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 1600 UTC OF 10.06.2019 BASED ON 1200 UTC OF 10.06.2019.

Deep Depression over Eastcentral & adjoining Southeast Arabian Sea: Cyclone Alert for Gujarat Coast: Yellow Message

The deep depression over Eastcentral and adjoining Southeast Arabian Sea & Lakshadweep area moved north-northwestwards with a speed of about 15 kmph in last six hours and lay centred at 1200 UTC of today, the 10th June, 2019 near latitude 13.3°N and longitude 70.8°E over Eastcentral & adjoining Southeast Arabian Sea, about 320 km northwest of Aminidivi (43311) (Lakshadweep), 680 km south-southwest of Mumbai (43003) (Maharashtra) and 840 km south-southeast of Veraval (42909) (Gujarat). It is very likely to intensify further into a Cyclonic Storm during next 12 hours and into a Severe Cyclonic Storm in subsequent 24 hours.

It is very likely to move nearly northward and cross Gujarat coast between Porbandar and Mahuva around Veraval & Diu region as a Very Severe Cyclonic Storm with wind speed 130-140 kmph gusting to 155 kmph during mid-night of 12th June 2019.

FORECAST TRACK AND INTENSITY ARE GIVEN IN THE FOLLOWING TABLE:

Date/Time(UTC)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
10.06.19/1200	13.3/70.8	55-65 gusting to 75	Deep Depression
10.06.19/1800	14.1/70.8	65-75 gusting to 85	Cyclonic Storm
11.06.19/0000	14.9/70.7	80-90 gusting to 100	Cyclonic Storm
11.06.19/0600	15.7/70.7	90-100 gusting to 110	Severe Cyclonic Storm
11.06.19/1200	16.5/70.7	100-110 gusting to 125	Severe Cyclonic Storm
12.06.19/0000	18.3/70.5	120-130 gusting to 145	Very Severe Cyclonic Storm
12.06.19/1200	20.1/70.5	130-140 gusting to 155	Very Severe Cyclonic Storm
13.06.19/0000	21.9/70.4	110-120 gusting to 135	Severe Cyclonic Storm
13.06.19/1200	23.1/69.9	70-80 gusting to 90	Cyclonic Storm
14.06.19/0000	23.6/69.5	50-60 gusting to 70	Deep Depression
14.06.19/1200	24.1/69.3	40-50 gusting to 60	Depression

REMARKS:

AS PER THE SATELLITE IMAGERY OF 1200 UTC ON 10TH JUNE, 2019 THE INTENSITY OF THE SYSTEM OVER EASTCENTRAL AND ADJOINING SOUTHEAST ARABIAN SEA & LAKSHADWEEP AREA IS T2.0. ASSOCIATED BROKEN LOW TO MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTHEAST AND ADJOINING EASTCENTRAL ARABIAN SEA. SATELLITE IMAGES INDICATE INCREASE IN CONVECTION AND INCREASED ORGANISATION OF CLOUDS AROUND THE SYSTEM CENTRE. MINIMUM CLOUD TOP TEMPERATURE IS -93° C.

THE ESTIMATED MAXIMUM SUSTAINED WIND SPEED IS 30 KNOTS GUSTING TO 40 KNOTS. THE SEA CONDITION IS ROUGH TO VERY ROUGH AROUND THE SYSTEM CENTER. THE ESTIMATED CENTRAL PRESSURE IS 997 HPA.

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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

AT 1200 UTC OF 10^{TH} JUNE, A BOUY LOCATED AT 14.9°N/68.9°E REPORTED A MEAN SEA LEVEL PRESSURE OF 1000.9 HPA AND MEAN SURFACE WIND SPEED OF 050°/ 24 KNOTS. ANOTHER BOUY LOCATED AT 12.1°N/68.8°E REPORTED A MEAN SEA LEVEL PRESSURE OF 1000.3 HPA AND MEAN SURFACE WIND SPEED OF 260°/ 29 KNOTS. AMINI DIVI (43311) REPORTED A MEAN SEA LEVEL PRESSURE OF 1001.4 HPA AND MEAN SURFACE WIND SPEED OF 270°/ 17 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 3 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/CM^2 OVER THE SYSTEM AREA. IT IS LESS THAN 60 KJ/CM^2 TO THE NORTH OF 20^0 N. TOTAL PRECIPITABLE WATER VAPOUR IMAGERIES INDICATE WARM AIR ADVECTION TO THE SYSTEM CENTRE.

