



India Meteorological Department  
(Ministry of Earth Sciences)

BULLETIN NO. 12 (BOB/09/2022)

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**Sub: Cyclonic Storm “Mandous” pronounced as “Man-Dous” over Southwest Bay of Bengal (Cyclone Warning for north Tamil Nadu, Puducherry and south Andhra Pradesh coasts): Orange Message**

The cyclonic storm “Mandous” pronounced as “Man-Dous” over Southwest Bay of Bengal moved nearly west-northwestwards with a speed of 12 kmph during past 6 hours and lay centered at 1430 hours IST of today, the 08th December, 2022 over Southwest Bay of Bengal near latitude 9.8°N and longitude 83.2°E, about 250 km east-northeast of Trincomalee (Sri Lanka), 350 km east of Jaffna (Sri Lanka), 390 km east-southeast of Karaikal and about 480 km southeast of Chennai.

It is very likely to move west-northwestwards and intensify further into a **Severe Cyclonic Storm** during next 06 hours. It will maintain its intensity of **Severe Cyclonic Storm** till early morning of 9<sup>th</sup> December and then weaken gradually into a cyclonic storm tomorrow. It is very likely to cross north Tamilnadu, Puducherry and adjoining south Andhra Pradesh coasts between Puducherry and Sriharikota, around Mahabalipuram with a maximum sustained wind speed of 65-75 kmph gusting to 85 kmph around midnight of 09th December.

**Forecast track and intensity are given below:**

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
08.12.22/1430	9.8/83.2	80-90 gusting to 100	Cyclonic Storm
08.12.22/1730	10.2/82.9	85-95 gusting to 105	Severe Cyclonic Storm
08.12.22/2330	10.7/82.3	85-95 gusting to 105	Severe Cyclonic Storm
09.12.22/0530	11.2/81.7	80-90 gusting to 100	Cyclonic Storm
09.12.22/1130	11.6/81.2	75-85 gusting to 95	Cyclonic Storm
09.12.22/2330	12.3/80.3	70-80 gusting to 90	Cyclonic Storm
10.12.22/1130	12.7/79.7	45-55 gusting to 65	Depression

## **Warnings:**

### **(i) Rainfall (warning graphics enclosed)**

- ❖ **08<sup>th</sup> December:-** Light to moderate rainfall at most places with **heavy to very heavy falls** at isolated places very likely over coastal Tamil Nadu, Puducherry & Karaikal and isolated **heavy rainfall** over adjoining areas of south coastal Andhra Pradesh and Rayalaseema.
- ❖ **09<sup>th</sup> December:-** Light to moderate rainfall at most places with **heavy to very heavy rainfall** at a few places and **extremely heavy rainfall at isolated places** very likely over north coastal Tamil Nadu, Puducherry and isolated **heavy to very heavy rainfall** likely over adjoining south Coastal Andhra Pradesh and north interior Tamilnadu and Rayalaseema.
- ❖ **10<sup>th</sup> December:-** It is likely to reduce to Light to moderate rainfall at most places with **heavy to very heavy rainfall** at isolated places likely over north Tamil Nadu and Rayalaseema and south Andhra Pradesh.

### **(ii) Wind warning:**

- ❖ **Southwest Bay of Bengal:-** Gale wind, speed reaching 75-85 kmph gusting to 95 kmph prevailing over southwest Bay of Bengal. It would further increase becoming 85-95 kmph gusting to 105 kmph, over the same region during 08<sup>th</sup> evening to 09<sup>th</sup> early morning. It would decrease thereafter gradually becoming 70-80 kmph gusting to 90 kmph from 9<sup>th</sup> December evening.
- ❖ **Along & off Tamil Nadu, Puducherry, south Andhra Pradesh and north Sri Lanka coasts:-** Squally wind, speed reaching 40-50 kmph gusting to 60 kmph, prevailing along & off Tamil Nadu-Puducherry-south Andhra Pradesh-north Sri Lanka coasts becoming 50-60 kmph gusting to 70 kmph from 09<sup>th</sup> December morning and 65-75 kmph gusting to 85 kmph from 09<sup>th</sup> December evening to early hours of 10<sup>th</sup> December. It is likely to reduce gradually thereafter becoming 55-65 kmph gusting to 75 kmph by morning of 10<sup>th</sup> December and then to 30-40 kmph gusting to 50 kmph by 10<sup>th</sup> December night.
- ❖ **Gulf of Mannar :-** Squally wind, speed reaching 40-50 kmph gusting to 60 kmph, likely over Gulf of Mannar from 08<sup>th</sup> December evening becoming 50-60 kmph gusting to 70 kmph from 09<sup>th</sup> December evening to early hours of 10<sup>th</sup> December and 40-50 kmph gusting to 60 kmph by 10<sup>th</sup> December morning.
- ❖ **Southeast Bay of Bengal:-** Squally wind, speed reaching 40-45 kmph gusting to 55 kmph, is likely to prevail over Southeast Bay of Bengal during next 12 hours.

