



REGIONALSPECIALISED METEOROLOGICALCENTRE-TROPICALCYCLONES, NEW DELHI TROPICAL CYCLONE ADVISORY

DEMS-RSMCSPECIAL TROPICAL CYCLONES NEW DELHI DATED 26.05.2024

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. 4 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0000 UTC OF 26.05.2024 BASED ON 2100 UTC OF 25.05.2024

SUB: CYCLONIC STORM "REMAL" PRONOUNCED AS "RE-MAL" OVER NORTH BAY OF BENGAL

THE CYCLONIC STORM "REMAL" (PRONOUNCED AS "RE-MAL") OVER NORTH & ADJOINING EASTCENTRAL BAY OF BENGAL MOVED NEARLY NORTHWARDS WITH A SPEED OF 06 KMPH DURING PAST 06 HOURS AND LAY CENTERED AT 2100 UTC OF YESTERDAY, THE 25 TH MAY, 2024 OVER NORTH BAY OF BENGAL NEAR LATITUDE 19.4°N AND LONGITUDE 89.4°E ABOUT 300 KM SOUTH-SOUTHWEST OF KHEPUPARA (41984, BANGLADESH), 290 KM SOUTH-SOUTHEAST OF SAGAR ISLANDS (42731, WEST BENGAL), 410 KM SOUTH-SOUTHEAST OF DIGHA (42901, WEST BENGAL) AND 320 KM SOUTH-SOUTHEAST OF CANNING (42812, WEST BENGAL).

IT IS VERY LIKELY TO CONTINUE TO MOVE NEARLY NORTHWARDS AND INTENSIFY INTO A SEVERE CYCLONIC STORM BY 0000 UTC OF 26TH MAY OVER NORTH BAY OF BENGAL AND CROSS BANGLADESH AND ADJOINING WEST BENGAL COASTS BETWEEN SAGAR ISLAND (42731) AND KHEPUPARA (41984), CLOSE TO SOUTHWEST OF MONGLA (BANGLADESH) BY 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)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
25.05.24/2100	19.4/89.4	80-90 GUSTING TO 100	CYCLONIC STORM
26.05.24/0000	19.8/89.4	85-95 GUSTING TO 105	SEVERE CYCLONIC STORM

26.05.24/0600	20.5/89.3	100-110 GUSTING TO 120	SEVERE CYCLONIC STORM
26.05.24/1200	21.4/89.3	110-120 GUSTING TO 135	SEVERE CYCLONIC STORM
26.05.24/1800	22.0/89.3	110-120 GUSTING TO 135	SEVERE CYCLONIC STORM
27.05.24/0600	23.2/89.7	60-70 GUSTING TO 80	CYCLONIC STORM
27.05.24/1800	24.3/90.3	40-50 GUSTING TO 60	DEPRESSION

AS PER INSAT-3D IMAGERY, CLOUDS ARE ORGANISED IN CURVED BAND PATTERN. INTENSITY OF THE SYSTEM IS T2.5. ASSOCIATED BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER NORTH AND ADJOINING CENTRAL & NORTH ANDAMAN SEA (MINIMUM CLOUD TOP TEMPERATURE IS -93 DEG CESIUS). 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. MULTISATELLITE WINDS INDICATE STRONGER WINDS IN EASTERN SECTOR.

AS PER LATEST OBSERVATIONS, ESTIMATED CENTRAL PRESSURE IS 984 HPA AT 2100 UTC. ESTIMATED MAXIMUM SUSTAINED WIND SPEED IS 45 KNOTS GUSTING TO 55 KNOTS. SEA CONDITION IS HIGH OVER CENTRAL & ADJOINING NORTH BAY OF BENGAL.

