



Mekong River Commission

Weekly Dry Season Situation Report in the Lower Mekong River Basin

12 – 18 March 2024

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

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Key Messages

Key messages for this weekly report are presented below.

Rainfall monitoring and forecast

- In the period of 12 - 18 March 2024, there was no significant rainfall recorded at the key stations along the Mekong River. However, light rain could be observed in the central part of the LMB in Thailand (Nakhon Phanom), Lao PDR (Thakhek and Savannakhet) and 3S basin.
- The light accumulated rain can be observed almost entire Lower Mekong Basin except for the Mekong Delta. However, the rainfall has been observed significantly at the western part of the Basin in Thailand and Cambodia.

Water level monitoring and forecast

- At 22 key monitoring stations along the Mekong mainstream from 12 – 18 March 2024, water levels are below the long-term averages (LTAs) except for water level at Luang Prabang, Stung Treng, 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 19 – 25 March 2024, the water levels at 22 key stations are expected to slightly decrease at all stations except for Tan Chau and Chau Doc, which are influenced by sea tidal fluctuation from 19 to 25 March 2024. 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, Stung Treng, and Kratie, stations.

Drought condition and forecast

- During 12-18 Mar 2024, the LMB was facing from moderate to severe drought from the north down to the south of the region. List of the impacted provinces are presented in figure 11 below.
- 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 **12 – 18 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 Lower Mekong Basin is 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 12 – 18 March, 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 13 – 18 March.

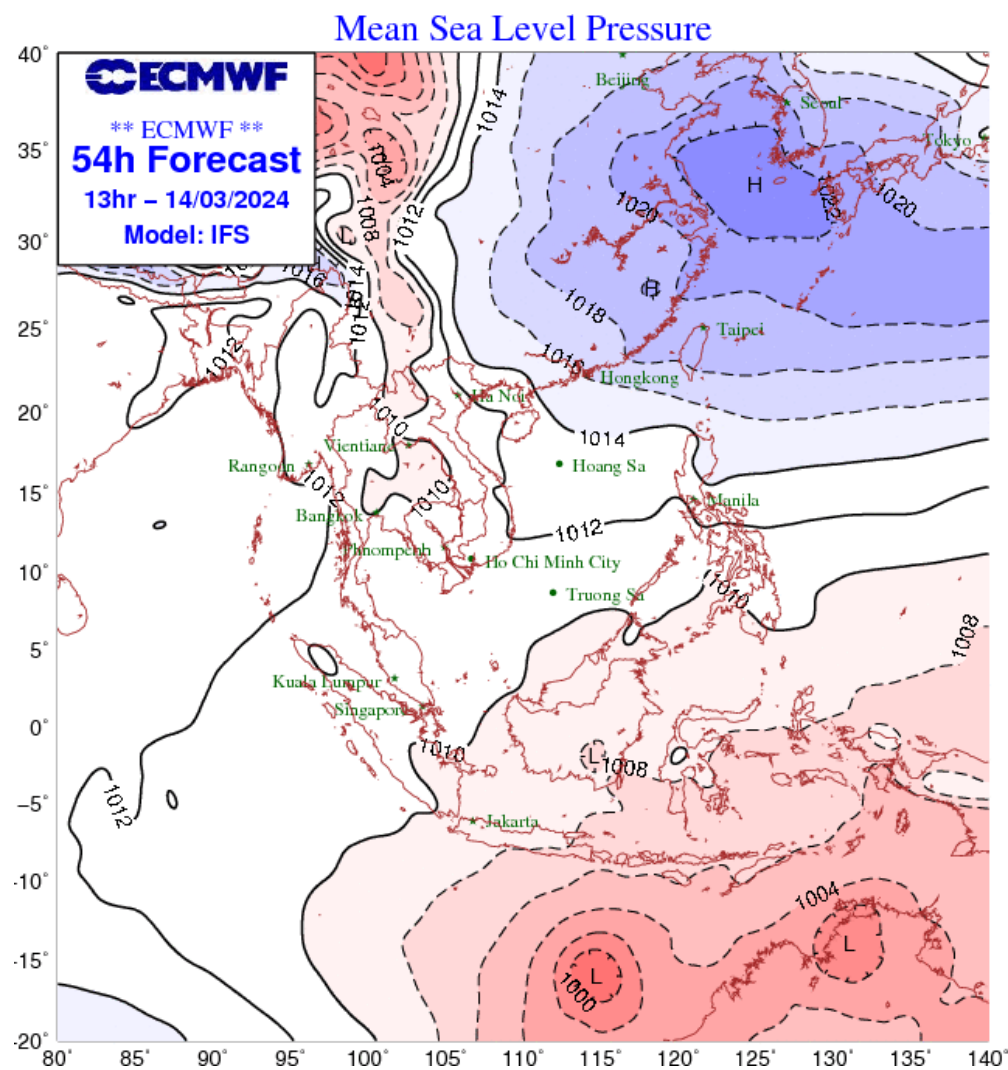


Figure 1: Weather conditions over the LMB

According to the ASEAN Specialised Meteorological Centre (ASMC, <http://asmc.asean.org/home/>), the subseasonal weather outlook (18 – 31 March 2024) indicates that the drier and warmer conditions are predicted to occur in the Lower Mekong Basin (LMB), particularly the lower part (Cambodia and Viet Nam). **Figure 2** shows the outlook of weather condition from 18 to 31 March 2024 in Southeast Asia based on results from the NCEP model (National Centres for Environmental Prediction).

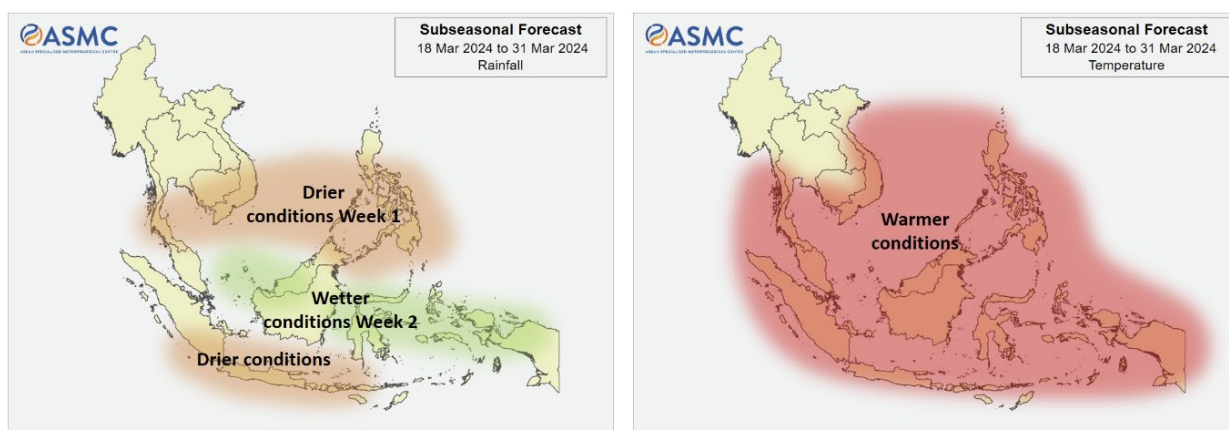


Figure 2: Outlook of wet and dry conditions over the Asian countries by ASMC.

Based on the tropical storm risk (TS) (<https://www.tropicalstormrisk.com/>), there is no active NW pacific system as of 18 March 2024 as displayed in **Figure 3**.

