



REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY NO. 1

FROM: RSMC TROPICAL CYCLONES NEW DELHI DATED 07.12.2022

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. 1 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 2200 UTC OF 07.12.2022 BASED ON 1800 UTC OF 07.12.2022

SUBJECT: DEEP DEPRESSION OVER CENTRAL BAY OF BENGAL INTENSIFIED INTO A CYCLONIC STORM “MANDOUS” PRONOUNCED AS “MAN-DOUS” (CYCLONE ALERT: NORTH TAMILNADU, PUDUCHERRY AND SOUTH ANDHRA PRADESH COASTS)

THE DEEP DEPRESSION OVER SOUTHWEST AND ADJOINING SOUTHEAST BAY OF BENGAL MOVED NEARLY WEST-NORTHWESTWARDS WITH A SPEED OF 10 KMPH DURING PAST 06 HOURS, INTENSIFIED INTO A CYCLONIC STORM “MANDOUS” PRONOUNCED AS “MAN-DOUS” AND LAY CENTRED AT 1800UTC OF TODAY, THE 07TH DECEMBER, 2022 OVER SOUTHWEST BAY OF BENGAL, NEAR LATITUDE 9.2°N AND LONGITUDE 84.6°E, ABOUT 370 KM EAST-NORTHEAST OF TRINCOMALEE (43418), ABOUT 500 KM EAST-SOUTHEAST OF JAFFNA (43404), ABOUT 560 KM EAST-SOUTHEAST OF KARAIKAL(43346) AND ABOUT 640 KM EAST-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
07.12.22/1800	9.2/84.6	60-70 GUSTING to 80	CYCLONIC STORM
08.12.22/0000	9.6/84.0	70-80 GUSTING to 90	CYCLONIC STORM
08.12.22/0600	10.1/83.4	80-90 GUSTING to 100	CYCLONIC STORM
08.12.22/1200	10.5/82.8	80-90 GUSTING to 100	CYCLONIC STORM

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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08.12.22/1800	10.9/82.3	80-90 GUSTING to 100	CYCLONIC STORM
09.12.22/0600	11.7/81.2	70-80 GUSTING to 90	CYCLONIC STORM
09.12.22/1800	12.5/80.8	55-65 GUSTING to 75	DEEP DEPRESSION
10.12.22/0600	12.8/79.3	40-50 GUSTING to 60	DEPRESSION

AS PER INSAT 3D IMAGERY, CONVECTION SHOWS CURVED BAND PATTERN. THE ASSOCIATED BROKEN LOW MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LIES OVER CENTRAL AND SOUTH BAY OF BENGAL. ALSO SCATTERED LOW MEDIUM CLOUDS WITH EMBEDDED MODERATE TO VERY INTENSE CONVECTION LIES OVER NORTH WEST BAY ANDAMAN SEA.

THE MAXIMUM SUSTAINED SURFACE WIND SPEED IS 35 KNOTS GUSTING TO 40 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1000 HPA. SEA CONDITION IS VERY ROUGH TO HIGH OVER SOUTHWEST BAY OF BENGAL.

REMARKS:

THE MADDEN JULIAN OSCILLATION (MJO) INDEX CURRENTLY LIES IN PHASE 3 AND WILL REMAIN THERE TILL 9TH DECEMBER. MJO INDEX IS THUS CONDUCIVE FOR ENHANCEMENT OF CONVECTIVE ACTIVITY OVER BAY OF BENGAL AND INTENSIFICATION OF THE SYSTEM. SEA SURFACE TEMPERATURE (SST) IS AROUND 29⁰C OVER SOUTHWEST AND ADJOINING SOUTHEAST,CENTRAL BOB. IT DECREASES TO 28⁰C OVER SOUTHWEST BOB AND ALONG AND OFF 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. 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 40 X10⁻⁵ S⁻¹ TO THE WEST OF SYSTEM CENTER AND UPPER LEVEL DIVERGENCE IS 30 X10⁻⁵ S⁻¹ TO THE SOUTHWEST OF THE SYSTEM CENTER.

