Mekong River Commission

Weekly Dry Season Situation Report in the Lower Mekong River Basin

16-22 January 2024

Prepared by
The Regional Flood and Drought Management Centre
23 January 2024

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Key Messages

Key messages for this weekly report are presented below.

Rainfall monitoring and forecast

- In the period of 16-22 January 2024, there is no significant rainfall recorded at the key stations along the Mekong River.
- The Mekong region was influenced by north-easterly monsoon wind and the high-pressure push from China. There will be no rainfall to light rain accumulated for the next 7 days over the lower part of the Mekong region from 23 to 29 January 2024.

Water level monitoring and forecast

- The water level monitoring at 22 key stations is below the long-term averages (LTAs) except for water level at Luang Prabang monitoring stations. However, the 9 monitoring stations remains in normal condition with respect to the flow threshold (PMFM for Observed Water Level) except for Tan Chau and Chau Doc monitoring stations, which significantly influenced by sea tidal fluctuation.
- In the period of 23-29 January, the water level at 22 key stations is expected to increase at the upper stretch of the Mekong River starting from Chiang Saen to Paksane. However, the water levels from Nakhon Phanom to Prek Kdam are expected to slightly decrease. The two monitoring stations (Tan Chau and Chau Doc) are expected to increase.

Drought condition and forecast

- During Jan 16-22, the LMB was facing from moderate to severe drought over the middle and southern parts covering some areas of Phongsali, from Vientiane down to Attapu of Laos, Bueng Kan, Nakhon Ph anom, Roi Et, Yasothon, Amnat Charoen, Ubon Ratchathani, Si Sa Ket, Buri Ram, Surin, Otdar Meanchey, Siem Reap, Preah Vihear, Kampong Thom, Stung Treng, Battambang, Pursat, Ratanakiri, Kratie, Tbong Khmum, Mondulkiri, Prey Veng, Kon Tum, Gia Lai, Dak Lak, and Dak Nong. It was mainly caused by extremely dry soil moistures.
- In January and February, the LMB is likely normal in most parts of the region. While in March some moderate drought is likely taking place in Loei, Chaiyaphum, Nakhon Ratchasima, Kratie, and Ratanakiri provinces.

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 **23-29 January 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

The moderate high-pressure system covers the upper part of LMB while the moderate northeast monsoon prevails over the lower part. As a result, isolated thundershowers occurred in some areas of the LMB.

Figure 1 presents the weather map indicating no high- or low-pressure cells active in the South Sea of Viet Nam and the LMB. Generally, the Mekong region was influenced by moderate north-easterly monsoon wind and the moderate high-pressure push from China.

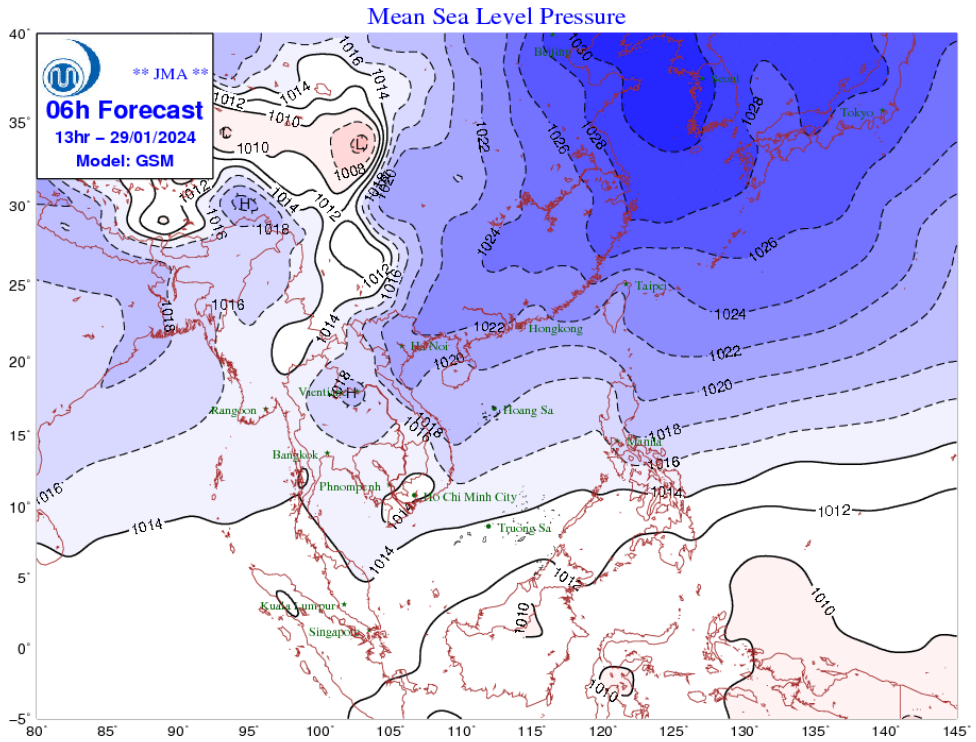


Figure 1: Weather conditions over the LMB

According to the ASEAN Specialised Meteorological Centre (ASMC), there is no neither a specific outlook of wet nor dry conditions over the Mekong region. However, from upper to middle part of the basin is predicted to be as cooler than usual temperature starting from 22 January to 4 February 2024. **Figure 2** shows the outlook of weather condition from 22 January to 4 February 2024 in Southeast Asia based on results from the NCEP model (National Centres for Environmental Prediction).

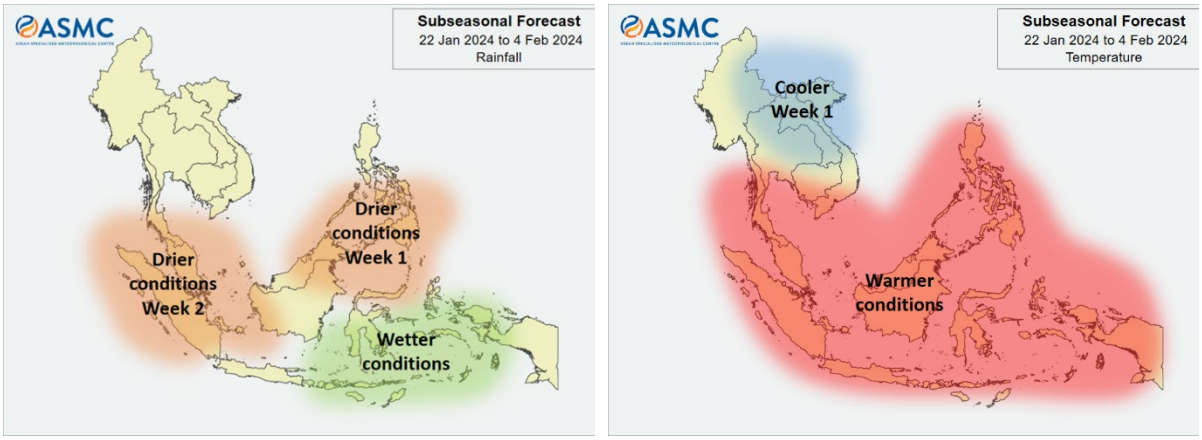


Figure 2: Outlook of wet and dry conditions over the Asian countries by ASMC.

