



India Meteorological Department  
(Ministry of Earth Sciences)

BULLETIN NO. 10 (BOB/09/2022)

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

The cyclonic storm "Mandous" pronounced as "Man-Dous" over Southwest Bay of Bengal moved nearly west-northwestwards with a speed of 11 kmph during past 6 hours, and lay centered at 0830 hours IST of today, the 08th December, 2022 over Southwest Bay of Bengal, near latitude 9.5°N and longitude 83.8°E, about 300 km east-northeast of Trincomalee (Sri Lanka), 420 km east-southeast of Jaffna (Sri Lanka), 460 km east-southeast of Karaikal and about 550 km southeast of Chennai.

It is very likely to move west-northwestwards and cross north Tamil Nadu, Puducherry and adjoining south Andhra Pradesh coasts between Puducherry and Sriharikota with a maximum sustained wind speed of 65-75 kmph gusting to 85 kmph around mid night 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
08.12.22/0830	9.5/83.8	75-85 gusting to 95	Cyclonic Storm
08.12.22/1130	9.8/83.5	80-90 gusting to 100	Cyclonic Storm
08.12.22/1730	10.3/82.9	80-90 gusting to 100	Cyclonic Storm
08.12.22/2330	10.8/82.3	80-90 gusting to 100	Cyclonic Storm
09.12.22/0530	11.3/81.7	75-85 gusting to 95	Cyclonic Storm
09.12.22/1730	12.1/80.6	70-80 gusting to 90	Cyclonic Storm
10.12.22/0530	12.6/79.9	55-65 gusting to 75	Deep Depression
10.12.22/1730	12.8/79.5	30-40 gusting to 50	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 80-90 kmph gusting to 100 kmph, over the same region during 08<sup>th</sup> noon to 08<sup>th</sup> night. It would decrease thereafter gradually becoming 75-85 kmph gusting to 95 kmph, over the same region from 9<sup>th</sup> morning and 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, likely to commence along & off Tamil Nadu, Puducherry, south Andhra Pradesh and north Sri Lanka coasts from 08<sup>th</sup> December afternoon, becoming 50-60 kmph gusting to 70 kmph from 9<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 on 8<sup>th</sup> Dec.

### (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 Kutchra 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

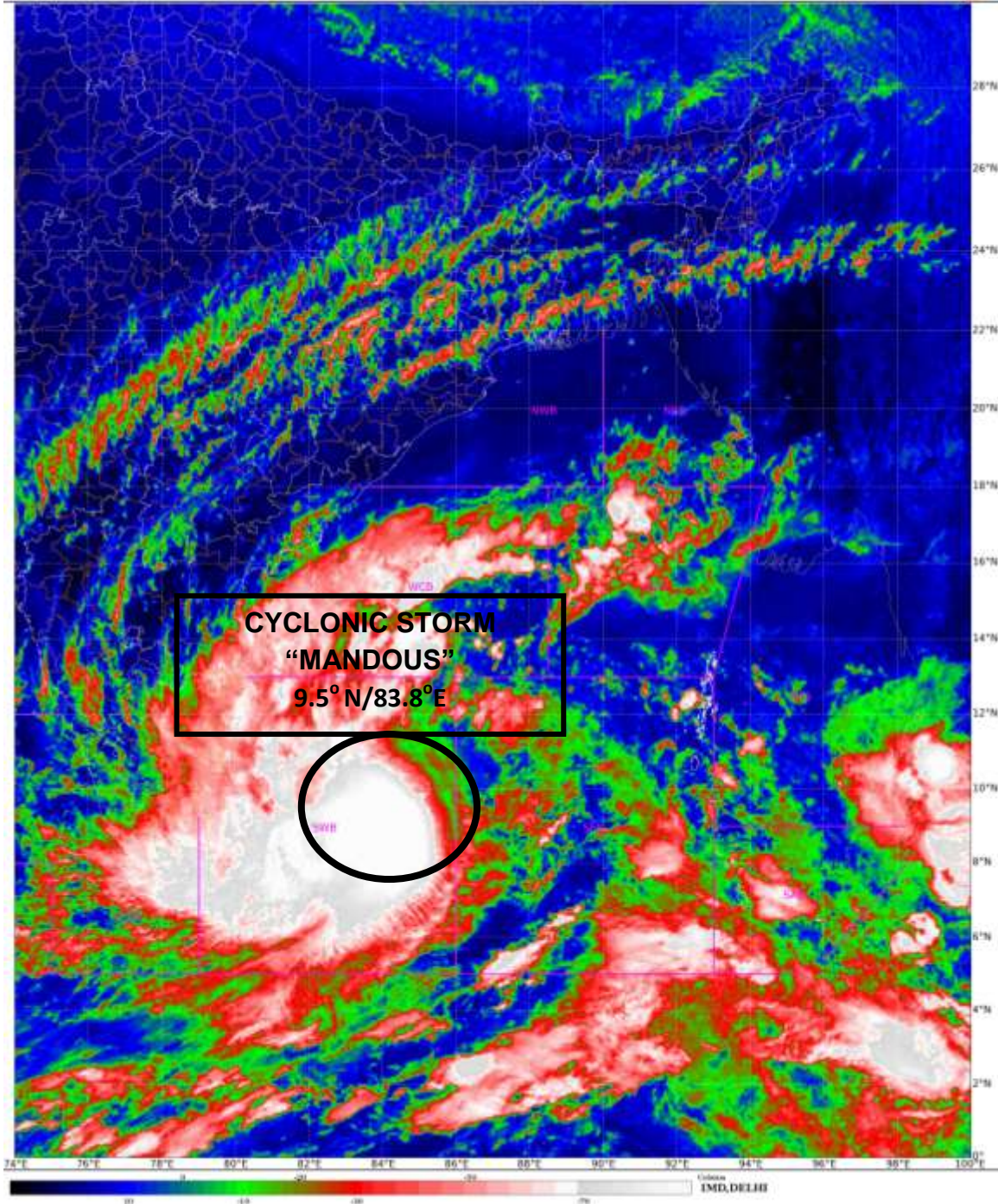
**(viii) Action suggested over Coastal Tamil Nadu, Puducherry and adjoining south coastal Andhra Pradesh**

