



India Meteorological Department  
(Ministry of Earth Sciences)

BULLETIN NO. 12 (BOB/09/2022)

TIME OF ISSUE: 1700 HOURS IST

DATED: 08.12.2022

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23093750)

CONTROL ROOM NDMA (FAX.NO. 26701729)

CABINET SECRETARIAT (FAX.NO.23012284, 23018638)

PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)

SECRETARY, MOES (FAX NO. 24629777)

H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)

DIRECTOR GENERAL, DOORDARSHAN (23385843)

DIRECTOR GENERAL, AIR (23421105, 23421219)

PIB MOES (FAX NO. 23389042)

UNI (FAX NO. 23355841)

D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)

DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, GOVT. WEST BENGAL (FAX NO. 033-22144328)

CHIEF SECRETARY, GOVT. OF ODISHA (FAX NO. 0674 -2536660)

CHIEF SECRETARY, GOVT. OF ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, GOVT. OF TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, GOVT. OF PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

**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<br>(Lat. °N/ long. °E) | Maximum sustained surface<br>wind speed (Kmph) | Category of cyclonic<br>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, 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

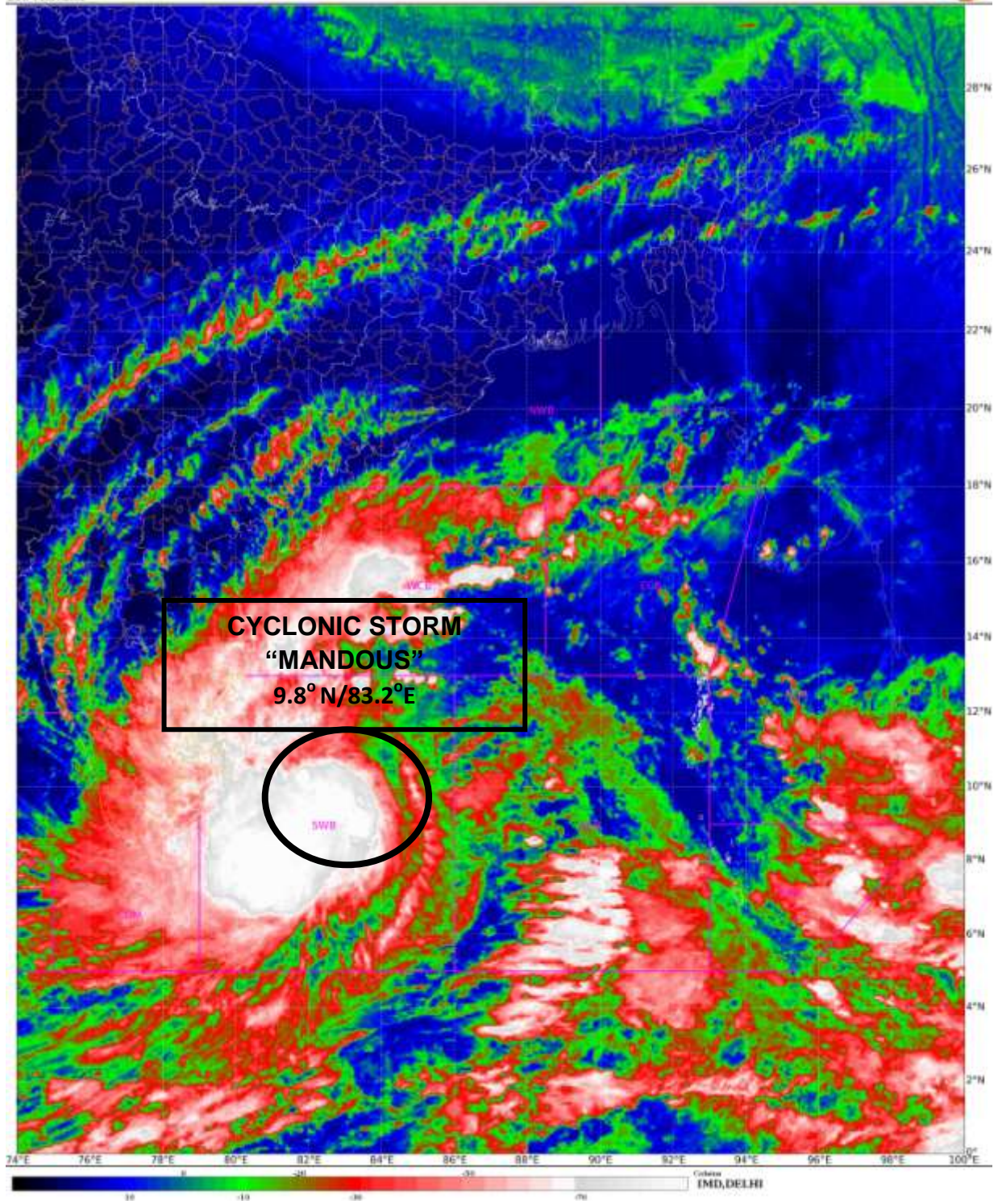
**(viii) Action suggested over Coastal Tamil Nadu, Puducherry and adjoining south coastal Andhra Pradesh**

