



# REGIONALSPECIALISED METEOROLOGICALCENTRE-TROPICAL CYCLONES, NEW DELHI TROPICAL CYCLONE ADVISORY NO. 10

### **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. 10 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 1700 UTC OF 26.05.2024 BASED ON 1500 UTC OF 26.05.2024

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

THE SEVERE CYCLONIC STORM "REMAL" (PRONOUNCED AS "RE-MAL") OVER THE NORTH BAY OF BENGAL MOVED NEARLY NORTHWARDS, WITH A SPEED OF 11 KMPH DURING PAST 06 HOURS AND LAY CENTERED AT 1500 UTC OF TODAY, THE 26TH MAY, 2024 OVER THE SAME REGION NEAR LATITUDE 21.4°N AND LONGITUDE 89.2°E ABOUT 110 KM EAST-SOUTHEAST OF SAGAR ISLANDS (42731,WEST BENGAL), 125 KM WEST-SOUTHWEST OF KHEPUPARA (41984,BANGLADESH), 110 KM SOUTH-SOUTHEAST OF CANNING (42812,WEST BENGAL) AND 130 KM SOUTH-SOUTHWEST OF MONGLA (41958, BANGLADESH). THE CENTER IS ABOUT 30 KM FROM THE COASTLINE OF BANGLADESH.

IT IS VERY LIKELY TO CONTINUE TO MOVE NEARLY NORTHWARDS AND CROSS BANGLADESH AND ADJOINING WEST BENGAL COASTS BETWEEN SAGAR ISLAND AND KHEPUPARA, CLOSE TO SOUTHWEST OF MONGLA (BANGLADESH) BY 1800 UTC OF TODAY, THE 26TH MAY 2024 AS A SEVERE CYCLONIC STORM WITH MAXIMUM SUSTAINED WIND SPEED OF 110-120 KMPH GUSTING TO 135 KMPH. FORWARD SECTOR OF WALL CLOUD REGION IS ENTERING INTO LAND. THE LANDFALL PROCESS HAS COMMENCED OVER COASTAL AREAS OF BANGLADESH AND ADJOINING WEST BENGAL. IT WILL CONTINUE FOR NEXT 4 HOURS.

CURRENTLY MAXIMUM SUSTAINED WIND SPEED OF 110-120 KMPH GUSTING TO 135

KMPH SIMILAR WIND SPEED LIKELY TO CONTINUE FOR NEXT 6 HOURS. THE CYCLONE IS UNDER THE CONTINUOUS SURVEILLANCE OF KOLKATA DOPPLER WEATHER RADAR.

## FORECAST TRACK AND INTENSITY ARE GIVEN IN THE FOLLOWING TABLE:

DATE/TIME (UTC)	POSITION (LAT. ºN/ LONG. ºE)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
26.05.24/1500	21.4/89.2	110-120 gusting to 135	Severe Cyclonic Storm
26.05.24/1800	21.8/89.2	110-120 gusting to 135	Severe Cyclonic Storm
27.05.24/0000	22.7/89.4	70-80 gusting to 90	Cyclonic Storm
27.05.24/0600	23.5/89.8	50-60 gusting to 70	Deep Depression
27.05.24/1200	24.1/90.2	35-45 gusting to 55	Depression
28.05.24/0000	25.3/91.0	25-35 gusting to 45	Well Marked Low Pressure Area

AS PER INSAT-3D IMAGERY, CLOUDS ARE ORGANISED IN CURVED BAND PATTERN. INTENSITY OF THE SYSTEM IS T3.5. ASSOCIATED BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER NORTH AND ADJOINING CENTRAL BAY OF BENGAL, ODISHA, SOUTH JHARKHAND, SOUTH GANGETIC WEST BENGAL, MANIPUR, MIZORAM, TRIPURA, SOUTH GANGETIC WEST BENGAL, SOUTH MANIPUR, MIZORAM, TRIPURA, SOUTH ASSAM AND BANGLADESH (MINIMUM CLOUD TOP TEMPERATURE IS -93 DEG CESIUS). 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 978 HPA AT 1500 UTC. ESTIMATED MAXIMUM SUSTAINED WIND SPEED IS 60 KNOTS GUSTING TO 70 KNOTS. SEA CONDITION IS HIGH TO VERY HIGH OVER NORTH BAY OF BENGAL AND VERY ROUGH OVER CENTRAL BAY OF BENGAL.

