



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

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 23.05.2021

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 1500 UTC OF 23.05.2021 BASED ON 1200 UTC OF 23.05.2021.

SUB: DEPRESSION OVER EASTCENTRAL BAY OF BENGAL

THE **DEPRESSION** OVER EASTCENTRAL BAY OF BENGAL MOVED WEST-NORTHWESTWARDS WITH A SPEED OF 5 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 1200 UTC OF TODAY, THE 23RD MAY, 2021 NEAR LATITUDE 16.2°N AND LONGITUDE 89.9°E, ABOUT 590 KM NORTH-NORTHWEST OF PORT BLAIR (43333), 570 KM SOUTH-SOUTHEAST OF PARADIP (42976), 670 KM SOUTH-SOUTHEAST OF BALASORE (42895), 650 KM SOUTH-SOUTHEAST OF DIGHA (42901) AND 710KM SOUTH OF KHEPUPARA(41984).

IT IS VERY LIKELY TO MOVE NORTH-NORTHWESTWARDS AND SLOWLY INTENSIFY INTO A **CYCLONIC STORM** BY 24TH MAY MORNING (AROUND 0000 UTC) AND FURTHER INTO A VERY SEVERE CYCLONIC STORM DURING THE SUBSEQUENT 24 HOURS. IT WOULD CONTINUE TO MOVE NORTH-NORTHWESTWARDS, INTENSIFY FURTHER AND REACH NORTHWEST BAY OF BENGAL NEAR NORTH ODISHA AND WEST BENGAL COASTS BY 26TH MAY MORNING (AROUND 0000 UTC). IT IS VERY LIKELY TO CROSS NORTH ODISHA - WEST BENGAL COASTS BETWEEN PARADIP(42976) AND SAGAR ISLANDS(42903) BY EVENING (0900-1200 UTC) OF 26TH MAY AS A VERY SEVERE CYCLONIC STORM.

FORECAST TRACK AND INTENSITY ARE GIVEN IN THE FOLLOWING TABLE:

DATE/TIME(IST)	POSITION (LAT. °N/ LONG. °E)	AXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
23.05.21/1200	16.2/89.9	45-55 GUSTING TO 65	DEPRESSION
24.05.21/0000	16.7/89.6	60-70 GUSTING TO 80	CYCLONIC STORM
24.05.21/1200	17.3/89.4	80-90 GUSTING TO 100	CYCLONIC STORM
25.05.21/0000	17.9/88.8	100-110 GUSTING TO 120	SEVERE CYCLONIC STORM
25.05.21/1200	19.2/88.3	135-145 GUSTING TO 160	VERY SEVERE CYCLONIC STORM
26.05.21/0000	20.8/87.6	155-165 GUSTING TO 185	VERY SEVERE CYCLONIC STORM
26.05.21/1200	21.8/87.0	120-130 GUSTING TO 145	VERY SEVERE CYCLONIC STORM
27.05.21/0000	22.5/86.5	70-80 GUSTING TO 90	CYCLONIC STORM
27.05.21/1200	23.4/85.8	40-50 GUSTING TO 60	DEPRESSION

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

A BUOY (23092) NEAR 17.5N/89.0E REPORTED MAXIMUM SUSTAINED WIND OF 40°/17.5 KTS. ANOTHER BUOY (23459) NEAR 13.8N/87.1E REPORTED MAXIMUM SUSTAINED WIND OF 290°/21 KTS AND MEAN SEA LEVEL PRESSURE OF 1000.5 HPA.

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION):NIL: 0%, LOW: 1-25%, FAIR: 26-50%, MODERATE: 51-75% AND HIGH: 76-100%

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AS PER SATELLITE IMAGERY BASED ON 1200 UTC OF TODAY, THE 23RD MAY, THE CLOUD MASS IS ORGANISED IN SHEAR PATTERN. INTENSITY OF THE SYSTEM IS CHARACTERISED AS T 1.5. BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER THE AREA BETWEEN LATITUDE 9.5°N & 18.5°N AND 80.5°E & 94.5E AND ANDAMAN ISLANDS. MINIMUM CLOUD TOP TEMPERATURE IS 93°C CELSIUS.

