



REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY BULLETIN NO. 2

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. 2 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0700 UTC OF 24.05.2021 BASED ON 0300 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 NORTHWESTWARDS WITH A SPEED OF 02 KMPH DURING PAST 6 HOURS, AND LAY CENTRED AT 0300 UTC OF TODAY, THE 24TH MAY, 2021 OVER EASTCENTRAL BAY OF BENGAL NEAR LATITUDE 16.4°N AND LONGITUDE 89.6°E, ABOUT 620 KM NORTH-NORTHWEST OF PORT BLAIR (43333), 530 KM SOUTH-SOUTHEAST OF PARADIP (42976), 630 KM SOUTH-SOUTHEAST OF BALASORE (42895) AND 620 KM SOUTH-SOUTHEAST OF DIGHA (42901) AND 620 KM 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 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
24.05.21/0300	16.4/89.6	65-75 gusting to 85	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 185	Very Severe Cyclonic Storm
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

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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

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 990 HPA.

AT 0300 UTC, A BUOY (23093) NEAR 17.5N/89.0E REPORTED MAXIMUM SUSTAINED WIND OF 300°/20 KTS AND MEAN SEA LEVEL PRESSURE OF 994 HPA. ANOTHER BUOY (23459) NEAR 13.8N/87.1E REPORTED MAXIMUM SUSTAINED WIND OF 280°/14 KTS AND MEAN SEA LEVEL PRESSURE OF 1000.5 HPA. ANOTHER BUOY (23049) NEAR 13.1N/83.9E REPORTED MAXIMUM SUSTAINED WIND OF 240°/18 KTS AND MEAN SEA LEVEL PRESSURE OF 10030.0 HPA.

AS PER SATELLITE IMAGERY BASED ON 0300 UTC OF TODAY, THE 24TH MAY, THE VORTEX HAS FURTHER INTENSIFIED AND NOW 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 11.0°N & 20°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 30-31°C OVER MAJOR PARTS OF BOB.

THE UPPER TROPOSPHERIC RIDGE RUNS ALONG 22°N. HIGHLY COMPACT CIRCULAR ZONE OF POSITIVE LOW LEVEL VORTICITY 200-250 X10⁻⁶ S⁻¹ IS PREVAILING AROUND SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 200 HPA LEVEL. THE POSITIVE LOW LEVEL CONVERGENCE HAS FURTHER INCREASED DURING PAST 3 HOURS & IS CIRCULARLY ORGANISED (ABOUT 60 X 10⁻⁵ S⁻¹) TO THE SOUTHWEST OF SYSTEM CENTRE. THE POSITIVE UPPER LEVEL DIVERGENCE HAS FURTHER INCREASED BECOMING 40-50 x 10⁻⁵ S⁻¹ AND LAY TO THE WEST OF SYSTEM CENTRE. MODERATE VERTICAL WIND SHEAR (VWS) (15-20 KTS) IS PREVAILING OVER THE SYSEM CENTRE AND OVER EXTREME NORTH BOB. HOWEVER, IT IS HIGH OVER NORTHWEST BOB ALONG AND OFF NORTH ODISHA & WEST BENGAL COASTS. THE SEA CONDITIONS AND EXISTING ENVIRONMENTAL FEATURES LIKE ENHANCED LOW LEVEL VORTICITY, LOWER LEVEL CONVERGENCE, ENHANCED EQUATORWARD & POLEWARD OUTFLOW, MODERATE VERTICAL WIND SHEAR 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 MAY MORNING (AROUND 0000 UTC).

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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

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 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.

