



Mekong River Commission

**Weekly Dry Season Situation Report in
the Lower Mekong River Basin
02 – 08 April 2024**

Prepared by
The Regional Flood and Drought Management Centre
09 April 2024

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Key Messages

Key messages for this weekly report are presented below.

Rainfall monitoring and forecast

- In the period of 02 – 08 April 2024, the light to moderate rainfall has been only observed in the central part of the LMB including southern part of Lao PDR, eastern part of Thailand, northern part of Cambodia and 3S basins.
- From 09 – 15 April 2024, Light to moderate rainfall is forecasted to be sparsely distributed from central to upper parts of the basin. However, there will be no rainfall will occur at the lower part at Mekong Delta, central part of Cambodia and 3S basins.

Water level monitoring and forecast

- At 22 key monitoring stations along the Mekong mainstream from 02 – 08 April 2024, water levels are below the long-term averages (LTAs) except for water level at Luang Prabang, Stung Treng, Kratie, Neak Luong, Tan Chau and Chau Doc monitoring stations. However, the 6 monitoring stations remain in normal condition with respect to the flow threshold (PMFM Thresholds). 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 08 – 15 April 2024, Water levels are forecasted to be increasing at stations from upper part at Chiang Saen to Nong Khai and decreasing from Paksane to Kratie stations. Moving down to lower part, water level will be slightly rising except for Neak Luong stations. At Tan Chau and Chau Doc stations, the water levels are predicted to be also decreasing, resulting from the influence of sea tidal patterns. Water levels at most of the stations are expected to be below their long-term averages (LTAs) except for Luang Prabang, Stung Treng, Kratie and Neak Luong stations.

Drought condition and forecast

- During 2-8 April 2024, the LMB was facing from moderate to severe drought mainly in the southern part. The severe and extreme droughts, specifically, covered some areas of most provinces of Cambodia, Attapu, Champasack, Ubon Ratchathani, Si Sa Ket, Nakhon Ratchasima, Kon Tum and Gia Lai.
- The next three-month forecast of rainfall indicates that much below average rainfall is predicted for the whole LMB area during the upcoming April and May. While June is forecasted to be relatively wet over the northern and southern parts. Moderate and severe meteorological drought is likely taking place in the eastern region covering mainly some area of Thailand and southern Lao PDR.

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 **02 – 08 April 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. The 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.php>.

Drought monitoring and forecasting information is available at:

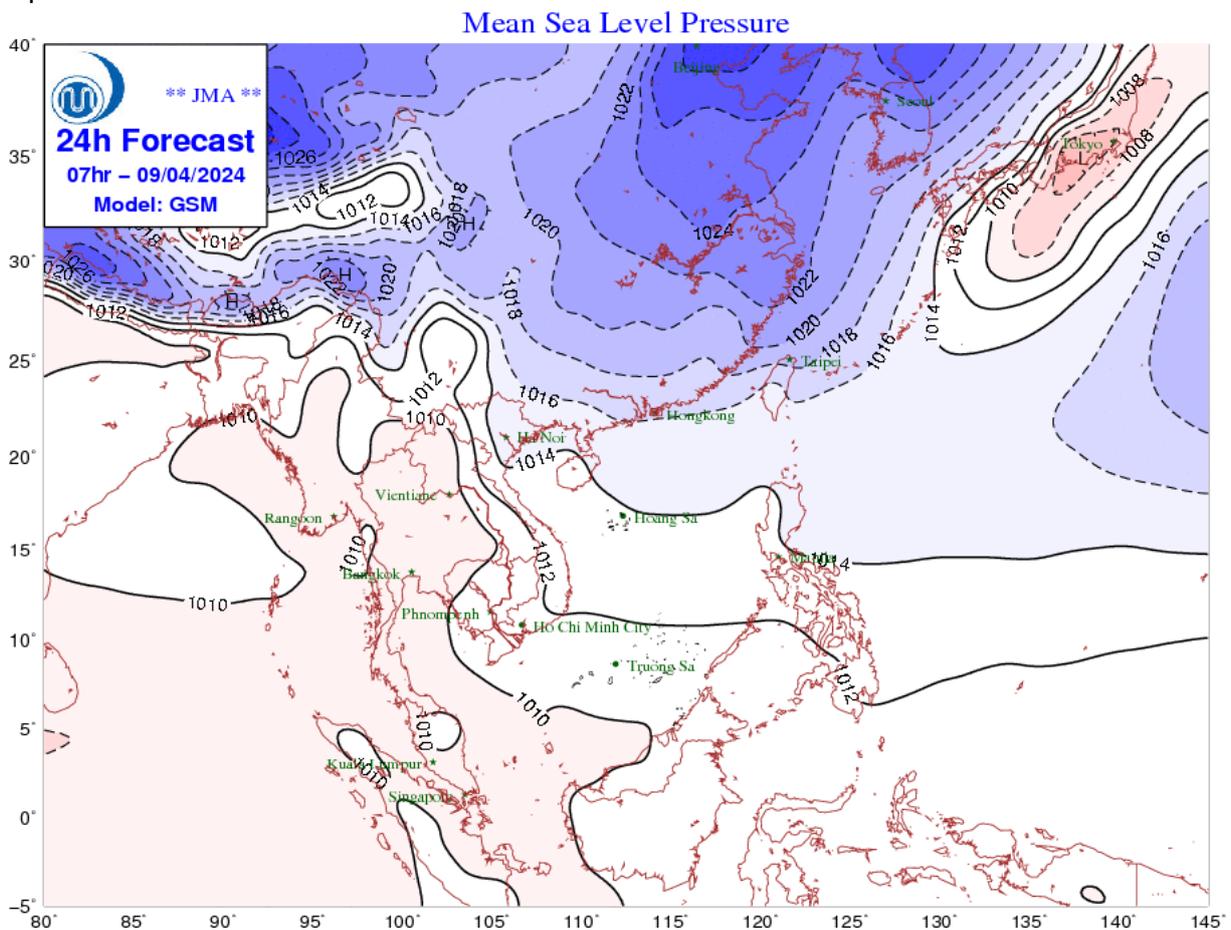
<http://droughtforecast.mrcmekong.org>

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

2 General Weather Patterns

During the last week, the Lower Mekong Basin influenced by a heat low-pressure system. There has been light rainfall in some areas in the Northwest of Cambodia, and the 3S area; the remaining areas in the Lower Mekong Basin have not received any 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 high-pressure system from 09 – 11 April, then during from 12 – 15 April, the heat low-pressure will cover upper the LMB. It is likely to occur thunderstorms, local heavy rain, and gusty wind in the Northeastern part of Thailand and the Northern part of Laos during 09 – 11 April.



According to the ASEAN Specialised Meteorological Centre (ASMC, <http://asmc.asean.org/home/>), the subseasonal weather outlook (01 – 14 April 2024) indicates that the drier condition are predicted to occur in the lower part and central part (in Thailand) of LMB. Moreover, the warmer conditions are predicted to occur in the entire LMB. **Figure 2** shows the outlook of weather condition from 01 to 14 April 2024 in Southeast Asia based on results from the NCEP model (National Centres for Environmental Prediction).

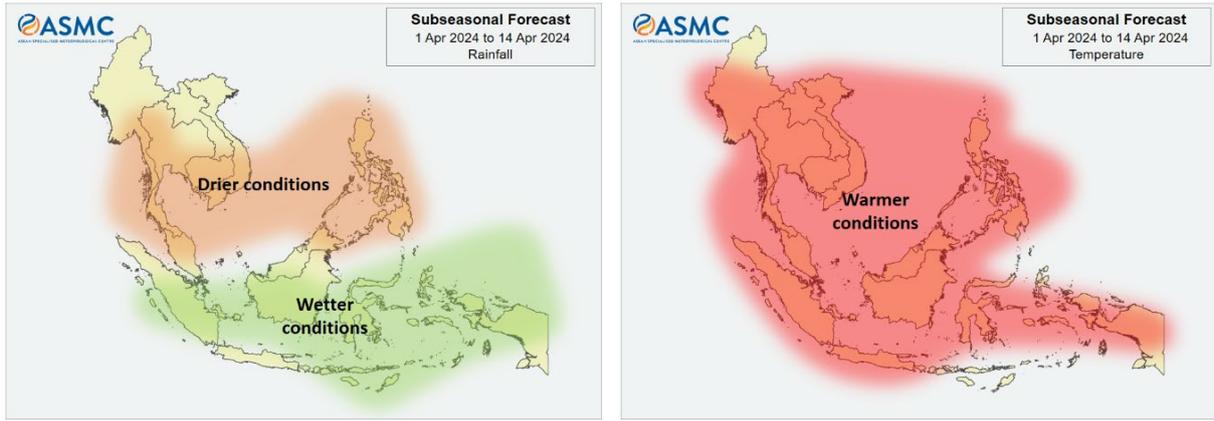


Figure 2: Outlook of wet and dry conditions over the Asian countries by ASMC.

Based on the tropical storm risk (TS) (<https://www.tropicalstormrisk.com/>), there is no active NW pacific system as of 08 April 2024 as displayed in Figure 3.

