



**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
SPECIAL TROPICAL WEATHER OUTLOOK**

DEMS-RSMC SPECIAL TROPICAL CYCLONES NEW DELHI DATED 24.12.2022

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0730 UTC OF 24.12.2022 BASED ON 0300 UTC OF 24.12.2022.

BAY OF BENGAL:

SUB: DEPRESSION OVER SOUTHWEST BAY OF BENGAL

THE DEPRESSION OVER SOUTHWEST BAY OF BENGAL RECURVED GRADUALLY WEST-SOUTHWESTWARDS WITH A SPEED OF 13 KMPH DURING PAST 06 HOURS AND LAY CENTERED AT 0300 UTC OF TODAY, THE 24TH DECEMBER OVER THE SAME REGION NEAR LATITUDE 10.7°N AND LONGITUDE 84.2°E ABOUT 400 KM EAST-NORTHEAST OF TRINCOMALEE (SRI LANKA, 43418), 470 KM EAST OF NAGAPPATTINAM (TAMIL NADU, 43347) AND 500 KM EAST-SOUTHEAST OF CHENNAI (TAMIL NADU, 43279).

IT IS LIKELY TO MOVE FURTHER WEST-SOUTHWESTWARDS AND REACH NEAR SRI LANKA COAST BY 25TH MORNING (0000 UTC). THEREAFTER, IT WOULD CONTINUE TO MOVE WEST-SOUTHWESTWARDS ACROSS SRI LANKA AND REACH COMORIN AREA AND NEIGHBOURHOOD BY 26TH MORNING (0000 UTC).

AS PER INSAT-3D IMAGERY, INTENSITY OF THE SYSTEM IS T1.5. ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTH & ADJOINING CENTRAL BAY OF BENGAL BETWEEN LAT 9.0°N TO 15.0°N LONG 82.0°E TO 90.0°E. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 93°C

THE MAXIMUM SUSTAINED SURFACE WIND SPEED IS 25 KNOTS GUSTING TO 35 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1004 HPA. SEA CONDITION IS ROUGH TO VERY ROUGH OVER SOUTHWEST BAY OF BENGAL AND ALONG & OFF TAMILNADU & SRILANKA COASTS.

ARABIAN SEA:

THE EXISTING DEPRESSION IS LIKELY TO EMERGE INTO COMORIN AREA AROUND 26TH DECEMBER AND MOVE WEST-NORTHWESTWARDS THEREAFTER TOWARDS SOUTHEAST ARABIAN SEA.

SCATTERED LOW AND MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION OVER SOUTH PARTS OF SOUTHWEST ARABIAN SEA.

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION) DURING NEXT 120 HRS:

24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS
NIL	LOW	LOW	NIL	NIL

Remarks:

SEA SURFACE TEMPERATURE IS ABOUT 27°C OVER SOUTHWEST BOB. MADDEN JULIAN OSCILLATION INDEX IS IN PHASE 5 WITH AMPLITUDE MORE THAN 1. IT WOULD MOVE TO PHASE 6 FROM 26TH ONWARDS. MJO WOULD SUPPORT CONVECTIVE ACTIVITY OVER THE BAY OF BENGAL ONLY DURING NEXT 2 DAYS. LOW LEVEL RELATIVE VORTICITY IS AROUND $(50-100) \times 10^{-6} \text{ S}^{-1}$ OVER THE SYSTEM CENTRE. LOW LEVEL CONVERGENCE IS ABOUT $(10-20) \times 10^{-5} \text{ S}^{-1}$ TO THE NORTHEAST OF SYSTEM CENTRE. UPPER LEVEL DIVERGENCE IS ABOUT $(10-20) \times 10^{-5} \text{ S}^{-1}$ AND FOUND ELONGATED TO THE EAST-NORTHEAST AND SOUTHEAST OF SYSTEM CENTRE. VERTICAL WIND SHEAR OF 10-15 KNOTS AROUND THE SYSTEM CENTRE BUT HIGH (AROUND 25-30 KNOTS) WIND SHEAR IS PREVAILING TO THE NORTH AND SOUTH OF THE SYSTEM. CURRENT CONDITIONS INDICATE THAT THE DYNAMICAL PARAMETERS DID'NT CHANGE SIGNIFICANTLY AND HENCE THE SYSTEM MAINTAINED IT'S INTENSITY DURING PAST 24 HOURS.

