



Mekong River Commission

Weekly Dry Season Situation Report in the Lower Mekong River Basin

27 February – 04 March 2024

Prepared by
The Regional Flood and Drought Management Centre
05 March 2024

The MRC is funded by contributions from its Member Countries and Development Partners, including Australia, Belgium, the European Union, Finland, France, Germany, Japan, Luxembourg, the Netherlands, Sweden, Switzerland, the United States and the World Bank.

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First published (2020)

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Title: Weekly dry season situation report in the Lower Mekong River Basin for 27 February – 04 March 2024.

ISSN: 1728-3248

Keywords: Monitoring/forecasting/weather/the Mekong/the Tonle Sap Lake

For bibliographic purposes, this volume may be cited as:

Mekong River Commission. (2024). *Weekly dry season situation report in the Lower Mekong River Basin for 27 February – 04 March 2024*. Vientiane: MRC Secretariat.

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Key Messages

Key messages for this weekly report are presented below.

Rainfall monitoring and forecast

- In the period of 27 February – 4 March 2024, there was no significant rainfall recorded at the key stations along the Mekong River.
- The Lower Mekong Basin will be influenced by a heat low-pressure system from 4 – 7 March, then the high-pressure system push from China will extend to the upper and central part from 8 – 11 March. There will be light rainfall in some areas in the upper and central parts for the next seven days in the Mekong region.

Water level monitoring and forecast

- At 22 key monitoring stations along the Mekong mainstream from 27 February – 04 March 2024, water levels are below the long-term averages (LTAs) except for water level at Luang Prabang, Vientiane, Kratie, and Koh Khel monitoring stations. However, the 9 monitoring stations remain in normal condition with respect to the flow threshold (PMFM for Observed Water Level). It is also the same condition for Tan Chau and Chau Doc monitoring stations, which are significantly influenced by sea tidal fluctuation.
- In the period of 05 – 11 March 2024, the water level at 22 key stations is expected to slightly decrease at the upper stretches of the Lower Mekong River Basin from Chiang Saen to Nong Khai stations. However, moving down to downstream starting from Paksane to Kratie stations, the water level will increase, while from Kompong Cham to Prek kdam stations, it will decrease slightly. At Tan Chau and Chau Doc stations, the water levels are predicted to be increasing, resulting from the influence of sea tidal patterns. The water levels at almost all stations are predicted to be below their LTAs except for Luang Prabang, Vientiane, Stung Treng, Kratie, Koh Khel, Tan Chau and Chau Doc stations.

Drought condition and forecast

- During 27 Feb-05 Mar 2024, the LMB was facing from moderate to extreme drought from the middle to the lower part. Northern Cambodia was the driest area during the monitoring week.
- The next three-month forecast of rainfall indicates that below average rainfall is predicted for southern part of the LMB during March 2024 covering mainly south-eastern Cambodia and Viet Nam; similar prediction goes for April plus a bit less than average rainfall in some area of Thailand in the central area; while during May the forecast indicates below average rainfall over the northern part covering Laos and some areas of Thailand and the 3S area of the southern region of the LMB.

1 Introduction

This Weekly Dry Season Situation Report presents a preliminary analysis of the weekly hydrological situation in the Lower Mekong River Basin (LMB) for **27 February – 04 March 2024**. The trend and outlook for water levels are also presented.

This analysis is based on the daily hydro-meteorological data provided by the Mekong River Commission (MRC) Member Countries – Cambodia, Lao PDR, Thailand, and Viet Nam – and on satellite data. Water level indicated in this report refers to an above zero gauge of each station.

The report covers the following topics that are updated weekly:

- General weather patterns, including rainfall patterns over the LMB.
- Water levels in the LMB, including in the Tonle Sap Lake.
- Flash flood and drought situation in the LMB.
- Weather, water level and flash flood forecast, and
- Possible implications.

Mekong River water levels are updated daily and can be accessed from:

http://ffw.mrcmekong.org/bulletin_wet.php.

Drought monitoring and forecasting information is available at:

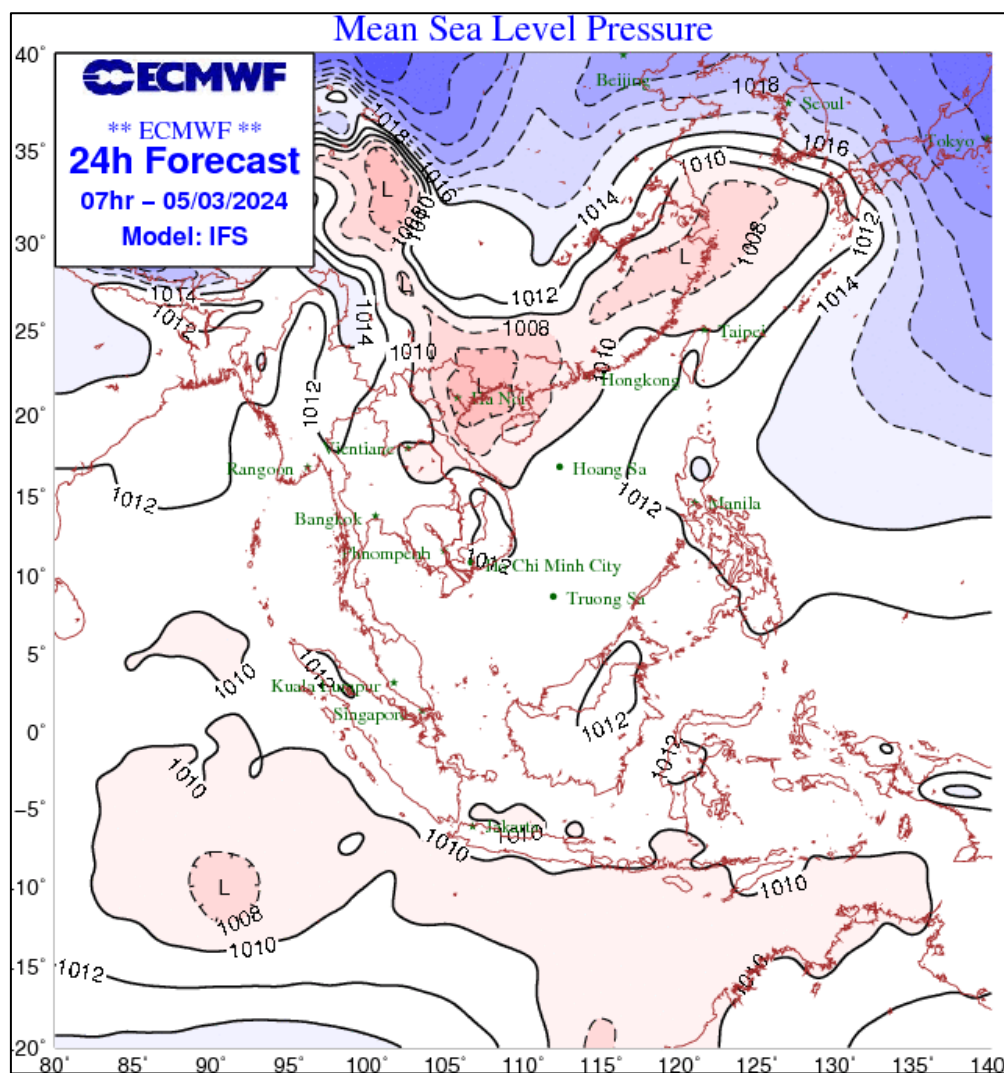
<http://droughtforecast.mrcmekong.org>

Flash flood information is accessible at: <http://ffw.mrcmekong.org/ffg.php>

2 General Weather Patterns

During the last week, the upper and center of the Mekong region will be influenced by a high-pressure system push from China, some areas of the lower part of the LMB experienced light rainfall.

Figure 1 presents the weather map indicating no high- or low-pressure cells active in the South Sea of Viet Nam and the LMB. It is forecasted that the Lower Mekong Basin will be influenced by a heat low-pressure system from 5 – 7 March, then the high-pressure system push from China will extend to the upper and central part from 8 – 11 March.



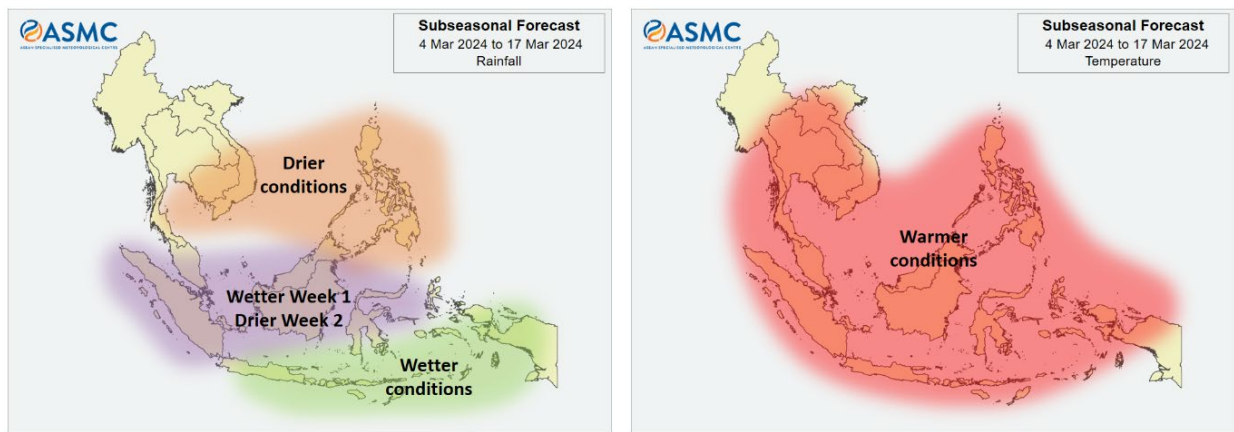


Figure 2: Outlook of wet and dry conditions over the Asian countries by ASMC.

Based on the tropical storm risk (TS) (<https://www.tropicalstormrisk.com/>), there is no active NW pacific system as of 04 March 2024 as displayed in Figure 3.