Based on the tropical storm risk (TS) (https://www.tropicalstormrisk.com/), there is no active NW pacific system as of 23 January as displayed in **Figure 3.**

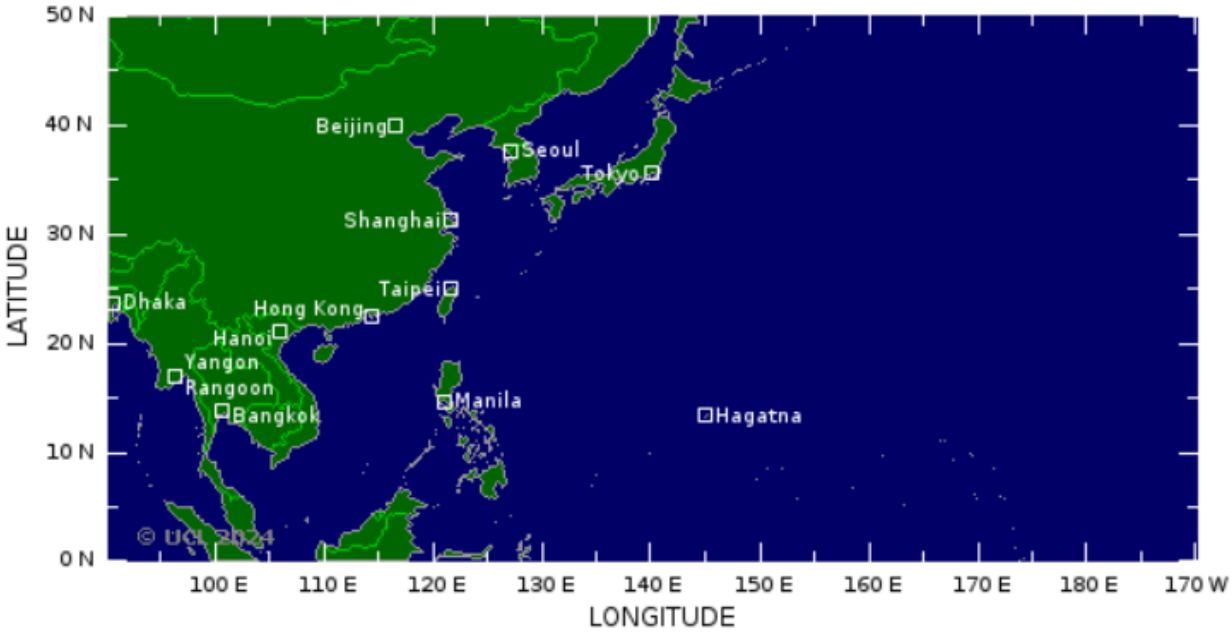


Figure 3: No tropical storm risk observed on 23 January 2024

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 16 to 22 January 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 upper part of the basin.

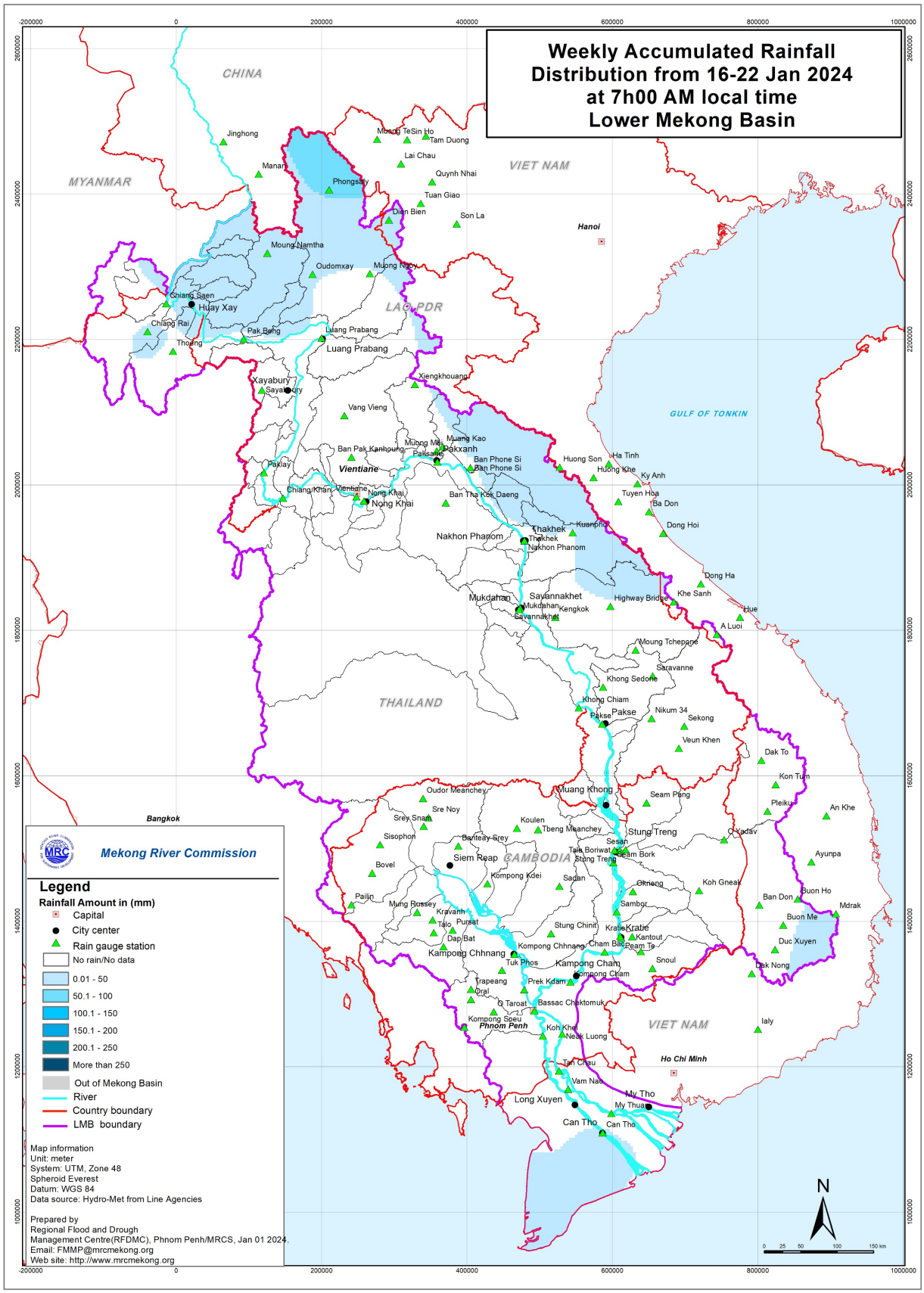


Figure 4: Weekly rainfall distribution over the LMB during 16-22 January 2024

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 16-22 January 2024, the observed water level (WL) at Jinghong hydrological station[1], was slightly fluctuated between 535.20 m and 535.66 m, which are corresponding to the outflow between 808.00 m^3/s to 1,120.00 m^3/s (recorded on 7:00 am), respectively (**Figure 6**). The water level in Chiang Saen station also indicated a slight fluctuation ranging from 1.82 m to 1.71 m with decreasing trend. At the same period, the water level in Luang Prabang station remained nearly unchanged.

During the same period, the water level observed in Chiang Khan showed an increasing trend and range from 3.71 m to 3.89 m. However, the water level at both Vientiane and Nong Khai monitoring stations indicated unchanged trends from the previous week. In Paksane monitoring station, the water level slightly decreased from 1.95 m to 1.85 m.

Further downstream, water levels from Nakhon Phanom to Pakse slightly changed, during the report period. From the previous week, the water levels at the Nakhon Phanom, Thakhek, Mukdahan, Savannakhet, Khong Chiam, and Pakse slightly varied in range of 1.18-1.13 m, 2.5-2.43 m, 1.66-1.67 m, 0.87-0.82 m, 2.16-2.18 m, and 1.14-1.16 m, respectively.

Since there was no rainfall from the upstream part of the Mekong River and the 3S river (Sekong, Se San, and Sre Pok), the water levels at Stung Treng, Kratie and Kampong Cham decreased 0.02 m, 0.13 m and 0.37 m from the previous week, respectively.

The water level at Phnom Penh (Bassac), Phnom Penh Port, and Koh Khel (Bassac), Prek Kdam stations decreased from 2.82 to 2.36 m, 1.91 to 1.46 m, 2.74 to 2.46 m, 2.11 to 1.77 m respectively, while the water level at Neak Luong increased from 1.88 to 2.18 m during 16-22 January 2024.

[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

Similar to the previous week, the water levels from 16 to 22 January 2024 at Viet Nam's Tan Chau and Chau Doc were fluctuating between their LTA values due to daily tidal effects from the sea. At the Tan Chau station, the water levels varied between 0.75 m and 0.82 m, while at the Chau Doc station, they ranged from 0.86 m to 1.01 m.

It should be noted that the water levels in all key monitoring stations are below their long-term averages (LTAs) except for the Luang Prabang monitoring stations. 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**.