- ❖ 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.

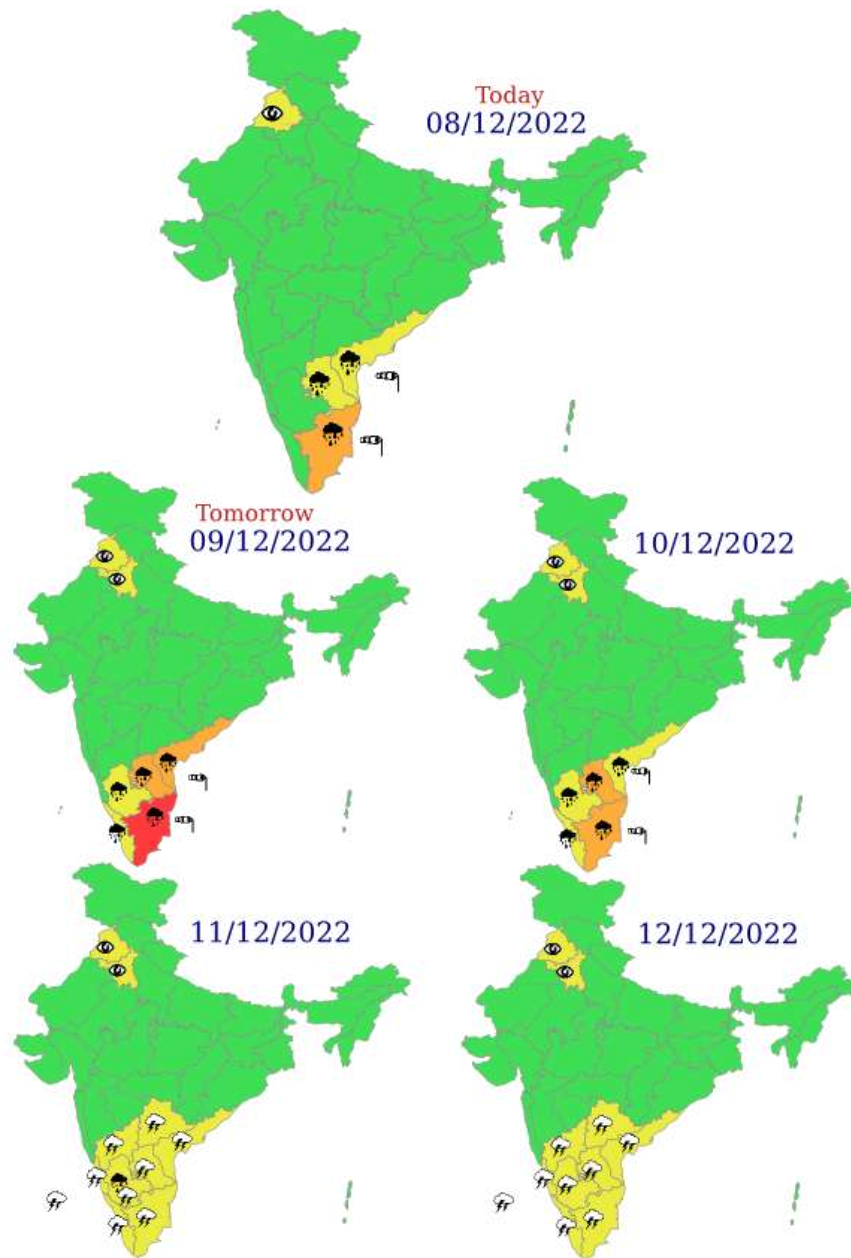
**System is under continuous surveillance and the next bulletin will be issued at 2030 hours IST of today, the 08<sup>th</sup> Dec, 2022.**