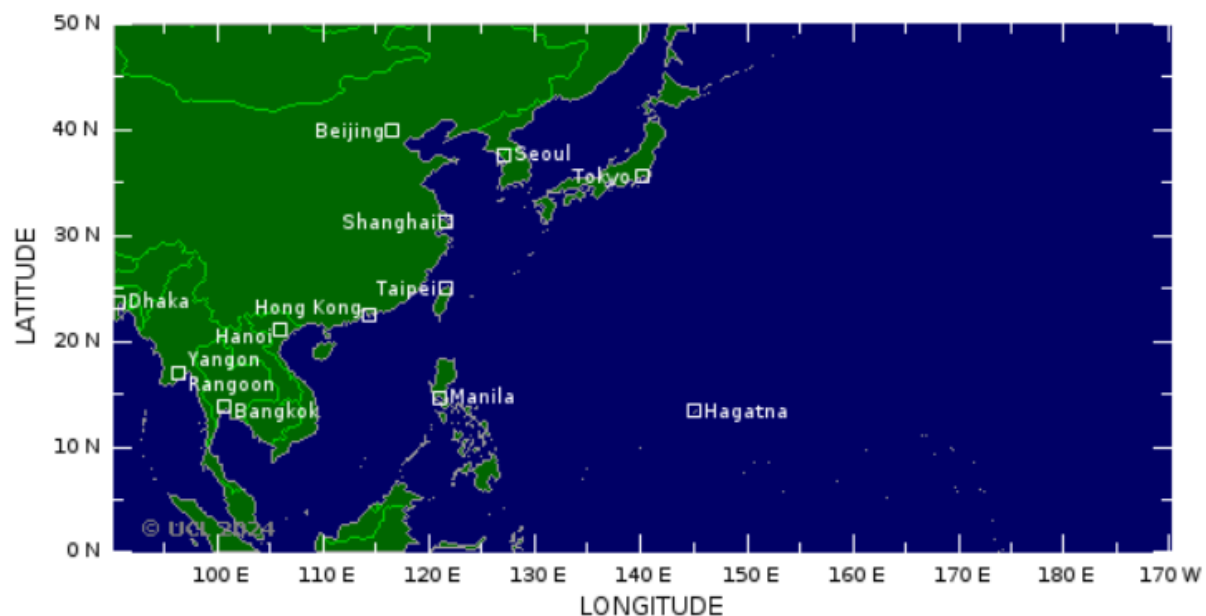


Figure 3: No tropical storm risk observed on 04 March 2024

3. Rainfall and Water Level Monitoring

3.1. Rainfall monitoring

The weekly accumulated rainfall based on the observed data provided by the MRC Member Countries – Cambodia, Lao PDR, Thailand, and Viet Nam – from 27 February to 04 March 2024 (Figure 4). Over the entire basin, the rainfall has been observed to be between no rain to relatively low. However, slight rainfall occurrence has been found in the western part of the basin, particularly in Thailand.

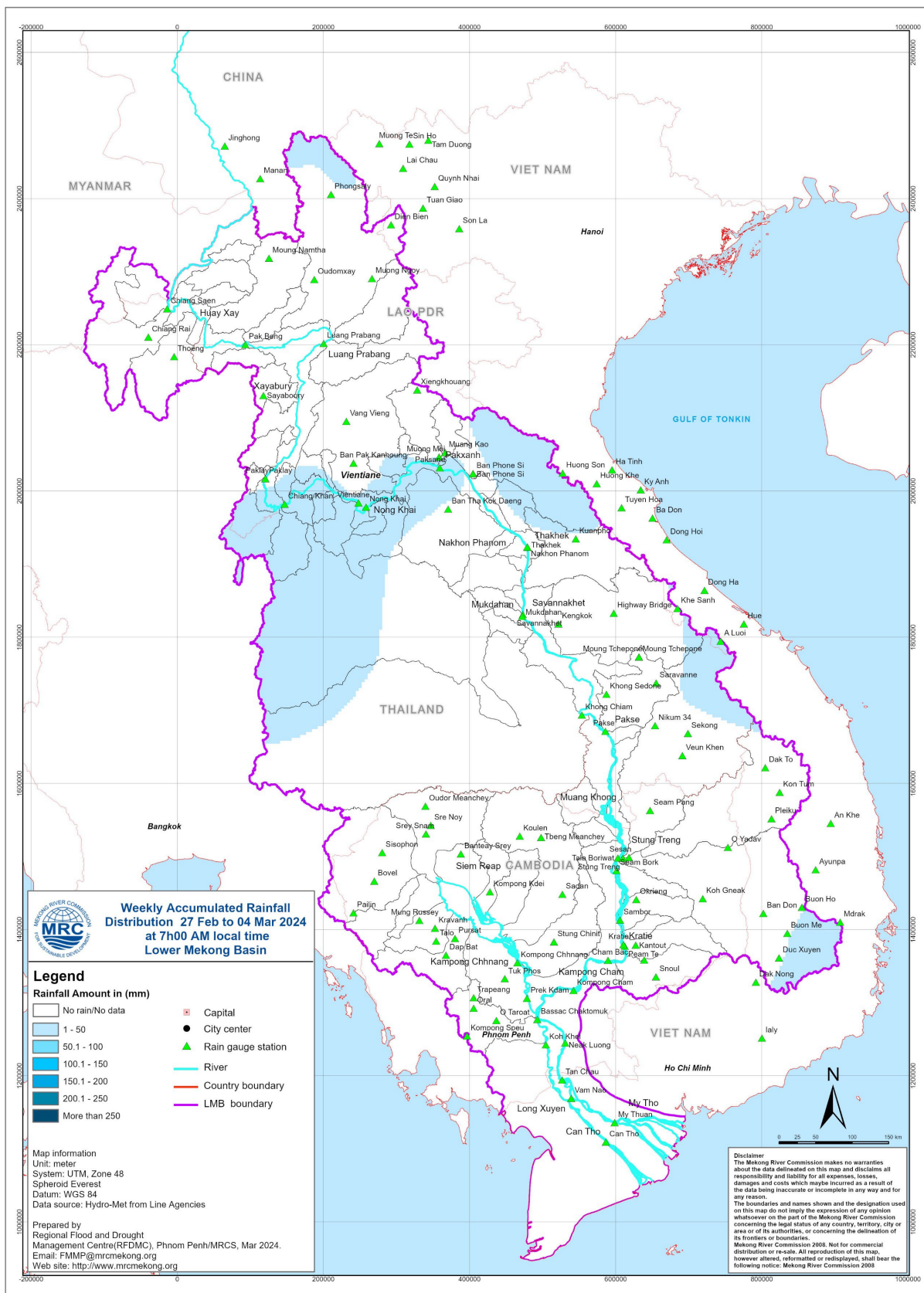


Figure 4: Weekly rainfall distribution over the LMB during 27 February – 04 March 2024

3.2. Water level monitoring

The hydrological regimes of the Mekong mainstream are illustrated by recorded water levels and flows at key mainstream stations: at Chiang Saen to capture mainstream flows entering from the Upper Mekong Basin (UMB); at Vientiane to present flows generated by climate conditions in the upper part of the LMB; at Pakse to investigate flows influenced by inflows from the larger Mekong tributaries; at Kratie in Cambodia to capture overall flows of the Mekong Basin; and at Viet Nam's Tan Chau and Chau Doc to monitor flows to the Delta.

The key stations along the LMB and their respective model application for River Flood Forecasting during the wet season from June to October and River Monitoring during the dry season from November to May are presented in **Figure 5**. The hydrograph for each key station is available from the MRC's River Flood Forecasting: <http://ffw.mrcmekong.org/overview.php>.

During 17 February – 04 March 2024, the observed water level (WL) at Jinghong hydrological station¹, was almost constant and ranges between 536.08 m and 535.23 m, which are corresponding to the outflow between 1,340.00 m³/s to 1,540.00 m³/s (recorded on 7:00 am), respectively (**Figure 6**). The water level in Chiang Saen station also indicated a slight fluctuation ranging from 1.77 m to 1.60 m with a decreasing trend. At the same period, the water level in Luang Prabang station also slightly increased with an approximate value of 0.74 m as compared to the previous week.

During the same period, the water levels observed in Chiang Khan, Vientiane, Nong Khai, and Paksane stations were slightly increasing with values ranging from 3.15 m to 3.52 m, 1.51 m to 1.65 m, 0.70 m to 0.71 m, and 1.95 m to 1.97 m, respectively. In contrast, the water level at Nakhon Phanom, Thakhek, Mukdahan, Savannakhet, Khong Chiam, Pakse, Stung Treng, Kratie, Kampong Cham, and Phnom Penh (Bassac) stations has a slightly decreasing trend ranging from 0.93 m to 0.90 m, 2.30 m to 2.24 m, 1.53 m to 1.48 m, 0.75 m to 0.70 m, 2.05 m to 1.97 m, 1.00 m to 0.88 m, 2.57 m to 2.44 m, 7.00 m to 6.86 m, 2.62 m to 2.55 m, and 1.92 , to 1.89 m respectively as compared to the previous week.

Further downstream, water levels at Phnom Penh Port, Koh Khel, Neak Luong, Prek Kdam has slightly increased and varied in ranges of 1.20-1.28 m, 1.76-2.34 m, 1.35-1.48 m, and 1.09-1.19 m, respectively.

Similar to the previous week, the water levels from 27 February to 04 March 2024 at Viet Nam's Tan Chau and Chau Doc fluctuated between their LTA values due to daily tidal effects from the sea. At the Tan Chau station, the water levels varied between 1.09 m and 0.06 m, while at the Chau Doc station, they ranged from 1.28 m to 0.24 m.

¹ Near-real time data of hydro-meteorological monitoring at the Jinghong hydrological station is available at <https://portal.mrcmekong.org/monitoring/river-monitoring-telemetry>.