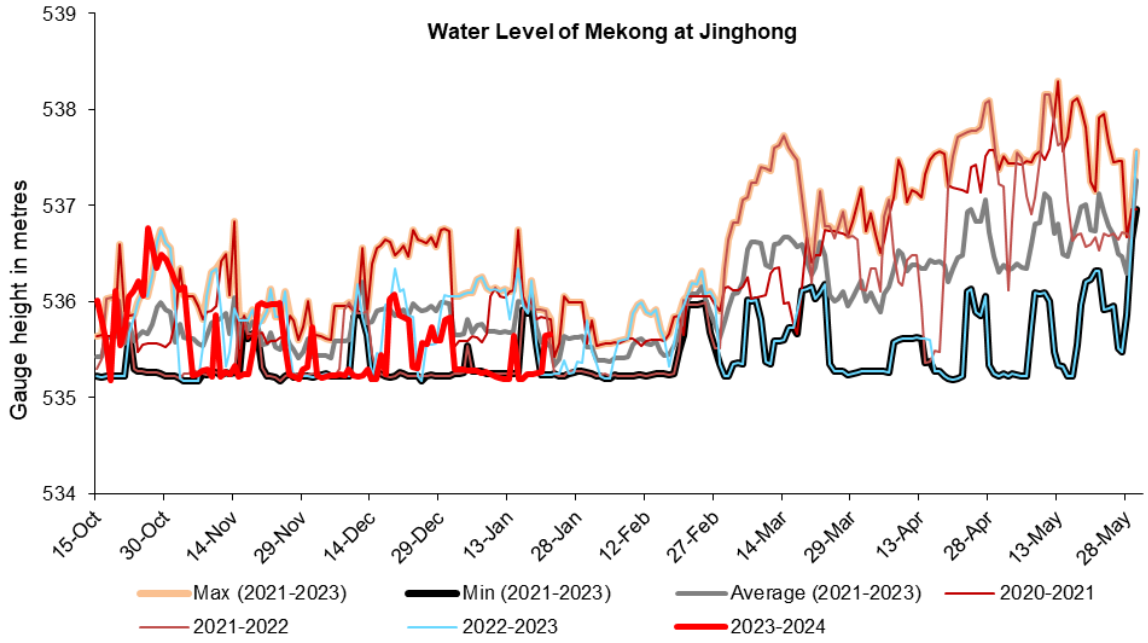


Figure 6. Water level at the Jinghong hydrological station up to 22 January 2024.

At the end of the wet season, when water levels along the Mekong River subside, the outflows of the Tonle Sap Lake return 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, the outflow of the Tonle Sap Lake took place since 23 October 2023.
The flows of the Tonle Sap Lake were calculated based on a formula of rating-curves using by different water levels at Kompong Luong and Phnom Penh Port for slop and Prek Kdam as cross-section of the Lake. The formula of flows at the Tonle Sap Lake is as follows:

Flows = (WL at Prek Kdam)^1.2*SQRT (WL difference between PP port and Kampong 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 2019, 2021 and 2022, and their LTA level (1997-2022). Up to 22 January 2024, it was observed that the main outflow to Tonle Sap Lake decreased due to no

rainfall and less inflows from upstream **(Figure 7)**. This decreased outflow of Tonle Sap Lake was most likely caused by low inflows and no rainfall from its catchments.

The seasonal changes in monthly flow volumes up to 22 January 2024 for the Tonle Sap Lake compared with that in 2020, 2021, 2022 and their LTAs, and the fluctuation levels (1997–2022). It shows that up to 22 January 2024, the water volume of the Tonle Sap Lake was lower than its LTA (about 83.85 %) and 2022 but higher than that in 2020 and 2021 during the same period **(Figure 8 and Table 1)**.

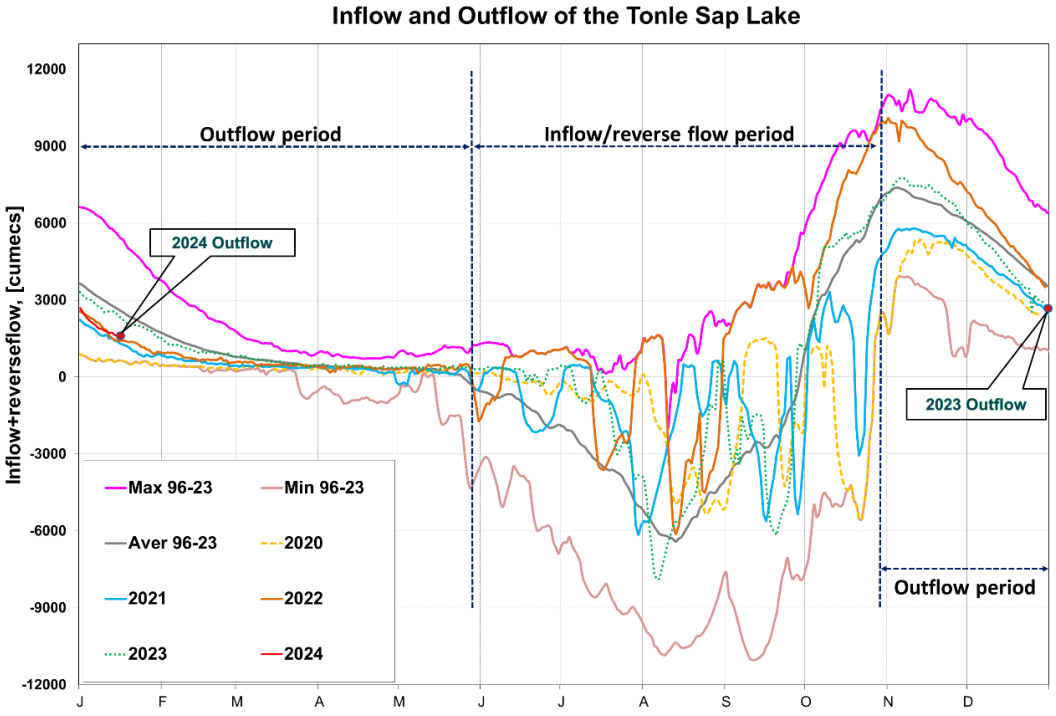


Figure 7: Seasonal change of inflows and outflows of Tonle Sap Lake.

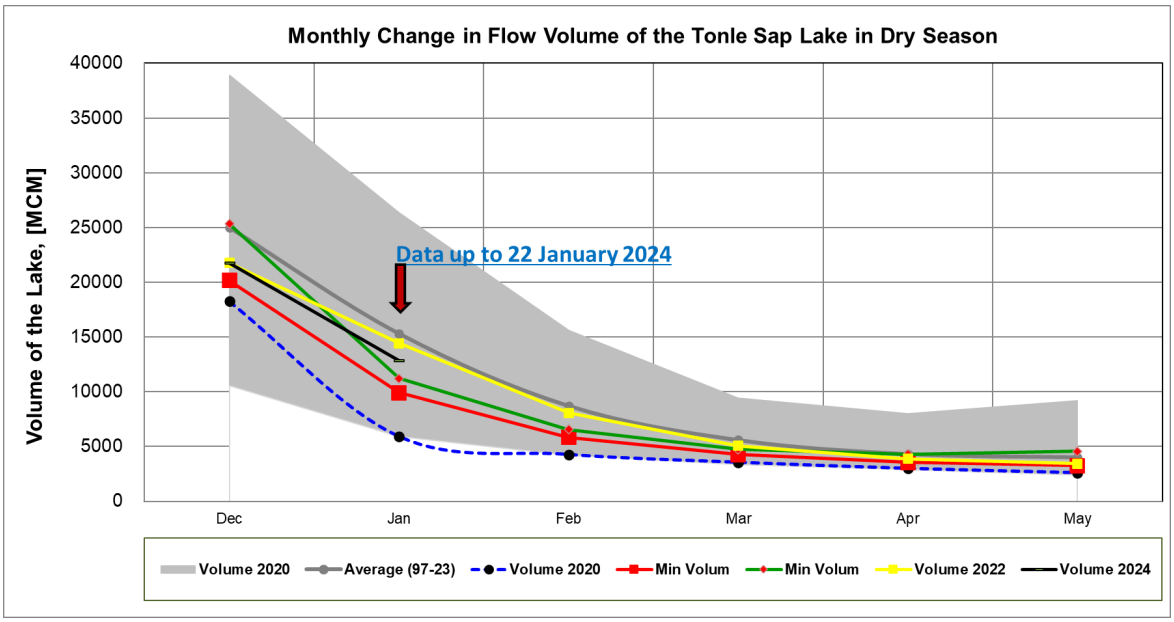


Figure 8. The seasonal change in monthly flow volume of Tonle Sap Lake.

