



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

DEMS-RSMC SPECIAL TROPICAL CYCLONES NEW DELHI DATED 18.11.2021

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 1500 UTC OF 18.11.2021 BASED ON 1200 UTC OF 18.11.2021.

BAY OF BENGAL:

SUB: DEPRESSION OVER SOUTHWEST BAY OF BENGAL

THE DEPRESSION OVER SOUTHWEST BAY OF BENGAL OFF NORTH TAMIL NADU COAST MOVED WEST-NORTHWESTWARDS WITH A SPEED OF 18 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 1200 UTC OF TODAY, THE 18TH NOVEMBER 2021, OVER SOUTHWEST BAY OF BENGAL OFF NORTH TAMIL NADU COAST, NEAR LAT. 11.8°N AND LONG. 80.9°E, ABOUT 150 KM SOUTH-SOUTHEAST OF CHENNAI (43279), 120 KM EAST-SOUTHEAST OF PUDUCHERRY (43331) AND 150 KM EAST-NORTHEAST OF KARAIKAL (43346). IT IS VERY LIKELY TO CONTINUE TO MOVE WEST-NORTHWESTWARDS AND CROSS NORTH TAMILNADU & ADJOINING SOUTH ANDHRA PRADESH COASTS BETWEEN PUDUCHERRY (43331) & CHENNAI (43279) BY EARLY MORNING (0000 UTC) OF TOMORROW, THE 19TH NOVEMBER, 2021.

AS PER SATELLITE IMAGERY AT 1200 UTC, THE INTENSITY OF THE SYSTEM IS CHARACTERISED AS T 1.5. THE CLOUDS ARE ORGANISED IN SHEAR PATTERN. INTENSE CONVECTIVE CLOUD MASS IS SHEARED TO THE WEST OF SYSTEM CENTRE. DUE TO LAND INTERACTION THE CONVECTIVE CLOUD MASS OVER TAMILNADU HAS GOT DISORGANISED. THE CLOUD MASS IS SPRED ACROSS NORTH TAMILNADU, SOUTH ANDHRA PRADESH AND SOUTH INTERIOR KARNATAKA. BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTHWEST AND ADJOINING WESTCENTRAL BOB BETWEEN BET LATITUDE 11.0N & 15.0N AND WEST OF LONGITUDE 80.5E AND ALSO OVER TAMILNADU & ADJOINING SOUTH ANDHRA PRADESH & SOUTH INTERIOR KARNATAKA. MINIMUM CLOUD TOP TEMPERATURE (CTT) IS MINUS 93°C. MICROWAVE IMAGERY AT 1055Z EXPOSES THE LOW LEVEL CIRCULATION TO THE EAST OF THE CLOUD MASS.

THE ESTIMATED MAXIMUM SUSTAINED WIND SPEED IS 25 KNOTS GUSTING TO 35 KNOTS. THE SEA CONDITION IS ROUGH TO VERY ROUGH AROUND THE SYSTEM AREA. THE ESTIMATED CENTRAL PRESSURE IS 1002 HPA.

AT 1200 UTC, A BUOY NEAR 13.4°N/84.1°E REPORTED MEAN SEA LEVEL PRESSURE (MSLP) OF 1004.3 HPA AND MAXIMUM SUSTAINED WIND (MSW) SPEED OF 135°/15KTS.

REMARKS:

SEA SURFACE TEMPERATURE (SST) IS ABOUT 29-31°C OVER SOUTHEAST BOB. TROPICAL CYCLONE HEAT POTENTIAL (TCHP) IS ABOUT 80-100 KJ/CM² OVER SOUTHWEST BOB. MADDEN JULIAN OSCILLATION INDEX IS IN PHASE 4 WITH AMPLITUDE CLOSE TO 1. IT WILL CONTINUE IN SAME PHASE DURING NEXT 5 DAYS. THE POSITIVE LOW LEVEL VORTICITY IS SAME DURING PAST 06 HOURS AND IS AROUND (100 X10⁻⁶ S⁻¹) OVER SOUTHWEST BOB TO THE SOUTH OF SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL. POSITIVE LOW LEVEL

