



REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY BULLETIN NO. 4

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. 4 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 01250 UTC OF 24.05.2021 BASED ON 0900 UTC OF 24.05.2021.

Sub: CYCLONIC STORM “YAAS” (PRONOUNCED AS “YASS”) OVER EASTCENTRAL BAY OF BENGAL

THE **CYCLONIC STORM ‘YAAS’ (PRONOUNCED AS ‘YASS’)** OVER EASTCENTRAL BAY OF BENGAL MOVED NORTH-NORTHWESTWARDS WITH A SPEED OF ABOUT 07 KMPH DURING PAST 6 HOURS, AND LAY CENTRED AT 0900UTC OF TODAY, THE 24TH MAY, 2021 OVER EASTCENTRAL BAY OF BENGAL NEAR LATITUDE 16.8°N AND LONGITUDE 89.5°E, ABOUT 670 KM NORTH-NORTHWEST OF PORT BLAIR (43333), 490 KM SOUTH-SOUTHEAST OF PARADIP (42976), 590 KM SOUTH-SOUTHEAST OF BALASORE (42895) AND 580 KM SOUTH-SOUTHEAST OF DIGHA (42901) AND 580KM SOUTH OF KHEPUPARA (41984).

IT IS VERY LIKELY TO MOVE NORTH-NORTHWESTWARDS, INTENSIFY FURTHER INTO A **SEVERE CYCLONIC STORM** DURING NEXT 12 HOURS AND INTO A **VERY SEVERE CYCLONIC STORM** DURING 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 EARLY MORNING (2100 UTC OF 25TH -0000 UTC OF 26TH). IT IS VERY LIKELY TO CROSS NORTH ODISHA-WEST BENGAL COASTS BETWEEN PARADIP (42976) AND SAGAR ISLANDS (42903) AROUND BALASORE (42895) DURING NOON (DURING 0500-0700 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
24.05.21/0900	16.8/89.5	70-80 GUSTING TO 90	CYCLONIC STORM
24.05.21/1200	17.1/89.3	80-90 GUSTING TO 100	CYCLONIC STORM
24.05.21/1800	17.5/89.1	90-100 GUSTING TO 110	SEVERE CYCLONIC STORM
25.05.21/0000	18.2/88.5	105-115 GUSTING TO 125	SEVERE CYCLONIC STORM
25.05.21/0600	18.9/88.2	125-135 GUSTING TO 150	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%

25.05.21/1800	20.2/87.6	155-165 GUSTING TO 185	VERY SEVERE CYCLONIC STORM
26.05.21/0600	21.2/87.1	155-165 GUSTING TO 185	VERY SEVERE CYCLONIC STORM
26.05.21/1800	22.3/86.5	105-115 GUSTING TO 125	SEVERE CYCLONIC STORM
27.05.21/0600	23.1/86.0	55-65 GUSTING TO 75	DEEP DEPRESSION
27.05.21/1800	23.7/85.5	35-45 GUSTING TO 55	DEPRESSION

THE MAXIMUM SUSTAINED WIND SPEED IS 40 KNOTS GUSTING TO 50 KNOTS AROUND SYSTEM CENTRE. SEA CONDITION IS ROUGH TO VERY ROUGH. THE ESTIMATED CENTRAL PRESSURE IS 988 HPA.

AS PER SATELLITE IMAGERY BASED ON 0900 UTC OF TODAY, THE 24TH MAY, THE VORTEX CONTINUED TO BE SEEN AS A CURVED BAND PATTERN WITH WRAP COVERING APPROXIMATELY 0.5 ON LOG 10 DEGREE SPIRAL, YIELDING 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 14.0°N & 21°N AND 82.0°E & 94.0E . MINIMUM CLOUD TOP TEMPERATURE IS 93°C.

REMARKS:

THE MADDEN JULIAN OSCILLATION (MJO) INDEX CURRENTLY LIES IN PHASE 5 WITH AMPLITUDE NEAR 1. THEREAFTER, IT WILL MOVE ACROSS PHASES 6-8 WITH AMPLITUDE LESS THAN 1. MJO IS CONDUCIVE FOR ENHANCEMENT OF CONVECTION OVER THE BAY OF BENGAL (BOB) TODAY. 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.

