



India Meteorological Department
(Ministry of Earth Sciences)

NATIONAL BULLETIN NO.10 (BOB/01/2024)

TIME OF ISSUE: 2230 HOURS IST DATED: 25.05.2024
FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

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Sub: Cyclonic Storm “Remal” (pronounced as “Re-Mal”) over North & adjoining Eastcentral Bay of Bengal (Cyclone Warning for West Bengal Coast: Orange Message)

The **Cyclonic Storm “Remal” (pronounced as “Re-Mal”)** over North & adjoining Eastcentral Bay of Bengal moved nearly northwards with a speed of 11 kmph during past 06 hours and lay centered at 2030 hrs IST of today, the 25th May, 2024 near latitude 19.1°N and longitude 89.5°E over North & adjoining Eastcentral Bay of Bengal about 330 km south of Khepupara (Bangladesh), 330 km south-southeast of Sagar Islands (West Bengal), about 440 km southeast of Digha and 360 km south-southeast of Canning (West Bengal).

It is very likely to continue to move nearly northwards and intensify further into a **Severe Cyclonic Storm** by 26th May morning over North Bay of Bengal and **cross Bangladesh and adjoining West Bengal coasts between Sagar Island and Khepupara by 26th May midnight as a Severe Cyclonic Storm with wind speed of 110-120 gusting to 135 kmph.**

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
25.05.24/2030	19.1/89.5	65-75 gusting to 85	Cyclonic Storm
25.05.24/2330	19.4/89.4	75-85 gusting to 95	Cyclonic Storm
26.05.24/0530	20.0/89.4	95-105 gusting to 115	Severe Cyclonic Storm
26.05.24/1130	20.7/89.4	110-120 gusting to 135	Severe Cyclonic Storm
26.05.24/1730	21.4/89.4	110-120 gusting to 135	Severe Cyclonic Storm
27.05.24/0530	22.6/89.6	70-80 gusting to 90	Cyclonic Storm
27.05.24/1730	23.8/90.0	50-60 gusting to 70	Deep Depression
28.05.24/0530	24.9/90.5	30-40 gusting to 50	Depression

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 districts of West Bengal and eastern districts of Gangetic West Bengal adjacent to Bangladesh on 26th & 27th with isolated **extremely heavy rainfall** (≥ 20 cm) over these districts on 26th May. The peak rainfall activity is likely during noon of 26th to noon of 27th May.
Light to moderate rainfall at most places with **heavy to very heavy rainfall** at isolated places likely over eastern districts of Sub-Himalayan West Bengal on 27th and 28th May.
- (b) **Odisha:** Light to moderate rainfall at most places with isolated **heavy rainfall** likely over North Coastal Odisha on 25th & 26th May.
- (c) **Northeastern States:** Light to moderate rainfall at most places with **heavy to very heavy rainfall** at isolated places is likely over Mizoram, Tripura and South Manipur on 26th and 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 on 27th & 28th May, Arunachal Pradesh on 28th May and Mizoram & Tripura on 27th May.
- (d) **Andaman Islands:** Light to moderate rainfall at most places with **heavy rainfall** at isolated places over north Andaman Islands on 25th May.

Wind Warning:

(a) Bay of Bengal:

- ❖ **Gale wind speed reaching 65-75 kmph gusting to 85 kmph** is likely to prevail over central Bay of Bengal till morning of 26th May and decrease thereafter becoming Squally wind speed reaching 50-60 kmph gusting to 70 kmph till morning of 27th May.
- ❖ **Gale wind speed reaching 65-75 kmph gusting to 85 kmph** prevailing over North Bay of Bengal is likely to increase becoming **95-105 kmph gusting to 115 kmph** from early morning and **110-120 kmph gusting to 135 kmph** from noon till midnight of 26th May. It is likely decrease thereafter becoming 70-80 kmph gusting to 90 kmph by morning on 27th May and squally wind speed reaching 45-55 kmph gusting to 65 kmph by evening of 27th May.

(b) Along & off Bangladesh and West Bengal coasts:

- ❖ **Squally wind speed reaching 40-50 kmph gusting to 60 kmph** is likely to prevail along & off Bangladesh and West Bengal & adjoining North Odisha coasts from tonight. It is likely to increase becoming **gale wind speed reaching 60-70 kmph gusting to 80 kmph** from morning of 26th May and **100-120 kmph gusting to 135 kmph** along & off Bangladesh and adjoining West Bengal coasts from evening of 26th May till early morning of 27th May. It is likely decrease thereafter to become 60-70 kmph gusting to 80 kmph by afternoon and squally wind 50-60 kmph gusting to 70 kmph by night of 27th May.
- ❖ **Squally wind speed reaching 40-50 kmph gusting to 60 kmph** is likely to commence over Howrah, Hoogly, Kolkata and East Medinipur districts from evening of 26th May. It will increase gradually becoming **Gale wind speed reaching 70-80 kmph gusting to 90 kmph** over these districts during night of 26th May except East Medinipur where the wind speed may reach up to **60-70 kmph gusting to 80 kmph** during the same period.

(c) Along & off Odisha coasts:

Squally wind speed reaching 40-50 kmph gusting to 60 kmph is likely to prevail till 27th May morning

(d) South Bay of Bengal, Andaman Islands and Andaman Sea:

Squally wind speed reaching 40-50 kmph gusting to 60 kmph is likely over Andaman Islands and North Andaman Sea during next 12 hours.

(e) Northeastern States:

Squally wind speed reaching 50-60 kmph gusting to 70 kmph is likely over Mizoram Tripura & south Manipur on 26th & 27th May and **40-50 kmph gusting to 60 kmph** is likely over South Assam and Meghalaya on 27th May.

Storm surge warning:

Storm surge of about 1 meter height above astronomical tide is likely to inundate low lying areas of coastal West Bengal and 3-4 m above astronomical tide likely to inundate low lying areas of coastal Bangladesh around the time of landfall.

