



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

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 15.05.2020

TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0600 UTC OF 15.05.2020 BASED ON 0300 UTC OF 15.05.2020.

BAY OF BENGAL:

YESTERDAY'S WELL MARKED LOW PRESSURE AREA OVER SOUTHEAST BAY OF BENGAL (BOB) & NEIGHBOURHOOD PERSISTS OVER THE SAME REGION WITH ASSOCIATED CYCLONIC CIRCULATION EXTENDING UPTO MID-TROPOSPHERIC LEVELS.

IT IS VERY LIKELY TO CONCENTRATE INTO A DEPRESSION OVER THE SAME REGION DURING NEXT 12 HOURS AND FURTHER INTENSIFY INTO A CYCLONIC STORM OVER CENTRAL PARTS OF SOUTH BAY OF BENGAL BY 1500 UTC OF 16TH MAY. IT IS VERY LIKELY TO MOVE NORTHWESTWARDS INITIALLY TILL 17TH AND THEN RE-CURVE NORTH-NORTHEASTWARDS TOWARDS NORTH BAY OF BENGAL DURING 18TH-20TH MAY.

AS PER INSAT-3D SATELLITE IMAGERY BASED ON 0300 UTC OF TODAY, THE 15TH MAY, VORTEX LAY OVER SOUTHEAST BOB WITHIN HALF DEGREE OF 11.0°N/87.8°E. CENTRE IS NOT WELL DEFINED. INTENSITY AS T1.0. BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER BOB BETWEEN LATITUDE 6.0°N & 13.0°N AND LONGITUDE 85.0°E & 91.0°E IN ASSOCIATION WITH THE CYCLONIC CIRCULATION OVER THE REGION. THE DEPTH OF CONVECTION HAS NOT CHANGED WITH MINIMUM CLOUD TOP TEMPERATURE REMAINING THE SAME DURING PAST 24 HOURS (MINUS 93°C).

PROBABILITY OF CYCLOGENESIS DURING NEXT 120 HRS:

24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS
MODERATE	HIGH	HIGH	HIGH	HIGH

ARABIAN SEA:

SCATTERED LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTHEAST ARABIAN SEA.

PROBABILITY OF CYCLOGENESIS DURING NEXT 120 HRS:

24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS
NIL	NIL	NIL	NIL	NIL

REMARKS:

THE MADDEN JULIAN OSCILLATION (MJO) INDEX IS CURRENTLY IN PHASE 2 WITH AMPLITUDE MORE THAN 1. IT WILL CONTINUE IN SAME PHASE TILL 19TH MAY WITH AMPLITUDE REMAINING MORE THAN 1 TILL 16TH MAY AND BECOMING LESS THAN 1 THEREAFTER. THUS MJO WILL SUPPORT ENHANCEMENT OF CONVECTIVE ACTIVITY OVER THE THE BAY OF BENGAL (BOB) FOR NEXT 5 DAYS.

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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

CONSIDERING THE SEA CONDITIONS, THE SEA SURFACE TEMPERATURE (SST) IS 30-31°C OVER ENTIRE BOB AND OVER ANDAMAN SEA. THE TROPICAL CYCLONE HEAT POTENTIAL IS MORE THAN 100 KJ/CM² OVER MAJOR PARTS OF SOUTH & CENTRAL BOB AND EASTERN PARTS OF ANDAMAN SEA. IT IS ABOUT 60-80 KJ/CM² OVER REMAINING PARTS OF ANDAMAN SEA AND BOB TO THE NORTH OF 17°N AND IS DECREASING TOWARDS EXTREME NORTH BOB.

CONSIDERING THE ENVIRONMENTAL CONDITIONS, THE POSITIVE HIGHER POSITIVE VORTICITY ZONE HAS MAINTAINED IT'S STRENGTH DURING PAST 24 HOURS (60-80 X10⁻⁶SEC⁻¹) OVER SOUTHEAST BOB WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL. THE CONVERGENCE ZONE OVER SOUTHEAST BOB IS THE SAME DURING PAST 24 HOURS (15X10⁻⁵SEC⁻¹) AND IS NORTH-SOUTH ORIENTED. UPPER LEVEL DIVERGENCE IS THE SAME DURING THE PERIOD (40X10⁻⁵SEC⁻¹) OVER SOUTHEAST BOB AND IS NORTH-SOUTH ORIENTED. VERTICAL WIND SHEAR (VWS) IS MODERATE (15-20 KTS) TO THE SOUTH OF 10°N OVER SOUTHWEST AND ADJOINING SOUTHEAST BOB. IT IS BECOMING HIGH TO THE NORTH OF 10.0°N AND ANDAMAN SEA. THE UPPER TROPOSPHERIC RIDGE LIES NEAR 10.0°N OVER BOB.

