.25	5.55	38.25	16.50	37.55	46.80	208.00	25.70	27.05	
6	11.20	10.20	28.10	40.40	5.55	35.45	20.90	55.60	42.80	170.00	24.80	29.50	
7	10.60	15.25	25.70	44.00	7.60	26.00	23.60	53.20	39.65	140.40	25.40	35.80	
8	8.80	11.20	20.30	30.55	8.40	22.70	27.05	60.50	36.85	113.97	24.80	45.20	
9	8.40	11.80	15.50	22.70	11.20	25.10	45.60	63.20	45.60	92.00	23.60	39.65	
10	7.40	23.00	13.25	17.60	13.75	35.45	58.25	69.05	61.40	75.35	22.70	32.65	
11	6.60	20.00	12.00	14.50	12.00	44.40	62.75	118.90	82.50	65.45	21.20	26.70	
12	6.20	13.00	10.00	12.25	16.00	33.35	65.45	165.80	184.70	58.70	20.90	23.00	
13	6.00	10.40	9.00	11.20	21.80	31.25	65.90	171.40	497.00	52.80	20.60	21.20	
14	5.70	8.40	8.80	11.00	25.40	48.40	53.60	154.55	541.20	50.80	28.10	19.40	
15	5.70	6.80	8.40	10.40	32.65	59.15	45.20	112.93	471.80	71.75	36.15	17.90	
16	5.40	7.60	7.20	9.20	32.30	56.00	29.50	82.00	360.20	114.50	46.00	16.75	
17	5.25	6.60	6.60	8.20	23.60	48.00	24.20	76.25	261.75	95.60	52.80	16.00	
18	4.95	6.00	6.00	7.40	18.20	37.55	20.90	124.80	196.60	72.20	88.00	15.25	
19	4.80	5.55	5.55	8.60	15.25	28.80	18.80	258.60	155.85	62.75	52.00	13.75	
20	4.65	6.00	5.25	8.60	12.75	23.00	16.75	409.00	120.00	56.45	64.10	13.00	
21	4.65	7.60	4.80	7.20	11.60	20.60	20.30	382.60	99.27	52.00	62.75	12.00	
22	4.65	8.00	4.65	6.40	10.40	18.80	24.20	288.80	83.50	52.40	44.00	12.50	
23	4.95	7.40	5.25	6.00	9.60	19.70	23.30	224.75	75.35	52.00	35.10	11.60	
24	5.10	8.00	6.20	5.55	9.40	21.20	28.45	214.90	109.25	52.00	30.20	11.20	
25	5.25	11.00	7.20	5.55	8.80	60.95	34.05	274.70	161.70	44.80	33.00	10.80	
26	5.55	10.20	6.60	5.40	9.00	55.20	49.20	273.60	203.60	41.60	43.20	10.40	
27	5.85	8.60	6.20	5.10	12.00	48.80	82.50	230.80	191.00	38.95	38.60	10.20	
28	5.10	9.60	5.85	4.95	11.40	56.00	69.05	172.10	135.60	36.50	31.95	9.80	
29	4.65	12.50	5.55	4.65	11.40	54.40	61.85	127.20	99.27	34.40	28.10	9.20	
30	4.35	13.00	4.95	4.50	10.80	34.05	88.50	100.32	90.50	33.00		8.60	
31		11.80		4.35	11.20		58.70		179.80	31.60		7.80	
Total	187.75	292.00	319.00	410.85	400.70	1051.80	1229.90	4458.65	4832.54	3007.97	1034.40	617.75	17843.31 CMSDAY
Mean	6.26	9.42	10.63	13.25	12.93	35.06	39.67	148.62	155.89	97.03	35.67	19.93	48.75 CMS
Max	11.20	23.00	29.15	44.00	32.65	60.95	88.50	409.00	541.20	285.20	88.00	45.20	541.20 CMS
Min	4.35	4.05	4.65	4.35	5.55	12.00	16.50	33.00	36.85	31.60	20.60	7.80	4.05 CMS
Runoff	16.222	25.229	27.562	35.497	34.620	90.876	106.263	385.227	417.531	259.889	89.372	53.374	1541.662 MCM

Momentary Peak 557.60 CMS, at 6.86 M (A.D), at 18.00 Hours, on Dec 13, 1991

Runoff Yield 35.90 Liters/Second/Square KM, Momentary Peak Yield 410.60 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

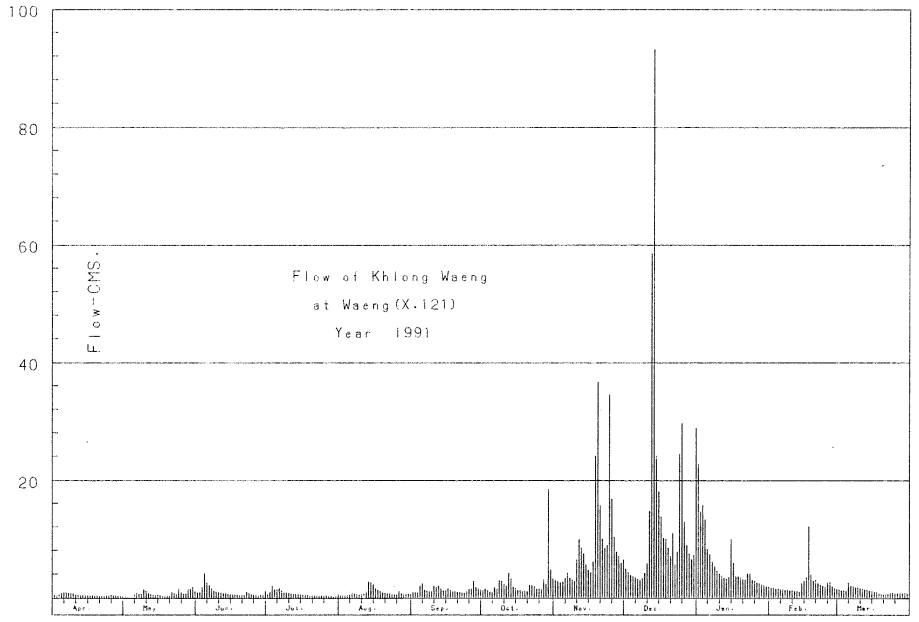
Khlong Waeng at Waeng, Narathiwat (X.121)

Location	Lat. 5°-55'-26" N., Long. 101°-53'-14" E., on right bank at the bridge of Sungai Kolok -Malasia Highway, Amphoe Waeng, Narathiwat.
Drainage Area	43 sq.km.
Type of Gage	Water-stage recorder.
Zero Gage at Bottom	+15.853 m.(M.S.L.)
Bench Mark	B.M-H.D.
Location	On right bank at abutment of the bridge.
Elevation	+20.347 m.(M.S.L.)
Gage Reading Frequency	Recording.
Basis of Mean Daily Gage Height	Arithmetic mean of 24 readings.
Period of Available Gage Records	1978 to date.
Rating Operation	
Period of Rating	1981 to date.
Rated by Float	-
Rated by Current Meter	1981 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	Overbank flow starts at elevation +20.39 m.(M.S.L.) and is included.
General Description	Records fair. Stage-discharge relation defined by 27 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	17.48	17.43	17.56	17.50	17.46	17.58	17.63	17.87	18.10	19.44	17.71	17.66	
2	17.47	17.42	17.57	17.58	17.48	17.58	17.69	17.84	18.03	18.92	17.70	17.64	
3	17.50	17.41	17.72	17.75	17.46	17.56	17.63	17.82	17.98	19.00	17.69	17.63	
4	17.56	17.42	18.01	17.66	17.49	17.75	17.60	17.82	17.95	18.82	17.68	17.63	
5	17.57	17.50	17.82	17.65	17.49	17.79	17.57	17.92	17.93	18.42	17.67	17.82	
6	17.56	17.64	17.76	17.70	17.59	17.65	17.72	18.02	17.89	18.34	17.66	17.75	
7	17.55	17.52	17.70	17.62	17.53	17.62	17.66	17.92	17.87	18.22	17.65	17.73	
8	17.54	17.51	17.63	17.57	17.51	17.61	17.87	17.87	17.90	18.14	17.65	17.72	
9	17.53	17.66	17.59	17.56	17.49	17.60	17.85	17.85	18.02	18.06	17.64	17.71	
10	17.50	17.62	17.58	17.55	17.51	17.75	17.79	18.25	18.19	18.01	17.63	17.70	
11	17.49	17.54	17.56	17.53	17.53	17.73	17.75	18.56	18.93	17.96	17.62	17.68	
12	17.48	17.51	17.54	17.52	17.63	17.75	18.02	18.44	20.42	17.92	17.61	17.67	
13	17.48	17.49	17.54	17.52	17.84	17.70	17.91	18.35	20.77	17.89	17.60	17.65	
14	17.47	17.49	17.52	17.51	17.82	17.63	17.73	18.17	19.52	17.94	17.80	17.63	
15	17.47	17.49	17.51	17.50	17.78	17.63	17.69	18.08	19.16	18.56	17.86	17.62	
16	17.47	17.47	17.50	17.49	17.69	17.70	17.65	18.02	18.86	18.20	17.92	17.60	
17	17.47	17.45	17.50	17.49	17.65	17.64	17.63	18.22	18.58	17.95	18.73	17.58	
18	17.46	17.44	17.49	17.48	17.61	17.61	17.61	19.52	18.56	17.95	17.99	17.54	
19	17.46	17.46	17.48	17.47	17.57	17.60	17.61	20.09	18.44	17.92	17.86	17.52	
20	17.46	17.47	17.48	17.47	17.55	17.59	17.61	19.00	18.31	17.89	17.87	17.51	
21	17.45	17.58	17.48	17.46	17.54	17.58	17.77	18.57	18.64	17.88	17.81	17.52	
22	17.46	17.54	17.60	17.46	17.53	17.57	17.76	18.43	18.17	18.01	17.77	17.53	
23	17.47	17.50	17.55	17.46	17.51	17.55	17.74	18.48	18.38	18.01	17.75	17.55	
24	17.48	17.69	17.51	17.46	17.50	17.61	17.68	20.02	19.54	17.88	17.72	17.57	
25	17.48	17.57	17.49	17.47	17.50	17.67	17.67	19.08	19.82	17.85	17.82	17.54	
26	17.47	17.52	17.48	17.46	17.62	17.69	17.67	18.59	18.79	17.82	17.82	17.55	
27	17.47	17.53	17.48	17.46	17.54	17.85	17.88	18.38	18.48	17.80	17.74	17.55	
28	17.46	17.68	17.48	17.45	17.52	17.72	17.79	18.31	18.35	17.78	17.69	17.55	
29	17.45	17.67	17.47	17.44	17.51	17.68	19.18	18.20	18.26	17.76	17.69	17.55	
30	17.44	17.72	17.61	17.45	17.52	17.66	18.08	18.25	18.32	17.74		17.55	
31		17.61		17.52	17.51		17.90		19.78	17.72		17.53	
Mean	17.49	17.53	17.57	17.52	17.56	17.66	17.79	18.40	18.64	18.12	17.77	17.61	
Max	17.57	17.72	18.01	17.75	17.84	17.85	19.18	20.09	20.77	19.44	18.73	17.82	20.77
Min	17.44	17.41	17.47	17.44	17.46	17.55	17.57	17.82	17.87	17.72	17.60	17.51	17.41

Annual Max Momentary Gage Height 21.05 M (MSL), at 6.00 Hours, on Dec 13, 1991
Zero Gage at Bottom Elevation 15.85 M (MSL), River Bed 17.02 M (MSL)
Left Bank Elevation 20.38 M (MSL)
Right Bank Elevation 20.62 M (MSL), Drainage Area 43 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.52	0.32	0.90	0.60	0.44	1.00	1.28	3.06	5.00	22.78	1.78	1.46	
2	0.48	0.28	0.95	1.00	0.52	1.00	1.64	2.82	4.37	14.68	1.70	1.34	
3	0.60	0.24	1.86	2.10	0.44	0.90	1.28	2.66	3.94	15.80	1.64	1.28	
4	0.90	0.28	4.19	1.46	0.56	2.10	1.10	2.66	3.70	13.36	1.58	1.28	
5	0.95	0.60	2.66	1.40	0.56	2.42	0.95	3.46	3.54	8.32	1.52	2.66	
6	0.90	1.34	2.18	1.70	1.05	1.40	1.86	4.28	3.22	7.44	1.46	2.10	
7	0.85	0.70	1.70	1.22	0.75	1.22	1.46	3.46	3.06	6.20	1.40	1.94	
8	0.80	0.65	1.28	0.95	0.65	1.16	3.06	3.06	3.30	5.40	1.40	1.86	
9	0.75	1.46	1.05	0.90	0.56	1.10	2.90	2.90	4.28	4.64	1.34	1.78	
10	0.60	1.22	1.00	0.85	0.65	2.10	2.42	6.50	5.90	4.19	1.28	1.70	
11	0.56	0.80	0.90	0.75	0.75	1.94	2.10	9.98	14.82	3.78	1.22	1.58	
12	0.52	0.65	0.80	0.70	1.28	2.10	4.28	8.54	58.56	3.46	1.16	1.52	
13	0.52	0.56	0.80	0.70	2.82	1.70	3.38	7.55	93.24	3.22	1.10	1.40	
14	0.48	0.56	0.70	0.65	2.66	1.28	1.94	5.70	24.16	3.62	2.50	1.28	
15	0.48	0.56	0.65	0.60	2.34	1.28	1.64	4.82	18.16	9.98	2.98	1.22	
16	0.48	0.48	0.60	0.56	1.64	1.70	1.40	4.28	13.88	6.00	3.46	1.10	
17	0.48	0.40	0.60	0.56	1.40	1.34	1.28	6.20	10.24	3.70	12.19	1.00	
18	0.44	0.36	0.56	0.52	1.16	1.16	1.16	24.16	9.98	3.70	4.02	0.80	
19	0.44	0.44	0.52	0.48	0.95	1.10	1.16	36.79	8.54	3.46	2.98	0.70	
20	0.44	0.48	0.52	0.48	0.85	1.05	1.16	15.80	7.11	3.22	3.06	0.65	
21	0.40	1.00	0.52	0.44	0.80	1.00	2.26	10.11	11.02	3.14	2.58	0.70	
22	0.44	0.80	1.10	0.44	0.75	0.95	2.18	8.43	5.70	4.19	2.26	0.75	
23	0.48	0.60	0.85	0.44	0.65	0.85	2.02	8.98	7.88	4.19	2.10	0.85	
24	0.52	1.64	0.65	0.44	0.60	1.16	1.58	34.62	24.52	3.14	1.86	0.95	
25	0.52	0.95	0.56	0.48	0.60	1.52	1.52	16.92	29.74	2.90	2.66	0.80	
26	0.48	0.70	0.52	0.44	1.22	1.64	1.52	10.37	12.97	2.66	2.66	0.85	
27	0.48	0.75	0.52	0.44	0.80	2.90	3.14	7.88	8.98	2.50	2.02	0.85	
28	0.44	1.58	0.52	0.40	0.70	1.86	2.42	7.11	7.55	2.34	1.64	0.85	
29	0.40	1.52	0.48	0.36	0.65	1.58	18.48	6.00	6.60	2.18	1.64	0.85	
30	0.36	1.86	1.16	0.40	0.70	1.46	4.82	6.50	7.22	2.02		0.85	
31		1.16		0.70	0.65		3.30		28.92	1.86		0.75	
Total	16.71	24.94	31.30	23.16	30.15	43.97	80.69	275.60	450.10	178.07	69.19	37.70	1261.58 CMSDAY
Mean	0.56	0.80	1.04	0.75	0.97	1.47	2.60	9.19	14.52	5.74	2.39	1.22	3.45 CMS
Max	0.95	1.86	4.19	2.10	2.82	2.90	18.48	36.79	93.24	22.78	12.19	2.66	93.24 CMS
Min	0.36	0.24	0.48	0.36	0.44	0.85	0.95	2.66	3.06	1.86	1.10	0.65	0.24 CMS
Runoff	1.444	2.155	2.704	2.001	2.605	3.799	6.972	23.812	38.889	15.385	5.978	3.257	109.001 MCM

Momentary Peak 134.30 CMS, at 21.05 M (MSL), at 6.00 Hours, on Dec 13, 1991
Runoff Yield 80.16 Liters/Second/Square KM, Momentary Peak Yield 3123.25 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA WEST COAST

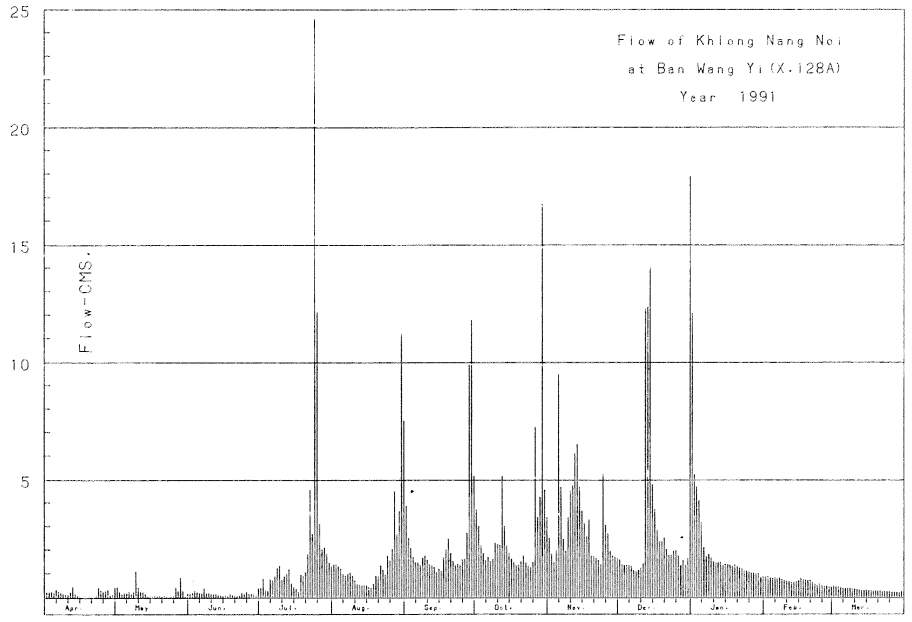
Khlong Nang Noi at Ban Wang Yi, Trang (X.128A)

Location	Lat. 7°-35'-28" N., Long. 99°-44'-13" E., on right bank about 2.00 meters upstream from the bridge at Ban Wang Yi, Amphoe Muang, Trang.
Drainage Area	75 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 5 meters from the top staff gage.
Elevation	+5.730 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1983 to date
Rating Operation	
Period of Rating	1984, 1987 to date.
Rated by Float	-
Rated by Current Meter	1984, 1987 to date
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 20 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	-0.13	-0.05	-0.16	-0.07	0.20	0.71	0.68	0.46	0.25	1.94	0.07	-0.04	
2	-0.13	-0.13	-0.14	0.05	0.20	0.46	0.55	0.31	0.20	0.94	0.07	-0.05	
3	-0.12	-0.16	-0.10	-0.10	0.18	0.37	0.40	0.22	0.19	0.85	0.06	-0.05	
4	-0.14	-0.15	-0.13	-0.11	0.15	0.28	0.32	0.35	0.19	0.75	0.05	-0.06	
5	-0.09	-0.15	-0.15	0.04	0.10	0.22	0.24	1.57	0.19	0.58	0.06	-0.07	
6	-0.12	-0.12	-0.15	0.03	0.08	0.22	0.28	0.85	0.18	0.38	0.05	-0.07	
7	-0.14	-0.16	-0.07	0.07	0.10	0.19	0.23	0.45	0.14	0.28	0.06	-0.07	
8	-0.16	-0.13	-0.15	0.16	0.11	0.27	0.26	0.34	0.12	0.31	0.04	-0.07	
9	-0.17	0.13	-0.15	0.18	0.08	0.29	0.42	0.62	0.14	0.27	0.03	-0.08	
10	-0.17	-0.06	-0.16	0.04	0.03	0.25	0.41	0.82	0.16	0.23	0.02	-0.08	
11	-0.13	-0.12	-0.16	0.07	-0.01	0.20	0.40	0.86	0.21	0.21	0.02	-0.09	
12	-0.05	-0.13	-0.16	0.10	-0.02	0.19	0.93	1.08	1.97	0.22	0.01	-0.09	
13	-0.16	-0.16	-0.18	0.15	-0.03	0.17	0.55	1.14	1.98	0.22	0.01	-0.10	
14	-0.19	-0.20	-0.18	0.00	-0.03	0.12	0.40	0.85	2.19	0.19	0.02	-0.10	
15	-0.18	-0.19	-0.18	-0.05	-0.03	0.15	0.32	0.67	0.87	0.20	0.03	-0.10	
16	-0.20	-0.19	-0.18	-0.08	-0.06	0.13	0.26	0.57	0.68	0.20	0.05	-0.10	
17	-0.19	-0.18	-0.18	-0.13	-0.06	0.27	0.22	0.47	0.52	0.19	0.04	-0.11	
18	-0.19	-0.18	-0.16	0.09	-0.01	0.36	0.19	0.60	0.43	0.18	0.03	-0.11	
19	-0.19	-0.18	-0.18	0.07	0.08	0.45	0.19	0.29	0.43	0.19	0.03	-0.11	
20	-0.19	-0.19	-0.18	0.12	0.07	0.32	0.23	0.28	0.46	0.18	0.03	-0.11	
21	-0.20	-0.18	-0.18	0.31	0.19	0.23	0.29	0.27	0.36	0.16	0.01	-0.11	
22	-0.16	-0.19	-0.18	0.83	0.14	0.19	0.22	0.24	0.30	0.16	-0.01	-0.12	
23	-0.06	-0.20	-0.13	0.49	0.09	0.20	0.18	0.20	0.30	0.13	-0.03	-0.12	
24	-0.10	-0.18	-0.16	3.41	0.29	0.19	0.17	0.94	0.34	0.13	-0.01	-0.12	
25	-0.12	-0.18	-0.13	1.95	0.24	0.25	0.22	0.56	0.35	0.12	-0.03	-0.12	
26	-0.11	-0.03	-0.16	0.57	0.36	0.26	1.25	0.49	0.29	0.11	-0.04	-0.13	
27	-0.09	-0.11	-0.16	0.36	0.82	0.50	0.62	0.34	0.19	0.11	-0.04	-0.13	
28	-0.19	0.06	-0.17	0.38	0.49	1.63	0.78	0.29	0.24	0.10	-0.05	-0.13	
29	-0.17	-0.11	-0.19	0.31	0.67	1.90	2.52	0.28	0.19	0.10	-0.05	-0.14	
30	-0.05	-0.20	-0.07	0.22	1.82	0.93	0.83	0.26	0.26	0.06		-0.12	
31		-0.15		0.18	1.29		0.62		2.66	0.07		-0.13	
Mean	-0.14	-0.13	-0.15	0.31	0.24	0.40	0.49	0.56	0.55	0.31	0.02	-0.10	
Max	-0.05	0.13	-0.07	3.41	1.82	1.90	2.52	1.57	2.66	1.94	0.07	-0.04	3.41
Min	-0.20	-0.20	-0.19	-0.13	-0.06	0.12	0.17	0.20	0.12	0.06	-0.05	-0.14	-0.20

Annual Max Momentary Gage Height 4.00 M (A.D), at 6.00 Hours, on Jul 24, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.20 M (A.D)
Left Bank Elevation 5.75 M (A.D)
Right Bank Elevation 5.53 M (A.D), Drainage Area 75 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.23	0.45	0.15	0.39	1.40	3.91	3.74	2.53	1.60	12.08	0.88	0.48	
2	0.23	0.23	0.20	0.80	1.40	2.53	3.03	1.84	1.40	5.24	0.88	0.45	
3	0.25	0.15	0.30	0.30	1.32	2.08	2.20	1.48	1.36	4.70	0.84	0.45	
4	0.20	0.18	0.23	0.28	1.20	1.72	1.88	2.00	1.36	4.13	0.80	0.42	
5	0.33	0.18	0.18	0.76	1.00	1.48	1.56	9.49	1.36	3.19	0.84	0.39	
6	0.25	0.25	0.18	0.72	0.92	1.48	1.72	4.70	1.32	2.12	0.80	0.39	
7	0.20	0.15	0.39	0.88	1.00	1.36	1.52	2.48	1.16	1.72	0.84	0.39	
8	0.15	0.23	0.18	1.24	1.04	1.68	1.64	1.96	1.08	1.84	0.76	0.39	
9	0.13	1.12	0.18	1.32	0.92	1.76	2.31	3.41	1.16	1.68	0.72	0.36	
10	0.13	0.42	0.15	0.76	0.72	1.60	2.26	4.52	1.24	1.52	0.68	0.36	
11	0.23	0.25	0.15	0.88	0.57	1.40	2.20	4.76	1.44	1.44	0.68	0.33	
12	0.45	0.23	0.15	1.00	0.54	1.36	5.18	6.12	12.29	1.48	0.64	0.33	
13	0.15	0.15	0.10	1.20	0.51	1.28	3.03	6.51	12.36	1.48	0.64	0.30	
14	0.08	0.05	0.10	0.60	0.51	1.08	2.20	4.70	14.02	1.36	0.68	0.30	
15	0.10	0.08	0.10	0.45	0.51	1.20	1.88	3.69	4.82	1.40	0.72	0.30	
16	0.05	0.08	0.10	0.36	0.42	1.12	1.64	3.14	3.74	1.40	0.80	0.30	
17	0.08	0.10	0.10	0.23	0.42	1.68	1.48	2.59	2.86	1.36	0.76	0.28	
18	0.08	0.10	0.15	0.96	0.57	2.04	1.36	3.30	2.37	1.32	0.72	0.28	
19	0.08	0.10	0.10	0.88	0.92	2.48	1.36	1.76	2.37	1.36	0.72	0.28	
20	0.08	0.08	0.10	1.08	0.88	1.88	1.52	1.72	2.53	1.32	0.72	0.28	
21	0.05	0.10	0.10	1.84	1.36	1.52	1.76	1.68	2.04	1.24	0.64	0.28	
22	0.15	0.08	0.10	4.58	1.16	1.36	1.48	1.56	1.80	1.24	0.57	0.25	
23	0.42	0.05	0.23	2.70	0.96	1.40	1.32	1.40	1.80	1.12	0.51	0.25	
24	0.30	0.10	0.15	24.59	1.76	1.36	1.28	5.24	1.96	1.12	0.57	0.25	
25	0.25	0.10	0.23	12.15	1.56	1.60	1.48	3.08	2.00	1.08	0.51	0.25	
26	0.28	0.51	0.15	3.14	2.04	1.64	7.25	2.70	1.76	1.04	0.48	0.23	
27	0.33	0.28	0.15	2.04	4.52	2.75	3.41	1.96	1.36	1.04	0.48	0.23	
28	0.08	0.84	0.13	2.12	2.70	9.91	4.29	1.76	1.56	1.00	0.45	0.23	
29	0.13	0.28	0.08	1.84	3.69	11.80	16.72	1.72	1.36	1.00	0.45	0.20	
30	0.45	0.05	0.39	1.48	11.24	5.18	4.58	1.64	1.64	0.84		0.25	
31		0.18		1.32	7.53		3.41		17.91	0.88		0.23	
Total	5.92	7.15	5.00	72.89	55.29	73.64	90.69	95.44	107.03	63.74	19.78	9.71	606.28 CMSDAY
Mean	0.20	0.23	0.17	2.35	1.78	2.45	2.93	3.18	3.45	2.06	0.68	0.31	1.66 CMS
Max	0.45	1.12	0.39	24.59	11.24	11.80	16.72	9.49	17.91	12.08	0.88	0.48	24.59 CMS
Min	0.05	0.05	0.08	0.23	0.42	1.08	1.28	1.40	1.08	0.84	0.45	0.20	0.05 CMS
Runoff	0.511	0.618	0.432	6.298	4.777	6.362	7.836	8.246	9.247	5.507	1.709	0.839	52.383 MCM

Momentary Peak 30.00 CMS, at 4.00 M (A.D), at 6.00 Hours, on Jul 24, 1991

Runoff Yield 22.09 Liters/Second/Square KM, Momentary Peak Yield 400.00 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

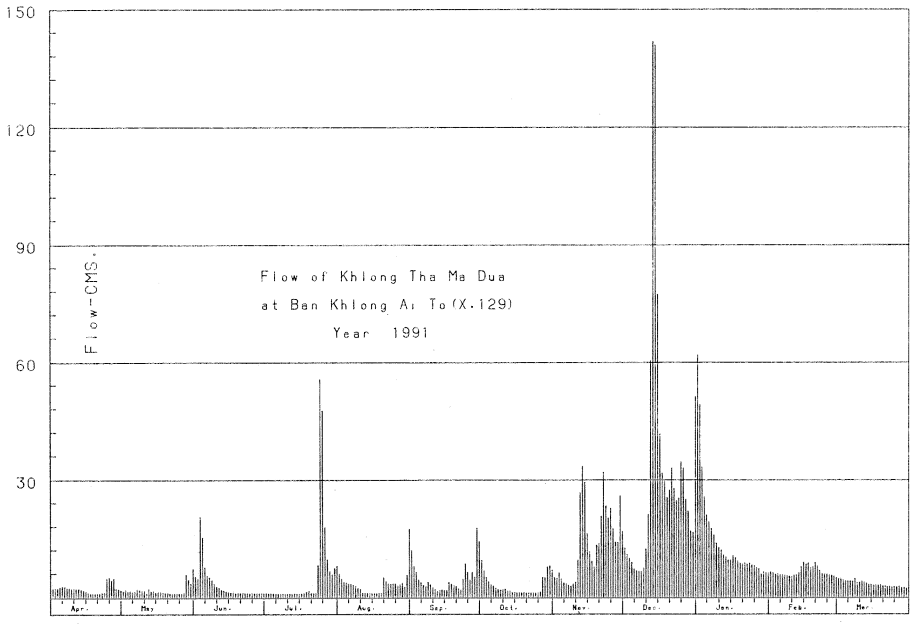
Khlong Tha Ma Dua at Ban Khlong Ai To, Phatthalung (X.129)

Location	Lat. 07°23'19" N., Long. 100°06'44" n., on right bank near Wat Ban Ai To, Ban Khlong Ai To, Amphoe Khao Chai Son, Phatthalung.
Drainage Area	332 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+13.30 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On right bank about 30 meters from the top staff gage.
Elevation	+20.510 m.(M.S.L.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1982 to date.
Rating Operation	
Period of Rating	1983 to date.
Rated by Float	-
Rated by Current Meter	1983 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	Overbank flow starts at elevation +20.66 m.(M.S.L.),records are channel flow only.
General Description	Records fair. Stage-discharge relation defined by 23 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	13.76	13.67	14.07	13.59	14.13	14.57	14.40	14.06	14.61	16.82	14.16	14.02	
2	13.76	13.71	14.03	13.58	14.03	14.28	14.19	14.03	14.50	16.33	14.14	14.02	
3	13.76	13.66	15.06	13.58	13.95	14.16	14.06	14.15	14.43	15.66	14.12	13.99	
4	13.79	13.67	14.78	13.58	13.93	14.01	13.96	14.02	14.35	15.31	14.12	13.98	
5	13.83	13.64	14.26	13.57	13.91	13.93	13.87	13.93	14.22	15.08	14.11	13.96	
6	13.81	13.65	14.10	13.57	13.90	13.87	13.84	13.90	14.18	14.99	14.11	13.97	
7	13.78	13.74	14.05	13.57	13.87	13.82	13.76	13.86	14.18	14.90	14.10	13.96	
8	13.76	13.70	14.00	13.57	13.83	13.95	13.73	13.82	14.17	14.81	14.08	14.03	
9	13.75	13.69	13.90	13.57	13.77	13.87	13.70	13.90	14.24	14.69	14.08	13.93	
10	13.75	13.68	13.82	13.57	13.73	13.79	13.73	13.94	14.59	14.62	14.06	13.94	
11	13.75	13.59	13.77	13.57	13.61	13.72	13.73	14.40	15.09	14.57	14.10	13.96	
12	13.74	13.75	13.72	13.57	13.60	13.67	13.68	15.36	16.77	14.49	14.10	13.94	
13	13.73	13.67	13.68	13.58	13.60	13.70	13.66	15.67	19.45	14.45	14.15	13.91	
14	13.69	13.67	13.66	13.58	13.59	13.72	13.62	15.48	19.42	14.40	14.26	13.88	
15	13.67	13.63	13.63	13.58	13.59	13.69	13.61	14.83	17.38	14.39	14.35	13.87	
16	13.61	13.64	13.63	13.58	13.58	13.70	13.61	14.55	16.03	14.48	14.31	13.86	
17	13.59	13.65	13.61	13.58	13.59	13.94	13.61	14.38	15.59	14.43	14.34	13.86	
18	13.58	13.62	13.60	13.65	13.60	13.90	13.61	14.26	15.50	14.38	14.25	13.86	
19	13.58	13.61	13.60	13.67	13.60	13.84	13.61	14.66	15.30	14.33	14.27	13.86	
20	13.58	13.60	13.60	13.60	14.06	13.83	13.60	14.68	15.39	14.32	14.34	13.83	
21	13.59	13.59	13.60	13.59	13.97	13.74	13.60	15.07	15.65	14.34	14.28	13.82	
22	13.60	13.57	13.60	13.60	13.90	13.71	13.60	15.60	15.41	14.32	14.19	13.81	
23	13.64	13.59	13.60	14.30	13.90	14.02	13.60	15.20	15.26	14.33	14.13	13.81	
24	14.04	13.59	13.59	16.59	13.91	14.33	13.60	15.04	15.29	14.30	14.12	13.80	
25	14.06	13.59	13.59	16.27	13.91	14.16	13.60	15.17	15.72	14.28	14.12	13.80	
26	13.99	13.58	13.60	14.92	13.84	14.00	13.64	14.90	15.65	14.25	14.10	13.80	
27	14.04	13.61	13.60	14.41	13.89	14.16	14.06	14.71	15.28	14.22	14.10	13.81	
28	13.75	14.12	13.60	14.18	13.92	14.07	14.05	14.70	15.13	14.12	14.07	13.78	
29	13.74	14.01	13.59	14.11	13.81	14.91	14.26	15.32	14.87	14.16	14.05	13.77	
30	13.69	13.91	13.59	14.24	14.10	14.72	14.29	14.86	14.84	14.15		13.76	
31		14.23		14.28	14.90		14.20		16.41	14.14		13.76	
Mean	13.75	13.70	13.82	13.94	13.86	13.99	13.81	14.62	15.45	14.65	14.16	13.88	
Max	14.06	14.23	15.06	16.59	14.90	14.91	14.40	15.67	19.45	16.82	14.35	14.03	19.45
Min	13.58	13.57	13.59	13.57	13.58	13.67	13.60	13.82	14.17	14.12	14.05	13.76	13.57

Annual Max Momentary Gage Height 22.06 M (MSL), at 6.00 Hours, on Jan 28, 1991
Zero Gage at Bottom Elevation 13.30 M (MSL), River Bed 13.15 M (MSL)
Left Bank Elevation 20.65 M (MSL)
Right Bank Elevation 20.73 M (MSL), Drainage Area 332 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.38	1.69	5.34	1.14	6.09	12.05	9.60	5.22	12.65	61.84	6.48	4.74	
2	2.38	1.98	4.86	1.08	4.86	8.04	6.87	4.86	11.00	49.25	6.22	4.74	
3	2.38	1.62	20.64	1.08	4.00	6.48	5.22	6.35	10.02	33.32	5.96	4.40	
4	2.62	1.69	15.44	1.08	3.80	4.62	4.10	4.74	8.95	25.71	5.96	4.30	
5	2.94	1.48	7.78	1.02	3.60	3.80	3.26	3.80	7.26	21.02	5.83	4.10	
6	2.78	1.55	5.70	1.02	3.50	3.26	3.02	3.50	6.74	19.31	5.83	4.20	
7	2.54	2.22	5.10	1.02	3.26	2.86	2.38	3.18	6.74	17.60	5.70	4.10	
8	2.38	1.90	4.50	1.02	2.94	4.00	2.14	2.86	6.61	15.98	5.46	4.86	
9	2.30	1.83	3.50	1.02	2.46	3.26	1.90	3.50	7.52	13.85	5.46	3.80	
10	2.30	1.76	2.86	1.02	2.14	2.62	2.14	3.90	12.35	12.80	5.22	3.90	
11	2.30	1.14	2.46	1.02	1.27	2.06	2.14	9.60	21.21	12.05	5.70	4.10	
12	2.22	2.30	2.06	1.02	1.20	1.69	1.76	26.76	60.49	10.86	5.70	3.90	
13	2.14	1.69	1.76	1.08	1.20	1.90	1.62	33.54	141.85	10.30	6.35	3.60	
14	1.83	1.69	1.62	1.08	1.14	2.06	1.34	29.36	140.86	9.60	7.78	3.34	
15	1.69	1.41	1.41	1.08	1.14	1.83	1.27	16.34	77.42	9.47	8.95	3.26	
16	1.27	1.48	1.41	1.08	1.08	1.90	1.27	11.75	41.82	10.72	8.43	3.18	
17	1.14	1.55	1.27	1.08	1.14	3.90	1.27	9.34	31.78	10.02	8.82	3.18	
18	1.08	1.34	1.20	1.55	1.20	3.50	1.27	7.78	29.80	9.34	7.65	3.18	
19	1.08	1.27	1.20	1.69	1.20	3.02	1.27	13.40	25.50	8.69	7.91	3.18	
20	1.08	1.20	1.20	1.20	5.22	2.94	1.20	13.70	27.39	8.56	8.82	2.94	
21	1.14	1.14	1.20	1.14	4.20	2.22	1.20	20.83	33.10	8.82	8.04	2.86	
22	1.20	1.02	1.20	1.20	3.50	1.98	1.20	32.00	27.82	8.56	6.87	2.78	
23	1.48	1.14	1.20	8.30	3.50	4.74	1.20	23.40	24.66	8.69	6.09	2.78	
24	4.98	1.14	1.14	55.75	3.60	8.69	1.20	20.26	25.29	8.30	5.96	2.70	
25	5.22	1.14	1.14	47.75	3.60	6.48	1.20	22.80	34.66	8.04	5.96	2.70	
26	4.40	1.08	1.20	17.98	3.02	4.50	1.48	17.60	33.10	7.65	5.70	2.70	
27	4.98	1.27	1.20	9.74	3.42	6.48	5.22	14.18	25.08	7.26	5.70	2.78	
28	2.30	5.96	1.20	6.74	3.70	5.34	5.10	14.00	22.00	5.96	5.34	2.54	
29	2.22	4.62	1.14	5.83	2.78	17.79	7.78	25.92	17.06	6.48	5.10	2.46	
30	1.83	3.60	1.14	7.52	5.70	14.36	8.17	16.88	16.52	6.35		2.38	
31		7.39		8.04	17.60		7.00		51.25	6.22		2.38	
Total	70.58	62.29	103.07	192.37	107.06	148.37	95.79	421.35	998.50	452.62	188.99	106.06	2947.05 CMSDAY
Mean	2.35	2.01	3.44	6.21	3.45	4.95	3.09	14.05	32.21	14.60	6.52	3.42	8.05 CMS
Max	5.22	7.39	20.64	55.75	17.60	17.79	9.60	33.54	141.85	61.84	8.95	4.86	141.85 CMS
Min	1.08	1.02	1.14	1.02	1.08	1.69	1.20	2.86	6.61	5.96	5.10	2.38	1.02 CMS
Runoff	6.098	5.382	8.905	16.621	9.250	12.819	8.276	36.405	86.270	39.106	16.329	9.164	254.625 MCM

Momentary Peak ******** CMS, at 22.06 M (MSL), at 6.00 Hours, on Jan 28, 1991
Runoff Yield 24.25 Liters/Second/Square KM, Momentary Peak Yield ********* Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

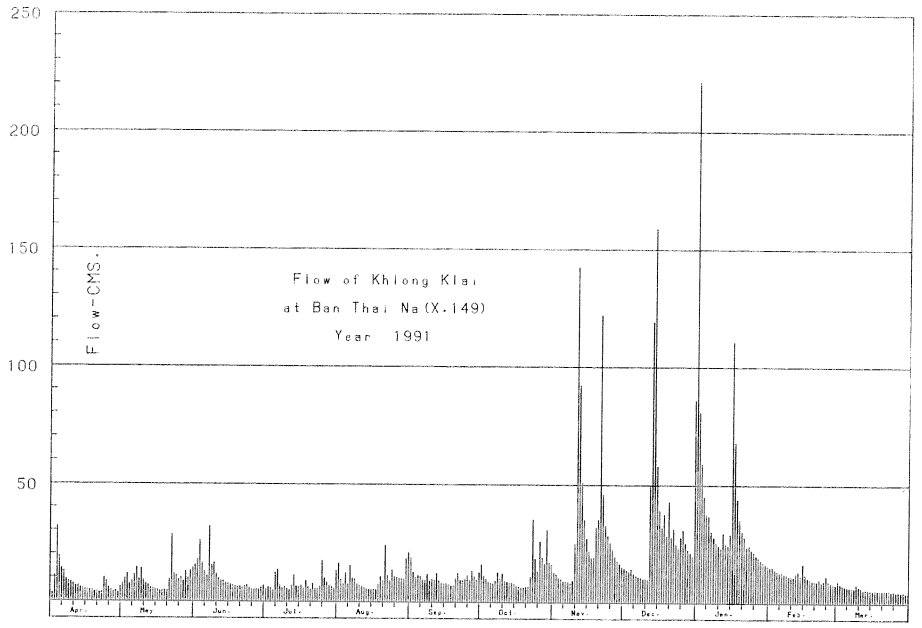
Khlong Klai at Ban Thai Na, Nakhon Si Thammarat (X.149)

Location	Lat. 8°-43'-48" N., Long. 99°-44'-52" E., on left bank at Ban Thai Na, Amphoe Tha Sa La, Nakhon Si Thammarat.
Drainage Area	469 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+28.30 m.(M.S.L.)
Bench Mark	B.M.-H.D.
Location	On left bank near the station office.
Elevation	+34.588 m.(M.S.L.)
Gage Reading Frequency	13-time daily readings at 06.00-18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1984 to date
Rating Operation	
Period of Rating	1984 to date
Rated by Float	-
Rated by Current Meter	1984 to date
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 99 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	28.70	28.82	29.01	28.75	29.03	29.08	29.02	28.95	28.99	30.69	29.00	28.86	
2	28.91	28.88	29.06	28.78	28.87	28.95	28.92	28.93	28.97	29.79	29.00	28.83	
3	29.30	28.93	29.20	28.77	28.82	28.90	28.88	28.90	28.96	29.59	28.98	28.81	
4	29.08	28.81	29.03	28.74	28.94	28.92	28.85	28.88	28.98	29.45	28.96	28.80	
5	28.98	28.85	28.95	28.94	28.82	28.91	28.83	28.86	28.94	29.37	28.95	28.79	
6	28.95	28.92	28.91	28.97	29.01	28.87	28.83	28.85	28.92	29.36	28.95	28.79	
7	28.87	28.99	29.30	28.80	28.89	28.86	28.86	28.85	28.91	29.27	28.94	28.78	
8	28.84	28.87	29.01	28.77	28.88	28.93	28.95	28.83	28.90	29.23	28.93	28.78	
9	28.84	28.98	29.03	28.78	28.82	28.86	28.89	28.87	28.89	29.19	28.92	28.82	
10	28.81	28.86	28.92	28.76	28.80	28.88	28.94	29.18	28.89	29.17	28.91	28.80	
11	28.79	28.82	28.88	28.74	28.79	28.86	28.86	30.24	28.88	29.15	28.91	28.78	
12	28.79	28.80	28.86	28.80	28.77	28.94	28.85	29.88	29.50	29.26	28.94	28.76	
13	28.77	28.77	28.85	28.92	28.76	28.86	28.83	29.51	30.08	29.18	28.96	28.76	
14	28.76	28.76	28.83	28.79	28.75	28.83	28.84	29.34	30.34	29.17	28.92	28.76	
15	28.75	28.75	28.82	28.78	28.75	28.82	28.82	29.22	29.58	29.25	29.03	28.75	
16	28.74	28.74	28.81	28.80	28.75	28.83	28.80	29.13	29.39	30.02	28.93	28.75	
17	28.74	28.73	28.80	28.76	28.75	28.81	28.79	29.08	29.30	29.68	28.90	28.75	
18	28.73	28.73	28.79	28.86	28.81	28.80	28.78	29.08	29.37	29.44	28.88	28.75	
19	28.72	28.74	28.78	28.78	28.91	28.80	28.78	29.30	29.24	29.34	28.87	28.75	
20	28.72	28.73	28.79	28.75	28.86	28.89	28.79	29.34	29.43	29.27	28.86	28.75	
21	28.71	28.87	28.77	28.82	29.17	28.94	28.79	30.10	29.23	29.23	28.86	28.75	
22	28.71	29.24	28.79	28.76	28.92	28.87	28.91	29.46	29.29	29.16	28.88	28.75	
23	28.89	28.93	28.80	28.76	28.86	28.86	29.34	29.31	29.18	29.17	28.85	28.75	
24	28.85	28.91	28.77	28.79	28.97	28.88	29.07	29.24	29.15	29.14	28.86	28.74	
25	28.77	28.87	28.75	29.05	28.91	28.92	28.96	29.19	29.23	29.12	28.92	28.74	
26	28.74	28.89	28.75	28.89	28.90	28.87	29.20	29.14	29.28	29.10	28.86	28.73	
27	28.72	28.85	28.75	28.84	28.89	28.96	29.08	29.09	29.19	29.08	28.84	28.73	
28	28.73	28.95	28.75	28.80	28.88	28.91	29.03	29.05	29.14	29.06	28.82	28.73	
29	28.71	28.89	28.77	28.78	28.88	28.87	29.28	29.03	29.12	29.04	28.82	28.73	
30	28.78	28.96	28.80	28.76	29.07	28.95	29.04	29.00	29.09	29.03		28.72	
31		28.99		28.96	29.12		29.02		29.83	29.01		28.71	
Mean	28.81	28.87	28.88	28.81	28.88	28.89	28.93	29.19	29.23	29.32	28.91	28.76	
Max	29.30	29.24	29.30	29.05	29.17	29.08	29.34	30.24	30.34	30.69	29.03	28.86	30.69
Min	28.70	28.73	28.75	28.74	28.75	28.80	28.78	28.83	28.88	29.01	28.82	28.71	28.70

Annual Max Momentary Gage Height 31.18 M (MSL), at 6.00 Hours, on Jan 1, 1991
Zero Gage at Bottom Elevation 28.30 M (MSL), River Bed 25.49 M (MSL)
Left Bank Elevation 35.06 M (MSL)
Right Bank Elevation 34.73 M (MSL), Drainage Area 469 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.50	7.70	15.50	5.25	16.50	19.00	16.00	12.75	14.55	221.20	15.00	9.10	
2	10.95	9.80	18.00	6.30	9.45	12.75	11.40	11.85	13.65	80.80	15.00	8.05	
3	32.00	11.85	26.00	5.95	7.70	10.50	9.80	10.50	13.20	59.00	14.10	7.35	
4	19.00	7.35	16.50	4.90	12.30	11.40	8.75	9.80	14.10	45.00	13.20	7.00	
5	14.10	8.75	12.75	12.30	7.70	10.95	8.05	9.10	12.30	37.60	12.75	6.65	
6	12.75	11.40	10.95	13.65	15.50	9.45	8.05	8.75	11.40	36.80	12.75	6.65	
7	9.45	14.55	32.00	7.00	10.15	9.10	9.10	8.75	10.95	30.20	12.30	6.30	
8	8.40	9.45	15.50	5.95	9.80	11.85	12.75	8.05	10.50	27.80	11.85	6.30	
9	8.40	14.10	16.50	6.30	7.70	9.10	10.15	9.45	10.15	25.40	11.40	7.70	
10	7.35	9.10	11.40	5.60	7.00	9.80	12.30	24.80	10.15	24.20	10.95	7.00	
11	6.65	7.70	9.80	4.90	6.65	9.10	9.10	142.40	9.80	23.00	10.95	6.30	
12	6.65	7.00	9.10	7.00	5.95	12.30	8.75	92.40	50.00	29.60	12.30	5.60	
13	5.95	5.95	8.75	11.40	5.60	9.10	8.05	51.00	119.20	24.80	13.20	5.60	
14	5.60	5.60	8.05	6.65	5.25	8.05	8.40	35.20	158.80	24.20	11.40	5.60	
15	5.25	5.25	7.70	6.30	5.25	7.70	7.70	27.20	58.00	29.00	16.50	5.25	
16	4.90	4.90	7.35	7.00	5.25	8.05	7.00	21.80	39.20	110.80	11.85	5.25	
17	4.90	4.55	7.00	5.60	5.25	7.35	6.65	19.00	32.00	68.00	10.50	5.25	
18	4.55	4.55	6.65	9.10	7.35	7.00	6.30	19.00	37.60	44.00	9.80	5.25	
19	4.20	4.90	6.30	6.30	10.95	7.00	6.30	32.00	28.40	35.20	9.45	5.25	
20	4.20	4.55	6.65	5.25	9.10	10.15	6.65	35.20	43.00	30.20	9.10	5.25	
21	3.85	9.45	5.95	7.70	24.20	12.30	6.65	122.00	27.80	27.80	9.10	5.25	
22	3.85	28.40	6.65	5.60	11.40	9.45	10.95	46.00	31.40	23.60	9.80	5.25	
23	10.15	11.85	7.00	5.60	9.10	9.10	35.20	32.80	24.80	24.20	8.75	5.25	
24	8.75	10.95	5.95	6.65	13.65	9.80	18.50	28.40	23.00	22.40	9.10	4.90	
25	5.95	9.45	5.25	17.50	10.95	11.40	13.20	25.40	27.80	21.20	11.40	4.90	
26	4.90	10.15	5.25	10.15	10.50	9.45	26.00	22.40	30.80	20.00	9.10	4.55	
27	4.20	8.75	5.25	8.40	10.15	13.20	19.00	19.50	25.40	19.00	8.40	4.55	
28	4.55	12.75	5.25	7.00	9.80	10.95	16.50	17.50	22.40	18.00	7.70	4.55	
29	3.85	10.15	5.95	6.30	9.80	9.45	30.80	16.50	21.20	17.00	7.70	4.55	
30	6.30	13.20	7.00	5.60	18.50	12.75	17.00	15.00	19.50	16.50		4.20	
31		14.55		13.20	21.20		16.00		85.90	15.50		3.85	
Total	235.10	298.65	311.95	236.40	319.65	307.55	391.05	934.50	1036.95	1232.00	325.40	178.50	5807.70 CMSDAY
Mean	7.84	9.63	10.40	7.63	10.31	10.25	12.61	31.15	33.45	39.74	11.22	5.76	15.87 CMS
Max	32.00	28.40	32.00	17.50	24.20	19.00	35.20	142.40	158.80	221.20	16.50	9.10	221.20 CMS
Min	3.50	4.55	5.25	4.90	5.25	7.00	6.30	8.05	9.80	15.50	7.70	3.85	3.50 CMS
Runoff	20.313	25.803	26.952	20.425	27.618	26.572	33.787	80.741	89.592	106.445	28.115	15.422	501.785 MCM

Momentary Peak 320.60 CMS, at 31.18 M (MSL), at 6.00 Hours, on Jan 1, 1991

Runoff Yield 33.83 Liters/Second/Square KM, Momentary Peak Yield 683.58 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

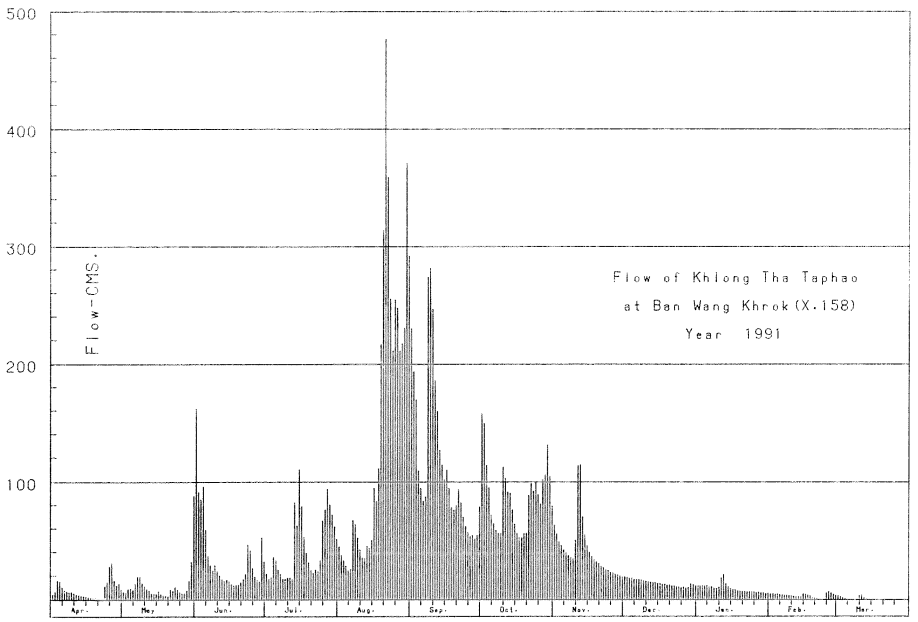
Khlong Tha Taphao at Ban Wang Khrok, Chumphon (X.158)