### **(iii) Sea condition**

- ❖ **Sea condition likely to be high** over Southwest bay of Bengal and rough to very rough over adjoining areas of Westcentral and Southeast Bay of Bengal till early hours of 10<sup>th</sup> December and improve gradually thereafter.
- ❖ **Sea condition likely to be rough to very rough** along & off South Andhra Pradesh, Tamil Nadu, Puducherry and Sri Lanka coasts on 08<sup>th</sup> and 10<sup>th</sup> and **high** on 9<sup>th</sup> December.

### **(iv) Storm Surge Warning**

**The storm surge of about 0.5 m height above the astronomical tide likely to inundate low lying areas of north coastal Tamilnadu and Puducherry during the time of landfall.**

**(v) Fishermen Warning (warning graphics enclosed)**

Fishermen are advised not to venture into:

- ❖ Southeast Bay of Bengal on 08th December.
- ❖ Southwest Bay of Bengal during 08<sup>th</sup>-10<sup>th</sup> December
- ❖ Along & off Sri Lanka coast during 08<sup>th</sup>-09<sup>th</sup> December.
- ❖ Along & off Tamilnadu, Puducherry and South Andhra Pradesh coasts and Gulf of Mannar during 08<sup>th</sup>-10<sup>th</sup> December.
- ❖ Fishermen out at sea should return to the coast or move to the safe area.

**(vi) Adverse Weather Warning for onshore and off-shore operations**

Regulate on-shore and off-shore operations over Southwest Bay of Bengal; along & off Tamil Nadu-Puducherry-South Andhra Pradesh coasts and Gulf of Mannar during 08<sup>th</sup>-10<sup>th</sup> December.

**(vii) Damage expected over Coastal Tamilnadu, Puducherry and adjoining south coastal Andhra Pradesh**

- ❖ Damage to thatched houses/ huts. Unattached metal sheets may fly.
- ❖ Minor damage to power and communication lines.
- ❖ Major damage to Kutchha and some damage to Pucca roads. Flooding of escape routes.
- ❖ Breaking of tree branches, uprooting of small trees. Dead limbs blown from trees.
- ❖ Damage to banana and papaya trees and near coastal agriculture due to salt spray. Damage to paddy and other standing crops.
- ❖ Inundation/localized flooding in low lying areas due to heavy rains
- ❖ Traffic may be disrupted due to poor visibility in association with heavy rain

**(viii) Action suggested over Coastal Tamil Nadu, Puducherry and adjoining south coastal Andhra Pradesh**

- ❖ Total suspension of fishing operations during 08<sup>th</sup>-10<sup>th</sup> December.
- ❖ Regulate onshore and off-shore operations during 08<sup>th</sup>-10<sup>th</sup> December.
- ❖ People are advised to be cautious while going outside.
- ❖ Regulate traffic.
- ❖ People should not move nearby to vulnerable structures.