SHIP/BOUY OBSERVATION AT 2100 UTC IS GIVEN BELOW:

BOUY & SHIP (LAT°N/LONG°E)	WIND DIRECTION% SPEED (KNOTS)	MSLP(hPa)
BOUY 17.8/89.2	235/11.6 KT	991.2
BOUY 17.5/89.2	248/17.8 KT	990.6

WIND WARNING:

(A) BAY OF BENGAL:

- ♦ GALE WIND SPEED REACHING 80-90 KMPH GUSTING TO 100 KMPH IS LIKELY TO PREVAIL OVER CENTRAL BAY OF BENGAL TILL 0000 UTC OF 26TH MAY AND DECREASE THEREAFTER BECOMING SQUALLY WIND SPEED REACHING 50-60 KMPH GUSTING TO 70 KMPH TILL 0000 UTC OF 27TH MAY.
- GALE WIND SPEED REACHING 80-90 KMPH GUSTING TO 100 KMPH PREVAILING OVER NORTH BAY OF BENGAL IS LIKELY TO INCREASE BECOMING 95-105 KMPH GUSTING TO 115 KMPH FROM 0000 UTC AND 110-120 KMPH GUSTING TO 135 KMPH FROM 0600 UTC TILL 1800 UTC OF 26TH MAY. IT IS LIKELY DECREASE THEREAFTER BECOMING 70-80 KMPH GUSTING TO 90 KMPH BY 0000 UTC OF 27TH MAY AND SQUALLY WIND SPEED REACHING 45-55 KMPH GUSTING TO 65 KMPH BY 1200 UTC OF 27TH MAY.

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

- SQUALLY WIND SPEED REACHING 40-50 KMPH GUSTING TO 60 KMPH IS LIKELY TO PREVAIL ALONG & OFF BANGLADESH AND WEST BENGAL & ADJOINING NORTH ODISHA COASTS FROM 2100 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 MAY TILL 0000 UTC OF 27TH MAY. IT IS LIKELY DECREASE THEREAFTER TO BECOME 60-70 KMPH GUSTING TO 80 KMPH BY 0600 UTC AND SQUALLY WIND 50-60 KMPH GUSTING TO 70 KMPH BY 1500 UTC OF 27TH MAY.
- SQUALLY WIND SPEED REACHING 40-50 KMPH GUSTING TO 60 KMPH IS LIKELY TO COMMENCE OVER HOWRAH, HOOGLY, KOLKATA AND EAST MEDINIPUR DISTRICTS FROM 1200 UTC OF 26TH MAY. IT WILL INCREASE GRADUALLY BECOMING GALE WIND SPEED REACHING 70-80 KMPH GUSTING TO 90 KMPH OVER THESE DISTRICTS DURING 1500 OF 26TH MAY TILL 0000 UTC OF 27TH MAY EXCEPT EAST MEDINIPUR WHERE THE WIND SPEED MAY REACH UP TO 60-70 KMPH GUSTING TO 80 KMPH DURING THE SAME PERIOD.

(C) ALONG & OFF ODISHA COASTS:

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

(D) SOUTH BAY OF BENGAL, ANDAMAN ISLANDS AND ANDAMAN SEA:

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 TRIPURA & SOUTH MANIPUR ON 26TH & 27TH MAY AND **40-50 KMPH GUSTING TO 60 KMPH** IS LIKELY OVER SOUTH ASSAM AND MEGHALAYA ON 27TH MAY.

SEA CONDITION WARNING:

(A) CENTRAL AND NORTH BAY OF BENGAL:

VERY ROUGH TO HIGH SEA CONDITION IS LIKELY TO PREVAIL OVER CENTRAL BAY OF BENGAL ON 26TH MAY AND HIGH TO VERY HIGH OVER NORTH BAY OF BENGAL TILL 27TH MAY/0000 UTC.

(B) ALONG & OFF BANGLADESH AND WEST BENGAL COASTS

ROUGH TO VERY ROUGH SEA CONDITION IS PREVAILING ALONG & OFF BANGLADESH AND WEST BENGAL COASTS. 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 ALONG & OFF NORTH ODISHA COAST TILL 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 HEIGHT ABOVE ASTRONOMICAL TIDE IS LIKELY TO INUNDATE LOW LYING AREAS OF COASTAL WEST BENGAL AND 3-4 M HEIGHT ABOVE ASTRONOMICAL TIDE LIKELY TO INUNDATE LOW LYING AREAS OF COASTAL BANGLADESH AROUND THE TIME OF LANDFALL. THERE IS A PROBABILITY OF 80% FOR THE STORM SURGE HEIGHT EXCEEDING 3 M ALONG & OFF BANGLADESH COAST BETWEEN 90⁰ E & 90.8⁰E. THERE COULD BE COASTAL INUNDATION ALONG THE RIVERS AND CREEKS INCLUDING MEGHNA RIVER.

