



**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI**  
**TROPICAL CYCLONE ADVISORY NO. 22**

**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. 22 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 1630 UTC OF 13.05.2023 BASED ON 1500 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 NORTH-NORTHEASTWARDS WITH A SPEED OF 22 KMPH DURING PAST 06 HOURS AND LAY CENTERED AT 1500 UTC OF TODAY, THE 13TH MAY 2023 OVER THE SAME REGION NEAR LATITUDE 17.4°N AND LONGITUDE 91.0°E, ABOUT 660 KM NORTH-NORTHWEST OF PORT BLAIR (INDIA, 43333), 450 KM SOUTH-SOUTHWEST OF COX’S BAZAR (BANGLADESH, 41992) AND 460 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, 48062) AROUND NOON OF 14TH MAY, 2023 AS AN EXTREMELY SEVERE CYCLONIC STORM WITH MAXIMUM SUSTAINED WIND SPEED OF 180-190 KMPH GUSTING TO 210 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
13.05.23/1500	17.4/91.0	200-210 GUSTING TO 230	EXTREMELY SEVERE CYCLONIC STORM
13.05.23/1800	17.9/91.2	210-220 GUSTING TO 240	EXTREMELY SEVERE CYCLONIC STORM
14.05.23/0000	19.1/91.8	200-210 GUSTING TO 230	EXTREMELY SEVERE CYCLONIC STORM
14.05.23/0600	20.2/92.6	180-190 GUSTING TO 210	EXTREMELY SEVERE CYCLONIC STORM
14.05.23/1200	21.4/93.5	120-130 GUSTING TO 145	VERY SEVERE CYCLONIC STORM
15.05.23/0000	23.7/95.6	50-60 GUSTING TO 70	DEEP DEPRESSION

THE MAXIMUM SUSTAINED SURFACE WIND SPEED IS 110 KNOTS GUSTING TO 120 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 944 HPA. SEA CONDITION IS PHENOMENAL OVER EAST CENTRAL BAY OF BENGAL AND HIGH AND VERY HIGH OVER ADJOINING NORTHEAST BAY OF BENGAL AND ROUGH TO VERY ROUGH OVER ADJOINING WEST CENTRAL BAY OF BENGAL.

AS PER INSAT 3D IMAGERY, INTENSITY IS T 6.0. EYE IS SEEN CLEARLY. EYE DIAMETER IS 30 KM AND EYE TEMPERATURE MINUS 14 DEG CELSIUS. ASSOCIATED BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER EASTCENTRAL AND ADJOINING NORTHEAST, SOUTHEAST AND WESTCENTRAL BAY OF BENGAL BETWEEN 12.5°N & 20.0°N AND 87.0°E & 95.0°E. MINIMUM CLOUD TOP TEMPERATURE (CTT) IS MINUS 93 DEG CELSIUS. STRONG POLEWARD OUTFLOW IS SEEN. COMPARISON OF SSMI/S PASS AT 1153 UTC AND 1108 UTC SHOW THAT WIDTH OF WALL CLOUD REGION HAS INCREASED IN NORTHEAST SECTOR AND DECREASED IN SOUTHWEST SECTOR.