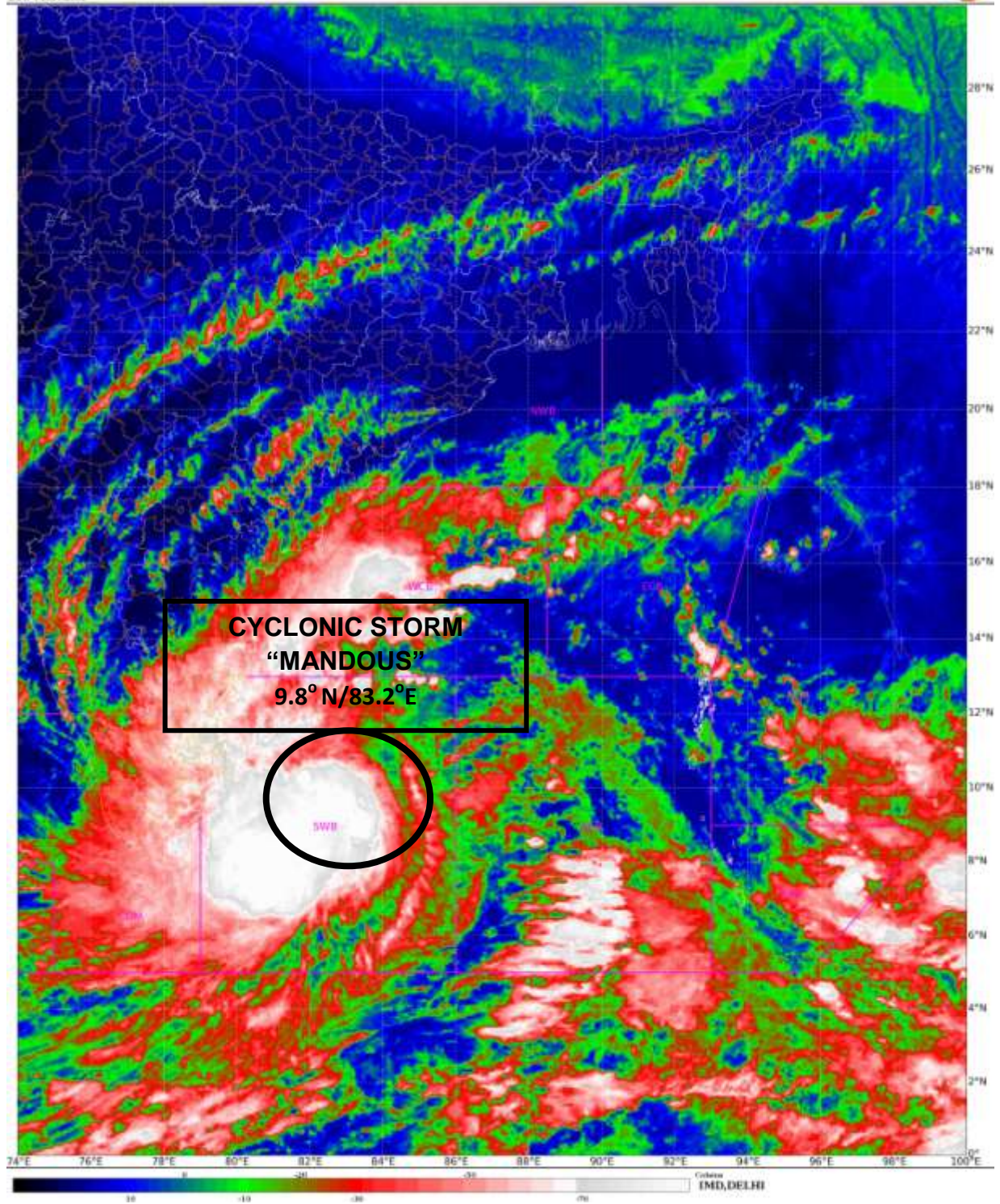
**System is under continuous surveillance and the next bulletin will be issued at 2030 hours IST of today, the 08<sup>th</sup> Dec, 2022.**