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 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 3 DAYS. THUS, MJO PHASE & AMPLITUDE ARE HIGHLY CONDUCIVE FOR CYCLOGENESIS AND FURTHER INTENSIFICATION OVER THE BAY OF BENGAL (BOB) DURING NEXT 3 DAYS.

STRONG EASTERLY WINDS (5-7 MPS) ARE LIKELY TO PREVAIL OVER NORTH BOB DURING 3 DAYS IN THE LOWER TROPOSPHERIC LEVELS. STRONG WESTERLY WINDS (5-7 MPS) ARE LIKELY TO PREVAIL OVER THE SOUTH & CENTRAL BAY OF BENGAL AND ANDAMAN SEA DURING NEXT 3 DAYS. IN ADDITION, KELVIN WAVES, EQUATORIAL ROSSBY WAVES ARE ALSO PREVAILING OVER SOUTH BAY OF BENGAL & COUPLED WITH MJO. THESE WAVES WILL PROVIDE A CONDUCIVE ENVIRONMENT FOR FURTHER INTENSIFICATION OF DEEP DEPRESSION 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

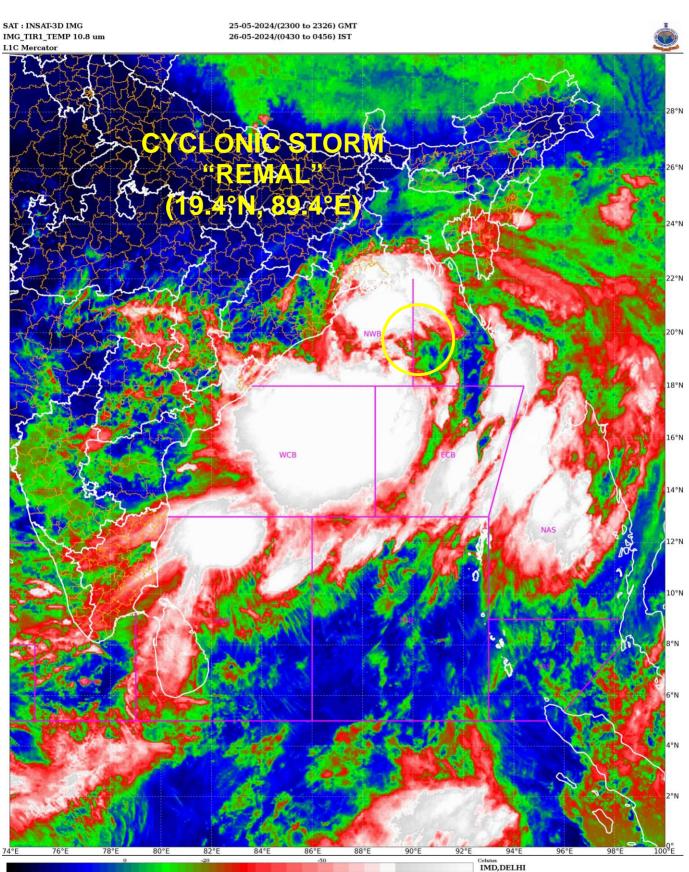
AROUND 30-32°C OVER ENTIRE BOB, BEING MORE THAN 32°C OVER SOME PARTS OF NORTH BOB. THE SEA CONDITIONS OVER BOB ARE ALSO CONDUCIVE FOR FURTHER INTENSIFCATION OF SYSTEM.

CONSIDERING THE ENVIRONMENTAL CONDITIONS, LOW LEVEL VORTICITY HAS INCREASED AND IS ABOUT $250 \times 10^{-5} \text{S}^{-1}$ TO THE SOUTH OF SYSTEM CENTRE OVER EASTCENTRAL BAY OF BENGAL WITH VERTICAL EXTENSION UPTO 200 HPA LEVEL. LOW LEVEL CONVERGENCE HAS INREASED AND IS ABOUT $30 \times 10^{-5} \text{ S}^{-1}$ TO THE SOUTHEAST OF THE SYSTEM CENTER. STRONG EQUATORWARD OUTFLOW IS SEEN. UPPER LEVEL DIVERGENCE IS ABOUT $20 \times 10^{-5} \text{ S}^{-1}$ AROUND THE SYSTEM CENTRE. VERTICAL WIND SHEAR (VWS) IS MODERATE (AROUND 15-20 KT) ALONG THE FORECAST TRACK. MID LEVEL WIND SHEAR IS ANTICYCLONIC OVER THE SYSTEM AREA WHICH WILL SUPPORT FURTHER INTENSIFICATION OF THE SYSTEM. CURRENTLY, THE SYSTEM IS MOVING NEARLY NORTHWARDS ALONG THE PERIPHERY OF THE UPPER TROPOSPHERIC RIDGE AT 200 HPA LOCATED NEAR 18.0°N.