Sea condition warning:**(a) Central and North Bay of Bengal:**

Very rough to high sea condition is likely to prevail over central Bay of Bengal on 25th May & 26th May and High to Very High over North Bay of Bengal from 25th evening till 27th May morning.

(b) Along & off Bangladesh and West Bengal coasts

Rough to very rough sea condition is prevailing along & off Bangladesh and West Bengal coasts. It would become high to very high along & off Bangladesh and West Bengal coasts from 26th morning onwards till 27th May morning.

(c) Along & off North Odisha coast:

Rough to very rough sea condition is likely along & off North Odisha coast till 27th May morning.

(d) Along & off Andaman Islands:

Rough to very rough sea condition is likely over Andaman Islands and North Andaman Sea during next 12 hours.

Damage Expected over South & North 24 Parganas, Howrah, Hoogly, Kolkata & adjoining East Medinipur districts of west Bengal:

- Major damage to thatched houses/ huts. Possibilities of damage to vulnerable structure.
- Unattached metal sheets may fly.
- Breaking of tree branches, uprooting of trees. Major damage to banana and papaya trees. Dead limbs may blow off from trees.
- Damage to power and communication lines due to breaking of branches and uprooting of 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 South & North 24 Parganas, Howrah, Hoogly, Kolkata & adjoining East Medinipur districts of West Bengal:

- Total suspension of fishing operations.
- Surface transport and shipping operations need to be regulated
- Onshore & Offshore operation need to be regulated as per guidelines
- Coastal hutment dwellers to move to safer places.
- People in affected areas to remain indoors.
- Avoid going to areas that face the water logging problems often.
- Avoid staying in vulnerable structure.

Fishermen Warning (graphics attached):

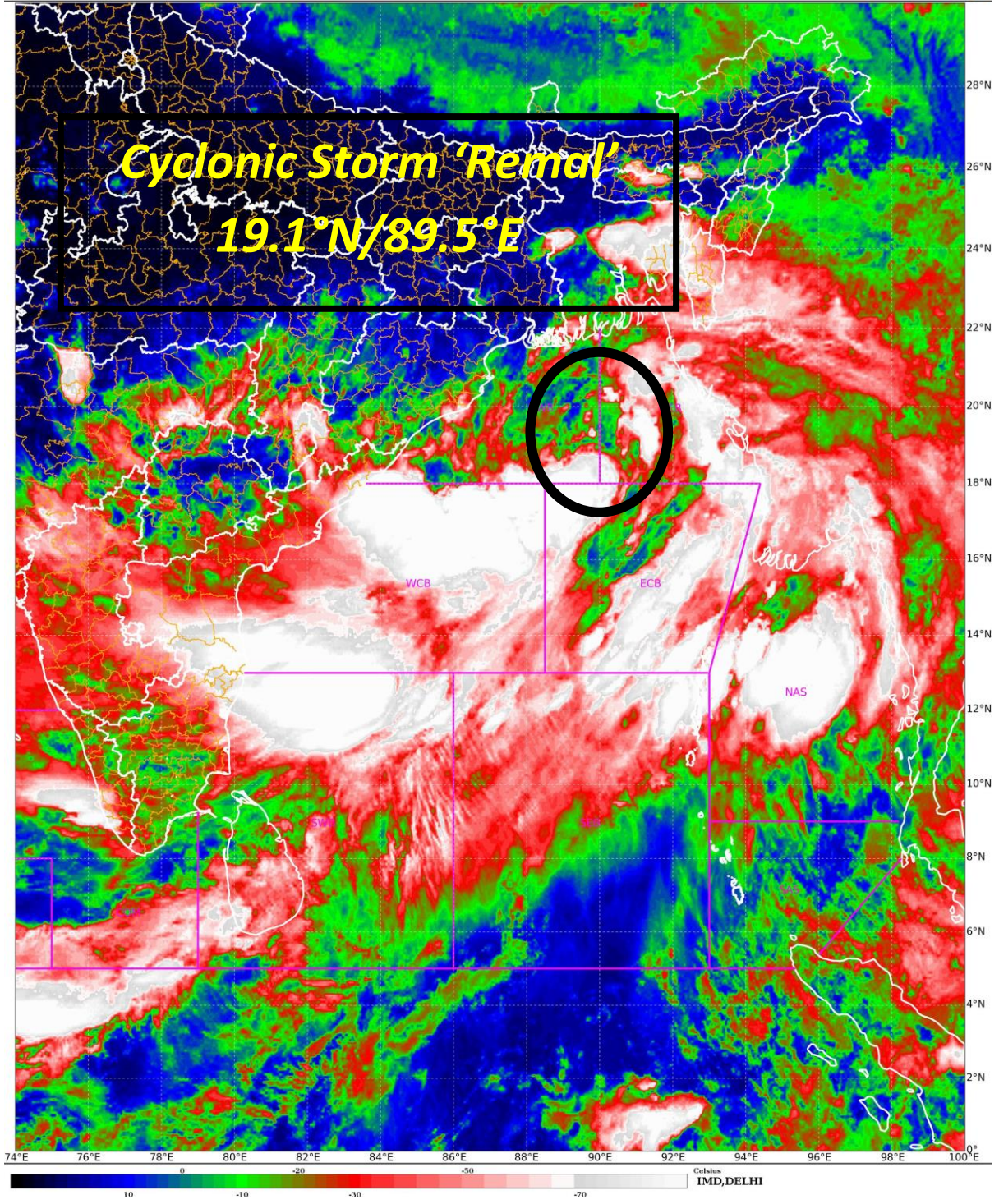
Fishermen are advised not to venture into south Bay of Bengal and Andaman Sea till 27th May, central Bay of Bengal till 26th May and North Bay of Bengal from 25th May till 27th May. Fishermen out at sea are advised to return to the coast.