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

Month	LTA (97-22) [MCM]	Max Volume [MCM]	Min Volume [MCM]	Volum 2017 [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
Dec	25009.52	38888.95	10563.49	23079.82	10577.29	18251.65	20170.76	25346.65	21757.70	21757.70	
Jan	15322.86	26357.53	5806.80	13080.39	10285.31	5806.80	9923.80	11214.32	14422.11	12848.84	83.85
Feb	8723.39	15596.22	4128.80	7302.32	6019.30	4264.12	5832.97	6558.79	8069.29		
Mar	5602.68	9438.24	3947.07	4852.74	4354.62	3553.99	4264.88	4736.52	5080.64		
Apr	4327.36	8009.14	2896.97	4282.78	3667.47	2992.61	3556.68	4288.31	3884.16		
May	4027.82	9176.93	2417.91	4356.44	3266.43	2594.92	3240.78	4556.83	3438.66		
Jun	5699.50	13635.01	2468.70	8465.20	3517.06	2641.88	3798.29	7489.04	3689.97		
Jul	11188.79	28599.56	3025.89	14964.58	4001.99	2975.86	5346.73	9703.79	9953.41		
Aug	24070.98	39015.12	4433.46	23407.37	7632.74	5841.97	10547.80	19554.70	13694.57		
Sep	38787.47	65632.35	12195.31	39654.01	24194.19	12195.31	16382.34	32860.34	23550.60		
Oct	46562.09	73757.23	19705.50	41847.54	30358.38	20799.13	27318.21	48199.12	37141.40		
Nov	37739.30	60367.33	16524.61	33663.58	19112.65	27546.80	28982.93	39452.53	33929.52		
Dec	25009.52	38888.95	10563.49	23079.82	10577.29	18251.65	20170.76	25346.65	21757.70		
	Critical situation, comapred with historical Min values										
	Normal condition, compared with LTA (Long term average)										
	Low volume situation, comapred with LTA values										
Unit: Million Cubic Meter (1 MCM= 0.001 Km^3)						LTA: Long-Term-Average					

4. Flash Flood in the Lower Mekong Basin

During the weekly monitoring period from 16 - 22 January, 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

5.1 Weekly drought monitoring from Jan 16 to 22

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 Jan 16 to 22, as shown in **Figure 9**, were normal in all parts of the region. The conditions were relatively better than the previous week from Jan 9 to 15.

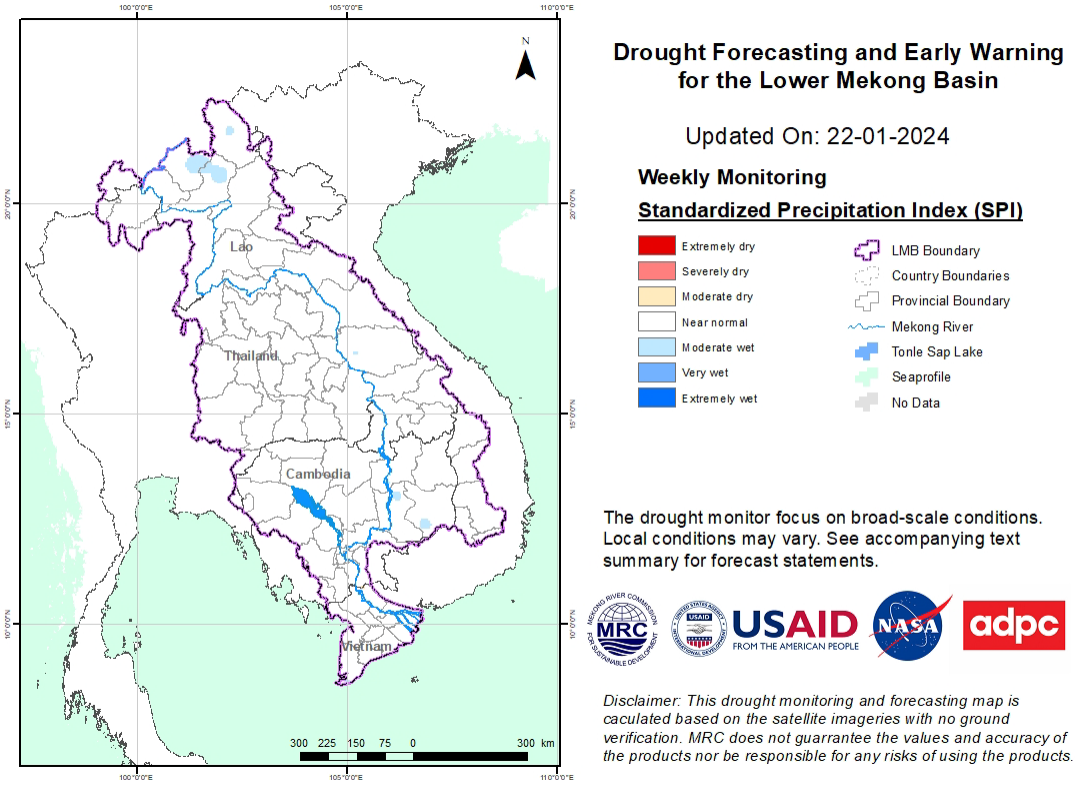


Figure 9: Weekly standardised precipitation index from Jan 16 to 22.

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

Soil moisture conditions from Jan 16 to 22, 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 from Jan 9 to 15.

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.

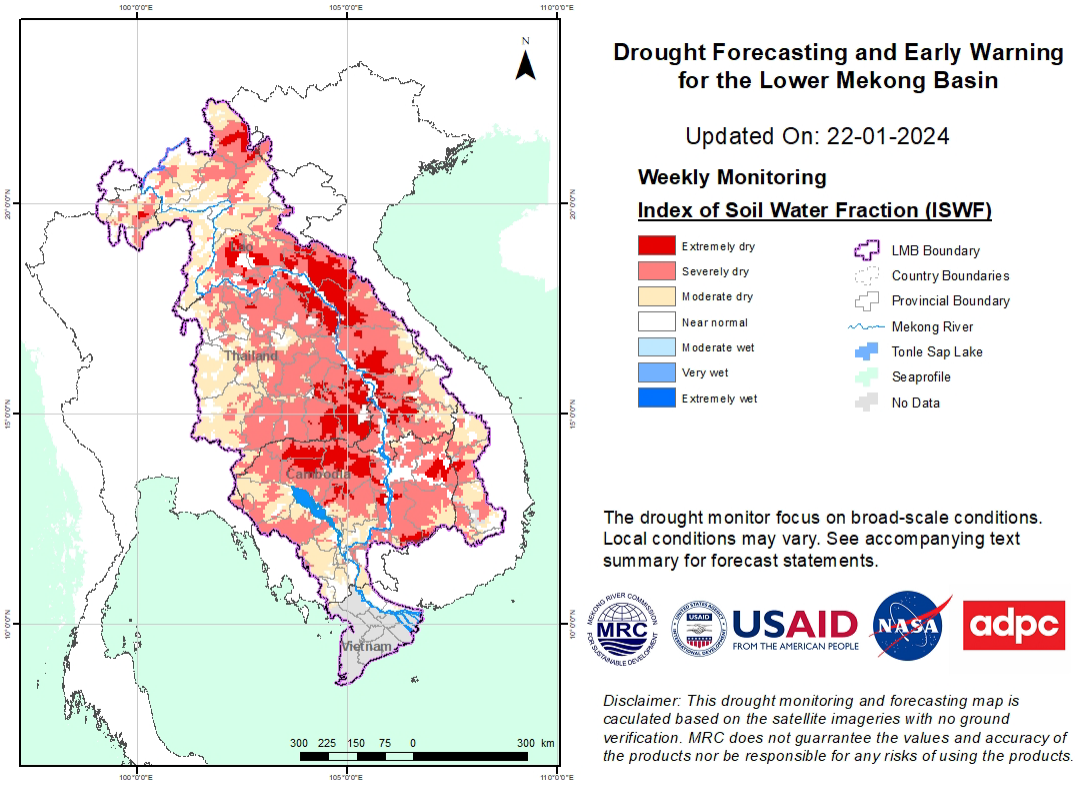


Figure 10: Weekly Index of Soil Water Fraction from Jan 16 to 22.

