REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
SPECIAL TROPICAL WEATHER OUTLOOK

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 24.05.2024

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 168 HOURS ISSUED AT 2100 UTC OF 24.05.2024 BASED ON 1800 UTC OF 24.05.2024.

BAY OF BENGAL:

THE DEPRESSION OVER EASTCENTRAL BAY OF BENGAL MOVED NORTH-NORTHEASTWARDS WITH A SPEED OF 8 KMPH DURING PAST 06 HOURS AND LAY CENTERED AT 1800 UTC OF 24TH MAY, 2024 OVER EASTCENTRAL BAY OF BENGAL NEAR LATITUDE 16.6°N AND LONGITUDE 89.3°E, ABOUT 610 KM SOUTH OF KHEPUPARA (41984, BANGLADESH), ABOUT 580 KM SOUTH-SOUTHEAST OF SAGAR ISLANDS (42731, WEST BENGAL) AND 640 KM SOUTH OF CANNING (42812, WEST BENGAL).

IT IS VERY LIKELY TO CONTINUE TO MOVE NORTH-NORTHEASTWARDS AND INTENSIFY INTO A **DEEP DEPRESSION** BY 0000 UTC OF 25TH MAY AND INTO A **CYCLONIC STORM** OVER EASTCENTRAL BAY OF BENGAL BY 1200 UTC OF 25TH MAY. SUBSEQUENTLY, IT WOULD MOVE NEARLY NORTHWARDS, INTENSIFY INTO A **SEVERE CYCLONIC STORM** BY 0000 UTC OF 26TH MAY. CONTINUING TO MOVE NEARLY NORTHWARDS, THEREAFTER IT IS VERY LIKELY TO **CROSS BANGLADESH AND ADJOINING WEST BENGAL COASTS BETWEEN SAGAR ISLANDS (42731, WEST BENGAL) AND KHEPUPARA (41984, BANGLADESH), BY 1600-1800 UTC OF 26TH MAY AS A SEVERE CYCLONIC STORM WITH WIND SPEED OF 110-120 GUSTING TO 135 KMPH.**

FORECAST TRACK AND INTENSITY ARE GIVEN IN THE FOLLOWING TABLE:

DATE/TIME (UTC)	POSITION (LAT. ^{0}N/ LONG.^{0}E	AXIMUM SUSTAINED SURFAC WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
24.05.24/1800	16.6/89.3	45-55 GUSTING TO 65	DEPRESSION
25.05.24/0600	17.6/89.5	55-65 GUSTING TO 75	DEEP DEPRESSION
25.05.24/1800	18.8/89.6	75-85 GUSTING TO 95	CYCLONIC STORM
26.05.24/0600	20.0/89.6	100-110 GUSTING TO 120	SEVERE CYCLONIC STORM
26.05.24/1800	20.889.5	110-120 GUSTING TO 130	SEVERE CYCLONIC STORM
27.05.24/0600	22.9/89.6	70-80 GUSTING TO 90	CYCLONIC STORM
27.05.24/1800	24.0/89.9	50-60 GUSTING TO 70	DEPRESSION
28.05.24/0600	25.2/90.3	30-40 GUSTING TO 50	WELL MARKED PRESSURE AREA

Cloud distribution: (a) Isolated: <25%, Scattered:25-50%, Broken: 51-75%, Solid:>75%, Convection Intensity: (a) Weak: Cloud Top Temperature (CTT) >-25°C, (b) Moderate: CTT: - 25°C to -40°C, (c) Intense: CTT: - 41°C to -70°C and (d) Very Intense: : Less than -70°C
PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION):NIL: 0%, LOW: 1-33%, , MODERATE: 34-66% AND HIGH: 67-100%
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AS PER INSAT-3D IMAGERY, THE CONVECTION HAS FURTHER ORGANISED. INTENSITY OF THE SYSTEM IS T1.5 CENTERED AT 16.5^0N LATITUDE AND 89.4^0E LONGITUDE. ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER CENTRAL & SOUTH BAY OF BENGAL AND ANDAMAN SEA GULF OF MARTABAN & TENASSERIM COAST (MINIMUM CLOUD TOP TEMPERATURE -93^0C). SCATTERED LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE MODERATE TO INTENSE CONVECTION OVER NORTH BAY OF BENGAL. AS PER MULTISATELLITE WINDS, STRONGER WINDS ARE SEEN IN SOUTHERN EASTERN SECTOR. THE TOTAL PRECIPITABLE WATER IMAGERY INDICATES WARM MOIST AIR INCURSION INTO THE CORE OF THE SYSTEM.