The system is under continuous surveillance and the next message will be issued at 0230 hours IST of tomorrow, the 26th May, 2024.

(Krishna Mishra)

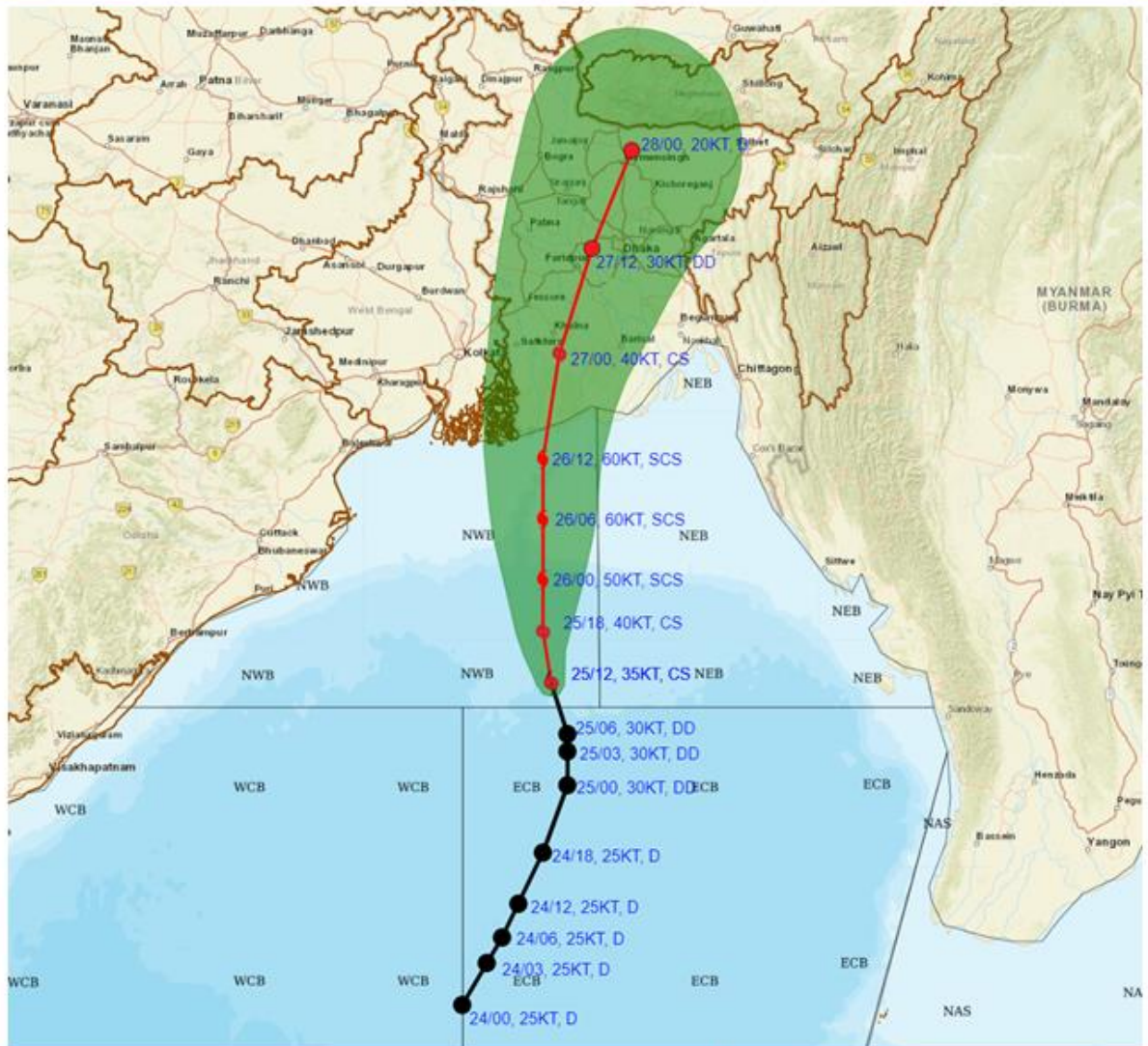
Scientist C, Cyclone Warning Division, New Delhi

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





FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY IN ASSOCIATION WITH CYCLONIC STORM 'REMAL' OVER NORTH AND ADJOINING EASTCENTRAL BAY OF BENGAL BASED ON 1200 UTC (1730 IST) OF 25TH MAY 2024.



