



REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY BULLETIN NO. 9

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. 9 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 1500 UTC OF 17.05.2020 BASED ON 1200 UTC OF 17.05.2020.

SUB: VERY SEVERE CYCLONIC STORM 'AMPHAN' (PRONOUNCED AS UM-PUN) OVER CENTRAL PARTS OF SOUTH BAY OF BENGAL

THE **VERY SEVERE CYCLONIC STORM 'AMPHAN'** (PRONOUNCED AS **UM-PUN**) OVER CENTRAL PARTS OF SOUTH BAY OF BENGAL MOVED NORTHWARDS WITH A SPEED OF 09 KMPH DURING PAST 06 HOURS AND LAY CENTRED AT 1200 UTC OF TODAY, THE 17TH MAY, 2020 OVER **CENTRAL PARTS OF SOUTH BAY OF BENGAL** NEAR LATITUDE 12.0°N AND LONGITUDE 86.0°E, ABOUT 925 KM SOUTH OF PARADIP (42976), 1080 KM SOUTH-SOUTHWEST OF DIGHA (42901) AND 1200 KM SOUTH-SOUTHWEST OF KHEPUPARA (41984). IT IS VERY LIKELY TO INTENSIFY FURTHER INTO AN EXTREMELY SEVERE CYCLONIC STORM DURING NEXT 24 HOURS. IT IS VERY LIKELY TO MOVE NEARLY NORTHWARDS SLOWLY DURING NEXT 12 HOURS AND THEN RE-CURVE NORTH-NORTHEASTWARDS AND MOVE FAST ACROSS NORTHWEST BAY OF BENGAL AND CROSS WEST BENGAL AND BANGLADESH COASTS BETWEEN DIGHA (42901) AND HATIYA ISLANDS (41963) DURING 0900-1200 UTC OF 20TH MAY 2020 AS A VERY SEVERE CYCLONIC STORM.

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
17.05.20/1200	12.0/86.0	125-135 gusting to 150	Very Severe Cyclonic Storm
17.05.20/1800	12.9/86.0	135-145 gusting to 160	Very Severe Cyclonic Storm
18.05.20/0000	13.5/86.0	140-150 gusting to 165	Very Severe Cyclonic Storm
18.05.20/0600	14.0/86.1	150-160 gusting to 170	Very Severe Cyclonic Storm
18.05.20/1200	14.6/86.2	160-170 gusting to 185	Extremely Severe Cyclonic Storm
19.05.20/0000	15.9/86.5	170-180 gusting to 200	Extremely Severe Cyclonic Storm
19.05.20/1200	17.5/86.9	170-180 gusting to 200	Extremely Severe Cyclonic Storm
20.05.20/0000	19.6/87.4	160-170 gusting to 190	Extremely Severe Cyclonic Storm
20.05.20/1200	21.8/88.0	145-155 gusting to 170	Very Severe Cyclonic Storm
21.05.20/0000	23.4/88.4	95-105 gusting to 115	Severe Cyclonic Storm
21.05.20/1200	25.2/88.9	60-70 gusting to 80	Cyclonic Storm
22.05.20/0000	26.8/89.4	30-40 gusting to 50	Depression

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 17TH MAY, THE CURRENT INTENSITY OF THE SYSTEM IS **T4.0. IT SHOWS RAGGED EYE FEATURES.** IN THE WESTERN SECTOR. MINIMUM CLOUD TOP TEMPERATURE IS -93 DEG CELCIUS. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION OVER BAY BETWEEN LAT 8°N TO 14.0°N LONG 80.0°E TO 87.0°E.

THE ESTIMATED MAXIMUM SUSTAINED WIND SPEED IS 70 KNOTS GUSTING TO 80 KNOTS. THE SEA CONDITION IS VERY HIGH AROUND THE SYSTEM CENTER. THE ESTIMATED CENTRAL PRESSURE IS 972 HPA.

AT 1200 UTC OF 17TH MAY, A BOUY (23094) LOCATED AT 13.3°N/84°E REPORTED A MEAN SEA LEVEL PRESSURE OF 998.4 HPA AND ANOTHER BOUY (23459) LOCATED AT 13.6°N/86.6°E REPORTED A MEAN SEA LEVEL PRESSURE OF 994.1 HPA AND MEAN SURFACE WIND SPEED OF 70°/27 KNOTS.

THE MADDEN JULIAN OSCILLATION (MJO) INDEX IS IN PHASE 2 WITH AMPLITUDE MORE THAN 1 DURING 17TH-20TH MAY. IT WILL REMAIN IN PHASE 3 WITH AMPLITUDE MORE THAN 1 DURING NEXT 3 DAYS. THUS MJO PHASE AND AMPLITUDE WILL SUPPORT ENHANCEMENT OF CONVECTIVE ACTIVITY OVER BAY OF BENGAL DURING NEXT 5 DAYS.