Location	Lat. 10°-35'-34" N., Long. 99°-08'-42" N., on right bank at the bridge on Chumphon - Prachuap Khiri Khan Highway, Amphoe Tha Sae, Chumphon.
Drainage Area	1,819 sq.km
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-A.D.
Location	On right bank about 100 meters from the top staff gage.
Elevation	+8.839 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1984 to date.
Rating Operation	
Period of Rating	1990 to date.
Rated by Float	-
Rated by Current Meter	1990 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 50 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.37	0.44	3.27	0.87	1.36	4.26	3.20	1.69	0.81	0.59	0.39	0.33	
2	0.44	0.41	2.16	0.76	1.22	3.74	3.08	1.57	0.79	0.60	0.39	0.31	
3	0.72	0.52	2.05	0.79	1.13	3.39	2.54	1.44	0.78	0.60	0.38	0.28	
4	0.69	0.53	2.24	1.19	1.03	2.46	2.22	1.38	0.77	0.60	0.38	0.25	
5	0.56	0.50	1.62	1.13	0.94	2.21	1.83	1.31	0.75	0.60	0.37	0.24	
6	0.49	0.64	1.21	0.96	0.97	2.03	1.71	1.26	0.74	0.57	0.36	0.23	
7	0.46	0.81	1.04	0.86	1.76	2.09	1.61	1.22	0.75	0.57	0.35	0.22	
8	0.43	0.81	0.94	0.76	1.70	4.87	1.57	1.18	0.73	0.55	0.35	0.22	
9	0.44	0.66	1.04	0.75	1.50	4.97	1.56	1.16	0.72	0.53	0.34	0.24	
10	0.40	0.58	0.93	0.79	1.31	4.50	2.51	1.46	0.70	0.57	0.33	0.34	
11	0.37	0.52	0.83	0.78	1.18	3.63	2.35	2.53	0.70	0.78	0.32	0.36	
12	0.35	0.48	0.75	0.75	1.16	3.24	2.16	2.54	0.68	0.86	0.31	0.28	
13	0.33	0.40	0.71	2.01	1.37	2.73	2.14	1.81	0.68	0.65	0.31	0.23	
14	0.32	0.39	0.74	1.68	1.33	2.54	1.91	1.54	0.67	0.58	0.31	0.21	
15	0.31	0.38	0.70	2.48	1.46	2.33	1.70	1.38	0.66	0.54	0.39	0.19	
16	0.29	0.46	0.64	1.96	2.21	2.47	1.57	1.27	0.65	0.52	0.37	0.19	
17	0.28	0.38	0.60	1.51	2.03	2.21	1.50	1.20	0.64	0.50	0.36	0.17	
18	0.27	0.34	0.62	1.26	2.49	1.94	1.50	1.14	0.63	0.48	0.33	0.16	
19	0.27	0.33	0.62	1.09	4.07	1.90	1.56	1.11	0.62	0.46	0.29	0.16	
20	0.26	0.32	0.68	0.95	5.37	1.97	1.57	1.07	0.61	0.46	0.28	0.15	
21	0.24	0.51	0.75	0.88	6.56	2.19	2.11	1.03	0.60	0.45	0.26	0.15	
22	0.24	0.47	0.87	0.96	5.93	2.01	2.28	1.00	0.59	0.45	0.25	0.15	
23	0.59	0.57	1.39	0.92	4.62	1.80	2.17	0.96	0.58	0.45	0.25	0.15	
24	0.68	0.50	1.30	1.13	3.99	1.67	2.29	0.94	0.57	0.45	0.28	0.14	
25	1.02	0.44	0.99	1.75	4.61	1.58	2.12	0.91	0.56	0.44	0.42	0.14	
26	1.09	0.40	0.81	1.91	4.51	1.52	1.99	0.89	0.56	0.43	0.45	0.14	
27	0.72	0.40	0.74	2.20	3.99	1.53	2.33	0.87	0.55	0.43	0.42	0.13	
28	0.60	0.48	0.70	1.98	4.08	1.48	2.40	0.85	0.55	0.42	0.37	0.12	
29	0.65	0.72	1.50	1.84	4.27	1.53	2.80	0.83	0.65	0.41	0.35	0.12	
30	0.51	1.10	1.11	1.67	6.04	1.95	2.38	0.81	0.62	0.40		0.17	
31		2.11		1.48	5.10		1.96		0.60	0.40		0.16	
Mean	0.48	0.57	1.12	1.29	2.88	2.56	2.08	1.28	0.66	0.53	0.34	0.20	
Max	1.09	2.11	3.27	2.48	6.56	4.97	3.20	2.54	0.81	0.86	0.45	0.36	6.56
Min	0.24	0.32	0.60	0.75	0.94	1.48	1.50	0.81	0.55	0.40	0.25	0.12	0.12

Annual Max Momentary Gage Height 6.63 M (A.D), at 9.00 Hours, on Aug 21, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.58 M (A.D)
Left Bank Elevation 9.70 M (A.D)
Right Bank Elevation 10.17 M (A.D), Drainage Area 1819 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	4.43	6.46	162.05	21.73	44.92	230.20	157.50	63.43	19.39	11.44	5.01	3.27	
2	6.46	5.59	91.60	17.56	37.64	193.80	149.70	56.59	18.64	11.80	5.01	2.69	
3	16.12	8.92	85.00	18.64	33.24	169.85	114.60	49.24	18.28	11.80	4.72	1.92	
4	15.04	9.28	96.40	36.12	28.44	109.60	95.20	45.96	17.92	11.80	4.72	1.20	
5	10.36	8.20	59.44	33.24	24.54	94.60	71.80	42.32	17.20	11.80	4.43	0.96	
6	7.91	13.24	37.12	25.36	25.77	83.80	64.60	39.72	16.84	10.72	4.14	0.72	
7	7.04	19.39	28.92	21.34	67.60	87.40	58.87	37.64	17.20	10.72	3.85	0.48	
8	6.17	19.39	24.54	17.56	64.00	274.25	56.59	35.64	16.48	10.00	3.85	0.48	
9	6.46	13.96	28.92	17.20	52.60	281.75	56.02	34.68	16.12	9.28	3.56	0.96	
10	5.30	11.08	24.13	18.64	42.32	247.00	112.65	50.36	15.40	10.72	3.27	3.56	
11	4.43	8.92	20.17	18.28	35.64	186.10	103.00	113.95	15.40	18.28	2.98	4.14	
12	3.85	7.62	17.20	17.20	34.68	160.10	91.60	114.60	14.68	21.34	2.69	1.92	
13	3.27	5.30	15.76	82.60	45.44	126.95	90.40	70.60	14.68	13.60	2.69	0.72	
14	2.98	5.01	16.84	62.86	43.36	114.60	76.60	54.88	14.32	11.08	2.69	0.24	
15	2.69	4.72	15.40	110.80	50.36	101.80	64.00	45.96	13.96	9.64	5.01	0.00	
16	2.16	7.04	13.24	79.60	94.60	110.20	56.59	40.24	13.60	8.92	4.43	0.00	
17	1.92	4.72	11.80	53.17	83.80	94.60	52.60	36.60	13.24	8.20	4.14	0.00	
18	1.68	3.56	12.52	39.72	111.40	78.40	52.60	33.72	12.88	7.62	3.27	0.00	
19	1.68	3.27	12.52	31.32	216.90	76.00	56.02	32.28	12.52	7.04	2.16	0.00	
20	1.44	2.98	14.68	24.95	313.60	80.20	56.59	30.36	12.16	7.04	1.92	0.00	
21	0.96	8.56	17.20	22.12	476.40	93.40	88.60	28.44	11.80	6.75	1.44	0.00	
22	0.96	7.33	21.73	25.36	359.00	82.60	98.80	27.00	11.44	6.75	1.20	0.00	
23	11.44	10.72	46.48	23.72	255.50	70.00	92.20	25.36	11.08	6.75	1.20	0.00	
24	14.68	8.20	41.80	33.24	211.30	62.29	99.40	24.54	10.72	6.75	1.92	0.00	
25	27.96	6.46	26.59	67.00	254.75	57.16	89.20	23.31	10.36	6.46	5.88	0.00	
26	31.32	5.30	19.39	76.60	247.70	53.74	81.40	22.51	10.36	6.17	6.75	0.00	
27	16.12	5.30	16.84	94.00	211.30	54.31	101.80	21.73	10.00	6.17	5.88	0.00	
28	11.80	7.62	15.40	80.80	217.60	51.48	106.00	20.95	10.00	5.88	4.43	0.00	
29	13.60	16.12	52.60	72.40	230.90	54.31	131.50	20.17	13.60	5.59	3.85	0.00	
30	8.56	31.80	32.28	62.29	370.80	79.00	104.80	19.39	12.52	5.30		0.00	
31		88.60		51.48	292.00		79.60		11.80	5.30		0.00	
Total	248.79	364.66	1078.56	1356.90	4578.10	3559.49	2710.83	1262.17	434.59	290.71	107.09	23.26	16015.15 CMSDAY
Mean	8.29	11.76	35.95	43.77	147.68	118.65	87.45	42.07	14.02	9.38	3.69	0.75	43.76 CMS
Max	31.32	88.60	162.05	110.80	476.40	281.75	157.50	114.60	19.39	21.34	6.75	4.14	476.40 CMS
Min	0.96	2.98	11.80	17.20	24.54	51.48	52.60	19.39	10.00	5.30	1.20	0.00	0.00 CMS
Runoff	21.495	31.507	93.188	117.236	395.548	307.540	234.216	109.051	37.549	25.117	9.253	2.010	1383.709 MCM

Momentary Peak 501.40 CMS, at 6.63 M (A.D), at 9.00 Hours, on Aug 21, 1991

Runoff Yield 24.06 Liters/Second/Square KM, Momentary Peak Yield 275.65 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

Khlong To Daeng at Ban Kwa Ro Krung, Narathiwat (X.159)

Location — Lat. 6°-05'-08" N., Long. 102°-01'-20" E., on right bank downstream from the bridge of Ban Lu Bo Lu Song-Ban Khlong Chang Road, Amphoe Sungai Kolok, Narathiwat.

Drainage Area — Flood plain.

Type of Gage — Water-stage recorder.

Zero Gage at Bottom — +2.100 m.(M.S.L.)

Bench Mark — B.M.-H.D.

Location — On right bank at the abutment of the bridge.

Elevation — +4.549 m.(M.S.L.)

Gage Reading Frequency — Recording.

Basis of Mean Daily Gage Height — Arithmetic mean of 24 readings.

Period of Available Gage Records — 1984 to date.

Rating Operation

Period of Rating — 1987 to date.

Rated by Float — -

Rated by Current Meter — 1987 to date.

Stability of Channel Regimes — Fairly stable.

Overbank Flow Conditions — Overbank flow starts at elevation +2.37 m.(M.S.L.) , records are channel flow only.

General Description — Records fair. Stage-discharge relation defined by 21 discharge measurements made in 1991.

Gage Height in Meter (MSL), Water Year April 1, 1991 to March 31, 1992

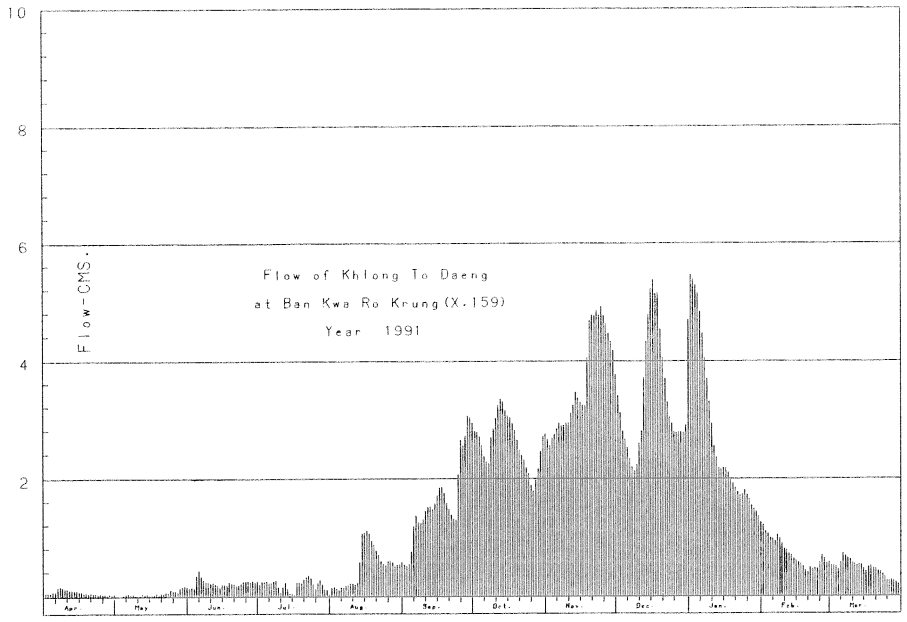
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.11	2.04	2.20	2.26	2.19	2.55	3.70	3.65	3.83	4.12	2.97	2.54	
2	2.10	2.03	2.20	2.30	2.22	2.52	3.69	3.62	3.77	4.11	2.91	2.53	
3	2.11	2.03	2.20	2.31	2.18	2.56	3.67	3.66	3.70	4.10	2.88	2.52	
4	2.12	2.04	2.40	2.31	2.17	2.69	3.62	3.68	3.65	4.08	2.85	2.49	
5	2.13	2.09	2.48	2.29	2.20	2.95	3.55	3.71	3.61	4.04	2.83	2.58	
6	2.20	2.08	2.40	2.28	2.21	3.06	3.51	3.73	3.53	3.99	2.81	2.67	
7	2.23	2.07	2.33	2.32	2.23	3.00	3.50	3.72	3.47	3.93	2.87	2.65	
8	2.20	2.06	2.31	2.32	2.25	2.98	3.66	3.72	3.44	3.88	2.84	2.62	
9	2.19	2.05	2.29	2.22	2.27	3.03	3.71	3.73	3.49	3.81	2.78	2.61	
10	2.18	2.04	2.28	2.12	2.28	3.10	3.75	3.73	3.63	3.73	2.73	2.57	
11	2.17	2.05	2.28	2.21	2.25	3.14	3.80	3.77	3.70	3.62	2.71	2.55	
12	2.16	2.06	2.27	2.30	2.29	3.14	3.82	3.80	3.88	3.54	2.68	2.54	
13	2.15	2.07	2.24	2.18	2.57	3.12	3.81	3.84	3.97	3.47	2.65	2.54	
14	2.14	2.06	2.21	2.10	2.89	3.17	3.78	3.82	4.03	3.45	2.62	2.55	
15	2.13	2.05	2.25	2.09	2.89	3.24	3.76	3.81	4.09	3.47	2.59	2.49	
16	2.12	2.04	2.25	2.07	2.92	3.31	3.75	3.80	4.11	3.46	2.58	2.45	
17	2.11	2.07	2.25	2.30	2.88	3.32	3.73	3.80	4.08	3.43	2.55	2.52	
18	2.10	2.08	2.29	2.29	2.82	3.27	3.70	3.93	4.08	3.38	2.53	2.53	
19	2.10	2.07	2.28	2.29	2.77	3.18	3.65	4.02	4.00	3.35	2.47	2.51	
20	2.10	2.08	2.26	2.34	2.71	3.12	3.59	4.03	3.93	3.31	2.45	2.49	
21	2.10	2.10	2.24	2.39	2.66	3.07	3.56	4.03	3.88	3.28	2.51	2.47	
22	2.09	2.11	2.24	2.41	2.59	3.03	3.52	4.04	3.81	3.24	2.50	2.45	
23	2.09	2.11	2.28	2.37	2.55	3.02	3.47	4.03	3.75	3.26	2.50	2.43	
24	2.08	2.16	2.30	2.26	2.54	3.41	3.42	4.05	3.73	3.29	2.50	2.38	
25	2.08	2.14	2.32	2.19	2.59	3.65	3.33	4.03	3.69	3.25	2.58	2.33	
26	2.07	2.13	2.31	2.29	2.59	3.62	3.28	4.01	3.69	3.21	2.65	2.31	
27	2.07	2.12	2.30	2.33	2.58	3.67	3.37	3.99	3.69	3.16	2.62	2.34	
28	2.06	2.19	2.31	2.27	2.52	3.76	3.46	3.97	3.69	3.12	2.57	2.31	
29	2.06	2.22	2.30	2.17	2.54	3.75	3.58	3.95	3.69	3.10	2.57	2.30	
30	2.06	2.22	2.31	2.17	2.55	3.73	3.67	3.89	3.72	3.05		2.29	
31		2.21		2.10	2.57		3.68		4.02	3.00		2.28	
Mean	2.12	2.09	2.29	2.25	2.50	3.17	3.62	3.85	3.79	3.52	2.67	2.48	
Max	2.23	2.22	2.48	2.41	2.92	3.76	3.82	4.05	4.11	4.12	2.97	2.67	4.12
Min	2.06	2.03	2.20	2.07	2.17	2.52	3.28	3.62	3.44	3.00	2.45	2.28	2.03

Annual Max Momentary Gage Height — 4.12 M (MSL), at 6.00 Hours, on Jan 1, 1991

Zero Gage at Bottom Elevation — 2.10 M (MSL), River Bed — 2.07 M (MSL)

Left Bank Elevation — 2.41 M (MSL)

Right Bank Elevation — 2.36 M (MSL), Drainage Area — Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.07	0.02	0.15	0.21	0.14	0.55	2.82	2.67	3.42	5.48	1.22	0.54	
2	0.06	0.02	0.15	0.25	0.17	0.51	2.79	2.57	3.12	5.39	1.12	0.52	
3	0.07	0.02	0.15	0.26	0.13	0.56	2.73	2.70	2.82	5.30	1.07	0.51	
4	0.08	0.02	0.35	0.26	0.12	0.76	2.57	2.76	2.67	5.15	1.01	0.47	
5	0.09	0.05	0.45	0.24	0.15	1.19	2.39	2.86	2.54	4.85	0.98	0.59	
6	0.15	0.05	0.35	0.23	0.16	1.38	2.29	2.95	2.34	4.48	0.95	0.73	
7	0.18	0.04	0.28	0.27	0.18	1.27	2.27	2.91	2.20	4.05	1.05	0.70	
8	0.15	0.04	0.26	0.27	0.20	1.24	2.70	2.91	2.14	3.71	1.00	0.65	
9	0.14	0.03	0.24	0.17	0.22	1.32	2.86	2.95	2.25	3.31	0.90	0.64	
10	0.13	0.02	0.23	0.08	0.23	1.45	3.04	2.95	2.60	2.95	0.82	0.58	
11	0.12	0.03	0.23	0.16	0.20	1.53	3.25	3.12	2.82	2.57	0.79	0.55	
12	0.11	0.04	0.22	0.25	0.24	1.53	3.37	3.25	3.71	2.37	0.74	0.54	
13	0.11	0.04	0.19	0.13	0.58	1.49	3.31	3.48	4.33	2.20	0.70	0.54	
14	0.10	0.04	0.16	0.06	1.08	1.58	3.16	3.37	4.78	2.16	0.65	0.55	
15	0.09	0.03	0.20	0.05	1.08	1.72	3.08	3.31	5.23	2.20	0.61	0.47	
16	0.08	0.02	0.20	0.04	1.13	1.85	3.04	3.25	5.39	2.18	0.59	0.42	
17	0.07	0.04	0.20	0.25	1.07	1.87	2.95	3.25	5.15	2.12	0.55	0.51	
18	0.06	0.05	0.24	0.24	0.96	1.77	2.82	4.05	5.15	2.01	0.52	0.52	
19	0.06	0.04	0.23	0.24	0.88	1.60	2.67	4.70	4.55	1.94	0.44	0.49	
20	0.06	0.05	0.21	0.29	0.79	1.49	2.49	4.78	4.05	1.85	0.42	0.47	
21	0.06	0.06	0.19	0.34	0.71	1.40	2.41	4.78	3.71	1.79	0.49	0.44	
22	0.05	0.07	0.19	0.36	0.61	1.32	2.32	4.85	3.31	1.72	0.48	0.42	
23	0.05	0.07	0.23	0.32	0.55	1.31	2.20	4.78	3.04	1.75	0.48	0.39	
24	0.05	0.11	0.25	0.21	0.54	2.07	2.09	4.93	2.95	1.81	0.48	0.33	
25	0.05	0.10	0.27	0.14	0.61	2.67	1.90	4.78	2.79	1.74	0.59	0.28	
26	0.04	0.09	0.26	0.24	0.61	2.57	1.79	4.63	2.79	1.66	0.70	0.26	
27	0.04	0.08	0.25	0.28	0.59	2.73	1.98	4.48	2.79	1.56	0.65	0.29	
28	0.04	0.14	0.26	0.22	0.51	3.08	2.18	4.33	2.79	1.49	0.58	0.26	
29	0.04	0.17	0.25	0.12	0.54	3.04	2.46	4.19	2.79	1.45	0.58	0.25	
30	0.04	0.17	0.26	0.12	0.55	2.95	2.73	3.77	2.91	1.36		0.24	
31		0.16		0.06	0.58		2.76		4.70	1.27		0.23	
Total	2.44	1.91	7.10	6.36	16.11	49.80	81.42	110.31	105.83	83.87	21.16	14.38	500.69 CMSDAY
Mean	0.08	0.06	0.24	0.21	0.52	1.66	2.63	3.68	3.41	2.71	0.73	0.46	1.37 CMS
Max	0.18	0.17	0.45	0.36	1.13	3.08	3.37	4.93	5.39	5.48	1.22	0.73	5.48 CMS
Min	0.04	0.02	0.15	0.04	0.12	0.51	1.79	2.57	2.14	1.27	0.42	0.23	0.02 CMS
Runoff	0.211	0.165	0.613	0.550	1.392	4.303	7.035	9.531	9.144	7.246	1.828	1.242	43.260 MCM

Momentary Peak 5.48 CMS, at 4.12 M (MSL), at 6.00 Hours, on Jan 1, 1991

Runoff Yield ********* Liters/Second/Square KM, Momentary Peak Yield ********* Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

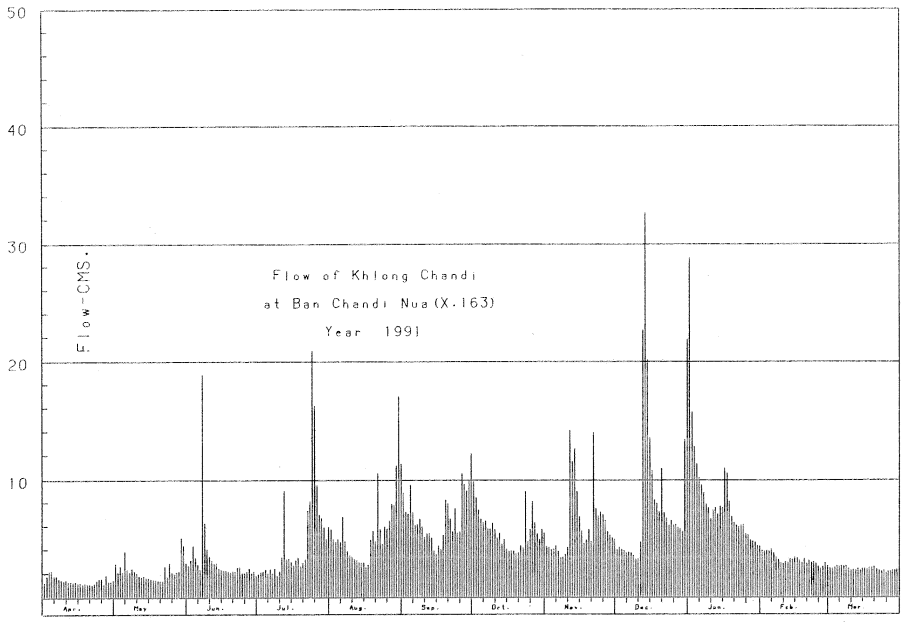
Khlong Chandi at Ban Chandi Nua, Nakhon Si Thammarat (X.163)

Location	Lat. 8°-20'-34" N., Long. 99°-37'-12" E., on left bank at the bridge on road near Wat Manao Wan, Amphoe Chawang, Nakhon Si Thammarat.
Drainage Area	97 sq.k.m.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank about 5.80 meters from the top staff gage.
Elevation	+6.007 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1986 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 49 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.38	0.58	0.57	0.47	0.78	0.95	1.01	0.70	0.68	1.80	0.67	0.54	
2	0.46	0.50	0.61	0.50	0.73	0.86	0.93	0.69	0.69	1.30	0.67	0.53	
3	0.51	0.56	0.70	0.50	0.72	0.85	0.87	0.68	0.68	1.15	0.67	0.55	
4	0.51	0.49	0.63	0.53	0.73	0.99	0.83	0.68	0.67	1.08	0.67	0.56	
5	0.46	0.67	0.58	0.48	0.72	0.86	0.81	0.70	0.66	1.02	0.68	0.56	
6	0.45	0.52	0.52	0.53	0.84	0.80	0.82	0.67	0.66	0.99	0.66	0.56	
7	0.43	0.50	1.44	0.48	0.72	0.80	0.78	0.63	0.66	0.95	0.63	0.56	
8	0.41	0.53	0.81	0.53	0.67	0.83	0.78	0.63	0.64	0.90	0.62	0.56	
9	0.41	0.51	0.68	0.46	0.64	0.79	0.81	0.65	0.62	0.88	0.59	0.54	
10	0.41	0.48	0.64	0.51	0.63	0.74	0.78	0.69	0.62	0.83	0.59	0.52	
11	0.40	0.46	0.61	0.63	0.62	0.76	0.74	1.22	0.72	0.87	0.60	0.52	
12	0.39	0.45	0.59	0.96	0.61	0.76	0.76	1.09	1.59	0.88	0.60	0.52	
13	0.39	0.45	0.59	0.62	0.60	0.74	0.71	1.14	1.92	0.85	0.62	0.53	
14	0.39	0.44	0.54	0.62	0.59	0.67	0.73	0.96	1.49	0.89	0.62	0.52	
15	0.38	0.43	0.52	0.60	0.60	0.65	0.68	0.84	1.19	0.88	0.63	0.53	
16	0.38	0.42	0.52	0.57	0.55	0.70	0.67	0.77	1.05	1.06	0.63	0.53	
17	0.37	0.42	0.51	0.61	0.57	0.68	0.67	0.71	0.92	1.04	0.61	0.53	
18	0.37	0.41	0.51	0.63	0.73	0.75	0.67	0.73	0.90	0.91	0.60	0.54	
19	0.37	0.41	0.49	0.56	0.77	0.92	0.65	0.78	0.86	0.84	0.62	0.55	
20	0.36	0.40	0.51	0.59	0.72	0.90	0.66	0.72	1.06	0.81	0.59	0.55	
21	0.36	0.40	0.50	0.62	1.04	0.83	0.70	1.21	0.86	0.80	0.61	0.53	
22	0.37	0.56	0.55	0.87	0.78	0.77	0.69	0.88	0.83	0.79	0.60	0.51	
23	0.41	0.45	0.55	0.91	0.71	0.88	0.96	0.84	0.80	0.80	0.60	0.51	
24	0.42	0.59	0.49	1.52	0.79	0.76	0.72	0.86	0.82	0.80	0.59	0.51	
25	0.43	0.49	0.49	1.32	0.78	0.77	0.78	0.85	0.80	0.76	0.56	0.49	
26	0.37	0.48	0.50	0.99	0.82	1.04	0.91	0.82	0.80	0.75	0.53	0.50	
27	0.46	0.50	0.54	0.85	0.90	0.99	0.81	0.77	0.79	0.73	0.56	0.51	
28	0.40	0.50	0.48	0.83	0.89	0.96	0.76	0.75	0.78	0.72	0.59	0.51	
29	0.39	0.74	0.50	0.79	1.07	1.01	0.73	0.74	0.77	0.72	0.56	0.52	
30	0.41	0.70	0.46	0.73	1.36	1.12	0.78	0.73	1.18	0.70		0.52	
31		0.59		0.79	1.08		0.76		1.56	0.70		0.54	
Mean	0.41	0.50	0.59	0.70	0.77	0.84	0.77	0.80	0.91	0.91	0.61	0.53	
Max	0.51	0.74	1.44	1.52	1.36	1.12	1.01	1.22	1.92	1.80	0.68	0.56	1.92
Min	0.36	0.40	0.46	0.46	0.55	0.65	0.65	0.63	0.62	0.70	0.53	0.49	0.36

Annual Max Momentary Gage Height 3.11 M (A.D), at 10.00 Hours, on Jun 7, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.06 M (A.D)
Left Bank Elevation 5.23 M (A.D)
Right Bank Elevation 5.25 M (A.D), Drainage Area 97 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.26	2.84	2.76	1.96	5.84	8.90	10.00	4.40	4.12	28.80	3.98	2.52	
2	1.88	2.20	3.14	2.20	4.94	7.28	8.54	4.26	4.26	15.80	3.98	2.44	
3	2.28	2.68	4.40	2.20	4.76	7.10	7.46	4.12	4.12	12.80	3.98	2.60	
4	2.28	2.12	3.42	2.44	4.94	9.62	6.74	4.12	3.98	11.40	3.98	2.68	
5	1.88	3.98	2.84	2.04	4.76	7.28	6.38	4.40	3.84	10.20	4.12	2.68	
6	1.80	2.36	2.36	2.44	6.92	6.20	6.56	3.98	3.84	9.62	3.84	2.68	
7	1.64	2.20	18.96	2.04	4.76	6.20	5.84	3.42	3.84	8.90	3.42	2.68	
8	1.48	2.44	6.38	2.44	3.98	6.74	5.84	3.42	3.56	8.00	3.28	2.68	
9	1.48	2.28	4.12	1.88	3.56	6.02	6.38	3.70	3.28	7.64	2.92	2.52	
10	1.48	2.04	3.56	2.28	3.42	5.12	5.84	4.26	3.28	6.74	2.92	2.36	
11	1.40	1.88	3.14	3.42	3.28	5.48	5.12	14.20	4.76	7.46	3.00	2.36	
12	1.33	1.80	2.92	9.08	3.14	5.48	5.48	11.60	22.74	7.64	3.00	2.36	
13	1.33	1.80	2.92	3.28	3.00	5.12	4.58	12.60	32.70	7.10	3.28	2.44	
14	1.33	1.72	2.52	3.28	2.92	3.98	4.94	9.08	20.16	7.82	3.28	2.36	
15	1.26	1.64	2.36	3.00	3.00	3.70	4.12	6.92	13.60	7.64	3.42	2.44	
16	1.26	1.56	2.36	2.76	2.60	4.40	3.98	5.66	10.80	11.00	3.42	2.44	
17	1.19	1.56	2.28	3.14	2.76	4.12	3.98	4.58	8.36	10.60	3.14	2.44	
18	1.19	1.48	2.28	3.42	4.94	5.30	3.98	4.94	8.00	8.18	3.00	2.52	
19	1.19	1.48	2.12	2.68	5.66	8.36	3.70	5.84	7.28	6.92	3.28	2.60	
20	1.12	1.40	2.28	2.92	4.76	8.00	3.84	4.76	11.00	6.38	2.92	2.60	
21	1.12	1.40	2.20	3.28	10.60	6.74	4.40	14.00	7.28	6.20	3.14	2.44	
22	1.19	2.68	2.60	7.46	5.84	5.66	4.26	7.64	6.74	6.02	3.00	2.28	
23	1.48	1.80	2.60	8.18	4.58	7.64	9.08	6.92	6.20	6.20	3.00	2.28	
24	1.56	2.92	2.12	20.92	6.02	5.48	4.76	7.28	6.56	6.20	2.92	2.28	
25	1.64	2.12	2.12	16.24	5.84	5.66	5.84	7.10	6.20	5.48	2.68	2.12	
26	1.19	2.04	2.20	9.62	6.56	10.60	8.18	6.56	6.20	5.30	2.44	2.20	
27	1.88	2.20	2.52	7.10	8.00	9.62	6.38	5.66	6.02	4.94	2.68	2.28	
28	1.40	2.20	2.04	6.74	7.82	9.08	5.48	5.30	5.84	4.76	2.92	2.28	
29	1.33	5.12	2.20	6.02	11.20	10.00	4.94	5.12	5.66	4.76	2.68	2.36	
30	1.48	4.40	1.88	4.94	17.12	12.20	5.84	4.94	13.40	4.40		2.36	
31		2.92		6.02	11.40		5.48		21.96	4.40		2.52	
Total	44.33	71.26	99.60	155.42	178.92	207.08	177.94	190.78	269.58	259.30	93.62	75.80	1823.63 CMSDAY
Mean	1.48	2.30	3.32	5.01	5.77	6.90	5.74	6.36	8.70	8.36	3.23	2.45	4.98 CMS
Max	2.28	5.12	18.96	20.92	17.12	12.20	10.00	14.20	32.70	28.80	4.12	2.68	32.70 CMS
Min	1.12	1.40	1.88	1.88	2.60	3.70	3.70	3.42	3.28	4.40	2.44	2.12	1.12 CMS
Runoff	3.830	6.157	8.605	13.428	15.459	17.892	15.374	16.483	23.292	22.404	8.089	6.549	157.562 MCM

Momentary Peak 102.58 CMS, at 3.11 M (A.D), at 10.00 Hours, on Jun 7, 1991
Runoff Yield 51.37 Liters/Second/Square KM, Momentary Peak Yield 1057.53 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENNINSULA EAST COAST

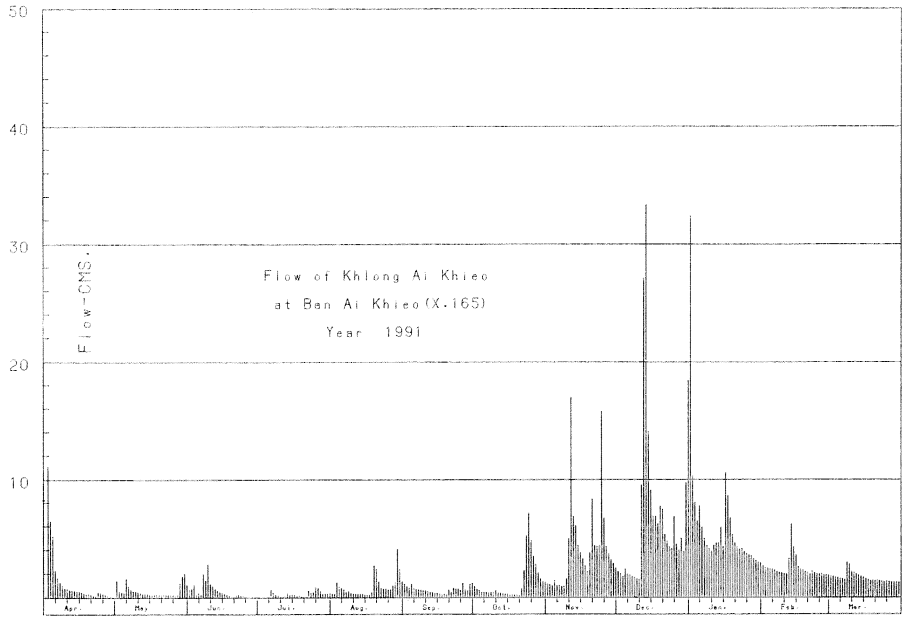
Khlong Ai Khieo at Ban Ai Khieo, Nakhon Si Thammarat (X.165)

Location	Lat. 08°-33'-47" N., Long. 99°-48'-59" E., on right bank at Ban Ai Khieo, Amphoe Phrom Khiri, Nakhon Si Thammarat.
Drainage Area	25 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 9 meters from the top staff gage.
Elevation	+9.738 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1986 to date.
Rating Operation	
Period of Rating	1989 to date.
Rated by Float	-
Rated by Current Meter	1989 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 50 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.61	0.79	0.68	0.58	0.63	0.75	0.72	0.75	0.87	2.60	0.92	0.83	
2	1.58	0.66	0.69	0.58	0.63	0.72	0.69	0.74	0.85	1.52	0.90	0.83	
3	1.26	0.65	0.74	0.58	0.77	0.70	0.67	0.73	0.83	1.37	0.90	0.82	
4	1.16	0.64	0.62	0.58	0.72	0.75	0.65	0.79	0.89	1.26	0.89	0.82	
5	0.88	0.81	0.64	0.58	0.70	0.70	0.65	0.73	0.85	1.35	0.89	0.81	
6	0.82	0.73	0.62	0.68	0.68	0.69	0.65	0.73	0.84	1.22	0.88	0.81	
7	0.77	0.68	0.85	0.64	0.65	0.68	0.64	0.72	0.83	1.14	0.87	0.80	
8	0.73	0.66	0.79	0.62	0.66	0.68	0.65	0.72	0.82	1.09	0.86	0.95	
9	0.70	0.66	0.93	0.61	0.64	0.67	0.65	0.81	0.81	1.06	0.86	0.93	
10	0.69	0.65	0.75	0.60	0.63	0.67	0.67	1.14	0.80	1.04	0.85	0.87	
11	0.68	0.64	0.72	0.60	0.63	0.66	0.64	1.90	1.47	1.09	0.85	0.86	
12	0.67	0.63	0.69	0.61	0.63	0.65	0.64	1.29	2.38	1.11	0.98	0.85	
13	0.67	0.63	0.67	0.65	0.63	0.65	0.63	1.23	2.64	1.11	1.24	0.84	
14	0.66	0.63	0.65	0.62	0.63	0.64	0.63	1.09	1.75	1.22	1.08	0.83	
15	0.66	0.62	0.64	0.62	0.62	0.64	0.63	1.03	1.44	1.08	1.01	0.82	
16	0.65	0.62	0.63	0.62	0.62	0.63	0.62	0.98	1.29	1.54	0.91	0.81	
17	0.64	0.62	0.62	0.61	0.62	0.63	0.62	0.92	1.29	1.41	0.89	0.80	
18	0.63	0.62	0.61	0.61	0.65	0.63	0.62	0.87	1.24	1.28	0.88	0.79	
19	0.63	0.62	0.60	0.61	0.92	0.62	0.62	1.03	1.35	1.17	0.87	0.79	
20	0.62	0.62	0.60	0.60	0.89	0.68	0.61	1.39	1.33	1.11	0.86	0.79	
21	0.61	0.62	0.63	0.60	0.78	0.65	0.71	1.09	1.17	1.08	0.85	0.79	
22	0.61	0.62	0.62	0.67	0.70	0.70	0.88	1.08	1.12	1.06	0.87	0.79	
23	0.65	0.62	0.61	0.64	0.69	0.69	1.16	1.09	1.08	1.06	0.86	0.78	
24	0.64	0.62	0.61	0.65	0.69	0.69	1.31	1.84	1.06	1.04	0.85	0.78	
25	0.63	0.62	0.60	0.71	0.68	0.67	1.13	1.28	1.29	1.02	0.85	0.78	
26	0.62	0.62	0.60	0.70	0.68	0.76	1.00	1.08	1.10	1.01	0.85	0.78	
27	0.61	0.62	0.60	0.66	0.73	0.68	0.93	1.02	1.05	1.00	0.84	0.77	
28	0.60	0.76	0.59	0.63	0.77	0.67	0.86	0.97	1.14	0.98	0.84	0.77	
29	0.59	0.83	0.59	0.63	1.06	0.75	0.81	0.94	1.04	0.96	0.84	0.77	
30	0.58	0.85	0.58	0.63	0.89	0.76	0.78	0.90	1.48	0.95		0.77	
31		0.74		0.64	0.78		0.77		1.97	0.94		0.76	
Mean	0.73	0.67	0.66	0.62	0.71	0.68	0.75	1.03	1.23	1.19	0.90	0.81	
Max	1.58	0.85	0.93	0.71	1.06	0.76	1.31	1.90	2.64	2.60	1.24	0.95	2.64
Min	0.58	0.62	0.58	0.58	0.62	0.62	0.61	0.72	0.80	0.94	0.84	0.76	0.58

Annual Max Momentary Gage Height 3.37 M (A.D), at 15.00 Hours, on Dec 13, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.60 M (A.D)
Left Bank Elevation 9.56 M (A.D)
Right Bank Elevation 10.03 M (A.D), Drainage Area 25 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.17	1.43	0.66	0.06	0.31	1.15	0.94	1.15	2.20	32.40	2.70	1.80	
2	11.20	0.52	0.73	0.06	0.31	0.94	0.73	1.08	2.00	10.30	2.50	1.80	
3	6.48	0.45	1.08	0.06	1.29	0.80	0.59	1.01	1.80	8.05	2.50	1.70	
4	5.22	0.38	0.24	0.06	0.94	1.15	0.45	1.43	2.40	6.48	2.40	1.70	
5	2.30	1.60	0.38	0.06	0.80	0.80	0.45	1.01	2.00	7.75	2.40	1.60	
6	1.70	1.01	0.24	0.66	0.66	0.73	0.45	1.01	1.90	5.96	2.30	1.60	
7	1.29	0.66	2.00	0.38	0.45	0.66	0.38	0.94	1.80	4.98	2.20	1.50	
8	1.01	0.52	1.43	0.24	0.52	0.66	0.45	0.94	1.70	4.40	2.10	3.00	
9	0.80	0.52	2.80	0.17	0.38	0.59	0.45	1.60	1.60	4.10	2.10	2.80	
10	0.73	0.45	1.15	0.10	0.31	0.59	0.59	4.98	1.50	3.90	2.00	2.20	
11	0.66	0.38	0.94	0.10	0.31	0.52	0.38	17.00	9.55	4.40	2.00	2.10	
12	0.59	0.31	0.73	0.17	0.31	0.45	0.38	6.87	27.12	4.62	3.30	2.00	
13	0.59	0.31	0.59	0.45	0.31	0.45	0.31	6.09	33.36	4.62	6.22	1.90	
14	0.52	0.31	0.45	0.24	0.31	0.38	0.31	4.40	14.10	5.96	4.30	1.80	
15	0.52	0.24	0.38	0.24	0.24	0.38	0.31	3.80	9.10	4.30	3.60	1.70	
16	0.45	0.24	0.31	0.24	0.24	0.31	0.24	3.30	6.87	10.60	2.60	1.60	
17	0.38	0.24	0.24	0.17	0.24	0.31	0.24	2.70	6.87	8.65	2.40	1.50	
18	0.31	0.24	0.17	0.17	0.45	0.31	0.24	2.20	6.22	6.74	2.30	1.43	
19	0.31	0.24	0.10	0.17	2.70	0.24	0.24	3.80	7.75	5.34	2.20	1.43	
20	0.24	0.24	0.10	0.10	2.40	0.66	0.17	8.35	7.45	4.62	2.10	1.43	
21	0.17	0.24	0.31	0.10	1.36	0.45	0.87	4.40	5.34	4.30	2.00	1.43	
22	0.17	0.24	0.24	0.59	0.80	0.80	2.30	4.30	4.74	4.10	2.20	1.43	
23	0.45	0.24	0.17	0.38	0.73	0.73	5.22	4.40	4.30	4.10	2.10	1.36	
24	0.38	0.24	0.17	0.45	0.73	0.73	7.15	15.80	4.10	3.90	2.00	1.36	
25	0.31	0.24	0.10	0.87	0.66	0.59	4.86	6.74	6.87	3.70	2.00	1.36	
26	0.24	0.24	0.10	0.80	0.66	1.22	3.50	4.30	4.50	3.60	2.00	1.36	
27	0.17	0.24	0.10	0.52	1.01	0.66	2.80	3.70	4.00	3.50	1.90	1.29	
28	0.10	1.22	0.08	0.31	1.29	0.59	2.10	3.20	4.98	3.30	1.90	1.29	
29	0.08	1.80	0.08	0.31	4.10	1.15	1.60	2.90	3.90	3.10	1.90	1.29	
30	0.06	2.00	0.06	0.31	2.40	1.22	1.36	2.50	9.70	3.00		1.29	
31		1.08		0.38	1.36		1.29		18.40	2.90		1.22	
Total	37.60	18.07	16.13	8.92	28.58	20.22	41.35	125.90	218.12	187.67	72.22	51.27	826.05 CMSDAY
Mean	1.25	0.58	0.54	0.29	0.92	0.67	1.33	4.20	7.04	6.05	2.49	1.65	2.26 CMS
Max	11.20	2.00	2.80	0.87	4.10	1.22	7.15	17.00	33.36	32.40	6.22	3.00	33.36 CMS
Min	0.06	0.24	0.06	0.06	0.24	0.24	0.17	0.94	1.50	2.90	1.90	1.22	0.06 CMS
Runoff	3.249	1.561	1.394	0.771	2.469	1.747	3.573	10.878	18.846	16.215	6.240	4.430	71.371 MCM

Momentary Peak 53.10 CMS, at 3.37 M (A.D), at 15.00 Hours, on Dec 13, 1991
Runoff Yield 90.28 Liters/Second/Square KM, Momentary Peak Yield 2124.00 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

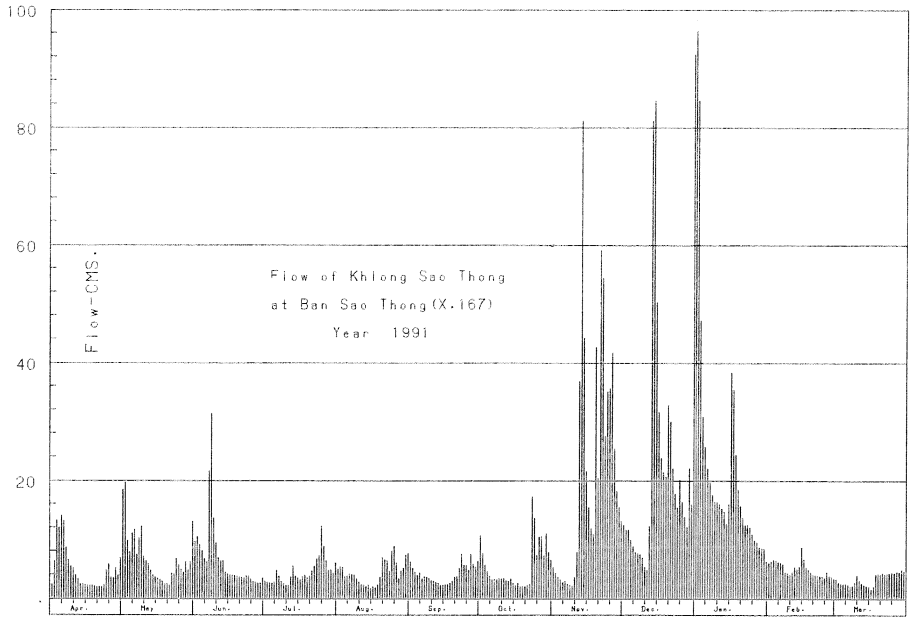
Khlong Sao Thong at Ban Sao Thong, Nakhon Si Thammarat (X.167)

Location	Lat. 08°-16'-44" N., Long. 99°-54'-31" E., on right bank at the bridge on road, Ban Sao Thong, Amphoe Ron Phibun, Nakhon Si Thammarat.
Drainage Area	268 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 4.50 meters from the top staff gage.
Elevation	+4.030 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1986 to date.
Rating Operation	
Period of Rating	1989 to date.
Rated by Float	-
Rated by Current Meter	1989 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 46 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.50	1.33	0.91	0.53	0.66	0.73	0.96	0.68	1.05	3.71	0.72	0.55	
2	0.74	1.38	0.95	0.52	0.68	0.67	0.81	0.62	1.01	3.41	0.73	0.52	
3	1.09	0.92	0.88	0.51	0.68	0.63	0.70	0.58	1.01	2.35	0.75	0.50	
4	1.03	0.82	0.83	0.51	0.58	0.60	0.64	0.55	0.92	1.81	0.74	0.50	
5	1.13	0.98	0.76	0.52	0.59	0.62	0.59	0.52	0.87	1.62	0.73	0.50	
6	1.09	1.01	0.73	0.65	0.61	0.56	0.55	0.53	0.82	1.48	0.72	0.49	
7	0.86	0.80	1.46	0.59	0.61	0.58	0.55	0.50	0.81	1.38	0.71	0.46	
8	0.75	0.94	1.83	0.53	0.60	0.58	0.55	0.48	0.80	1.29	0.63	0.47	
9	0.69	1.04	1.11	0.50	0.56	0.56	0.56	0.47	0.77	1.24	0.62	0.52	
10	0.67	0.78	0.90	0.48	0.52	0.54	0.56	0.58	0.68	1.24	0.60	0.60	
11	0.60	0.74	0.77	0.48	0.49	0.53	0.56	0.82	0.65	1.22	0.63	0.54	
12	0.56	0.71	0.74	0.58	0.48	0.52	0.54	2.02	1.04	1.19	0.68	0.51	
13	0.50	0.65	0.74	0.69	0.46	0.51	0.53	3.32	3.32	1.16	0.66	0.48	
14	0.50	0.60	0.63	0.59	0.48	0.48	0.56	2.26	3.41	1.06	0.68	0.47	
15	0.49	0.58	0.61	0.57	0.43	0.48	0.51	1.46	2.44	1.22	0.86	0.45	
16	0.48	0.56	0.60	0.55	0.45	0.49	0.48	1.20	1.84	2.07	0.75	0.41	
17	0.48	0.55	0.60	0.58	0.44	0.49	0.51	1.02	1.55	1.97	0.68	0.45	
18	0.48	0.53	0.60	0.60	0.48	0.51	0.46	0.97	1.45	1.57	0.65	0.61	
19	0.47	0.50	0.59	0.57	0.58	0.53	0.46	2.21	1.42	1.33	0.63	0.61	
20	0.46	0.50	0.58	0.59	0.77	0.58	0.46	1.41	1.88	1.21	0.60	0.61	
21	0.46	0.48	0.57	0.64	0.75	0.58	0.48	2.70	1.78	1.11	0.60	0.62	
22	0.46	0.62	0.57	0.69	0.74	0.67	0.50	2.56	1.48	1.05	0.59	0.61	
23	0.49	0.61	0.59	0.76	0.64	0.80	1.28	1.69	1.30	1.05	0.59	0.61	
24	0.65	0.76	0.59	0.79	0.83	0.70	1.11	1.96	1.20	1.03	0.58	0.62	
25	0.71	0.70	0.56	1.04	0.87	0.70	0.79	1.98	1.40	0.97	0.57	0.62	
26	0.58	0.66	0.53	0.87	0.72	0.65	0.95	2.18	1.24	0.92	0.63	0.62	
27	0.57	0.63	0.52	0.74	0.56	0.80	0.95	1.61	1.12	0.90	0.59	0.63	
28	0.67	0.73	0.51	0.65	0.64	0.71	0.79	1.32	1.03	0.86	0.58	0.63	
29	0.60	0.65	0.51	0.65	0.67	0.68	0.98	1.20	1.48	0.85	0.56	0.65	
30	0.77	0.73	0.57	0.62	0.79	0.74	0.82	1.08	1.22	0.85		0.64	
31		1.08		0.72	0.81		0.75		3.61	0.73		0.64	
Mean	0.65	0.76	0.74	0.62	0.62	0.61	0.68	1.35	1.44	1.41	0.66	0.55	
Max	1.13	1.38	1.83	1.04	0.87	0.80	1.28	3.32	3.61	3.71	0.86	0.65	3.71
Min	0.46	0.48	0.51	0.48	0.43	0.48	0.46	0.47	0.65	0.73	0.56	0.41	0.41

Annual Max Momentary Gage Height 3.75 M (A.D), at 6.00 Hours, on Jan 1, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.84 M (A.D)
Left Bank Elevation 6.46 M (A.D)
Right Bank Elevation 6.05 M (A.D), Drainage Area 268 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.50	18.52	9.70	2.95	5.02	6.24	10.70	5.36	12.50	96.40	6.06	3.25	
2	6.42	19.72	10.50	2.80	5.36	5.19	7.70	4.34	11.70	84.59	6.24	2.80	
3	13.30	9.90	9.10	2.65	5.36	4.51	5.70	3.70	11.70	47.30	6.60	2.50	
4	12.10	7.90	8.10	2.65	3.70	4.00	4.68	3.25	9.90	30.88	6.42	2.50	
5	14.10	11.10	6.78	2.80	3.85	4.34	3.85	2.80	8.90	25.74	6.24	2.50	
6	13.30	11.70	6.24	4.85	4.17	3.40	3.25	2.95	7.90	22.12	6.06	2.40	
7	8.70	7.50	21.64	3.85	4.17	3.70	3.25	2.50	7.70	19.72	5.88	2.10	
8	6.60	10.30	31.44	2.95	4.00	3.70	3.25	2.30	7.50	17.57	4.51	2.20	
9	5.53	12.30	13.70	2.50	3.40	3.40	3.40	2.20	6.96	16.42	4.34	2.80	
10	5.19	7.14	9.50	2.30	2.80	3.10	3.40	3.70	5.36	16.42	4.00	4.00	
11	4.00	6.42	6.96	2.30	2.40	2.95	3.40	7.90	4.85	15.96	4.51	3.10	
12	3.40	5.88	6.42	3.70	2.30	2.80	3.10	36.90	12.30	15.30	5.36	2.65	
13	2.50	4.85	6.42	5.53	2.10	2.65	2.95	81.16	81.16	14.70	5.02	2.30	
14	2.50	4.00	4.51	3.85	2.30	2.30	3.40	44.32	84.59	12.70	5.36	2.20	
15	2.40	3.70	4.17	3.55	1.80	2.30	2.65	21.64	50.36	15.96	8.70	2.00	
16	2.30	3.40	4.00	3.25	2.00	2.40	2.30	15.50	31.72	38.40	6.60	1.60	
17	2.30	3.25	4.00	3.70	1.90	2.40	2.65	11.90	23.90	35.43	5.36	2.00	
18	2.30	2.95	4.00	4.00	2.30	2.65	2.10	10.90	21.40	24.42	4.85	4.17	
19	2.20	2.50	3.85	3.55	3.70	2.95	2.10	42.72	20.68	18.52	4.51	4.17	
20	2.10	2.50	3.70	3.85	6.96	3.70	2.10	20.44	32.84	15.73	4.00	4.17	
21	2.10	2.30	3.55	4.68	6.60	3.70	2.30	59.20	30.06	13.70	4.00	4.34	
22	2.10	4.34	3.55	5.53	6.42	5.19	2.50	54.44	22.12	12.50	3.85	4.17	
23	2.40	4.17	3.85	6.78	4.68	7.50	17.34	27.63	17.80	12.50	3.85	4.17	
24	4.85	6.78	3.85	7.32	8.10	5.70	13.70	35.14	15.50	12.10	3.70	4.34	
25	5.88	5.70	3.40	12.30	8.90	5.70	7.32	35.72	20.20	10.90	3.55	4.34	
26	3.70	5.02	2.95	8.90	6.06	4.85	10.50	41.78	16.42	9.90	4.51	4.34	
27	3.55	4.51	2.80	6.42	3.40	7.50	10.50	25.47	13.90	9.50	3.85	4.51	
28	5.19	6.24	2.65	4.85	4.68	5.88	7.32	18.28	12.10	8.70	3.70	4.51	
29	4.00	4.85	2.65	4.85	5.19	5.36	11.10	15.50	12.12	8.50	3.40	4.85	
30	6.96	6.24	3.55	4.34	7.32	6.42	7.90	13.10	15.96	8.50		4.68	
31		13.10		6.06	7.70		6.60		92.40	6.24		4.68	
Total	154.47	218.78	207.53	139.61	138.64	126.48	173.01	652.74	732.50	697.32	145.03	104.34	3490.45 CMSDAY
Mean	5.15	7.06	6.92	4.50	4.47	4.22	5.58	21.76	23.63	22.49	5.00	3.37	9.54 CMS
Max	14.10	19.72	31.44	12.30	8.90	7.50	17.34	81.16	92.40	96.40	8.70	4.85	96.40 CMS
Min	2.10	2.30	2.65	2.30	1.80	2.30	2.10	2.20	4.85	6.24	3.40	1.60	1.60 CMS
Runoff	13.346	18.903	17.931	12.062	11.978	10.928	14.948	56.397	63.288	60.248	12.531	9.015	301.575 MCM