AS PER LATEST OBSERVATIONS, ESTIMATED CENTRAL PRESSURE IS 995 HPA AT 1800 UTC. BOUY AND SHIP DATA AT 1800 UTC ARE AS FOLLOWS:

BOUY (LAT°N/LONG°E)	***SHIP (LAT°N/LONG°E)***	***WIND DIRECTION°/ SPEED (KNOTS)***	***MSLP(hPa)***
16.2/88.0	-	320.0/6.4	996.9

WIND WARNING:

(A) BAY OF BENGAL:

- SQUALLY WIND SPEED REACHING 45-55 GUSTING TO 65 IS LIKELY TO PREVAIL OVER CENTRAL AND ADJOINING SOUTH BAY OF BENGAL DURING NEXT 6 HOURS.
- IT WOULD EXTEND TO ADJOINING AREAS OF NORTH BAY OF BENGAL WITH GALE WIND SPEED REACHING 50-60 KMPH GUSTING TO 70 KMPH FROM 0000 UTC OF 25TH MAY. IT WOULD FURTHER INCREASE BECOMING 90-100 KMPH GUSTING TO 110 KMPH OVER NORTH BAY OF BENGAL FROM 0000 UTC AND 110-120 KMPH GUSTING TO 135 KMPH FROM 1200 UTC OF 26TH MAY. GALE WIND SPEED REACHING 70-80 KMPH GUSTING TO 90 KMPH IS LIKELY OVER ADJOINING CENTRAL BAY OF BENGAL FROM 0000 UTC OF 26TH FOR SUBSEQUENT 24 HOURS AND DECREASE THEREAFTER.

(B) ALONG & OFF BANGLADESH AND WEST BENGAL & ADJOINING ODISHA COASTS:

- SQUALLY WIND SPEED REACHING 40-50 KMPH GUSTING TO 60 KMPH IS LIKELY ALONG & OFF BANGLADESH AND WEST BENGAL & ADJOINING NORTH ODISHA COASTS FROM 1200 UTC OF 25TH MAY IT IS LIKELY TO INCREASE BECOMING GALE WIND SPEED REACHING 60-70 KMPH GUSTING TO 80 KMPH FROM 0000 UTC OF 26TH MAY AND 100-120 KMPH GUSTING TO 135 KMPH ALONG & OFF BANGLADESH AND ADJOINING WEST BENGAL COASTS FROM 1200 UTC OF 26TH FOR SUBSEQUENT 12 HOURS.

(C) ALONG & OFF ODISHA COASTS:

SQUALLY WIND SPEED REACHING 40-50 KMPH GUSTING TO 60 KMPH IS LIKELY FROM 1200 UTC OF 25TH MAY TO 0000 UTC OF 27TH MAY.

(D) ANDAMAN ISLANDS AND ANDAMAN ISLANDS:

- SQUALLY WIND SPEED REACHING 40-50 KMPH GUSTING TO 60 KMPH IS LIKELY OVER ANDAMAN ISLANDS AND NORTH ANDAMAN SEA DURING NEXT 12 HOURS.

(E) NORTHEASTERN STATES:

- SQUALLY WIND SPEED REACHING 50-60 KMPH GUSTING TO 70 KMPH IS LIKELY OVER MIZORAM AND TRIPURA AND 40-50 KMPH GUSTING TO 60 KMPH IS LIKELY OVER SOUTH ASSAM AND MEGHALAYA ON 27TH MAY.

SEA CONDITION:

(A) CENTRAL AND NORTH BAY OF BENGAL:

ROUGH TO VERY ROUGH SEA CONDITION IS LIKELY OVER CENTRAL AND ADJOINING SOUTH BAY OF BENGAL DURING NEXT 06 HOURS. IT WOULD BECOME HIGH OVER CENTRAL BAY OF BENGAL ON 25TH MAY & 26TH MAY AND HIGH TO VERY HIGH OVER NORTH BAY OF BENGAL FROM 1200 UTC OF 25TH TILL 0000 UTC OF 27TH MAY.

(B) ALONG & OFF BANGLADESH AND WEST BENGAL COASTS

ROUGH TO VERY ROUGH SEA CONDITION IS LIKELY ALONG & OFF BANGLADESH AND WEST BENGAL COASTS FROM 1200 UTC OF 25TH MAY. IT WOULD BECOME HIGH TO VERY HIGH ALONG & OFF BANGLADESH AND WEST BENGAL COASTS FROM 0000 UTC OF 26TH ONWARDS TILL 0000 UTC OF 27TH MAY.

