



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 0300 UTC OF 24.05.2021 BASED ON 0000 UTC OF 24.05.2021.

Sub: DEEP DEPRESSION INTENSIFIED INTO A CYCLONIC STORM “YAAS” (PRONOUNCED AS “YASS”) OVER EASTCENTRAL BAY OF BENGAL:

THE DEEP DEPRESSION OVER EASTCENTRAL BAY OF BENGAL MOVED NORTH-NORTHWESTWARDS WITH A SPEED OF ABOUT 07 KMPH DURING PAST 06 HOURS, INTENSIFIED INTO A **CYCLONIC STORM “YAAS” (PRONOUNCED AS “YASS”)** OVER **EASTCENTRAL & ADJOINING WEST-CENTRAL BAY OF BENGAL** AND LAY CENTRED AT 0000 UTC OF 24th MAY, 2021 NEAR LATITUDE 16.3°N AND LONGITUDE 89.7°E, ABOUT 590 KM NORTH-NORTHWEST OF PORT BLAIR (43333), 570 KM SOUTH-SOUTHEAST OF PARADIP (42976), 670 KM SOUTH-SOUTHEAST OF BALASORE (42895) AND 650 KM SOUTH-SOUTHEAST OF DIGHA (42901) AND AND 620 KM SOUTH OF KHEPUPARA(41984).

IT IS VERY LIKELY TO MOVE NORTH-NORTHWESTWARDS AND INTENSIFY INTO A **SEVERE CYCLONIC STORM** BY 25TH 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 WEST BENGAL AND NORTH ODISHA COASTS BY 26TH MAY MORNING (AROUND 0000 UTC). IT IS VERY LIKELY TO CROSS NORTH ODISHA - WEST BENGAL COASTS BETWEEN PARADIP AND SAGAR ISLANDS BY EVENING (AROUND 1200 UTC) OF 26TH MAY 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
24.05.21/0000	16.3/89.7	60-70 gusting to 80	Cyclonic Storm
24.05.21/0600	16.5/89.6	70-80 gusting to 90	Cyclonic Storm
24.05.21/1200	16.8/89.5	90-100 gusting to 110	Severe Cyclonic Storm
24.05.21/1800	17.3/89.1	110-120 gusting to 130	Severe Cyclonic Storm
25.05.21/0000	18.2/88.5	130-140 gusting to 155	Very Severe Cyclonic Storm
25.05.21/1200	19.5/87.9	145-155 gusting to 170	Very Severe Cyclonic Storm
26.05.21/0000	20.8/87.3	155-165 gusting to 180	Very Severe Cyclonic Storm

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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

26.05.21/1200	21.9/86.7	120-130 gusting to 145	Very Severe Cyclonic Storm
27.05.21/0000	22.8/86.3	55-65 gusting to 75	Deep Depression
27.05.21/1200	23.4/85.8	35-45 gusting to 55	Depression

THE MAXIMUM SUSTAINED WIND SPEED IS 35-45 KNOTS GUSTING TO 55 KNOTS AROUND SYSTEM CENTRE. SEA CONDITION IS ROUGH TO VERY ROUGH. THE ESTIMATED CENTRAL PRESSURE IS 992 HPA.

A BUOY (23092) NEAR 17.5N/89.0E REPORTED MAXIMUM SUSTAINED WIND OF 30°/23 KTS AND MEAN SEA LEVEL PRESSURE OF 992 HPA. ANOTHER BUOY (23459) NEAR 13.8N/87.1E REPORTED MAXIMUM SUSTAINED WIND OF 29°/21 KTS AND MEAN SEA LEVEL PRESSURE OF 1000.5 HPA.

AS PER SATELLITE IMAGERY BASED ON 0000 UTC OF TODAY, THE 24TH MAY, THE VORTEX HAS FURTHER INTENSIFIED AND NOW SEEN AS A CURVED BAND PATTERN WITH WRAP APPROX ≈ 0.5 ON LOG 10 DEGREE SPIRAL YIELD A $DT=2.5$. INTENSITY OF THE SYSTEM IS CHARACTERISED AS T 2.5. BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER THE AREA BETWEEN LATITUDE 11°N & 20°N AND 82°E & 94.0E. MINIMUM CLOUD TOP TEMPERATURE IS 93°CELCIUS.