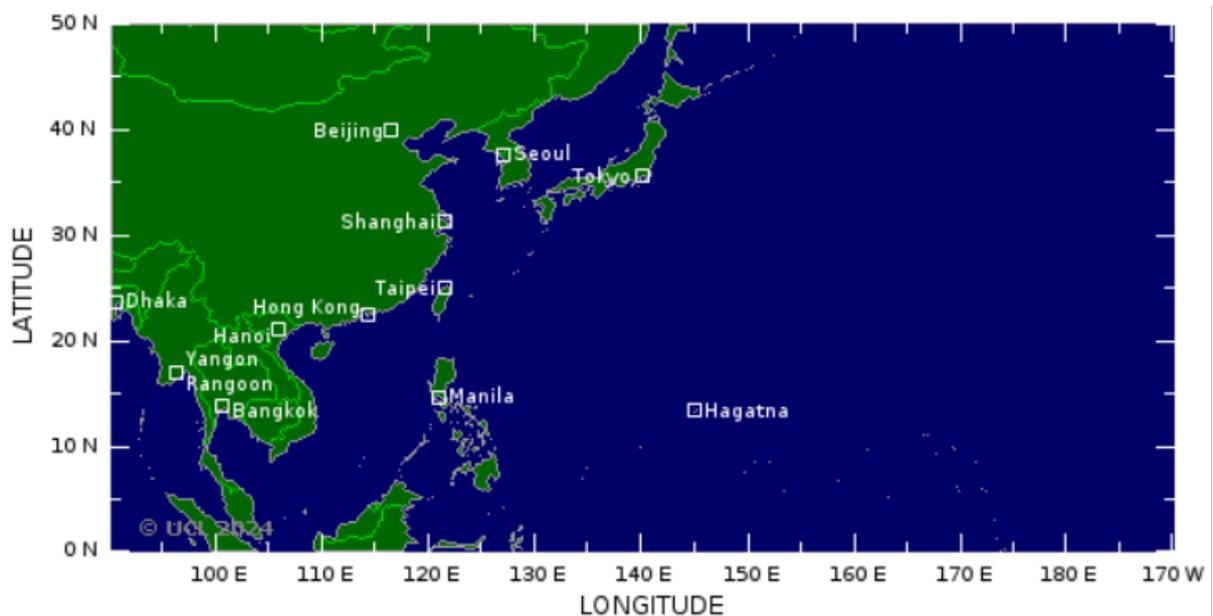


Figure 3: No tropical storm risk observed on 08 April 2024

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 02 to 08 April 2024 (Figure 4). The light to moderate rainfall has been only observed in the central part of the LMB including southern part of Lao PDR, eastern part of Thailand, northern part of Cambodia and 3S basins.

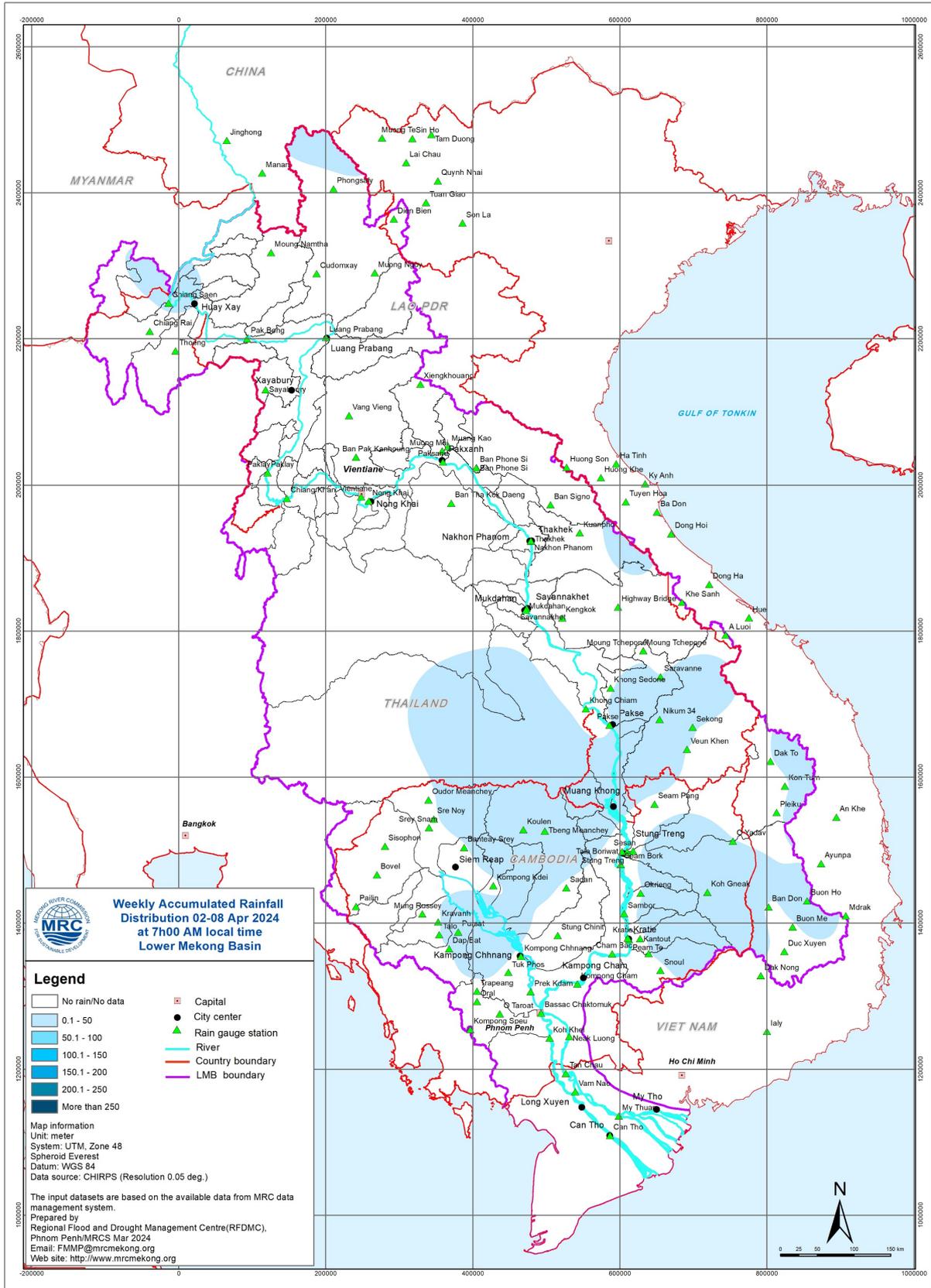


Figure 4: Weekly rainfall distribution over the LMB during 02 – 08 April 2024

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 02 – 08 April 2024, the observed water level (WL) at Jinghong hydrological station¹, was almost constant and ranges between 536.03 m and 535.75 m, which are corresponding to the outflow between 1,390.00 m³/s to 1,180.00 m³/s (recorded on 7:00 am), respectively (**Figure 6**). The water level in Chiang Saen station also indicated a slight fluctuation ranging from 1.55 m to 1.55 m with peak of 1.95 m. At the same period, the water level in Luang Prabang station also slightly decreased with an approximate value of 0.2 m from 8.80 m to 8.60 m as compared to the previous week.

During the same period, the water levels observed at upper parts of the basin from Chiang Khan to Kratie stations, water levels have been slightly increasing. At Chiang Khan, Vientiane, Nong Khai, Paksane, Nakhon Phanom, Thakhek, Mudahan, Savannakhet, Khong Chiam, Pakse, Stung Treng and Kratie stations were slightly increasing with values ranging from 3.12 m to 3.26 m, 1.15 m to 1.17 m, 0.61 m to 0.76 m, 2.15 m to 2.33 m, 2.18 m to 2.60 m, 1.52 m to 1.68 m, 2.01 m to 2.14 m, 0.98 m to 1.02 m, 2.54 m to 2.58 m, and 6.98 m to 6.98 m, respectively. Further downstream, water levels at Kampong Cham, Phnom Penh (Bassac), Phnom Penh Port, Koh Khel, and Prek Kdam, have been slightly fluctuated with decreasing trend and with ranges of 2.50-2.40 m, 1.77-1.45 m, 1.78-0.63 m, 1.75-1.58 m, and 0.91-0.78 m, respectively. However, only water level at Neak Luong station slightly increased from 1.22 m to 1.55 m. Similar to the previous week, the water levels from 02 to 08 April 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 -0.41 m and 1.08 m, while at the Chau Doc station, they ranged from -0.32 m to 1.25 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>.

