



REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY NO. 20

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 13.05.2023

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. 20 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 1130 UTC OF 13.05.2023 BASED ON 0900 UTC OF 13.05.2023

SUBJECT: EXTREMELY SEVERE CYCLONIC STORM “MOCHA” (PRONOUNCED AS “MOKHA”) OVER EASTCENTRAL BAY OF BENGAL

THE **EXTREMELY SEVERE CYCLONIC STORM “MOCHA”** (PRONOUNCED AS **“MOKHA”**) OVER EastcENTRAL BAY OF BENGAL MOVED NEARLY NORTHEASTWARDS WITH A SPEED OF 19 KMPH DURING PAST 06 HOURS AND LAY CENTERED AT 0900 UTC OF TODAY, THE 13TH MAY 2023 OVER THE SAME REGION NEAR LATITUDE 16.4°N AND LONGITUDE 90.3°E, ABOUT 590 KM NORTH-NORTHWEST OF PORT BLAIR (INDIA, 43333), 580 KM SOUTH-SOUTHWEST OF COX'S BAZAR (BANGLADESH, 41992) AND 490 KM SOUTH-SOUTHWEST OF SITTWE (MYANMAR, 48062).

IT IS VERY LIKELY TO MOVE NORTH-NORTHEASTWARDS AND CROSS SOUTHEAST BANGLADESH AND NORTH MYANMAR COASTS BETWEEN COX'S BAZAR (BANGLADESH, 41992) AND KYAUKPYU (MYANMAR, 48071), CLOSE TO SITTWE (MYANMAR) AROUND 0600 UTC OF 14TH MAY, 2023 AS AN EXTREMELY SEVERE CYCLONIC STORM WITH MAXIMUM SUSTAINED WIND SPEED OF 170-180 KMPH GUSTING TO 200 KMPH.

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
13.05.23/0900	16.4/90.3	190-200 GUSTING TO 220	EXTREMELY SEVERE CYCLONIC STORM
13.05.23/1200	16.8/90.7	200-210 GUSTING TO 230	EXTREMELY SEVERE CYCLONIC STORM
13.05.23/1800	17.9/91.2	200-210 GUSTING TO 230	EXTREMELY SEVERE CYCLONIC STORM
14.05.23/0000	19.1/91.8	190-200 GUSTING TO 220	EXTREMELY SEVERE CYCLONIC STORM
14.05.23/0600	20.2/92.6	170-180 GUSTING TO 200	EXTREMELY SEVERE CYCLONIC STORM
14.05.23/1800	22.5/94.4	90-100 GUSTING TO 110	SEVERE CYCLONIC STORM
15.05.23/0600	24.8/96.7	50-60 GUSTING TO 70	DEPRESSION

THE MAXIMUM SUSTAINED SURFACE WIND SPEED IS 105 KNOTS GUSTING TO 115 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 950 HPA. SEA CONDITION IS PHENOMENAL OVER EAST CENTRAL AND ADJOINING WESTCENTRAL BAY OF BENGAL.

AS PER SATELLITE IMAGERY, INTENSITY IS T 5.5. RAGGED EYE IS SEEN AT 0900 UTC. ASSOCIATED BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER EASTCENTRAL BAY OF BENGAL BETWEEN 12.5°N & 20.0°N AND 87.0°E & 94.0°E. MINIMUM CLOUD TOP TEMPERATURE (CTT) IS MINUS 93 DEG CELSIUS. STRONG POLEWARD OUTFLOW IS SEEN. MICROWAVE IMAGERIES ARE INDICATING PROMINENT SOUTHWESTWARDS TILTING OF THE SYSTEM WITH HEIGHT (SSMIS, 0513 UTC AND ATMS 0513 UTC).

STORM SURGE GUIDANCE (GRAPHICS ATTACHED) FOR NORTH MYANMAR AND ADJOINING SOUTHEAST BANGLADESH COASTS:

STORM SURGE WITH HEIGHT OF ABOUT 2.5-3.0 M ABOVE THE ASTRONOMICAL TIDE IS LIKELY TO INUNDATE LOW LYING AREAS OF NORTH MYANMAR AND ADJOINING SOUTHEAST BANGLADESH COASTS DURING THE TIME OF LANDFALL.

