REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI

TROPICAL CYCLONE ADVISORY BULLETIN NO. 3

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. 3 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0920 UTC OF 24.05.2021 BASED ON 0600 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 04 KMPH DURING PAST 6 HOURS, AND LAY CENTRED AT 0600UTC OF TODAY, THE 24TH MAY, 2021 OVER EASTCENTRAL BAY OF BENGAL NEAR LATITUDE 16.5°N AND LONGITUDE 89.6°E, ABOUT 630 KM NORTH-NORTHWEST OF PORT BLAIR (43333), 520 KM SOUTH-SOUTHEAST OF PARADIP (42976), 620 KM SOUTH-SOUTHEAST OF BALASORE (42895) AND 610 KM SOUTH-SOUTHEAST OF DIGHA (42901 AND 610 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 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. ^{0}N/ LONG. ^{0}E	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
24.05.21/0600	16.5/89.6	70-80 GUSTING TO 90	CYCLONIC STORM
24.05.21/1200	16.8/89.5	80-90 GUSTING TO 100	CYCLONIC STORM
24.05.21/1800	17.3/89.1	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	155-165 GUSTING TO 185	VERY SEVERE CYCLONIC STORM
25.05.21/1800	20.2/87.6	155-165 GUSTING TO 185	VERY SEVERE CYCLONIC

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

			STORM
26.05.21/0600	21.2/87.1	105-115 GUSTING TO 125	VERY SEVERE CYCLONIC STORM
26.05.21/1800	22.3/86.5	55-65 GUSTING TO 75	SEVERE CYCLONIC STORM
27.05.21/0600	23.1/86.0	35-45 GUSTING TO 55	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.

AT 0600 UTC, A BUOY (23093) NEAR 16.4N/88.3E REPORTED MAXIMUM SUSTAINED WIND OF 280°/27.2 KTS AND MEAN SEA LEVEL PRESSURE OF 999.4 HPA. ANOTHER BUOY (23049) NEAR 13.3N/84.1E REPORTED MAXIMUM SUSTAINED WIND OF 260°/16 KTS AND MEAN SEA LEVEL PRESSURE OF 1004.1 HPA.

AS PER SATELLITE IMAGERY BASED ON 0600 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 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/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 22^{0}N. SYSTEM HAS POSITIVE LOW LEVEL VORTICITY 200-250 X10^{-6} S^{-1} IS PREVAILING AROUND SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 200 HPA LEVEL. LOW LEVEL CONVERGENCE REMAINS AS (ABOUT 60 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) (15-20 KTS) IS PREVAILING OVER THE SYSYEM 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 ESARLY 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 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.