Momentary Peak 98.00 CMS, at 3.10 M (A.D), at 10.00 Hours, on Jan 16, 1991

Runoff Yield 35.58 Liters/Second/Square KM, Momentary Peak Yield 365.67 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

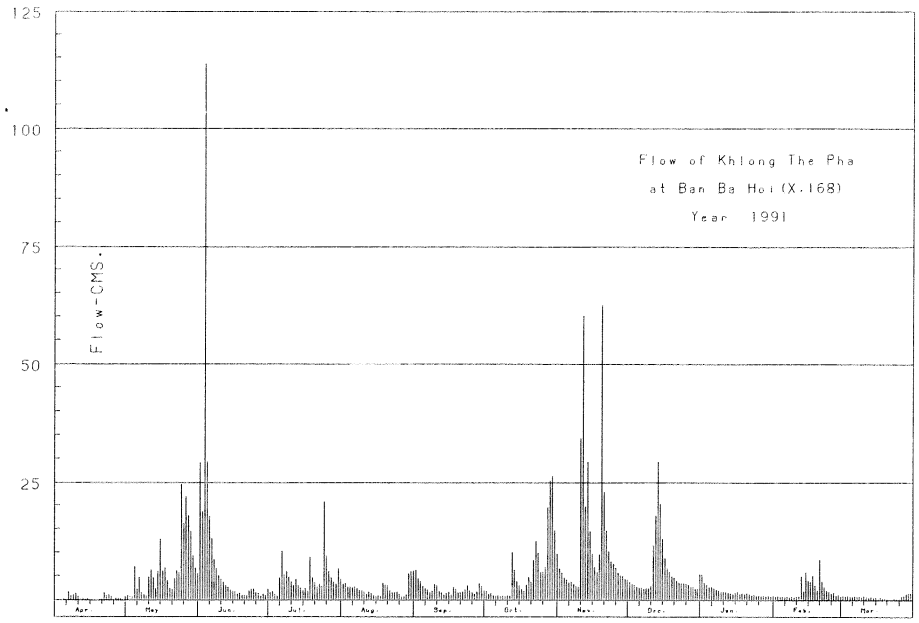
Khlong The Pha at Ban Ba Hoi, Yala (X.168)

Location	Lat. 6°-25'-40" N., Long. 100°-55'-41" E., on right bank at the bridge on road near Wat Bahoi, Tambon Bahoi, Amphoe Yaha, Yala.
Drainage Area	315 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.38 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 5 meters from the station office..
Elevation	+8.991 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1987 to date.
Rating Operation	
Period of Rating	1987 to date.
Rated by Float	-
Rated by Current Meter	1987 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 63 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.45	0.60	1.68	0.64	0.77	0.97	0.66	0.99	0.79	0.90	0.58	0.59	
2	0.44	0.58	1.40	0.67	0.77	0.85	0.63	0.92	0.77	0.79	0.57	0.59	
3	0.45	0.54	3.26	0.62	0.73	0.80	0.63	0.86	0.75	0.75	0.57	0.59	
4	0.45	1.01	1.69	0.60	0.72	0.74	0.61	0.82	0.73	0.73	0.56	0.58	
5	0.45	0.70	1.36	0.86	0.72	0.71	0.60	0.79	0.72	0.73	0.56	0.57	
6	0.66	0.86	1.21	1.12	0.72	0.68	0.59	0.79	0.71	0.70	0.55	0.57	
7	0.58	0.64	1.06	0.89	0.71	0.65	0.59	0.77	0.70	0.69	0.55	0.57	
8	0.61	0.62	0.98	0.95	0.67	0.66	0.58	0.73	0.70	0.67	0.55	0.55	
9	0.64	0.58	0.89	0.86	0.68	0.77	0.59	0.73	0.71	0.66	0.55	0.56	
10	0.56	0.86	0.83	0.79	0.65	0.74	0.59	1.81	0.73	0.65	0.55	0.57	
11	0.52	0.97	0.79	0.74	0.63	0.67	0.60	2.37	1.16	0.65	0.56	0.55	
12	0.50	0.86	0.75	0.84	0.65	0.64	1.11	1.43	1.37	0.65	0.88	0.53	
13	0.48	0.71	0.72	0.75	0.63	0.62	0.96	1.69	1.69	0.63	0.67	0.53	
14	0.47	0.94	0.69	0.71	0.61	0.63	0.81	1.26	1.45	0.63	0.93	0.53	
15	0.45	1.20	0.67	0.68	0.59	0.66	0.74	1.10	1.20	0.65	0.82	0.51	
16	0.43	0.96	0.65	0.70	0.59	0.62	0.70	1.00	1.07	0.65	0.79	0.51	
17	0.43	0.99	0.63	0.67	0.60	0.72	0.66	0.94	0.99	0.63	0.89	0.51	
18	0.43	0.81	0.63	1.07	0.79	0.69	0.76	1.09	0.93	0.63	0.74	0.51	
19	0.43	0.71	0.61	0.86	0.76	0.65	0.87	2.41	0.88	0.63	0.68	0.49	
20	0.45	0.68	0.60	0.78	0.74	0.64	0.79	1.53	0.85	0.63	1.06	0.49	
21	0.65	0.85	0.59	0.72	0.67	0.65	1.05	1.26	0.82	0.62	0.81	0.48	
22	0.59	0.96	0.67	0.77	0.65	0.69	1.19	1.12	0.79	0.61	0.72	0.48	
23	0.62	0.92	0.69	0.73	0.64	0.75	1.10	1.04	0.77	0.61	0.68	0.48	
24	0.56	1.57	0.70	1.47	0.66	0.67	0.94	1.03	0.78	0.60	0.65	0.48	
25	0.51	1.31	0.64	1.08	0.62	0.65	0.93	0.99	0.76	0.60	0.64	0.48	
26	0.49	1.50	0.63	0.94	0.59	0.62	1.00	0.93	0.75	0.60	0.64	0.58	
27	0.50	1.37	0.60	0.86	0.59	0.66	1.43	0.89	0.73	0.59	0.61	0.58	
28	0.47	1.26	0.63	0.79	0.61	0.78	1.59	0.87	0.72	0.59	0.61	0.63	
29	0.46	1.08	0.60	0.77	0.92	0.73	1.61	0.84	0.70	0.58	0.59	0.63	
30	0.55	1.00	0.70	0.99	0.94	0.68	1.26	0.82	0.69	0.58		0.64	
31		0.91		0.83	0.95		1.10		0.91	0.58		0.63	
Mean	0.51	0.92	0.92	0.83	0.70	0.70	0.88	1.13	0.88	0.65	0.67	0.55	
Max	0.66	1.57	3.26	1.47	0.95	0.97	1.61	2.41	1.69	0.90	1.06	0.64	3.26
Min	0.43	0.54	0.59	0.60	0.59	0.62	0.58	0.73	0.69	0.58	0.55	0.48	0.43

Annual Max Momentary Gage Height 5.03 M (A.D), at 6.00 Hours, on Jun 3, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.17 M (A.D)
Left Bank Elevation 8.65 M (A.D)
Right Bank Elevation 8.49 M (A.D), Drainage Area 315 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.25	1.00	29.20	1.60	3.55	6.55	1.90	6.85	3.85	5.50	0.90	0.95	
2	0.20	0.90	19.00	2.05	3.55	4.75	1.45	5.80	3.55	3.85	0.85	0.95	
3	0.25	0.70	113.90	1.30	2.95	4.00	1.45	4.90	3.25	3.25	0.85	0.95	
4	0.25	7.30	29.60	1.00	2.80	3.10	1.15	4.30	2.95	2.95	0.80	0.90	
5	0.25	2.50	17.80	4.90	2.80	2.65	1.00	3.85	2.80	2.95	0.80	0.85	
6	1.90	4.90	13.30	10.60	2.80	2.20	0.95	3.85	2.65	2.50	0.75	0.85	
7	0.90	1.60	8.80	5.35	2.65	1.75	0.95	3.55	2.50	2.35	0.75	0.85	
8	1.15	1.30	6.70	6.25	2.05	1.90	0.90	2.95	2.50	2.05	0.75	0.75	
9	1.60	0.90	5.35	4.90	2.20	3.55	0.95	2.95	2.65	1.90	0.75	0.80	
10	0.80	4.90	4.45	3.85	1.75	3.10	0.95	34.45	2.95	1.75	0.75	0.85	
11	0.60	6.55	3.85	3.10	1.45	2.05	1.00	60.50	11.80	1.75	0.80	0.75	
12	0.50	4.90	3.25	4.60	1.75	1.60	10.30	19.90	18.10	1.75	5.20	0.65	
13	0.40	2.65	2.80	3.25	1.45	1.30	6.40	29.60	29.60	1.45	2.05	0.65	
14	0.35	6.10	2.35	2.65	1.15	1.45	4.15	14.80	20.50	1.45	5.95	0.65	
15	0.25	13.00	2.05	2.20	0.95	1.90	3.10	10.00	13.00	1.75	4.30	0.55	
16	0.15	6.40	1.75	2.50	0.95	1.30	2.50	7.00	9.10	1.75	3.85	0.55	
17	0.15	6.85	1.45	2.05	1.00	2.80	1.90	6.10	6.85	1.45	5.35	0.55	
18	0.15	4.15	1.45	9.10	3.85	2.35	3.40	9.70	5.95	1.45	3.10	0.55	
19	0.15	2.65	1.15	4.90	3.40	1.75	5.05	62.58	5.20	1.45	2.20	0.45	
20	0.25	2.20	1.00	3.70	3.10	1.60	3.85	23.20	4.75	1.45	8.80	0.45	
21	1.75	4.75	0.95	2.80	2.05	1.75	8.50	14.80	4.30	1.30	4.15	0.40	
22	0.95	6.40	2.05	3.55	1.75	2.35	12.70	10.60	3.85	1.15	2.80	0.40	
23	1.30	5.80	2.35	2.95	1.60	3.25	10.00	8.20	3.55	1.15	2.20	0.40	
24	0.80	24.80	2.50	21.10	1.90	2.05	6.10	7.90	3.70	1.00	1.75	0.40	
25	0.55	16.30	1.60	9.40	1.30	1.75	5.95	6.85	3.40	1.00	1.60	0.40	
26	0.45	22.00	1.45	6.10	0.95	1.30	7.00	5.95	3.25	1.00	1.60	0.90	
27	0.50	18.10	1.00	4.90	0.95	1.90	19.90	5.35	2.95	0.95	1.15	0.90	
28	0.35	14.80	1.45	3.85	1.15	3.70	25.60	5.05	2.80	0.95	1.15	1.45	
29	0.30	9.40	1.00	3.55	5.80	2.95	26.40	4.60	2.50	0.90	0.95	1.45	
30	0.75	7.00	2.50	6.85	6.10	2.20	14.80	4.30	2.35	0.90		1.60	
31		5.65		4.45	6.25		10.00		5.65	0.90		1.45	
Total	18.20	216.45	286.05	149.35	75.95	74.85	200.25	390.43	192.80	55.95	66.90	24.25	1751.43 CMSDAY
Mean	0.61	6.98	9.54	4.82	2.45	2.49	6.46	13.01	6.22	1.80	2.31	0.78	4.79 CMS
Max	1.90	24.80	113.90	21.10	6.25	6.55	26.40	62.58	29.60	5.50	8.80	1.60	113.90 CMS
Min	0.15	0.70	0.95	1.00	0.95	1.30	0.90	2.95	2.35	0.90	0.75	0.40	0.15 CMS
Runoff	1.572	18.701	24.715	12.904	6.562	6.467	17.302	33.733	16.658	4.834	5.780	2.095	151.324 MCM

Momentary Peak 255.85 CMS, at 5.03 M (A.D), at 6.00 Hours, on Jun 3, 1991

Runoff Yield 15.19 Liters/Second/Square KM, Momentary Peak Yield 812.22 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENNINSULA EAST COAST

Khlong Na Thom at Ban Lam, Phattalung (X.170)

Location — Lat. 07°-33'-22" N., Long. 99°-59'-31" E., on left bank at the bridge on road, Ban Lam, Amphoe Muang, Phatthalung.

Drainage Area — 269 sq.km.

Type of Gage — Staff gage.

Zero Gage at Bottom — +0.00 m.(A.D.)

Bench Mark — B.M.-H.D.

Location — On left bank about 21 meters from the top staff gage.

Elevation — +6.597 m.(A.D.)

Gage Reading Frequency — 5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.

Basis of Mean Daily Gage Height — Arithmetic mean of 5 readings.

Period of Available Gage Records — 1987 to date.

Rating Operation

Period of Rating — 1989 to date.

Rated by Float — -

Rated by Current Meter — 1989 to date.

Stability of Channel Regimes — Stable.

Overbank Flow Conditions — No overbank flow.

General Description — Records good. Stage-discharge relation defined by 21 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

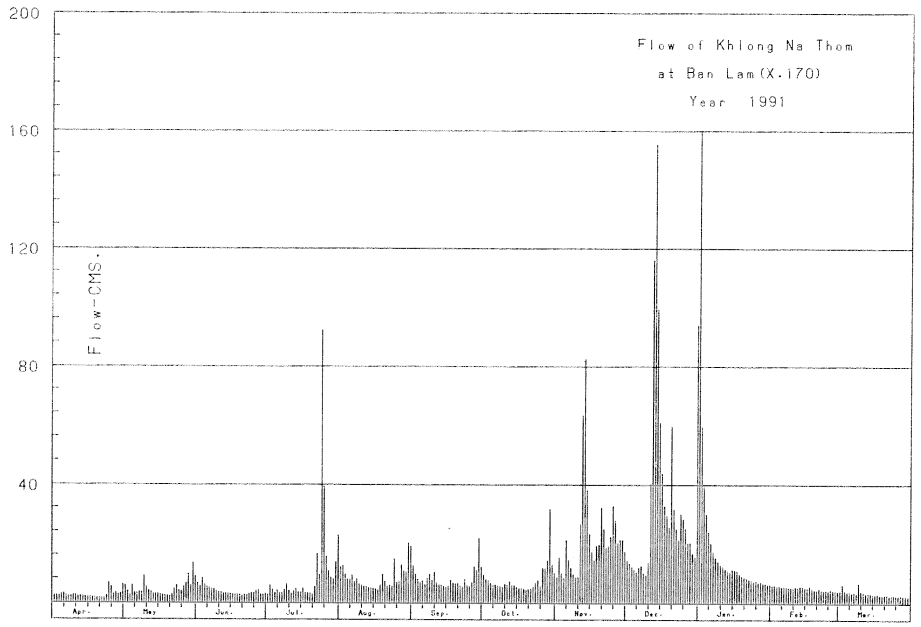
Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.82	0.96	0.99	0.83	1.15	1.16	1.07	1.05	1.21	3.03	0.96	0.88	
2	0.82	0.88	0.95	0.96	1.16	1.08	1.03	1.23	1.18	1.98	0.96	0.97	
3	0.82	0.83	1.04	0.90	1.08	1.03	1.02	1.09	1.15	1.67	0.95	0.89	
4	0.84	0.96	0.97	0.86	1.03	1.00	0.99	1.04	1.12	1.51	0.95	0.87	
5	0.85	0.86	0.94	0.89	1.03	1.01	0.96	1.35	1.10	1.40	0.94	0.87	
6	0.82	0.85	0.93	0.86	1.07	0.97	0.97	1.21	1.14	1.33	0.94	0.86	
7	0.81	0.87	0.91	0.85	1.01	1.04	0.95	1.14	1.16	1.27	0.94	0.86	
8	0.81	0.86	0.91	0.90	1.03	1.08	0.95	1.08	1.09	1.23	0.93	0.85	
9	0.83	1.06	0.88	0.98	0.98	1.02	0.93	1.05	1.07	1.20	0.93	0.99	
10	0.82	0.94	0.87	0.89	0.96	1.10	0.98	1.05	1.19	1.17	0.92	0.88	
11	0.81	0.89	0.86	0.85	0.95	0.99	0.96	1.45	1.69	1.15	0.94	0.86	
12	0.81	0.87	0.85	0.88	0.94	0.97	1.01	2.03	2.62	1.13	0.93	0.85	
13	0.81	0.85	0.85	0.91	0.93	0.96	0.96	2.26	2.99	1.11	0.95	0.85	
14	0.80	0.84	0.85	0.87	0.92	0.95	0.96	1.65	2.45	1.10	0.94	0.85	
15	0.80	0.85	0.84	0.86	0.92	0.93	0.93	1.39	2.00	1.12	0.93	0.84	
16	0.80	0.83	0.84	0.92	0.91	0.95	0.92	1.27	1.74	1.12	0.92	0.84	
17	0.79	0.83	0.83	0.86	0.90	1.02	0.92	1.21	1.56	1.11	0.95	0.84	
18	0.78	0.82	0.84	0.86	0.97	0.99	0.91	1.31	1.50	1.08	0.91	0.83	
19	0.78	0.82	0.83	0.85	1.08	0.98	0.89	1.32	1.43	1.06	0.90	0.82	
20	0.77	0.81	0.82	0.84	1.01	0.99	0.91	1.55	1.98	1.05	0.89	0.83	
21	0.77	0.84	0.83	0.94	0.95	0.95	0.91	1.42	1.54	1.04	0.92	0.83	
22	0.76	0.91	0.83	1.26	0.96	0.94	0.94	1.30	1.42	1.03	0.89	0.82	
23	0.82	0.96	0.84	1.07	0.95	1.03	0.99	1.31	1.35	1.02	0.89	0.82	
24	0.99	0.89	0.86	2.37	1.22	0.96	1.02	1.37	1.51	1.01	0.89	0.83	
25	0.94	0.88	0.85	1.67	1.00	0.94	0.95	1.56	1.48	1.01	0.89	0.82	
26	0.84	0.94	0.89	1.24	1.01	1.00	1.14	1.47	1.42	1.00	0.90	0.82	
27	0.86	0.99	0.90	1.11	1.17	1.15	1.13	1.33	1.33	1.00	0.89	0.82	
28	0.83	1.08	0.84	1.05	1.11	1.12	1.21	1.35	1.33	0.99	0.88	0.82	
29	0.85	0.96	0.83	1.03	1.10	1.36	1.54	1.35	1.26	0.98	0.88	0.81	
30	0.97	1.19	0.85	1.20	1.33	1.15	1.17	1.27	1.23	0.97		0.81	
31		1.06		1.38	1.31		1.09		2.39	0.97		0.80	
Mean	0.83	0.91	0.88	1.03	1.04	1.03	1.01	1.35	1.54	1.22	0.92	0.85	
Max	0.99	1.19	1.04	2.37	1.33	1.36	1.54	2.26	2.99	3.03	0.96	0.99	3.03
Min	0.76	0.81	0.82	0.83	0.90	0.93	0.89	1.04	1.07	0.97	0.88	0.80	0.76

Annual Max Momentary Gage Height — 3.27 M (A.D), at 6.00 Hours, on Dec 13, 1991

Zero Gage at Bottom Elevation — 0.00 M (A.D), River Bed -0.04 M (A.D)

Left Bank Elevation — 6.80 M (A.D)

Right Bank Elevation — 6.76 M (A.D), Drainage Area 269 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.50	6.00	6.75	2.75	12.25	12.60	9.45	8.75	14.47	159.95	6.00	4.00	
2	2.50	4.00	5.75	6.00	12.60	9.80	8.05	15.41	13.30	59.60	6.00	6.25	
3	2.50	2.75	8.40	4.50	9.80	8.05	7.70	10.15	12.25	39.20	5.75	4.25	
4	3.00	6.00	6.25	3.50	8.05	7.00	6.75	8.40	11.20	30.05	5.75	3.75	
5	3.25	3.50	5.50	4.25	8.05	7.35	6.00	21.35	10.50	24.00	5.50	3.75	
6	2.50	3.25	5.25	3.50	9.45	6.25	6.25	14.47	11.90	20.29	5.50	3.50	
7	2.25	3.75	4.75	3.25	7.35	8.40	5.75	11.90	12.60	17.29	5.50	3.50	
8	2.25	3.50	4.75	4.50	8.05	9.80	5.75	9.80	10.15	15.41	5.25	3.25	
9	2.75	9.10	4.00	6.50	6.50	7.70	5.25	8.75	9.45	14.00	5.25	6.75	
10	2.50	5.50	3.75	4.25	6.00	10.50	6.50	8.75	13.65	12.95	5.00	4.00	
11	2.25	4.25	3.50	3.25	5.75	6.75	6.00	26.75	40.40	12.25	5.50	3.50	
12	2.25	3.75	3.25	4.00	5.50	6.25	7.35	63.46	116.00	11.55	5.25	3.25	
13	2.25	3.25	3.25	4.75	5.25	6.00	6.00	82.60	155.40	10.85	5.75	3.25	
14	2.00	3.00	3.25	3.75	5.00	5.75	6.00	38.00	99.50	10.50	5.50	3.25	
15	2.00	3.25	3.00	3.50	5.00	5.25	5.25	23.47	61.00	11.20	5.25	3.00	
16	2.00	2.75	3.00	5.00	4.75	5.75	5.00	17.29	43.60	11.20	5.00	3.00	
17	1.90	2.75	2.75	3.50	4.50	7.70	5.00	14.47	32.80	10.85	5.75	3.00	
18	1.80	2.50	3.00	3.50	6.25	6.75	4.75	19.23	29.50	9.80	4.75	2.75	
19	1.80	2.50	2.75	3.25	9.80	6.50	4.25	19.76	25.65	9.10	4.50	2.50	
20	1.70	2.25	2.50	3.00	7.35	6.75	4.75	32.25	59.60	8.75	4.25	2.75	
21	1.70	3.00	2.75	5.50	5.75	5.75	4.75	25.10	31.70	8.40	5.00	2.75	
22	1.60	4.75	2.75	16.82	6.00	5.50	5.50	18.70	25.10	8.05	4.25	2.50	
23	2.50	6.00	3.00	9.45	5.75	8.05	6.75	19.23	21.35	7.70	4.25	2.50	
24	6.75	4.25	3.50	92.30	14.94	6.00	7.70	22.41	30.05	7.35	4.25	2.75	
25	5.50	4.00	3.25	39.20	7.00	5.50	5.75	32.80	28.40	7.35	4.25	2.50	
26	3.00	5.50	4.25	15.88	7.35	7.00	11.90	27.85	25.10	7.00	4.50	2.50	
27	3.50	6.75	4.50	10.85	12.95	12.25	11.55	20.29	20.29	7.00	4.25	2.50	
28	2.75	9.80	3.00	8.75	10.85	11.20	14.47	21.35	20.29	6.75	4.00	2.50	
29	3.25	6.00	2.75	8.05	10.50	21.88	31.70	21.35	16.82	6.50	4.00	2.25	
30	6.25	13.65	3.25	14.00	20.29	12.25	12.95	17.29	15.41	6.25		2.25	
31		9.10		22.94	19.23		10.15		94.10	6.25		2.00	
Total	82.75	150.40	118.40	324.24	267.86	246.28	244.97	681.38	1111.53	577.39	145.75	100.25	4051.20 CMSDAY
Mean	2.76	4.85	3.95	10.46	8.64	8.21	7.90	22.71	35.86	18.63	5.03	3.23	11.07 CMS
Max	6.75	13.65	8.40	92.30	20.29	21.88	31.70	82.60	155.40	159.95	6.00	6.75	159.95 CMS
Min	1.60	2.25	2.50	2.75	4.50	5.25	4.25	8.40	9.45	6.25	4.00	2.00	1.60 CMS
Runoff	7.150	12.995	10.230	28.014	23.143	21.279	21.165	58.871	96.036	49.886	12.593	8.662	350.024 MCM

Momentary Peak 187.55 CMS, at 3.27 M.(A.D), at 6.00 Hours, on Dec 13, 1991

Runoff Yield 41.15 Liters/Second/Square KM, Momentary Peak Yield 697.21 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

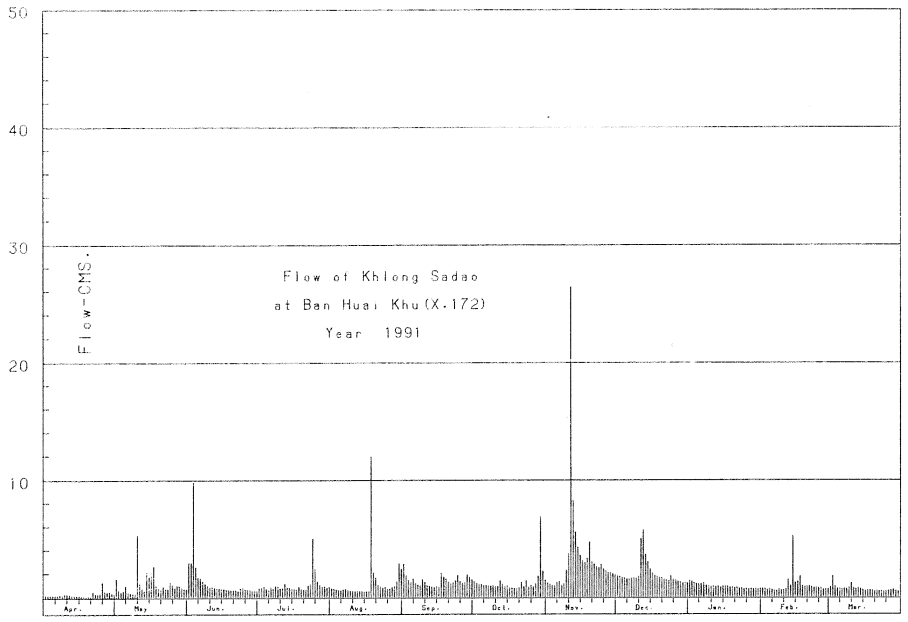
Khlong Sadao at Ban Huai Khu, Songkhla (X.172)

Location	Lat. 6°-35'-38" N., Long. 100°-29'-25" E., on right bank at the bridge on road near Wat Huai Khu, Tambon Samnak Taeo, Amphoe Sadao, Songkhla.
Drainage Area	94 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 5.30 meters from the top staff gage.
Elevation	+5.990 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1988 to date.
Rating Operation	
Period of Rating	1988 to date.
Rated by Float	-
Rated by Current Meter	1988 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	Overbank flow starts at elevation +3.81 m.(A.D.), records are channel flow only.
General Description	Records fair. Stage-discharge relation defined by 28 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.36	0.70	0.93	0.54	0.54	0.91	0.65	0.63	0.74	0.67	0.54	0.56	
2	0.36	0.51	0.93	0.55	0.53	0.75	0.63	0.61	0.73	0.66	0.53	0.74	
3	0.36	0.46	1.78	0.57	0.52	0.68	0.61	0.59	0.72	0.63	0.52	0.57	
4	0.36	0.50	0.87	0.53	0.51	0.64	0.61	0.58	0.71	0.62	0.53	0.54	
5	0.36	0.58	0.72	0.51	0.51	0.70	0.59	0.64	0.70	0.61	0.52	0.53	
6	0.37	0.45	0.71	0.56	0.52	0.63	0.59	0.65	0.69	0.62	0.50	0.53	
7	0.38	0.43	0.66	0.53	0.53	0.60	0.59	0.59	0.71	0.63	0.50	0.53	
8	0.38	0.42	0.62	0.58	0.51	0.59	0.58	0.61	0.71	0.59	0.52	0.53	
9	0.40	0.41	0.59	0.57	0.50	0.69	0.58	0.82	0.71	0.58	0.51	0.55	
10	0.40	1.27	0.56	0.54	0.49	0.65	0.57	1.05	0.73	0.57	0.51	0.63	
11	0.38	0.62	0.56	0.54	0.49	0.59	0.57	3.18	1.23	0.57	0.53	0.55	
12	0.37	0.54	0.55	0.62	0.49	0.58	0.67	1.62	1.32	0.57	0.69	0.53	
13	0.36	0.50	0.54	0.56	0.49	0.56	0.61	1.30	1.04	0.57	0.59	0.54	
14	0.35	0.80	0.54	0.55	0.49	0.56	0.57	1.13	0.95	0.56	1.26	0.53	
15	0.35	0.73	0.53	0.53	0.48	0.57	0.58	1.03	0.84	0.57	0.64	0.51	
16	0.34	0.78	0.53	0.53	0.48	0.56	0.55	0.96	0.78	0.58	0.65	0.50	
17	0.33	0.88	0.52	0.52	0.49	0.78	0.54	0.93	0.75	0.57	0.74	0.50	
18	0.33	0.59	0.52	0.57	2.00	0.73	0.54	0.99	0.73	0.56	0.58	0.51	
19	0.33	0.54	0.51	0.53	0.79	0.70	0.53	1.19	0.72	0.56	0.57	0.50	
20	0.35	0.52	0.51	0.52	0.72	0.65	0.55	0.94	0.71	0.55	0.57	0.49	
21	0.47	0.57	0.51	0.52	0.60	0.62	0.64	0.91	0.69	0.55	0.58	0.49	
22	0.41	0.53	0.50	0.59	0.57	0.64	0.57	0.88	0.68	0.54	0.56	0.49	
23	0.40	0.53	0.54	0.61	0.55	0.67	0.67	0.86	0.67	0.54	0.55	0.48	
24	0.42	0.65	0.55	1.23	0.56	0.75	0.56	0.90	0.74	0.53	0.55	0.48	
25	0.64	0.60	0.52	0.84	0.53	0.67	0.59	0.84	0.69	0.53	0.55	0.48	
26	0.48	0.56	0.52	0.66	0.53	0.63	0.57	0.81	0.68	0.53	0.54	0.50	
27	0.46	0.59	0.51	0.60	0.56	0.64	0.61	0.79	0.66	0.53	0.52	0.50	
28	0.46	0.58	0.50	0.57	0.57	0.76	0.74	0.78	0.64	0.53	0.52	0.52	
29	0.43	0.55	0.50	0.57	0.66	0.73	1.46	0.77	0.63	0.53	0.53	0.49	
30	0.41	0.53	0.50	0.55	0.92	0.69	0.81	0.77	0.63	0.53		0.48	
31		0.53		0.56	0.84		0.68		0.63	0.53		0.47	
Mean	0.39	0.60	0.63	0.59	0.61	0.66	0.63	0.95	0.76	0.57	0.58	0.52	
Max	0.64	1.27	1.78	1.23	2.00	0.91	1.46	3.18	1.32	0.67	1.26	0.74	3.18
Min	0.33	0.41	0.50	0.51	0.48	0.56	0.53	0.58	0.63	0.53	0.50	0.47	0.33

Annual Max Momentary Gage Height 4.19 M (A.D), at 6.00 Hours, on Nov 11, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.06 M (A.D)
Left Bank Elevation 4.49 M (A.D)
Right Bank Elevation 3.80 M (A.D), Drainage Area 94 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.22	1.60	2.98	0.80	0.80	2.86	1.35	1.25	1.84	1.45	0.80	0.90	
2	0.22	0.65	2.98	0.85	0.75	1.90	1.25	1.15	1.78	1.40	0.75	1.84	
3	0.22	0.48	9.80	0.95	0.70	1.50	1.15	1.05	1.72	1.25	0.70	0.95	
4	0.22	0.60	2.62	0.75	0.65	1.30	1.15	1.00	1.66	1.20	0.75	0.80	
5	0.22	1.00	1.72	0.65	0.65	1.60	1.05	1.30	1.60	1.15	0.70	0.75	
6	0.24	0.45	1.66	0.90	0.70	1.25	1.05	1.35	1.55	1.20	0.60	0.75	
7	0.26	0.39	1.40	0.75	0.75	1.10	1.05	1.05	1.66	1.25	0.60	0.75	
8	0.26	0.36	1.20	1.00	0.65	1.05	1.00	1.15	1.66	1.05	0.70	0.75	
9	0.30	0.33	1.05	0.95	0.60	1.55	1.00	2.32	1.66	1.00	0.65	0.85	
10	0.30	5.36	0.90	0.80	0.57	1.35	0.95	3.75	1.78	0.95	0.65	1.25	
11	0.26	1.20	0.90	0.80	0.57	1.05	0.95	26.42	5.04	0.95	0.75	0.85	
12	0.24	0.80	0.85	1.20	0.57	1.00	1.45	8.28	5.76	0.95	1.55	0.75	
13	0.22	0.60	0.80	0.90	0.57	0.90	1.15	5.60	3.68	0.95	1.05	0.80	
14	0.20	2.20	0.80	0.85	0.57	0.90	0.95	4.31	3.10	0.90	5.28	0.75	
15	0.20	1.78	0.75	0.75	0.54	0.95	1.00	3.61	2.44	0.95	1.30	0.65	
16	0.18	2.08	0.75	0.75	0.54	0.90	0.85	3.16	2.08	1.00	1.35	0.60	
17	0.16	2.68	0.70	0.70	0.57	2.08	0.80	2.98	1.90	0.95	1.84	0.60	
18	0.16	1.05	0.70	0.95	12.00	1.78	0.80	3.34	1.78	0.90	1.00	0.65	
19	0.16	0.80	0.65	0.75	2.14	1.60	0.75	4.73	1.72	0.90	0.95	0.60	
20	0.20	0.70	0.65	0.70	1.72	1.35	0.85	3.04	1.66	0.85	0.95	0.57	
21	0.51	0.95	0.65	0.70	1.10	1.20	1.30	2.86	1.55	0.85	1.00	0.57	
22	0.33	0.75	0.60	1.05	0.95	1.30	0.95	2.68	1.50	0.80	0.90	0.57	
23	0.30	0.75	0.80	1.15	0.85	1.45	1.45	2.56	1.45	0.80	0.85	0.54	
24	0.36	1.35	0.85	5.04	0.90	1.90	0.90	2.80	1.84	0.75	0.85	0.54	
25	1.30	1.10	0.70	2.44	0.75	1.45	1.05	2.44	1.55	0.75	0.85	0.54	
26	0.54	0.90	0.70	1.40	0.75	1.25	0.95	2.26	1.50	0.75	0.80	0.60	
27	0.48	1.05	0.65	1.10	0.90	1.30	1.15	2.14	1.40	0.75	0.70	0.60	
28	0.48	1.00	0.60	0.95	0.95	1.96	1.84	2.08	1.30	0.75	0.70	0.70	
29	0.39	0.85	0.60	0.95	1.40	1.78	6.88	2.02	1.25	0.75	0.75	0.57	
30	0.33	0.75	0.60	0.85	2.92	1.55	2.26	2.02	1.25	0.75		0.54	
31		0.75		0.90	2.44		1.50		1.25	0.75		0.51	
Total	9.46	35.31	40.61	33.28	40.52	43.11	40.78	104.70	61.91	29.65	30.32	22.69	492.34 CMSDAY
Mean	0.32	1.14	1.35	1.07	1.31	1.44	1.32	3.49	2.00	0.96	1.05	0.73	1.35 CMS
Max	1.30	5.36	9.80	5.04	12.00	2.86	6.88	26.42	5.76	1.45	5.28	1.84	26.42 CMS
Min	0.16	0.33	0.60	0.65	0.54	0.90	0.75	1.00	1.25	0.75	0.60	0.51	0.16 CMS
Runoff	0.817	3.051	3.509	2.875	3.501	3.725	3.523	9.046	5.349	2.562	2.620	1.960	42.538 MCM

Momentary Peak 41.84 CMS, at 4.19 M (A.D), at 6.00 Hours, on Nov 11, 1991

Runoff Yield 14.31 Liters/Second/Square KM, Momentary Peak Yield 445.11 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

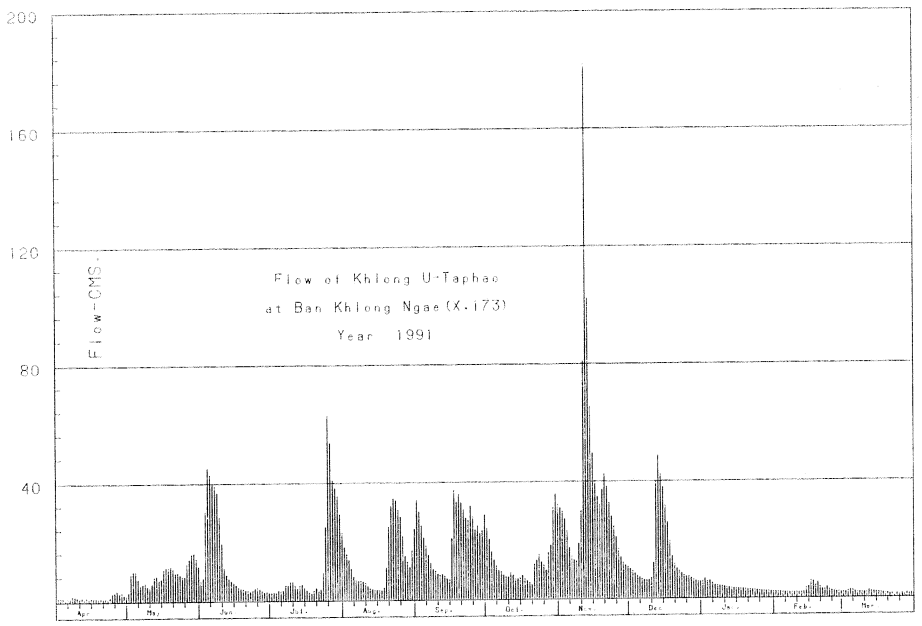
Khlong U Taphao at Ban Khlong Ngae, Songkhla (X.173)

Location	Lat. 06°-47'-44" N., Long. 100°-26'-46" E., on right bank at the bridge on Hat Yai- Sadao Highway, Ban Pang La, Amphoe Hat Yai, Songkhla.
Drainage Area	982 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 1.13 meters from the top staff gage.
Elevation	+5.932 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1989 to date.
Rating Operation	
Period of Rating	1989 to date.
Rated by Float	-
Rated by Current Meter	1989 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records fair. Stage-discharge relation defined by 26 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.49	0.89	1.49	0.80	2.86	4.22	3.44	4.00	2.00	1.38	0.73	0.65	
2	0.48	1.83	1.64	0.84	2.62	3.92	3.10	3.91	1.88	1.50	0.71	0.65	
3	0.47	1.97	3.94	0.81	2.41	3.53	2.68	3.70	1.77	1.37	0.70	0.76	
4	0.46	1.97	4.84	0.99	2.06	3.15	2.39	3.35	1.66	1.42	0.68	0.81	
5	0.45	1.62	4.75	0.92	1.69	2.89	2.14	2.80	1.58	1.29	0.67	0.79	
6	0.53	1.30	4.62	0.98	1.51	2.58	1.96	2.50	1.52	1.18	0.67	0.69	
7	0.65	1.37	4.57	1.28	1.49	2.27	1.90	2.37	1.46	1.15	0.66	0.66	
8	0.57	1.42	4.43	1.29	1.48	2.02	1.74	2.31	1.44	1.12	0.65	0.65	
9	0.52	1.26	3.80	1.44	1.46	1.94	1.65	2.94	1.46	1.10	0.65	0.63	
10	0.50	1.19	3.00	1.46	1.38	1.80	1.65	3.91	1.55	1.07	0.65	0.62	
11	0.49	1.38	2.10	1.29	1.23	1.74	1.85	5.43	2.22	1.05	0.64	0.60	
12	0.48	1.72	1.81	1.09	1.07	1.78	1.70	6.13	4.61	1.03	0.64	0.79	
13	0.51	1.76	1.61	1.27	1.05	1.70	1.54	5.63	4.95	0.99	0.67	0.73	
14	0.48	1.54	1.52	1.33	0.97	1.57	1.54	5.26	4.72	0.96	0.96	0.67	
15	0.47	1.61	1.41	1.14	0.97	1.51	1.59	4.98	4.50	0.95	1.04	0.66	
16	0.46	2.05	1.31	0.98	0.96	3.13	1.72	4.63	4.04	0.94	1.37	0.64	
17	0.44	2.13	1.20	0.84	0.96	4.45	1.56	4.28	3.59	0.94	1.34	0.60	
18	0.43	2.17	1.12	0.78	1.12	4.17	1.45	4.08	3.01	0.92	1.12	0.58	
19	0.42	2.18	1.07	0.95	2.11	4.36	1.35	4.45	2.49	0.90	1.28	0.56	
20	0.41	2.08	1.02	1.13	3.49	4.15	1.25	4.73	2.19	0.88	1.03	0.54	
21	0.41	1.90	0.97	0.95	4.08	3.97	2.19	4.51	2.00	0.86	0.86	0.52	
22	0.40	1.90	0.92	1.04	4.27	3.74	2.37	4.12	1.89	0.85	0.85	0.51	
23	0.52	1.82	0.98	1.87	4.22	3.67	2.58	3.77	1.77	0.84	1.00	0.50	
24	0.98	1.73	1.12	3.51	3.97	4.06	2.29	3.46	1.67	0.83	0.84	0.50	
25	0.89	1.72	1.15	5.23	3.79	3.78	2.16	3.14	1.62	0.81	0.76	0.50	
26	0.99	2.28	1.07	5.08	3.20	3.39	1.96	2.75	1.62	0.79	0.73	0.50	
27	0.83	2.45	0.94	4.66	2.55	3.52	2.62	2.47	1.55	0.78	0.71	0.50	
28	0.85	2.64	0.87	4.52	2.32	3.27	2.89	2.26	1.46	0.77	0.69	0.54	
29	0.70	2.67	0.87	4.33	2.12	3.36	4.00	2.14	1.41	0.76	0.66	0.54	
30	0.63	2.48	0.83	3.86	2.72	3.83	4.35	2.07	1.35	0.75		0.52	
31		2.19		3.33	3.43		4.09		1.35	0.73		0.51	
Mean	0.56	1.85	2.03	1.94	2.24	3.12	2.25	3.74	2.27	1.00	0.83	0.61	
Max	0.99	2.67	4.84	5.23	4.27	4.45	4.35	6.13	4.95	1.50	1.37	0.81	6.13
Min	0.40	0.89	0.83	0.78	0.96	1.51	1.25	2.07	1.35	0.73	0.64	0.50	0.40

Annual Max Momentary Gage Height 6.19 M (A.D), at 9.00 Hours, on Nov 12, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -3.71 M (A.D)
Left Bank Elevation 7.28 M (A.D)
Right Bank Elevation 7.80 M (A.D), Drainage Area 982 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.27	3.05	6.63	2.60	18.10	33.97	24.34	31.10	10.20	5.86	2.25	1.90	
2	1.24	9.01	7.68	2.80	15.70	30.06	20.60	29.93	9.36	6.70	2.15	1.90	
3	1.21	9.99	30.32	2.65	13.69	25.33	16.30	27.30	8.59	5.79	2.10	2.40	
4	1.18	9.99	45.20	3.55	10.71	21.15	13.52	23.35	7.82	6.14	2.02	2.65	
5	1.15	7.54	42.85	3.20	8.03	18.40	11.39	17.50	7.26	5.23	1.98	2.55	
6	1.42	5.30	40.02	3.50	6.77	15.30	9.92	14.50	6.84	4.50	1.98	2.06	
7	1.90	5.79	39.12	5.16	6.63	12.50	9.50	13.34	6.42	4.35	1.94	1.94	
8	1.58	6.14	36.88	5.23	6.56	10.37	8.38	12.83	6.28	4.20	1.90	1.90	
9	1.38	5.02	28.50	6.28	6.42	9.78	7.75	18.90	6.42	4.10	1.90	1.82	
10	1.30	4.55	19.50	6.42	5.86	8.80	7.75	29.93	7.05	3.95	1.90	1.78	
11	1.27	5.86	11.05	5.23	4.81	8.38	9.15	80.94	12.07	3.85	1.86	1.70	
12	1.24	8.24	8.87	4.05	3.95	8.66	8.10	181.90	39.81	3.75	1.86	2.55	
13	1.34	8.52	7.47	5.09	3.85	8.10	6.98	102.19	48.60	3.55	1.98	2.25	
14	1.24	6.98	6.84	5.51	3.45	7.19	6.98	65.40	42.16	3.40	3.40	1.98	
15	1.21	7.47	6.07	4.30	3.45	6.77	7.33	49.56	38.00	3.35	3.80	1.94	
16	1.18	10.62	5.37	3.50	3.40	20.93	8.24	40.23	31.62	3.30	5.79	1.86	
17	1.12	11.31	4.60	2.80	3.40	37.20	7.12	34.78	25.99	3.30	5.58	1.70	
18	1.09	11.65	4.20	2.50	4.20	33.31	6.35	32.14	19.61	3.20	4.20	1.62	
19	1.06	11.73	3.95	3.35	11.13	35.86	5.65	37.20	14.41	3.10	5.16	1.54	
20	1.03	10.88	3.70	4.25	24.89	33.05	4.95	42.39	11.82	3.00	3.75	1.46	
21	1.03	9.50	3.45	3.35	32.14	30.71	11.82	38.16	10.20	2.90	2.90	1.38	
22	1.00	9.50	3.20	3.80	34.65	27.78	13.34	32.66	9.43	2.85	2.85	1.34	
23	1.38	8.94	3.50	9.29	33.97	26.94	15.30	28.14	8.59	2.80	3.60	1.30	
24	3.50	8.31	4.20	25.11	30.71	31.88	12.66	24.56	7.89	2.75	2.80	1.30	
25	3.05	8.24	4.35	62.70	28.38	28.26	11.56	21.04	7.54	2.65	2.40	1.30	
26	3.55	12.58	3.95	53.64	21.70	23.79	9.92	17.00	7.54	2.55	2.25	1.30	
27	2.75	14.05	3.30	40.86	15.00	25.22	15.70	14.23	7.05	2.50	2.15	1.30	
28	2.85	15.90	2.95	38.32	12.92	22.47	18.40	12.41	6.42	2.45	2.06	1.46	
29	2.10	16.20	2.95	35.46	11.22	23.46	31.10	11.39	6.07	2.40	1.94	1.46	
30	1.82	14.32	2.75	29.28	16.70	28.89	35.72	10.79	5.65	2.35		1.38	
31		11.82		23.13	24.23		32.27		5.65	2.25		1.34	
Total	48.44	289.00	393.42	406.91	426.62	654.51	408.09	1095.79	442.36	113.07	80.45	54.36	4413.02 CMSDAY
Mean	1.61	9.32	13.11	13.13	13.76	21.82	13.16	36.53	14.27	3.65	2.77	1.75	12.06 CMS
Max	3.55	16.20	45.20	62.70	34.65	37.20	35.72	181.90	48.60	6.70	5.79	2.65	181.90 CMS
Min	1.00	3.05	2.75	2.50	3.40	6.77	4.95	10.79	5.65	2.25	1.86	1.30	1.00 CMS
Runoff	4.185	24.970	33.991	35.157	36.860	56.550	35.259	94.676	38.220	9.769	6.951	4.697	381.285 MCM

Momentary Peak 195.70 CMS, at 6.19 M (A.D), at 9.00 Hours, on Nov 12, 1991
Runoff Yield 12.28 Liters/Second/Square KM. Momentary Peak Yield 199.29 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

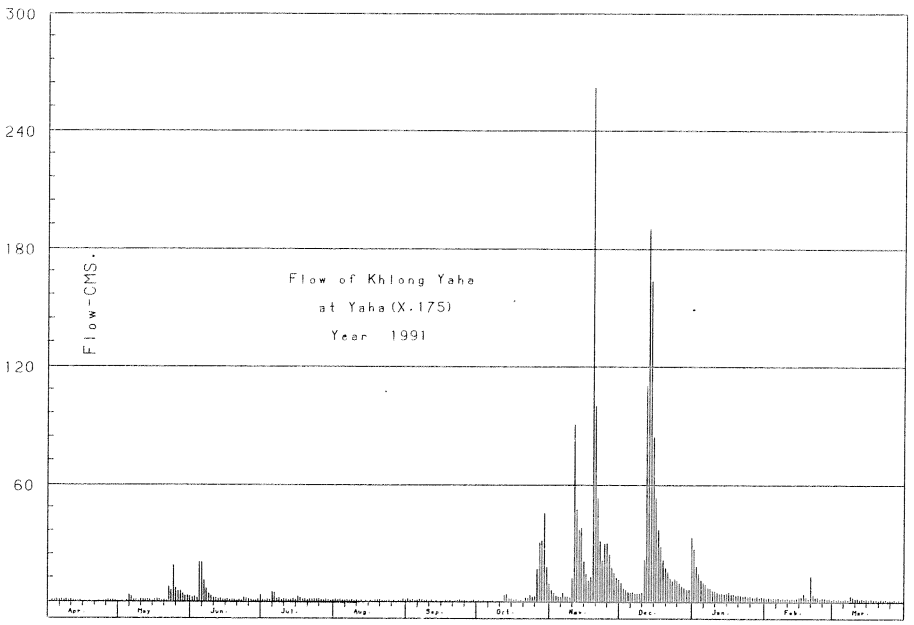
Khlong Yaha at Yaha, Yala (X.175)

Location	Lat. 06-28-25 N., Long. 101-08-32 E., on left bank on the bridge on Yala- Yaha road, Ban Yaha, Amphoe Yaha, Yala.
Drainage Area	350 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On left bank about 17.80 meters from the third staff gage.
Elevation	+5.670 m.(A.D.)
Gage Reading Frequency	5-time daily readings at 06.00, 09.00, 12.00, 15.00 and 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 5 readings.
Period of Available Gage Records	1989 to date.
Rating Operation	
Period of Rating	1990 to date.
Rated by Float	-
Rated by Current Meter	1990 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	Overbank flow starts at elevation +5.21 m.(A.D.), records are channel flow only.
General Description	Records fair. Stage-discharge relation defined by 87 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.55	0.51	0.93	0.63	0.68	0.76	0.56	1.33	1.62	2.69	0.85	0.73	
2	0.59	0.49	0.93	0.67	0.72	0.69	0.56	1.15	1.42	2.24	0.85	0.72	
3	0.59	0.53	0.89	0.68	0.70	0.67	0.56	1.05	1.30	1.96	0.85	0.71	
4	0.62	0.58	2.33	0.70	0.68	0.64	0.55	0.94	1.25	1.76	0.84	0.71	
5	0.68	1.09	2.35	1.24	0.65	0.66	0.54	0.98	1.21	1.64	0.83	0.70	
6	0.69	0.94	1.74	1.16	0.64	0.66	0.53	1.17	1.18	1.55	0.82	0.69	
7	0.66	0.70	1.37	0.82	0.64	0.64	0.52	1.00	1.15	1.44	0.80	0.65	
8	0.68	0.62	1.14	0.83	0.63	0.62	0.51	0.95	1.11	1.37	0.80	1.03	
9	0.65	0.57	1.00	0.71	0.62	0.60	0.51	0.94	1.16	1.31	0.80	0.88	
10	0.63	0.67	0.90	0.71	0.60	0.59	0.52	1.80	1.17	1.25	0.79	0.83	
11	0.62	0.74	0.84	0.68	0.59	0.62	0.52	5.22	2.43	1.19	0.78	0.78	
12	0.58	0.71	0.79	0.67	0.58	0.57	1.08	3.67	5.73	1.15	0.78	0.75	
13	0.57	0.66	0.77	0.65	0.57	0.56	1.08	3.22	6.56	1.13	0.77	0.74	
14	0.55	0.62	0.74	0.74	0.55	0.57	0.81	3.25	6.39	1.13	0.76	0.73	
15	0.53	0.59	0.72	0.71	0.55	0.56	0.74	2.38	5.04	1.16	0.94	0.71	
16	0.50	0.69	0.70	1.02	0.55	0.55	0.69	1.94	3.91	1.19	0.89	0.71	
17	0.49	0.80	0.67	0.85	0.55	0.57	0.64	1.75	3.22	1.12	1.14	0.70	
18	0.46	0.66	0.66	0.78	0.61	0.59	0.60	1.84	2.75	1.08	0.88	0.71	
19	0.45	0.60	0.64	0.74	0.71	0.57	0.58	6.97	2.40	1.06	0.81	0.70	
20	0.45	0.58	0.63	0.70	0.67	0.56	0.60	5.50	2.18	1.05	1.90	0.70	
21	0.44	0.62	0.63	0.68	0.63	0.54	0.86	3.91	2.01	1.03	1.10	0.69	
22	0.48	1.49	0.64	0.75	0.61	0.66	0.90	2.93	1.82	1.02	0.93	0.66	
23	0.49	1.28	0.92	0.71	0.61	0.63	1.04	2.39	1.69	1.00	0.88	0.65	
24	0.66	2.25	0.78	0.77	0.59	0.61	0.97	2.84	1.80	0.99	0.82	0.64	
25	0.62	1.40	0.71	0.75	0.57	0.59	0.96	2.87	1.70	0.97	0.82	0.64	
26	0.66	1.23	0.68	0.70	0.56	0.58	2.11	2.57	1.63	0.95	0.80	0.63	
27	0.63	1.29	0.65	0.67	0.54	0.56	2.89	2.20	1.51	0.93	0.78	0.62	
28	0.59	1.15	0.64	0.66	0.54	0.59	2.92	1.98	1.40	0.93	0.77	0.61	
29	0.57	1.00	0.66	0.63	0.62	0.61	3.61	1.84	1.35	0.90	0.74	0.60	
30	0.56	1.06	1.09	0.62	0.72	0.60	2.21	1.74	1.32	0.89		0.59	
31		0.96		0.62	0.70		1.59		3.03	0.87		0.58	
Mean	0.57	0.87	0.94	0.75	0.62	0.61	1.06	2.41	2.34	1.26	0.88	0.70	
Max	0.69	2.25	2.35	1.24	0.72	0.76	3.61	6.97	6.56	2.69	1.90	1.03	6.97
Min	0.44	0.49	0.63	0.62	0.54	0.54	0.51	0.94	1.11	0.87	0.74	0.58	0.44