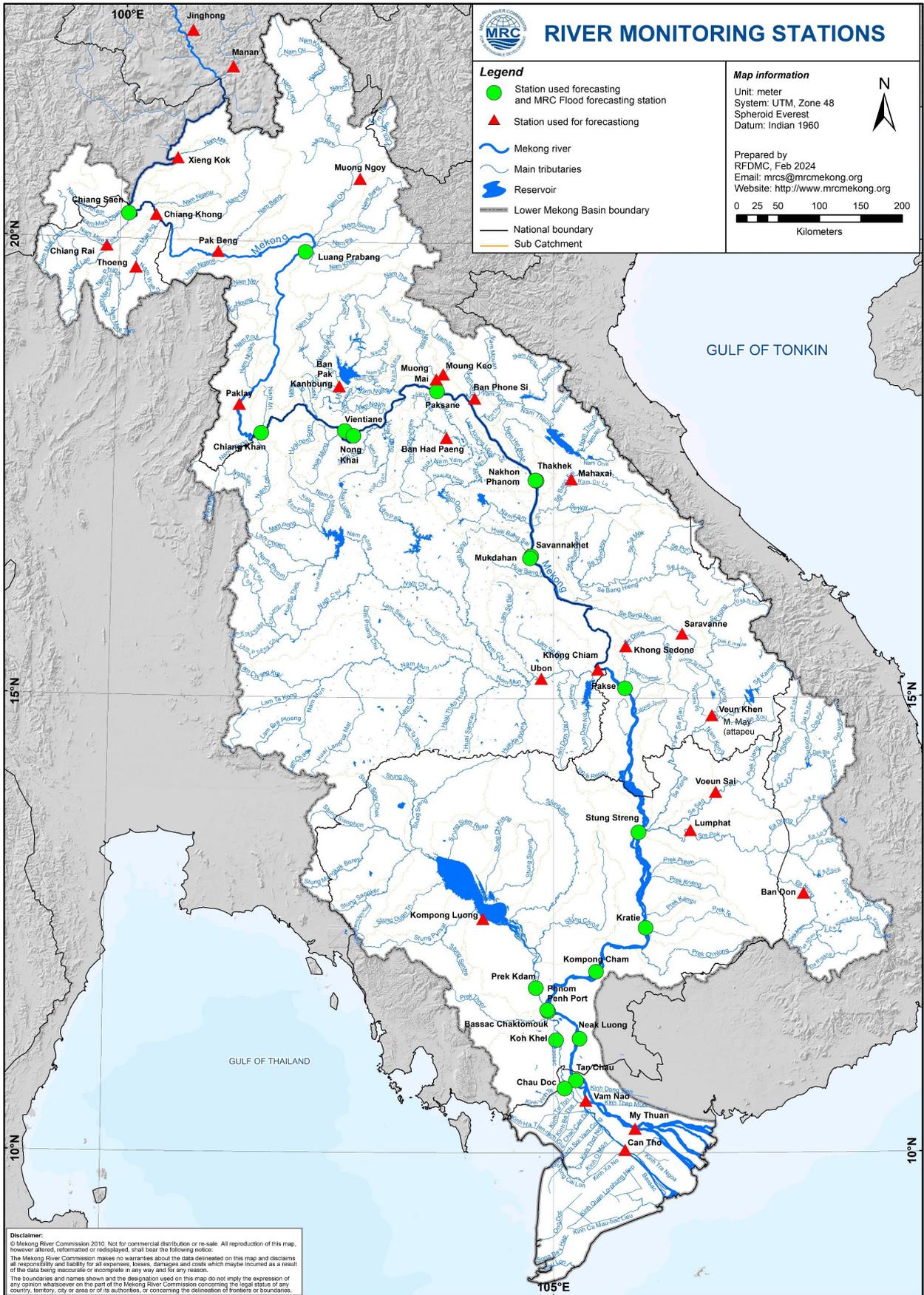


Figure 5: The key stations along LMB for river flood forecasting

The water levels in all key monitoring stations on 08 April 2024 are below their long-term averages (LTAs) except for the Luang Prabang, Stung Treng, Kratie, Neak Luong, Tan Chau and Chau Doc 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**.

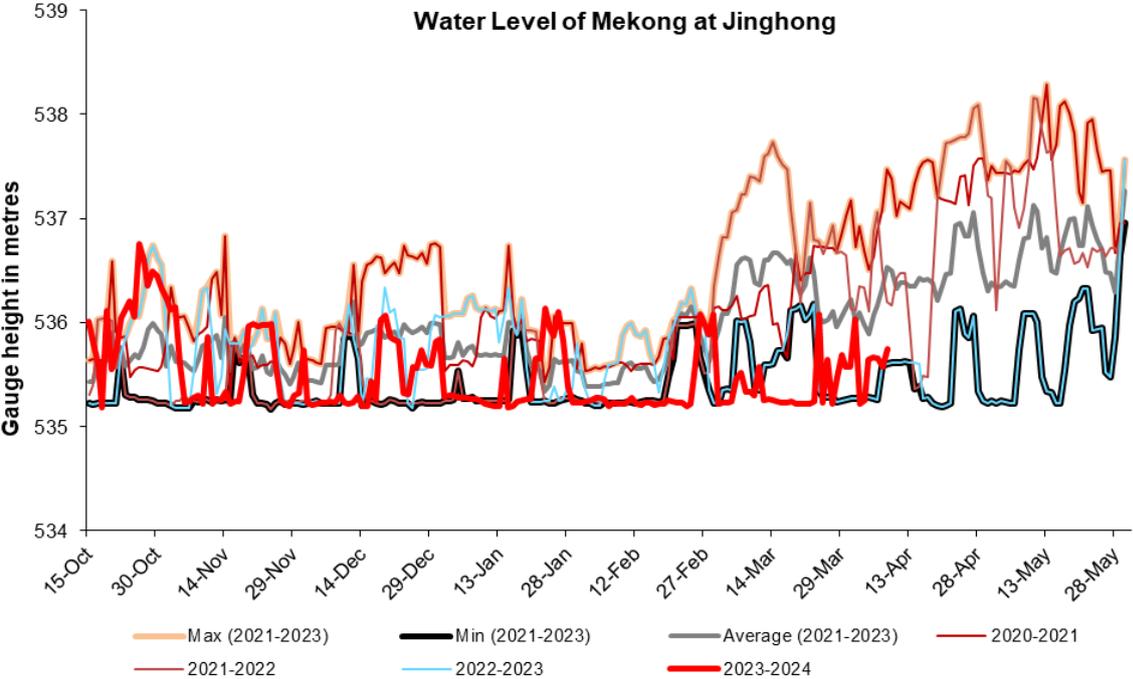


Figure 6. Water level at the Jinghong hydrological station up to 08 April 2024.

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 08 April 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 08 April 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 March 2024 is lower than its LTA (about 80.11 %), 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 08 April 2024, the water volume of TSL is approximately 86.76% of its LTA.

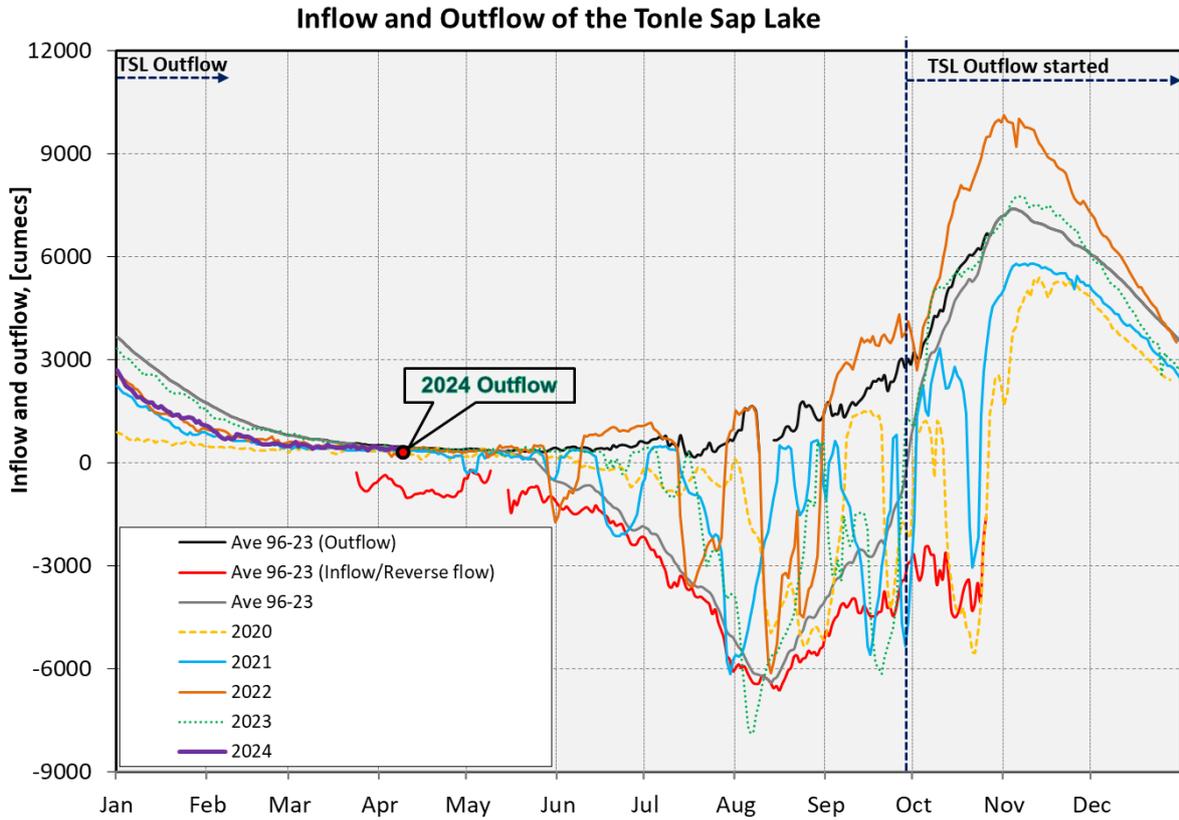


Figure 7: Seasonal change of inflows and outflows of Tonle Sap Lake.

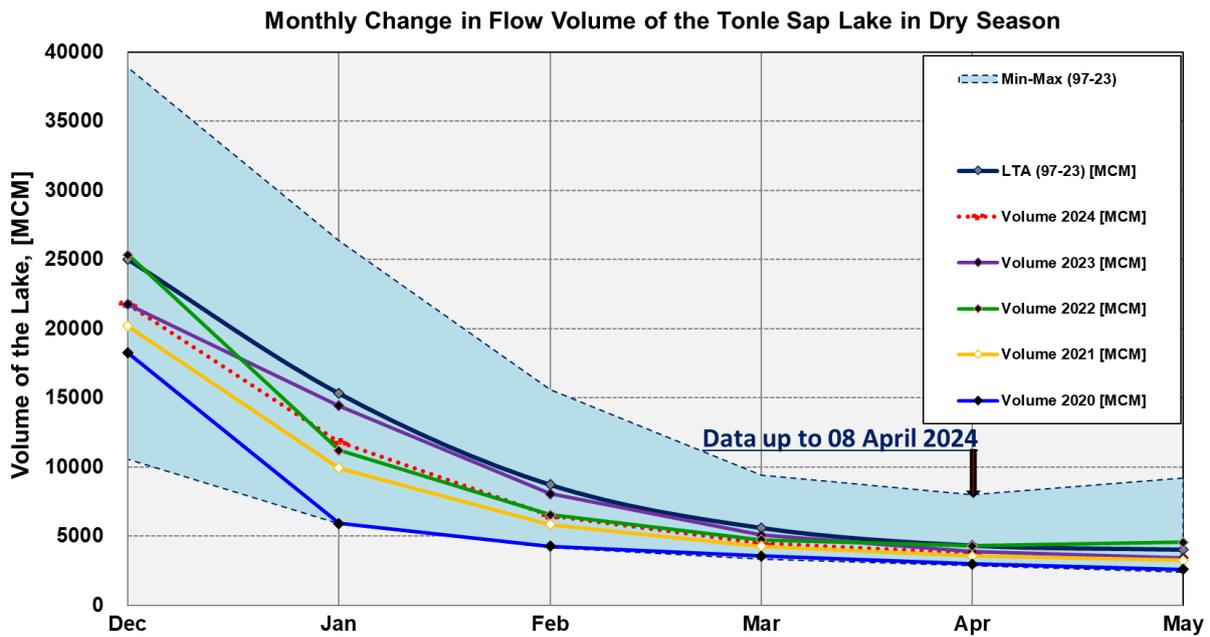


Figure 8. The seasonal change in monthly flow volume of Tonle Sap Lake.