**(R K JENAMANI)**  
**Scientist F, Cyclone Warning Division, New Delhi**

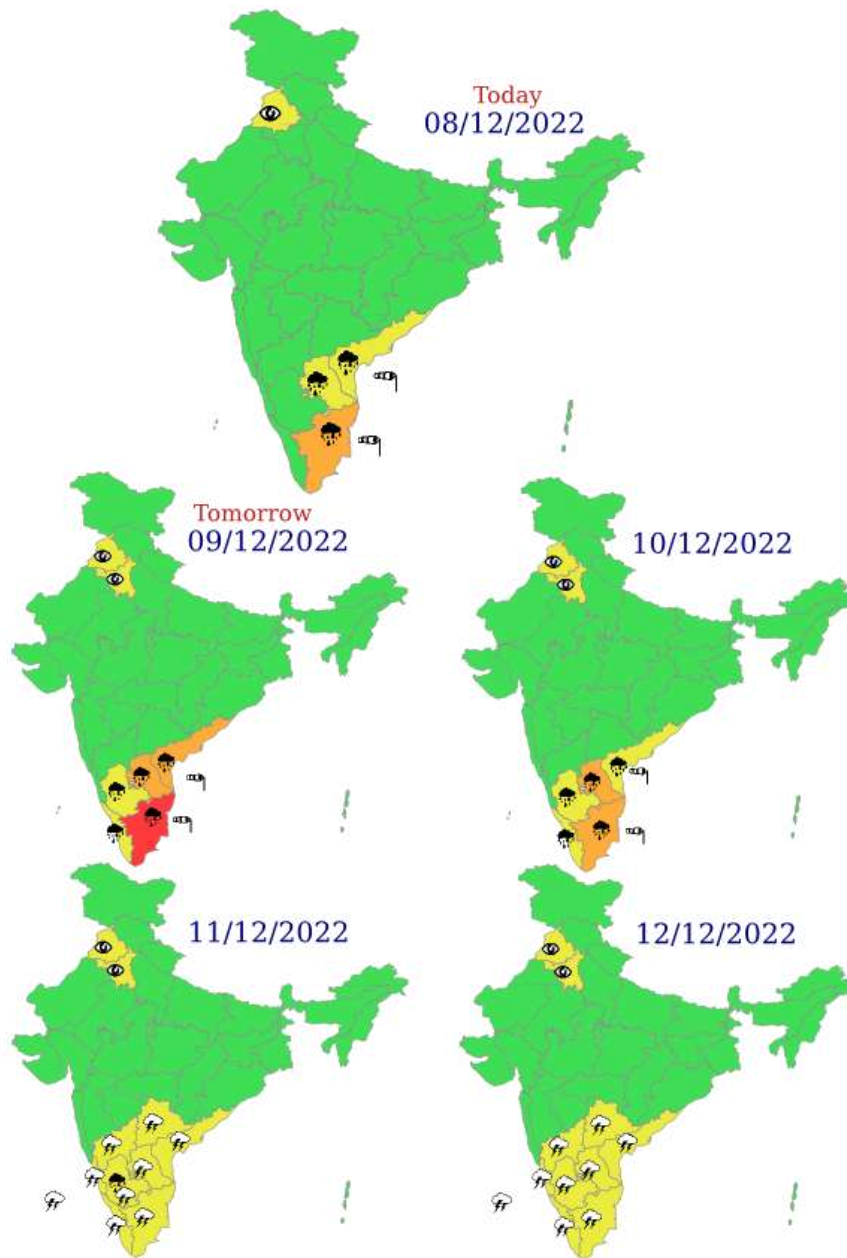
*Copy to: ACWC Kolkata/ ACWC Chennai/ CWC Bhubaneswar/CWCVisakhapatnam/MO Port Blair*

