



**India Meteorological Department
(Ministry of Earth Sciences)**

NATIONAL BULLETIN NO.22 (BOB/01/2024)

TIME OF ISSUE: 1230 HOURS IST

DATED: 27.05.2024

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Sub: Cyclonic Storm “Remal” (pronounced as “Re-Mal”) over Coastal Bangladesh and adjoining Coastal West Bengal

The Cyclonic Storm “Remal” (pronounced as “Re-Mal”) over Coastal Bangladesh and adjoining Coastal West Bengal moved nearly northwards, with a speed of 15 kmph during past 06 hours and lay centered at 0830 hrs IST of today, the 27th May, 2024 over the same region, near **latitude 22.8°N** and **longitude 89.3°E** about 40 km northwest of Mongla (Bangladesh), 90 km east of Kolkata (West Bengal), 90 km northeast of Canning (West Bengal), 130 km northwest of Khepupara (Bangladesh) and 140 km southwest of Dhaka (Bangladesh)

The system is likely to move north-northeastwards, and gradually weaken further into Deep Depression by afternoon of today, the 27th May 2024.

Forecast track and intensity are given in the following table:

Date/Time (IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
27.05.24/0830	22.8/89.3	75-85 gusting to 95	Cyclonic Storm
27.05.24/1130	23.2/89.5	60-70 gusting to 80	Cyclonic Storm
27.05.24/1730	23.8/90.0	50-60 gusting to 70	Deep Depression
27.05.24/2330	24.4/90.5	40-50 gusting to 60	Depression
28.05.24/0530	25.1/91.2	35-45 gusting to 55	Depression
28.05.24/1730	26.5/92.6	20-30 gusting to 40	Well Marked Low Pressure Area

Warnings (Graphics Attached):

Heavy Rainfall Warning:

- (a) **West Bengal:** Light to moderate rainfall at most places with **heavy to very heavy rainfall** at a few places is likely over coastal and eastern districts of Gangetic West Bengal adjacent to Bangladesh on 27th May.
Light to moderate rainfall at most places with **heavy to very heavy rainfall** at a few places likely over eastern districts of Sub-Himalayan West Bengal on 27th and 28th May.
- (b) **Northeastern States:** Light to moderate rainfall at most places with **heavy to very heavy rainfall** at a few places is likely over Assam, Meghalaya, Arunachal Pradesh, Nagaland, Mizoram, Manipur & Tripura on 27th & 28th May. Isolated **extremely heavy rainfall** (≥ 20 cm) is also likely over Assam, Meghalaya, Mizoram & Tripura on 27th, and Arunachal Pradesh on 28th May.

Wind Warning:

(a) Bay of Bengal

- ❖ **Gale wind speed reaching 70-80 kmph gusting to 90 kmph** is prevailing over North Bay of Bengal. It is likely to decrease becoming squally wind speed reaching 45-55 kmph gusting to 65 kmph by evening of 27th May.
- ❖ **Squally wind speed reaching 40-50 kmph gusting to 60 kmph** will continue to prevail over adjoining central Bay of Bengal till afternoon of 27th May.

(b) Along & off Bangladesh and West Bengal coasts

- ❖ **Gale wind speed reaching 70-80 kmph gusting to 90 kmph** will continue to prevail along & off Bangladesh and adjoining West Bengal coasts during next 3 hours. It is likely to decrease becoming squally wind reaching 45-55 kmph gusting to 65 kmph by evening of 27th May and decrease gradually thereafter.
- ❖ **Gale wind speed reaching 60-70 kmph gusting to 80 kmph** will continue to prevail over Howrah, Hoogly, Kolkata & Nadia and squally wind speed reaching 50-60 gusting to 70 kmph over East Medinipur during next 3 hours. The wind speed would decrease over these regions gradually thereafter.

(c) Along & off North Odisha coasts

Squally wind speed reaching 40-50 kmph gusting to 60 kmph is likely to prevail during next 6 hours and decrease thereafter.

(d) Northeastern States

Squally wind speed reaching 50-60 kmph gusting to 70 kmph is likely over South Assam and Meghalaya, Tripura and **40-50 kmph gusting to 60 kmph** is likely over & Mizoram, Manipur and remaining parts of Assam on 27th May. It would reduce to 40-50 gusting to 60 kmph over Assam & Meghalaya till noon of 28th May.

Sea condition warning:

(a) North Bay of Bengal

High Sea condition is likely over North Bay of Bengal till afternoon and gradually improve becoming very rough to rough thereafter till night of 27th May. It would improve thereafter.

(b) Along & off Bangladesh and West Bengal coasts

High sea condition is likely along & off Bangladesh and West Bengal coasts till afternoon and gradually improve becoming very rough to rough thereafter till 27th May night. It would improve thereafter.

(c) Along & off North Odisha coast

Rough sea condition is likely along & off North Odisha coast during next 6 hours and improve thereafter.

(d) Central Bay of Bengal

Rough sea condition is likely to prevail over central Bay of Bengal during next 6 hours and improve thereafter.

Damage Expected over West Bengal (South & North 24 Parganas, Howrah, Hoogly, Kolkata, Nadia, Murshidabad districts) and Northeastern States (Assam, Meghalaya, Manipur, Tripura, Mizoram)

- Damage to vulnerable structures and thatched houses/ huts.
- Unattached metal sheets may fly.
- Breaking of tree branches, uprooting of small trees. Damage to banana and papaya trees.
- Partial damage to power and communication lines due to breaking of branches and uprooting of small trees.
- Damage to Kutcha and minor damage to Pucca roads due to heavy rain.
- Damage to paddy crops, horticultural crops and orchards.
- Inundation of low-lying areas and localized flooding
- Occasional reduction in visibility due to heavy rainfall.
- Disruption of traffic due to water logging and squally winds

Action Suggested for Damage Expected over West Bengal (South & North 24 Parganas, Howrah, Hoogly, Kolkata, Nadia, Murshidabad districts) and Northeastern States (Assam, Meghalaya, Manipur, Tripura, Mizoram) on 27th May:

- People in vulnerable areas to move to safer places.
- People in affected areas to remain indoors.
- Total suspension of fishing operations on 27th May.
- Surface transport and shipping Onshore & Offshore operations over North Bay of Bengal need to be regulated till afternoon of 27th May
- Avoid going to areas that face the water logging problems often.