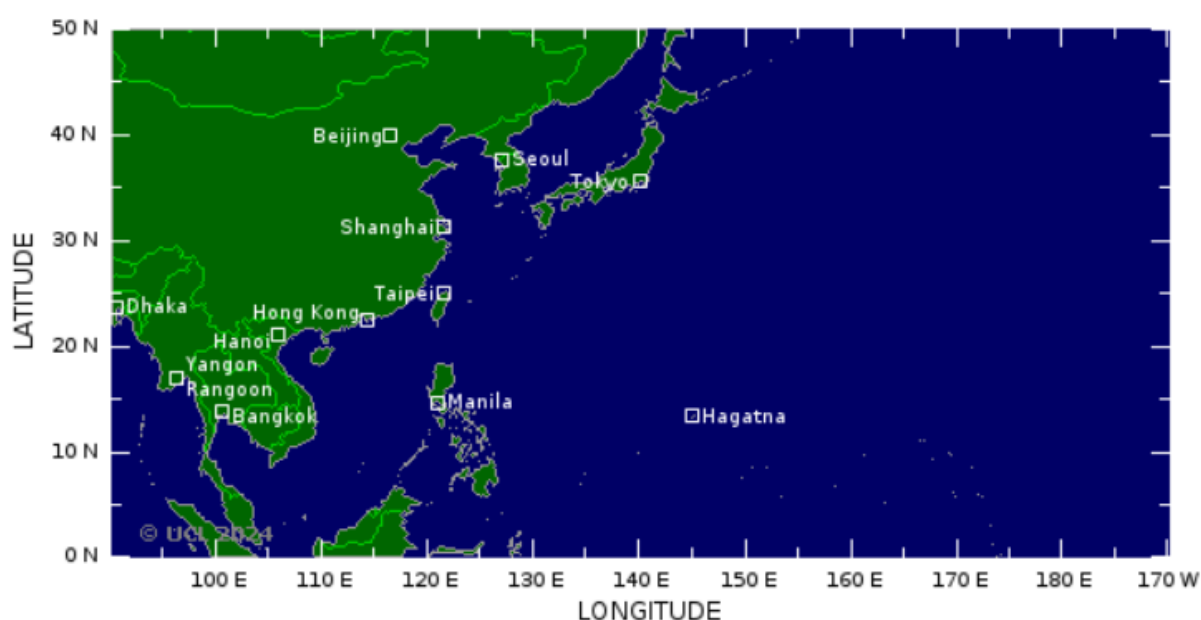


Figure 3: No tropical storm risk observed on 18 March 2024

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 12 to 18 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 central part of LMB in Thailand (Nakhon Phanom) and Lao PDR (Thakhek and Savannakhet) and the 3S basin in Viet Nam.

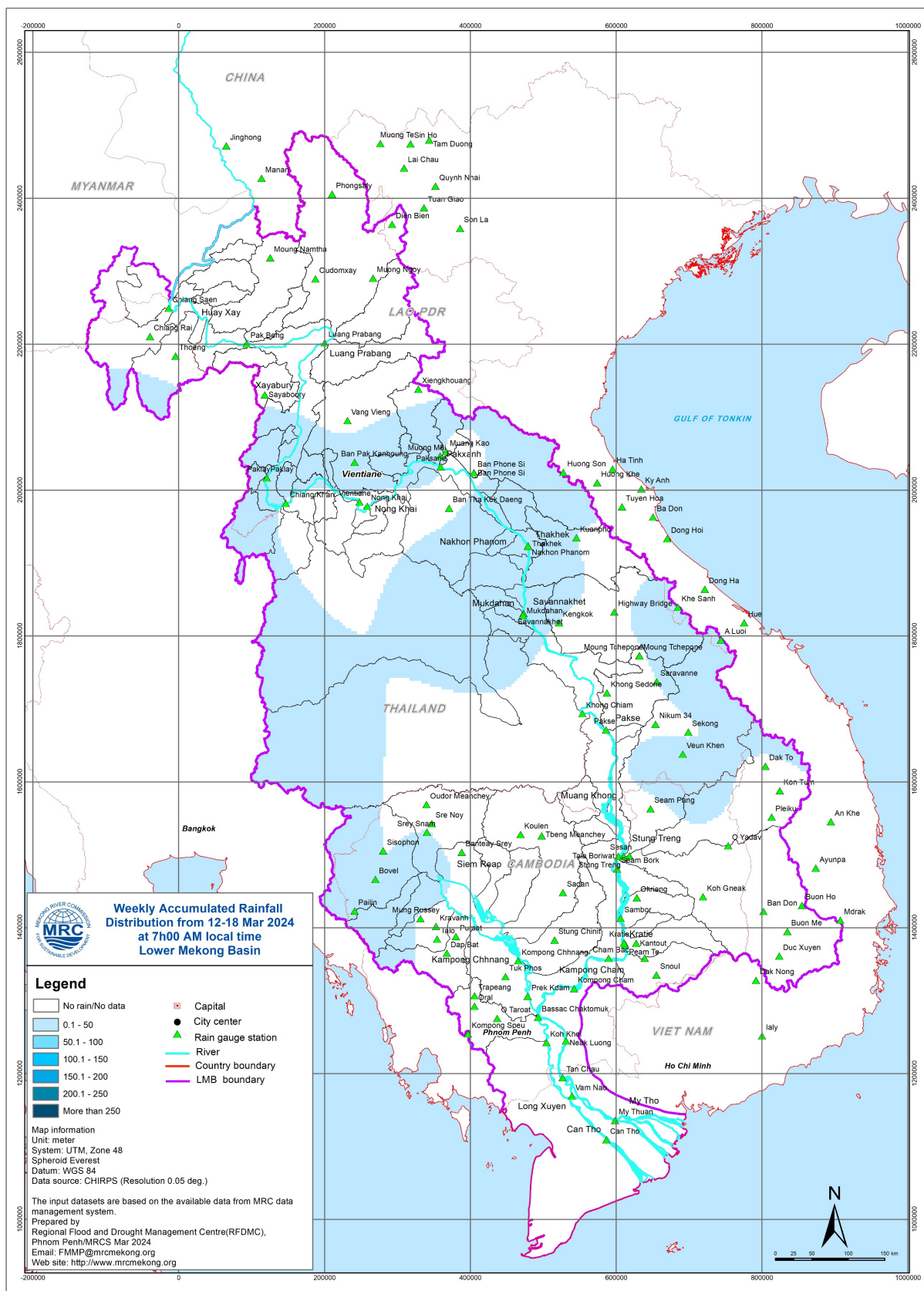


Figure 4: Weekly rainfall distribution over the LMB during 12 – 18 March 2024

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 12 – 18 March 2024, the observed water level (WL) at Jinghong hydrological station¹, was almost constant and ranges between 535.57 m and 535.24 m, which are corresponding to the outflow between 1,050.00 m³/s to 833.00 m³/s (recorded on 7:00 am), respectively (**Figure 6**). The water level in Chiang Saen station also indicated a slight fluctuation ranging from 1.54 m to 1.44 m with a decreasing trend. At the same period, the water level in Luang Prabang station also slightly increased with an approximate value of 0.14 m from 8.38 m to 8.52 m as compared to the previous week. During the same period, the water levels observed at Chiang Khan, Vientiane and Nong Khai stations were slightly decreasing with values ranging from 3.22 m to 3.10 m, 1.19 m to 1.16 m, and 0.83 m to 0.66 m, respectively. In contrast, the water level at Paksane and Nakhon Phanom station has slightly increased from 1.91 m to 1.93 m, and 1.20 m to 1.56 m, respectively. Moving downstream at Thakhek, Mukdahan, Savannakhet, Khong Chiam, and Pakse stations has a slightly decreasing trend ranging from 2.54 m to 2.29 m, 1.70 m to 1.56 m, 0.83 m to 0.66 m, 2.11 m to 1.96 m, and 1.02 m to 0.98 m, respectively. The two key stations in Cambodia at Stung Treng and Kratie, the water levels increased from 2.48 m to 2.54 m, and 6.83 m to 7.03 m, respectively, while the water levels at Kampong Cham decreased slight from 2.70 m to 2.50 m as compared to the previous week. Further downstream, water levels at Phnom Penh (Bassac), Phnom Penh Port, Koh Khel, Prek Kdam has slightly increased and varied in ranges of 1.90-2.05 m, 2.34-1.92 m, and 1.00-1.07 m, 1.92-2.23 m, 1.08-1.14 m respectively. However, the water level in Neak Luong has slightly increased from 1.72 m to 1.36 m. Similar to the previous week, the water levels from 12 to 18 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 1.30 m and -0.13 m, while at the Chau Doc station, they ranged from 1.54 m to 0.02 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>.