- ❖ 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.

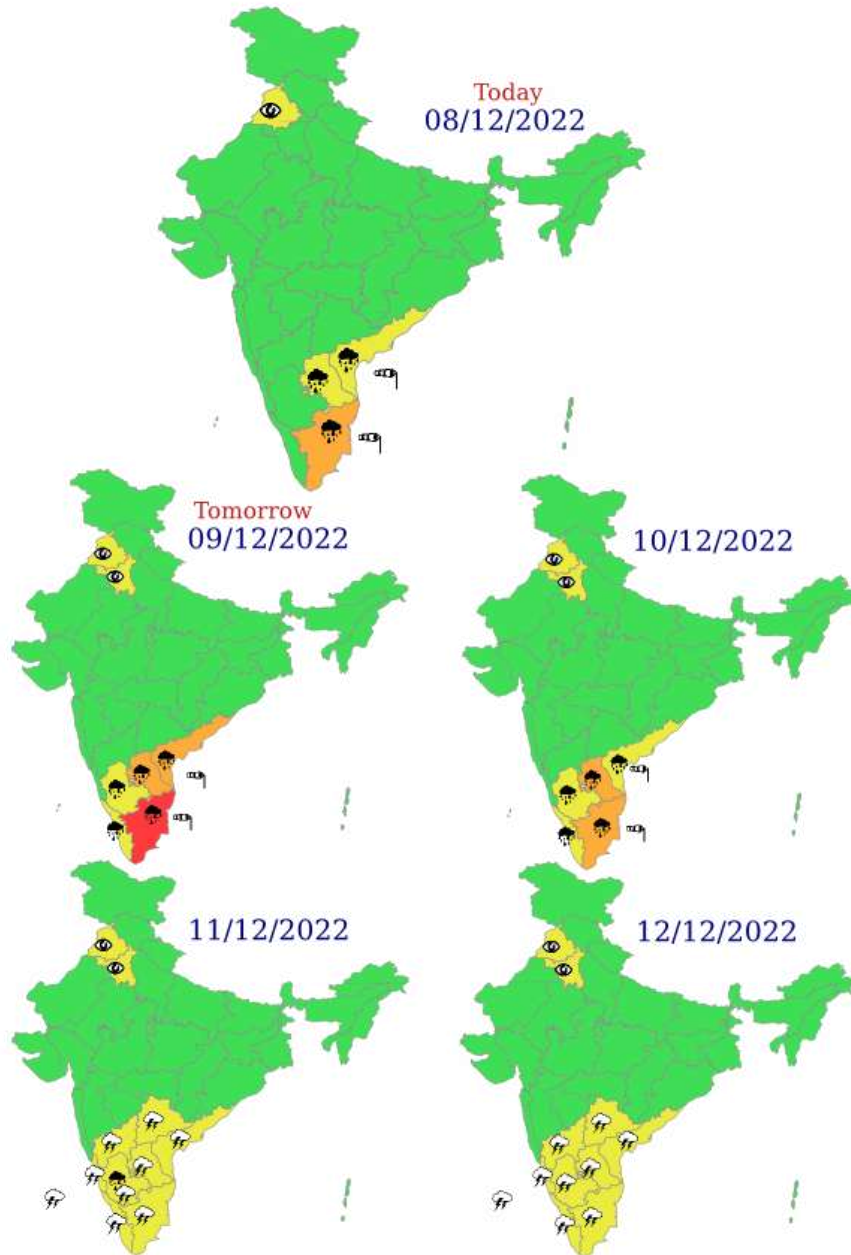
**System is under continuous surveillance and the next bulletin will be issued at 1430 hours IST of today, the 08<sup>th</sup> Dec, 2022.**