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	4488.23	80.11
Apr	4327.36	8009.14	2866.91	3667.47	2992.61	3556.68	4288.31	3884.16	3754.41	86.76
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 km ³)										

Remarks: the volume of Tonle Sap Lake in 2024 is updated until 08 April 2024.

4. Flash Flood in the Lower Mekong Basin

During the weekly monitoring period from 02 - 08 April, the LMB received light to heavy 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 April 2 to 8

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 2 to 8 April 2024, as shown in **Figure 9**, were moderately and severely dry over the southern part covering entire area of Cambodia, Salavan, Xekong, Attapu, Champasack, Sisaket, Ubon R, Surin Buriram, Nakhon R, Kon Tum, Gia Lai, Dak Nong and Dong Thap.

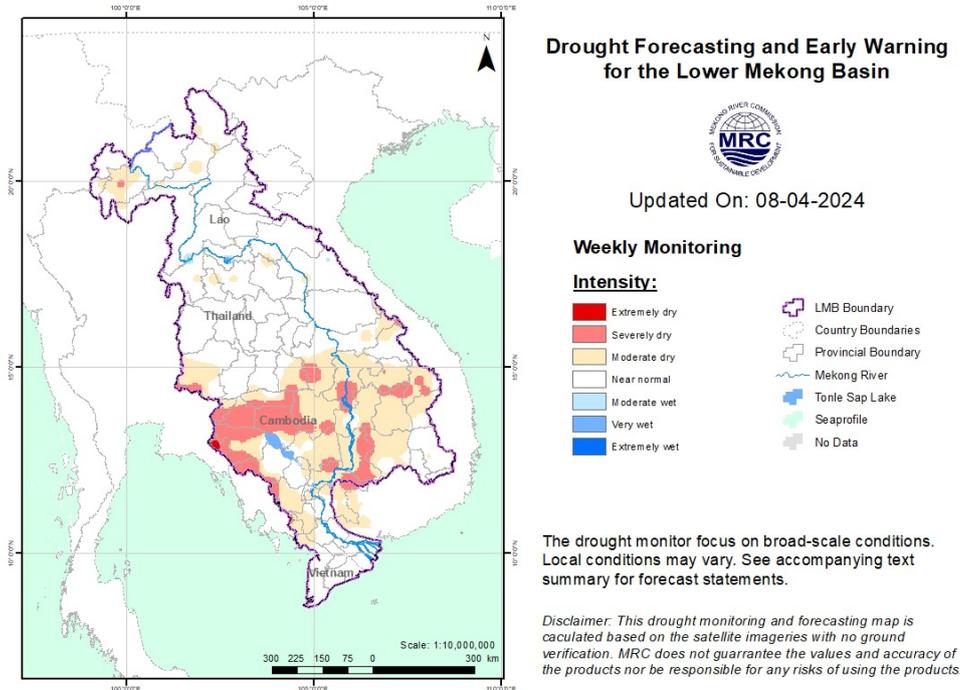
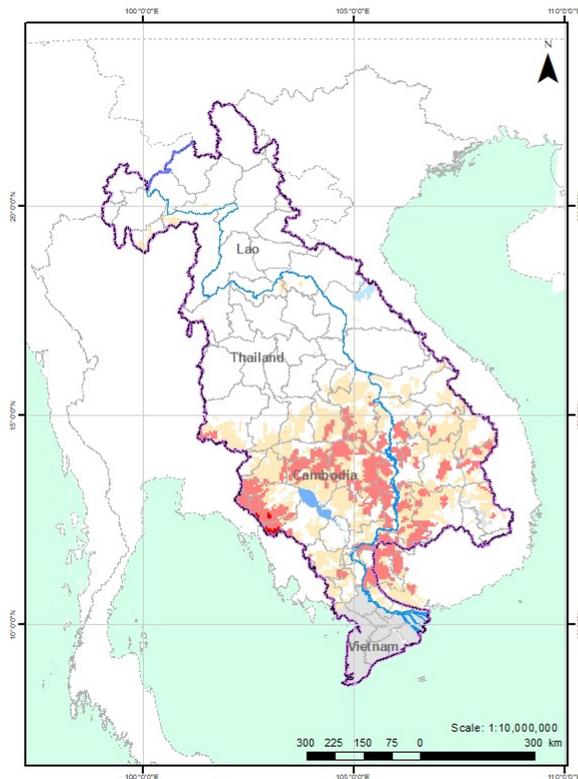


Figure 9: Weekly standardised precipitation index from Apr 2 to 8.

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

Soil moisture conditions from April 2 to 8, as displayed in **Figure 10**, were severely dry mainly in the south due to absence of rainfall. The conditions were much better than 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.



Drought Forecasting and Early Warning for the Lower Mekong Basin



Updated On: 08-04-2024

Weekly Monitoring

Intensity:



The drought monitor focus on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Disclaimer: This drought monitoring and forecasting map is calculated based on the satellite imageries with no ground verification. MRC does not guarantee the values and accuracy of the products nor be responsible for any risks of using the products.

Figure 10: Weekly Index of Soil Water Fraction from April 2 to 8.

- Weekly Combined Drought Index (CDI)

With the dry conditions of soil moisture, the combined drought indicator (displayed in Figure 11) reveals that during 2-8 April 2024, the LMB was facing from moderate to severe drought mainly over the south of the region. Specifically, the severe and extreme droughts covered some areas of most provinces of Cambodia, Attapu, Champasack, Ubun Ratchathani, Si Sa Ket, Nakhon Ratchasima, Kon Tum and Gia Lai. The impacted areas are listed below:

Number	Country	Province	Mderate	Severe	Extreme	Exceptional	Number	Country	Province	Mderate	Severe	Extreme	Exceptional	Number	Country	Province	Mderate	Severe	Extreme	Exceptional
1	Cambodia	Battambang		L	S		24	Lao PDR	Oudomxai					47	Thailand	Udon Thani				
2	Cambodia	Banteay Meanchey		S			25	Lao PDR	Loungprabang					48	Thailand	Sakon Nakhon				
3	Cambodia	Kampong Cham		S	S		26	Lao PDR	Xayaburi					49	Thailand	Buang Kan				
4	Cambodia	Pursat		S	S		27	Lao PDR	Xiangkhouang					50	Thailand	Nakhon Phanom				
5	Cambodia	Kampong Chhnang					28	Lao PDR	Vientiane					51	Thailand	Kalasin				
6	Cambodia	Otdar Meanchey		L			29	Lao PDR	Vientiane Capital					52	Thailand	Mukdahan				
7	Cambodia	Preah Vihear		L			30	Lao PDR	Xaisomboun					53	Thailand	Roi Et				
8	Cambodia	Kampong Thom		S			31	Lao PDR	Borikhamxai					54	Thailand	Yasothon				
9	Cambodia	Kratie		S	S		32	Lao PDR	Khammouan					55	Thailand	Amnat Charoen				
10	Cambodia	Mondulkiri		S			33	Lao PDR	Savannakhet					56	Thailand	Ubun Ratchathani		S		
11	Cambodia	Ratanakiri		S			34	Lao PDR	Salavan					57	Thailand	Si Sa Ket		S		
12	Cambodia	Tbong Khmum		S			35	Lao PDR	Xekong					58	Thailand	Surin				
13	Cambodia	Prey Veng		S			36	Lao PDR	Attapu		S			59	Thailand	Buri Ram				
14	Cambodia	Kampot					37	Lao PDR	Champasack		S			60	Thailand	Nakhon Ratchasima		S		
15	Cambodia	Takeo					38	Thailand	Chiang Mai					61	Viet Nam	Kon Tum		S		
16	Cambodia	Svai Rieng					39	Thailand	Chiang Rai					62	Viet Nam	Gia Lai		S		
17	Cambodia	Stung Treng		S			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		L	S		43	Thailand	Nhon 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	Phongsavai					46	Thailand	Maha Sarakham											

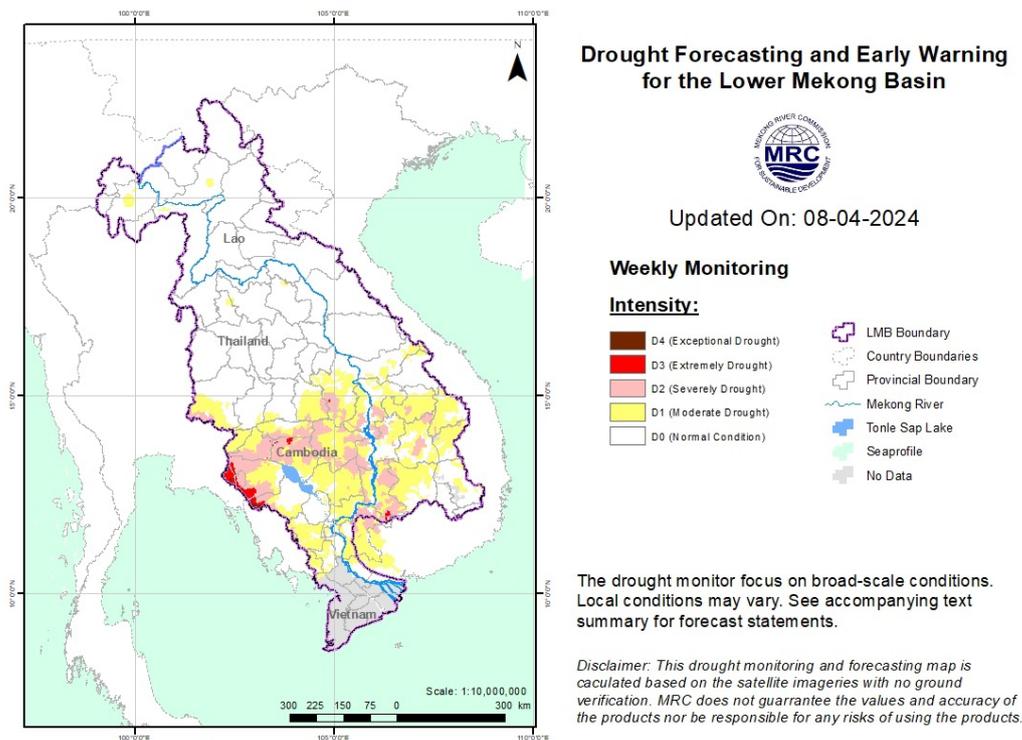


Figure 11: Weekly Combined Drought Index from April 2-8.