Fishermen Warning (graphics attached):

Fishermen are advised not to venture into North Bay of Bengal along and off West Bengal and Bangladesh coasts till 27th May evening.

The system is under continuous surveillance and the next message will be issued at 1430 hours IST of today, the 27th May, 2024.

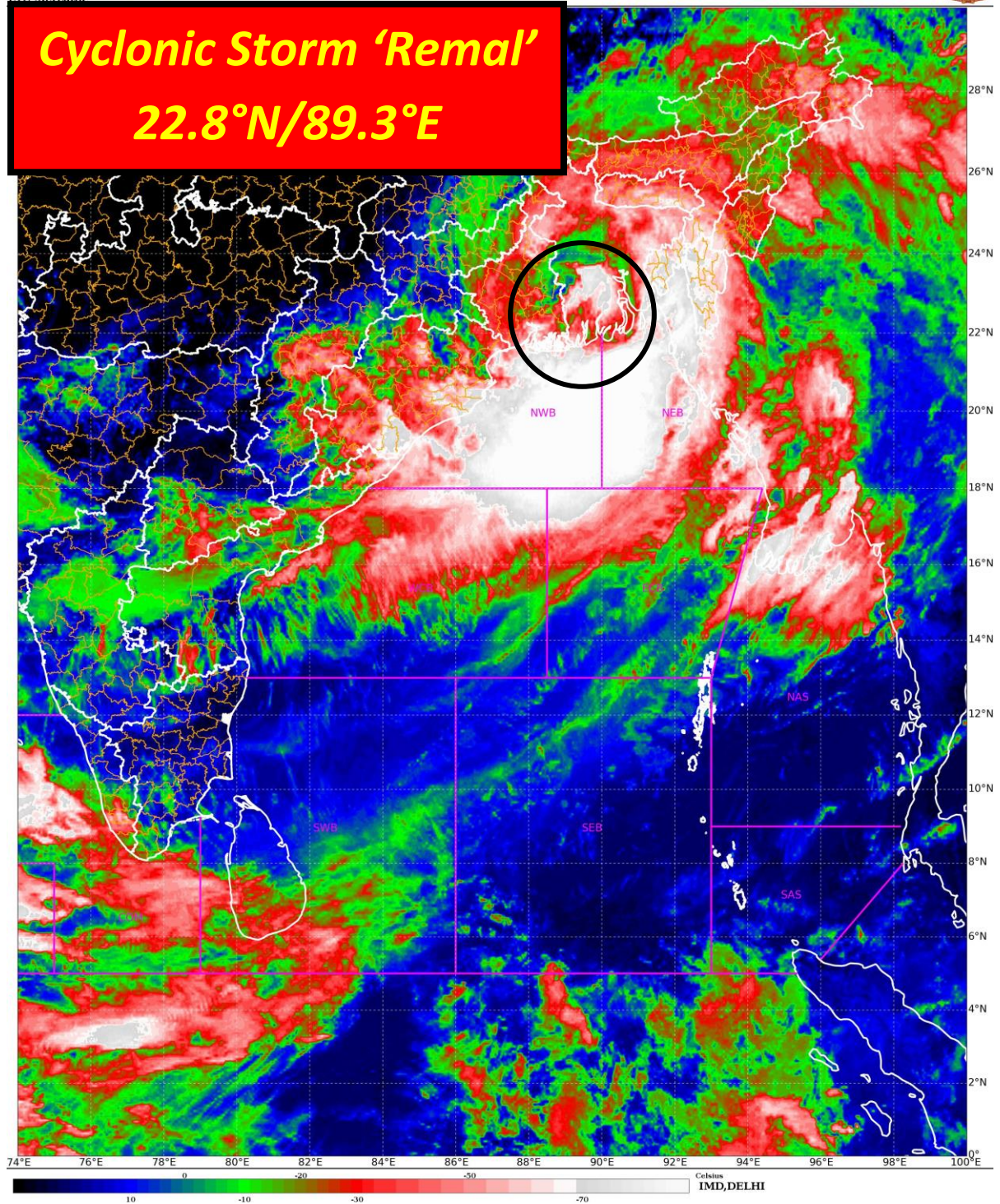
(S. P. Singh)

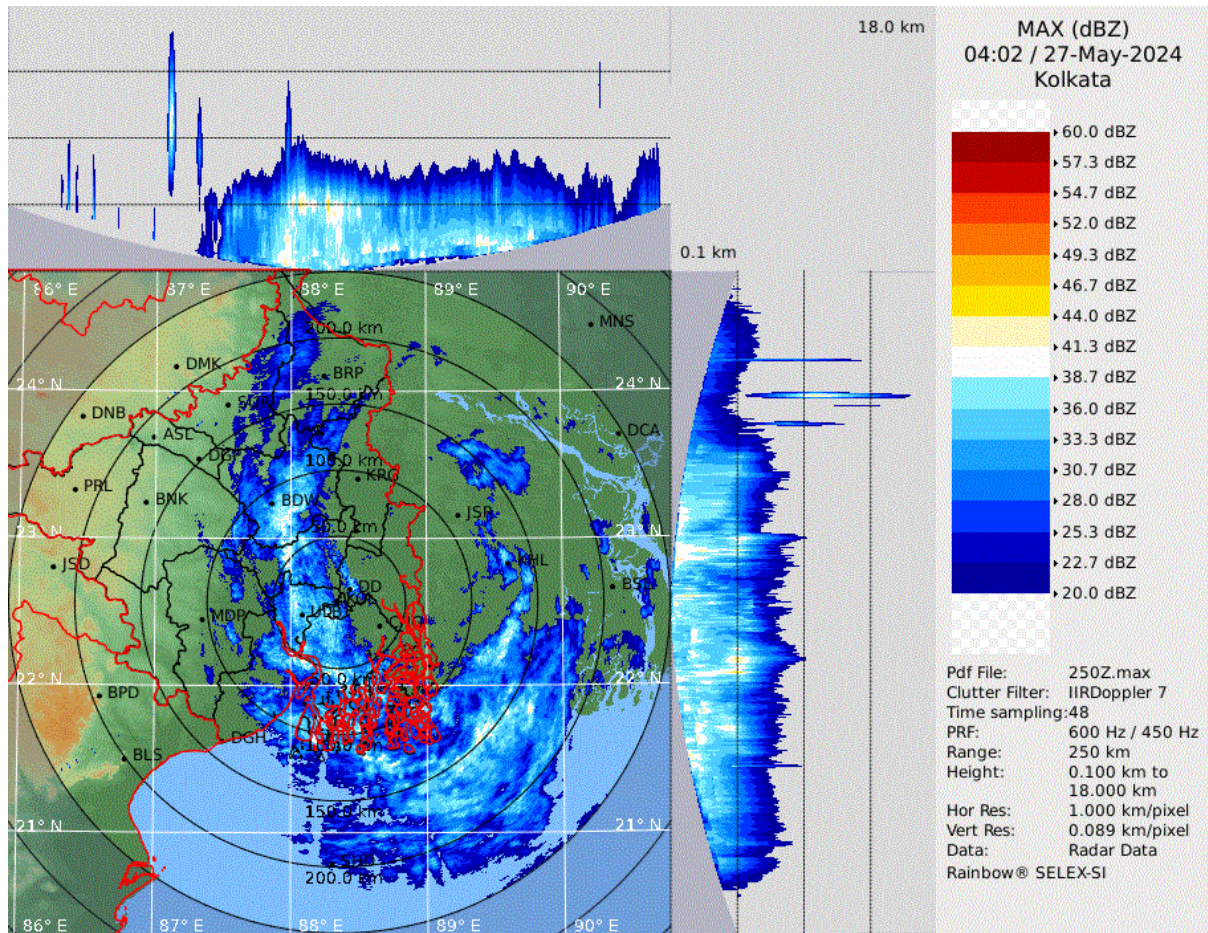
Scientist C, Cyclone Warning Division, New Delhi