**(Akhil Srivastava)**  
**Scientist C, Cyclone Warning Division, New Delhi**

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



# Multi hazard Warning Graphics

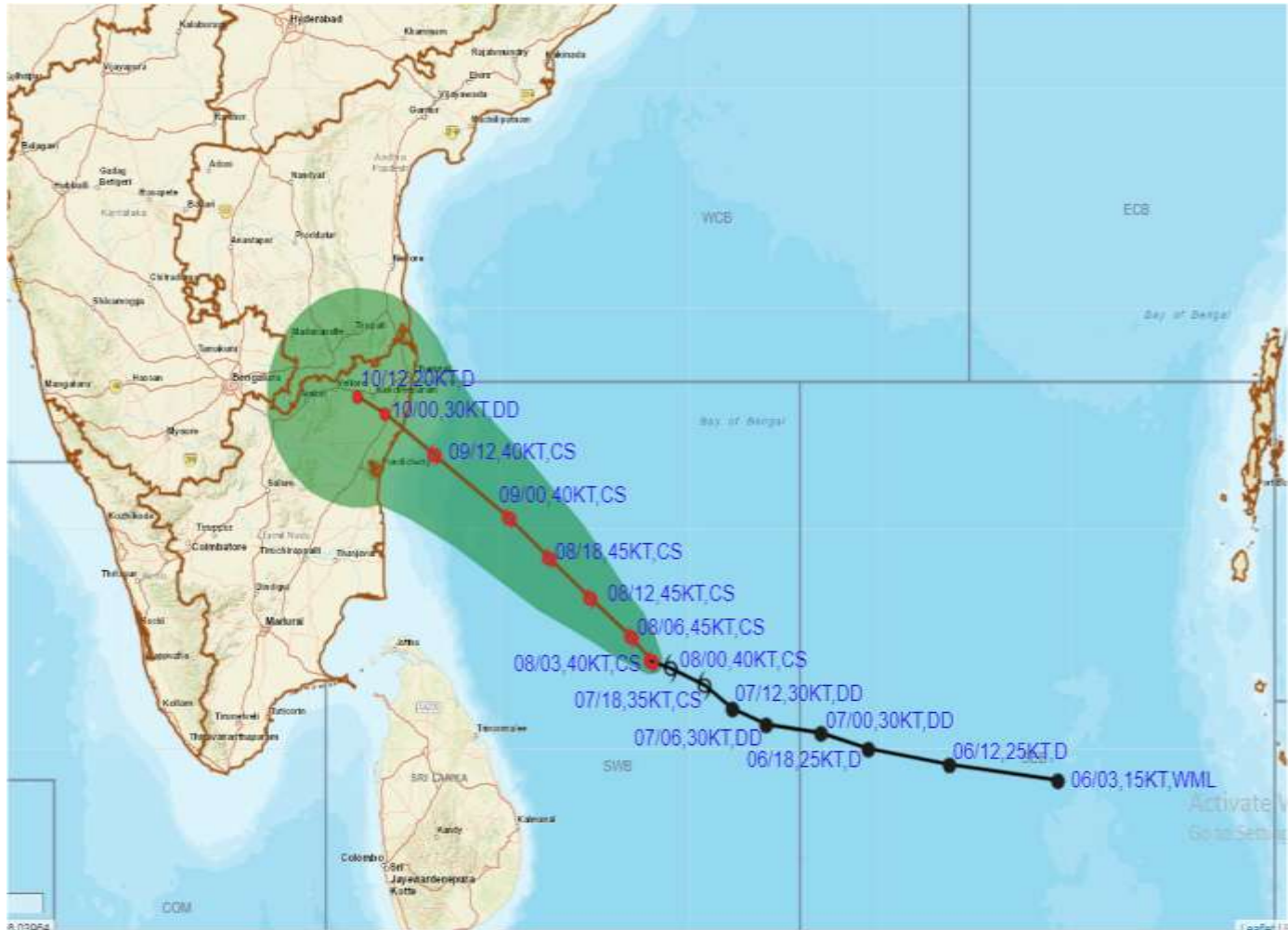


**LEGEND:** Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%  
 Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

 Heavy Rain	 Heavy Snow	 Thunderstorm	 Dust Storm
 Strong Winds	 Visibility	 Cyclone	 Squall/ Hail
 Frost	 Cold Wave	 Heat Wave	 Sea State



**OBSERVED AND FORECAST TRACK OF CYCLONIC STORM 'MANDOUS' OVER SOUTHWEST BAY OF BENGAL BASED ON 0300 UTC OF 08<sup>th</sup> DECEMBER, 2022.**