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 02 – 15 April 2024, the accumulated rainfall over the entire Lower Mekong Basin is distributed with light rain based on CHIRPS-GFS (**Figure 12**). Light to moderate rainfall is forecasted to be sparsely distributed from central to upper parts of the basin. However, there will be no rainfall will occur at the lower part at Mekong Delta, central part of Cambodia and 3S basins.

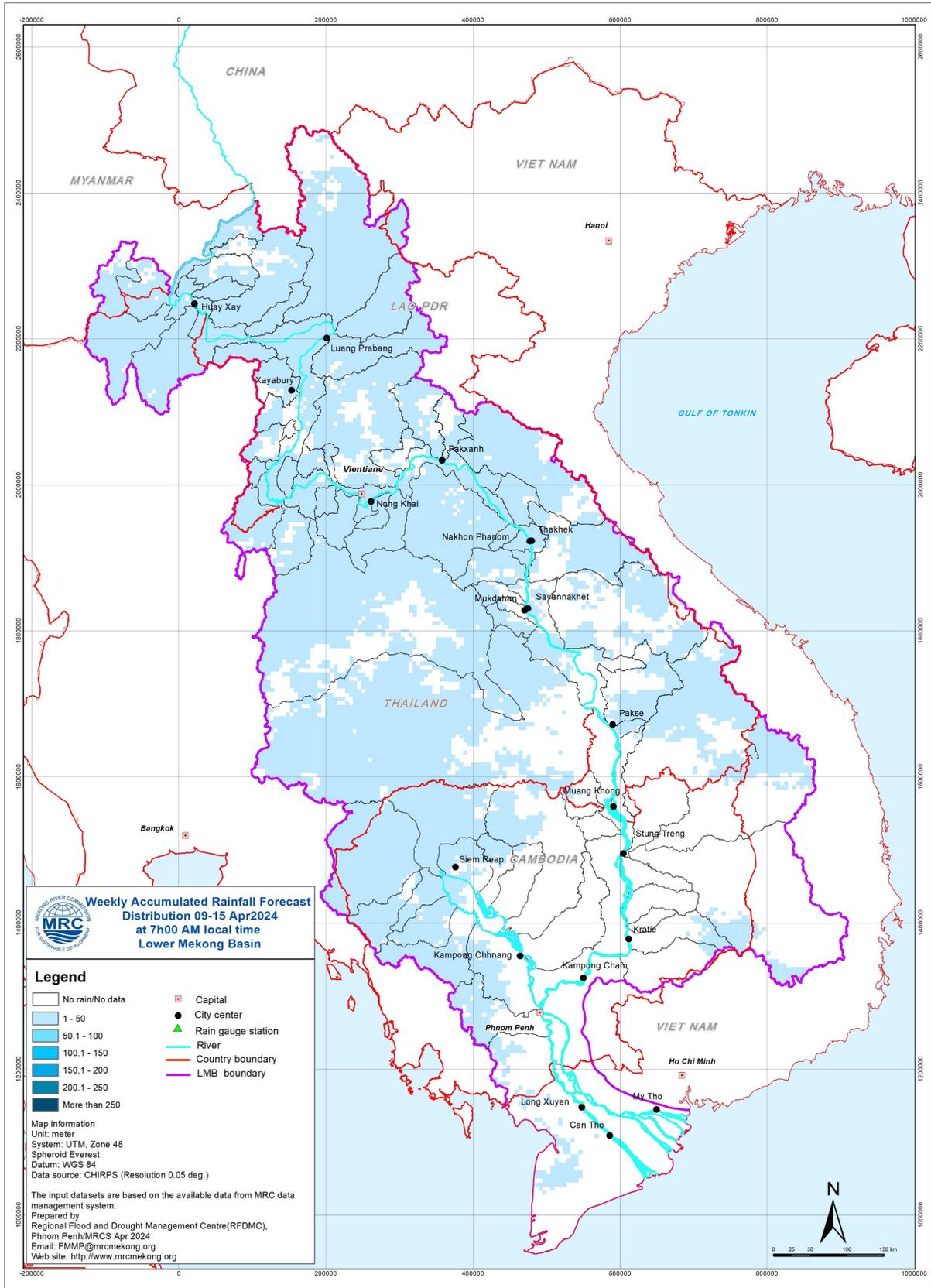


Figure 12: Accumulated rainfall forecast from CHIRP-GFS (02 – 15 April 2024)

6.2 Water level forecast

In Chiang Saen monitoring station, the water level is expected to be fluctuated over the forecasting period of 09 – 15 April 2024. However, it will slightly increase from 1.55 m to 1.60 m. The water level in Luang Prabang stations affected by backwater is likely slightly increasing from 8.60 m to 8.67 m.

It is observed that at the stations along the Mekong mainstream, the water levels at upper stretch at Chiang Khan, Vientiane and Nong Khai, will slightly rise of approximately 0.00 m, 0.09 m, and 0.02 m, respectively. However, moving down to paksane, Nakhong Phanom, Thakhek, Mukdahan, Savannakhet, Khong Chiam, Pakse, Stung Treng, and Kratie, water levels are expected to slightly increase with approximately values of 0.04 m, 0.03 m, 0.03, 0.03 m, 0.03 m, 0.01 m, 0.01 m, 0.08 m, and 0.02 m respectively. Further down to Kompong Cham, Phnom Penh (Bassac), Phnom Penh Port, and Prek Kdam stations, water levels will slightly rise of approximately 0.02 m, 0.02 m, 0.03 m, and 0.08 m, respectively. However, only at Neak Luong station, water level is predicted to be decreasing with value of 0.1 m.

For the Tan Chau station on the Mekong River and Chau Doc station on the Bassac River, water levels will decrease approximately 1.26 m and 1.37 m, respectively, following daily tidal effects from the sea.

The water levels at all stations are forecasted to be below their LTAs except for Luang Prabang, Stung Treng, Kratie, Tan Chau and Chau Doc stations from 09 to 15 April 2024.

The weekly River Monitoring Bulletin and forecasting issued on 08 April 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.

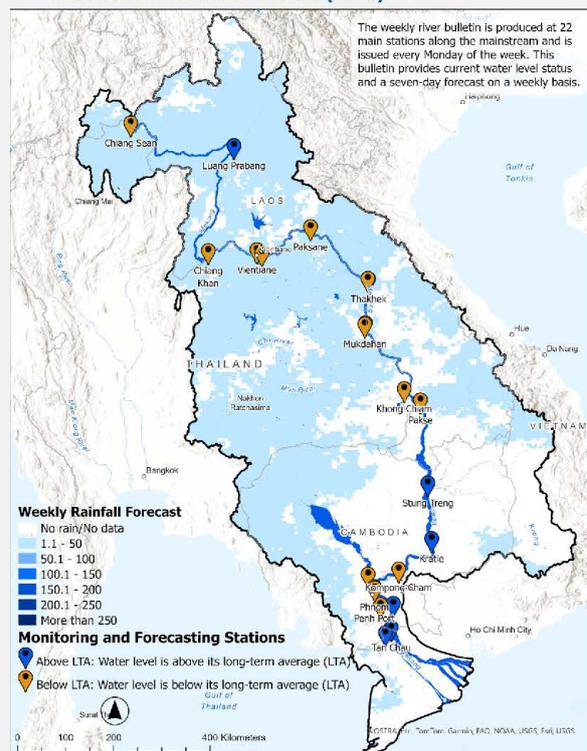


MEKONG RIVER MONITORING AND FORECASTING BULLETIN

Monitoring on 08 April 2024 and weekly forecasting from 09 April to 15 April 2024

Highlights: Water levels at all stations are below their long-term average except for Luang Prabang, Stung Treng, Kratie, Tan Chau and Chau Doc stations. However, water levels are in normal conditions based on the PMFM (Article 6A).

THE FORECASTING HYDROLOGICAL STATION MAP OF THE LOWER MEKONG BASIN (LMB)



NOTES

- Light to moderate rainfall is forecasted to be sparsely distributed from central to upper parts of the basin. However, there will be no rainfall will occur at the lower part at Mekong Delta, central part of Cambodia and 3S basins.
- Water levels are forecasted to be increasing at stations from upper part at Chiang Saen to Nong Khai and decreasing from Paksane to Kratie stations. Moving down to lower part, water level will be slightly rising except for Neak Luong, Tan Chau and Chau Doc stations from 09 April to 15 April 2024.
- Water levels at most of the stations are expected to be below their long-term averages (LTAs) except for Luang Prabang, Stung Treng, Kratie and Neak Luong stations from 09 April to 15 April 2024.