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 200X10⁻⁶SEC⁻¹) AROUND THE SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 200 HPA LEVEL. THE LOWER LEVEL CONVERGENCE ZONE IS AROUND 30X10⁻⁵SEC⁻¹ LOCATED OVER SOUTHEAST OF THE SYSTEM CENTRE. THE UPPER LEVEL HAS FURTHER DECREASED AND IS ABOUT 20X10⁻⁵SEC⁻¹ LOCATED AROUND THE SYSTEM CENTRE. VERTICAL WIND SHEAR (VWS) HAS REDUCED TO LOW TO MODERATE (15-20 KTS) AROUND THE SYSTEM CENTRE. IT IS INCREASING TO THE NORTH OF LAT. 15N ALONG THE EXPECTED TRACK. THE UPPER TROPOSPHERIC RIDGE LIES NEAR 15.0 N OVER BOB. AT PRESENT THE SYSTEM IS MOVING NEAR NORTHWARD ALONG THE AXIS OF THE RIDGE AND WILL CONTINUE THE SAME MOVEMENT FOR NEXT 24 HOURS. SUBSEQUENTLY, THE SYSTEM WILL MOVE TO THE NORTH OF THE RIDGE AXIS AND WILL START RECURVING NORTH/NORTHEASTWARDS AND MOVE FASTER.

TOTAL PRECIPITABLE WATER IMAGERY OF 17TH MAY INDICATES CONTINUED WARM MOIST AIR INCURSION OVER THE SYSTEM AREA, MAINLY IN ITS NORTHWESTERN SECTOR.

VARIOUS NUMERICAL MODELS INCLUDING ECMWF, IMD GFS, NCEP GFS, GEFS, NEPS AND NCUM ARE INDICATING FURTHER INTENSIFICATION OF THE SYSTEM INTO AN EXTREMELY SEVERE CATEGORY AND MOVEMENT TOWARDS WEST BENGAL AND BANGLADESH COASTS. THE FORECAST IS BASED ON THE CONSENSUS FROM VARIOUS MODELS.

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

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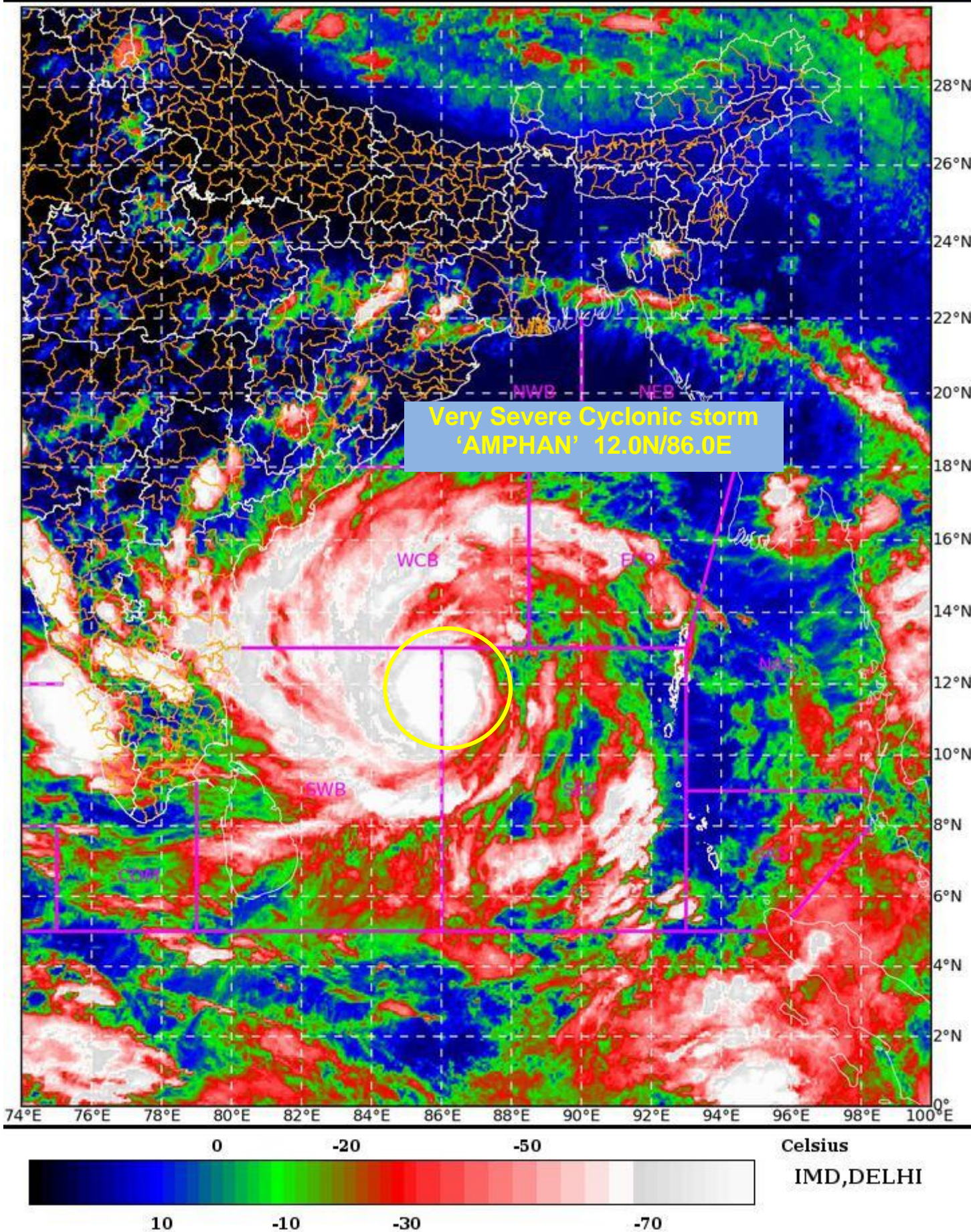
SAT : INSAT-3D IMG