- **Weekly Combined Drought Index (CDI)**

With the dry conditions of soil moisture, the combined drought indicator (displayed in **Figure 11**) reveals that during Jan 16-22, the LMB was facing from moderate to severe drought over the middle and southern parts covering some areas of Phongsali, from Vientiane down to Attapu of Laos, Bueng Kan, Nakhon Ph anom, Roi Et, Yasothon, Amnat Charoen, Ubon Ratchathani, Si Sa Ket, Buri Ram, Surin, Otdar Meanchey, Siem Reap, Preah Vihear, Kampong Thom, Stung Treng, Battambang, Pursat, Ratanakiri, Kratie, Tbong Khmum, Mondulkiri, Prey Veng, Kon Tum, Gia Lai, Dak Lak, and Dak Nong.

Number	Country	Province	Mderate	Severe	Extreme	Exceptional	Number	Country	Province	Mderate	Severe	Extreme	Exceptional	Number	Country	Province	Mderate	Severe	Extreme	Exceptional
1	Cambodia	Otdar Meanchey					15	Laos	Phongsali					29	Thailand	Roi Et				
2	Cambodia	Siem Reap					16	Laos	Vientiane					30	Thailand	Yasothon				
3	Cambodia	Preah Vihear					17	Laos	Vientiane Capital					31	Thailand	Amnat Charoen				
4	Cambodia	Kampong Thom					18	Laos	Xaisomboun					32	Thailand	Surin				
5	Cambodia	Stung Treng					19	Laos	Borikhamxai					33	Thailand	Si Sa Ket				
6	Cambodia	Battambang					20	Laos	Khammouan					34	Thailand	Ubon Ratchathani				
7	Cambodia	Pursat					21	Laos	Svannakhet					35	Thailand	Buri Ram				
8	Cambodia	Ratanakiri					22	Laos	Salavan					36	Viet Nam	Kon Tum				
9	Cambodia	Kratie					23	Laos	Xekong					37	Viet Nam	Gia Lai				
10	Cambodia	Kampot					24	Laos	Champasak					38	Viet Nam	Dak Lak				
11	Cambodia	Prey Veng					25	Laos	Attapu					39	Viet Nam	Dak Nong				
12	Cambodia	Tbong Khmum					26	Thailand	Bueng Kan					40	Viet Nam	Long An				
13	Cambodia	Mondul Kiri					27	Thailand	Nakhon Phanom							Moderate		Severe		
14	Cambodia	Prey Veng					28	Thailand	Sakon Nakhon							Severe		Exceptional		

List of the impacted areas by the Combined Drought Indicator duing Jan 16-22.

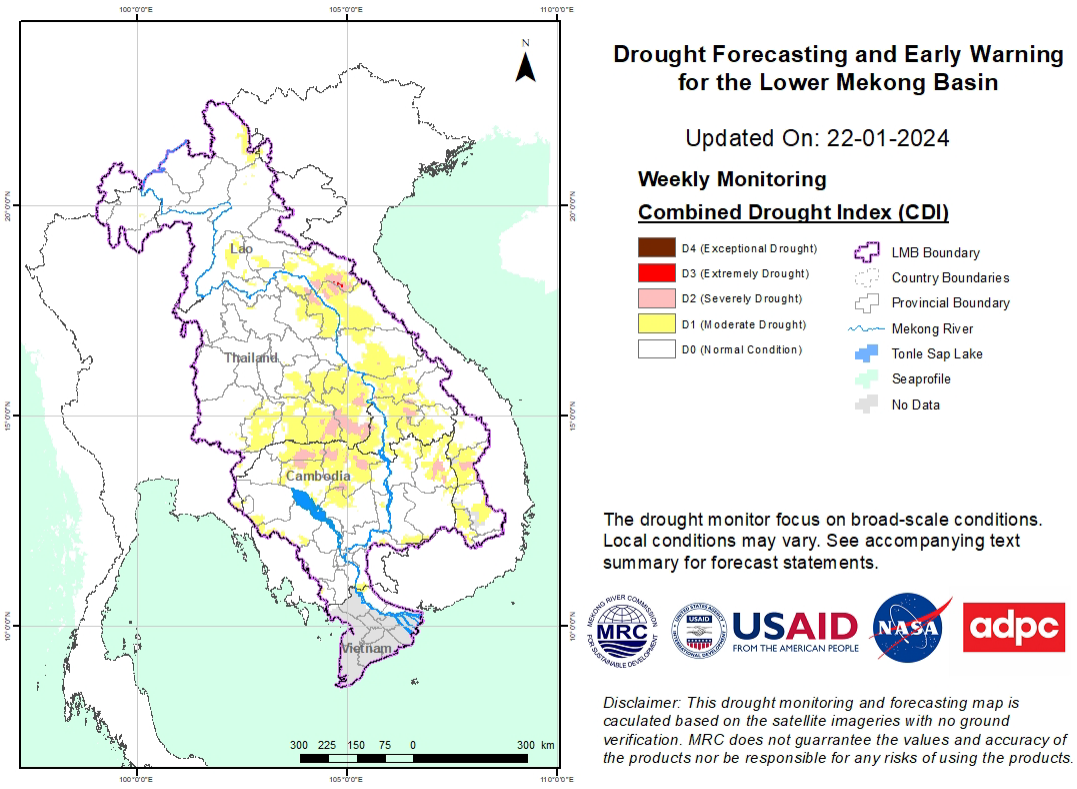


Figure 11: Weekly Combined Drought Index duing Jan 16-22.

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 23-29 January 2024, the accumulated rainfall over the Lower Mekong Basin is distributed with no rain to light rain based Global Forecast System (GFS) (**Figure 12**).

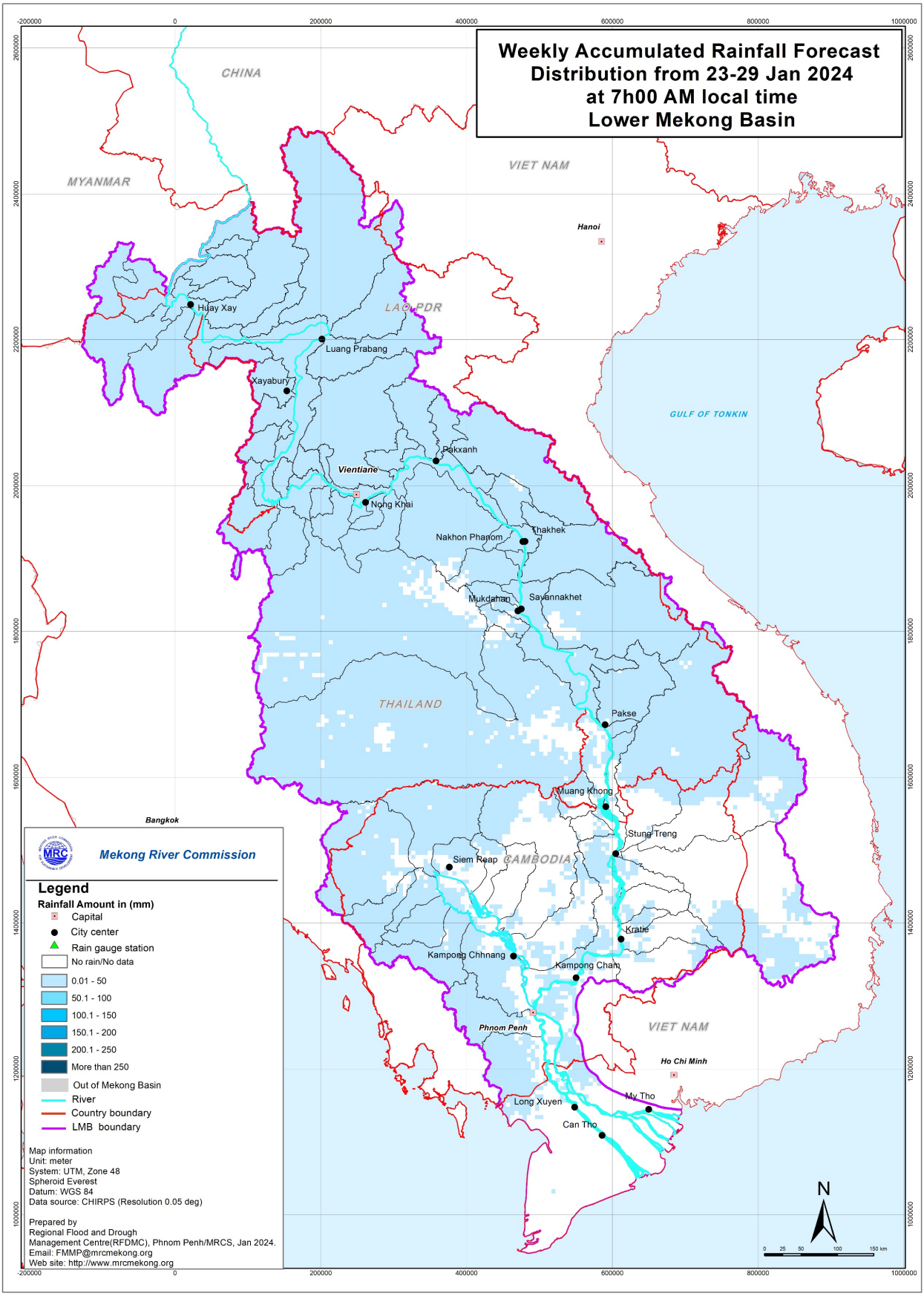


Figure 12: Accumulated rainfall forecast from CHIRP-GFS (23-29 January 2024)