CURRENT WATER LEVEL STATUS

Monitoring Station	Rainfall (mm)	Zero gauge amsl (m)	Water level against zero gauge (m)	Current Status	Flow Threshold (PMFM/6A)
Jinghong	0.0	-	535.75		
Chiang Saen	1.3	357.110	1.55	Below LTA	Normal
Luang Prabang**	0.0	267.195	8.60	Above LTA	-
Chiang Khan	0.0	194.118	3.26	Below LTA	-
Vientiane	0.0	158.040	1.17	Below LTA	Normal
Nongkhai	0.0	153.648	0.76	Below LTA	-
Paksane	0.0	142.125	2.33	Below LTA	-
Nakhon Phanom	0.0	130.961	1.19	Below LTA	-
Thakhek	0.0	129.629	2.60	Below LTA	-
Mukdahan	0.0	124.219	1.68	Below LTA	-
Savannakhet	0.0	125.410	0.84	Below LTA	-
Khong Chiam	0.0	89.030	2.14	Below LTA	Normal
Pakse	0.0	86.490	1.02	Below LTA	Normal
Stung Treng	0.0	36.790	2.58	Above LTA	Normal
Kratie	0.0	-1.080	6.98	Above LTA	Normal
Kompong Cham	0.0	-0.930	2.40	Below LTA	-
Phnom Penh (Bassac)	0.0	-1.020	1.45	Below LTA	-
Phnom Penh Port	nr	0.000	0.63	Below LTA	-
Koh Khel	0.0	-1.000	1.58	Below LTA	-
Neak Luong	0.0	-0.330	1.55	Above LTA	-
Prek Kdam	0.0	0.080	0.78	Below LTA	-
Tan Chau	0.0	0.000	1.08	Above LTA	-
Chau Doc	0.0	0.000	1.25	Above LTA	-

* Procedures for Maintenance of Flows on the Mainstream

** Luang Prabang station is influenced by hydropower at its upstream and downstream

WEEKLY WATER LEVEL FORECAST

Forecasting Station	Forecasted Water Levels (m)							Status	Trend
	09-Apr	10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr		
Jinghong	-	-	-	-	-	-	-	-	-
Chiang Saen	1.60	1.63	1.60	1.58	1.55	1.58	1.60	Below LTA	Increasing
Luang Prabang	8.62	8.65	8.63	8.60	8.62	8.65	8.67	Above LTA	Increasing
Chiang Khan	3.20	3.22	3.26	3.28	3.26	3.24	3.26	Below LTA	Increasing
Vientiane	1.20	1.22	1.20	1.24	1.26	1.27	1.26	Below LTA	Increasing
Nongkhai	0.80	0.82	0.84	0.83	0.81	0.79	0.78	Below LTA	Increasing
Paksane	2.30	2.27	2.25	2.22	2.25	2.27	2.29	Below LTA	Decreasing
Nakhon Phanom	1.17	1.15	1.13	1.10	1.13	1.15	1.16	Below LTA	Decreasing
Thakhek	2.63	2.56	2.58	2.55	2.53	2.55	2.57	Below LTA	Decreasing
Mukdahan	1.66	1.64	1.61	1.58	1.61	1.63	1.65	Below LTA	Decreasing
Savannakhet	0.82	0.84	0.85	0.83	0.80	0.78	0.81	Below LTA	Decreasing
Khong Chiam	2.17	2.13	2.14	2.16	2.18	2.16	2.13	Below LTA	Decreasing
Pakse	1.01	1.03	1.05	1.03	1.01	1.03	1.01	Below LTA	Decreasing
Stung Treng	2.59	2.59	2.56	2.47	2.46	2.48	2.50	Above LTA	Decreasing
Kratie	7.01	7.02	7.02	6.99	6.92	6.95	6.96	Above LTA	Decreasing
Kompong Cham	2.42	2.44	2.45	2.45	2.42	2.40	2.42	Below LTA	Increasing
Phnom Penh (Bassac)	1.47	1.49	1.50	1.50	1.50	1.48	1.47	Below LTA	Increasing
Phnom Penh Port	0.66	0.68	0.69	0.69	0.69	0.67	0.66	Below LTA	Increasing
Koh Khel	1.62	1.64	1.66	1.67	1.67	1.67	1.66	Below LTA	Increasing
Neak Luong	1.50	1.48	1.47	1.46	1.50	1.48	1.45	Above LTA	Decreasing
Prek Kdam	0.81	0.82	0.83	0.83	0.83	0.81	0.80	Below LTA	Increasing
Tan Chau	1.07	1.03	0.72	0.56	0.21	0.02	-0.18	Below LTA	Decreasing
Chau Doc	1.20	1.14	0.96	0.51	0.23	0.05	-0.12	Below LTA	Decreasing

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<http://www.mrcmekong.org/>
http://fw.mrcmekong.org/bulletin_dry.php
http://fw.mrcmekong.org/report_dry.php
<https://pmfm.mrcmekong.org/>

DISCLAIMER
 This information is supplied as a service to the governments of the MRC Member Countries so that it may be used as a tool within existing national disaster forecast and warning systems.

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 April, May, and June 2024 over the LMB area.

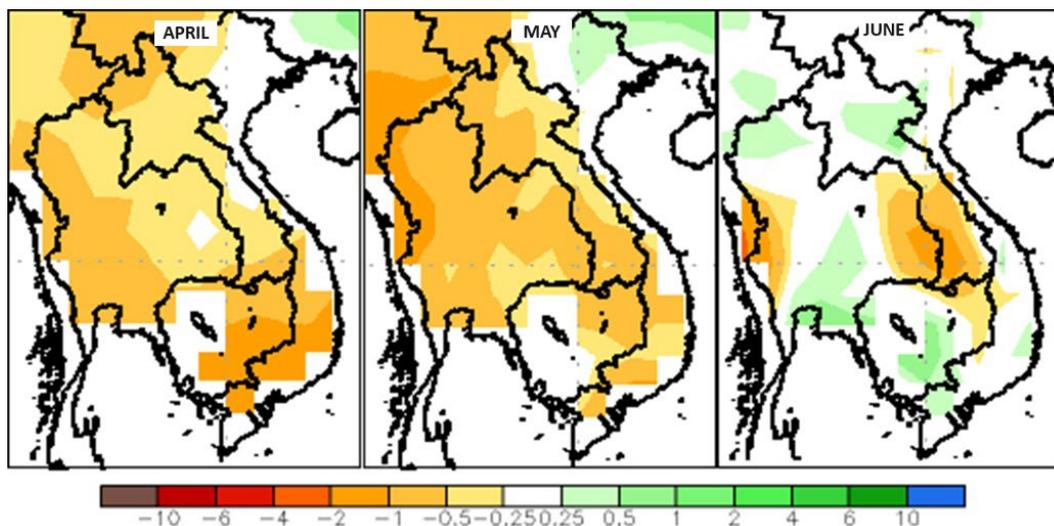


Figure 13. Monthly forecast of rainfall from NMME for April, May and June 2024.

Figure 13 indicates that much below average rainfall is predicted for the whole LMB area during the upcoming April and May. While June is forecasted to be relatively wet over the northern and southern parts. Moderate and severe meteorological drought is likely taking place in the eastern region covering mainly some area of Thailand and southern Lao PDR.

7 Summary and Possible Implications

7.1.1 Rainfall and its forecast

In the period of 02 – 08 April 2024, the light to moderate rainfall has been only observed in the central part of the LMB including southern part of Lao PDR, eastern part of Thailand, northern part of Cambodia and 3S basins.

From 09 – 15 April 2024, Light to moderate rainfall is forecasted to be sparsely distributed from central to upper parts of the basin. However, there will be no rainfall will occur at the lower part at Mekong Delta, central part of Cambodia and 3S basins.

7.2 Water level and its forecast

At 22 key monitoring stations along the Mekong mainstream from 02 – 08 April 2024, water levels are below the long-term averages (LTAs) except for water level at Luang Prabang, Stung Treng, Kratie, Neak Luong, Tan Chau and Chau Doc monitoring stations. However, the 6 monitoring stations remain in normal condition with respect to the flow threshold (PMFM Thresholds). 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 08 – 15 April 2024, Water levels are forecasted to be increasing at stations from upper part at Chiang Saen to Nong Khai and decreasing from Paksane to Kratie stations. Moving down to lower part, water level will be slightly rising except for Neak Luong stations. At Tan Chau and Chau Doc stations, the water levels are predicted to be also decreasing, resulting from the influence of sea tidal patterns. Water levels at most of the stations are expected to be below their long-term averages (LTAs) except for Luang Prabang, Stung Treng, Kratie and Neak Luong 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.

