



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

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 10.06.2019

TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0700 UTC OF 10.06.2019 BASED ON 0300 UTC OF 10.06.2019.

DEPRESSION OVER DEPRESSION OVER EASTCENTRAL AND ADJOINING SOUTHEAST ARABIAN SEA & LAKSHADWEEP AREA

A DEPRESSION FORMED OVER SOUTHEAST AND ADJOINING LAKSHADWEEP & EASTCENTRAL ARABIAN SEA AND LAY CENTRED AT 0000 UTC OF TODAY, THE 10 TH JUNE, 2019 NEAR LATITUDE 11.7°N AND LONGITUDE 71.0°E. IT MOVED NORTHWARDS WITH A SPEED OF ABOUT 31 KMPH IN THE PAST THREE HOURS AND LAY CENTRED AT 0300 UTC OF TODAY, THE 10TH JUNE, 2019 NEAR LATITUDE 12.5°N AND LONGITUDE 71.0°E OVER EASTCENTRAL AND ADJOINING SOUTHEAST ARABIAN SEA & LAKSHADWEEP AREA, ABOUT 240 KM NORTHWEST OF AMINIDIVI (43311) (LAKSHADWEEP), 760 KM SOUTH-SOUTHWEST OF MUMBAI (43003) (MAHARASHTRA) AND 930 KM SOUTH-SOUTHEAST OF VERAVAL (42909) (GUJARAT). IT IS VERY LIKELY TO INTENSIFY FURTHER INTO A DEEP DEPRESSION DURING NEXT 06 HOURS, INTO A CYCLONIC STORM DURING THE SUBSEQUENT 24 HOURS AND INTO A SEVERE CYCLONIC STORM THEREAFTER. IT IS LIKELY TO MOVE NORTH-NORTHWESTWARDS DURING NEXT 72 HOURS.

IT IS VERY LIKELY TO CAUSE ADVERSE IMPACT IN TERMS OF WIND & RAINFALL OVER SAURASHTRA & KUTCH MAINLY ON 13TH & 14TH JUNE, 2019.

FORECAST TRACK AND INTENSITY ARE GIVEN IN THE FOLLOWING TABLE:

DATE/TIME(UTC)	POSITION (LAT. °N/ LONG. °E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
10.06.19/0300	12.5/71.0	40-50 GUSTING TO 60	DEPRESSION
10.06.19/1200	13.2/70.8	55-65 GUSTING TO 75	DEEP DEPRESSION
11.06.19/0000	14.6/70.5	65-75 GUSTING TO 85	CYCLONIC STORM
11.06.19/1200	16.0/70.3	80-90 GUSTING TO 100	CYCLONIC STORM
12.06.19/0000	17.5/70.0	90-100 GUSTING TO 115	SEVERE CYCLONIC STORM
12.06.19/1200	19.0/69.8	100-110 GUSTING TO 125	SEVERE CYCLONIC STORM
13.06.19/0000	20.3/69.6	110-120 GUSTING TO 135	SEVERE CYCLONIC STORM

REMARKS:

AS PER THE SATELLITE IMAGERY OF 0300 UTC ON 10TH JUNE, 2019 THE INTENSITY OF THE VORTEX OVER **AND ADJOINING SOUTHEAST ARABIAN SEA & LAKSHADWEEP AREA** IS T1.5. ASSOCIATED BROKEN LOW TO MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CLOUDS OVER SOUTHEAST AND ADJOINING EASTCENTRAL ARABIAN SEA IN ASSOCIATION WITH THE SYSTEM. SATELLITE IMAGES INDICATE INCREASE IN CONVECTION AND INCREASED ORGANISATION OF CLOUDS AROUND THE SYSTEM CENTRE.

THE ESTIMATED MAXIMUM SUSTAINED WIND SPEED IS 25 KNOTS GUSTING TO 35 KNOTS. THE SEA CONDITION IS ROUGH TO VERY ROUGH AROUND THE SYSTEM CENTER. THE ESTIMATED CENTRAL PRESSURE IS 998 HPA.