REMARKS:

THE MADDEN JULIAN INDEX (MJO) 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 24 HOURS. THE TROPICAL CYCLONE HEAT POTENTIAL (TCHP) IS ABOUT 150 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 21⁰N. A NORTHEAST-SOUTHWEST ORIENTED POSITIVE VORTICITY ZONE HAS BECOME CIRCULAR AND ENHANCED TO 200-250 X10⁻⁶ S⁻¹ IS PREVAILING AROUND SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 200 HPA LEVEL. THE POSITIVE CONVERGENCE ZONE HAS BECOME EAST-WEST ORIENTED AND HAS ALSO INCREASED DURING PAST 6 HOURS (50 X 10⁻⁵ S⁻¹) & LAY TO THE SOUTHWEST OF SYSTEM CENTRE. THE EAST-WEST ORIENTED ZONE OF POSITIVE UPPER LEVEL DIVERGENCE REMAINS THE SAME (30-40 X 10⁻⁵ S⁻¹) AND LAY OVER WEST-CENTRAL BOB. LOW VERTICAL WIND SHEAR (VWS) (05-10 KTS) IS PREVAILING OVER THE SYSEM CENTRE AND TO THE NORTHEAST OF IT. IT IS HIGH TO THE SOUTH AND TO THE WEST OF THE SYSTEM CENTRE AND ALSO OVER NORTHWEST BAY OF BENGAL ALONG AND OFF N ODISHA & WEST BENGAL COASTS. THE SEA CONDITIONS AND EXISTING ENVIRONMENTAL FEATURES LIKE ENHANCED LOW LEVEL VORTICITY, LOWER LEVEL CONVERGENCE, POLEWARD OUTFLOW, LOW TO MODERATE VERTICAL WIND SHEAR ARE CONDUCIVE FOR FURTHER INTENSIFICATION OF THE SYSTEM INTO A SEVERE CYCLONIC STORM DURING NEXT 24 HOURS.

MOST OF THE NUMERICAL MODELS INCLUDING IMD GFS, NCEP GFS, ECMWF AND NCUM ARE UNANIMOUSLY INDICATING NORTH-NORTHWESTWARD MOVEMENT TOWARDS WEST BENGAL AND ADJOINING NORTH ODISHA 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 WEST BENGAL AND ADJOINING NORTH ODISHA & BANGLADESH COASTS ON 26TH MAY MORNING (AROUND 0000 UTC). IT IS VERY LIKELY TO CROSS WEST BENGAL AND ADJOINING NORTH ODISHA

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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

COASTS AROUND EVENING (AROUND 1200 UTC) OF 26TH MAY.

