



REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY NO. 17

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. 17 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0330 UTC OF 13.05.2023 BASED ON 0000 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 8 KMPH DURING PAST 06 HOURS LAY CENTERED AT 0000UTC OF TODAY, THE 13TH MAY 2023 OVER THE SAME REGION NEAR LATITUDE 15.4°N AND LONGITUDE 89.1°E, ABOUT 570 KM NORTH-NORTHWEST OF PORT BLAIR(INDIA, 43333), 730 KM SOUTH-SOUTHWEST OF COX’S BAZAR (BANGLADESH,41992) AND 660 KM 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,48062) AROUND NOON OF 14TH MAY, 2023 AS A **VERY SEVERE CYCLONIC STORM WITH MAXIMUM SUSTAINED WIND SPEED OF 150-160 KMPH GUSTING TO 175 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
13.05.23/0000	15.4/89.1	180-190 GUSTING TO 210	EXTREMELY SEVERE CYCLONIC STORM
13.05.23/0600	16.3/89.8	190-200 GUSTING TO 220	EXTREMELY SEVERE CYCLONIC STORM
13.05.23/1200	17.2/90.5	190-200 GUSTING TO 220	EXTREMELY SEVERE CYCLONIC STORM
13.05.23/1800	18.2/91.1	180-190 GUSTING TO 210	EXTREMELY SEVERE CYCLONIC STORM
14.05.23/0000	19.2/91.8	170-180 GUSTING TO 200	EXTREMELY SEVERE CYCLONIC STORM
14.05.23/0600	20.2/92.6	150-160 GUSTING TO 175	VERY SEVERE CYCLONIC STORM
14.05.23/1200	21.3/93.6	115-125 GUSTING TO 140	VERY SEVERE CYCLONIC STORM
15.05.23/0000	23.3/95.5	55-65 GUSTING TO 75	DEEP DEPRESSION
15.05.23/1200	25.4/97.4	40-50 GUSTING TO 60	DEPRESSION

THE MAXIMUM SUSTAINED SURFACE WIND SPEED IS 100 KNOTS GUSTING TO 110 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 952 HPA. SEA CONDITION IS PHENOMENAL OVER EAST CENTRAL AND ADJOINING WESTCENTRAL BAY OF BENGAL.

AS PER SATELLITE IMAGERY, INTENSITY IS CI 5.5. CLOUD BANDING IS THICK AND WELL DEFINED IN IR IMAGERY. MICROWAVE IMAGERY SHOWS INTENSE CONVECTION IN THE SOUTH WEST SECTOR OF THE SYSTEM CENTRE (.). ASSOCIATED BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER CENTRAL AND ADJOINING SOUTH BAY OF BENGAL BETWEEN 12.0°N & 17.0°N AND 86.0°E & 93.0°E. MINIMUM CLOUD TOP TEMPERATURE (CTT) IS MINUS 93 DEG CELSIUS.

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 MORE THAN 100 KJ/CM² OVER CENTRAL PARTS OF BAY OF BENGAL (BOB). IT IS INDICATING DECREASING TENDENCY ABOUT 60-70 KJ/CM² ALONG MYANMAR COAST. SEA SURFACE TEMPERATURE (SST) IS AROUND 31°C OVER EASTCENTRAL BOB AND AROUND 29-30°C OVER NORTHEAST BOB. TOTAL PRECIPITABLE WATER IMAGERY (TPW) INDICATES WARM MOIST AIR INCURSION FROM SOUTH-SOUTHWEST SECTOR INTO THE SYSTEM AREA TILL LANDFALL. THESE FEATURES INDICATE THE SYSTEM LIKELY TO MAINTAIN ITS INTENSITY TILL 0000 UTC OF 14TH MAY.