REMARKS:

THE TROPICAL CYCLONE HEAT POTENTIAL (TCHP) IS ABOUT 50-75 KJ/CM² UPTO NORTHEAST BAY OF BENGAL AND REDUCES NEAR THE BANGLADESH MYANMAR COAST. SEA SURFACE TEMPERATURE (SST) HAS DECREASED AND IS AROUND 30°C OVER EASTCENTRAL BOB AND ALONG FORECAST TRACK. TOTAL PRECIPITABLE WATER IMAGERY IS INDICATING DRY AIR FROM INDIA REACHING THE SOUTHERN SECTOR IN THE OUTER CORE OF THE SYSTEM.

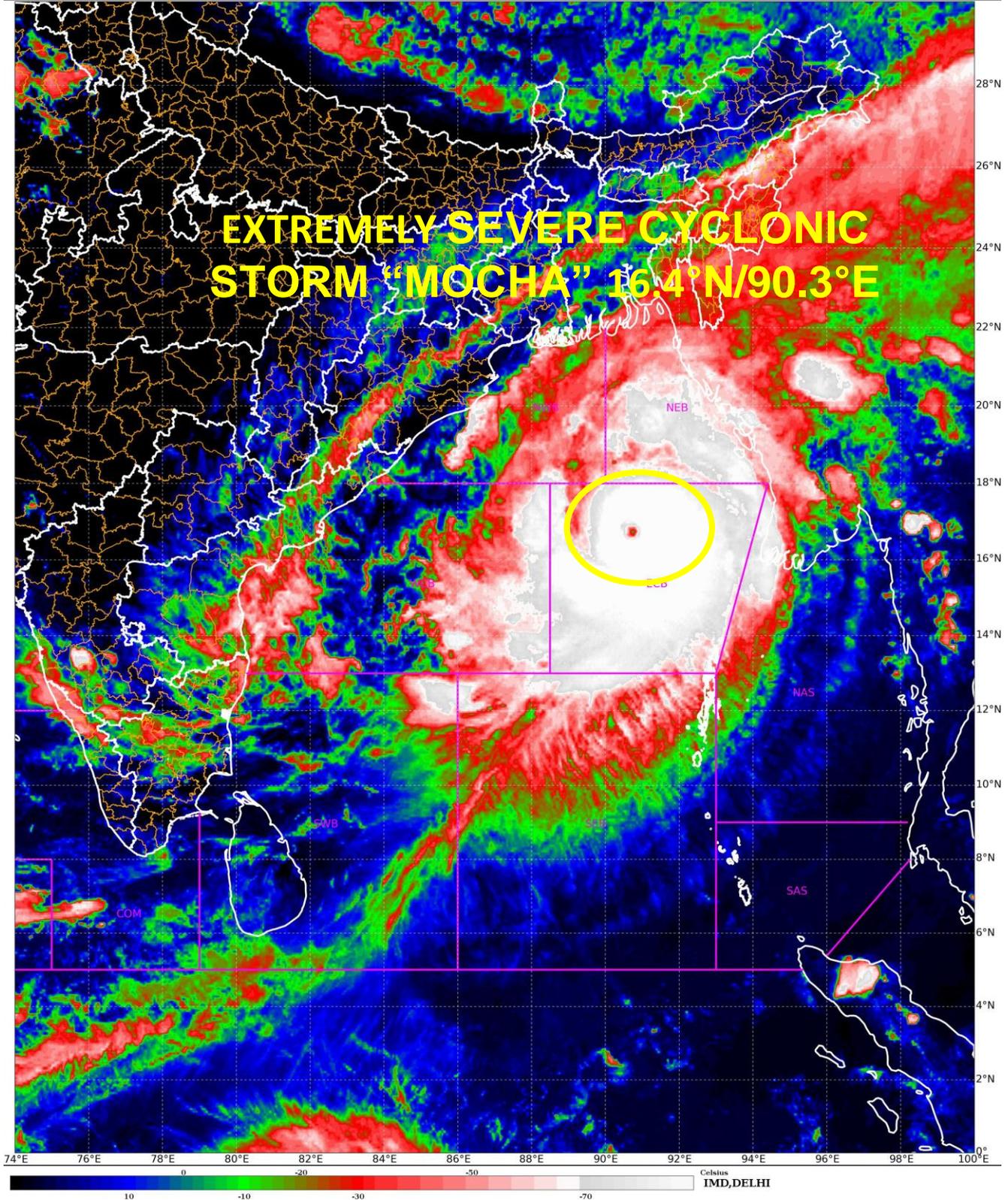
CONSIDERING THE ENVIRONMENTAL CONDITIONS, THE LOW LEVEL VORTICITY AT 850 HPA IS AROUND 300X10⁻⁶S⁻¹ CLOSE TO SOUTHEAST OF SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 200 HPA LEVELS. LOW LEVEL CONVERGENCE IS AROUND 20 X10⁻⁵ S⁻¹ CLOSE TO WEST OF SYSTEM CENTRE. UPPER LEVEL DIVERGENCE IS ABOUT 20X10⁻⁵S⁻¹ OVER SYSTEM AREA AND IS ORIENTED NORTH-NORTHEASTWARDS. THE VERTICAL WIND SHEAR IS MODRATE (15-20 KNOTS) AROUND SYSTEM CENTER. IT IS HIGH ABOUT 25-30 KTS OVER NORTHEAST BAY OF BENGAL AND ALONG & OFF BANGLADESH-MYANMAR COASTS. POLEWARD OUTFLOW, WARM SST AND HIGH LOW LEVEL VORTICITY WOULD FAVOUR GRADUAL INTENSIFICATION OF SYSTEM.

