**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI**

**TROPICAL CYCLONE ADVISORY BULLETIN NO. 8**

**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. 8 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 2330 UTC OF 24.05.2021 BASED ON 2100 UTC OF 24.05.2021.**

**Sub: SEVERE CYCLONIC STORM CYCLONIC STORM "YAAS" (PRONOUNCED AS "YASS") OVER EASTCENTRAL BAY OF BENGAL**

THE **SEVERE CYCLONIC STORM 'YAAS' (PRONOUNCED AS 'YASS')** OVER EASTCENTRAL BAY OF BENGAL MOVED NORTH-NORTHWESTWARDS WITH A SPEED OF ABOUT 09 KMPH DURING PAST 06 HOURS AND LAY CENTRED AT 2100 UTC OF THE 24$^{TH}$ MAY, 2021 OVER EASTCENTRAL BAY OF BENGAL NEAR LATITUDE 17.8°N AND LONGITUDE 88.9°E, ABOUT 360 KM SOUTH-SOUTHEAST OF PARADIP (42976), 460 KM SOUTH-SOUTHEAST OF BALASORE (42895), 450 KM SOUTH-SOUTHEAST OF DIGHA (42901) AND 480 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 BY 26$^{TH}$ MAY EARLY MORNING (2100 UTC OF 25$^{TH}$ -0000 UTC OF 26$^{TH}$). 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$^{TH}$ MAY AS A VERY SEVERE CYCLONIC STORM.

FORECAST TRACK AND INTENSITY ARE GIVEN IN THE FOLLOWING TABLE:

| DATE/TIME (UTC) | POSITION (LAT. $^0$N/ LONG. $^0$E) | MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH) | CATEGORY OF CYCLONIC DISTURBANCE |
|---|---|---|---|
| 24.05.21/2100 | 17.8/88.9 | 95-105 GUSTING TO 115 | SEVERE CYCLONIC STORM |
| 25.05.21/0000 | 18.2/88.7 | 100-110 GUSTING TO 120 | SEVERE CYCLONIC STORM |
| 25.05.21/0600 | 18.9/88.3 | 120-130 GUSTING TO 145 | VERY SEVERE CYCLONIC STORM |
| 25.05.21/1200 | 19.7/87.9 | 135-145 GUSTING TO 160 | VERY SEVERE CYCLONIC STORM |
| 25.05.21/1800 | 20.3/87.6 | 155-165 GUSTING TO 185 | VERY SEVERE CYCLONIC STORM |
| 26.05.21/0600 | 21.4/87.0 | 155-165 GUSTING TO 185 | VERY SEVERE CYCLONIC STORM |
| 26.05.21/1800 | 22.2/86.5 | 90-100 GUSTING TO 110 | SEVERE CYCLONIC STORM |
| 27.05.21/0600 | 22.8/85.9 | 40-50 GUSTING TO 60 | 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 984 HPA.

AT 1800 UTC, A BUOY (23092) NEAR 17.5°N/89.1°E REPORTED MAXIMUM SUSTAINED WIND OF 70°/19 KTS AND MEAN SEA LEVEL PRESSURE OF 980 HPA. ANOTHER BUOY (23093) NEAR 16.3°N/88.0°E REPORTED MAXIMUM SUSTAINED WIND OF 260°/29 KTS AND MEAN SEA LEVEL PRESSURE OF 991 HPA.

AS PER SATELLITE IMAGERY BASED ON 2100 UTC OF TODAY, THE 24$^{TH}$ MAY, THE CLOUDS ARE ORGANISED IN CURVED BAND PATTERN. INTENSITY OF THE SYSTEM IS CHARACTERISED AS T 3.0. BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER THE AREA BETWEEN LATITUDE 14.0°N & 21°N AND 84.0°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$^2$ 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$^0$C OVER MAJOR PARTS OF BOB.

THE UPPER TROPOSPHERIC RIDGE RUNS ALONG 21.5$^0$N. POSITIVE LOW LEVEL VORTICITY IS 300 X10$^{-6}$ S$^{-1}$ AROUND SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 200 HPA LEVEL. LOW LEVEL CONVERGENCE NOW IS (ABOUT 50 X 10$^{-5}$ S$^{-1)}$ TO THE SOUTHWEST OF SYSTEM CENTRE. THE POSITIVE UPPER LEVEL DIVERGENCE IS 30x 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. 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 26TH MAY EARLY MORNING (2100 UTC OF 25$^{TH}$ -0000 UTC OF 26$^{TH}$).