Copy to: ACWC Kolkata/ ACWC Chennai/ CWC Bhubaneswar/CWC Visakhapatnam/MO Port Blair/RMC Guwahati

SAT : INSAT-3D IMG
IMG_TIR1_TEMP 10.8 um
L1C Mercator

27-05-2024/(0400 to 0427) GMT
27-05-2024/(0930 to 0957) IST

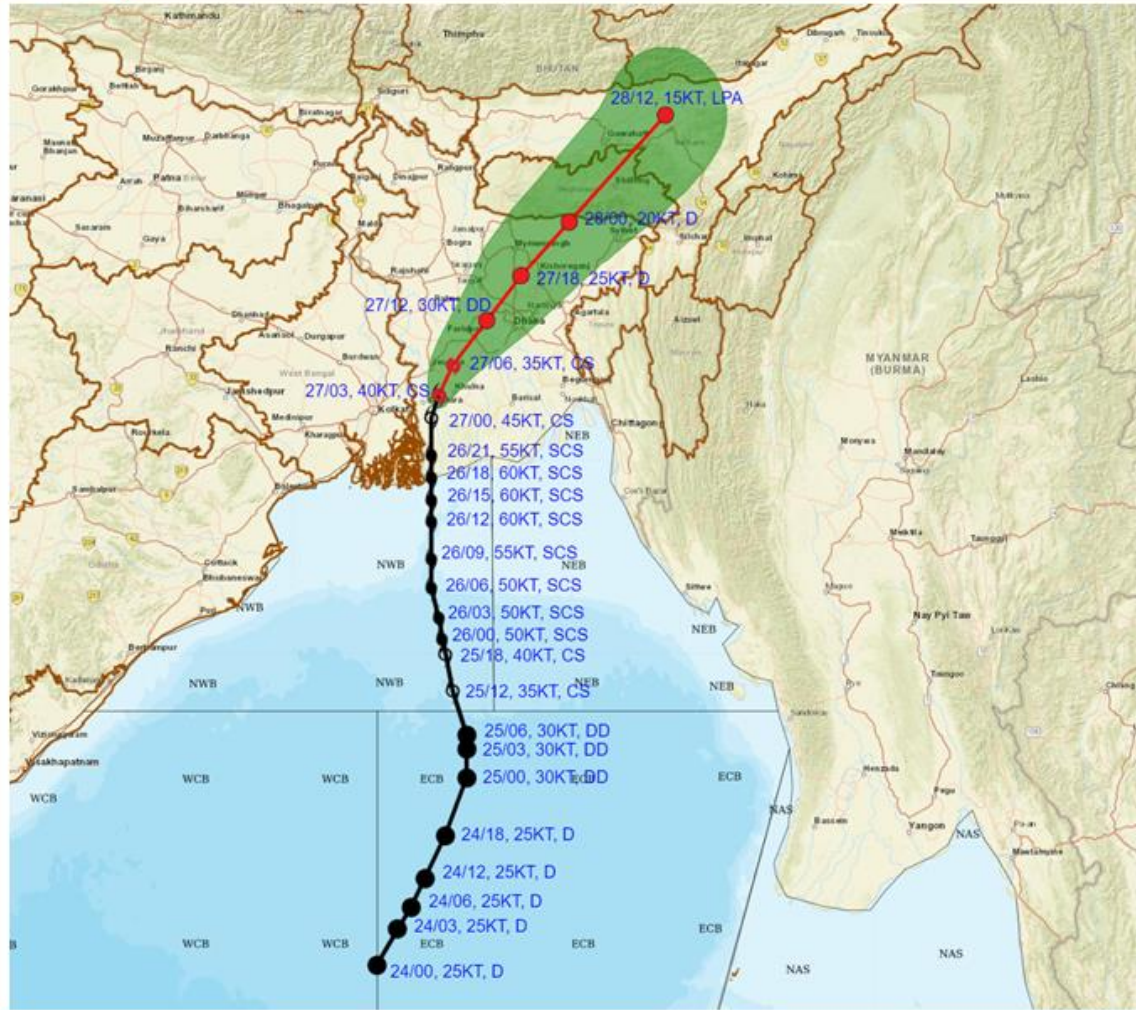




Kolkata Radar Image 0930 hrs IST of today, the 27th May



FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY IN ASSOCIATION WITH CYCLONIC STORM 'REMAL' OVER COASTAL BANGLADESH AND ADJOINING COASTAL WEST BENGAL BASED ON 0300 UTC (0830 IST) OF 27TH MAY 2024.



