



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 0330 UTC OF 25.05.2021 BASED ON 0000 UTC OF 25.05.2021.

**Sub: SEVERE CYCLONIC STORM CYCLONIC STORM “YAAS” (PRONOUNCED AS “YASS”) OVER EASTCENTRAL AND ADJOINING WESTCENTRAL BAY OF BENGAL**

THE SEVERE CYCLONIC STORM ‘YAAS’ (PRONOUNCED AS ‘YASS’) OVER EASTCENTRAL BAY OF BENGAL MOVED NORTH-NORTHWESTWARDS WITH A SPEED OF ABOUT 10 KMPH DURING PAST 06 HOURS AND LAY CENTRED AT 0000 UTC OF THE 25<sup>TH</sup> MAY, 2021 OVER EASTCENTRAL AND ADJOINING WESTCENTRAL BAY OF BENGAL NEAR LATITUDE 18.0°N AND LONGITUDE 88.6°E, ABOUT 320 KM SOUTH-SOUTHEAST OF PARADIP (42976), 430 KM SOUTH-SOUTHEAST OF BALASORE (42895), 420 KM SOUTH-SOUTHEAST OF DIGHA (42901) AND 470 KM SOUTH-SOUTHWEST OF KHEPUPARA (41984).

IT IS VERY LIKELY TO MOVE NORTH-NORTHWESTWARDS, INTENSIFY FURTHER INTO A **VERY SEVERE CYCLONIC STORM** DURING NEXT 12 HOURS. IT WOULD CONTINUE TO MOVE NORTH-NORTHWESTWARDS, INTENSIFY FURTHER AND REACH NORTHWEST BAY OF BENGAL NEAR NORTH ODISHA AND WEST BENGAL COASTS VERY CLOSE TO CHANDBALI-DHAMRA PORT BY 26<sup>TH</sup> MAY EARLY MORNING (2100 UTC OF 25<sup>TH</sup> -0000 UTC OF 26<sup>TH</sup>). 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 26<sup>TH</sup> 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
25.05.21/0000	18.0/88.6	100-110 GUSTING TO 120	SEVERE CYCLONIC STORM
25.05.21/0600	18.7/88.2	105-115 GUSTING TO 125	SEVERE CYCLONIC STORM
25.05.21/1200	19.5/87.9	125-135 GUSTING TO 150	VERY SEVERE CYCLONIC STORM
25.05.21/1800	20.1/87.7	145-155 GUSTING TO 170	VERY SEVERE CYCLONIC STORM
26.05.21/0000	20.7/87.4	155-165 GUSTING TO 185	VERY SEVERE CYCLONIC STORM
26.05.21/1200	21.8/86.5	115-125 GUSTING TO 140	VERY SEVERE CYCLONIC STORM
27.05.21/0000	22.5/85.6	60-70 GUSTING TO 80	DEEP DEPRESSION
27.05.21/1200	23.2/84.7	35-45 GUSTING TO 55	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 55 KNOTS GUSTING TO 65 KNOTS AROUND SYSTEM CENTRE. SEA CONDITION IS ROUGH TO VERY ROUGH. THE ESTIMATED CENTRAL PRESSURE IS 982 HPA.

AT 0000 UTC, A BUOY (23093) NEAR 16.3°N/88.0°E REPORTED MAXIMUM SUSTAINED WIND OF 240°/35 KTS AND MEAN SEA LEVEL PRESSURE OF 993 HPA.

AS PER SATELLITE IMAGERY BASED ON 0000 UTC OF THE 25<sup>TH</sup> MAY, THE CLOUDS ARE ORGANISED IN CURVED BAND PATTERN. INTENSITY OF THE SYSTEM IS CHARACTERISED AS T 3.5. BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER THE AREA BETWEEN LATITUDE 12.5°N & 19.5°N AND 82.0°E & 90.0E . 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/CM<sup>2</sup> 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<sup>0</sup>C OVER MAJOR PARTS OF BOB.