(SUNITHA DEVI S)
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%

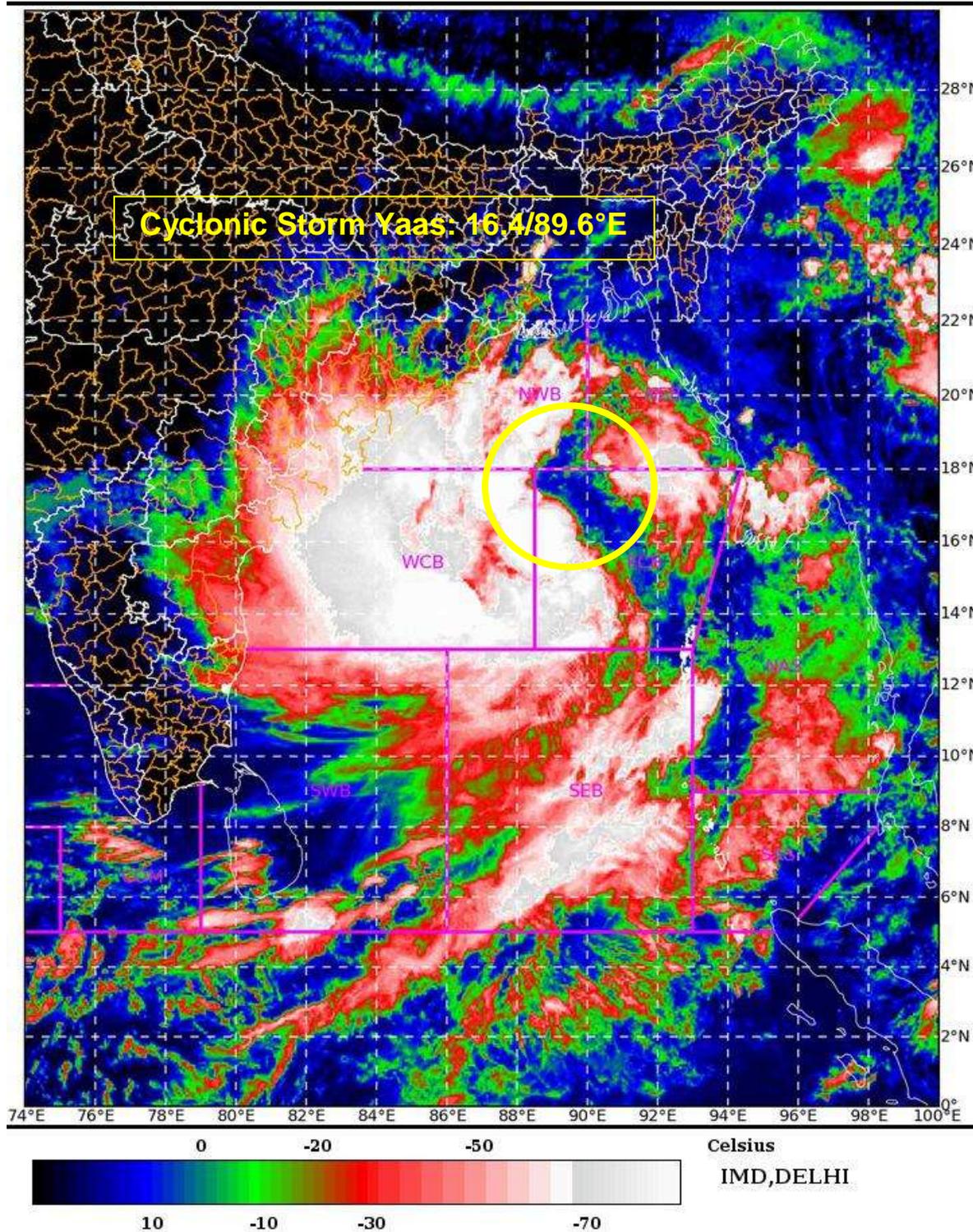
SAT : INSAT-3D IMG

24-05-2021/(0530 to 0557) GMT

IMG_TIR1_TEMP 10.8 um

24-05-2021/(1100 to 1127) IST

