REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI

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 0900 UTC OF 24.05.2024 BASED ON 0600 UTC OF 24.05.2024.

BAY OF BENGAL:

THE DEPRESSION OVER CENTRAL BAY OF BENGAL MOVED NORTH-NORTHEASTWARDS WITH A SPEED OF 16 KMPH DURING PAST 06 HOURS AND LAY CENTERED AT 0600 UTC OF TODAY, THE 24TH MAY, 2024 OVER EASTCENTRAL BAY OF BENGAL NEAR LATITUDE 15.8°N AND LONGITUDE 88.9°E, ABOUT 700 KM SOUTH-SOUTHWEST OF KHEPUPARA (BANGLADESH), ABOUT 660 KM SOUTH-SOUTHEAST OF SAGAR ISLANDS (WEST BENGAL) AND 710 KM SOUTH OF CANNING (WEST BENGAL).

IT IS VERY LIKELY TO CONTINUE TO MOVE NORTH-NORTHEASTWARDS AND INTENSIFY INTO A **CYCLONIC STORM** OVER EASTCENTRAL BAY OF BENGAL BY 25TH MAY 0000 UTC. SUBSEQUENTLY, IT WOULD MOVE NEARLY NORTHWARDS, INTENSIFY INTO A ***SEVERE CYCLONIC STORM*** BY 25TH 1800 UTC. CONTINUING TO MOVE NEARLY NORTHWARDS, IT IS VERY LIKELY TO ***CROSS BANGLADESH AND ADJOINING WEST BENGAL COASTS BETWEEN SAGAR ISLAND AND KHEPUPARA AROUND 26TH MAY 1800 UTC AS A 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
24.05.24/0600	15.8/88.9	40-50 GUSTING TO 60	DEPRESSION
24.05.24/1800	16.6/89.2	50-60 GUSTING 70	DEEP DEPRESSION
25.05.24/0600	17.6/89.5	60-70 GUSTING TO 80	CYCLONIC STORM
25.05.24/1800	18.7/89.7	80-90 GUSTING TO 100	CYCLONIC STORM
26.05.24/0600	20.1/89.6	100-110 GUSTING TO 120	SEVERE CYCLONIC STORM
26.05.24/1800	21.5/89.5	110-120 GUSTING TO 130	SEVERE CYCLONIC STORM
27.05.24/0600	22.7/89.6	70-80 GUSTING TO 90	CYCLONIC STORM
27.05.24/1800	23.8/90.0	50-60 GUSTING 70	DEEP DEPRESSION
28.05.24/0600	24.9/90.4	35-45 GUSTING TO 55	DEPRESSION

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. 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 (MINIMUM CLOUD TOP TEMPERATURE -93^{0}C). AS PER MULTISATELLITE WINDS, STRONGER WINDS ARE SEEN IN SOUTHERN 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 996 HPA AT 0600 UTC. BOUY AND SHIP DATA AT 0600 UTC ARE AS FOLLOWS:

BOUY (LAT°N/LONG°E)	***SHIP (LAT°N/LONG°E)***	***WIND DIRECTION°/ SPEED (KNOTS)***	***MSLP(hPa)***
17.4/89.1	-	105.0/5.0	997.7
17.7/89.2	-	107.0/6.6	998.1
13.2/84.1	-	259/5.2	1001.5

WIND WARNING:

- SQUALLY WIND SPEED REACHING 40-50 KMPH GUSTING TO 60 KMPH IS LIKELY TO PREVAIL OVER CENTRAL AND ADJOINING SOUTH BAY OF BENGAL ON 24TH MAY. IT WOULD BECOME 50-60 KMPH GUSTING TO 70 KMPH OVER CENTRAL BAY OF BENGAL ON 24TH MAY EVENING.
- IT WOULD EXTEND TO ADJOINING AREAS OF NORTH BAY OF BENGAL WITH GALE WIND SPEED REACHING 60-70 KMPH GUSTING TO 80 KMPH FROM 0000 UTC OF 25TH MAY. IT WOULD FURTHER INCREASE BECOMING 100-110 KMPH GUSTING TO 120 KMPH OVER NORTH BAY OF BENGAL FROM MORNING AND 110-120 KMPH GUSTING TO 120 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.
- SQUALLY WIND SPEED REACHING 40-50 KMPH GUSTING TO 60 KMPH IS LIKELY ALONG & OFF BANGLADESH, WEST BENGAL AND 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 EVENING OF 1200 UTC 26TH FOR SUBSEQUENT 12 HOURS.
- SQUALLY WIND SPEED REACHING 40-50 KMPH GUSTING TO 60 KMPH IS LIKELY OVER ANDAMAN ISLANDS AND NORTH ANDAMAN SEA ON 24TH MAY.

