REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI

TROPICAL CYCLONE ADVISORY NO. 4

FROM: RSMC TROPICAL CYCLONES NEW DELHI DATED 08.12.2022

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. 4 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0630 UTC OF 08.12.2022 BASED ON 0300 UTC OF 08.12.2022

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

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 06 HOURS, AND LAY CENTRED AT 0300UTC 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 (43418), ABOUT 420 KM EAST-SOUTHEAST OF JAFFNA (43404), ABOUT 460 KM EAST-SOUTHEAST OF KARAIKAL (43346) AND ABOUT 550 KM SOUTHEAST OF CHENNAI (43279).

IT IS VERY LIKELY TO MOVE WEST-NORTHWESTWARDS CROSS NORTH TAMIL NADU-PUDUCHERRY & ADJOINING SOUTH ANDHRA PRADESH COASTS BETWEEN PUDUCHERRY AND SRIHARIKOTA WITH A MAXIMUM SUSTAINED WIND SPEED OF 65-75 KMPH GUSTING TO 85 KMPH AROUND NIGHT HOURS 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
08.12.22/0300	9.5/83.8	75-85 gusting to 95	CYCLONIC STORM
08.12.22/0600	9.8/83.5	80-90 gusting to 100	CYCLONIC STORM
08.12.22/1200	10.3/82.9	80-90 gusting to 100	CYCLONIC STORM
08.12.22/1800	10.8/82.3	80-90 gusting to 100	CYCLONIC STORM
09.12.22/0000	11.3/81.7	75-85 gusting to 95	CYCLONIC STORM
09.12.22/1200	12.1/80.6	70-80 gusting to 90	CYCLONIC STORM
10.12.22/0000	12.6/79.9	55-65 gusting to 75	DEEP DEPRESSION
10.12.22/1200	12.8/79.5	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 T2.5. THE ASSOCIATED BROKEN LOW MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LIES OVER SOUTHWEST BAY OF BENGAL BETWEEN AREA LATITITUDE 6.0°N TO 12.5°N LONGITITUTE 81.0°E TO 85.5°E. THE CLOUD TOP TEMPERATURE IS MINUS 93°C.

THE MAXIMUM SUSTAINED SURFACE WIND SPEED IS 40 KNOTS GUSTING TO 50 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 995 HPA. SEA CONDITION IS VERY ROUGH TO HIGH OVER SOUTHWEST BAY OF BENGAL AND NEIGHOURHOOD.

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 28°C OVER SOUTHWEST AND CENTRAL BOB. IT DECREASES TO 27°C OVER ALONG AND OFF NORTH TAMILNADU AND ADJOINING ANDHRA PRADESH COASTS. ALSO THE OCEAN HEAT CONTENT (OHC) IS 80-100 KJ/CM^2 OVER SOUTHWEST BOB AND LESS THAN 50 KJ/CM^2 OVER WESTCENTRAL AND SOUTHWEST BOB ALONG EAST COAST OF INDIA. THERE IS WARM AIR ADVECTION TO THE SYSTEM FROM THE SOUTHERN SECTOR. IT WOULD CONTINUE SO TILL 9TH DECEMBER MORNING.

LOW LEVEL VORTICITY IS 250 X10^{-6} S^{-1} AROUND THE SYSTEM CENTER. LOW LEVEL CONVERGENCE IS 50 X10^{-5} S^{-1} TO THE WEST OF SYSTEM CENTER AND UPPER LEVEL DIVERGENCE IS 30 X10^{-5} S^{-1} TO THE NORTH OF THE SYSTEM CENTER.

WIND SHEAR IS MODERATE TO HIGH (25-30 KNOTS) OVER & AROUND THE SYSTEM CENTER AND ALONG THE EXPECTED TRACK. THE UPPER TROPOSPHERIC RIDGE RUNS ROUGHLY ALONG 15.0°N OVER THE BOB. THE SYSTEM IS UNDER THE INFLUENCE OF EAST SOUTHEASTERLY STEERING WINDS AT MIDDLE TROPOSPHERIC LEVELS AND HENCE THE PRESENT SYSTEM IS LIKELY TO BE STEERED TOWARDS WEST-NORTHWEST TILL 8TH DECEMBER. THERAFTER, AS THE SYSTEM WILL COME CLOSER TOWARDS THE RIDGE, THE NORTHERLY COMPONENT IS LIKELY TO INCREASE. THE INTENSIFICATION PARAMETERS AS MENTIONED ABOVE WILL CONTINUE TO BE FAVOURABLE FOR INTENSIFICATION OF THE SYSTEM TILL 8TH DECEMBER EVENING. THEREAFTER, DUE TO SLOW MOVEMENT OF THE SYSTEM, COLD AND DRY AIR INTRUSION FROM SOUTH PENINSULAR INDIA, THE SYSTEM WOULD SHOW SLIGHT WEAKENING TREND WHILE MOVING TOWARDS COAST. WHILE THERE IS BROAD CONSENSUS ABOUT THE LANDFALL POINT, THE NWP MODELS ARE SLOWLY CONVERGING WITH RESPECT TO THE LANDFALL TIME AROUND 1800 UTC OF 09TH DECEMBER.