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63KT)

VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)

ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT

○ 34-47 KT

⊙ ≥ 48 KT

— OBSERVED TRACK

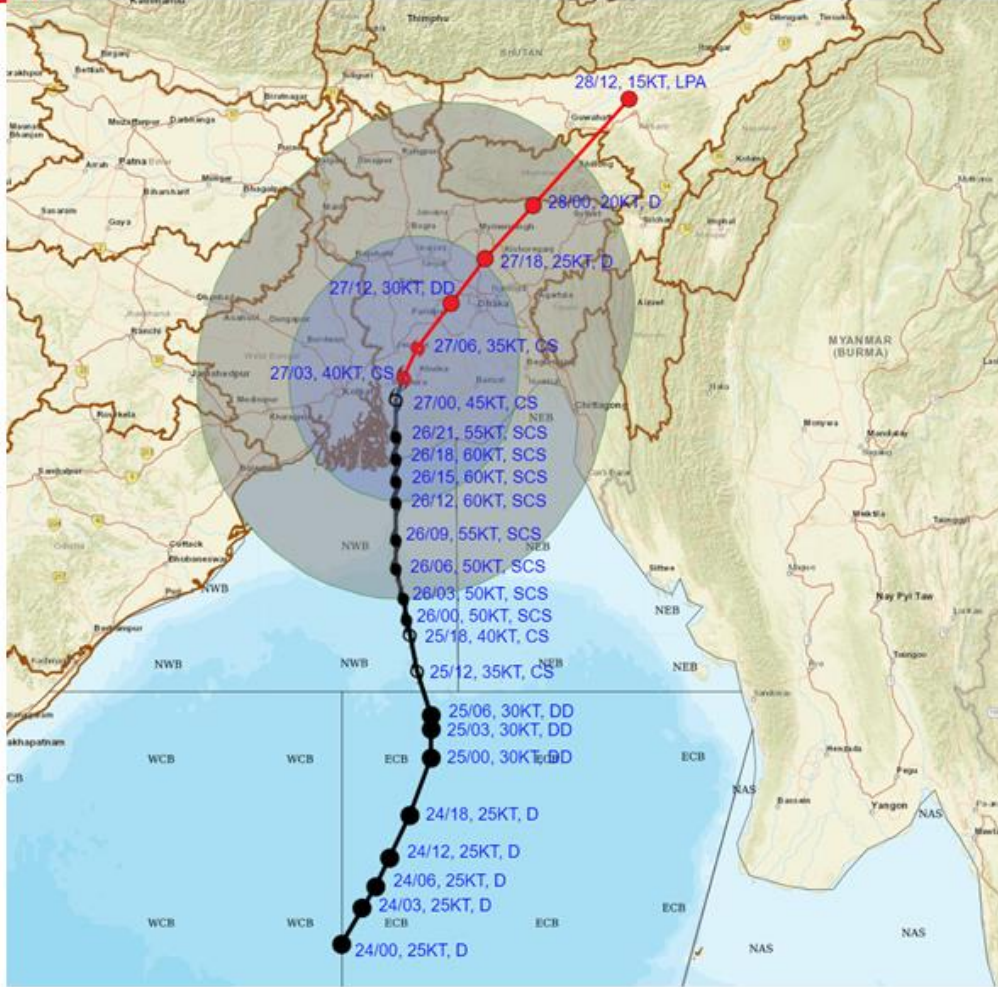
— FORECAST TRACK

▲ CONE OF UNCERTAINTY

Forecast	DISTANCE (KM) AND DIRECTION FROM STATIONS			
Date and Time (UTC)	Canning	Khepupara	Sagar Island	Mongla
27.05.24/0300	90, NE	140, NW	190, NE	40, NW
27.05.24/0600	140, NE	160, NNW	230, NE	70, N



FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION IN ASSOCIATION WITH CYCLONIC STORM 'REMAL' OVER COASTAL BANGLADESH AND ADJOINING COASTAL WEST BENGAL BASED ON 0300 UTC (0830 IST) OF 27TH MAY 2024.