L1C Mercator

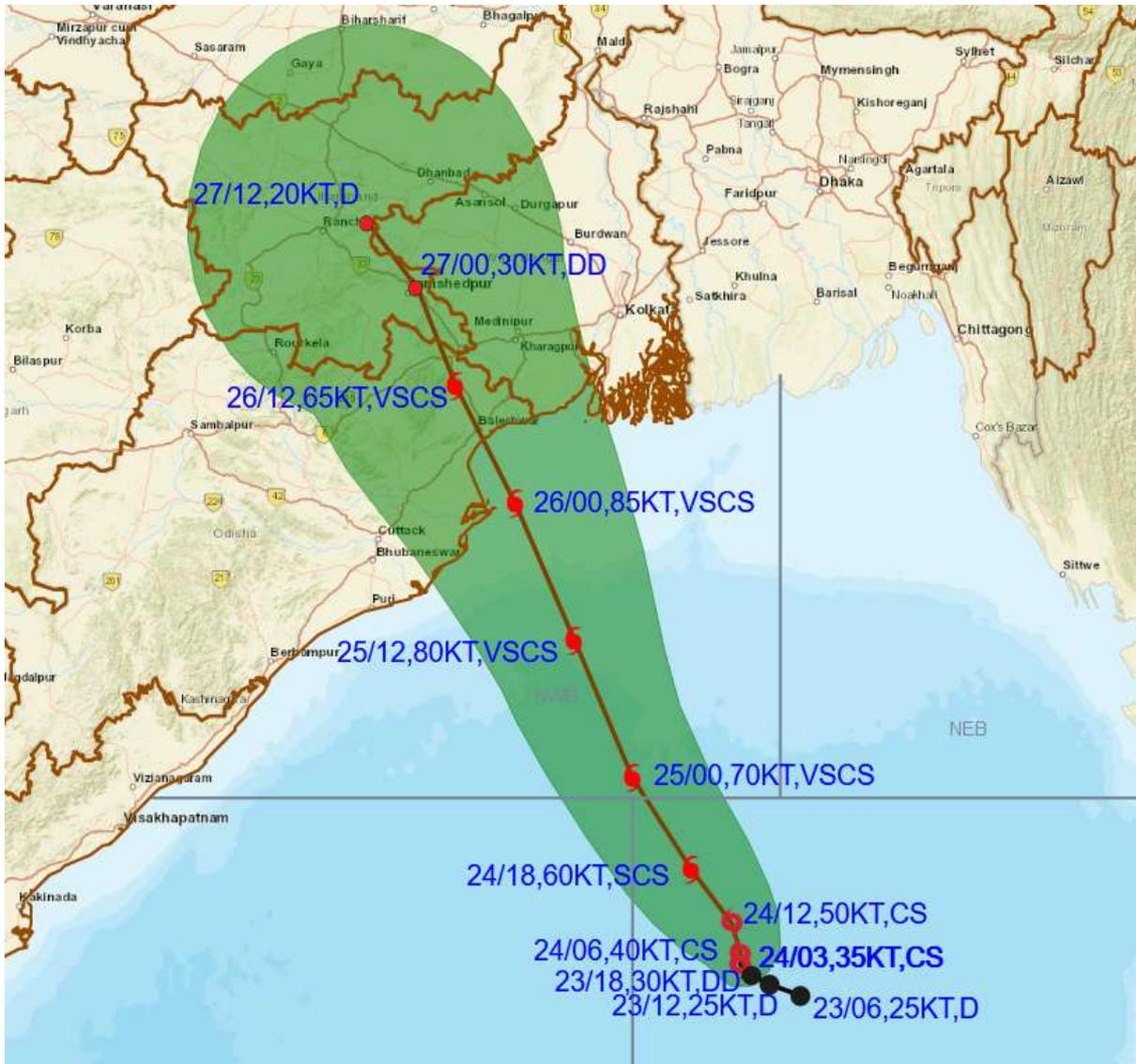


PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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 0300 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