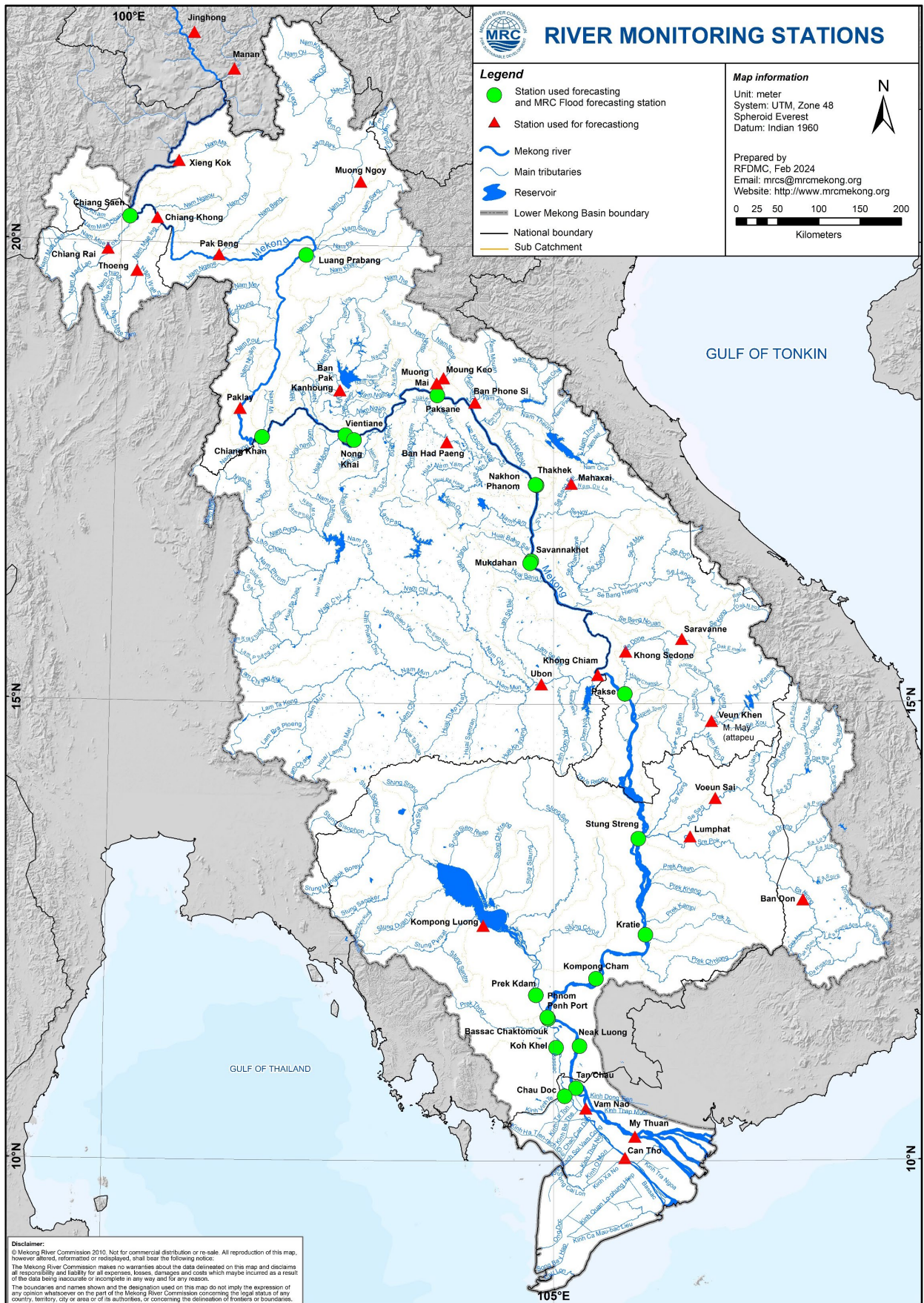


Figure 5: The key stations along LMB for river flood forecasting

It should be noted that the water levels in all key monitoring stations on 04 March 2024 are below their long-term averages (LTAs) except for the Luang Prabang, Vientiane, Kratie, and Koh Khel monitoring stations. Moreover, all stations with available (PMFM thresholds) are in normal conditions. The graphics of water level monitoring in all key stations are presented in **Annex A** and the weekly water levels and rainfall at each key station are summarised in **Annex B**.

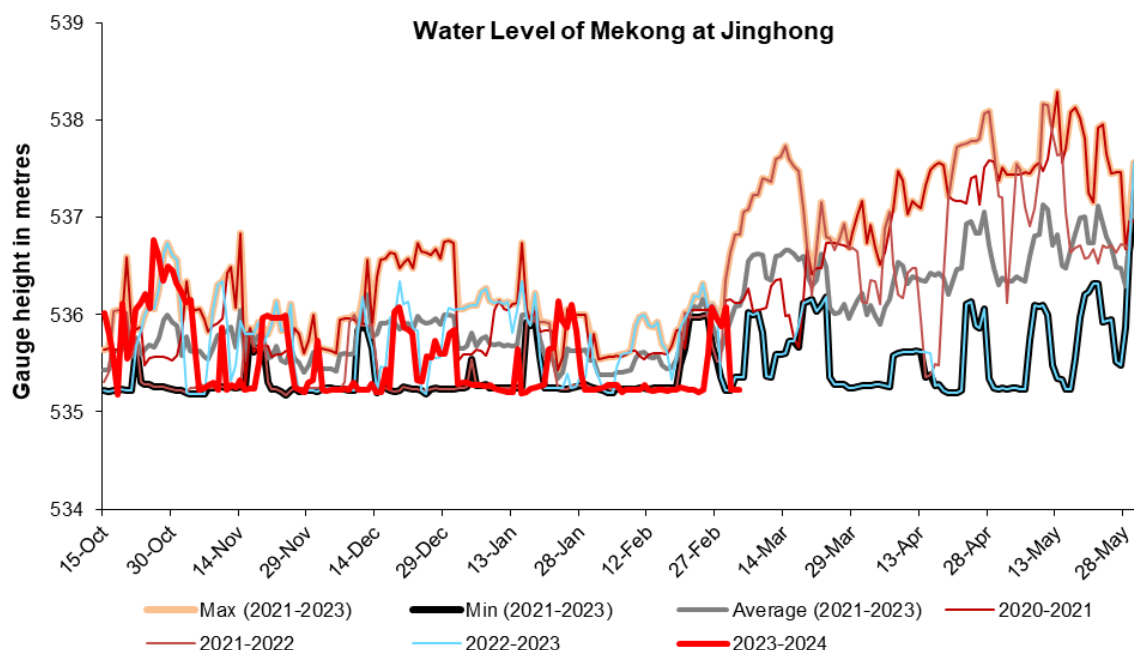


Figure 6. Water level at the Jinghong hydrological station up to 04 March 2024.

At the end of the wet season, when water levels along the Mekong River subside, the outflow of the Tonle Sap Lake (TSL) returns to the Mekong River and then to the Delta. This phenomenon normally takes place between September and October. Based on flow observation at Prek Kdam monitoring station, the outflow of the Tonle Sap Lake took place since 28 September 2023.

The outflow flow is calculated based on a formula of rating-curves using by difference of water levels at Kompong Luong and Phnom Penh Port stations for slop and Prek Kdam as cross-section of the Lake. The formula of flow is as follows:

$$Flow = WL_{Prek\ Kdam}^{1.2} \times \sqrt{|WL_{Phnom\ Penh\ Port} - WL_{Kompong\ Luong}|}$$

Where, WL is water level in m (msl).

The seasonal changes of the inflow/reverse flow and the outflow of the TSL at Prek Kdam in comparison with the flows of 2020, 2021 and 2022, 2023 and their LTA level (1997-2023) are illustrated in **Figure 8**. Up to 04 March 2024, it was observed that the main outflow to Tonle Sap Lake decreased due to no rainfall and less inflows from upstream (**Figure 8**). This decreased outflow of Tonle Sap Lake was most likely caused by low inflows from its tributaries.

The seasonal changes in monthly flow volumes up to 04 March 2024 for the TSL compared with that in 2020, 2021, 2022, 2023 and their LTAs, and the fluctuation levels (1997–2023) are presented in **Table 8**. The mean monthly water volume of the Tonle Sap Lake in February 2024 is lower than its LTA (about 74.58 %), 2023 and 2022 but higher than that in 2019, 2020, and 2021 during the same period (**Figure 8 and Table 1**). However, with updated data until 04 March 2024, the water volume of TSL is approximately 92.87% of its LTA.

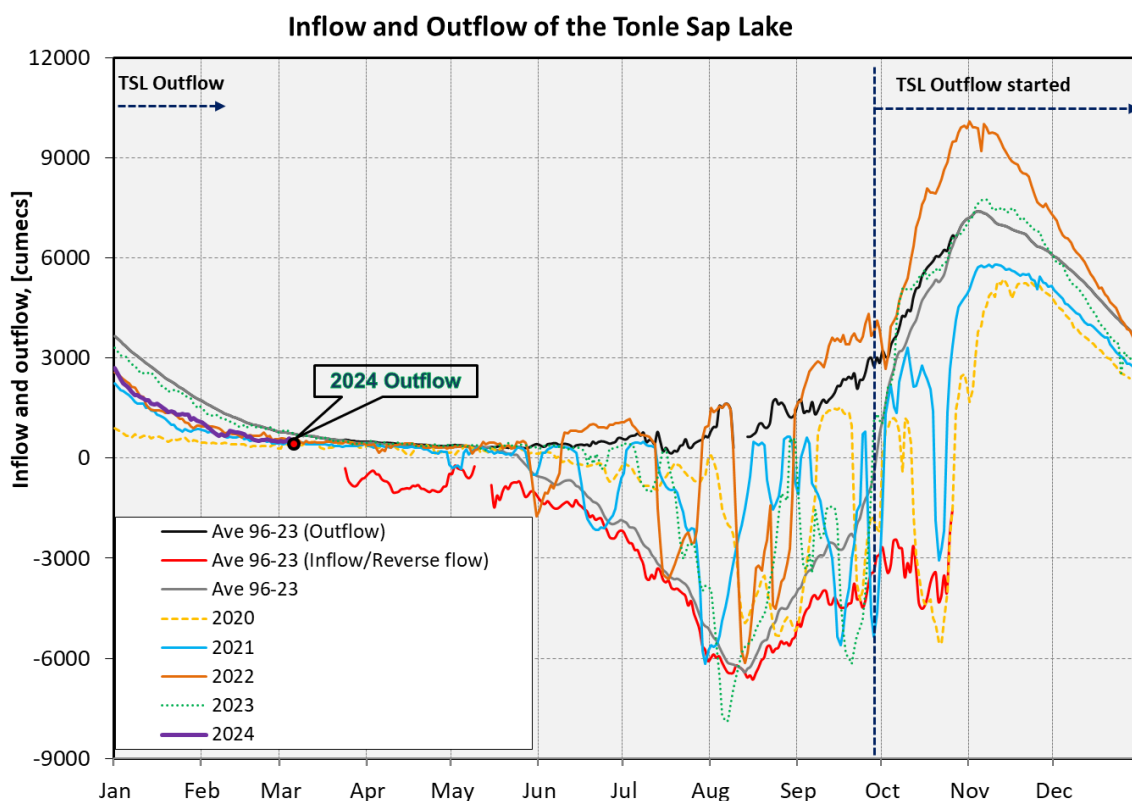


Figure 7: Seasonal change of inflows and outflows of Tonle Sap Lake.