Annual Max Momentary Gage Height 7.13 M (A.D), at 11.00 Hours, on Nov 19, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.13 M (A.D)
Left Bank Elevation 7.51 M (A.D)
Right Bank Elevation 8.42 M (A.D), Drainage Area 350 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.80	0.64	2.58	1.12	1.32	1.64	0.84	6.30	9.66	26.91	2.10	1.52	
2	0.96	0.56	2.58	1.28	1.48	1.36	0.84	4.50	7.24	18.68	2.10	1.48	
3	0.96	0.72	2.34	1.32	1.40	1.28	0.84	3.50	6.00	14.40	2.10	1.44	
4	1.08	0.92	20.21	1.40	1.32	1.16	0.80	2.64	5.50	11.48	2.04	1.44	
5	1.32	3.90	20.55	5.40	1.20	1.24	0.76	2.88	5.10	9.92	1.98	1.40	
6	1.36	2.64	11.22	4.60	1.16	1.24	0.72	4.70	4.80	8.80	1.92	1.36	
7	1.24	1.40	6.70	1.92	1.16	1.16	0.68	3.00	4.50	7.48	1.80	1.20	
8	1.32	1.08	4.40	1.98	1.12	1.08	0.64	2.70	4.10	6.70	1.80	3.30	
9	1.20	0.88	3.00	1.44	1.08	1.00	0.64	2.64	4.60	6.10	1.80	2.28	
10	1.12	1.28	2.40	1.44	1.00	0.96	0.68	12.00	4.70	5.50	1.76	1.98	
11	1.08	1.56	2.04	1.32	0.96	1.08	0.68	90.50	21.97	4.90	1.72	1.72	
12	0.92	1.44	1.76	1.28	0.92	0.88	3.80	47.28	110.05	4.50	1.72	1.60	
13	0.88	1.24	1.68	1.20	0.88	0.84	3.80	37.22	189.96	4.30	1.68	1.56	
14	0.80	1.08	1.56	1.56	0.80	0.88	1.86	37.85	163.76	4.30	1.64	1.52	
15	0.72	0.96	1.48	1.44	0.80	0.84	1.56	21.06	84.52	4.60	2.64	1.44	
16	0.60	1.36	1.40	3.20	0.80	0.80	1.36	14.10	53.04	4.90	2.34	1.44	
17	0.56	1.80	1.28	2.10	0.80	0.88	1.16	11.35	37.22	4.20	4.40	1.40	
18	0.44	1.24	1.24	1.72	1.04	0.96	1.00	12.60	28.05	3.80	2.28	1.44	
19	0.40	1.00	1.16	1.56	1.44	0.88	0.92	262.45	21.40	3.60	1.86	1.40	
20	0.40	0.92	1.12	1.40	1.28	0.84	1.00	100.40	17.70	3.50	13.50	1.40	
21	0.36	1.08	1.12	1.32	1.12	0.76	2.16	53.04	15.15	3.30	4.00	1.36	
22	0.52	8.08	1.16	1.60	1.04	1.24	2.40	31.47	12.30	3.20	2.58	1.24	
23	0.56	5.80	2.52	1.44	1.04	1.12	3.40	21.23	10.57	3.00	2.28	1.20	
24	1.24	18.85	1.72	1.68	0.96	1.04	2.82	29.76	12.00	2.94	1.92	1.16	
25	1.08	7.00	1.44	1.60	0.88	0.96	2.76	30.33	10.70	2.82	1.92	1.16	
26	1.24	5.30	1.32	1.40	0.84	0.92	16.65	24.63	9.79	2.70	1.80	1.12	
27	1.12	5.90	1.20	1.28	0.76	0.84	30.71	18.00	8.32	2.58	1.72	1.08	
28	0.96	4.50	1.16	1.24	0.76	0.96	31.28	14.70	7.00	2.58	1.68	1.04	
29	0.88	3.00	1.24	1.12	1.08	1.04	45.84	12.60	6.50	2.40	1.56	1.00	
30	0.84	3.60	3.90	1.08	1.48	1.00	18.17	11.22	6.20	2.34		0.96	
31		2.76		1.08	1.40		9.28		33.40	2.22		0.92	
Total	26.96	92.49	107.48	53.52	33.32	30.88	190.05	926.65	915.80	188.65	72.64	44.56	2683.00 CMSDAY
Mean	0.90	2.98	3.58	1.73	1.07	1.03	6.13	30.89	29.54	6.09	2.50	1.44	7.33 CMS
Max	1.36	18.85	20.55	5.40	1.48	1.64	45.84	262.45	189.96	26.91	13.50	3.30	262.45 CMS
Min	0.36	0.56	1.12	1.08	0.76	0.76	0.64	2.64	4.10	2.22	1.56	0.92	0.36 CMS
Runoff	2.329	7.991	9.286	4.624	2.879	2.668	16.420	80.063	79.125	16.299	6.276	3.850	231.811 MCM

Momentary Peak 296.86 CMS, at 7.13 M (A.D), at 11.00 Hours, on Nov 19, 1991
Runoff Yield 20.94 Liters/Second/Square KM, Momentary Peak Yield 848.17 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA WEST COAST

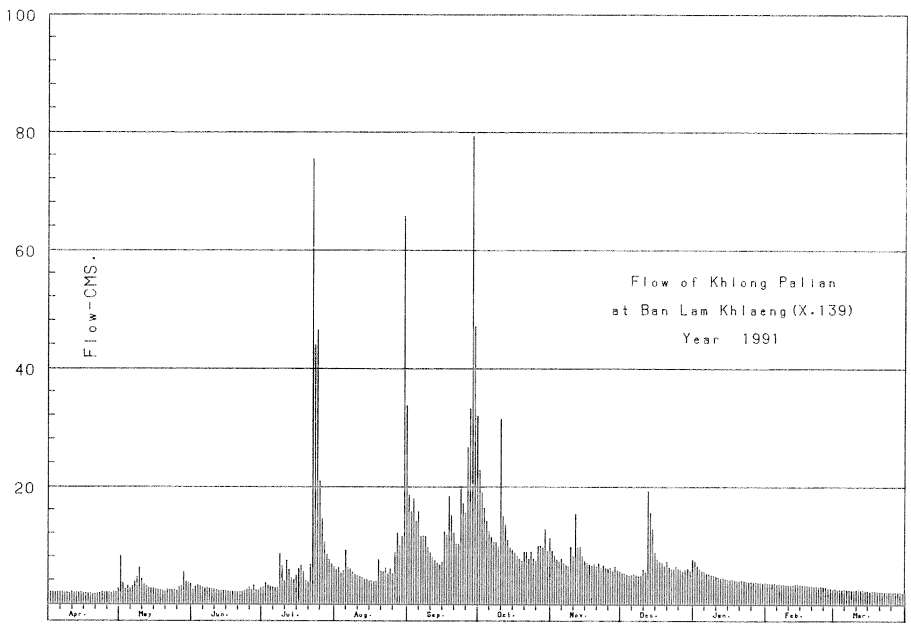
Khlong Palian at Ban Lam Khlaeng(2), Trang (X.139)

Location	Lat. 7°19'08" N., Long. 99°49'03" E., on right bank at Ban Lam Khlaeng(2), Amphoe Palian, Trang.
Drainage Area	153 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 11 meters from the top staff gage.
Elevation	+5.106 m.(A.D.)
Gage Reading Frequency	13-time daily readings at 06.00 - 18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1983 to date.
Rating Operation	
Period of Rating	1983 to date.
Rated by Float	-
Rated by Current Meter	1983 to date.
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	Overbank flow starts at elevation +4.41 m.(A.D.), records are channel flow only.
General Description	Records fair. Stage-discharge relation defined by 109 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.88	1.47	0.94	0.99	1.28	2.04	2.24	1.53	1.23	1.39	1.07	0.96	
2	0.87	1.07	1.01	1.08	1.30	1.90	2.06	1.47	1.22	1.33	1.06	0.94	
3	0.87	0.96	1.03	1.02	1.23	2.01	1.93	1.42	1.21	1.28	1.06	0.94	
4	0.87	1.02	1.02	1.01	1.26	1.82	1.82	1.39	1.19	1.26	1.06	0.94	
5	0.89	0.97	0.98	0.99	1.54	1.90	1.73	1.43	1.20	1.24	1.05	0.94	
6	0.88	1.01	0.97	0.98	1.31	1.69	1.68	1.37	1.21	1.22	1.05	0.94	
7	0.87	1.10	0.98	0.98	1.29	1.69	1.63	1.34	1.20	1.21	1.05	0.93	
8	0.86	1.18	0.97	1.50	1.24	1.69	1.63	1.32	1.18	1.20	1.04	0.93	
9	0.86	1.31	0.95	1.33	1.21	1.57	1.58	1.58	1.19	1.19	1.04	0.93	
10	0.89	1.14	0.95	1.11	1.19	1.51	2.60	1.46	1.28	1.18	1.03	0.94	
11	0.87	1.05	0.93	1.41	1.18	1.45	1.86	1.88	1.24	1.16	1.03	0.94	
12	0.87	1.01	0.92	1.28	1.16	1.41	1.79	1.57	2.07	1.15	1.03	0.93	
13	0.87	0.98	0.92	1.16	1.14	1.37	1.65	1.58	1.89	1.15	1.05	0.93	
14	0.87	0.96	0.92	1.13	1.13	1.35	1.57	1.46	1.75	1.14	1.05	0.92	
15	0.86	0.97	0.91	1.20	1.11	1.38	1.54	1.40	1.51	1.13	1.04	0.91	
16	0.85	0.95	0.91	1.29	1.11	1.73	1.51	1.37	1.42	1.13	1.03	0.90	
17	0.85	0.94	0.90	1.34	1.10	1.70	1.46	1.35	1.39	1.13	1.03	0.91	
18	0.84	0.93	0.90	1.25	1.10	2.03	1.43	1.33	1.37	1.12	1.02	0.91	
19	0.83	0.92	0.90	1.12	1.42	1.87	1.40	1.36	1.33	1.11	1.02	0.90	
20	0.82	0.90	0.89	1.09	1.26	1.72	1.52	1.32	1.39	1.11	1.01	0.90	
21	0.85	0.95	0.89	1.35	1.25	1.61	1.51	1.37	1.31	1.11	1.01	0.89	
22	0.85	0.93	0.90	3.94	1.30	1.61	1.43	1.30	1.28	1.11	1.01	0.89	
23	0.89	0.94	0.92	3.07	1.22	2.11	1.52	1.34	1.28	1.09	1.00	0.89	
24	0.88	0.94	0.95	3.16	1.29	1.97	1.43	1.30	1.32	1.09	1.00	0.89	
25	0.89	0.92	0.99	2.15	1.22	1.89	1.40	1.29	1.29	1.09	1.00	0.89	
26	0.88	1.00	0.94	1.84	1.51	2.41	1.59	1.30	1.27	1.08	0.99	0.89	
27	0.86	1.02	1.03	1.63	1.72	2.67	1.59	1.26	1.25	1.08	0.97	0.88	
28	0.89	1.24	0.94	1.49	1.59	4.03	1.57	1.32	1.27	1.08	0.96	0.88	
29	0.89	1.10	0.92	1.42	1.69	3.18	1.75	1.27	1.29	1.07	0.95	0.88	
30	0.96	1.07	0.98	1.36	3.71	2.62	1.53	1.25	1.25	1.07		0.87	
31		1.06		1.32	2.69		1.67		1.42	1.07		0.87	
Mean	0.87	1.03	0.95	1.48	1.41	1.93	1.67	1.40	1.35	1.15	1.02	0.91	
Max	0.96	1.47	1.03	3.94	3.71	4.03	2.60	1.88	2.07	1.39	1.07	0.96	4.03
Min	0.82	0.90	0.89	0.98	1.10	1.35	1.40	1.25	1.18	1.07	0.95	0.87	0.82

Annual Max Momentary Gage Height 4.94 M (A.D), at 12.00 Hours, on Jul 22, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed 0.31 M (A.D)
Left Bank Elevation 4.40 M (A.D)
Right Bank Elevation 4.44 M (A.D), Drainage Area 153 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.08	8.31	2.52	2.92	5.96	18.64	22.84	9.12	5.36	7.28	3.63	2.68	
2	2.02	3.63	3.09	3.72	6.20	15.80	19.06	8.31	5.24	6.56	3.54	2.52	
3	2.02	2.68	3.27	3.18	5.36	18.01	16.40	7.66	5.12	5.96	3.54	2.52	
4	2.02	3.18	3.18	3.09	5.72	14.20	14.20	7.28	4.89	5.72	3.54	2.52	
5	2.14	2.76	2.84	2.92	9.26	15.80	12.40	7.79	5.00	5.48	3.45	2.52	
6	2.08	3.09	2.76	2.84	6.32	11.63	11.46	7.04	5.12	5.24	3.45	2.52	
7	2.02	3.90	2.84	2.84	6.08	11.63	10.61	6.68	5.00	5.12	3.45	2.44	
8	1.96	4.78	2.76	8.70	5.48	11.63	10.61	6.44	4.78	5.00	3.36	2.44	
9	1.96	6.32	2.60	6.56	5.12	9.68	9.82	9.82	4.89	4.89	3.36	2.44	
10	2.14	4.34	2.60	4.01	4.89	8.84	31.50	8.18	5.96	4.78	3.27	2.52	
11	2.02	3.45	2.44	7.53	4.78	8.05	15.00	15.40	5.48	4.56	3.27	2.52	
12	2.02	3.09	2.36	5.96	4.56	7.53	13.60	9.68	19.27	4.45	3.27	2.44	
13	2.02	2.84	2.36	4.56	4.34	7.04	10.95	9.82	15.60	4.45	3.45	2.44	
14	2.02	2.68	2.36	4.23	4.23	6.80	9.68	8.18	12.80	4.34	3.45	2.36	
15	1.96	2.76	2.28	5.00	4.01	7.16	9.26	7.40	8.84	4.23	3.36	2.28	
16	1.90	2.60	2.28	6.08	4.01	12.40	8.84	7.04	7.66	4.23	3.27	2.20	
17	1.90	2.52	2.20	6.68	3.90	11.80	8.18	6.80	7.28	4.23	3.27	2.28	
18	1.84	2.44	2.20	5.60	3.90	18.43	7.79	6.56	7.04	4.12	3.18	2.28	
19	1.78	2.36	2.20	4.12	7.66	15.20	7.40	6.92	6.56	4.01	3.18	2.20	
20	1.72	2.20	2.14	3.81	5.72	12.20	8.98	6.44	7.28	4.01	3.09	2.20	
21	1.90	2.60	2.14	6.80	5.60	10.27	8.84	7.04	6.32	4.01	3.09	2.14	
22	1.90	2.44	2.20	75.52	6.20	10.27	7.79	6.20	5.96	4.01	3.09	2.14	
23	2.14	2.52	2.36	43.96	5.24	20.11	8.98	6.68	5.96	3.81	3.00	2.14	
24	2.08	2.52	2.60	46.54	6.08	17.20	7.79	6.20	6.44	3.81	3.00	2.14	
25	2.14	2.36	2.92	20.95	5.24	15.60	7.40	6.08	6.08	3.81	3.00	2.14	
26	2.08	3.00	2.52	14.60	8.84	26.75	9.96	6.20	5.84	3.72	2.92	2.14	
27	1.96	3.18	3.27	10.61	12.20	33.25	9.96	5.72	5.60	3.72	2.76	2.08	
28	2.14	5.48	2.52	8.57	9.96	79.39	9.68	6.44	5.84	3.72	2.68	2.08	
29	2.14	3.90	2.36	7.66	11.63	47.12	12.80	5.84	6.08	3.63	2.60	2.08	
30	2.68	3.63	2.84	6.92	65.72	32.00	9.12	5.60	5.60	3.63		2.02	
31		3.54		6.44	33.75		11.29		7.66	3.63		2.02	
Total	60.78	105.10	77.01	342.92	277.96	534.43	362.19	224.56	216.55	140.16	93.52	71.44	2506.62 CMSDAY
Mean	2.03	3.39	2.57	11.06	8.97	17.81	11.68	7.49	6.99	4.52	3.22	2.30	6.85 CMS
Max	2.68	8.31	3.27	75.52	65.72	79.39	31.50	15.40	19.27	7.28	3.63	2.68	79.39 CMS
Min	1.72	2.20	2.14	2.84	3.90	6.80	7.40	5.60	4.78	3.63	2.60	2.02	1.72 CMS
Runoff	5.251	9.081	6.654	29.628	24.016	46.175	31.293	19.402	18.710	12.110	8.080	6.172	216.572 MCM

Momentary Peak 129.02 CMS, at 4.94 M (A.D), at 12.00 Hours, on Jul 22, 1991

Runoff Yield 44.76 Liters/Second/Square KM, Momentary Peak Yield 843.27 Liters/Second/Square KM

WATER YEAR 1991

SOUTHERN PENINSULA WEST COAST

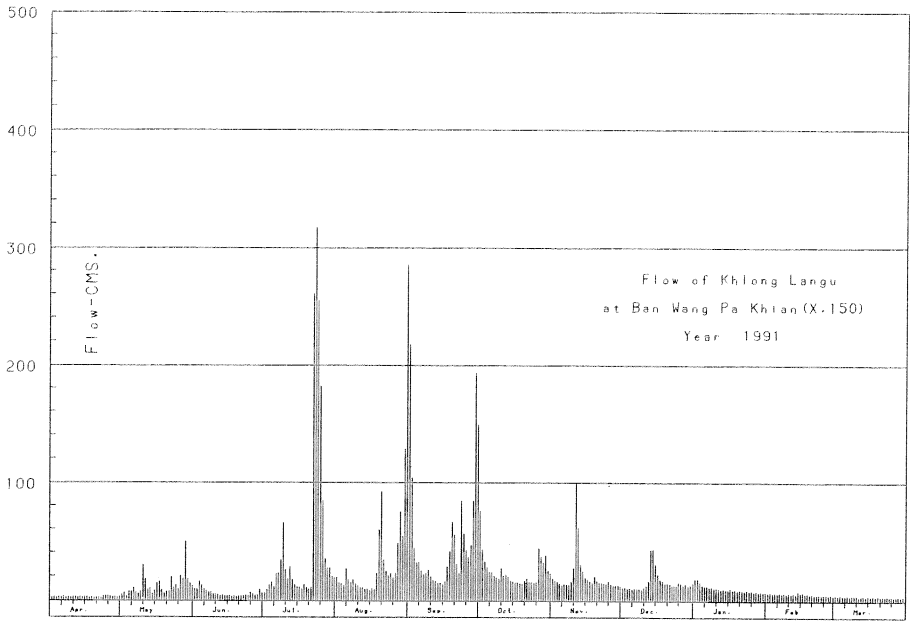
Khlong Langu at Ban Wang Pa Khian, Satun (X.150)

Location	Lat. 6°-56'-30" N., Long. 99°-52'-33" E., on right bank at Ban Wang Pa Khian, Amphoe Langu, Satun.
Drainage Area	552 sq.km.
Type of Gage	Staff gage.
Zero Gage at Bottom	+0.00 m.(A.D.)
Bench Mark	B.M.-H.D.
Location	On right bank about 5 meters from the top staff gage.
Elevation	+8.520 m.(A.D.)
Gage Reading Frequency	13-time daily readings at 06.00-18.00 hours.
Basis of Mean Daily Gage Height	Arithmetic mean of 13 readings.
Period of Available Gage Records	1984 to date
Rating Operation	
Period of Rating	1984 to date
Rated by Float	-
Rated by Current Meter	1984 to date
Stability of Channel Regimes	Fairly stable.
Overbank Flow Conditions	No overbank flow.
General Description	Records good. Stage-discharge relation defined by 78 discharge measurements made in 1991.

Gage Height in Meter (A.D), Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.60	0.84	1.10	0.94	1.71	7.62	4.20	1.70	1.23	1.63	0.93	0.74	
2	0.60	0.91	1.13	1.07	1.49	5.25	2.85	1.55	1.21	1.68	0.92	0.75	
3	0.59	0.70	1.56	1.37	1.41	2.90	2.42	1.54	1.18	1.48	0.91	0.76	
4	0.60	0.98	1.32	1.48	1.34	2.38	2.16	1.43	1.17	1.37	0.90	0.74	
5	0.61	1.01	1.14	1.28	2.13	2.37	1.99	1.36	1.14	1.31	0.90	0.73	
6	0.63	1.22	1.02	1.92	1.61	2.01	1.94	1.39	1.14	1.27	0.89	0.72	
7	0.61	0.92	0.97	1.91	1.50	1.88	1.82	1.41	1.15	1.25	0.89	0.71	
8	0.59	0.88	0.95	2.49	1.60	1.90	1.70	1.34	1.13	1.21	0.88	0.71	
9	0.60	0.99	0.86	3.82	1.44	2.07	1.69	1.54	1.12	1.18	0.87	0.72	
10	0.61	2.28	0.82	2.05	1.31	1.75	2.15	2.13	1.19	1.16	0.87	0.72	
11	0.64	1.67	0.78	1.63	1.24	1.61	1.79	5.11	1.29	1.13	0.87	0.72	
12	0.60	1.11	0.75	2.17	1.19	1.52	1.87	3.62	1.57	1.12	0.87	0.71	
13	0.61	1.15	0.74	1.64	1.14	1.47	1.74	2.30	2.87	1.11	0.86	0.70	
14	0.62	0.88	0.73	1.38	1.12	1.44	1.59	1.99	2.86	1.11	0.99	0.69	
15	0.60	1.02	0.72	1.25	1.07	1.41	1.51	1.74	2.31	1.10	0.93	0.69	
16	0.60	1.43	0.71	1.22	1.14	1.56	1.49	1.62	1.85	1.14	0.92	0.69	
17	0.58	1.55	0.69	1.14	1.12	2.18	1.47	1.53	1.63	1.09	0.86	0.68	
18	0.56	1.06	0.68	1.36	1.90	2.81	1.46	1.49	1.53	1.07	0.85	0.68	
19	0.57	0.90	0.67	1.23	3.58	3.85	1.40	1.80	1.46	1.05	0.83	0.68	
20	0.56	0.97	0.67	1.10	4.80	3.39	1.59	1.58	1.43	1.05	0.82	0.67	
21	0.57	1.02	0.66	1.21	2.46	2.29	1.66	1.46	1.43	1.03	0.82	0.67	
22	0.57	1.77	0.71	8.03	2.03	1.93	1.52	1.49	1.34	1.03	0.81	0.67	
23	0.66	1.19	0.74	8.53	1.83	4.51	1.48	1.42	1.30	1.04	0.80	0.66	
24	0.74	1.33	0.76	7.97	1.89	3.45	1.48	1.44	1.33	1.02	0.79	0.66	
25	0.69	1.14	0.91	7.20	1.69	2.82	1.48	1.53	1.47	1.00	0.78	0.65	
26	0.64	1.79	0.84	4.51	1.94	2.55	2.93	1.39	1.43	0.98	0.79	0.64	
27	0.64	1.68	0.78	2.53	3.09	3.04	2.60	1.36	1.35	0.97	0.78	0.65	
28	0.61	3.18	0.81	2.13	4.20	4.54	2.35	1.30	1.39	0.96	0.77	0.64	
29	0.63	1.63	1.09	2.13	3.37	7.34	2.63	1.37	1.31	0.95	0.75	0.63	
30	0.62	1.45	0.89	1.79	6.06	6.62	2.04	1.27	1.32	0.95		0.63	
31		1.27		1.69	8.25		1.89		1.48	0.94		0.62	
Mean	0.61	1.29	0.87	2.59	2.28	3.02	1.96	1.74	1.47	1.14	0.86	0.69	
Max	0.74	3.18	1.56	8.53	8.25	7.62	4.20	5.11	2.87	1.68	0.99	0.76	8.53
Min	0.56	0.70	0.66	0.94	1.07	1.41	1.40	1.27	1.12	0.94	0.75	0.62	0.56

Annual Max Momentary Gage Height 8.63 M (A.D), at 7.00 Hours, on Jul 23, 1991
Zero Gage at Bottom Elevation 0.00 M (A.D), River Bed -0.05 M (A.D)
Left Bank Elevation 10.34 M (A.D)
Right Bank Elevation 9.88 M (A.D), Drainage Area 552 Square Kilometers



Discharge, in Cubic Meter per Second, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.00	5.60	9.50	7.10	19.43	218.00	76.00	19.25	11.45	18.03	6.95	4.40	
2	3.00	6.65	9.95	9.05	15.58	104.88	43.12	16.62	11.15	18.90	6.80	4.50	
3	2.90	4.00	16.80	13.55	14.18	44.25	33.45	16.45	10.70	15.40	6.65	4.60	
4	3.00	7.70	12.80	15.40	13.10	32.60	28.20	14.52	10.55	13.55	6.50	4.40	
5	3.10	8.15	10.10	12.20	27.60	32.40	24.80	13.40	10.10	12.65	6.50	4.30	
6	3.30	11.30	8.30	23.40	17.68	25.20	23.80	13.85	10.10	12.05	6.35	4.20	
7	3.10	6.80	7.55	23.20	15.75	22.60	21.40	14.18	10.25	11.75	6.35	4.10	
8	2.90	6.20	7.25	35.02	17.50	23.00	19.25	13.10	9.95	11.15	6.20	4.10	
9	3.00	7.85	5.90	66.50	14.70	26.40	19.08	16.45	9.80	10.70	6.05	4.20	
10	3.10	30.60	5.30	26.00	12.65	20.13	28.00	27.60	10.85	10.40	6.05	4.20	
11	3.40	18.72	4.80	18.03	11.60	17.68	20.82	101.03	12.35	9.95	6.05	4.20	
12	3.00	9.65	4.50	28.40	10.85	16.10	22.40	61.50	16.98	9.80	6.05	4.10	
13	3.10	10.25	4.40	18.20	10.10	15.23	19.95	31.00	43.57	9.65	5.90	4.00	
14	3.20	6.20	4.30	13.70	9.80	14.70	17.32	24.80	43.35	9.65	7.85	3.90	
15	3.00	8.30	4.20	11.75	9.05	14.18	15.93	19.95	31.20	9.50	6.95	3.90	
16	3.00	14.52	4.10	11.30	10.10	16.80	15.58	17.85	22.00	10.10	6.80	3.90	
17	2.80	16.62	3.90	10.10	9.80	28.60	15.23	16.27	18.03	9.35	5.90	3.80	
18	2.60	8.90	3.80	13.40	23.00	42.22	15.05	15.58	16.27	9.05	5.75	3.80	
19	2.70	6.50	3.70	11.45	60.50	67.25	14.00	21.00	15.05	8.75	5.45	3.80	
20	2.60	7.55	3.70	9.50	92.50	55.75	17.32	17.15	14.52	8.75	5.30	3.70	
21	2.70	8.30	3.60	11.15	34.35	30.80	18.55	15.05	14.52	8.45	5.30	3.70	
22	2.70	20.47	4.10	261.30	25.60	23.60	16.10	15.58	13.10	8.45	5.15	3.70	
23	3.60	10.85	4.40	317.60	21.60	84.53	15.40	14.35	12.50	8.60	5.00	3.60	
24	4.40	12.95	4.60	254.70	22.80	57.25	15.40	14.70	12.95	8.30	4.90	3.60	
25	3.90	10.10	6.65	182.50	19.08	42.45	15.40	16.27	15.23	8.00	4.80	3.50	
26	3.40	20.82	5.60	84.53	23.80	36.37	44.93	13.85	14.52	7.70	4.90	3.40	
27	3.40	18.90	4.80	35.93	48.52	47.40	37.50	13.40	13.25	7.55	4.80	3.50	
28	3.10	50.55	5.15	27.60	76.00	85.35	32.00	12.50	13.85	7.40	4.70	3.40	
29	3.30	18.03	9.35	27.60	55.25	193.20	38.18	13.55	12.65	7.25	4.50	3.30	
30	3.20	14.88	6.35	20.82	128.45	149.95	25.80	12.05	12.80	7.25		3.30	
31		12.05		19.08	285.50		22.80		15.40	7.10		3.20	
Total	93.50	399.96	189.45	1620.06	1156.42	1588.87	772.76	632.85	488.99	315.18	170.45	120.30	7548.79 CMSDAY
Mean	3.12	12.90	6.32	52.26	37.30	52.96	24.93	21.09	15.77	10.17	5.88	3.88	20.63 CMS
Max	4.40	50.55	16.80	317.60	285.50	218.00	76.00	101.03	43.57	18.90	7.85	4.60	317.60 CMS
Min	2.60	4.00	3.60	7.10	9.05	14.18	14.00	12.05	9.80	7.10	4.50	3.20	2.60 CMS
Runoff	8.078	34.557	16.368	139.973	99.915	137.278	66.766	54.678	42.249	27.232	14.727	10.394	652.216 MCM

Momentary Peak 329.60 CMS, at 8.63 M (A.D), at 7.00 Hours, on Jul 23, 1991
Runoff Yield 37.36 Liters/Second/Square KM, Momentary Peak Yield 597.10 Liters/Second/Square KM

SUSPENDED SEDIMENT STATION

1. Ping River at Ban Tha Khae, Tak (P.2A)
2. Ping River at Ban Tha Sala, Chiang Mai (P.19A)
3. Khlong Khlung at Ban Pang Wai, Kamphaeng Phet (P.35)
4. Khlong Suan Mak at Ban Pong Nam Ron, Kamphaeng Phet (P.47)
5. Wang River at Ban Wang Man, Tak (W.4A)
6. Wang River at Ban Hai, Lampang (W.16)
7. Yom River at Ban Ngao Sak, Phrae (Y.20)
8. Nan River at Forestry Office, Nan (N.1)
9. Nan River at Muang, Phitsanulok (N.5A)
10. Chao Phraya River at Khai Chira Prawat, Nakhon Sawan (C.2)
11. Pasak River at Ban Muang Nua, Saraburi (S.9)
12. Lam Sonthi at Ban Na Som, Lop Buri (S.14)
13. Huai Bang I at Ban Non Yang, Muk Dahan (Kh.79)
14. Chi River at Ban Tha Phra, Khon Kaen (E.16A)
15. Chi River at Ban Nong O, Chaiyaphum (E.32A)
16. Huai Prong Khun Phet at Ban Thap Nai, Chaiyaphum (E.35A)
17. Nam Yang at Ban Kaeng Yao, Kalasin (E.54)
18. Lam Takhong at Vaccine Serum Office, Nakhon Ratchasima (M.89)
19. Huai Samran at Ban Tamuan, Si Sa Ket (M.91)
20. Khlong Samo Pun at Haew Narok, Prachin Buri (Ny.4)
21. Prachin Buri River at Kabin Buri, Prachin Buri (Kgt.3)
22. Khlong Phra Sathung at Ban Wang Khian, Prachin Buri (Kgt.10)
23. Khlong Phra Prong at Ban Kaeng, Prachin Buri (Kgt.12)
24. Khlong Si Yat at Ban Tha Kloi, Chachoengsao (Kgt.18)
25. Khlong Luang at Ban Mai, Chon Buri (Kgt.19)
26. Khlong Yang at Ban Khlong Yang, Nakhon Nayok (Kgt.27)
27. Khwae Noi River at Ban Lum Sum, Kanchanaburi (K.10)
28. Huai Tha Khaei at Ban Bung, Ratchaburi (K.25)
29. Huai Mae Prachan at Ban Kariang, Phetchaburi (B.8)
30. Khlong Bang Saphan Yai at Ban Wang Yao, Prachuap Khiri Khan (Gt.7)
31. Khlong Thap Sakae at Ban Klang, Prachuap Khiri Khan (Gt.9)
32. Khlong Cha Kra at Ban Cha Kra Bon, Prachuap Khiri Khan (Gt.18)
33. Khlong Phum Duang at Khiri Ratthanikhom, Surat Thani (X.36)
34. Tapi River at Prasaeng, Surat Thani (X.37A)
35. Khlong Tha Di at Ban Pak Prik, Nakhon Si Thammarat (X.55)
36. Khlong Ban Tan at Ban Wang Kong, Nakhon Si Thammarat (X.70)

37. Khlong Tan Yong Mat at Rangae, Narathiwat (X.73)
38. Khlong U Taphao at Ban Bang Sala, Songkhla (X.90)
39. Khlong Takhian at Ban Rim Khlong, Surat Thani (X.103)
40. Khlong Tha Krachai at Ban Samo Thong, Surat Thani (X.104)
41. Khlong Lam at Ban Thung Prap(1), Songkhla (X.113)
42. Kolok River at Sungai Kolok, Narathiwat (X.119A)
43. Khlong Waeng at Waeng, Narathiwat (X.121)
44. Khlong Palian at Ban Lam Khlaeng(2), Trang (X.139)
45. Khlong Chandi at Ban Chandi Nua, Nakhon Si Thammarat (X.163)

WATER YEAR 1991

FING RIVER BASIN

Ping River at Ban Tha Khae, Tak (P.2A)

Location	Lat. 16-52-10 N., Long. 99-07-50 E., on right bank about 200 meters downstream from Kittikhachon I Bridge, Ban Tha Khae, Amphoe Muang, Tak.
Drainage Area	38,862 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1989 - Cont'd
Actual Measurement	1989 - Cont'd
Remarks	Continued Sediment Station
	Using Rating Curve Water Year 1989 - 1991

RID Computer Center, Processing : 9-JUN-1993 13:41:42.49

LQS/LQS02D/12

Station - Ban Tha Khae, Muang, Tak, (P.2A)
Stream - Ping
River - Ping
River System - Ping River

Royal Irrigation Department
Thailand
Hydrology Division
1.31171
QS = 0.5739 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	575.09	440.80	172.88	38.51	241.75	57.67	351.19	135.38	483.62	266.73	588.35	669.36	
2	967.40	275.83	95.10	64.05	233.55	266.73	258.34	250.01	303.58	303.58	420.48	390.42	
3	933.22	540.35	90.56	118.54	217.37	540.35	241.75	147.63	787.36	285.01	275.83	771.90	
4	865.76	451.05	123.37	129.34	258.34	899.34	166.48	109.02	756.50	312.97	575.09	916.25	
5	802.90	420.48	380.52	141.47	193.62	1150.75	147.63	483.62	601.68	275.83	461.36	834.19	
6	967.40	233.55	147.63	185.85	294.26	588.35	166.48	933.22	312.97	129.34	642.08	834.19	
7	1074.34	430.61	104.33	81.65	294.26	472.46	153.86	1170.05	615.07	294.26	669.36	771.90	
8	725.94	410.40	86.08	51.45	160.14	312.97	233.55	1208.87	575.09	440.80	669.36	628.54	
9	802.90	440.80	43.08	123.37	285.01	129.34	285.01	1055.43	451.05	410.40	575.09	461.36	
10	1001.86	528.89	29.78	113.76	179.34	141.47	193.62	285.01	390.42	451.05	360.90	1001.86	
11	1001.86	225.43	38.51	109.02	166.48	390.42	400.38	141.47	258.34	360.90	818.51	950.27	
12	802.90	275.83	29.78	104.33	147.63	451.05	669.36	179.34	390.42	258.34	865.76	916.25	
13	849.94	160.14	16.26	147.63	258.34	483.62	771.90	129.34	430.61	160.14	916.25	849.94	
14	741.18	193.62	40.78	109.02	528.89	312.97	725.94	209.38	390.42	420.48	899.34	882.52	
15	899.34	331.95	77.27	40.78	615.07	294.26	642.08	193.62	390.42	551.87	834.19	725.94	
16	818.51	322.43	113.76	25.62	517.48	217.37	461.36	95.10	147.63	472.46	540.35	517.48	
17	818.51	241.75	25.62	104.33	741.18	241.75	380.52	294.26	483.62	506.13	410.40	1001.86	
18	802.90	233.55	48.40	99.69	741.18	241.75	967.40	81.65	506.13	472.46	882.52	933.22	
19	916.25	179.34	86.08	123.37	472.46	201.47	506.13	506.13	360.90	241.75	440.80	933.22	
20	741.18	153.86	73.91	185.85	294.26	250.01	294.26	818.51	360.90	135.38	916.25	933.22	
21	615.07	172.88	64.05	483.62	285.01	193.62	370.68	642.08	420.48	451.05	865.76	916.25	
22	461.36	185.85	60.84	172.88	440.80	217.37	430.61	551.87	217.37	710.77	849.94	669.36	
23	540.35	179.34	48.40	209.38	390.42	172.88	380.52	440.80	123.37	669.36	506.13	370.68	
24	601.68	185.85	48.40	266.73	294.26	153.86	312.97	494.85	303.58	741.18	370.68	1269.53	
25	588.35	201.47	57.67	201.47	141.47	172.88	275.83	185.85	390.42	771.90	725.94	1170.05	
26	563.45	147.63	90.56	209.38	113.76	390.42	294.26	933.22	351.19	683.10	865.76	1112.39	
27	588.35	73.91	118.54	153.86	225.43	172.88	233.55	818.51	410.40	312.97	950.27	1074.34	
28	517.48	83.41	123.37	166.48	258.34	153.86	179.34	802.90	225.43	615.07	818.51	834.19	
29	440.80	147.63	118.54	129.34	451.05	118.54	135.38	849.94	113.76	615.07	849.94	756.50	
30	588.35	141.47	70.59	201.47	141.47	123.37	129.34	865.76	104.33	628.54		472.46	
31		135.38		250.01	217.37		135.38		250.01	683.10		865.76	
Total	22614.62	8145.48	2624.66	4542.25	9799.99	9513.78	10895.10	15012.82	11907.07	13631.99	19565.20	25435.40	153688.38 Ton
Mean	753.82	262.76	87.49	146.52	316.13	317.13	351.45	500.43	384.10	439.74	674.66	820.50	
Max	1074.34	540.35	380.52	483.62	741.18	1150.75	967.40	1208.87	787.36	771.90	950.27	1269.53	1269.53
Min	440.80	73.91	16.26	25.62	113.76	57.67	129.34	81.65	104.33	129.34	275.83	370.68	16.26

WATER YEAR 1991

PING RIVER BASIN

Ping River at Ban Tha Sala, Chiang Mai (P.19A)

Location	Lat. 18-25-19 N., Long. 98-42-17 E., on left bank about 300 meters downstream from confluence with Li River, Amphoe Chom Thong, Chiang Mai.
Drainage Area	14,023 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1958 - Cont'd
Actual Measurement	1966 - 1968, 1970 - 1972, 1974 - 1979, 1987 - Cont'd
Remarks	Continued Sediment Station
	Using Rating Curve Water Year 1966 - 1991

RID Computer Center, Processing : 9-JUN-1993 13:42:22.49

LQS/LQS02D/12

Station - Ban Tha Sala, Chom Thong, Chiang Mai, (P.19A)
Stream - Ping
River - Ping
River System - Ping River

Royal Irrigation Department
Thailand
Hydrology Division 030792
1.48428
QS = 0.8781 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	7.94	35.98	32.95	24.43	39.08	6017.45	1397.54	673.34	151.57	61.46	32.95	55.05	
2	8.46	39.08	32.95	27.18	39.08	5333.06	1502.79	593.03	151.57	55.05	30.02	45.54	
3	14.58	32.95	32.95	18.03	45.54	3995.16	1556.35	554.14	140.85	48.89	30.02	48.89	
4	19.23	32.95	32.95	13.49	61.46	2418.67	1423.62	1610.51	130.40	42.27	27.18	55.05	
5	27.18	32.95	39.08	11.39	68.08	1610.51	1194.67	3283.06	140.85	35.98	30.02	45.54	
6	42.27	24.43	55.05	10.38	81.98	1776.59	1121.31	3210.79	140.85	30.02	27.18	42.27	
7	45.54	2.28	74.93	7.44	81.98	2385.92	1345.85	2418.67	140.85	30.02	30.02	39.08	
8	48.89	0.02	81.98	4.66	74.93	3174.85	2584.60	1804.78	120.20	27.18	24.43	32.95	
9	45.54	0.41	104.35	3.22	61.46	3392.44	2353.31	1345.85	120.20	27.18	21.78	30.02	
10	39.08	3.42	112.18	2.64	55.05	3210.79	1804.78	1121.31	104.35	24.43	21.78	24.43	
11	35.98	14.58	74.93	2.46	55.05	3283.06	1371.61	865.73	81.98	32.95	19.23	24.43	
12	30.02	21.78	55.05	2.46	48.89	3139.05	1194.67	778.28	74.93	32.95	21.78	21.78	
13	24.43	30.02	61.46	2.46	48.89	2857.43	1476.25	693.93	68.08	32.95	21.78	21.78	
14	18.03	30.02	55.05	2.10	55.05	2451.57	1502.79	652.95	74.93	30.02	19.23	19.23	
15	14.58	32.95	45.54	1.93	68.08	2035.45	1320.25	573.48	81.98	30.02	16.85	19.23	
16	12.42	32.95	39.08	1.93	173.76	1556.35	1073.25	500.55	96.70	30.02	16.85	19.23	
17	7.94	42.27	35.98	2.28	261.29	1121.31	778.28	431.92	89.24	30.02	16.85	18.03	
18	6.00	42.27	27.18	2.64	196.92	1637.82	693.93	398.87	81.98	35.98	15.71	18.03	
19	3.42	39.08	39.08	2.83	756.90	2097.81	933.29	350.92	74.93	39.08	14.58	14.58	
20	2.46	39.08	32.95	3.02	2006.12	2353.31	979.23	290.21	45.54	35.98	14.58	12.42	
21	2.28	35.98	30.02	4.66	2651.97	2288.54	1025.89	305.03	42.27	35.98	14.58	10.38	
22	1.93	32.95	21.78	8.46	2754.07	3879.72	1529.50	320.09	35.98	39.08	12.42	9.40	
23	1.78	30.02	18.03	13.49	2066.55	2927.03	1502.79	275.62	39.08	35.98	10.38	9.40	
24	2.10	24.43	21.78	19.23	1610.51	2160.78	1294.80	261.29	48.89	35.98	9.40	12.42	
25	2.64	19.23	21.78	24.43	1320.25	1861.59	1145.59	275.62	48.89	39.08	12.42	7.94	
26	3.42	18.03	21.78	27.18	1097.20	1269.52	933.29	261.29	48.89	39.08	19.23	6.47	
27	5.54	18.03	21.78	32.95	1637.82	933.29	778.28	221.00	55.05	39.08	27.18	5.10	
28	13.49	16.85	21.78	35.98	3174.85	778.28	735.71	221.00	61.46	39.08	39.08	3.42	
29	27.18	16.85	21.78	42.27	4268.78	799.86	821.63	196.92	61.46	35.98	45.54	3.02	
30	30.02	21.78	21.78	45.54	5422.74	1097.20	933.29	173.76	68.08	32.95		2.64	
31		30.02		45.54	5786.33		778.28		68.08	32.95		2.64	
Total	544.37	793.64	1287.96	446.70	36070.66	73844.41	39087.42	24663.94	2690.11	1117.67	643.05	680.39	181870.33 Ton
Mean	18.15	25.60	42.93	14.41	1163.57	2461.48	1260.88	822.13	86.78	36.05	22.17	21.95	
Max	48.89	42.27	112.18	45.54	5786.33	6017.45	2584.60	3283.06	151.57	61.46	45.54	55.05	6017.45
Min	1.78	0.02	18.03	1.93	39.08	778.28	693.93	173.76	35.98	24.43	9.40	2.64	0.02

WATER YEAR 1991

PING RIVER BASIN

Khlong Khlung at Ban Pang Wai, Kamphaeng Phet (P.35)

Location	Lat. 16-04-22 N., Long. 99-24-18 E., on right bank at Ban Pang Wai about 1.5 kilometers from Khao Song Phi Nong, Amphoe Khlong Khlung, Kamphaeng Phet.
Drainage Area	730 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1988 - Cont'd
Actual Measurement	1988 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1988 - 1991

RID Computer Center, Processing : 9-JUN-1993 13:41:52.32

LQS/LQS02D/12

Station - Ban Pang Wai, Khlong Khlung, Kamphaeng Phet, (P.35)
Stream - Khlong Khlung
River - Ping
River System - Ping River

Royal Irrigation Department
Thailand
Hydrology Division

1.33393
QS = 4.1832 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.15	0.08	4.98	2.26	1.93	287.89	18.27	55.01	3.42	2.70	1.62	1.62	
2	1.15	0.06	3.63	2.26	1.84	153.07	31.48	44.75	3.53	2.70	1.62	1.53	
3	1.15	0.02	5.45	2.26	1.75	65.79	99.02	33.15	3.42	2.70	1.75	1.53	
4	1.07	0.02	5.22	2.26	1.75	29.00	277.32	25.35	3.26	2.60	1.66	1.44	
5	0.99	0.02	86.66	2.16	1.66	15.50	383.46	23.53	3.42	2.35	1.66	1.36	
6	0.59	0.00	170.63	2.16	1.62	9.85	242.80	19.41	3.16	2.16	1.66	1.27	
7	0.49	0.00	33.15	2.16	1.62	8.49	462.64	16.05	3.16	2.16	1.62	1.27	
8	0.49	0.00	31.48	2.07	1.75	6.49	638.66	14.20	3.05	2.16	1.62	1.27	
9	0.42	0.00	29.82	2.07	1.66	24.13	284.35	12.34	3.16	2.07	1.62	1.23	
10	0.42	0.99	13.82	2.02	1.66	21.15	163.05	11.25	3.16	2.07	1.62	1.15	
11	0.36	2.70	9.50	1.93	1.75	21.15	188.79	10.90	3.26	2.07	1.66	1.23	
12	0.30	2.16	6.93	1.93	1.75	23.53	595.04	9.85	3.16	2.07	1.62	1.23	
13	0.30	1.93	5.81	1.84	1.75	30.65	941.45	9.50	3.16	2.07	1.53	1.23	
14	0.28	1.84	6.06	1.84	1.75	31.48	900.11	7.64	3.16	2.02	1.53	1.23	
15	0.91	1.84	4.98	1.75	1.75	24.13	558.65	7.64	3.05	2.02	1.53	1.23	
16	0.73	1.75	7.64	1.75	1.84	15.50	331.15	7.38	2.95	2.02	1.53	1.23	
17	0.42	2.26	4.02	1.75	1.84	9.85	202.67	6.30	2.90	2.02	1.44	1.23	
18	0.36	2.35	3.53	1.75	1.93	7.64	131.23	5.63	2.95	1.93	1.44	1.15	
19	0.36	1.84	3.26	1.75	2.16	7.38	81.92	6.74	2.95	1.84	1.44	1.15	
20	0.30	1.66	3.05	1.66	2.70	8.16	65.79	5.81	2.70	1.93	1.36	1.07	
21	0.30	1.62	2.90	1.66	3.16	99.02	163.05	4.98	2.60	1.75	1.44	1.07	
22	0.28	2.95	2.90	1.53	3.05	49.24	253.04	4.41	2.50	1.75	1.44	1.07	
23	0.28	2.90	2.70	1.53	2.90	25.35	331.15	4.81	2.50	1.75	1.62	1.07	
24	0.22	3.42	2.70	1.53	2.95	24.13	519.48	4.02	2.45	1.75	1.53	1.15	
25	0.22	3.16	2.70	1.53	3.05	23.53	838.98	3.85	2.50	1.75	1.53	1.07	
26	0.17	2.60	2.60	1.53	3.26	62.14	553.71	4.02	2.45	1.66	1.44	1.07	
27	0.17	2.60	2.60	2.16	11.61	35.70	331.15	3.85	2.45	1.66	1.53	0.99	
28	0.17	58.55	2.60	2.02	22.93	21.15	216.80	3.53	2.35	1.66	1.53	0.99	
29	0.12	77.26	2.45	1.93	41.84	17.15	155.55	3.63	2.35	1.66	1.44	0.99	
30	0.12	34.00	2.35	1.93	43.64	17.71	117.15	3.42	2.35	1.62		0.99	
31		9.50		2.02	160.54		69.26		2.50	1.62		0.99	
Total	14.29	220.08	466.12	59.00	335.39	1175.95	10147.17	372.95	89.98	62.29	45.03	37.10	13025.35 Ton
Mean	0.48	7.10	15.54	1.90	10.82	39.20	327.33	12.43	2.90	2.01	1.55	1.20	
Max	1.15	77.26	170.63	2.26	160.54	287.89	941.45	55.01	3.53	2.70	1.75	1.62	941.45
Min	0.12	0.00	2.35	1.53	1.62	6.49	18.27	3.42	2.35	1.62	1.36	0.99	0.00

WATER YEAR 1991

PING RIVER BASIN

Khlong Suan Mak at Ban Pong Nam Ron, Kamphaeng Phet (P.47)

Location	Lat. 16-20-03 N., Long. 99-16-29 E., on right bank at Ban Pong Nam Ron, Amphoe Khlong Lan, Kamphaeng Phet.
Drainage Area	521 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1988 - Cont'd
Actual Measurement	1988 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1988 - 1991

RID Computer Center, Processing : 9-JUN-1993 13:42:02.82

LQS/LQS02D/12

Station - Ban Pong Nam Ron, Khlong Lan, Kamphaeng Phet, (P.47)
Stream - Khlong Suan Mak
River - Ping
River System - Ping River

Royal Irrigation Department
Thailand
Hydrology Division

QS = 0.5469 QW 1.72585

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.05	0.41	2.48	3.04	3.23	15.72	43.05	22.78	2.66	1.37	0.75	0.30	
2	0.03	0.21	3.04	2.30	3.85	14.50	22.78	18.28	2.48	1.66	0.68	0.21	
3	0.05	0.14	3.43	2.30	4.41	9.72	124.13	15.72	2.30	1.81	0.54	0.21	
4	0.05	0.17	3.85	1.97	3.23	7.47	44.54	13.32	2.30	1.81	0.54	0.21	
5	0.05	0.17	5.11	2.30	3.04	7.47	102.96	12.22	2.30	1.81	0.47	0.17	
6	0.05	0.36	4.07	2.30	2.66	6.64	38.93	15.10	2.13	1.51	0.47	0.17	
7	0.05	0.14	3.43	1.66	2.84	5.11	26.92	10.20	2.13	1.37	0.41	0.17	
8	0.03	0.14	3.43	1.51	2.48	4.75	29.09	9.25	2.13	1.37	0.41	0.14	
9	0.11	0.86	2.48	1.23	2.30	4.07	18.95	8.34	1.97	1.23	0.36	0.14	
10	0.03	2.66	3.23	1.97	2.30	3.43	17.62	7.47	1.81	1.23	0.36	0.11	
11	0.03	3.85	5.11	1.97	4.75	4.07	18.28	7.05	1.81	1.10	0.30	0.11	
12	0.03	1.81	5.85	1.66	5.85	11.70	35.10	6.64	1.81	1.10	0.30	0.11	
13	0.02	1.10	3.85	1.23	7.05	9.25	40.25	5.85	1.66	1.10	0.25	0.11	
14	0.02	3.23	3.43	0.86	10.20	5.85	57.22	5.48	1.66	0.98	0.21	0.09	
15	0.03	1.51	3.43	0.98	12.75	4.75	61.01	5.48	1.66	0.98	0.21	0.09	
16	0.21	9.25	2.48	1.10	10.69	3.85	32.64	5.11	1.66	0.98	0.21	0.07	
17	0.21	3.23	1.81	1.10	10.20	3.43	22.78	4.41	1.66	0.98	0.21	0.07	
18	0.09	1.81	3.43	0.98	8.34	14.50	263.07	4.07	1.51	0.86	0.21	0.07	
19	0.07	0.98	16.98	0.86	55.57	7.90	64.90	3.85	1.51	0.86	0.21	0.07	
20	0.07	0.47	13.32	0.68	87.11	16.98	46.05	3.85	1.51	0.86	0.17	0.05	
21	0.14	0.68	7.47	0.60	46.05	26.92	64.90	3.43	1.51	0.86	0.17	0.05	
22	0.17	5.11	4.41	0.68	24.81	29.09	171.97	3.43	1.51	0.75	0.17	0.05	
23	1.81	12.22	3.43	0.86	16.34	16.98	218.18	3.43	1.51	0.75	0.17	0.05	
24	0.54	2.84	4.41	1.10	12.75	14.50	526.75	3.23	1.51	0.75	0.14	0.05	
25	0.21	1.37	3.85	1.51	10.69	12.22	318.27	3.23	1.37	0.75	0.14	0.05	
26	0.11	2.84	5.85	1.51	10.20	13.90	156.18	3.23	1.37	0.68	0.36	0.05	
27	0.17	5.85	7.90	5.48	10.20	18.95	102.96	3.04	1.23	0.68	0.25	0.03	
28	0.14	23.79	7.90	5.85	13.32	29.09	70.92	3.04	1.23	0.68	0.17	0.03	
29	0.47	6.64	5.48	4.07	21.80	15.10	50.72	2.84	1.23	0.68	0.17	0.03	
30	0.68	2.30	3.85	5.85	77.17	44.54	37.64	2.66	1.37	0.68		0.02	
31		1.37		4.07	29.09		30.25		1.37	0.68		0.02	
Total	5.72	97.51	148.79	63.58	515.27	382.45	2859.01	216.03	53.87	32.91	9.01	3.10	4387.25 Ton
Mean	0.19	3.15	4.96	2.05	16.62	12.75	92.23	7.20	1.74	1.06	0.31	0.10	
Max	1.81	23.79	16.98	5.85	87.11	44.54	526.75	22.78	2.66	1.81	0.75	0.30	526.75
Min	0.02	0.14	1.81	0.60	2.30	3.43	17.62	2.66	1.23	0.68	0.14	0.02	0.02