6.2 Water level forecast

In Chiang Saen monitoring station, the water level is expected to be fluctuated over the forecasting period of 23-29 January 2024. However, it will slightly decrease from 1.78 m to 1.73 m. The water level in Luang Prabang stations affected by backwater is likely slightly increasing from 8.68 to 8.74 m. Moving down to the monitoring stations at Chiang Khan, Vientiane, Nongkhai, and Paksane, the water levels are expected to slightly increase during the forecast period with values of 0.07 m, 0.17 m, 0.13, 0.07 m respectively. However, at monitoring stations starting from Nakhon Phanom to Prek kdam, the water levels are predicted to slightly drop in the next seven days ranging from 0.01 m to 0.25 m. For the Tan Chau station on the Mekong River and Chau Doc station on the Bassac River, water levels will slightly rise approximately 0.54 m and 0.62 m, respectively, following daily tidal effects from the sea.

The weekly River Monitoring Bulletin and forecasting issued on 23 January 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: 23 January to 29 January 2024

Date: 22 January 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)						
		21-Jan			21-Jan	22-Jan	23-Jan	24-Jan	25-Jan	26-Jan	27-Jan	28-Jan	29-Jan
Jinhong		0.0	-	-	535.65	535.66							
Chiang Saen		0.0	357.110	0.00	1.75	1.71	1.78	1.75	1.72	1.73	1.74	1.75	1.73
Luang Prabang		0.0	267.195	2.53	8.62	8.68	8.70	8.69	8.69	8.70	8.71	8.72	8.74
Chiang Khan		0.0	194.118	1.91	3.74	3.89	3.92	3.94	3.95	3.94	3.93	3.95	3.96
Vientiane		0.0	158.040	-0.28	1.48	1.45	1.55	1.57	1.59	1.60	1.60	1.61	1.62
Nongkhai		0.0	153.648	0.33	0.87	0.95	0.93	1.02	1.04	1.05	1.06	1.07	1.08
Paksane		0.0	142.125	0.10	1.87	1.85	1.82	1.80	1.88	1.89	1.90	1.92	1.92
Nakhon Phanom		0.0	130.961	0.18	1.17	1.13	1.11	1.08	1.05	1.10	1.11	1.12	1.12
Thakhek		0.0	129.629	1.38	2.44	2.43	2.40	2.38	2.35	2.40	2.40	2.41	2.42
Mukdahan		0.0	124.219	0.72	1.73	1.67	1.66	1.65	1.64	1.62	1.65	1.64	1.64
Savannakhet		0.0	125.410	-0.65	0.92	0.82	0.79	0.76	0.75	0.74	0.77	0.76	0.76
Khong Chiam		0.0	89.030	1.02	2.17	2.18	2.18	2.18	2.15	2.11	2.08	2.15	2.16
Pakse		0.0	86.490	0.03	1.15	1.16	1.18	1.17	1.16	1.14	1.12	1.14	1.15
Stung Treng		0.0	36.790	0.32	2.70	2.73	2.75	2.74	2.73	2.71	2.71	2.69	2.69
Kratie		0.0	-1.080	3.06	7.43	7.41	7.43	7.44	7.44	7.43	7.42	7.39	7.37
Kompong Cham		0.0	-0.930	0.65	2.70	2.75	2.77	2.79	2.80	2.80	2.79	2.77	2.75
Phnom Penh (Bassac)		0.0	-1.020	1.58	2.39	2.36	2.34	2.32	2.30	2.28	2.26	2.23	2.20
Phnom Penh Port		nr	0.000	0.14	1.49	1.46	1.44	1.42	1.40	1.38	1.36	1.33	1.30
Koh Khel		0.0	-1.000	1.52	2.60	2.46	2.45	2.43	2.41	2.39	2.37	2.35	2.32
Neak Luong		0.0	-0.330	0.81	2.12	2.18	2.19	2.18	2.17	2.15	2.13	2.11	2.09
Prek Kdam		0.0	0.080	0.58	1.77	1.77	1.74	1.71	1.68	1.65	1.61	1.57	1.52
Tan Chau		0.0	0.000	-0.37	0.65	0.82	1.02	1.05	1.24	1.28	1.33	1.35	1.36
Chau Doc		nr	0.000	-0.60	0.83	1.01	1.15	1.34	1.43	1.54	1.59	1.62	1.63

REMARKS:

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

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 an ensemble model called the North America Multi-Model Ensemble (NMME) with a downscaling mothed to 5km resolution.

Figure 13 below shows the Combined Drought Indicator (CDI) forecast for January, February and March 2024 over the LMB area.

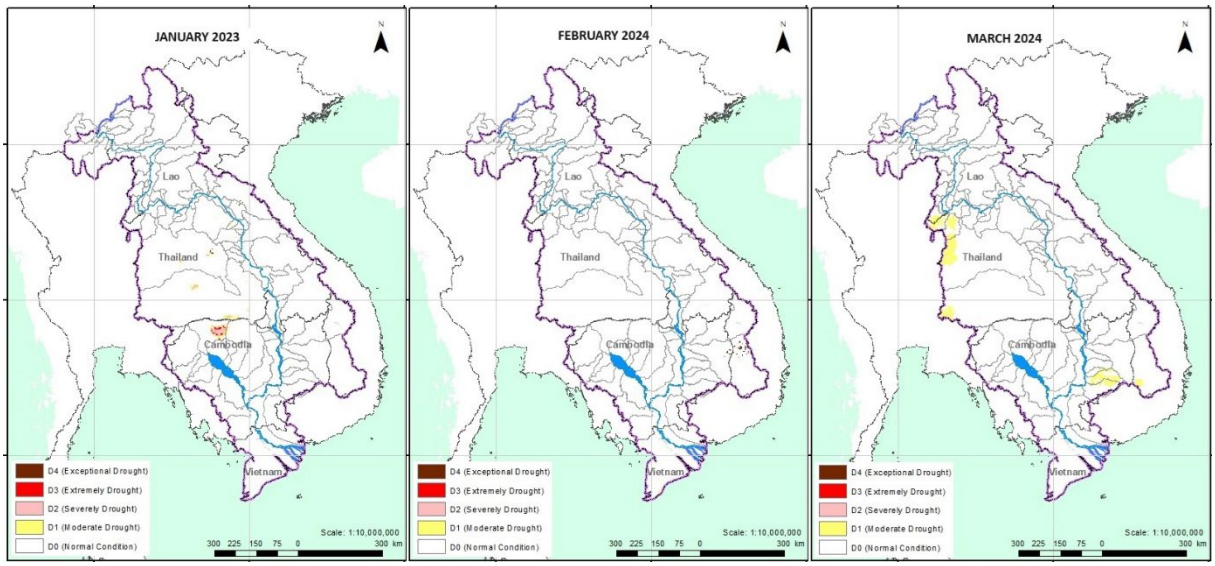


Figure 13. Monthly forecast of CDI for Jan, Feb and mar 2024.

Figure 18 above shows that in January and February the LMB is likely normal in most parts of the region. While in March, some moderate drought is likely taking place in Loei, Chaiyaphum, Nakhon Ratchasima, Kratie, and Ratanakiri provinces.