### WIND WARNING:

#### (A) BAY OF BENGAL

- ❖ GALE WIND SPEED REACHING 110-120 KMPH GUSTING TO 135 KMPH WOULD PREVAIL OVER NORTH BAY OF BENGAL TILL 1800 UTC OF 26<sup>TH</sup> MAY. IT IS LIKELY DECREASE BECOMING 70-80 KMPH GUSTING TO 90 KMPH BY 0000 UTC ON 27<sup>TH</sup> MAY AND SQUALLY WIND SPEED REACHING 45-55 KMPH GUSTING TO 65 KMPH BY 1200 UTC OF 27<sup>TH</sup> MAY.
- ❖ GALE WIND SPEED REACHING 60-70 KMPH GUSTING TO 80 KMPH IS PREVAILING OVER ADJOINING CENTRAL BAY OF BENGAL AND LIKELY TO DECREASE GRADUALLY BECOMING SQUALLY WIND SPEED REACHING 50-60 KMPH GUSTING TO 70 KMPH TILL 0000 UTC OF 27<sup>TH</sup> MAY.

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

- ❖ GALE WIND SPEED REACHING 80-90 KMPH GUSTING TO 100 KMPH IS PREVAILING ALONG & OFF BANGLADESH AND WEST BENGAL & ADJOINING NORTH ODISHA COASTS. IT IS LIKELY TO INCREASE BECOMING 100-120 KMPH GUSTING TO 135 KMPH ALONG & OFF BANGLADESH AND ADJOINING WEST BENGAL COASTS FROM 1200 UTC OF 26<sup>TH</sup> MAY TILL 0000 UTC OF 27<sup>TH</sup> MAY. IT IS LIKELY DECREASE THEREAFTER GRADUALLY 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 27<sup>TH</sup> MAY.
- ❖ SQUALLY WIND SPEED REACHING 50-60 KMPH GUSTING TO 70 KMPH IS PREVAILING OVER HOWRAH, HOOGLY, KOLKATA AND EAST MEDINIPUR DISTRICTS. IT WILL INCREASE GRADUALLY BECOMING GALE WIND SPEED REACHING 70-80 KMPH GUSTING TO 90 KMPH OVER THESE DISTRICTS TILL 0000 UTC OF 27<sup>TH</sup> 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 NORTH ODISHA COASTS

**SQUALLY WIND SPEED REACHING 50-60 KMPH GUSTING TO 70 KMPH** IS LIKELY TO PREVAIL TILL 0000 UTC OF 27<sup>TH</sup> MAY.

## (D) NORTHEASTERN STATES

SQUALLY WIND SPEED REACHING 50-60 KMPH GUSTING TO 70 KMPH IS LIKELY OVER MIZORAM TRIPURA & SOUTH MANIPUR ON 26<sup>TH</sup> & 27<sup>TH</sup> MAY AND 40-50 KMPH GUSTING TO 60 KMPH IS LIKELY OVER SOUTH ASSAM AND MEGHALAYA ON 27<sup>TH</sup> MAY.

## **STORM SURGE WARNING:**

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.

#### **SEA CONDITION WARNING:**

## (A) NORTH BAY OF BENGAL

HIGH TO VERY HIGH SEA CONDITION IS LIKELY OVER NORTH BAY OF BENGAL TILL  $27^{\text{TH}}$  MAY MORNING.

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

HIGH TO VERY HIGH SEA CONDITION WOULD PREVAIL ALONG & OFF BANGLADESH AND WEST BENGAL COASTS TILL 0000 UTC OF  $27^{TH}$  MAY.

## (C) ALONG &OFF NORTH ODISHA COAST

VERY ROUGH SEA CONDITION IS LIKELY ALONG & OFF NORTH ODISHA COAST TILL 0000 UTC OF  $27^{TH}$  MAY.

#### (D) CENTRAL BAY OF BENGAL

VERY ROUGH TO HIGH SEA CONDITION IS PREVAILING OVER CENTRAL BAY OF BENGAL AND IT IS LIKELY TO IMPROVE FROM 1500 UTC OF 26<sup>TH</sup> MAY.

