

Current Situation: Monitoring, Office Hours: 07.30 – 20.30 hours



Water Watch and Monitoring System for Warning Branch, Royal Irrigation Department, MOAC

Tel: 0 2669 2560 Fax: 0 2243 6956, 0 2241 3350, 0 2243 1098 Hotline: 1460

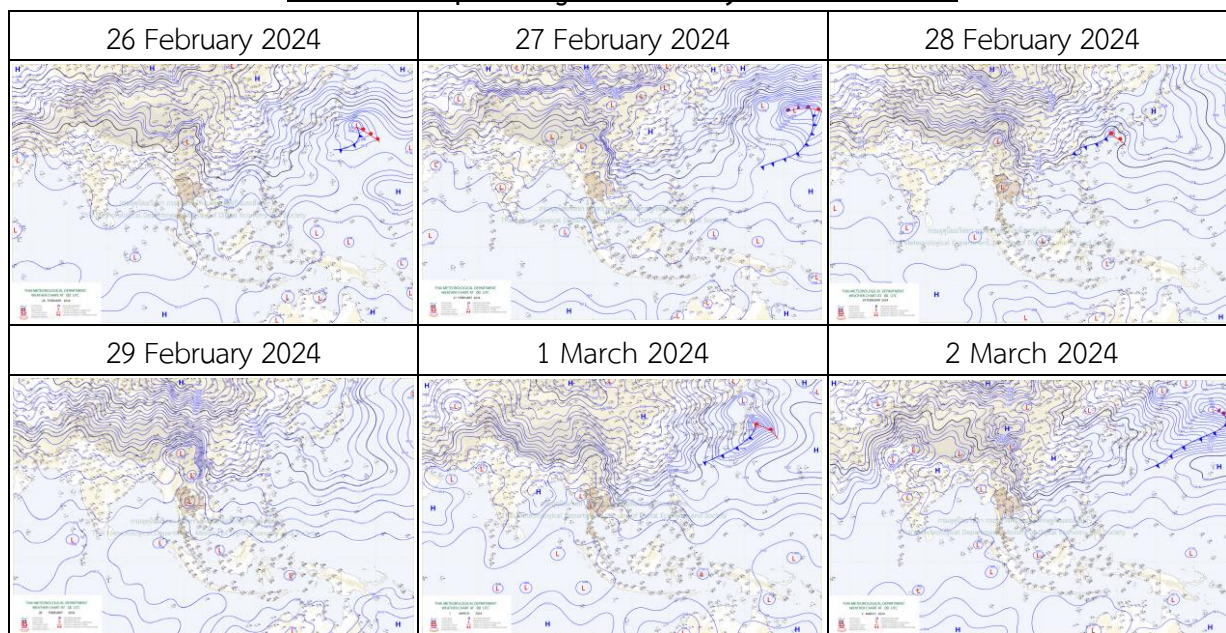
<http://www.rid.go.th/2009>, <http://wmisc.rid.go.th>, E-mail : wmisc.1460@gmail.com

Weekly Report on Water Watch during Dry Season of the Year 2023/2024 During 26 February – 3 March 2024

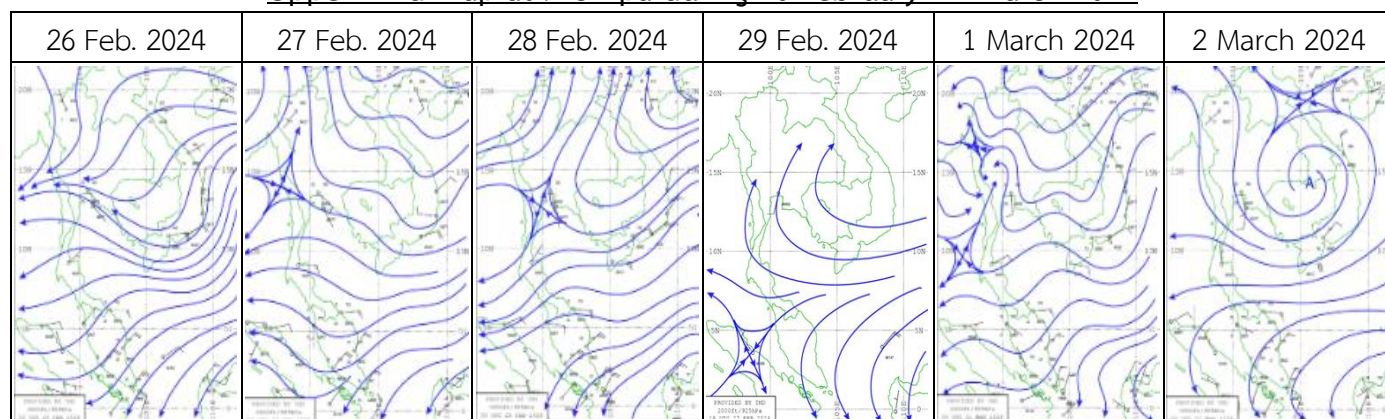
1. Past 7-day weather (19 – 25 February 2024)

The low-pressure cell due to heat prevailed over upper Thailand in the latter half of the week. In addition, the south wind prevailed over Thailand. As a result, the weather was almost generally hot, especially in upper Thailand. There were rains in some areas.