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 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$^{TH}$ MAY EARLY MORNING (2100 UTC OF 25$^{TH}$-0000 UTC OF 26$^{TH}$). IT IS VERY LIKELY TO CROSS NORTH ODISHA - WEST BENGAL BETWEEN PARADIP (42976) AND SAGAR ISLANDS (42903) BY NOON (0500-0700 UTC) OF 26$^{TH}$ MAY AS A VERY SEVERE CYCLONIC STORM.

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

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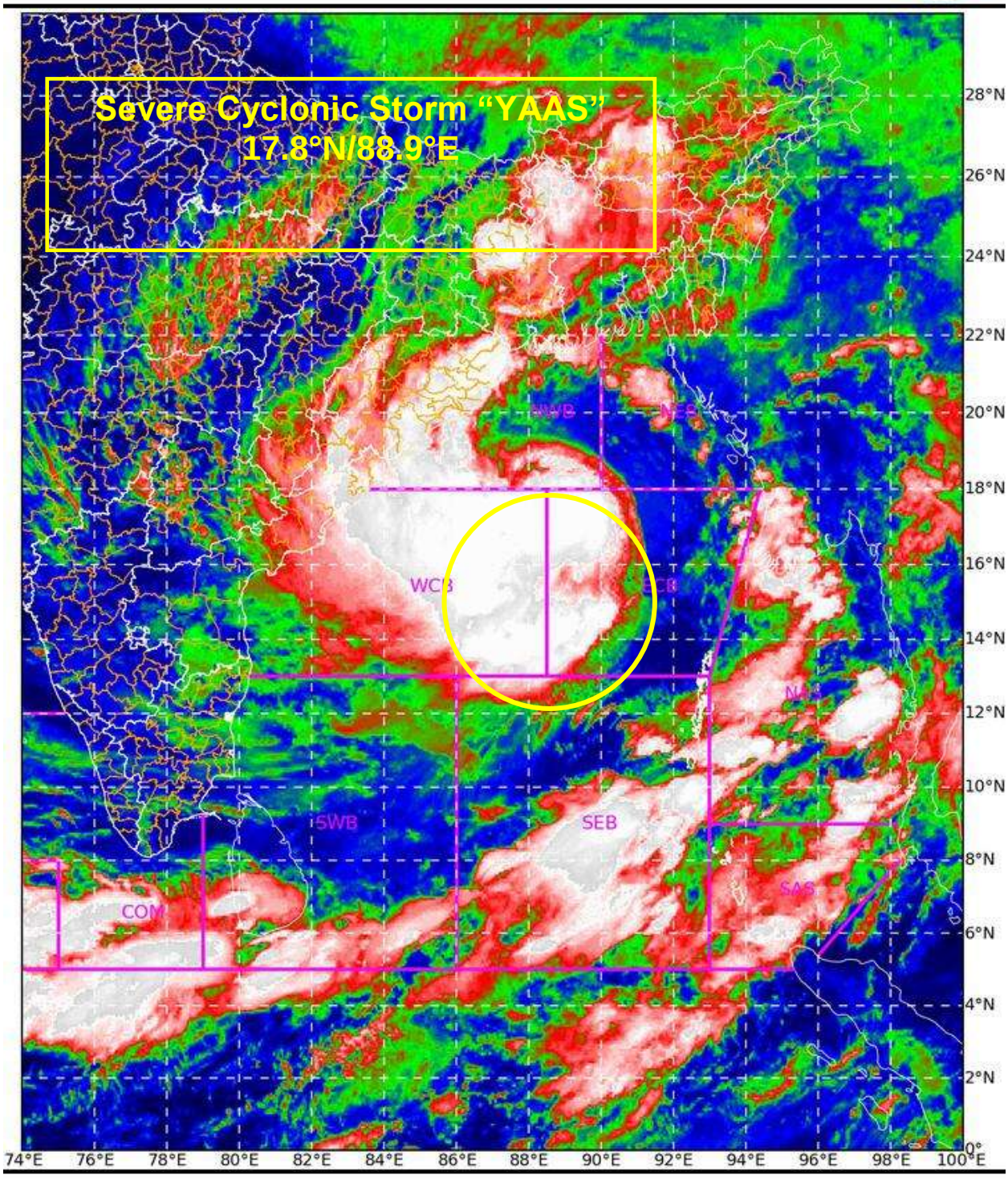
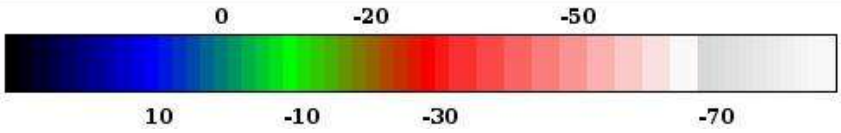
**PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)**
**NIL: 0%, LOW: 1-25%, FAIR: 26-50%, MODERATE: 51-75% AND HIGH: 76-100%**

