



REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY BULLETIN NO. 1

FROM: RSMC –TROPICAL CYCLONES, NEW DELHI

TO: STORM WARNING CENTRE, NAYPYI TAW (MYANMAR)
STORM WARNING CENTRE, BANGKOK (THAILAND)
STORM WARNING CENTRE, COLOMBO (SRILANKA)
STORM WARNING CENTRE, DHAKA (BANGLADESH)
STORM WARNING CENTRE, KARACHI (PAKISTAN)
METEOROLOGICAL OFFICE, MALE (MALDIVES)
OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH)
YEMEN METEOROLOGICAL SERVICES, REPUBLIC OF YEMEN (THROUGH RTH JEDDAH)
NATIONAL CENTRE FOR METEOROLOGY, UAE (THROUGH RTH JEDDAH)
PRESIDENCY OF METEOROLOGY AND ENVIRONMENT, SAUDI ARABIA (THROUGH RTH JEDDAH)
IRAN METEOROLOGICAL ORGANISATION, (THROUGH RTH JEDDAH)
QATAR METEOROLOGICAL DEPARTMENT (THROUGH RTH JEDDAH)

TROPICAL CYCLONE ADVISORY NO. 1 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 1500 UTC OF 16.05.2020 BASED ON 1200 UTC OF 16.05.2020.

SUB: DEEP DEPRESSION OVER SOUTHEAST BAY OF BENGAL INTENSIFIED INTO A CYCLONIC STORM 'AMPHAN' (PRONOUNCED AS UM-PUN).

THE DEEP DEPRESSION OVER SOUTHEAST BAY OF BENGAL AND NEIGHBOURHOOD REMAINED PRACTICALLY STATIONARY DURING PAST 06 HOURS AND RAPIDLY INTENSIFIED INTO A **CYCLONIC STORM 'AMPHAN'** (PRONOUNCED AS **UM-PUN**). IT LAY CENTRED OVER THE SAME REGION AT 1200 UTC OF TODAY, THE 16TH MAY, 2020 NEAR LATITUDE 10.9°N AND LONGITUDE 86.3°E, ABOUT 1040 KM SOUTH OF PARADIP (42976), 1200 KM SOUTH-SOUTHWEST OF DIGHA (42901) AND 1300 KM SOUTH-SOUTHWEST OF KHEPUPARA (41984). IT IS VERY LIKELY TO INTENSIFY FURTHER INTO A SEVERE CYCLONIC STORM DURING NEXT 12 HOURS AND INTO A VERY SEVERE CYCLONIC STORM BY 0000UTC OF 18TH MAY. IT IS VERY LIKELY TO MOVE NORTH-NORTHWESTWARDS INITIALLY TILL 17TH MAY AND THEN RE-CURVE NORTH-NORTHEASTWARDS ACROSS NORTHWEST BAY OF BENGAL TOWARDS WEST BENGAL AND ADJOINING ODISHA COASTS DURING 18TH TO 20TH MAY 2020.

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
16.05.20/1200	10.9/86.3	60-70 GUSTING TO 80	CYCLONIC STORM
16.05.20/1800	11.1/86.1	70-80 GUSTING TO 90	CYCLONIC STORM
17.05.20/0000	11.7/86.0	80-90 GUSTING TO 100	CYCLONIC STORM
17.05.20/0600	12.2/86.0	85-95 GUSTING TO 105	SEVERE CYCLONIC STORM
17.05.20/1200	12.8/86.0	105-115 GUSTING TO 125	SEVERE CYCLONIC STORM
18.05.20/0000	14.0/86.0	125-135 GUSTING TO 150	VERY SEVERE CYCLONIC STORM
18.05.20/1200	15.1/86.1	145-155 GUSTING TO 170	VERY SEVERE CYCLONIC STORM
19.05.20/0000	16.7/86.4	160-170 GUSTING TO 190	EXTREMELY SEVERE CYCLONIC STORM
19.05.20/1200	18.3/86.8	160-170 GUSTING TO 190	EXTREMELY SEVERE CYCLONIC STORM
20.05.20/0000	20.1/87.4	155-165 GUSTING TO 180	VERY SEVERE CYCLONIC STORM
20.05.20/1200	22.2/88.0	135-145 GUSTING TO 160	VERY SEVERE CYCLONIC STORM
21.05.20/0530	24.4/88.5	80-90 GUSTING TO 100	CYCLONIC STORM

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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

REMARKS:

AS PER INSAT-3D SATELLITE IMAGERY BASED ON 1200 UTC OF TODAY, THE 16TH MAY, VORTEX OVER SE BAY & N/HOOD HAS FURTHER INTENSIFIED RAPIDLY. THE CURRENT INTENSITY OF THE SYSTEM IS T 2.5 ASSOCIATED WITH CDO PATTERN. MIN CTT -93 DEG CELCIUS. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION OVER BAY BETWEEN LAT 6.0°N TO 16.0°N LONG 81.0°E TO 91.0°E.