7 Summary and Possible Implications

7.1 Rainfall and its forecast

This week, rainfall was observed in the stations from Chiang Saen to Nakhon Phanom along the Mekong River, but no rainfall further downstream reach. Compared with last week's month, this week was considered no rain in the lower Mekong Basin.

Based on the forecasted satellite data, rainfall is forecasted for some areas of the LMB with the value range from 01.00 mm to 20.00 mm for the next seven days. The forecasting model using CHIRPS-GEFS data, moreover, shows average rainfall (<20 mm) is likely to take place in the Mekong region from 16 to 22 January 2024.

7.2 Water level and its forecast

The water level monitoring at 22 key stations is below the long-term averages (LTAs) except for water level at Luang Prabang monitoring stations. However, the 9 monitoring stations remains in normal condition with respect to the flow threshold (PMFM for Observed Water Level) except for Tan Chau and Chau Doc monitoring stations, which significantly influenced by sea tidal fluctuation.

In the period of 23-29 January, the water level at 22 key stations is expected to increase at the upper stretch of the Mekong River starting from Chiang Saen to Paksane. However, the water levels from Nakhon Phanom to Prek Kdam are expected to slightly decrease. The two monitoring stations (Tan Chau and Chau Doc) are expected to increase.

7.3 Flash flood and its trends

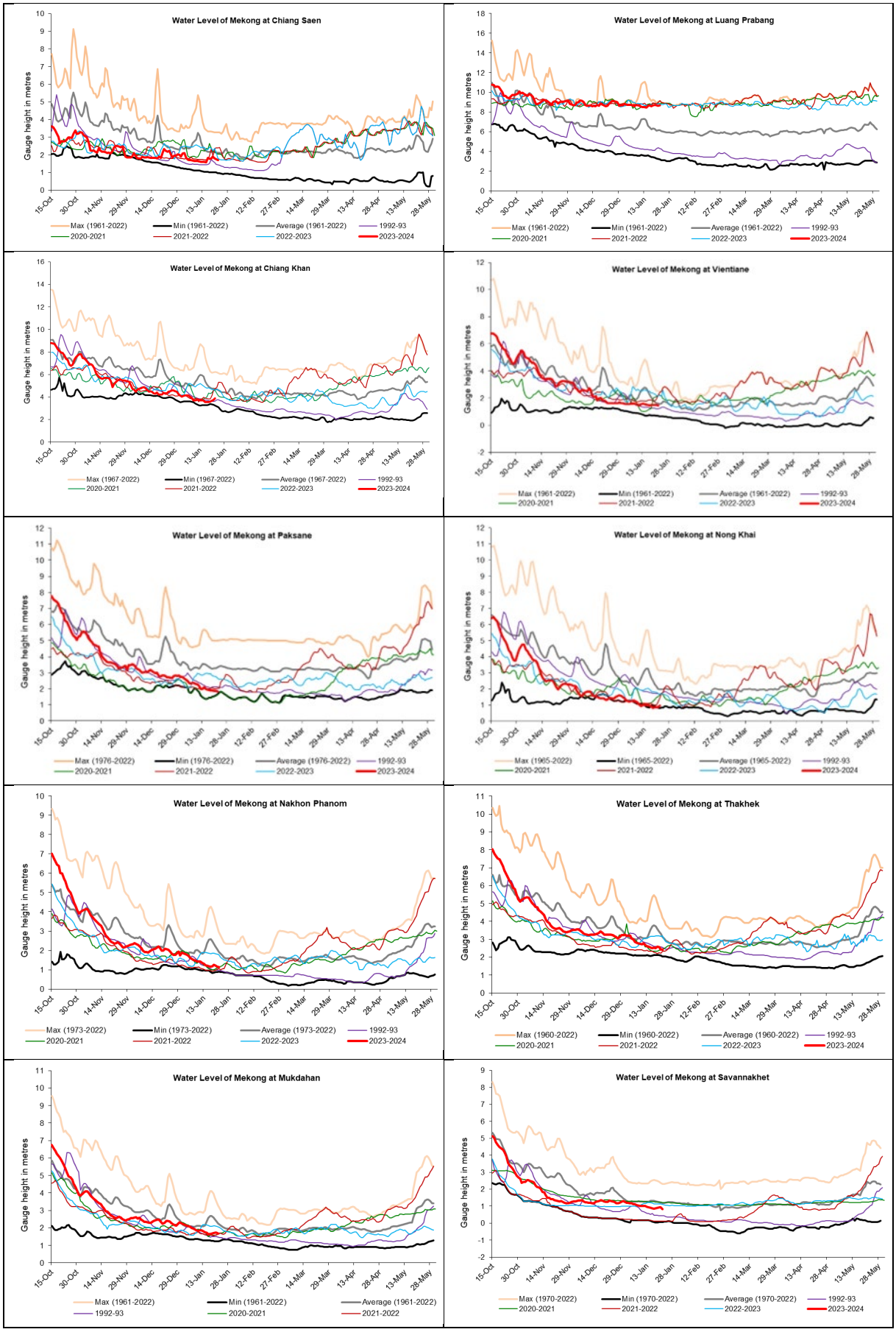
With the predicted of rainfall for the coming week as mentioned earlier in section 6.1, major flash floods are not likely to happen in the LMB.