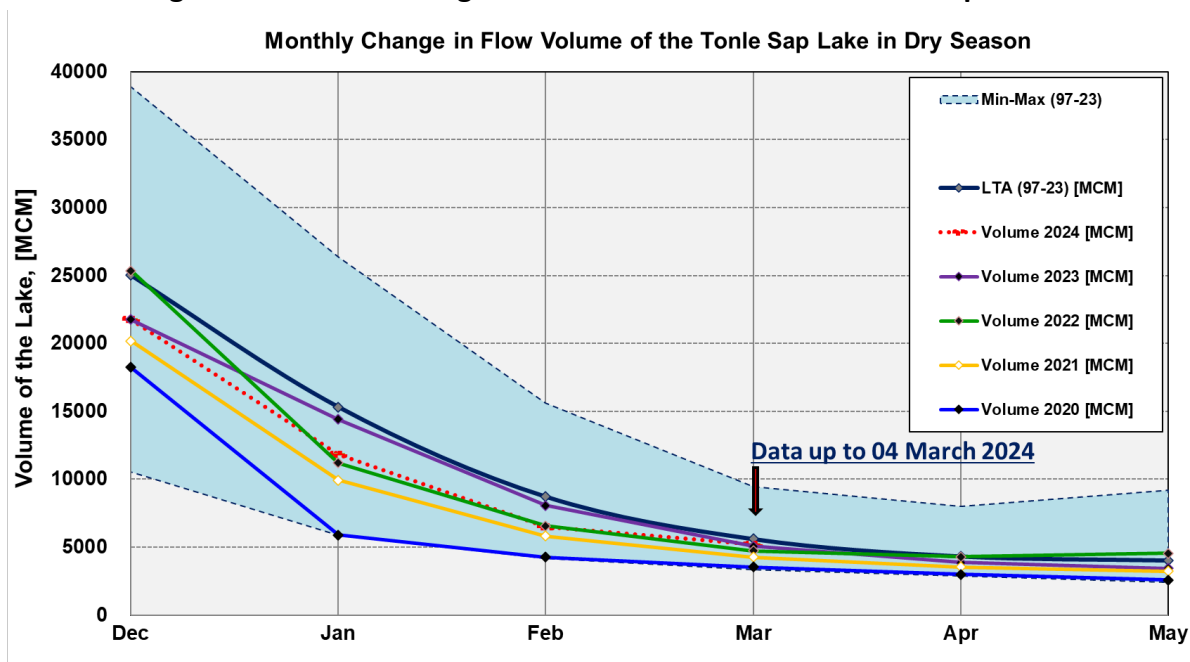


Figure 8. The seasonal change in monthly flow volume of Tonle Sap Lake.

Table 1. The monthly change in the flow volume of Tonle Sap Lake.

Month	LTA (97-22) [MCM]	Max Volume [MCM]	Min Volume [MCM]	Volume 2019 [MCM]	Volume 2020 [MCM]	Volume 2021 [MCM]	Volume 2022 [MCM]	Volume 2023 [MCM]	Volume 2024 [MCM]	Volume in 2024 [%], compared with its LTA
Jan	15322.86	26357.53	5906.80	10285.31	5906.80	9923.80	11214.32	14422.11	11824.86	77.17
Feb	8723.39	15596.22	4198.60	6019.30	4264.19	5832.97	6558.79	8069.29	6505.88	74.58
Mar	5602.68	9438.24	3347.07	4354.62	3553.99	4264.88	4736.52	5080.64	5203.44	92.87
Apr	4327.36	8009.14	2866.91	3667.47	2992.61	3556.68	4288.31	3884.16		
May	4027.82	9176.93	2417.81	3266.43	2594.92	3240.78	4556.83	3438.66		
Jun	5699.50	13635.01	2468.70	3517.06	2641.88	3798.29	7489.04	3689.97		
Jul	11188.79	28599.56	2925.86	4001.99	2925.86	5346.73	9703.79	9953.41		
Aug	24070.98	39015.12	4433.46	7622.71	5941.07	10547.80	19554.70	13694.57		
Sep	38787.47	65632.35	12105.31	24194.19	12105.31	16382.34	32860.34	23550.60		
Oct	46562.09	73757.23	19705.50	30358.38	20799.13	27318.21	48199.12	37141.40		
Nov	37739.30	60367.33	18534.61	19112.65	27546.80	28982.93	39452.53	33929.52		
Dec	25009.52	38888.95	10563.49	10577.29	18251.65	20170.76	25346.65	21757.70		
	Critical situation: lower than long-term minimum values (LTMIN)									
	Normal condition: within the range of long-term min (LTMIN) and max (LTMAX) values									
	Low volume situation: lower than long-term average (LTA)									
Unit: Million Cubic Meter (1 MCM= 0.001 Km³)										

Remarks: the volume of Tonle Sap Lake in 2024 is updated until 04 March 2024.

4. Flash Flood in the Lower Mekong Basin

During the weekly monitoring period from 27 February – 04 March, the LMB received no rain to light rain in some areas.

According to the MRC-Flash Flood Guidance System (MRC-FFGS) and analysis, flash flood events were not detected during the reporting period over the LMB.

5. Drought Monitoring in the Lower Mekong Basin

5.2. Weekly drought monitoring from February 27 to March 4

Drought monitoring data for 2024 are available from Monday to Sunday every week; thus, the reporting period is normally delayed by one day compared to Flood and Flash Flood reports. We adopt the Index of Soil Water Fraction (ISWF) data obtained from FFGS to represent soil moisture of agricultural indicator for both dry and wet seasons.

- **Weekly Standardised Precipitation Index (SPI1)**

Meteorological drought conditions of the LMB from 27 February to 4 March 2024, as shown in **Figure 9**, were normal in most parts of the region except moderate drought over Cambodia's Battambang, Pailin, Otdar Meanchey and Siem Reap and Thailand's Nakhon Ratchasima.

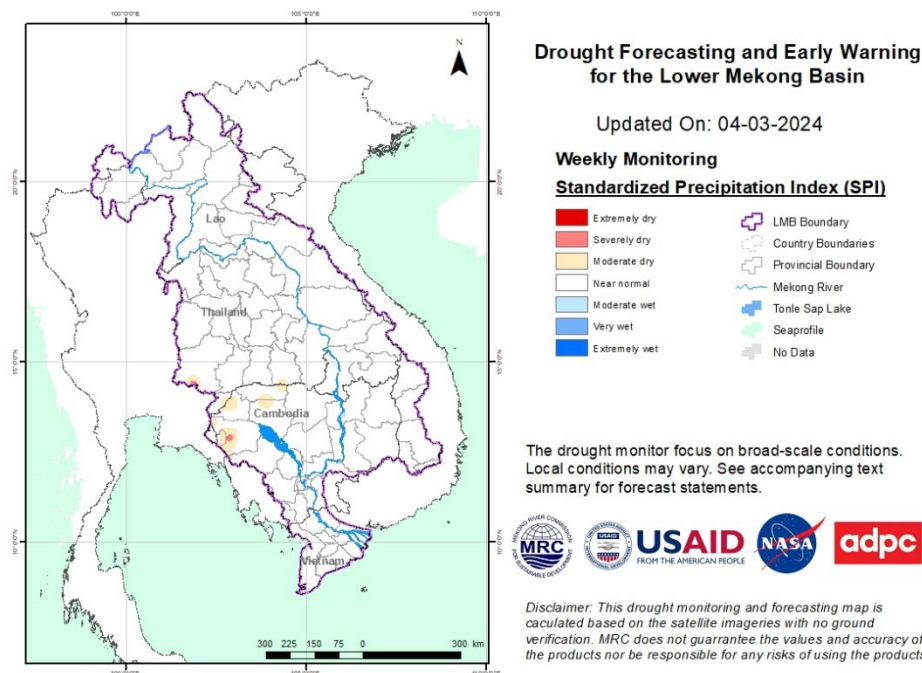


Figure 9: Weekly standardised precipitation index from February 27 to March 4.

- **Weekly Index of Soil Water Fraction (ISWF)**

Soil moisture conditions from February 27 to March, as displayed in **Figure 10**, were severely dry from the north to the south due to absence of rainfall. The conditions were similar to those of the previous week.

Note: The index of soil water fraction presents the current soil water fraction conditions compared with normal month; therefore, it normally shows extremely dry during dry season which is completely different from SPI that is standardized to its specific month of the years. However, this does not mean that the areas are threatened by agricultural drought as generally during transition period of wet and dry seasons and dry season only the irrigated areas are used for agricultural plantation.

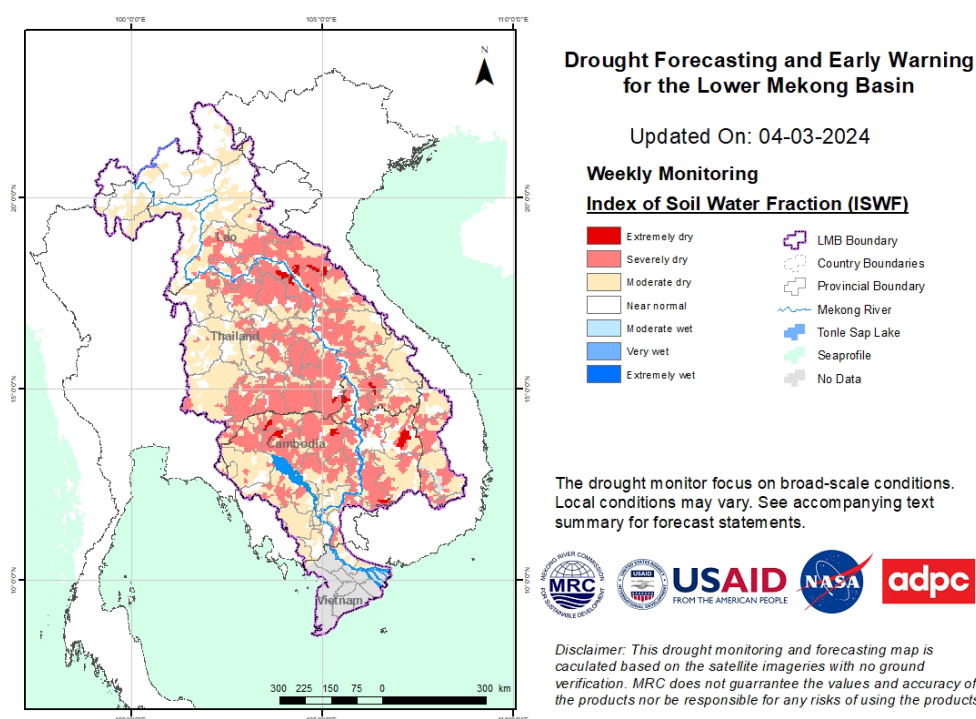


Figure 10: Weekly Index of Soil Water Fraction from February 27 to March 4.