CONSIDERING THE ENVIRONMENTAL CONDITIONS, THE LOW LEVEL VORTICITY AT 850 HPA IS AROUND 300X10⁻⁶S⁻¹ TO THE SOUTH OF THE SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 200 HPA LEVELS. LOW LEVEL

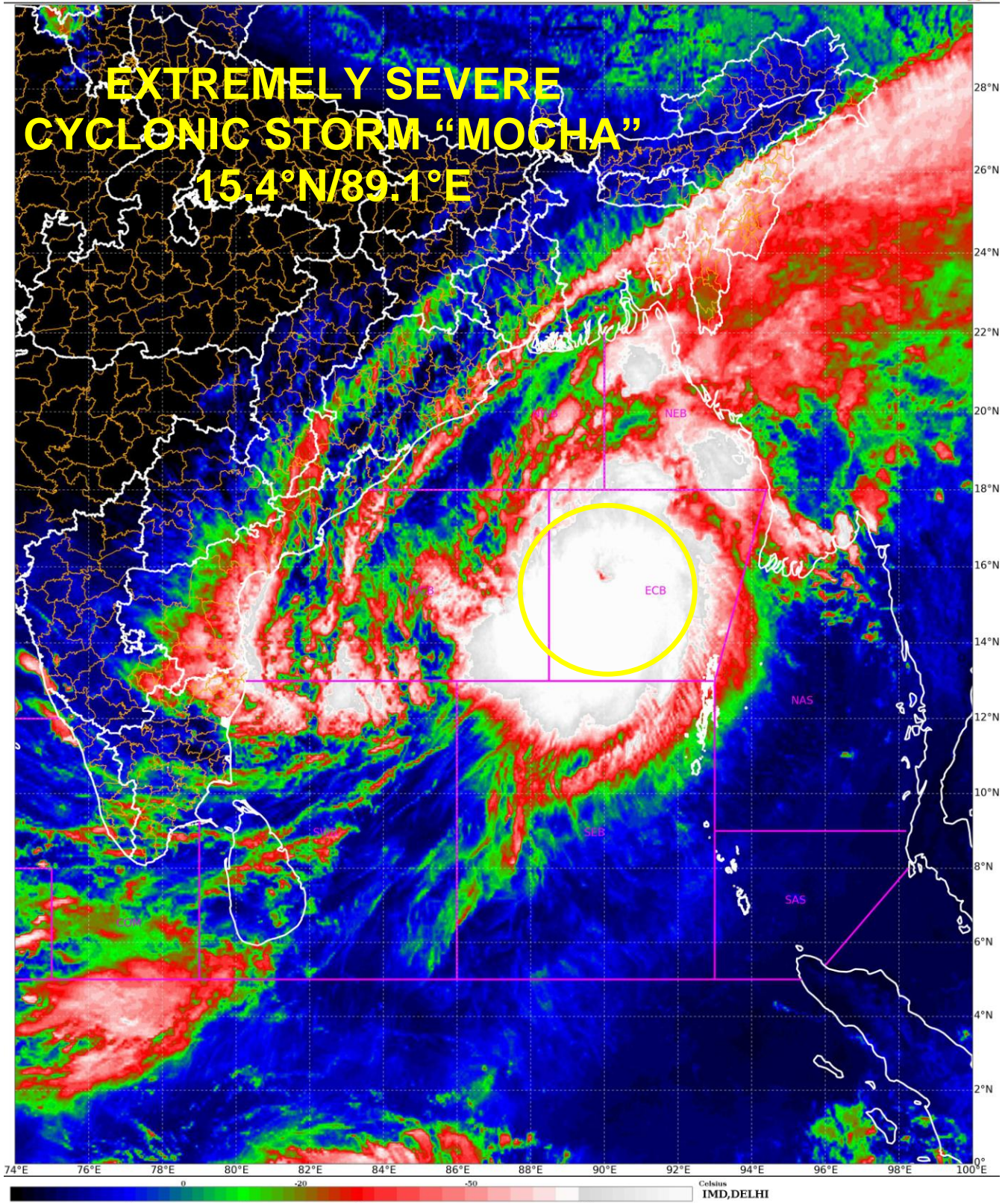
Cloud distribution: (a) Isolated: <25%, Scattered:25-50%, Broken: 51-75%, Solid:>75%, Convection Intensity: (a) Weak: Cloud Top Temperature (CTT) >-25°C, (b) Moderate: CTT: - 25°C to -40°C, (c) Intense: CTT: - 41°C to -70°C and (d) Very Intense: : Less than -70°C
PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION): NIL: 0%, LOW: 1-33%, , MODERATE: 34-66% AND HIGH: 67-100%
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CONVERGENCE IS AROUND $30 \times 10^{-5} \text{ S}^{-1}$ SOUTH WEST OF THE SYSTEM CENTER. UPPER LEVEL DIVERGENCE IS ABOUT $30 \times 10^{-5} \text{ S}^{-1}$ NORTH EAST OF THE SYSTEM CENTER. THE VERTICAL WIND SHEAR IS MODRATE (15-20 KNOTS) SOUTH OF THE SYSTEM CENTER. IT IS HIGH ABOUT 30-40 KTS OVER NORTHEAST BAY OF BENGAL OFF BANGLADESH-MYANMAR COASTS. THERE IS AN ANTICYCLONIC CIRCULATION OVER SOUTH MYANMAR. A DEEP TROUGH UPTO 88E IS SEEN IN MID AND UPPER TROSPHERIC LEVELS. 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.