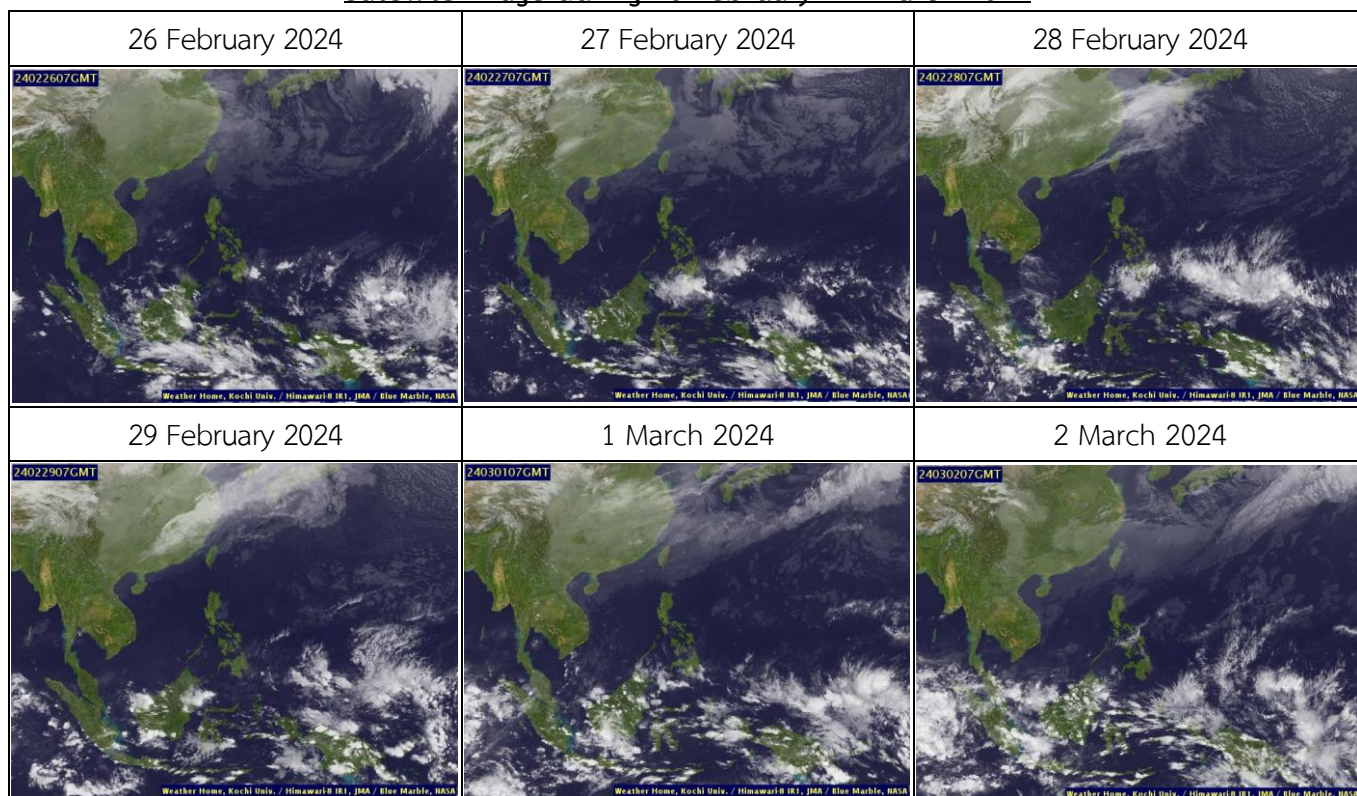
Weather map during 26 February – 2 March 2024



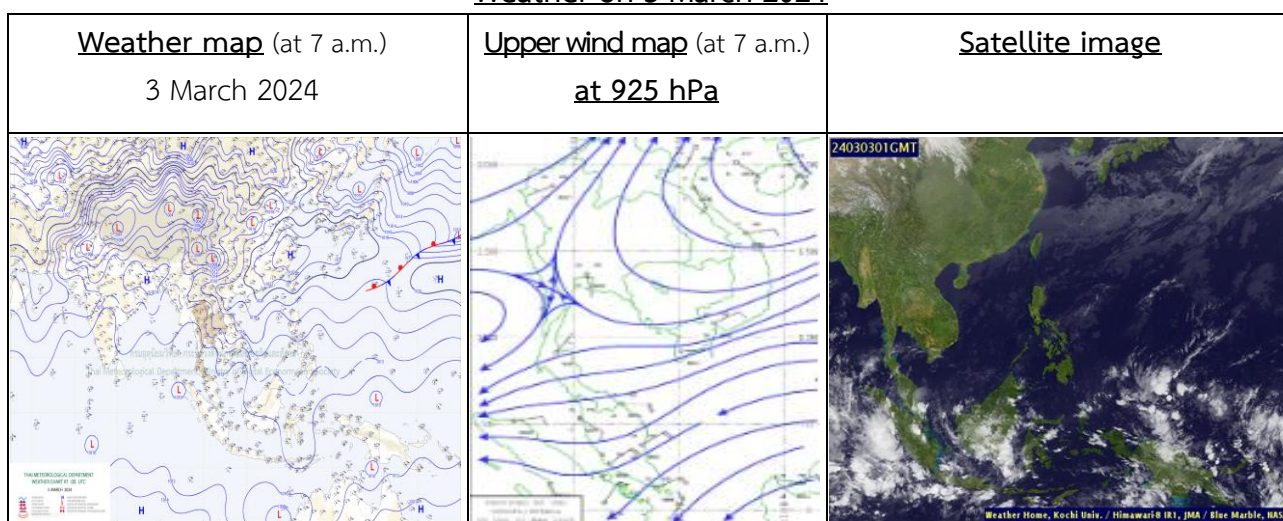
Upper wind map at 925 hpa during 26 February – 2 March 2024