**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:**

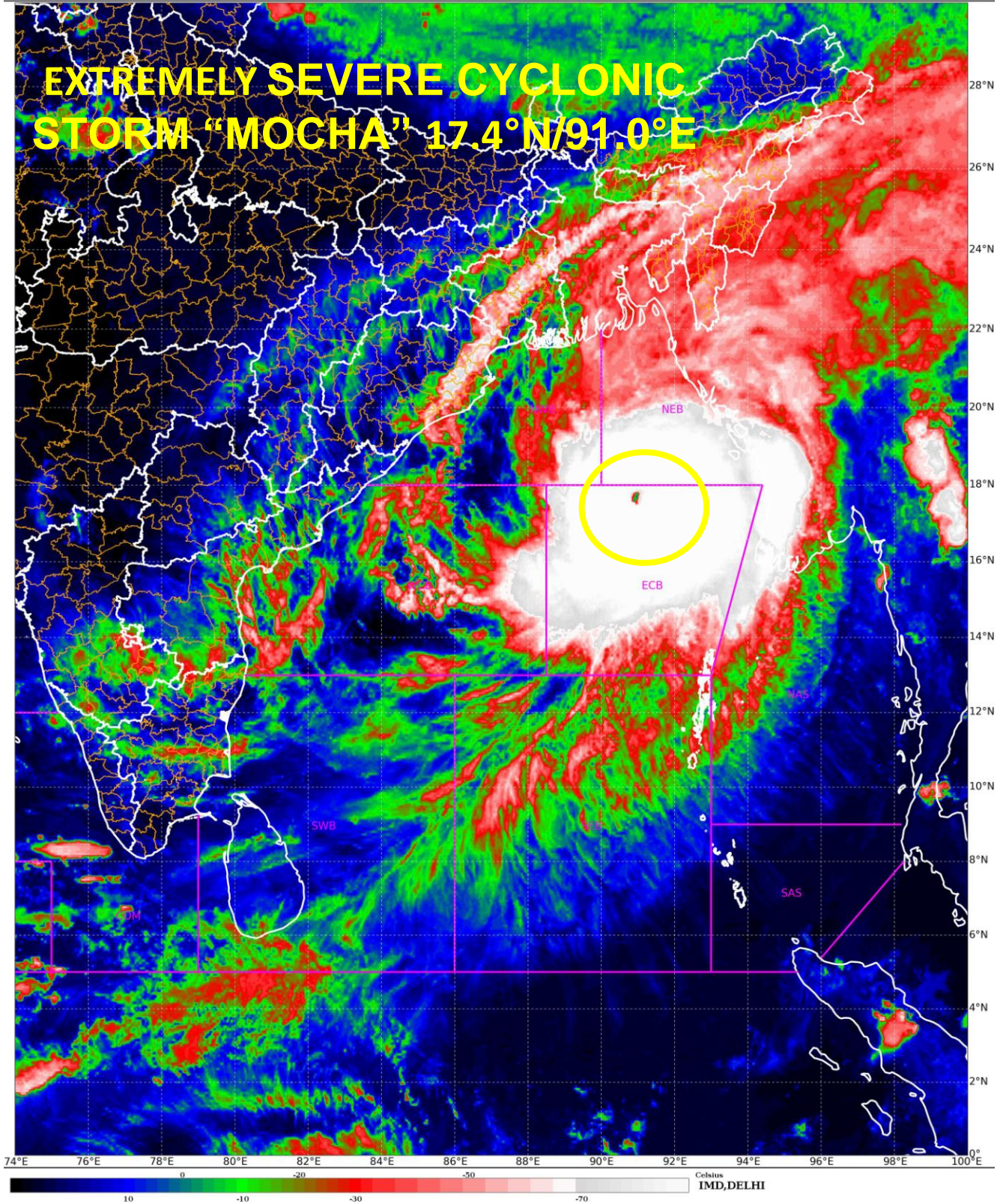
THE TROPICAL CYCLONE HEAT POTENTIAL (TCHP) IS ABOUT 50-75 KJ/CM<sup>2</sup> UPTO NORTHEAST BAY OF BENGAL AND REDUCES NEAR THE BANGLADESH MYANMAR COAST. SEA SURFACE TEMPERATURE (SST) HAS DECREASED AND IS AROUND 30°C OVER EASTCENTRAL BOB AND ALONG FORECAST TRACK. TOTAL PRECIPITABLE WATER IMAGERY IS INDICATING 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  $300 \times 10^{-6} \text{S}^{-1}$  AROUND SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 200 HPA LEVELS. LOW LEVEL CONVERGENCE HAS INCREASED SIGNIFICANTLY AND IS AROUND  $50 \times 10^{-5} \text{S}^{-1}$ . IT IS NORTHEAST-SOUTHWEST ORIENTED. SIMILARLY UPPER LEVEL DIVERGENCE HAS ALSO INCREASED AND IS SAME AND IS ABOUT  $30 \times 10^{-5} \text{S}^{-1}$  OVER SYSTEM AREA AND IS ORIENTED NORTHEAST-SOUTHWESTWARDS. 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, HIGH LOW LEVEL VORTICITY, INCREASED CONVERGENCE AND DIVERGENCE WOULD FAVOUR FURTHER 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 AN EXTREMELY SEVERE CYCLONIC STORM WITH MAXIMUM SUSTAINED WIND SPEED OF 180-190 KMPH GUSTING TO 210 KMPH.