DATE/TIME IN UTC
IST=UTC + 0530

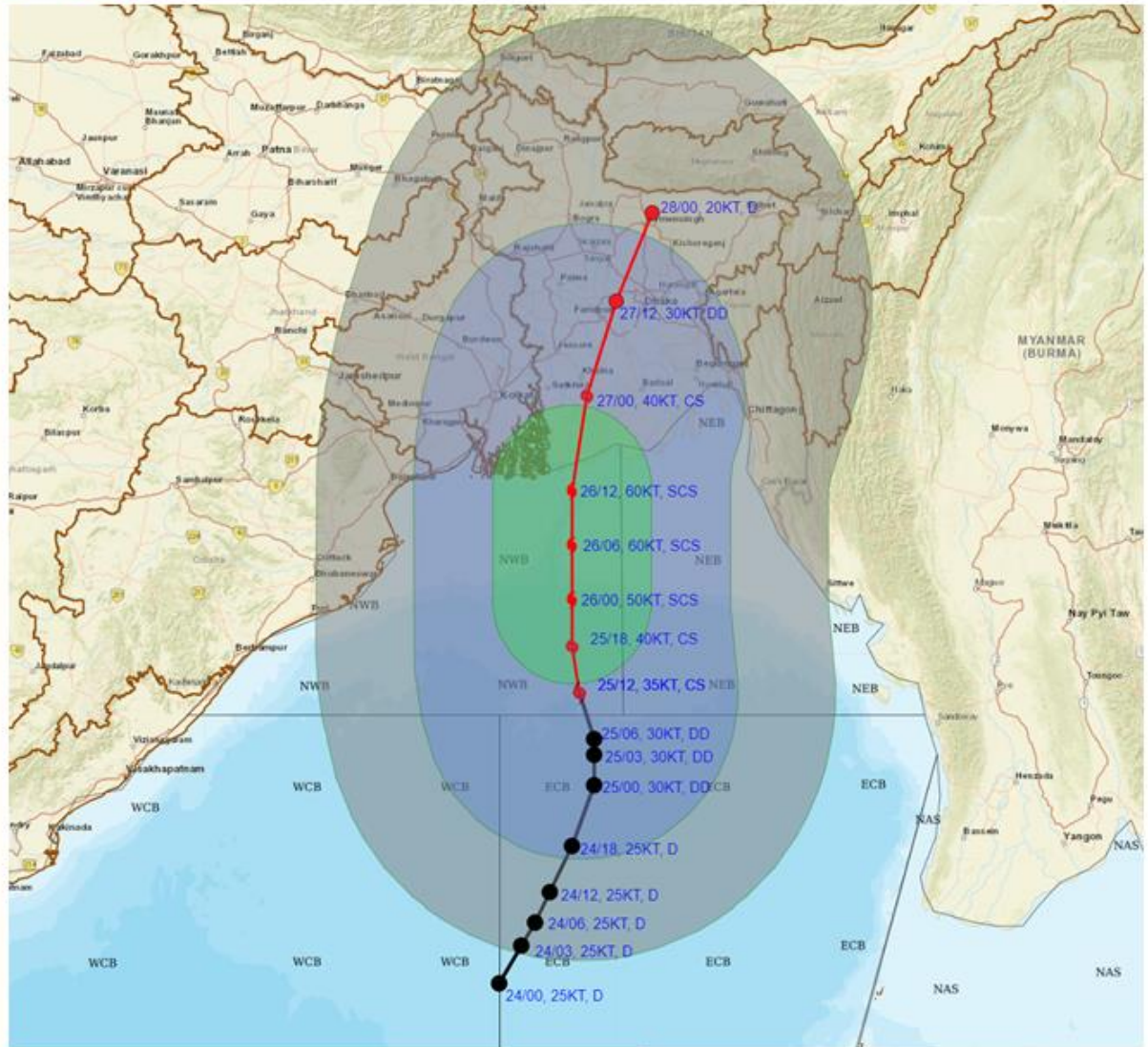
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (\geq 120 KT)

- LESS THAN 34 KT
- ⊙ 34-47 KT
- ⊙ \geq 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- ◀ CONE OF UNCERTAINTY

Forecast	DISTANCE (KM) AND DIRECTION FROM STATIONS		
Date and Time (UTC)	Canning	Khepupara	SAGAR ISLAND
25.05.24/1200	390, SSE	360, SSW	350, SSE
26.05.24/1200	130, SE	110, SW	150, E
27.05.24/1200	230, NE	210, N	320, NE



FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION IN ASSOCIATION WITH CYCLONIC STORM 'REMAL' OVER NORTH AND ADJOINING EASTCENTRAL BAY OF BENGAL BASED ON 1200 UTC (1730 IST) OF 25TH MAY 2024.



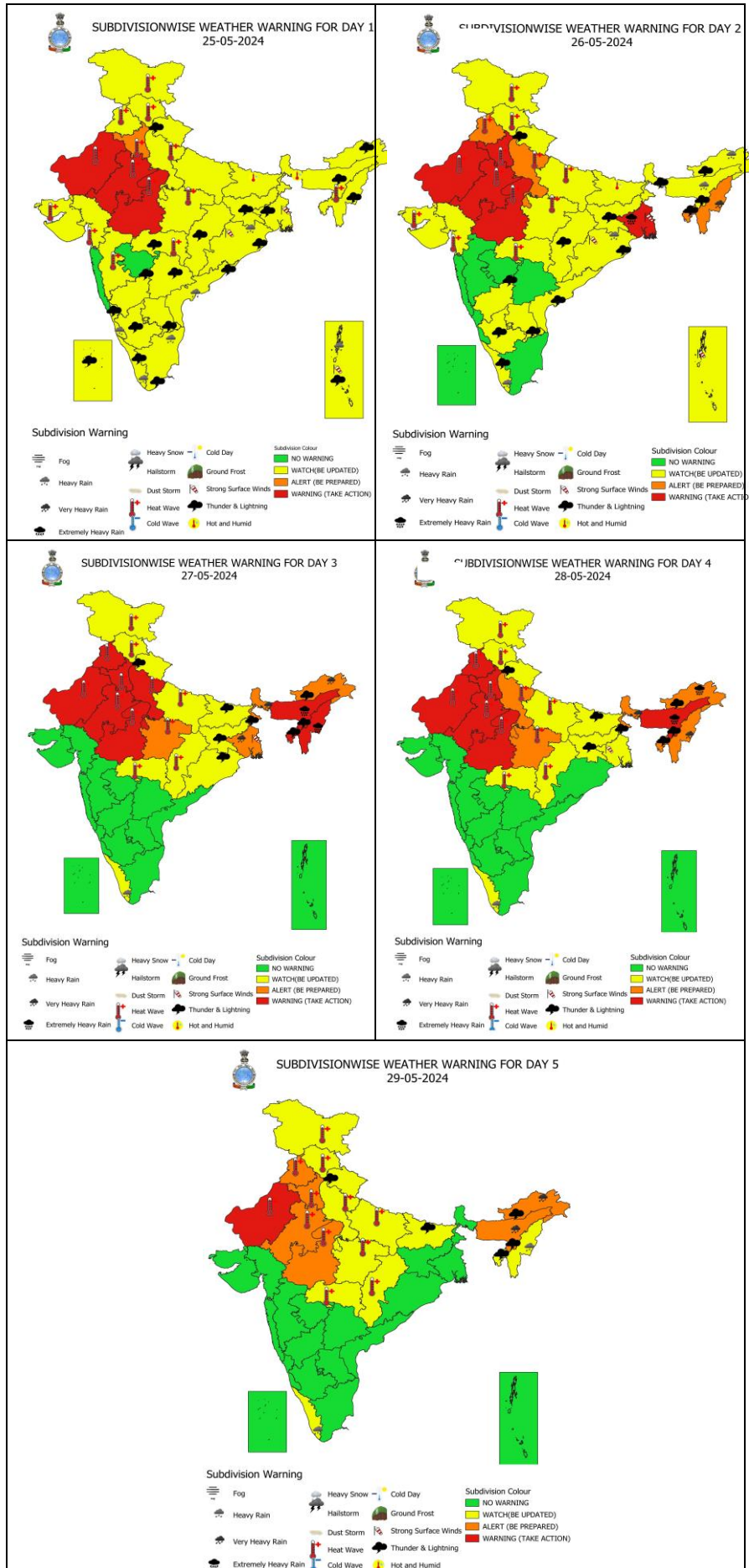
DATE/TIME IN UTC
 IST=UTC + 0530
 L: LOW PRESSURE AREA
 WML: WELL MARKED LOW PRESSURE AREA
 D: DEPRESSION (17-27 KT)
 DD: DEEP DEPRESSION (28-33 KT)
 CS: CYCLONIC STORM (34-47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63KT)
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (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
 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)