CONVERGENCE HAS REDUCED SLIGHTLY AND IS ABOUT $20 \times 10^{-5} \text{ S}^{-1}$ TO THE WEST OF SYSTEM CENTRE. POSITIVE UPPER LEVEL DIVERGENCE HAS ALSO REDUCED AND IS AROUND $05-10 \times 10^{-5} \text{ S}^{-1}$ TO THE NORTHWEST OF SYSTEM CENTRE. VERTICAL WIND SHEAR IS LOW (15-20 KTS) OVER SYSTEM AREA AND ALONG FORECAST TRACK. THE UPPER TROPOSPHERIC RIDGE LAY NEAR 19.5°N . THE SYSTEM IS STEERED WEST-NORTHWESTWARDS BY THE EAST-SOUTHEASTERLY WINDS PREVAILING IN THE SOUTHERN PERIPHERY OF THE UPPER TROPOSPHERIC RIDGE. THE LAND INTERACTIONS WOULD INHIBIT FURTHER INTENSIFICATION OF THE SYSTEM. UNDER THESE CONDITIONS, THE DEPRESSION OVER SOUTHWEST BOB WOULD MOVE FURTHER WEST-NORTHWESTWARDS AND CROSS NORTH TAMILNADU AND SOUTH ANDHRA PRADESH COAST BY 0000 UTC OF 19TH NOVEMBER.

MODELS ARE ALSO INDICATING THE SYSTEM WOULD MOVE NEARLY WEST-NORTHWESTWARDS AND CROSS NORTH TAMIL NADU AND ADJOINING SOUTH ANDHRA PRADESH COASTS ON 19TH MORNING.

IN VIEW OF ALL THE ABOVE, THE DEPRESSION OVER SOUTHWEST BOB WOULD MOVE WEST-NORTHWESTWARDS AND CROSS NORTH TAMIL NADU AND ADJOINING SOUTH ANDHRA PRADESH COASTS BETWEEN PUDUCHERRY & CHENNAI BY EARLY MORNING (AROUND 0000 UTC) OF TOMORROW, THE 19TH NOVEMBER, 2021.

ARABIAN SEA:

SUB: LOW PRESSURE AREA OVER EASTCENTRAL ARABIAN SEA

THE LOW PRESSURE AREA OVER EASTCENTRAL ARABIAN SEA (AS) PERSISTED OVER THE SAME REGION AT 1200 UTC OF TODAY, THE 18TH NOVEMBER 2021. IT IS LIKELY TO MOVE WEST-SOUTHWESTWARDS & BECOME MORE MARKED DURING NEXT 48 HOURS.

AS PER SATELLITE IMAGERY AT 1200 UTC, SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION LAY OVER EASTCENTRAL AS BETWEEN LATITUDE 14.0N & 19.5N AND LONGITUDE 66.5E & 70.0E . MINIMUM CTT IS AROUND MINUS 89°C AT 1200 UTC. OUTFLOW CLOUD BANDS LAY OVER GUJARAT, EAST RAJASTHAN, NORTHWEST MADHYA PRADESH, CENTRAL UTTAR PRADESH AND ADJOINING NEPAL.

REMARKS:

SEA SURFACE TEMPERATURE (SST) IS ABOUT $28-29^{\circ}\text{C}$ OVER SOUTHEAST & ADJOINING EASTCENTRAL AS, BECOMING $<28^{\circ}\text{C}$ OVER WESTERN PARTS OF THE AS. TROPICAL CYCLONE HEAT POTENTIAL (TCHP) IS ABOUT $60-80 \text{ KJ}/\text{CM}^2$ OVER SOUTHEAST & ADJOINING EASTCENTRAL AS AND IS DECREASING TOWARDS WESTERN PARTS OF AS. POSITIVE LOW LEVEL VORTICITY IS ABOUT $(80-100 \times 10^{-6} \text{ S}^{-1})$ OVER EASTCENTRAL AS WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL. POSITIVE LOW LEVEL CONVERGENCE OF ABOUT $05 \times 10^{-5} \text{ S}^{-1}$ LAY TO THE NORTHEAST OF SYSTEM CENTRE. NO SIGNIFICANT DIVERGENCE ZONE IS SEEN NEAR THE SYSTEM AREA. WIND SHEAR IS LOW TO MODERATE (15-20 KT) OVER EASTCENTRAL AS. IT IS GRADUALLY INCREASING OVER AREAS TO THE WEST OF SYSTEM CENTRE.

MOST OF THE MODELS LIKE IMD GFS, IMD GPP, NCUM, NEPS, NCUM (REGIONAL) AND ECMWF ARE INDICATING PERSISTENCE OF THE LOW PRESSURE AREA OVER EASTCENTRAL AS WITH VERY SLOW WEST-SOUTHWESTWARD MOVEMENT DURING NEXT 4-5 DAYS TOWARDS SOUTHWEST AS. HOWEVER, NCUM GROUP OF MODELS ARE INDICATING MOVEMENT TOWARDS GULF OF ADEN TILL 23RD.

UNDER THESE CONDITIONS, THE LOW PRESSURE AREA OVER EASTCENTRAL AS IS LIKELY TO MOVE WEST-SOUTHWESTWARDS & BECOME MORE MARKED DURING NEXT 48 HOURS.