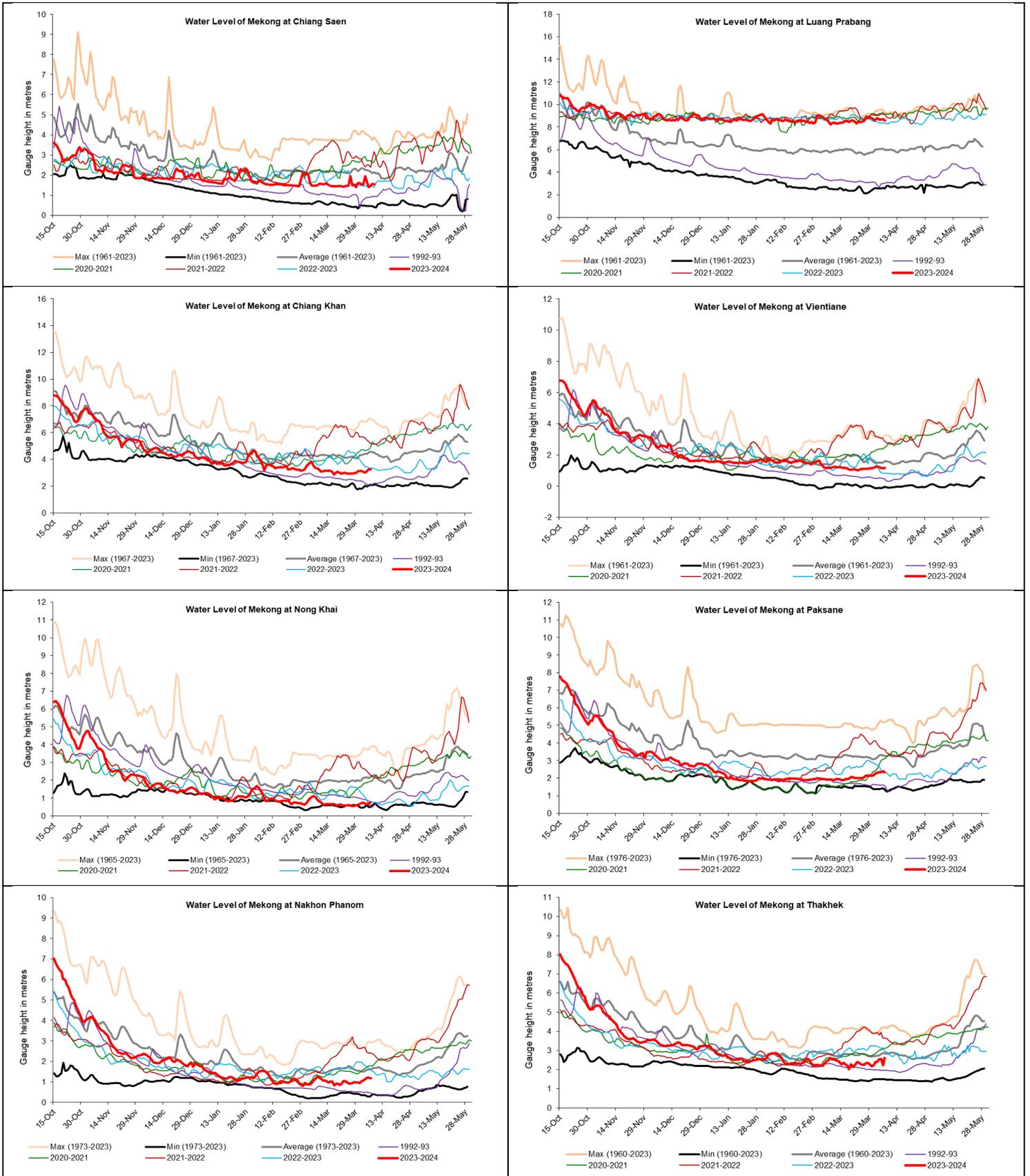
7.4 Drought condition and its forecast

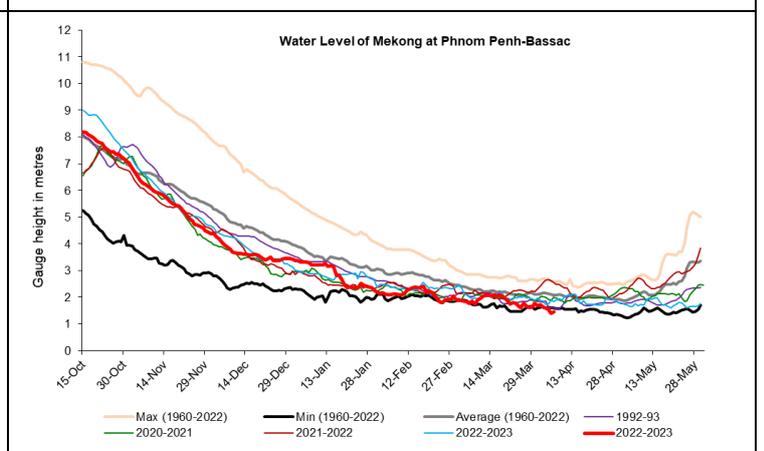
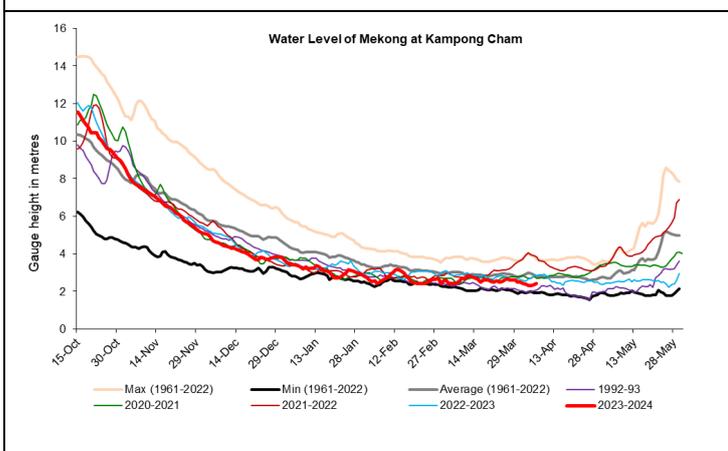
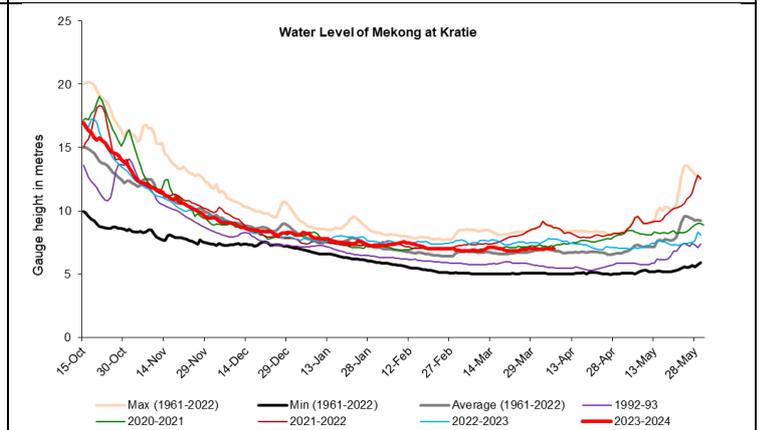
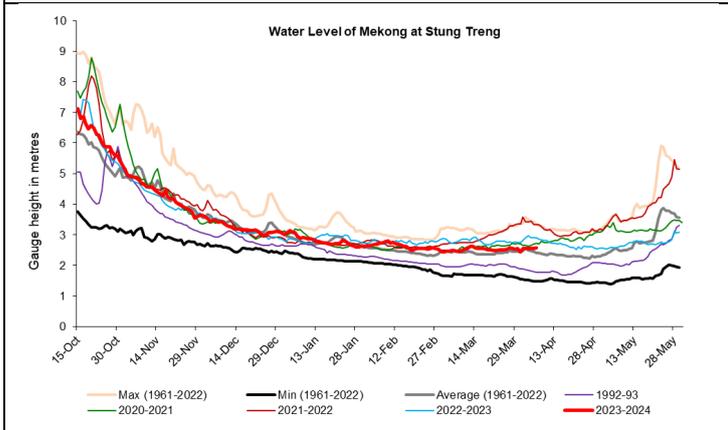
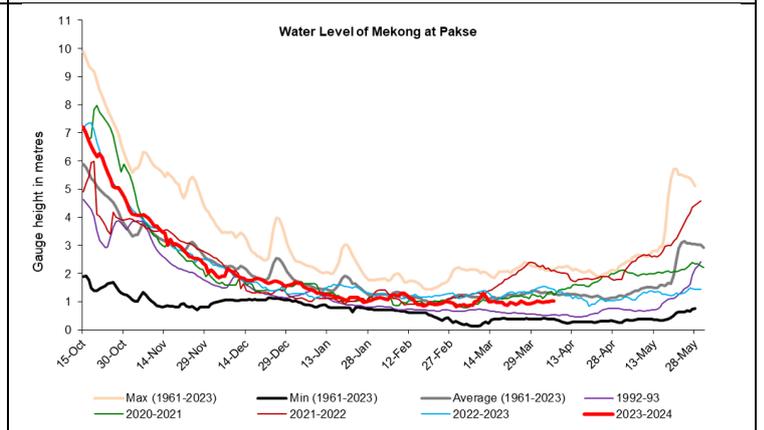
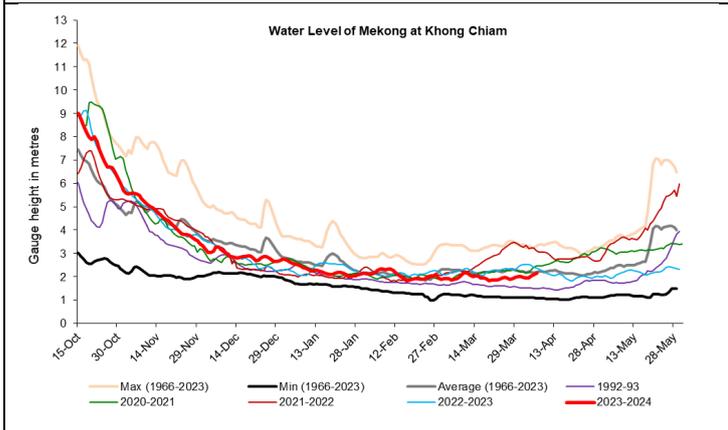
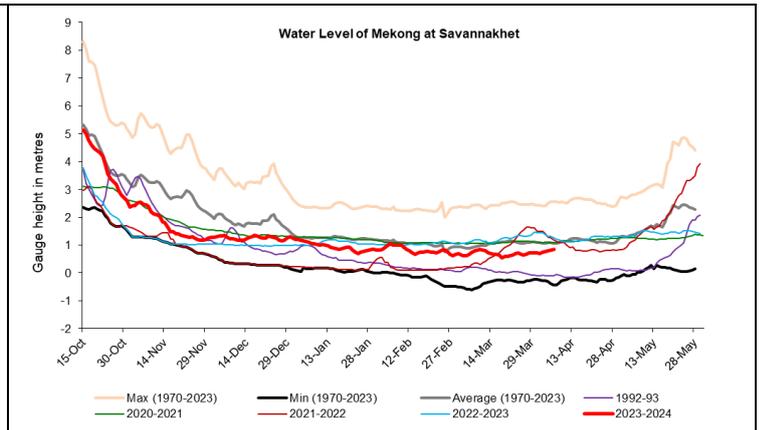
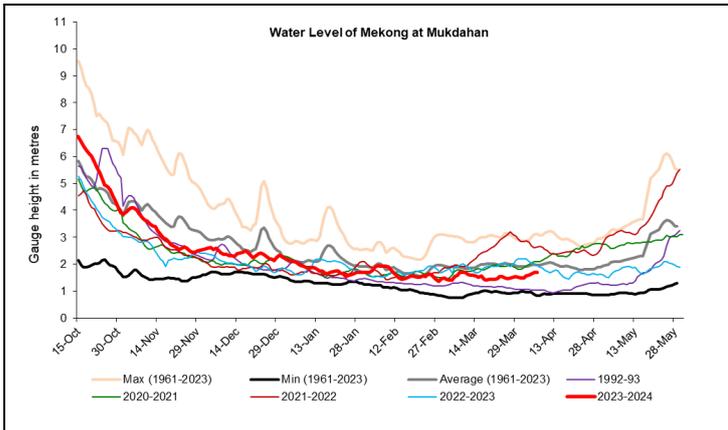
During 2-8 April 2024, the LMB was facing from moderate to severe drought mainly in the southern part. Specifically, the severe and extreme droughts covered some areas of most provinces of Cambodia, Attapu, Champasack, Ubon Ratchathani, Si Sa Ket, Nakhon Ratchasima, Kon Tum and Gia Lai.