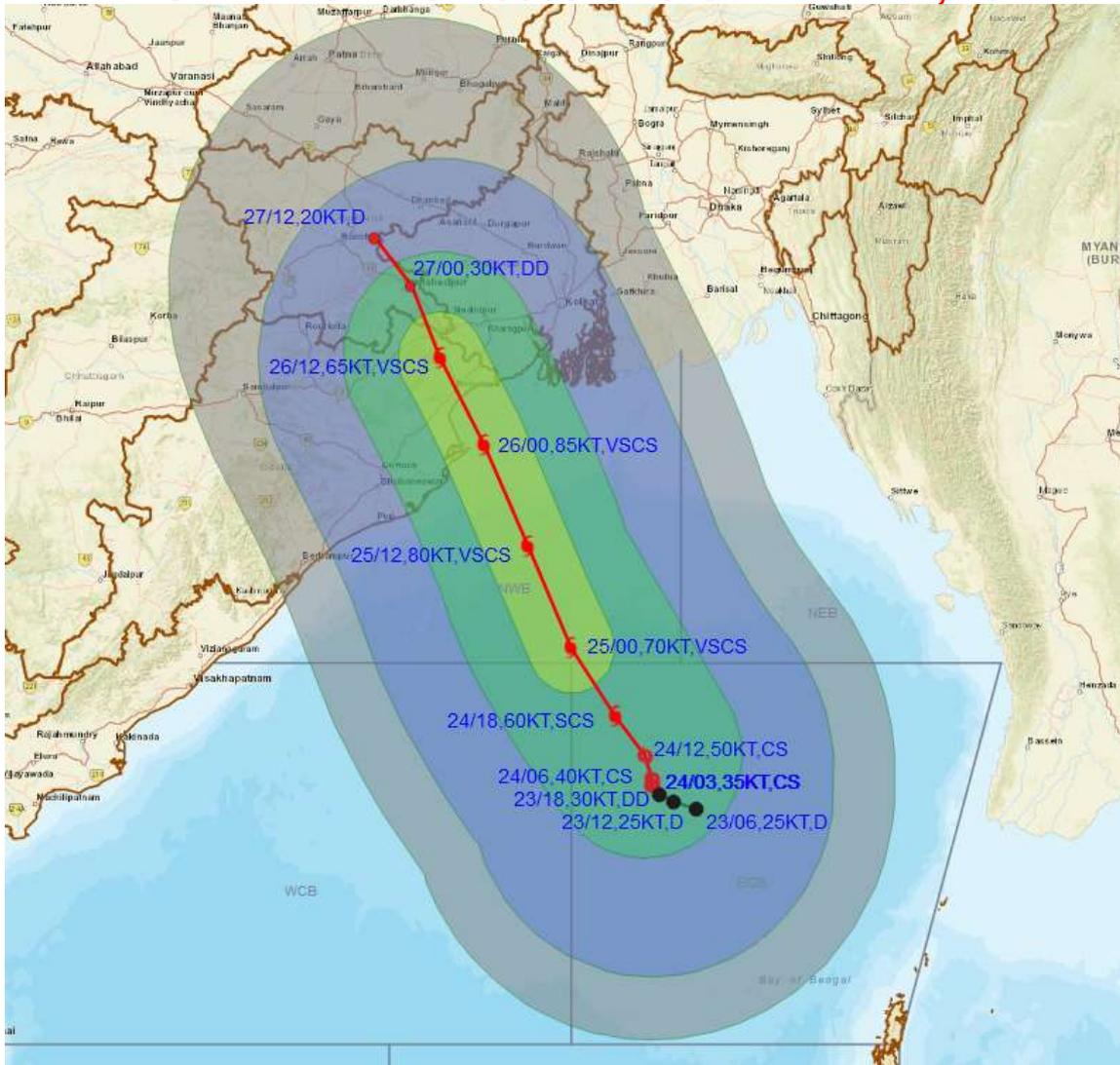
CONE OF UNCERTAINTY

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 0300 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 (≥ 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 KT (≥118 KMPH)

