



REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY NO. 11

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. 11 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0350 UTC OF 09.12.2022 BASED ON 0000 UTC OF 09.12.2022

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

THE SEVERE CYCLONIC STORM “MANDOUS” PRONOUNCED AS “MAN-DOUS” OVER SOUTHWEST BAY OF BENGAL MOVED WEST-NORTHWESTWARDS WITH A SPEED OF 13 KMPH DURING PAST 06 HOURS AND LAY CENTERED AT 0000UTC OF 09TH DECEMBER, 2022 OVER SOUTHWEST BAY OF BENGAL NEAR LATITUDE 11.0°N AND LONGITUDE 81.7°E, ABOUT 270 KM NORTH-NORTHEAST OF TRINCOMALEE (43418), 230 KM EAST-NORTHEAST OF JAFFNA (43404), 200 KM EAST OF KARAİKAL(43346) AND ABOUT 270 KM SOUTH-SOUTHEAST OF CHENNAI(43279).

IT IS VERY LIKELY TO WEAKEN INTO A CYCLONIC STORM DURING NEXT 03 HOURS. IT WOULD MOVE NEARLY NORTHWESTWARDS AND CROSS NORTH TAMILNADU, PUDUCHERRY AND ADJOINING SOUTH ANDHRA PRADESH COASTS BETWEEN PUDUCHERRY AND SRIHARIKOTA AROUND 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
09.12.22/0000	11.0/81.7	85-95 GUSTING TO 105	SEVERE CYCLONIC STORM
09.12.22/0600	11.5/81.2	80-90 GUSTING TO 100	CYCLONIC STORM
09.12.22/1200	12.0/80.7	70-80 GUSTING TO 90	CYCLONIC STORM
09.12.22/1800	12.4/80.3	65-75 GUSTING TO 85	CYCLONIC STORM
10.12.22/0600	12.7/80.0	55-65 GUSTING TO 75	DEEP DEPRESSION
10.12.22/1200	13.0/79.4	30-40 GUSTING TO 50	DEPRESSION

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, CONVECTION SHOWS CURVED BAND PATTERN WITH INTENSITY T3.5. CURVED BAND PATTERN (.) ASSOCIATED BROKEN LOW/MED CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION OVER SOUTH WEST BAY OF BENGAL BETWEEN AREA LAT 7.0 DEG N TO 13.0 DEG N LONG 79.0 DEG E TO 83.5 DEG E TAMILNADU, SRI LANKA & GULF OF MANNAR MINIMUM CTT MINUS 93 DEG CEL.

THE MAXIMUM SUSTAINED SURFACE WIND SPEED IS 50 KNOTS GUSTING TO 60 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 992 HPA. SEA CONDITION IS VERY HIGH TO HIGH OVER SOUTHWEST BAY OF BENGAL AND NEIGHBOURHOOD.

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 80-100 KJ/CM² OVER SOUTHWEST BOB AND LESS THAN 50 KJ/CM² OVER WESTCENTRAL AND SOUTHWEST BOB ALONG EAST COAST OF INDIA. THERE IS WARM AIR ADVECTION TO THE SYSTEM FROM THE SOUTHERN SECTOR.

AT 0000 UTC OF 9TH DEC, CHENNAI(43279) REPORTED MEAN SEA LEVEL PRESSURE OF 1004.2 HPA AND WIND DIRECTION/SPEED AS 340°/12.1 KNOTS, PUDUCHERRY(43331) REPORTED MEAN SEA LEVEL PRESSURE OF 1002.3 HPA AND WIND DIRECTION/SPEED AS 340°/8.0 KNOTS, NAGAPPTINM(43347) REPORTED MEAN SEA LEVEL PRESSURE OF 1001.7 HPA AND WIND DIRECTION/SPEED AS 320°/9.9 KNOTS, KARAIKAL(43346) REPORTED MEAN SEA LEVEL PRESSURE OF 1001.3 HPA AND WIND DIRECTION/SPEED AS 340°/8.0 KT KNOTS AND CUDDALORE(43329) REPORTED MEAN SEA LEVEL PRESSURE OF 1002.0 HPA AND WIND DIRECTION/SPEED AS 360°/13.0 KNOTS. THERE HAS BEEN A PRESSURE FALL IN LAST 24 HOURS(P24) AT THE RANGE OF -3.5 HPA TO -4.7 HPA IN THESE STATIONS OVER NORTH TAMIL NADU COAST WITH PRESSURE DEPARTURE FORM NORMAL AT RANGE OF -10.4 TO -12.3. THE HIGHEST PRESSURE FALL IS -4.8 HPA AND PRESSURE DEPARTURE FORM NORMAL IS -12.4HPA AT CUDDALORE(43329).

