



REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY NO. 2

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 17.11.2023

FROM: RSMC –TROPICAL CYCLONES, NEW DELHI

TO: STORM WARNING CENTRE, DHAKA (BANGLADESH)
STORM WARNING CENTRE, NAYPYI TAW (MYANMAR)
STORM WARNING CENTRE, BANGKOK (THAILAND)
STORM WARNING CENTRE, COLOMBO (SRILANKA)
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. 2 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0600 UTC OF 17.11.2023 BASED ON 0300 UTC OF 17.11.2023

SUB: CYCLONIC STORM “MIDHILI” (PRONOUNCED AS “MIDHILI”) OVER NORTHWEST BAY OF BENGAL

THE CYCLONIC STORM “MIDHILI” (PRONOUNCED AS “MIDHILI”) OVER NORTHWEST BAY OF BENGAL MOVED NORTH-NORTHEASTWARDS WITH A SPEED OF 26 KMPH DURING PAST 6 HOURS AND LAY CENTERED AT 0300 UTC OF TODAY, THE 17TH NOVEMBER OVER NORTHWEST AND ADJOINING NORTHEAST BAY OF BENGAL NEAR LATITUDE 20.8°N AND LONGITUDE 89.0°E, ABOUT 250 KM EAST-NORTHEAST OF PARADIP (42976, ODISHA), 180 KM EAST-SOUTHEAST OF DIGHA (42901, WEST BENGAL) AND 180 KM SOUTHWEST OF KHEPUPARA (41984, BANGLADESH).

IT IS LIKELY TO CONTINUE TO MOVE NORTH-NORTHEASTWARDS AND CROSS BANGLADESH COAST CLOSE TO KHEPUPARA WITH WIND SPEED OF 60-70 KMPH GUSTING TO 80 KMPH DURING 1200 UTC TO 1800 UTC OF 17TH NOVEMBER, 2023.

FORECAST TRACK AND INTENSITY ARE GIVEN BELOW:

DATE/TIME (UTC)	POSITION LAT. °N/ LONG. °E	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
17.11.23/0300	20.8/89.0	65-75 KMPH GUSTING TO 85 KMPH	CYCLONIC STORM
17.11.23/0600	21.3/89.5	70-80 KMPH GUSTING TO 90 KMPH	CYCLONIC STORM
17.11.23/1200	22.0/90.1	60-70 KMPH GUSTING TO 80 KMPH	CYCLONIC STORM
17.11.23/1800	22.6/90.6	55-65 KMPH GUSTING TO 75 KMPH	DEEP DEPRESSION
18.11.23/0000	23.2/91.2	40-50 KMPH GUSTING TO 60 KMPH	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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THE ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 35 KNOTS GUSTING TO 45 KNOTS. THE WINDS ARE RELATIVELY STRONGER IN NORTHEAST SECTOR. THE ESTIMATED CENTRAL PRESSURE IS 1002 HPA. HIGH SEA CONDITION IS PREVAILING OVER NORTH BAY OF BENGAL AND ALONG & OFF BANGLADESH COAST AND ADJOINING MYANMAR COAST AND LIKELY TO CONTINUE TILL 1800 UTC OF 17TH NOVEMBER. VERY ROUGH TO ROUGH TO SEA CONDITION IS LIKELY ALONG & OFF WEST BENGAL COAST THEREAFTER TILL 18TH NOVEMBER 0600 UTC. ROUGH TO VERY ROUGH SEA CONDITION IS LIKELY OVER ALONG & OFF WEST BENGAL BAY OF BENGAL TILL 18TH NOVEMBER MORNING.