THERE IS AN ANTICYCLONIC CIRCULATION OVER NORTH ANDAMAN SEA AND ADJOINING AREAS. DEEP LAYER MEAN WINDS INDICATE THAT THE SYSTEM IS

EMBEDDED IN THE WESTERLY FLOW. UNDER THE INFLUENCE OF THESE SYSTEMS, IT IS LIKELY TO MOVE NORTH-NORTHEASTWARDS.

IN VIEW OF ALL THE ABOVE, THE EXTREMELY SEVERE CYCLONIC STORM "MOCHA" IS VERY LIKELY TO MOVE NORTH-NORTHEASTWARDS AND CROSS SOUTHEAST BANGLADESH AND NORTH MYANMAR COASTS BETWEEN COX'S BAZAR (BANGLADESH, 41992) AND KYAUKPYU (MYANMAR, 48071), CLOSE TO SITTWE (MYANMAR, 48062) AROUND NOON OF 14TH MAY, 2023 AS A VERY SEVERE CYCLONIC STORM WITH MAXIMUM SUSTAINED WIND SPEED OF 170-180 KMPH GUSTING TO 200 KMPH.

(M.SHARMA)
SCIENTIST-D
RSMC NEW DELHI





OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF EXTREMELY SEVERE CYCLONIC STORM MOCHA OVER EASTCENTRAL BAY OF BENGAL BASED ON 0600 UTC (1130 IST) OF 13TH MAY 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 (\geq 120 KT)

- LESS THAN 34 KT
- 34.47 KT
- \geq 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- ▲ CONE OF UNCERTAINTY