(C) ALONG &OFF NORTH ODISHA COAST:

ROUGH TO VERY ROUGH SEA CONDITION IS LIKELY OVER ALONG & OFF NORTH ODISHA COAST FROM 1200 UTC OF 25TH MAY TO 0000 UTC OF 27TH MAY.

(D) ALONG & OFF ANDAMAN ISLANDS:

ROUGH TO VERY ROUGH SEA CONDITION IS LIKELY OVER ANDAMAN ISLANDS AND NORTH ANDAMAN SEA DURING NEXT 12 HOURS.

STORM SURGE:

STORM SURGE OF ABOUT 1 METER ABOVE ASTRONOMICAL TIDE IS LIKELY TO INUNDATE LOW LYING AREAS OF COASTAL WEST BENGAL AND 3-4 M ABOVE ASTRONOMICAL TIDE LIKELY TO INUNDATE LOW LYING AREAS OF COASTAL BANGLADESH AROUND THE TIME OF LANDFALL.

FISHERMEN WARNING (GRAPHICS ATTACHED):

FISHERMEN ARE ADVISED NOT TO VENTURE INTO SOUTH BAY OF BENGAL AND ANDAMAN SEA TILL 27TH MAY, CENTRAL BAY OF BENGAL TILL 26TH MAY AND NORTH BAY OF BENGAL FROM 25TH MAY TILL 27TH MAY. FISHERMEN OUT AT SEA ARE ADVISED TO RETURN TO THE COAST.

REMARKS:

THE MADDEN JULIAN INDEX (MJO) CURRENTLY LIES IN PHASE 4 WITH AMPLITUDE MORE THAN 1. IT WILL CONTINUE IN SAME PHASE DURING NEXT 7 DAYS. THUS, MJO PHASE & AMPLITUDE ARE HIGHLY CONDUCIVE FOR CYCLOGENESIS AND FURTHER INTENSIFICATION OVER THE BAY OF BENGAL (BOB) DURING NEXT 5 DAYS.

STRONG EASTERLY WINDS (5-7 MPS) ARE LIKELY TO PREVAIL OVER CENTRAL BOB DURING NEXT 24 HOURS & NORTH BOB DURING SUBSEQUENT 3-4 DAYS IN THE LOWER TROPOSPHERIC LEVELS. STRONG WESTERLY WINDS (5-7 MPS) ARE LIKELY TO PREVAIL OVER THE SOUTH BAY OF BENGAL AND ANDAMAN SEA DURING NEXT 5 DAYS AND OVER CENTRAL BAY OF BENGAL DURING 25TH TO 27TH MAY. IN ADDITION, KELVIN WAVES, EQUATORIAL ROSSBY WAVES ARE PREVAILING OVER SOUTH BAY OF BENGAL & COUPLED WITH MJO. THESE WAVES WILL PROVIDE A CONDUCIVE ENVIRONMENT FOR CYCLOGENESIS AND INTENSIFICATION OF SYSTEM OVER BOB.

THE TROPICAL CYCLONE HEAT POTENTIAL (TCHP) IS MORE THAN 100 KJ/CM2 OVER MAJOR PARTS OF BAY OF BENGAL. IT IS INDICATING SLIGHTLY DECREASING TENDENCY TOWARDS NORTH BOB AND ALONG THE COASTS. SEA SURFACE TEMPERATURE (SST) IS AROUND 30-32°C OVER ENTIRE BOB. THE SEA CONDITIONS OVER BOB ARE ALSO CONDUCIVE FOR CYCLOGENESIS AND INTENSIFCATION.