THE UPPER TROPOSPHERIC RIDGE RUNS ALONG 21.5<sup>0</sup>N. POSITIVE LOW LEVEL VORTICITY IS 300 X10<sup>-6</sup> S<sup>-1</sup> AROUND SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 200 HPA LEVEL. LOW LEVEL CONVERGENCE NOW IS (ABOUT 50 X 10<sup>-5</sup> S<sup>-1</sup>) TO THE SOUTHWEST OF SYSTEM CENTRE. THE POSITIVE UPPER LEVEL DIVERGENCE IS 30x 10<sup>-5</sup> S<sup>-1</sup> AND LAY TO THE SOUTHWEST OF SYSTEM CENTRE. MODERATE VERTICAL WIND SHEAR (VWS) (20-25 KTS) IS PREVAILING OVER THE SYSYEM CENTRE. 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 WITH RESPECT TO THE 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 26<sup>TH</sup> MAY EARLY MORNING (2100 UTC OF 25<sup>TH</sup> -0000 UTC OF 26<sup>TH</sup>).

IT IS VERY LIKELY TO CROSS NORTH ODISHA AND ADJOINING WEST BENGAL COASTS AROUND NOON (AROUND 0500-0700 UTC) OF 26<sup>TH</sup> MAY. IN VIEW OF ABOVE, IT IS INFERED THAT THE SEVERE CYCLONIC STORM "YAAS" IS VERY LIKELY TO MOVE NORTH-NORTHWESTWARDS AND FURTHER INTENSIFY INTO A VERY SEVERE CYCLONIC STORM DURING NEXT 12 HOURS. IT WOULD CONTINUE TO MOVE NORTH-NORTHWESTWARDS AND REACH NORTHWEST BAY OF BENGAL NEAR NORTH ODISHA AND WEST BENGAL COASTS BY 26<sup>TH</sup> MAY EARLY MORNING (2100 UTC OF 25<sup>TH</sup>-0000 UTC OF 26<sup>TH</sup>). IT IS VERY LIKELY TO CROSS NORTH ODISHA - WEST BENGAL BETWEEN PARADIP (42976) AND SAGAR ISLANDS (42903) BY NOON (0500-0700 UTC) OF 26<sup>TH</sup> MAY AS A VERY SEVERE CYCLONIC STORM.

**(D R PATTANAİK)**  
**SCIENTIST-F, RSMC NEWDELHI**

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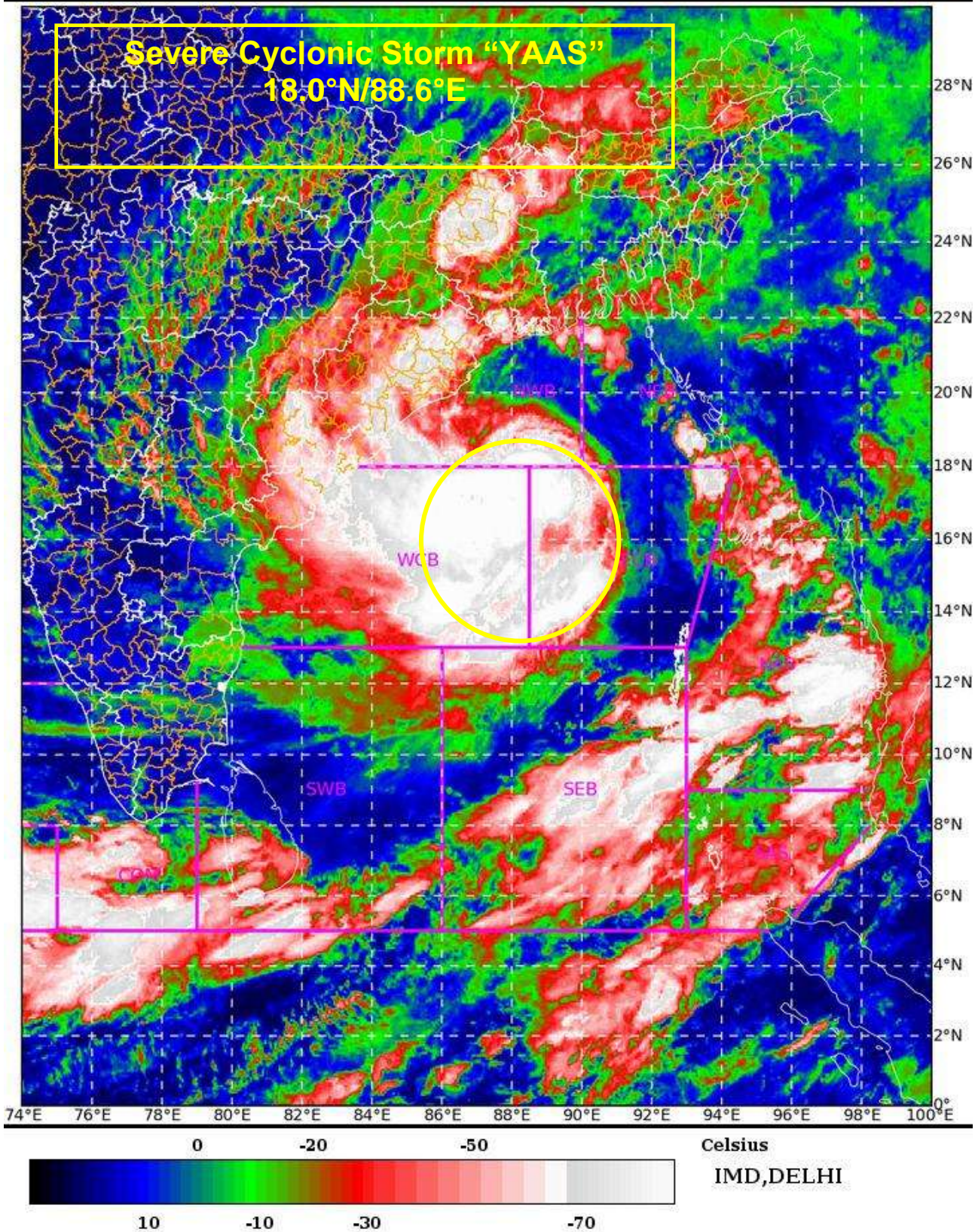
**PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)**