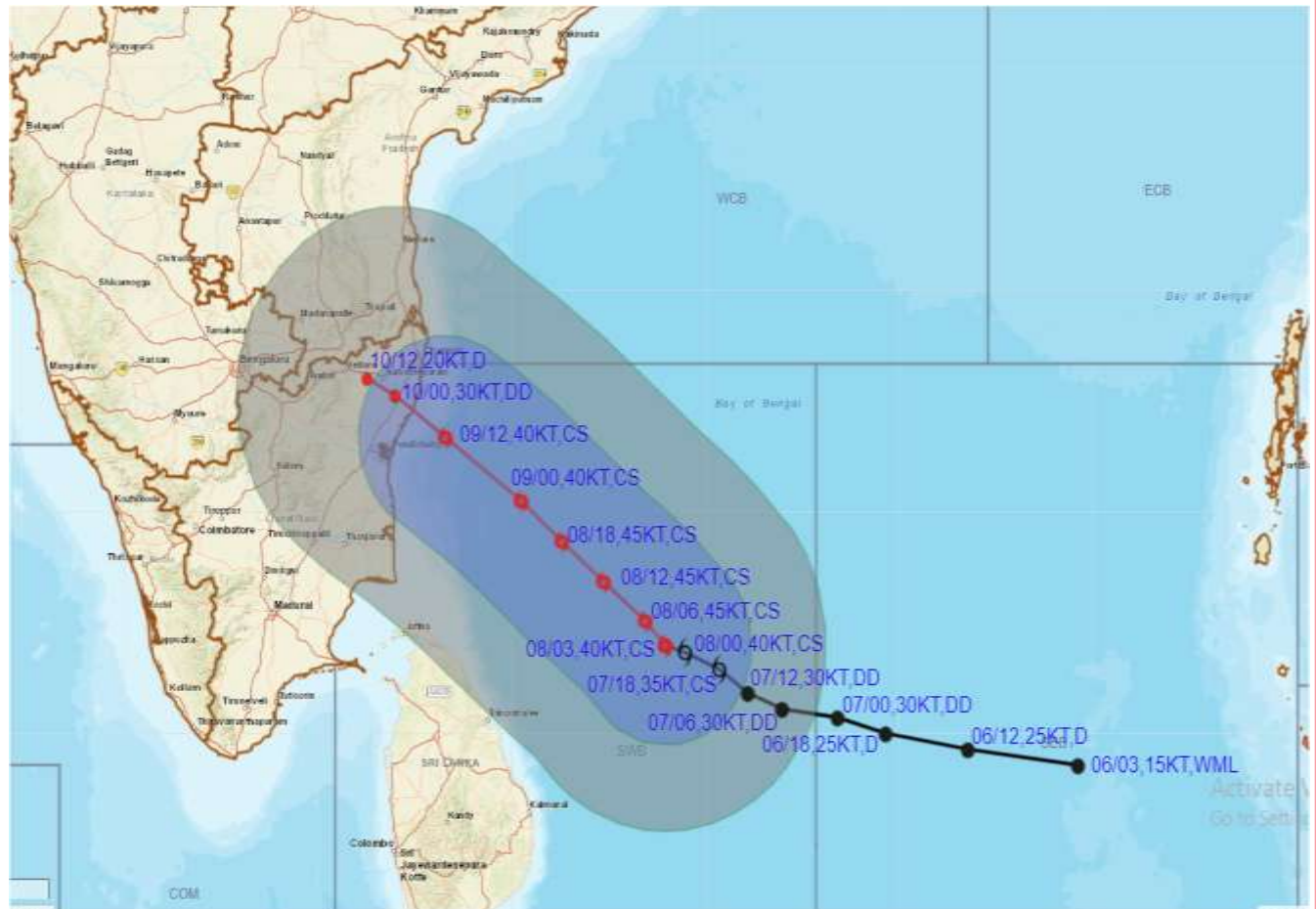


**DATE/TIME IN UTC**  
**IST=UTC + 0530**  
**L: LOW PRESSURE AREA**  
**WML: WELL MARKED LOW PRESSURE AREA**  
**D: DEPRESSION (17-27 KT)**  
**DD: DEEP DEPRESSION (28-33 KT)**  
**CS: CYCLONIC STORM (34-47 KT)**  
**SCS: SEVERE CYCLONIC STORM (48-63KT)**  
**VSCS: VERY SEVERE CYCLONIC STORM (64-89 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 0300 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 (≥ 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)

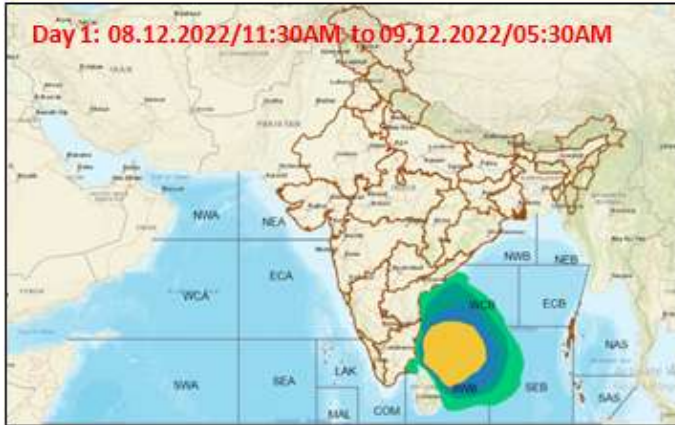
**IMPACT OVER THE SEA**

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
08.12.22/0300	0	9.5	83.8	TRINCOMALEE (300,ENE)	BATTICALOA (305,NE)	MULLAITIVU 1) (330,E)	POTTUVIL (365,NE)	VAVUNIYA (370,ENE)
08.12.22/0600	3	9.8	83.5	TRINCOMALEE (280,ENE)	MULLAITIVU 1) (300,ENE)	BATTICALOA (305,NE)	VAVUNIYA (350,ENE)	POTTUVIL (370,NNE)