Satellite image during 26 February – 2 March 2024



Weather on 3 March 2024



TMD's Weather Advisory

Subject: Summer Storm in the upper Thailand
No. 6 (50/2024)¹ (In effective until 3 March 2024)

The high-pressure system from China extend to the Northeast of Thailand and the South China Sea with the southerly and the southeasterly winds prevail over the upper country where hot weather occurs. Outbreak of summer storms, gusty winds, hail and lightning strike are likely in some areas of the lower North, the Central, including Bangkok and its vicinity and the East. People in the

¹ Source: <https://www.tmd.go.th/en/warning-and-events/warning-storm/summer-storm-in-the-upper-thailand-no-6-50-2024>

upper country should beware of severe conditions by keeping off outdoor places, big trees and unsecured billboards. Farmers should prevent for crop damage.

Affected areas are as followings:

On 3 March 2024

North: Sukhothai, Phichit, Phitsanulok, Kamphaeng Phet and Phetchabun.

East: Nakhon Nayok, Prachinburi, Chachoengsao and Chonburi.

Central: Lopburi, Saraburi, Phra Nakhon Si Ayutthaya, Suphanburi, Kanchanaburi, including Bangkok and surrounding areas.

2. 7-day weather forecast from 3 to 9 March 2024

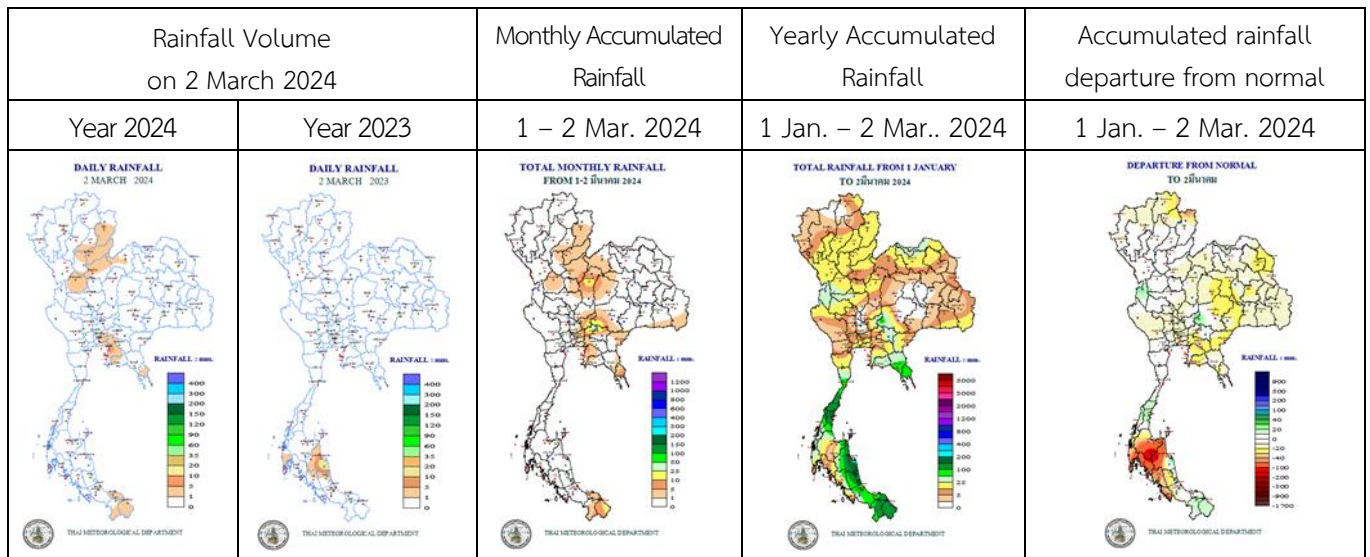
During 4 – 7 March 2024, the low-pressure cell due to heat prevails over upper Thailand while the southeast wind prevails over the lower Northeast, lower Central, and East. Therefore, the weather in the aforementioned areas will be hot to very hot with haze during daytime and isolated thundershowers. The easterly and southeast winds prevailing over the Gulf of Thailand, South, and Andaman Sea will weaken but continues to cause isolated thundershowers in the South. The waves in the Gulf of Thailand and the Andaman Sea will be around 1 meter high and above 1 meter high in thundershowers. During 8 – 9 March 2024, the high-pressure area or cold air mass from China prevails over the Northeast and the South China Sea. The south and southeast winds prevail over the lower North, Central including Bangkok and its vicinity, and East while the weather in Thailand is hot. Therefore, there will be summer storms in upper Thailand with the appearance of thundershowers, gusts, isolated hails, and possible lightnings. The moderate easterly and southeast winds prevail over the Gulf of Thailand, South, and Andaman Sea causing isolated thundershowers in the South. The waves in the lower Gulf of Thailand will be 1 – 2 meters high and above 2 meters high in thundershowers. The waves in the upper Gulf of Thailand and the Andaman Sea will be around 1 meter high and above 1 meter high in thundershowers.