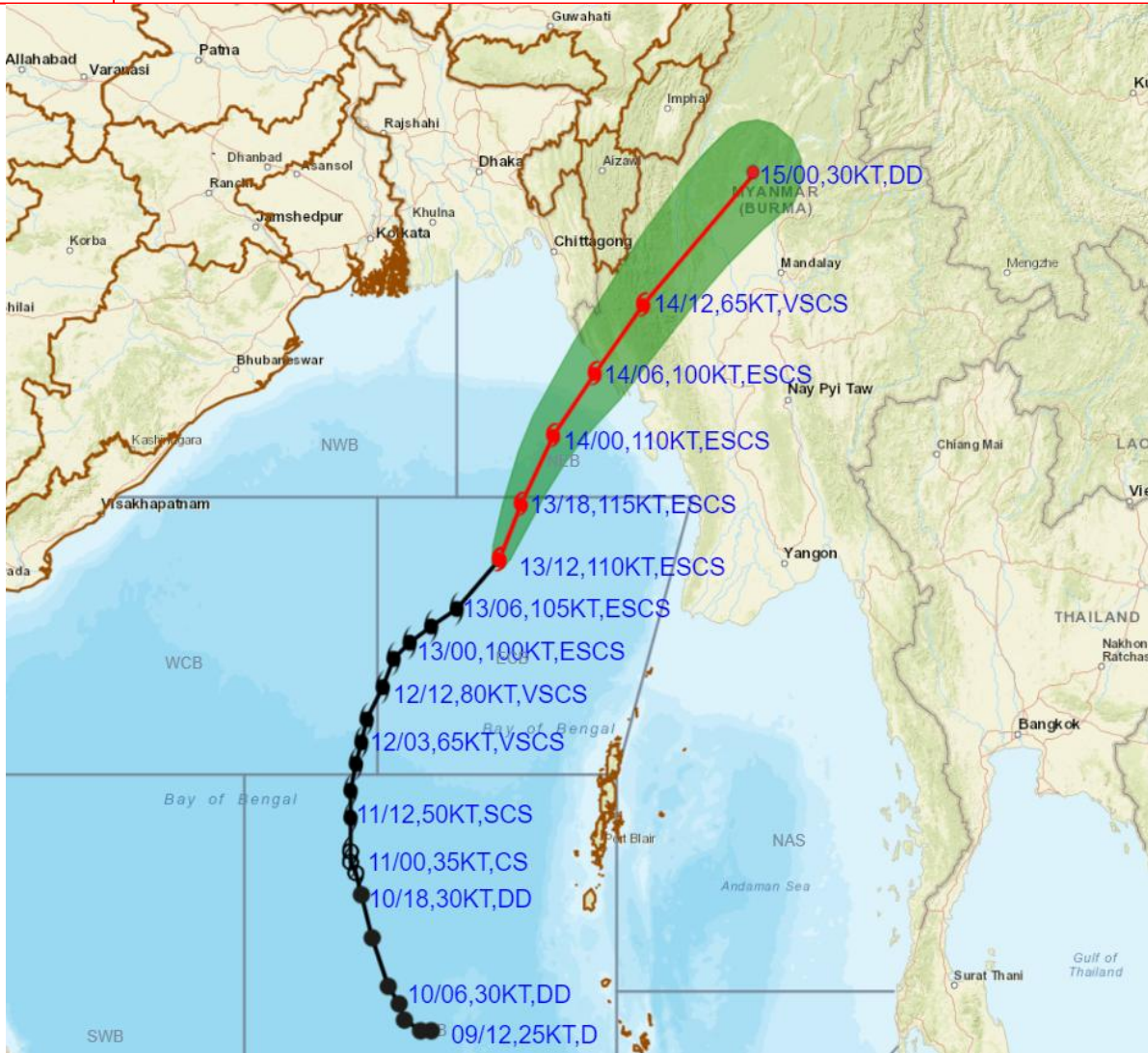
(ARULALAN. T)  
SCIENTIST-C  
RSMC NEW DELHI



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%  
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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 1200 UTC (1730 IST) OF 13<sup>TH</sup> 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)