REMARKS:

THE MADDEN JULIAN OSCILLATION (MJO) INDEX CURRENTLY LIES IN PHASE 5 WITH AMPLITUDE MORE THAN 1 AND WILL CONTINUE IN SAME PHASE TILL 24TH MAY. THUS, MJO IS CONDUCIVE FOR ENHANCED CONVECTION OVER THE BAY OF BENGAL (BOB) DURING NEXT 2 DAYS. THE TROPICAL CYCLONE HEAT POTENTIAL (TCHP) IS MORE THAN 100 KJ/CM² OVER MAJOR PARTS OF BOB. IT IS SLIGHTLY DECREASING OVER EXTREME NORTH BOB AND ALONG & OFF ANDHRA, ODISHA, WEST BENGAL COASTS. SEA SURFACE TEMPERATURE (SST) IS AROUND 30-31⁰C OVER MAJOR PARTS OF BOB.

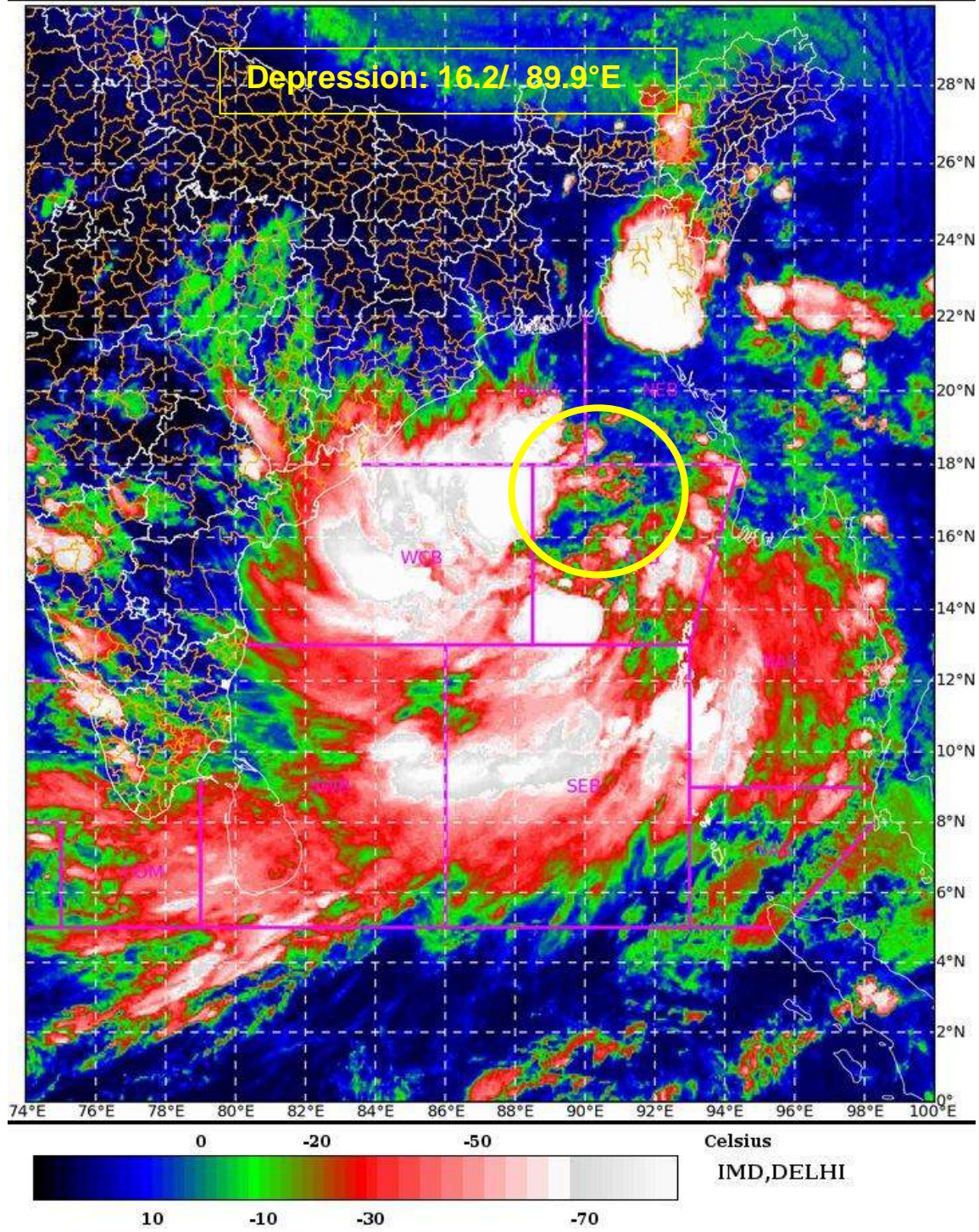
EASTERLY WINDS ARE PREVAILING IN THE UPPER LEVEL. UPPER TROPOSPHERIC RIDGE RUNS ALONG 22.5⁰N. A NORTHEAST-SOUTHWEST ORIENTED LOWER LEVEL POSITIVE VORTICITY ZONE 120-150 X 10⁻⁶ S⁻¹ IS PREVAILING AROUND SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 200 HPA LEVEL. VORTICITY HAS INCREASED DURING PAST 6 HOURS. AN NORTHWEST-SOUTHEAST ORIENTED LOWER LEVEL POSITIVE CONVERGENCE ZONE HAS ALSO INCREASED DURING PAST 6 HOURS (40-50 X 10⁻⁵ S⁻¹) & LAY TO THE SOUTHWEST OF SYSTEM CENTRE. AND EAST-WEST ORIENTED ZONE OF POSITIVE UPPER LEVEL DIVERGENCE (30-40 X 10⁻⁵ S⁻¹) LAY OVER ENTIRE CENTRAL BOB WITH SIGNIFICANT INCREASE IN IT'S AERIAL EXTENSION. MODERATE VERTICAL WIND SHEAR (VWS) (10-20 KTS) IS PREVAILING OVER CENTRAL & NORTH BOB TO THE NORTH OF 15°N AND IS DECREASING BECOMING LOW (5-10 KTS) OVER NORTH BAY OF BENGAL OFF NORTH ODISHA & WEST BENGAL COASTS. THE SEA CONDITIONS AND EXISTING ENVIRONMENTAL FEATURES LIKE ENHANCED LOW LEVEL VORTICITY, LOWER LEVEL CONVERGENCE, EQUATORWARD & POLEWARD OUTFLOW, MODERATE VERTICAL WIND SHEAR ARE CONDUCIVE FOR FURTHER INTENSIFICATION OF THE SYSTEM INTO A CYCLONIC STORM DURING NEXT 12 HOURS.

