



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

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 21.11.2022

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 2130 UTC OF 21.11.2022 BASED ON 1800 UTC OF 21.11.2022.

SUB: DEPRESSION OVER SOUTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL

THE DEPRESSION OVER SOUTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL MOVED WEST-NORTHWESTWARDS WITH A SPEED OF 5 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 1800 UTC OF 21ST NOVEMBER, 2022 OVER THE SAME REGION, NEAR LATITUDE 13.0° N AND LONGITUDE 81.7°E, ABOUT 160 KM EAST OF CHENNAI(43279), 245 KM EAST-SOUTHEAST OF NELLORE(43245), 360 KM SOUTH-SOUTHEAST OF MACHILIPATNAM(43185) AND 410 KM NORTH-NORTHEAST OF JAFFNA (43404).

CONTINUING TO MOVE WEST-NORTHWESTWARDS TOWARDS SOUTH ANDHRA PRADESH-NORTH TAMILNADU-PUDUCHERRY COASTS, IT IS LIKELY WEAKEN GRADUALLY INTO A WELL-MARKED LOW PRESSURE AREA DURING NEXT 12 HOURS.

AS PER INSAT 3D IMAGERY, THE INTENSITY OF THE SYSTEM IS CHARACTERISED AS T.1.5. ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTHWEST & ADJOINING WESTCENTRAL BAY OF BENGAL BETWEEN LAT 11.8°N TO 15.0°N AND LONG 80.0°E TO 83.0°E & NORTHEAST TAMILNADU & SOUTH COASTAL ANDHRA PRADESH. MINIMUM CLOUD TOP TEMPERATURE IS -93°C.

THE ESTIMATED MAXIMUM SUSTAINED WIND SPEED IS 25 KNOTS GUSTING TO 35 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS 1003 HPA. THE SEA CONDITION IS ROUGH TO VERY ROUGH OVER SOUTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL AT 1800 UTC.

REMARKS:

THE MADDEN JULIAN OSCILLATION INDEX (MJO) CURRENTLY LIES IN PHASE 6 WITH AMPLITUDE GREATER THAN 1. HENCE MJO WOULD NOT SUPPORT ENHANCEMENT OF CONVECTIVE ACTIVITY OVER BAY OF BENGAL. THERE IS ALSO NO SUPPORT OF EQUATORIAL WAVES OVER THE REGION FOR FURTHER INTENSIFICATION OF THE SYSTEM. SEA SURFACE TEMPERATURE (SST) IS AROUND 28-29°C OVER SOUTHWEST BOB.

LOW LEVEL RELATIVE VORTICITY IS ABOUT $100 \times 10^{-6} \text{S}^{-1}$ TO THE SOUTH-SOUTHEAST OF SYSTEM CENTER. IT IS EAST-WEST ORIENTED, SUPPORTING WEST-NORTHWESTWARDS MOVEMENT OF THE SYSTEM. VERTICALLY IT IS EXTENDING UPTO 500 HPA LEVEL. LOW LEVEL CONVERGENCE IS $05 \times 10^{-5} \text{S}^{-1}$ AROUND SYSTEM CENTRE. UPPER LEVEL

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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DIVERGENCE IS $20 \times 10^{-5} \text{S}^{-1}$ TO THE SOUTHWEST OF SYSTEM CENTRE. WIND SHEAR IS MODERATE TO HIGH (20-25 KNOTS) AROUND THE SYSTEM CENTER AND ALONG THE EXPECTED DIRECTION OF MOVEMENT. TOTAL PRECIPITABLE WATER IMAGERY AT 1800 UTC OF 21ST IS INDICATING DECREASE IN WARM MOIST AIR ADVECTION INTO THE CORE OF SYSTEM FROM NORTHEAST SECTOR. IT IS ALSO INDICATING DRY COLD AIR ADVECTION FROM SOUTHERN PENINSULAR REGION INTO THE SOUTHWEST & ADJOINING SOUTHEAST SECTOR OF SYSTEM. IN VIEW OF LAND INTERACTIONS, MODERATE TO HIGH WIND SHEAR NEAR THE COAST AND DRY-COLD AIR ADVECTION INTO THE SYSTEM, IT IS LIKELY TO START WEAKENING FROM 22ND NOVEMBER MORNING.

UPPER TROPOSPHERIC RIDGE ROUGHLY RUNS ALONG 19°N OVER BAY OF BENGAL. HOWEVER, THE SYSTEM IS BEING SHEARED WEST-NORTHWESTERLY UNDER MID-TROPOSPHERIC EAST-SOUTHEASTERLY WINDS. THE VORTICITY ADVECTION FIELD IS ALSO SUPPORTING WEST-NORTHWESTWARDS/ WESTWARDS MOVEMENT.

MOST OF THE MODELS ARE INDICATING THAT THE SYSTEM WOULD MOVE WEST-NORTHWESTWARDS TOWARDS SOUTH ANDHRA PRADESH-TAMIL NADU COASTS AND WEAKEN GRADUALLY DURING NEXT 12 HOURS.