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

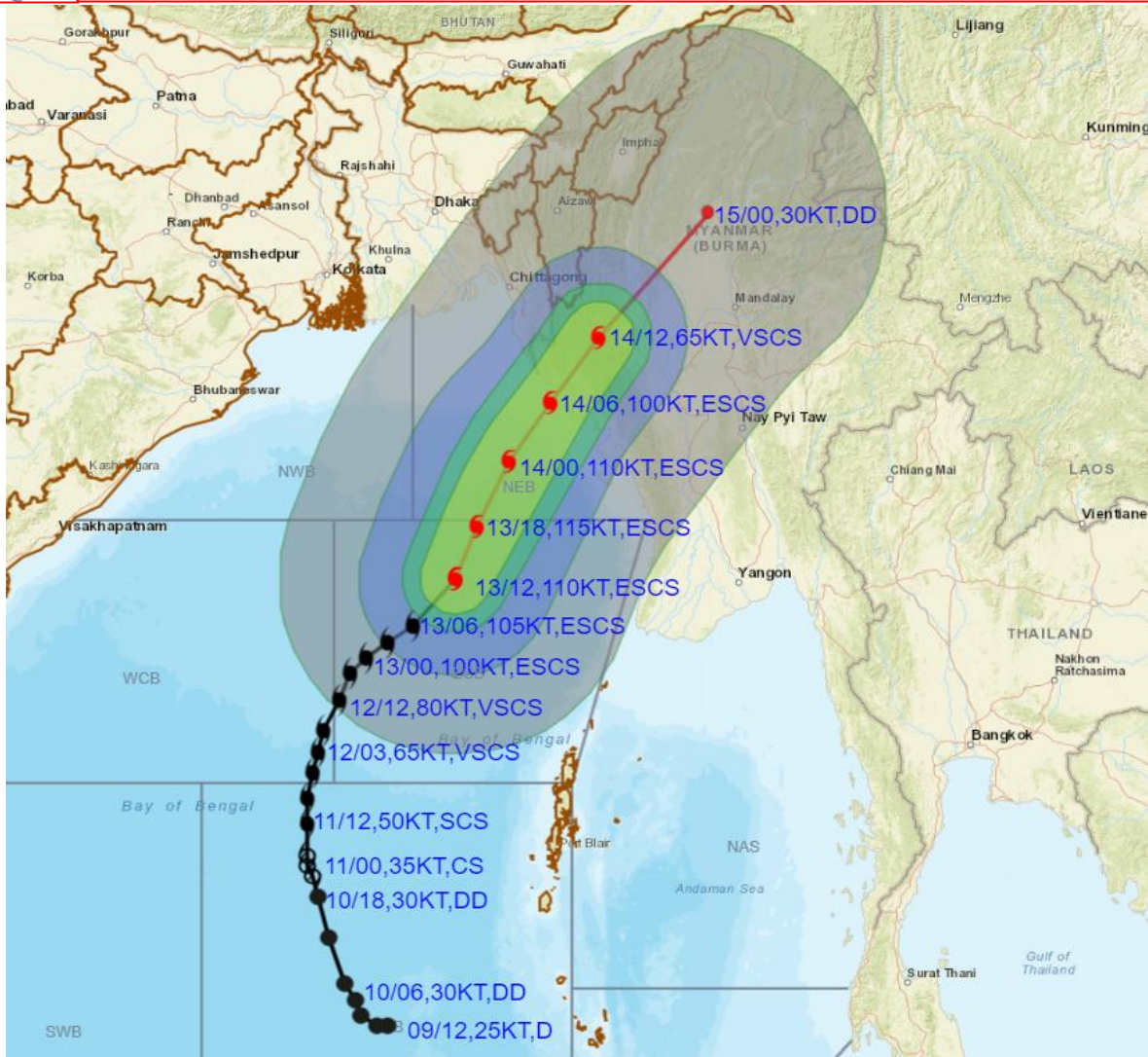
**Forecast distance (km) and direction of the centre from nearest 5 coastal stations**

Forecast Date and Time	Lead Period	Lat	Lon	Station 1	Station 2	Station 3	Station 4	Station 5
13.05.23/1200	0	16.9	90.8	MANAUNG (379,SW)	KYAUKPYU (404,SW)	GWA (409,W)	COCO ISLAND (414,NW)	SANDOWAY (415,WSW)
14.05.23/1200	24	21.4	93.5	MINDAT (47,W)	GANGAW (108,SW)	KYAUKTAW (109,NE)	TEKNAF (138,ENE)	HAKHA (140,S)