WIND SHEAR IS MODERATE TO HIGH (20-25 KNOTS) OVER & AROUND THE SYSTEM CENTER AND HIGH (25-30 KNOTS) 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 TIMING INDICATING 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

ARULALAN T

SCIENTIST-C,RSMC,NEW DELHI



OBSERVED AND FORECAST TRACK OF DEEP DEPRESSION OVER SOUTHWEST AND ADJOINING SOUTHEAST BAY OF BENGAL BASED ON 1200 UTC OF 07th 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 CYCLONIC STORM "MANDOUS" OVER SOUTHWEST BAY OF BENGAL BASED ON 1800 UTC OF 07th DECFMRF 2022

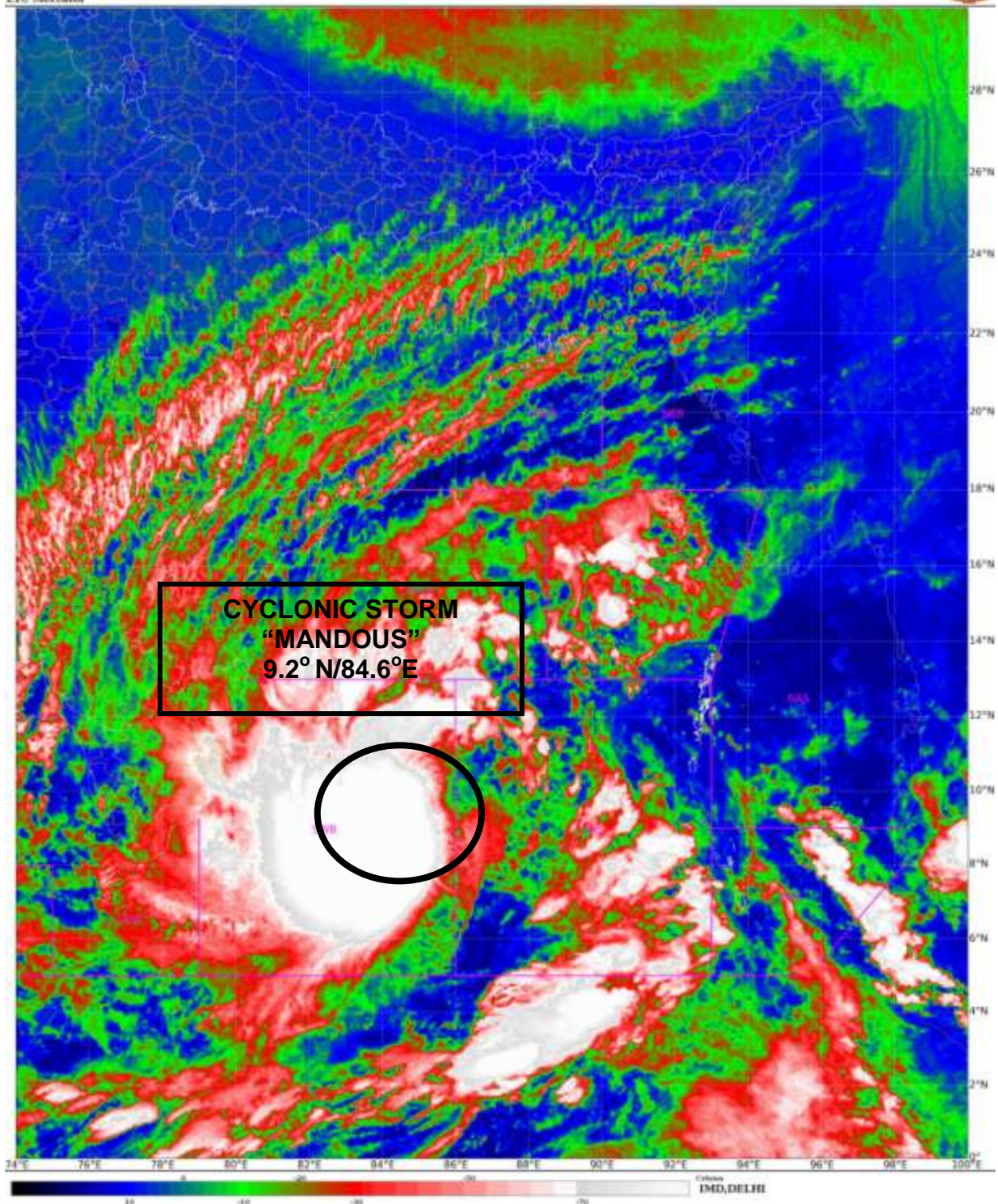


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 SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● 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)