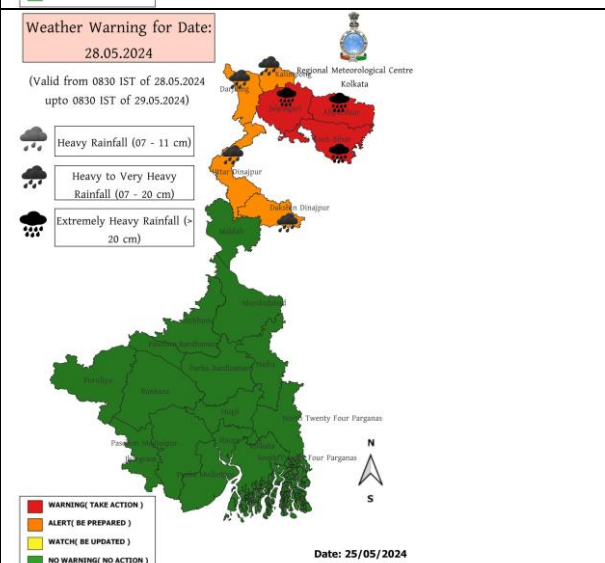
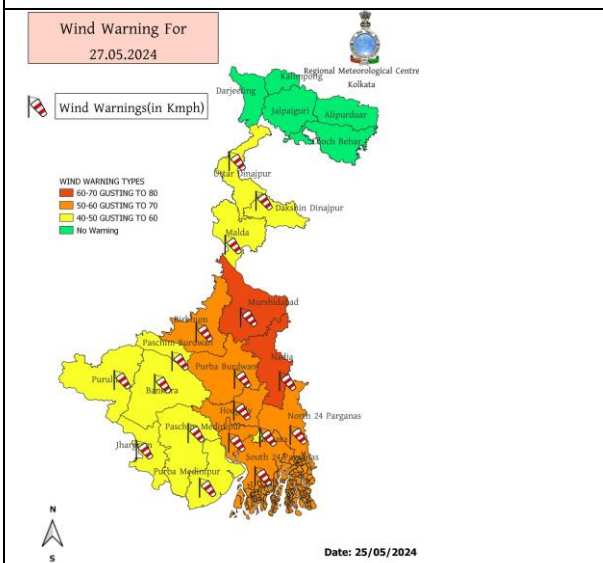
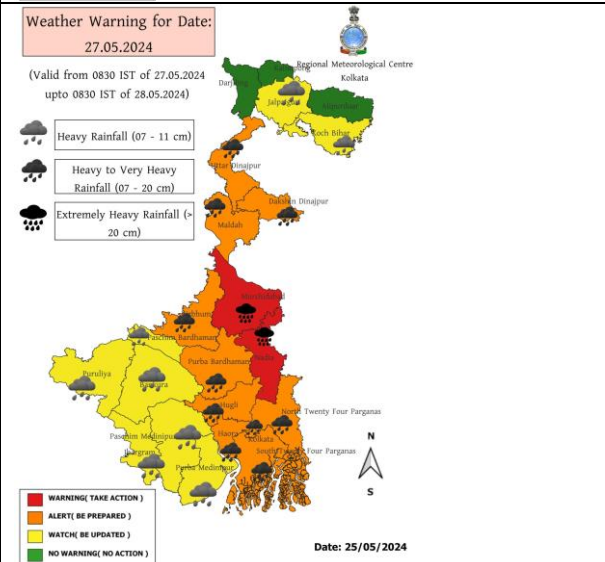
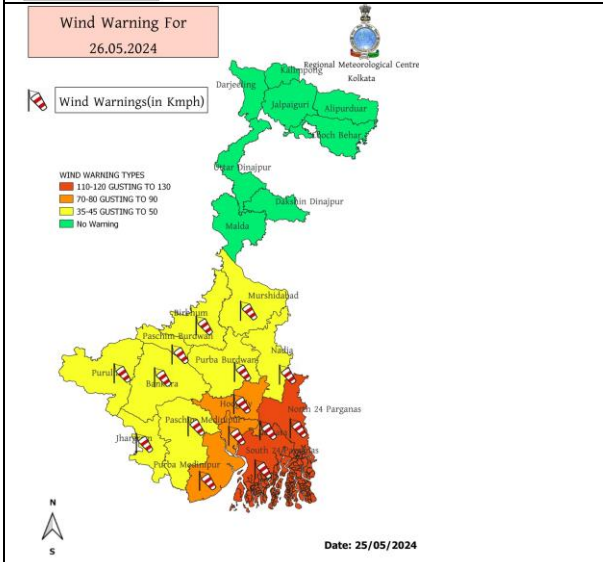
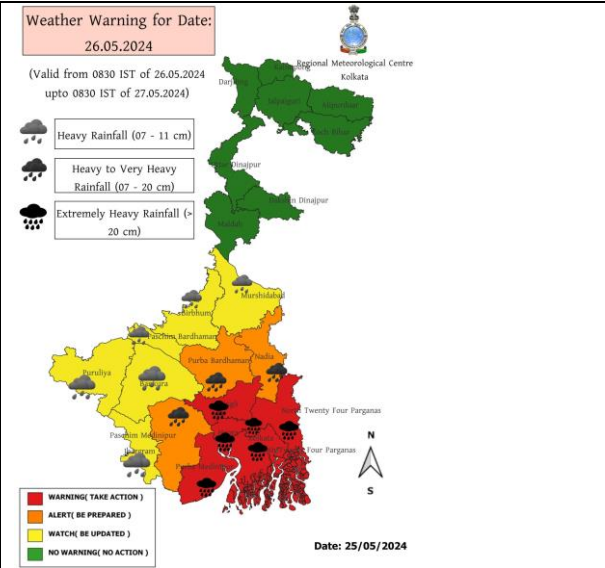
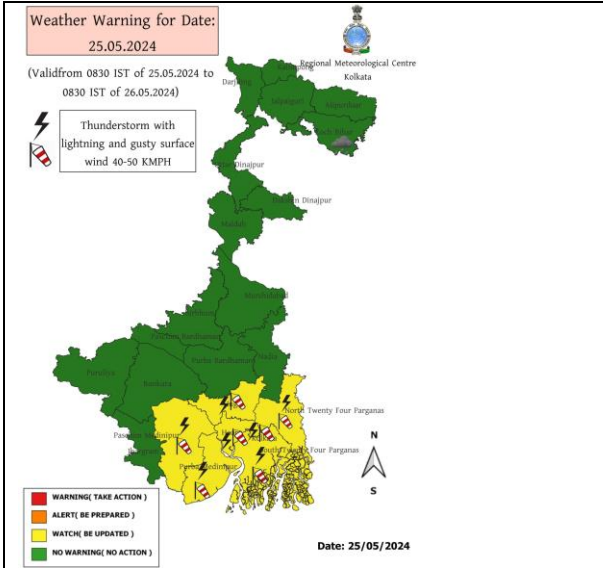
IMPACT OVER THE SEA