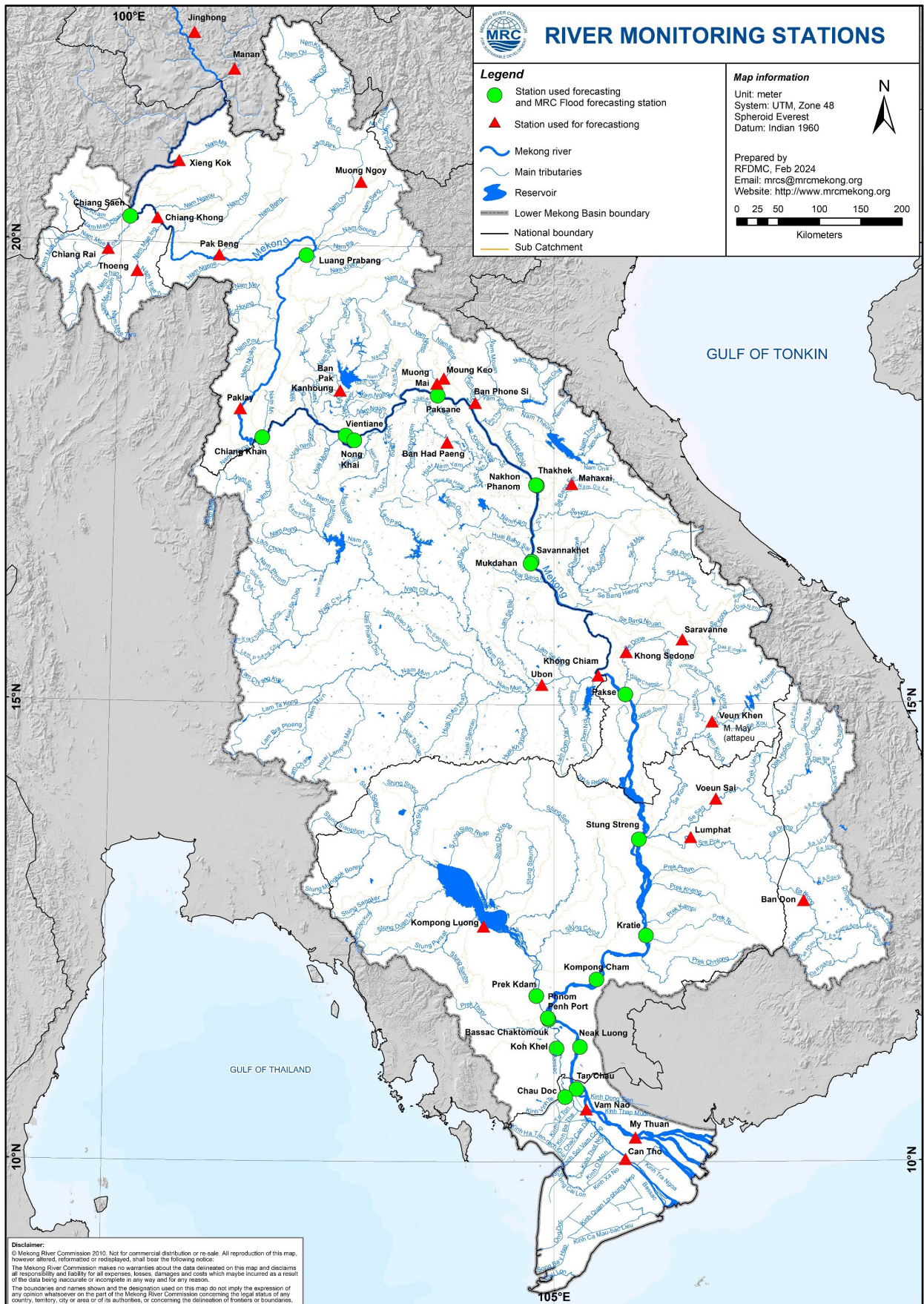


Figure 5: The key stations along LMB for river flood forecasting

The water levels in all key monitoring stations on 18 March 2024 are below their long-term averages (LTAs) except for the Luang Prabang, Stung Treng, 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**.

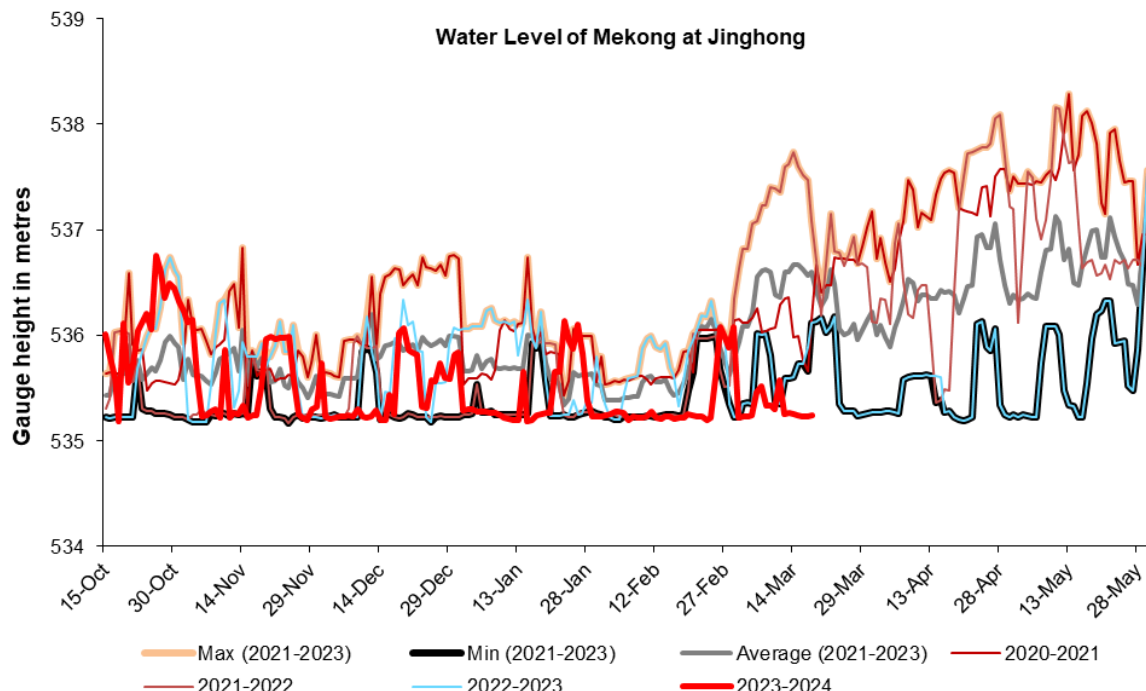


Figure 6. Water level at the Jinghong hydrological station up to 18 March 2024.

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 18 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 18 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 18 March 2024, the water volume of TSL is approximately 84.65% of its LTA.