- Weekly Combined Drought Index (CDI)**

With the dry conditions of soil moisture, the combined drought indicator (displayed in **Figure 11**) reveals that during 27 February - 04 March 2024, the LMB was facing from moderate to extreme drought from the middle to the lower part. Northern Cambodia was the driest area during the monitoring week. The impacted areas are listed below:

Number	Country	Province	Moderate	Severe	Extreme	Exceptional	Number	Country	Province	Moderate	Severe	Extreme	Exceptional	Number	Country	Province	Moderate	Severe	Extreme	Exceptional
1	Cambodia	Battambang					24	Lao PDR	Oudomxai					47	Thailand	Udon Thani				
2	Cambodia	Banteay Meanchey					25	Lao PDR	Loungprabang					48	Thailand	Sakon Nakhon				
3	Cambodia	Pailin					26	Lao PDR	Xayaburi					49	Thailand	Buang Kan				
4	Cambodia	Pursat					27	Lao PDR	Xiangkhouang					50	Thailand	Nakhon Phanom				
5	Cambodia	Kampong Chhnang					28	Lao PDR	Vientiane					51	Thailand	Kalasin				
6	Cambodia	Otdar Meanchey					29	Lao PDR	Vientiane Capital					52	Thailand	Mukdahan				
7	Cambodia	Preah Vihear					30	Lao PDR	Xaisomboun					53	Thailand	Roi Et				
8	Cambodia	Kampong Thom					31	Lao PDR	Borikhamxai					54	Thailand	Yasothon				
9	Cambodia	Kratie					32	Lao PDR	Khammouan					55	Thailand	Amnat Charoen				
10	Cambodia	Monduliri					33	Lao PDR	Savannakhet					56	Thailand	Ubon Ratchathani				
11	Cambodia	Ratanakiri					34	Lao PDR	Salavan					57	Thailand	Si Sa Ket				
12	Cambodia	Tbong Khmum					35	Lao PDR	Xekong					58	Thailand	Surin				
13	Cambodia	Prey Veng					36	Lao PDR	Attapu					59	Thailand	Buri Ram				
14	Cambodia	Kampot					37	Lao PDR	Champasack					60	Thailand	Nakhon Ratchasima				
15	Cambodia	Takeo					38	Thailand	Chiang Mai					61	Viet Nam	Kon Tum				
16	Cambodia	Svay Rieng					39	Thailand	Chiang Rai					62	Viet Nam	Gia Lai				
17	Cambodia	Stung Treng					40	Thailand	Payao					63	Viet Nam	Dak Nong				
18	Cambodia	Kampong Speu					41	Thailand	Loei					64	Viet Nam	Dak Lak				
19	Cambodia	Kandal					42	Thailand	Nong Bua Lam Phu					65	Viet Nam	Dong Thap				
20	Cambodia	Siem Reap					43	Thailand	Khon Kaen					66	Viet Nam	Tien Giang				
21	Lao PDR	Bokeo					44	Thailand	Nong Khai					67	Viet Nam	An Giang				
22	Lao PDR	Luangnamtha					45	Thailand	Chaiyaphum					Other provinces of the Mekong Delta of Viet Nam have no data						
23	Lao PDR	Phongsali					46	Thailand	Maha Sarakham								Moderate		Severe	

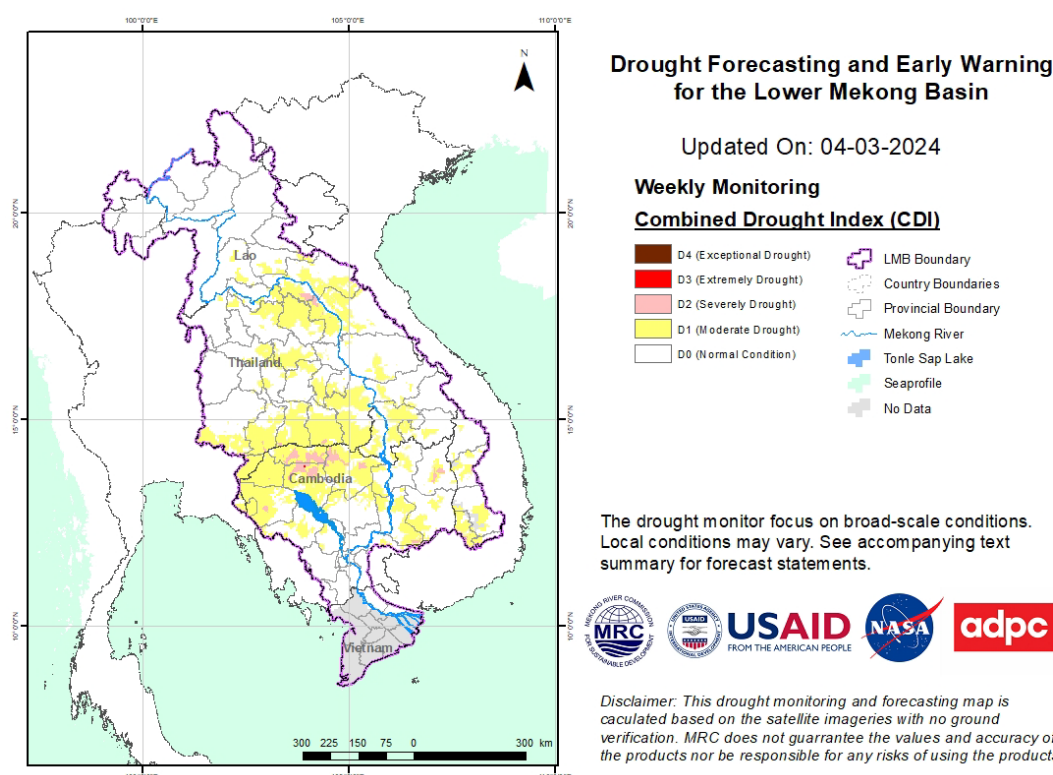


Figure 11: Weekly Combined Drought Index from February 27 to March 4.

More information on Drought Forecasting and Early Warning (DFEW) as well as the explanation is available here: <http://droughtforecast.mrcmekong.org/templates/view/our-product>. DFEW provides not only weekly monitoring and forecasting information but also a three-month forecast of drought indicators with seasonal outlook which are updated every month based on international weather forecast models. Details on drought forecast are described in section 6.4 of this report.

6 Weather and Water Level Forecast and Flash Flood information

6.1 Rainfall forecast

During 05 – 18 March 2024, the accumulated rainfall over the Lower Mekong Basin is distributed with no rain to light rain based on the result from CHIRPS-GFS (**Figure 12**). The light rain can be observed in the central part of the Lower Mekong Basin, particularly in Thailand, norther-western Cambodia, almost entire Lao PDR and slightly in highland of Viet Nam.

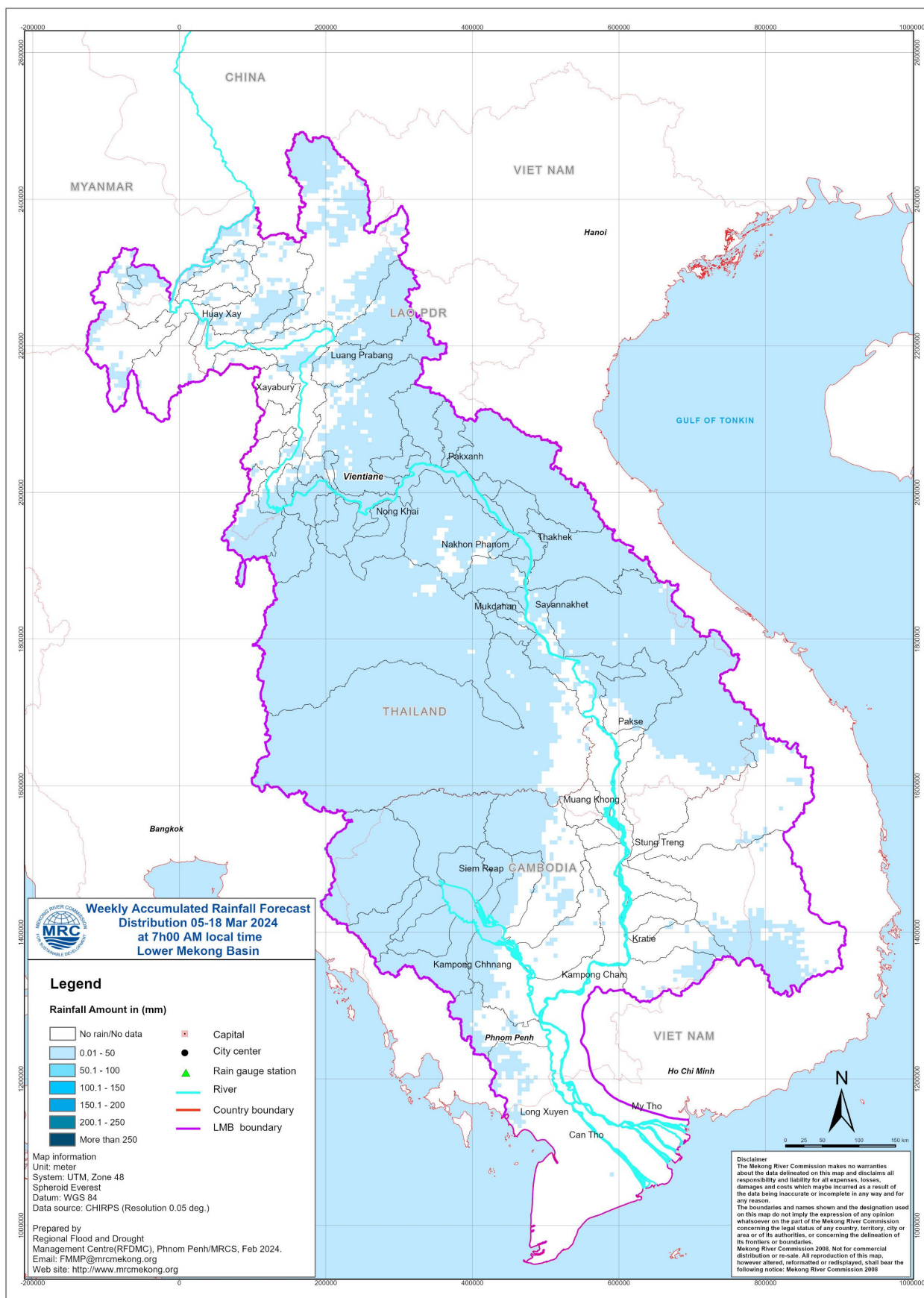


Figure 12: Accumulated rainfall forecast from CHIRP-GFS (27 February - 11 March 2024)

6.2 Water level forecast

In Chiang Saen monitoring station, the water level is expected to be fluctuated over the forecasting period of 05 – 11 March 2024. However, it will decrease from 1.60 m to 1.30 m. The water level in Luang Prabang stations affected by backwater is likely slightly decreasing from 9.06 m to 8.65 m.

