REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI

TROPICAL CYCLONE ADVISORY NO. 15

FROM: RSMC TROPICAL CYCLONES NEW DELHI DATED 09.12.2022

FROM: RSMC –TROPICAL CYCLONES, NEW DELHI

TO: STORM WARNING CENTRE, NAYPYI TAW (MYANMAR)
STORM WARNING CENTRE, BANGKOK (THAILAND)
STORM WARNING CENTRE, COLOMBO (SRILANKA)
STORM WARNING CENTRE, DHAKA (BANGLADESH)
STORM WARNING CENTRE, KARACHI (PAKISTAN)
METEOROLOGICAL OFFICE, MALE (MALDIVES)
OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH)
YEMEN METEOROLOGICAL SERVICES, REPUBLIC OF YEMEN (THROUGH RTH JEDDAH)
NATIONAL CENTRE FOR METEOROLOGY, UAE (THROUGH RTH JEDDAH)
PRESIDENCY OF METEOROLOGY AND ENVIRONMENT, SAUDI ARABIA (THROUGH RTH JEDDAH)
IRAN METEOROLOGICAL ORGANISATION, (THROUGH RTH JEDDAH)
QATAR METEOROLOGICAL DEPARTMENT (THROUGH RTH JEDDAH)

TROPICAL CYCLONE ADVISORY NO. 15 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 1500 UTC OF 09.12.2022 BASED ON 1200 UTC OF 09.12.2022

SUBJECT: THE CYCLONIC STORM "MANDOUS" PRONOUNCED AS "MAN-DOUS" OVER SOUTHWEST BAY OF BENGAL (CYCLONE WARNING: NORTH TAMILNADU, PUDUCHERRY AND SOUTH ANDHRA PRADESH COASTS)

THE CYCLONIC STORM **"MANDOUS"** PRONOUNCED AS **"MAN-DOUS"** OVER SOUTHWEST BAY OF BENGAL MOVED NORTHWESTWARDS WITH A SPEED OF 14 KMPH DURING PAST 06 HOURS AND LAY CENTERED AT 1200UTC OF 09TH DECEMBER, 2022 OVER SOUTHWEST BAY OF BENGAL OFF NORTH TAMILNADU AND PUDUCHERRY COASTS NEAR LATITUDE 12.0°N AND LONGITUDE 80.8°E, ABOUT 95KM SOUTHEAST OF MAMALLAPURAM (MAHABALIPURAM) 130 KM SOUTH-SOUTHEAST OF CHENNAI(43279), 280 KM NORTH-NORTHEAST OF JAFFNA (43404), AND 380 KM NORTH OF TRINCOMALEE (43418),. THE CYCLONE IS BEING MONITORED BY DOPPLER WEATHER RADARS OF KARAIKAL AND CHENNAI.

IT IS VERY LIKELY TO MOVE NEARLY NORTHWESTWARDS AND CROSS NORTH TAMILNADU, PUDUCHERRY AND ADJOINING SOUTH ANDHRA PRADESH COASTS BETWEEN PUDUCHERRY AND SRIHARIKOTA AROUND MAMALLAPURAM (MAHABALIPURAM) AS A CYCLONIC STORM WITH A MAXIMUM SUSTAINED WIND SPEED OF 65-75 KMPH GUSTING TO 85 KMPH DURING 1800 TO 2100 UTC OF 09TH DECEMBER

FORECAST TRACK AND INTENSITY ARE GIVEN BELOW:

DATE/TIME(UTC)	POSITION (LAT. °N/ LONG. °E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
09.12.22/1200	12.0/80.8	70-80 GUSTING TO 90	CYCLONIC STORM
09.12.22/1800	12.5/80.3	65-75 GUSTING TO 85	CYCLONIC STORM
10.12.22/0000	12.7/80.0	55-65 GUSTING TO 75	DEEP DEPRESSION
10.12.22/0600	12.9/79.5	40-50 GUSTING TO 60	DEPRESSION
10.12.22/1200	13.1/79.0	25-35 GUSTING TO 45	LOW PRESSURE AREA