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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 1200 UTC (1730 IST) OF 13<sup>TH</sup> MAY 2023.**



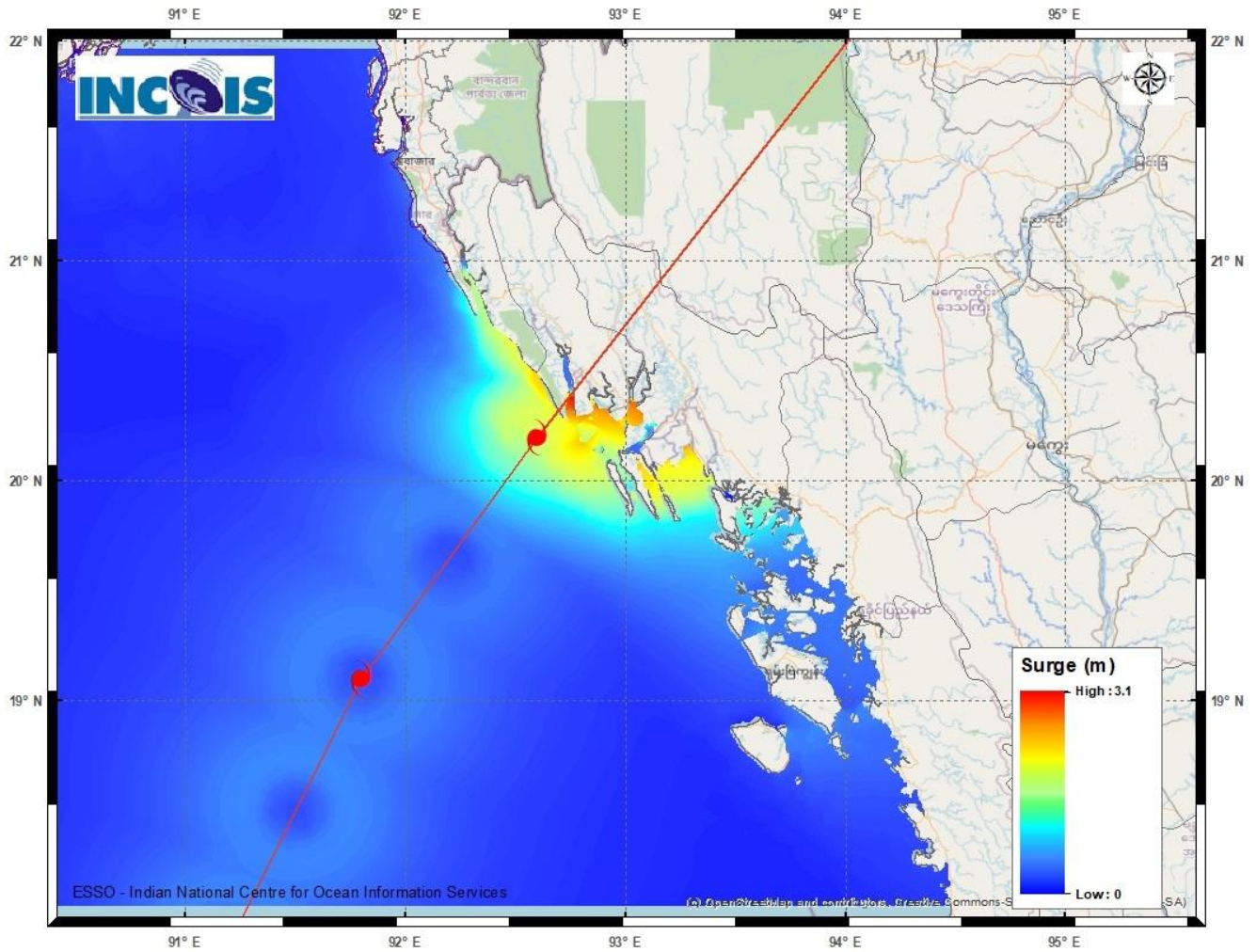
DATE/TIME IN UTC  
 IST=UTC + 0530  
 L: LOW PRESSURE AREA  
 WML: WELL MARKED LOW PRESSURE AREA  
 D: DEPRESSION (17-27 KT)  
 DD: DEEP DEPRESSION (28-33 KT)  
 CS: CYCLONIC STORM (34-47 KT)  
 SCS: SEVERE CYCLONIC STORM (48-63KT)  
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)  
 ESCS: EXTREMELY SEVERE 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  
 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**