WATER YEAR 1991

WANG RIVER BASIN

Wang River at Ban Wang Man, Tak (W.4A)

Location	Lat. 17-12-22 N., Long. 99-06-08 E., on right bank about 200 meters upstream from the bridge on highway, Amphoe Sam Ngao, Tak.
Drainage Area	10,507 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1989 - Cont'd
Actual Measurement	1989 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1989 - 1991

RID Computer Center, Processing : 9-JUN-1993 13:42:12.01 LQS/LQS02D/12

Station - Ban Wang Man, Sam Ngao, Tak, (W.4A)
Stream - Wang
River - Wang
River System - Wang River

Royal Irrigation Department
Thailand
Hydrology Division
1.10963
QS = 4.8583 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	11.65	7.62	7.06	3.79	4.06	1524.29	171.32	255.07	48.14	23.88	18.27	17.66	
2	11.65	7.06	5.40	3.53	3.53	1702.22	311.45	255.07	48.14	23.25	18.27	20.13	
3	11.65	6.50	4.86	3.53	2.76	1363.92	337.17	246.71	53.24	22.62	17.66	32.21	
4	11.65	5.40	4.32	4.86	1.76	1321.17	366.38	210.83	49.16	22.62	17.66	33.51	
5	11.65	4.32	5.95	6.50	0.81	961.71	406.25	185.17	47.13	23.88	21.37	32.86	
6	11.65	4.06	11.65	6.50	0.00	541.82	325.71	155.30	46.12	24.51	22.62	30.27	
7	11.65	3.79	9.90	4.59	0.00	343.32	305.76	139.44	46.12	24.51	24.51	26.42	
8	12.24	3.53	11.65	3.53	0.00	280.30	302.92	129.34	43.10	28.34	25.78	23.88	
9	13.43	3.27	11.07	3.79	0.00	300.09	274.68	127.47	40.10	31.56	23.88	22.00	
10	14.03	3.53	10.48	3.53	0.00	343.32	294.42	116.36	38.77	31.56	22.00	21.37	
11	13.43	5.95	12.83	3.27	0.00	382.95	399.58	123.76	38.11	28.98	20.13	18.89	
12	12.83	6.50	11.07	2.25	0.00	474.40	688.33	166.73	36.79	27.06	18.89	18.27	
13	12.83	6.50	10.48	1.52	0.00	507.57	1302.90	185.17	34.82	25.78	18.89	17.66	
14	12.83	6.50	8.75	1.04	0.00	559.02	1054.86	150.75	33.51	25.15	18.27	17.05	
15	12.83	5.95	7.62	0.81	0.00	673.83	698.01	112.67	32.86	23.88	18.27	14.63	
16	11.07	4.86	5.95	0.17	0.00	736.86	516.11	96.25	32.86	22.00	17.66	13.43	
17	9.90	3.53	5.95	0.00	0.00	731.99	399.58	85.45	32.21	20.75	17.66	12.83	
18	9.33	3.53	5.95	0.38	0.00	673.83	340.04	78.33	31.56	20.75	16.44	12.24	
19	8.18	4.06	7.06	0.00	0.00	589.26	257.86	81.88	30.91	20.13	15.23	11.07	
20	8.75	3.27	7.06	0.00	0.00	490.54	210.83	89.04	30.27	19.51	15.23	11.65	
21	9.90	2.50	6.50	0.00	37.45	369.69	220.24	85.45	28.98	19.51	15.83	12.24	
22	9.33	2.50	5.95	0.00	157.58	482.04	263.46	85.45	29.62	19.51	17.05	12.83	
23	8.75	2.50	4.86	0.00	346.60	396.25	322.85	81.88	28.98	19.51	17.66	12.83	
24	8.75	2.50	4.59	0.00	428.85	243.93	328.57	78.33	28.34	20.13	17.66	14.63	
25	9.90	2.00	4.32	0.00	328.57	241.16	340.04	103.52	27.06	20.75	17.05	14.63	
26	10.48	2.50	4.32	0.00	266.26	260.66	314.30	99.88	26.42	20.75	17.66	12.83	
27	9.33	4.06	4.32	0.00	194.46	213.18	271.87	73.02	25.15	20.13	17.05	12.24	
28	8.75	4.86	4.59	0.17	137.19	166.73	238.38	58.38	24.51	19.51	17.05	12.83	
29	8.18	7.62	4.59	5.95	127.47	146.22	255.07	54.26	23.88	18.89	16.44	11.65	
30	7.62	8.75	4.59	7.62	208.48	164.43	266.26	50.17	23.25	18.89		10.48	
31		8.18		4.86	455.37		257.86		22.62	18.27		9.33	
Total	324.22	147.70	213.69	72.19	2701.20	17186.70	12043.06	3761.13	1082.73	706.57	542.14	544.55	39325.89 Ton
Mean	10.81	4.76	7.12	2.33	87.14	572.89	388.49	125.37	34.93	22.79	18.69	17.57	
Max	14.03	8.75	12.83	7.62	455.37	1702.22	1302.90	255.07	53.24	31.56	25.78	33.51	1702.22
Min	7.62	2.00	4.32	0.00	0.00	146.22	171.32	50.17	22.62	18.27	15.23	9.33	0.00

WATER YEAR 1991

WANG RIVER BASIN

Wang River at Ban Hai, Lampang (W.16)

Location	Lat. 18-48-12 N., Long. 99-38-45 E., on right bank at Ban Hai, Amphoe Chae Hom Lampang.
Drainage Area	1,284 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1986 - Cont'd
Actual Measurement	1986 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1986 - 1990

RID Computer Center, Processing : 9-JUN-1993 13:42:33.88

LQS/LQS02D/12

Station - Ban Hai, Chae Hom, Lampang, (W.16)
Stream - Wang
River - Wang
River System - Wang River

Royal Irrigation Department
Thailand
Hydrology Division 030792
1.70565
QS = 2.6951 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.01	0.69	0.88	0.39	1.73	507.76	480.37	62.23	16.47	3.42	0.88	1.47	
2	0.22	0.43	0.69	0.43	5.02	403.10	290.25	50.90	15.61	3.42	0.88	1.23	
3	0.43	0.39	0.56	0.39	3.94	304.41	304.41	47.84	15.61	2.93	0.77	1.00	
4	0.39	0.27	1.23	0.27	3.17	137.31	556.46	67.36	14.85	2.25	0.77	0.88	
5	1.10	0.19	88.60	0.27	3.68	133.59	480.37	172.65	14.12	2.04	0.77	0.77	
6	1.33	0.19	156.53	0.22	2.47	489.43	597.09	152.60	13.30	2.04	0.77	0.61	
7	1.23	0.13	462.46	0.22	2.47	1257.04	719.01	100.61	13.30	2.70	0.77	0.56	
8	1.10	0.11	55.64	0.22	2.25	1498.99	707.46	77.22	11.91	1.84	0.77	0.43	
9	0.77	0.11	27.46	0.27	1.84	695.98	356.13	63.92	11.24	1.84	0.69	0.33	
10	0.56	0.14	27.46	0.33	1.84	684.58	206.83	57.26	10.58	1.84	0.61	0.33	
11	0.33	0.14	16.47	0.27	2.47	2364.18	152.60	52.46	8.64	1.84	0.61	0.27	
12	0.22	0.19	10.58	0.19	2.70	2670.07	148.72	50.90	7.21	1.84	0.61	0.27	
13	0.14	0.22	6.27	0.14	3.94	1030.28	113.25	47.84	6.73	1.73	0.61	0.22	
14	0.13	0.14	3.94	0.22	7.21	546.49	80.00	44.86	6.27	1.73	0.61	0.22	
15	35.05	0.13	2.70	0.33	14.12	462.46	60.55	39.13	6.27	1.73	0.56	0.22	
16	0.11	0.13	1.58	0.39	60.55	348.54	52.46	36.39	4.61	1.58	0.49	0.19	
17	0.11	0.14	1.33	1.47	371.52	249.47	43.40	35.05	5.02	1.58	0.56	0.14	
18	0.11	0.88	1.23	1.73	363.79	311.59	41.95	32.44	4.61	1.58	0.49	0.13	
19	0.11	1.00	2.25	1.33	242.92	333.55	40.53	31.16	4.22	1.73	0.49	0.13	
20	0.09	1.23	3.17	8.64	326.16	326.16	63.92	28.67	3.94	1.58	0.43	0.13	
21	0.09	5.82	1.84	6.73	403.10	230.05	168.56	28.67	3.68	1.58	0.43	0.13	
22	0.08	4.22	1.47	2.93	189.42	211.28	444.83	26.27	3.42	1.47	0.43	0.13	
23	0.08	3.68	1.10	2.25	123.14	185.17	379.32	25.10	3.17	1.33	0.49	0.13	
24	0.07	3.42	1.10	2.25	172.65	480.37	269.54	24.07	2.93	1.23	0.49	0.13	
25	0.11	2.47	1.00	2.70	137.31	526.77	262.78	23.06	2.93	1.33	0.61	0.13	
26	0.13	2.04	0.77	1.84	236.45	276.37	156.53	21.08	2.93	1.47	1.00	0.11	
27	0.11	3.17	0.69	1.84	566.51	160.50	144.87	21.08	3.17	1.47	1.73	0.11	
28	0.09	1.33	0.69	1.47	172.65	116.51	256.09	18.26	3.68	1.33	1.73	0.09	
29	1.00	1.10	0.56	1.47	333.55	168.56	164.51	17.35	4.61	1.23	1.47	0.09	
30	1.58	2.25	0.49	1.58	536.59	898.41	119.80	17.35	4.61	1.23		0.08	
31		1.58		1.58	755.08		80.00		4.22	1.00		0.09	
Total	46.88	37.93	880.74	44.36	5050.24	18008.97	7942.59	1473.78	233.86	55.91	21.52	10.75	33807.53 Ton
Mean	1.56	1.22	29.36	1.43	162.91	600.30	256.21	49.13	7.54	1.80	0.74	0.35	
Max	35.05	5.82	462.46	8.64	755.08	2670.07	719.01	172.65	16.47	3.42	1.73	1.47	2670.07
Min	0.01	0.11	0.49	0.14	1.73	116.51	40.53	17.35	2.93	1.00	0.43	0.08	0.01

WATER YEAR 1991

YOM RIVER BASIN

Yom River at Ban Ngao Sak, Phrae (Y.20)

Location	Lat. 18-35-03 N., Long. 100-09-17 E., on left bank about 1 kilometer downstream from Sop Ngao, Tambon Tao Poon, Amphoe Song, Phrae.
Drainage Area	5,410 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1983 - Cont'd
Actual Measurement	1983 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1984 - 1991

RID Computer Center, Processing : 9-JUN-1993 13:42:42.60

LQS/LQS02D/12

Station - Ban Ngao Sak, Song, Phrae, (Y.20)
Stream - Yom
River - Yom
River System - Yom River

Royal Irrigation Department
Thailand
Hydrology Division 030792
1.98917
QS = 0.1975 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.2	4.5	62.0	11.2	16.3	1647.4	3089.5	281.4	51.5	9.5	5.7	13.6	
2	0.2	3.4	51.5	9.5	113.6	2790.7	1550.8	246.2	51.5	9.5	5.7	10.0	
3	0.4	2.8	39.8	7.9	92.4	2370.9	1696.8	226.2	49.1	9.5	5.2	7.9	
4	0.7	2.3	62.0	6.5	477.1	1457.1	1303.3	232.8	46.7	10.0	4.9	7.4	
5	0.9	2.0	7385.9	6.1	246.2	2271.3	1247.8	253.1	44.3	8.4	4.9	5.7	
6	1.3	2.0	11170.0	9.5	113.6	3127.9	1398.5	253.1	42.0	7.9	5.2	5.7	
7	1.3	1.8	3607.2	11.8	76.5	2404.6	2141.8	226.2	39.8	7.9	4.9	4.9	
8	1.1	9.5	1021.3	8.4	76.5	1772.2	1954.5	194.8	37.6	8.4	4.5	4.1	
9	0.9	10.0	267.1	7.0	246.2	2110.0	1341.0	171.3	35.5	9.5	4.1	3.4	
10	0.7	166.8	288.7	6.5	177.1	9429.5	940.1	158.0	29.6	9.5	4.1	3.1	
11	0.6	303.6	253.1	5.7	117.3	17112.6	584.6	145.1	31.5	9.5	4.5	3.1	
12	0.5	92.4	194.8	5.7	99.3	8455.5	523.5	128.9	25.9	11.2	4.9	3.1	
13	0.4	54.1	117.3	4.9	99.3	2938.2	649.0	102.8	24.1	6.5	3.4	3.1	
14	0.3	19.3	79.6	4.5	260.0	2864.0	635.8	102.8	16.3	6.5	3.4	2.8	
15	0.3	17.8	46.7	4.5	360.4	3817.0	390.6	85.9	13.6	6.5	3.8	2.5	
16	0.3	49.1	20.8	17.8	1123.0	4481.5	267.1	85.9	12.4	6.5	3.8	2.5	
17	0.3	17.8	22.5	51.5	5051.3	3244.6	322.0	70.5	11.8	6.5	3.4	2.3	
18	0.3	0.0	14.9	39.8	7385.9	8935.9	972.2	82.7	11.2	6.1	3.4	2.5	
19	0.2	82.7	12.4	62.0	5785.0	7093.6	559.8	64.8	11.2	6.5	3.4	2.5	
20	0.2	226.2	10.6	99.3	1480.3	3607.2	535.5	62.0	10.6	6.5	3.8	2.8	
21	0.2	46.7	8.9	54.1	1266.2	4762.2	2337.5	59.3	8.9	6.5	3.4	2.5	
22	7.9	113.6	7.4	37.6	1322.1	4032.6	1772.2	64.8	8.9	7.0	3.4	2.3	
23	42.0	106.3	7.0	22.5	1303.3	2370.9	1360.0	73.5	9.5	7.4	3.4	2.5	
24	20.8	62.0	7.4	19.3	1037.9	2047.1	1437.4	70.5	9.5	7.0	3.1	2.3	
25	11.8	49.1	7.0	59.3	1360.0	1598.7	1158.0	67.6	8.4	6.5	3.1	2.0	
26	10.0	39.8	8.4	70.5	3648.7	1105.7	744.8	64.8	7.9	6.1	4.5	2.0	
27	7.0	62.0	18.5	70.5	4527.7	2827.3	597.2	62.0	7.4	6.5	6.5	2.0	
28	5.2	22.5	17.0	46.7	3945.6	3013.4	1457.1	59.3	7.0	6.5	10.6	2.0	
29	5.2	24.1	14.3	27.7	2438.5	4164.8	893.0	56.7	7.9	6.1	16.3	1.5	
30	5.2	82.7	12.4	18.5	2938.2	2790.7	535.5	54.1	8.9	6.1		1.5	
31		132.9		15.6	2238.6		360.4		10.0	6.1		1.3	
Total	126.4	1809.8	24836.5	822.4	49424.1	120645.1	34757.3	3807.1	690.5	234.2	141.3	114.9	237409.6 Ton
Mean	4.2	58.4	827.9	26.5	1594.3	4021.5	1121.2	126.9	22.3	7.6	4.9	3.7	
Max	42.0	303.6	11170.0	99.3	7385.9	17112.6	3089.5	281.4	51.5	11.2	16.3	13.6	17112.6
Min	0.2	0.0	7.0	4.5	16.3	1105.7	267.1	54.1	7.0	6.1	3.1	1.3	0.0

WATER YEAR 1991

NAN RIVER BASIN

Nan River at Nan, Nan (N.1)

Location	Lat. 18-46-23 N., Long. 100-46-51 E., on right bank infront of forestry office, Amphoe Muang, Nan.
Drainage Area	4,609 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1982 - Cont'd
Actual Measurement	1982 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1982 - 1990

RID Computer Center, Processing : 9-JUN-1993 13:49:31.21

LQS/LQS02D/12

Station - Forestry Offiec, Muang, Nan, (N.1)
Stream - Nan
River - Nan
River System - Nan River

Royal Irrigation Department
Thailand
Hydrology Division 030792
2.10063
QS = 0.0499 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.4	6.0	51.5	194.6	1094.2	5277.1	1524.0	204.3	55.2	23.7	6.0	15.2	
2	1.8	5.5	42.4	130.9	1561.8	4643.3	1247.5	194.6	62.9	22.2	6.0	8.6	
3	6.6	5.5	36.2	248.3	4212.9	3807.8	1035.9	175.9	66.9	23.7	6.0	6.0	
4	6.6	5.0	36.2	3863.8	2097.5	3061.7	1184.9	166.9	58.9	25.3	4.6	6.0	
5	7.1	5.5	42.4	797.3	1247.5	5610.0	1154.3	166.9	48.0	27.0	3.6	4.6	
6	7.1	15.6	106.3	386.7	951.5	5442.2	897.3	166.9	48.0	25.3	3.6	3.9	
7	6.6	22.2	310.9	248.3	870.8	3874.1	730.3	141.5	55.2	23.7	3.3	3.6	
8	3.2	36.2	248.3	194.6	2945.8	2776.1	630.4	133.5	51.5	20.6	3.1	3.6	
9	2.9	125.8	353.1	160.4	2372.7	4797.8	538.1	125.8	48.0	17.8	3.1	3.1	
10	2.6	458.5	681.7	136.2	3180.3	5525.8	486.4	125.8	48.0	16.5	3.3	3.1	
11	1.8	599.7	353.1	106.3	1638.8	9314.2	437.5	141.5	44.6	16.5	3.3	3.1	
12	1.5	209.2	224.4	327.5	1184.9	6218.3	407.5	133.5	44.6	13.9	3.1	3.1	
13	1.4	65.1	160.4	340.2	2053.3	3742.5	421.8	125.8	48.0	11.6	2.8	3.6	
14	1.4	38.2	256.5	689.4	7832.7	4876.0	379.8	104.0	44.6	10.6	2.8	3.6	
15	1.5	25.3	300.8	1154.3	8981.6	3874.1	290.9	93.9	44.6	10.6	2.8	3.3	
16	1.5	25.3	166.9	1216.0	7337.6	4282.8	279.2	89.1	44.6	9.6	2.8	3.3	
17	1.5	23.7	101.7	1486.7	8449.2	3486.8	279.2	84.4	35.2	9.6	2.5	3.1	
18	1.8	30.5	68.3	1216.0	4282.8	4075.7	407.5	79.8	35.2	9.6	2.3	2.8	
19	1.7	111.0	51.5	924.2	2888.4	2279.0	503.4	75.4	32.4	9.6	2.1	2.8	
20	1.7	74.9	46.9	844.8	2053.3	7240.6	407.5	75.4	32.4	9.6	2.1	2.8	
21	2.0	180.5	42.4	1124.0	1758.0	4954.9	751.2	71.1	29.6	9.6	2.5	2.5	
22	10.9	216.7	40.3	772.4	1839.9	3362.3	1007.3	66.9	27.0	10.6	2.3	2.3	
23	58.9	1961.1	38.2	1638.8	1413.5	2776.1	689.4	66.9	25.3	9.6	2.8	2.3	
24	19.2	458.5	353.1	6307.8	3677.8	2420.3	503.4	71.1	23.7	9.6	2.3	2.3	
25	10.2	154.0	2036.9	2420.3	8241.0	2372.7	437.5	71.1	25.3	10.6	2.3	1.9	
26	7.1	81.8	700.3	1798.7	9314.2	1678.1	407.5	66.9	25.3	8.6	2.5	2.5	
27	6.0	58.9	458.5	1344.4	15858.6	1717.8	421.8	62.9	25.3	6.8	15.2	3.3	
28	6.6	136.2	458.5	1124.0	10769.1	1678.1	407.5	62.9	23.7	6.0	71.1	2.1	
29	7.7	81.8	353.1	897.3	7435.3	1561.8	327.5	62.9	27.0	6.8	32.4	1.7	
30	6.0	68.3	248.3	819.1	6672.9	1881.6	279.2	58.9	27.0	6.8		1.9	
31		53.9		819.1	5442.2		256.5		23.7	7.7		2.1	
Total	196.3	5340.4	8369.1	33732.4	139660.1	118609.6	18732.2	3266.5	1231.7	429.7	202.6	114.1	329884.7 Ton
Mean	6.5	172.3	279.0	1088.1	4505.2	3953.7	604.3	108.9	39.7	13.9	7.0	3.7	
Max	58.9	1961.1	2036.9	6307.8	15858.6	9314.2	1524.0	204.3	66.9	27.0	71.1	15.2	15858.6
Min	1.4	5.0	36.2	106.3	870.8	1561.8	256.5	58.9	23.7	6.0	2.1	1.7	1.4

WATER YEAR 1991

NAN RIVER BASIN

Nan River at Phitsanulok, Phitsanulok (N.5A)

Location	Lat. 16-49-15 N., Long. 100-15-49 E., on left bank near the post office and about 1 kilometer upstream from gaging station N.5, Amphoe Muang, Phitsanulok.
Drainage Area	25,286 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1978 - Cont'd
Actual Measurement	1978 - Cont'd
Remarks	Continued Sediment Station
	Using Rating Curve Water Year 1978 - 1990

RID Computer Center, Processing : 9-JUN-1993 13:49:19.55

LQS/LQS02D/12

Station - Muang, Muang, Phitsanulok, (N.5A)
Stream - Nan
River - Nan
River System - Nan River

Royal Irrigation Department
Thailand
Hydrology Division
1.88331
QS = 0.0862 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2815.4	1592.7	961.8	458.1	2575.9	11347.6	1284.3	441.9	703.2	104.6	683.4	916.1	
2	1560.3	1592.7	743.7	203.4	2533.2	11454.2	1297.6	370.0	625.5	221.1	426.0	588.2	
3	1914.1	466.3	713.2	199.1	2705.8	7379.1	1627.0	441.9	723.3	207.8	244.2	199.1	
4	3545.9	1155.1	654.1	625.5	2344.4	5738.3	2448.9	288.5	1180.4	244.2	139.6	309.3	
5	4436.0	1822.9	938.8	795.7	2470.9	3793.8	2749.8	169.0	1680.0	152.3	118.6	683.4	
6	3907.1	806.3	1180.4	1020.4	996.8	3289.8	2596.3	169.0	1509.1	186.4	203.4	774.7	
7	3545.9	381.5	1068.5	1433.8	1180.4	2929.1	2009.2	381.5	996.8	179.3	320.0	508.3	
8	3468.1	916.1	1406.1	358.6	1142.5	2448.9	1351.3	663.8	1092.9	86.3	552.0	375.7	
9	1493.3	1419.9	1560.3	203.4	1351.3	2086.1	973.4	1284.3	1271.1	212.2	654.1	212.2	
10	2682.9	2047.5	1447.8	499.8	1663.4	1822.9	795.7	1080.7	961.8	278.4	579.1	107.3	
11	3600.6	2929.1	1105.2	733.4	1447.8	2662.2	703.2	663.8	893.6	253.8	194.8	358.6	
12	3600.6	2086.1	673.6	785.2	1392.3	5224.1	543.2	216.6	673.6	172.4	330.8	683.4	
13	2838.8	1297.6	426.0	644.5	683.4	5027.0	516.9	86.3	723.3	169.0	849.4	817.0	
14	1419.9	579.1	293.7	561.0	491.3	4932.6	663.8	91.4	713.2	88.8	985.0	882.5	
15	1392.3	827.8	190.6	410.3	1627.0	4467.7	743.7	158.9	753.9	212.2	1020.4	673.6	
16	458.1	1419.9	381.5	221.1	2618.9	3365.7	683.4	165.6	753.9	325.4	1130.0	402.6	
17	1878.8	1592.7	635.0	104.6	2029.2	2490.9	673.6	314.6	450.0	450.0	395.0	133.4	
18	3165.1	1020.4	370.0	395.0	2223.0	2223.0	663.8	309.3	364.2	482.9	110.1	336.3	
19	2794.1	882.5	182.9	298.8	5702.7	1989.3	693.2	212.2	588.2	375.7	410.3	860.4	
20	2185.1	561.0	309.3	288.5	12502.1	2125.1	1167.7	182.9	458.1	190.6	283.4	663.8	
21	1859.5	433.9	395.0	625.5	13230.5	1842.0	1284.3	426.0	336.3	99.2	375.7	733.4	
22	1822.9	516.9	370.0	1576.4	16726.5	1475.9	1020.4	1155.1	263.5	139.6	838.6	693.2	
23	806.3	1193.2	330.8	743.7	21329.0	1271.1	806.3	1130.0	320.0	381.5	733.4	474.6	
24	1231.8	1526.6	341.8	871.4	19917.2	1284.3	1080.7	927.4	182.9	616.1	375.7	124.4	
25	1680.0	2047.5	244.2	985.0	16657.9	1257.9	817.0	263.5	139.6	743.7	112.9	182.9	
26	1610.6	1733.8	169.0	1406.1	10512.3	1698.4	703.2	212.2	298.8	764.3	158.9	1231.8	
27	1447.8	1092.9	466.3	1526.6	5738.3	1610.6	927.4	268.4	336.3	733.4	579.1	1406.1	
28	1447.8	410.3	683.4	1142.5	3468.1	1542.6	827.8	352.9	298.8	283.4	723.3	1297.6	
29	927.4	450.0	597.4	860.4	6136.5	1592.7	441.9	579.1	203.4	258.6	860.4	860.4	
30	625.5	733.4	525.6	882.5	7048.6	1493.3	288.5	616.1	152.3	588.2		387.4	
31		973.4		1461.8	10410.0		336.3		79.0	683.4		158.9	
Total	66162.0	36509.1	19366.0	22322.1	180857.2	101866.2	32719.8	13622.9	19727.0	9884.8	14387.6	18036.6	535461.4 Ton
Mean	2205.4	1177.7	645.5	720.1	5834.1	3395.5	1055.5	454.1	636.4	318.9	496.1	581.8	
Max	4436.0	2929.1	1560.3	1576.4	21329.0	11454.2	2749.8	1284.3	1680.0	764.3	1130.0	1406.1	21329.0
Min	458.1	381.5	169.0	104.6	491.3	1257.9	288.5	86.3	79.0	86.3	110.1	107.3	79.0

WATER YEAR 1991

CHAO PHRAYA RIVER BASIN

Chao Phraya River at Nakhon Sawan, Nakhon Sawan (C.2)

Location	Lat. 15-40-15 N., Long. 100-06-45 E., on left bank at Khai Chira Prawat about 3 kilometers downstream from Dechatiwong Bridge, Amphoe Muang, Nakhon Sawan.
Drainage Area	110,569 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.P - 61
Period of Available Records	1960 - Cont'd
Actual Measurement	1962 - 1965, 1972, 1974 - Cont'd
Remarks	Continued Sediment Station
	Using Rating Curve Water Year 1991

RID Computer Center, Processing : 9-JUN-1993 13:42:53.38

LQS/LQS02D/12

Station - Nakhon Sawan, Muang, Nakhon Sawan, (C.2)
Stream - Chao Phraya
River - Chao Phraya
River System - Chao Phraya River

Royal Irrigation Department
Thailand
Hydrology Division

1.58822
QS = 0.1677 QW

Water Year - 1991

Suspended Sediment, in Hundred Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	25.20	13.44	8.60	5.77	8.07	141.89	97.71	56.37	34.12	5.85	9.95	13.71	
2	24.12	11.49	10.77	5.85	8.49	146.67	97.12	52.65	35.46	4.51	11.25	14.96	
3	22.66	12.11	11.00	5.61	11.86	151.51	95.95	50.17	33.87	4.44	12.11	14.26	
4	18.41	12.50	10.65	4.87	14.82	152.33	92.66	48.50	30.86	5.85	11.00	11.73	
5	19.79	10.29	9.49	3.56	16.40	154.77	89.00	49.48	28.44	6.82	8.39	8.49	
6	22.48	9.60	8.60	3.50	16.55	164.78	89.00	50.52	35.74	7.08	5.85	9.15	
7	26.10	11.61	8.71	5.23	16.40	169.89	89.51	48.50	40.94	7.27	6.46	11.37	
8	27.02	11.25	11.13	7.17	14.82	168.18	90.03	48.16	40.94	6.37	6.37	12.63	
9	27.96	8.07	13.17	8.39	11.98	162.25	90.56	47.19	34.64	5.31	7.86	12.50	
10	27.25	7.86	12.50	7.86	11.61	154.77	91.60	52.30	36.86	4.72	9.83	11.37	
11	22.30	10.42	13.71	5.94	11.86	138.77	89.51	57.14	36.58	6.55	11.13	9.15	
12	21.75	13.17	13.99	4.37	12.24	124.81	86.40	60.32	33.62	7.27	10.29	7.45	
13	25.42	17.28	12.90	4.51	13.71	116.00	81.32	57.53	29.64	8.07	7.86	10.07	
14	26.79	15.96	12.37	5.53	13.17	122.07	84.35	47.51	24.54	7.36	9.72	11.98	
15	23.69	13.04	11.49	5.85	11.73	129.05	95.95	40.94	23.48	6.20	11.86	13.58	
16	19.79	10.07	9.83	5.61	10.07	129.77	103.75	34.91	22.30	4.94	13.99	14.13	
17	17.59	8.39	8.17	5.23	13.71	122.07	102.52	33.62	19.96	5.08	15.25	13.99	
18	16.40	9.38	7.86	4.44	21.03	116.66	92.66	32.35	18.08	7.86	15.11	11.73	
19	16.11	11.37	8.60	3.00	27.25	111.38	78.81	30.86	13.58	9.15	11.73	9.72	
20	19.09	10.89	9.04	2.27	36.58	107.50	74.38	32.60	11.86	10.07	8.49	11.25	
21	22.12	9.95	7.36	2.88	52.30	106.23	77.82	32.60	13.04	9.49	9.49	12.37	
22	22.48	8.82	6.28	3.24	73.46	103.13	75.36	31.36	11.98	6.90	7.86	14.13	
23	19.61	7.17	6.37	3.63	89.00	101.90	75.36	31.61	11.61	4.72	10.53	14.82	
24	17.28	6.11	6.20	6.99	104.99	99.49	77.33	37.72	12.24	4.94	12.37	14.13	
25	13.71	7.45	5.85	8.49	115.34	98.30	78.81	39.16	10.53	8.71	12.63	11.25	
26	12.50	9.72	5.38	7.36	121.40	94.78	79.30	39.75	8.49	10.89	9.95	8.17	
27	14.13	11.73	4.79	7.45	124.13	93.19	81.32	36.86	8.07	12.50	7.45	12.11	
28	14.96	12.50	4.02	8.60	123.44	93.71	79.81	32.60	8.93	13.31	8.93	15.54	
29	14.41	12.24	3.63	9.26	121.40	98.30	76.34	27.73	9.49	12.63	11.73	18.75	
30	14.68	10.18	4.87	9.38	123.44	97.71	72.54	33.36	9.72	9.04		19.79	
31		7.97		8.28	132.68		64.07		7.66	9.38		17.44	
Total	615.80	332.03	267.33	180.12	1483.93	3771.86	2650.85	1274.37	697.27	233.28	295.44	391.72	12194.00 100Ton
Mean	20.53	10.71	8.91	5.81	47.87	125.73	85.51	42.48	22.49	7.53	10.19	12.64	
Max	27.96	17.28	13.99	9.38	132.68	169.89	103.75	60.32	40.94	13.31	15.25	19.79	169.89
Min	12.50	6.11	3.63	2.27	8.07	93.19	64.07	27.73	7.66	4.44	5.85	7.45	2.27

WATER YEAR 1991

PASAK RIVER BASIN

Pasak River at Ban Muang Nua, Saraburi (S.9)

Location	Lat. 14-37-33 N., Long. 101-01-00 E., on left bank at Ban Muang Nua railway bridge, Amphoe Kaeng Khoi, Saraburi.
Drainage Area	14,374 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1978 - Cont'd
Actual Measurement	1978 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1991

RID Computer Center, Processing : 9-JUN-1993 13:43:02.87 LQS/LQS02D/12

Station - Ban Muang Nua, Kaeng Khoi, Saraburi, (S.9)
Stream - Pasak
River - Pasak
River System - Pasak River

Royal Irrigation Department
Thailand
Hydrology Division 170792
1.31028
QS = 5.0296 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	41.4	35.0	193.3	361.2	130.5	24657.7	19256.6	828.9	156.7	113.7	89.5	45.8	
2	39.3	50.3	471.7	444.9	123.4	24529.6	20064.9	699.0	161.2	113.7	119.2	45.8	
3	33.0	54.9	336.0	384.9	130.5	24786.0	20710.5	605.2	161.2	113.7	105.5	43.6	
4	37.1	43.6	236.6	462.1	143.5	24721.8	21127.7	510.7	161.2	113.7	89.5	41.4	
5	45.8	39.3	384.9	540.5	130.5	24465.6	21127.7	452.5	161.2	198.1	86.9	41.4	
6	41.4	35.0	560.5	572.6	236.6	23960.1	20710.5	401.6	170.2	290.4	86.9	39.3	
7	41.4	33.0	909.2	410.9	352.1	23413.2	20003.9	368.5	170.2	384.9	83.0	39.3	
8	37.1	33.0	909.2	259.9	520.6	22864.5	19145.1	328.9	165.7	410.9	80.5	39.3	
9	28.9	26.9	661.1	550.5	550.5	22261.1	18180.6	297.4	170.2	290.4	76.7	37.1	
10	28.9	23.1	384.9	368.5	627.8	21542.1	17673.2	281.9	184.0	304.3	76.7	37.1	
11	28.9	35.0	384.9	259.9	686.3	21127.7	18121.0	251.5	179.4	251.5	74.2	37.1	
12	28.9	50.3	444.9	313.0	661.1	20361.2	17336.8	243.2	179.4	251.5	74.2	37.1	
13	28.9	52.6	481.4	384.9	540.5	19089.4	16011.4	236.6	184.0	266.6	70.5	33.0	
14	28.9	52.6	550.5	377.6	560.5	17559.4	14720.2	230.1	170.2	251.5	68.0	30.9	
15	28.9	50.3	640.2	304.3	462.1	16341.5	13250.6	217.1	156.7	230.1	64.4	30.9	
16	28.9	54.9	650.6	222.0	462.1	15470.6	11525.5	207.5	152.3	212.3	62.0	30.9	
17	26.9	52.6	650.6	188.7	550.5	14402.5	9970.9	202.8	152.3	202.8	57.3	30.9	
18	25.0	50.3	627.8	165.7	640.2	13823.7	9724.9	202.8	143.5	188.7	57.3	28.9	
19	25.0	50.3	582.7	143.5	1115.1	12784.5	8702.1	198.1	130.5	179.4	59.6	28.9	
20	25.0	64.4	500.9	134.8	1629.1	12022.1	6828.6	198.1	130.5	165.7	54.9	28.9	
21	25.0	83.0	401.6	152.3	1198.7	11377.5	5467.1	198.1	126.2	161.2	54.9	28.9	
22	30.9	83.0	304.3	130.5	1325.5	10612.1	4305.3	193.3	123.4	152.3	52.6	26.9	
23	26.9	83.0	297.4	116.4	1860.7	10058.5	3281.0	193.3	126.2	143.5	52.6	26.9	
24	28.9	102.8	259.9	113.7	2610.8	9891.4	2715.5	188.7	119.2	139.1	50.3	26.9	
25	28.9	139.1	212.3	126.2	3728.1	10222.2	2636.9	184.0	116.4	126.2	41.4	25.0	
26	28.9	113.7	776.3	126.2	5797.2	11148.2	2127.0	179.4	116.4	116.4	43.6	26.9	
27	28.9	92.1	1232.5	123.4	8895.2	12885.9	1882.1	170.2	113.7	109.5	41.4	28.9	
28	26.9	336.0	401.6	123.4	12477.4	14454.6	1670.6	170.2	113.7	109.5	43.6	28.9	
29	25.0	207.5	377.6	126.2	16781.2	16011.4	1405.0	165.7	109.5	105.5	45.8	30.9	
30	25.0	143.5	530.5	116.4	19372.9	16673.3	1165.1	161.2	113.7	100.1		26.9	
31		152.3		123.4	23535.0		1000.5		116.4	83.0		26.9	
Total	924.9	2423.4	15355.9	8228.5	107836.2	523519.4	351848.8	8766.5	4535.4	5880.2	1963.0	1031.6	1032313.8 Ton
Mean	30.8	78.2	511.9	265.4	3478.6	17450.6	11350.0	292.2	146.3	189.7	67.7	33.3	
Max	45.8	336.0	1232.5	572.6	23535.0	24786.0	21127.7	828.9	184.0	410.9	119.2	45.8	24786.0
Min	25.0	23.1	193.3	113.7	123.4	9891.4	1000.5	161.2	109.5	83.0	41.4	25.0	23.1

WATER YEAR 1991

PASAK RIVER BASIN

Lam Sonthi at Ban Na Som, Lop Buri (S.14)

Location	Lat. 15-13-24 N., Long. 101-16-51 E., on left bank at the bridge on road, Ban Na Som, Tambon Nong Yi To, Amphoe Chai Badan, Lop Buri.
Drainage Area	1,247 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1989 - Cont'd
Actual Measurement	1989 - Cont'd
Remarks	Continued Sediment Station
	Using Rating Curve Water Year 1989 - 1990

RID Computer Center, Processing : 9-JUN-1993 13:43:12.30

LQS/LQS02D/12

Station - Ban Na Som, Chai Badan, Lop Buri, (S.14)
Stream - Lam Sonthi
River - Pasak
River System - Pasak River

Royal Irrigation Department
Thailand
Hydrology Division
1.78139
QS = 12.7174 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	184.6	11.2	545.7	77.6	175.2	14013.6	21484.0	170.2	48.5	18.4	1.1	0.0	
2	17.1	4.2	271.1	283.3	82.7	13130.7	12729.3	119.7	38.4	23.2	0.3	0.1	
3	7.1	3.3	303.0	2812.1	28.4	3231.2	2623.8	97.1	31.0	29.7	0.9	0.2	
4	4.8	2.2	3259.6	607.2	19.5	1527.0	1248.7	82.7	23.2	17.1	2.2	1.6	
5	2.8	1.6	733.5	208.7	17.1	352.0	5063.1	88.4	27.1	20.6	4.8	0.9	
6	2.8	1.3	271.1	73.1	20.6	296.7	2074.7	71.2	32.7	38.4	7.1	0.1	
7	1.9	4.2	140.4	53.9	10.3	545.7	835.7	82.7	35.5	34.1	4.2	0.0	
8	1.3	27.1	198.8	170.2	13.4	459.4	2160.2	73.1	32.7	38.4	2.5	0.0	
9	1.1	12.7	119.7	75.6	8.9	487.1	576.7	77.6	38.4	21.7	1.1	0.0	
10	0.7	17.1	234.1	387.8	17.1	487.1	821.6	71.2	17.1	18.4	0.5	0.7	
11	0.7	25.6	53.9	184.6	17.1	556.4	3829.5	71.2	23.2	13.4	0.1	1.6	
12	0.7	37.0	365.7	50.1	11.2	365.7	2730.4	63.2	29.7	9.5	0.0	0.3	
13	0.5	10.3	148.3	46.9	19.5	1068.5	2317.7	55.6	18.4	12.7	0.1	1.1	
14	0.5	4.2	133.3	31.0	29.7	468.2	771.5	67.4	23.2	17.1	0.3	2.5	
15	0.5	7.6	77.6	20.6	63.2	1188.4	565.9	73.1	29.7	21.7	0.9	1.6	
16	0.7	43.3	37.0	24.4	37.0	3434.5	352.0	67.4	18.4	18.4	1.6	0.5	
17	0.9	28.4	25.6	20.6	19.5	1188.4	271.1	55.6	9.5	13.4	1.3	1.6	
18	2.5	10.3	18.4	21.7	28.4	330.9	1343.4	65.1	11.2	11.2	0.7	1.3	
19	2.5	5.9	13.4	50.1	1026.1	330.9	1762.0	59.6	20.6	14.3	0.2	0.1	
20	1.1	29.7	59.6	25.6	6382.6	234.1	771.5	48.5	20.6	13.4	0.1	0.9	
21	0.9	649.9	24.4	17.1	10073.7	2409.6	303.0	53.9	13.4	9.5	0.0	0.7	
22	0.7	358.8	23.2	14.3	2455.0	1527.0	245.6	45.3	11.2	6.4	0.0	0.1	
23	0.5	122.7	48.5	13.4	796.4	3799.0	310.4	38.4	14.3	4.2	0.0	0.1	
24	0.3	45.3	67.4	14.3	4618.1	10354.8	506.3	31.0	18.4	3.3	0.0	0.7	
25	0.3	28.4	32.7	10.3	1218.4	16009.6	783.9	25.6	23.2	5.3	0.1	1.6	
26	1.6	21.7	20.6	40.3	224.4	8051.6	283.3	20.6	13.4	10.3	0.2	0.2	
27	52.2	45.3	20.6	24.4	170.2	10294.9	184.6	28.4	15.1	12.7	0.0	0.3	
28	344.3	67.4	1682.1	18.4	1040.2	16547.8	148.3	38.4	19.5	10.3	0.0	1.9	
29	37.0	40.3	258.2	13.4	14224.7	8565.0	136.5	46.9	25.6	6.4	0.0	1.1	
30	11.8	34.1	597.4	34.1	17035.1	13264.2	179.5	55.6	32.7	4.2		0.2	
31		116.1		18.4	8357.2		97.1		23.2	2.5		0.1	
Total	684.4	1817.2	9784.9	5443.5	68240.9	134520.0	67511.3	1944.7	739.1	480.2	30.3	22.1	291218.6 Ton
Mean	22.8	58.6	326.2	175.6	2201.3	4484.0	2177.8	64.8	23.8	15.5	1.0	0.7	
Max	344.3	649.9	3259.6	2812.1	17035.1	16547.8	21484.0	170.2	48.5	38.4	7.1	2.5	21484.0
Min	0.3	1.3	13.4	10.3	8.9	234.1	97.1	20.6	9.5	2.5	0.0	0.0	0.0

WATER YEAR 1991

KHONG RIVER BASIN

Huai Bang I at Ban Non Yang, Muk Dahan (KH.79)

Location	Lat.16-28-49 N., Long. 104-20-08 E., on right bank at the bridge on highway, Ban Non Yang, Amphoe Kham Cha I, Muk Dahan.
Drainage Area	110 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1986 - Cont'd
Actual Measurement	1986 - Cont'd
Remarks	Continued Sediment Station
	Using Rating Curve Water Year 1986 - 1990

RID Computer Center, Processing : 9-JUN-1993 13:44:31.40 LQS/LQS02D/12

Station - Ban Non Yang, K.A. Nong Sung, Muk Dahan, (KH.79)
Stream - Huai Bang I
River - Khong
River System - Khong River

Royal Irrigation Department
Thailand
Hydrology Division
1.42533
QS = 6.8058 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.68	2.39	23.84	70.18	9.35	144.71	75.70	8.00	4.26	2.98	2.11	1.59	
2	2.68	2.39	9.35	32.42	8.41	60.66	124.40	8.00	4.26	2.98	2.11	1.84	
3	2.68	2.39	5.31	15.11	8.00	2052.78	316.87	7.59	4.26	2.98	2.11	1.34	
4	2.68	2.98	20.26	10.99	8.00	18220.41	186.41	7.59	3.93	2.98	2.11	1.34	
5	2.68	2.98	20.26	9.35	6.04	989.42	41.08	7.59	3.93	3.29	1.84	1.59	
6	2.68	2.68	11.56	7.59	520.35	286.80	28.93	7.59	3.93	3.29	1.84	1.59	
7	2.68	2.68	6.81	6.42	45.63	149.08	23.84	7.20	3.93	3.29	2.11	1.34	
8	2.68	2.39	84.19	8.83	22.86	99.37	19.60	7.20	3.93	3.29	1.84	1.34	
9	2.68	2.39	38.13	7.20	15.73	67.47	17.63	6.81	3.60	3.29	2.11	1.34	
10	2.68	2.39	9.89	6.42	12.13	60.66	16.36	6.81	3.60	2.98	2.11	1.34	
11	2.68	2.39	7.59	6.81	10.44	51.91	17.63	6.42	3.60	2.98	2.11	1.11	
12	2.68	2.39	5.67	5.67	8.83	38.13	18.93	6.42	3.60	2.98	2.11	1.11	
13	2.68	2.39	4.60	8.83	8.00	35.24	14.50	6.04	3.60	2.98	2.11	1.11	
14	2.68	2.68	3.60	10.44	42.58	31.04	15.11	6.04	3.93	2.68	2.39	1.11	
15	2.68	2.39	3.29	9.89	33.82	27.89	19.60	6.04	3.60	2.68	2.11	1.34	
16	2.68	2.39	3.29	18.28	269.19	29.98	16.99	5.67	3.29	2.68	2.11	1.34	
17	2.39	2.39	2.98	8.41	36.68	23.84	13.90	5.67	3.29	2.68	1.59	1.11	
18	2.39	2.39	2.98	6.81	6924.61	20.26	12.71	5.67	2.98	2.68	1.84	1.34	
19	2.39	2.39	2.98	6.04	1614.66	18.28	17.63	5.67	3.29	2.68	1.84	1.34	
20	2.39	2.39	2.68	668.97	373.19	51.91	18.28	5.67	3.29	2.39	1.84	1.34	
21	2.39	2.68	2.68	39.60	87.08	22.86	12.13	5.31	4.60	2.39	1.84	1.34	
22	2.39	2.39	2.68	42.58	75.70	18.93	11.56	5.31	3.60	2.39	1.84	1.34	
23	2.39	2.39	2.39	67.47	67.47	17.63	10.44	5.31	3.29	2.39	1.84	1.59	
24	2.39	2.39	2.98	298.72	166.93	16.36	10.44	4.95	3.29	2.39	1.59	1.34	
25	2.39	2.39	23.84	35.24	54.06	41.08	9.89	4.95	3.29	2.39	1.59	1.34	
26	2.39	2.39	202.23	20.94	28.93	24.84	9.35	4.95	2.98	2.39	1.59	1.11	
27	2.39	2.68	16.99	166.93	67.47	24.84	8.83	4.95	2.98	2.11	1.59	1.11	
28	2.39	2.68	13.30	22.86	45.63	20.94	8.83	4.60	2.98	2.11	1.59	1.34	
29	2.39	2.98	75.70	17.63	360.44	15.73	8.41	4.60	2.98	2.11	1.34	1.11	
30	2.39	2.98	18.28	14.50	153.49	17.63	8.41	4.60	2.98	2.11		1.11	
31		2.68		12.13	900.64		8.00		2.98	2.11		1.11	
Total	76.34	78.48	630.33	1663.26	11986.34	22680.68	1122.39	183.22	110.05	83.65	55.15	40.74	38710.63 Ton
Mean	2.54	2.53	21.01	53.65	386.66	756.02	36.21	6.11	3.55	2.70	1.90	1.31	
Max	2.68	2.98	202.23	668.97	6924.61	18220.41	316.87	8.00	4.60	3.29	2.39	1.84	18220.41
Min	2.39	2.39	2.39	5.67	6.04	15.73	8.00	4.60	2.98	2.11	1.34	1.11	1.11

WATER YEAR 1991

CHI RIVER BASIN

Chi River at Ban Tha Phra, Khon Kaen (E.16A)

Location	Lat. 16-21-14 N., Long. 102-45-09 E., on left bank about 400 meters upstream from the bridge of Khon Kaen-Maha Sarakham Highway, Tambon Don Han, Amphoe Muang, Khon Kaen.
Drainage Area	13,171 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1965 - Cont'd
Actual Measurement	1980 - Cont'd
Remarks	Continued Sediment Station
	Using Rating Curve Water Year 1991

RID Computer Center, Processing : 9-JUN-1993 13:43:24.25

LQS/LQS02D/12

Station - Ban Tha Phra, Muang, Khon Kaen, (E.16A)
Stream - Chi
River - Chi
River System - Chi River

Royal Irrigation Department
Thailand
Hydrology Division 161291
1.40922
QS = 6.0274 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	9.	34.	259.	253.	525.	8416.	38961.	14271.	332.	129.	53.	44.	
2	8.	31.	338.	274.	537.	10045.	44937.	12629.	349.	121.	50.	44.	
3	8.	30.	446.	305.	488.	10442.	49203.	11017.	393.	121.	49.	44.	
4	9.	32.	544.	300.	417.	10487.	52380.	9637.	417.	155.	49.	46.	
5	11.	34.	601.	274.	365.	10243.	54282.	8139.	434.	229.	50.	47.	
6	12.	44.	550.	243.	371.	10001.	56204.	6764.	452.	305.	52.	49.	
7	12.	95.	537.	205.	482.	10045.	58634.	5471.	422.	327.	52.	50.	
8	11.	99.	494.	186.	627.	10081.	58146.	4515.	417.	300.	52.	0.	
9	10.	82.	434.	150.	707.	11191.	56204.	3637.	393.	253.	50.	0.	
10	10.	63.	422.	163.	734.	12481.	54282.	2857.	371.	224.	50.	0.	
11	10.	52.	550.	253.	727.	12676.	52853.	2074.	343.	205.	49.	0.	
12	9.	47.	707.	332.	748.	13022.	51436.	1643.	321.	200.	47.	0.	
13	11.	57.	811.	360.	818.	13220.	49203.	1377.	300.	205.	46.	0.	
14	13.	86.	853.	349.	853.	13315.	48126.	1220.	284.	195.	43.	0.	
15	17.	107.	825.	360.	977.	14271.	46347.	1068.	274.	181.	40.	0.	
16	22.	117.	727.	452.	1022.	15602.	44937.	911.	253.	159.	38.	0.	
17	22.	92.	667.	582.	977.	16626.	42847.	832.	234.	146.	34.	0.	
18	21.	82.	804.	693.	1256.	17163.	41736.	776.	224.	142.	28.	0.	
19	19.	77.	544.	769.	4515.	17343.	40215.	720.	205.	133.	26.	0.	
20	17.	72.	500.	762.	11647.	17886.	38214.	673.	191.	133.	22.	0.	
21	16.	84.	434.	707.	12185.	18863.	36127.	634.	181.	129.	21.	0.	
22	16.	77.	360.	640.	11191.	19606.	33854.	594.	172.	125.	19.	0.	
23	19.	74.	305.	556.	9601.	20169.	31850.	556.	159.	113.	18.	0.	
24	23.	95.	269.	488.	7763.	20953.	29731.	494.	155.	101.	16.	0.	
25	23.	133.	243.	393.	6286.	22270.	27695.	458.	146.	99.	13.	0.	
26	21.	177.	214.	316.	5349.	23620.	26135.	422.	138.	92.	11.	0.	
27	23.	205.	191.	264.	4796.	25461.	24223.	399.	138.	82.	8.	0.	
28	30.	200.	186.	229.	4891.	27921.	22436.	376.	146.	74.	12.	0.	
29	34.	219.	205.	224.	5058.	31197.	20106.	349.	146.	65.	16.	0.	
30	34.	259.	239.	434.	5576.	34796.	17825.	338.	142.	58.		0.	
31		269.		422.	6862.		16036.		138.	55.		0.	
Total	500.	3125.	14259.	11938.	108351.	499412.	1265165.	94851.	8270.	4856.	1014.	324.	2012065. Ton
Mean	17.	101.	475.	385.	3495.	16647.	40812.	3162.	267.	157.	35.	10.	
Max	34.	269.	853.	769.	12185.	34796.	58634.	14271.	452.	327.	53.	50.	58634.
Min	8.	30.	186.	150.	365.	8416.	16036.	338.	138.	55.	8.	0.	0.