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

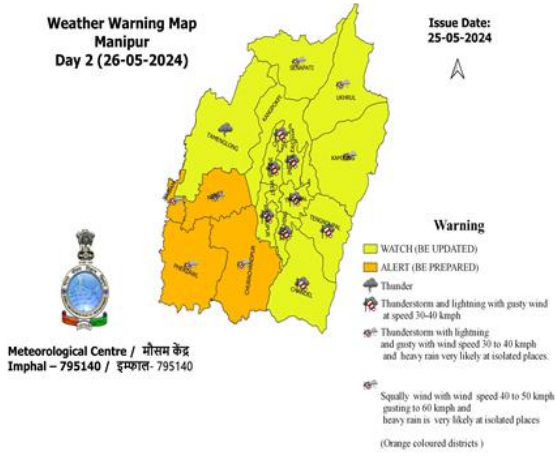
All India Warning Graphics



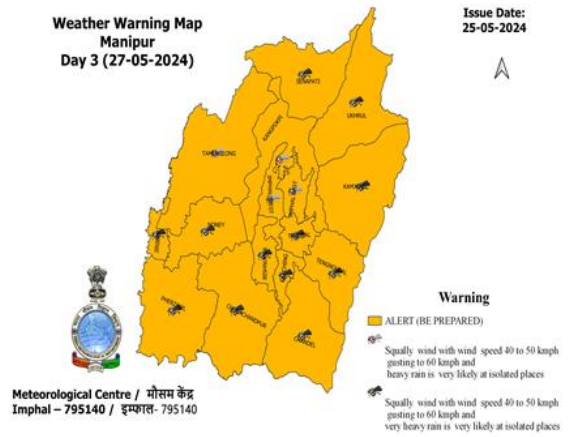
Warning Graphics of West Bengal



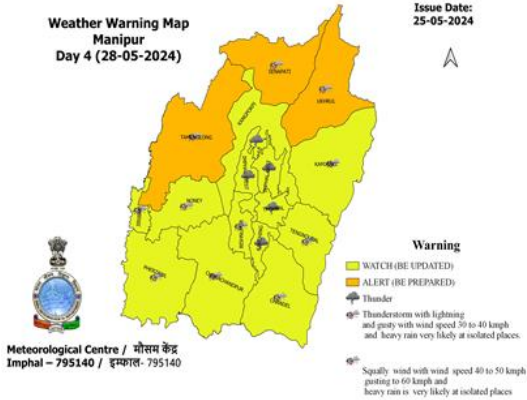
**Weather Warning Map
Manipur
Day 2 (26-05-2024)**



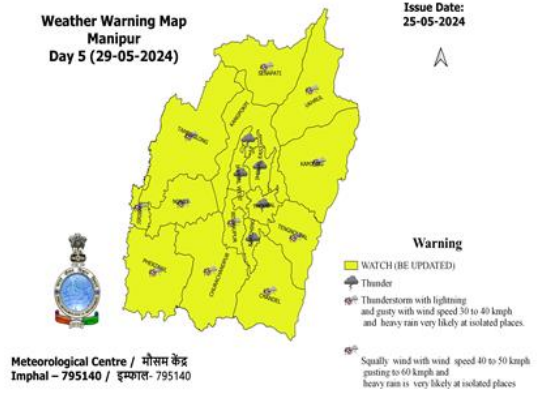
**Weather Warning Map
Manipur
Day 3 (27-05-2024)**