17-05-2020/(1200 to 1226) GMT

IMG_TIR1_TEMP 10.8 um

17-05-2020/(1730 to 1756) IST

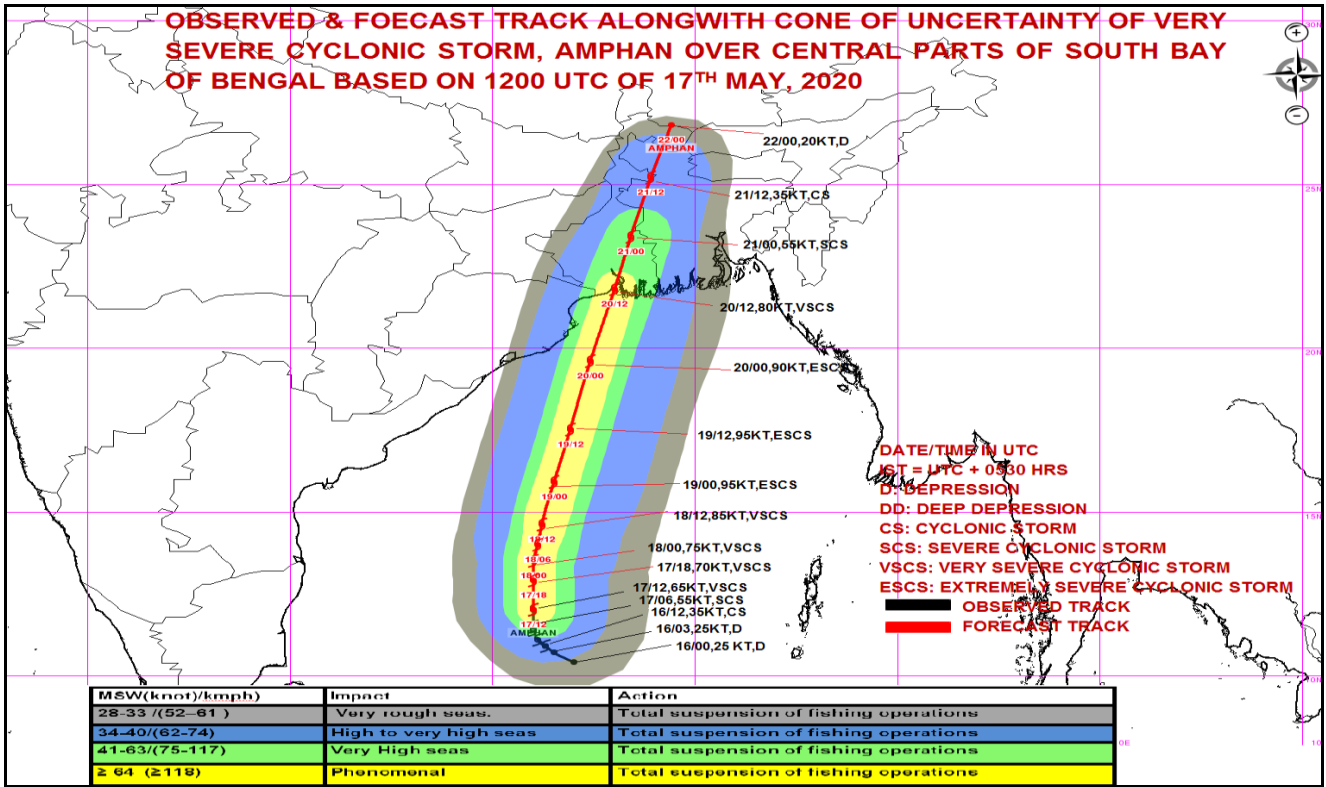
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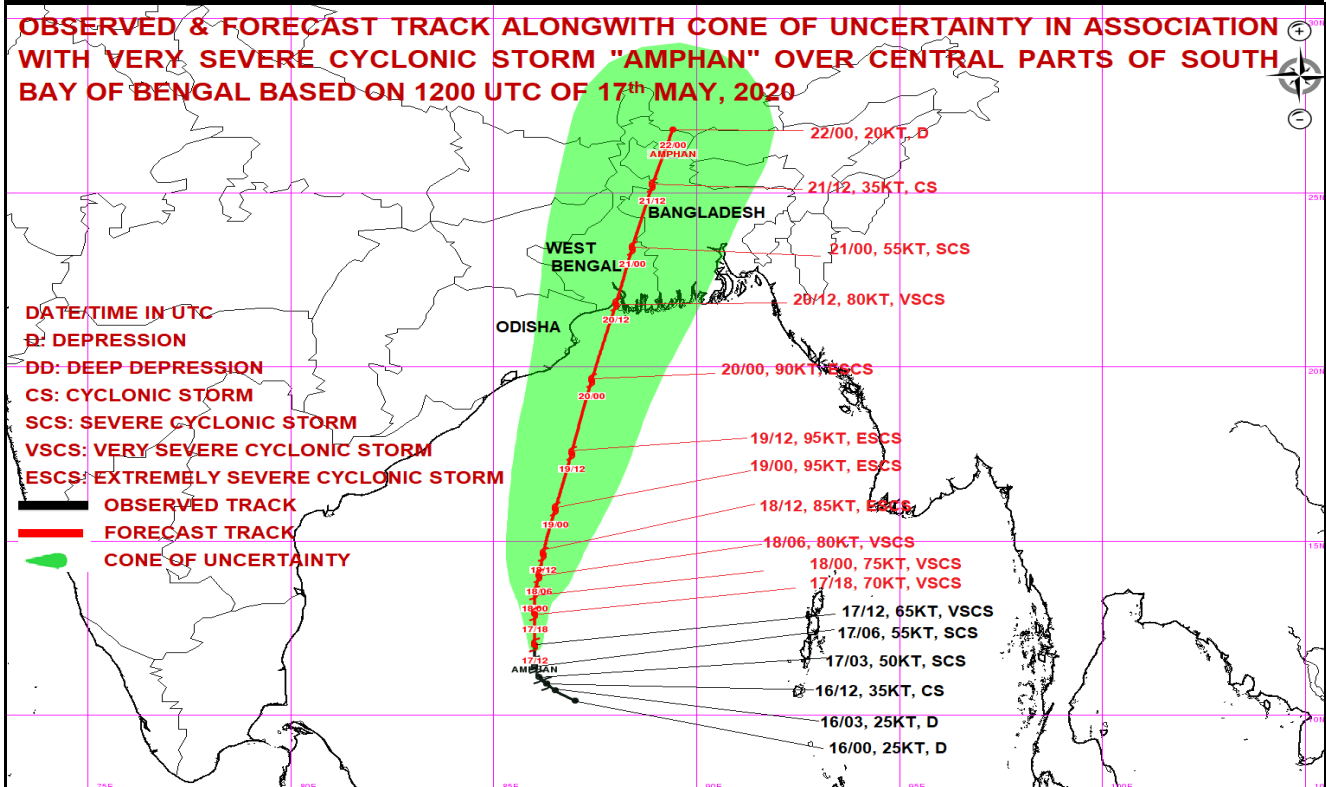
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OBSERVED & FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF VERY SEVERE CYCLONIC STORM, AMPHAN OVER CENTRAL PARTS OF SOUTH BAY OF BENGAL BASED ON 1200 UTC OF 17TH MAY, 2020



OBSERVED & FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY IN ASSOCIATION WITH VERY SEVERE CYCLONIC STORM "AMPHAN" OVER CENTRAL PARTS OF SOUTH BAY OF BENGAL BASED ON 1200 UTC OF 17TH MAY, 2020



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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