THE GUIDANCE FROM VARIOUS NUMERICAL MODELS IS INDICATING CROSSING OVER BANGLADESH. THE MODELS LIKE IMD GFS, GEFS HAVE ALSO SHIFTED TRACK EASTWARDS. ECMWF IS CONSISTENTLY INDICATING CROSSING OVER WEST BENGAL & ADJOINING BANGLADESH COASTS. IMD MME IS INDICATING CROSSING OVER BANGLADESH COAST. THE LANDFALL TIME IS VARYING BETWEEN 1500-2100 UTC OF 26TH MAY. MOST OF THE MODELS ARE INDICATING THE SYSTEM TO CROSS AS A SEVERE CYCLONIC STORM (50-60 KT).

THE CYCLONIC STORM "REMAL" IS VERY LIKELY TO CONTINUE TO MOVE NEARLY NORTHWARDS AND INTENSIFY INTO A SEVERE CYCLONIC STORM BY 0000 UTC OF 26TH MAY OVER NORTH BAY OF BENGAL AND CROSS BANGLADESH AND ADJOINING WEST BENGAL COASTS BETWEEN SAGAR ISLAND (42731) AND KHEPUPARA (41984) CLOSE TO SOUTHWEST OF MONGLA (BANGLADESH) BY 1800 UTC OF 26TH MAY AS A SEVERE CYCLONIC STORM WITH WIND SPEED OF 110-120 GUSTING TO 135 KMPH.

> M. T. BUSHAIR SCIENTIST C 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

IMG_TIR1_TEMP 10.8 um

FORECAST TRACK ALONGWITH CONE OF UNCERTAINITY IN ASSOCIATION WITH CYCLONIC STORM 'REMAL' OVER NORTH AND ADJOINING EASTCENTRAL BAY OF BENGAL BASED ON 1800 UTC (2330 IST) OF 25TH MAY 2024. NEF 60KT. SCS 55KT, SCS NWE NER 50KT, SCS NEB 40KT. CS NWB 25/12, 35KT, CS NEB NWE NEB 25/06, 30KT, DD 25/00, 30KT, DDECB ECB ECB WCB WCB 25KT D ECB KT. D WCE WCB WCB ECB NAS 00. 25KT. D DATE/TIME IN UTC LESS THAN 34 KT IST=UTC + 0530 L: LOW PRESSURE AREA 34.47 KT WML: WELL MARKED LOW PRESSURE AREA ≥ 48 KT D: DEPRESSION (17-27 KT) DD: DEEP DEPRESSION (28-33 KT) **OBSERVED TRACK**

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)

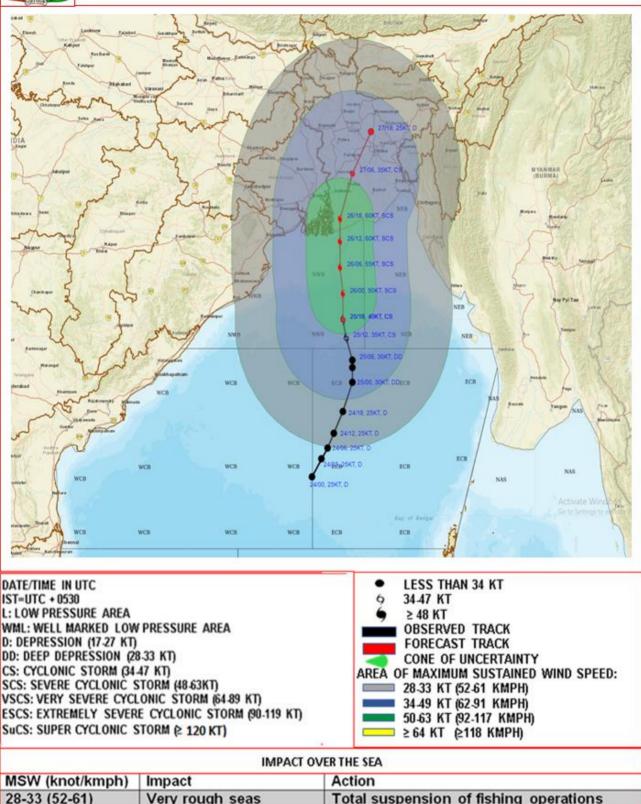
DISTANCE (KM) AND DIRECTION FROM STATIONS Forecast SAGAR ISLAND Date and Time (UTC) Canning Khepupara 25.05.24/1800 330, SSE 310, SSW 290, SSE 26.05.24/1800 80, ESE 100, W 140, ENE 27.05.24/1800 290, NE 260, N 380, NE