MOST OF THE NUMERICAL MODELS INCLUDING IMD GFS, NCEP GFS, ECMWF AND NCUM ARE UNANIMOUSLY INDICATING NORTH-NORTHWESTWARD MOVEMENT TOWARDS NORTH ODISHA AND WEST BENGAL COASTS. MODELS ARE UNANIMOUSLY INDICATING RAPID INTENSIFICATION OF SYSTEM UPTO VERY SEVERE CYCLONIC STORM CATEGORY. CONSIDERING THE MEAN MODEL GUIDANCE, THE SYSTEM IS EXPECTED TO REACH NORTH BAY OF BENGAL NEAR NORTH ODISHA AND WEST BENGAL COASTS AROUND 26TH MAY MORNING (AROUND 0000 UTC). IT IS VERY LIKELY TO CROSS NORTH ODISHA AND WEST BENGAL COASTS BETWEEN PARADIP(42976) AND SAGAR ISLANDS(42903) AROUND EVENING (0900- 1200 UTC) OF 26TH MAY.

IN VIEW OF ABOVE, IT IS INFERRED THAT THE SYSTEM IS VERY LIKELY TO MOVE NORTH-NORTHWESTWARDS AND INTENSIFY INTO A **CYCLONIC STORM** BY 24TH MAY MORNING (AROUND 0000 UTC) AND FURTHER INTO A VERY SEVERE CYCLONIC STORM DURING THE SUBSEQUENT 24 HOURS. IT WOULD CONTINUE TO MOVE NORTH-NORTHWESTWARDS, INTENSIFY FURTHER AND REACH NORTHWEST BAY OF BENGAL NEAR NORTH ODISHA AND WEST BENGAL COASTS BY 26TH MAY MORNING (0000-0300 UTC). IT IS VERY LIKELY TO CROSS NORTH ODISHA AND WEST BENGAL COASTS. BETWEEN PARADIP(42976) AND SAGAR ISLANDS(42903) BY EVENING (0900- 1200 UTC) OF 26TH MAY AS A VERY SEVERE CYCLONIC STORM.