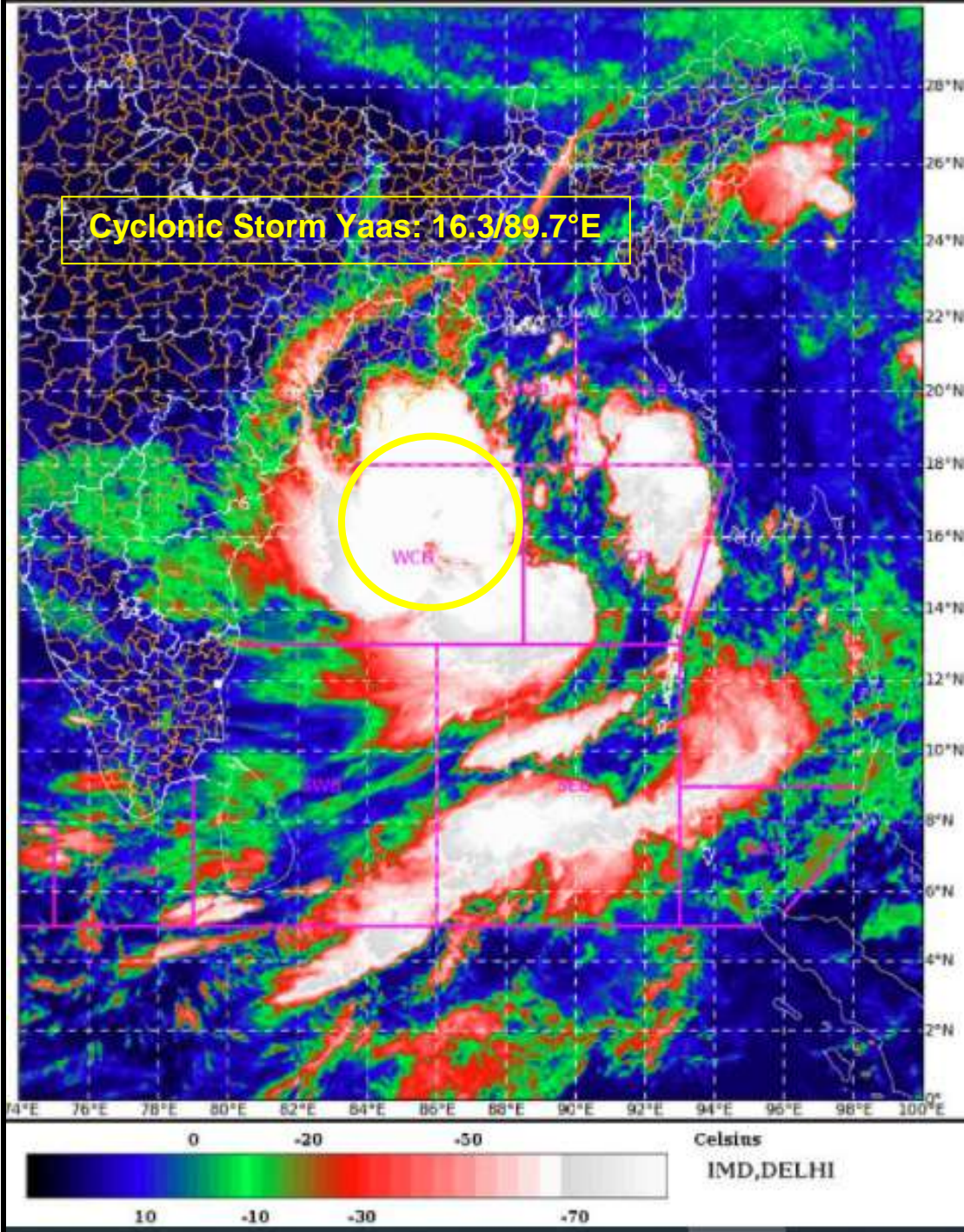
IN VIEW OF ABOVE, IT IS INFERRED THAT THE SYSTEM IS VERY LIKELY TO MOVE NORTH-NORTHWESTWARDS AND INTENSIFY INTO A **SEVERE CYCLONIC STORM** BY 25TH MAY MORNING (AROUND 0000 UTC) AND FURTHER INTO A VERY SEVERE CYCLONIC STORM DURING THE SUBSEQUENT 24 HOURS. IT WOULD CONTINUE TO MOVE NORTH-NORTHWESTWARDS, 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 BETWEEN PARADIP AND SAGAR ISLANDS BY EVENING (AROUND 1200 UTC) OF 26TH MAY AS A VERY SEVERE CYCLONIC STORM.

(SUNITHA DEVI)
SCIENTIST-F, RSMC NEWDELHI

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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SAT : INSAT-3D IMG 24-05-2021/(0100 to 0127) GMT
IMG_TIR1_TEMP 10.8 um 24-05-2021/(0630 to 0657) IST
LIC Mercator