GUIDANCE FROM VARIOUS NUMERICAL MODELS INCLUDING IMD GFS, NCEP GFS, ECMWF, NCUM, UKMO AND IMD MME ARE NOW CONSISTENT WRT TRACK AND LANDFALL POINT. CURRENT MODEL GUIDANCE IS NOT INDICATING WEAKENING OF THE SYSTEM BEFORE LANDFALL. IMD GFS IS INDICATING LANDFALL AROUND 14/0300 UTC NEAR 20.5N/92.4E. ECMWF IS INDICATING LANDFALL BETWEEN 14/1200-1500 UTC NEAR 21.6N/92.0E. IMD MME IS INDICATING LANDFALL AROUND 14/0800 UTC NEAR 20.5N/92.76E, NCUM (G) AROUND 14/0600 UTC NEAR 19.7N/93.6E.

IT WOULD CONTINUE 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 150-160 KMPH GUSTING TO 175 KMPH.**

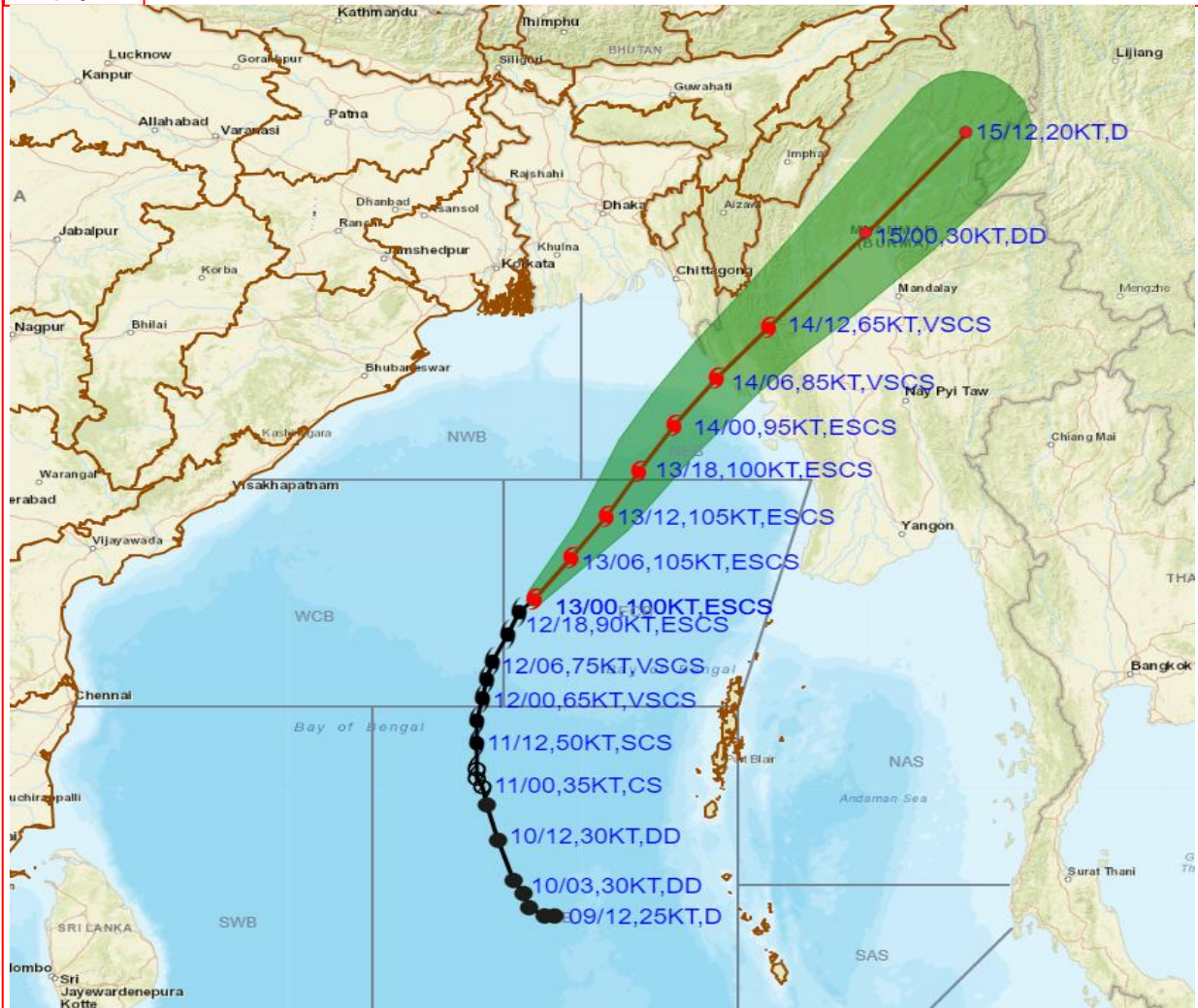
(Dr. TRISANU BANIK)
SCIENTIST-C
RSMC NEW DELHI



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OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF EXTREMELY SEVERE CYCLONIC STORM MOCHA OVER EASTCENTRAL BAY OF BENGAL BASED ON 0000 UTC (0530 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 (≥ 120 KT)