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

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



# Multi hazard Warning Graphics

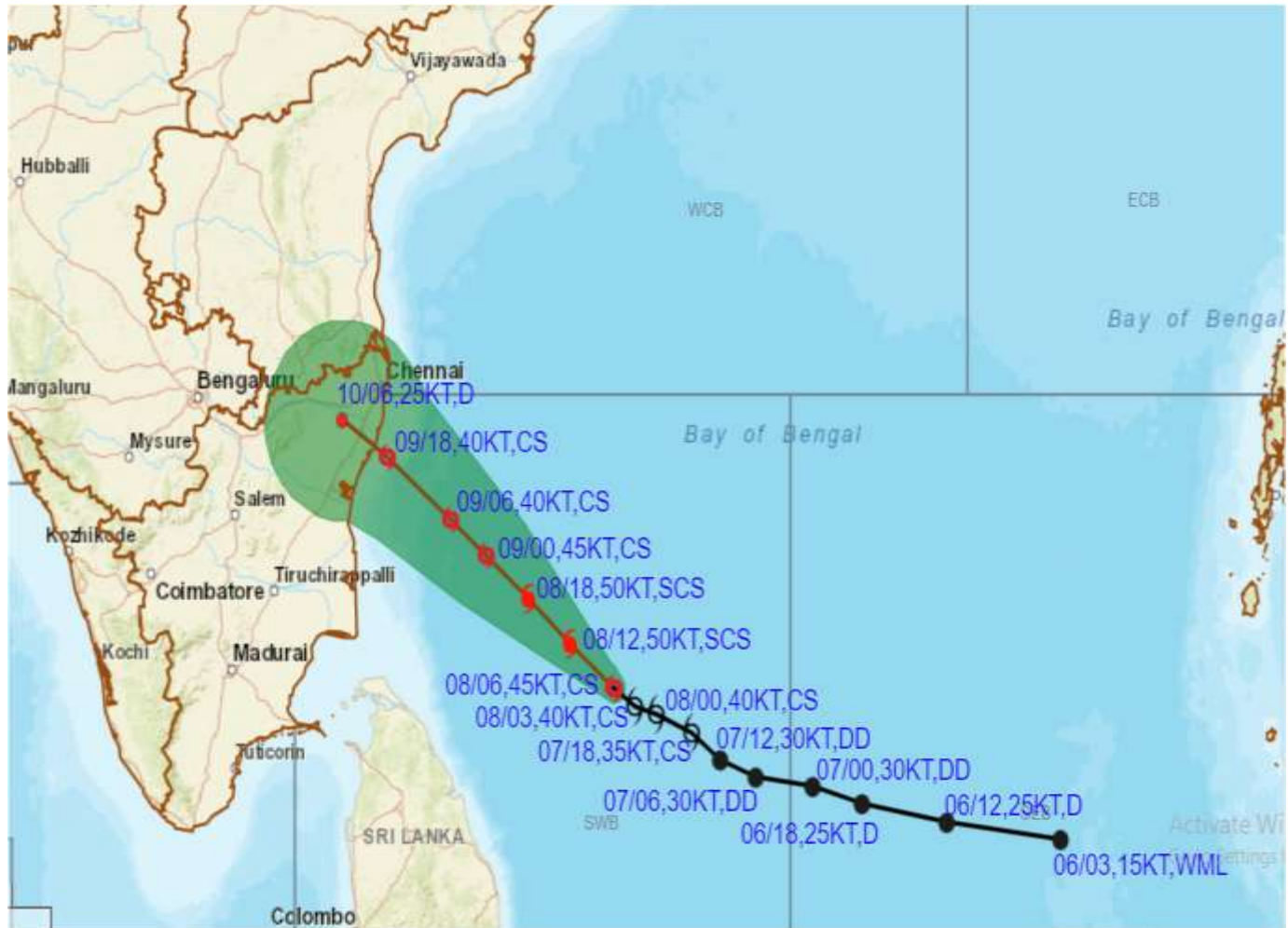


**LEGEND:** Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%  
 Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

- |  |  |  |  |
|--|--|--|--|
|  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 0600 UTC OF 08<sup>th</sup> DECEMBER, 2022.**