Caution: People in upper Thailand should take care of their health due to the changing weather condition and beware of dangers caused by possible thundershowers throughout the period. During 8 – 9 March 2024, people in upper Thailand should beware of dangers caused by thundershowers, gusts, isolated hails, and possible lightning in some areas. Avoid being in open-air, under big trees as well as unstable building and billboards. Farmers should be prepared to prevent crops and animals from damage.

3. Rainfall summary

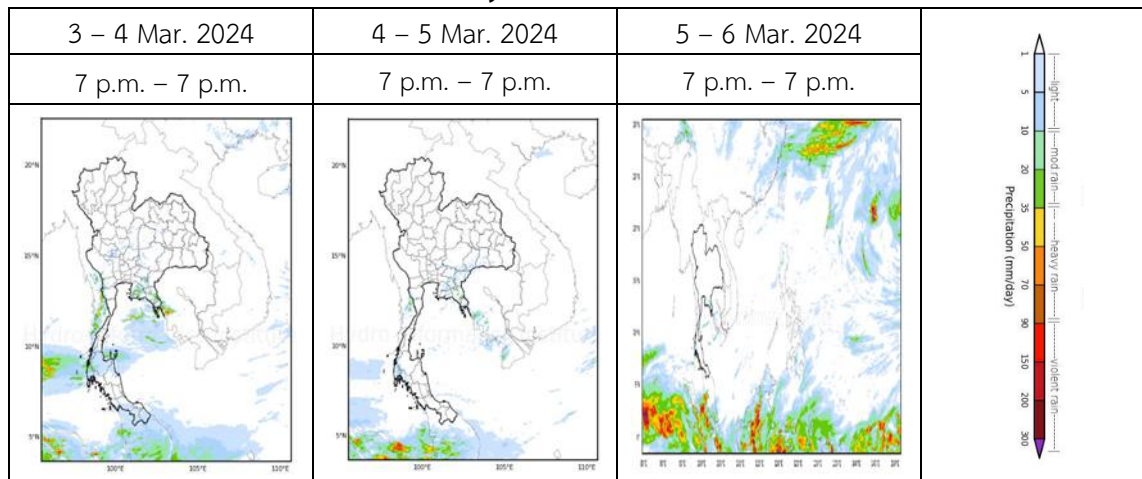
Daily maximum rainfall (at 7 a.m.) sorted by regions during 26 February – 3 March 2024.

On 26 Feb. 2024,	Eastern region,	at Khlong Yai district,	Trat province	4.1 mm.
On 27 Feb. 2024,	Southern region (east coast),	at Mueang district,	Phatthalung province	1.7 mm.
On 28 Feb. 2024,	Central region,	at Mueang district,	Nakhon Sawan province	5.7 mm.
On 29 Feb. 2024,	Eastern region,	at Mueang district,	Rayong province	30.8 mm.
On 1 March 2024,	Northeastern region,	at Pak Chong district,	Nakhon Ratchasima province	35.1 mm.
On 2 March 2024,	Eastern region,	at Mueang district,	Nakhon Nayok province	29.2 mm.
On 3 March 2024,	Eastern region,	at Mueang district,	Nakhon Nayok province	13.5 mm.



Remark: Data source from Thai Meteorological Department stated the criteria as follows: Trace is when rainfall volume is less than 0.1 mm, Light rain 0.1 – 10.0 mm, Moderate rain 10.1 – 35.0 mm, Heavy rain 35.1 – 90.0 mm, and Very heavy rain is when exceeding 90.1 mm.

3-day rainfall forecast



4. Water in reservoirs

Water in large-scale and medium-scale reservoirs (3 March 2024) Total water storage in the reservoirs is 50,403 MCM equaling 66% (the available water storage is 26,462 MCM equaling 51%), which is less than the year 2023 by 2,725 MCM. The remaining capacity to receive water is at 25,933 MCM.