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



**Weather Warning Map
Manipur
Day 5 (29-05-2024)**



METEOROLOGICAL CENTRE, AIZAWL

DAY 1

DAY 2

DAY 3

DAY 4

DAY 5

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 30-40 KMPH



সতর্কতা
26-05-2024

(Valid from 0830 hrs IST of 26.05.2024 to 0830 hrs IST of 27.05.2024)



- 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 WITH GUSTY WIND 40-50 KMPH
	ISOLATED WIND SPEED REACHING 30-40 KMPH GUSTY TO 70 KMPH



সতর্কতা
27-05-2024

(Valid from 0830 hrs IST of 27.05.2024 to 0830 hrs IST of 28.05.2024)



- 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 40-50 KMPH GUSTY TO 70 KMPH



সতর্কতা
28-05-2024

(Valid from 0830 hrs IST of 28.05.2024 to 0830 hrs IST of 29.05.2024)



- 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



সতর্কতা
29-05-2024

(Valid from 0830 hrs IST of 29.05.2024 to 0830 hrs IST of 30.05.2024)



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

	ISOLATED HEAVY RAINFALL
	THUNDERSTORM WITH LIGHTNING



Issue Date : 24-05-2024

DAY 1
24-05-2024



DAY 2
25-05-2024



DAY 3
26-05-2024



DAY 4
27-05-2024



DAY 5
28-05-2024



FOG INTENSITY

Classification of Fog	Visibility
Shallow Fog	300m to 500m
Moderate Fog	400m to 200m
Dense Fog	100m to 50m
Very Dense Fog	< 50m

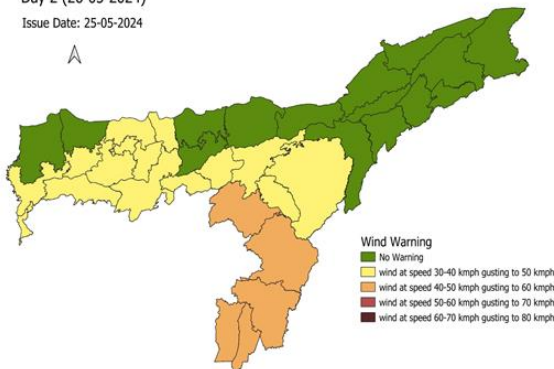
WARNING
 WARNING (Fog) AT FOG
 ALERT TO BE ISSUED