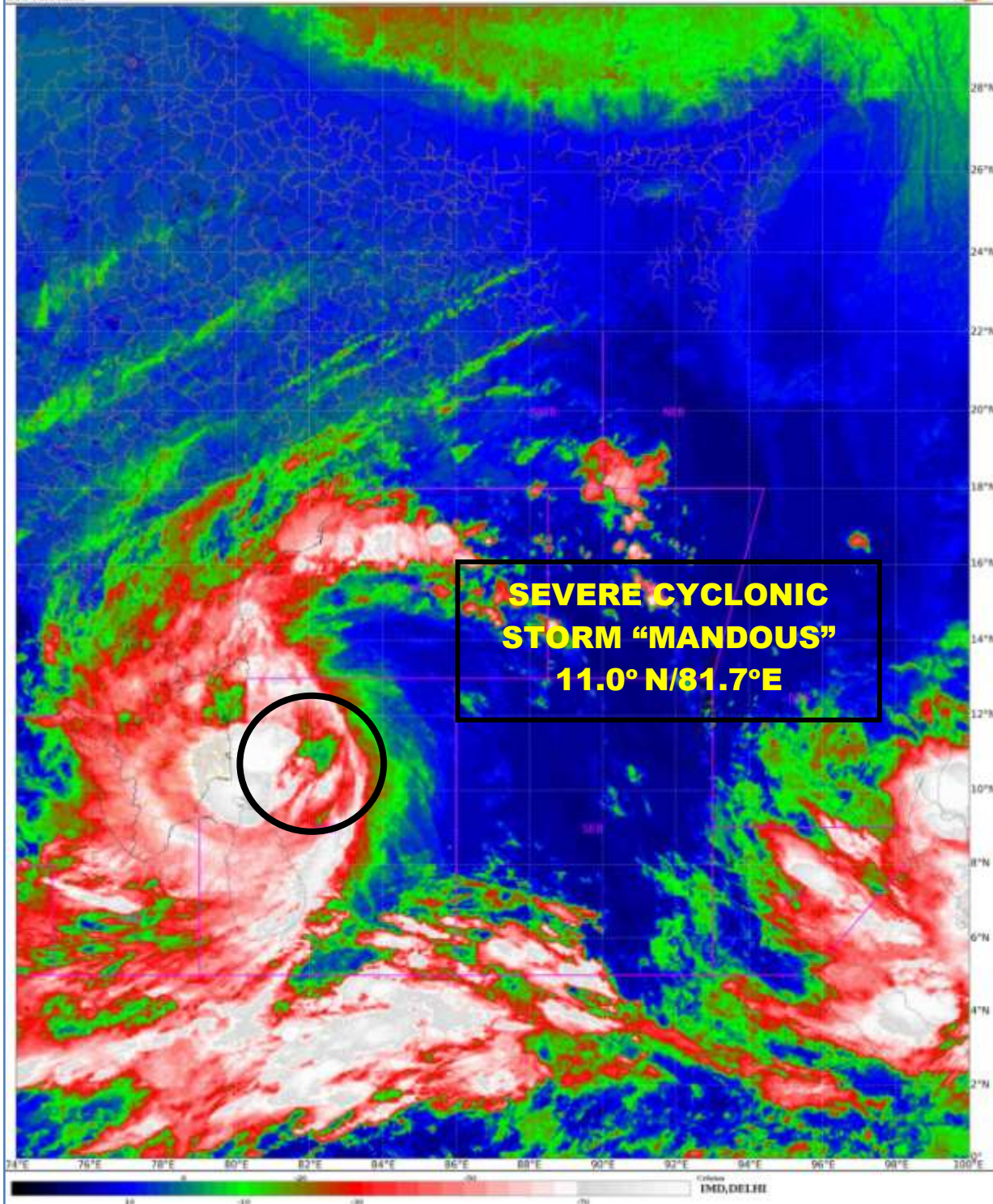
LOW LEVEL VORTICITY IS $300 \times 10^{-6} \text{ S}^{-1}$ AROUND SOUTH WEST OF SYSTEM CENTER. LOW LEVEL CONVERGENCE IS $20 \times 10^{-5} \text{ S}^{-1}$ TO THE SOUTH WEST OF SYSTEM CENTER AND UPPER LEVEL DIVERGENCE IS $20 \times 10^{-5} \text{ S}^{-1}$ TO THE SOUTH WEST OF THE SYSTEM CENTER.