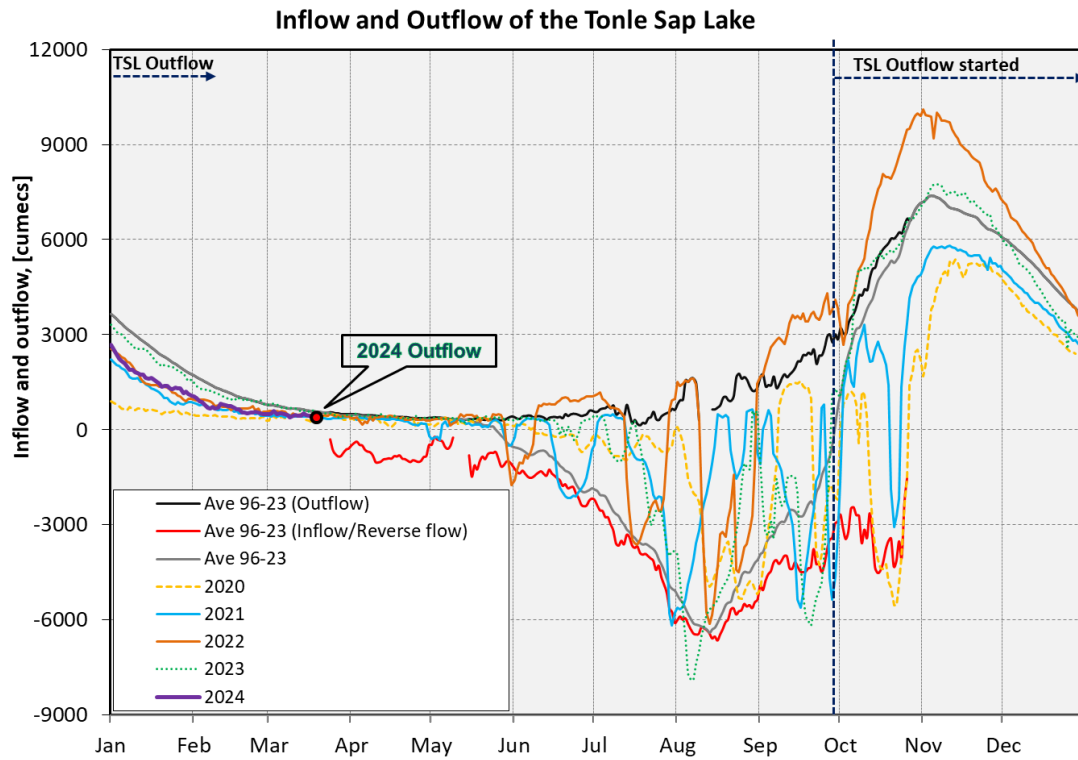


Figure 7: Seasonal change of inflows and outflows of Tonle Sap Lake.

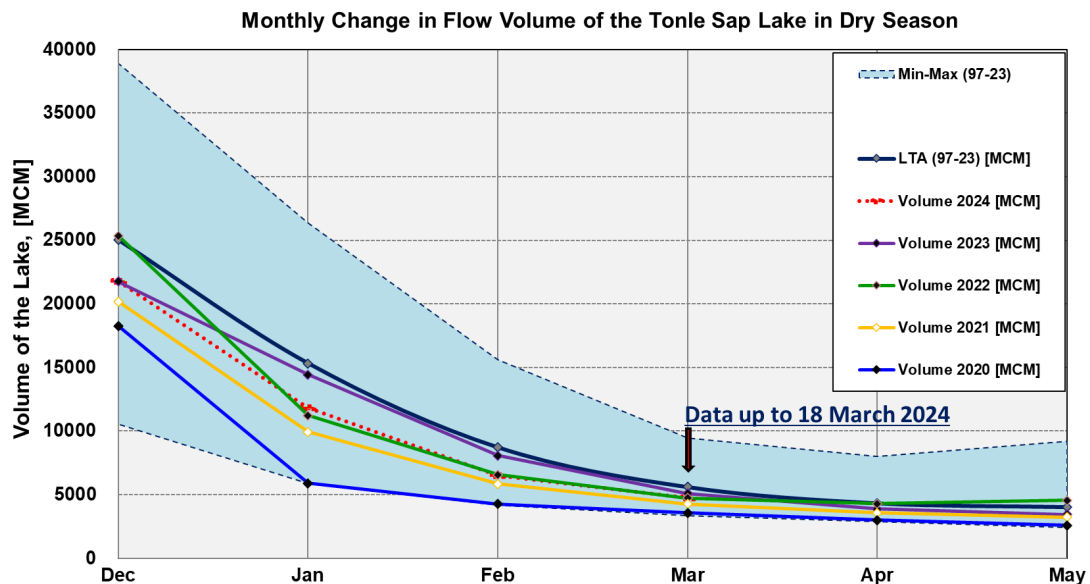


Figure 8. The seasonal change in monthly flow volume of Tonle Sap Lake.

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	4742.48	84.65
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 18 March 2024.

4. Flash Flood in the Lower Mekong Basin

During the weekly monitoring period from 12 - 18 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 March 12 to 18

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 12 to 18 March 2024, as shown in **Figure 9**, was moderately and severely dry over Cambodia's north and northwest, Lao PDR from the middle to the south, most provinces of Thailand except Chiang Mai, Chiang Rai and Phayao, and Viet Nam's Dak Nong.

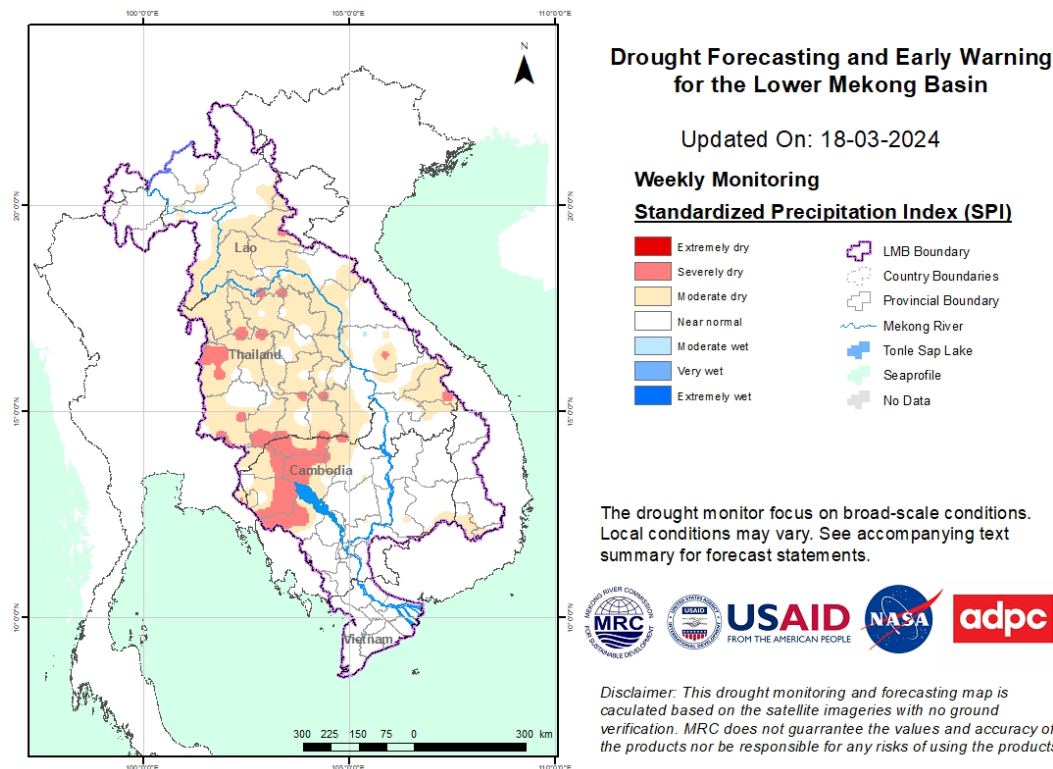


Figure 9: Weekly standardised precipitation index from March 12 to 18.

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

Soil moisture conditions from March 12 to 18, 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.

