



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

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 21.11.2020

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 2200 UTC OF 21.11.2020 BASED ON 1800 UTC OF 21.11.2020 .

A. DEPRESSION OVER SOUTHWEST ARABIAN SEA:

LATEST SATELLITE AND SHIP OBSERVATIONS INDICATE THAT THE **WELL MARKED LOW PRESSURE AREA OVER SOUTHWEST ARABIAN SEA (AS) AND NEIGHBOURHOOD** CONCENTRATED INTO A DEPRESSION AND LAY CENTERED AT 1800 UTC OF 21ST NOVEMBER OVER THE SAME REGION **NEAR LATITUDE 11.2°N AND LONGITUDE 57.4°E** ABOUT 410 KM EAST-SOUTHEAST OF SOCOTRA (41494) AND 730 KM EAST OF ALULA (63200).

IT IS VERY LIKELY TO MOVE WEST-NORTHWESTWARDS AND INTENSIFY FURTHER INTO DEEP DEPRESSION DURING NEXT 24 HOURS.

A SHIP AT 10.6°N AND 57.0°E OBSERVED WIND 19.0 KTS /120°, MEAN SEA LEVEL PRESSURE 1025 HPA AND SEA SURFACE TEMPERATURE 28°C.

AS PER SATELLITE IMAGERY, THE INTENSITY OF THE SYSTEM IS T 1.5. BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTHWEST & ADJOINING WESTCENTRAL ARABIAN SEA BETWEEN LATITUDE 7.0°N & 13.5°N AND LONGITUDE 53.5°E & 59.0°E IN ASSOCIATION WITH THE SYSTEM. THE MINIMUM CLOUD TOP TEMPERATURE IS - 93°C.

B. LOW PRESSURE AREA OVER SOUTH BAY OF BENGAL:

A LOW PRESSURE AREA FORMED OVER EQUATORIAL INDIAN OCEAN AND ADJOINING CENTRAL PARTS OF SOUTH BOB PERSISTED OVER SAME REGION. IT IS LIKELY TO CONCENTRATE INTO A DEPRESSION OVER SOUTHWEST BOB DURING NEXT 48 HOURS. IT IS VERY LIKELY TO MOVE WEST-NORTHWESTWARDS TOWARDS SRILANKA-TAMILNADU COASTS DURING SUBSEQUENT 48 HOURS AND REACH TAMILNADU & PUDUCHERRY COAST ON 25TH NOVEMBER, 2020.

BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER EQUATORIAL INDIAN OCEAN AND ADJOINING SOUTHEAST BAY OF BENGAL, BETWEEN LATITUDE 2.0°N & 10.0°N AND LONGITUDE 83.0°E & 93.0°E IN ASSOCIATION WITH THE LOW PRESSURE AREA. MINIMUM CLOUD TOP TEMPERATURE IS -93.0°C. SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTH BAY OF BENGAL, SOUTH OF LATITUDE 10.0°N, SOUTH ANDAMAN SEA. SCATTERED LOW AND MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION LAY OVER EASTCENTRAL BAY OF BENGAL, REST OF ANDAMAN SEA.

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION):NIL: 0%, LOW: 1-25%, FAIR: 26-50%, MODERATE: 51-75% AND HIGH: 76-100%



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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	MOD	HIGH	HIGH	HIGH

REMARKS:

THE MADDEN JULIAN OSCILLATION (MJO) INDEX IS CURRENTLY IN PHASE 3 WITH AMPLITUDE EQUAL TO 1. IT WILL CONTINUE IN SAME PHASE WITH AMPLITUDE BECOMING LESS THAN 1 DURING SUBSEQUENT 4 DAYS. THUS MJO WILL SUPPORT ENHANCEMENT OF CONVECTIVE ACTIVITY OVER THE NORTH INDIAN OCEAN INCLUDING BAY OF BENGAL (BOB) AND ARABIAN SEA (AS) FOR NEXT 5 DAYS.