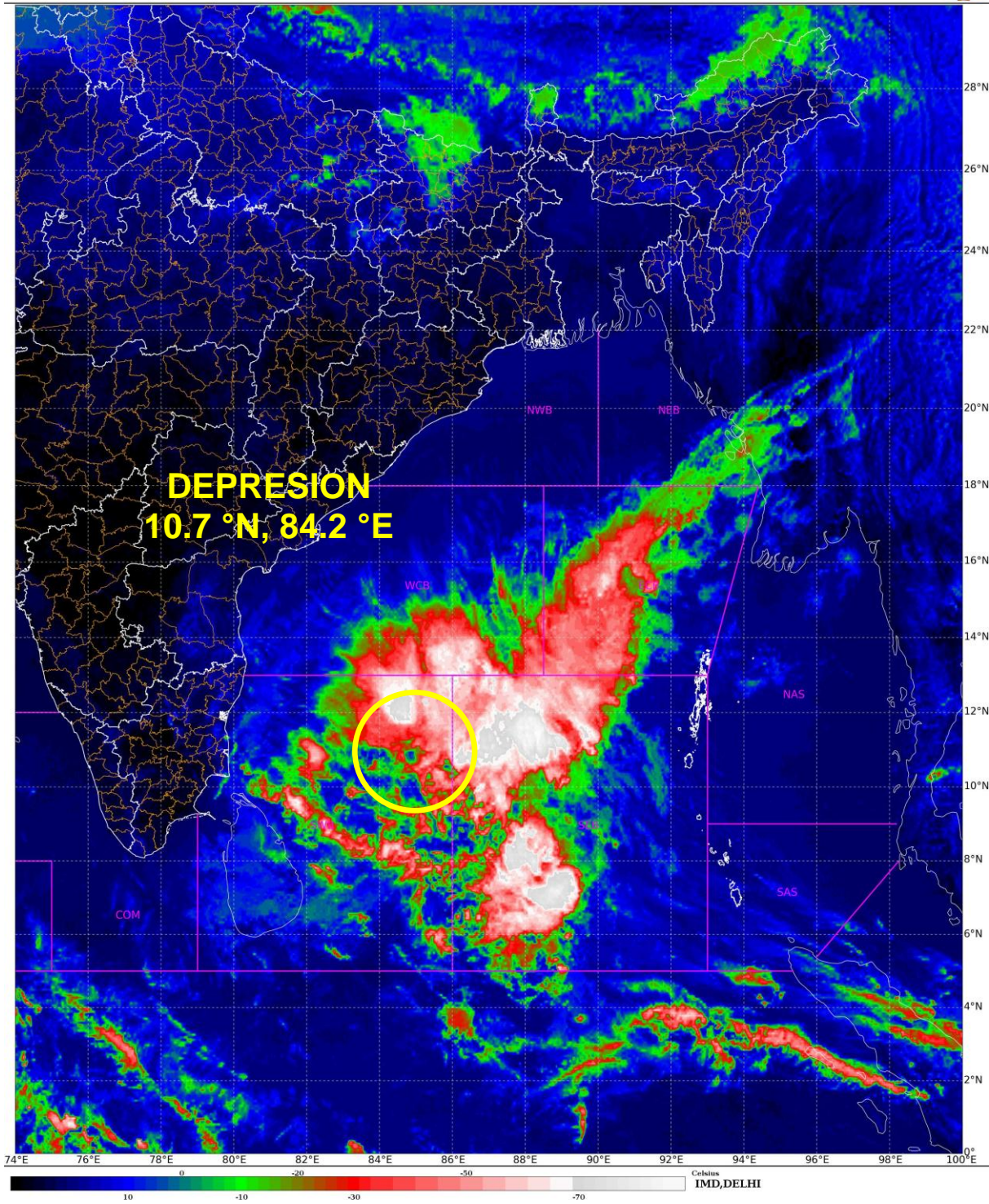
HOWEVER, AT 0300 UTC OF 24TH, MIDDLE LEVEL RELATIVE VORTICITY SHOW SIGNIFICANT DECREASE IN PAST 24 HOURS. GRADIENT WIND HAS ALSO DECREASED IN PAST 24 HOURS. YESTERDAY, IT WAS MAXIMUM AT LOWER TROPOSPHERIC LEVELS AND TODAY, IT IS IN MIDDLE TROPOSPHERIC LEVELS. TEMPERATURE ANOMALY PLOTS INDICATE, THAT THERE IS COLD ANOMALY IN THE MIDDLE TROPOSPHERIC LEVELS, UNLIKE YESTERDAY. THUS, VARIOUS DYNAMICAL FEATURES LIKE TEMPERATURE ANOMALY, GRADIENT WIND AND VORTICITY AT 500 HPA LEVELS INDICATE THAT THE VERTICAL EXTENSION OF DEEP CONVECTIVE CLOUD MASS IS DECREASING GRADUALLY. THE SYSTEM IS LOSING IT'S WARM CORE CHARACTERISTICS. HENCE THE SYSTEM IS LIKELY TO WEAKEN GRADUALLY. ALSO WITH WEAKENING OF THE SYSTEM, THE STEERING LEVEL WOULD CHANGE FROM DEEP LAYER TO MIDDLE /LOWER TROPOSPHERIC LAYERS. THUS, THE SYSTEM WOULD BE STEERED SOUTHWESTWARDS UNDER THE INFLUENCE OF NORTHEASTERLY WINDS PREVAILING OVER THE REGION IN ASSOCIATION WITH NORTHEAST MONSOON. FURTHER, AS THE SYSTEM WOULD MOVE TOWARDS SRI LANKA COAST, IT WOULD ENCOUNTER HIGH VERTICAL WIND SHEAR, COLDER SEA SURFACE TEMPERATURE AND DECREASE IN CORIOLIS PARAMETER. ALL THESE WOULD LEAD TO GRADUAL WEAKENING OF THIS SYSTEM WHILE MOVING SOUTHWESTWARDS TOWARDS COMORIN AREA ACROSS SRI LANKA COAST.