IN VIEW OF ALL THE ABOVE, IT IS INFERRED THAT THE CYCLONIC STORM “MANDOUS” PRONOUNCED AS “MAN-DOUS” OVER SOUTHWEST BAY OF BENGAL IS VERY LIKELY TO MOVE WEST-NORTHWESTWARDS CROSS NORTH TAMIL NADU-PUDUCHERRY & ADJOINING SOUTH ANDHRA PRADESH COASTS BETWEEN PUDUCHERRY AND SRIHARIKOTA WITH A MAXIMUM SUSTAINED WIND SPEED OF 65-75 KMPH GUSTING TO 85 KMPH AROUND NIGHT HOURS OF 09TH DECEMBER

SHIBIN BALAKRISHNAN

SCIENTIST-C,RSMC,NEW DELHI

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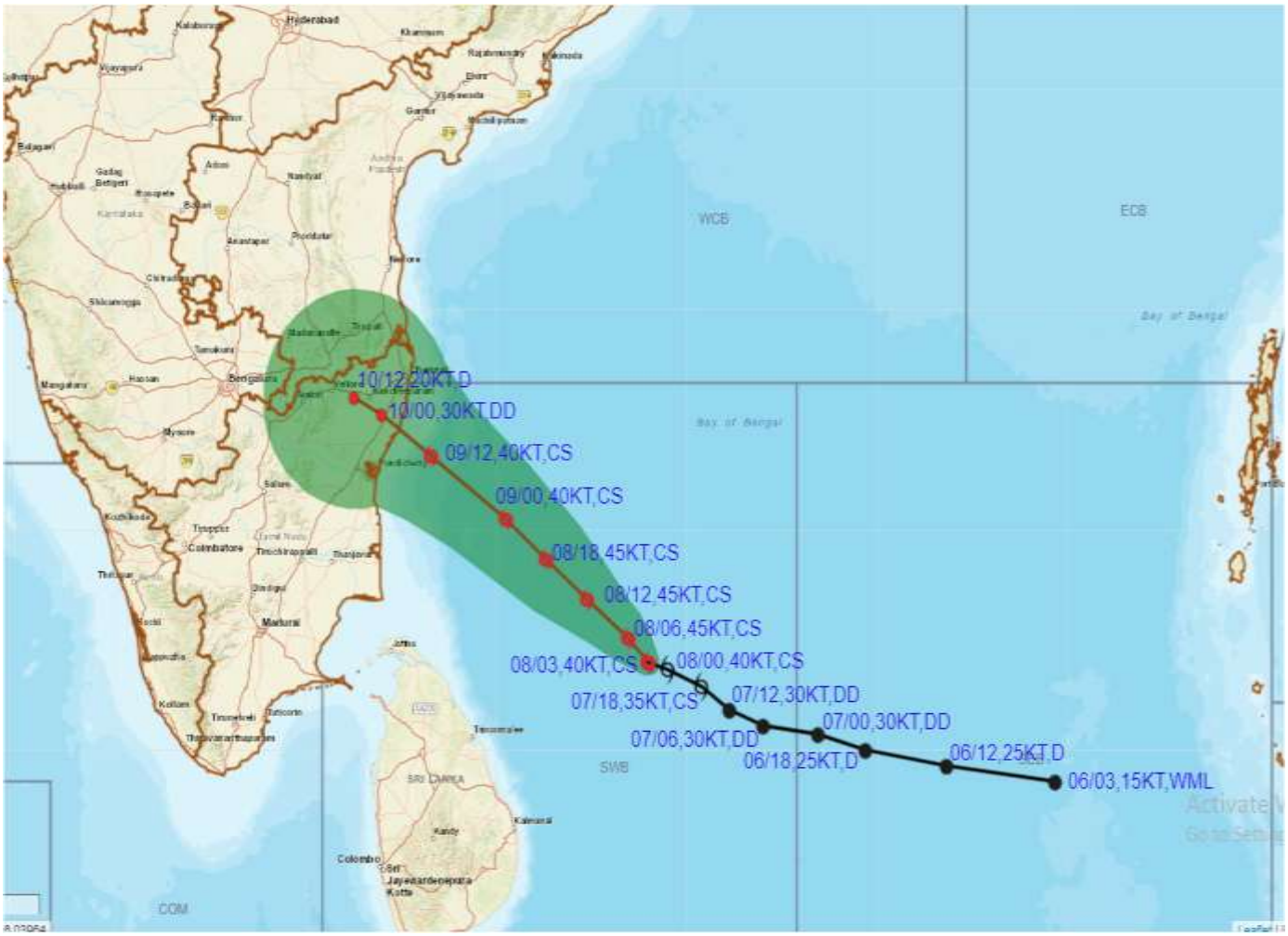
OBSERVED AND FORECAST TRACK OF CYCLONIC STORM 'MANDOUS' OVER SOUTHWEST BAY OF BENGAL BASED ON 0300 UTC OF 08th DECEMBER, 2022.