INTENSITY OF THE SYSTEM IS CHARACTERISED AS T2.5. CLOUDS ASSOCIATED WITH THE CYCLONIC STORM ARE ORGANISED IN SHEAR PATTERN. BROKEN LOW & MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER NORTH BAY OF BENGAL BETWEEN 20.0°N & 23.0°N AND LONGITUDE 88.0°E & 92.0°E, SOUTHEAST GANGETIC WEST BENGAL, SOUTH BANGLADESH (MINIMUM CLOUD TOP TEMPERATURE IS -93⁰C) AND MODERATE TO INTENSE CONVECTION OVER NORTHEAST STATES AND NORTH BANGLADESH. LATEST IMAGERY INDICATES THE SPIRAL BAND HAS ENTERED INTO LAND OVER COASTAL BANGLADESH HENCE LAND INTERACTION HAS STARTED. THE CONVECTIVE CLOUD MASS ALSO LIES OVER MIZORAM AND TRIPURA WHICH MAY LEAD TO INTENSE PRECIPITATION OVER BANGLADESH, TRIPURA AND MIZORAM. LATEST ASCAST IMAGERY INDICATES 40 KT WINDS NEAR BANGLADESH COAST OVER NORTH BAY OF BANGAL.

STORM SURGE GUIDANCE:

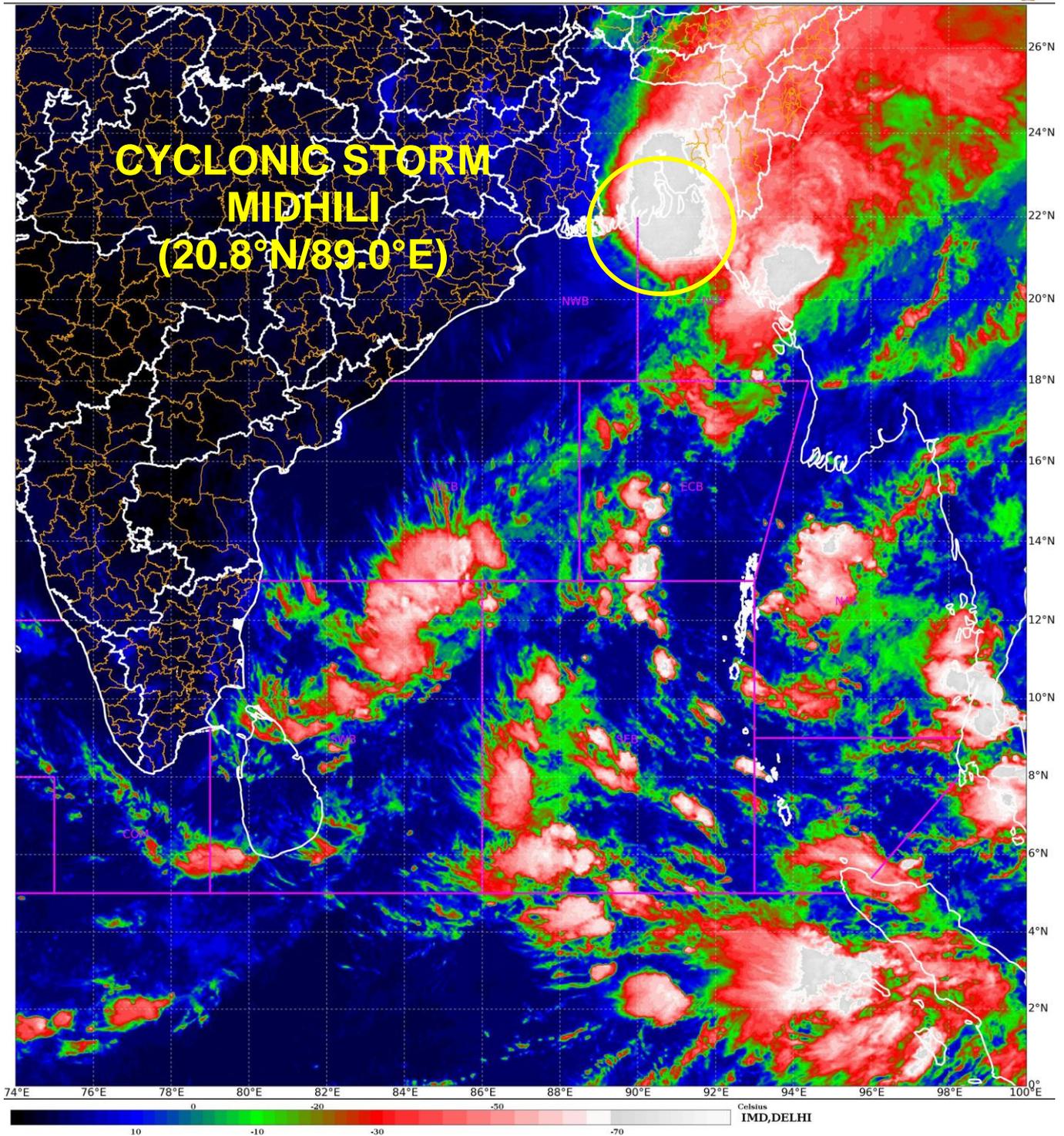
STORM SURGE OF ABOUT 1-2 METER HEIGHT ABOVE THE ASTRONOMICAL TIDE IS LIKE TO INUNDATE LOW LYING AREAS OF BANGLADESH NEAR THE LANDFALL POINT AT THE TIME OF LANDFALL.