THE ESTIMATED MAXIMUM SUSTAINED WIND SPEED IS 35 KNOTS GUSTING TO 45KNOTS. THE SEA CONDITION IS VERY ROUGH TO HIGH AROUND THE SYSTEM CENTER. THE ESTIMATED CENTRAL PRESSURE IS 996 HPA.

AT 1200 UTC OF 16TH MAY, A BOUY (23094) LOCATED AT 13.3°N/84.0°E REPORTED A MEAN SEA LEVEL PRESSURE OF 1001.6 HPA AND MEAN SURFACE WIND SPEED OF 40°/10 KNOTS AND ANOTHER BOUY (23459) LOCATED AT 13.6°N/86.6°E REPORTED A MEAN SEA LEVEL PRESSURE OF 1001.3 HPA AND MEAN SURFACE WIND SPEED OF 80°/21 KNOTS.

THE MADDEN JULIAN OSCILLATION (MJO) INDEX IS CURRENTLY IN PHASE 2 WITH AMPLITUDE MORE THAN 1. IT WILL CONTINUE IN SAME PHASE TILL 17TH MAY WITH AMPLITUDE REMAINING MORE THAN 1 AND BECOMING LESS THAN 1 THEREAFTER IN PHASE 3. THUS MJO WILL SUPPORT ENHANCEMENT OF CONVECTIVE ACTIVITY AND HENCE THE INTENSIFICATION OF THE SYSTEM.