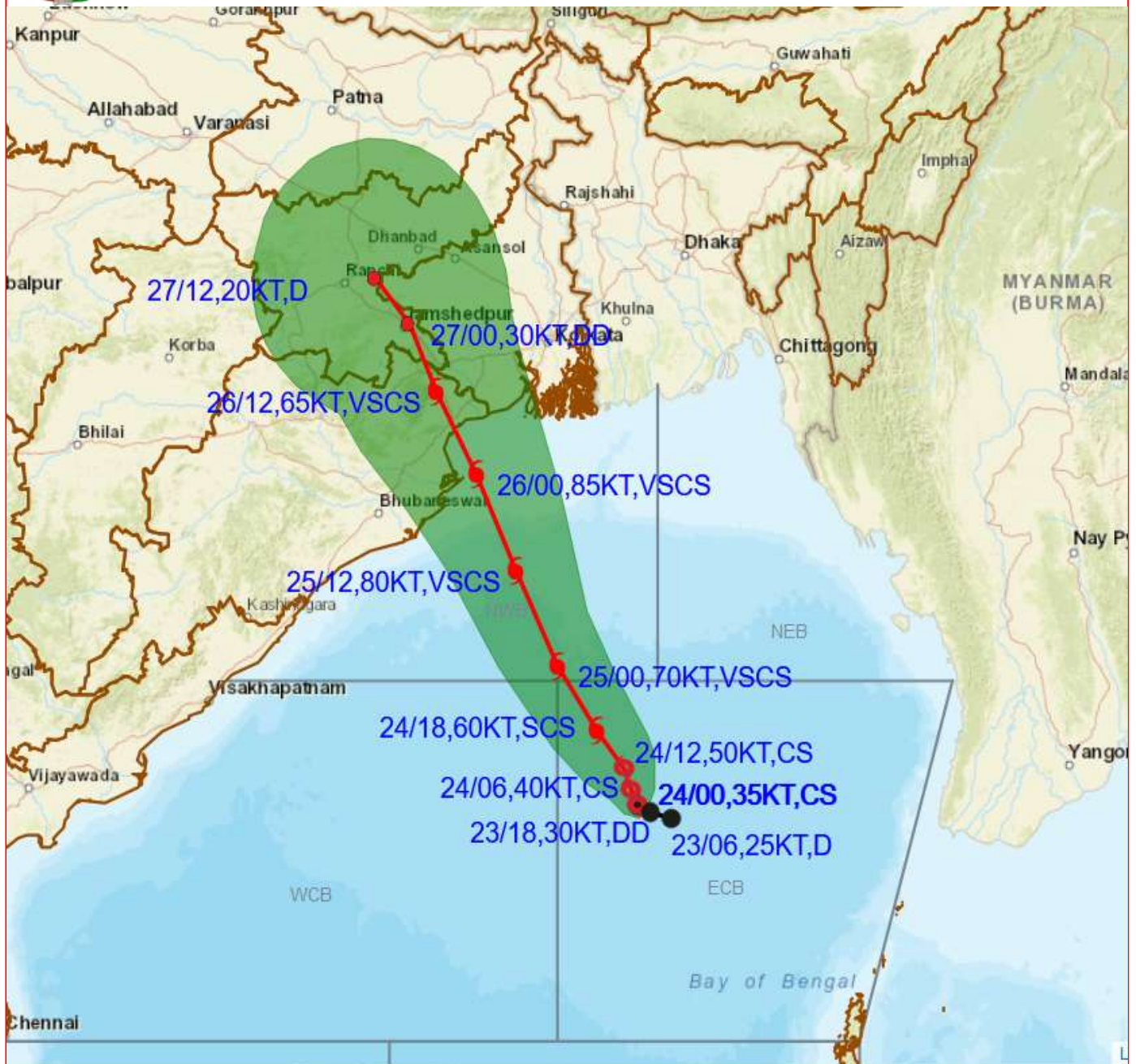


PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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



OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF CYCLONIC STORM "YAAS" OVER EASTCENTRAL BAY OF BENGAL BASED ON 0000 UTC OF 24th 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 \geq 120 KT)