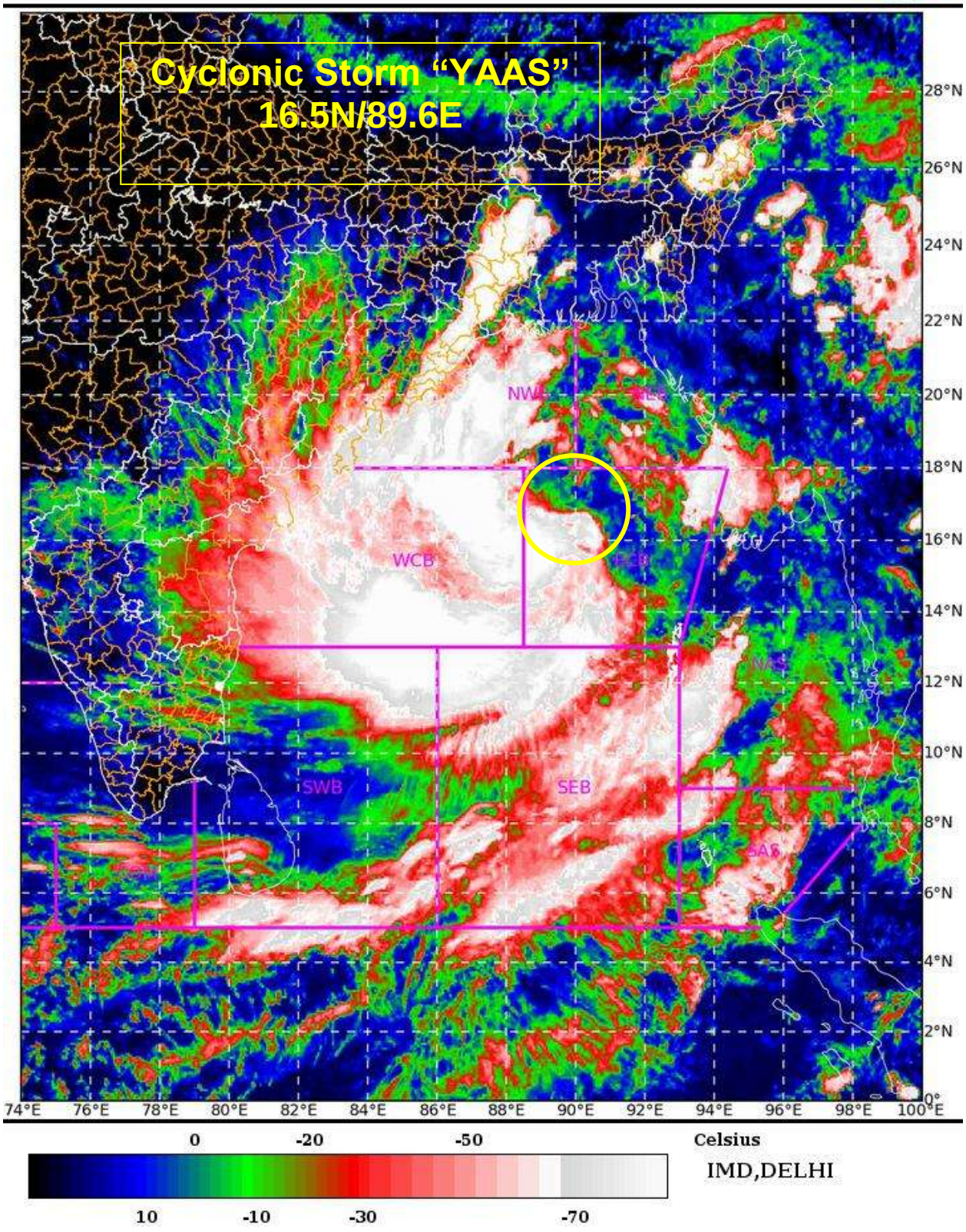
(RK JENAMANI)
SCIENTIST-F, RSMC NEWDELHI

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/(0800 to 0827) GMT

IMG_TIR1_TEMP 10.8 um 24-05-2021/(1330 to 1357) IST

L1C Mercator



PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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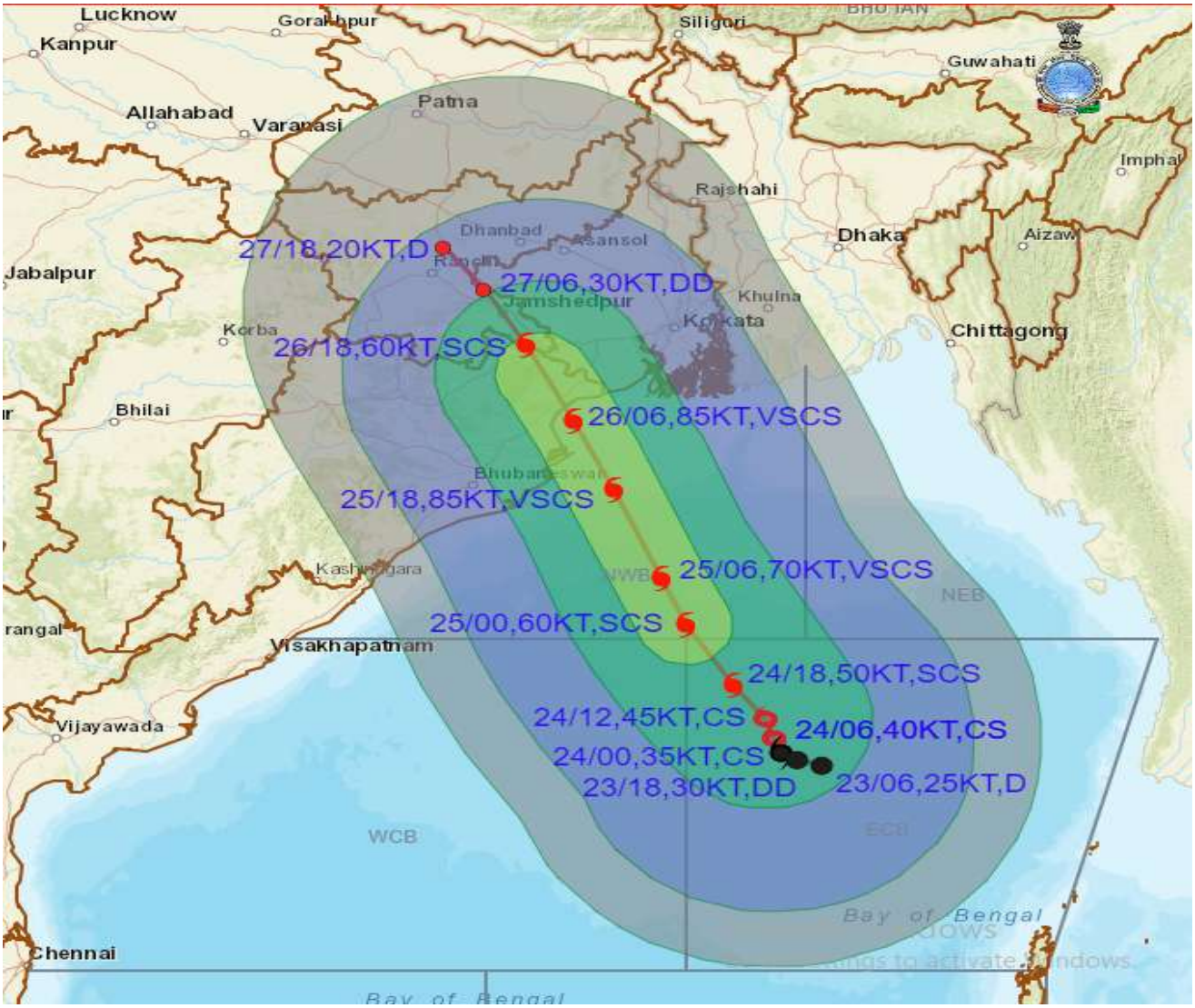
OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINITY OF CYCLONIC STORM "YAAS" OVER EASTCENTRAL BAY OF BENGAL BASED ON 0600 UTC OF 24th