(RK JENAMANI)
SCIENTIST-F, RSMC NEW DELHI

SAT : INSAT-3D IMG 23-05-2021/(1300 to 1326) GMT
IMG_TIR1_TEMP 10.8 um 23-05-2021/(1830 to 1856) IST
L1C Mercator

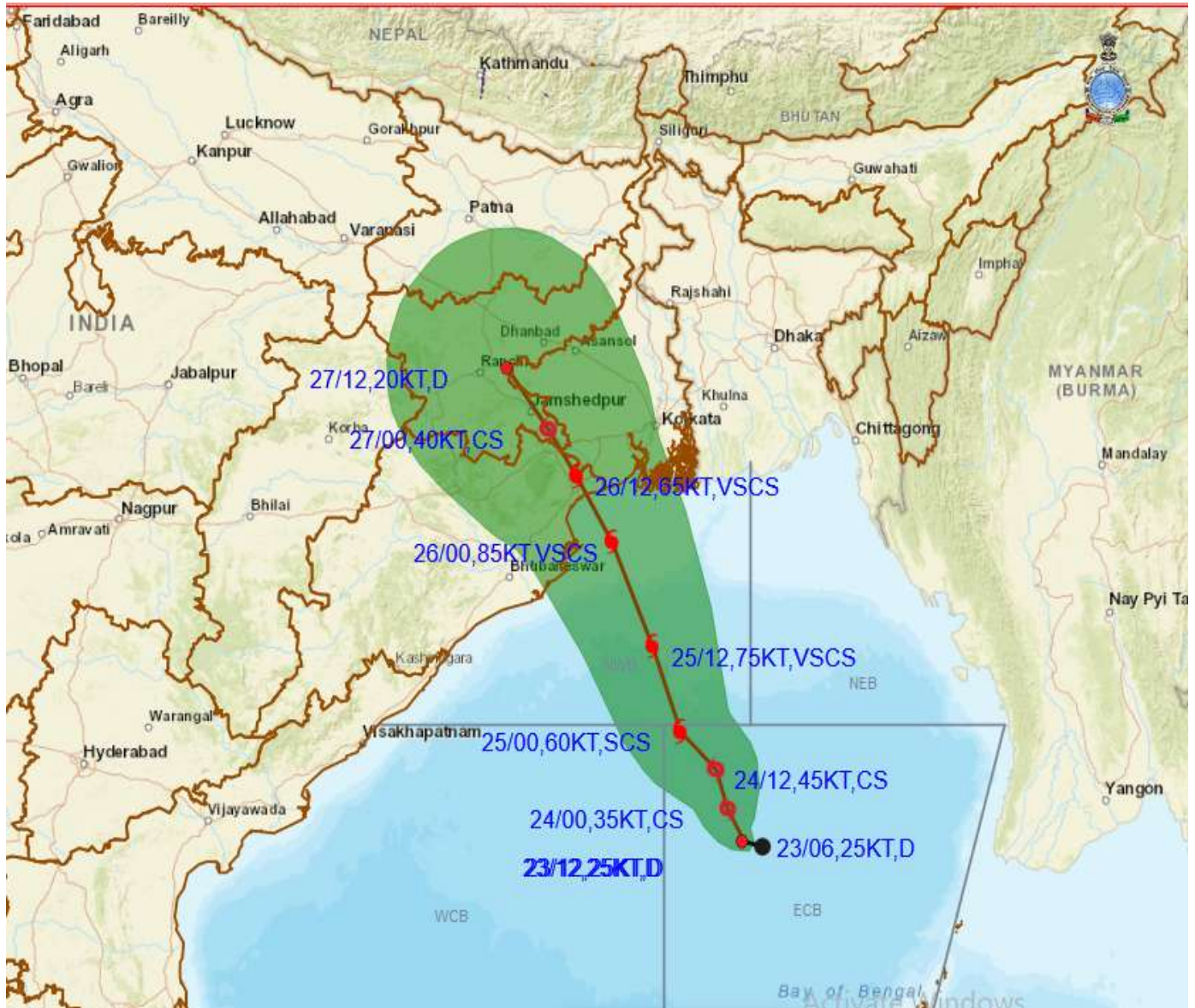


PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION):NIL: 0%, LOW: 1-25%, FAIR: 26-50%, MODERATE: 51-75% AND HIGH: 76-100%

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OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF DEPRESSION OVER EASTCENTRAL BAY OF BENGAL BASED ON 1200 UTC OF 23RD MAY, 2021