THE UPPER TROPOSPHERIC RIDGE RUNS ALONG 22⁰N. POSITIVE LOW LEVEL VORTICITY HAS INCREASED AND NOW IT IS OF 250-300 X10⁻⁶ S⁻¹ AROUND SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 200 HPA LEVEL. LOW LEVEL CONVERGENCE NOW IS (ABOUT 40 X 10⁻⁵ S⁻¹) TO THE SOUTHWEST OF SYSTEM CENTRE. THE POSITIVE UPPER LEVEL DIVERGENCE is 30-40 x 10⁻⁵ S⁻¹ AND LAY TO THE SOUTHWEST OF SYSTEM CENTRE. MODERATE VERTICAL WIND SHEAR (VWS) (20-25 KTS) IS PREVAILING OVER THE SYSYEM CENTRE WHICH DECREASAE TO (15-20 KTS) OVER EXTREME NORTH BOB. THE SEA CONDITIONS AND EXISTING ENVIRONMENTAL FEATURES LIKE ENHANCED LOW LEVEL VORTICITY, LOWER LEVEL CONVERGENCE, ENHANCED EQUATORWARD & POLEWARD OUTFLOW ARE CONDUCIVE FOR FURTHER INTENSIFICATION OF THE SYSTEM INTO A SEVERE 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 ALSO INDICATING RAPID INTENSIFICATION OF SYSTEM UPTO VERY SEVERE CYCLONIC STORM CATEGORY. BUT THERE IS LARGE DIVERGENCE AMONG VARIOUS MODELS WRT TIME OF LANDFALL. HOWEVER, 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 EARLY MAY MORNING (2100 UTC OF 25TH -0000 UTC OF 26TH). IT IS VERY LIKELY TO CROSS NORTH ODISHA AND ADJOINING WEST BENGAL COASTS AROUND NOON (AROUND 0500-0700 UTC) OF 26TH MAY.

IN VIEW OF ABOVE, IT IS INFERRED THAT THE CYCLONIC STORM "YAAS" IS VERY
PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)
NIL: 0%, LOW: 1-25%, FAIR: 26-50%, MODERATE: 51-75% AND HIGH: 76-100%

LIKELY TO MOVE NORTH-NORTHWESTWARDS AND INTENSIFY INTO A **SEVERE CYCLONIC STORM** DURING NEXT 12 HOURS AND FURTHER INTO A VERY SEVERE CYCLONIC STORM DURING SUBSEQUENT 24 HOURS. IT WOULD CONTINUE TO MOVE NORTH-NORTHWESTWARDS AND REACH NORTHWEST BAY OF BENGAL NEAR NORTH ODISHA AND WEST BENGAL COASTS BY 26TH MAY EARLY MORNING (2100 UTC OF 25TH-0000 UTC OF 26TH). IT IS VERY LIKELY TO CROSS NORTH ODISHA - WEST BENGAL BETWEEN PARADIP (42976) AND SAGAR ISLANDS (42903) BY NOON (0500-0700 UTC) OF 26TH MAY AS A VERY SEVERE CYCLONIC STORM.