Cloud distribution: (a) Isolated: <25%, Scattered:25-50%, Broken: 51-75%, Solid:>75%, Convection Intensity: (a) Weak: Cloud Top Temperature (CTT) >-25°C, (b) Moderate: CTT: - 25°C to -40°C, (c) Intense: CTT: - 41°C to -70°C and (d) Very Intense: : Less than -70°C
PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION): NIL: 0%, LOW: 1-33%, , MODERATE: 34-66% AND HIGH: 67-100%
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AS PER INSAT 3D IMAGERY, CURRENT INTENSITY IS T2.5/3.0 AND SHOWS CURVED BAND PATTERN. THE ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LIES OVER SOUTH WEST BAY OF BENGAL BETWEEN AREA LAT 11.0 DEG N TO 14.5 DEG N AND WEST OF LONG 81.5 DEG E AND MODERATE INTENSE TO VERY INTENSE CONVECTION OVER NORTH TAMILNADU, SOUTH COASTAL ANDHRA PRADESH, GULF OF MANNAR, PALK STRAIT AND SRI LANKA. MINIMUM CLOUD TOP TEMPERATURE (CTT) IS MINUS 93 DEG CEL.

THE MAXIMUM SUSTAINED SURFACE WIND SPEED IS 45 KNOTS GUSTING TO 55 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 996 HPA. SEA CONDITION IS HIGH OVER SOUTHWEST BAY OF BENGAL AND ROUGH TO VERY ROUGH OVER ADJOINING AREAS OF WEST CENTRAL BAY OF BENGAL AND GULF OF MANNAR. THE SYSTEM HAS SHOWED WEAKENING TREND DURING LAST 09 HOURS.

REMARKS:

THE MADDEN JULIAN OSCILLATION (MJO) INDEX CURRENTLY LIES IN PHASE 3 AND WILL REMAIN THERE TILL 9TH DECEMBER. SEA SURFACE TEMPERATURE (SST) IS AROUND 27°C-28°C OVER SOUTHWEST AND CENTRAL BOB AND ALONG AND OFF NORTH TAMILNADU AND ADJOINING ANDHRA PRADESH COASTS. ALSO THE OCEAN HEAT CONTENT (OHC) IS 50-80 KJ/CM^2 OVER SOUTHWEST BOB AND LESS THAN 50 KJ/CM^2 OVER WESTCENTRAL BOB. THERE IS WARM AIR ADVECTION TO THE SYSTEM FROM THE SOUTHERN SECTOR WITH REDUCING TREND.

AT 1200 UTC OF 9TH DEC, CHENNAI(43279) REPORTED MEAN SEA LEVEL PRESSURE OF 1002.0 HPA AND WIND DIRECTION/SPEED AS 360°/12 KNOTS, PUDUCHERRY (43331) REPORTED MEAN SEA LEVEL PRESSURE OF 1000.8 HPA AND WIND DIRECTION/SPEED AS 320°/9KNOTS AND NAGAPPTTINAM(43347) REPORTED MEAN SEA LEVEL PRESSURE OF 1002.4 HPA AND WIND DIRECTION/SPEED AS 270°/6KNOTS. THERE HAS BEEN A PRESSURE FALL IN LAST 24 HOURS(P24) OF -3.0 HPA TO -5.0 HPA IN THESE STATIONS OVER NORTH TAMIL NADU COAST WITH PRESSURE DEPARTURE FROM NORMAL OF -10.0 TO -13.0. THE HIGHEST PRESSURE FALL IS -4.7 HPA AT PUDUCHERRY (43331) AND PRESSURE DEPARTURE FROM NORMAL IS -13 HPA AT CUDDALORE(43329).