AT 0300 UTC OF 10TH JUNE, A BOUY LOCATED AT 10.6°N/72.3°E REPORTED A MEAN SEA LEVEL PRESSURE OF 1003.1 HPA AND MEAN SURFACE WIND SPEED OF 250°/ 20 KNOTS. ANOTHER BOUY

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

NIL: 0%, LOW: 1-25%, FAIR: 26-50%, MODERATE: 51-75% AND HIGH: 76-100%

LOCATED AT 10.9°N/72.2°E REPORTED A MEAN SEA LEVEL PRESSURE OF 1002.7 HPA AND MEAN SURFACE WIND SPEED OF 320°/ 17 KNOTS. A SHIP (V7JA5) LOCATED AT 9.8°N/68.3°E REPORTED A MEAN SEA LEVEL PRESSURE OF 1007.0 HPA AND MEAN SURFACE WIND SPEED OF 280°/ 22 KNOTS. AMINI DIVI (43311) REPORTED A MEAN SEA LEVEL PRESSURE OF 1002.3 HPA AND MEAN SURFACE WIND SPEED OF 270°/ 14 KNOTS.

THE MADDEN JULIAN OSCILLATION (MJO) INDEX IS CURRENTLY IN PHASE 3 WITH AMPLITUDE MORE THAN 1. IT WILL CONTINUE IN SAME PHASE WITH AMPLITUDE GREATER THAN 1 FOR NEXT 4 DAYS. THEREAFTER, IT WILL MOVE TO PHASE 4 WITH AMPLITUDE GREATER THAN 1 AND REMAIN IN SAME PHASE FOR SUBSEQUENT 4 DAYS. HENCE, MJO PHASE WILL BE FAVOURABLE FOR ENHANCEMENT OF CONVECTION AND INTENSIFICATION OF THE SYSTEM OVER ARABIAN SEA.

CONSIDERING THE ENVIRONMENTAL CONDITIONS, THE SEA SURFACE TEMPERATURE (SST) IS 31°C OVER CENTRAL AND SOUTH ARABIAN SEA. THE TROPICAL CYCLONE HEAT POTENTIAL IS AROUND 100-110 KJ/CM² OVER THE SYSTEM AREA. IT IS LESS THAN 60 KJ/CM² TO THE NORTH OF 20° N. TOTAL PRECIPITABLE WATER IMAGERIES INDICATE WARM AIR ADVECTION TO THE SYSTEM CENTRE.

THE LOW LEVEL RELATIVE VORTICITY INCREASED IN PAST 24 HOURS AND IS AROUND 200 X10⁻⁵SEC⁻¹ TO THE WEST OF THE SYSTEM CENTRE. POSITIVE VORTICITY IS EXTENDING UPTO 200 HPA LEVEL. THE LOWER LEVEL CONVERGENCE IS ABOUT 30 X10⁻⁵S⁻¹ TO THE WEST OF THE SYSTEM. THE UPPER LEVEL DIVERGENCE IS ABOUT 40 X10⁻⁵S⁻¹ TO THE SOUTHWEST OF THE SYSTEM. THE VERTICAL WIND SHEAR IS LOW TO MODERATE (10-20 KNOTS) OVER THE SYSTEM AREA. IT IS DECREASING TOWARDS NORTH AND TOWARDS OMAN COAST. THE UPPER TROPOSPHERIC RIDGE RUNS ALONG 20° N.

