

Weekly Dry Season Situation Report in the Lower Mekong River Basin 23-29 January 2024



Copyright © Mekong River Commission, 2020

First published (2020)

Some rights reserved.

This work is the product of the Mekong River Commission Secretariat. While all efforts are made to present accurate information, the Secretariat does not guarantee the accuracy of the data

included in this work. The boundaries, colours, denomination, and other information shown on

any map in this work do not imply any judgement on the part of the MRC concerning the legal

status of any territory or the endorsement or acceptance of such boundaries.

Nothing herein shall constitute or be considered to be a limitation upon or waiver of the privileges

and immunities of the MRC, all of which are specifically reserved.

This publication may be reproduced in whole or in part and in any form for educational or non-

profit purposes without special permission from the copyright holder, provided acknowledgement

of the source is made and notification is sent to the MRC. The MRC would appreciate receiving a copy of any publication that uses this publication as a source. This publication cannot be used for

sale or for any other commercial purpose whatsoever without permission in writing from the MRC.

Title: Weekly dry season situation report in the Lower Mekong River Basin for 23-29 January 2024.

ISSN: 1728-3248

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

For bibliographic purposes, this volume may be cited as:

Mekong River Commission. (2024). Weekly dry season situation report in the Lower Mekong River

Basin for 23-29 January 2024. Vientiane: MRC Secretariat.

Information on MRC publications and digital products can be found at

http://www.mrcmekong.org/ publications/

All queries on rights and licenses should be addressed to:

Mekong River Commission

Documentation and Learning Centre

184 Fa Ngoum Road, Unit 18, Ban Sithane Neua, Sikhottabong District, Vientiane 01000, Lao PDR

Telephone: +856-21 263 263 | E-mail: mrcs@mrcmekong.org | www.mrcmekong.org

Contents

Li	st of Fi	gures	2
Li	st of Ta	bles	3
Κe	ey Mes	sages	4
1	Intr	oduction	5
2	Ger	eral Weather Patterns	6
3.	Rair	nfall and Water Level Monitoring	7
	3.1.	Rainfall monitoring	7
	3.2.	Water level monitoring	9
4.	Flas	h Flood in the Lower Mekong Basin	13
5.	Dro	ught Monitoring in the Lower Mekong Basin	13
	5.1	Weekly drought monitoring from Jan 23 to 29	13
6	We	ather and Water Level Forecast and Flash Flood Information	16
	6.1	Rainfall forecast	16
	6.2	Water level forecast	18
	6.3	Flash Flood Information	20
	6.4	Drought forecast	20
7	Sun	nmary and Possible Implications	21
	7.1	Rainfall and its forecast	21
	7.2	Water level and its forecast	21
	7.3	Flash flood and its trends	
	7.4	Drought condition and its forecast	
		: Weekly water level monitoring at the 22 key stations	
Αı	nnex B	Tables for weekly updated water levels and rainfall at the Key Stations	25

List of Figures

Figure 1: Weather conditions over the LMB	6
Figure 2: Outlook of wet and dry conditions over the Asian countries by ASMC	7
Figure 3: No tropical storm risk observed on 29 January 2024	7
Figure 4: Weekly rainfall distribution over the LMB during 23-29 January 2024	8
Figure 5: The key stations along LMB for river flood forecasting	10
Figure 6. Water level at the Jinghong hydrological station up to 22 January 2024	11
Figure 7: Seasonal change of inflows and outflows of Tonle Sap Lake	12
Figure 8. The seasonal change in monthly flow volume of Tonle Sap Lake	12
Figure 9: Weekly standardised precipitation index from Jan 23 to 29	14
Figure 10: Weekly Index of Soil Water Fraction from Jan 23 to 29	15
Figure 11: Weekly Combined Drought Index duing Jan 23-29	16
Figure 12: Accumulated rainfall forecast from CHIRP-GFS (23-29 January 2024)	17
Figure 13. Monthly forecast of CDI for Feb. Mar. and Apr 2024.	20

List of Tables

Table 1. The monthly of	change in the flow volume of Tonle Sap Lake	12
Table 2. Weekly River	Monitoring Bulletin	19

Key Messages

Key messages for this weekly report are presented below.

Rainfall monitoring and forecast

- In the period of 23-29 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 slightly decrease at the upper stretch of the Mekong River starting from Chiang Saen to Chiang Khan. However, the water levels from Vientiane to Pakse are expected to slightly increase, while from Stung Treng to Prek Kdam, it is precited to be decreased. The two monitoring stations (Tan Chau and Chau Doc) are expected to increase.

Drought condition and forecast

- During Jan 23-29, 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, Gia Lai, Dak Lak, and Dak Nong. It was mainly caused by extremely dry soil moistures.
- In February the LMB is likely normal and wet all over the region; March is likely to be at moderate dry over the northern and western parts; while April is likely normal and wet except Phongsaly in the north that is forecasted to be at moderately and severely dry.

-

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.

