



REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY NO. 5

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. 5 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0930 UTC OF 08.12.2022 BASED ON 0600 UTC OF 08.12.2022

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 WEST-NORTHWESTWARDS WITH A SPEED OF 12 KMPH DURING PAST 06 HOURS, AND LAY CENTRED AT 0600UTC OF TODAY, THE 08TH DECEMBER, 2022 OVER SOUTHWEST BAY OF BENGAL, NEAR LATITUDE 9.7°N AND LONGITUDE 83.5°E, ABOUT 280 KM EAST-NORTHEAST OF TRINCOMALEE (43418), ABOUT 380 KM EAST-SOUTHEAST OF JAFFNA (43404), ABOUT 420 KM EAST-SOUTHEAST OF KARAIKAL (43346) AND ABOUT 520 KM SOUTHEAST OF CHENNAI (43279).

IT IS VERY LIKELY TO MOVE WEST-NORTHWESTWARDS AND INTENSIFY FURTHER INTO A SEVERE CYCLONIC STORM BY EVENING OF TODAY, THE 08TH DECEMBER. IT WILL MAINTAIN ITS INTENSITY OF SEVERE CYCLONIC STORM TILL EARLY MORNING OF 09TH DECEMBER AND THEN WEAKEN GRADUALLY INTO A CYCLONIC STORM TOMORROW. IT IS VERY LIKELY TO CROSS NORTH TAMIL NADU-PUDUCHERRY & 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 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
08.12.22/0600	9.7/83.5	80-90 gusting to 100	CYCLONIC STORM
08.12.22/1200	10.2/82.9	85-95 gusting to 105	SEVERE CYCLONIC STORM
08.12.22/1800	10.7/82.3	85-95 gusting to 105	SEVERE CYCLONIC STORM
09.12.22/0000	11.2/81.7	80-90 gusting to 100	CYCLONIC STORM
09.12.22/0600	11.6/81.2	75-85 gusting to 95	CYCLONIC STORM
09.12.22/1800	12.3/80.3	70-80 gusting to 90	CYCLONIC STORM
10.12.22/0600	12.7/79.7	45-55 gusting to 65	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%
This is a guidance Bulletin for WMO/ESCAP Panel Member countries. Visit respective National websites for Country specific Bulletins

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 LATITUDE 7.0°N TO 12.5°N LONGITUDE 80.0°E TO 85.0°E. THE CLOUD TOP TEMPERATURE IS MINUS 93°C.

AT 0600 UTC, A SHIP NEAR 9.9°N/86.7°E REPORTED MEAN SEA LEVEL PRESSURE OF 1004 HPA AND MAXIMUM SUSTAINED WIND SPEED OF 180⁰/35 KTS.

THE MAXIMUM SUSTAINED SURFACE WIND SPEED IS 45 KNOTS GUSTING TO 55 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 994 HPA. SEA CONDITION IS VERY ROUGH 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 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/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 60 X10⁻⁵ S⁻¹ TO THE WEST OF SYSTEM CENTER AND UPPER LEVEL DIVERGENCE IS 30 X10⁻⁵ S⁻¹ TO THE WEST 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 AND INTENSIFY FURTHER INTO A SEVERE CYCLONIC STORM BY EVENING OF TODAY, THE 08TH DECEMBER. IT WILL MAINTAIN ITS INTENSITY OF SEVERE CYCLONIC STORM TILL EARLY MORNING OF 09TH DECEMBER AND THEN WEAKEN GRADUALLY INTO A CYCLONIC STORM TOMORROW. IT IS VERY LIKELY TO CROSS NORTH TAMIL NADU-PUDUCHERRY & 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 NIGHT HOURS OF 09TH DECEMBER.

R.K JENAMANI

SCIENTIST-F,RSMC,NEW DELHI



OBSERVED AND FORECAST TRACK OF CYCLONIC STORM 'MANDOUS' OVER SOUTHWEST BAY OF BENGAL BASED ON 0600 UTC OF 08th DECEMBER, 2022.