THE LOW LEVEL RELATIVE VORTICITY IS 200 $X10^{-5}SEC^{-1}$ AROUND THE SYSTEM CENTRE. POSITIVE VORTICITY IS EXTENDING UPTO 200 HPA LEVEL. THE LOWER LEVEL CONVERGENCE IS ABOUT 40 $X10^{-5}S^{-1}$ TO THE SOUTHWEST OF THE SYSTEM CENTRE. THE UPPER LEVEL DIVERGENCE IS ABOUT 30 $X10^{-5}S^{-1}$ TO THE SOUTH OF THE SYSTEM CENTRE. THE VERTICAL WIND SHEAR IS LOW TO MODERATE (10-20 KNOTS) OVER THE SYSTEM AREA. IT IS DECREASING TOWARDS THE NORTH. THE UPPER TROPOSPHERIC RIDGE RUNS ALONG 20° N. AS THE SYSTEM IS LYING IN THE OUTER PERIPHERY OF THE ANTICYCLONE OVER CENTRAL PARTS OF INDIA, IT IS MOVING IN A NORTH-NORTHWESTERLY DIRECTION.

AS THE DEEP DEPRESSION IS LYING IN A FAVOURABLE ENVIRONMENTAL CONDITION, IT IS VERY LIKELY TO INTENSIFY INTO A CYCLONIC STORM DURING NEXT 12 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 FORECATING SYSTEM (GEFS) AGREE WITH THE ABOVE OBSERVATION.

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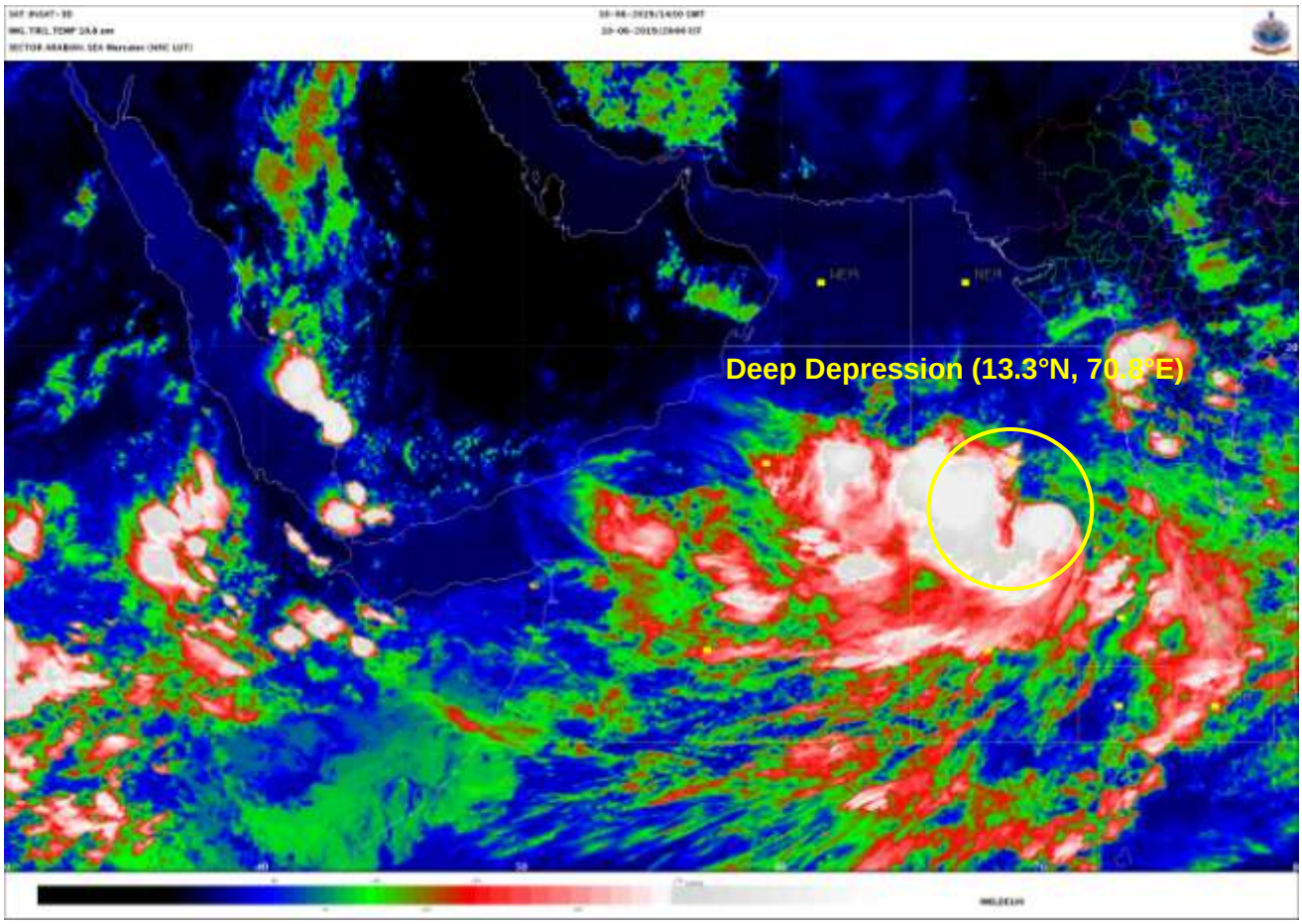