SAT : INSAT-3D IMG 24-05-2021/(2230 to 2256) GMT

IMG_TIR1_TEMP 10.8 um 25-05-2021/(0400 to 0426) IST

L1C Mercator



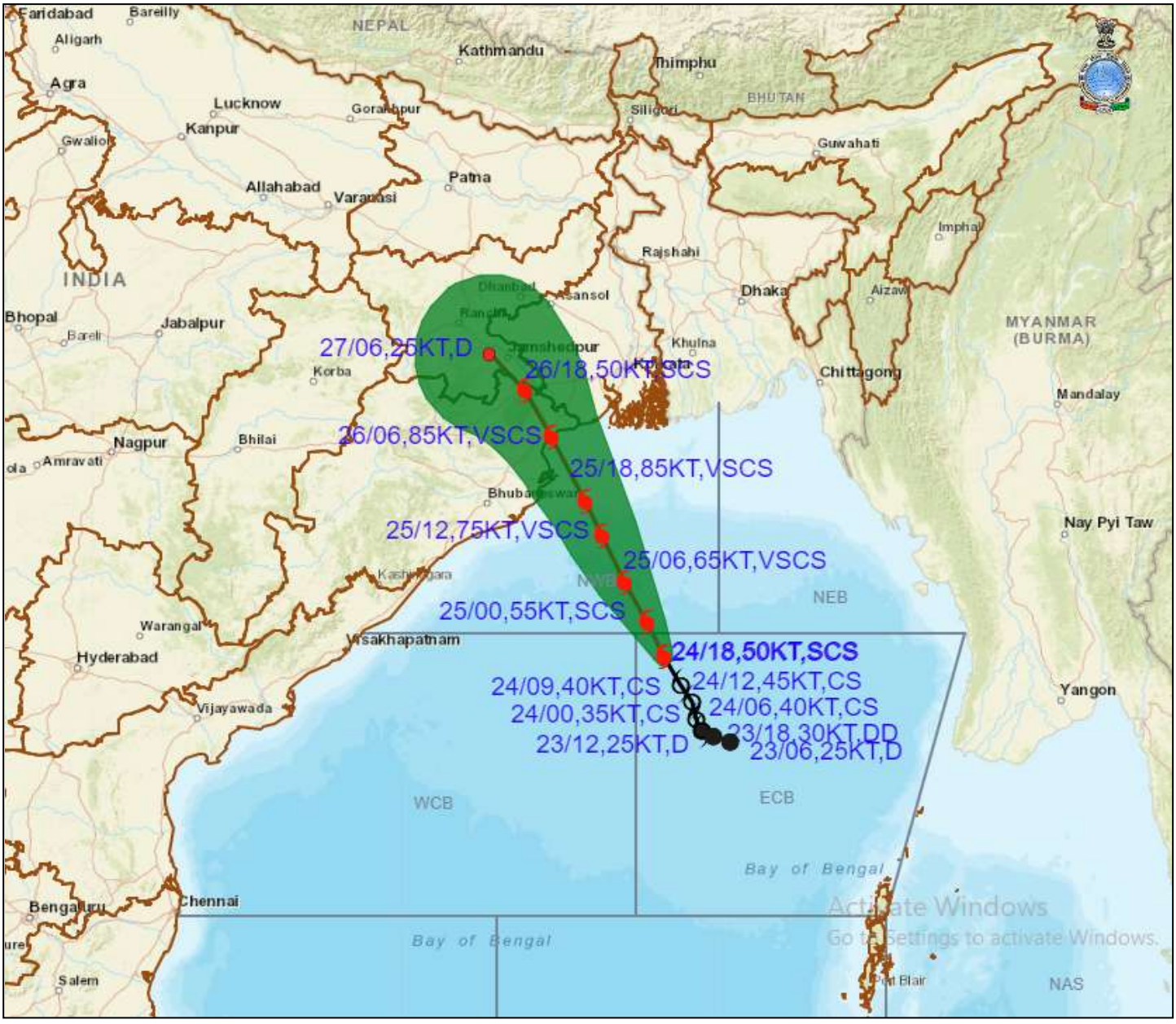

Celsius

IMD,DELHI

**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 UNCERTAINITY OF SEVERE CYCLONIC STORM "YAAS" OVER EASTCENTRAL BAY OF BENGAL BASED ON 1800 UTC OF 24th MAY, 2021