MOST OF THE MODELS (IMD GFS & NCUM GROUP, IMD MME AND ECMWF) ARE INDICATING EXISTING DEPRESSION OVER SOUTHWEST BAY OF BENGAL TO MOVE GRADUALLY WEST-SOUTHWESTWARDS REACHING COMORIN AREA BY 26TH/0000 UTC ACROSS NORTH PARTS OF SRI LANKA. MODELS ARE NOT INDICATING FURTHER INTENSIFICATION OF THE SYSTEM. THE MODELS ARE ALSO PREDICTING POSSIBLE EMERGENCE OF THE SYSTEM OVER THE ARABIAN SEA AND INDICATING THE WEST-NORTHWESTWARDS MOVEMENT AND GRADUAL WEAKENING.

IN VIEW OF ALL THE ABOVE, THE DEPRESSION OVER SOUTHWEST BAY OF BENGAL IS LIKELY TO MOVE FURTHER WEST-SOUTHWESTWARDS AND REACH NEAR SRI LANKA COAST BY 25TH MORNING (0000 UTC). THEREAFTER, IT WOULD CONTINUE TO MOVE WEST-SOUTHWESTWARDS ACROSS SRI LANKA AND REACH COMORIN AREA AND NEIGHBOURHOOD BY 26TH MORNING (0000 UTC).