It is observed that the remain stations along the Mekong mainstream, the water levels are predicted to have decreasing trends for the next 7 days at the upper stretch of the Lower Mekong Basin from Chiang Khan to Nong Khai. At Chiang Khan, Vientiane, Nong Khai stations, the water levels are expected to decrease with ranges of 3.52 – 3.43 m, 1.65 -1.61m, and 0.75 -0.72 m, respectively.

Moving down to the monitoring stations from Paksane to Kratie, the water levels are predicted to have slightly increased trends at all stations. At Paksane, Nakhon Phanom, Thakhek, Mukdahan, Sanvannakhet, Khong Chiam, Pakse, Stung Treng, and Kratie stations, the water level will increase of approximately 0.11 m, 0.07 m, 0.07 m, 0.07 m, 0.08 m, 0.11 m, 0.17 m, 0.09 m, and 0.03 m respectively. However, the water levels at Kompong Cham, Phnom Penh (Bassac), Phnom Penh Port, Koh Khel, Neak Luong, and Prek Kdam stations will drop with approximately values of 0.12m, 0.09 m, 0.06 m, 0.08 m, and 0.16 m, and 0.13 m, respectively from the current week.

For the Tan Chau station on the Mekong River and Chau Doc station on the Bassac River, water levels will increase approximately 0.66 m and 0.86 m, respectively, following daily tidal effects from the sea.

The weekly River Monitoring Bulletin and forecasting issued on 04 March 2024 can be found in **Table 2**. Results of the weekly river monitoring and forecasting bulletin are also available at <http://ffw.mrcmekong.org/bulletin.php>
























Table 2. Weekly River Monitoring Bulletin.



Mekong Bulletin

Mekong River Commission Secretariat (MRCS)
Regional Flood and Drought Management Centre (RFDMC)
P.O. Box 623 #576, National Road #2, Chak Angre Krom, Meanchey, Phnom Penh, Cambodia
Tel: (855-23) 425353, Fax: (855-23) 425363, Email: floodforecast@mrcmekong.org
Forecast period from: 05 March to 11 March 2024

Date: 04 March 2024

LOCATION	Country	Observed Rainfall (mm)	Zero gauge above M.S.L (m)	Min water level against zero gauge (m)	Observed W. level against zero gauge (m)		Forecasted Water Levels (m)							
		03-Mar			04-Mar	05-Mar	06-Mar	07-Mar	08-Mar	09-Mar	10-Mar	11-Mar		
Jinhong		0.0	-	-	535.23	535.23								
Chiang Saen		0.0	357.110	0.00	2.05	1.60	1.45	1.40	1.38	1.36	1.34	1.33	1.30	
Luang Prabang		0.0	267.195	2.53	9.02	9.06	9.08	8.87	8.65	8.62	8.62	8.63	8.65	
Chiang Khan		3.7	194.118	1.91	3.28	3.52	3.67	3.69	3.57	3.50	3.48	3.46	3.43	
Vientiane		1.2	158.040	-0.28	1.60	1.65	1.67	1.73	1.80	1.72	1.67	1.65	1.61	
Nongkhai		1.5	153.648	0.33	0.62	0.71	0.75	0.77	0.80	0.85	0.80	0.75	0.72	
Paksane		2.2	142.125	0.10	2.00	1.97	2.04	2.07	2.09	2.11	2.14	2.11	2.08	
Nakhon Phanom		0.0	130.961	0.18	0.94	0.90	0.88	0.93	0.95	0.96	0.97	0.99	0.97	
Thakhek		0.0	129.629	1.38	2.26	2.24	2.22	2.26	2.28	2.29	2.31	2.33	2.31	
Mukdahan		0.0	124.219	0.72	1.45	1.48	1.46	1.44	1.47	1.49	1.50	1.53	1.55	
Savannakhet		0.0	125.410	-0.65	0.68	0.70	0.68	0.66	0.69	0.72	0.73	0.75	0.78	
Khong Chiam		0.0	89.030	1.02	1.88	1.92	1.95	1.93	1.90	1.95	1.98	2.00	2.03	
Pakse		0.0	86.490	0.03	0.83	0.88	0.93	0.92	0.91	0.96	0.99	1.02	1.05	
Stung Treng		0.0	36.790	0.32	2.46	2.44	2.44	2.46	2.47	2.47	2.49	2.52	2.53	
Kratie		0.0	-1.080	3.06	6.90	6.86	6.82	6.80	6.82	6.82	6.84	6.86	6.89	
Kompong Cham		0.0	-0.930	0.65	2.40	2.55	2.58	2.54	2.46	2.43	2.42	2.42	2.43	
Phnom Penh (Bassac)		0.0	-1.020	1.58	1.94	1.89	1.90	1.90	1.88	1.84	1.82	1.81	1.80	
Phnom Penh Port		nr	0.000	0.14	1.18	1.28	1.32	1.32	1.30	1.26	1.24	1.23	1.22	
Koh Khel		0.0	-1.000	1.52	2.26	2.34	2.33	2.34	2.34	2.32	2.29	2.27	2.26	
Neak Luong		0.0	-0.330	0.81	1.47	1.48	1.48	1.42	1.40	1.37	1.35	1.33	1.32	
Prek Kdam		0.0	0.080	0.58	1.24	1.19	1.18	1.17	1.14	1.10	1.08	1.07	1.06	
Tan Chau		0.0	0.000	-0.37	0.06	0.06	0.05	0.06	0.07	0.19	0.35	0.50	0.72	
Chau Doc		nr	0.000	-0.60	0.20	0.24	0.12	0.24	0.35	0.46	0.29	0.40	1.10	

REMARKS:

-: not available.
 *: reference stations without forecast.
 nr: no rain.

River Flood Forecaster

NOTE: Discharge at Luang Prabang may be influenced by hydropower operations (at both upstream and downstream).
For more info, please refer to this link:
<http://www.mrcmekong.org/>; http://ffw.mrcmekong.org/bulletin_wet.php; <http://ffw.mrcmekong.org/reportflood.php>

6.3 Flash Flood Information

Flash flood events are not likely to happen in the LMB next week. However, local heavy rain in a short period of time might still be possible with unexpected short flash floods. During the dry season if extreme weather occurs, the information on flash flood guidance for the next one, three, and six hours is updated at <http://ffw.mrcmekong.org/ffg.php>.

Further detailed information on Flash Flood Information Warning, as well as on its explanation, is available for download [here](#).

6.4 Drought forecast

There are several climate-prediction models with different scenarios in the upcoming months. The MRC's DFEWS adopts the global scale of North America Multi-Model Ensemble (NMME) that predicts average rainfall in daily average for the next coming three months.

Figure 13 below shows the average daily rainfall forecast for March, April and May 2024 over the LMB area.

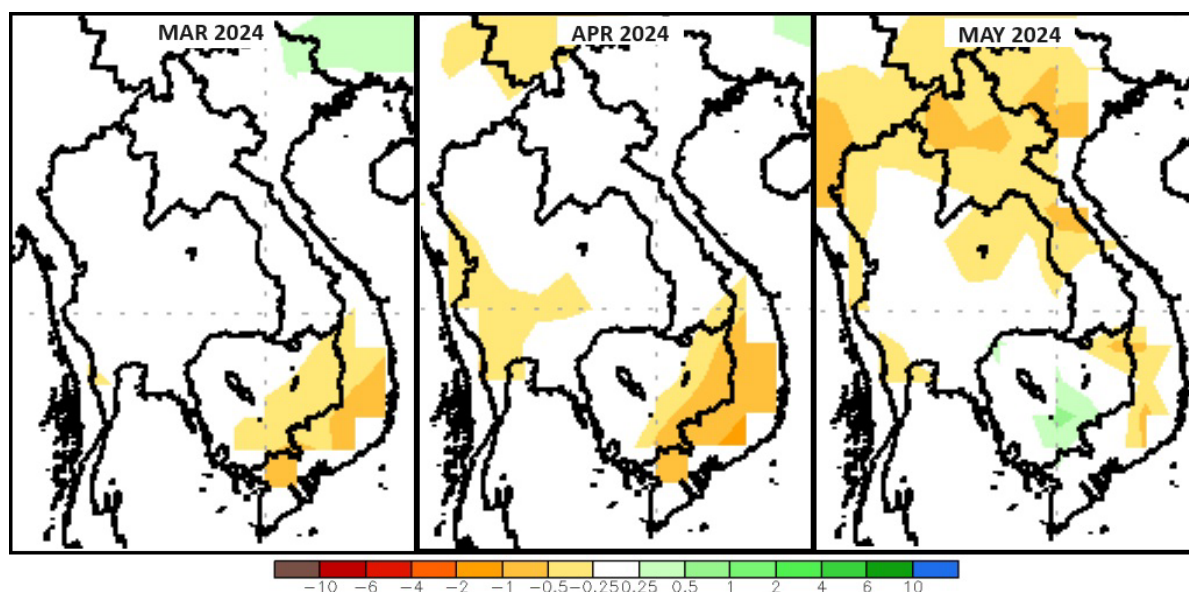


Figure 13. Monthly forecast of rainfall from NMME for March, April, and May 2024.

Figure 13 indicates that below average rainfall is predicted for southern part of the LMB during March 2024 covering mainly south-eastern Cambodia and Viet Nam; similar prediction goes for April plus a bit less than average rainfall in some area of Thailand in the central area; while during May the forecast indicates below average rainfall over the northern part covering Laos and some areas of Thailand and the 3S area of the southern region of the LMB.