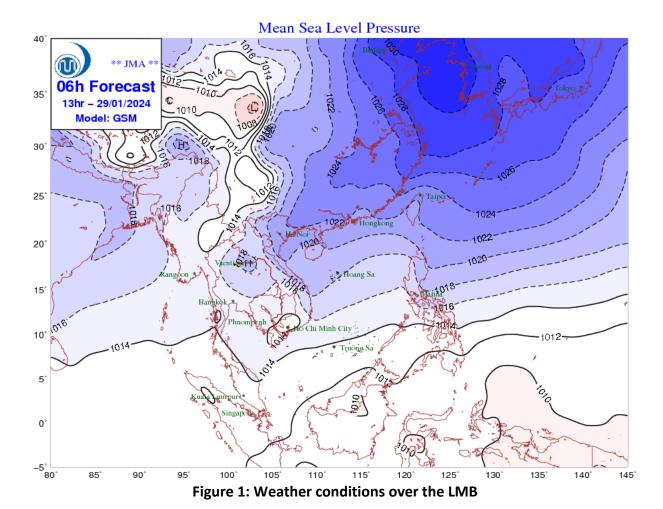
Drought monitoring and forecasting information is available at: http://droughtforecast.mrcmekong.org

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.



According to the ASEAN Specialised Meteorological Centre (ASMC, http://asmc.asean.org/home/), 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).

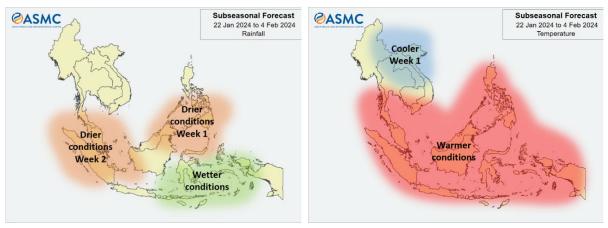


Figure 2: Outlook of wet and dry conditions over the Asian countries by ASMC.

Based on the tropical storm risk (TS) (https://www.tropicalstormrisk.com/), there is no active NW pacific system as of 29 January as displayed in **Figure 3.**

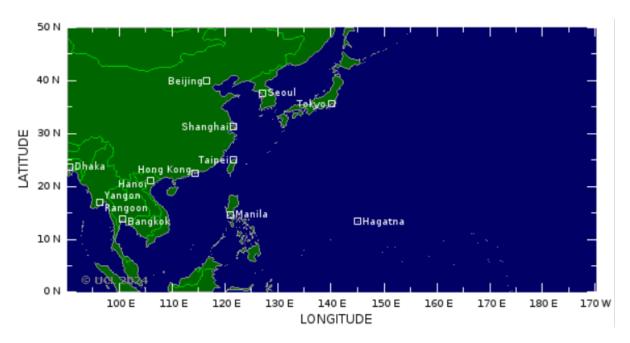


Figure 3: No tropical storm risk observed on 29 January 2024

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 23 to 29 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.

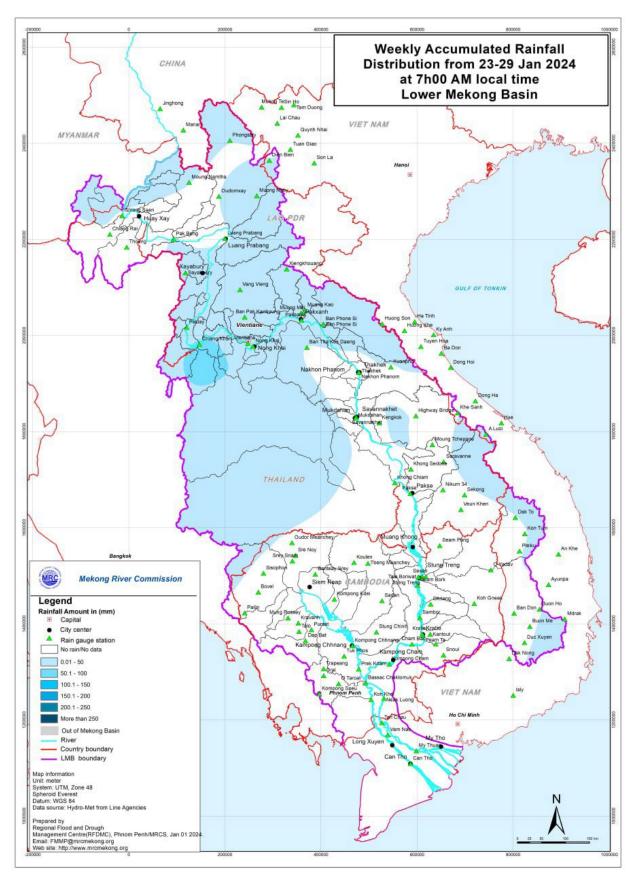


Figure 4: Weekly rainfall distribution over the LMB during 23-29 January 2024

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 23-29 January 2024, the observed water level (WL) at Jinghong hydrological station¹, was slightly fluctuated between 536.14 m and 535.23 m, which are corresponding to the outflow between 1,470.00 m³/s to 827.00 m³/s (recorded on 7:00 am), respectively (**Figure 6**). The water level in Chiang Saen station also indicated a slight fluctuation ranging from 1.88 m to 2.21 m with an increasing trend. At the same period, the water level in Luang Prabang station also slightly increased with an approximate value of 0.4 m as compared to the previous week.