A. DEPRESSION OVER SOUTHWEST ARABIAN SEA:

CONSIDERING THE SEA CONDITIONS, SEA SURFACE TEMPERATURE (SST) IS AROUND 29-30°C OVER MOST PARTS OF SOUTH AND EASTCENTRAL ARABIAN SEA (AS). IT IS SLIGHTLY LESS (26-28°C) OVER WESTCENTRAL & NORTH AS. HIGH TCHP (100-120 KJ/CM²) PREVAILS OVER COMORIN AREA AND ADJOINING SOUTHWEST BOB OFF SOUTH SRI LANKA COAST AND KERALA COAST. TCHP IS AROUND 60-80 KJ/CM² OVER MAJOR PARTS OF SOUTH AS EXCEPT OFF NORTH SOMALIA COAST. TCHP IS LESS THAN 50KJ/CM² TO THE WEST OF 68°E AND NORTH 11°N OVER THE CENTRAL & NORTH AS AND 60 – 80 KJ/CM² OVER REMAINING PARTS OF EASTCENTRAL & NORTHEAST AS.

CONSIDERING THE ENVIRONMENTAL CONDITIONS **OVER ARABIAN SEA**, RELATIVE VORTICITY ZONE (100X10⁻⁶S⁻¹) PREVAIL OVER SOUTHWEST OF THE SYSTEM. AN AREA OF POSITIVE DIVERGENCE 20X10⁻⁵S⁻¹ AND AREA OF POSITIVE CONVERGENCE ZONE (10 X 10⁻⁵S⁻¹) PREVAILS OVER SOUTHWEST OF THE SYSTEM. THE VERTICAL WIND SHEAR (VWS) IS LOW TO MODERATE (10-15 KTS) OVER AND WEST OF THE SYSTEM THE UPPER TROPOSPHERIC RIDGE AT 200 HPA RUNS ALONG 15°N.

NWP MODELS SUCH AS IMD-GFS, NCEP-GFS, ECMWF, NCUM AND NEPS ARE INDICATING FURTHER INTENSIFICATION OF THE DEPRESSION. ALL MODELS ARE UNANIMOUS ABOUT WEST-NORTHWESTWARD MOVEMENT OF THE SYSTEM TOWARDS NORTH SOMALIA COAST AND THEN INTO GULF OF ADEN.

B. LOW PRESSURE AREA OVER SOUTH BAY OF BENGAL:

CONSIDERING THE SEA CONDITIONS, SST IS AROUND 29-30°C OVER MOST PARTS OF BAY OF BENGAL (BOB). HIGH TCHP (120-140 KJ/CM²) PREVAILS IN THE NEAR EQUATORIAL BELT OF NORTH INDIAN OCEAN (NIO) AND ADJOINING SOUTH BOB & SUMATRA COAST. HIGHER TCHP (120-140 KJ/CM²) ALSO PREVAIL OFF MYANMAR COAST AND NORTH ANDHRA PRADESH COAST (INDIA). TCHP IS 60-80 KJ/CM² OVER REMAINING PARTS OF BOB AND ANDAMAN SEA.

CONSIDERING THE ENVIRONMENTAL CONDITIONS **OVER BOB**, POSITIVE RELATIVE VORTICITY (20-50X10⁻⁶S⁻¹) PREVAILS OVER EQUATORIAL INDIAN OCEAN & ADJOINING CENTRAL PARTS OF SOUTH BOB WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL. AREA OF POSITIVE DIVERGENCE (30X10⁻⁵S⁻¹) PREVAILS OVER EQUATORIAL INDIAN OCEAN & ADJOINING CENTRAL PARTS OF SOUTH BOB. AREA OF POSITIVE CONVERGENCE ZONE (05-10 X 10⁻⁵S⁻¹) PREVAILS OVER THE SAME REGION. THE VERTICAL WIND SHEAR (VWS) IS MODERATE (10-20 KTS) OVER SOUTH AND ADJOINING CENTRAL BOB. THE UPPER TROPOSPHERIC RIDGE AT 200 HPA RUNS ALONG 11.5°N OVER THE BOB.

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MODELS LIKE ECMWF, IMD GFS, NCEP GFS, GEFS, NCUM AND NEPS ARE INDICATING INDICATING DEVELOPMENT OF DEPRESSION OVER SOUTHWEST BOB AROUND 23RD/24TH NOVEMBER WITH LIKELY MOVEMENT TOWARDS SRILANKA-TAMIL NADU COASTS. HOWEVER THERE IS LARGE VARIATION W.R.T. INTENSIFICATION OF THE SYSTEM.