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 (≥ 120 KT)

LESS THAN 34 KT
34-47 KT
≥ 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 0600 UTC OF 24th MAY, 2021



DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
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

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)
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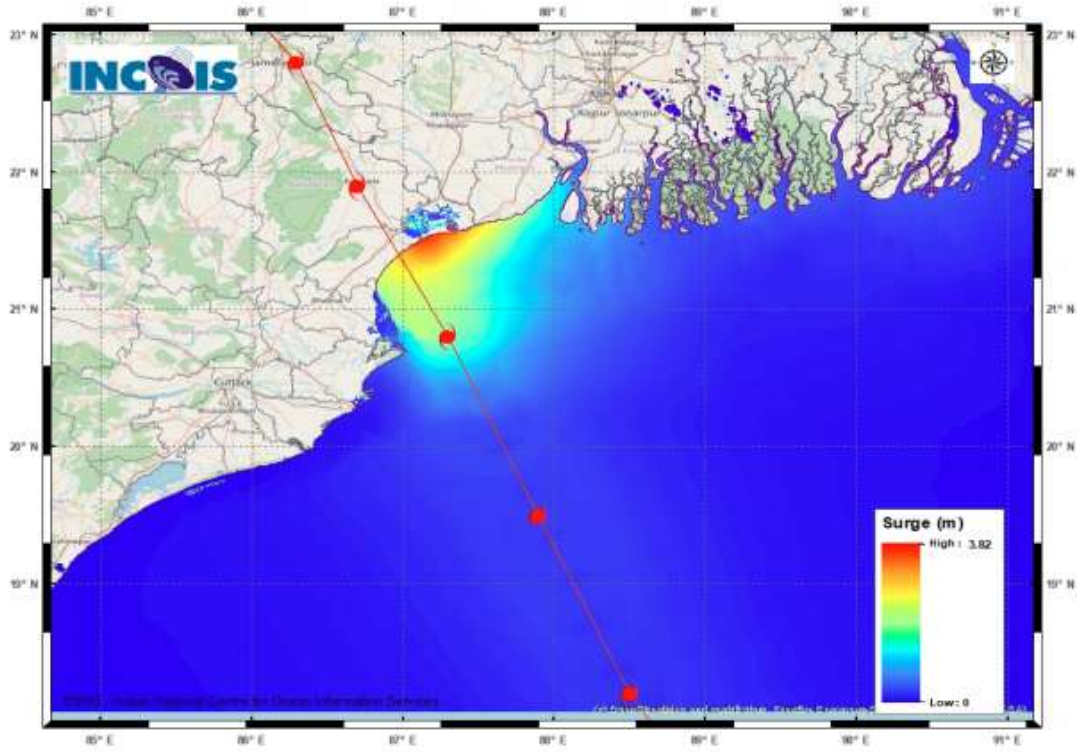
Storm Surge Forecast around the time of Landfall:



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

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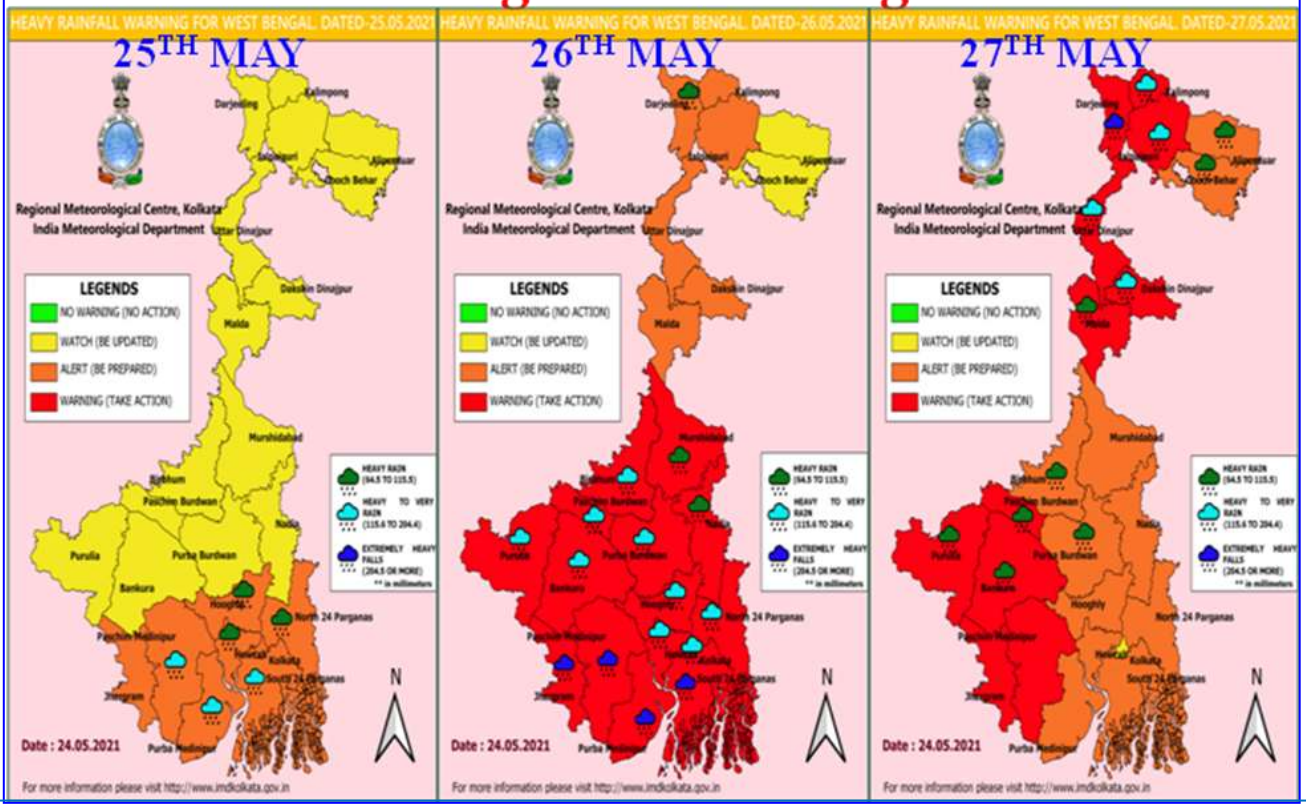
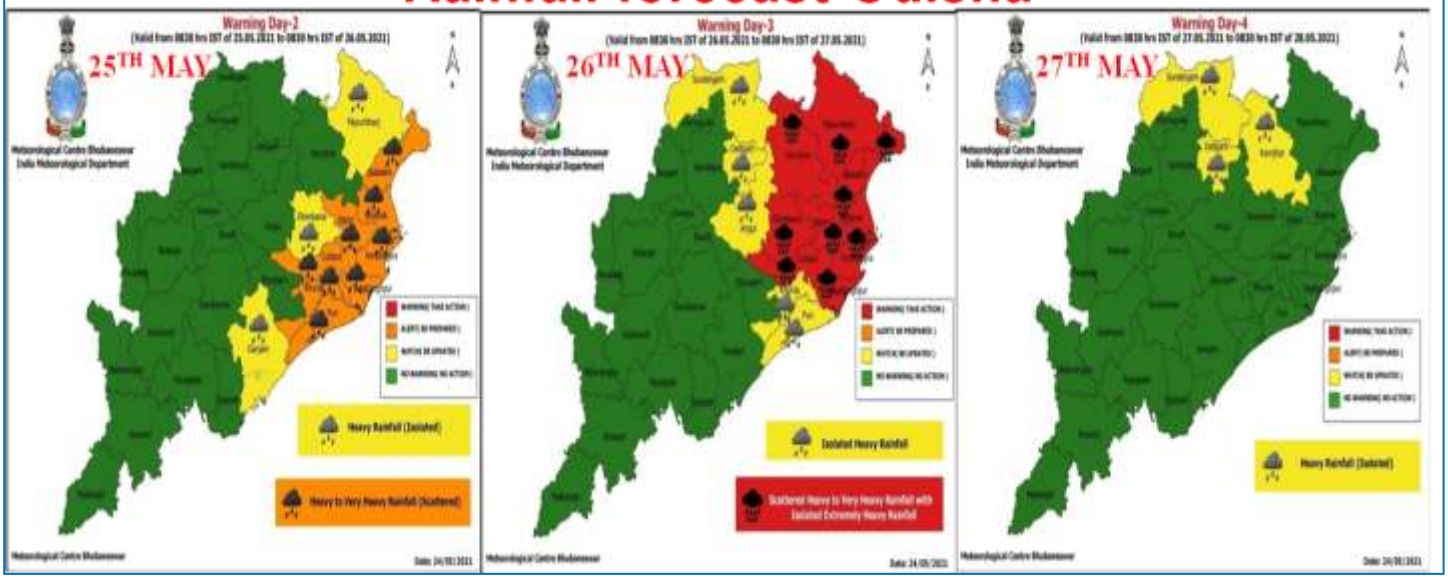
Rainfall warning for West Bengal & Sikkim