7 Summary and Possible Implications

7.1 Rainfall and its forecast

In the period of 27 February – 4 March 2024, there was no significant rainfall recorded at the key stations along the Mekong River.

The Lower Mekong Basin will be influenced by a heat low-pressure system from 4 – 7 March, then the high-pressure system push from China will extend to the upper and central part from 8 – 11 March. There will be light rainfall in some areas in the upper and central parts for the next seven days in the Mekong region.

7.2 Water level and its forecast

At 22 key monitoring stations along the Mekong mainstream from 27 February – 04 March 2024, water levels are below the long-term averages (LTAs) except for water level at Luang Prabang, Vientiane, Kratie, and Koh Khel monitoring stations. However, the 9 monitoring stations remain in normal condition with respect to the flow threshold (PMFM for Observed Water Level). It is also the same condition for Tan Chau and Chau Doc monitoring stations, which are significantly influenced by sea tidal fluctuation.

In the period of 05 – 11 March 2024, the water level at 22 key stations is expected to slightly decrease at the upper stretches of the Lower Mekong River Basin from Chiang Saen to Nong Khai stations. However, moving down to downstream starting from Paksane to Kratie stations, the water level will increase, while from Kompong Cham to Prek kdam stations, it will decrease slightly. At Tan Chau and Chau Doc stations, the water levels are predicted to be increasing, resulting from the influence of sea tidal patterns. The water levels at almost all stations are predicted to be below their LTAs except for Luang Prabang, Vientiane, Stung Treng, Kratie, Koh Khel, Tan Chau and Chau Doc stations.

7.3 Flash flood and its trends

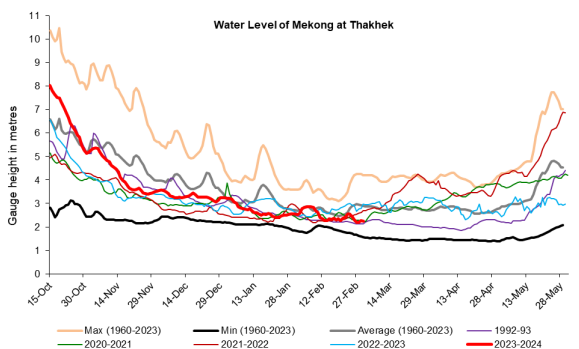
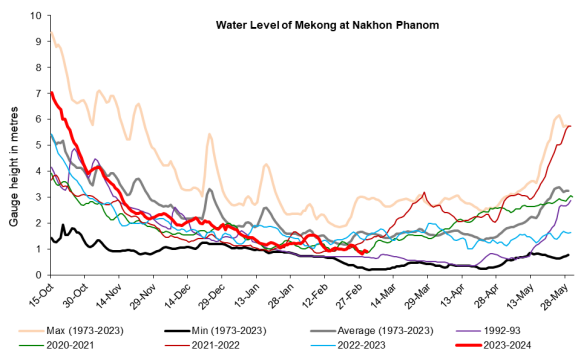
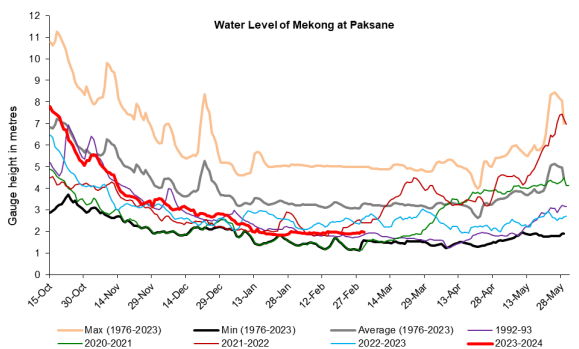
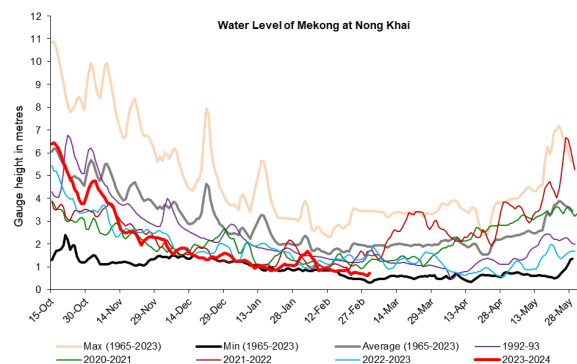
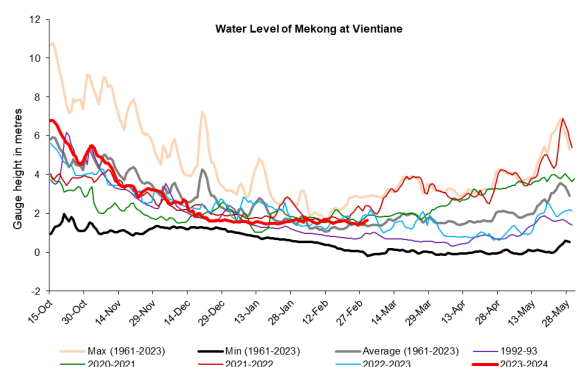
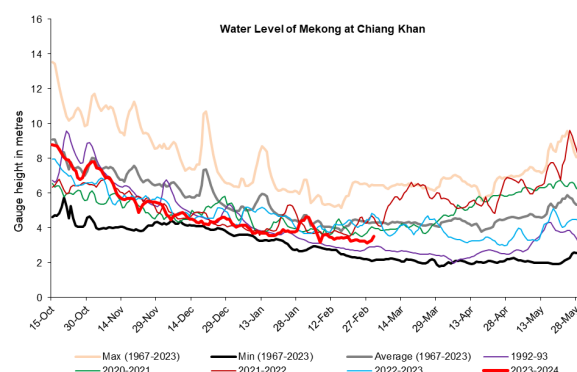
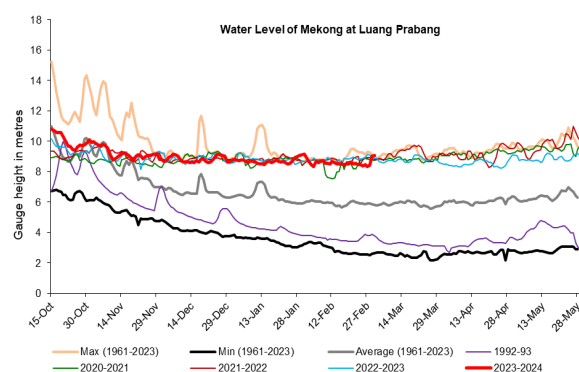
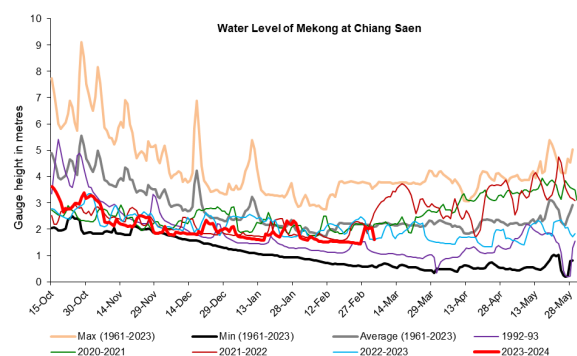
With the predicted of rainfall for the coming week as mentioned earlier in [section 6.1](#), major flash floods are not likely to happen in the LMB.