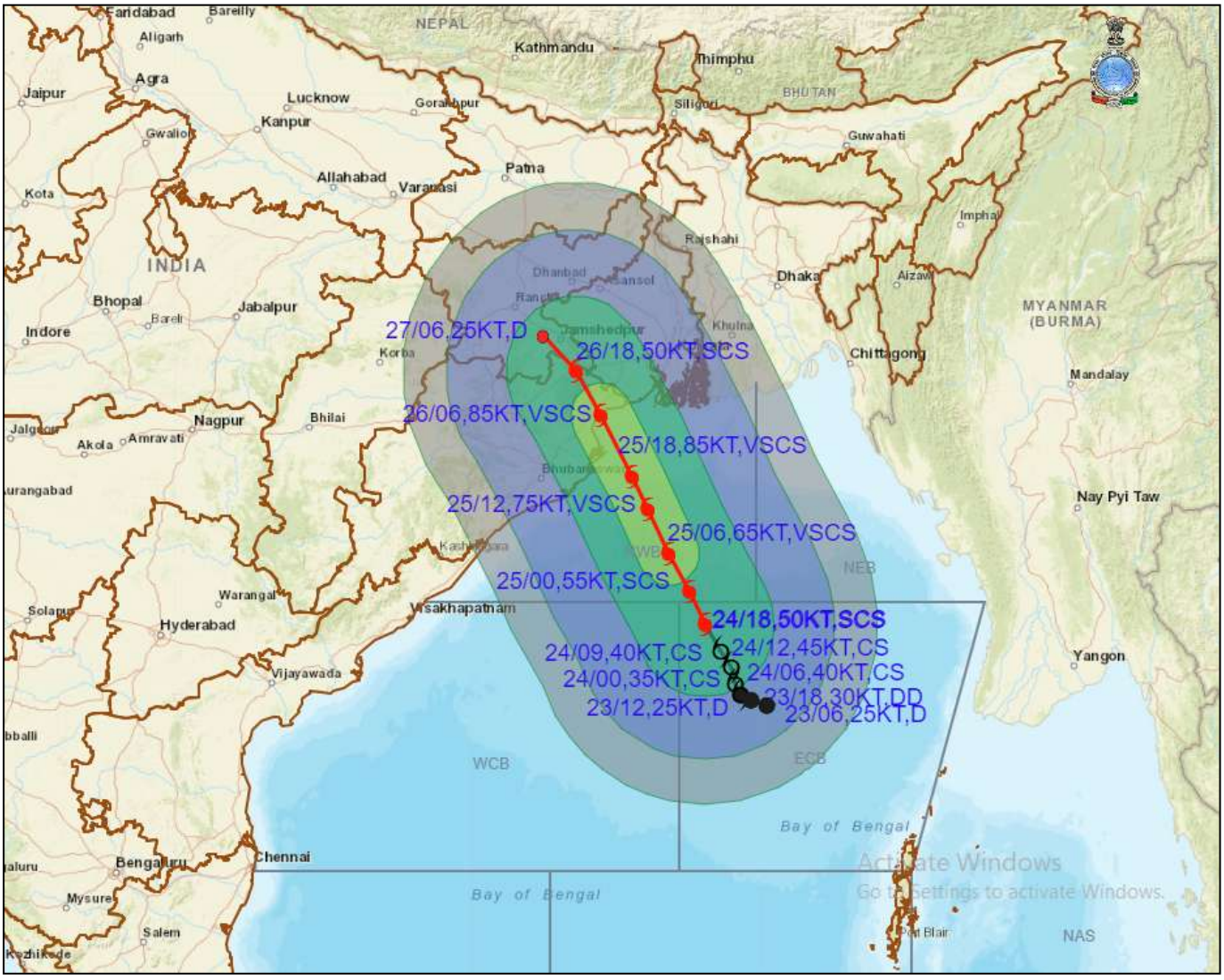



DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119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

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

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 BAY OF BENGAL BASED ON 1800 UTC OF 24th MAY, 2021




DATE/TIME IN UTC
IST=UTC + 0530