SEA CONDITION:

- ROUGH TO VERY ROUGH SEA CONDITION IS LIKELY OVER CENTRAL AND ADJOINING SOUTH BAY OF BENGAL ON 24TH MAY. 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.
- ROUGH TO VERY ROUGH SEA CONDITION IS LIKELY ALONG & OFF BANGLADESH, WEST BENGAL AND ADJOINING NORTH ODISHA COASTS FROM 1200 UTC OF 25TH MAY

AND HIGH TO VERY HIGH ALONG & OFF BANGLADESH AND WEST BENGAL COASTS FROM 0000 UTC OF 26TH ONWARDS TILL 0000 UTC OF 27TH MAY.

- ROUGH TO VERY ROUGH SEA CONDITION IS LIKELY OVER ANDAMAN ISLANDS AND NORTH ANDAMAN SEA ON 24TH MAY.

STORM SURGE:

- STORM SURGE OF ABOUT 1.0 METER ABOVE ASTRONOMICAL TIDE LIKELY TO INUNDATE LOW LYING AREAS OF COASTAL WEST BENGAL AND 1.0-1.5 M OVER BANGLADESH AT THE TIME OF LANDFALL.

FISHERMEN WARNING (GRAPHICS ATTACHED):

FISHERMEN ARE ADVISED NOT TO VENTURE INTO SOUTH BAY OF BENGAL AND ANDAMAN SEA TILL 24TH 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.

ARABIAN SEA:

THE LOW PRESSURE AREA OVER SOUTHEAST ARABIAN SEA OFF KERALA COAST HAS BECOME LESS MARKED. HOWEVER, THE ASSOCIATED CYCLONIC CIRCUALTION LIES OVER SOUTH KERALA NEIGHBOURHOOD EXTENDING UPTO MIDDLE TROPOSPHERIC LEVELS AT 0300 UTC OF TODAY, THE 24TH MAY, 2024.

LOW LEVEL CIRCULATION (LLC) OVER SE ARSEA OFF KER COAST & N/HOOD (.) ASSTD SCT TO BKN LOW/MED CLOUDS WITH EMBDD INT TO V INT CONVTN OVER SE ADJ EC ARSEA OFF KER-KRNTK COASTS AND LKSDP ILS AREA (MINIMUM CTT MINUS 93 DEG CEL) (.)

ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTHEAST AND ADJOINING EASTCENTRAL ARABIAN SEA, LAKSHADWEEP ISLANDS AREA AND MALDIEVE & COMORIN AREA. (MINIMUM CLOUD TOP TEMPERATURE -93^{0}C).

***PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION) DURING NEXT 168 HRS:**

24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS	120-144 HOURS	144-168 HOURS
NIL	NIL	NIL	NIL	NIL	NIL	NIL

*****NOTE: EVERY 24HR FORECAST IS VALID UPTO 0300 UTC (0830 IST) OF NEXT DAY

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 BOB AND ANDAMAN SEA DURING NEXT 5 DAYS AND OVER CENTRAL BOB DURING 25TH TO 27TH MAY. IN ADDITION, KELVIN WAVES, EQUATORIAL ROSSBY WAVES ARE PREVAILING OVER SOUTH BOB & 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 BOB. 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 180-200x$10^{-5}S^{-1}$ TO THE SOUTHEAST OF SYSTEM CENTRE OVER EASTCENTRAL & ADJOINING WESTCENTRAL BAY OF BENGAL WITH VERTICAL EXTENSION UPTO 200 HPA LEVEL. LOW LEVEL CONVERGENCE IS ABOUT 20 x 10^{-5} S^{-1} TO THE EAST-NORTHEAST OF THE SYSTEM CENTER. UPPER LEVEL DIVERGENCE IS ABOUT 20x$10^{-5}S^{-1}$ TO SOUTHEAST OF THE SYSTEM CENTER. VERTICAL WIND SHEAR (VWS) IS LOW TO MODERATE (10-15 M/S) OVER & TO THE EAST 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 24/1200 UTC AND FURTHER INTO CYCLONIC STORM AROUND 25/0000 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 CENTRAL BAY OF BENGAL MOVED NORTH-NORTHEASTWARDS DURING PAST 0600 HOURS AND LAY CENTERED AT 0600 UTC OF TODAY, THE 24th MAY, 2024 OVER EASTCENTRAL BAY OF BENGAL NEAR LATITUDE 15.8 0N AND LONGITUDE 88.9 0E, ABOUT 700 KM SOUTH-SOUTHWEST OF KHEPUPARA (41984, BANGLADESH), ABOUT 660 KM SOUTH-SOUTHEAST OF SAGAR ISLANDS (WEST BENGAL) AND 710 KM SOUTH OF CANNING (42812, WEST BENGAL).