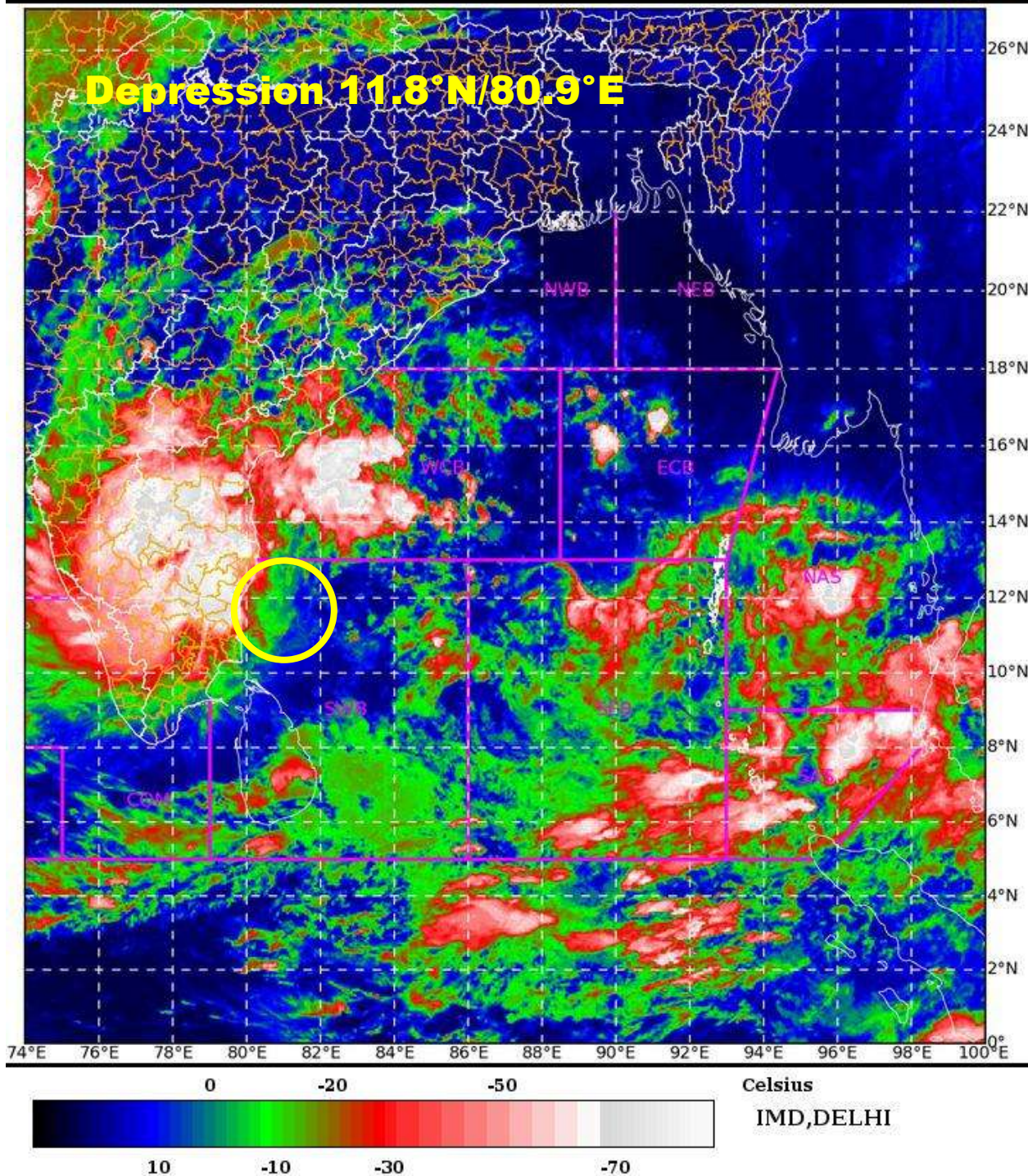
NEXT MESSAGE WILL BE ISSUED AT 2100 UTC OF 18TH NOVEMBER, 2021.

(SUNITHA DEVI)
SCIENTIST-F, RSMC, NEW DELHI

SAT : INSAT-3DR IMG 18-11-2021/(1245 to 1312) GMT

IMG_TIR1_TEMP 10.8 um 18-11-2021/(1815 to 1842) IST

L1C Mercator



PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION):NIL: 0%, LOW: 1-25%, FAIR: 26-50%, MODERATE: 51-75% AND HIGH: 76-100%
This is a guidance Bulletin for the WMO/ESCAP Panel Member countries., Please visit respective National websites for Country specific Bulletins



OBSERVED AND FORECAST TRACK OF DEPRESSION OVER SOUTHWEST BAY OF BENGAL BASED ON 1200 UTC OF 18TH NOVEMBER, 2021



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

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