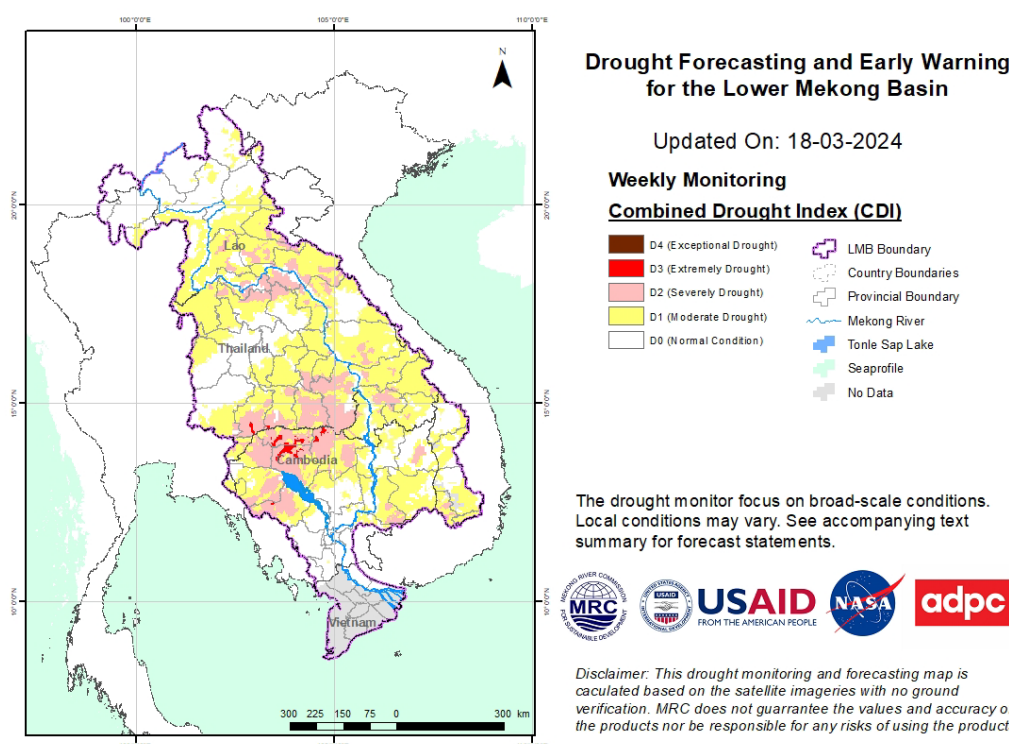


Figure 11: Weekly Combined Drought Index from March 12 to 18.

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 19 March – 01 April 2024, the accumulated rainfall over the entire Lower Mekong Basin is distributed with light rain based on CHIRPS-GFS (**Figure 12**). The light accumulated rain can be observed almost entire Lower Mekong Basin except for the Mekong Delta. However, the rainfall has been observed significantly at the western part of the Basin in Thailand and Cambodia.

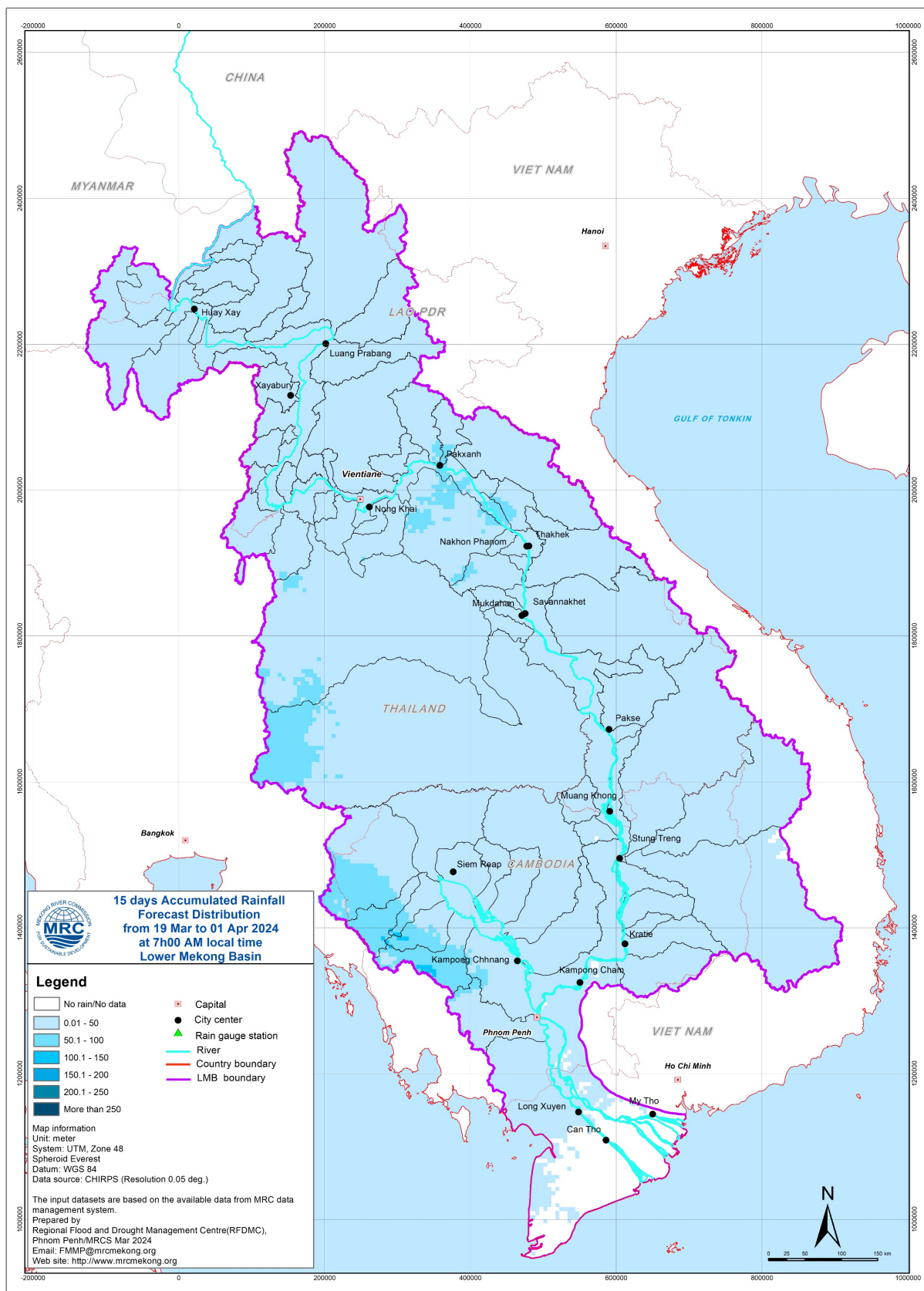


Figure 12: Accumulated rainfall forecast from CHIRP-GFS (19 March – 01 April 2024)

6.2 Water level forecast

In Chiang Saen monitoring station, the water level is expected to be fluctuated over the forecasting period of 19 – 25 March 2024. However, it will slightly increase from 1.41 m to 1.30 m. The water level in Luang Prabang stations affected by backwater is likely slightly increasing from 8.55 m to 8.45 m.

It is observed that at the stations along the Mekong mainstream, the water levels at all forecasting stations from Chiang Khan to Prek Kdam are predicted to have decreasing trends. At Chiang Khan, Vientiane, Nong Khai, Paksane, Nakhon Phanom, Thakhek, Mukdahan, Savannakhet, Khong Chiam, Pakse, Stung Treng, Kratie, Kampong Cham, Phnom Penh (Bassac), Phnom Penh Port, Koh Khel, Neak Luong and Prek Kdam, the water levels will drop approximately 0.14, 0.14, 0.15, 0.08, 0.01, 0.19, 0.06, 0.10, 0.16, 0.12, 0.08, 0.13, 0.08, 0.18, 0.17, 0.27, 0.14, and 0.22, respectively.

For the Tan Chau station on the Mekong River and Chau Doc station on the Bassac River, water levels will decrease approximately 0.15 m and 0.24 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, and Kratie stations from 19 to 25 March 2024.