During the same period, the water level observed in Chiang Khan showed an increasing trend and range from 3.81 m to 4.26 m. Similarly, the water level at both Vientiane/Nong Khai monitoring stations indicated slight increasing trends from the previous week. In Paksane monitoring station, the water level increased from 1.84 m to 2.0 m.

Further downstream, water levels from Nakhon Phanom to Pakse slightly changed with increasing trend except for Khong Chiam and Pakse, that showed decreasing trend 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 1.05-1.23 m, 2.39-2.56 m, 1.65-1.69 m, 0.75-0.84 m, 2.14-2.09 m, and 1.16-1.06 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, and Kratie stations decreased 0.2 m from the previous week. However, at Kampong Cham station, water level increased approximately 0.13 m.

The water level at Phnom Penh (Bassac), Phnom Penh Port, and Koh Khel (Bassac), Prek Kdam and Neak Luong stations varied from 2.35 to 2.35 m, 1.44 to 1.32 m, 2.42 to 2.47 m, 1.68 to 1.66 m and 2.18 to 1.82 m respectively during 23-29 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.

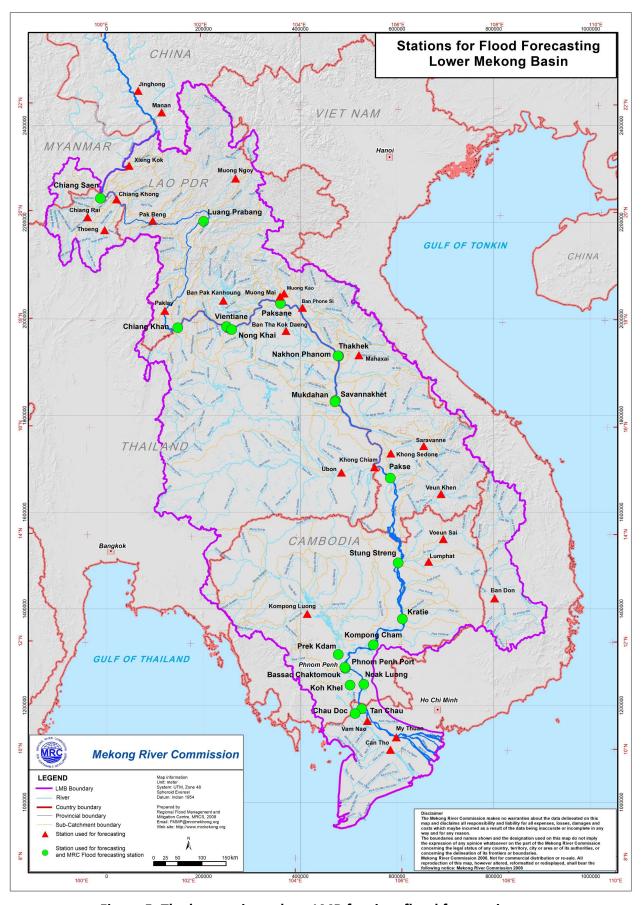


Figure 5: The key stations along LMB for river flood forecasting

Similar to the previous week, the water levels from 23 to 29 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 0.99 m and 1.01 m, while at the Chau Doc station, they ranged from 1.16 m to 0.89 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**.

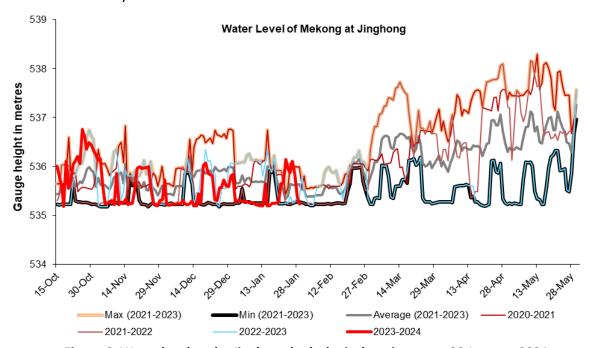


Figure 6. Water level at the Jinghong hydrological station up to 22 January 2024.

At the end of the wet season, when water levels along the Mekong River subside, the 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 23 October 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:

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

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 2020, 2021 and 2022, 2023 and their LTA level (1997-2023) are illustrated in **Figure 8**. 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 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 29 January 2024 for the Tonle Sap Lake compared with that in 2020, 2021, 2022, 2023 and their LTAs, and the fluctuation levels (1997–2023) are presented in **Table 8**. It shows that up to 22 January 2024, the water volume of the Tonle Sap Lake was lower than its LTA (about 78.58 %) and 2023 but higher than that in 2020, 2021 and 2023 during the same period (**Figure 8 and Table 1**).