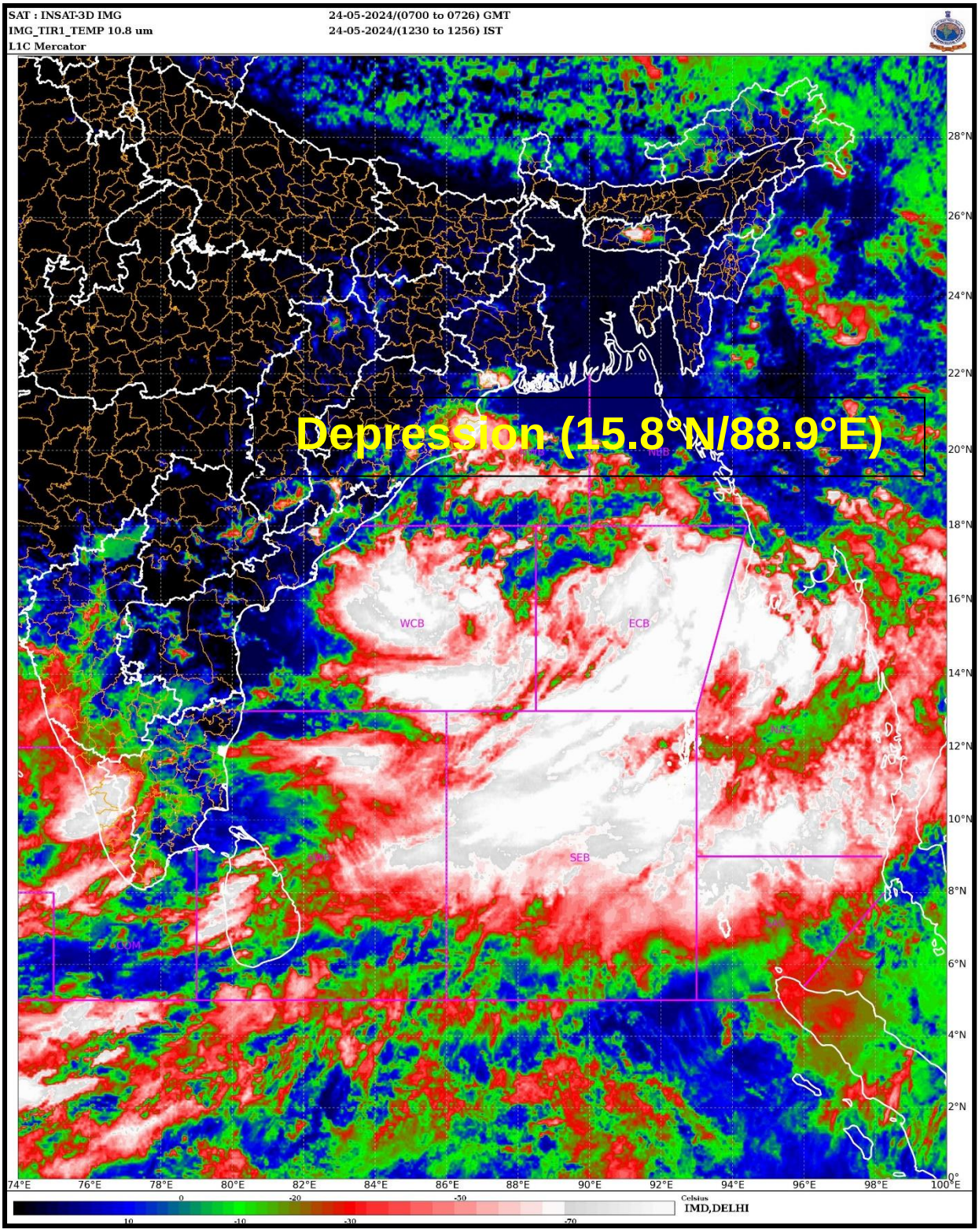
IT IS VERY LIKELY TO CONTINUE TO MOVE NORTHEASTWARDS AND INTENSIFY FURTHER INTO A CYCLONIC STORM OVER EASTCENTRAL BAY OF BENGAL BY 0000 UTC OF 25TH MAY. SUBSEQUENTLY, IT WOULD MOVE NEARLY NORTHWARDS, INTENSIFY INTO A SEVERE CYCLONIC STORM BY 1800 UTC OF 25TH. CONTINUING TO MOVE NEARLY NORTHWARD, IT IS VERY LIKELY TO **CROSS BANGLADESH AND ADJOINING WEST BENGAL COASTS BETWEEN SAGAR ISLAND AND KHEPUPARA AROUND 1800 UTC 26TH MAY AS A SEVERE CYCLONIC STORM.**