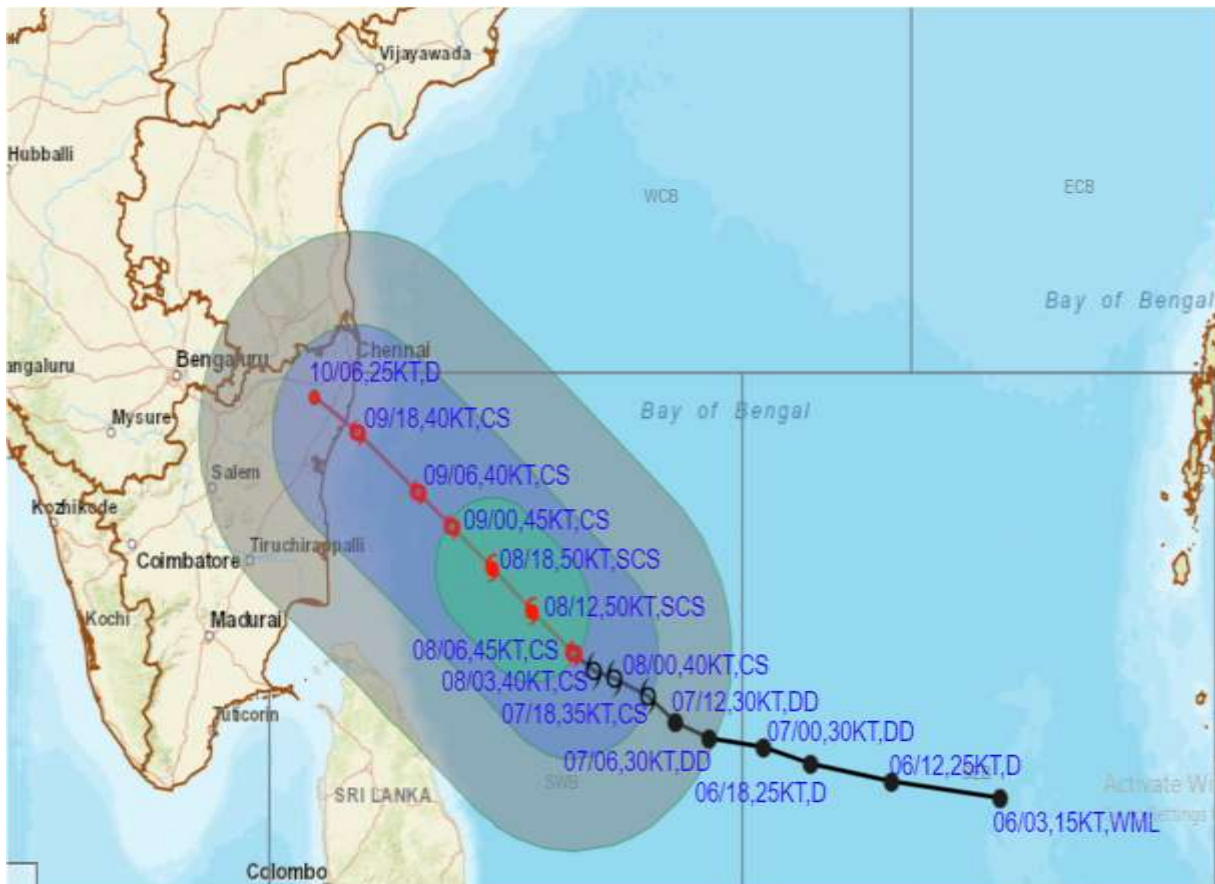


DATE/TIME IN UTC
 IST=UTC + 0530
 L: LOW PRESSURE AREA
 WML: WELL MARKED LOW PRESSURE AREA
 D: DEPRESSION (17-27 KT)
 DD: DEEP DEPRESSION (28-33 KT)
 CS: CYCLONIC STORM (34-47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63KT)
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
 SuCS: SUPER CYCLONIC STORM (\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 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
 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)