Water in large-scale reservoirs (3 March 2024) Total water storage in the reservoirs is 47,024 MCM equaling 66% and the available water storage is 23,486 MCM equaling 50%, which is less than the year 2023 by 2,342 MCM. Total amount of water flowing into reservoirs is 14.48 MCM. The accumulated inflow of this week (26 February – 3 March 2024) is 121.78 MCM, less than last week by 21.67 MCM (more than the year 2023 by 12.29 MCM). Total amount of water drained from reservoirs is 122.68 MCM. The accumulated drainage outflow of this week (26 February – 3 March 2024) is 886.92 MCM, less than last week by 71.45 MCM (more than the year 2023 by 15.72 MCM). The remaining capacity to receive water is at 23,902 MCM.

Water storage in the large-scale and medium-scale reservoirs on 3 March 2024

Region	Large-scale						Medium-scale						Total						Remaining capacity to receive water (MCM)
	Quantity (places)	Capacity at Retention Level	Water Storage				Quantity (places)	Capacity at Retention Level	Water Storage				Quantity (places)	Capacity at Retention Level	Water Storage				
			In the reservoir	Retention Level (%)	Available Water	Available Water (%)			In the reservoir	Retention Level (%)	Available Water	Available Water (%)			In the reservoir	Retention Level (%)	Available Water	Available Water (%)	
N	8	24,825	14,245	57	7,501	41	80	1,083	760	70	669	67	88	25,908	15,005	58	8,170	43	10,902
NE	12	8,368	5,220	62	3,568	53	226	2,061	1,326	64	1,159	61	238	10,429	6,546	63	4,727	55	3,883
C	3	1,419	544	38	484	36	27	419	212	51	188	48	30	1,838	756	41	672	38	1,081
W	2	26,605	20,421	77	7,144	54	8	164	84	51	73	48	10	26,769	20,505	77	7,217	54	6,264
E	6	1,515	706	47	611	43	52	1,006	532	53	476	50	58	2,520	1,238	49	1,087	46	1,283
S	4	8,194	5,889	72	4,178	64	42	679	465	68	411	66	46	8,874	6,354	72	4,589	65	2,520
Total	35	70,926	47,024	66	23,486	50	435	5,411	3,379	62	2,976	59	470	76,337	50,403	66	26,462	51	25,933

Remarks: The capacity of medium-scale reservoir has been changed since 1 November 2017 and 30 June 2018.

(Unit: MCM)

*The reservoirs with water storage exceeding retention level are not included in calculation.

Water volume in the large-scale and medium-scale reservoirs by regions

Northern region: Total water storage in the reservoirs is 15,005 MCM (58% of the capacity), which is less than the year 2023 by 2,481 MCM (equaling 14%). The available water storage 8,170 MCM. The water storage decreased from last week by 352 MCM.

Northeastern region: Total water storage in the reservoirs is 6,546 MCM (63% of the capacity), which is less than the year 2023 by 9 MCM (equaling 0%). The available water storage is 4,727 MCM. The water storage decreased from last week by 229 MCM.

Central region: Total water storage in the reservoirs is 756 MCM (41% of the capacity), which is less than the year 2023 by 377 MCM (equaling 33%). The available water storage is 672 MCM. The water storage decreased from last week by 44 MCM.

Western region: Total water storage in the reservoirs is 20,505 MCM (77% of the capacity), which is more than the year 2023 by 177 MCM (equaling 1%). The available water storage is 7,217 MCM. The water storage decreased from last week by 276 MCM.

Eastern region: Total water storage in the reservoirs is 1,238 MCM (49% of the capacity), which is less than the year 2023 by 372 MCM (equaling 23%). The available water storage is 1,087 MCM. The water storage decreased from last week by 53 MCM.

Southern region: Total water storage in the reservoirs is 6,354 MCM (72% of the capacity), which is more than the year 2023 by 338 MCM (equaling 6%). The available water storage is 4,589 MCM. The water storage decreased from last week by 64 MCM.

Reservoirs in Bhumibol, Sirikit, Khwae Noi Bamrungdan, and Pa Sak Jolasid 19-25 February 2024

Reservoirs	Water volume in the reservoirs On 25 Feb. 23		Water volume in the reservoirs	usable water volume		Water volume flowing into the reservoir		Water drainage volume		water volume
	Water Volume	Reservoir Capacity %	(+) increase/ (-) decrease	Water volume	Usable water %	On 19-25 Feb. 23	On 18 Feb. 23	On 19-25 Feb. 23	On 25 Feb.23	More water intake
Bhumibol	8,290	62	-175	4,490	46	4.81	0.00	159.00	18.00	5,172
Sirikit	4,972	52	-148	2,122	32	22.79	3.22	163.97	22.98	4,538
Bhumibol+ Sirikit	13,262	58	-323	6,612	41	27.60	3.22	322.97	40.98	9,710
Khwae Noi	600	64	-38	557	62	11.15	2.26	48.60	7.78	339
Pa Sak Jolasid	425	44	-46	422	44	0.13	0.13	36.33	5.19	535
Total	14,287	57	-406	7,591	42	38.88	5.61	407.90	53.95	10,584