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WML: WELL MARKED LOW PRESSURE AREA
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VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

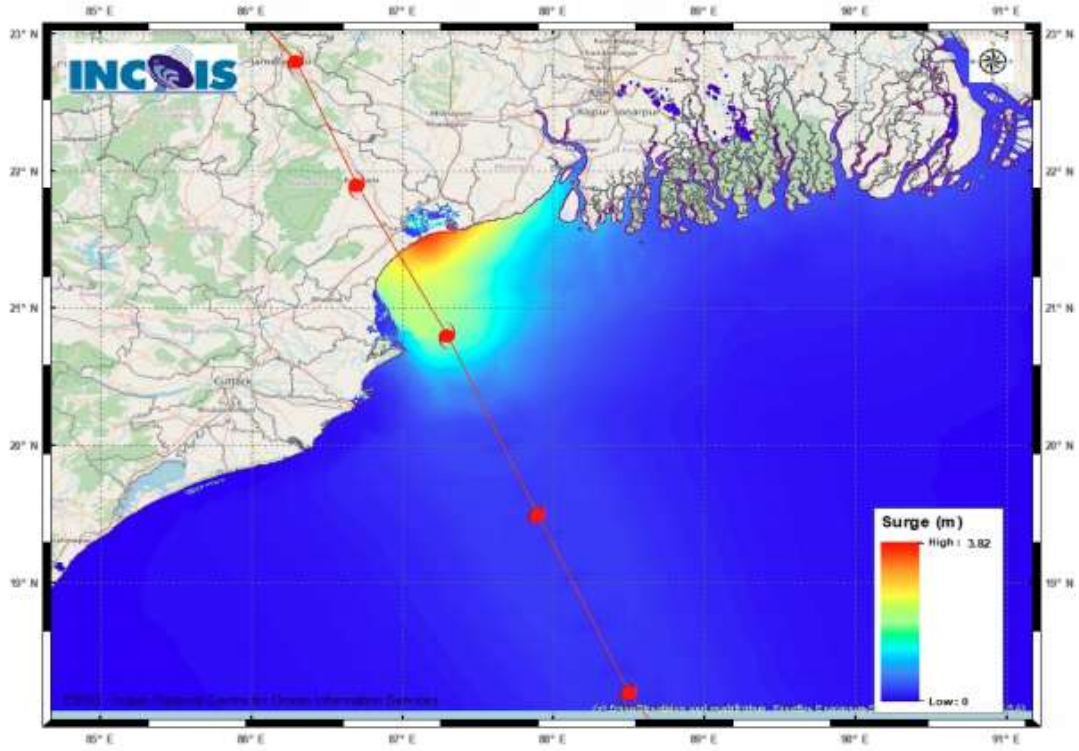
- LESS THAN 34 KT
- 34-47 KT
- ≥ 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- CONE OF UNCERTAINTY