CONSIDERING THE ENVIRONMENTAL CONDITIONS, LOW LEVEL VORTICITY HAS INCREASED AND NOW IS ABOUT 150-200x$10^{-5}S^{-1}$ TO THE EAST OF SYSTEM CENTRE OVER EASTCENTRAL & ADJOINING WESTCENTRAL BAY OF BENGAL WITH VERTICAL EXTENSION UPTO 200 HPA LEVEL. LOW LEVEL CONVERGENCE IS ABOUT 10 x 10^{-5} S^{-1} TO THE EAST-NORTHEAST OF THE SYSTEM CENTER. UPPER LEVEL DIVERGENCE IS ABOUT 20x$10^{-5}S^{-1}$ AND 30x$10^{-5}S^{-1}$ TO SOUTHEAST AND SOUTHWEST OF THE SYSTEM CENTER, RESPECTIVELY. VERTICAL WIND SHEAR (VWS) IS LOW TO MODERATE (15-20 M/S) ORIENTED THE EAST-WEST OF THE SYSTEM CENTRE AND ALONG THE FORECAST TRACK. IT IS HIGH TO THE SOUTHWEST OF THE SYSTEM CENTRE. THE HIGH WIND SHEAR TO THE SOUTHWEST IS HELPING THE SYSTEM TO SEGREGATE ITSELF FROM THE COMORIAN AREA CONVECTION. MID LEVEL WIND SHEAR IS ANTICYCLONIC OVER CENTRAL AND NORTHWEST BOB. VWS WILL THUS SUPPORT FURTHER INTENSIFICATION OF SYSTEM. CURRENTLY, THE SYSTEM IS MOVING NORTHEASTWARDS UNDER THE INFLUENCE OF SOUTHWESTERLY WINDS ASSOCIATED WITH ADVANCE OF SOUTHWEST MONSOON OVER THE SOUTH BAY OF BENGAL. THE UPPER TROPOSPHERIC RIDGE AT 200 HPA IS LOCATED NEAR 18.0^0N.

VARIOUS MODELS ARE INDICATING INTENSIFICATION INTO DEEP DEPRESSSION AROUND 24/1800 UTC (HOWEVER IT WAS OBSERVED AS DEPRESSION ONLY) AND FURTHER INTO CYCLONIC STORM AROUND 25/0600 UTC. THERE IS SOME DIVERGENCE AMONG MODELS WITH RESPECT TO MOVEMENT OF THE SYSTEM AND ITS LANDFALL POINT AND TIME.

CONSIDERING ALL THE ABOVE, THE DEPRESSION OVER EASTCENTRAL BAY OF BENGAL MOVED NORTH-NORTHEASTWARDS WITH A SPEED OF 8 KMPH DURING PAST 06 HOURS AND LAY CENTERED AT 1800 UTC OF 24TH MAY, 2024 OVER EASTCENTRAL BAY OF BENGAL NEAR LATITUDE 16.6°N AND LONGITUDE 89.3°E, ABOUT 610 KM SOUTH OF KHEPUPARA (41984, BANGLADESH), ABOUT 580 KM SOUTH-SOUTHEAST OF SAGAR ISLANDS (42731, WEST BENGAL) AND 640 KM SOUTH OF CANNING (42812, WEST BENGAL).

IT IS VERY LIKELY TO CONTINUE TO MOVE NORTH-NORTHEASTWARDS AND INTENSIFY INTO A **DEEP DEPRESSION** BY 0000 UTC OF 25TH MAY AND INTO A **CYCLONIC STORM** OVER EASTCENTRAL BAY OF BENGAL BY 1200 UTC OF 25TH MAY. SUBSEQUENTLY, IT WOULD MOVE NEARLY NORTHWARDS, INTENSIFY INTO A **SEVERE CYCLONIC STORM** BY 0000 UTC OF 26TH MAY. CONTINUING TO MOVE NEARLY NORTHWARDS, THEREAFTER IT IS VERY LIKELY TO **CROSS BANGLADESH AND ADJOINING WEST BENGAL COASTS BETWEEN SAGAR ISLANDS (42731, WEST BENGAL) AND KHEPUPARA (41984, BANGLADESH), BY 1600-1800 UTC OF 26TH MAY AS A SEVERE CYCLONIC STORM WITH WIND SPEED OF 110-120 GUSTING TO 135 KMPH.**