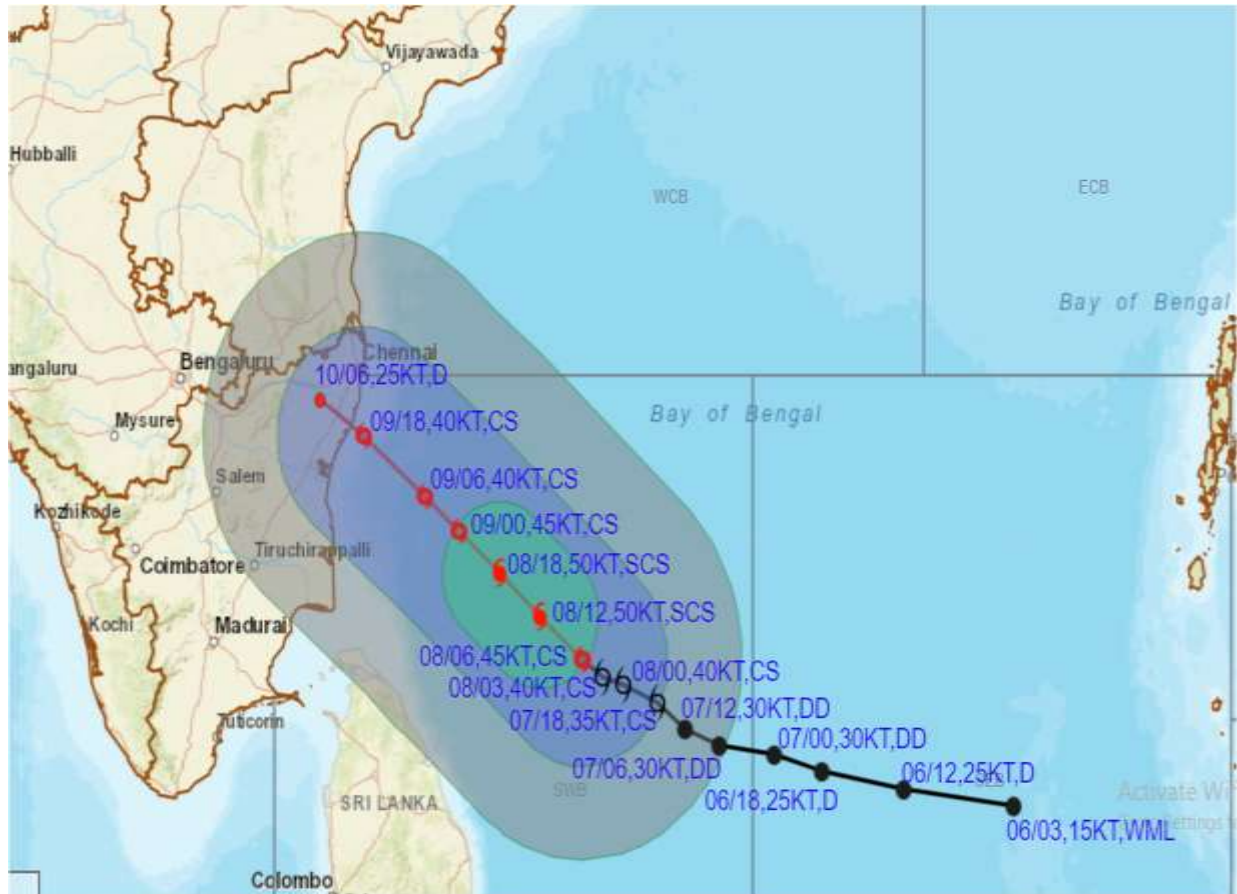


DATE/TIME IN UTC  
 IST=UTC + 0530  
 L: LOW PRESSURE AREA  
 WML: WELL MARKED LOW PRESSURE AREA  
 D: DEPRESSION (17-27 KT)  
 DD: DEEP DEPRESSION (28-33 KT)  
 CS: CYCLONIC STORM (34-47 KT)  
 SCS: SEVERE CYCLONIC STORM (48-63KT)  
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)  
 ESCS: EXTREMELY SEVERE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

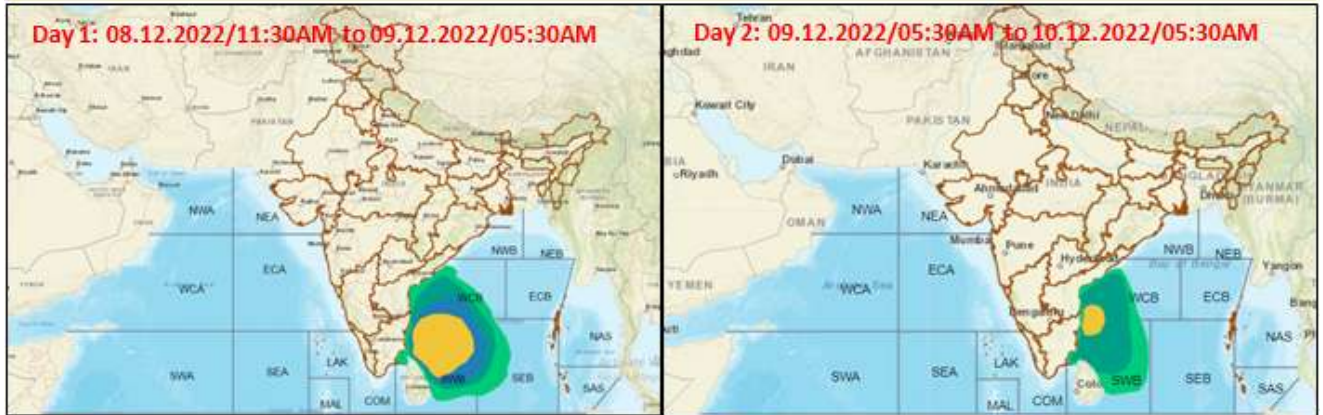
**IMPACT OVER THE SEA**

| 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                |
|------------------------|-------------|------|------|--------------------------|------------------------------|----------------------------|-----------------------|--------------------------|
| 08.12.22/0600          | 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 | KARAİKAL (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)          | KARAİKAL (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