● LESS THAN 34 KT

○ 34-47 KT

○ ≥ 48 KT

— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY

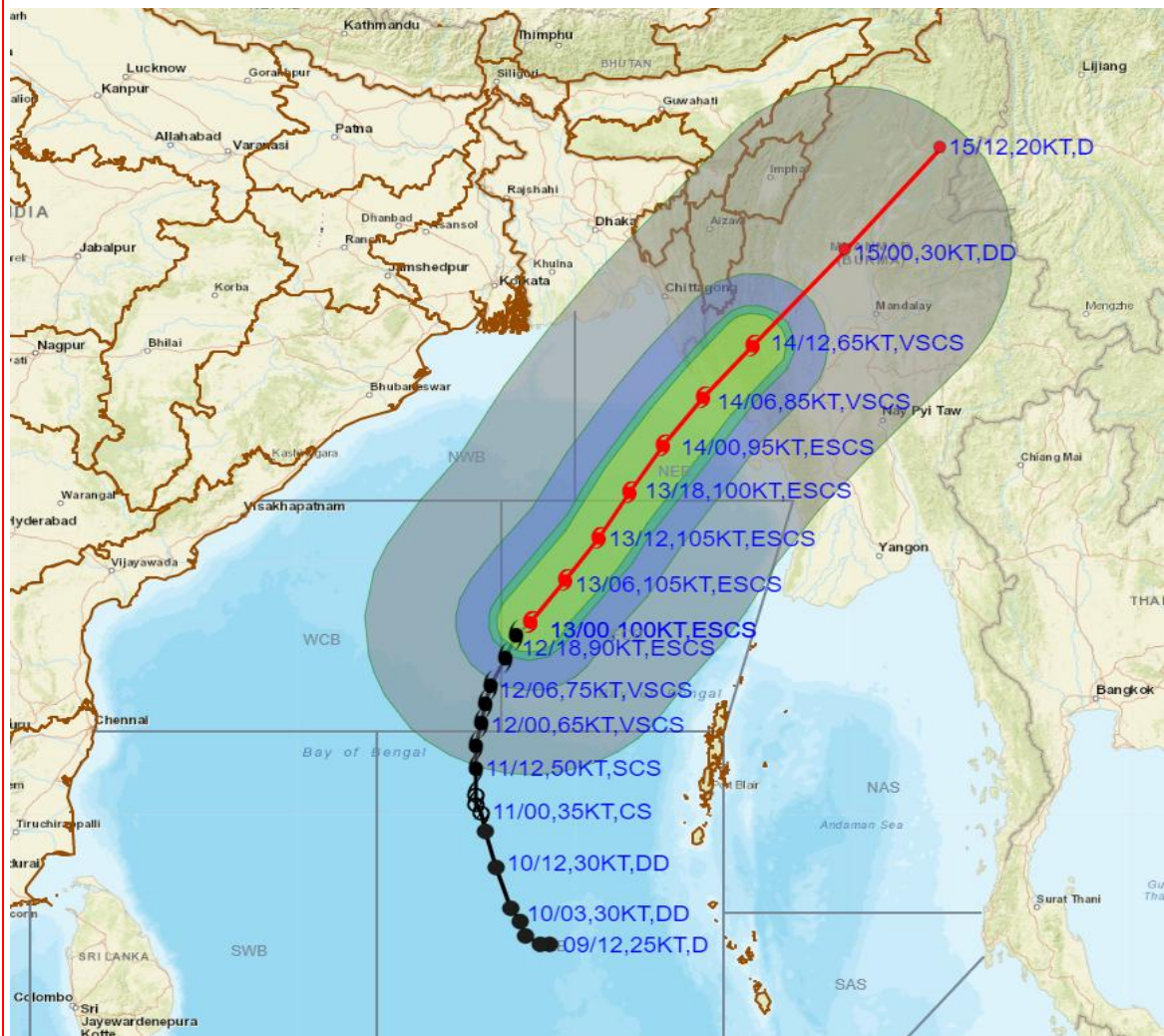
Forecast distance (km) and direction of the centre from nearest 5 coastal stations

Forecast Date and Time	Lead Period	Lat	Lon	Station 1	Station 2	Station 3	Station 4	Station 5
13.05.23/0000	0	15.4	89.1	COCO ISLAND (481,WNW)	MAYA BANDAR (496,NW)	LONG ISLAND (531,NW)	PORT BLAIR (571,NW)	PURI (601,SE)
14.05.23/0000	24	19.2	91.8	SITTWE (154,SW)	KYAUKPYU (185,W)	TEKNAF (193,SSW)	KYAUKTAW (203,SSW)	MANAUNG (207,W)
15.05.23/0000	48	23.3	95.5	SHWEBO (83,NNW)	PINLEBU (88,S)	MAWLAIK (117,ESE)	KALEWA (123,E)	KATHA (129,SW)

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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 0000 UTC (0530 IST) OF 13TH MAY