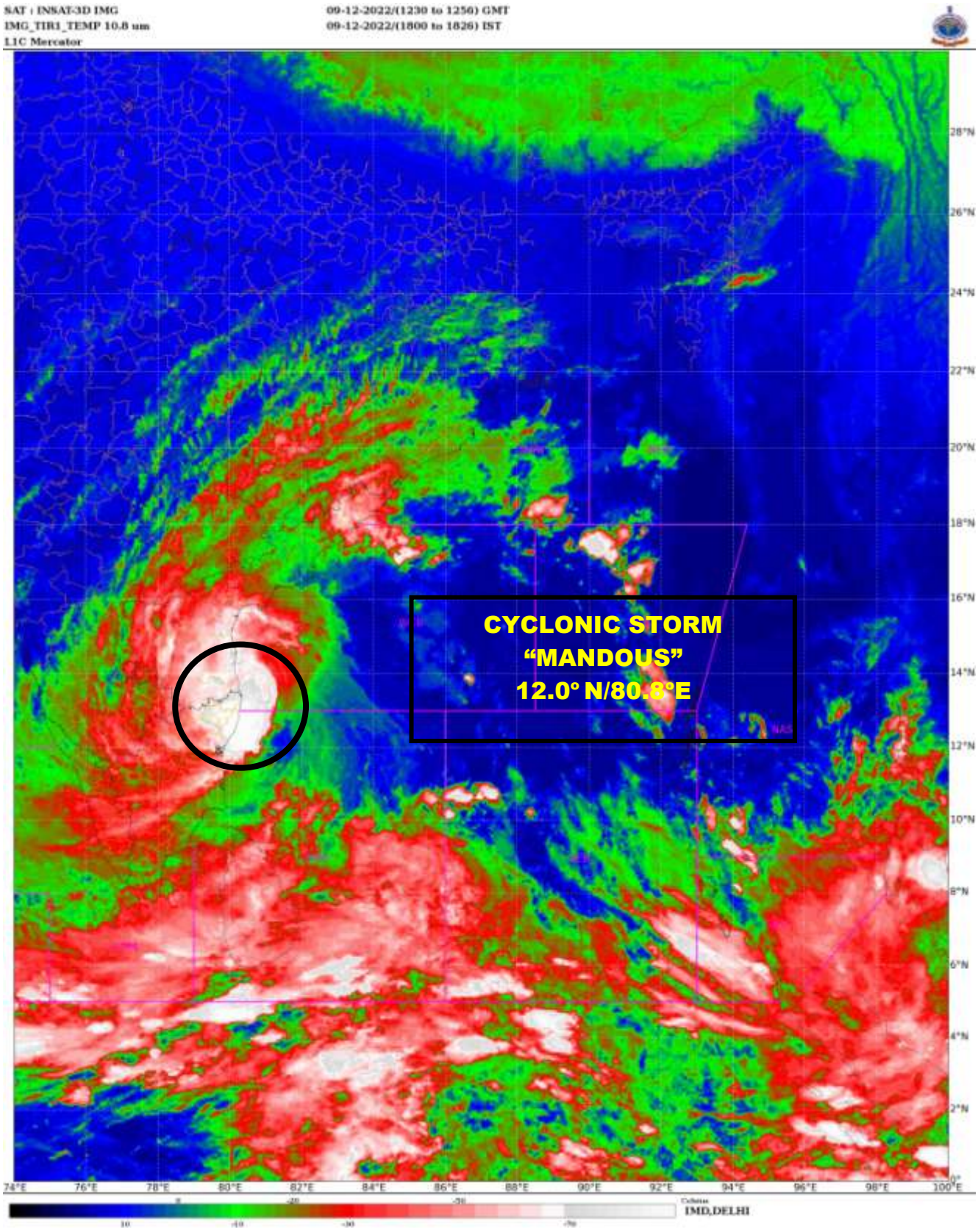
LOW LEVEL VORTICITY IS 250 X10^{-6} S^{-1} AROUND THE SYSTEM CENTER WITH PEAK TO THE SOUTH OF THE SYSTEM CENTER. LOW LEVEL CONVERGENCE HAS REDUCED AND IS 10 X10^{-5} S^{-1} AROUND THE SYSTEM CENTER AND UPPER LEVEL DIVERGENCE IS 10 X10^{-5} S^{-1} TO THE WEST OF THE SYSTEM CENTER.