## FISHERMEN WARNING (GRAPHICS ATTACHED):

FISHERMEN ARE ADVISED NOT TO VENTURE INTO CENTRAL BAY OF BENGAL ON  $26^{TH}$  MAY AND NORTH BAY OF BENGAL TILL  $27^{TH}$  MAY.

## **REMARKS**

THE MADDEN JULIAN OSCILLATION (MJO) INDEX IS CURRENTLY IN PHASE 4 WITH AMPLITUDE MORE THAN 1. IT'S PHASE & AMPLITUDE ARE HIGHLY CONDUCIVE FOR FURTHER INTENSIFICATION OVER THE BAY OF BENGAL (BOB) DURING NEXT 12 HOURS.

STRONG EASTERLY WINDS (5-7 MPS) OVER NORTH BOB, WESTERLY WINDS (5-7 MPS) OVER THE SOUTH & CENTRAL BOB ALONGWITH COUPLED KELVIN WAVES, EQUATORIAL ROSSBY WAVES AND MJO WILL SUPPORT FURTHER INTENSIFICATION OF SYSTEM DURING NEXT 12 HOURS.

THE TROPICAL CYCLONE HEAT POTENTIAL (TCHP) IS MORE THAN 100 KJ/CM<sup>2</sup> 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

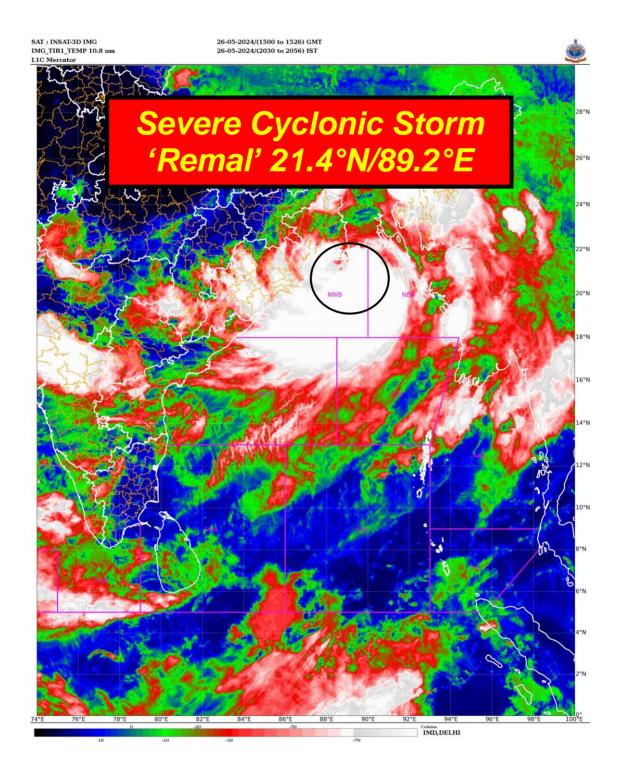
## INTENSIFCATION OF SYSTEM.