(RK JENAMANI)
SCIENTIST-F, RSMC NEWDELHI

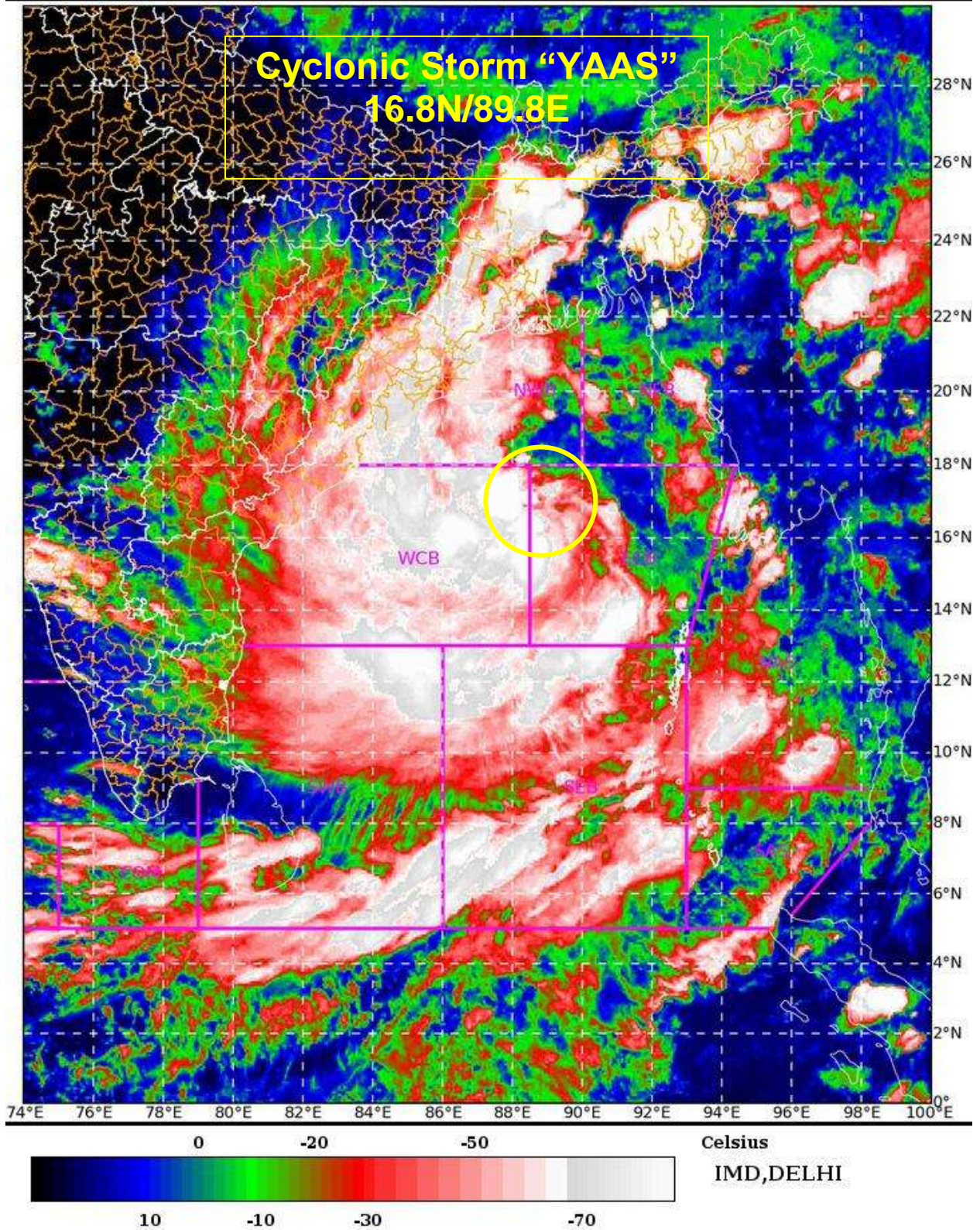
PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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