IN VIEW OF ALL THE ABOVE, IT IS INFERRED THAT CONTINUING TO MOVE WEST-NORTHWESTWARDS TOWARDS SOUTH ANDHRA PRADESH-NORTH TAMILNADU-PUDUCHERRY COASTS, THE SYSTEM IS LIKELY TO WEAKEN GRADUALLY INTO A WELL-MARKED LOW PRESSURE AREA DURING NEXT 12 HOURS.

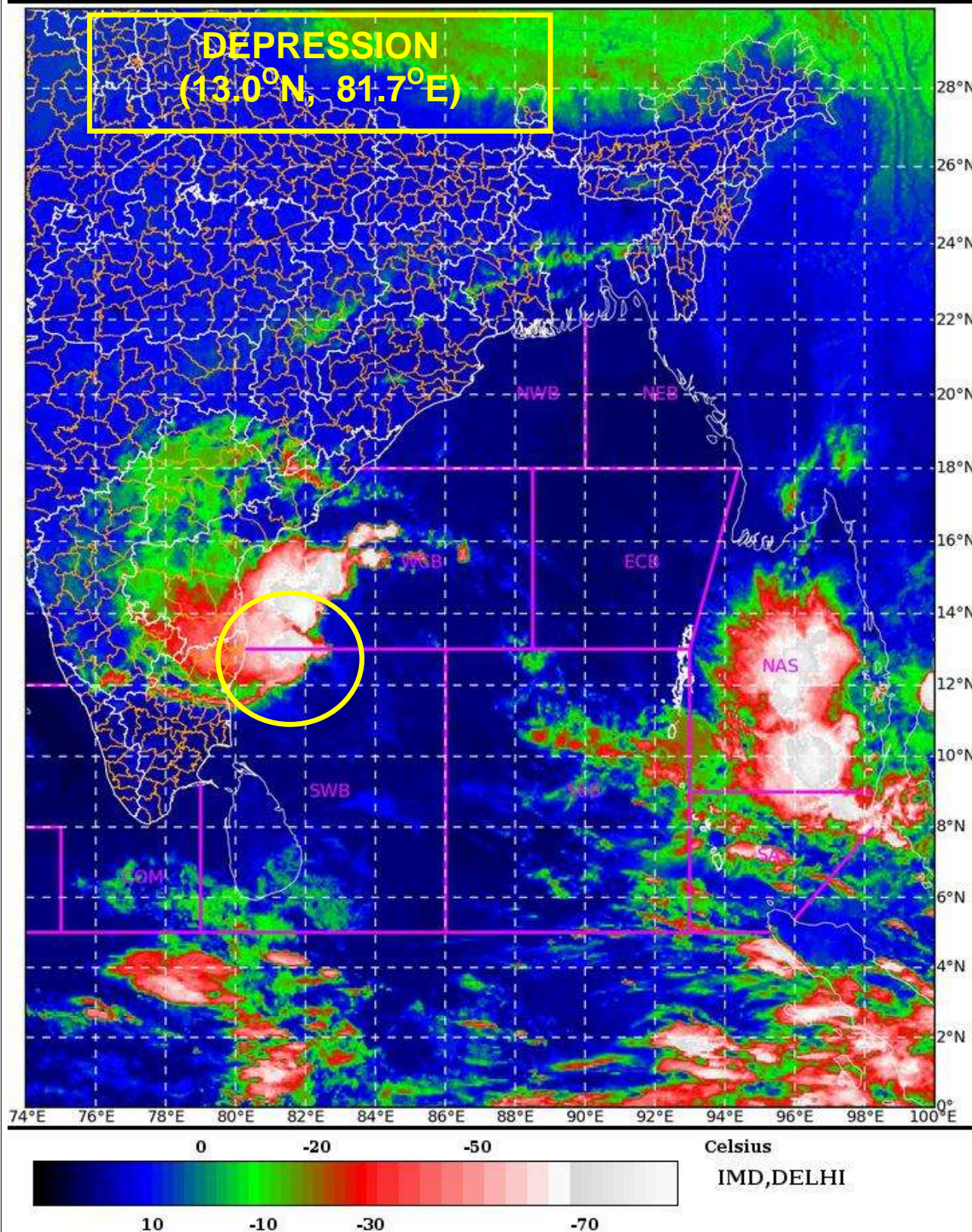
(SHASHI KANT)
RSMC NEW DELHI

SAT : INSAT-3D IMG 21-11-2022/(1930 to 1956) GMT

IMG_TIR1_TEMP 10.8 um 22-11-2022/(0100 to 0126) IST



L1C Mercator



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OBSERVED AND FORECAST TRACK OF DEPRESSION OVER SOUTHWEST AND ADJOINING WEST CENTRAL BAY OF BENGAL BASED ON 1800 UTC OF 21ST NOVEMBER, 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