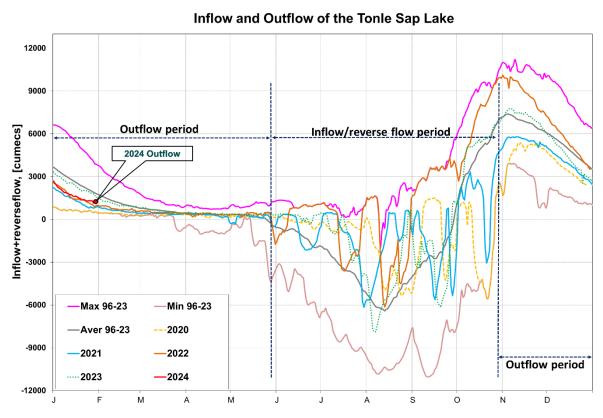


Figure 7: Seasonal change of inflows and outflows of Tonle Sap Lake.

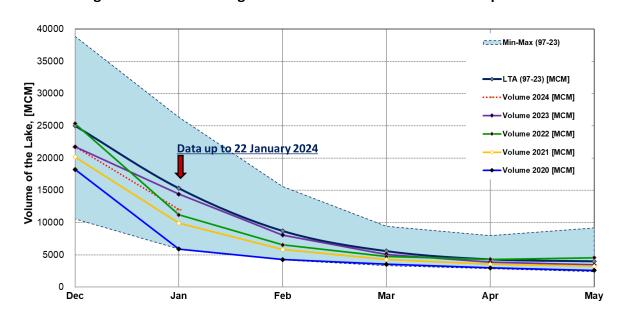


Figure 8. The seasonal change in monthly flow volume of Tonle Sap Lake.

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 5906.80 13080.39		10285.31		9923.80	11214.32	14422.11	12041.13	78.58		
Feb	8723.39 15596.22 4198.60 7302.32		6019.30		5832.97	6558.79	8069.29				
Mar	5602.68 9438.24 3347.07 4852.74					3553.99	4264.88	4736.52	5080.64		
Apr	4327.36	8009.14	2866.91	4282.78	3667.47	2992.61	3556.68	4288.31	3884.16		
May	4027.82	9176.93	2417.81	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 2925.86 14964.58				4001.99		5346.73	9703.79	9953.41		
Aug	24070.98	39015.12	4433.46	23407.37		5941.07	10547.80	19554.70	13694.57		
Sep	38787.47	65632.35	12105.31	39654.01	24194.19			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	18534.61	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	n, comapred w	vith historical M	lin values							
	Normal conditi	on, compared	with LTA (Long	term average)						
	Low volume si	tuation, comap	red with LTA v	alues							
Unit: Millio	n Cubic Meter	(1 MCM= 0.001	1 Km)		LTA:	Long-Term-Ave	erage				

4. Flash Flood in the Lower Mekong Basin

During the weekly monitoring period from 23 - 29 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 23 to 29

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 23 to 29, as shown in **Figure 9**, were normal in all parts of the region. The conditions were relatively better than the previous week from Jan 16 to 22.

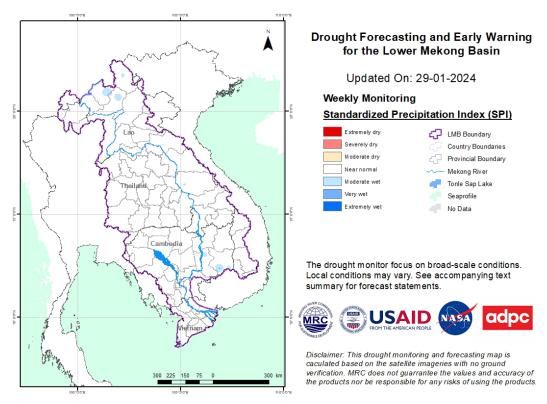


Figure 9: Weekly standardised precipitation index from Jan 23 to 29.

• Weekly Index of Soil Water Fraction (ISWF)

Soil moisture conditions from Jan 23 to 29, as displayed in **Figure 10**, were severely dry from the north to the south due to absence of rainfall. The conditions were similar to those of the previous week.

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

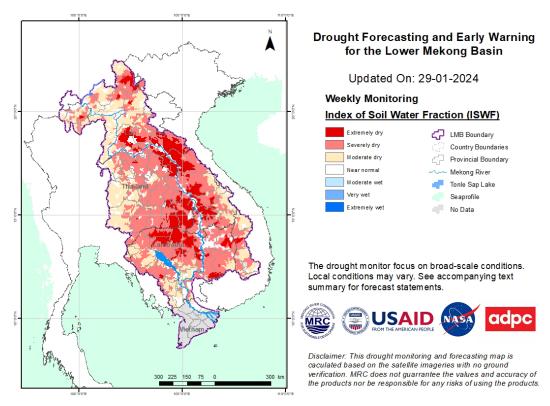


Figure 10: Weekly Index of Soil Water Fraction from Jan 23 to 29.