WATER YEAR 1991

CHI RIVER BASIN

Chi River at Ban Nong O, Chaiyaphum (E.32A)

Location	Lat. 15-54-40 N., Long. 101-42-40 E., on left bank about 500 meters north of Ban Nong O, about 600 meters upstream from E.32 gaging station, Amphoe Ban Khwao, Chaiyaphum.
Drainage Area	2,905 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1979 - Cont'd
Actual Measurement	1979 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1979 - 1991

RID Computer Center, Processing : 9-JUN-1993 13:43:37.39

LQS/LQS02D/12

Station - Ban Nong O, Ban Khwao, Chaiyaphum, (E.32A)
Stream - Chi
River - Chi
River System - Chi River

Royal Irrigation Department
Thailand
Hydrology Division 170792
1.38726
QS = 3.2917 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.8	8.0	121.1	39.1	215.2	6655.0	2446.8	210.8	65.7	126.8	23.7	13.1	
2	2.8	4.2	111.9	28.6	738.4	5456.7	3364.5	197.8	59.4	94.0	22.5	13.7	
3	4.2	3.3	85.3	27.3	642.0	3167.1	3565.2	189.2	56.4	68.8	21.7	14.4	
4	4.2	2.0	85.3	41.8	351.7	1821.4	2719.7	178.7	56.4	56.4	21.7	13.1	
5	2.8	15.1	413.7	156.1	235.2	1301.9	2403.5	168.3	57.9	54.9	20.2	11.1	
6	2.0	62.5	801.2	162.2	780.1	1106.3	1586.3	164.2	54.9	62.5	19.5	10.5	
7	1.3	41.8	642.0	134.4	1332.3	1247.7	1594.0	154.1	53.4	75.3	19.5	9.8	
8	0.9	11.7	410.1	82.0	1259.7	1147.1	3157.7	150.1	51.9	73.7	18.7	9.2	
9	0.9	7.4	224.0	59.4	1655.8	936.5	2499.0	142.2	49.0	64.1	18.0	9.2	
10	0.9	10.5	138.3	97.5	833.1	1314.1	1710.5	136.4	47.5	56.4	18.0	8.6	
11	0.9	11.1	97.5	150.1	348.3	1742.0	1387.6	128.7	44.6	51.9	17.2	8.0	
12	0.6	8.6	113.7	335.0	358.4	1789.5	1418.5	124.9	43.2	49.0	16.5	7.4	
13	0.4	9.8	176.6	372.0	378.9	1648.1	1253.7	119.3	39.1	43.2	16.5	7.4	
14	2.0	6.9	126.8	235.2	541.8	1601.7	947.6	115.5	36.4	40.4	15.8	6.9	
15	2.0	5.8	82.0	164.2	403.1	3120.5	801.2	111.9	37.7	36.4	15.1	6.3	
16	0.9	7.4	65.7	160.2	341.6	3204.4	780.1	110.0	37.7	33.7	15.1	6.3	
17	0.6	10.5	65.7	185.0	427.8	2343.3	728.1	104.6	36.4	31.1	15.1	6.9	
18	4.7	15.8	70.4	154.1	661.9	2032.3	1117.9	99.2	36.4	31.1	15.1	6.3	
19	6.3	49.0	65.7	110.0	5205.2	1958.6	1229.8	95.7	36.4	32.4	13.7	5.8	
20	2.4	28.6	39.1	82.0	19331.6	2773.4	780.1	90.5	33.7	31.1	13.1	5.2	
21	1.3	21.0	32.4	64.1	43742.5	3374.0	583.0	82.0	32.4	31.1	12.4	4.7	
22	0.4	13.1	44.6	53.4	26904.2	3383.5	500.5	87.1	31.1	28.6	13.7	4.7	
23	0.1	57.9	51.9	46.1	15332.2	2551.5	427.8	83.7	28.6	31.1	13.7	4.2	
24	0.0	75.3	80.3	46.1	7832.8	2525.2	442.1	82.0	27.3	31.1	12.4	3.8	
25	0.0	21.7	77.0	270.5	4328.0	3700.8	382.3	75.3	28.6	29.8	11.7	4.2	
26	0.0	13.7	90.5	399.7	1877.6	4085.8	331.7	73.7	28.6	31.1	11.1	3.8	
27	1.3	73.7	126.8	206.4	1158.8	3926.6	295.8	70.4	28.6	29.8	10.5	3.8	
28	13.7	126.8	83.7	168.3	1369.1	3584.5	264.2	68.8	28.6	27.3	10.5	3.8	
29	35.0	72.1	77.0	132.5	2412.1	2782.4	239.7	68.8	41.8	26.1	11.7	3.8	
30	17.2	144.2	59.4	111.9	3241.9	2326.2	224.0	67.2	142.2	26.1		3.8	
31		128.7		108.2	5431.4		215.2		191.3	24.9		4.2	
Total	112.6	1068.2	4659.7	4383.4	149672.7	78608.1	39398.1	3551.1	1543.2	1430.2	464.4	224.0	285115.7 Ton
Mean	3.8	34.5	155.3	141.4	4828.2	2620.3	1270.9	118.4	49.8	46.1	16.0	7.2	
Max	35.0	144.2	801.2	399.7	43742.5	6655.0	3565.2	210.8	191.3	126.8	23.7	14.4	43742.5
Min	0.0	2.0	32.4	27.3	215.2	936.5	215.2	67.2	27.3	24.9	10.5	3.8	0.0

WATER YEAR 1991

CHI RIVER BASIN

Huai Prong Khun Phet at Ban Thap Nai, Chaiyaphum (E.35A)

Location	Lat. 15-44-27 N., Long. 101-38-07 E., on left bank about 6 kilometers upstream from E.35 station at Ban Thap Nai, King Amphoe Nong Bua Raheo, Chaiyaphum.
Drainage Area	422 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1988 - Cont'd
Actual Measurement	1988 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1988 - 1991

RID Computer Center, Processing : 9-JUN-1993 13:43:49.07 LQS/LQS02D/12

Station - Ban Thap Nai, Nong Bua Raheo, Chaiyaphum, (E.35A)
Stream - Huai Prong Khun Phet
River - Lam Krachuan
River System - Chi River

Royal Irrigation Department
Thailand
Hydrology Division 170792
1.81910
QS = 1.5668 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.04	0.16	2.97	1.51	3.60	131.11	683.21	11.91	0.91	0.55	0.14	0.09	
2	0.05	0.13	1.60	1.27	2.39	69.46	871.27	9.87	0.84	0.44	0.14	0.10	
3	0.12	0.09	1.43	1.19	7.13	48.91	250.12	8.30	0.78	0.38	0.14	0.13	
4	0.10	0.08	1.12	1.04	5.53	39.93	198.01	6.58	0.66	0.32	0.14	0.13	
5	0.08	0.12	1.86	4.66	2.39	34.93	133.21	5.53	0.60	0.44	0.13	0.09	
6	0.06	0.08	29.49	3.28	2.67	32.55	120.83	5.04	0.60	0.41	0.13	0.09	
7	0.06	0.04	44.32	1.99	2.39	42.54	131.11	4.66	0.55	0.49	0.13	0.09	
8	0.06	0.55	21.69	1.51	1.86	34.93	131.11	4.11	0.49	0.41	0.13	0.08	
9	0.03	3.94	6.04	3.28	9.54	28.01	166.49	3.94	0.41	0.32	0.12	0.07	
10	0.03	2.39	13.75	8.60	4.11	26.57	95.91	3.77	0.38	0.30	0.12	0.07	
11	0.03	0.38	11.91	17.43	5.53	27.28	58.86	3.44	0.38	0.27	0.12	0.07	
12	0.03	0.22	13.75	20.04	6.58	42.54	76.86	2.97	0.35	0.24	0.10	0.07	
13	0.04	0.32	19.51	8.60	4.29	31.77	56.54	2.81	0.35	0.24	0.12	0.07	
14	0.22	0.24	16.43	3.28	5.28	34.13	43.42	2.67	0.32	0.24	0.12	0.07	
15	0.22	0.14	11.56	1.99	4.66	45.22	36.56	2.39	0.32	0.22	0.12	0.07	
16	0.09	12.63	11.56	1.51	3.77	34.93	35.74	1.99	0.30	0.18	0.10	0.07	
17	0.06	1.35	5.53	1.27	3.60	32.55	52.04	1.86	0.30	0.16	0.09	0.08	
18	0.04	1.19	4.11	1.04	8.60	38.23	80.18	1.86	0.30	0.16	0.09	0.08	
19	0.04	0.44	3.44	0.84	988.48	47.05	35.74	1.77	0.27	0.16	0.09	0.08	
20	0.03	0.24	2.97	0.84	4789.30	783.07	28.01	1.77	0.27	0.14	0.09	0.08	
21	0.03	0.66	2.12	0.78	1078.58	279.69	26.57	1.68	0.24	0.14	0.12	0.08	
22	0.03	41.66	3.28	0.66	234.13	105.19	25.16	1.51	0.24	0.14	0.10	0.08	
23	0.03	12.27	2.67	0.66	122.86	211.30	22.82	1.43	0.22	0.14	0.09	0.08	
24	0.03	6.31	3.94	6.85	118.83	585.83	45.22	1.27	0.22	0.14	0.09	0.08	
25	0.03	1.77	3.77	11.91	131.11	627.10	37.39	1.12	0.22	0.14	0.09	0.07	
26	0.03	0.78	3.12	4.66	83.57	234.13	25.86	1.04	0.24	0.16	0.10	0.09	
27	0.04	38.23	3.94	2.81	43.42	230.88	21.13	0.97	0.30	0.16	0.10	0.12	
28	1.27	137.45	3.60	2.39	37.39	246.78	17.43	0.91	0.24	0.16	0.10	0.10	
29	0.49	17.43	2.53	2.12	41.66	166.49	13.75	0.91	0.78	0.16	0.10	0.09	
30	0.14	34.13	1.99	1.60	75.23	159.56	12.63	0.91	0.49	0.16		0.07	
31		157.29		1.77	344.22		11.56		0.66	0.14		0.06	
Total	3.55	472.71	256.00	121.38	8172.70	4452.66	3544.74	98.99	13.23	7.71	3.25	2.60	17149.52 Ton
Mean	0.12	15.25	8.53	3.92	263.64	148.42	114.35	3.30	0.43	0.25	0.11	0.08	
Max	1.27	157.29	44.32	20.04	4789.30	783.07	871.27	11.91	0.91	0.55	0.14	0.13	4789.30
Min	0.03	0.04	1.12	0.66	1.86	26.57	11.56	0.91	0.22	0.14	0.09	0.06	0.03

WATER YEAR 1991

CHI RIVER BASIN

Nam Yang at Ban Kaeng Yao, Kalasin (E.54)

Location	Lat. 16-26-29 N., Long. 104-02-07 E., on left bank at Ban Kaeng Yao about 2 kilometers downstream from proposed of USBR Damsite, Amphoe Kuchinarai, Kalasin.
Drainage Area	1,511 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1986 - Cont'd
Actual Measurement	1986 - Cont'd
Remarks	Continued Sediment Station
	Using Rating Curve Water Year 1986 - 1990

RID Computer Center, Processing : 9-JUN-1993 13:44:00.94

LQS/LQS02D/12

Station - Ban Kaeng Yao, Kuchinarai, Kalasin, (E.54)
Stream - Nam Yang
River - Chi
River System - Chi River

Royal Irrigation Department
Thailand
Hydrology Division

QS = 4.6918 QW 1.39985

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	5.4	1.1	2.3	310.9	605.0	11777.0	673.1	53.0	1.6	0.6	0.4	0.2	
2	6.8	1.2	3.4	450.3	291.5	10415.1	1011.6	45.3	1.5	0.7	0.6	0.2	
3	6.1	1.0	11.5	487.7	165.5	8249.3	1561.7	31.5	1.7	0.7	0.4	0.3	
4	2.8	1.0	30.4	310.9	117.8	9539.1	1855.1	34.4	1.6	0.5	0.4	0.3	
5	2.0	1.0	30.4	207.8	130.4	29180.1	1660.9	23.9	1.6	0.9	0.5	0.3	
6	3.7	1.2	30.4	147.6	222.5	26366.0	1415.7	21.8	0.8	0.7	0.4	0.3	
7	2.3	1.1	22.9	105.6	701.0	23358.3	1237.0	21.8	1.3	0.8	0.4	0.2	
8	1.7	1.3	34.4	237.5	673.1	13532.7	1042.8	21.8	1.1	1.1	0.4	0.2	
9	1.8	1.2	69.4	317.4	538.9	7410.1	786.4	17.9	1.0	1.2	0.4	0.2	
10	3.1	1.0	130.4	304.4	350.7	4799.6	578.3	16.9	1.0	1.3	0.3	0.2	
11	1.6	1.0	86.2	237.5	237.5	5019.8	93.8	12.4	0.7	1.0	0.3	0.2	
12	2.6	1.0	55.0	207.8	165.5	4591.7	278.7	15.1	0.7	1.5	0.5	0.4	
13	1.8	2.8	41.6	193.4	109.6	3787.2	291.5	14.1	0.8	0.7	0.3	0.4	
14	1.7	9.9	29.3	203.0	93.8	2612.3	297.9	12.4	0.7	0.7	0.3	0.3	
15	1.7	5.4	23.9	227.5	134.6	1855.1	272.4	10.7	0.5	0.6	0.3	0.3	
16	6.8	4.0	20.8	232.5	266.2	1611.3	217.6	8.3	0.6	0.5	0.2	0.2	
17	6.1	4.7	16.0	217.6	500.4	1292.8	212.7	6.8	0.5	0.5	0.3	0.2	
18	1.8	4.0	12.4	184.0	6898.5	1200.3	198.2	6.8	0.5	0.4	0.3	0.2	
19	1.6	3.1	12.4	126.1	26497.6	1042.8	174.7	8.3	0.5	0.4	0.3	0.2	
20	1.8	4.7	15.1	500.4	26366.0	1473.8	165.5	6.1	0.5	0.3	0.3	0.1	
21	7.5	4.4	12.4	1701.5	21409.7	1757.9	161.0	4.7	0.6	0.3	0.2	0.4	
22	5.4	3.1	8.3	2138.1	16170.7	1986.8	161.0	4.7	0.6	0.3	0.2	0.3	
23	2.3	2.3	6.8	2189.2	9239.6	1701.5	134.6	3.4	0.6	0.3	0.1	0.3	
24	2.3	1.8	8.3	2574.4	5577.3	1532.1	101.7	3.4	0.5	0.3	0.2	0.2	
25	1.6	2.0	8.3	4284.9	4463.1	1425.5	82.5	4.0	0.8	0.3	0.2	0.2	
26	1.5	2.6	20.8	3641.4	3665.5	1396.6	78.8	3.1	0.6	0.3	0.1	0.2	
27	2.0	2.8	71.5	2814.3	3252.1	1200.3	63.1	2.6	0.6	0.4	0.1	0.2	
28	3.4	2.6	97.7	2397.1	4133.7	1027.1	65.2	2.3	0.5	0.4	0.2	0.2	
29	2.3	2.0	105.6	2172.2	6029.0	844.8	51.0	2.3	0.4	0.4	0.2	0.2	
30	1.3	3.4	203.0	1561.7	7604.6	645.6	39.7	1.4	0.4	0.3		0.2	
31		3.1		1146.0	10376.5		39.7		0.6	0.3		0.2	
Total	92.8	81.8	1220.9	31830.7	156987.9	182632.5	15003.9	421.2	25.4	18.7	8.8	7.5	388332.2 Ton
Mean	3.1	2.6	40.7	1026.8	5064.1	6087.8	484.0	14.0	0.8	0.6	0.3	0.2	
Max	7.5	9.9	203.0	4284.9	26497.6	29180.1	1855.1	53.0	1.7	1.5	0.6	0.4	29180.1
Min	1.3	1.0	2.3	105.6	93.8	645.6	39.7	1.4	0.4	0.3	0.1	0.1	0.1

WATER YEAR 1991

MUN RIVER BASIN

Lam Takhong at Vaccine Serum Office, Nakhon Ratchasima (M.89)

Location	Lat. 14-41-46 N., Long. 101-25-07 E., on left bank at the bridge infront of Vaccine Serum Office, Amphoe Pak Chong, Nakhon Ratchasima.
Drainage Area	665 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1981 - Cont'd
Actual Measurement	1981 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1991

RID Computer Center, Processing : 9-JUN-1993 13:44:09.59

LQS/LQS02D/12

Station - Vaccine Serum Office, Pak Chong, Nakhon Ratchasima, (M.89)
Stream - Lam Ta Khong
River - Mun
River System - Mun

Royal Irrigation Department
Thailand
Hydrology Division 170792

QS = 4.3711 QW 1.41645

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	16.00	11.26	83.13	25.67	101.96	1106.34	1573.03	41.04	20.14	15.02	12.17	10.37	
2	16.00	11.26	54.01	22.30	74.44	326.17	963.05	37.73	19.08	15.02	12.17	9.50	
3	16.00	10.37	77.31	21.21	63.58	210.21	505.20	32.92	18.04	14.05	12.17	8.66	
4	15.02	12.17	39.37	653.52	51.69	149.38	294.10	31.37	18.04	15.02	13.10	9.50	
5	14.05	14.05	54.01	744.33	63.58	108.90	205.97	29.83	18.04	16.00	12.17	9.50	
6	14.05	14.05	304.39	134.23	197.56	86.09	161.05	29.83	18.04	15.02	10.37	7.84	
7	14.05	13.10	245.03	68.81	141.75	71.61	161.05	26.83	18.04	15.02	10.37	7.04	
8	14.05	12.17	58.74	44.92	141.75	74.44	149.38	28.32	17.01	15.02	10.37	7.04	
9	13.10	13.10	39.37	49.40	249.49	165.00	115.98	28.32	15.02	14.05	11.26	7.04	
10	13.10	14.05	36.11	61.14	123.19	376.76	112.42	26.83	15.02	14.05	11.26	7.04	
11	14.05	14.05	37.73	39.37	83.13	130.52	130.52	24.53	15.02	15.02	11.26	7.04	
12	14.05	17.01	31.37	32.92	58.74	108.90	119.57	24.53	15.02	15.02	11.26	7.04	
13	14.05	19.08	26.83	31.37	95.15	149.38	98.54	24.53	14.05	15.02	11.26	7.04	
14	13.10	19.08	25.67	29.83	288.99	108.90	149.38	22.30	13.10	14.05	9.50	7.04	
15	14.05	18.04	28.32	36.11	294.10	89.08	223.08	21.21	15.02	14.05	8.66	7.04	
16	14.05	16.00	25.67	157.14	214.48	89.08	201.75	21.21	16.00	14.05	8.66	7.04	
17	13.10	17.01	20.14	123.19	193.40	77.31	197.56	20.14	16.00	14.05	8.66	7.84	
18	12.17	19.08	21.21	74.44	157.14	80.20	210.21	19.08	16.00	14.05	7.84	7.04	
19	11.26	16.00	20.14	54.01	288.99	63.58	98.54	20.14	16.00	14.05	7.84	7.04	
20	11.26	15.02	19.08	41.04	2426.53	95.15	77.31	20.14	16.00	14.05	7.84	7.04	
21	11.26	15.02	18.04	39.37	1237.04	105.41	86.09	21.21	16.00	14.05	7.84	7.04	
22	11.26	17.01	17.01	66.04	972.13	56.36	105.41	22.30	16.00	13.10	9.50	7.84	
23	11.26	15.02	21.21	42.72	1409.00	44.92	95.15	22.30	14.05	13.10	9.50	9.50	
24	11.26	18.04	24.53	34.50	382.51	49.40	197.56	21.21	14.05	13.10	9.50	8.66	
25	11.26	16.00	21.21	28.32	278.85	86.09	193.40	21.21	14.05	13.10	9.50	7.84	
26	11.26	16.00	24.53	32.92	236.18	95.15	137.97	21.21	14.05	11.26	9.50	7.84	
27	11.26	16.00	41.04	34.50	223.08	92.10	101.96	21.21	14.05	11.26	9.50	7.84	
28	11.26	16.00	42.72	80.20	210.21	105.41	77.31	20.14	14.05	11.26	9.50	7.84	
29	11.26	42.72	29.83	141.75	278.85	172.98	61.14	20.14	13.10	12.17	9.50	7.04	
30	11.26	25.67	26.83	253.98	227.43	1361.88	51.69	20.14	14.05	13.10		7.04	
31		68.81		126.84	348.39		44.92		14.05	12.17		7.04	
Total	389.16	562.24	1514.58	3326.09	11113.31	5836.70	6900.29	741.90	486.18	429.35	292.03	240.25	31832.08 Ton
Mean	12.97	18.14	50.49	107.29	358.49	194.56	222.59	24.73	15.68	13.85	10.07	7.75	
Max	16.00	68.81	304.39	744.33	2426.53	1361.88	1573.03	41.04	20.14	16.00	13.10	10.37	2426.53
Min	11.26	10.37	17.01	21.21	51.69	44.92	44.92	19.08	13.10	11.26	7.84	7.04	7.04

WATER YEAR 1991

MUN RIVER BASIN

Huai Samran at Ban Tamuan, Si Sa Ket (M.91)

Location	Lat. 14-29-48 N., Long. 104-03-29 E., on right bank about 15 kilometers from the highway at Ban Tamuan, Tambon Lalom, Amphoe Khukhan, Si Sa Ket.
Drainage Area	128 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1986 - Cont'd
Actual Measurement	1986 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1991

RID Computer Center, Processing : 9-JUN-1993 13:44:19.85

LQS/LQS02D/12

Station - Ban Tamuan, Khukhan, Si Sa Ket, (M.91)
Stream - Huai Samran
River - Mun
River System - Mun

Royal Irrigation Department
Thailand
Hydrology Division 170792
1.74088
QS = 1.1744 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.03	0.14	1.19	0.36	1.00	15.37	35.62	2.99	0.53	0.44	0.40	0.29	
2	0.03	0.14	0.57	0.33	0.75	8.00	22.62	2.49	0.48	0.44	0.44	0.29	
3	0.02	0.16	0.57	0.53	0.66	5.16	15.80	2.35	0.53	0.44	0.44	0.29	
4	0.02	0.19	0.48	0.53	0.57	8.99	18.55	2.03	0.48	0.44	0.44	0.29	
5	0.02	0.26	1.88	0.66	1.50	8.99	36.33	2.03	0.44	0.44	0.40	0.29	
6	0.02	0.13	1.00	0.66	2.66	11.24	19.48	1.88	0.44	0.44	0.44	0.33	
7	0.02	0.13	1.88	0.66	2.19	6.79	20.51	1.76	0.40	0.44	0.40	0.33	
8	0.02	0.13	0.75	0.62	2.66	4.20	47.74	1.61	0.40	0.44	0.40	0.33	
9	0.02	0.13	2.03	0.57	1.30	3.17	36.33	1.39	0.40	0.44	0.40	0.33	
10	0.01	0.13	0.66	0.53	0.90	11.62	59.90	1.61	0.36	0.44	0.40	0.33	
11	0.01	0.14	0.62	0.48	0.66	6.79	35.62	1.39	0.36	0.44	0.44	0.33	
12	0.01	0.13	1.19	0.40	0.66	5.95	30.96	1.19	0.36	0.44	0.40	0.33	
13	0.01	0.11	1.50	0.33	0.66	10.09	35.62	1.19	0.40	0.44	0.29	0.36	
14	0.01	0.09	1.19	0.29	0.66	8.66	18.09	1.09	0.44	0.40	0.26	0.33	
15	0.01	0.09	0.90	0.29	0.66	5.95	12.39	1.00	0.40	0.40	0.26	0.33	
16	0.01	0.09	0.57	0.40	0.66	4.45	9.74	0.90	0.36	0.36	0.26	0.29	
17	0.01	0.07	0.53	0.40	0.62	4.45	13.64	0.90	0.36	0.36	0.26	0.29	
18	0.01	0.13	0.48	0.40	0.62	3.17	39.19	0.90	0.44	0.36	0.26	0.29	
19	0.01	0.11	0.48	0.40	0.57	3.17	17.63	0.75	0.44	0.36	0.26	0.26	
20	0.01	0.11	0.48	0.57	4.20	2.66	200.59	0.66	0.44	0.40	0.26	0.26	
21	0.06	0.24	0.44	0.62	2.99	7.10	73.23	0.66	0.44	0.40	0.26	0.26	
22	0.07	0.26	0.44	0.53	2.99	11.24	39.19	0.66	0.44	0.36	0.26	0.26	
23	0.07	0.29	0.53	0.53	2.84	5.95	37.75	0.66	0.44	0.36	0.26	0.29	
24	0.09	0.33	0.53	0.48	2.19	7.41	21.55	0.66	0.44	0.36	0.26	0.29	
25	0.07	0.33	0.44	0.44	1.50	10.82	15.37	0.62	0.44	0.40	0.26	0.29	
26	0.04	0.33	0.48	0.40	1.19	10.82	11.24	0.62	0.44	0.40	0.24	0.29	
27	0.16	0.57	0.44	0.40	0.90	13.23	8.66	0.62	0.44	0.44	0.24	0.29	
28	0.19	0.44	0.44	0.36	5.39	8.99	6.49	0.57	0.44	0.40	0.26	0.29	
29	0.03	0.44	0.36	0.40	8.99	63.88	5.16	0.57	0.44	0.40	0.26	0.26	
30	0.03	0.40	0.36	0.40	150.09	133.89	4.20	0.53	0.44	0.40		0.26	
31		0.40		0.44	43.00		3.59		0.40	0.40		0.26	
Total	1.12	6.64	23.41	14.41	246.23	412.20	952.78	36.28	13.26	12.68	9.41	9.21	1737.63 Ton
Mean	0.04	0.21	0.78	0.46	7.94	13.74	30.73	1.21	0.43	0.41	0.32	0.30	
Max	0.19	0.57	2.03	0.66	150.09	133.89	200.59	2.99	0.53	0.44	0.44	0.36	200.59
Min	0.01	0.07	0.36	0.29	0.57	2.66	3.59	0.53	0.36	0.36	0.24	0.26	0.01

WATER YEAR 1991

NAKHON NAYOK RIVER BASIN

Khlong Samo Pun at Prachin Buri, Prachin Buri (NY.4)

Location	Lat. 14-17-23 N., Long. 101-24-16 E., on left bank at the bridge of Chanthaburi-Khao Yai highway, Amphoe Muang, Prachin Buri.
Drainage Area	128 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1986 - Cont'd
Actual Measurement	1986 - Cont'd
Remarks	Continued Sediment Station
	Using Rating Curve Water Year 1991

RID Computer Center, Processing : 9-JUN-1993 13:45:47.81

LQS/LQS02D/12

Station - Haew Narok, A.Muang, Prachin Buri, (NY.4)
Stream - Khlong Samopun
River - Mae Nam Nakhon Nayok
River System - Nakhon Nayok River

Royal Irrigation Department
Thailand
Hydrology Division

QS = 0.0746 QW 2.04706

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.00	0.34	43.47	106.95	291.95	0.50	0.01	0.00	0.00	0.00	
2	0.00	0.00	0.00	1.70	26.46	43.47	195.74	0.42	0.01	0.00	0.00	0.00	
3	0.00	0.00	0.00	106.95	13.88	92.64	66.96	0.34	0.01	0.00	0.00	0.00	
4	0.00	0.00	0.00	110.69	9.85	35.80	30.29	0.34	0.01	0.00	0.00	0.00	
5	0.00	0.00	0.01	13.16	19.02	21.00	18.07	0.34	0.01	0.00	0.00	0.00	
6	0.00	0.00	0.07	6.40	69.35	18.07	12.45	0.27	0.01	0.00	0.00	0.00	
7	0.00	0.00	0.02	3.47	379.21	41.86	15.38	0.21	0.01	0.00	0.00	0.00	
8	0.00	0.00	0.02	2.01	405.99	329.36	9.25	0.18	0.00	0.00	0.00	0.00	
9	0.00	0.00	0.04	11.11	74.28	711.90	6.83	0.16	0.00	0.00	0.00	0.00	
10	0.00	0.00	0.13	6.83	32.98	185.43	8.18	0.11	0.00	0.00	0.00	0.00	
11	0.00	0.00	0.16	4.49	25.24	165.67	14.62	0.09	0.00	0.00	0.00	0.00	
12	0.00	0.00	0.21	3.96	38.73	195.74	8.66	0.09	0.00	0.00	0.00	0.00	
13	0.00	0.00	0.34	4.49	433.70	291.95	9.25	0.07	0.00	0.00	0.00	0.00	
14	0.00	0.00	0.55	126.32	476.41	130.39	8.18	0.06	0.00	0.00	0.00	0.00	
15	0.00	0.00	0.34	138.73	321.69	60.03	9.25	0.04	0.00	0.00	0.00	0.00	
16	0.00	0.00	0.24	82.59	230.97	32.98	22.02	0.04	0.00	0.00	0.00	0.00	
17	0.00	0.00	0.65	22.02	106.95	25.24	12.45	0.03	0.00	0.00	0.00	0.00	
18	0.00	0.00	0.46	11.77	190.55	23.07	10.47	0.03	0.00	0.00	0.00	0.00	
19	0.00	0.00	0.24	6.83	4752.05	16.25	8.18	0.02	0.00	0.00	0.00	0.00	
20	0.00	0.00	0.38	6.83	444.19	12.45	6.40	0.02	0.00	0.00	0.00	0.00	
21	0.00	0.00	8.18	18.07	185.43	9.85	4.49	0.02	0.00	0.00	0.00	0.00	
22	0.00	0.00	11.77	7.72	314.12	7.26	3.71	0.02	0.00	0.00	0.00	0.00	
23	0.00	0.00	2.79	7.72	71.79	7.26	3.23	0.02	0.00	0.00	0.00	0.00	
24	0.00	0.00	2.18	89.22	50.23	11.77	2.37	0.02	0.00	0.00	0.00	0.00	
25	0.00	0.00	1.15	45.11	92.64	17.15	1.85	0.01	0.00	0.00	0.00	0.00	
26	0.00	0.00	0.70	118.37	138.73	37.25	1.55	0.01	0.00	0.00	0.00	0.00	
27	0.00	0.00	0.70	353.37	60.03	30.29	1.27	0.01	0.00	0.00	0.00	0.00	
28	0.00	0.00	1.41	250.39	405.99	32.98	0.91	0.01	0.00	0.00	0.00	0.00	
29	0.00	0.00	1.15	224.68	1059.41	31.62	0.75	0.01	0.00	0.00	0.00	0.00	
30	0.00	0.00	0.60	92.64	361.88	53.79	0.65	0.01	0.00	0.00		0.00	
31		0.03		71.79	583.63		0.60		0.00	0.00		0.00	
Total	0.00	0.03	34.49	1949.77	11418.85	2779.47	785.96	3.50	0.07	0.00	0.00	0.00	16972.14 Ton
Mean	0.00	0.00	1.15	62.90	368.35	92.65	25.35	0.12	0.00	0.00	0.00	0.00	
Max	0.00	0.03	11.77	353.37	4752.05	711.90	291.95	0.50	0.01	0.00	0.00	0.00	4752.05
Min	0.00	0.00	0.00	0.34	9.85	7.26	0.60	0.01	0.00	0.00	0.00	0.00	0.00

WATER YEAR 1991

PRACHIN BURI RIVER BASIN

Prachin Buri River at Kabin Buri, Prachin Buri (KGT.3)

Location	Lat. 13-59-05 N., Long. 101-42-32 E., on left bank infront of Amphoe Kabin Buri office and about 500 meters downstream from the confluence of Lam Prong and Lam Hanuman, Amphoe Kabin Buri, Prachin Buri.
Drainage Area	7,502 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1964 - Cont'd
Actual Measurement	1966 - 1968, 1970 - 1972, 1982 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1991

RID Computer Center, Processing : 9-JUN-1993 13:44:40.82

LQS/LQS02D/12

Station - A.Kabin Buri, Kabin Buri, Prachin Buri, (KGT.3)
Stream - Prachin Buri
River - Prachin Buri
River System - Prachin Buri River

Royal Irrigation Department
Thailand
Hydrology Division

0.87429

QS = 26.6140 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	53.0	89.4	395.4	235.4	2754.8	6588.1	6034.8	1729.1	465.6	194.0	112.5	75.6	
2	55.1	75.6	365.2	245.6	2696.2	6340.9	6483.7	1550.2	474.8	190.5	108.7	75.6	
3	57.2	144.0	887.3	808.1	2538.6	5977.2	6720.6	1439.4	461.0	187.0	108.7	75.6	
4	53.0	120.0	960.0	1964.4	2405.2	5534.7	6635.5	1280.8	470.2	183.5	110.6	75.6	
5	55.1	91.4	681.2	2595.3	2373.5	4955.5	6379.1	1193.7	456.3	179.9	108.7	75.6	
6	55.1	127.5	613.6	1851.1	2696.2	4281.5	6102.0	1127.5	437.7	183.5	110.6	73.6	
7	55.1	103.0	773.8	1320.7	3347.9	3984.1	6025.2	1071.6	428.4	183.5	110.6	73.6	
8	46.6	121.9	721.9	1132.9	4717.7	4164.7	6063.6	993.2	419.0	183.5	110.6	73.6	
9	46.6	169.3	864.8	1090.7	5405.9	4682.3	5996.4	915.3	409.6	190.5	108.7	73.6	
10	48.8	179.9	864.8	1294.1	5078.2	4955.5	6006.0	853.5	404.9	218.3	112.5	73.6	
11	46.6	162.1	649.0	1576.1	4227.6	5340.8	6073.2	819.5	390.7	218.3	112.5	73.6	
12	46.6	145.9	756.6	2382.0	3577.9	5909.8	6121.1	813.8	373.2	259.0	121.9	73.6	
13	44.5	121.9	993.2	2671.0	3482.2	6169.0	6216.8	825.1	357.2	245.6	121.9	69.5	
14	44.5	112.5	1078.4	2136.3	4442.4	6426.7	6340.9	808.1	344.4	214.8	116.3	65.5	
15	44.5	127.5	1340.6	1713.8	5248.4	6398.1	6331.4	762.3	328.2	197.5	110.6	63.4	
16	44.5	120.0	1634.2	1851.1	5396.2	6321.9	6331.4	704.5	312.0	183.5	104.9	63.4	
17	44.5	121.9	1582.6	1805.5	5799.5	6188.2	6178.6	654.9	292.3	165.7	99.1	61.4	
18	42.3	116.3	1220.6	1459.1	6063.6	6121.1	5809.1	613.6	279.0	165.7	93.3	59.3	
19	40.1	108.7	993.2	1254.1	6111.6	6111.6	5295.2	592.8	270.7	162.1	93.3	57.2	
20	40.1	99.1	756.6	1166.7	6436.2	5986.8	4832.4	597.2	259.0	154.9	89.4	53.0	
21	37.9	110.6	628.4	1247.4	6852.8	5890.6	4602.5	582.3	252.3	136.7	89.4	50.9	
22	40.1	179.9	773.8	1180.2	6815.1	5854.1	4092.6	576.4	238.8	129.3	87.5	53.0	
23	42.3	165.7	932.1	943.3	6682.8	5790.9	3595.1	576.4	232.0	127.5	87.5	53.0	
24	42.3	221.7	937.7	819.5	6369.5	5790.9	3412.9	570.4	221.7	129.3	81.6	53.0	
25	112.5	228.6	745.0	898.5	5986.8	5799.5	3356.1	552.4	211.4	129.3	79.6	53.0	
26	255.7	204.5	556.9	1041.4	5708.2	5817.7	3543.3	529.7	207.9	144.0	79.6	48.8	
27	264.1	211.4	409.6	1103.0	5488.2	5948.3	3715.5	520.6	197.5	129.3	81.6	44.5	
28	183.5	225.1	341.2	1904.0	5442.7	5900.2	3732.6	507.0	197.5	127.5	79.6	42.3	
29	138.6	297.2	300.5	2896.4	6034.8	5763.0	3299.1	484.0	194.0	125.6	75.6	42.3	
30	108.7	704.5	255.7	3603.2	6426.7	5763.0	2570.0	474.8	194.0	121.9		46.6	
31		659.3		3193.0	6673.4		2039.4		194.0	116.3		50.9	
Total	2189.5	5666.4	24013.9	49383.9	153280.8	170756.7	159936.1	24720.1	9975.3	5278.0	2907.4	1924.2	610032.4 Ton
Mean	73.0	182.8	800.5	1593.0	4944.5	5691.9	5159.2	824.0	321.8	170.3	100.3	62.1	
Max	264.1	704.5	1634.2	3603.2	6852.8	6588.1	6720.6	1729.1	474.8	259.0	121.9	75.6	6852.8
Min	37.9	75.6	255.7	235.4	2373.5	3984.1	2039.4	474.8	194.0	116.3	75.6	42.3	37.9

WATER YEAR 1991

PRACHIN BURI RIVER BASIN

Khlong Phra Sathung at Ban Wang Khian, Prachin Buri (KGT.10)

Location	Lat. 13-48-29 N., Long. 102-03-35 E., on left bank near Saha Charoen Sawmill, Ban Wang Khian, Amphoe Sa Kaeo, Prachin Buri.
Drainage Area	2,523 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1967 - Cont'd
Actual Measurement	1969 - Cont'd
Remarks	Continued Sediment Station
	Using Rating Curve Water Year 1991

RID Computer Center, Processing : 9-JUN-1993 13:44:52.35

LQS/LQS02D/12

Station - Ban Wang Khian, Sakaeo, Prachin Buri, (KGT.10)
Stream - Khlong Phra Sathung
River - Khlong Phra Prong
River System - Prachin Buri River

Royal Irrigation Department
Thailand
Hydrology Division

QS = 1.1519 QW 1.76359

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.6	55.5	597.3	13.8	315.3	5618.9	7278.2	251.9	14.7	5.2	1.9	1.6	
2	0.4	13.4	1589.2	61.1	350.7	3961.8	8181.3	194.2	13.4	5.0	1.9	1.7	
3	0.3	10.7	934.4	1865.6	543.0	2125.0	6807.1	158.6	12.2	4.8	1.7	1.7	
4	0.2	30.8	376.5	1683.3	458.5	1010.6	3979.8	130.9	12.2	4.6	2.1	2.0	
5	0.2	10.1	721.3	515.3	547.7	927.7	5361.3	111.4	11.8	4.6	2.2	1.6	
6	0.1	29.4	795.9	260.8	927.7	1346.9	9249.2	98.8	11.0	5.0	2.5	1.6	
7	0.1	61.1	597.3	650.0	1909.7	2400.1	10551.9	86.8	10.1	5.0	2.6	1.6	
8	0.0	55.5	1261.5	263.8	2333.8	2869.4	9927.2	75.6	9.8	6.6	2.9	1.5	
9	0.0	28.1	488.2	129.0	1636.0	3496.7	9031.1	64.5	8.9	6.2	5.0	1.5	
10	0.1	22.5	376.5	875.4	1069.4	4540.9	10594.1	62.2	8.9	23.1	6.0	1.4	
11	1.1	13.4	738.2	801.7	881.9	8181.3	16487.9	69.2	8.3	31.4	4.3	1.4	
12	0.7	16.0	1461.4	766.8	354.4	13051.6	27077.2	103.4	7.8	16.0	3.9	1.2	
13	0.6	24.3	1228.1	547.7	446.4	16283.7	23445.9	78.3	7.5	10.4	3.2	1.1	
14	0.6	20.2	3067.4	305.0	1987.9	12140.5	9319.0	61.1	7.3	7.5	2.6	1.1	
15	0.3	19.7	4106.5	148.4	2078.9	9459.4	3890.3	52.3	7.1	6.2	2.6	1.0	
16	0.2	16.4	2033.1	130.9	837.3	7918.6	1781.8	41.2	7.1	5.2	2.4	1.0	
17	0.1	11.8	849.7	243.2	458.5	8023.3	1076.9	33.7	7.1	3.7	2.0	1.0	
18	0.1	11.4	566.6	275.8	418.6	7429.7	868.9	32.1	6.6	3.1	1.9	1.0	
19	0.2	23.1	226.1	189.4	414.7	7557.1	3415.4	30.1	6.4	2.9	1.8	1.0	
20	0.2	63.3	166.9	105.0	358.0	8049.5	3005.9	28.8	6.2	2.6	1.6	1.0	
21	0.6	37.7	132.8	65.7	458.5	8452.6	996.2	25.6	6.0	2.4	1.4	1.0	
22	7.3	66.8	129.0	50.2	856.1	7227.9	868.9	23.7	6.2	3.4	1.4	1.0	
23	15.5	119.8	138.6	30.8	1295.4	2975.3	755.3	22.0	6.2	5.8	1.5	0.9	
24	94.2	49.1	130.9	24.3	2021.8	3129.5	1909.7	21.4	6.2	6.2	1.5	1.0	
25	138.6	44.1	98.8	25.0	1664.3	7202.9	4740.4	20.2	5.8	3.4	1.5	0.9	
26	36.9	44.1	52.3	27.5	1579.9	12028.6	6516.7	20.2	5.2	2.8	1.5	1.2	
27	20.8	92.7	37.7	28.1	2884.5	18161.2	6661.2	20.2	5.2	2.9	1.6	1.0	
28	9.2	483.8	28.1	28.1	1589.2	22794.0	2208.0	18.7	5.2	2.9	1.7	0.9	
29	5.8	1295.4	25.0	69.2	3529.5	15979.4	699.0	16.9	5.4	2.2	1.5	0.7	
30	5.6	234.6	22.5	97.3	2548.7	9001.5	557.1	15.1	5.4	1.7		0.7	
31		79.7		146.4	4383.9		358.0		5.2	1.8		0.9	
Total	340.6	3084.5	22977.8	10424.6	41140.2	233345.6	197600.9	1969.1	246.4	194.6	68.7	37.2	511430.2 Ton
Mean	11.4	99.5	765.9	336.3	1327.1	7778.2	6374.2	65.6	7.9	6.3	2.4	1.2	
Max	138.6	1295.4	4106.5	1865.6	4383.9	22794.0	27077.2	251.9	14.7	31.4	6.0	2.0	27077.2
Min	0.0	10.1	22.5	13.8	315.3	927.7	358.0	15.1	5.2	1.7	1.4	0.7	0.0

WATER YEAR 1991

PRACHIN BURI RIVER BASIN

Khlong Phra Prong at Ban Kaeng, Prachin Buri (KGT.12)

Location	Lat. 13-56-02 N., Long. 101-58-41 E., on left bank near the railway station at Ban Kaeng and about 200 meters upstream from Thot Saphon Sawmill, Amphoe Sa Kaeo, Prachin Buri.
Drainage Area	1,540 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1967 - Cont'd
Actual Measurement	1969 - Cont'd
Remarks	Continued Sediment Station
	Using Rating Curve Water Year 1969 - 1990

RID Computer Center, Processing : 9-JUN-1993 13:45:03.60

LQS/LQS02D/12

Station - Ban Kaeng, Sa Kaeo, Prachin Buri, (KGT.12)
Stream - Khlong Pra Prong
River - Prachin Buri
River System - Prachin Buri River

Royal Irrigation Department
Thailand
Hydrology Division
1.11791
QS = 3.2768 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.42	0.31	12.53	3.87	100.48	453.82	519.68	74.23	16.17	4.77	1.82	1.41	
2	0.31	0.25	8.07	4.09	117.92	448.15	465.17	65.03	18.00	3.87	1.82	1.21	
3	0.31	0.31	5.70	4.55	141.18	396.12	448.15	58.54	17.39	3.87	2.34	1.01	
4	0.25	0.36	3.65	8.07	165.47	319.27	434.02	55.32	18.00	3.65	2.13	0.82	
5	0.31	0.48	3.31	15.35	185.37	244.93	411.52	51.73	18.92	4.77	2.23	0.73	
6	0.25	1.01	4.32	29.73	182.51	194.93	435.43	47.19	18.00	4.77	2.34	0.82	
7	0.25	1.11	3.53	23.83	187.28	183.47	500.22	44.00	18.31	4.55	2.13	0.73	
8	0.25	1.82	5.23	18.62	191.10	272.69	555.81	40.31	15.87	5.00	2.13	0.73	
9	0.19	3.20	6.40	17.69	188.23	370.21	590.68	37.74	15.09	5.93	1.71	0.73	
10	0.19	3.09	6.87	18.31	173.03	458.07	621.17	35.38	14.32	6.16	1.61	0.63	
11	0.19	2.88	7.59	29.31	154.21	521.18	653.36	33.50	13.04	5.70	1.51	0.54	
12	0.19	1.92	14.32	29.31	136.56	580.04	682.63	33.08	12.03	5.23	1.61	0.48	
13	0.19	1.51	21.10	30.98	129.31	613.53	735.79	31.82	11.02	5.23	1.41	0.48	
14	0.14	1.21	27.11	38.74	140.26	622.70	779.56	30.56	9.78	5.00	1.31	0.42	
15	0.14	2.02	37.27	48.80	169.24	605.90	772.78	29.31	9.29	4.09	1.21	0.31	
16	0.14	1.61	42.41	54.09	214.19	555.81	694.99	26.74	8.80	3.42	1.11	0.25	
17	0.14	1.21	27.11	45.06	370.21	489.77	570.94	25.65	8.31	2.99	1.01	0.14	
18	0.09	1.01	19.23	34.44	552.79	458.07	425.57	23.47	7.59	2.99	1.01	0.14	
19	0.04	0.73	14.32	28.21	642.61	446.74	293.79	24.20	6.87	2.77	1.01	0.14	
20	0.04	0.54	15.09	25.28	650.29	475.13	246.02	24.56	7.11	2.45	1.01	0.14	
21	0.04	0.82	15.35	21.72	642.61	504.70	225.84	24.56	7.11	2.23	0.82	0.14	
22	0.04	1.11	13.55	23.11	634.94	519.68	219.04	22.39	5.93	2.23	0.63	0.14	
23	0.04	0.73	11.27	26.74	619.64	516.68	204.54	22.39	5.00	2.13	0.54	0.14	
24	0.09	0.82	8.80	28.58	598.28	475.13	193.97	21.10	4.32	2.23	0.54	0.14	
25	0.19	1.61	8.07	30.98	575.49	445.32	186.33	20.78	4.09	2.23	0.73	0.14	
26	0.63	6.16	10.53	25.65	548.26	448.15	198.77	19.85	3.65	2.13	0.82	0.14	
27	0.54	3.53	13.04	22.75	515.18	449.57	204.54	18.00	3.65	2.02	0.63	0.25	
28	0.36	2.55	11.52	26.01	485.30	458.07	173.97	16.47	3.87	1.82	0.63	0.19	
29	0.31	8.56	7.83	39.26	449.57	516.68	116.42	16.47	3.53	1.71	0.92	0.09	
30	0.36	6.40	5.23	59.83	428.39	551.28	99.11	16.78	3.65	1.71		0.04	
31		10.77		78.21	441.08		85.57		3.87	1.71		0.00	
Total	6.63	69.64	390.35	891.17	10730.98	13595.79	12745.38	991.15	312.58	109.36	38.72	13.27	39895.02 Ton
Mean	0.22	2.25	13.01	28.75	346.16	453.19	411.14	33.04	10.08	3.53	1.34	0.43	
Max	0.63	10.77	42.41	78.21	650.29	622.70	779.56	74.23	18.92	6.16	2.34	1.41	779.56
Min	0.04	0.25	3.31	3.87	100.48	183.47	85.57	16.47	3.53	1.71	0.54	0.00	0.00

WATER YEAR 1991

PRACHIN BURI RIVER BASIN

Khlong Si Yat at Ban Tha Kloi, Chachoengsao (KGT.18)

Location	Lat. 13-28-29 N., Long. 101-37-44 E., on left bank at ban tha kloi, Amphoe Sanam Chai Khet, Chachoengsao.
Drainage Area	951 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1986 - Cont'd
Actual Measurement	1986 - Cont'd
Remarks	Continued Sediment Station
	Using Rating Curve Water Year 1991

RID Computer Center, Processing : 9-JUN-1993 13:45:14.80

LQS/LQS02D/12

Station - Ban Tha Kloi, Sanam Chai Khet, Chachoengsao, (KGT.18)
Stream - Khlong Si Yat
River - Bang Pakong
River System - Prachin Buri River

Royal Irrigation Department
Thailand
Hydrology Division

1.06797
QS = 5.9743 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.30	0.51	45.63	5.40	50.43	105.27	1227.51	31.90	5.78	1.65	1.07	1.07	
2	0.19	0.40	26.54	6.74	34.75	91.32	1143.52	28.44	5.78	1.53	0.96	0.96	
3	0.19	0.40	30.91	16.85	24.86	70.84	621.46	26.12	5.59	1.30	1.07	0.84	
4	0.19	0.30	63.62	24.44	42.65	67.18	364.54	24.02	5.40	1.42	1.07	0.84	
5	0.00	0.51	44.83	26.12	224.32	48.83	392.62	22.42	5.02	1.65	0.96	0.84	
6	0.00	1.19	111.41	20.35	467.59	63.62	299.54	21.04	4.64	1.42	0.96	0.84	
7	0.00	4.27	117.57	16.03	573.56	128.71	232.77	20.00	4.46	1.42	0.96	0.96	
8	0.00	2.79	56.08	15.76	236.15	108.95	301.34	18.76	4.08	1.30	1.07	0.73	
9	0.00	2.01	41.21	24.02	120.04	129.95	507.27	18.21	3.71	1.53	1.19	0.62	
10	0.00	1.42	29.92	91.32	78.63	110.18	1016.96	17.94	3.71	1.53	1.30	0.51	
11	0.00	1.42	35.32	61.84	54.46	229.39	911.15	16.85	3.52	1.53	1.19	0.51	
12	0.00	1.42	68.97	41.21	40.49	211.40	519.13	15.76	3.34	1.42	1.42	0.51	
13	0.00	1.30	39.77	38.33	55.27	168.55	310.35	15.22	3.16	1.30	1.42	0.40	
14	0.00	1.19	37.61	26.96	66.29	413.73	319.39	14.68	3.16	1.19	1.30	0.30	
15	0.00	1.19	40.49	23.19	65.40	501.35	283.36	15.22	3.16	1.19	1.07	0.30	
16	0.00	1.19	27.45	35.32	47.22	222.63	211.40	14.14	2.79	1.19	0.96	0.30	
17	0.00	1.19	20.69	53.66	34.18	249.72	156.50	13.87	2.79	1.30	1.19	0.30	
18	0.00	1.07	17.39	57.70	30.91	294.14	277.98	12.79	2.61	1.42	0.84	0.19	
19	0.19	2.61	15.22	39.05	28.44	426.78	628.32	11.99	2.25	1.42	2.13	0.30	
20	0.30	8.30	13.06	26.96	30.41	747.41	265.45	11.46	2.25	1.19	1.89	0.30	
21	0.62	3.71	11.99	20.69	40.49	731.80	286.95	10.93	2.13	1.19	1.89	0.19	
22	0.62	2.25	11.19	17.94	53.66	510.23	209.80	10.66	2.01	1.07	1.89	0.19	
23	0.62	2.01	10.13	18.76	73.75	519.13	160.51	10.40	2.01	0.96	2.25	0.19	
24	0.51	2.25	9.61	18.21	71.81	1051.51	149.92	9.61	2.01	0.96	2.13	0.19	
25	0.51	2.79	8.56	15.76	56.89	1754.06	136.17	9.08	2.01	1.07	2.25	0.19	
26	0.51	2.43	7.78	14.95	43.38	1800.81	113.87	8.30	1.89	0.96	1.30	0.19	
27	0.51	2.43	7.26	15.22	107.73	1206.03	85.94	7.78	1.89	1.07	1.07	0.09	
28	0.51	33.04	6.23	19.04	75.70	848.47	68.97	7.26	1.65	1.07	0.96	0.19	
29	0.51	47.22	5.97	17.12	75.70	716.22	56.89	7.00	1.53	0.96	0.96	0.09	
30	0.51	22.07	5.78	16.58	97.02	696.77	45.63	6.49	1.77	0.96		0.00	
31		32.47		18.21	92.46		36.47		1.65	0.96		0.00	
Total	6.79	187.35	968.19	843.73	3094.64	14224.98	11341.68	458.34	97.75	39.13	38.72	13.13	31314.44 Ton
Mean	0.23	6.04	32.27	27.22	99.83	474.17	365.86	15.28	3.15	1.26	1.34	0.42	
Max	0.62	47.22	117.57	91.32	573.56	1800.81	1227.51	31.90	5.78	1.65	2.25	1.07	1800.81
Min	0.00	0.30	5.78	5.40	24.86	48.83	36.47	6.49	1.53	0.96	0.84	0.00	0.00

WATER YEAR 1991

PRACHIN BURI RIVER BASIN

Khlong Luang at Ban Mai, Chon Buri (KGT.19)

Location	Lat. 13-23-17 N., Long. 101-20-40 E., on left bank about 4 kilometers east of Khok Pho market and about 16 kilometers from Amphoe Phanat Nikhom, Chon Buri.
Drainage Area	535 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1988 - Cont'd
Actual Measurement	1988 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1991

RID Computer Center, Processing : 9-JUN-1993 13:45:25.33 LQS/LQS02D/12

Station - Ban Mai, Phanat Nikhom, Chon Buri, (KGT.19)
Stream - Khlong Luang
River - Bang Pakong
River System - Prachin Buri River