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





L1C Mercator



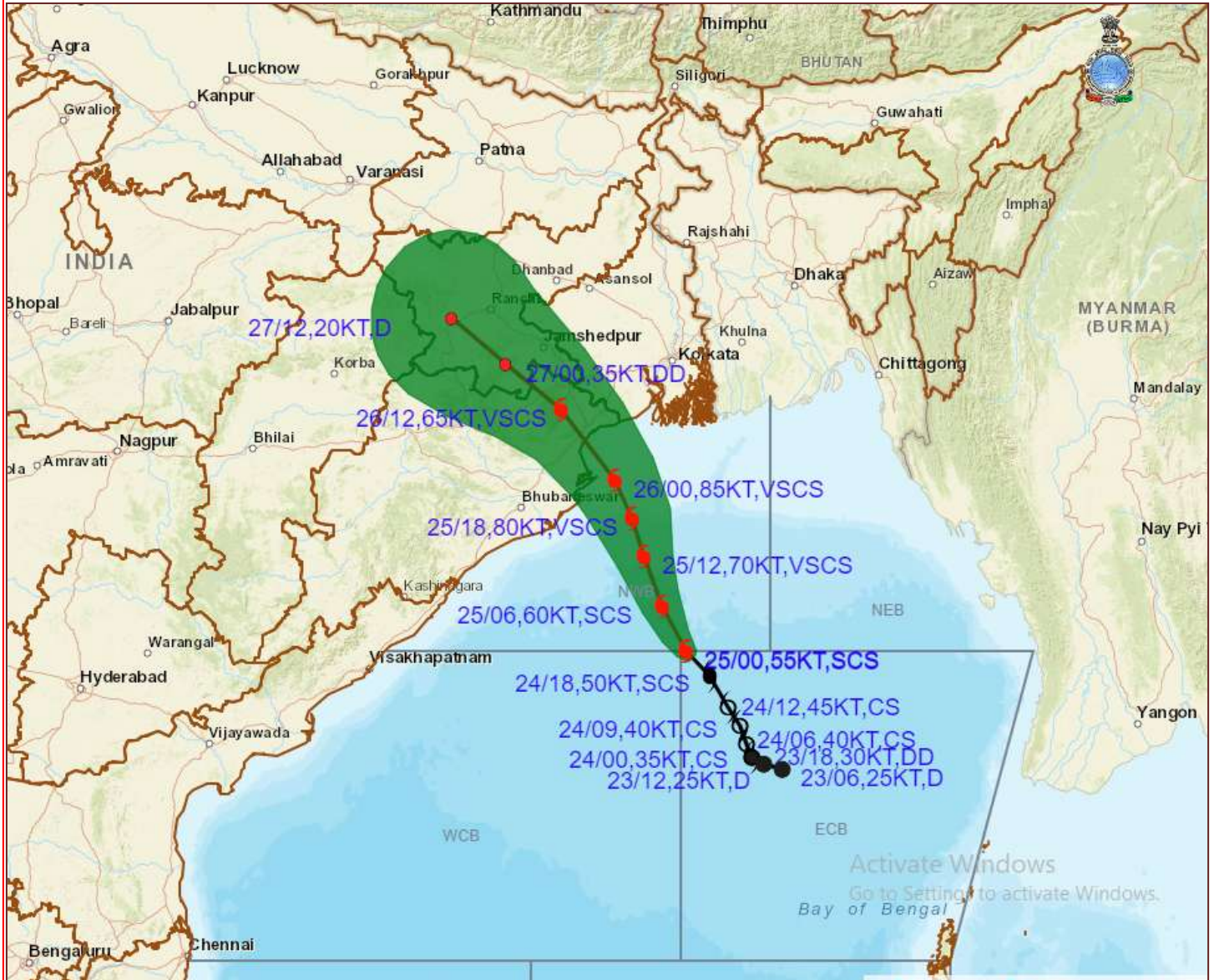
**PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)**