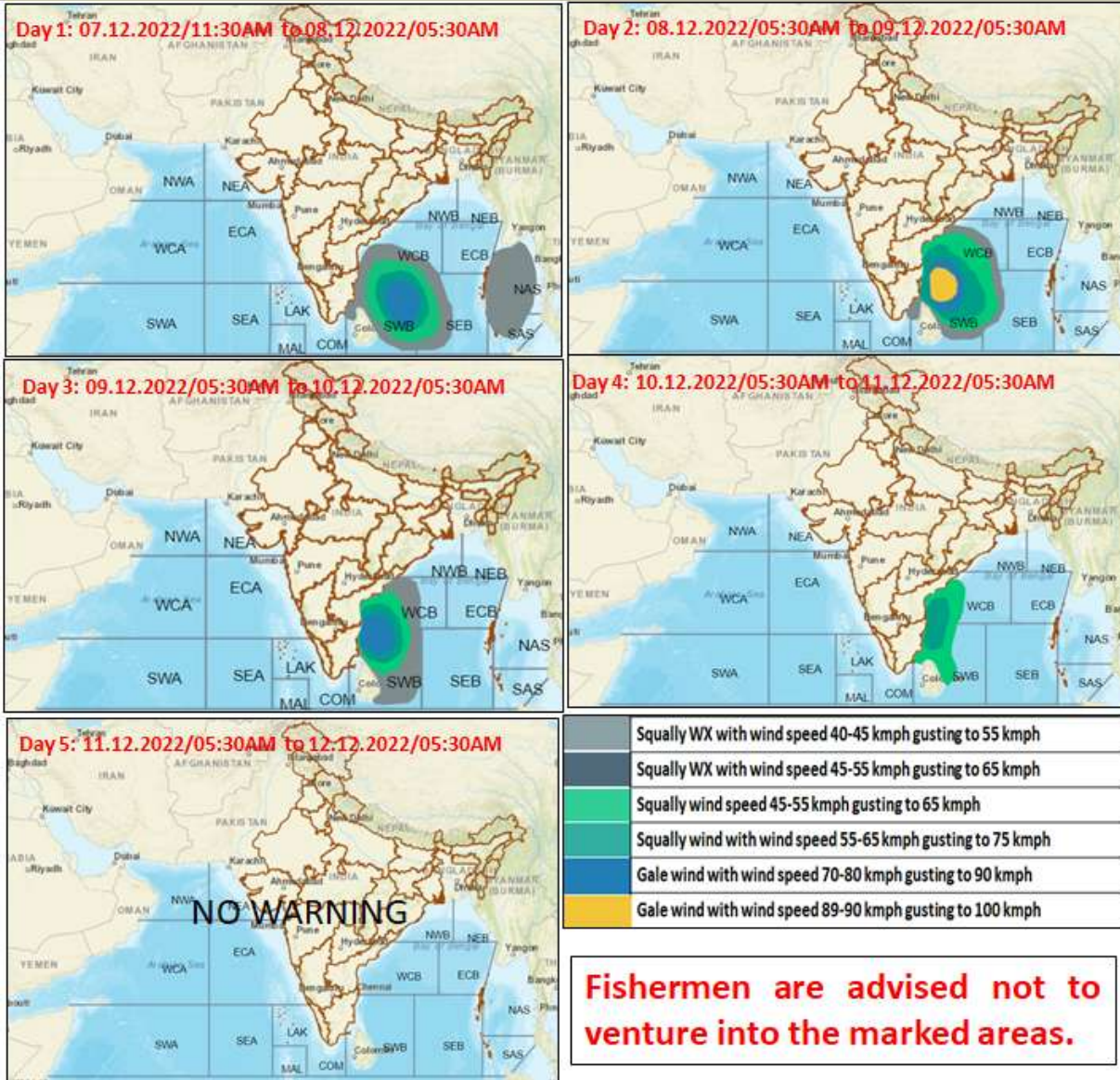
IMPACT OVER THE SEA

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



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Fishermen warning graphics



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