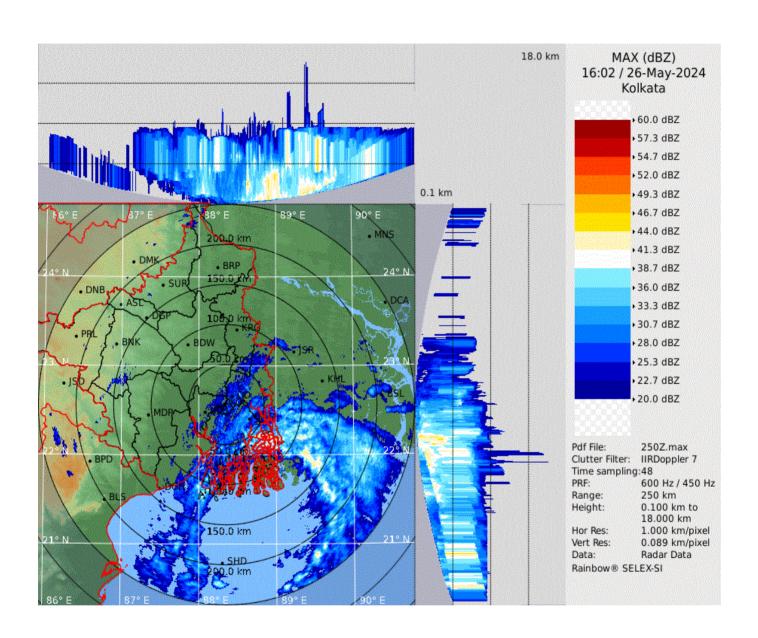
CONSIDERING THE ENVIRONMENTAL CONDITIONS, LOW LEVEL VORTICITY IS ABOUT 250x10<sup>-5</sup>S<sup>-1</sup> OVER NORTH BAY OF BENGAL WITH VERTICAL EXTENSION UPTO 200 HPA LEVEL. LOW LEVEL CONVERGENCE IS ABOUT 30x10<sup>-5</sup>S<sup>-1</sup> TO THE WEST OF THE SYSTEM CENTER. STRONG EQUATORWARD OUTFLOW IS SEEN. UPPER LEVEL DIVERGENCE IS ABOUT 30x10<sup>-5</sup>S<sup>-1</sup> TO THE SOUTHEAST OF THE SYSTEM CENTRE. VERTICAL WIND SHEAR (VWS) IS ANTICYCLONIC AND LOW (05-10 KT) ALONG THE FORECAST TRACK. MID LEVEL WIND SHEAR IS ANTICYCLONIC OVER THE SYSTEM AREA WHICH WILL SUPPORT FURTHER INTENSIFICATION. THE SYSTEM IS MOVING SLOWLY, AS ITS CENTRE LAY CLOSE TO RIDGE. THEREAFTER, SYSTEM WOULD LAY TO THE NORTH OF RIDGE LEADING TO NORTHNORTHEASTWARDS MOVEMENT.

THE SYSTEM IS VERY LIKELY TO MOVE NEARLY NORTHWARDS AND CROSS BANGLADESH AND ADJOINING WEST BENGAL COASTS BETWEEN SAGAR ISLAND AND KHEPUPARA, CLOSE TO SOUTHWEST OF MONGLA (BANGLADESH) BY 1800 UTC OF TODAY, THE 26TH MAY 2024 AS A SEVERE CYCLONIC STORM WITH MAXIMUM SUSTAINED WIND SPEED OF 110-120 KMPH GUSTING TO 135 KMPH. FORWARD SECTOR OF WALL CLOUD REGION IS ENTERING INTO LAND. THE LANDFALL PROCESS HAS COMMENCED OVER COASTAL AREAS OF BANGLADESH AND ADJOINING WEST BENGAL. IT WILL CONTINUE FOR NEXT 4 HOURS.