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





# OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF SEVERE CYCLONIC STORM "YAAS" OVER EASTCENTRAL AND ADJOINING WESTCENTRAL BAY OF BENGAL BASED ON 0000 UTC OF 25<sup>th</sup> 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 ( $\geq$  120 KT)

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

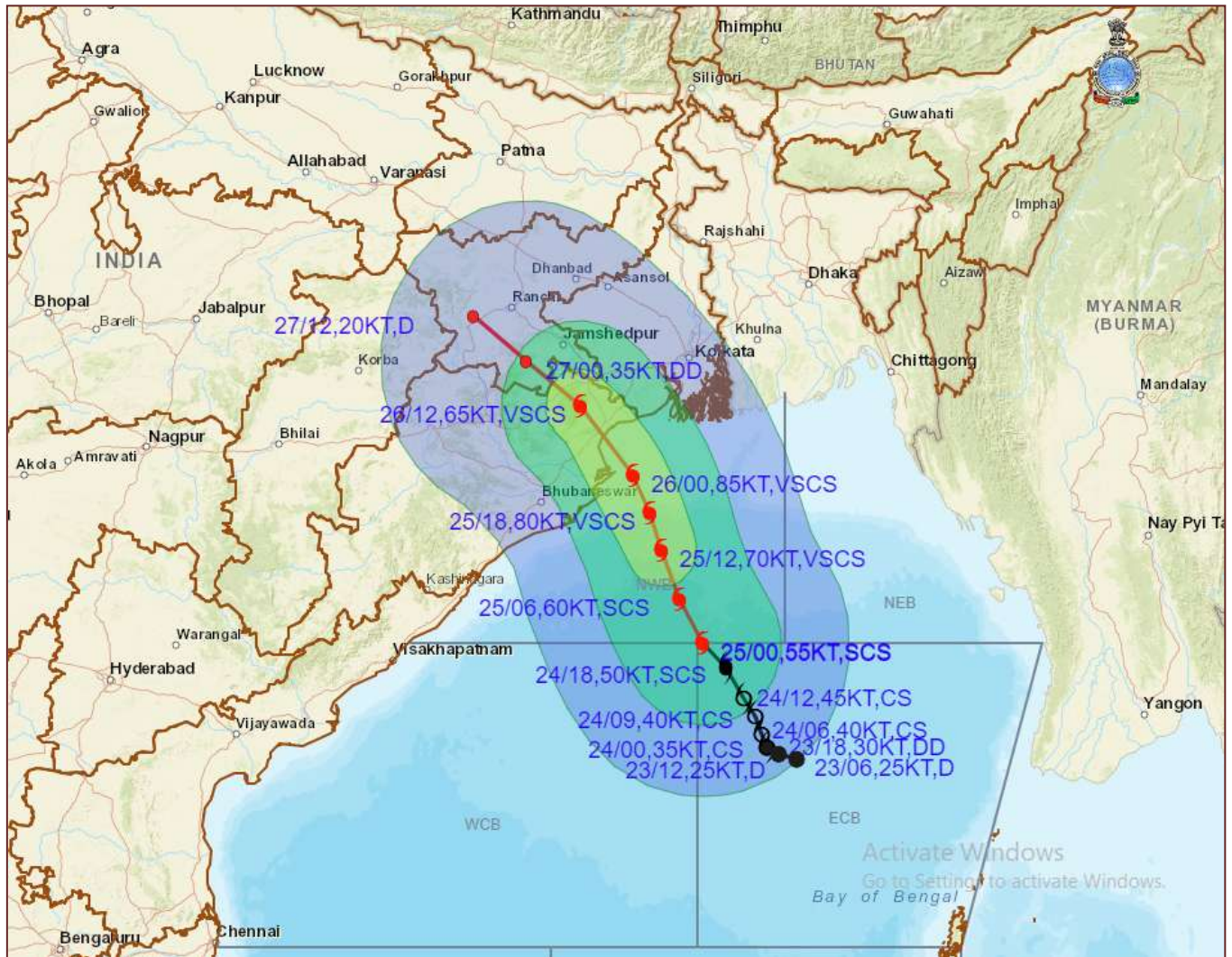
### PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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





# OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF SEVERE CYCLONIC STORM "YAAS" OVER EASTCENTRAL AND ADJOINING WESTCENTRAL BAY OF BENGAL BASED ON 0000 UTC OF 25<sup>th</sup> 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 ( $\ge 120$  KT)

- LESS THAN 34 KT
- 34-47 KT
- $\ge 48$  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)
- $\ge 64$  KT ( $\ge 118$  KMPH)

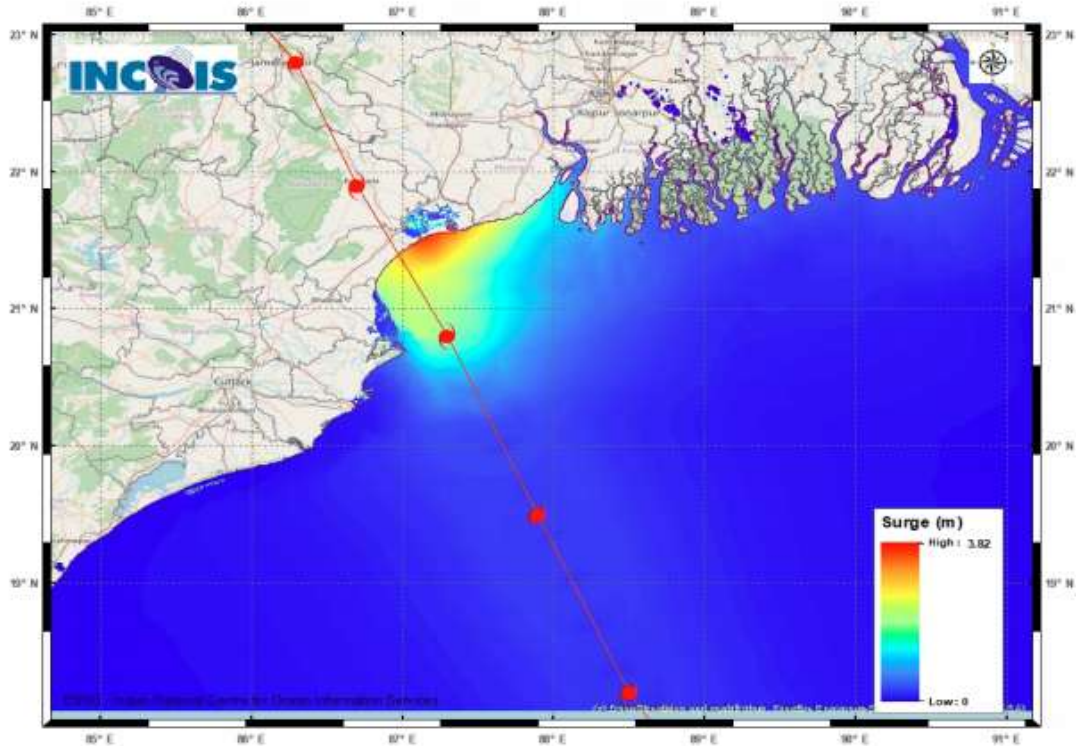
### IMPACT OVER THE SEA

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
$\ge 64$ ( $\ge 118$ )	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.