WIND SHEAR IS MODERATE TO HIGH (20-25 KNOTS) OVER & AROUND THE SYSTEM CENTER AND DECREASING ALONG THE PREDICTED TRACK. THE UPPER TROPOSPHERIC RIDGE RUNS ROUGHLY ALONG 17.0°N OVER THE BOB. THE SYSTEM LIES IN THE SOUTHERMOST PERIPHERY OF THE STEERING RIDGE IN ASSOCIATION WITH THE ANTI CYCLONIC CIRCULATION TO THE NORTHEAST OF MYANMAR. THE SYSTEM IS UNDER THE INFLUENCE OF RIDGE LINE AND IT IS LIKELY TO BE STEERED TOWARDS NORTHWEST TILL 0000 UTC OF 10TH DECEMBER. THEREAFTER, IT IS LIKELY TO BE STEERED WEST-NORTHWESTWARDS. PRESENTLY, THE SYSTEM IS UNDER THE INFLUENCE OF COLD AND DRY AIR INTRUSION FROM SOUTH PENINSULAR INDIA, THE SYSTEM WOULD SHOW SLIGHT WEAKENING TREND WHILE MOVING TOWARDS COAST.

IN VIEW OF ALL THE ABOVE, THE SYSTEM IS VERY LIKELY TO MOVE NEARLY NORTHWESTWARDS AND CROSS NORTH TAMILNADU, PUDUCHERRY AND ADJOINING SOUTH ANDHRA PRADESH COASTS BETWEEN PUDUCHERRY AND SRIHARIKOTA AROUND MAMALLAPURAM (MAHABALIPURAM) AS A CYCLONIC STORM WITH A MAXIMUM SUSTAINED WIND SPEED OF 65-75 KMPH GUSTING TO 85 KMPH DURING 1800 TO 2100 UTC OF 09TH DECEMBER

R.K JENAMANI

SCIENTIST-F, RSMC,NEW DELHI



Cloud distribution: (a) Isolated: <25%, Scattered:25-50%, Broken: 51-75%, Solid:>75%, Convection Intensity: (a) Weak: Cloud Top Temperature (CTT) >-25°C, (b) Moderate: CTT: - 25°C to -40°C, (c) Intense: CTT: - 41°C to -70°C and (d) Very Intense: : Less than -70°C
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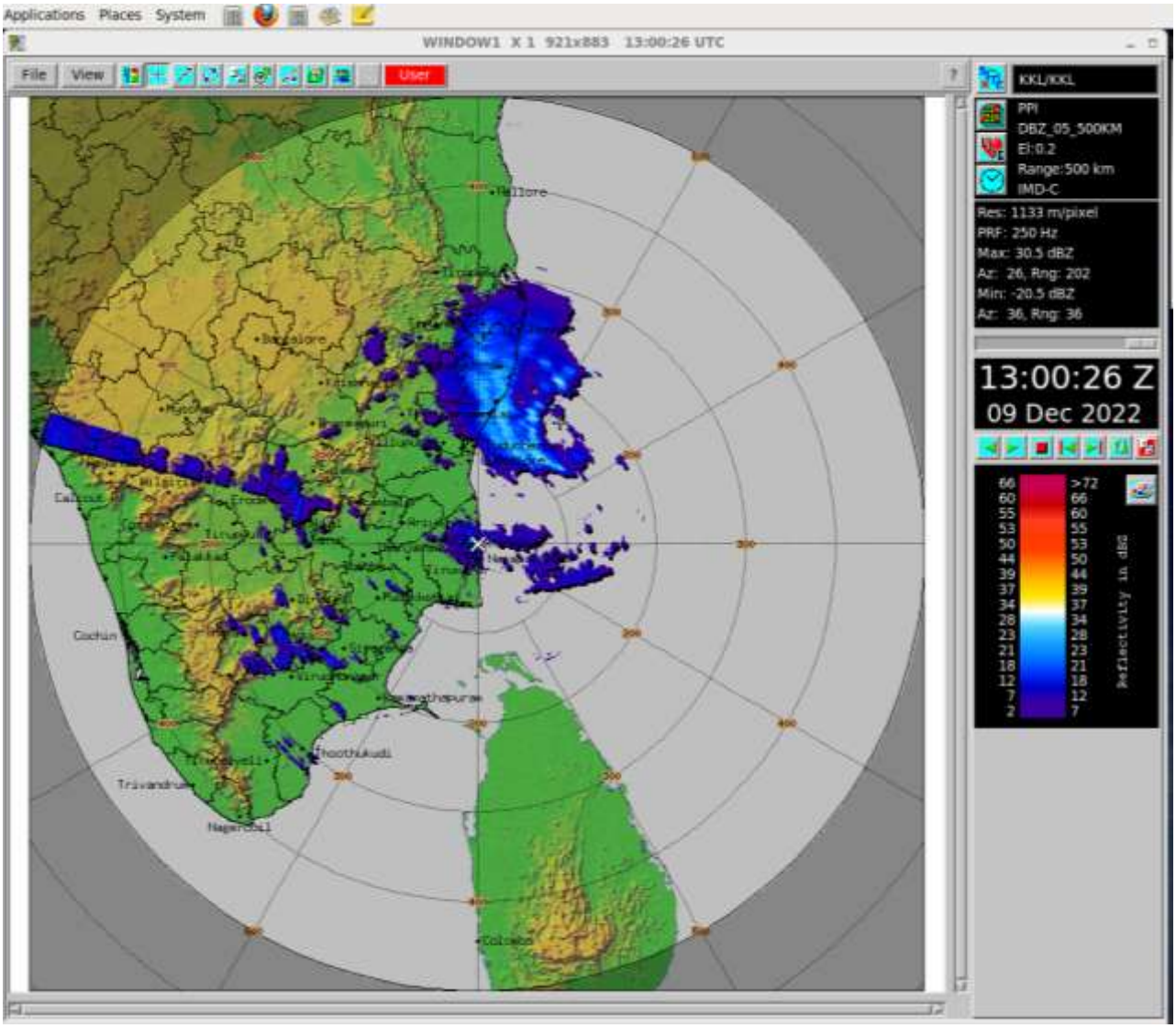