The weekly River Monitoring Bulletin and forecasting issued on 18 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 RIVER COMMISSION

MRC

FOR SUSTAINABLE DEVELOPMENT

MEKONG RIVER MONITORING AND FORECASTING BULLETIN

Monitoring on 18 March 2024 and weekly forecasting from 19 to 25 March 2024

Highlights: Water levels at all stations are below their long-term average except for Luang Prabang, Stung Treng, Kratie and Koh Khel 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)

Chiang Saen

Luang Prabang

Chiang Khan

Vientiane

Nongkhai

Paksane

Nakhon Phanom

Thakhek

Mukdahan

Khong Chiam

Pakse

Stung Treng

Kratie

Kompong Cham

Phnom Penh (Bassac)

Phnom Penh Port

Koh Khel

Neak Luong

Prek Kdam

Tan Chau

Chau Doc

The weekly river bulletin is produced at 22 main stations along the mainstream and is issued every Monday of the week. This bulletin provides current water level status and a seven-day forecast on a weekly basis.

Monitoring and Forecasting Stations

Above LTA: Water level is above its long-term average (LTA)

Below LTA: Water level is below its long-term average (LTA)

NOTES

Water levels are forecasted to be decreasing at all forecasting stations, except for Tan Chau and Chau Doc, which are influenced by sea tidal fluctuation, from 19 to 25 March 2024.

Water levels at most of the stations are expected to be below their long-term averages (LTAs) except for Luang Prabang, Stung Treng, and Kratie, stations from 19 to 25 March 2024.

CURRENT WATER LEVEL STATUS

Monitoring Station	Rainfall (mm)	Zero gauge amsl (m)	Water level againsts zero gauge (m)	Current Status	Flow Threshold (PMFM*6A)
Jinzhong	0.0	-	535.24		
Chiang Saen	0.0	357.110	1.44	Below LTA	Normal
Luang Prabang**	0.0	267.195	8.52	Above LTA	
Chiang Khan	0.0	194.118	3.10	Below LTA	
Vientiane	0.0	158.040	1.16	Below LTA	Normal
Nongkhai	0.0	153.648	0.66	Below LTA	
Paksane	0.0	142.125	1.93	Below LTA	
Nakhon Phanom	0.0	130.961	1.01	Below LTA	
Thakhek	0.0	129.629	2.29	Below LTA	
Mukdahan	0.0	124.219	1.56	Below LTA	
Savannakhet	0.0	125.410	0.66	Below LTA	
Khong Chiam	0.0	89.030	1.96	Below LTA	Normal
Pakse	0.0	86.490	0.98	Below LTA	Normal
Stung Treng	0.0	36.790	2.54	Above LTA	Normal
Kratie	0.0	-1.080	7.03	Above LTA	Normal
Kompong Cham	0.0	-0.930	2.50	Below LTA	
Phnom Penh (Bassac)	0.0	-1.020	2.05	Below LTA	Normal
Phnom Penh Port	nr	0.000	1.07	Below LTA	
Koh Khel	0.0	-1.000	2.23	Above LTA	
Neak Luong	0.0	-0.330	1.36	Below LTA	
Prek Kdam	0.0	0.080	1.14	Below LTA	
Tan Chau	0.0	0.000	-0.13	Below LTA	
Chau Doc	nr	0.000	0.02	Below LTA	

* Procedures for Maintenance of Flows on the Mainstream

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

WEEKLY WATER LEVEL FORECAST

Forecasting Station	Forecasted Water Levels (m)							Status	Trend
	19-Mar	20-Mar	21-Mar	22-Mar	23-Mar	24-Mar	25-Mar		
Jinzhong	-	-	-	-	-	-	-		
Chiang Saen	1.41	1.43	1.41	1.38	1.35	1.33	1.30	Below LTA	Decreasing
Luang Prabang	8.55	8.57	8.55	8.53	8.50	8.47	8.45	Above LTA	Decreasing
Chiang Khan	3.10	3.08	3.05	3.02	3.00	2.98	2.96	Below LTA	Decreasing
Vientiane	1.15	1.14	1.12	1.10	1.07	1.04	1.02	Below LTA	Decreasing
Nongkhai	0.68	0.65	0.63	0.60	0.58	0.55	0.51	Below LTA	Decreasing
Paksane	1.95	1.97	1.95	1.93	1.90	1.87	1.85	Below LTA	Decreasing
Nakhon Phanom	1.06	1.08	1.10	1.07	1.05	1.02	1.00	Below LTA	Decreasing
Thakhek	2.26	2.24	2.21	2.18	2.15	2.12	2.10	Below LTA	Decreasing
Mukdahan	1.57	1.58	1.59	1.53	1.49	1.51	1.50	Below LTA	Decreasing
Savannakhet	0.64	0.63	0.65	0.60	0.59	0.58	0.56	Below LTA	Decreasing
Khong Chiam	1.93	1.90	1.88	1.86	1.85	1.83	1.80	Below LTA	Decreasing
Pakse	0.96	0.95	0.93	0.90	0.88	0.86	0.86	Below LTA	Decreasing
Stung Treng	2.54	2.53	2.53	2.53	2.51	2.49	2.46	Above LTA	Decreasing
Kratie	7.00	6.98	6.96	6.95	6.93	6.91	6.90	Above LTA	Decreasing
Kompong Cham	2.41	2.39	2.39	2.39	2.39	2.40	2.42	Below LTA	Decreasing
Phnom Penh (Bassac)	1.98	1.92	1.90	1.89	1.88	1.87	1.87	Below LTA	Decreasing
Phnom Penh Port	1.01	0.95	0.93	0.92	0.91	0.90	0.90	Below LTA	Decreasing
Koh Khel	2.13	2.06	2.01	1.99	1.98	1.97	1.96	Below LTA	Decreasing
Neak Luong	1.31	1.28	1.27	1.25	1.24	1.23	1.22	Below LTA	Decreasing
Prek Kdam	1.02	0.97	0.95	0.94	0.93	0.92	0.92	Below LTA	Decreasing
Tan Chau	-0.07	-0.03	0.02	0.05	0.05	0.04	0.02	Below LTA	Increasing
Chau Doc	0.08	0.16	0.24	0.28	0.29	0.28	0.26	Below LTA	Increasing

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<http://www.mrcmekong.org/>
http://ffw.mrcmekong.org/bulletin_dry.php
http://ffw.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 system.

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.

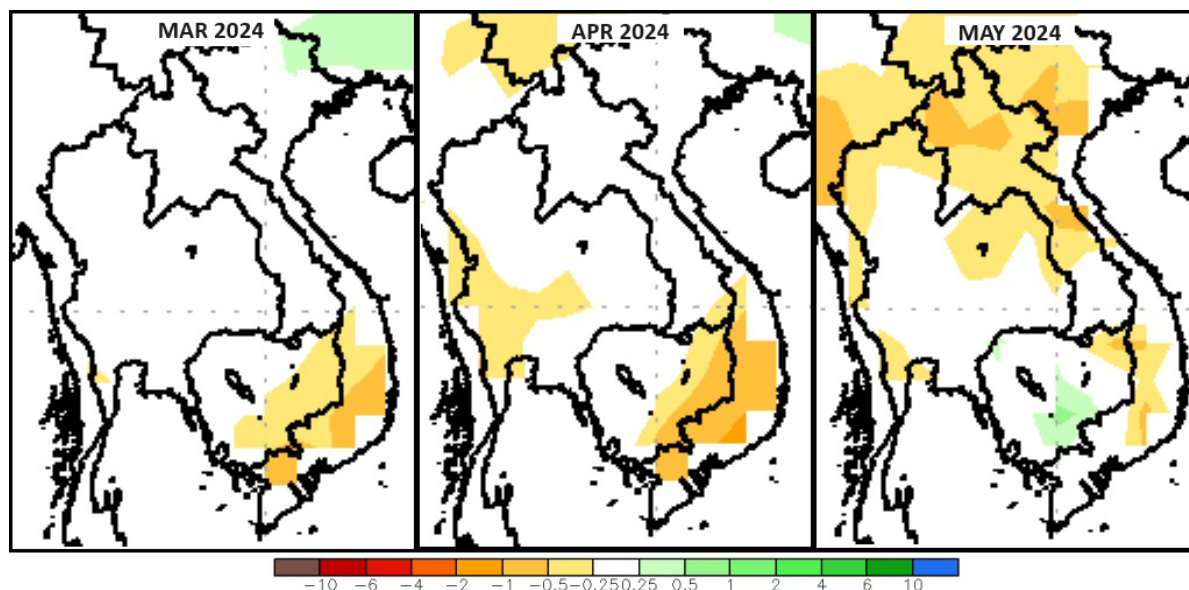


Figure 13. Monthly forecast of rainfall from NMME for March, April, and May 2024.