• Weekly Combined Drought Index (CDI)

With the dry conditions of soil moisture, the combined drought indicator (displayed in **Figure 11**) reveals that during Jan 23-29, the LMB was facing from moderate to severe drought over the middle and southern parts. The impacted areas are listed in the table below:

Numbe	Country	Province	Moderate	Severe	Extreme	Number	Country	Province	Moderate	Severe	Extreme	Numbe	Country	Province	Moderate	Severe	Extreme
1	Cambodia	Pailin				15	Cambodia	Kampong Cham				29	Thailand	Nakhon Phanom			
2	Cambodia	Battambang				16	Cambodia	Tbong Khmum				30	Thailand	Roi Et			
3	Cambodia	Banteay Meanchey				17	Lao PDR	Vientiane				31	Thailand	Yasothon			
4	Cambodia	Siem Reap				18	Lao PDR	Xaysom boun				32	Thailand	Amnat Charoen			
5	Cambodia	Pursat				19	Lao PDR	Borikhamxay				33	Thailand	Ubon Ratchathani			
6	Cambodia	Otdar Meanchey				20	Lao PDR	Khammuane				34	Thailand	Si Sa Ket			
7	Cambodia	Preah Vihear				21	Lao PDR	Savanakhet				35	Thailand	Surin			
8	Cambodia	Kampong Thom				22	Lao PDR	Saravane				36	Thailand	Buri Ram			
9	Cambodia	Kampong Chhang				23	Lao PDR	Champasack				37	Thailand	Bueng Kan			
10	Cambodia	Kampong Speu				24	Lao PDR	Xekong				38	Thailand	Nakhon Ratchasima			
11	Cambodia	Stung Treng				25	Lao PDR	Attapeu				39	Viet Nam	Kon Tum			
12	Cambodia	Mondulkiri				26	Lao PDR	Phongsaly				40	Viet Nam	Gia Lai			
13	Cambodia	Ratanakiri				27	Lao PDR	Luang Prabang				41	Viet Nam	Dak Lak			
14	Cambodia	Kratie				28	Thailand	Sakon Nakhon				42	Viet Nam	Dak Nong			
														Moderate		Severe	
														Severe		Exceptional	

List of the impacted areas by the Combined Drought Indicator duing Jan 23-29.

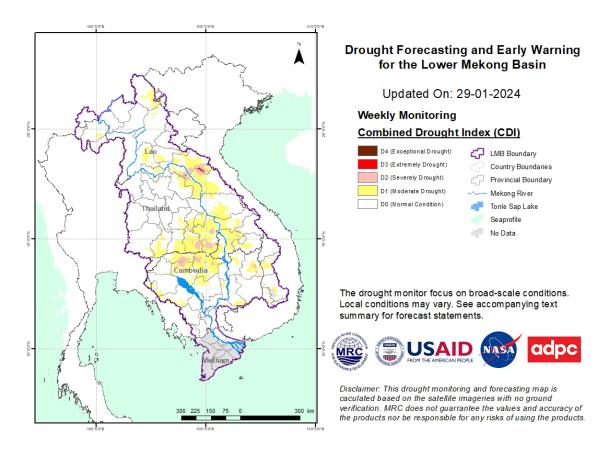


Figure 11: Weekly Combined Drought Index duing Jan 23-29.

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**).

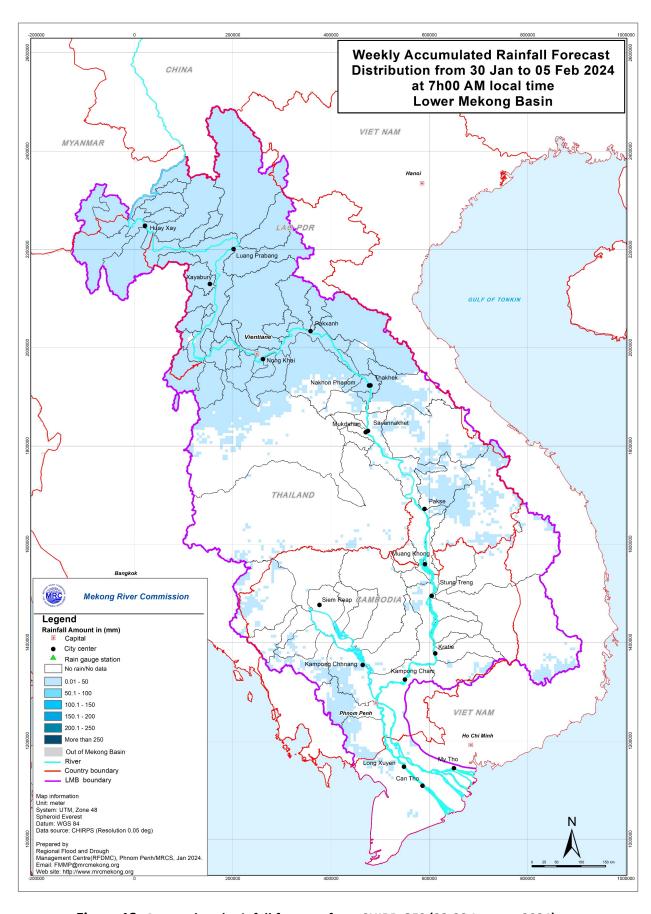


Figure 12: Accumulated rainfall forecast from CHIRP-GFS (23-29 January 2024)