SAT : INSAT-3D IMG 24-05-2021/(1100 to 1126) GMT

IMG_TIR1_TEMP 10.8 um 24-05-2021/(1630 to 1656) IST

L1C Mercator

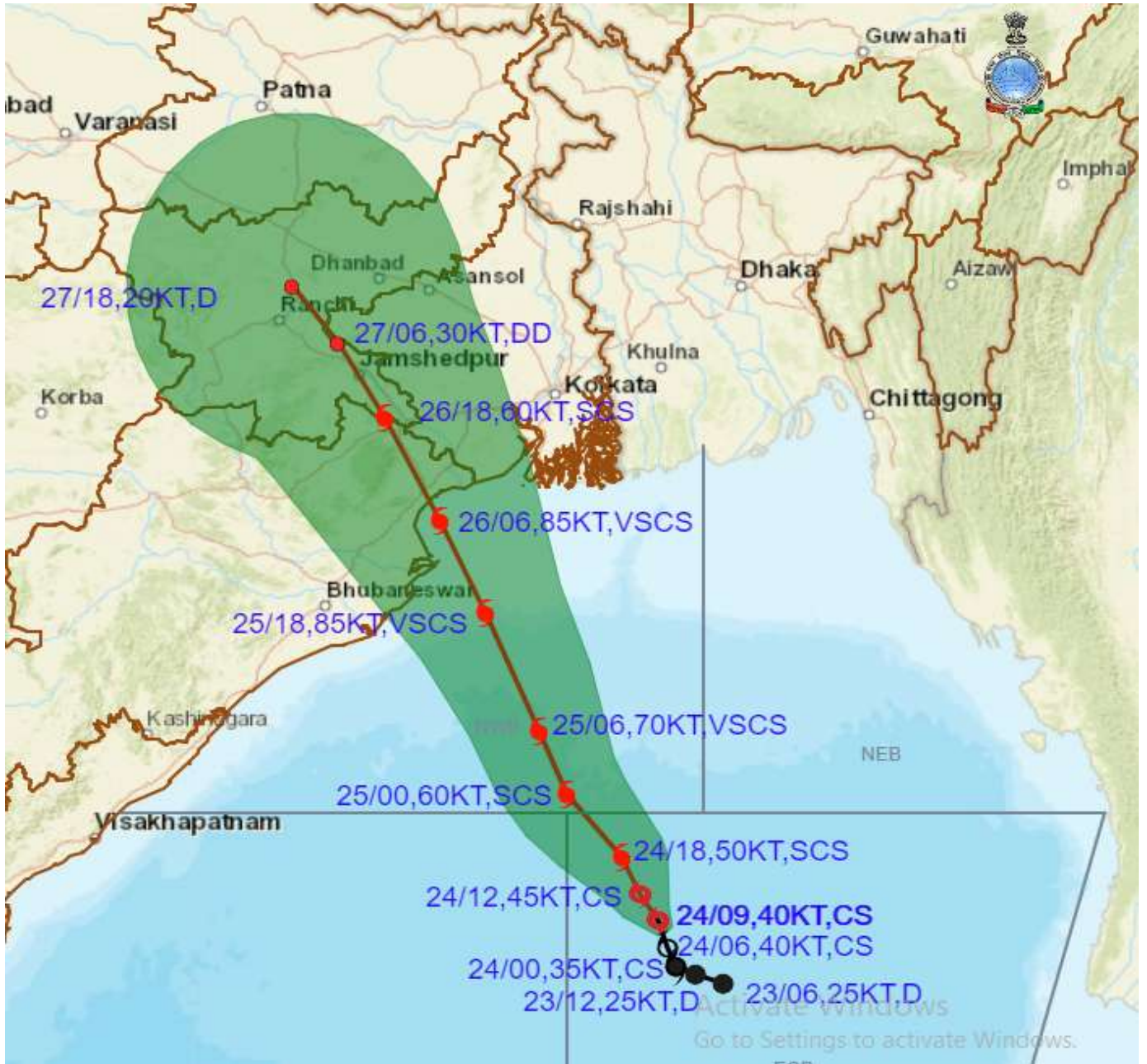


PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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 0900 UTC OF 24th



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)

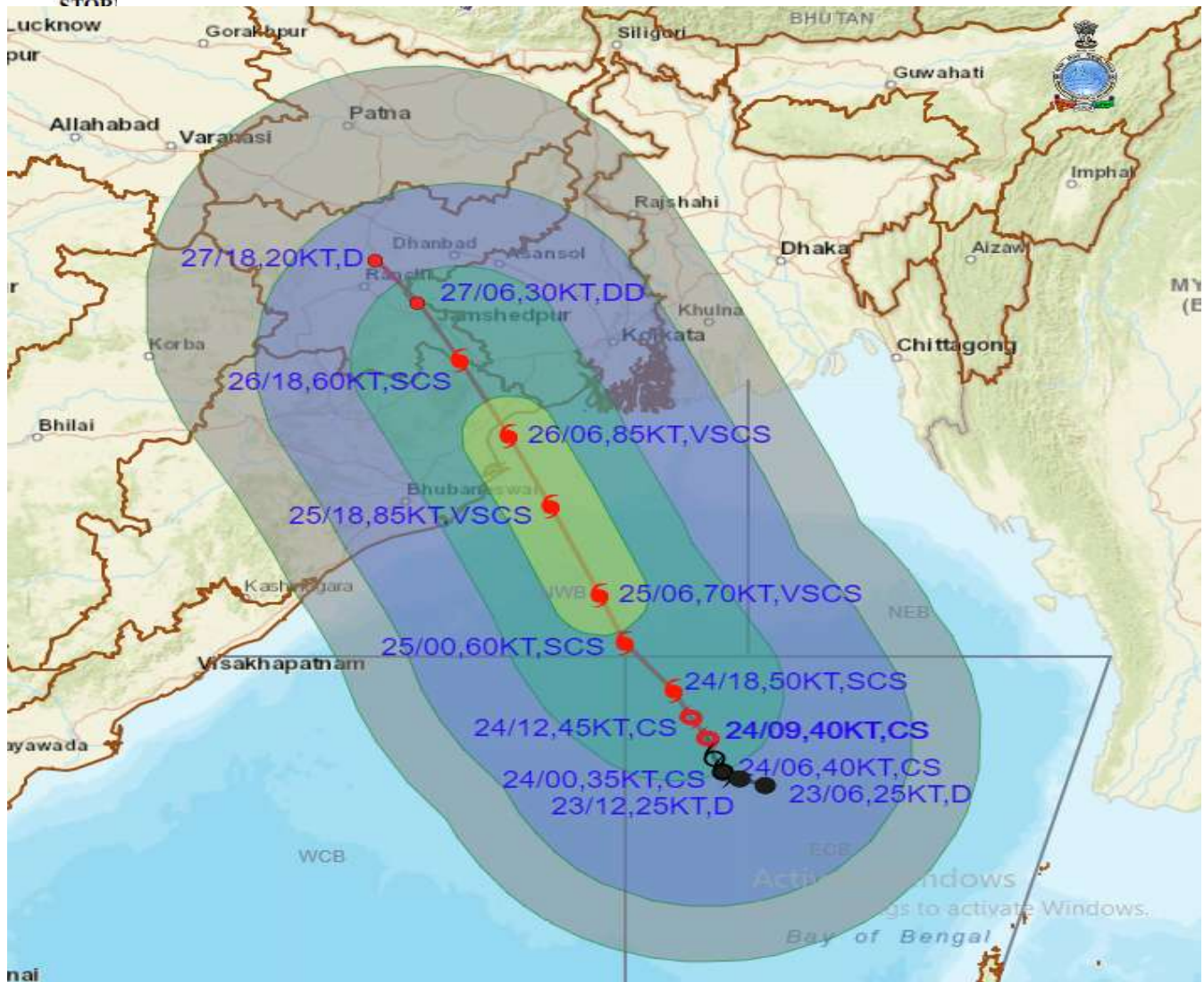
- LESS THAN 34 KT
- 34-47 KT
- \geq 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- CONE OF UNCERTAINTY