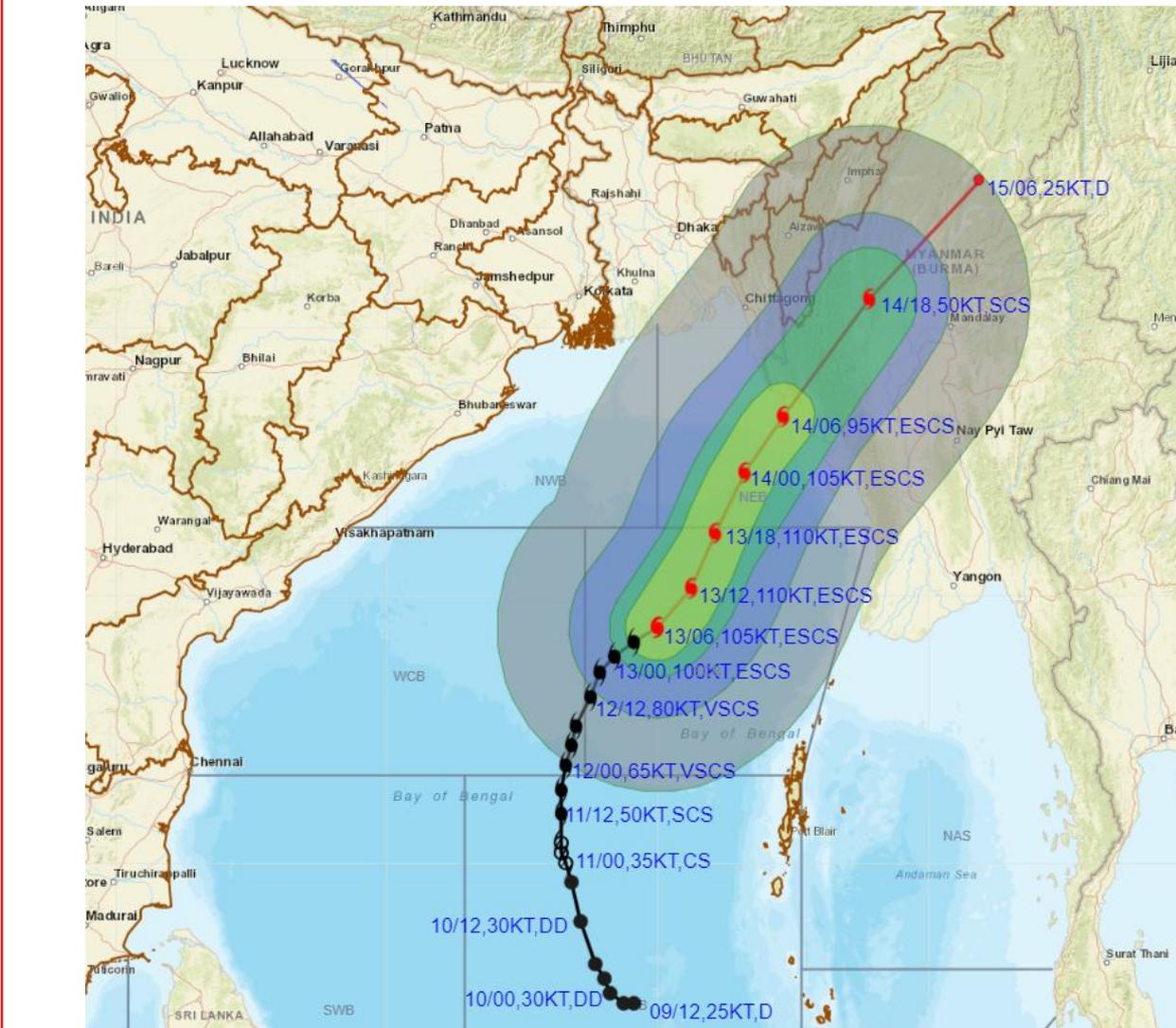
Forecast distance (km) and direction of the centre from nearest 5 coastal stations

Forecast Date and Time	Lead Period	Lat	Lon	Station 1	Station 2	Station 3	Station 4	Station 5
13.05.23/0600	0	16.0	90.0	COCO ISLAND (418,WNW)	MAYA BANDAR (465,NW)	MANAUNG (508,SW)	LONG ISLAND (509,NW)	PATHEIN (516,W)
14.05.23/0600	24	20.2	92.6	SITTWE (31,WNW)	KYAUKTAW (72,S)	TEKNAF (81,SSE)	KYAUKPYU (132,NW)	COX'S BAZAR (154,SSE)
15.05.23/0600	48	24.8	96.7	BHAMO (78,NW)	KATHA (80,NNE)	MYITKYINA (95,SW)	PINLEBU (157,ENE)	HKAMTI (167,SE)

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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OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF EXTREMELY SEVERE CYCLONIC STORM MOCHA OVER EASTCENTRAL BAY OF BENGAL BASED ON 0600 UTC (1130 IST) OF 13TH MAY 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)