Remarks:

MADDEN JULIAN OSCILLATION INDEX IS IN PHASE 1 WITH AMPLITUDE CLOSE TO 1. IT WOULD MOVE TO PHASE 2 FROM 19TH NOVEMBER ONWARDS, WITH AMPLITUDE BECOMING MORE THAN 1. SEA SURFACE TEMPERATURE IS AROUND 28°C OVER THE SYSTEM AREA. THE TROPICAL CYCLONE HEAT POTENTIAL IS 70-80 KJ/CM² OVER SYSTEM AREAS AND TOWARDS THE TRACK OVER NORTH BAY OF BANGAL. THE LOW LEVEL RELATIVE POSITIVE VORTICITY IS AROUND $150 \times 10^{-6} \text{ S}^{-1}$ TO THE SOUTHEAST OF SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL. THE POSITIVE LOW LEVEL CONVERGENCE IS ABOUT $30 \times 10^{-5} \text{ S}^{-1}$ AROUND THE SYSTEM CENTER. POSITIVE UPPER LEVEL DIVERGENCE REMAINS SAME AND IS ABOUT $40 \times 10^{-5} \text{ S}^{-1}$ TO THE NORTHEAST OF SYSTEM AREA. WIND SHEAR IS HIGH (AROUND 40 KNOTS) OVER SYSTEM AREA AND ALSO ALONG & OFF WEST BENGAL-BANGLADESH COASTS. HOWEVER, ACTUAL OBSERVATION INDICATES THAT MIDDLE LEVEL WIND SHEAR IS VERY LESS WHICH HAS HELPED INTENSIFICATION OF THE SYSTEM. UPPER TROPOSPHERIC RIDGE RUNS ALONG 16⁰N.

THE GUIDANCE FROM VARIOUS NUMERICAL MODELS (IMD GFS, NCEP GFS, ECMWF AND IMD MME) AND ENVIRONMENTAL FEATURES SUGGEST THAT THE CYCLONIC STORM “MIDHILI” (PRONOUNCED AS “MIDHILI”) IS LIKELY TO CONTINUE TO MOVE NORTH-NORTHEASTWARDS AND CROSS BANGLADESH COAST CLOSE TO KHEPUPARA WITH WIND SPEED OF 60-70 KMPH GUSTING TO 80 KMPH DURING 1200 UTC TO 1800 UTC OF 17TH NOVEMBER, 2023.

(D.R. PATTANAİK)
SCIENTIST-F, RSMC



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OBSERVED AND FORECAST TRACK AND INTENSITY ALONGWITH CONE OF UNCERTAINTY IN ASSOCIATION WITH CYCLONIC STORM MIDHILI OVER NORTHWEST AND ADJOINING NORTHEAST BAY OF BENGAL BASED ON 0300 UTC (0830 HRS IST) OF 17TH NOVEMBER 2023.