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 |

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 | Kumbhirgari | 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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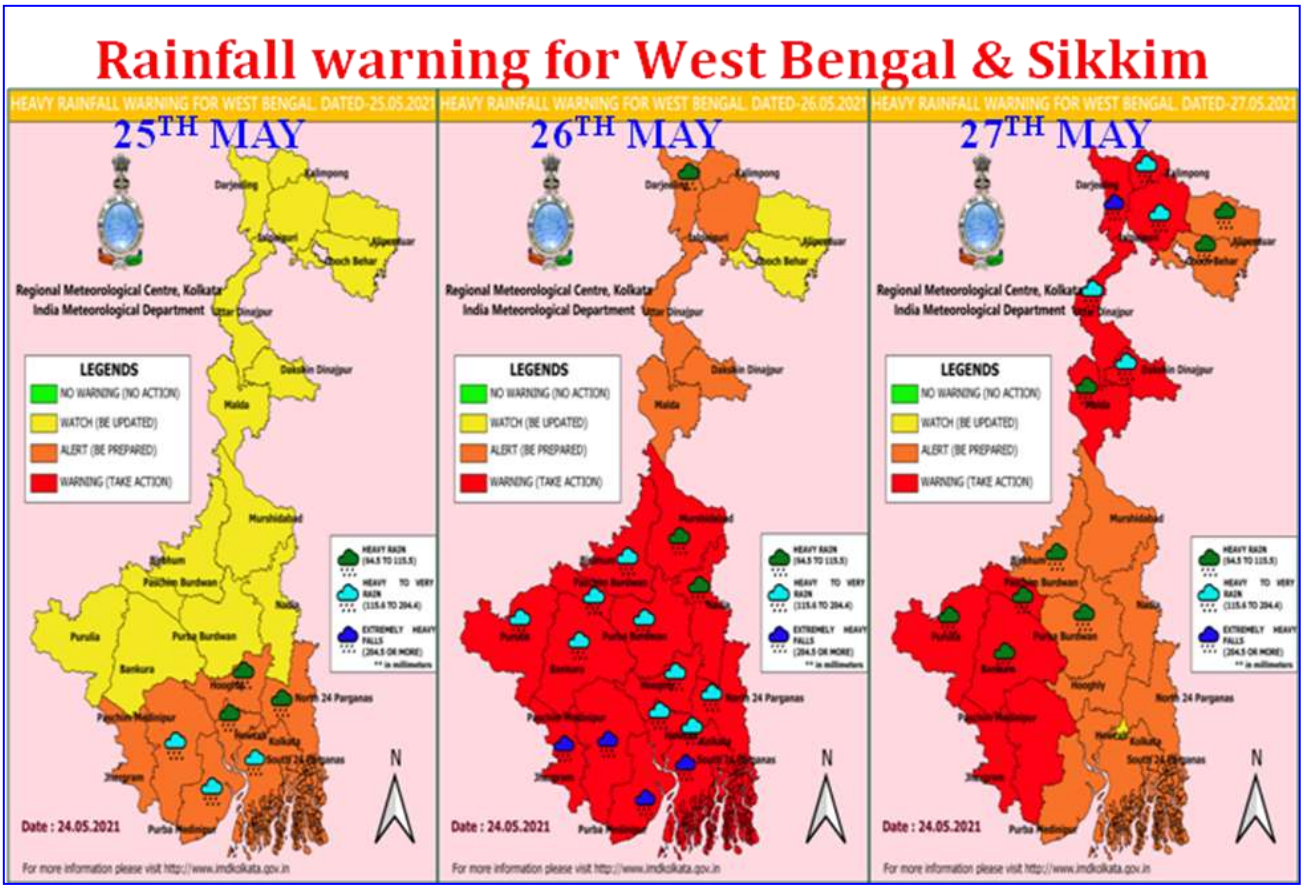
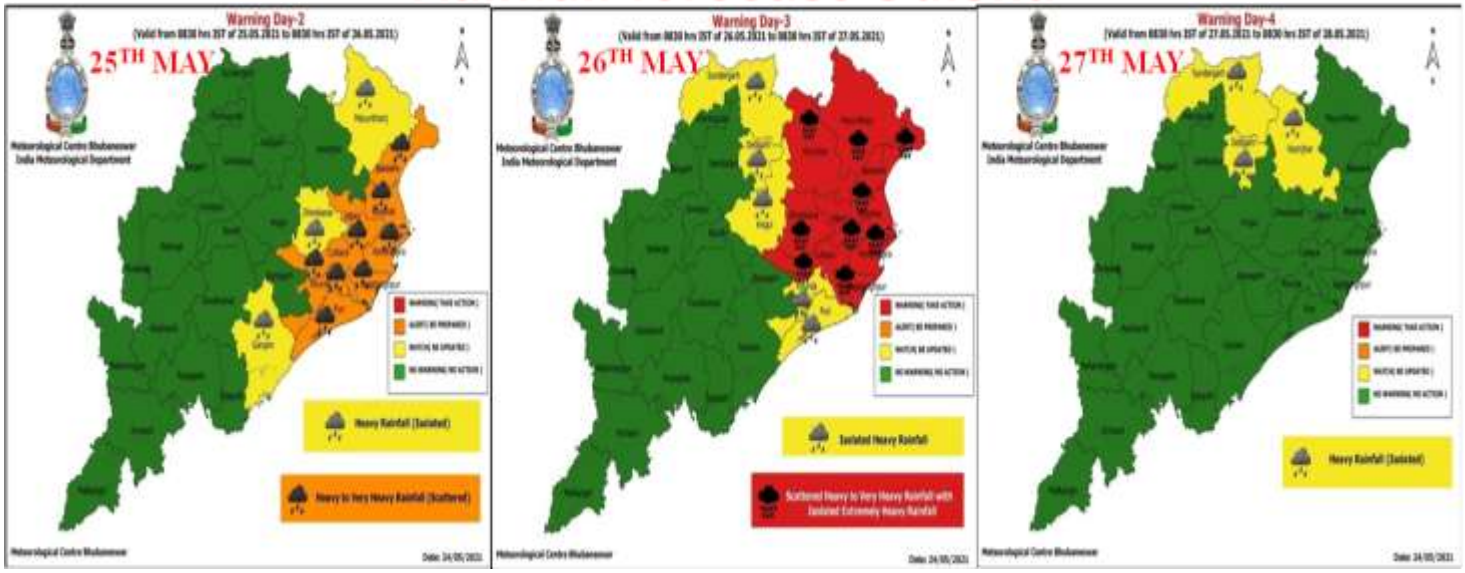
# Rainfall warning for West Bengal & Sikkim