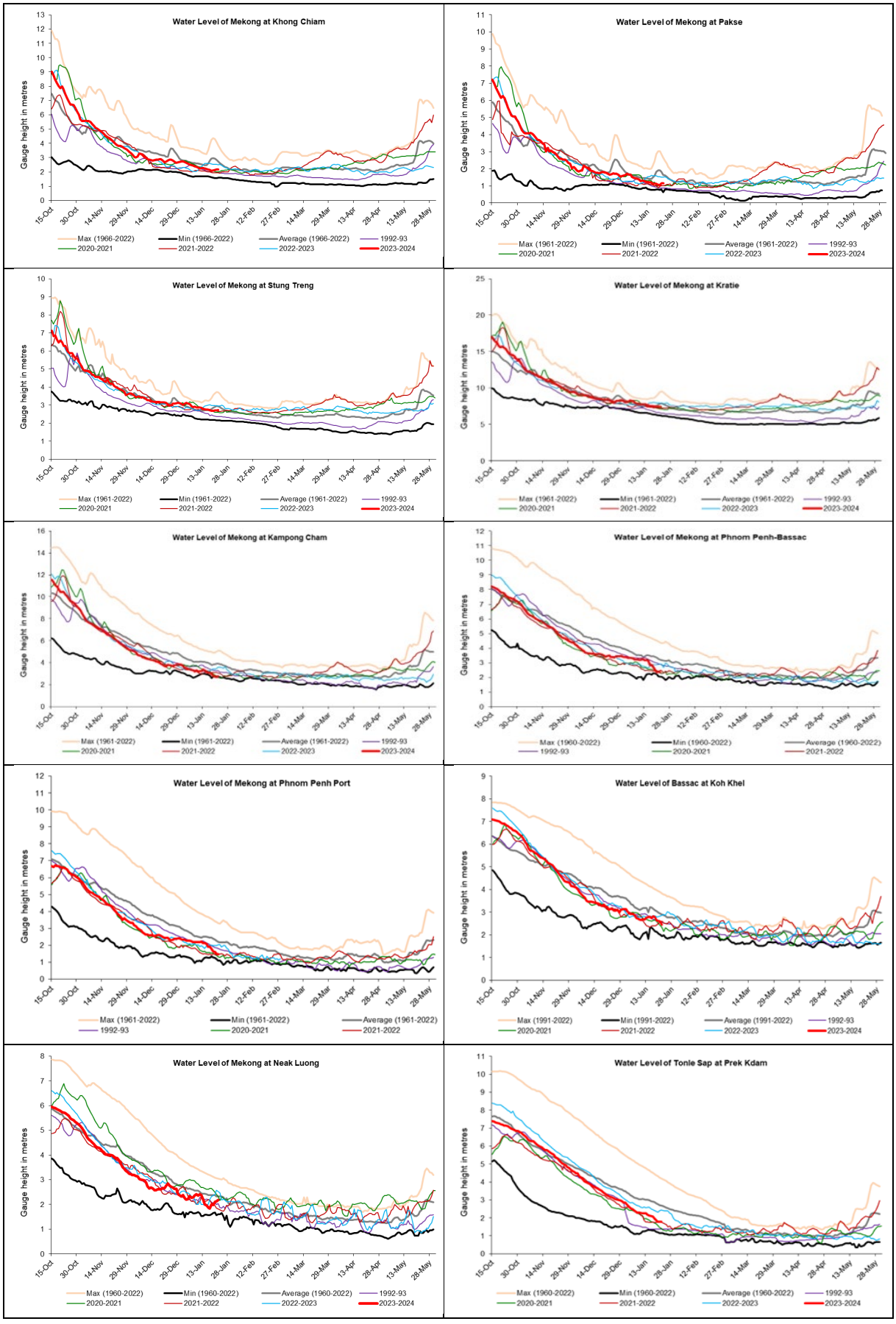
7.4 Drought condition and its forecast

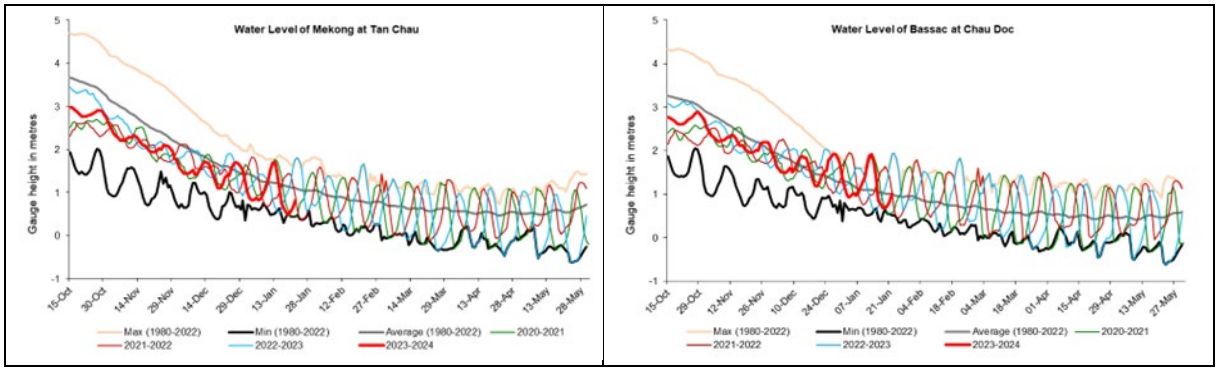
During Jan 16-22, the LMB was facing from moderate to severe drought over the middle and southern parts covering some areas of Phongsali, from Vientiane down to Attapu of Laos, Bueng Kan, Nakhon Ph anom, Roi Et, Yasothon, Amnat Charoen, Ubon Ratchathani, Si Sa Ket, Buri Ram, Surin, Otdar Meanchey, Siem Reap, Preah Vihear, Kampong Thom, Stung Treng, Battambang, Pursat, Ratanakiri, Kratie, Tbong Khmum, Mondulkiri, Prey Veng, Kon Tum, Gia Lai, Dak Lak, and Dak Nong.

In January and February, the LMB is likely normal in most parts of the region. While in March, some moderate drought is likely taking place in Loei, Chaiyaphum, Nakhon Ratchasima, Kratie, and Ratanakiri provinces.

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




Water Level of Mekong at Khong Chiam
Gauge height in metres
Max (1966-2022)
Min (1966-2022)
Average (1966-2022)
1992-93
2020-2021
2021-2022
2022-2023
2023-2024
Water Level of Mekong at Pakse
Gauge height in metres
Max (1961-2022)
Min (1961-2022)
Average (1961-2022)
1992-93
2020-2021
2021-2022
2022-2023
2023-2024
Water Level of Mekong at Stung Treng
Gauge height in metres
Max (1961-2022)
Min (1961-2022)
Average (1961-2022)
1992-93
2020-2021
2021-2022
2022-2023
2023-2024
Water Level of Mekong at Kratie
Gauge height in metres
Max (1961-2022)
Min (1961-2022)
Average (1961-2022)
1992-93
2020-2021
2021-2022
2022-2023
2023-2024
Water Level of Mekong at Kampong Cham
Gauge height in metres
Max (1961-2022)
Min (1961-2022)
Average (1961-2022)
1992-93
2020-2021
2021-2022
2022-2023
2023-2024
Water Level of Mekong at Phnom Penh-Bassac
Gauge height in metres
Max (1960-2022)
Min (1960-2022)
Average (1960-2022)
1992-93
2020-2021
2021-2022
Water Level of Mekong at Phnom Penh Port
Gauge height in metres
Max (1961-2022)
Min (1961-2022)
Average (1961-2022)
1992-93
2020-2021
2021-2022
Water Level of Bassac at Koh Khel
Gauge height in metres
Max (1991-2022)
Min (1991-2022)
Average (1991-2022)
1992-93
2020-2021
2021-2022
2022-2023
2023-2024
Water Level of Mekong at Neak Luong
Gauge height in metres
Max (1960-2022)
Min (1960-2022)
Average (1960-2022)
1992-93
2020-2021
2021-2022
2022-2023
2023-2024
Water Level of Tonle Sap at Prek Kdam
Gauge height in metres
Max (1960-2022)
Min (1960-2022)
Average (1960-2022)
1992-93
2020-2021
2021-2022
2022-2023
2023-2024


Water Level of Mekong at Tan Chau
Gauge height in metres
5
4
3
2
1
0
-1
15-Oct
30-Oct
14-Nov
29-Nov
14-Dec
29-Dec
13-Jan
28-Jan
12-Feb
27-Feb
14-Mar
29-Mar
13-Apr
28-Apr
13-May
28-May
Max (1980-2022)
Min (1980-2022)
Average (1980-2022)
2020-2021
2021-2022
2022-2023
2023-2024
Water Level of Bassac at Chau Doc
Gauge height in metres
5
4
3
2
1
0
-1
15-Oct
29-Oct
12-Nov
26-Nov
10-Dec
24-Dec
07-Jan
21-Jan
04-Feb
18-Feb
04-Mar
18-Mar
01-Apr
15-Apr
29-Apr
13-May
27-May
Max (1980-2022)
Min (1980-2022)
Average (1980-2022)
2020-2021
2021-2022
2022-2023
2023-2024

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
09-01-2024	535.24	1.65	8.68	3.69	1.55	1.15	2.32	1.43	2.75	1.86	1.02	2.37	1.30	2.88	7.85	3.30	3.21	2.20	2.68	2.42	2.31	1.12	1.27
10-01-2024	535.22	1.64	8.62	3.71	1.53	1.03	2.27	1.43	2.72	1.84	1.01	2.31	1.32	2.87	7.80	3.20	3.20	2.19	2.66	2.36	2.27	1.24	1.39
11-01-2024	535.21	1.63	8.54	3.75	1.50	0.94	2.19	1.43	2.78	1.86	1.02	2.25	1.28	2.86	7.78	3.24	3.21	2.18	2.68	2.42	2.25	1.50	1.71
12-01-2024	535.20	1.61	8.52	3.76	1.55	0.98	1.99	1.36	2.68	1.87	1.01	2.26	1.24	2.85	7.76	3.24	3.26	2.22	2.68	2.38	2.26	1.69	1.88
13-01-2024	535.20	1.60	8.48	3.70	1.59	1.04	1.98	1.30	2.61	1.81	0.97	2.26	1.24	2.78	7.76	3.38	3.17	2.13	2.76	2.22	2.24	1.70	1.91
14-01-2024	535.65	1.59	8.44	3.70	1.56	0.98	2.11	1.23	2.59	1.75	0.93	2.23	1.22	2.77	7.62	3.30	3.18	2.14	2.78	2.00	2.19	1.50	1.72
15-01-2024	535.19	1.57	8.64	3.71	1.51	0.98	1.98	1.21	2.54	1.73	0.91	2.20	1.20	2.75	7.59	3.20	3.13	2.09	2.80	1.96	2.14	1.14	1.32

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
09-01-2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
10-01-2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
11-01-2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
12-01-2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
13-01-2024	0	0	0	0	0	0.6	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
14-01-2024	0	11.9	0	0	0	0	8.2	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
15-01-2024	0	1.4	0	0	0	0	0	0.9	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Sum	0.0	13.3	0.0	0.0	0.0	0.6	8.2	0.9	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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