WIND SHEAR IS MODERATE TO HIGH (20-25 KNOTS) OVER & AROUND THE SYSTEM CENTER AND ALONG THE EXPECTED TRACK. THE UPPER TROPOSPHERIC RIDGE RUNS ROUGHLY ALONG 16.0°N OVER THE BOB. THE SYSTEM IS UNDER THE INFLUENCE OF RIDGE LINE AND IT IS LIKELY TO BE STEERED TOWARDS NORTHWEST TILL EVENING OF 9TH DECEMBER. PRESENTLY, THE SYSTEM IS UNDER THE INFLUNCE 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 SEVERE CYCLONIC STORM "MANDOUS" PRONOUNCED AS "MAN-DOUS" VERY LIKELY TO WEAKEN INTO A CYCLONIC STORM DURING NEXT 03 HOURS. IT WOULD MOVE NEARLY NORTHWESTWARDS AND CROSS NORTH TAMILNADU, PUDUCHERRY AND ADJOINING SOUTH ANDHRA PRADESH COASTS BETWEEN PUDUCHERRY AND SRIHARIKOTA AROUND 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

TRISANU BANIK

SCIENTIST-C, RSMC, NEW DELHI



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OBSERVED AND FORECAST TRACK OF SEVERE CYCLONIC STORM 'MANDOUS' OVER SOUTHWEST BAY OF BENGAL BASED ON 0000 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



OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF SEVERE CYCLONIC STORM 'MANDOUS' OVER SOUTHWEST BAY OF BENGAL BASED ON 0000 UTC OF 09th DECEMBER, 2022.



DATE/TIME IN UTC
IST=UTC + 0530

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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