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ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (\geq 120 KT)

● LESS THAN 34 KT

○ 34-47 KT

● \geq 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)

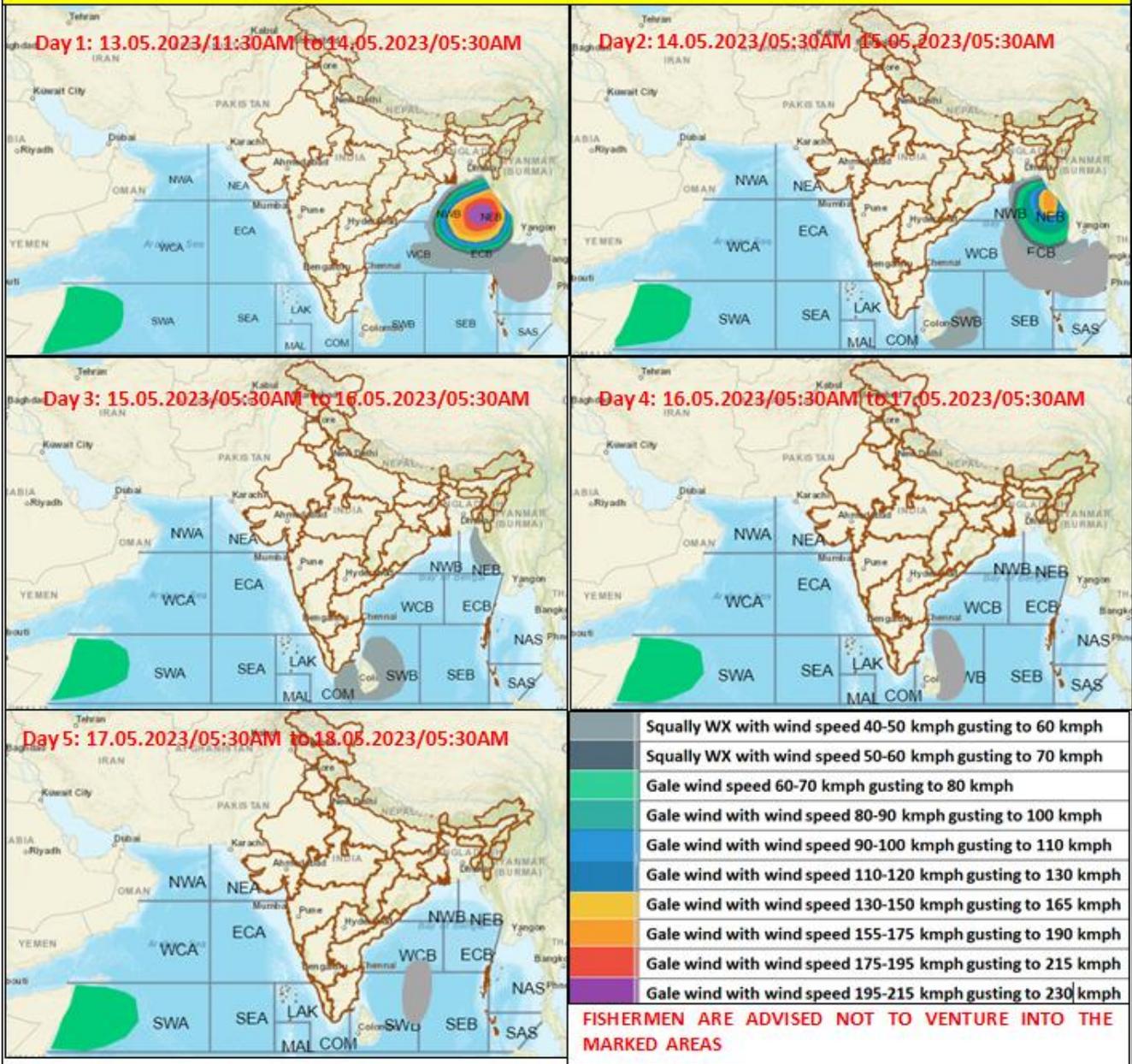
■ \geq 64 KT (\geq 118 KMPH)