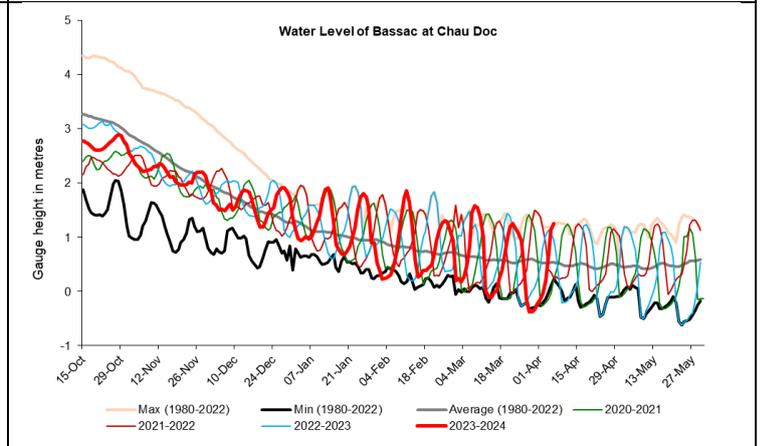
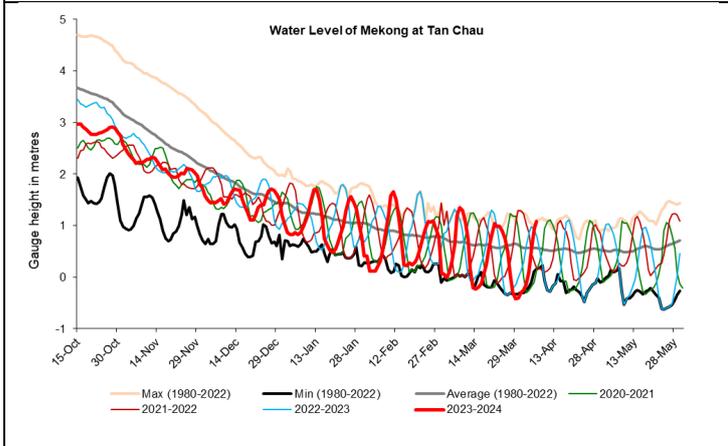
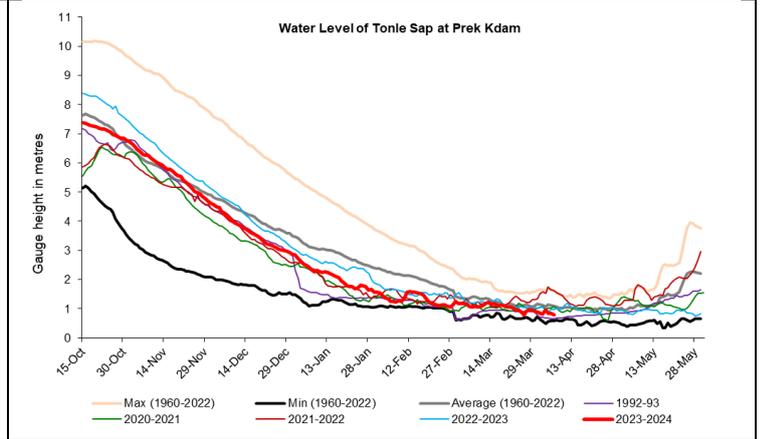
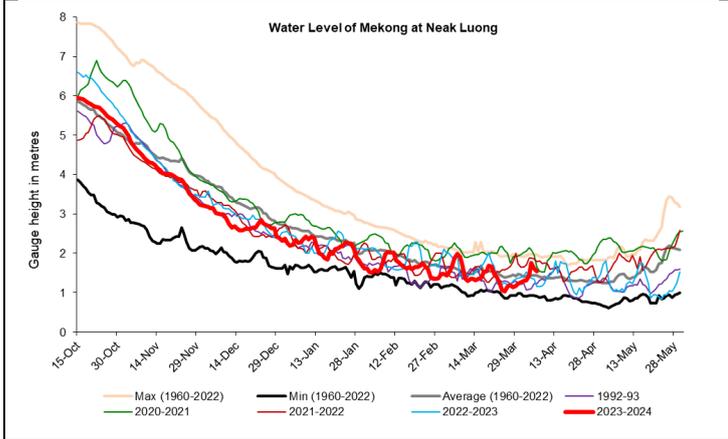
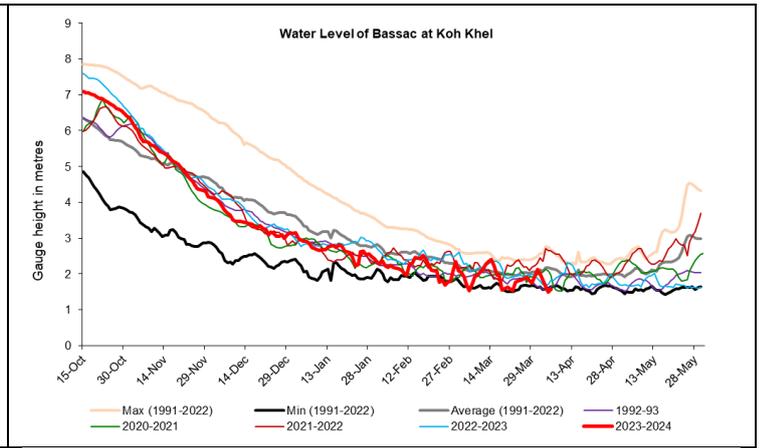
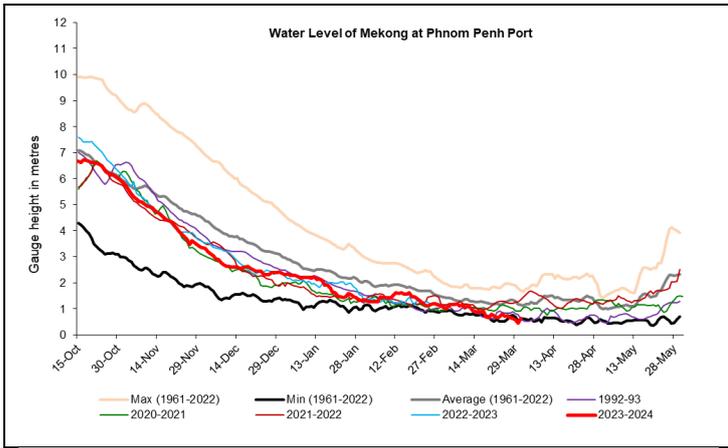
The next three-month forecast of rainfall indicates that much below average rainfall is predicted for the whole LMB area during the upcoming April and May. While June is forecasted to be relatively wet over the northern and southern parts. Moderate and severe

meteorological drought is likely taking place in the eastern region covering mainly some area of Thailand and southern Lao PDR.

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
02-04-2024	535.22	1.53	8.66	3.12	1.17	0.65	2.16	0.95	2.24	1.49	0.71	2.02	1.02	2.44	6.97	2.48	1.70	0.72	1.93	1.26	0.89	-0.30	-0.23
03-04-2024	535.25	1.95	8.64	3.14	1.24	0.72	2.25	1.04	2.38	1.48	0.69	1.99	1.00	2.55	6.96	2.40	1.73	0.75	2.12	1.30	0.85	-0.26	-0.15
04-04-2024	535.64	1.70	8.80	3.08	1.26	0.74	2.32	1.07	2.40	1.57	0.74	1.96	0.98	2.55	6.96	2.38	1.63	0.66	1.98	1.32	0.82	-0.15	-0.04
05-04-2024	535.67	1.40	8.68	3.02	1.22	0.72	2.33	1.14	2.54	1.59	0.77	1.95	1.00	2.55	6.98	2.30	1.59	0.62	1.85	1.44	0.95	0.09	0.20
06-04-2024	535.65	1.47	8.68	3.12	1.18	0.65	2.33	1.21	2.56	1.64	0.81	2.04	1.00	2.54	6.99	2.32	1.56	0.59	1.67	1.76	0.83	0.56	0.69
07-04-2024	535.58	1.57	8.70	3.25	1.15	0.66	2.38	1.21	2.22	1.68	0.83	2.09	1.02	2.55	6.97	2.35	1.39	0.45	1.50	1.62	0.84	0.94	1.13
08-04-2024	535.75	1.55	8.60	3.26	1.17	0.76	2.33	1.19	2.60	1.68	0.84	2.14	1.02	2.58	6.98	2.40	1.45	0.63	1.58	1.55	0.78	1.08	1.25

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
02-04-2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03-04-2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-04-2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05-04-2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06-04-2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-04-2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08-04-2024	0	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sum	0.0	1.3	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	0.0	0.0	0.0	0.0	0.0	0.0



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