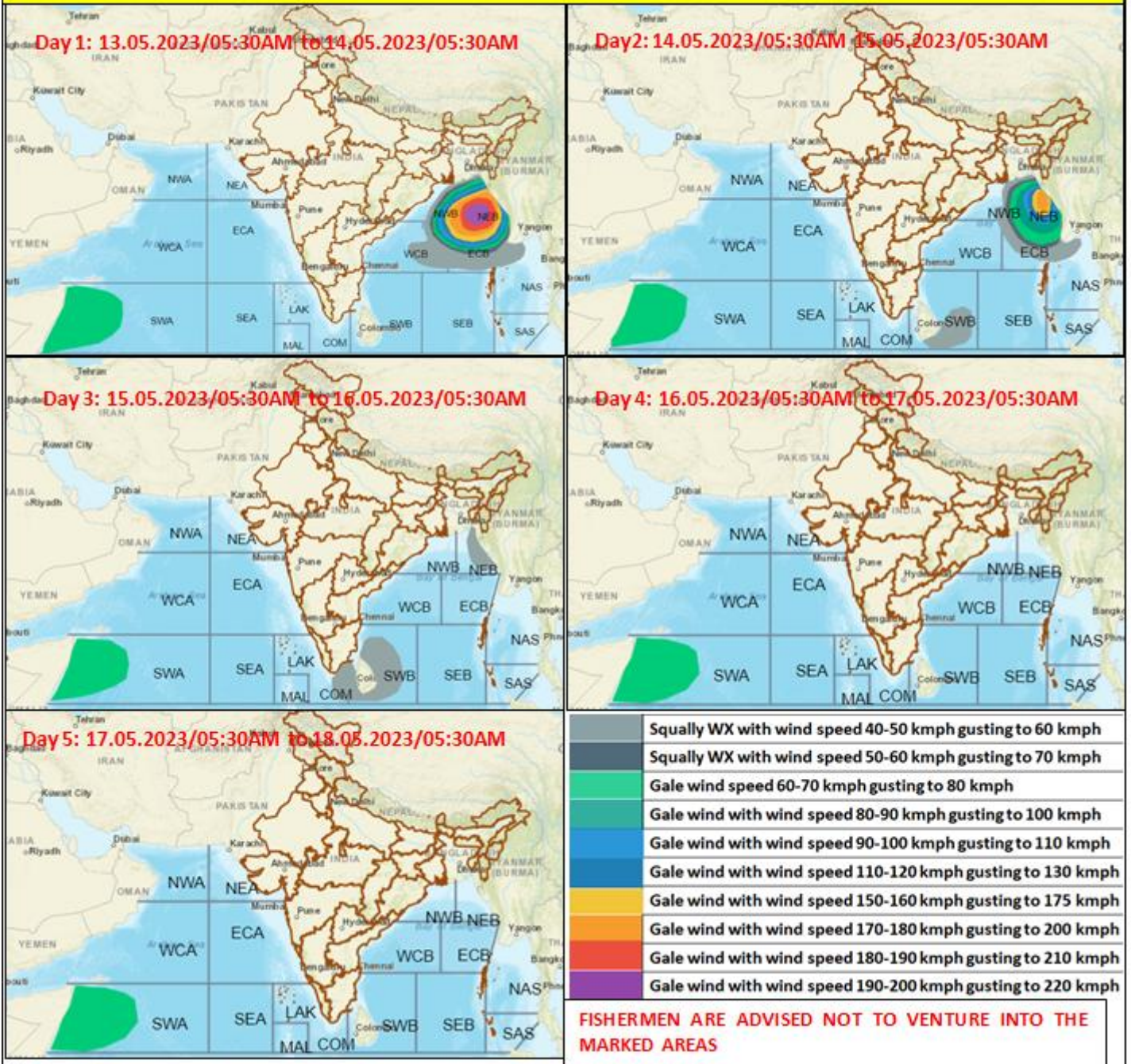
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 CS: CYCLONIC STORM (34-47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63 KT)
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 ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
 SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● 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