MOST OF THE NUMERICAL MODELS INCLUDING ECMWF, IMD GFS, NCEP GFS, GEFS, NEPS, NCUM AND GPP ARE INDICATING CYCLOGENESIS AROUND 16TH MAY OVER SOUTHWEST AND ADJOINING SOUTHEAST BOB WITH INTENSIFICATION UPTO SEVERE CATEGORY OF CYCLONIC STORM AND INITIAL NORTHWEST MOVEMENT FOLLOWED BY NORTH-NORTHEASTWARDS RECURVATURE TOWARDS CENTRAL PARTS OF NORTH BOB. THERE IS HOWEVER SOME DIVERGENCE AMONG THESE MODELS WRT DATE OF CYCLOGENESIS. ECMWF IS INDICATING CYCLOGENESIS OVER SOUTHWEST BOB AROUND 15TH WITH INTENSIFICATION UPTO SEVERE CATEGORY OF CYCLONIC STORM AND NEAR NORTHWARD MOVEMENT TILL 18TH MAY AND NORTH-NORTHEASTWARD RECURVATURE THEREAFTER TOWARDS NORTHWEST BOB OFF WEST BENGAL-BANGLADESH COAST. IMD GFS IS INDICATING CYCLOGENESIS OVER SOUTHWEST BOB AROUND 16TH WITH NEAR NORTHWARD MOVEMENT TILL 17TH & NORTH-NORTHEASTWARDS RECURVATURE THEREAFTER TOWARDS NORTHWEST BOB OFF WEST BENGAL-BANGLADESH COAST AND INTENSIFICATION UPTO SEVERE CATEGORY OF CYCLONIC STORM. GEFS IS INDICATING CYCLOGENESIS OVER SOUTHWEST BOB ON 16TH, WITH NEAR NORTHWARD MOVEMENT TILL 18TH MAY AND NORTH-NORTHEASTWARD RECURVATURE THEREAFTER TOWARDS NORTHWEST BOB OFF WEST BENGAL-BANGLADESH COAST TILL 20TH. NEPS IS ALSO INDICATING CYCLOGENESIS OVER CENTRAL PARTS OF SOUTH BOB ON 16TH WITH NEAR NORTH-NORTHWEST MOVEMENT TILL 20TH TOWARDS WESTCENTRAL BOB OFF ODISHA COAST. NCUM IS ALSO INDICATING CYCLOGENESIS OVER SOUTHEAST BOB AROUND 16TH WITH INTENSIFICATION AND NEAR NORTHWARD MOVEMENT TOWARDS WESTCENTRAL BOB TILL 19TH. GPP FORECAST IS INDICATING POSITIVE ZONE FOR CYCLOGENESIS OVER SOUTH ANDAMAN SEA ON 15TH MAY WITH NEAR NORTH-NORTHEASTWARDS MOVEMENT TOWARDS NORTHEAST BOB OFF BANGLADESH COAST TILL 20TH MAY. MAJORITY OF THE MODELS ARE THUS INDICATING CYCLOGENESIS OVER CENTRAL PARTS OF SOUTH BOB AROUND 15TH MAY, WITH INTENSIFICATION INTO CYCLONIC STORM AROUND 16TH AND MOVEMENT TOWARDS NORTHWEST BOB.