Dr. D. R. PATTANAIK

SCIENTIST F

RSMC, NEW DELHI

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% This is a guidance Bulletin for WMO/ESCAP Panel Member countries. Visit respective National websites for Country specific Bulletins



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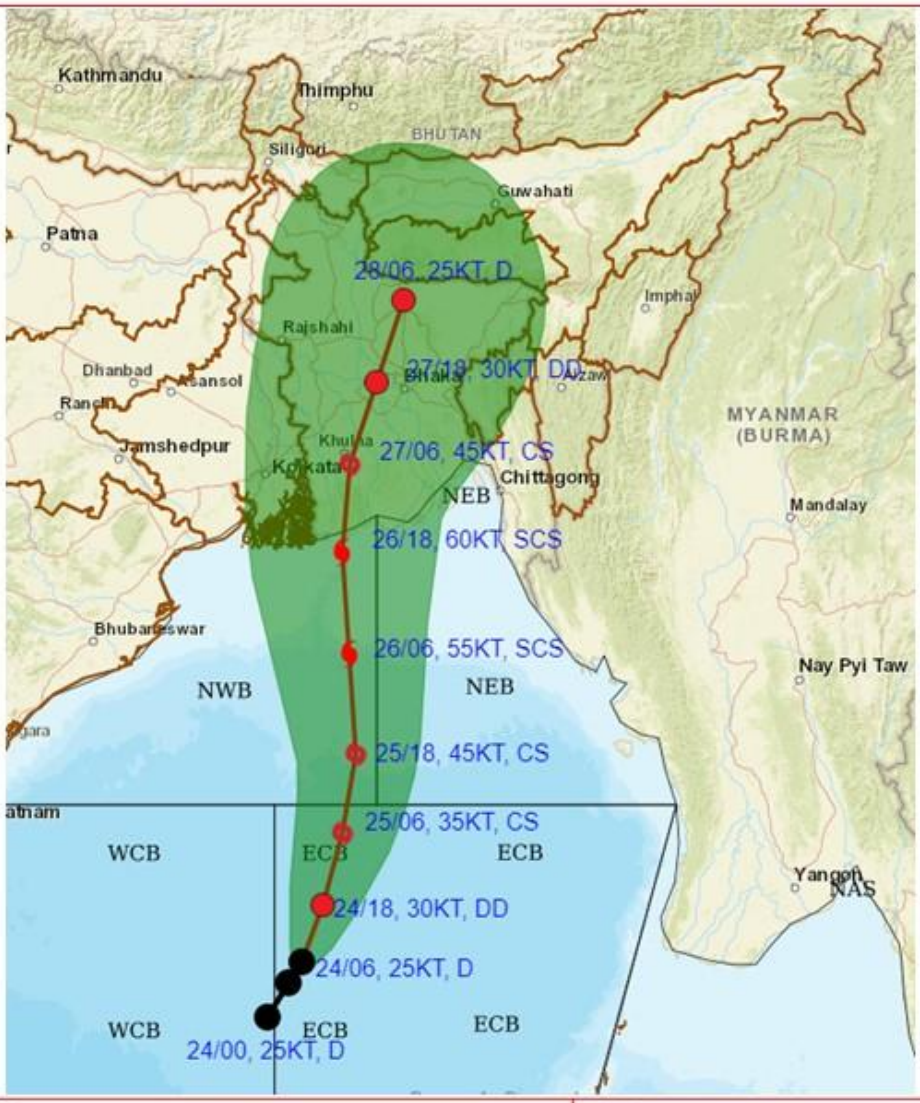
FORECAST TRACK ALONGWITH CONE OF UNCERTAINITY IN ASSOCIATION WITH DEPRESSION OVER CENTRAL BAY OF BENGAL BASED ON 0600 UTC (1130 IST) OF 24TH MAY 2024.