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FORECAST TRACK

CONE OF UNCERTAINTY

FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION IN ASSOCIATION WITH CYCLONIC STORM 'REMAL' OVER NORTH AND ADJOINING EASTCENTRAL BAY OF BENGAL BASED ON 1800 UTC (2330 IST) OF 25TH MAY 2024.

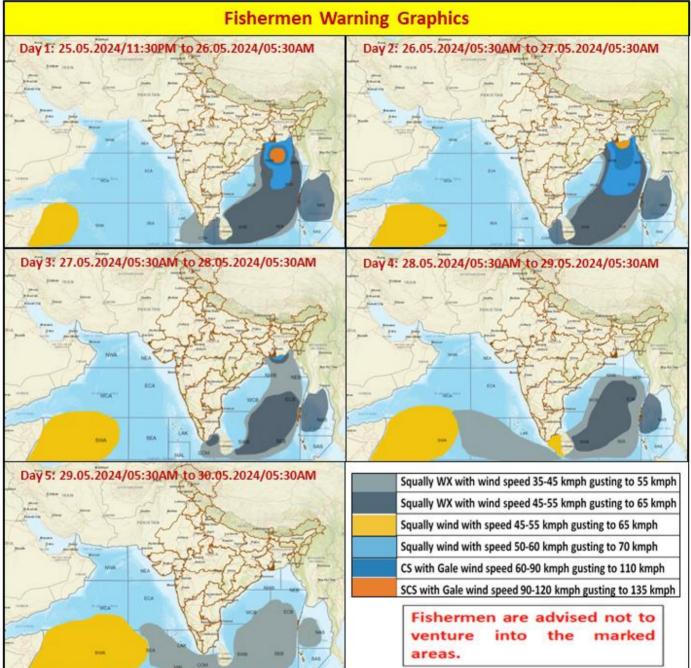


28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

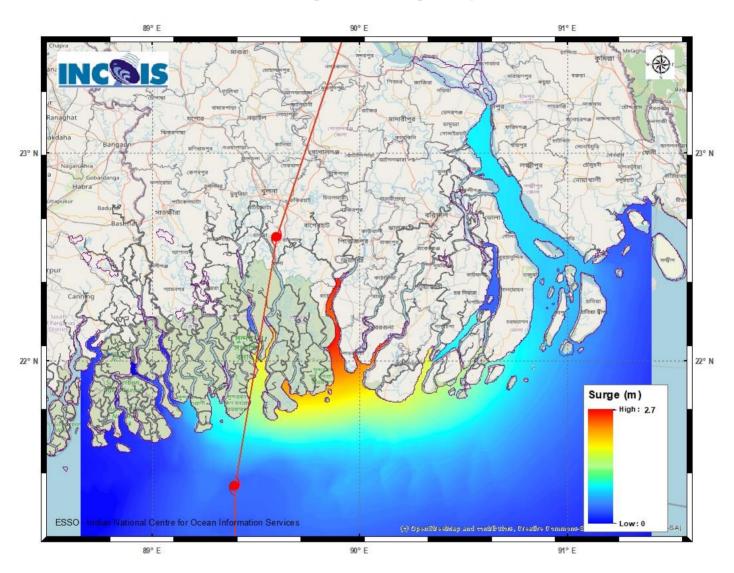
Fishermen Warning Graphics







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Storm Surge Warning Graphics

PROBABILITY OF EXCEEDANCE OG STORM SURGE >3.0M