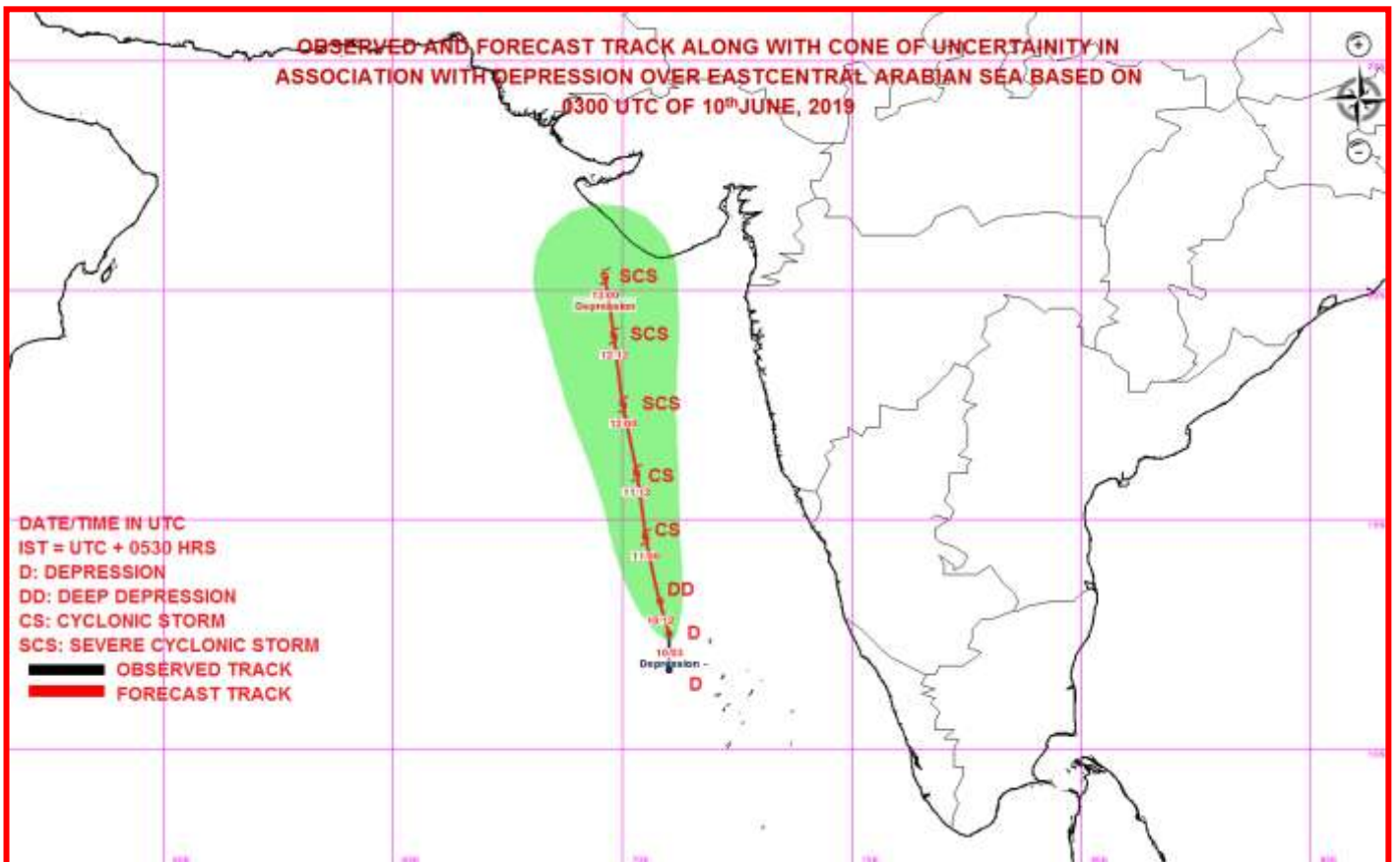
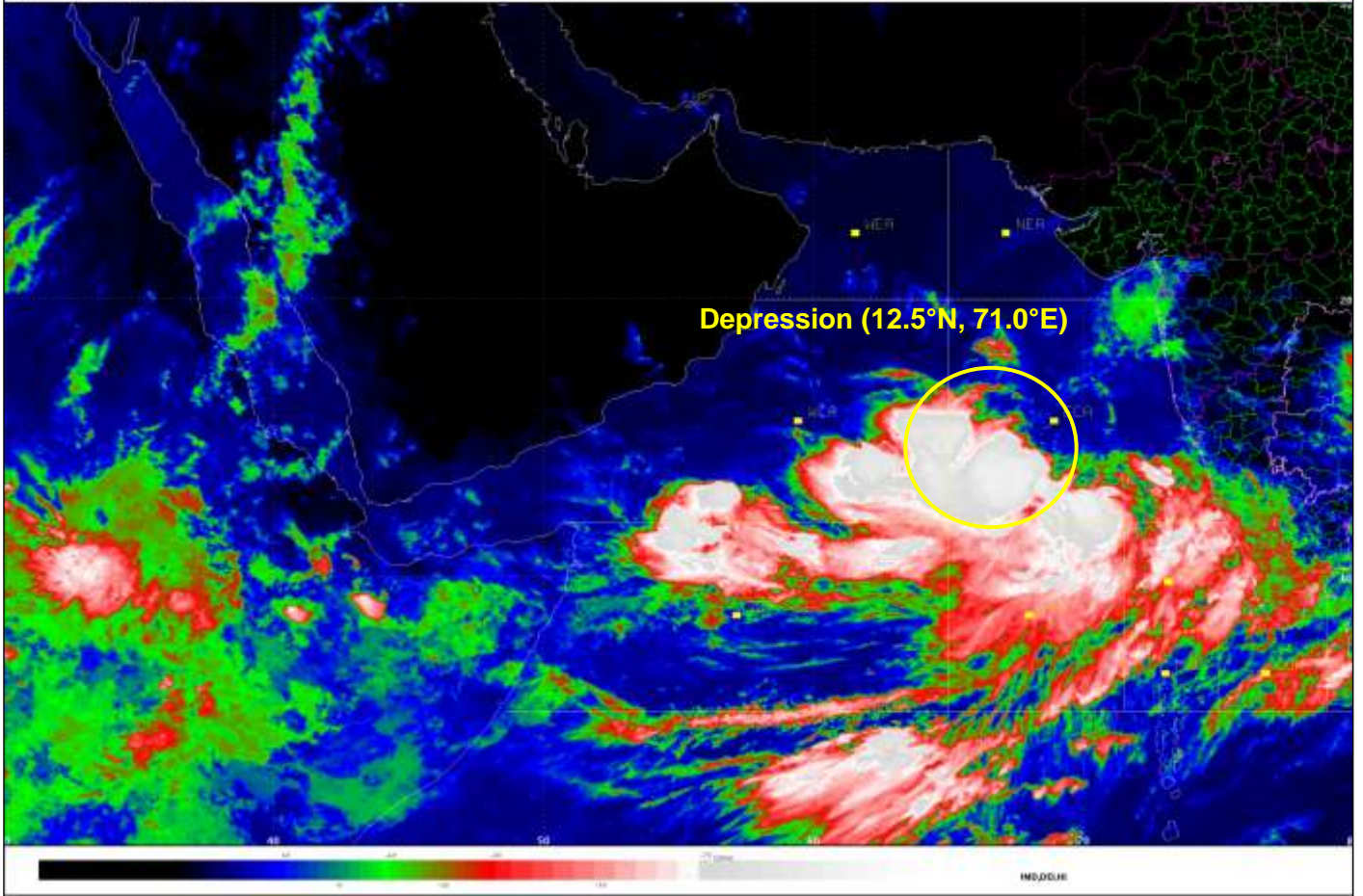
AS THE DEPRESSION IS LYING IN A FAVOURABLE ENVIRONMENTAL CONDITION IT IS VERY LIKELY TO INTENSIFY INTO A CYCLONIC STORM DURING NEXT 24 HOURS AND INTO A SEVERE CYCLONIC STORM DURING SUBSEQUENT 24 HOURS.

MAJORITY OF NUMERICAL MODELS INCLUDING ECMWF, NCMRWF UNIFIED MODELS (NCUM), NCMRWF ENSEMBLE PREDICTION SYSTEM (NEPS), IMD GLOBAL FORECAST SYSTEM (GFS), NCEP GFS, GLOBAL ENSEMBLE FORECASTING SYSTEM (GEFS) AGREE WITH THE ABOVE OBSERVATION.

(NEETHA K GOPAL)
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