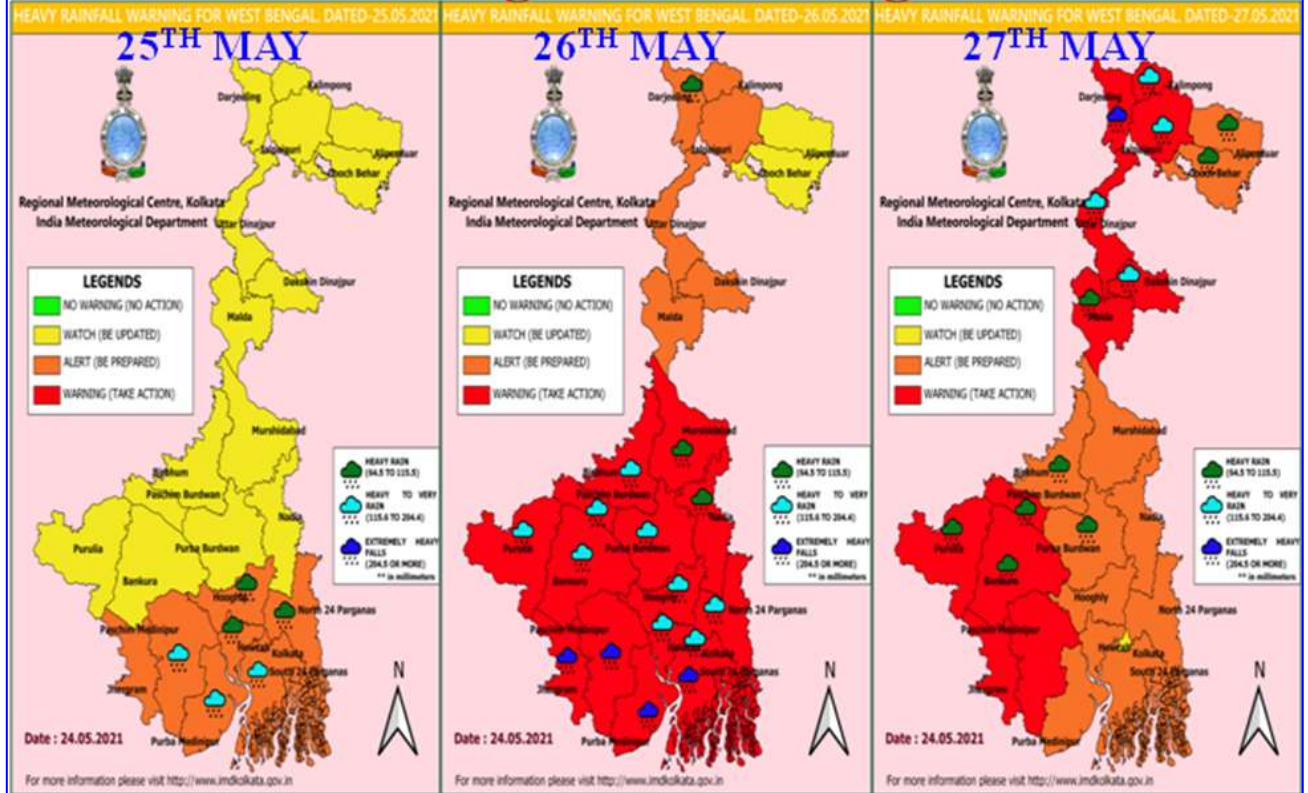
MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m) *	EXPECTED INUNDATION EXTENT (km)
Baleshwar	Baleshwar	Odisha	Kumbhigari	2.1-3.8	Upto 2.33
Basirhat	North 24 Parganas	West Bengal	Amlamethi	0.5-0.9	Upto 0.37
Bhadrak	Bhadrak	Odisha	Mohanpur	0.9-2.1	Upto 7.02
Diamond Harbour	South 24 Parganas	West Bengal	Pashchim Bhabanipur	0.5-1.1	Upto 0.78
Kanathi	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)**