Royal Irrigation Department
Thailand
Hydrology Division
0.77165
QS = 37.6657 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	15.63	9.16	678.75	20.69	92.42	109.78	1192.38	46.66	12.52	6.37	10.03	4.30	
2	6.37	6.37	639.87	19.29	126.37	119.19	1036.62	42.52	12.52	6.37	7.33	3.73	
3	9.16	4.84	441.45	19.99	74.97	127.38	738.03	39.11	10.88	7.33	6.37	3.73	
4	5.87	4.84	390.32	29.86	53.87	79.67	521.33	36.50	9.16	8.26	5.87	3.14	
5	3.73	4.30	300.82	66.28	251.15	55.43	377.16	33.53	10.88	9.16	5.36	3.73	
6	1.84	4.30	161.94	45.84	504.42	45.84	325.82	32.32	10.03	7.33	5.36	3.73	
7	1.08	5.36	344.99	29.23	601.06	47.48	387.70	32.32	9.16	6.37	5.36	3.73	
8	0.00	25.40	301.92	24.74	355.81	48.29	485.70	29.86	10.03	9.16	10.03	3.73	
9	0.00	34.13	167.58	29.86	148.18	45.84	557.56	28.60	9.16	45.02	9.16	4.30	
10	0.00	56.21	108.72	193.36	97.94	40.82	476.40	27.97	9.16	135.41	8.26	4.30	
11	0.00	67.26	133.42	150.11	75.91	56.21	511.68	27.97	8.26	35.61	9.16	3.73	
12	0.00	30.48	254.62	109.78	62.31	77.80	427.35	26.05	5.87	19.99	8.26	2.52	
13	0.00	22.06	165.33	264.96	66.28	140.36	459.02	24.74	7.33	15.63	9.16	8.26	
14	0.00	17.85	126.37	227.60	121.26	120.23	362.52	23.41	9.16	12.52	7.33	17.85	
15	0.00	11.71	202.08	74.02	87.93	74.02	252.31	22.74	7.33	11.71	8.26	9.16	
16	0.00	27.33	113.99	93.53	60.30	67.26	189.59	22.06	8.26	10.88	7.33	7.33	
17	0.00	132.42	74.97	249.99	51.50	82.45	163.08	21.38	7.33	10.03	7.33	5.87	
18	0.00	354.46	61.31	261.53	47.48	254.62	160.81	19.99	5.36	9.16	6.37	4.84	
19	0.00	211.91	53.87	141.35	47.48	286.41	143.31	18.57	7.33	8.26	5.87	4.30	
20	0.00	54.65	48.29	86.11	66.28	261.53	128.39	18.57	6.37	7.33	5.87	4.30	
21	0.00	39.11	40.82	59.28	190.85	295.30	163.08	17.85	7.33	6.37	5.36	3.73	
22	0.00	34.72	37.37	49.91	202.08	316.88	129.40	17.85	6.37	7.33	5.36	3.14	
23	37.37	32.32	33.53	51.50	115.04	319.35	109.78	16.38	6.37	8.26	5.87	12.52	
24	122.28	144.28	31.71	56.21	102.29	449.28	113.99	15.63	6.37	7.33	5.87	15.63	
25	92.42	219.19	29.23	56.98	72.11	910.02	124.33	14.88	6.37	9.16	5.36	9.16	
26	37.37	160.81	26.69	40.82	63.31	663.88	120.23	17.12	6.37	10.03	5.87	5.87	
27	25.40	278.57	23.41	33.53	108.72	504.42	99.03	15.63	6.37	7.33	4.84	4.84	
28	32.32	521.33	23.41	31.71	198.36	481.06	81.52	15.63	7.33	5.87	4.84	3.14	
29	25.40	531.32	25.40	32.32	198.36	584.34	77.80	15.63	6.37	10.03	4.84	2.52	
30	14.88	415.83	31.71	39.97	172.05	1022.42	63.31	14.88	7.33	9.16		2.52	
31		615.86		47.48	112.94		53.87		6.37	8.26		2.52	
Total	431.12	4078.38	5073.89	2637.83	4529.03	7687.56	10033.10	736.35	249.05	471.03	196.28	172.17	36295.80 Ton
Mean	14.37	131.56	169.13	85.09	146.10	256.25	323.65	24.55	8.03	15.19	6.77	5.55	
Max	122.28	615.86	678.75	264.96	601.06	1022.42	1192.38	46.66	12.52	135.41	10.03	17.85	1192.38
Min	0.00	4.30	23.41	19.29	47.48	40.82	53.87	14.88	5.36	5.87	4.84	2.52	0.00

WATER YEAR 1991

PRACHIN BURI RIVER BASIN

Khlong Yang at Ban Khlong Yang, Nakhon Nayok (Kgt.27)

Location	Lat. 14-12-02 N., Long. 101-22-05 E., on right bank at Ban Khlong Yang, Tambon Na Hin Lat, Amphoe Pak Phli, Nakhon Nayok.
Drainage Area	45 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1986 - Cont'd
Actual Measurement	1986 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1991

RID Computer Center, Processing : 11-JUN-1993 13:22:57.96

LQS/LQS02D/12

Station - Ban Khlong Yang, Pak Phri, Nakhon Nayok, (KGT.27)
Stream - Khlong Yang
River - Prachin Buri
River System - Prachin Buri River

Royal Irrigation Department
Thailand
Hydrology Division

1.53997
QS = 2.0209 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.00	0.00	0.25	20.49	52.59	183.41	1.07	0.69	0.08	0.04	0.00	
2	0.00	0.00	0.00	1.72	10.97	21.91	59.57	0.97	0.69	0.06	0.03	0.00	
3	0.00	0.00	0.00	27.20	6.06	19.79	26.36	0.87	0.69	0.06	0.01	0.00	
4	0.00	0.00	0.00	28.06	3.70	10.97	16.11	1.49	0.63	0.06	0.01	0.00	
5	0.00	0.00	0.00	6.71	10.52	6.71	12.35	1.84	0.51	0.06	0.00	0.00	
6	0.00	0.00	0.00	2.74	21.91	16.70	9.22	2.08	0.51	0.06	0.00	0.00	
7	0.00	0.00	0.00	1.72	91.00	33.39	40.45	1.96	0.51	0.08	0.00	0.00	
8	0.00	0.00	0.00	1.17	146.17	51.23	15.54	1.49	0.46	0.10	0.00	0.00	
9	0.00	0.00	0.00	1.27	24.84	42.61	10.08	1.38	0.40	0.10	0.00	0.00	
10	0.00	0.00	0.06	1.72	11.43	143.94	21.19	2.34	0.35	0.08	0.00	0.00	
11	0.00	0.00	0.30	1.27	6.38	190.72	19.79	2.34	0.35	0.06	0.00	0.00	
12	0.00	0.00	0.35	0.97	10.97	183.41	9.65	2.21	0.40	0.06	0.00	0.00	
13	0.00	0.00	2.08	0.78	115.06	137.33	6.71	2.21	0.35	0.04	0.00	0.00	
14	0.00	0.00	0.78	0.63	115.06	51.23	4.91	2.34	0.30	0.04	0.00	0.00	
15	0.00	0.00	0.63	1.96	47.23	36.26	6.06	2.34	0.25	0.04	0.00	0.00	
16	0.00	0.00	0.40	7.05	21.91	21.91	4.41	2.21	0.25	0.03	0.00	0.00	
17	0.00	0.00	0.30	3.03	13.30	19.10	11.43	2.08	0.25	0.03	0.00	0.00	
18	0.00	0.00	0.30	2.08	28.93	16.11	7.05	1.84	0.25	0.01	0.00	0.00	
19	0.00	0.00	0.30	1.49	132.98	11.43	4.17	1.84	0.21	0.01	0.00	0.00	
20	0.00	0.00	0.21	1.72	58.15	7.73	6.71	1.72	0.21	0.01	0.00	0.00	
21	0.00	0.00	23.36	1.27	25.60	8.80	2.74	1.60	0.12	0.00	0.00	0.00	
22	0.00	0.00	17.29	0.87	18.49	8.80	2.34	1.49	0.14	0.00	0.00	0.00	
23	0.00	0.00	3.47	0.69	16.70	6.06	2.08	1.38	0.17	0.01	0.00	0.00	
24	0.00	0.00	1.72	42.61	35.24	6.71	1.72	1.17	0.12	0.01	0.00	0.00	
25	0.00	0.00	0.97	10.52	39.39	48.55	1.38	1.17	0.10	0.00	0.00	0.00	
26	0.00	0.00	0.69	8.44	44.80	85.73	1.17	1.17	0.14	0.00	0.00	0.00	
27	0.00	0.00	0.51	9.65	33.39	34.31	0.97	1.07	0.14	0.00	0.00	0.00	
28	0.00	0.00	0.40	16.70	208.63	176.20	0.78	1.07	0.14	0.04	0.00	0.00	
29	0.00	0.00	0.30	18.49	309.89	68.99	2.08	1.07	0.14	0.12	0.00	0.00	
30	0.00	0.00	0.25	26.36	56.74	56.74	1.07	0.87	0.10	0.08		0.00	
31		0.00		35.24	89.23		1.07		0.10	0.04		0.00	
Total	0.00	0.00	54.67	264.38	1775.16	1575.96	492.57	48.68	9.67	1.37	0.09	0.00	4222.55 Ton
Mean	0.00	0.00	1.82	8.53	57.26	52.53	15.89	1.62	0.31	0.04	0.00	0.00	
Max	0.00	0.00	23.36	42.61	309.89	190.72	183.41	2.34	0.69	0.12	0.04	0.00	309.89
Min	0.00	0.00	0.00	0.25	3.70	6.06	0.78	0.87	0.10	0.00	0.00	0.00	0.00

WATER YEAR 1991

MAE KLONG RIVER BASIN

Khwae Noi River at Ban Lum Sum, Kanchanaburi (K.10)

Location	Lat. 14-05-40 N., Long. 99-10-28 E., on left bank about 100 meters upstream from Ban Lum Sum Railway station, Amphoe Sai Yok, Kanchanaburi.
Drainage Area	7,008 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1965 - Cont'd
Actual Measurement	1965 - 1967, 1971 1972, 1974 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1991

RID Computer Center, Processing : 9-JUN-1993 13:46:05.95

LQS/LQS02D/12

Station - Ban Lum Sum, Sai Yok, Khanchanaburi, (K.10)
Stream - Khwae Noi
River - Mae Klong
River System - Mae Klong

Royal Irrigation Department
Thailand
Hydrology Division

QS = 0.1009 QW$^{1.86519}$

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	809.8	1414.3	418.2	532.1	4837.9	16805.6	2884.1	5487.7	4042.0	64.7	2864.4	1704.5	
2	889.5	398.7	385.6	625.9	3996.0	15675.1	6851.2	6091.2	3146.3	44.0	1945.9	509.3	
3	1195.6	229.7	202.6	910.0	3440.5	13999.9	7102.5	6004.5	3419.1	45.9	1081.5	1327.2	
4	1622.9	994.0	186.9	920.3	2409.8	12595.1	6212.9	5169.6	4042.0	398.7	555.4	1516.9	
5	1855.4	910.0	445.5	899.7	1931.3	12595.1	6091.2	4888.3	3229.1	609.8	163.0	1582.7	
6	2409.8	451.9	666.5	879.4	2186.6	11950.4	7718.1	5744.9	1126.5	360.1	202.6	1609.4	
7	1704.5	323.4	366.0	752.3	3419.1	11404.3	6665.4	8271.2	347.7	509.3	290.0	1351.8	
8	1278.6	1004.8	378.7	532.1	3483.5	11739.0	5273.7	6976.3	424.5	1945.9	371.9	972.7	
9	1115.1	889.5	249.1	569.8	3355.2	10229.1	8022.4	7006.1	473.5	2483.1	1081.5	726.7	
10	2825.1	839.3	264.1	829.4	4300.0	10951.6	8816.2	5802.5	585.4	1622.9	625.9	1048.3	
11	2844.7	889.5	459.4	1081.5	3146.3	10748.6	8378.9	2106.2	1376.6	1839.4	800.1	1389.1	
12	2186.6	1172.3	709.4	1015.6	2651.5	9188.4	7749.3	2594.8	2237.0	1993.7	2428.0	1389.1	
13	487.9	290.0	473.5	1609.4	3814.0	9837.6	6450.1	4787.8	2747.4	1376.6	2337.6	2613.7	
14	555.4	269.2	451.9	1172.3	13148.7	9113.4	4228.9	4088.4	2121.4	752.3	2237.0	3208.3	
15	562.6	889.5	502.4	684.4	14386.2	8307.0	3355.2	3208.3	1439.6	1569.5	2613.7	4065.2	
16	609.8	1242.7	274.3	525.1	13335.8	6851.2	4989.7	2786.1	438.1	1207.3	2219.5	2708.8	
17	1569.5	829.4	317.0	790.5	14096.0	7358.1	5487.7	2538.6	1452.3	601.2	744.1	1733.9	
18	2391.7	473.5	141.1	1137.9	14096.0	7652.4	5714.8	1254.6	3570.3	404.8	225.0	4135.0	
19	1749.5	494.7	398.7	1452.3	16390.3	7487.5	5326.1	1869.8	2594.8	404.8	194.4	3505.1	
20	1569.5	306.1	744.1	1389.1	30159.3	7263.5	5570.9	2186.6	2632.6	220.3	360.1	3859.1	
21	1195.6	220.3	829.4	1327.2	37496.8	7952.0	2483.1	2252.7	2057.1	148.3	879.4	3769.1	
22	473.5	473.5	717.4	962.1	30986.3	8487.2	3658.0	2670.6	1015.6	451.9	1339.5	2766.7	
23	555.4	879.4	829.4	1242.7	23486.9	4323.8	4888.3	1993.7	473.5	335.4	1254.6	1478.0	
24	709.4	790.5	761.8	2337.6	11654.9	3836.5	2884.1	3592.1	666.5	366.0	578.1	761.8	
25	910.0	451.9	1945.9	2464.6	9301.5	4565.3	3548.5	1478.0	2303.9	290.0	578.1	3526.8	
26	1172.3	1230.8	2138.5	2303.9	9339.3	5744.9	3950.1	2983.7	2138.5	211.1	1439.6	4762.8	
27	300.7	509.3	1869.8	2286.1	11197.5	6604.0	4737.9	4938.9	2651.5	378.7	1622.9	4492.2	
28	609.8	117.7	2089.1	4228.9	11362.8	5802.5	4787.8	5092.1	2576.0	347.7	1569.5	6272.6	
29	487.9	249.1	1401.7	6636.3	15121.1	6727.0	4205.3	5247.6	1315.0	869.3	1622.9	4589.8	
30	1160.8	391.7	1302.8	5973.7	16960.1	2728.1	4663.6	2409.8	234.5	761.8		1026.4	
31		290.0		5744.9	16130.7		5092.1		84.4	1962.4		658.7	
Total	37808.9	19916.7	21920.8	53817.1	351621.9	268524.2	167788.1	121522.7	56962.7	24576.9	34226.2	75061.7	1233748.0 Ton
Mean	1260.3	642.5	730.7	1736.0	11342.6	8950.8	5412.5	4050.8	1837.5	792.8	1180.2	2421.3	
Max	2844.7	1414.3	2138.5	6636.3	37496.8	16805.6	8816.2	8271.2	4042.0	2483.1	2864.4	6272.6	37496.8
Min	300.7	117.7	141.1	525.1	1931.3	2728.1	2483.1	1254.6	84.4	44.0	163.0	509.3	44.0

WATER YEAR 1991

MAE KLONG RIVER BASIN

Huai Tha Khaei at Ban Bung, Ratchaburi (K.25)

Location	Lat. 13-25-42 N., Long. 99-24-25 E., on left bank at Ban Bung, Tambon Suan Phung, Amphoe Suan Phung, Ratchaburi.
Drainage Area	482 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1991 - Cont'd
Actual Measurement	1991 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1991

RID Computer Center, Processing : 9-JUN-1993 13:46:16.45

LQS/LQS02D/12

Station - Ban Bung, Suan Phung, Ratchaburi, (K.25)
Stream - Huai Tha Khoei
River - Lam Pha Chi
River System - Mae Klong

Royal Irrigation Department
Thailand
Hydrology Division
1.42990
QS = 16.4260 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.64	4.43	3.37	2.66	1.64	3.37	6.99	676.01	13.68	13.02	3.66	2.01	
2	2.01	3.96	2.94	2.26	2.01	3.37	6.63	467.51	15.26	10.89	3.37	2.01	
3	2.26	3.66	2.94	2.26	1.41	3.37	5.75	350.36	14.13	9.86	3.66	2.01	
4	2.01	3.37	2.94	2.26	1.41	2.94	14.13	253.04	12.58	9.26	3.37	1.64	
5	2.01	3.37	2.94	2.26	1.41	2.66	81.68	191.44	12.58	9.26	2.94	1.64	
6	2.01	2.94	2.94	2.26	1.41	2.66	148.80	155.68	12.58	8.87	2.94	2.01	
7	2.01	2.94	2.66	2.26	1.41	2.66	44.89	122.23	13.02	8.87	2.66	1.64	
8	2.01	2.66	5.24	2.26	1.41	2.26	21.32	105.43	11.94	8.87	2.66	1.41	
9	2.01	2.66	3.37	2.26	1.09	2.26	69.42	85.89	10.89	7.91	2.66	1.41	
10	2.26	2.01	2.94	2.26	1.09	2.01	480.42	87.83	10.89	7.54	2.66	1.41	
11	2.26	1.41	2.94	2.66	1.09	2.01	480.42	98.92	10.27	7.54	2.66	1.09	
12	2.66	1.64	2.94	2.66	1.41	2.01	265.42	81.68	10.27	7.54	2.94	1.41	
13	2.94	5.24	2.66	2.01	1.41	2.26	202.84	57.78	10.27	6.99	2.66	1.09	
14	2.26	11.30	2.66	2.01	1.64	2.01	210.39	46.49	10.27	6.63	2.66	1.09	
15	2.26	10.89	2.66	2.01	1.64	2.01	90.17	39.89	10.27	6.10	2.26	1.09	
16	2.01	8.87	2.66	2.26	1.64	2.01	50.06	34.78	10.27	5.75	2.26	1.09	
17	2.01	8.87	2.66	8.87	1.64	1.64	38.07	29.89	9.86	5.24	2.66	1.09	
18	2.01	5.24	2.66	3.37	2.01	8.48	38.07	23.90	9.26	5.24	2.66	1.09	
19	1.64	4.43	2.66	2.94	2.66	9.26	22.08	22.60	8.87	4.75	2.66	1.09	
20	2.01	2.94	2.66	2.66	3.66	4.75	34.78	22.08	8.87	4.43	2.26	0.79	
21	2.26	2.26	2.94	2.26	3.96	3.96	142.01	21.32	8.87	4.43	2.01	1.09	
22	7.54	2.01	3.37	2.26	3.66	3.66	1047.21	20.81	8.87	4.43	2.01	1.09	
23	41.44	5.24	2.94	2.01	2.94	3.66	1338.25	18.82	8.87	4.43	2.01	1.09	
24	6.99	3.96	2.94	2.01	2.66	69.42	1259.60	17.61	8.48	4.43	2.26	1.09	
25	5.24	3.37	2.66	2.01	2.26	22.60	1706.40	16.90	8.87	4.43	2.01	1.09	
26	8.87	3.37	2.66	2.26	2.26	13.68	1391.48	16.43	8.87	4.43	2.01	1.09	
27	4.75	3.37	2.66	2.26	2.26	10.27	1445.32	15.73	8.87	3.96	2.26	1.09	
28	4.43	3.37	2.66	2.66	2.94	8.48	12945.16	14.81	8.48	3.96	2.26	0.79	
29	15.73	3.37	2.66	2.66	3.37	7.91	5539.28	14.13	7.91	3.96	2.01	0.79	
30	5.75	3.37	2.66	2.26	3.96	7.91	2169.23	14.13	8.48	3.66		0.79	
31		3.37		2.26	3.37		1047.21		16.90	3.66		1.09	
Total	145.29	129.89	87.59	79.36	66.73	215.55	32343.48	3124.12	329.50	200.34	75.10	39.20	36836.15 Ton
Mean	4.84	4.19	2.92	2.56	2.15	7.19	1043.34	104.14	10.63	6.46	2.59	1.26	
Max	41.44	11.30	5.24	8.87	3.96	69.42	12945.16	676.01	16.90	13.02	3.66	2.01	12945.16
Min	1.64	1.41	2.66	2.01	1.09	1.64	5.75	14.13	7.91	3.66	2.01	0.79	0.79

WATER YEAR 1991

PHETCHABURI RIVER BASIN

Huai Phak at Ban Kariang, Phetchaburi (B.8)

Location	Lat. 12-48-49 N., Long. 99-41-32 E., on left bank at Ban Kariang, Tambon Song Phi Nong, Amphoe Tha Yang, Phetchaburi.
Drainage Area	264 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.DH - 59
Period of Available Records	1986 - Cont'd
Actual Measurement	1986 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1991

RID Computer Center, Processing : 9-JUN-1993 13:45:57.71

LQS/LQS02D/12

Station - Ban Kariang, Tha Yang, Phetchaburi, (B.8)
Stream - Huai Phak
River - Phetchaburi
River System - Phetchaburi River

Royal Irrigation Department
Thailand
Hydrology Division
1.36379
QS = 5.2536 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.00	0.23	1.82	0.55	0.71	1.26	4.28	27.77	1.82	1.61	0.84	0.09	
2	0.00	0.23	3.48	0.55	0.63	21.29	3.74	20.15	2.10	1.61	0.84	0.07	
3	0.00	0.23	2.38	0.47	0.55	5.11	3.23	15.21	2.10	1.71	0.71	0.09	
4	0.00	0.23	16.26	0.47	0.55	4.01	2.74	12.16	1.61	1.71	0.71	0.03	
5	0.00	0.17	5.40	0.47	0.47	2.50	5.69	10.31	1.51	1.82	0.84	0.00	
6	0.00	0.17	3.48	0.36	0.36	2.10	6.97	9.22	1.61	1.82	0.93	0.00	
7	0.00	0.17	4.01	0.36	0.23	1.82	8.23	7.91	1.51	1.82	0.93	0.00	
8	0.00	0.17	9.97	0.36	0.17	1.61	5.98	7.28	1.35	1.82	0.93	0.00	
9	0.00	0.23	3.48	0.47	0.26	1.51	6.97	6.28	1.61	1.71	1.02	0.00	
10	0.00	0.23	1.99	0.55	0.26	1.26	7.28	7.28	1.99	1.71	0.93	0.00	
11	0.00	0.23	1.51	0.55	0.23	1.26	6.97	10.31	1.82	1.71	0.84	0.00	
12	1.61	0.17	1.26	0.47	0.29	1.16	6.66	7.59	1.71	1.82	0.71	0.00	
13	0.47	0.17	1.26	0.29	0.55	1.51	5.69	6.28	1.35	1.71	0.71	0.00	
14	0.26	0.14	1.02	0.29	0.29	1.61	4.83	5.69	1.51	1.51	0.71	0.00	
15	0.36	0.14	0.84	0.29	0.29	1.99	4.01	5.11	1.26	1.26	0.55	0.00	
16	0.36	0.14	0.71	0.47	0.29	1.71	3.48	4.28	1.51	1.16	0.63	0.00	
17	0.29	0.14	0.55	0.55	0.36	1.51	2.74	4.01	1.51	0.84	0.63	0.00	
18	0.26	0.14	0.55	0.63	0.55	1.35	2.21	3.48	1.51	0.71	0.63	0.00	
19	0.23	0.14	0.55	0.55	0.93	1.35	1.99	3.23	1.61	0.84	0.55	0.00	
20	0.23	0.17	0.63	0.47	1.26	1.26	1.99	2.74	1.51	0.93	0.29	0.00	
21	0.17	0.17	0.63	0.36	1.16	1.26	1.99	2.50	1.35	1.02	0.23	0.00	
22	0.11	0.17	0.93	0.36	1.02	1.16	7.91	2.50	1.35	0.93	0.14	0.00	
23	0.09	0.14	0.93	0.36	0.71	1.51	48.47	2.50	1.26	0.93	0.03	0.00	
24	0.11	0.14	0.93	0.36	0.71	1.71	51.87	2.21	1.26	0.84	0.03	0.00	
25	0.11	0.09	0.93	0.36	0.63	5.40	128.58	2.21	1.35	0.84	0.03	0.00	
26	0.11	0.09	0.84	0.55	0.63	8.23	106.75	2.21	1.26	0.84	0.03	0.00	
27	0.14	0.14	0.55	0.71	0.63	6.28	80.52	1.99	1.26	0.71	0.03	0.00	
28	0.17	0.26	0.29	0.84	0.63	6.97	550.84	1.99	1.16	0.71	0.09	0.00	
29	0.17	0.29	0.29	0.93	0.71	6.66	217.61	1.99	1.16	0.71	0.09	0.00	
30	0.17	0.29	0.36	0.84	0.93	5.40	85.61	1.82	1.26	0.84		0.00	
31		0.29		0.71	1.16		44.11		1.71	0.84		0.00	
Total	5.42	5.71	67.83	15.55	18.15	101.76	1419.94	198.21	46.89	39.04	15.63	0.28	1934.41 Ton
Mean	0.18	0.18	2.26	0.50	0.59	3.39	45.80	6.61	1.51	1.26	0.54	0.01	
Max	1.61	0.29	16.26	0.93	1.26	21.29	550.84	27.77	2.10	1.82	1.02	0.09	550.84
Min	0.00	0.09	0.29	0.29	0.17	1.16	1.99	1.82	1.16	0.71	0.03	0.00	0.00

WATER YEAR 1991

WEST COAST-GULF BASIN

Khlong Bang Saphan Yai at Ban Wang Yao, Prachuap Khiri Khan (GT.7)

Location	Lat. 11-14-02 N., Long. 99-26-35 E., on left bank near the bridge of Phet Kasem Highway at Ban Wang Yao, Tambon Ron Thong, Amphoe Bang Saphan, Prachuap Khiri Khan.
Drainage Area	346 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.DH - 59
Period of Available Records	1984 - Cont'd
Actual Measurement	1984 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1984 - 1991

RID Computer Center, Processing : 9-JUN-1993 13:46:26.53

LQS/LQS02D/12

Station - Ban Wang Yao, Bang Saphan, Prachuap Khiri Khan, (GT.7)
Stream - Khlong Bang Saphan Yai
River - Khlong Bang Saphan Yai
River System - West Coast-Gulf

Royal Irrigation Department
Thailand
Hydrology Division

1.07522
QS = 11.8934 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.56	11.38	201.51	21.31	33.23	139.60	97.86	156.08	20.24	13.95	11.89	17.08	
2	13.95	11.38	86.79	17.08	26.41	97.86	75.82	118.90	21.31	14.99	11.38	13.95	
3	14.99	23.72	51.67	20.24	22.38	75.82	56.79	97.86	20.24	22.38	11.38	13.95	
4	10.87	13.95	37.37	27.76	20.24	60.22	45.74	80.19	20.24	17.08	11.38	12.92	
5	9.86	35.98	29.12	19.18	18.13	49.97	58.50	67.12	19.18	16.03	11.38	12.92	
6	9.86	49.97	23.72	18.13	20.24	49.97	47.15	60.22	18.13	13.95	10.87	11.38	
7	9.36	27.76	25.06	16.03	31.86	55.08	41.54	55.08	18.13	13.95	10.87	10.87	
8	9.86	34.60	37.37	16.03	48.56	158.83	37.37	49.97	17.08	12.92	11.38	11.38	
9	9.36	16.03	20.24	14.99	35.98	153.32	35.98	55.08	16.03	12.92	10.37	11.38	
10	8.85	13.95	16.03	13.95	30.49	118.90	38.75	201.51	14.99	17.08	10.37	10.87	
11	7.36	12.92	14.99	12.92	25.06	91.21	42.94	370.66	16.03	3.26	10.37	10.87	
12	6.13	11.89	14.99	12.92	25.06	71.46	82.39	182.87	14.99	0.00	10.87	10.37	
13	5.40	11.38	14.99	17.08	23.72	61.94	134.29	131.72	14.99	0.00	11.89	10.87	
14	5.04	10.87	20.24	30.49	26.41	56.79	234.43	100.08	16.03	0.00	19.18	10.37	
15	4.32	10.37	13.95	37.37	38.75	51.67	97.86	75.82	14.99	0.00	22.38	10.87	
16	3.61	10.37	12.92	29.12	56.79	47.15	63.66	61.94	13.95	0.00	33.23	10.37	
17	3.61	9.86	13.95	21.31	69.29	40.14	49.97	53.37	13.95	2.56	38.75	10.37	
18	3.61	9.86	17.08	19.18	111.26	35.98	45.74	47.15	13.95	13.95	40.14	9.86	
19	3.26	9.86	14.99	17.08	285.99	38.75	41.54	42.94	13.95	12.92	37.37	9.86	
20	2.91	9.86	17.08	14.99	403.29	38.75	40.14	40.14	13.95	11.89	37.37	9.86	
21	1.88	9.36	17.08	14.99	306.01	48.56	223.42	37.37	12.92	11.89	31.86	8.85	
22	7.36	9.36	18.13	40.14	285.99	37.37	214.01	34.60	12.92	11.89	30.49	9.36	
23	71.46	10.37	17.08	60.22	270.05	40.14	457.53	31.86	12.92	11.89	26.41	9.36	
24	17.08	9.86	18.13	34.60	214.01	34.60	411.47	30.49	12.92	11.89	58.50	9.86	
25	31.86	10.87	14.99	29.12	786.13	34.60	274.03	29.12	11.89	11.89	95.64	9.36	
26	26.41	16.03	13.95	26.41	673.57	30.49	223.42	27.76	11.89	11.89	78.00	9.36	
27	13.95	11.38	31.86	30.49	297.99	29.12	302.00	26.41	11.89	11.89	30.49	9.86	
28	11.89	21.31	78.00	40.14	238.37	27.76	1429.97	25.06	18.13	11.89	22.38	9.86	
29	11.38	47.15	71.46	86.79	278.01	25.06	846.30	23.72	22.38	11.38	18.13	9.86	
30	10.87	238.37	31.86	56.79	217.14	93.42	374.72	22.38	14.99	11.38		9.36	
31		447.63		38.75	204.63		223.42		14.99	11.38		8.85	
Total	348.91	1177.65	996.60	855.60	5125.04	1894.53	6348.75	2337.47	490.19	329.09	764.72	334.31	21002.86 Ton
Mean	11.63	37.99	33.22	27.60	165.32	63.15	204.80	77.92	15.81	10.62	26.37	10.78	
Max	71.46	447.63	201.51	86.79	786.13	158.83	1429.97	370.66	22.38	22.38	95.64	17.08	1429.97
Min	1.88	9.36	12.92	12.92	18.13	25.06	35.98	22.38	11.89	0.00	10.37	8.85	0.00

WATER YEAR 1991

WEST COAST-GULF BASIN

Khlong Thap Sakae at Ban Klang, Prachuap Khiri Khan (GT.9)

Location	Lat. 11-29-39 N., Long. 99-36-21 E., on right bank at Ban Klang, Tambon Thap Sakae, Amphoe Thap Sakae, Prachuap Khiri Khan.
Drainage Area	120 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.DH - 59
Period of Available Records	1988 - Cont'd
Actual Measurement	1988 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1991

RID Computer Center, Processing : 9-JUN-1993 13:46:37.38 LQS/LQS02D/12

Station - Ban Klang, Thap Sakae, Prachuap Khiri Khan, (GT.9)
Stream - Khlong Thap Sakae
River - Khlong Thap Sakae
River System - West Coast-Gulf

Royal Irrigation Department
Thailand
Hydrology Division 010992
1.11623
QS = 35.9642 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	6.30	7.65	156.79	5.63	60.77	80.58	14.38	101.80	4.33	0.00	0.00	15.85	
2	54.45	11.14	72.76	4.98	60.77	56.55	9.73	62.90	3.69	0.00	0.00	7.65	
3	9.03	10.43	44.08	9.03	32.77	48.20	4.98	50.28	3.06	0.00	0.00	4.33	
4	13.66	9.03	28.03	15.85	19.20	37.57	3.37	39.19	2.15	0.99	0.00	3.06	
5	11.14	8.34	21.85	11.14	15.85	23.77	3.69	26.09	1.56	0.72	0.00	0.72	
6	9.73	8.34	19.96	9.73	14.38	19.96	6.30	21.85	0.99	0.00	0.00	0.21	
7	8.34	13.66	17.71	9.03	12.57	22.62	4.98	16.59	0.72	0.00	0.00	0.00	
8	7.65	11.85	17.71	8.34	13.66	28.03	3.37	14.38	0.72	0.00	0.00	0.00	
9	6.97	11.14	15.85	7.65	11.14	28.03	3.37	58.66	0.21	0.00	0.00	0.00	
10	6.97	10.43	14.38	6.30	10.43	31.18	3.06	1495.13	0.00	290.58	0.00	0.00	
11	6.30	10.43	12.57	6.97	9.73	22.62	6.30	1007.50	0.00	88.48	0.00	0.00	
12	6.30	9.73	12.57	5.63	9.73	15.85	42.44	317.65	0.00	28.03	0.00	0.00	
13	4.98	9.73	11.85	6.30	9.03	25.31	42.44	151.19	0.00	17.71	0.00	0.00	
14	4.33	8.34	12.57	6.97	9.73	24.54	34.36	115.31	0.00	11.85	0.00	0.00	
15	3.37	5.63	11.14	6.97	11.85	21.09	19.20	93.78	0.00	9.03	0.00	0.00	
16	3.37	4.33	10.43	7.65	17.71	15.85	12.57	62.90	0.00	6.30	0.00	0.00	
17	3.37	4.33	11.14	9.03	14.38	11.85	8.34	56.55	0.00	4.33	0.00	0.00	
18	3.06	3.37	11.85	9.73	22.62	8.34	5.63	40.81	0.00	2.15	0.00	0.00	
19	2.15	3.37	17.71	8.34	348.02	6.30	4.33	24.54	0.00	0.72	0.00	0.00	
20	1.56	3.37	15.85	7.65	384.83	5.63	3.06	19.20	0.00	0.21	0.00	0.00	
21	0.99	3.06	13.66	8.34	207.15	6.30	265.75	15.12	0.00	0.21	0.00	0.00	
22	4.98	3.06	11.85	7.65	265.75	5.63	118.04	13.66	0.00	0.00	0.00	0.00	
23	9.03	3.06	13.66	7.65	180.37	4.33	96.45	11.14	0.00	0.00	0.00	0.00	
24	8.34	11.85	10.43	6.97	142.82	3.37	104.49	11.14	0.00	0.00	0.00	0.00	
25	11.85	9.73	9.73	6.97	156.79	3.06	93.78	6.97	0.00	0.00	29.60	0.00	
26	19.96	9.73	8.34	9.03	173.73	2.45	70.17	7.65	0.00	0.00	153.99	0.00	
27	14.38	9.73	7.65	9.73	131.74	2.15	203.78	7.65	0.00	0.00	88.48	0.00	
28	11.14	19.20	6.97	8.34	118.04	1.56	9299.33	4.98	0.00	0.00	80.58	0.00	
29	9.73	27.25	6.97	148.39	115.31	1.56	1272.08	5.63	0.00	0.00	48.20	0.00	
30	9.03	285.60	6.97	153.99	99.12	11.85	378.66	3.37	0.00	0.00		0.00	
31		250.96		80.58	109.89		173.73		0.00	0.00		0.00	
Total	272.46	797.87	633.03	610.56	2789.88	576.13	12312.16	3863.61	17.43	461.31	400.85	31.82	22767.11 Ton
Mean	9.08	25.74	21.10	19.70	90.00	19.20	397.17	128.79	0.56	14.88	13.82	1.03	
Max	54.45	285.60	156.79	153.99	384.83	80.58	9299.33	1495.13	4.33	290.58	153.99	15.85	9299.33
Min	0.99	3.06	6.97	4.98	9.03	1.56	3.06	3.37	0.00	0.00	0.00	0.00	0.00

WATER YEAR 1991

WEST COAST-GULF BASIN

Khlong Cha Kra at Ban Cha Kra Bon, Prachuap Khiri Khan (GT.18)

Location	Lat.11-26-46 N., Long. 99-34-10 E., on left bank at the bridge of Phet Kasem Highway near the guidepost 371, Tambon Na Hu Kwang, Amphoe Thap Sakae, Prachuap Khiri Khan.
Drainage Area	93 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.DH - 59
Period of Available Records	1988 - Cont'd
Actual Measurement	1988 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1991

RID Computer Center, Processing : 9-JUN-1993 13:46:48.09

LQS/LQS02D/12

Station - Ban Cha Kra Bon, Thap Sakae, Prachuap Khiri Khan, (GT.18)
Stream - Khlong Cha Kra
River - Khlong Cha Kra
River System - West Coast-Gulf

Royal Irrigation Department
Thailand
Hydrology Division 010992
1.32129
QS = 49.3126 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	2.35	6.67	289.76	18.70	76.19	195.85	102.52	278.78	68.33	42.90	35.51	47.37	
2	5.50	4.74	121.60	16.67	63.44	145.67	91.76	204.09	68.33	42.90	33.72	41.02	
3	4.02	4.02	71.17	44.80	51.94	119.17	76.19	152.49	71.17	49.31	33.72	37.33	
4	4.02	3.33	49.31	91.76	39.17	104.86	66.22	133.09	63.44	42.90	33.72	33.72	
5	3.33	3.33	35.51	49.31	31.95	97.10	58.63	119.17	63.44	42.90	31.95	33.72	
6	2.67	10.49	24.01	58.63	33.72	94.04	58.63	111.17	58.63	42.90	30.20	31.95	
7	2.35	11.86	20.78	41.02	33.72	99.41	71.17	104.86	58.63	39.17	30.20	30.20	
8	2.35	31.95	18.70	28.48	39.17	127.31	63.44	97.10	56.60	37.33	28.48	28.48	
9	2.35	11.86	14.69	24.01	31.95	115.95	71.17	160.26	54.59	37.33	28.48	28.48	
10	2.05	9.17	14.69	21.85	28.48	136.42	78.37	2514.25	54.59	514.61	28.48	28.48	
11	1.75	7.90	14.69	17.68	25.11	111.17	94.04	1590.61	51.94	136.42	28.48	28.48	
12	1.20	6.27	14.69	17.68	22.92	102.52	220.82	720.32	51.94	91.76	28.48	28.48	
13	0.70	5.50	14.69	16.67	25.11	111.17	152.49	357.67	51.94	78.37	28.48	28.48	
14	0.48	5.50	16.67	61.37	58.63	97.10	212.42	268.90	49.31	61.37	28.48	26.78	
15	0.28	5.50	30.20	37.33	58.63	94.04	130.61	220.82	49.31	54.59	31.95	26.78	
16	0.11	4.38	12.79	68.33	58.63	91.76	104.86	179.62	47.37	51.94	28.48	25.11	
17	0.00	3.33	13.73	44.80	56.60	78.37	111.17	155.93	49.31	44.80	26.78	25.11	
18	0.00	4.02	44.80	33.72	246.50	71.17	138.93	142.29	49.31	42.90	26.78	25.11	
19	0.00	3.33	31.95	26.78	2693.73	63.44	111.17	130.61	47.37	41.02	26.78	25.11	
20	0.00	3.33	44.80	22.92	1252.95	61.37	113.55	121.60	47.37	41.02	25.11	24.01	
21	0.00	3.33	28.48	22.92	607.56	61.37	460.03	115.95	47.37	41.02	25.11	25.11	
22	0.00	3.33	28.48	22.92	500.83	61.37	268.90	108.00	42.90	39.17	25.11	24.01	
23	13.73	4.38	24.01	28.48	428.89	56.60	263.99	97.10	42.90	39.17	25.11	24.01	
24	3.33	6.27	19.73	22.92	300.83	54.59	289.76	91.76	44.80	37.33	30.20	24.01	
25	11.40	25.11	16.67	24.01	704.11	61.37	260.08	91.76	42.90	37.33	339.85	24.01	
26	7.90	14.69	13.73	63.44	434.41	54.59	191.31	84.26	42.90	37.33	148.22	24.01	
27	5.50	31.95	12.79	121.60	272.84	51.94	312.01	78.37	41.02	37.33	81.30	24.01	
28	4.38	31.95	39.17	71.17	300.83	54.59	15541.68	76.19	54.59	37.33	63.44	24.01	
29	4.02	54.59	31.95	234.05	260.08	51.94	2213.76	76.19	51.94	35.51	54.59	24.01	
30	3.33	2337.83	22.92	142.29	217.08	91.76	815.57	71.17	44.80	35.51		22.92	
31		1143.97		91.76	234.05		446.62		42.90	35.51		22.92	
Total	89.10	3803.88	1137.16	1588.07	9190.05	2718.01	23191.87	8654.38	1611.94	1948.98	1387.19	867.23	56187.87 Ton
Mean	2.97	122.71	37.91	51.23	296.45	90.60	748.12	288.48	52.00	62.87	47.83	27.98	
Max	13.73	2337.83	289.76	234.05	2693.73	195.85	15541.68	2514.25	71.17	514.61	339.85	47.37	15541.68
Min	0.00	3.33	12.79	16.67	22.92	51.94	58.63	71.17	41.02	35.51	25.11	22.92	0.00

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

Khlong Phum Duang at Khiri Ratthanikhom, Surat Thani (X.36)

Location	Lat. 9-01-46 N., Long. 98-58-00 E., on left bank at Ban Tha Khanon, Amphoe Khiri Ratthanikhom, Surat Thani.
Drainage Area	3,012 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1989 - Cont'd
Actual Measurement	1989 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1989 - 1991

RID Computer Center, Processing : 9-JUN-1993 13:47:00.19 LQS/LQS02D/12

Station - Khiri Ratthanikhom, Khiri Ratthanikhom, Surat Thani, (X.36)
Stream - Khlong Phum Duang
River - Tapi
River System - PENINSULAR EAST COAST

Royal Irrigation Department
Thailand
Hydrology Division 060892
1.10257
QS = 1.8727 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	170.52	146.19	318.45	122.23	260.84	2248.78	1433.17	595.88	126.20	99.96	228.94	156.29	
2	207.08	47.01	431.96	144.18	287.04	1509.71	1077.02	531.70	136.16	85.44	134.16	79.34	
3	58.33	172.57	382.88	116.31	235.53	1358.83	870.96	423.24	99.96	108.81	59.81	187.60	
4	334.87	337.62	838.44	142.17	251.58	1167.42	806.19	294.77	118.28	136.16	39.54	187.60	
5	354.53	79.34	802.63	74.79	110.59	1022.90	714.21	431.96	98.20	118.28	35.99	144.18	
6	371.51	82.39	675.62	101.72	194.07	867.34	547.15	696.64	130.17	162.38	39.54	152.24	
7	120.25	166.45	575.58	130.17	292.19	867.34	351.70	553.46	93.14	305.10	45.76	65.76	
8	140.17	510.23	172.57	110.59	323.92	914.71	528.63	619.85	120.25	297.34	56.85	67.26	
9	394.27	417.43	112.37	204.91	231.14	806.19	431.96	525.56	118.28	231.14	86.98	142.17	
10	470.58	420.33	148.21	294.77	207.08	922.06	434.87	394.27	185.44	183.29	88.51	158.31	
11	343.24	467.54	130.17	385.72	166.45	799.08	482.75	299.93	176.85	79.34	191.91	156.29	
12	204.91	374.35	233.33	385.72	144.18	813.30	461.47	537.85	156.29	79.34	198.40	158.31	
13	74.79	191.91	318.45	491.89	112.37	784.87	595.88	343.24	168.48	310.27	294.77	275.00	
14	59.81	458.44	400.05	528.63	116.31	735.34	307.68	253.89	136.16	256.21	299.93	282.10	
15	47.01	504.11	507.17	249.26	142.17	559.77	405.83	233.33	162.38	148.21	302.51	246.95	
16	114.34	429.05	414.53	246.95	112.37	380.03	357.35	351.70	172.57	126.20	253.89	299.93	
17	217.99	429.05	321.18	244.65	178.99	550.31	498.00	140.17	202.74	96.44	224.55	426.14	
18	110.59	326.65	282.10	220.17	246.95	612.91	351.70	164.41	196.24	68.76	93.14	357.35	
19	365.84	183.29	321.18	297.34	654.65	1116.24	297.34	198.40	228.94	74.79	96.44	440.70	
20	346.06	158.31	299.93	220.17	929.42	1108.39	275.00	228.94	168.48	82.39	103.49	313.00	
21	122.23	307.68	501.05	142.17	870.96	1179.26	191.91	181.14	126.20	76.30	76.30	181.14	
22	29.53	258.52	340.43	215.80	874.58	870.96	211.44	174.71	122.23	73.28	187.60	279.73	
23	47.01	310.27	235.53	299.93	892.70	504.11	525.56	150.22	118.28	90.05	144.18	363.01	
24	94.68	187.60	284.47	889.08	738.87	654.65	414.53	178.99	160.34	82.39	99.96	310.27	
25	88.51	310.27	244.65	2058.36	498.00	569.25	340.43	181.14	323.92	62.78	150.22	343.24	
26	114.34	289.61	142.17	1646.49	693.13	602.66	626.80	194.07	200.57	64.27	124.21	423.24	
27	122.23	146.19	150.22	749.46	1026.68	640.71	745.93	380.03	217.99	90.05	196.24	363.01	
28	112.37	114.34	118.28	337.62	885.45	693.13	929.42	329.39	204.91	168.48	114.34	315.72	
29	116.31	132.17	198.40	253.89	936.77	770.69	988.88	209.26	170.52	103.49	114.34	299.93	
30	417.43	124.21	140.17	260.84	1487.03	1096.62	827.63	307.68	164.41	176.85		136.16	
31		56.85		318.45	2354.67		540.92		132.17	220.17		189.75	
Total	5771.33	8139.97	10042.17	11884.43	16456.68	26727.56	17572.31	10105.82	4936.75	4257.96	4082.50	7501.72	127479.21 Ton
Mean	192.38	262.58	334.74	383.37	530.86	890.92	566.85	336.86	159.25	137.35	140.78	241.99	
Max	470.58	510.23	838.44	2058.36	2354.67	2248.78	1433.17	696.64	323.92	310.27	302.51	440.70	2354.67
Min	29.53	47.01	112.37	74.79	110.59	380.03	191.91	140.17	93.14	62.78	35.99	65.76	29.53

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

Tapi River at Phrasaeng, Surat Thani (X.37A)

Location	Lat. 8-34-03 N., Long. 99-15-15 E., on left bank at Tambon Yan Din Daeng, Amphoe Phrasaeng, Surat Thani.
Drainage Area	5,200 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1990 - Cont'd
Actual Measurement	1990 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1991

RID Computer Center, Processing : 9-JUN-1993 13:47:11.06

LQS/LQS02D/12

Station - Phrasaeng, Phrasaeng, Surat Thani, (X.37A)
Stream - Tapi
River - Tapi
River System - PENINSULAR EAST COAST

Royal Irrigation Department
Thailand
Hydrology Division 050892
1.49714
QS = 0.4347 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	18.62	19.30	808.46	56.76	1962.30	2568.03	1771.85	2536.68	456.55	496.78	95.65	47.83	
2	17.94	22.84	727.44	68.97	1840.69	2896.94	1840.69	2376.76	456.55	690.26	92.16	41.91	
3	17.94	22.84	886.96	100.96	1697.29	3283.47	1860.51	2128.41	413.97	839.57	87.00	40.88	
4	24.31	25.81	1125.82	171.71	1624.81	3381.78	1801.25	1791.43	349.44	829.16	81.95	38.83	
5	42.95	33.88	1298.03	209.20	1490.31	3303.05	1679.08	1432.42	290.06	663.36	80.29	35.84	
6	39.85	33.88	1332.97	197.92	1304.99	3166.76	1534.22	1138.23	249.07	522.97	75.37	32.92	
7	33.88	59.41	1028.62	197.92	1175.73	3020.72	1368.21	962.37	223.01	572.77	73.75	32.10	
8	31.29	85.31	967.83	191.25	1125.82	2861.89	1251.92	813.62	204.66	616.06	68.97	31.29	
9	30.49	83.62	1169.45	180.31	1076.63	2758.80	1156.93	685.75	191.25	561.14	67.58	29.69	
10	28.12	62.09	1076.63	186.85	995.31	2662.85	1138.23	654.47	178.14	438.64	64.81	31.29	
11	25.06	81.95	834.36	171.71	839.57	2505.46	1207.28	628.05	167.46	342.86	62.09	34.86	
12	24.31	72.15	600.20	150.83	690.26	2336.06	1291.08	747.43	171.71	295.72	62.09	36.83	
13	22.12	50.33	435.08	197.92	565.01	2128.41	1396.63	1040.23	278.85	284.44	81.95	32.10	
14	19.99	42.95	318.71	369.42	449.36	1870.45	1461.27	1163.18	690.26	256.88	77.00	29.69	
15	18.62	42.95	244.26	493.08	349.44	1588.96	1410.91	1107.29	984.29	227.67	85.31	28.90	
16	16.61	36.83	191.25	596.25	287.24	1325.95	1264.78	951.47	1070.54	237.10	73.75	27.34	
17	15.96	33.88	154.93	787.94	246.66	1119.63	1082.74	772.66	1125.82	239.48	67.58	26.57	
18	14.07	28.12	126.99	722.47	225.34	973.31	956.92	654.47	1028.62	267.79	63.45	25.06	
19	13.45	28.90	108.20	641.22	273.30	892.28	850.03	592.32	813.62	244.26	60.74	23.57	
20	13.45	28.12	93.90	504.22	519.20	897.61	1082.74	612.08	641.22	209.20	56.76	23.57	
21	12.85	37.83	85.31	342.86	973.31	1017.47	1304.99	645.62	620.05	184.66	52.87	22.12	
22	12.85	64.81	81.95	301.41	1432.42	1188.32	1251.92	803.31	663.36	167.46	51.59	21.40	
23	11.66	92.16	77.00	349.44	1669.99	1284.14	1347.03	871.07	561.14	154.93	51.59	21.40	
24	13.45	128.93	87.00	565.01	1791.43	1318.95	1519.54	727.44	456.55	150.83	45.37	20.69	
25	15.32	154.93	97.41	1125.82	1811.08	1361.14	1651.87	628.05	382.95	148.79	44.15	19.99	
26	16.61	193.46	88.71	1571.14	1752.34	1410.91	1715.58	561.14	346.14	134.79	41.91	19.99	
27	20.69	189.04	75.37	1840.69	1669.99	1461.27	1781.63	557.28	324.54	126.99	39.85	19.30	
28	19.30	262.32	62.09	2140.45	1669.99	1548.96	1974.01	608.11	290.06	119.35	38.83	19.99	
29	20.69	482.02	60.74	2336.06	1743.13	1669.99	2215.35	624.05	265.05	111.87	42.95	18.62	
30	19.99	690.26	55.45	2282.15	1962.30	1801.25	2404.03	530.53	239.48	104.56		17.94	
31		839.57		2092.44	2255.35		2552.34		278.85	99.18		18.62	
Total	632.44	4030.49	14301.12	21144.38	37470.59	59604.81	47125.56	29345.92	14413.26	10339.52	1887.36	871.13	241166.59 Ton
Mean	21.08	130.02	476.70	682.08	1208.73	1986.83	1520.18	978.20	464.94	333.53	65.08	28.10	
Max	42.95	839.57	1332.97	2336.06	2255.35	3381.78	2552.34	2536.68	1125.82	839.57	95.65	47.83	3381.78
Min	11.66	19.30	55.45	56.76	225.34	892.28	850.03	530.53	167.46	99.18	38.83	17.94	11.66

WATER YEAR 1991

SOUTHERN PENNINSULA EAST COAST

Khlong Tha Di at Ban Pak Prik, Nakhon Si Thammarat (X.55)

Location	Lat. 08-23-53 N., Long. 99-50-15 E., on left bank at the bridge on road, Ban Pak Prik, Amphoe Lan Saka, Nakhon Si Thammarat.
Drainage Area	105 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1989 - Cont'd
Actual Measurement	1989 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1991

RID Computer Center, Processing : 9-JUN-1993 13:47:20.21 LQS/LQS02D/12

Station - Ban Pak Prik, Lan Saka, Nakhon Si Thammarat, (X.55)
Stream - Khlong Tha Di
River - Khlong Tha Di
River System - PENINSULAR EAST COAST