Rainfall forecast Odisha



PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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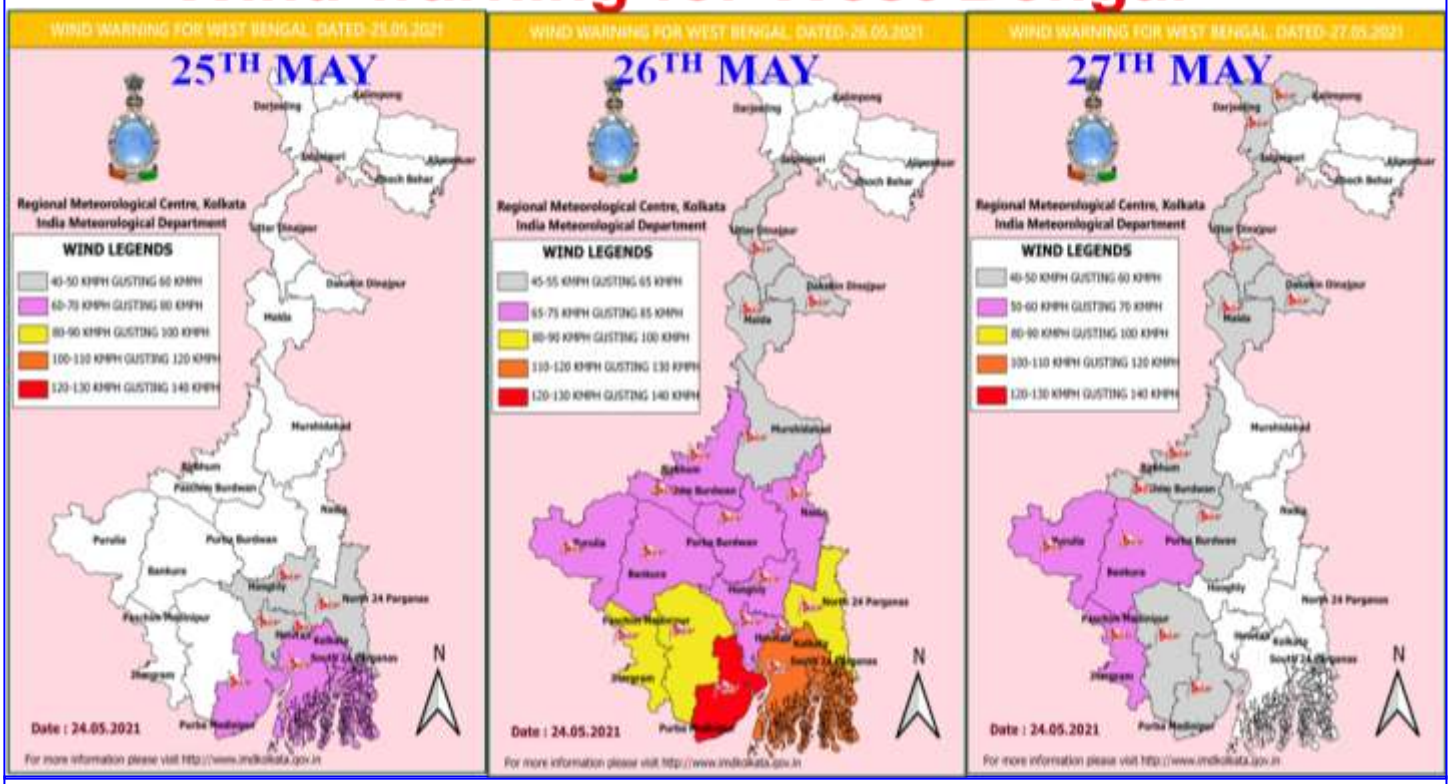
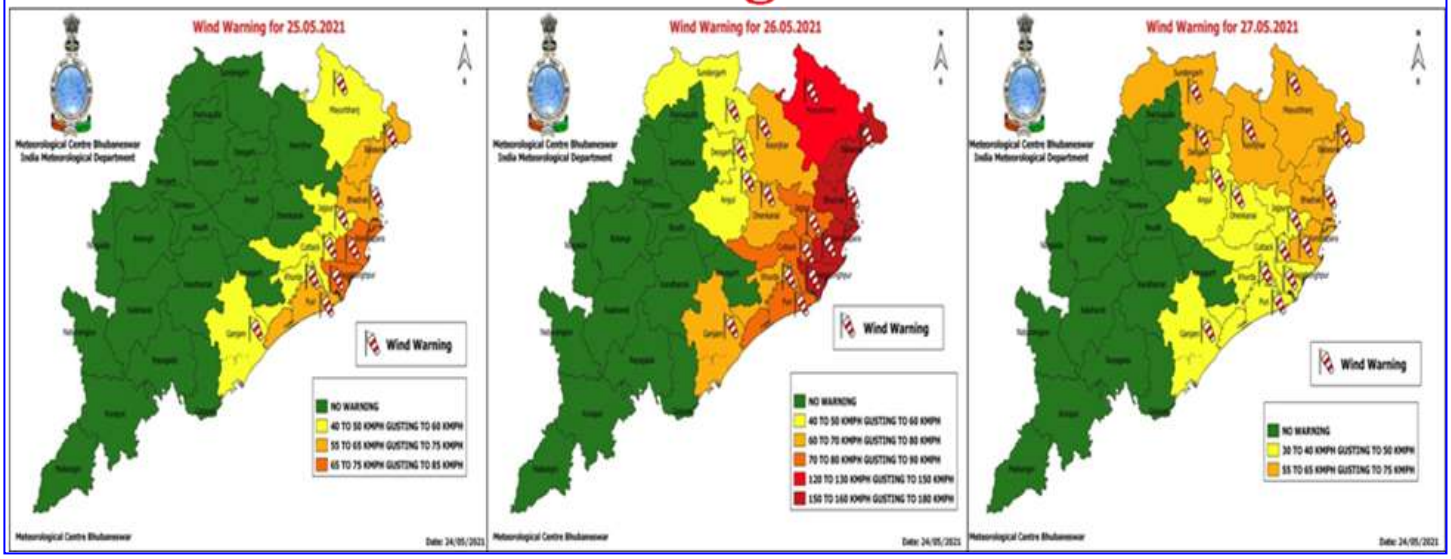
Wind warning for West Bengal



Wind warning for Odisha



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