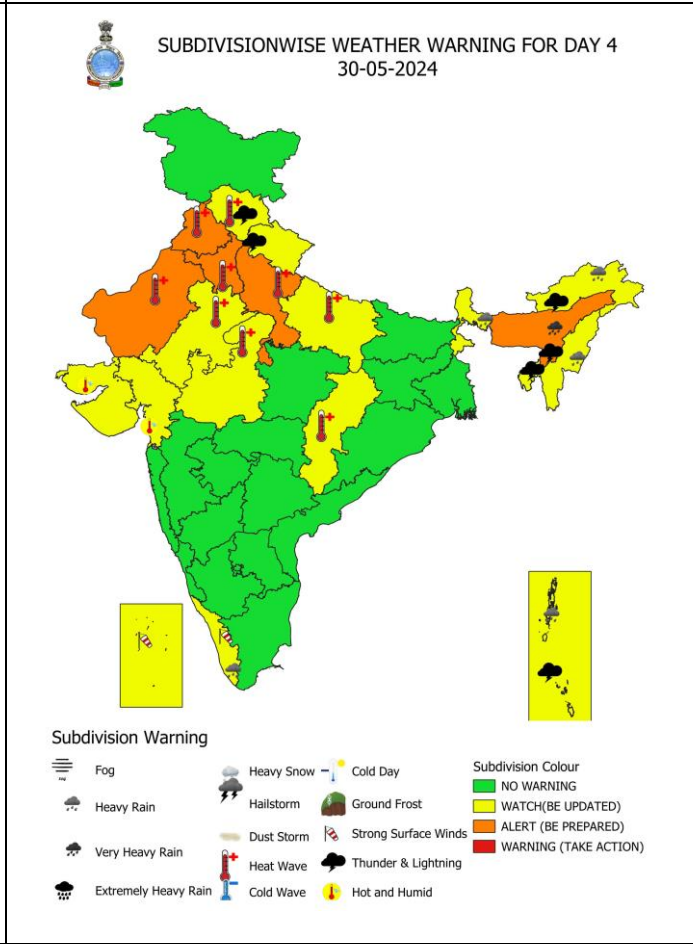
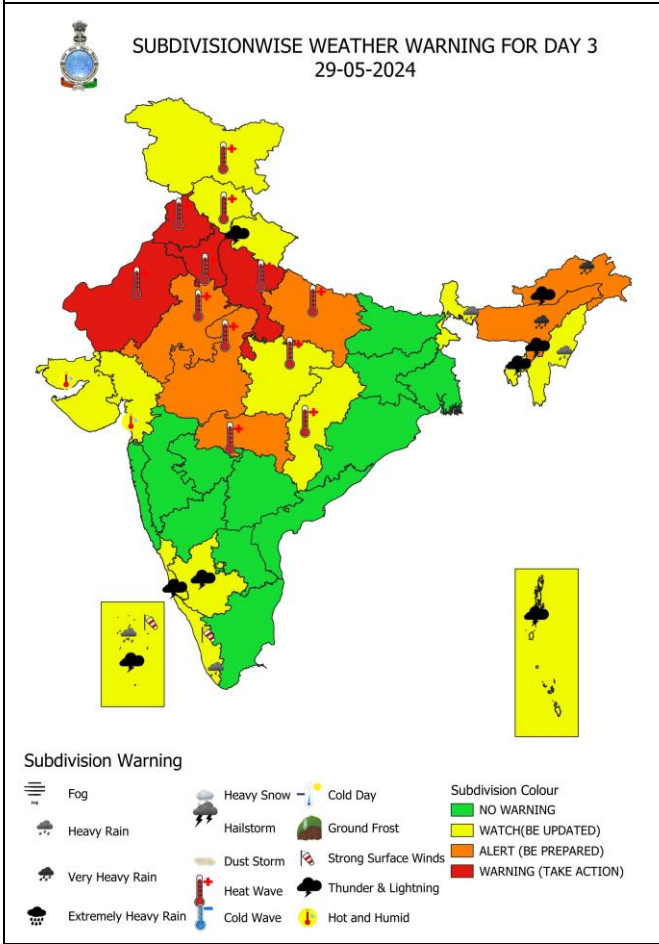
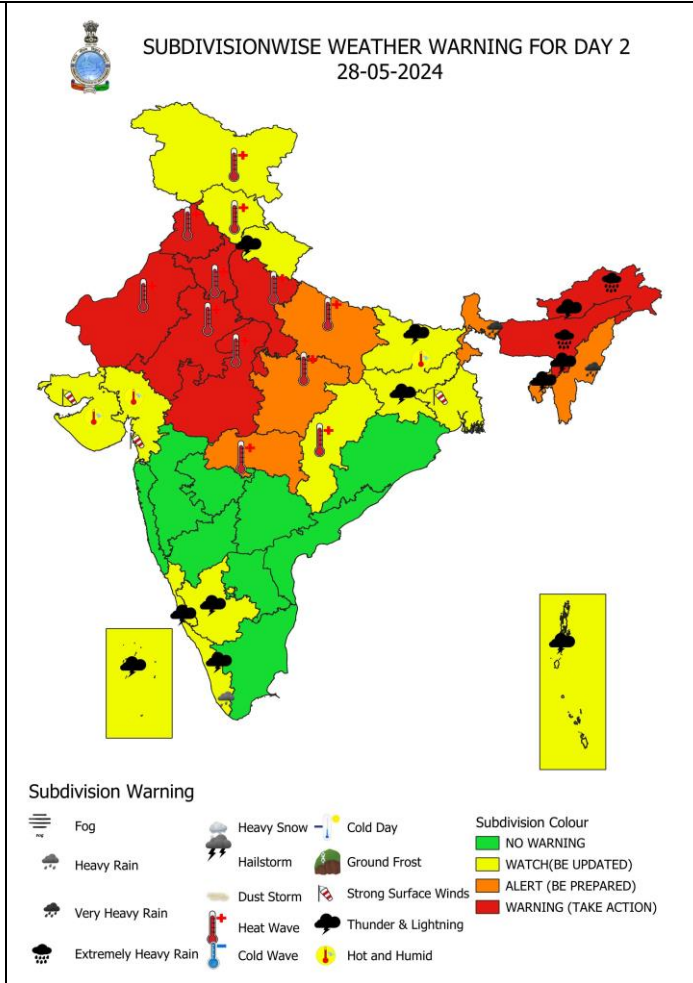
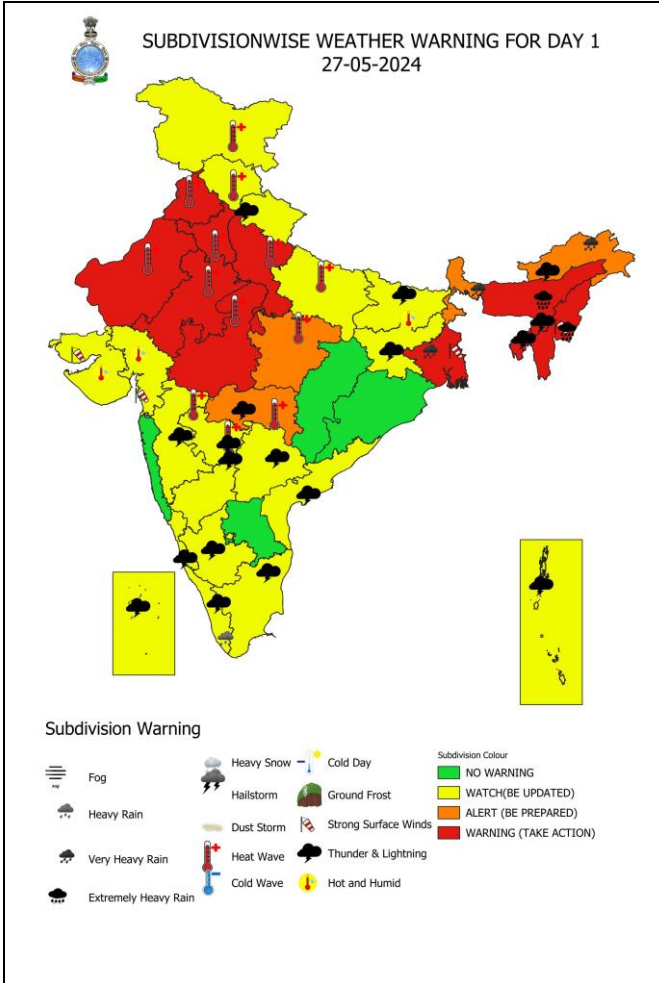
DATE/TIME IN UTC
 IST=UTC + 0530
 L: LOW PRESSURE AREA
 WML: WELL MARKED LOW PRESSURE AREA
 D: DEPRESSION (17-27 KT)
 DD: DEEP DEPRESSION (28-33 KT)
 CS: CYCLONIC STORM (34.47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63KT)
 VSCTS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
 SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT
 ○ 34.47 KT
 ● ≥ 48 KT
 — OBSERVED TRACK
 — FORECAST TRACK
 — CONE OF UNCERTAINTY
 AREA OF MAXIMUM SUSTAINED WIND SPEED:
 28-33 KT (52-61 KMPH)
 34-49 KT (62-91 KMPH)
 50-63 KT (92-117 KMPH)
 ≥ 64 KT (≥118 KMPH)