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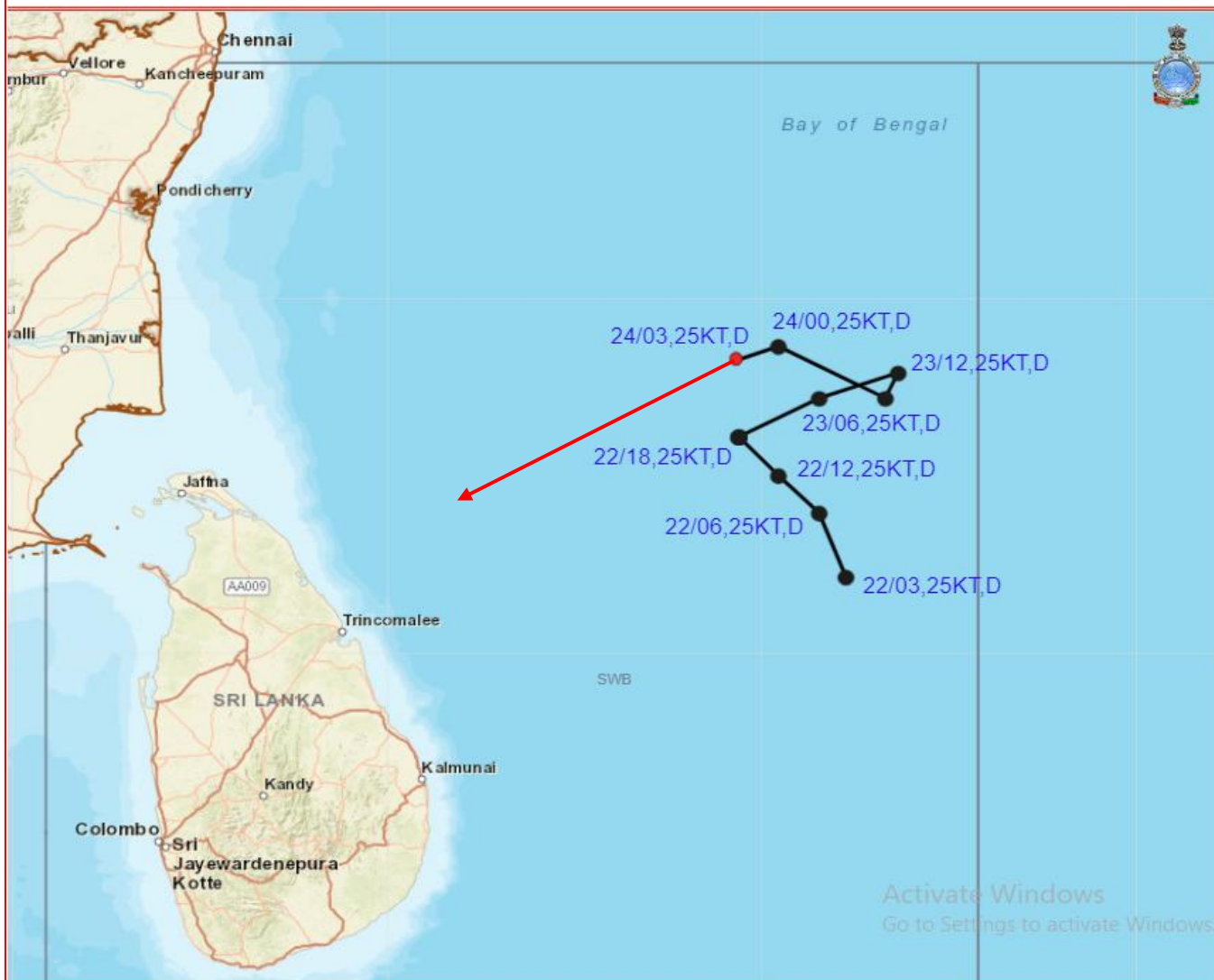
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Cloud distribution: (a) Isolated: <25%, Scattered:25-50%, Broken: 51-75%, Solid:>75%, Convection Intensity: (a) Weak: Cloud Top Temperature (CTT) >-25°C, (b) Moderate: CTT: - 25°C to -40°C, (c) Intense: CTT: - 41°C to -70°C and (d) Very Intense: :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



OBSERVED AND FORECAST TRACK OF DEPRESSION OVER SOUTHWEST BAY OF BENGAL BASED ON 0300 UTC OF 24th 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 (≥20 KT)

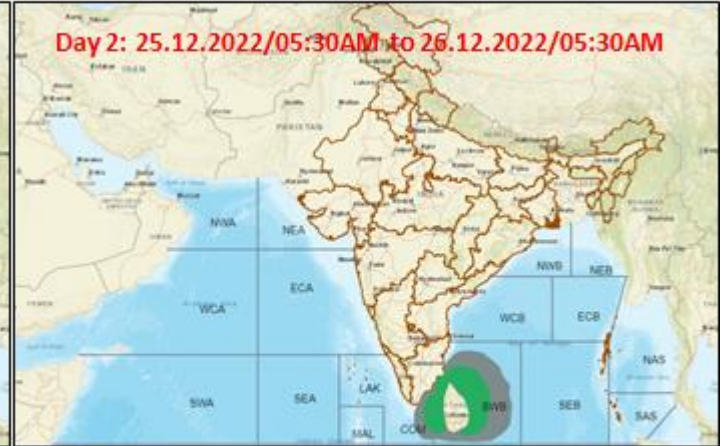
- LESS THAN 34 KT
- 34-47 KT
- ≥ 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- CONE OF UNCERTAINTY

Fishermen warning graphics

Day 1: 24.12.2022/11:30AM to 25.12.2022/05:30AM



Day 2: 25.12.2022/05:30AM to 26.12.2022/05:30AM



Day 3: 26.12.2022/05:30AM to 27.12.2022/05:30AM



Day 4: 27.12.2022/05:30AM to 28.12.2022/05:30AM



Day 5: 28.12.2022/05:30AM to 29.12.2022/05:30AM



Squally WX with wind speed 40-50 kmph gusting to 60 kmph

Squally wind speed 45-55 kmph gusting to 65 kmph

Fishermen are advised not to venture into the marked areas.