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

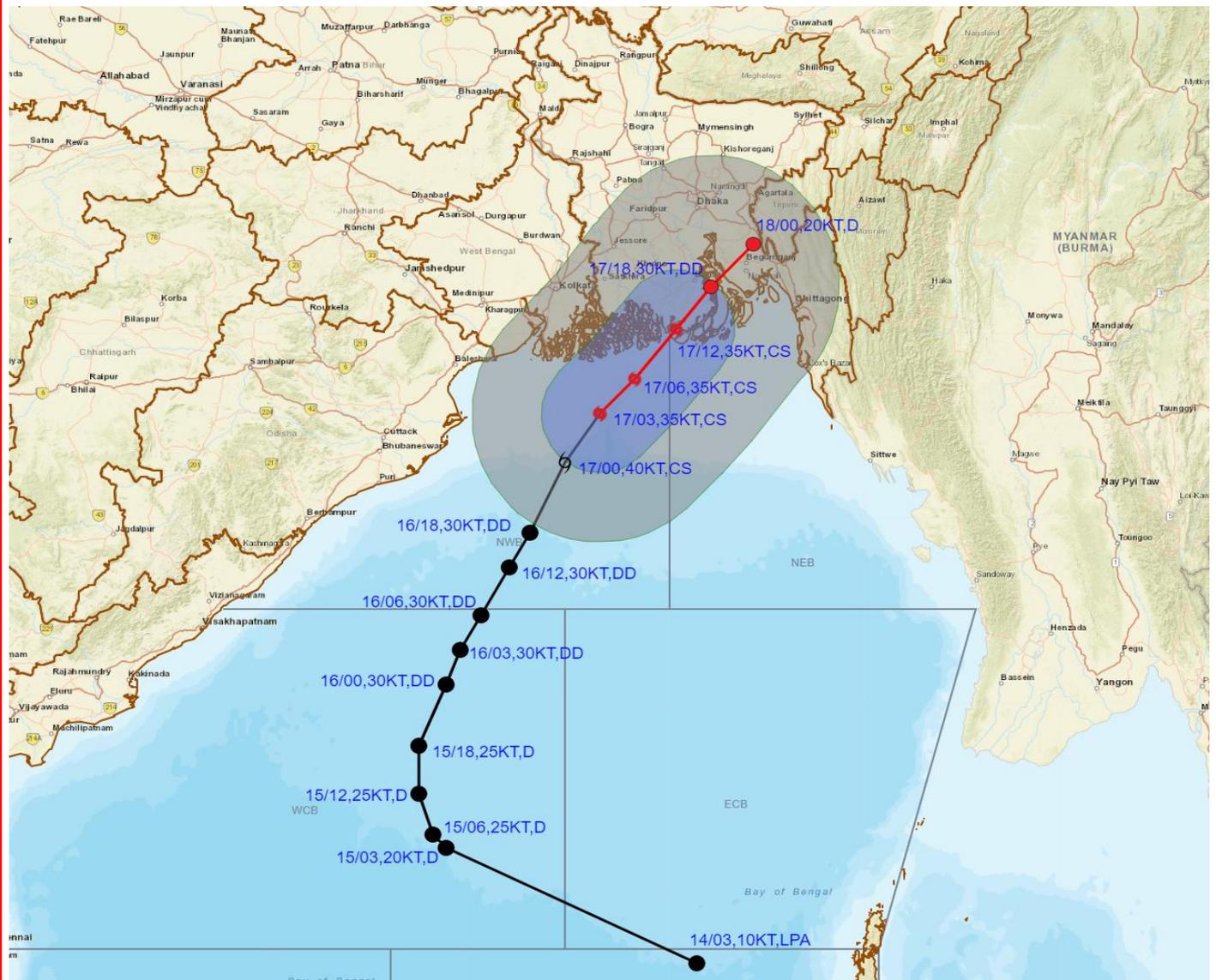
▲ CONE OF UNCERTAINTY

Forecast	DISTANCE (KM) AND DIRECTION FROM STATIONS			
Date and Time (UTC)	PARADIP (CWR)	DIGHA	KHEPUPARA	CHITTAGONG (AMBAGAN)
17.11.23/0300	270, SSE	410, S	540, SSW	680 SW
18.11.23/0000	570, NE	420, ENE	170, NE	110, NNW

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OBSERVED AND FORECAST TRACK AND INTENSITY ALONG WITH QUADRANT WIND DISTRIBUTION IN ASSOCIATION WITH CYCLONIC STORM MIDHILI NORTHWEST AND ADJOINING NORTHEAST BAY OF BENGAL BASED ON 0300 UTC (0830 HRS IST) OF 17TH NOVEMBER 2023.