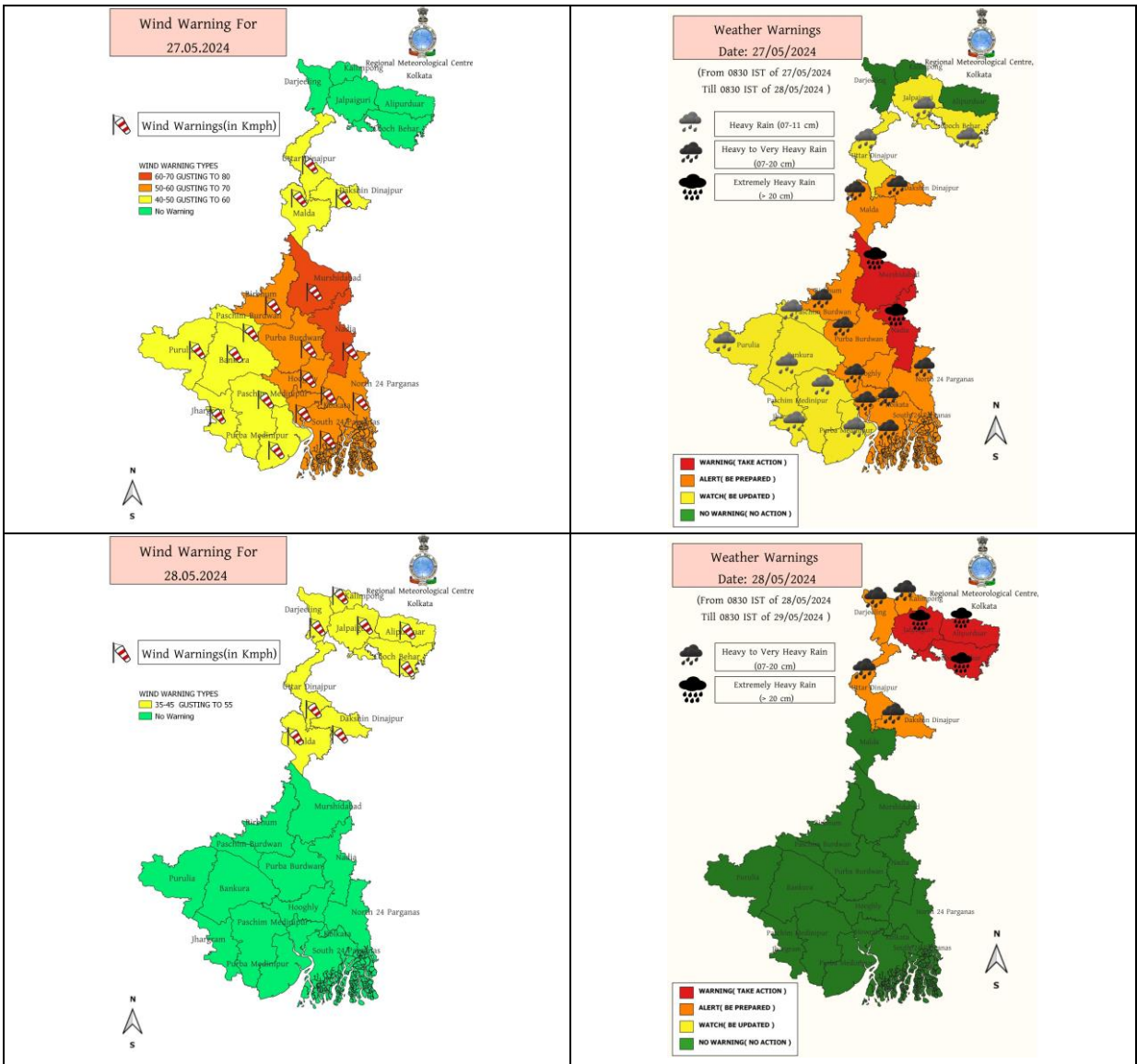
IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

All India Warning Graphics



Warning Graphics of West Bengal

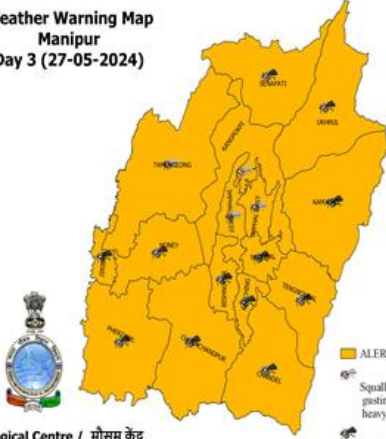


Warning Graphics of North-eastern States of India

MANIPUR

**Weather Warning Map
Manipur
Day 3 (27-05-2024)**

Issue Date:
25-05-2024



Warning

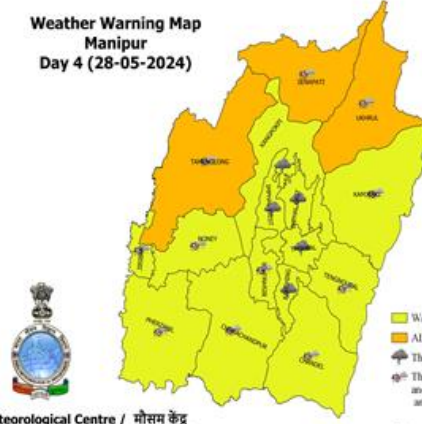
ALERT (BE PREPARED)