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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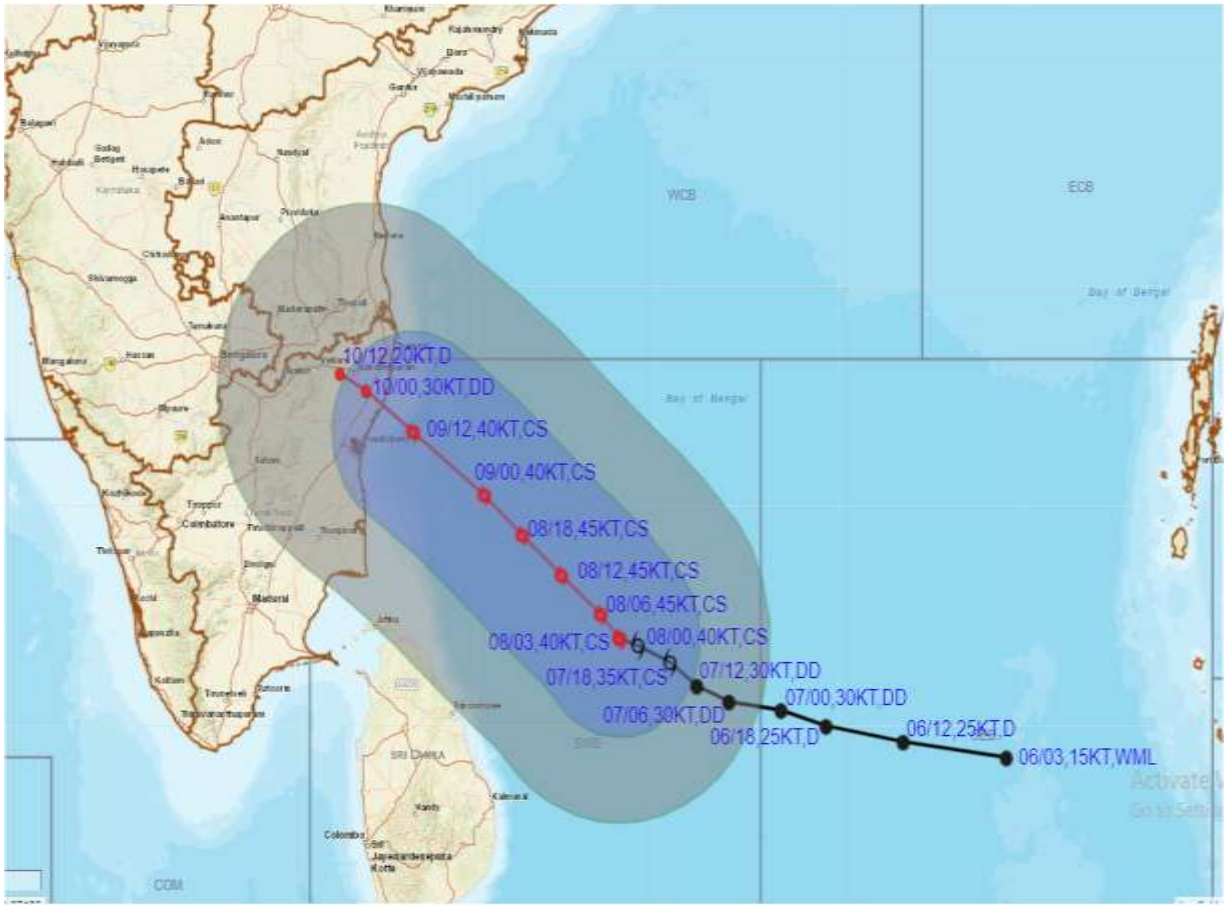
OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM 'MANDOUS' OVER SOUTHWEST BAY OF BENGAL BASED ON 0300 UTC OF 08th DECEMBER, 2022.