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
24.05.24/0600	710, S	700, SSW	660, S
25.05.24/0600	520, S	490, S	470, SSE
26.05.24/0600	250, SSE	210, SSW	230, SE
27.05.24/0600	110, ENE	110, NW	200, NE
28.05.24/0600	350, NNE	330, N	430, NNE

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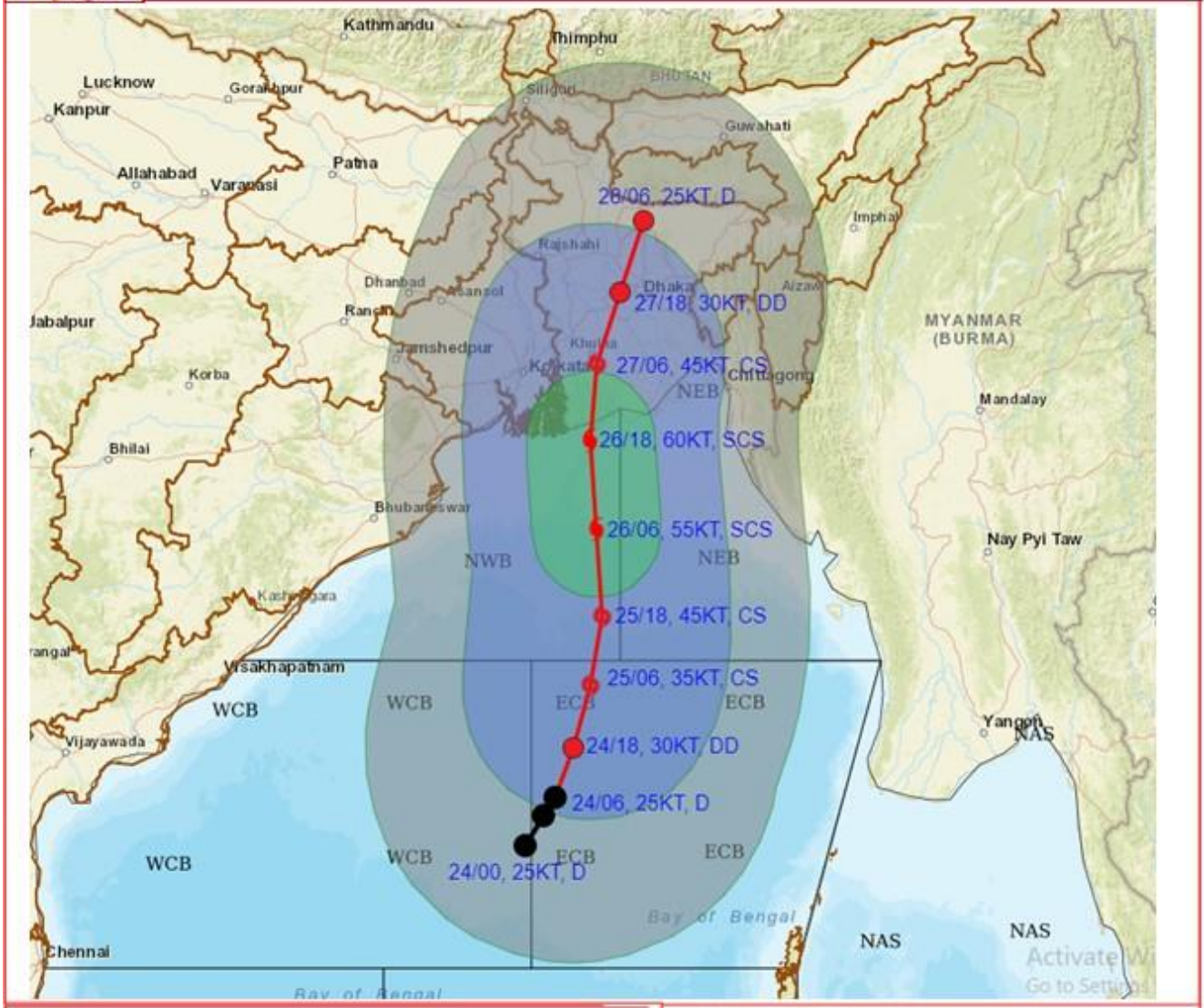
FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION IN ASSOCIATION WITH DEPRESSION OVER CENTRAL BAY OF BENGAL BASED ON 0600 UTC (1130 IST) OF 24TH MAY 2024.