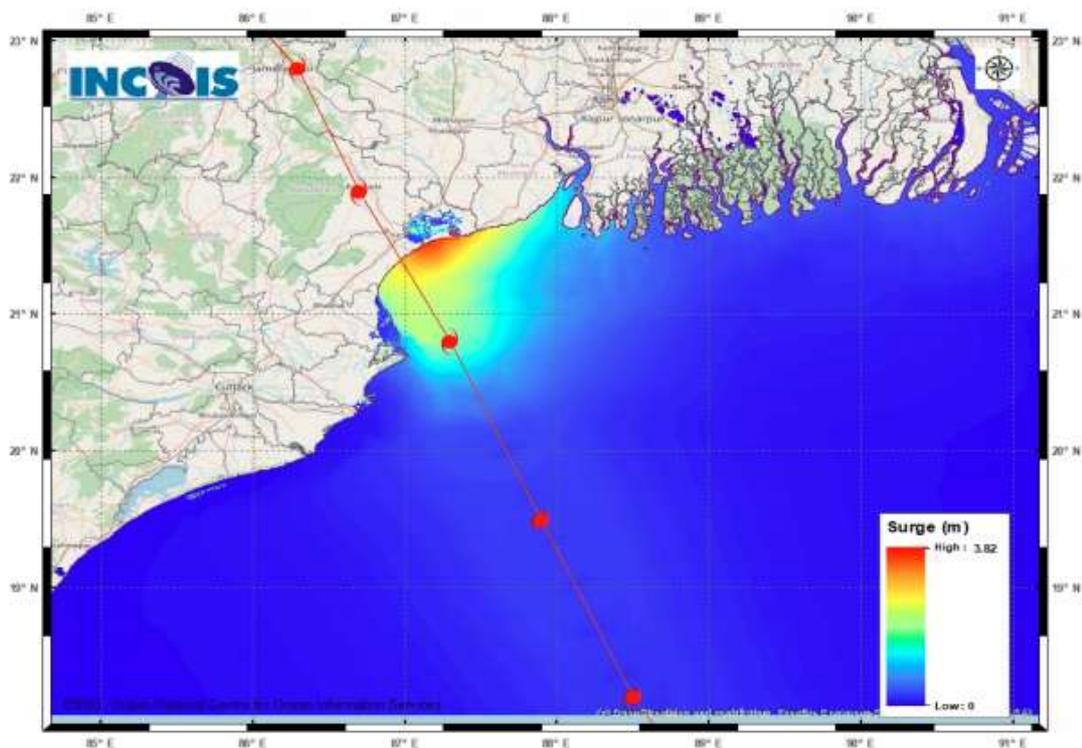
IMPACT OVER THE SEA

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

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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

Storm Surge Forecast around the time of Landfall:



STORM SURGE HEIGHT INFORMATION:

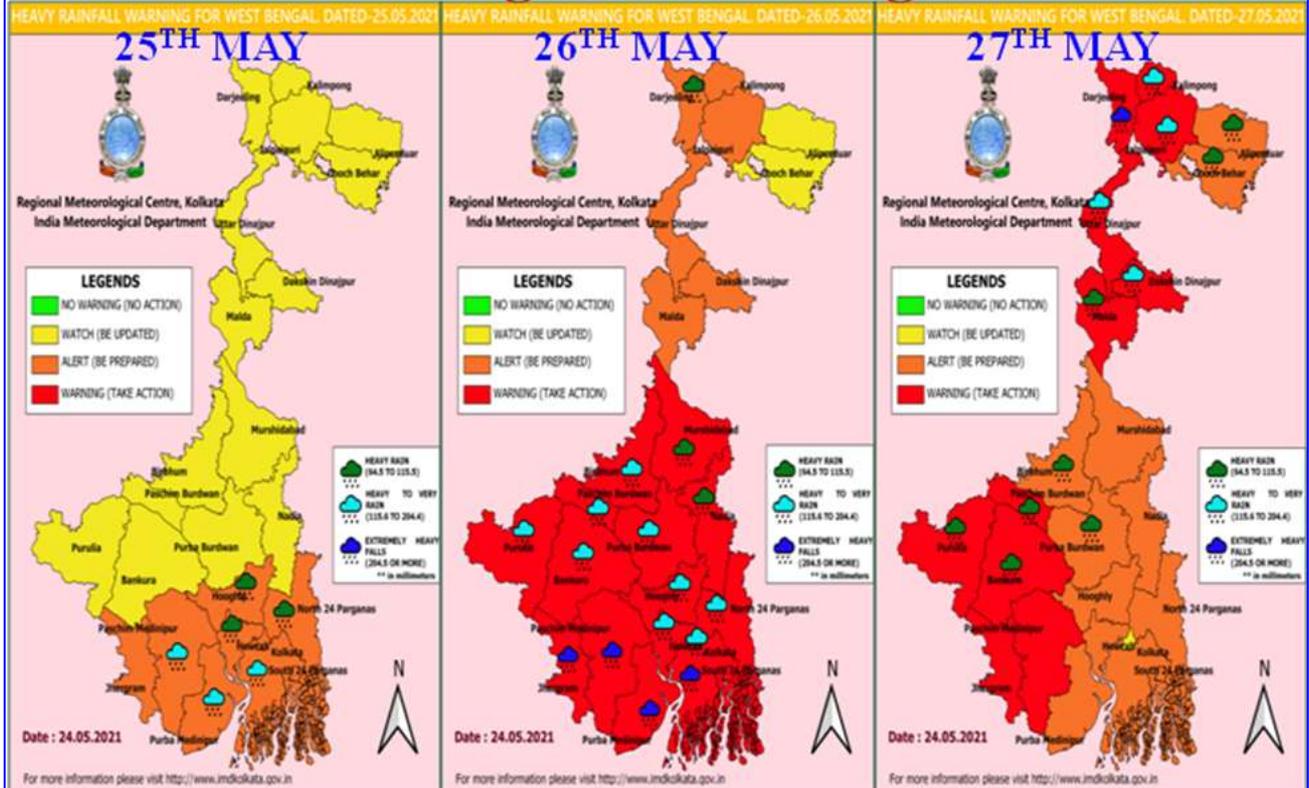
* The below listed surge heights are over and above astronomical tide.

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m) *	EXPECTED INUNDATION EXTENT (km)
Baleshwar	Baleshwar	Odisha	Kumbhigari	2.1-3.8	Upto 2.33
Basirhat	North 24 Parganas	West Bengal	Amlamethi	0.5-0.9	Upto 0.37
Bhadrak	Bhadrak	Odisha	Mohanpur	0.9-2.1	Upto 7.02
Diamond Harbour	South 24 Parganas	West Bengal	Pashchim Bhabanipur	0.5-1.1	Upto 0.78
Kanthi	Purba Medinipur	West Bengal	Safar Chata	0.5-2.9	Upto 1.50
Kendraparha	Kendrapara	Odisha	Tikayat Nagar	0.5-1.5	Upto 2.64
Tamluk	Purba Medinipur	West Bengal	Jamitta	0.5-1.3	Upto 0.42
Uluberiya	Haora	West Bengal	Orphuli	0.5-0.8	Upto 0.44