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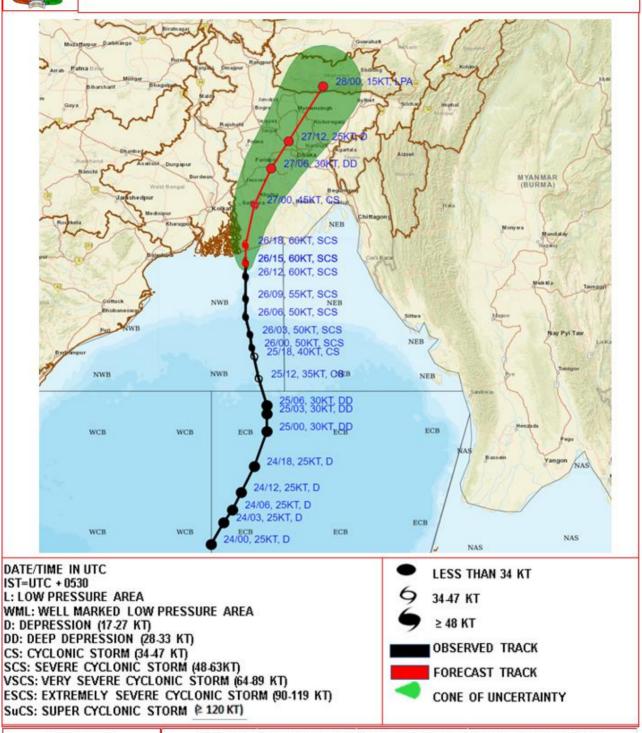
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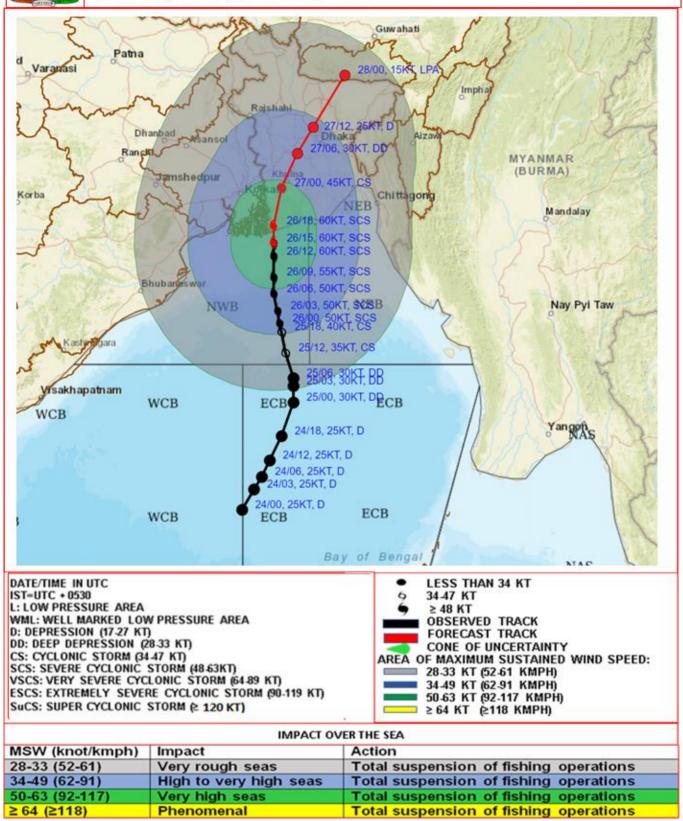
FORECAST TRACK ALONGWITH CONE OF UNCERTAINITY IN ASSOCIATION WITH SEVERE CYCLONIC STORM 'REMAL' OVER NORTH BAY OF BENGAL BASED ON 1500 UTC (2030 IST) OF 26<sup>TH</sup> MAY 2024.



Forecast	DISTANCE (KM) AND DIRECTION FROM STATIONS			
Date and Time (UTC)	Canning	Sagar Island	Khepupara	Mongla
26.05.24/0900	110, SSE	110, ESE	120, WSW	130, SSW
26.05.24/1200	140, SSE	130, ESE	140, SW	160, S
26.05.24/1800	80, SE	110, E	100, WSW	90, SSW

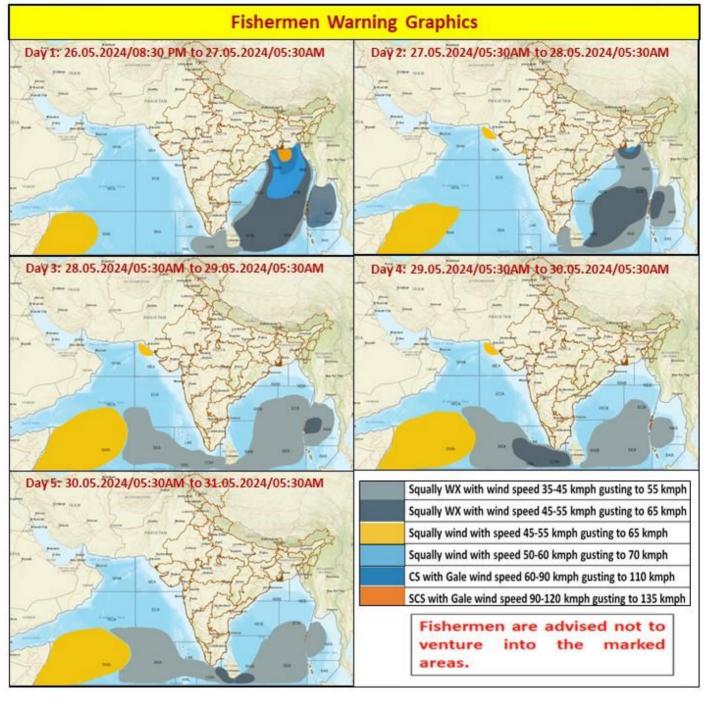


FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION IN ASSOCIATION WITH SEVERE CYCLONIC STORM 'REMAL' OVER NORTH BAY OF BENGAL BASED ON 1500 UTC (2030 IST) OF 26TH MAY 2024.