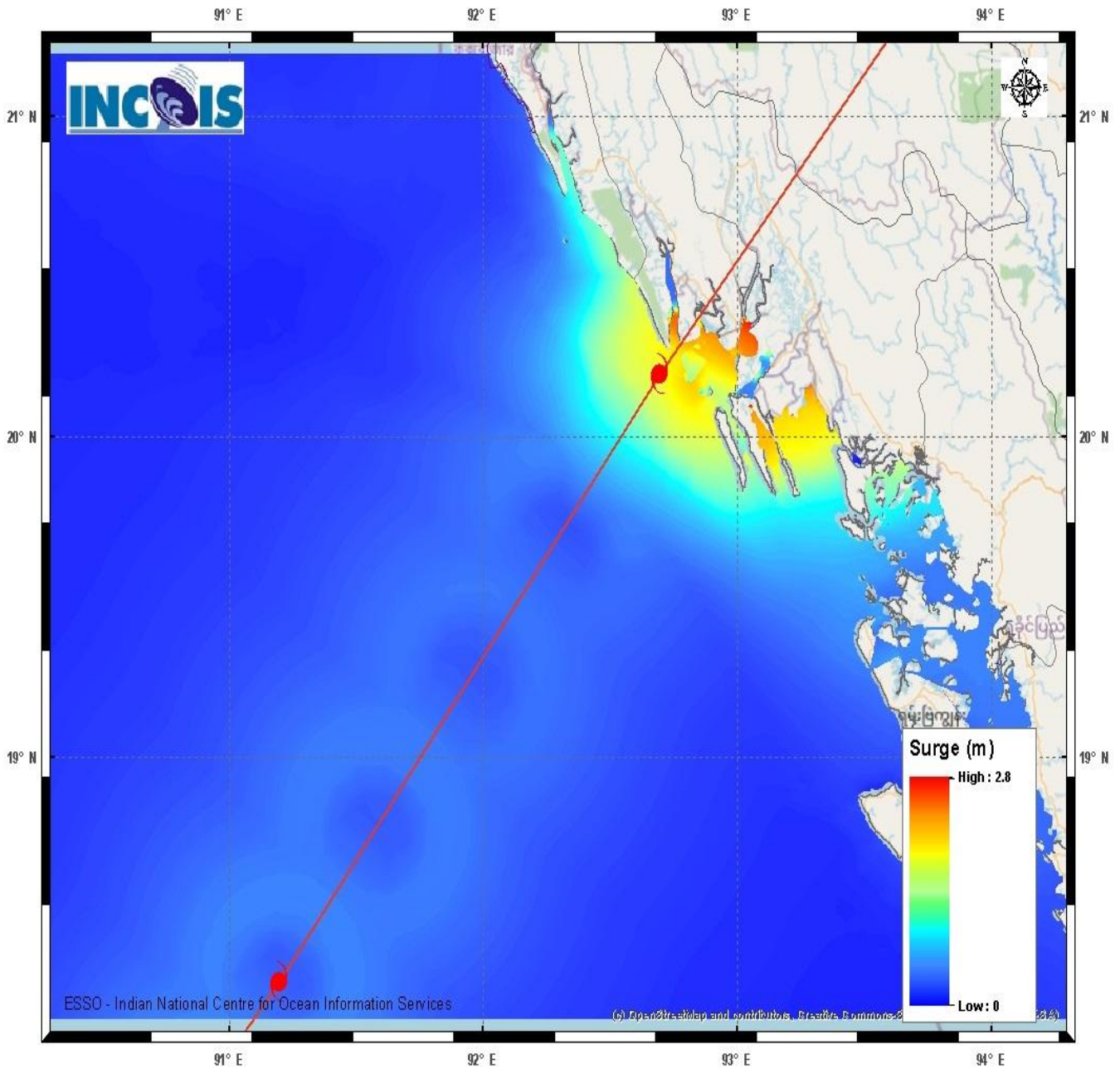
MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

Fishermen warning graphics



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Storm Surge Warning Graphics



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