SAT : INSAT-3D IMG  
IMG\_TIR1\_TEMP 10.6 um  
LIC Mercator

08-12-2022/(1000 to 1026) GMT  
08-12-2022/(1330 to 1356) IST



## Multi hazard Warning Graphics



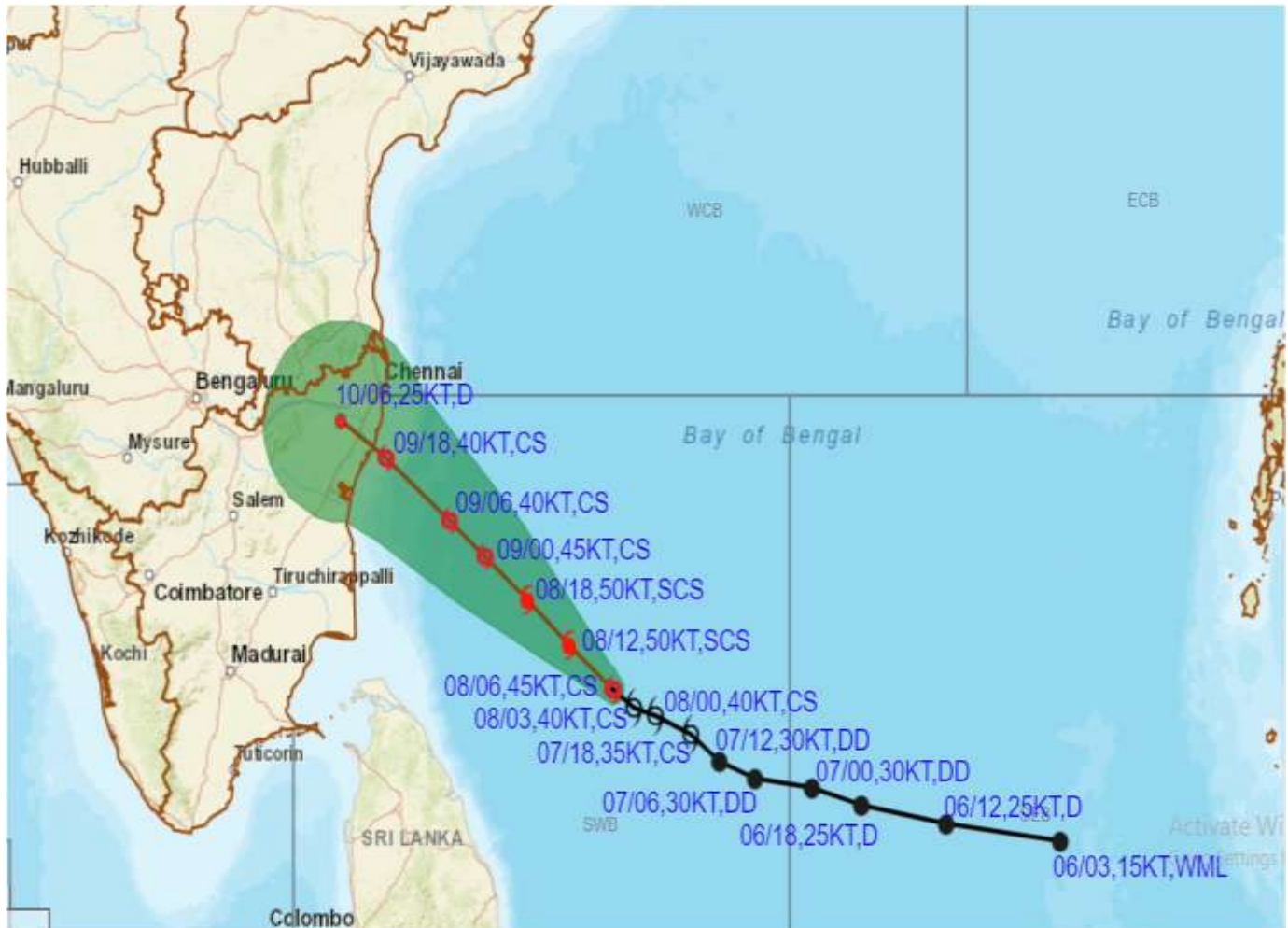
**LEGEND:** Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.





# **OBSERVED AND FORECAST TRACK OF CYCLONIC STORM 'MANDOUS' OVER SOUTHWEST BAY OF BENGAL BASED ON 0600 UTC OF 08<sup>th</sup> DECEMBER, 2022.**



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



**OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM 'MANDOUS' OVER SOUTHWEST BAY OF BENGAL BASED ON 0600 UTC OF 08<sup>th</sup> DECEMBER, 2022.**



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 (48-63 KT)

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)