08.12.22/1200	9	10.3	82.9	MULLAITIVU 1) (255,ENE)	TRINCOMALEE (260,NE)	VAVUNIYA (315,ENE)	KANKASANTURAI 1) (315,E)	BATTICALOA (315,NNE)
08.12.22/1800	15	10.8	82.3	MULLAITIVU 1) (235,NE)	NAGAPPATTINAM (265,E)	KANKASANTURAI 1) (265,ENE)	KARAIKAL (270,E)	TRINCOMALEE (270,NNE)
09.12.22/0000	21	11.3	81.7	KARAIKAL (205,ENE)	NAGAPPATTINAM (210,ENE)	PARANGIPETTAI (210,E)	CUDDALORE (215,ESE)	MO PONDICHERRY (215,ESE)
09.12.22/1200	33	12.1	80.6	MO PONDICHERRY (85,E)	CUDDALORE (95,ENE)	CHENNAI/MINAMBAKKAM (110,SSE)	PARANGIPETTAI (110,NE)	NUMGAMBAKKAM (115,SSE)
10.12.22/0000	45	12.6	79.9	CHENNAI/MINAMBAKKAM (50,SW)	NUMGAMBAKKAM (60,SSW)	MO PONDICHERRY (70,N)	TIRUTTANI (70,SSE)	VELLORE (85,ESE)
10.12.22/1200	57	12.8	79.5	TIRUTTANI (35,S)	VELLORE (40,ESE)	CHENNAI/MINAMBAKKAM (75,WSW)	NUMGAMBAKKAM (80,WSW)	TIRUPATHI (95,S)