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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)	MULLAITTIVU 1) (330,E)	POTTUVIL (365,NE)	VAVUNIYA (370,ENE)
08.12.22/0600	3	9.8	83.5	TRINCOMALEE (280,ENE)	MULLAITTIVU 1) (300,ENE)	BATTICALOA (305,NE)	VAVUNIYA (350,ENE)	POTTUVIL (370,NNE)
08.12.22/1200	9	10.3	82.9	MULLAITTIVU 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	MULLAITTIVU 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)

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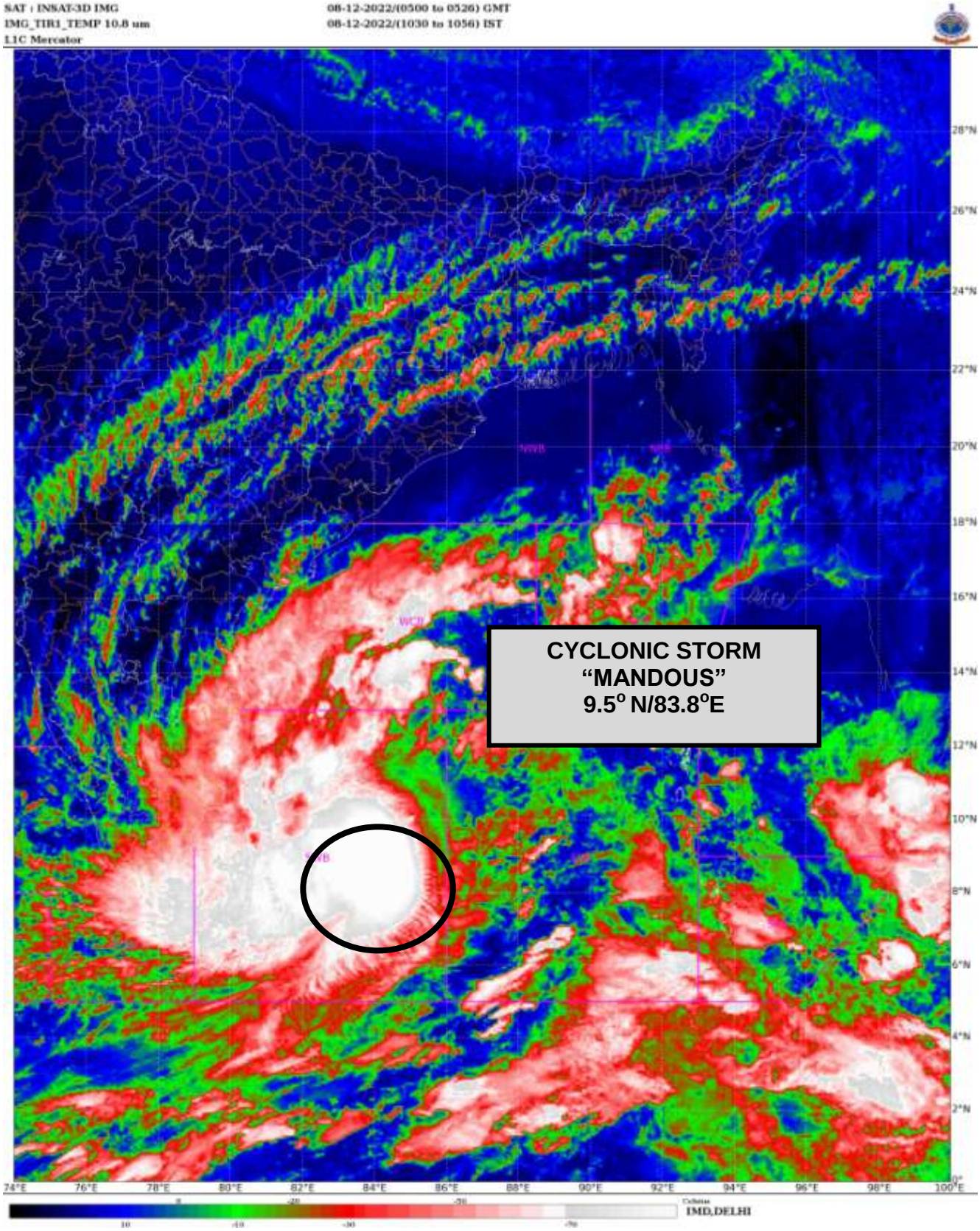