Reservoirs in Bhumibol, Sirikit, Khwae Noi Bamrungdan, and Pa Sak Jolasid Dams for 19-25 Feb. 24

Bhumibol Reservoir: water volume appears 8,290 MCM (62%) which is less than year 2023 (10,184 MCM: 76%) with 1,894 MCM. However, usable water volume appears 4,490 MCM. Water discharge flowed into the reservoir today (25 Feb.24) 0.00 MCM while accumulated water discharge flowed into the reservoir weekly (19-25 Feb.24) 4.81 MCM (15.11 MCM less than year 2023). Water volume was drained today (25 Feb.24) 18.00 MCM while accumulated water volume was weekly drained (19-25 Feb.24) with 159.00 MCM (78.00 MCM less than to year 2023). More water intake turns 5,172 MCM.

Sirikit Reservoir: water volume appears 4,972 MCM (52%) which is less than year 2023 (5,554 MCM: 58%) with 583 MCM. However, usable water volume appears 2,122 MCM. Water discharge flowed into the reservoir today (25 Feb.24) with 3.22 MCM while accumulated water discharge flowed into the reservoir weekly (19-25 Feb.24) 22.79 MCM (10.83 MCM less than year 2023). Water volume was drained today (25 Feb.24) 22.98 MCM while accumulated water volume was weekly drained (19-25 Feb.24) with 163.97 MCM (44.88 MCM more than year 2023). More water intake turns 4,538 MCM.

Khwae Noi Bamrungdan Reservoir: water volume appears 600 MCM (62%) which is more than year 2023 (580 MCM: 62%) with 20 MCM. However, usable water volume appears 557 MCM. Water discharge flowed into the reservoir today (25 Feb.24) with 2.26 MCM while accumulated water discharge flowed into the reservoir weekly (19-25 Feb.24) 11.15 MCM (8.21 MCM more than year 2023). Water volume was drained today (25 Feb.24) 7.78 MCM while accumulated water volume was weekly drained (19-25 Feb.24) with 48.60 MCM (11.56 MCM more than year 2023). More water intake turns 339 MCM.

Pa Sak Jolasid Reservoir: water volume appears 425 MCM (44%) which is less than 2023 (546 MCM: 57%) with 122 MCM. However, usable water volume appears 422 MCM. Water discharge flowed into the reservoir today (25 Feb.24) 0.13 MCM while accumulated water discharge flowed into the reservoir weekly (19-25 Feb.24) 0.13 MCM (4.35 MCM less than year 2023). Water volume was drained today (25 Feb.24) 5.19 MCM while accumulated water volume was weekly drained (19-25 Feb.24) 36.33 MCM (3.41 MCM more than year 2023). More water intake turns to 535 MCM.

Two large-scale reservoirs that have storage water criteria equal or less than to 30% of retention capacity are as follow:

No.	Reservoirs	Water volume in the reservoirs		usable water volume			Water volume flowing into the reservoirs		Water drainage volume		Water volume
		On 25 February 2024		On 25 February 2024							
		Water Volume	Reservoir Capacity %	Water Volume	Reservoir Capacity %	Usable water %	Today	Yesterday	Today	Yesterday	More water intake
1	Kraseaw	87	29	47	16	18	0.00	0.00	0.06	0.06	212
2	Khlong Si Yat	68	16	38	9	10	0.00	0.00	1.31	1.31	362

Remarks: usable water in percentage = $\frac{\text{usable water volume on the report day}}{\text{Usable water volume on the reservoir}} \times 100$

(Unit: MCM)

Two large-scale reservoirs that have storage water criteria more than 80% of retention capacity are as follow:

No.	Reservoirs	Water volume in the reservoirs		usable water volume			Water volume flowing into the reservoirs		Water drainage volume		Water volume
		On 25 February 2024		On 25 February 2024							
		Water Volume	Reservoir Capacity %	Water Volume	Reservoir Capacity %	Usable water %	Today	Yesterday	Today	Yesterday	More water intake
1	Mae Ngat Somboon Chon	262	99	250	94	99	000	000	096	1.18	2
2	Bang Lang	1240	85	964	66	82	265	371	398	404	214

Remarks: usable water in percentage = $\frac{\text{usable water volume on the report day}}{\text{Usable water volume on the reservoir}} \times 100$

(Unit: MCM)