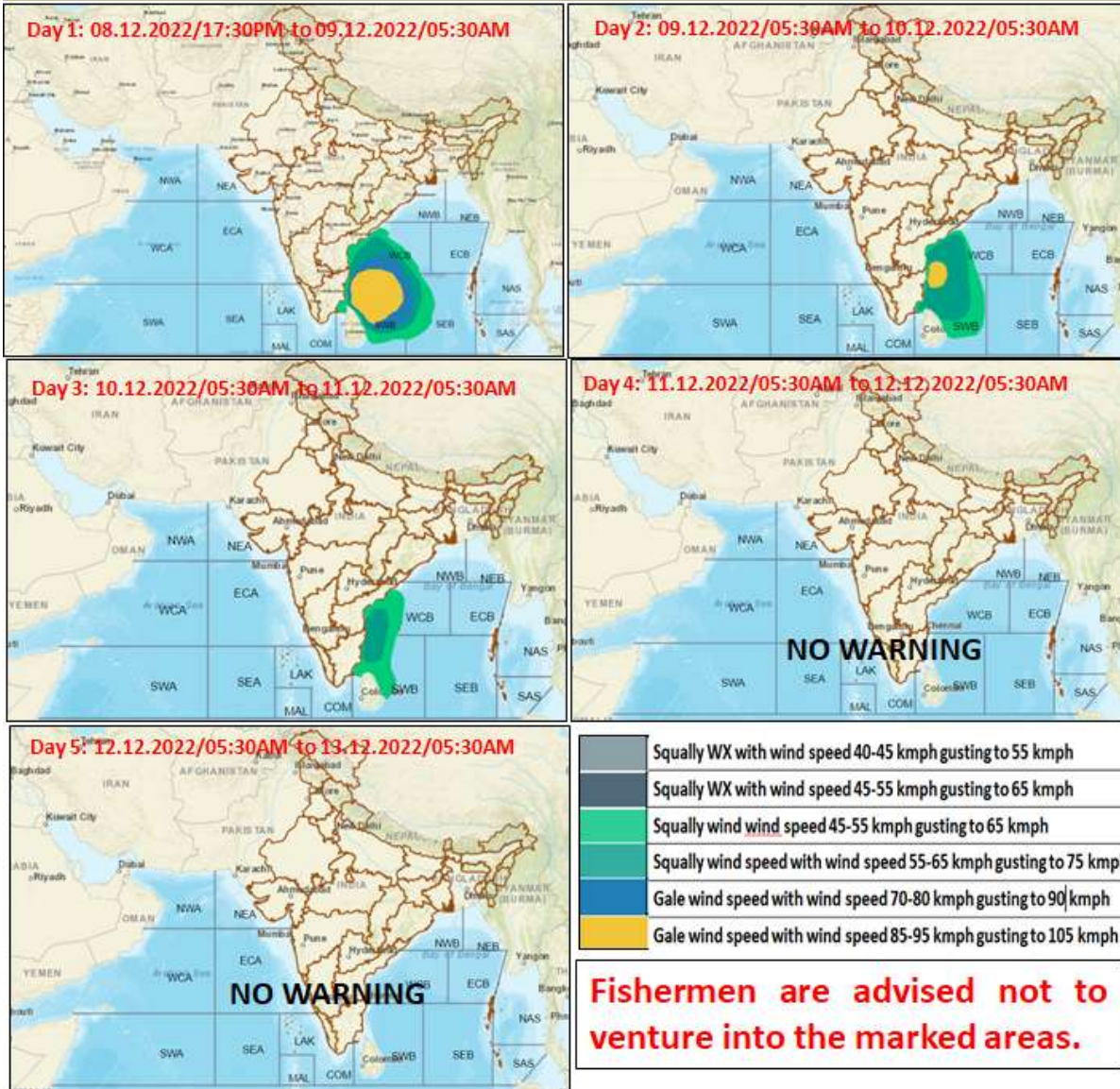
MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥ 118)	Phenomenal	Total suspension of fishing operations

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
09.12.22/0000	0	11.0	81.7	NAGAPPATTINAM (205,E)	KARAIKAL (205,E)	VEDARANNIYAM (215,ENE)	MULLAITTIVU 1) (215,NNE)	PARANGIPETTAI (220,ESE)
09.12.22/0600	6	11.5	81.2	PARANGIPETTAI (155,E)	CUDDALORE (160,E)	MO PONDICHERRY (160,ESE)	KARAIKAL (165,ENE)	NAGAPPATTINAM (170,ENE)
09.12.22/1200	12	12.0	80.7	MO PONDICHERRY (95,E)	CUDDALORE (105,ENE)	PARANGIPETTAI (115,ENE)	CHENNAI/MINAM BAKKAM (125,SSE)	NUMGAMBAKKAM (130,SSE)
09.12.22/1800	18	12.4	80.3	CHENNAI/MINAM BAKKAM (70,S)	MO PONDICHERRY (70,NE)	NUMGAMBAKKAM (75,S)	CUDDALORE (90,NE)	PARANGIPETTAI (115,NNE)
10.12.22/0000	24	12.7	80.0	CHENNAI/MINAM BAKKAM (40,SSW)	NUMGAMBAKKAM (45,SSW)	TIRUTTANI (70,SE)	MO PONDICHERRY (85,NNE)	VELLORE (95,ESE)
10.12.22/1200	36	13.0	79.4	TIRUTTANI (20,SW)	VELLORE (30,ENE)	TIRUPATHI (75,SSW)	CHENNAI/MINAM BAKKAM (85,W)	NUMGAMBAKKAM (85,W)