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SCIENTIST C

RSMC, NEW DELHI

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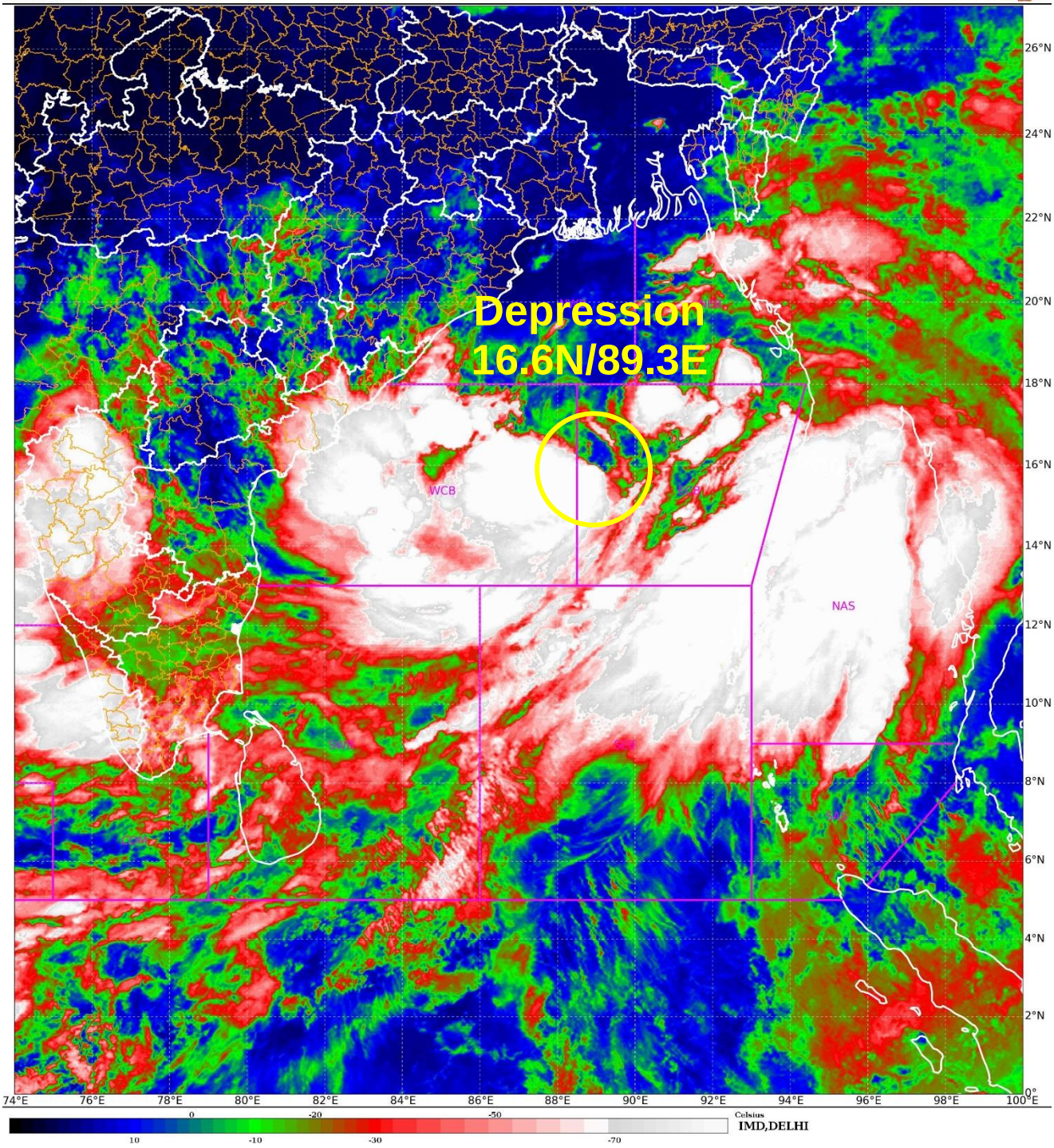
SAT : INSAT-3DR IMG
IMG_TIR1_TEMP 10.8 um
L1C Mercator