1300 UTC RADAR IMAGE FROM DWR KARAIKAL

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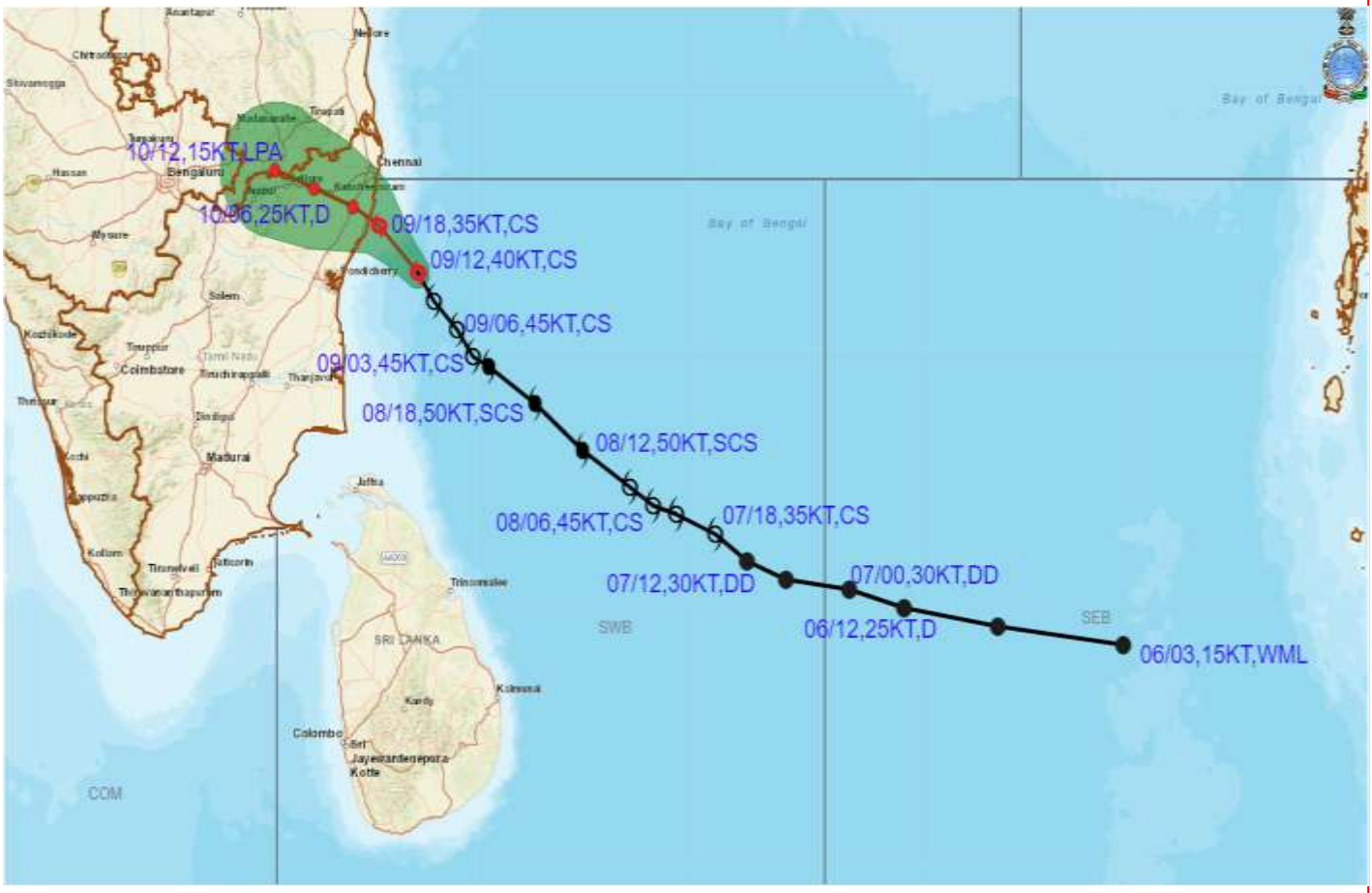
OBSERVED AND FORECAST TRACK OF CYCLONIC STORM 'MANDOUS' OVER SOUTHWEST BAY OF BENGAL BASED ON 1200 UTC OF 09th DECEMBER, 2022.