DATE/TIME IN UTC
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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

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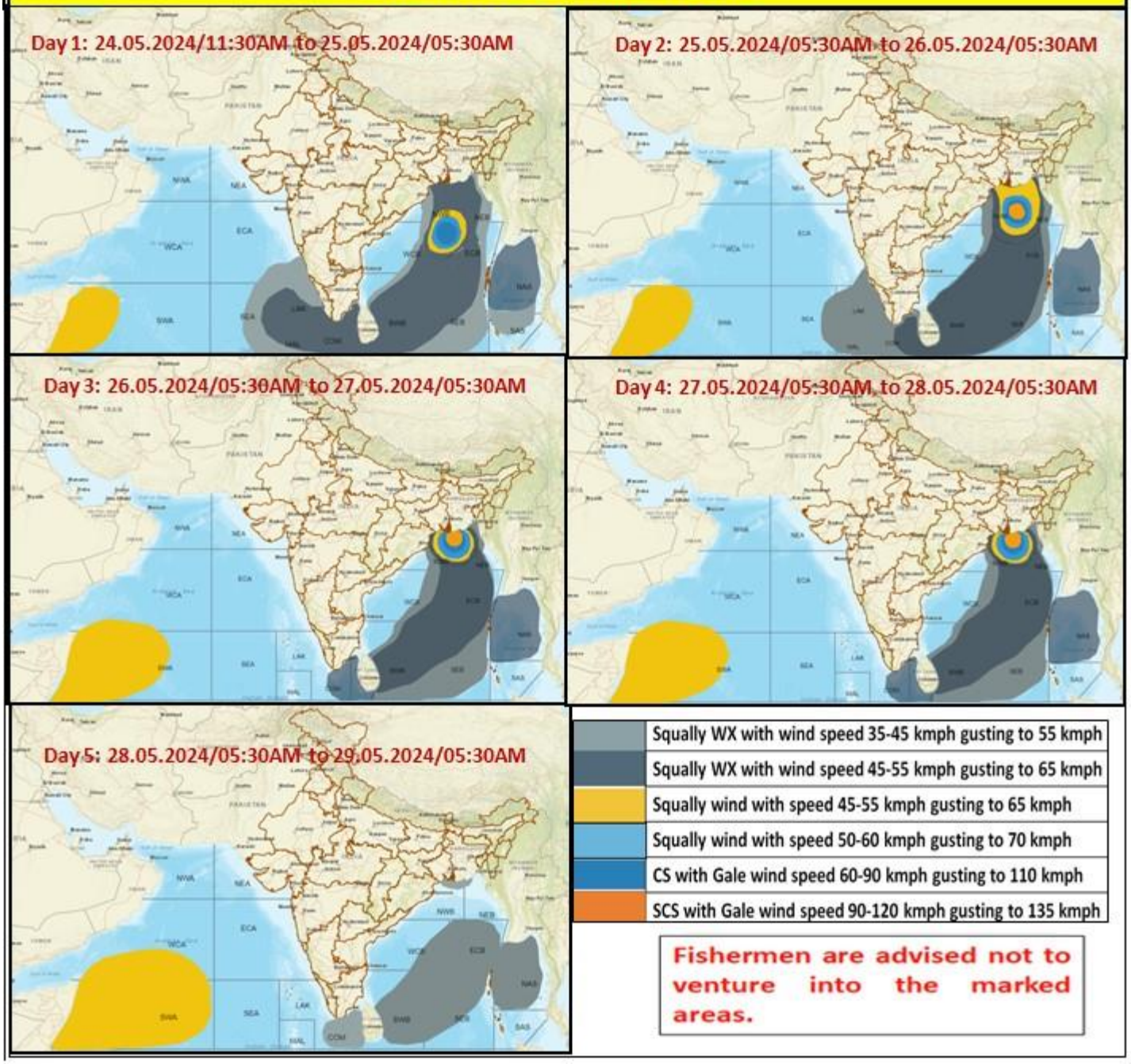
Fishermen Warning Graphics



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