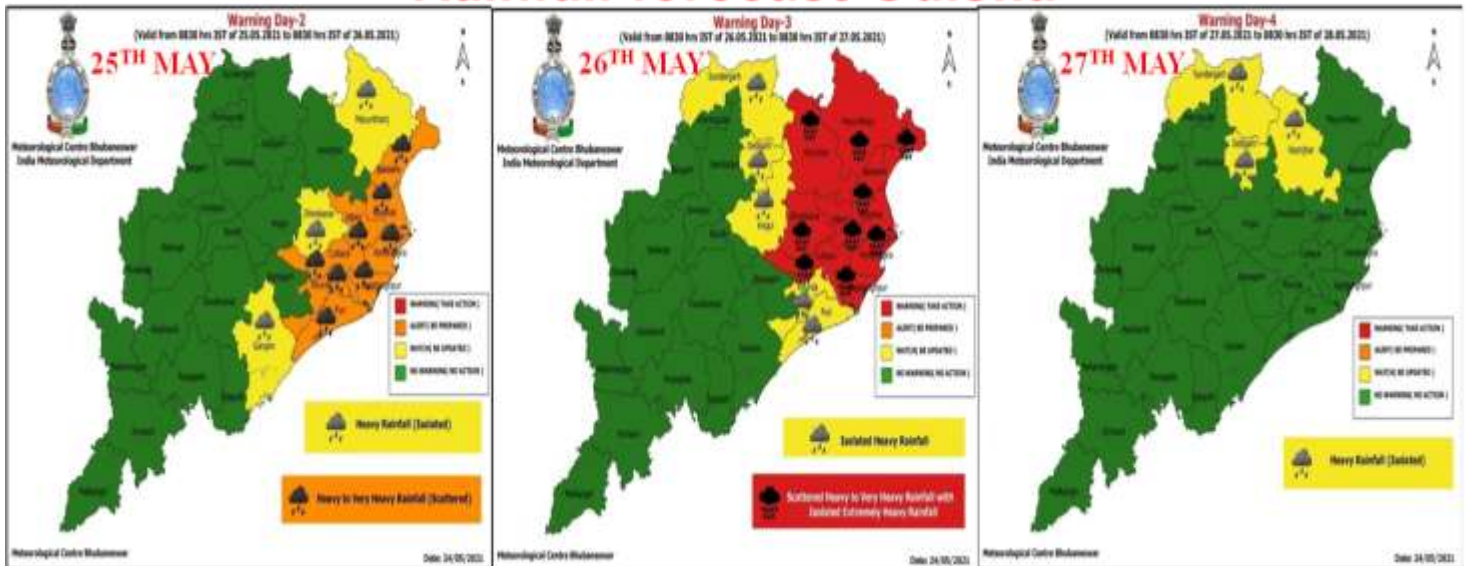
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# Rainfall warning for West Bengal & Sikkim