DATE/TIME IN UTC
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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

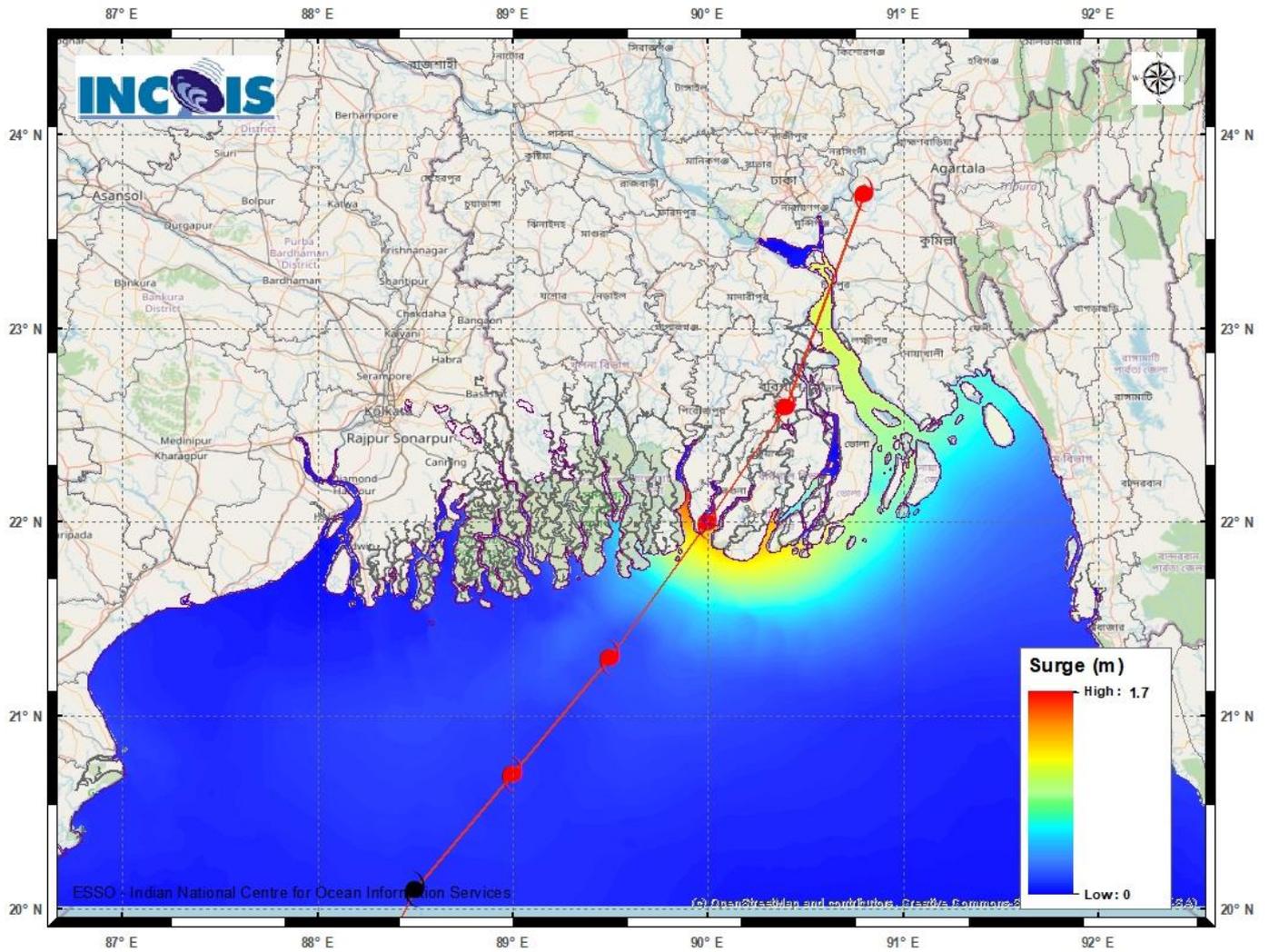
MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥ 118)	Phenomenal	Total suspension of fishing operations

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Fishermen warning graphics



Storm Surge Guidance



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Flash Flood Guidance

24 hours Outlook for the Flash Flood Risk (FFR) till 1730 IST of 17-11-2023

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

Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 24 hours.