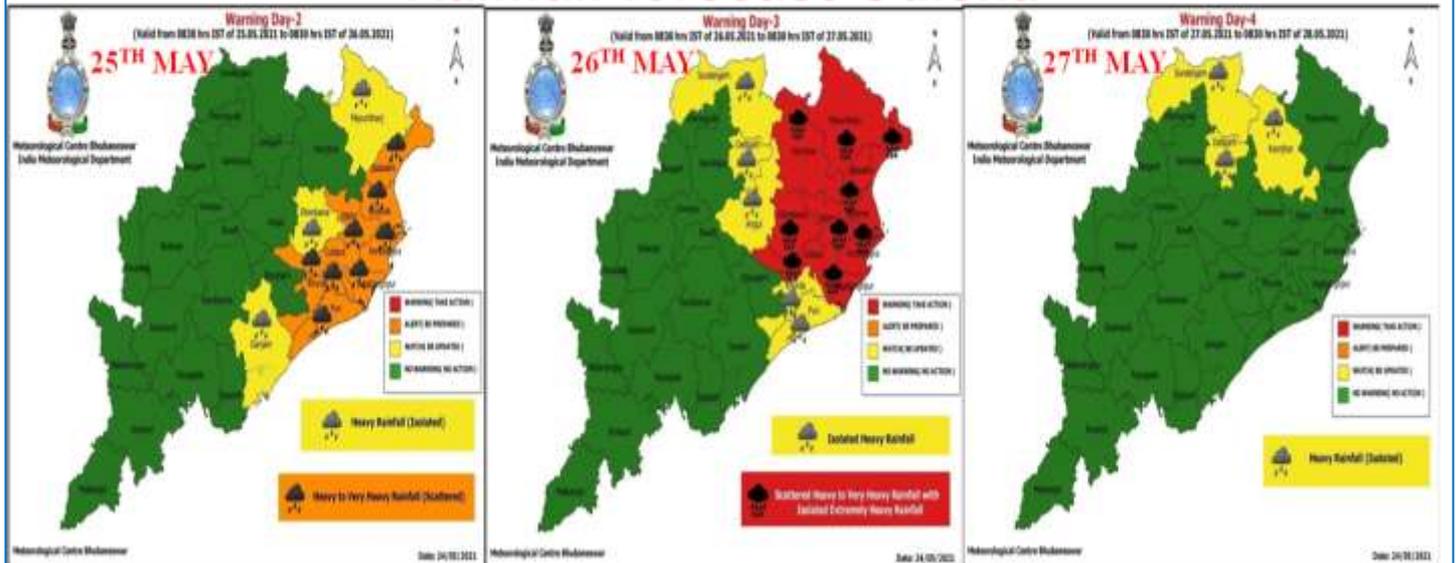
PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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Rainfall warning for West Bengal & Sikkim