● LESS THAN 34 KT

○ 34-47 KT

○ \geq 48 KT

— OBSERVED TRACK

— FORECAST TRACK

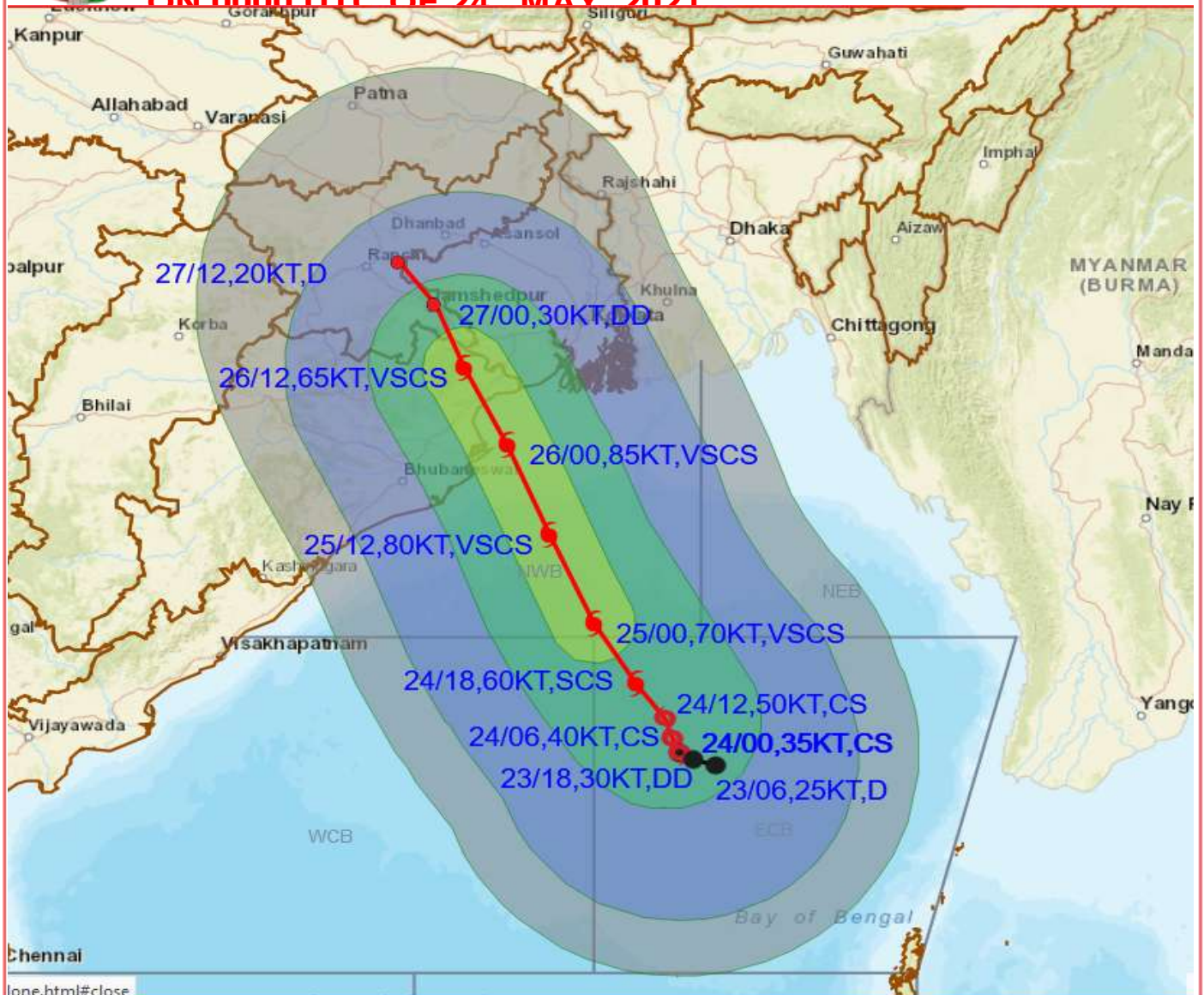
▲ CONE OF UNCERTAINTY

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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



OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM "YAAS" OVER EASTCENTRAL BAY OF BENGAL BASED ON 0000 UTC OF 24th 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 (48-63 KT)

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

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

SuCS: SUPER CYCLONIC STORM (\geq 120 KT)

● LESS THAN 34 KT

○ 34-47 KT

● \geq 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)

— \geq 64 KT (\geq 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
\geq 64 (\geq 118)	Phenomenal	Total suspension of fishing operations

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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