24-05-2024/(1945 to 2012) GMT
25-05-2024/(0115 to 0142) IST



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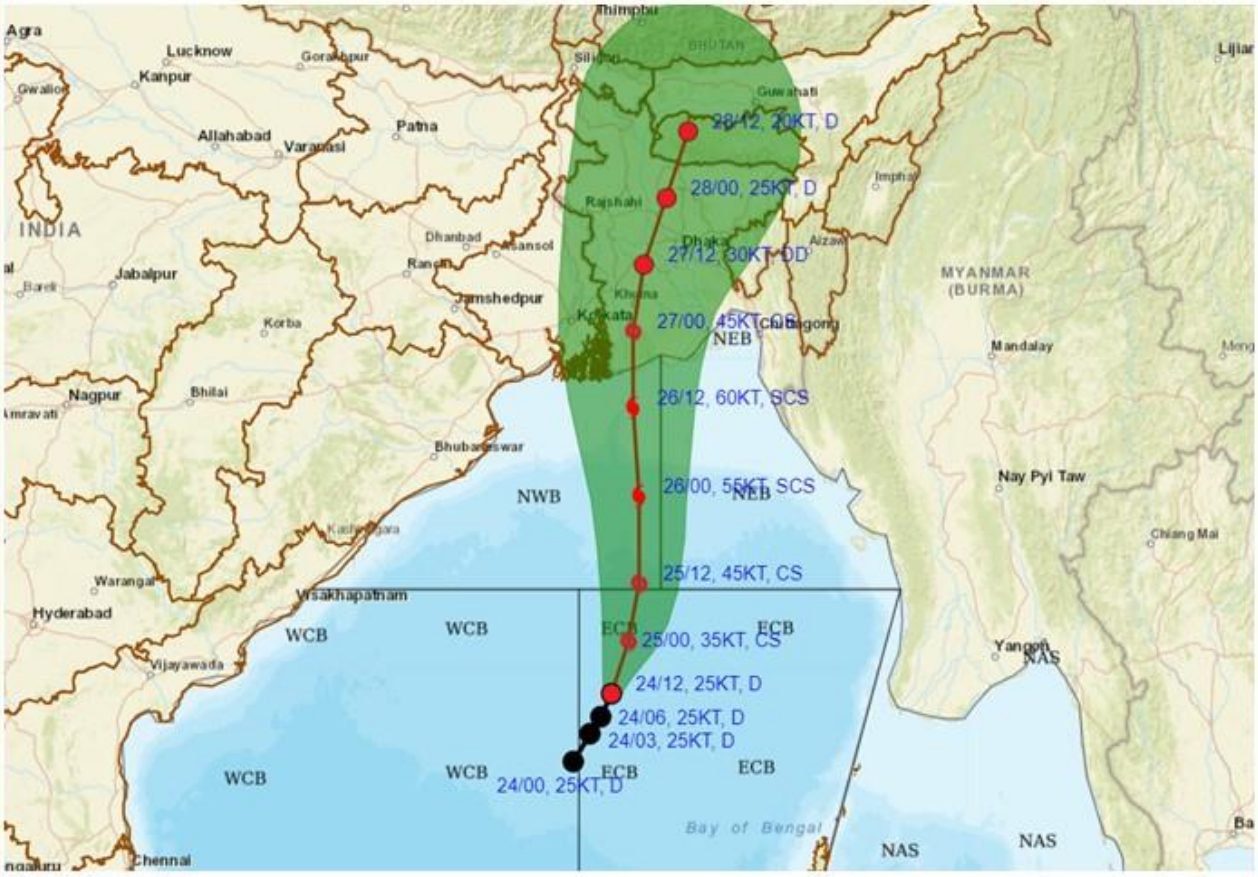
FORECAST TRACK ALONGWITH CONE OF UNCERTAINITY IN ASSOCIATION WITH DEPRESSION OVER EASTCENTRAL BAY OF BENGAL BASED ON 1200 UTC (1730 IST) OF 24TH MAY 2024.



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

Forecast	DISTANCE (KM) AND DIRECTION FROM STATIONS		
Date and Time (UTC)	Canning	Khepupara	Sagar Island
24.05.24/1200	670, S	650, S	620, S
25.05.24/1200	470, SSE	430, S	430, SSE
26.05.24/1200	160, SE	130, SW	160, ESE