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
\geq 64 (\geq 118)	Phenomenal	Total suspension of fishing operations

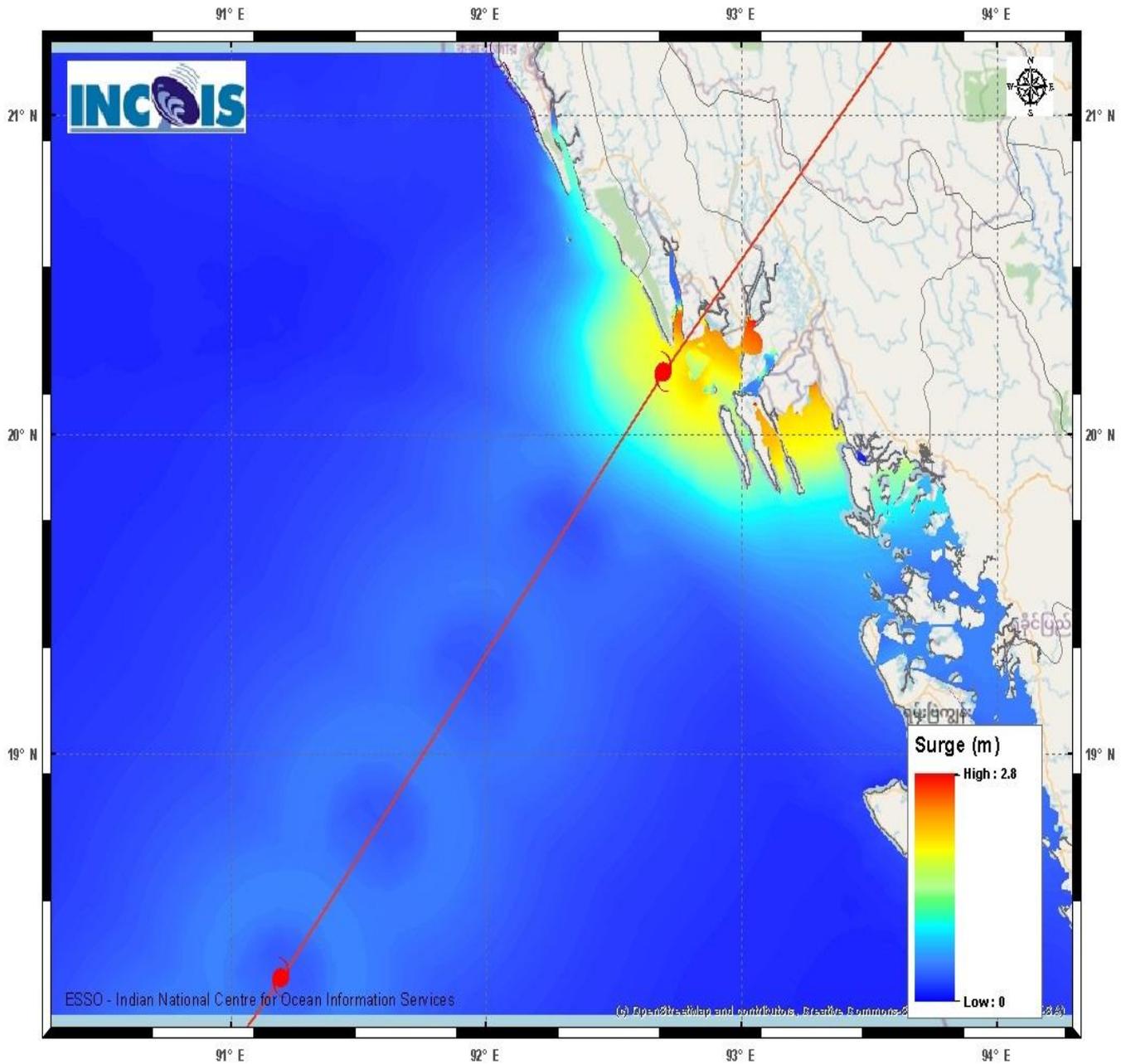
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Fishermen warning graphics



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Storm Surge Warning Graphics



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