Probabilistic Forecast

Time	Probability of Occurrence (%)
00hr	25
06hr	25
12hr	25
18hr	25

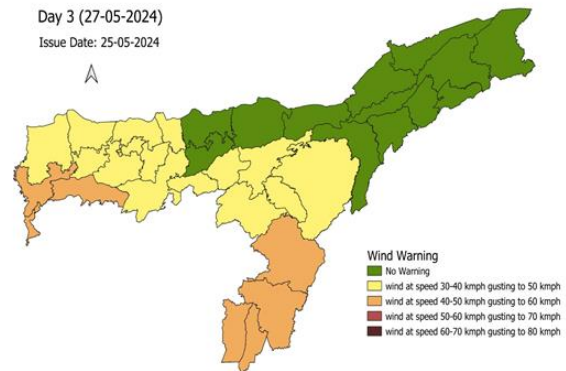
DISTRICT LEVEL WIND WARNING : ASSAM

Day 2 (26-05-2024)
Issue Date: 25-05-2024

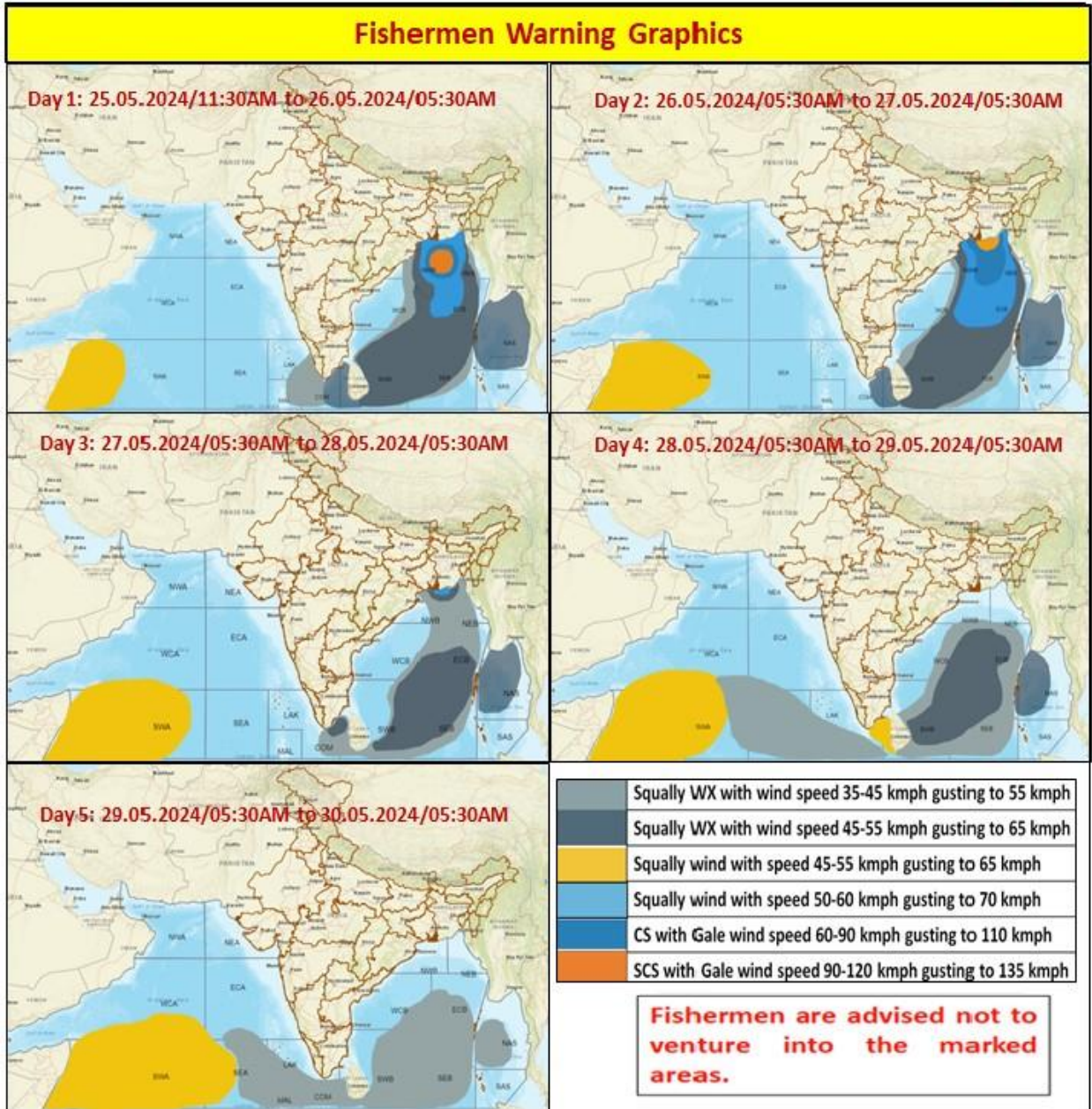


DISTRICT LEVEL WIND WARNING : ASSAM

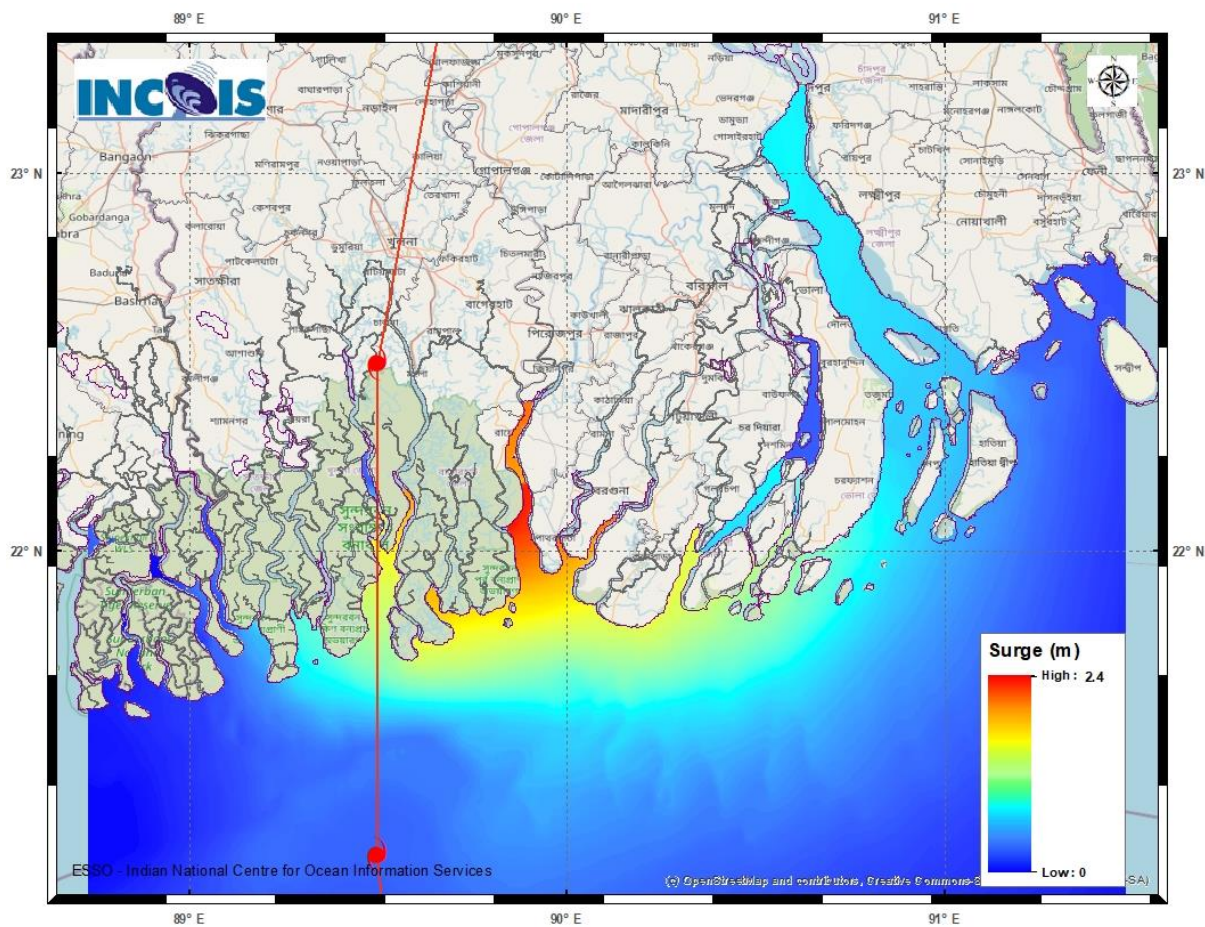
Day 3 (27-05-2024)
Issue Date: 25-05-2024



Fishermen Warning Graphics



Storm Surge Warning Graphics



WIND AND FLOOD HAZARD MAPS FOR WEST BENGAL