CONCLUSION:

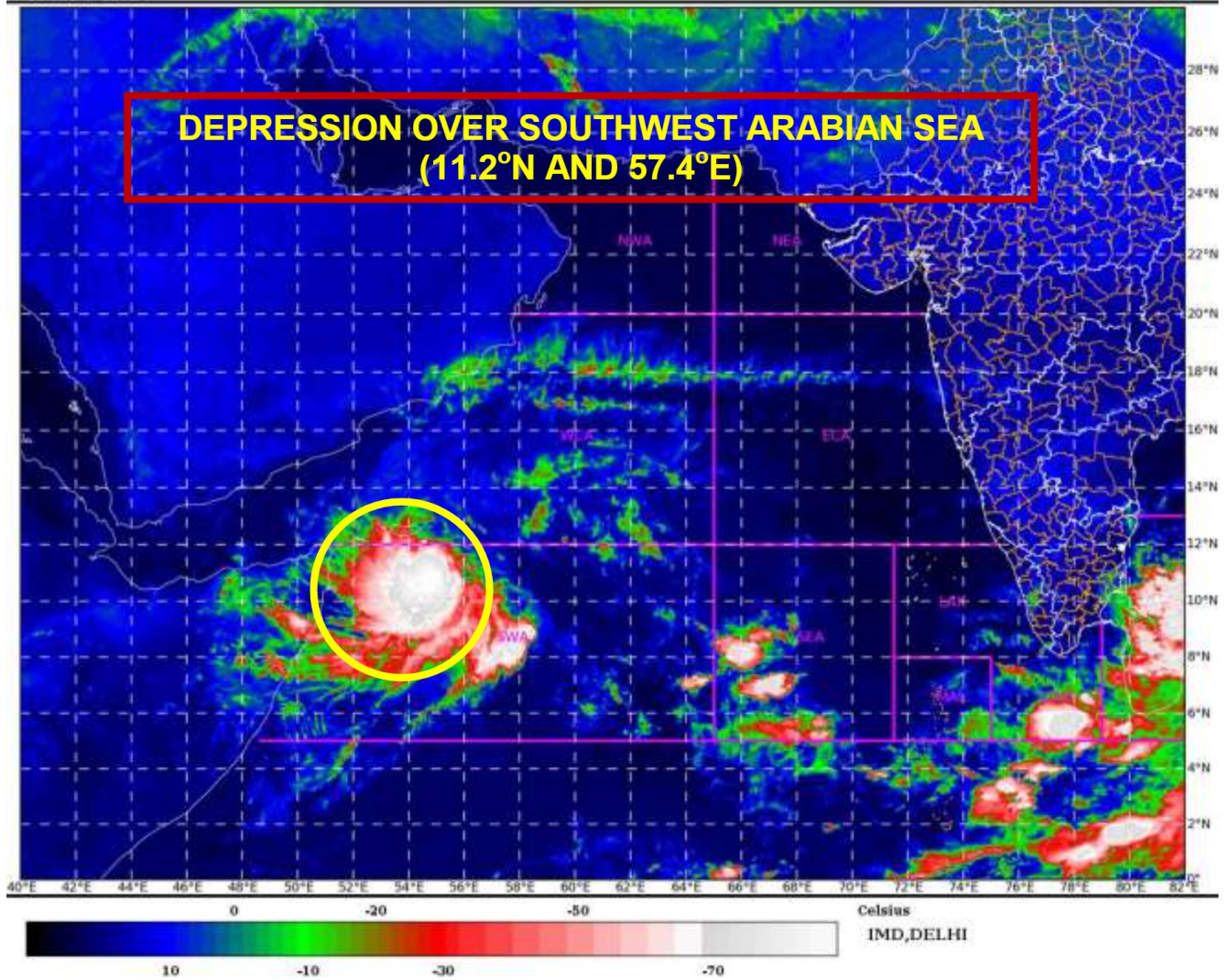
CONSIDERING ALL THE ABOVE, THE EXISTING DEPRESSION OVER SOUTHWEST ARABIAN SEA IS EXPECTED TO MOVE WEST-NORTHWESTWARDS AND INTENSIFY FURTHER OVER SOUTHWEST ARABIAN SEA DURING NEXT 24 HOURS. AND THE EXISTING LOW PRESSURE AREA OVER EQUATORIAL INDIAN OCEAN & ADJOINING CENTRAL PARTS OF SOUTH BOB IS LIKELY TO CONCENTRATE INTO A DEPRESSION DURING NEXT 48 HOURS. IT IS LIKELY TO MOVE WEST-NORTHWESTWARDS TOWARDS SRILANKA-TAMILNADU COASTS DURING SUBSEQUENT 48 HOURS AND REACH TAMILNADU & PUDUCHERRY COAST ON 25TH NOVEMBER, 2020.