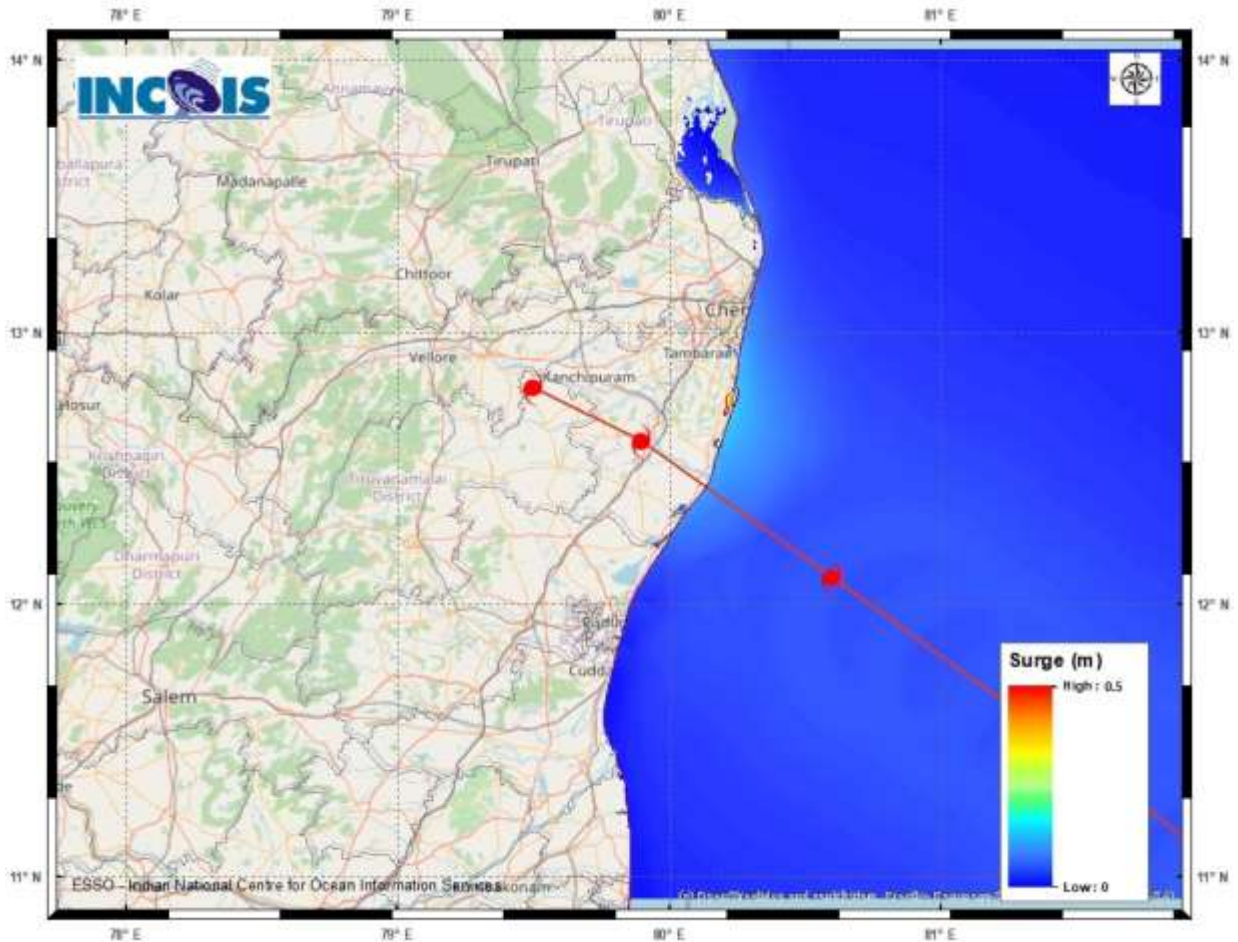


|  |  |
|--|--|
|  | Squally WX with wind speed 40-45 kmph gusting to 55 kmph   |
|  | Squally WX with wind speed 45-55 kmph gusting to 65 kmph   |
|  | Squally wind speed 45-55 kmph gusting to 65 kmph           |
|  | Squally wind with wind speed 55-65 kmph gusting to 75 kmph |
|  | Gale wind with wind 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.