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

Cloud distribution: (a) Isolated: <25%, Scattered:25-50%, Broken: 51-75%, Solid:>75%, Convection Intensity: (a) Weak: Cloud Top Temperature (CTT) >-25°C, (b) Moderate: CTT: - 25°C to -40°C, (c) Intense: CTT: - 41°C to -70°C and (d) Very Intense: : Less than -70°C
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OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM 'MANDOUS' OVER SOUTHWEST BAY OF BENGAL BASED ON 1200 UTC OF 09th DECEMBER, 2022.

DATE/TIME IN UTC
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D: DEPRESSION (17-27 KT)
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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
09.12.22/0600	0	11.4	81.3	PARANGIPETTAI (170,E)	MAMALLAPURAM (180, SE)	CUDDALORE (170,ESE)	NAGAPPATTINAM (175,ENE)	MO PONDICHERRY (175,ESE)
09.12.22/1200	6	12.0	80.7	MO PONDICHERRY (95,E)	MAMALLAPURAM (85, SE)	PARANGIPETTAI (115,ENE)	MINAMBAKKAM (125,SSE)	NUMGAMBAKKAM (130,SSE)
09.12.22/1800	12	12.4	80.3	MINAMBAKKAM (70,S)	MAMALLAPURAM (25, SSE)	NUMGAMBAKKAM (75,S)	CUDDALORE (90,NE)	PARANGIPETTAI (115,NNE)
10.12.22/0000	18	12.7	80.0	MINAMBAKKAM (40,SSW)	MAMALLAPURAM (20, WNW)	TIRUTTANI (70,SE)	MO PONDICHERRY (85,NNE)	VELLORE (95,ESE)
10.12.22/0600	24	12.9	79.7	TIRUTTANI (35,SSE)	MAMALLAPURAM (60, WNW)	NUMGAMBAKKAM (55,WSW)	VELLORE (60,E)	TIRUPATHI (85,S)

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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

Fishermen are advised not to venture into the marked areas.