6.2 Water level forecast

In Chiang Saen monitoring station, the water level is expected to be fluctuated over the forecasting period of 30 January - 05 January 2024. However, it will slightly decrease from 2.21 m to 2.00 m. The water level in Luang Prabang stations affected by backwater is likely slightly decreasing from 9.06 to 8.99 m. Similarly, at Chiang Khan monitoring station, the water level likely decreases approximately 0.02 m in the next 7 days. However, moving down to the monitoring stations at Vientiane, Nongkhai, Paksane, Nakhon Phanom, thakhek, Mukdahan, Savannakhet, Khong Chiam and Pakse, the water levels are expected to slightly increase during the forecast period with values of 0.01 m, 0.01 m, 0.22, 0.15 m, 0.17 m, 0.15, 0.52, 0.18 m, and 0.17 m respectively. However, at monitoring stations starting from Stung Treng to Prek kdam, the water levels are predicted to slightly drop in the next seven days ranging from 0.02 m to 0.28 m. For the Tan Chau station on the Mekong River and Chau Doc station on the Bassac River, water levels will slightly rise approximately 2.42 m and 1.79 m, respectively, following daily tidal effects from the sea.

The weekly River Monitoring Bulletin and forecasting issued on 29 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: 30 January to 05 February 2024

Date: 29 January 2024

LOCATION	Country	Observed Rainfall (mm)			against z	d W. level ero gauge n)				Water		,	05.5
Jinhong	*0	28-Jan 28.0	-	-	28-Jan 535.38	29-Jan 535.23	30-Jan	31-Jan	U1-Feb	02-Feb	U3-Feb	04-Feb	U5-Feb
Chiang Saen		0.0	357.110	0.00	2.32	2.21	2.10	2.05	2.02	2.00	2.00	1.98	2.00
Luang Prabang		0.0	267.195	2.53	8.98	9.06	9.07	9.08	9.08	9.05	9.03	9.00	8.99
Chiang Khan		43.6	194.118	1.91	3.82	4.26	4.35	4.30	4.25	4.23	4.20	4.22	4.24
Vientiane		29.4	158.040	-0.28	1.64	1.66	1.73	1.78	1.75	1.72	1.70	1.68	1.67
Nongkhai		43.7	153.648	0.33	1.04	1.10	1.13	1.17	1.20	1.17	1.15	1.12	1.11
Paksane		29.6	142.125	0.10	1.88	2.00	2.15	2.23	2.27	2.30	2.27	2.25	2.22
Nakhon Phanom		0.0	130.961	0.18	1.21	1.23	1.29	1.33	1.38	1.40	1.43	1.40	1.38
Thakhek		0.0	129.629	1.38	2.52	2.56	2.60	2.64	2.68	2.72	2.74	2.76	2.73
Mukdahan		0.0	124.219	0.72	1.69	1.69	1.71	1.75	1.78	1.81	1.83	1.84	1.84
Savannakhet		0.0	125.410	-0.65	0.83	0.84	0.87	0.98	1.00	1.28	1.35	1.39	1.36
Khong Chiam		0.0	89.030	1.02	2.06	2.09	2.11	2.13	2.16	2.19	2.22	2.25	2.27
Pakse		0.0	86.490	0.03	1.03	1.06	1.10	1.13	1.15	1.18	1.20	1.22	1.23
Stung Treng	Add.	0.0	36.790	0.32	2.60	2.60	2.60	2.60	2.59	2.58	2.58	2.57	2.58
Kratie	Ala	0.0	-1.080	3.06	7.27	7.20	7.20	7.19	7.20	7.19	7.18	7.18	7.17
Kompong Cham	240	0.0	-0.930	0.65	3.02	2.98	2.93	2.89	2.86	2.84	2.83	2.82	2.82
Phnom Penh (Bassac)	2000	0.0	-1.020	1.58	2.38	2.35	2.32	2.28	2.25	2.22	2.20	2.18	2.17
Phnom Penh Port	240	nr	0.000	0.14	1.44	1.32	1.30	1.26	1.23	1.20	1.18	1.16	1.15
Koh Khel	AMA	0.0	-1.000	1.52	2.56	2.47	2.46	2.43	2.40	2.37	2.35	2.33	2.31
Neak Luong	AN	0.0	-0.330	0.81	1.92	1.82	1.78	1.75	1.73	1.71	1.69	1.68	1.67
Prek Kdam	AMA	0.0	0.080	0.58	1.63	1.66	1.61	1.55	1.50	1.46	1.43	1.40	1.38
Tan Chau	*	0.0	0.000	-0.37	1.32	1.01	-0.21	0.48	1.69	2.58	3.03	3.29	3.43
Chau Doc	*	nr	0.000	-0.60	1.56	0.89	-0.45	0.43	0.07	1.68	2.14	2.50	2.68

REMARKS:

River Flood Forecaster

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

^{-:} not available.