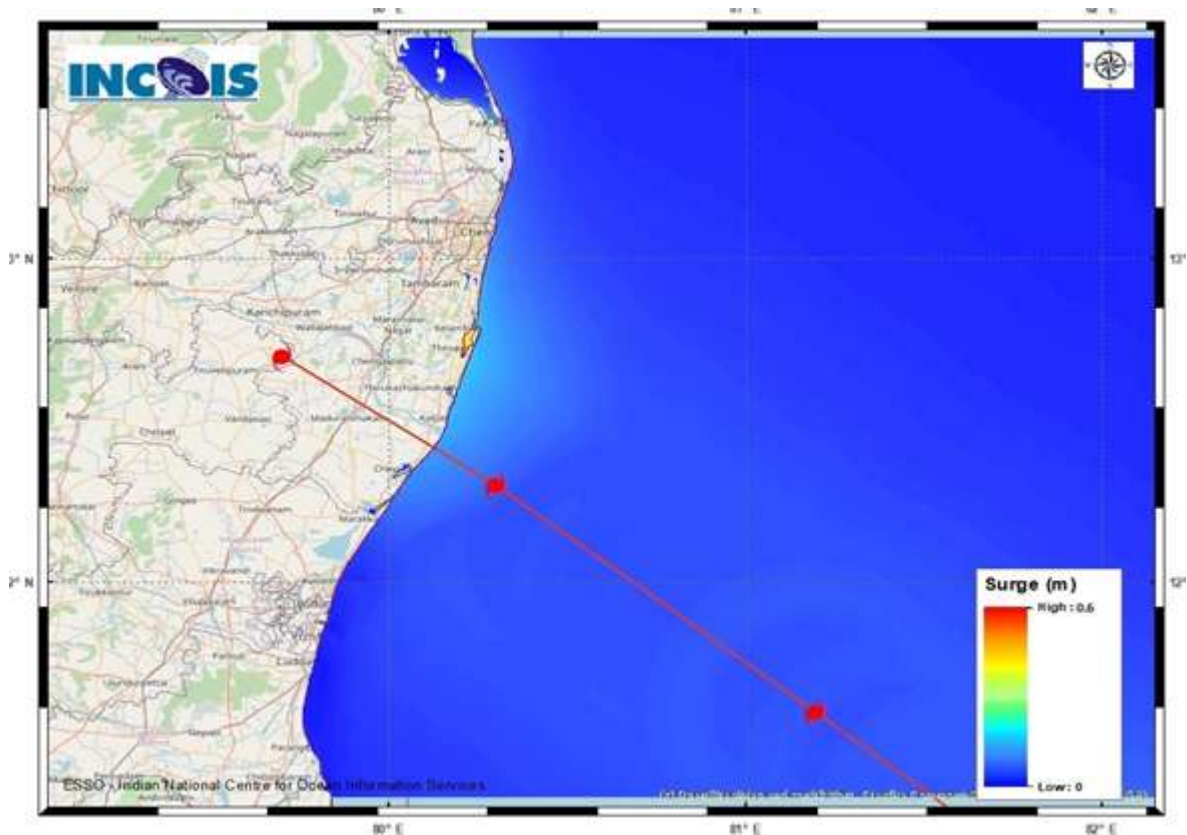
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Fishermen warning graphics



Storm Surge Guidance

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STORM SURGE HEIGHT INFORMATION:

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

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m) *	EXPECTED INUNDATION EXTENT (km)
Chengalpattu	Kancheepuram	Tamil Nadu	Neelankari	0.2-0.6	Upto 0.13