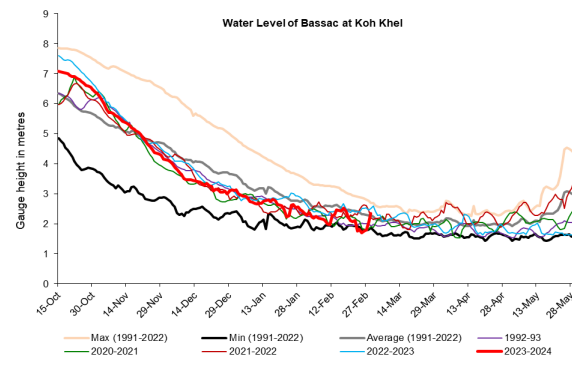
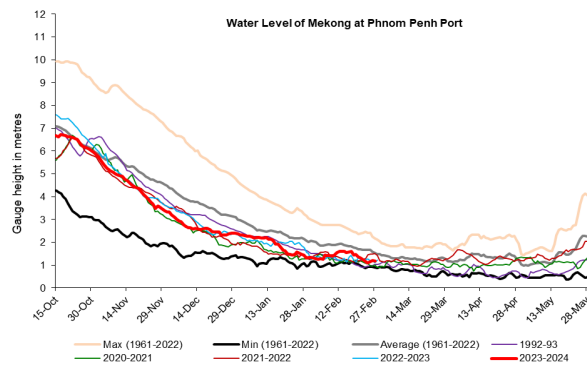
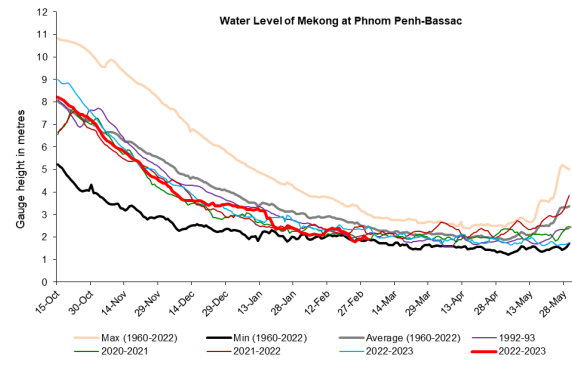
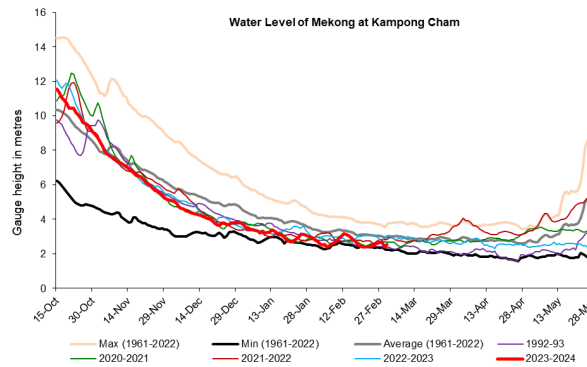
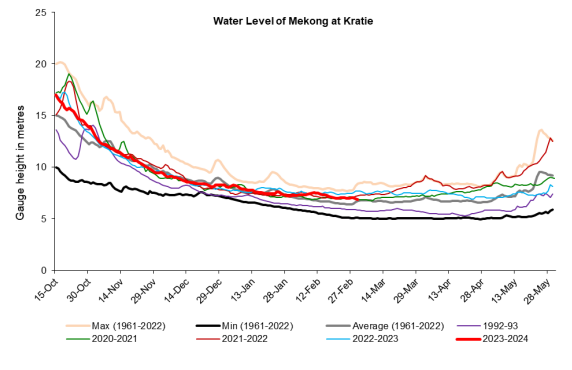
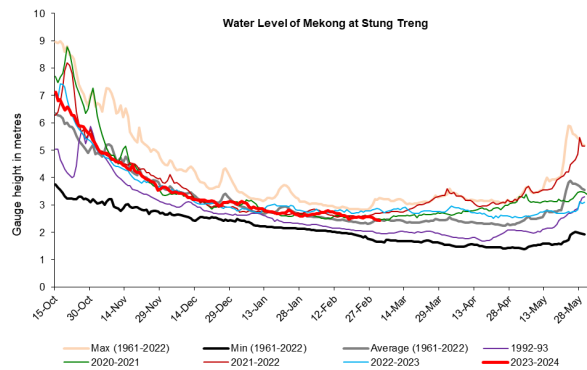
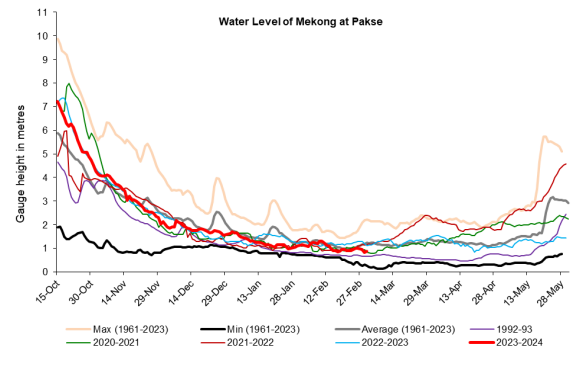
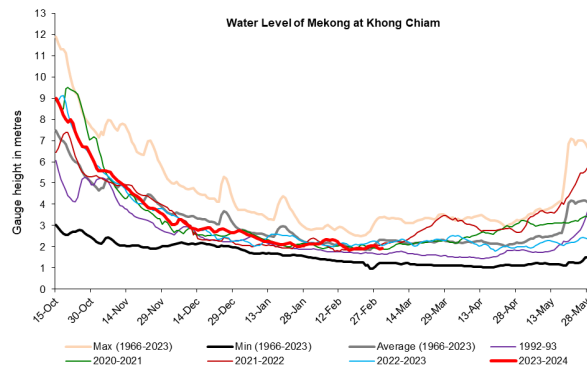
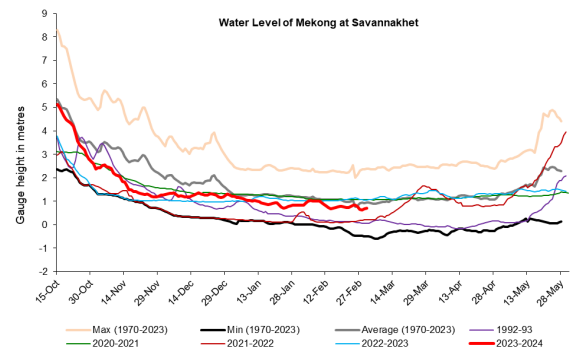
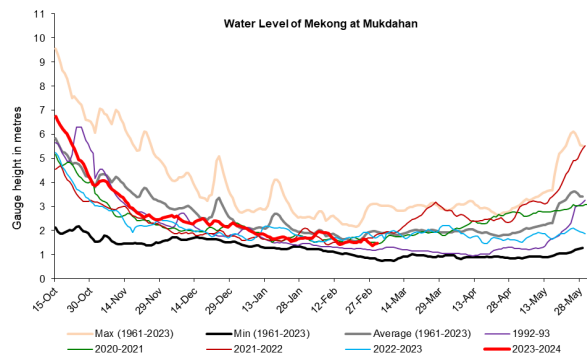
7.4 Drought condition and its forecast

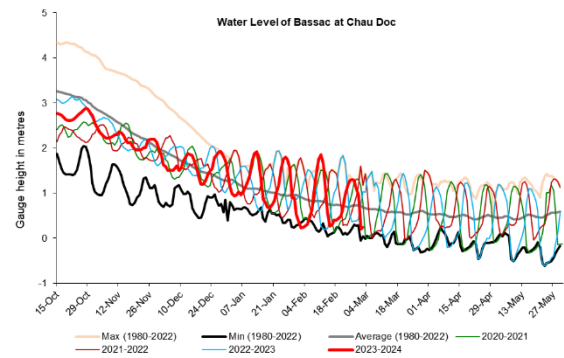
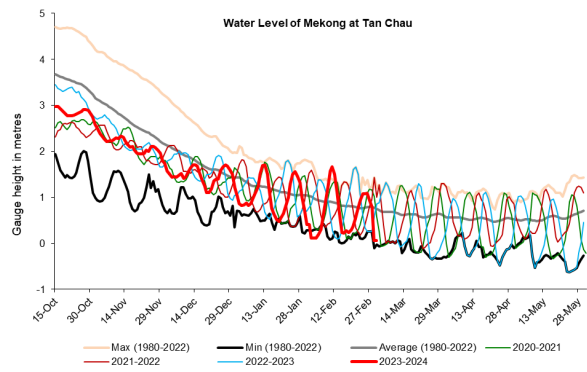
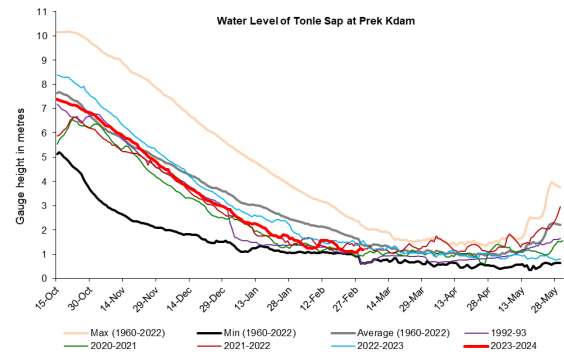
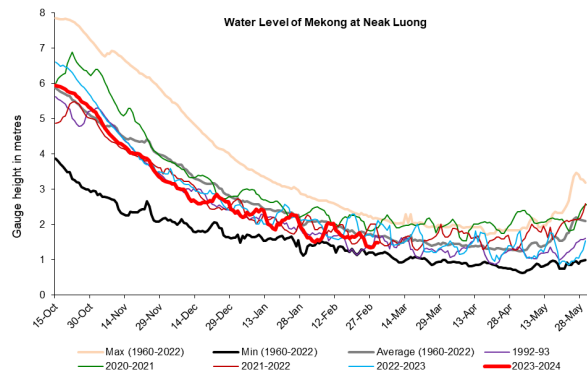
During 27 Feb-04 Mar 2024, the LMB was facing moderate to extreme drought from the middle to the lower part. Northern Cambodia was the driest area during the monitoring week.

The next three-month forecast of rainfall indicates that below average rainfall is predicted for southern part of the LMB during March 2024 covering mainly south-eastern Cambodia and Viet Nam; similar prediction goes for April plus a bit less than average rainfall in some area of Thailand in the central area; while during May the forecast indicates below average rainfall over the northern part covering Laos and some areas of Thailand and the 3S area of the southern region of the LMB.

Annex A: Weekly water level monitoring at the 22 key stations







Annex B: Tables for weekly updated water levels and rainfall at the Key Stations

Table A1: Weekly observed water levels

2024	Jinghong	Chiang Saen	Luang Prabang	Chiang Khan	Vientiane	Nongkhai	Paksane	Nakhon Phanom	Thakhek	Mukdahan	Savannakhet	Khong Chiam	Pakse	Stung Treng	Kratie	Kompong Cham	Phnom Penh (Bassac)	Phnom Penh Port	Koh Khel	Neak Luong	Prek Kdam	Tan Chau	Chau Doc
27-02-2024	535.97	1.77	8.32	3.15	1.51	0.70	1.95	0.85	2.20	1.44	0.66	2.08	0.98	2.54	7.02	2.64	1.90	1.18	1.80	1.34	1.06	0.93	1.10
28-02-2024	535.88	2.11	8.40	3.20	1.50	0.65	1.93	0.81	2.19	1.36	0.62	1.96	0.96	2.54	7.03	2.70	2.05	1.30	2.07	1.36	1.16	0.78	0.94
29-02-2024	535.88	2.12	8.40	3.20	1.51	0.62	1.90	0.87	2.16	1.38	0.62	1.89	0.88	2.54	7.01	2.75	2.10	1.32	2.12	1.42	1.27	0.39	0.41
01-03-2024	536.08	2.03	8.52	3.14	1.53	0.65	1.96	0.91	2.24	1.42	0.65	1.86	0.82	2.53	7.01	2.72	1.99	1.25	2.16	1.38	1.16	0.08	0.12
02-03-2024	535.22	2.04	8.88	3.20	1.54	0.65	1.94	0.93	2.26	1.45	0.67	1.87	0.84	2.47	7.00	2.65	1.95	1.20	2.20	1.40	1.15	0.03	0.13
03-03-2024	535.23	2.05	9.02	3.28	1.60	0.62	2.00	0.94	2.26	1.45	0.68	1.88	0.83	2.46	6.90	2.40	1.94	1.18	2.26	1.47	1.24	0.06	0.20
04-03-2024	535.23	1.60	9.06	3.52	1.65	0.71	1.97	0.90	2.24	1.48	0.70	1.92	0.88	2.44	6.86	2.55	1.89	1.28	2.34	1.48	1.19	0.06	0.24

Table A2: Weekly observed rainfall

2024	Jinghong	Chiang Saen	Luang Prabang	Chiang Khan	Vientiane	Nongkhai	Paksane	Nakhon Phanom	Thakhek	Mukdahan	Savannakhet	Khong Chiam	Pakse	Stung Treng	Kratie	Kompong Cham	Phnom Penh (Bassac)	Phnom Penh Port	Koh Khel	Neak Luong	Prek Kdam	Tan Chau	Chau Doc
27-02-2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
28-02-2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
29-02-2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
01-03-2024	0	0	0	0	0	0	2.5	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
02-03-2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
03-03-2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
04-03-2024	0	0	0	3.7	1.2	1.5	2.2	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Sum	0.0	0.0	0.0	3.7	1.2	1.5	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0



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