5. Runoff Condition (06.00 a.m.)

River	Stations	Station location			Bank (m.)	Capacity (m³ /sec)	Water level Today 25 February 24 (m.)	Water volume			Lower (-) higher (+) than the bank (m.)	Criteria	Trend	
								Today 25 February 24 (m³ /sec)	Last Week 19-25 Feb.24 (m³ /sec)					
1. Ping	P.1	Nawarat Bridge	Mueang	Chiang Mai	3.70	405	1.49	23	9	-	23	-2.21	Less	Increased
Ping	P.7A	Ban Huai Yang Bridge	Mueang	Kamphaeng Phet	5.34	3,000	1.03	246	246	-	346	-4.31	Less	Decreased
Ping	P.17	Ban Tha Ngio	Banphot	Nakhon Sawan	38.70	1,760	34.93	208	208	-	262	-3.77	Less	Decreased
2. Wang	W.4A	Ban Wang Man	Phisai	Tak	7.00	580	0.78	-	0	-	0	-6.22	N/A	N/A
3. Yom	Y.1C	Ban Nam Khong Bridge	Sam Ngao	Phrae	8.20	992	1.06	3	3	-	3	-7.14	Less	Stable
Yom	Y.16	Ban Bang Rakam	Mueang	Phitsanulok	7.30	239	1.95	-	0	-	0	-5.35	N/A	N/A
4. Nan	N.1	Forestry office	Bang Rakam	Nan	7.00	1,076	-0.33	6	6	-	7	-7.33	Less	Decreased
Nan	N.5A	Ekathotsarot Bridge	Mueang	Phitsanulok	10.37	1,365	3.11	270	114	-	276	-7.26	Normal	Decreased
Nan	N.67	Ban Koei Chai Bridge	Mueang	Nakhon Sawan	28.30	1,450	20.02	215	92	-	215	-8.28	Less	Increased
5. Mun	M.6A	Ban Satuek	Chum Saeng	Buri Ram	7.95	1,170	-0.23	1	1	-	1	-8.18	Less	Stable
Mun	M.9	Ban Nong Ya Phlong	Satuek	Si Sa Ket	10.00	230	4.64	-	0	-	0	-5.36	N/A	N/A
Mun	M.7	Seri Pracha Thippatai	Mueang	Ubon Ratchathani	7.00	2,300	2.41	25	22	-	25	-4.59	Less	Increased
6. Phra	Kgt.10	Bridge	Mueang	Sa Kaeo	11.00	300	5.65	-	0	-	0	-5.35	N/A	N/A
Sathueng	Kgt.3	Ban Sa Khwan	Mueang	Prachin Buri	8.79	445	0.71	16	16	-	17	-8.08	Less	Decreased
7. Bang Pakong	X.158	Ban Kabin Buri	Kabin Buri	Chumphon	11.50	763	3.12	12	12	-	12	-8.38	Less	Stable
8. Tha Taphao	X.37A	Wang Khrok Bridge	Tha Sae	Surat Thani	11.70	559	4.65	26	23	-	28	-7.05	Less	Increased
9. Tapi	X.119A	Ban Yan Din Daeng	Phrasaeng	Narathiwat	9.30	267	3.85	19	19	-	27	-5.45	Less	Decreased
10. Golok		Ban Pa Se Mat	Su-ngai Kolok											

Chao Phraya River Basin C.2 Station (25 Feb.24); water volume flowed with 320 m³/sec at level of +17.65 m MSL which 8.05 m. below the bank. Last week (19-25 Feb. 24) water volume flowed with 270-320 m³/sec.

Chao Phraya Dam C.1 3 Station (25 Feb.24); water volume flowed with 70 m³/sec. At upstream water level is +14.67 m MSL and at downstream water is at level of +5.41 MSL. During the week (19-25 Feb. 24), water volume flowed with 70 m³/sec.

Water intake into distribution system in eastern ward field (25 Feb.24); water was supplied with 94 m³/sec into the canals, including Khlong Chai Nat – Pa Sak (Manorom Floodgate) with 70 m³/sec, and Chai Nat – Ayutthaya (Maharat Floodgate) with 16 m³/sec, and another small canals with 8 m³/sec. During the week 19-25 Feb. 24, water volume flowed with 92-95 m³/sec.

Pa Sak River (25 Feb.24); water volume was supplied with 5 m³/sec to Rama IV Barrage. During the week (19-25 Feb. 24), water volume flowed with 5-10 m³/sec. And water was supplied 51 m³/sec to Rabhibhat Canal passing westward tributaries of Rabhibhat Canal (Phra Si Sin) with 11 m³/sec, and the southward tributaries of Rabhibhat Canal (Phra Si Saowaphak Canal) with 22 m³/sec. During the week 19-25 Feb. 24, water volume flowed with 47-51 m³/sec.

Water intake into distribution system in western ward field (25 Feb.24); water was supplied with 116 m³/sec to the canals, Makham Thao - Uthong Canal with 12 m³/sec, Makham Thao – Kraseaw Canal (Makham Thao- Kraseaw Floodgate) with 4 m³/sec, Suphan River (Phonlathep

Floodgate) with 45 m³/sec, Noi River (Borommathat Floodgate) with 45 m³/sec, and another small canals with 10 m³/sec. During the week (19-25 Feb. 24), water volume flowed with 115-116 m³/sec.

Bang Sai District C.29A Station (25 Feb.24); average water volume flowed around 145 m³/sec. During the week (19-25 Feb. 24), water volume flowed with 145-236 m³/sec.