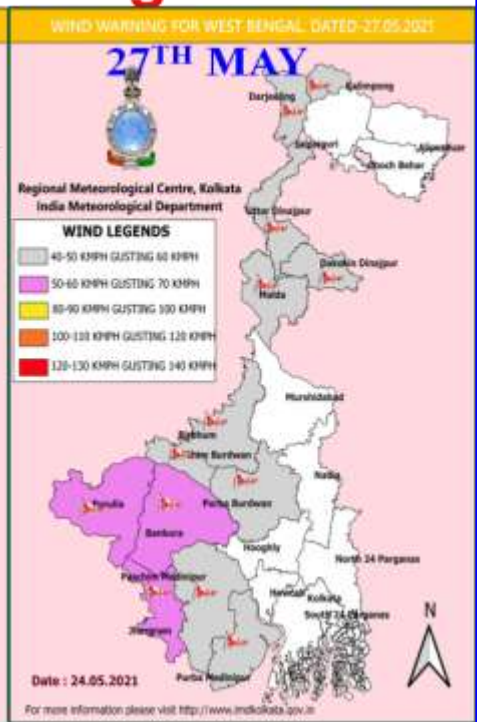
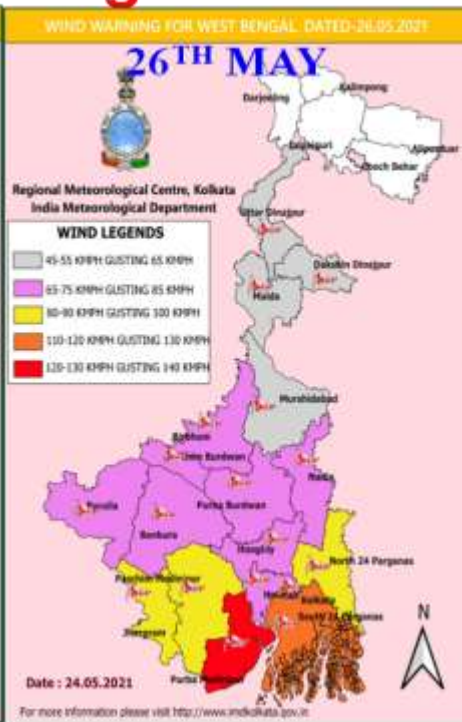
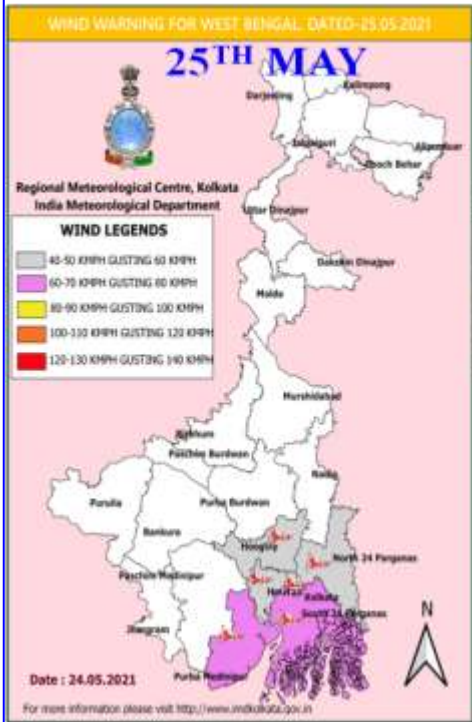
# Rainfall forecast Odisha



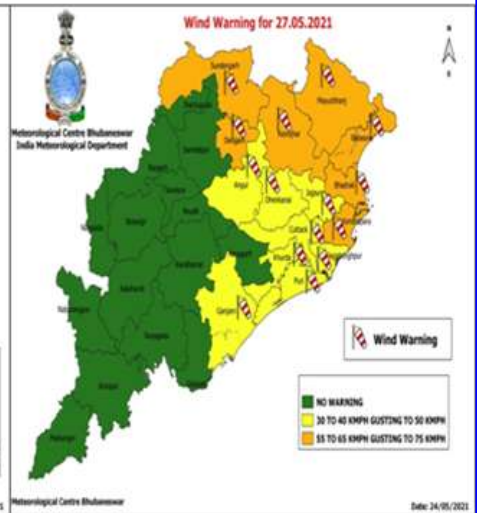
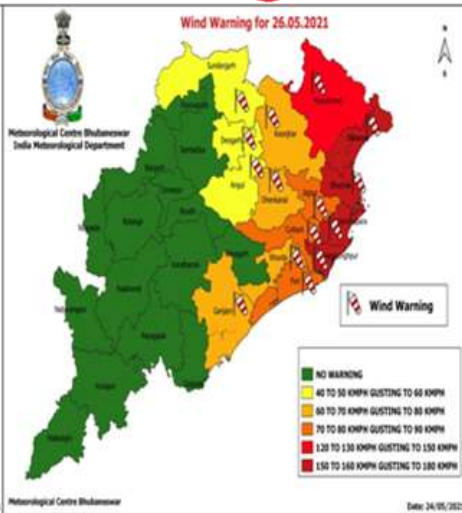
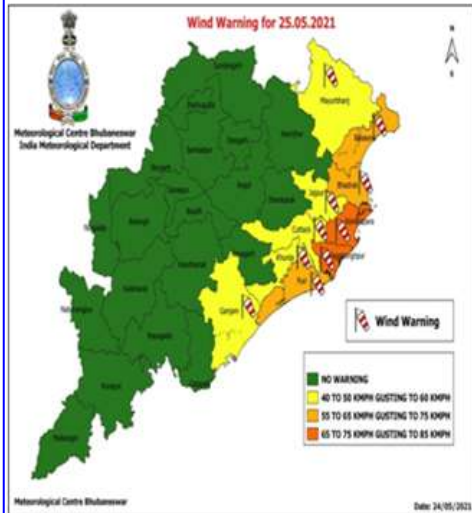
PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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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%