(ANANDA KUMAR DAS)
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SAT : INSAT-3D IMG
IMG_TIR1_TEMP 10.8 um
ARABIAN_SEA

21-11-2020/(1930 to 1956) GMT
22-11-2020/(0100 to 0126) IST



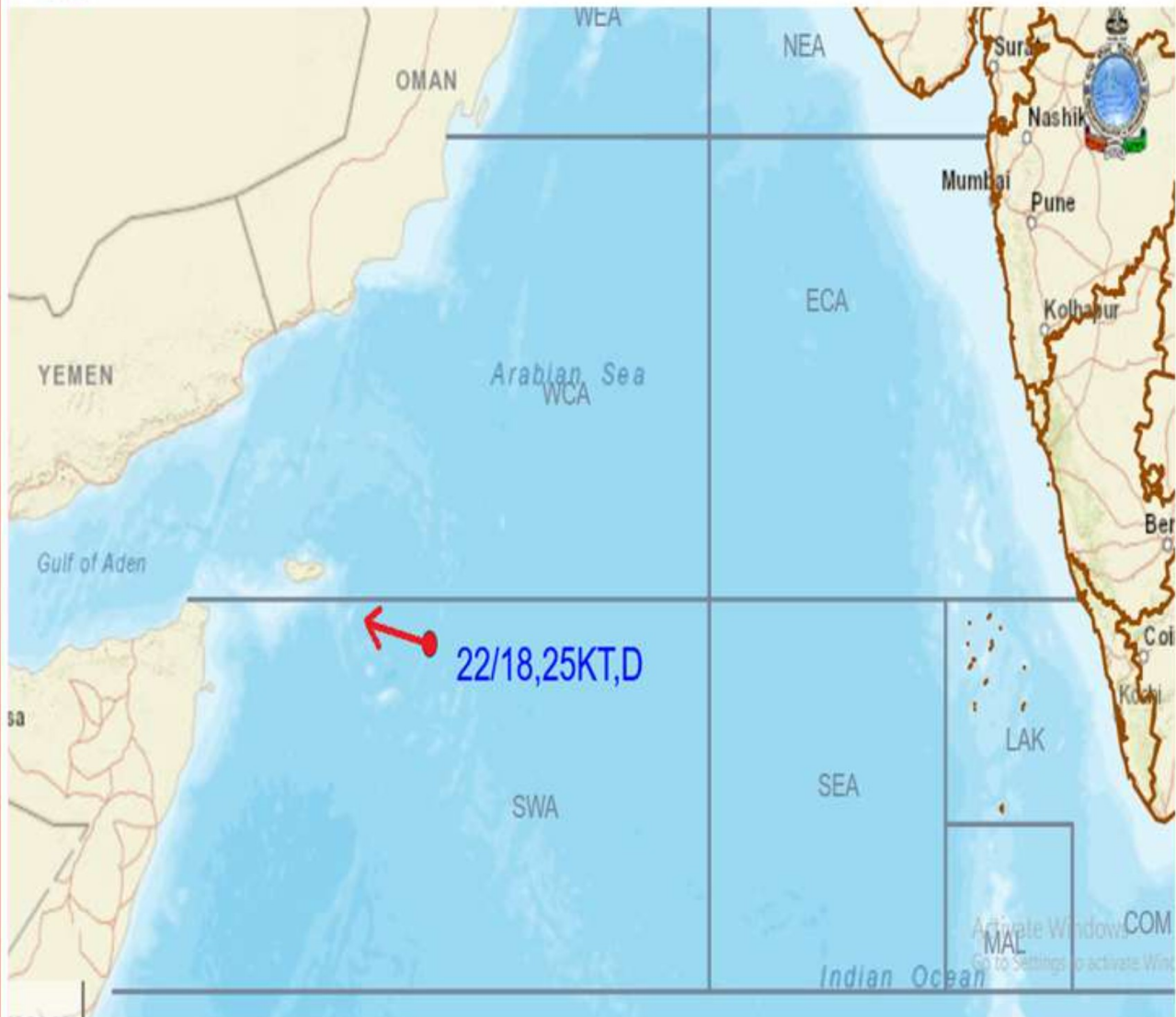
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OBSERVED AND FORECAST TRACK OF DEPRESSION OVER SOUTHWEST ARABIAN SEA BASED ON 1800 UTC OF 21st Nov, 2020



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



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