^{*:} reference stations without forecast.

nr: no rain.

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 February, March, and April 2024 over the LMB area.

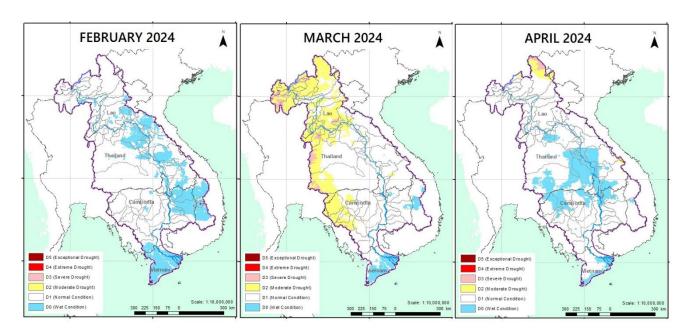


Figure 13. Monthly forecast of CDI for Feb, Mar, and Apr 2024.

Figure 18 above shows that in February the LMB is likely normal and wet all over the region; March is likely to be at moderate dry over the northern and western parts; while April is likely normal and wet except Phongsaly in the north that is forecasted to be at moderately and severely dry.

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 30 January to 05 February 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 slightly decrease at the upper stretch of the Mekong River starting from Chiang Saen to Chiang Khan. However, the water levels from Vientiane to Pakse are expected to slightly increase, while from Stung Treng to Prek Kdam, it is precited to be decreased. The two monitoring stations (Tan Chau and Chau Doc) are expected to increase.

7.3 Flash flood and its trends

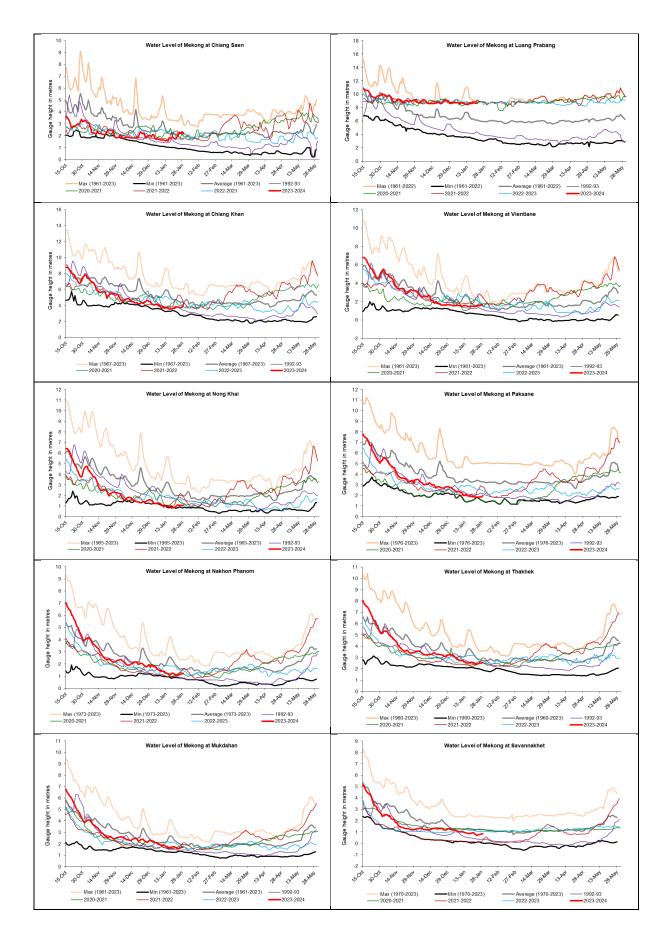
With the predicted of rainfall for the coming week as mentioned earlier in <u>section 6.1</u>, major flash floods are not likely to happen in the LMB.