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

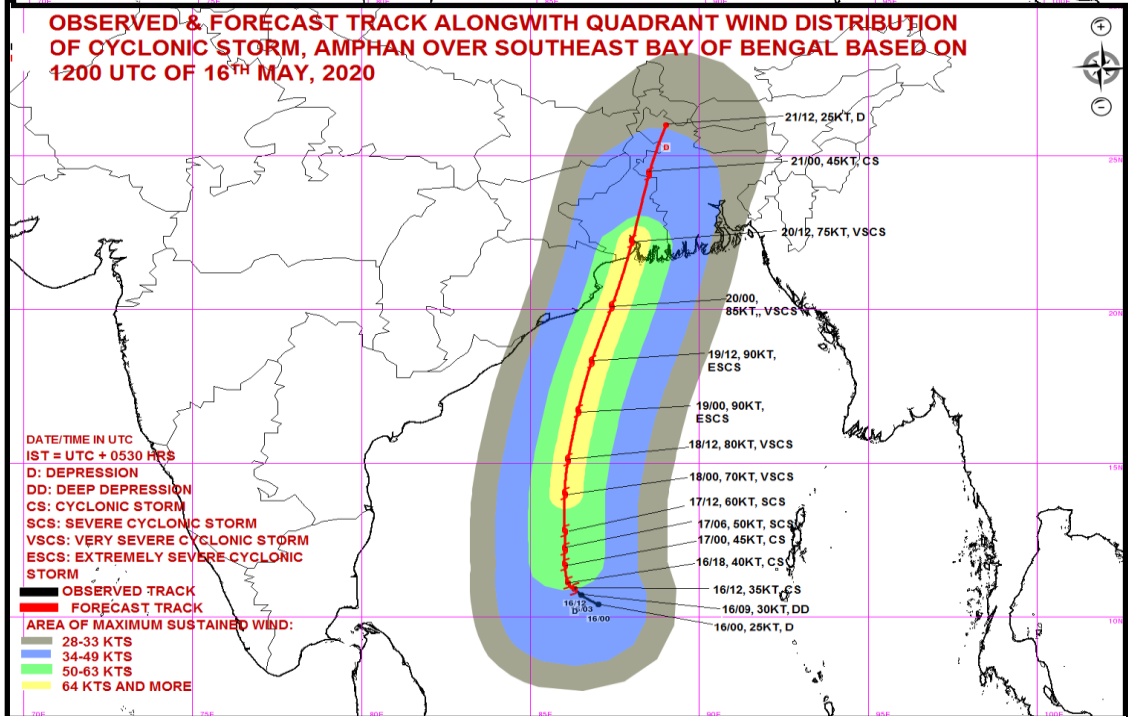
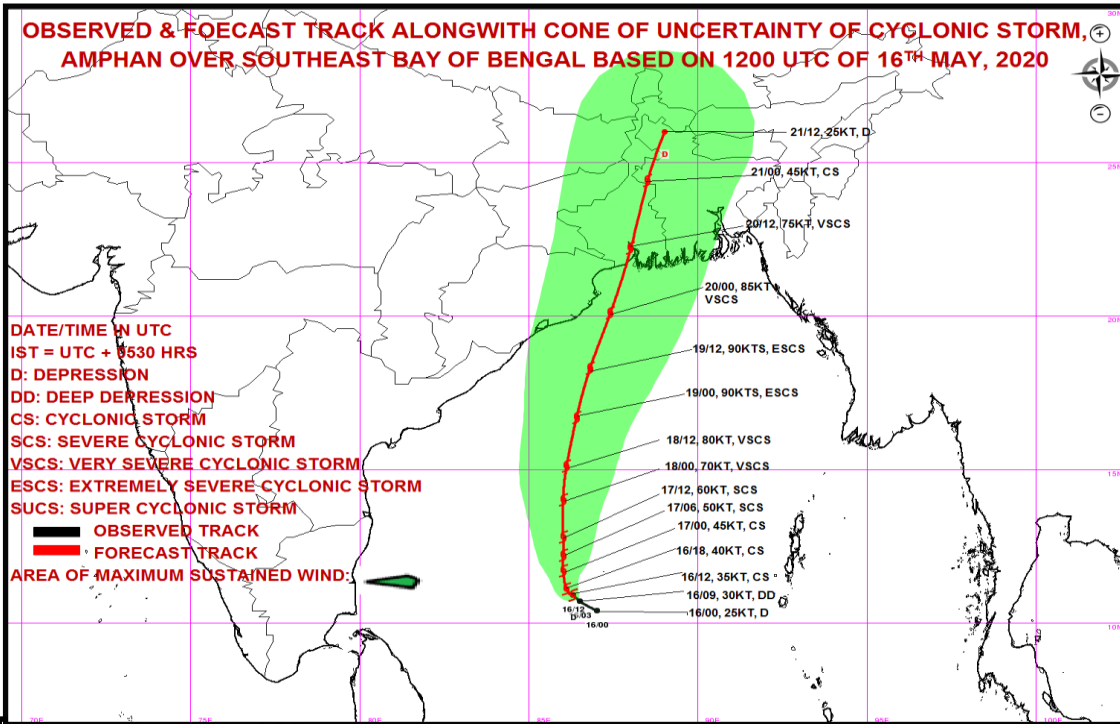
CONSIDERING THE ENVIRONMENTAL CONDITIONS, THE ENHANCED POSITIVE VORTICITY ZONE IS BEING MAINTAINED DURING PAST 6 HOURS (MORE THAN $200 \times 10^{-6} \text{SEC}^{-1}$) AROUND THE SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 200 HPA LEVEL. THE LOWER LEVEL CONVERGENCE ZONE IS AROUND $20 \times 10^{-5} \text{SEC}^{-1}$ LOCATED OVER SOUTHWEST OF THE SYSTEM CENTRE. UPPER LEVEL DIVERGENCE OF $30 \times 10^{-5} \text{SEC}^{-1}$ LOCATED OVER SOUTHWEST OF THE SYSTEM CENTRE. VERTICAL WIND SHEAR (VWS) HAS FURTHER DECREASED AND IS LOW TO MODERATE (10-15 KTS) AROUND THE SYSTEM CENTRE. IT IS INCREASING TO NORTH OF LAT. 15 N ALONG THE EXPECTED TRACK. THE UPPER TROPOSPHERIC RIDGE LIES NEAR 12.0 N OVER BOB. TOTAL PRECIPITABLE WATER IMAGERY AT 1041 UTC OF 16TH MAY INDICATES WARM MOIST AIR INCURSION OVER THE SYSTEM AREA.

VARIOUS NUMERICAL MODELS INCLUDING ECMWF, IMD GFS, NCEP GFS, GEFS, NEPS AND NCUM ARE INDICATING RAPID INTENSIFICATION OF THE SYSTEM INTO VERY SEVERE CATEGORY AND MOVEMENT TOWARDS WEST BENGAL AND ADJOINING ODISHA AND BANGLADESH COASTS. THE FORECAST IS BASED AS THE CONSENSUS FROM VARIOUS MODELS.

(RK JENAMANI)
SCIENTIST-F, RSMC, NEW DELHI

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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



MSW(knot)/kmph	Impact	Action
28-33 / (52-61)	Very rough seas.	Total suspension of fishing operations
34-40/(62-74)	High to very high seas	Total suspension of fishing operations
41-63/(75-117)	Very High seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

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