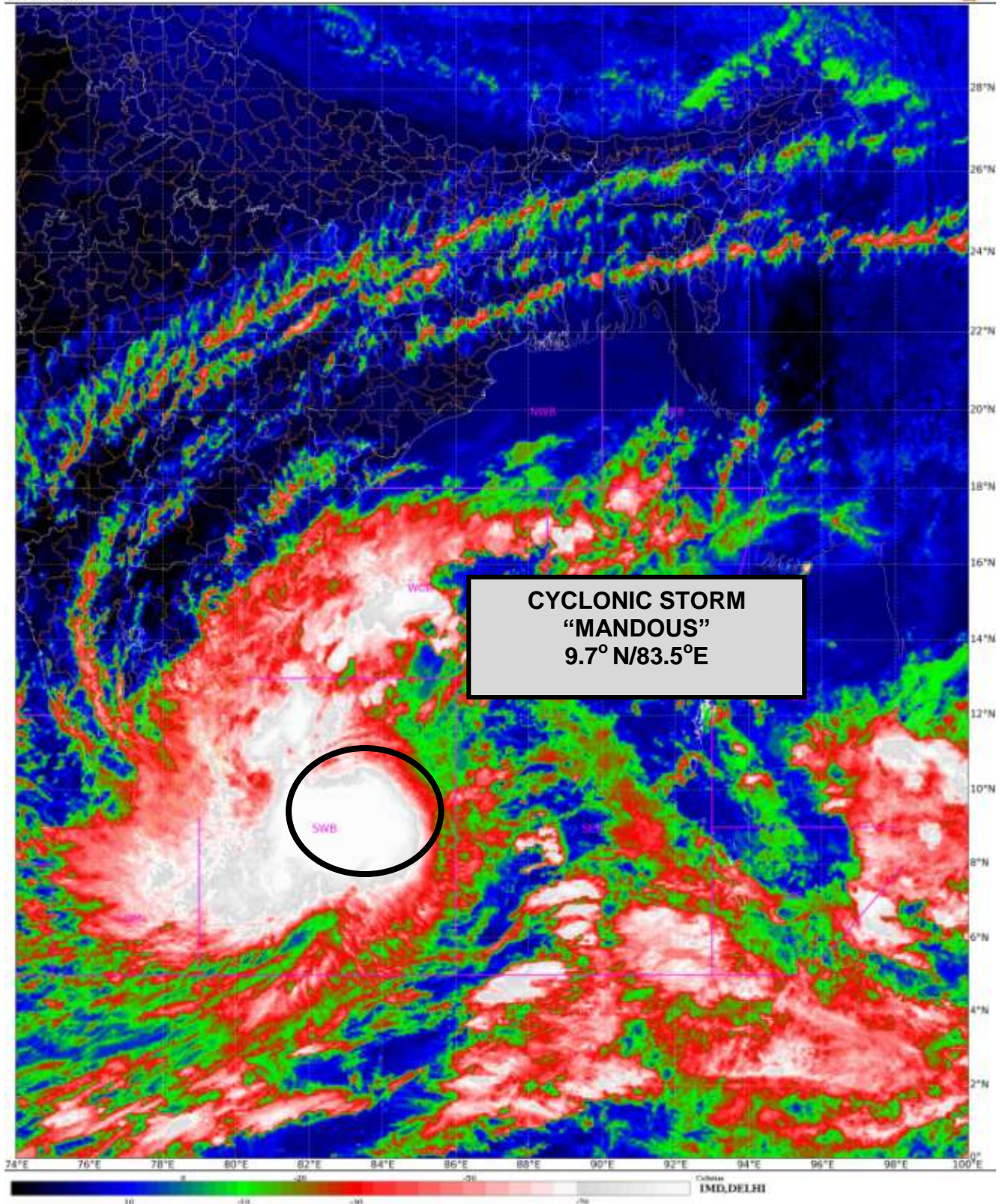
IMPACT OVER THE SEA

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

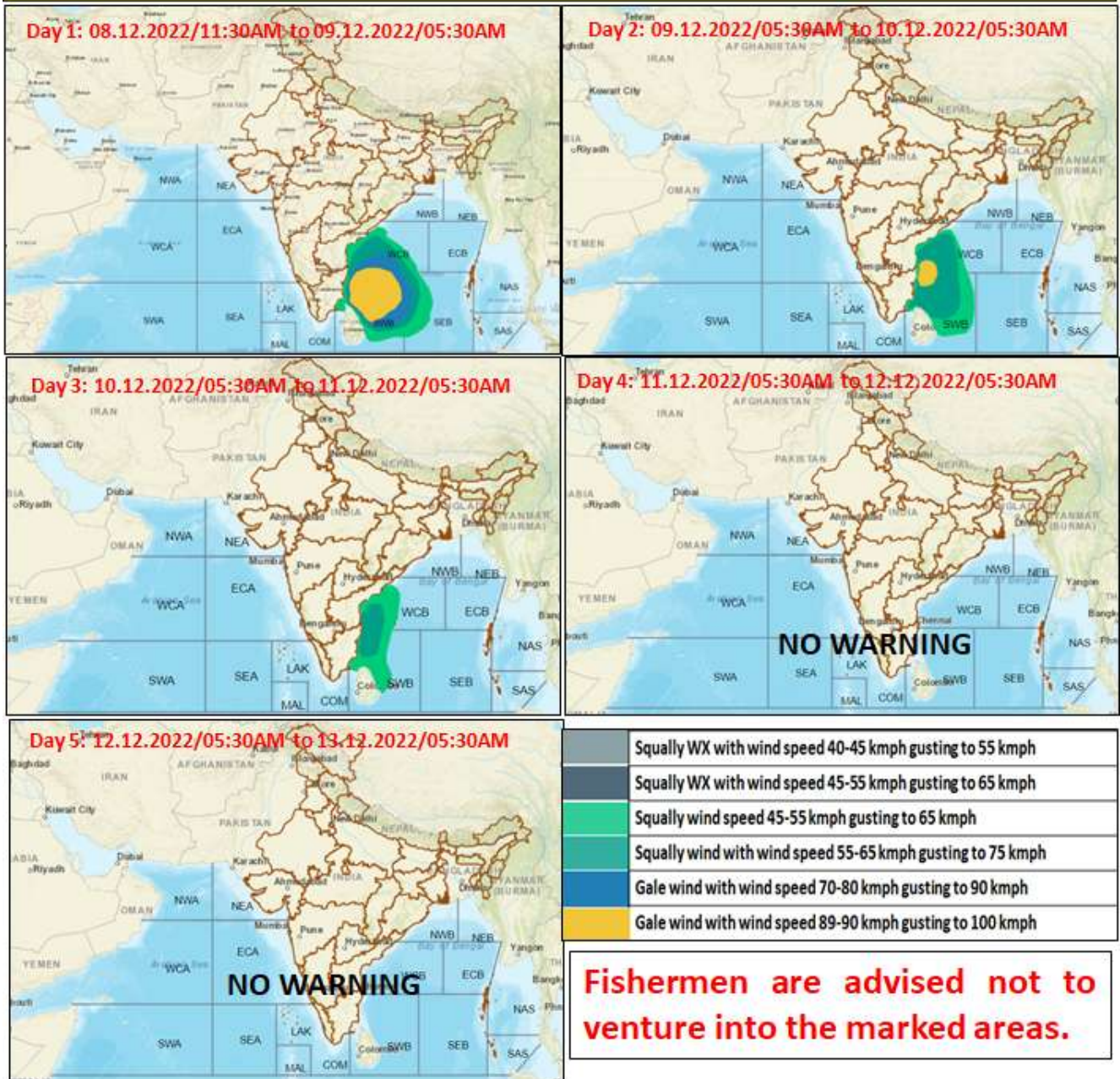
Forecast Date and Time	Lead Period	Lat	Lon	Station 1	Station 2	Station 3	Station 4	Station 5
08.12.22/0600	0	9.7	83.5	TRINCOMALEE (275,ENE)	BATTICALOA (295,NE)	MULLAITTIVU 1) (300,E)	VAVUNIYA (345,ENE)	POTTUVIL (365,NNE)
08.12.22/1200	6	10.2	82.9	MULLAITTIVU 1) (250,ENE)	TRINCOMALEE (255,NE)	BATTICALOA (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	KARAIKAL (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)	KARAIKAL (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)

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%
 This is a guidance Bulletin for WMO/ESCAP Panel Member countries. Visit respective National websites for Country specific Bulletins



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%
This is a guidance Bulletin for WMO/ESCAP Panel Member countries. Visit respective National websites for Country specific Bulletins

Fishermen warning graphics



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%
 This is a guidance Bulletin for WMO/ESCAP Panel Member countries. Visit respective National websites for Country specific Bulletins