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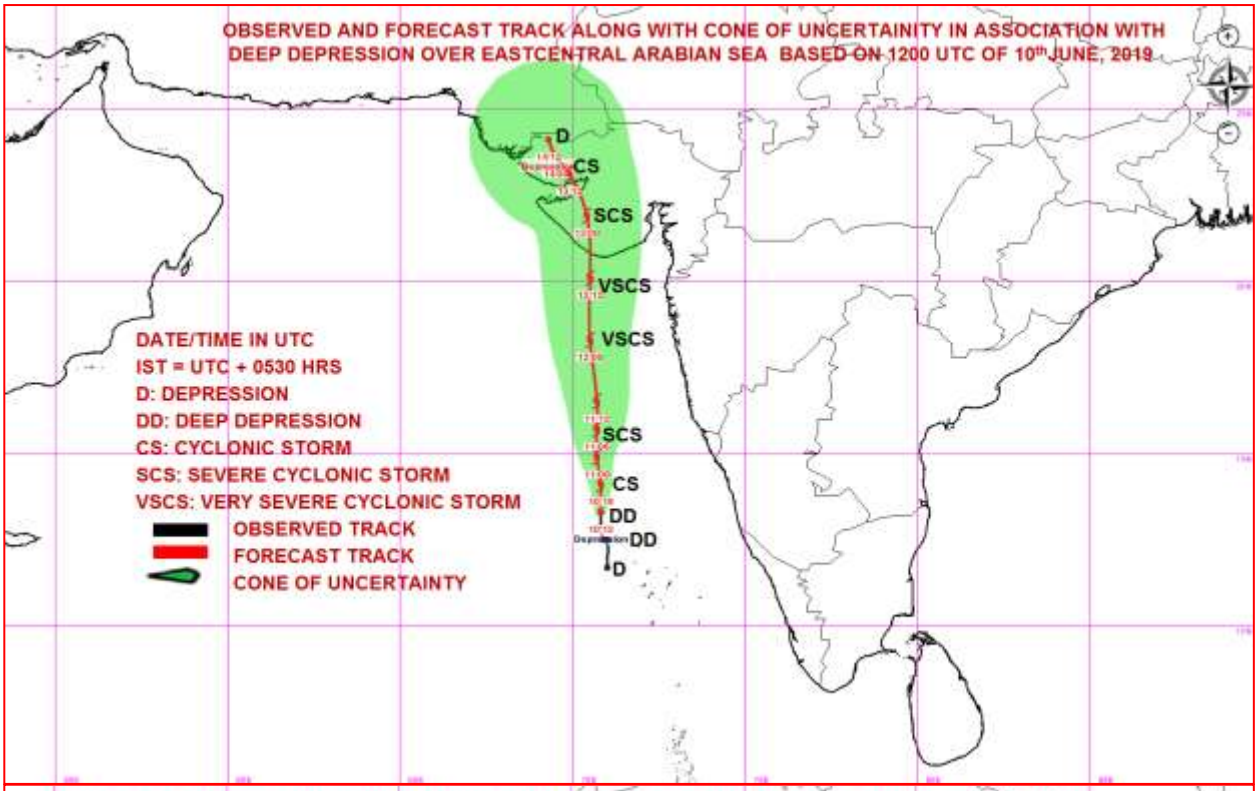