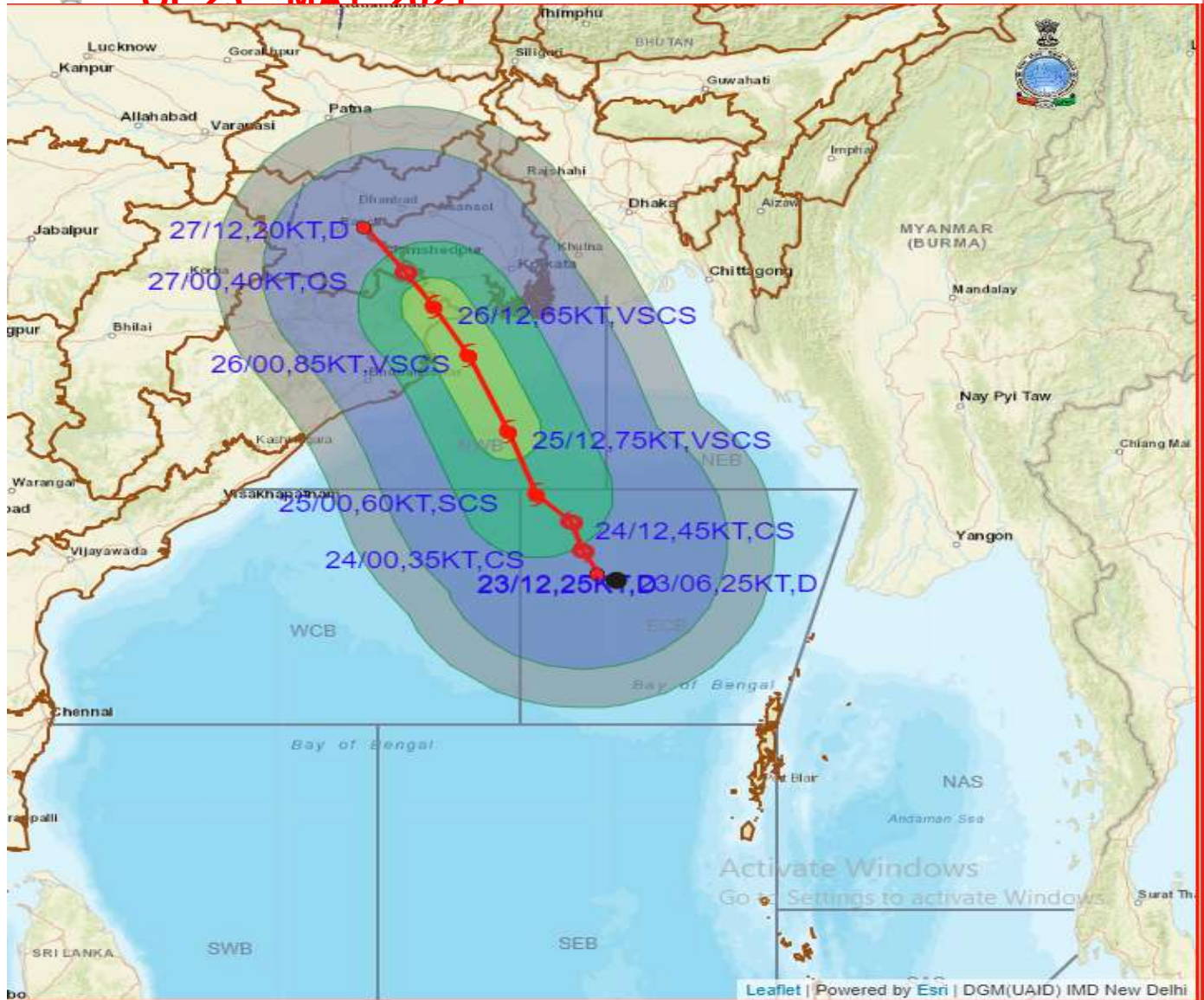


DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

- LESS THAN 34 KT
- 34-47 KT
- ≥ 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- CONE OF UNCERTAINTY



OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEPRESSION OVER EASTCENTRAL BAY OF BENGAL BASED ON 1200 UTC OF 23RD MAY 2021



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63KT)

VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)

ECS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

- LESS THAN 34 KT
- 34-47 KT
- ≥ 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- ▲ CONE OF UNCERTAINTY
- AREA OF MAXIMUM SUSTAINED WIND SPEED:
- 28-33 KT (52-61 KMPH)
- 34-49 KT (62-91 KMPH)
- 50-63 KT (92-117 KMPH)
- ≥ 64 (≥118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	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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