# Rainfall forecast Odisha




**PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)**
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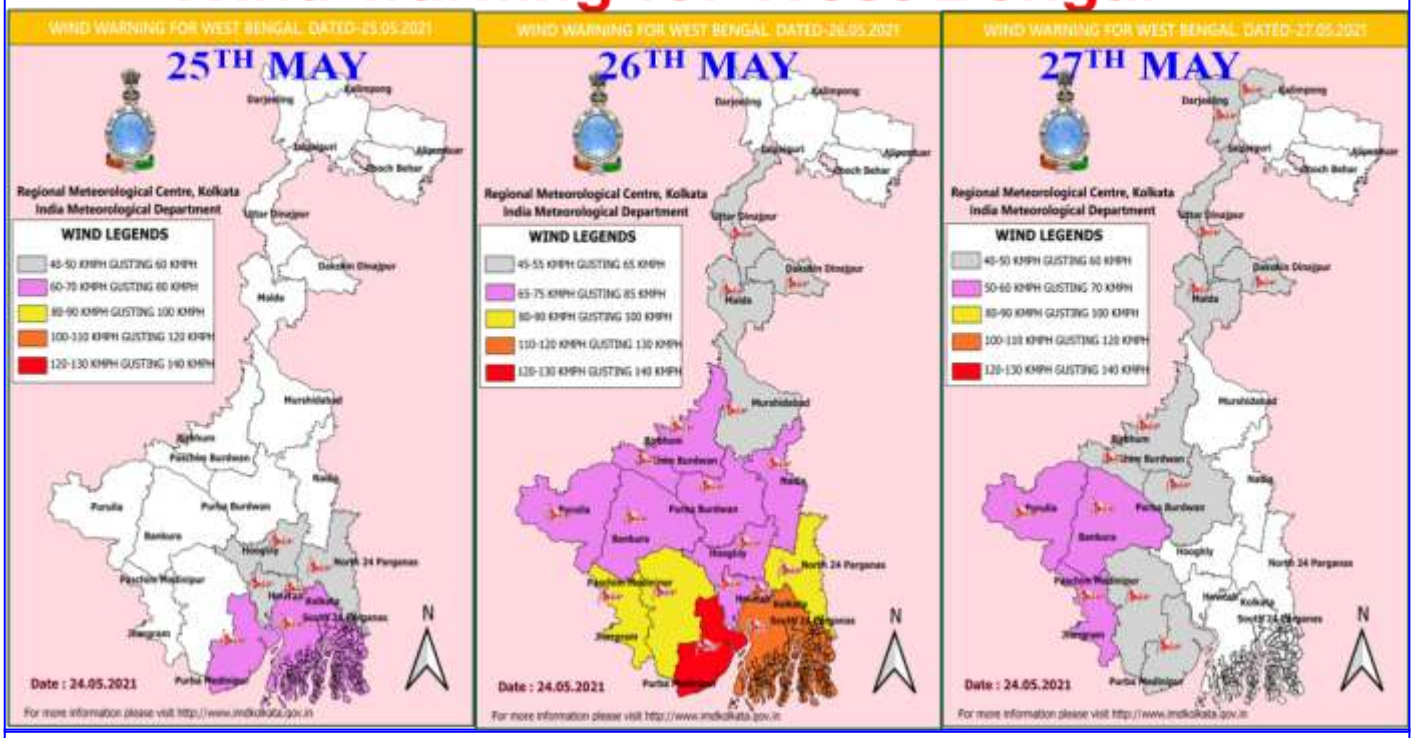
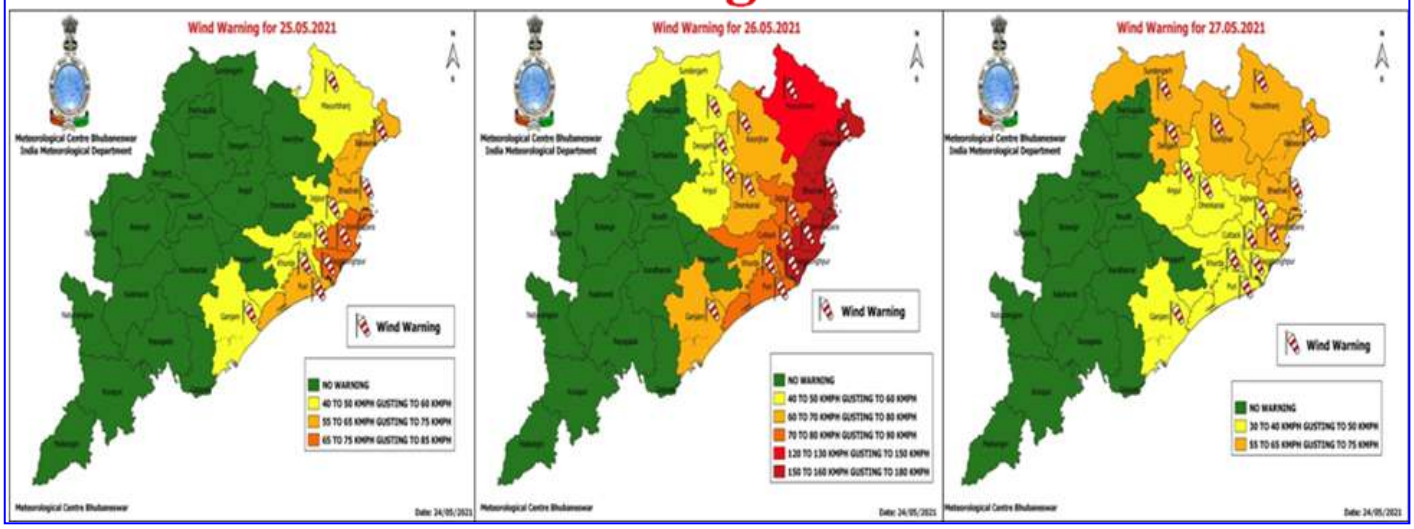
# Wind warning for West Bengal




# Wind warning for Odisha




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

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