- ☁️ Squally wind with wind speed 40 to 50 kmph gusting to 60 kmph and heavy rain is very likely at isolated places
- ☁️ Squally wind with wind speed 40 to 50 kmph gusting to 60 kmph and very heavy rain is very likely at isolated places

Meteorological Centre / मौसम केंद्र
Imphal - 795140 / इम्फाल- 795140

**Weather Warning Map
Manipur
Day 4 (28-05-2024)**

Issue Date:
25-05-2024



Warning

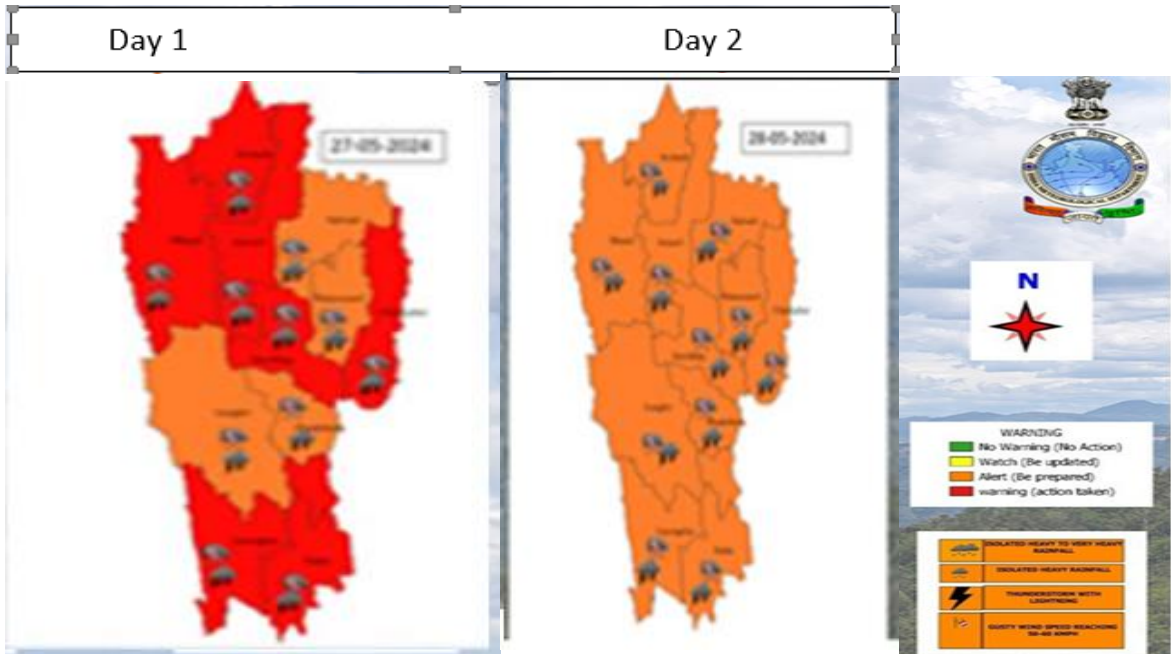
WATCH (BE UPDATED)
ALERT (BE PREPARED)

- ☁️ Thunder
- ☁️ Thunderstorm with lightning and gusty with wind speed 30 to 40 kmph and heavy rain very likely at isolated places.
- ☁️ Squally wind with wind speed 40 to 50 kmph gusting to 60 kmph and heavy rain is very likely at isolated places

Meteorological Centre / मौसम केंद्र
Imphal - 795140 / इम्फाल- 795140

Issue Date:

MIZORAM



TRIPURA

সতর্কতা
27-05-2024
(Valid from 0830 hrs IST of 27.05.2024 to 0830 hrs IST of 28.05.2024)

আগরতলা আবহাওয়া কেন্দ্র
METEOROLOGICAL CENTER AGARTALA



WARNING

- No Warning (No Action)
- Watch (Be updated)
- Alert (Be prepared)
- Warning (action taken)

	ISOLATED EXTREMELY HEAVY RAINFALL
	ISOLATED HEAVY TO VERY HEAVY RAINFALL
	ISOLATED HEAVY RAINFALL
	THUNDERSTORM WITH LIGHTNING
	ISOLATED WIND SPEED REACHING 30-40 KMPH GUSTING TO 50 KMPH

সতর্কতা
28-05-2024
(Valid from 0830 hrs IST of 28.05.2024 to 0830 hrs IST of 29.05.2024)

আগরতলা আবহাওয়া কেন্দ্র
METEOROLOGICAL CENTER AGARTALA



WARNING

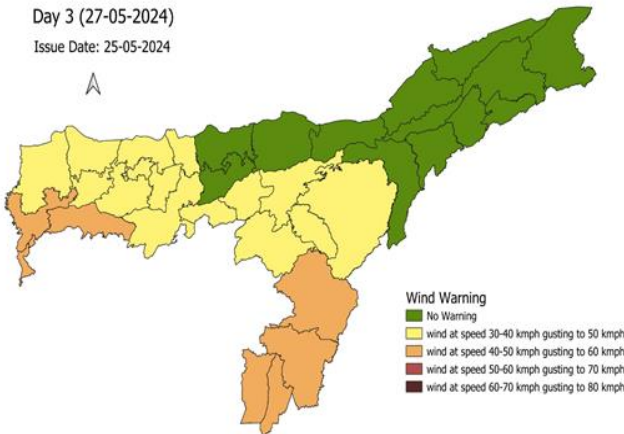
- No Warning (No Action)
- Watch (Be updated)
- Alert (Be prepared)
- Warning (action taken)

	ISOLATED HEAVY TO VERY HEAVY RAINFALL
	ISOLATED HEAVY RAINFALL
	THUNDERSTORM WITH LIGHTNING
	GUSTY WIND SPEED REACHING 40-50 KMPH