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 12 – 18 March 2024, there was no significant rainfall recorded at the key stations along the Mekong River. From 19 March to 01 April 2024, The light accumulated rain can be observed almost entire Lower Mekong Basin except for the Mekong Delta. However, the rainfall has been observed significantly at the western part of the Basin in Thailand and Cambodia.

7.2 Water level and its forecast

At 22 key monitoring stations along the Mekong mainstream from 12 – 18 March 2024, water levels are below the long-term averages (LTAs) except for water level at Luang Prabang, Stung Treng, 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 19 – 25 March 2024, the water levels at 22 key stations are expected to slightly decrease at all stations except for Tan Chau and Chau Doc, which are influenced by sea tidal fluctuation from 19 to 25 March 2024. 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, Stung Treng, and Kratie, stations.

7.3 Flash flood and its trends

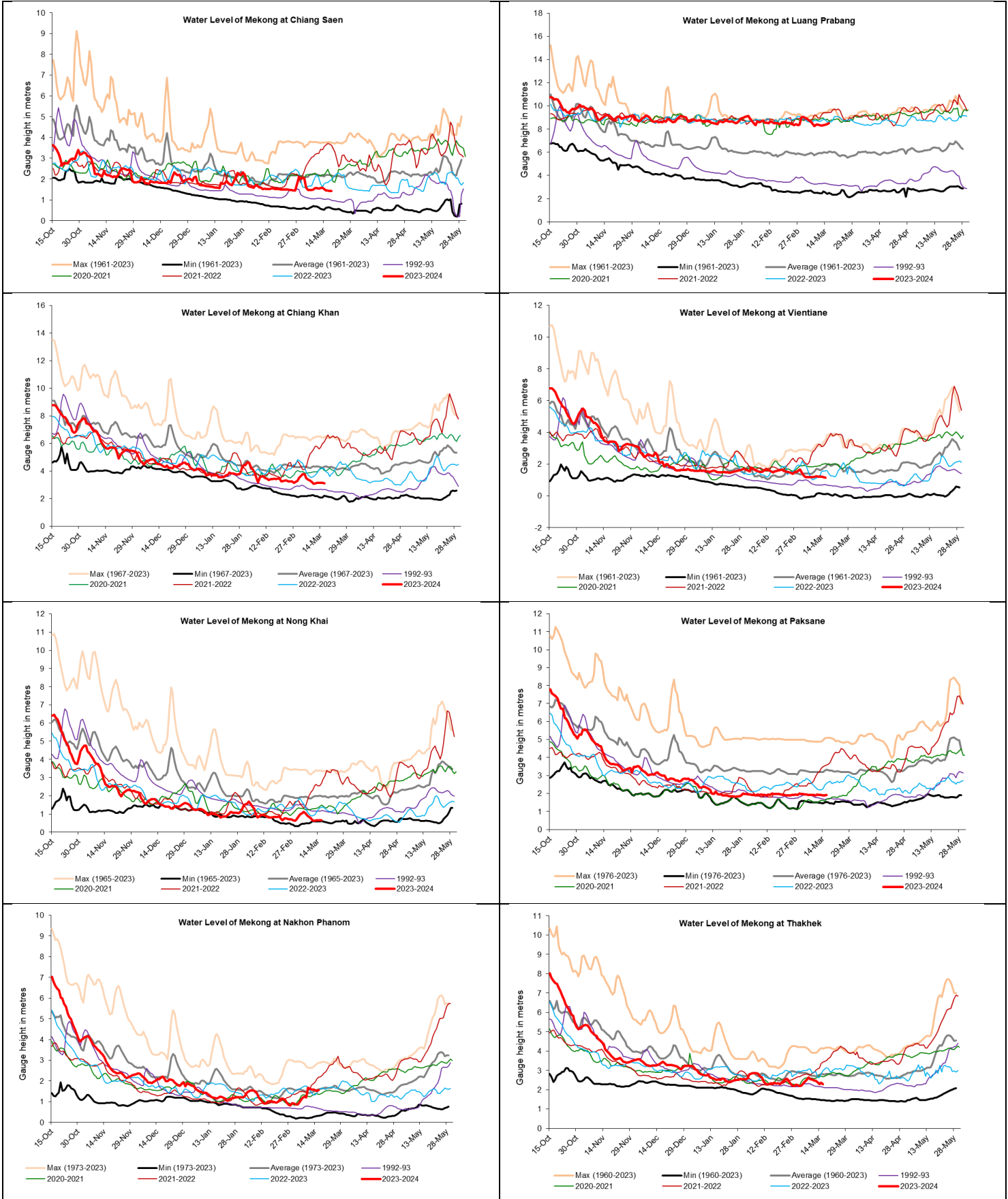
With the predicted of rainfall for the coming week as mentioned earlier in [section 6.1](#), major flash floods are not likely to happen in the LMB.