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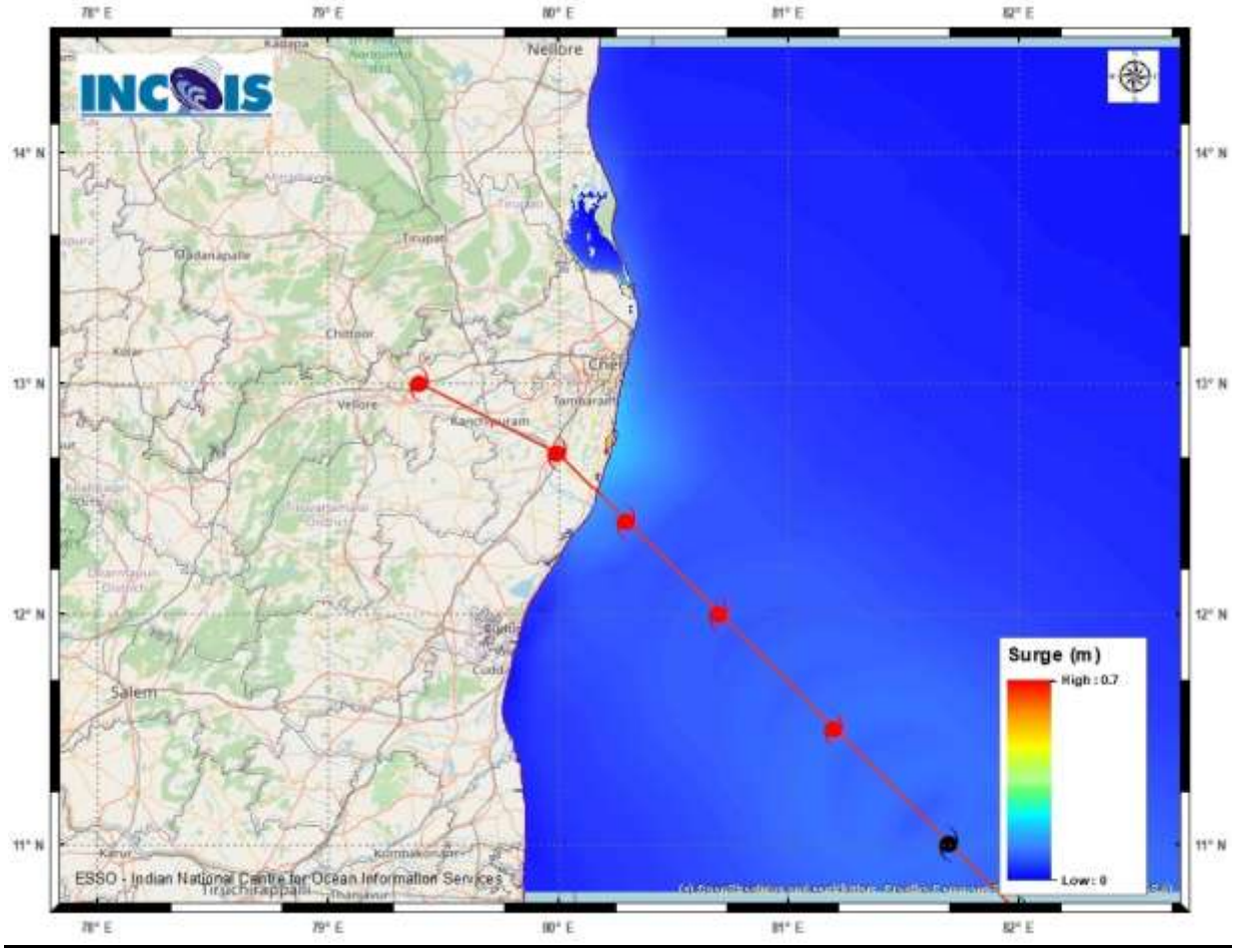
Storm Surge Guidance



STORM SURGE HEIGHT INFORMATION:

* The below listed surge heights are over and above astronomical tide.

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACEOF HABITATION	STORM SURGE (m) *	EXPECTED INUNDATION EXTENT (km)
Chengalpattu	Kancheepuram	Tamil Nadu	Muthukadu	0.3-0.7	Upto 0.13

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