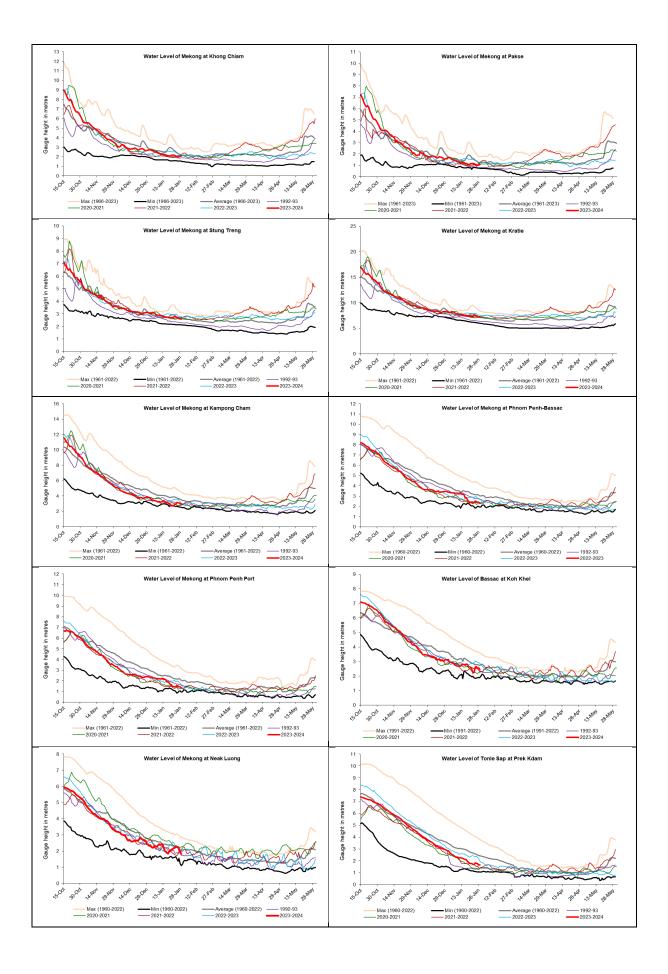
7.4 Drought condition and its forecast

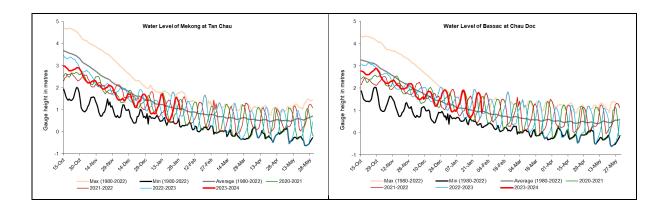
During Jan 23-29, the LMB was facing from moderate to severe drought over the middle and southern parts covering some areas of Phongsali, from Vientiane down to Attapu of Laos, Bueng Kan, Nakhon Ph anom, Roi Et, Yasothon, Amnat Charoen, Ubon Ratchathani, Si Sa Ket, Buri Ram, Surin, Otdar Meanchey, Siem Reap, Preah Vihear, Kampong Thom, Stung Treng, Battambang, Pursat, Ratanakiri, Kratie, Tbong Khmum, Mondulkiri, Gia Lai, Dak Lak, and Dak Nong.

In February the LMB is likely normal and wet all over the region; March is likely to be at moderate dry over the northern and western parts; while April is likely normal and wet except Phongsaly in the north that is forecasted to be at moderately and severely dry.

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
23-01-2024	536.14	1.88	8.60	3.81	1.48	1.05	1.84	1.05	2.39	1.65	0.75	2.14	1.16	2.81	7.40	2.85	2.35	1.44	2.22	2.18	1.68	0.99	1.16
24-01-2024	535.94	2.06	8.52	3.82	1.51	1.11	1.84	1.11	2.43	1.54	0.70	2.08	1.15	2.78	7.60	2.95	2.36	1.45	2.26	2.28	1.71	1.29	1.51
25-01-2024	535.87	2.31	8.56	3.78	1.54	1.08	1.82	1.15	2.47	1.58	0.74	2.02	1.08	2.70	7.57	3.15	2.51	1.58	2.62	2.24	1.81	1.50	1.74
26-01-2024	536.10	2.23	8.70	3.75	1.57	1.08	1.84	1.16	2.49	1.61	0.77	2.01	0.98	2.66	7.42	3.12	2.47	1.53	2.64	2.24	1.79	1.56	1.80
27-01-2024	535.83	2.18	8.92	3.76	1.59	1.06	1.85	1.19	2.50	1.65	0.80	2.04	1.00	2.63	7.32	3.08	2.41	1.47	2.54	2.10	1.77	1.45	1.74
28-01-2024	535.38	2.32	8.98	3.82	1.64	1.04	1.88	1.21	2.52	1.69	0.83	2.06	1.03	2.60	7.27	3.02	2.38	1.44	2.56	1.92	1.63	1.32	1.56
29-01-2024	535.23	2.21	9.06	4.26	1.66	1.10	2.00	1.23	2.56	1.69	0.84	2.09	1.06	2.60	7.20	2.98	2.35	1.32	2.47	1.82	1.66	1.01	0.89

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
23-01-2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
24-01-2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
25-01-2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
26-01-2024	0	0	0	1.5	2.9	0	1.6	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
27-01-2024	0	0	0	5.2	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
28-01-2024	0	0	0	5.5	0.3	0	0.6	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
29-01-2024	0	0	0	43.6	29.4	43.7	29.6	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Sum	0.0	0.0	0.0	55.8	32.6	43.7	31.8	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



Mekong River Commission Secretariat