6. Water allocation for dry season 2022/2023 (1 Nov. 23 – 31 Apr. 24)

Royal Irrigation Department (RID) plans for water use from large scale and medium scale irrigation projects in dry season throughout the year 2023/24 (1 November–31 April 2024). As on 1 November 2023, affective storage volume is affordable for 40,387 MCM. Water allocation is planned as its priority; 3,050 MCM for consumption, 7,760 MCM for ecosystem conservation and another, 620 MCM for industry, and 13,555 MCM for agriculture, respectively. However, there are implementation of effective storage allocation with 11,085 MCM in Chao Phraya River Basin, water management allocation plan was divided into 1,150 MCM for consumption, 2,722 MCM for ecosystem conservation and another, 135 MCM for industry, and another 4,693 MCM for agriculture.

Water allocation result (Large and middle scale reservoirs) since 1 November 2023 until the present, water has been already used for 14,768 MCM or 60% of the water allocation plan. For Chao Phraya River Basin (Bhumibol, Sirikit, Khwae Noi Bamrungdan, Pasak Jolasid Dams), its water now has been used for 53.95 MCM. Furthermore, water volume now has been used for 5,379 MCM or 62% of the water allocation plan since 1 November 2023 until the present.

7. Result of rainy season cultivation in large and medium scale irrigation projects throughout the country and in the Chao Phraya River Basin

As on 21 February 2024

Regions	In - season rice				Field crop- vegetable				Total			
	Plan (m.rai)	Result (m.rai)	%	Harvest (m.rai)	Plan (m.rai)	Result (m.rai)	%	Harvest (m.rai)	Plan (m.rai)	Result (m.rai)	%	Harvest (m.rai)
North	0.40	0.95	238	0.05	0.16	0.22	144	0.002	0.55	1.17	212	0.050
Northeast	0.95	1.08	114		0.05	0.04	75	0.001	1.00	1.12	112	0.001
Central	0.02	0.01	90		0.001	0.004	280		0.02	0.02	105	
East	0.38	0.47	125	0.13	0.01	0.02	156		0.39	0.49	126	0.134
West	0.84	0.27	32		0.19	0.13	69	0.001	1.03	0.40	39	0.001
South	0.19	0.002	1		0.03				0.21	0.003	1	
Chao RB	3.03	5.68	188	0.24	0.13	0.09	69	0.027	3.16	5.76	183	0.271
Thailand	5.80	8.47	146	0.43	0.57	0.51	90	0.030	6.37	8.97	141	0.456

Remark: 1. North, Central, East, and West excluding area in the Chao Phraya River Basin that use water from Bhumibol, Sirikit, Khwae Noi Bamrungdan, and Pa Sak Jolasid Reservoir

2. Measurement: 6.5 rai = 1 Ha

8. Water Quality

RID has monitored the water salinity value in Chao Phraya River

Rivers	Monitoring Point	Salinity (g. /litre)	Criteria	Remarks
Chao Phraya	Canal mouth of Samlae, Pathum Thani Province	0.19 Info. On 25 Feb. 2024 (07.00 hr.)	Normal	- Monitoring criteria is 0.25 g./litre - Standard criteria for water work is 0.5 g./litre
Chao Phraya	Pier at Nonthaburi Province	0.67 Info. On 25 Feb. 2024 (07.00 hr.)	Normal	- Monitoring criteria for agriculture is 2.00 g./litre
Chao Phraya	Pier at RID Samsen, Bangkok Metropolis	0.96 Info. On 25 Feb. 2024 (07.00 hr.)	Normal	

Source: Sediment and Water Quality Branch, Hydrology Division, Bureau of Water Management and Hydrology

9. Mekong Water Situation

Stations	Bank Level	Water Level 25 February 2024	+ higher than the bank - Lower than the bank
Chiang Saen District, Chiang Rai Province	12.80	1.46	-11.34
Chiang Khan District, Loei Province	16.00	3.24	-12.76
Mueang District, Nong Khai Province	12.20	0.72	-11.48
Mueang District, Nakhon Phanom Province	12.00	1.06	-10.94
Mueang, Mukdahan Province	12.50	1.62	-10.88
Khong Chiam District, Ubon Ratchathani Province	14.50	2.03	-12.47

Remarks: Information from www.dwr.go.th

10. Readiness Preparation and help offer

2,289 mobile pumps are prepared by RID in order to help area for in and off-season rice, consumption, field crops, and flood disaster in dry season, 2023/24. Presently, 6 water pumps were supplied for mitigation in Chanthaburi, Suphan Buri, and Nakhon Pathom provinces during 13-18 February 2024.

11. Readiness preparation for water truck support

There are totally **503 of water trucks** are supported in every region (93 for the North, 77 for the Northeast, 147 for the Central, East, and West, and 30 for the South). Moreover, another 156 of water trucks also are supported for the Mechanical Engineering Division (Nonthaburi Province).

- Reported by Miss Thanaphorn Lekwutthikan, General Administration Official, Bureau of Water Management and Hydrology.
- Verified by Mr. Methus Yuenpraphan, Irrigation Engineer, Professional Level, Bureau of Water Management and Hydrology.