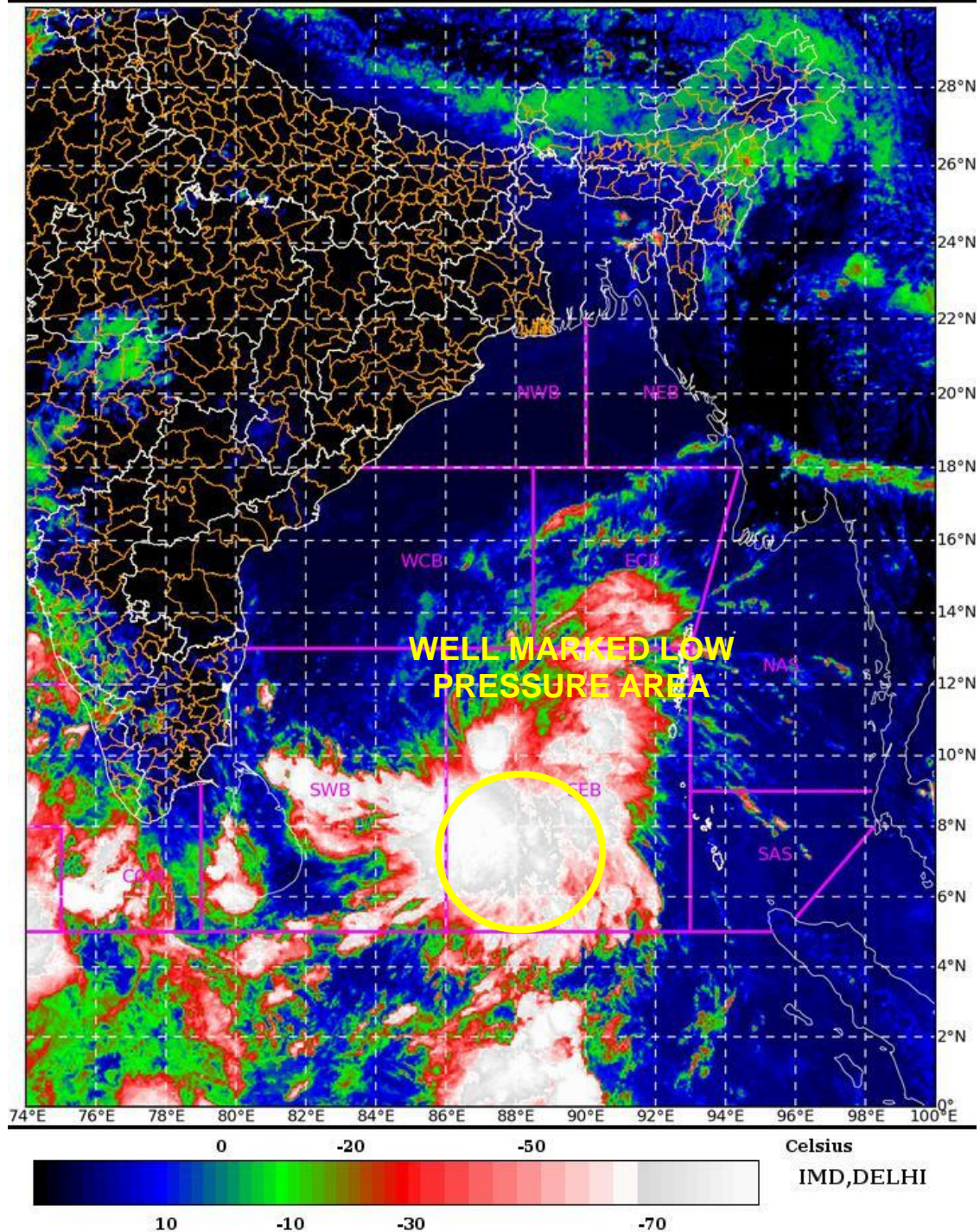
ASCAT PASS AT 0507 UTC OF 15TH MAY INDICATES WINDS OF AROUND 20 KTS OVER SOUTHEAST BOB IN THE SOUTHWEST SECTOR. SCATSAT IMAGERY AT 0231 UTC OF 15TH INDICATES CLEAR CYCLONIC CIRCULATION NEAR 10.0N/86.5E WITH MAXIMUM SUSTAINED WIND SPEED OF 20-25 KTS) OVER ANDAMAN SEA AREA WITH INCREASE IN MATCHING INDEX (MI) TO 0.69, INDICATING CYCLOGENESIS. TOTAL PRECIPITABLE WATER IMAGERY AT 0136 UTC OF 15TH MAY INDICATES INCREASED CROSS EQUATORIAL FLOW WITH SIGNIFICANTLY HIGH WARM MOIST AIR INCURSION INTO THE SYSTEM.

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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

THUS TO SUMMARISE, THE WELL MARKED LOW PRESSURE AREA OVER SOUTHEAST BOB AND NEIGHBOURHOOD IS VERY LIKELY TO CONCENTRATE INTO A DEPRESSION OVER THE SAME REGION DURING NEXT 12 HOURS AND FURTHER INTENSIFY INTO A CYCLONIC STORM OVER CENTRAL PARTS OF SOUTH BOB BY 1500 UTC OF 16TH MAY. IT IS VERY LIKELY TO MOVE NORTHWESTWARDS INITIALLY TILL 17TH AND THEN RE-CURVE NORTH-NORTHEASTWARDS TOWARDS NORTH BAY OF BENGAL DURING 18TH-20TH MAY. THE AREA OVER SOUTH BOB IS MAINTAINED UNDER CONTINUOUS WATCH.

SAT : INSAT-3DR IMG 15-05-2020/(0515 to 0541) GMT
IMG_TIR1_TEMP 10.8 um 15-05-2020/(1045 to 1111) IST
L1C Mercator



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