## **Storm Surge Warning Graphics**

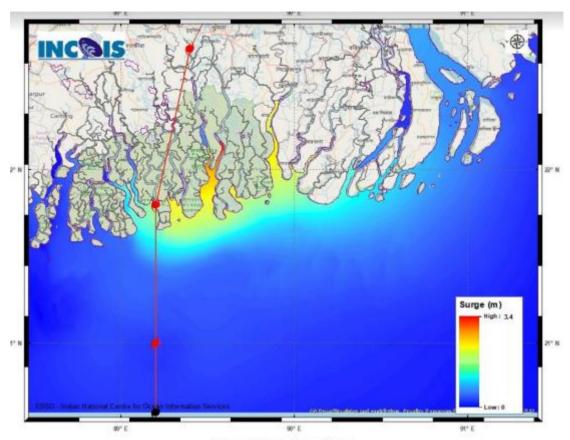
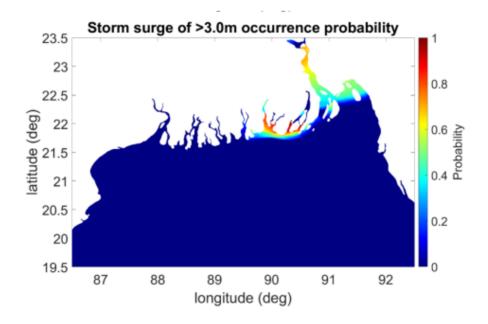


Figure: Storm Surge Map

## (B) PROBABILITY OF EXCEEDANCE OF STORM SURGE >3.0M

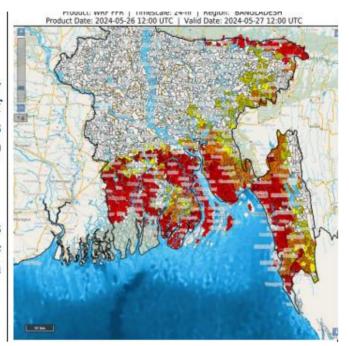


## 24 hours Flash Flood Risk Outlook till 1200 UTC of 27.05.2024 FOR BANGLADESH:

## 24 hours Flash Flood Risk Outlook till 1200 UTC of 27.05.2024:

Moderate to High flash flood risk likely over few watersheds & neighbourhoods of coastal region and adjoining southern parts of Bangladesh (as indicated in adjacent map) during next 24 hours.

Surface runoff may occur on low lying areas due to persistent rainfall under the influence of impending Severe Cyclonic Storm "Remal" in next 24 hours.

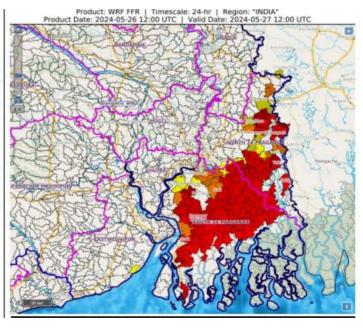


## 24 hours Flash Flood Risk Outlook till 1730 UTC of 27.05.2024 FOR WEST BENGAL

## 24 hours Outlook for the Flash Flood Risk (FFR) till 1730 IST of 27-05-2024 :

Moderate to High flash flood risk likely over few watersheds & neighbourhoods of extreme southern parts of Gangetic West Bengal Met Sub-divisions during next 24 hours.

Surface runoff may occur on low lying areas due to persistent rainfall under the influence of impending Severe Cyclonic Storm "Remal" in next 24 hours.



Flash Flood Threat	Flash Flood Risk	
High Threat (Take Action)	High Risk (Take Action)	
Moderate threat (Be Prepared)	Moderate Risk (Be Prepared)	
Low Threat (Be Updated)	Low Risk (Be Updated)	