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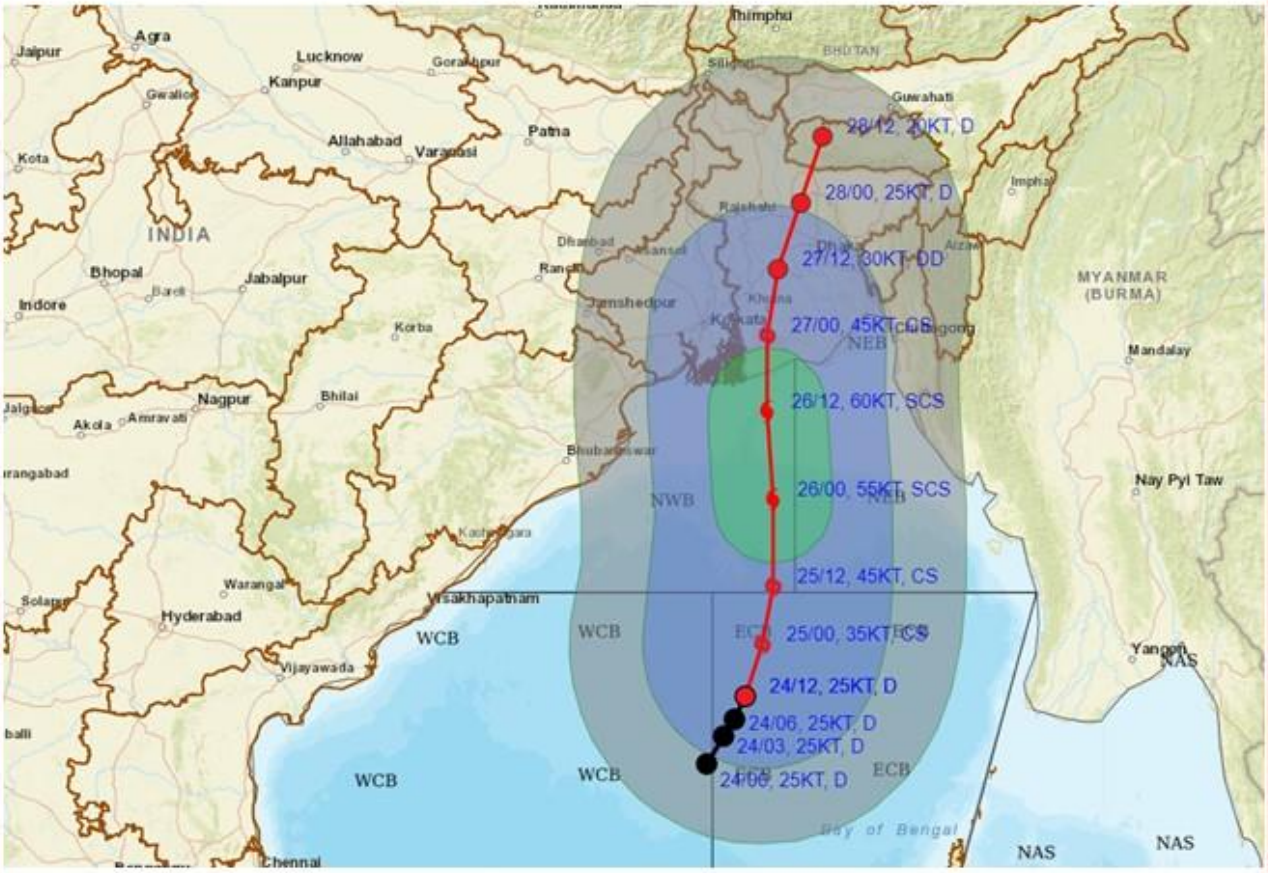
FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION IN ASSOCIATION WITH DEPRESSION OVER EASTCENTRAL BAY OF BENGAL BASED ON 1200 UTC (1730 IST) OF 24TH MAY 2024.



DATE/TIME IN UTC
IST=UTC +0530
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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