Royal Irrigation Department
Thailand
Hydrology Division 050892
1.38088
QS = 1.3491 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	3.04	7.61	36.30	6.44	5.32	13.85	11.10	14.56	15.65	856.38	17.51	8.84	
2	10.44	6.72	26.97	7.02	4.78	10.77	8.22	11.10	14.56	149.20	16.02	8.22	
3	71.45	8.84	28.90	5.59	7.31	9.47	6.72	9.79	15.65	89.04	15.28	7.91	
4	26.97	4.52	20.21	5.05	5.05	9.47	5.87	7.02	14.92	60.99	14.92	7.61	
5	19.04	5.59	15.28	5.05	4.78	6.72	5.05	5.05	13.15	48.58	14.56	7.31	
6	16.76	6.72	14.20	8.52	7.02	6.15	5.59	4.52	11.77	41.23	14.20	7.02	
7	12.11	6.15	196.53	5.05	5.05	5.32	4.78	4.26	11.43	35.60	13.85	6.72	
8	11.43	12.45	34.92	4.78	4.78	7.61	4.52	4.01	10.44	33.55	13.15	6.72	
9	10.11	7.91	21.40	6.72	3.76	6.15	4.01	7.31	9.47	29.55	12.80	14.56	
10	9.15	6.72	17.51	4.78	3.51	5.59	5.59	11.43	9.15	29.55	12.45	11.43	
11	8.22	5.32	14.92	4.01	3.27	5.32	4.26	178.16	10.11	27.61	12.45	8.22	
12	7.61	7.02	13.50	7.61	2.81	5.05	3.51	131.76	225.88	39.10	12.80	7.61	
13	7.02	5.05	12.45	11.43	2.58	4.52	3.51	58.60	867.78	31.54	14.92	7.31	
14	6.44	4.01	11.77	5.87	2.36	3.76	3.27	66.66	311.36	34.23	12.80	7.02	
15	5.87	3.51	10.44	5.32	2.15	3.51	2.81	34.92	176.51	34.92	20.60	6.72	
16	5.32	3.27	9.79	5.05	2.81	4.52	2.58	23.01	87.97	115.57	14.20	6.44	
17	5.05	4.01	9.15	4.78	2.36	3.51	2.36	20.21	57.81	138.80	12.80	6.15	
18	4.78	3.76	8.52	5.87	18.65	4.01	2.15	18.65	58.60	61.79	11.43	5.59	
19	4.26	3.27	7.91	4.52	13.15	3.51	2.15	19.82	105.40	44.87	10.77	5.59	
20	4.01	2.81	7.61	4.26	10.77	7.61	1.94	17.89	157.10	36.30	10.44	5.32	
21	3.76	2.58	6.72	4.52	15.28	7.91	8.52	71.45	61.79	32.21	10.44	5.05	
22	3.76	9.15	6.44	7.02	8.52	6.15	3.51	24.45	47.08	31.54	10.11	4.78	
23	3.51	4.26	7.61	4.52	6.44	11.43	68.47	23.42	34.92	44.13	9.79	4.78	
24	8.22	20.21	6.44	12.45	13.50	5.87	14.56	26.33	31.54	34.23	9.47	4.78	
25	7.61	10.77	6.15	21.80	7.61	10.77	10.11	57.81	32.21	28.90	11.10	4.52	
26	7.02	9.79	5.59	17.89	10.77	7.91	35.60	44.13	29.55	25.07	10.11	4.52	
27	6.15	9.79	5.05	11.77	11.10	12.45	21.40	25.70	24.45	23.01	9.47	4.26	
28	4.52	12.45	4.78	8.22	12.80	8.52	18.27	21.00	22.60	22.20	9.15	4.01	
29	3.51	12.80	5.05	6.72	10.44	8.84	16.39	18.27	28.90	21.40	8.52	3.76	
30	7.02	111.01	6.15	6.15	43.40	17.13	11.77	17.89	53.14	19.82		3.51	
31		31.54		7.31	21.00		18.65		392.64	18.65		3.51	
Total	304.16	349.61	578.26	226.09	273.13	223.40	317.24	979.18	2943.53	2239.56	366.11	199.79	9000.06 Ton
Mean	10.14	11.28	19.28	7.29	8.81	7.45	10.23	32.64	94.95	72.24	12.62	6.44	
Max	71.45	111.01	196.53	21.80	43.40	17.13	68.47	178.16	867.78	856.38	20.60	14.56	867.78
Min	3.04	2.58	4.78	4.01	2.15	3.51	1.94	4.01	9.15	18.65	8.52	3.51	1.94

WATER YEAR 1991

SOUTHERN PENNINSULA EAST COAST

Khlong Ban Tan at Ban Wang Kong, Nakhon Si Thammarat (X.70)

Location	Lat.08-25-35 N., Long. 99-51-53 E.,On left bank upstream side of the bridge, Ban Wang Kong, Amphoe Muang, Nakhon Si Thammarat.
Drainage Area	39 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1989 -Cont'd
Actual Measurement	1989 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1989 - 1991

RID Computer Center, Processing : 9-JUN-1993 13:47:28.50

LQS/LQS02D/12

Station - Ban Wang Kong, Muang, Nakhon Si Thammarat, (X.70)
Stream - Khlong Ban Tan
River - Khlong Ban Tan
River System - PENINSULAR EAST COAST

Royal Irrigation Department
Thailand
Hydrology Division 050892
1.46637
QS = 2.5618 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.71	3.02	18.49	1.52	1.42	2.12	1.91	4.83	5.24	267.36	2.79	2.79	
2	45.00	2.68	18.14	1.81	1.24	1.52	1.61	3.51	4.69	53.36	2.45	2.34	
3	46.12	1.81	14.75	1.71	1.24	1.33	1.33	3.02	4.69	28.74	2.34	2.34	
4	6.87	1.81	9.82	1.61	2.34	1.15	0.98	2.91	4.15	16.42	2.23	2.23	
5	3.76	3.14	9.82	1.71	1.81	1.07	1.07	2.56	3.64	18.14	2.12	2.12	
6	3.39	3.27	8.63	2.45	1.71	0.90	1.15	2.34	3.39	10.99	2.02	2.02	
7	3.27	2.68	27.77	1.71	1.24	0.90	0.98	2.02	3.14	14.23	1.91	1.91	
8	3.14	4.15	23.55	1.52	1.33	1.15	1.15	2.02	2.91	12.21	1.91	1.91	
9	2.91	2.91	14.75	1.52	1.07	1.07	2.34	1.91	2.56	11.72	3.64	3.64	
10	2.56	2.45	5.82	1.42	1.07	0.90	2.34	3.76	2.45	9.14	4.02	4.42	
11	2.56	2.56	4.42	1.33	1.07	0.90	1.42	44.44	2.56	8.97	2.79	2.79	
12	2.34	2.23	4.28	1.61	0.90	0.82	1.24	26.81	87.60	14.49	2.45	2.45	
13	2.23	2.02	3.89	1.81	0.98	0.90	1.24	10.52	272.82	10.05	2.12	2.12	
14	2.23	1.61	2.79	1.61	0.90	0.74	1.15	18.14	216.50	11.47	2.02	2.02	
15	2.12	1.52	2.56	1.42	0.82	0.82	1.07	9.82	68.04	12.95	1.91	1.91	
16	2.02	1.81	2.12	1.33	1.07	1.15	1.33	7.82	34.24	31.20	1.81	1.81	
17	1.81	1.81	1.52	1.24	0.90	0.98	1.33	5.67	21.38	14.75	1.81	1.81	
18	1.71	1.81	1.52	1.33	1.81	0.57	1.24	5.10	22.64	14.75	1.71	1.71	
19	1.61	1.61	1.81	1.24	2.34	0.67	1.15	5.39	50.62	12.21	1.61	1.61	
20	1.52	1.52	1.91	1.15	2.02	1.52	1.15	5.67	54.05	10.28	1.61	1.61	
21	1.52	1.52	2.12	1.15	2.56	1.15	2.91	9.82	15.41	10.05	1.52	1.52	
22	1.52	4.55	2.02	1.52	1.42	1.52	2.02	7.03	14.23	9.14	1.52	1.52	
23	1.52	2.91	2.12	1.15	1.71	2.23	31.70	5.53	9.48	9.14	1.42	1.42	
24	1.81	8.80	1.91	2.12	1.81	2.02	6.57	7.82	9.82	9.14	1.42	1.42	
25	1.61	5.10	1.71	3.14	1.52	2.23	3.64	11.72	9.82	9.14	1.33	1.33	
26	1.61	4.42	1.71	2.34	1.07	1.81	11.47	6.57	9.65	8.14	1.33	1.33	
27	1.52	2.56	1.81	1.52	1.07	3.14	7.82	7.03	7.82	7.50	1.33	1.33	
28	1.42	2.56	1.81	1.33	1.15	2.02	6.72	5.67	8.63	7.50	1.24	1.24	
29	1.24	2.56	1.81	1.24	1.33	1.52	6.26	4.83	7.98	5.10	1.24	1.24	
30	1.24	22.20	1.71	2.23	3.39	1.71	4.96	13.97	8.80	5.10		1.24	
31		13.97		2.56	2.34		5.82		211.74	5.10		1.15	
Total	153.89	117.57	197.09	51.35	46.65	40.53	117.07	248.25	1180.69	668.48	57.62	60.30	2939.49 Ton
Mean	5.13	3.79	6.57	1.66	1.50	1.35	3.78	8.28	38.09	21.56	1.99	1.95	
Max	46.12	22.20	27.77	3.14	3.39	3.14	31.70	44.44	272.82	267.36	4.02	4.42	272.82
Min	1.24	1.52	1.52	1.15	0.82	0.57	0.98	1.91	2.45	5.10	1.24	1.15	0.57

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

Khlong Tan Yong Mat at Rangae, Narathiwat (X.73)

Location	Lat. 6-17-44 N., Long. 101-44-04 E., on right bank about 20 meters upstream from the bridge on highway, Amphoe Rangae, Narathiwat.
Drainage Area	336 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1989 - Cont'd
Actual Measurement	1989 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1989 - 1991

RID Computer Center, Processing : 9-JUN-1993 13:47:40.23

LQS/LQS02D/12

Station - Rangae, Rangae, Narathiwat, (X.73)
Stream - Ya Kang
River - Ya Kang
River System - PENINSULAR EAST COAST

Royal Irrigation Department
Thailand
Hydrology Division 050892
1.64498
QS = 0.5057 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.45	0.68	4.76	0.88	0.55	0.68	9.32	27.70	81.93	1617.22	11.22	6.00	
2	1.35	0.73	4.59	1.35	0.51	5.57	6.91	24.77	63.07	1160.18	9.90	5.15	
3	1.26	0.68	5.57	4.41	0.55	7.40	5.36	20.56	52.52	614.76	10.22	4.76	
4	1.66	0.64	25.92	7.93	0.51	3.90	4.59	17.86	43.41	413.44	9.32	4.24	
5	3.57	0.73	38.20	9.32	0.46	11.55	3.73	20.10	35.34	328.85	8.48	4.76	
6	3.90	0.78	18.74	14.49	0.51	12.24	4.76	49.78	30.76	239.43	8.20	4.95	
7	3.41	1.88	30.14	9.90	0.55	6.68	4.24	35.34	27.70	148.66	7.66	4.41	
8	2.85	1.56	25.92	5.57	0.64	4.41	10.88	24.19	24.77	114.41	7.14	4.41	
9	2.22	0.99	15.31	4.06	0.59	6.00	35.34	17.86	24.77	92.07	6.91	4.24	
10	1.88	0.83	9.32	3.41	0.51	10.22	42.65	152.07	44.94	73.31	6.68	3.57	
11	1.45	0.73	6.68	2.72	0.46	5.79	48.08	339.46	84.14	64.07	6.00	3.25	
12	1.26	0.68	5.15	2.11	0.55	4.41	106.57	347.50	1010.70	53.45	5.79	3.25	
13	1.16	0.59	4.24	1.99	0.68	6.22	431.82	428.66	2858.49	47.29	5.15	3.12	
14	1.07	0.55	3.57	1.77	0.64	9.32	105.28	331.49	3164.98	44.17	5.36	2.85	
15	0.99	0.51	3.12	1.56	1.45	11.55	47.29	130.14	1936.75	55.32	5.79	2.72	
16	0.99	0.51	2.59	1.45	1.66	12.59	28.30	101.47	1107.42	65.07	5.57	2.72	
17	0.93	0.51	2.11	1.26	1.66	8.48	18.74	87.50	662.91	50.69	6.22	2.34	
18	0.88	0.46	1.77	1.07	1.26	6.45	13.31	230.93	389.72	41.89	6.00	2.34	
19	0.83	0.46	1.66	0.93	0.93	4.41	10.55	3087.21	248.81	36.76	5.15	2.22	
20	0.73	0.51	1.45	0.93	0.78	3.25	8.48	3010.21	169.59	32.66	9.04	2.11	
21	0.68	4.06	1.35	0.99	0.73	2.72	12.24	1520.33	143.60	28.30	25.92	1.99	
22	0.68	3.25	1.16	0.93	0.68	2.22	16.14	791.49	117.21	25.92	10.55	1.88	
23	0.73	2.11	1.99	0.83	0.73	4.06	11.22	383.88	100.27	32.66	7.40	1.77	
24	0.88	1.77	1.88	0.73	0.88	12.24	12.95	689.77	246.45	27.10	6.45	1.77	
25	1.26	2.59	2.11	0.68	0.68	23.07	12.95	1069.65	326.21	22.51	7.93	1.66	
26	1.56	1.99	2.22	0.64	0.64	13.31	9.61	703.64	350.20	19.64	11.55	1.56	
27	1.35	2.22	1.66	0.59	0.73	15.72	19.64	334.13	162.50	17.86	9.04	1.45	
28	1.66	10.88	1.26	0.55	0.68	76.50	25.92	164.26	102.73	16.56	7.66	1.35	
29	1.07	17.42	1.07	0.51	0.59	33.30	244.10	124.33	83.03	15.31	6.68	1.35	
30	0.73	9.04	0.93	0.55	0.59	14.49	148.66	95.55	65.07	13.70		1.26	
31		6.45		0.55	0.68		45.72		766.36	12.24		1.26	
Total	44.44	76.79	226.44	84.66	23.06	338.75	1505.35	14361.83	14526.35	5525.50	238.98	90.71	37042.86 Ton
Mean	1.48	2.48	7.55	2.73	0.74	11.29	48.56	478.73	468.59	178.24	8.24	2.93	
Max	3.90	17.42	38.20	14.49	1.66	76.50	431.82	3087.21	3164.98	1617.22	25.92	6.00	3164.98
Min	0.68	0.46	0.93	0.51	0.46	0.68	3.73	17.86	24.77	12.24	5.15	1.26	0.46

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

Khlong U Taphao at Ban Bang Sala, Songkhla (X.90)

Location	Lat. 6-55-39 N., Long. 100-26-37 E., on left bank about 5 meters upstream from the bridge on highway and near the Phatthana Tambon Street, Amphoe Hat Yai, Songkhla.
Drainage Area	1,562 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.DH - 59
Period of Available Records	1982 - Cont'd
Actual Measurement	1982 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1991

RID Computer Center, Processing : 9-JUN-1993 13:47:51.57

LQS/LQS02D/12

Station - Ban Bang Sala, Hat Yai, Songkhla, (X.90)
Stream - Khlong U Taphao
River - Khlong U Taphao
River System - PENINSULAR EAST COAST

Royal Irrigation Department
Thailand
Hydrology Division 050892
1.24397
QS = 2.7347 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.91	3.97	89.15	11.08	207.72	158.94	194.29	310.12	126.88	68.64	8.29	5.14	
2	1.60	7.96	67.11	10.02	160.07	213.14	198.30	282.58	111.41	81.93	7.29	4.72	
3	1.60	33.53	93.41	10.37	143.25	230.95	173.86	250.43	98.75	85.12	6.80	4.91	
4	1.33	43.59	191.62	12.53	138.83	213.14	139.93	224.07	86.73	85.12	6.56	8.98	
5	1.21	49.28	268.21	13.27	113.24	158.94	111.41	194.29	80.34	77.97	6.32	9.67	
6	1.10	56.57	328.20	11.80	85.12	153.30	90.77	165.76	70.95	67.87	6.08	7.05	
7	1.33	48.56	351.59	17.86	65.58	125.87	80.34	144.36	66.34	57.31	5.84	5.60	
8	3.61	31.32	349.83	22.28	52.90	101.43	72.50	119.84	66.34	50.00	5.60	5.37	
9	3.08	30.77	310.12	25.56	47.84	81.93	61.04	107.76	72.50	45.00	5.37	4.72	
10	1.91	22.28	259.21	30.23	44.29	70.18	54.36	144.36	85.93	39.41	5.37	4.34	
11	1.60	32.42	213.14	30.77	35.21	61.80	52.90	399.82	139.93	35.21	5.37	4.16	
12	1.45	52.17	154.43	24.15	25.56	54.36	58.06	838.28	552.01	32.42	4.91	3.97	
13	1.33	57.31	98.75	19.05	23.21	53.63	49.28	1543.61	917.62	29.14	4.91	5.37	
14	1.21	55.10	68.64	21.87	20.65	47.84	42.19	1577.62	1277.71	27.53	5.14	5.14	
15	1.21	40.79	54.36	23.68	18.65	42.19	41.49	1160.13	1034.49	25.09	10.37	4.53	
16	1.10	46.41	45.00	19.85	16.30	42.19	45.00	844.03	858.71	23.68	15.53	4.16	
17	1.10	64.06	35.21	13.64	14.02	53.63	45.70	611.86	672.89	22.28	24.62	3.79	
18	0.66	71.72	29.14	9.32	15.92	88.34	41.49	485.03	489.16	21.47	24.62	3.25	
19	0.66	75.62	25.09	8.29	36.34	145.47	34.65	747.58	349.83	19.45	19.85	2.73	
20	0.98	74.84	21.87	7.96	85.12	183.75	30.77	982.88	244.83	18.65	18.25	2.40	
21	0.77	67.87	19.05	9.32	120.84	213.14	50.72	907.73	177.56	17.08	17.86	2.07	
22	1.33	61.80	17.08	11.08	151.06	233.71	92.53	771.58	143.25	15.53	16.30	1.91	
23	1.45	57.31	15.92	20.25	173.86	243.44	125.87	598.33	121.85	14.77	14.39	1.75	
24	1.60	52.17	17.08	58.06	191.62	235.10	153.30	466.50	106.85	13.64	13.27	1.60	
25	1.75	50.72	19.45	153.30	195.62	244.83	138.83	385.41	92.53	12.90	8.98	1.60	
26	5.84	53.63	21.06	279.37	186.31	242.04	127.89	334.83	87.53	12.17	7.62	1.60	
27	10.02	83.52	17.08	405.26	153.30	214.50	282.58	274.58	81.93	11.80	6.56	1.45	
28	6.80	89.96	13.64	403.44	118.85	195.62	254.73	211.79	74.06	11.08	6.32	1.33	
29	5.37	103.23	11.44	351.59	105.04	183.75	266.70	170.34	67.87	10.73	5.60	1.21	
30	4.34	112.32	10.37	298.72	102.33	180.03	316.67	144.36	61.80	10.37		1.33	
31		114.16		249.03	123.86		326.55		61.80	9.32		1.60	
Total	69.25	1744.96	3216.25	2583.00	2972.51	4467.18	3754.70	15399.86	8480.38	1052.68	293.99	117.45	44152.21 Ton
Mean	2.31	56.29	107.21	83.32	95.89	148.91	121.12	513.33	273.56	33.96	10.14	3.79	
Max	10.02	114.16	351.59	405.26	207.72	244.83	326.55	1577.62	1277.71	85.12	24.62	9.67	1577.62
Min	0.66	3.97	10.37	7.96	14.02	42.19	30.77	107.76	61.80	9.32	4.91	1.21	0.66

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

Khlong Takhian at Ban Rim Khlong, Surat Thani (X.103)

Location	Lat. 9-25-31 N., Long. 99-09-44 E., on right bank at Ban Rim Khlong, Amphoe Chaiya, Surat Thani.
Drainage Area	180 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1984 - Cont'd
Actual Measurement	1984 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1984 - 1991

RID Computer Center, Processing : 9-JUN-1993 13:48:01.78

LQS/LQS02D/12

Station - Ban Rim Khlong, Chaiya, Surat Thani, (X.103)
Stream - Khlong Takhian
River - Khlong Takhian
River System - PENINSULAR EAST COAST

Royal Irrigation Department
Thailand
Hydrology Division 020892
1.20237
QS = 2.7453 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.97	0.65	0.65	1.14	3.62	44.86	3.94	12.30	19.65	13.71	3.52	1.14	
2	0.97	0.65	0.65	0.97	5.49	33.05	4.04	10.29	18.37	14.93	3.42	1.14	
3	0.97	0.65	1.22	0.80	4.47	24.24	3.83	8.82	17.42	12.81	3.32	1.05	
4	1.05	0.65	1.05	0.72	3.73	19.01	3.73	7.67	16.79	11.28	3.11	0.97	
5	0.97	0.72	1.22	0.65	3.32	17.42	3.52	7.28	15.24	10.29	3.01	0.97	
6	0.97	0.65	1.76	0.80	3.11	14.01	3.21	6.70	13.71	9.31	2.91	0.88	
7	0.97	0.72	1.49	0.88	3.83	12.81	2.91	6.13	12.55	8.58	2.81	0.80	
8	0.88	0.97	2.04	0.88	3.94	12.04	2.81	5.64	11.79	8.10	2.71	0.80	
9	0.80	1.05	4.61	0.88	3.73	10.78	2.71	5.49	11.03	7.67	2.61	0.88	
10	0.72	0.88	4.15	0.80	3.32	9.79	2.61	6.51	10.53	7.08	2.52	0.88	
11	0.72	0.80	3.62	0.65	2.81	8.82	2.61	9.31	10.04	6.89	2.42	0.80	
12	0.72	0.72	3.11	0.72	2.71	8.10	2.61	18.37	27.52	7.08	2.32	0.80	
13	0.72	0.72	2.61	0.72	2.42	7.47	2.91	26.74	34.46	9.55	2.23	0.65	
14	0.65	0.65	2.32	0.88	2.23	6.89	2.91	21.93	44.86	9.31	2.13	0.59	
15	0.65	0.59	2.04	1.49	2.04	6.32	3.73	18.37	52.51	8.34	2.13	0.59	
16	0.65	0.54	1.76	2.52	2.13	6.89	4.90	16.17	38.54	8.34	2.13	0.59	
17	0.59	0.54	1.58	4.90	2.04	7.28	4.76	13.71	28.69	7.67	2.13	0.59	
18	0.59	0.54	1.31	5.05	2.13	6.32	4.04	12.55	24.24	6.89	2.04	0.65	
19	0.59	0.54	1.22	4.04	2.23	5.64	3.62	35.98	21.27	6.32	1.94	0.65	
20	0.59	0.54	0.97	3.52	2.71	5.20	3.32	95.01	19.33	5.94	1.85	0.59	
21	0.59	0.54	0.88	3.01	2.61	4.90	3.21	70.21	18.06	5.64	1.76	0.59	
22	0.54	0.54	0.80	2.52	2.61	5.05	4.04	67.48	16.17	5.34	1.67	0.54	
23	0.54	0.59	0.80	2.32	2.42	4.61	6.89	55.51	14.93	5.05	1.58	0.54	
24	0.65	0.54	0.80	2.71	2.32	4.15	5.79	46.60	13.71	4.90	1.49	0.54	
25	0.72	0.65	0.54	3.83	2.61	3.94	6.51	40.25	13.11	4.61	1.49	0.54	
26	0.72	0.72	0.54	5.05	3.11	3.73	7.87	33.05	13.41	4.36	1.40	0.49	
27	0.72	0.65	0.88	4.76	4.15	3.83	6.89	29.08	12.04	4.15	1.31	0.49	
28	0.72	0.72	0.65	4.26	4.36	3.62	6.51	25.97	11.28	4.04	1.22	0.44	
29	0.65	0.72	1.67	3.83	4.76	3.62	9.31	23.24	11.03	3.94	1.22	0.44	
30	0.65	0.72	1.49	3.32	5.64	3.62	17.74	21.27	10.29	3.73		0.44	
31		0.72		3.11	28.30		15.86		9.79	3.62		0.40	
Total	22.24	20.88	48.43	71.73	124.90	308.01	159.34	757.63	592.36	229.47	64.40	21.46	2420.85 Ton
Mean	0.74	0.67	1.61	2.31	4.03	10.27	5.14	25.25	19.11	7.40	2.22	0.69	
Max	1.05	1.05	4.61	5.05	28.30	44.86	17.74	95.01	52.51	14.93	3.52	1.14	95.01
Min	0.54	0.54	0.54	0.65	2.04	3.62	2.61	5.49	9.79	3.62	1.22	0.40	0.40

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

Khlong Tha Krachai at Ban Samo Thong, Surat Thani (X.104)

Location	Lat. 9-34-47 N., Long. 99-08-14 E., on left bank at Ban Samo Thong, Amphoe Tha Chana, Surat Thani.
Drainage Area	354 sq.km.
Method of Sampling	Depth Integrating
Instruments Used	US.D - 49
Period of Available Records	1984 - Cont'd
Actual Measurement	1984 - Cont'd
Remarks	Continued Sediment Station
	Using Rating Curve Water Year 1991

RID Computer Center, Processing : 9-JUN-1993 13:48:12.59

LQS/LQS02D/12

Station - Ban Samo Thong, Tha Chana, Surat Thani, (X.104)
Stream - Khlong Tha Krachai
River - Khlong Tha Krachai
River System - PENINSULAR EAST COAST

Royal Irrigation Department
Thailand
Hydrology Division 050892
1.27260
QS = 1.8337 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	6.49	5.59	5.29	5.00	12.08	104.11	13.50	39.68	32.61	36.99	8.06	3.60	
2	6.19	5.59	5.29	4.71	10.70	65.97	14.95	30.89	29.19	67.48	8.06	3.60	
3	5.89	5.59	5.29	4.71	10.36	47.03	12.08	26.68	27.52	48.91	7.74	3.60	
4	5.59	5.59	43.32	4.43	10.03	37.89	10.70	24.22	27.52	43.32	7.74	3.34	
5	5.29	5.89	33.48	4.43	7.74	30.89	8.70	21.82	24.22	35.23	7.74	3.34	
6	5.00	5.89	32.61	4.15	7.42	25.04	8.38	18.70	21.03	30.04	7.42	3.34	
7	4.71	5.89	25.86	4.15	7.42	23.42	7.74	15.68	17.93	26.68	7.42	3.07	
8	4.43	6.19	21.82	4.15	8.06	21.82	7.11	14.95	17.17	25.86	7.42	3.07	
9	4.15	6.80	21.82	4.15	8.06	25.04	6.80	14.95	15.68	22.61	7.42	3.07	
10	3.87	7.11	21.03	3.87	7.42	18.70	6.49	20.24	14.22	20.24	7.11	2.81	
11	3.60	7.42	17.93	3.87	6.80	16.42	6.80	47.97	13.50	20.24	6.80	2.81	
12	3.60	7.42	17.93	3.87	6.19	14.22	8.06	135.09	15.68	27.52	5.89	2.81	
13	3.34	7.42	17.93	4.43	6.19	13.50	17.93	100.79	51.75	26.68	5.89	2.81	
14	3.34	6.49	17.17	6.80	5.89	12.08	17.17	65.97	97.50	21.03	5.89	2.81	
15	3.87	4.43	14.22	8.06	5.89	11.39	14.95	49.85	81.41	17.93	6.19	2.56	
16	4.43	4.15	12.79	19.47	5.89	14.22	41.49	41.49	51.75	22.61	6.19	2.56	
17	4.71	4.15	10.70	27.52	5.59	14.95	26.68	36.11	42.40	17.17	6.80	2.56	
18	5.00	4.15	9.69	25.04	5.59	12.79	21.03	36.11	36.99	14.95	7.42	2.56	
19	5.29	3.87	9.03	25.04	5.89	10.70	16.42	645.11	28.35	14.22	7.42	2.56	
20	5.59	3.87	8.38	24.22	10.36	9.69	14.22	183.44	27.52	13.50	7.42	2.31	
21	5.59	3.87	7.42	21.82	14.95	9.36	12.08	166.95	25.04	12.08	7.11	2.31	
22	5.89	4.43	6.49	9.36	10.36	9.03	17.17	148.54	21.82	10.70	7.11	2.31	
23	5.89	4.43	6.19	8.38	9.36	8.70	29.19	99.14	20.24	10.03	6.80	2.31	
24	5.59	4.43	5.89	8.38	10.70	8.38	30.89	148.54	18.70	10.36	6.80	2.31	
25	5.59	4.43	7.11	9.36	27.52	7.74	35.23	92.61	19.47	10.70	6.80	2.31	
26	5.29	4.71	7.42	31.75	47.03	7.11	33.48	69.00	30.04	10.70	6.49	2.07	
27	5.29	5.89	5.00	26.68	50.80	7.11	27.52	54.15	21.82	10.36	6.49	2.07	
28	4.43	6.19	9.69	21.82	36.99	6.80	26.68	47.97	20.24	10.03	4.15	2.07	
29	5.00	6.19	5.00	15.68	32.61	8.06	47.03	41.49	21.82	9.03	4.15	2.07	
30	5.59	5.89	5.00	10.70	79.83	12.08	97.50	35.23	17.93	8.70		1.83	
31		5.29		11.39	153.10		51.75		17.17	8.38		1.65	
Total	148.53	169.25	416.79	367.39	626.82	614.24	689.72	2473.36	908.23	664.28	197.94	82.50	7359.05 Ton
Mean	4.95	5.46	13.89	11.85	20.22	20.47	22.25	82.45	29.30	21.43	6.83	2.66	
Max	6.49	7.42	43.32	31.75	153.10	104.11	97.50	645.11	97.50	67.48	8.06	3.60	645.11
Min	3.34	3.87	5.00	3.87	5.59	6.80	6.49	14.95	13.50	8.38	4.15	1.65	1.65

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

Khlong Lam at Ban Thung Prap (1), Songkhla (X.113)

Location	Lat. 6-37-59 N., Long. 100-23-46 E., on right bank at Ban Thung Prap (i), Amphoe Sadao, Songkhla.
Drainage Area	129 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.DH - 59
Period of Available Records	1980 - Cont'd
Actual Measurement	1980 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1991

RID Computer Center, Processing : 9-JUN-1993 13:48:22.92

LQS/LQS02D/12

Station - Ban Thung Prap 1, Sadao, Songkhla, (X.113)
Stream - Khlong Lam
River - Khlong U Taphao
River System - PENINSULAR EAST COAST

Royal Irrigation Department
Thailand
Hydrology Division 060892
1.66101
QS = 7.4381 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.35	541.12	2.35	1.43	12.70	21.41	8.71	21.98	4.92	1.83	0.60	0.70	
2	0.35	74.39	232.31	6.95	6.48	12.70	6.95	15.07	4.31	1.49	0.51	0.74	
3	0.35	15.07	830.77	2.12	4.72	9.79	6.24	11.50	3.73	1.49	0.51	0.51	
4	0.35	1.97	158.19	1.24	3.73	8.19	6.71	9.25	3.54	1.83	0.51	0.74	
5	0.35	35.91	27.97	5.57	3.01	13.95	6.24	10.35	3.01	1.62	0.60	0.65	
6	0.35	33.17	12.70	10.07	8.98	7.44	4.51	35.22	2.84	1.43	0.56	0.65	
7	0.35	4.51	8.45	1.24	16.58	5.79	4.11	11.50	2.84	1.43	0.56	0.56	
8	0.35	1.97	6.02	8.98	5.57	5.35	3.92	12.40	3.36	1.43	0.56	0.56	
9	0.35	1.62	4.31	9.79	3.18	4.72	6.02	95.18	3.01	1.12	0.56	0.56	
10	0.35	13.95	3.36	2.20	2.35	6.48	4.51	30.53	3.54	1.30	0.56	3.73	
11	0.35	4.11	2.67	1.97	2.12	4.11	3.73	2427.47	37.30	1.24	0.60	1.43	
12	0.35	3.73	2.12	33.17	2.12	3.36	4.11	139.87	104.91	0.95	27.35	0.90	
13	0.25	1.62	1.90	3.92	1.76	3.01	6.71	35.22	17.61	1.01	2.35	1.24	
14	0.25	336.26	1.69	1.69	1.56	3.01	29.88	23.72	10.92	1.12	99.31	1.01	
15	0.22	107.76	1.49	1.24	1.62	5.57	6.02	15.57	6.48	1.18	6.95	0.70	
16	0.22	93.82	1.36	1.06	1.49	15.57	3.73	13.01	5.13	1.12	2.20	0.60	
17	0.22	45.36	1.24	1.01	1.83	424.87	3.18	11.50	4.31	0.95	1.83	0.56	
18	0.19	8.71	1.12	31.84	2314.78	162.38	2.67	13.01	3.73	0.85	1.56	0.56	
19	0.19	10.63	1.01	3.36	595.22	59.02	26.12	33.17	3.54	0.90	1.36	0.51	
20	0.32	2.67	0.96	3.01	306.41	96.55	202.97	14.26	4.31	0.90	1.18	0.47	
21	1.62	239.16	0.90	7.44	24.91	31.84	32.51	15.07	3.73	0.85	12.09	0.43	
22	2.12	23.72	1.36	67.12	12.40	173.05	44.61	9.79	3.36	0.85	1.49	0.43	
23	1.49	2.84	12.70	75.63	9.25	26.12	7.44	8.19	3.01	0.74	1.30	0.43	
24	5.35	359.08	4.11	3031.80	55.68	15.57	5.57	7.94	4.92	0.74	0.95	0.43	
25	8.98	168.75	2.05	404.67	9.25	15.07	7.44	6.95	3.54	0.74	0.95	0.47	
26	2.67	367.31	1.49	33.85	6.24	9.25	541.12	6.24	2.12	0.74	0.90	1.06	
27	0.79	25.73	1.12	12.70	26.12	9.25	54.86	5.57	2.20	0.74	0.85	1.06	
28	0.56	7.19	0.95	8.19	81.95	11.21	782.92	5.35	2.05	0.70	0.79	0.74	
29	12.70	4.51	0.85	6.95	120.58	26.73	651.35	6.48	1.97	0.70	0.70	0.65	
30	480.62	2.51	0.79	15.57	78.13	11.50	95.18	7.94	1.49	0.65		0.51	
31		2.12		154.04	128.16		133.96		1.62	0.65		0.47	
Total	522.96	2442.27	1328.30	3949.82	3848.88	1202.86	2704.00	3059.30	263.35	33.29	170.24	24.06	19549.33 Ton
Mean	17.43	78.78	44.28	127.41	124.16	40.10	87.23	101.98	8.50	1.07	5.87	0.78	
Max	480.62	541.12	830.77	3031.80	2314.78	424.87	782.92	2427.47	104.91	1.83	99.31	3.73	3031.80
Min	0.19	1.62	0.79	1.01	1.49	3.01	2.67	5.35	1.49	0.65	0.51	0.43	0.19

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

Kolok River at Sungai Kolok, Narathiwat (X.119A)

Location	Lat. 6-01-07 N., Long. 101-58-43 E., on left bank at the railway bridge near the immigration division, Amphoe Sungai Kolok, Narathiwat.
Drainage Area	1,358 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1989 - Cont'd
Actual Measurement	1989 - Cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1991

RID Computer Center, Processing : 9-JUN-1993 13:48:35.78

LQS/LQS02D/12

Station - Sungai Kolok, Sungai Kolok, Narathiwat, (X.119A)
Stream - Kolok
River - Kolok
River System - PENINSULAR EAST COAST

Royal Irrigation Department
Thailand
Hydrology Division 060892
1.45897
QS = 0.4252 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	6.67	3.27	12.95	5.60	5.60	15.96	58.27	111.93	258.81	1519.46	60.32	68.75	
2	6.09	4.39	10.15	11.18	5.39	20.51	45.22	95.16	201.16	1623.87	55.23	59.29	
3	6.09	4.00	18.44	39.68	5.39	39.68	38.14	79.76	159.98	1383.55	51.26	46.84	
4	7.27	3.63	30.01	48.49	5.60	35.11	32.17	69.83	134.05	1147.15	49.31	42.82	
5	12.23	3.82	58.27	64.49	5.18	86.61	25.40	84.31	116.25	1024.58	48.49	52.25	
6	14.43	12.59	55.23	93.80	5.18	77.52	35.86	149.48	102.04	763.34	46.03	59.29	
7	13.32	22.64	48.49	106.25	8.20	49.31	42.82	140.16	91.27	577.44	47.66	78.64	
8	10.15	14.43	34.37	62.40	9.49	40.45	52.25	169.08	82.03	425.95	46.03	110.50	
9	9.49	15.57	23.19	40.45	14.43	46.84	111.93	180.20	111.93	311.65	42.82	91.27	
10	7.88	41.24	18.44	27.91	19.47	77.52	159.98	205.04	172.76	232.90	40.45	68.75	
11	6.67	33.63	15.96	21.04	15.96	107.66	178.33	453.10	265.83	189.64	36.61	51.26	
12	6.09	17.94	12.23	16.45	24.29	70.91	189.64	735.98	861.53	161.79	35.86	41.24	
13	5.81	12.95	10.49	14.43	38.14	64.49	191.54	772.53	3651.44	138.62	35.11	36.61	
14	5.39	9.49	10.15	14.06	47.66	122.10	141.70	664.27	4134.73	131.03	55.23	32.17	
15	5.39	6.97	9.49	12.95	68.75	163.60	110.50	420.29	3384.49	216.85	79.76	28.60	
16	4.98	8.20	7.58	10.83	67.68	151.05	59.29	263.49	2282.87	428.84	113.36	25.96	
17	4.78	6.67	6.67	9.16	42.82	120.63	44.41	236.97	1432.80	329.60	138.62	24.29	
18	4.39	5.81	5.81	7.88	29.31	84.31	35.86	486.27	943.69	218.83	292.08	22.64	
19	4.19	5.18	5.18	9.82	22.64	57.25	30.73	1407.71	672.44	178.33	135.57	19.47	
20	4.00	5.81	4.78	9.82	17.44	41.24	25.96	2747.81	459.22	152.82	183.96	17.94	
21	4.00	8.20	4.19	7.58	15.19	35.11	34.37	2492.92	348.22	135.57	178.33	15.96	
22	4.00	8.83	4.00	6.38	12.95	30.73	44.41	1653.86	270.55	137.09	106.25	16.94	
23	4.39	7.88	4.78	5.81	11.53	32.90	42.02	1147.15	232.90	135.57	76.40	15.19	
24	4.58	8.83	6.09	5.18	11.18	36.61	56.24	1074.54	400.46	135.57	61.35	14.43	
25	4.78	14.06	7.58	5.18	10.15	170.92	73.09	1537.39	709.58	109.08	69.83	13.69	
26	5.18	12.59	6.67	4.98	10.49	147.91	125.05	1528.41	993.11	97.90	103.44	12.95	
27	5.60	9.82	6.09	4.58	15.96	123.57	265.83	1192.48	904.73	88.93	87.77	12.59	
28	4.58	11.53	5.60	4.39	14.81	151.05	205.04	777.14	548.86	80.89	66.61	11.88	
29	4.00	16.94	5.18	4.00	14.81	144.79	174.61	499.97	348.22	74.19	55.23	10.83	
30	3.63	17.94	4.39	3.82	13.69	73.09	294.51	353.61	304.27	69.83		9.82	
31		15.57		3.63	14.43		161.79		828.38	65.55		8.51	
Total	190.05	370.42	452.45	682.22	603.81	2419.43	3086.96	21730.84	25408.60	12286.41	2398.97	1121.37	70751.54 Ton
Mean	6.34	11.95	15.08	22.01	19.48	80.65	99.58	724.36	819.63	396.34	82.72	36.17	
Max	14.43	41.24	58.27	106.25	68.75	170.92	294.51	2747.81	4134.73	1623.87	292.08	110.50	4134.73
Min	3.63	3.27	4.00	3.63	5.18	15.96	25.40	69.83	82.03	65.55	35.11	8.51	3.27

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

Khlong Waeng at Waeng, Narathiwat (X.121)

Location	Lat. 5-55-26 N., Long. 101-53-14 E., on right bank at the bridge of Sungai Kolok -Malasia Highway, Amphoe Waeng, Narathiwat.
Drainage Area	43 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1985 - Cont'd
Actual Measurement	1985 - cont'd
Remarks	Continued Sediment Station Using Rating Curve Water Year 1991

RID Computer Center, Processing : 9-JUN-1993 13:48:46.39 LQS/LQS02D/12

Station - Waeng, Waeng, Narathiwat, (X.121)
Stream - Khlong Waeng
River - Kolok
River System - PENINSULAR EAST COAST

Royal Irrigation Department
Thailand
Hydrology Division 060892
1.52654
QS = 1.0832 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.40	0.19	0.92	0.50	0.31	1.08	1.58	5.97	12.64	127.96	2.61	1.93	
2	0.35	0.16	1.00	1.08	0.40	1.08	2.31	5.27	10.29	65.43	2.44	1.69	
3	0.50	0.12	2.79	3.36	0.31	0.92	1.58	4.82	8.79	73.20	2.31	1.58	
4	0.92	0.16	9.65	1.93	0.45	3.36	1.25	4.82	7.98	56.67	2.18	1.58	
5	1.00	0.50	4.82	1.81	0.45	4.17	1.00	7.21	7.46	27.50	2.05	4.82	
6	0.92	1.69	3.56	2.44	1.17	1.81	2.79	9.97	6.46	23.19	1.93	3.36	
7	0.85	0.63	2.44	1.47	0.70	1.47	1.93	7.21	5.97	17.55	1.81	2.98	
8	0.77	0.56	1.58	1.00	0.56	1.36	5.97	5.97	6.70	14.22	1.81	2.79	
9	0.70	1.93	1.17	0.92	0.45	1.25	5.50	5.50	9.97	11.28	1.69	2.61	
10	0.50	1.47	1.08	0.85	0.56	3.36	4.17	18.87	16.27	9.65	1.58	2.44	
11	0.45	0.77	0.92	0.70	0.70	2.98	3.36	36.30	66.39	8.25	1.47	2.18	
12	0.40	0.56	0.77	0.63	1.58	3.36	9.97	28.62	540.81	7.21	1.36	2.05	
13	0.40	0.45	0.77	0.63	5.27	2.44	6.95	23.71	1100.03	6.46	1.25	1.81	
14	0.35	0.45	0.63	0.56	4.82	1.58	2.98	15.44	139.98	7.72	4.39	1.58	
15	0.35	0.45	0.56	0.50	3.97	1.58	2.31	11.95	90.54	36.30	5.74	1.47	
16	0.35	0.35	0.50	0.45	2.31	2.44	1.81	9.97	60.07	16.70	7.21	1.25	
17	0.35	0.27	0.50	0.45	1.81	1.69	1.58	17.55	37.76	7.98	49.27	1.08	
18	0.31	0.23	0.45	0.40	1.36	1.36	1.36	139.98	36.30	7.98	9.06	0.77	
19	0.31	0.31	0.40	0.35	1.00	1.25	1.36	266.00	28.62	7.21	5.74	0.63	
20	0.31	0.35	0.40	0.35	0.85	1.17	1.36	73.20	21.63	6.46	5.97	0.56	
21	0.27	1.08	0.40	0.31	0.77	1.08	3.76	37.03	42.23	6.21	4.60	0.63	
22	0.31	0.77	1.25	0.31	0.70	1.00	3.56	28.06	15.44	9.65	3.76	0.70	
23	0.35	0.50	0.85	0.31	0.56	0.85	3.17	30.90	25.31	9.65	3.36	0.85	
24	0.40	2.31	0.56	0.31	0.50	1.36	2.18	242.42	143.18	6.21	2.79	1.00	
25	0.40	1.00	0.45	0.35	0.50	2.05	2.05	81.27	192.24	5.50	4.82	0.77	
26	0.35	0.63	0.40	0.31	1.47	2.31	2.05	38.49	54.16	4.82	4.82	0.85	
27	0.35	0.70	0.40	0.31	0.77	5.50	6.21	25.31	30.90	4.39	3.17	0.85	
28	0.31	2.18	0.40	0.27	0.63	2.79	4.17	21.63	23.71	3.97	2.31	0.85	
29	0.27	2.05	0.35	0.23	0.56	2.18	92.98	16.70	19.31	3.56	2.31	0.85	
30	0.23	2.79	1.36	0.27	0.63	1.93	11.95	18.87	22.15	3.17		0.85	
31		1.36		0.63	0.56		6.70		184.21	2.79		0.70	
Total	13.73	26.97	41.33	23.99	36.68	60.76	199.90	1239.01	2967.50	598.84	143.81	48.06	5400.58 Ton
Mean	0.46	0.87	1.38	0.77	1.18	2.03	6.45	41.30	95.73	19.32	4.96	1.55	
Max	1.00	2.79	9.65	3.36	5.27	5.50	92.98	266.00	1100.03	127.96	49.27	4.82	1100.03
Min	0.23	0.12	0.35	0.23	0.31	0.85	1.00	4.82	5.97	2.79	1.25	0.56	0.12

WATER YEAR 1991

SOUTHERN PENINSULA EAST COAST

Khlong Chandi at Ban Chandi Nua, Nakhon Si Thammarat (X.163)

Location	Lat. 8-20-34 N., Long. 99-37-12 E., on left bank at the bridge on road near Wat Manao Wan, Amphoe Chawang, Nakhon Si Thammarat.
Drainage Area	97 sq.k.m.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1989 - Cont'd
Actual Measurement	1989 - Cont'd
Remarks	Continued Sediment Station
	Using Rating Curve Water Year 1991

RID Computer Center, Processing : 9-JUN-1993 13:48:58.52

LQS/LQS02D/12

Station - Ban Chandi Nua, Chawang, Nakhon Si Thammarat, (X.163)
Stream - Khlong Chandi
River - Tapi
River System - PENINSULAR EAST COAST

Royal Irrigation Department
Thailand
Hydrology Division 261192
1.93544
QS = 0.6241 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	0.98	4.71	4.45	2.30	18.99	42.93	53.79	10.98	9.67	416.71	9.04	3.73	
2	2.12	2.87	5.72	2.87	13.74	29.10	39.63	10.31	10.31	130.37	9.04	3.51	
3	3.08	4.21	10.98	2.87	12.79	27.72	30.51	9.67	9.67	86.74	9.04	3.97	
4	3.08	2.67	6.74	3.51	13.74	49.90	25.07	9.67	9.04	69.32	9.04	4.21	
5	2.12	9.04	4.71	2.48	12.79	29.10	22.54	10.98	8.44	55.89	9.67	4.21	
6	1.95	3.29	3.29	3.51	26.38	21.33	23.79	9.04	8.44	49.90	8.44	4.21	
7	1.63	2.87	185.54	2.48	12.79	21.33	18.99	6.74	8.44	42.93	6.74	4.21	
8	1.33	3.51	22.54	3.51	9.04	25.07	18.99	6.74	7.29	34.93	6.22	4.21	
9	1.33	3.08	9.67	2.12	7.29	20.14	22.54	7.85	6.22	31.95	4.97	3.73	
10	1.33	2.48	7.29	3.08	6.74	14.72	18.99	10.31	6.22	25.07	4.97	3.29	
11	1.20	2.12	5.72	6.74	6.22	16.79	14.72	106.04	12.79	30.51	5.23	3.29	
12	1.08	1.95	4.97	44.63	5.72	16.79	16.79	71.69	263.79	31.95	5.23	3.29	
13	1.08	1.95	4.97	6.22	5.23	14.72	11.87	84.13	532.82	27.72	6.22	3.51	
14	1.08	1.78	3.73	6.22	4.97	9.04	13.74	44.63	208.94	33.42	6.22	3.29	
15	0.98	1.63	3.29	5.23	5.23	7.85	9.67	26.38	97.54	31.95	6.74	3.51	
16	0.98	1.48	3.29	4.45	3.97	10.98	9.04	17.88	62.43	64.69	6.74	3.51	
17	0.87	1.48	3.08	5.72	4.45	9.67	9.04	11.87	38.03	60.21	5.72	3.51	
18	0.87	1.33	3.08	6.74	13.74	15.74	9.04	13.74	34.93	36.46	5.23	3.73	
19	0.87	1.33	2.67	4.21	17.88	38.03	7.85	18.99	29.10	26.38	6.22	3.97	
20	0.78	1.20	3.08	4.97	12.79	34.93	8.44	12.79	64.69	22.54	4.97	3.97	
21	0.78	1.20	2.87	6.22	60.21	25.07	10.98	103.16	29.10	21.33	5.72	3.51	
22	0.87	4.21	3.97	30.51	18.99	17.88	10.31	31.95	25.07	20.14	5.23	3.08	
23	1.33	1.95	3.97	36.46	11.87	31.95	44.63	26.38	21.33	21.33	5.23	3.08	
24	1.48	4.97	2.67	224.46	20.14	16.79	12.79	29.10	23.79	21.33	4.97	3.08	
25	1.63	2.67	2.67	137.49	18.99	17.88	18.99	27.72	21.33	16.79	4.21	2.67	
26	0.87	2.48	2.87	49.90	23.79	60.21	36.46	23.79	21.33	15.74	3.51	2.87	
27	2.12	2.87	3.73	27.72	34.93	49.90	22.54	17.88	20.14	13.74	4.21	3.08	
28	1.20	2.87	2.48	25.07	33.42	44.63	16.79	15.74	18.99	12.79	4.97	3.08	
29	1.08	14.72	2.87	20.14	66.98	53.79	13.74	14.72	17.88	12.79	4.21	3.29	
30	1.33	10.98	2.12	13.74	152.28	79.04	18.99	13.74	94.78	10.98		3.29	
31		4.97		20.14	69.32		16.79		246.55	10.98		3.73	
Total	41.43	108.87	329.03	715.71	725.41	853.02	608.05	804.61	1969.09	1487.58	177.95	109.62	7930.37 Ton
Mean	1.38	3.51	10.97	23.09	23.40	28.43	19.61	26.82	63.52	47.99	6.14	3.54	
Max	3.08	14.72	185.54	224.46	152.28	79.04	53.79	106.04	532.82	416.71	9.67	4.21	532.82
Min	0.78	1.20	2.12	2.12	3.97	7.85	7.85	6.74	6.22	10.98	3.51	2.67	0.78

WATER YEAR 1991

SOUTHERN PENINSULA WEST COAST

Khlong Palian at Ban Lam Khlaeng(2), Trang (X.139)

Location	Lat. 7-19-08 N., Long. 99-49-03 n., on right bank at Ban Lam Khlaeng(2), Amphoe Palian, Trang.
Drainage Area	153 sq.km.
Method of Sampling	Depth Integrating
Instrument Used	US.D - 49
Period of Available Records	1986 - Cont'd
Actual Measurement	1986 - Cont'd
Remarks	Continued Sediment Station
	Using Rating Curve Water Year 1986 - 1991

RID Computer Center, Processing : 9-JUN-1993 13:49:09.51

LQS/LQS02D/12

Station - Ban Lam Khlaeng, Palian, Trang, (X.139)
Stream - Khlong Palian
River - Khlong Palian
River System - PENINSULAR EAST COAST

Royal Irrigation Department
Thailand
Hydrology Division 060892
1.55437
QS = 0.5472 QW

Water Year - 1991

Suspended Sediment, in Tons per Day, Water Year April 1, 1991 to March 31, 1992

Date	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Annual
1	1.71	14.71	2.30	2.89	8.77	51.62	70.80	16.99	7.44	11.97	4.06	2.53	
2	1.63	4.06	3.16	4.22	9.33	39.93	53.44	14.71	7.18	10.18	3.90	2.30	
3	1.63	2.53	3.45	3.30	7.44	48.94	42.31	12.96	6.93	8.77	3.90	2.30	
4	1.63	3.30	3.30	3.16	8.23	33.82	33.82	11.97	6.45	8.23	3.90	2.30	
5	1.79	2.65	2.77	2.89	17.40	39.93	27.40	13.30	6.68	7.70	3.75	2.30	
6	1.71	3.16	2.65	2.77	9.61	24.80	24.24	11.36	6.93	7.18	3.75	2.30	
7	1.63	4.54	2.77	2.77	9.05	24.80	21.50	10.47	6.68	6.93	3.75	2.19	
8	1.56	6.23	2.65	15.79	7.70	24.80	21.50	9.90	6.23	6.68	3.60	2.19	
9	1.56	9.61	2.42	10.18	6.93	18.64	19.06	19.06	6.45	6.45	3.60	2.19	
10	1.79	5.36	2.42	4.74	6.45	16.19	116.69	14.35	8.77	6.23	3.45	2.30	
11	1.63	3.75	2.19	12.62	6.23	14.00	36.83	38.37	7.70	5.79	3.45	2.30	
12	1.63	3.16	2.08	8.77	5.79	12.62	31.63	18.64	54.36	5.57	3.45	2.19	
13	1.63	2.77	2.08	5.79	5.36	11.36	22.58	19.06	39.14	5.57	3.75	2.19	
14	1.63	2.53	2.08	5.15	5.15	10.77	18.64	14.35	28.78	5.36	3.75	2.08	
15	1.56	2.65	1.97	6.68	4.74	11.67	17.40	12.28	16.19	5.15	3.60	1.97	
16	1.48	2.42	1.97	9.05	4.74	27.40	16.19	11.36	12.96	5.15	3.45	1.86	
17	1.48	2.30	1.86	10.47	4.54	25.36	14.35	10.77	11.97	5.15	3.45	1.97	
18	1.41	2.19	1.86	7.96	4.54	50.72	13.30	10.18	11.36	4.94	3.30	1.97	
19	1.34	2.08	1.86	4.94	12.96	37.60	12.28	11.06	10.18	4.74	3.30	1.86	
20	1.27	1.86	1.79	4.38	8.23	26.71	16.59	9.90	11.97	4.74	3.16	1.86	
21	1.48	2.42	1.79	10.77	7.96	20.44	16.19	11.36	9.61	4.74	3.16	1.79	
22	1.48	2.19	1.86	454.27	9.33	20.44	13.30	9.33	8.77	4.74	3.16	1.79	
23	1.79	2.30	2.08	195.90	7.18	58.09	16.59	10.47	8.77	4.38	3.02	1.79	
24	1.71	2.30	2.42	214.06	9.05	45.56	13.30	9.33	9.90	4.38	3.02	1.79	
25	1.79	2.08	2.89	61.90	7.18	39.14	12.28	9.05	9.05	4.38	3.02	1.79	
26	1.71	3.02	2.30	35.31	16.19	90.51	19.49	9.33	8.50	4.22	2.89	1.79	
27	1.56	3.30	3.45	21.50	26.71	126.92	19.49	8.23	7.96	4.22	2.65	1.71	
28	1.79	7.70	2.30	15.43	19.49	490.96	18.64	9.90	8.50	4.22	2.53	1.71	
29	1.79	4.54	2.08	12.96	24.80	218.22	28.78	8.50	9.05	4.06	2.42	1.71	
30	2.53	4.06	2.77	11.06	366.00	119.58	16.99	7.96	7.96	4.06		1.63	
31		3.90		9.90	129.90		23.68		12.96	4.06		1.63	
Total	49.33	119.67	71.57	1171.58	776.98	1781.54	829.28	384.50	375.38	179.94	98.19	62.28	5900.24 Ton
Mean	1.64	3.86	2.39	37.79	25.06	59.38	26.75	12.82	12.11	5.80	3.39	2.01	
Max	2.53	14.71	3.45	454.27	366.00	490.96	116.69	38.37	54.36	11.97	4.06	2.53	490.96
Min	1.27	1.86	1.79	2.77	4.54	10.77	12.28	7.96	6.23	4.06	2.42	1.63	1.27