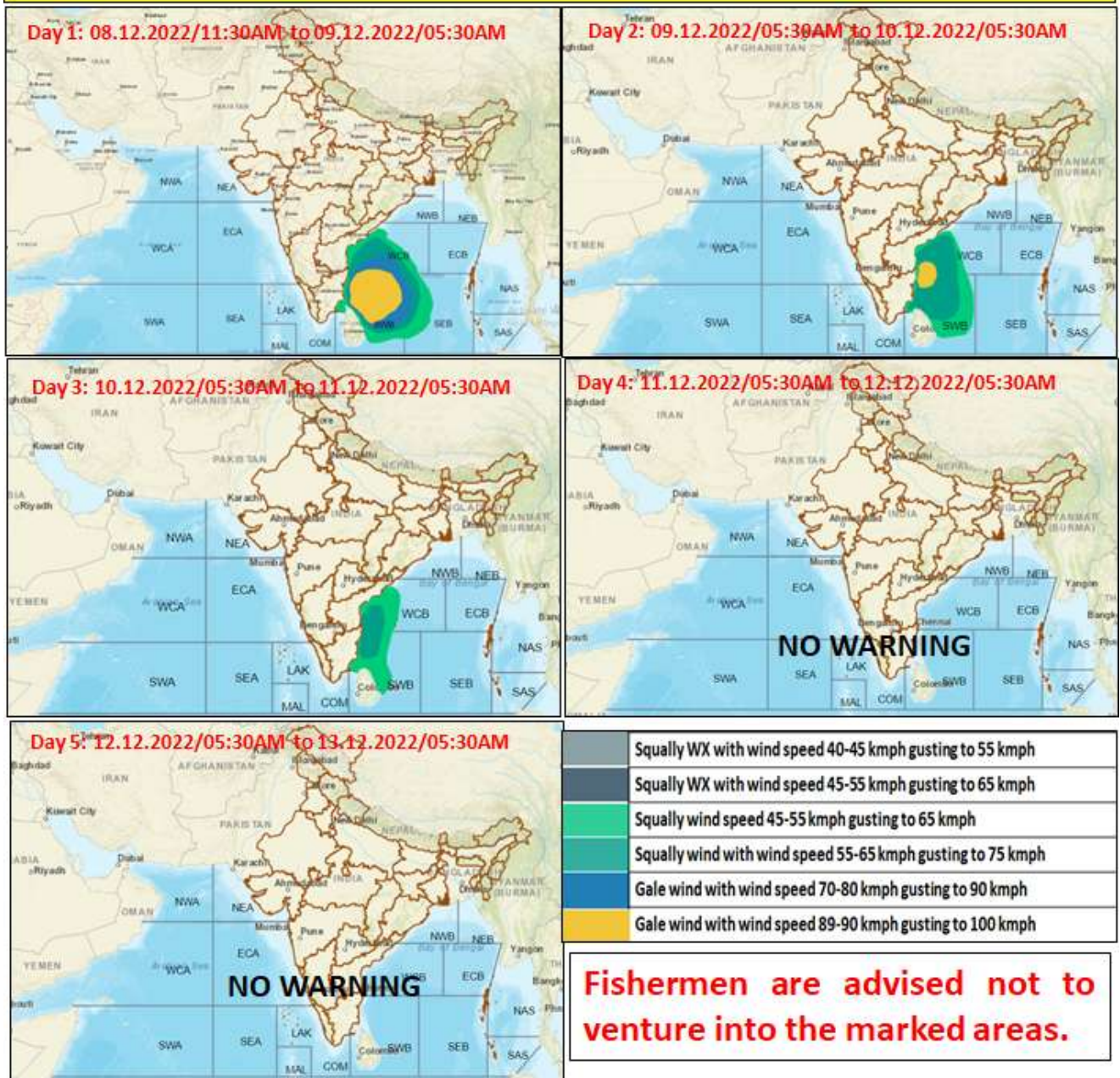
**IMPACT OVER THE SEA**

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

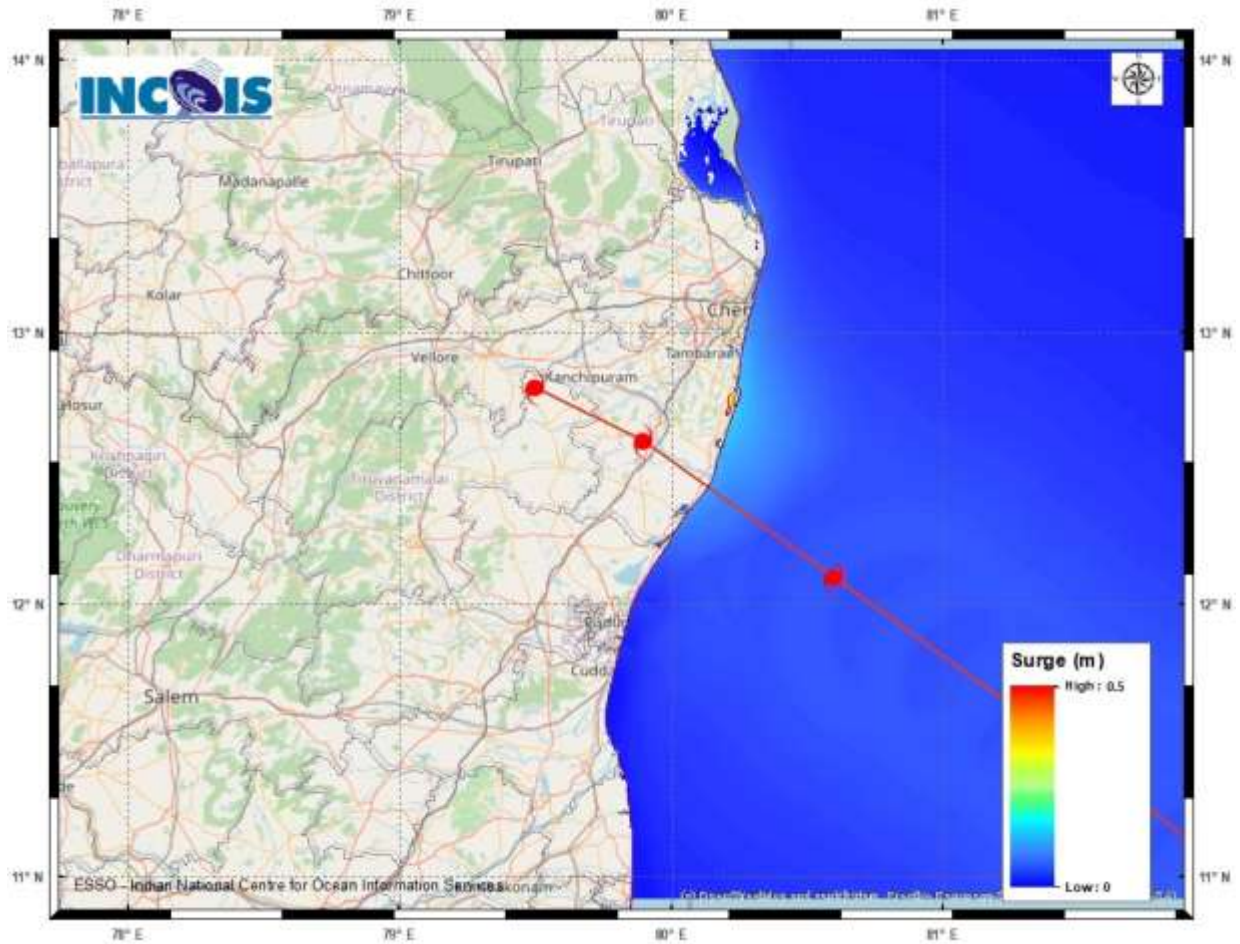
Forecast distance (km) and direction of the centre from nearest 5 coastal stations

Forecast Date and Time	Lead Period	Lat	Lon	Station 1	Station 2	Station 3	Station 4	Station 5
08.12.22/0600	0	9.7	83.5	TRINCOMALEE (275,ENE)	BATTICALOA (295,NE)	MULLAITTIVU 1) (300,E)	VAVUNIYA (345,ENE)	POTTUVIL (365,NNE)
08.12.22/1200	6	10.2	82.9	MULLAITTIVU 1) (250,ENE)	TRINCOMALEE (255,NE)	BATTICALOA (305,NNE)	VAVUNIYA (310,ENE)	KANKASANTURAI 1) (315,E)
08.12.22/1800	12	10.7	82.3	MULLAITTIVU 1) (230,NE)	TRINCOMALEE (260,NNE)	KANKASANTURAI 1) (265,ENE)	NAGAPPATTINAM (270,E)	VEDARANNIYAM (270,E)
09.12.22/0000	18	11.2	81.7	KARAIKAL (205,E)	NAGAPPATTINAM (210,ENE)	PARANGIPETTAI (215,E)	CUDDALORE (220,ESE)	MO PONDICHERRY (220,ESE)
09.12.22/0600	24	11.6	81.2	MO PONDICHERRY (155,ESE)	PARANGIPETTAI (155,E)	CUDDALORE (155,E)	KARAIKAL (165,ENE)	NAGAPPATTINAM (175,ENE)
09.12.22/1800	36	12.3	80.3	MO PONDICHERRY (65,NE)	CHENNAI/MINAMBAKKAM (80,S)	CUDDALORE (85,NE)	NUMGAMBAKKAM (85,S)	PARANGIPETTAI (105,NNE)
10.12.22/0600	48	12.7	79.7	TIRUTTANI (55,SSE)	CHENNAI/MINAMBAKKAM (60,WSW)	VELLORE (65,ESE)	NUMGAMBAKKAM (70,SW)	MO PONDICHERRY (85,N)

## Fishermen warning graphics



### Storm Surge Guidance



Maximum peak storm surge of 0.4m over and above the astronomical tide is forecasted near Thiruvидanthai- Chengalpattu, Tamil Nadu.