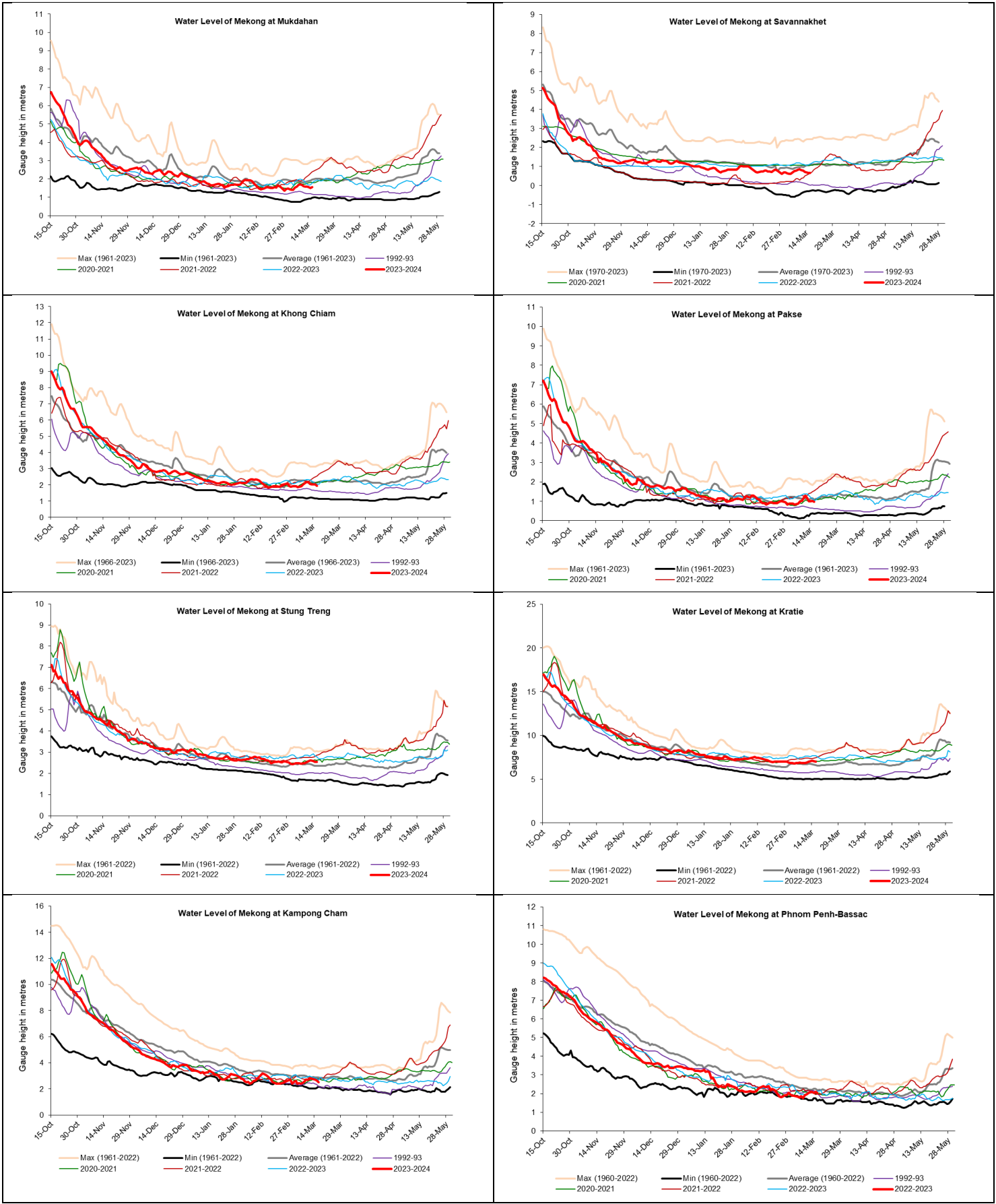
7.4 Drought condition and its forecast

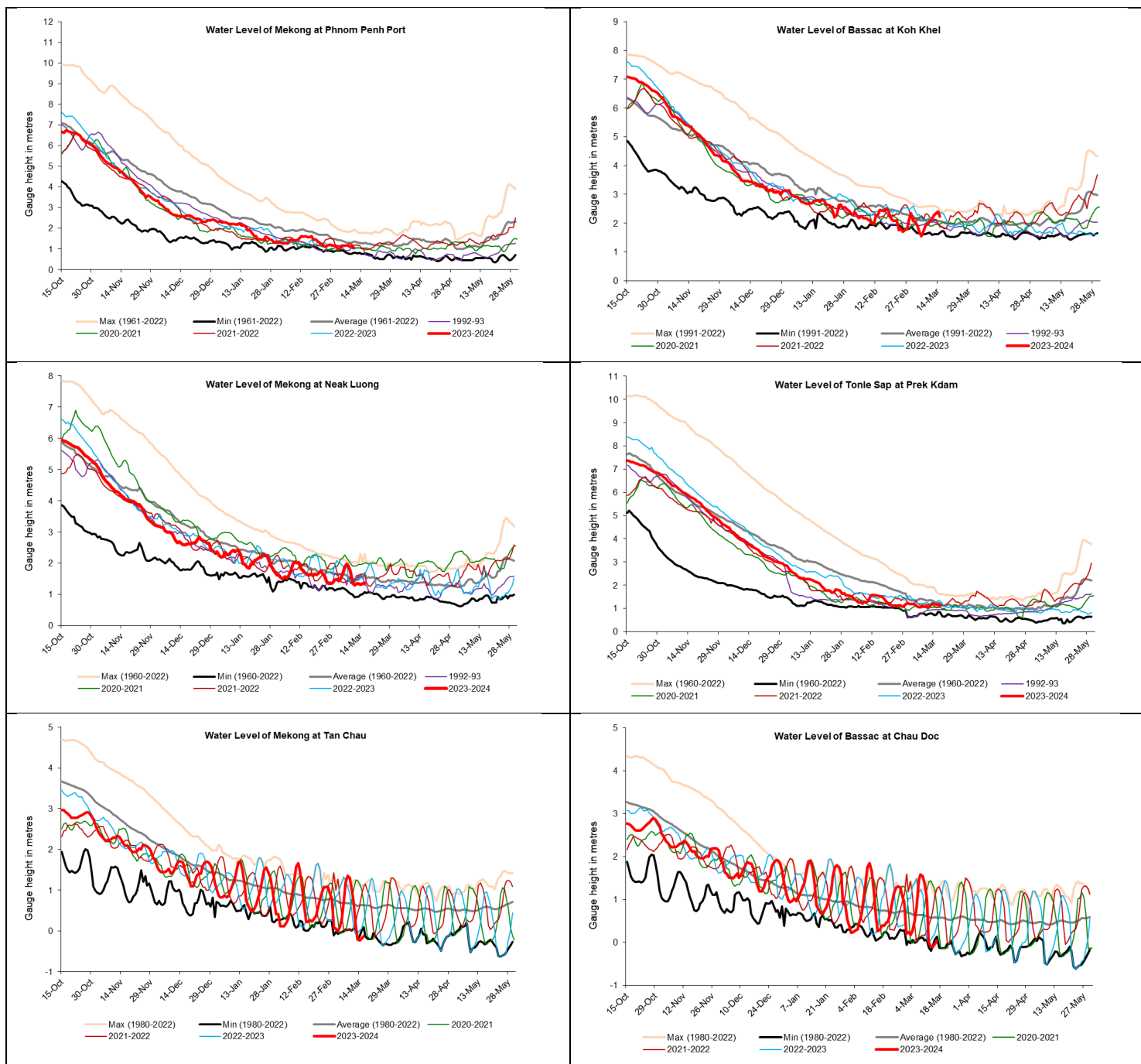
During 12-18 Mar 2024, the LMB was facing from moderate to severe drought from the north to the south of the region. List of the impacted provinces is presented at figure 11 above.

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
12-03-2024	535.25	1.57	8.40	3.09	1.22	0.76	1.90	1.68	2.54	1.68	0.86	2.17	1.14	2.52	6.84	2.67	1.97	1.13	1.97	1.36	1.07	1.08	1.35
13-03-2024	535.26	1.60	8.32	3.12	1.24	0.65	1.95	1.62	2.48	1.62	0.82	2.16	1.30	2.56	6.88	2.82	2.05	1.16	2.06	1.30	1.11	0.73	1.00
14-03-2024	535.25	1.52	8.30	3.16	1.21	0.62	1.93	1.59	2.47	1.59	0.79	2.06	1.18	2.61	7.01	2.80	2.06	1.16	2.12	1.35	1.19	0.16	0.01
15-03-2024	535.24	1.46	8.36	3.16	1.22	0.65	1.93	1.58	2.39	1.58	0.72	2.02	1.00	2.61	7.09	2.76	2.10	1.18	2.26	1.34	1.22	-0.21	-0.09
16-03-2024	535.23	1.45	8.40	3.14	1.20	0.66	1.90	1.55	2.28	1.55	0.69	2.03	1.00	2.58	7.13	2.70	2.03	1.10	2.34	1.32	1.16	-0.23	-0.11
17-03-2024	535.23	1.44	8.42	3.14	1.18	0.66	1.89	1.52	2.36	1.52	0.67	2.03	1.02	2.55	7.09	2.65	2.10	1.14	2.40	1.34	1.17	-0.19	-0.03
18-03-2024	535.24	1.44	8.52	3.10	1.16	0.66	1.93	1.56	2.29	1.56	0.66	1.96	0.98	2.54	7.03	2.50	2.05	1.07	2.23	1.36	1.14	-0.13	0.02

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
12-03-2024	0	0	0	0	0	0	0	4.2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-03-2024	0	0	0	0.4	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-03-2024	0	0	0	0	0	0	0	0	17.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15-03-2024	0	0	0	0	0	0	0	0	0	0	9.6	0	0	0	0	0	0	0	0	0	0	0	0
16-03-2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17-03-2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18-03-2024	0	0	0	0	0	0	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sum	0.0	0.0	0.0	0.4	0.4	0.0	1.2	4.2	21.7	0.0	9.6	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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