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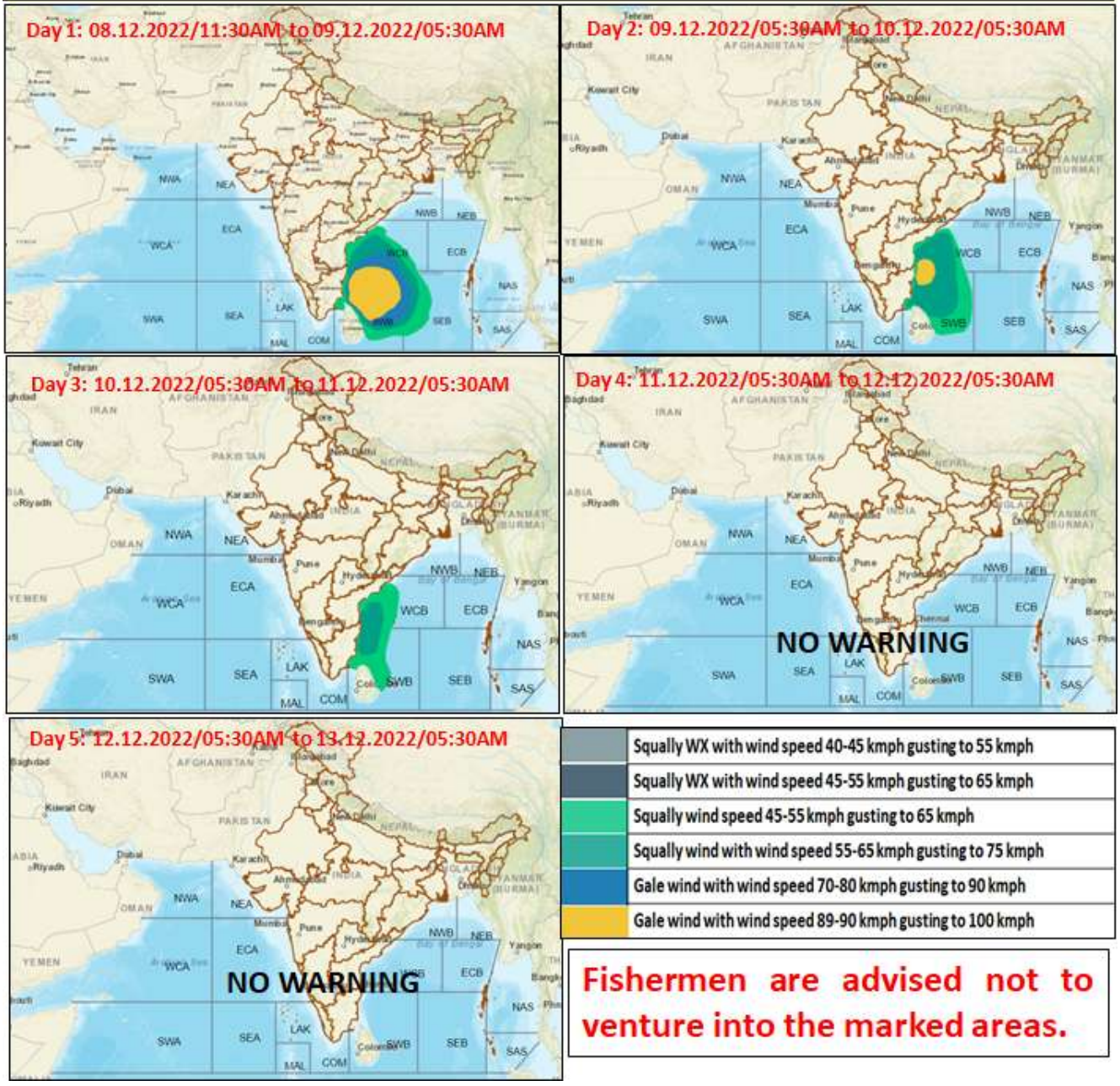
Fishermen warning graphics



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