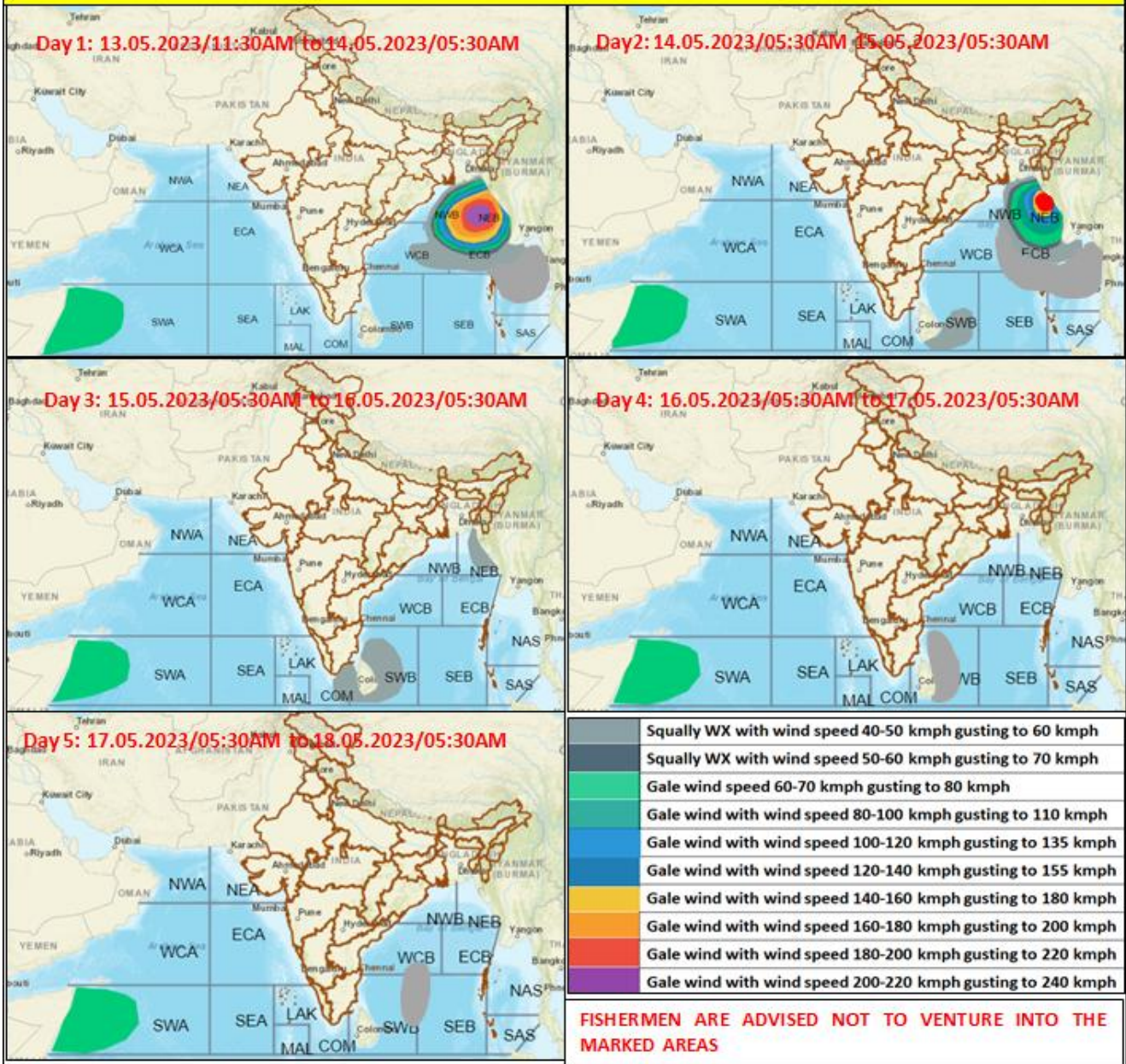
MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
$\geq$ 64 ( $\geq$ 118)	Phenomenal	Total suspension of fishing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

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## Fishermen warning graphics



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