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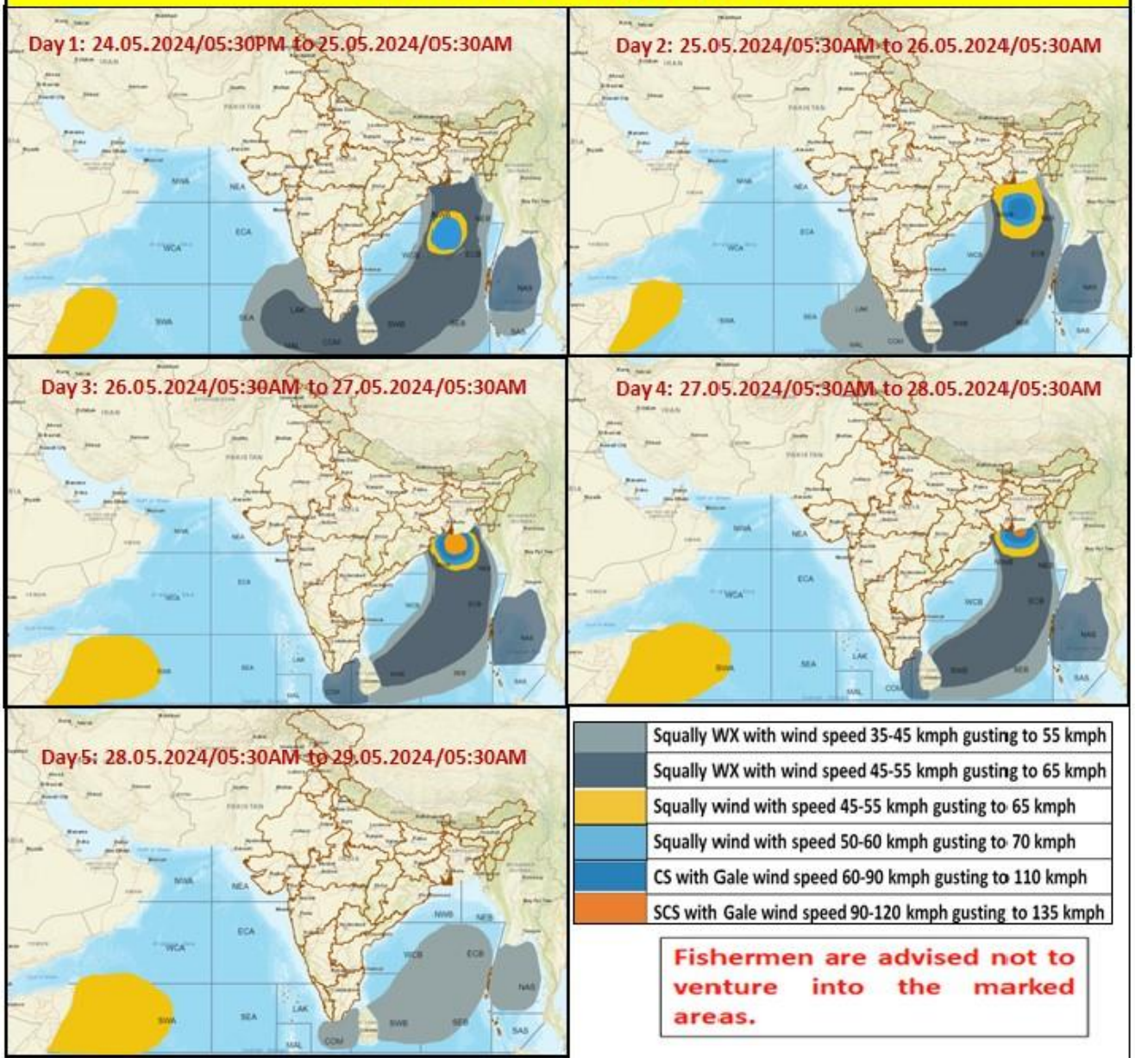
Fishermen Warning Graphics



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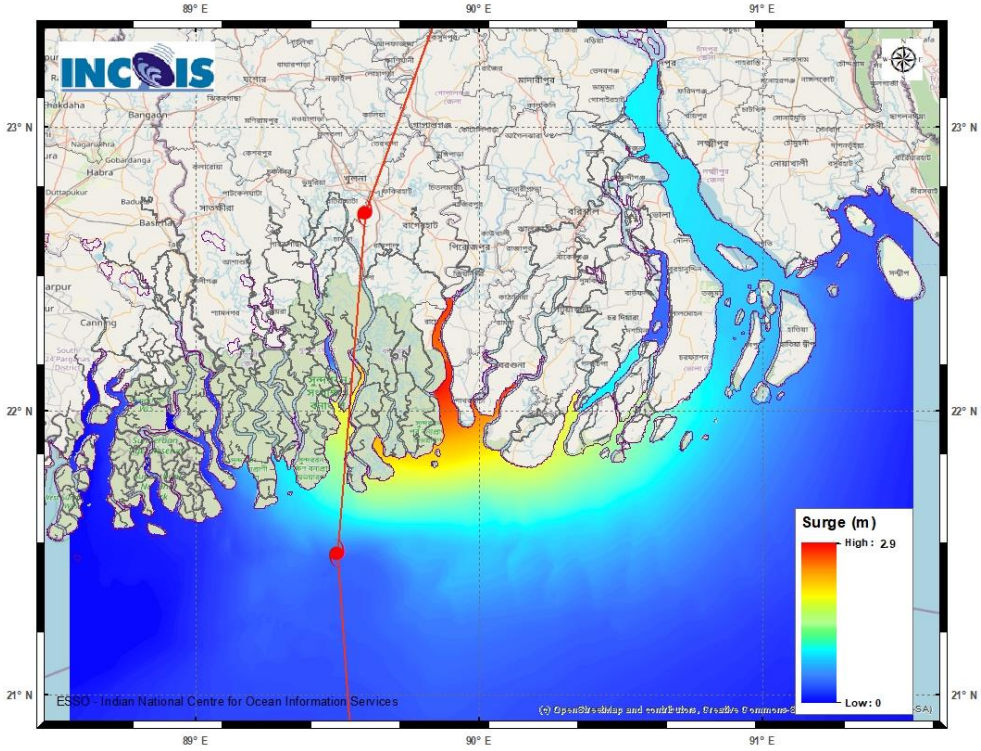
Storm Surge Warning Graphic



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