ASSAM

DISTRICT LEVEL WIND WARNING : ASSAM

Day 3 (27-05-2024)
Issue Date: 25-05-2024



Wind Warning

- No Warning
- wind at speed 30-40 kmph gusting to 50 kmph
- wind at speed 40-50 kmph gusting to 60 kmph
- wind at speed 50-60 kmph gusting to 70 kmph
- wind at speed 60-70 kmph gusting to 80 kmph

MEGHALAYA

Weather Warning Map
Meghalaya
Day-2 (27-05-2024)
Issue Date: 26-05-2024



Weather Warning Map
Meghalaya
Day-3 (28-05-2024)
Issue Date: 26-05-2024



Fishermen Warning Graphics

Day 1: 27.05.2024/05:30 AM to 28.05.2024/05:30AM



Day 2: 28.05.2024/05:30AM to 29.05.2024/05:30AM



Day 3: 29.05.2024/05:30AM to 30.05.2024/05:30AM








Day 4: 30.05.2024/05:30AM to 31.05.2024/05:30AM



Day 5: 31.05.2024/05:30AM to 01.06.2024/05:30AM



	Squally WX with wind speed 35-45 kmph gusting to 55 kmph
	Squally WX with wind speed 45-55 kmph gusting to 65 kmph
	Squally wind with speed 45-55 kmph gusting to 65 kmph
	Squally wind with speed 50-60 kmph gusting to 70 kmph
	CS with Gale wind speed 60-90 kmph gusting to 110 kmph

Fishermen are advised not to venture into the marked areas.

Wind Reported over West Bengal

MAXIMUM WIND REPORTED IN AWS STATIONS ON 26TH & 27TH MAY 2024

DISTRICT	AWS NAME	DATE	TIME	WIND DIR	WIND SPEED(KT)	MAX GUST(KT)
SOUTH TWENTY FOUR PARGANAS	CANNING	26-05-2024	16:15:00	47	21	42
SOUTH TWENTY FOUR PARGANAS	RAMKRISHNA MISSION COLLEGE	26-05-2024	20:15:00	20	14	42
HOOGHLY	DEGREE COLLEGE TARAKESWAR	27-05-2024	00:15:00	337	17	41
HOWRAH	ULUBERIA	27-05-2024	00:00:00	281	17	39
SOUTH TWENTY FOUR PARGANAS	DIAMOND HARBOUR	26-05-2024	13:45:00	7	22	37
SOUTH TWENTY FOUR PARGANAS	BARUIPUR AMFU	26-05-2024	20:00:00	333	14	37
HOWRAH	RAMSADAY COLLEGE AMTA	27-05-2024	00:15:00	297	17	36
DURGAPUR	KZI AIRPORT	26-05-2024	13:10:00	89	17	35
NADIA	KALYANI AMFU	26-05-2024	22:30:00	346	14	35
HOWRAH	KVK HOWRAH JAGATBALLAVAPUR	26-05-2024	19:30:00	325	12	35
SOUTH TWENTY FOUR PARGANAS	GANGASAGAR	26-05-2024	13:00:00	125	13	34
SOUTH TWENTY FOUR PARGANAS	NIMPITH	26-05-2024	13:00:00	42	12	34
SOUTH TWENTY FOUR PARGANAS	RAIDIGHI	26-05-2024	13:45:00	107	10	34
EAST MIDNAPORE	TAMLUK	27-05-2024	18:45:00	301	11	-

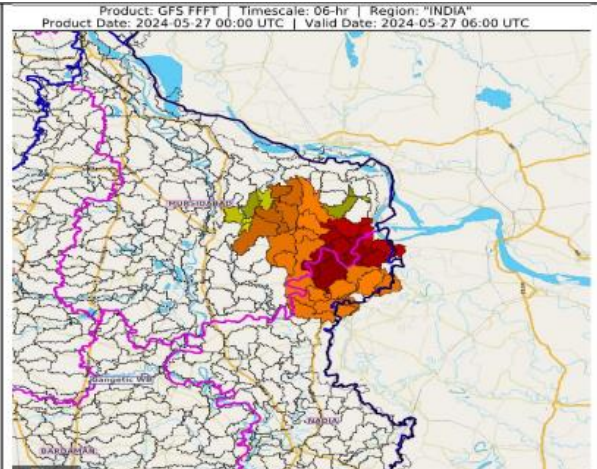
Flash Flood Guidance for West Bengal

Persistent Flash Flood Threat (PFFT) till 1130 IST of 27-05-2024 :

Low flash flood threat likely over few watersheds & neighbourhoods of following Met Sub-divisions during next 6 hours.

Gangetic West Bengal - Mursidabad and Nadia districts.

Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 6 hours.

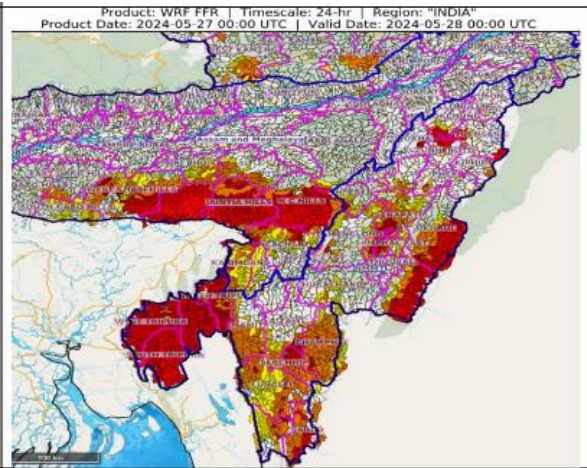


Flash Flood Guidance for Northeastern States

24 hours Outlook for the Flash Flood Risk (FFR) till 0530 IST of 28-05-2024 :

Low to Moderate flash flood risk likely over few watersheds & neighbourhoods of **Assam & Meghalaya** and NMMT Met Sub-divisions during next 24 hours.

Surface runoff/ Inundation may occur on low lying areas due to persistent rainfall under the influence of impending Cyclonic Storm "Remal" in next 24 hours.



Flash Flood Threat	Flash Flood Risk
 High Threat (Take Action)	 High Risk (Take Action)
 Moderate threat (Be Prepared)	 Moderate Risk (Be Prepared)
 Low Threat (Be Updated)	 Low Risk (Be Updated)