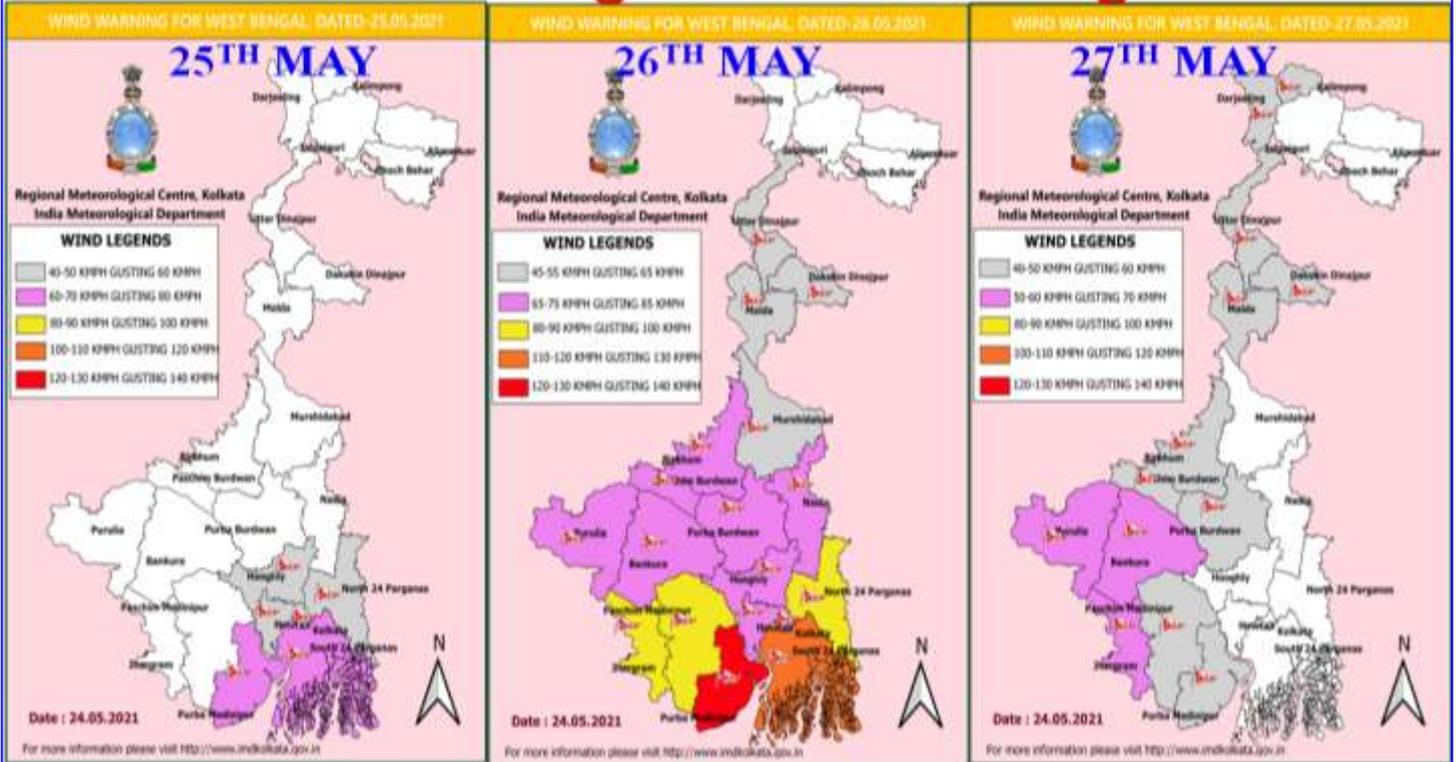
Rainfall forecast Odisha



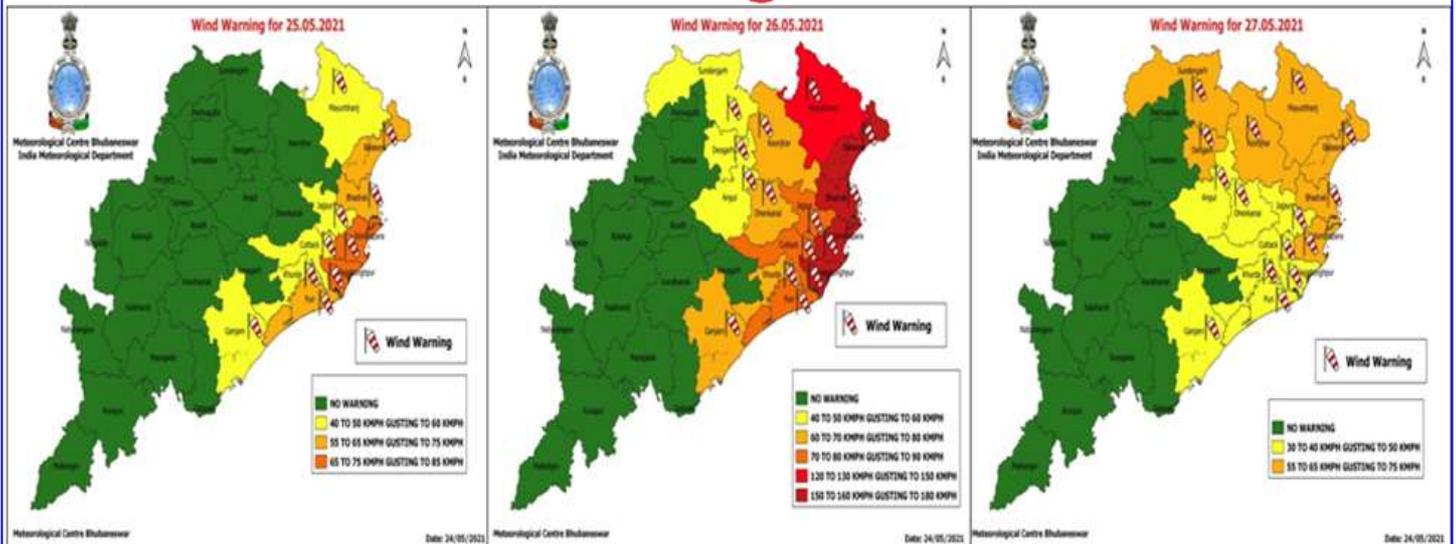
PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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Wind warning for West Bengal



Wind warning for Odisha



PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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