10%



OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM "YAAS" OVER EASTCENTRAL BAY OF BENGAL BASED ON 0900 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
 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)

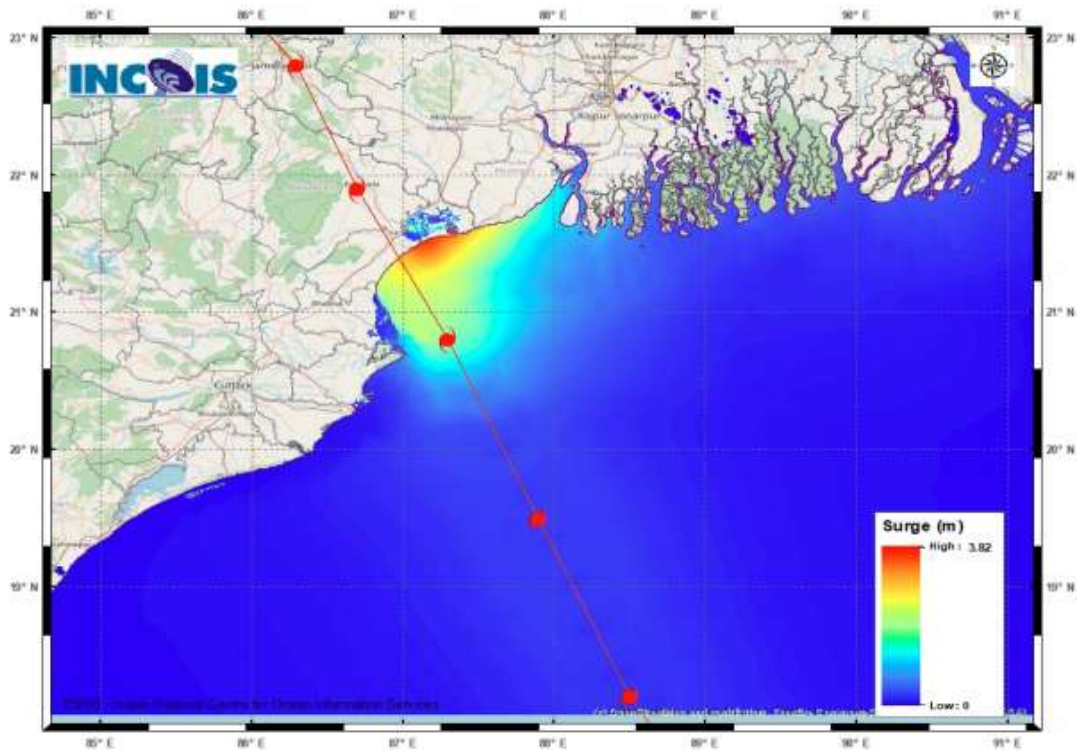
IMPACT OVER THE SEA

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)

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Storm Surge Forecast around the time of Landfall:



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