# Fishermen warning graphics

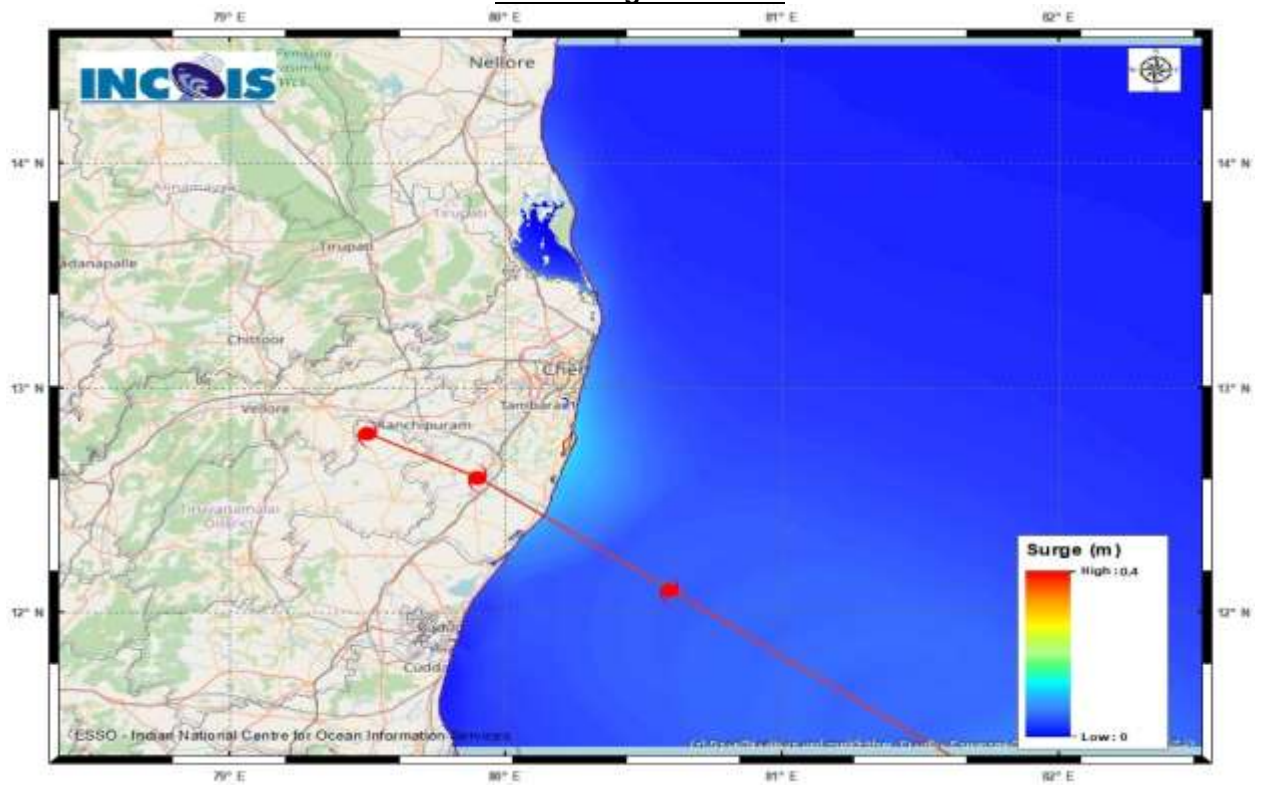


	Squally WX with wind speed 40-45 kmph gusting to 55 kmph
	Squally WX with wind speed 45-55 kmph gusting to 65 kmph
	Squally wind speed 45-55 kmph gusting to 65 kmph
	Squally wind with wind speed 55-65 kmph gusting to 75 kmph
	Gale wind with wind speed 70-80 kmph gusting to 90 kmph
	Gale wind with wind speed 89-90 kmph gusting to 100 kmph

Fishermen are advised not to venture into the marked areas.



### Storm Surge Guidance



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