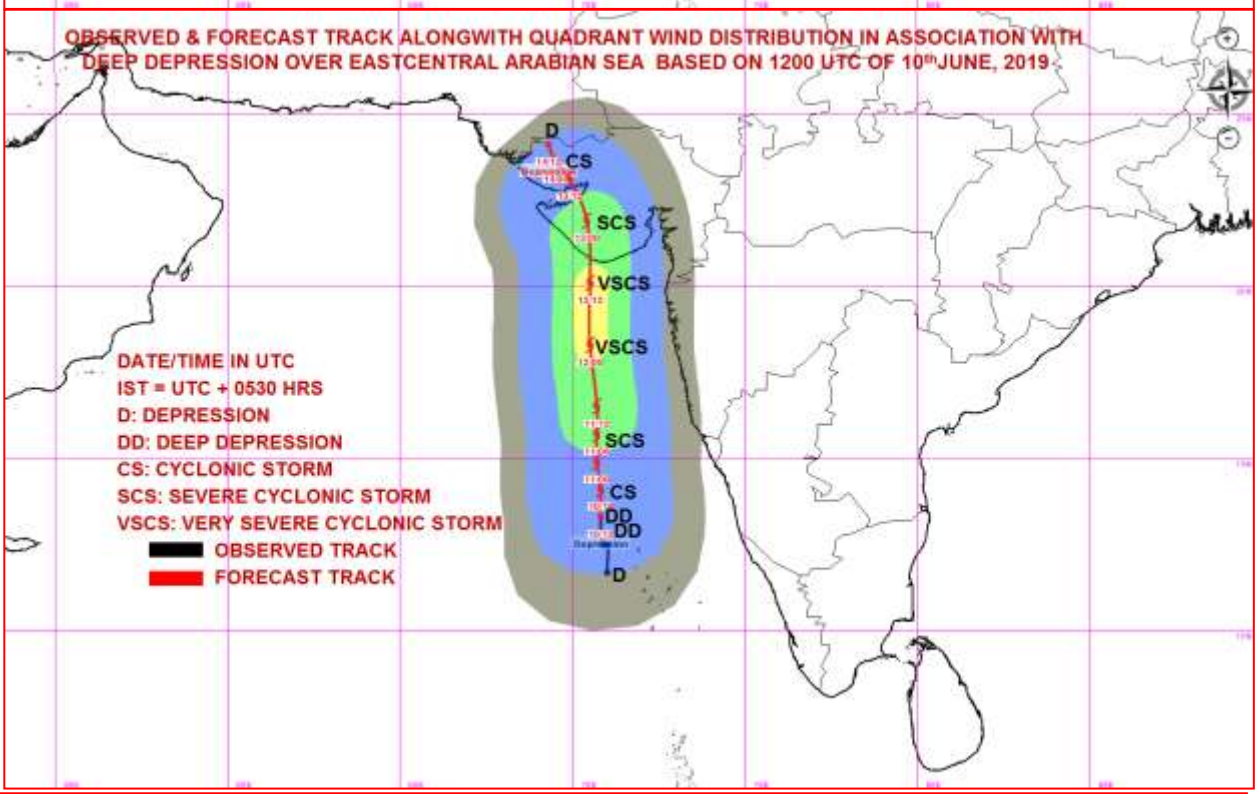

MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	High to very high seas	Total suspension of fishing operations
50-63/(92-117)	Very High seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

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