



REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY NO. 7

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 11.05.2023

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. 7 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 2100 UTC OF 11.05.2023 BASED ON 1800 UTC OF 11.05.2023

SUBJECT: SEVERE CYCLONIC STORM “MOCHA” OVER SOUTHEAST BAY OF BENGAL

THE SEVERE CYCLONIC STORM “MOCHA” (PRONOUNCED AS “MOKHA”) OVER SOUTHEAST ADJOINING CENTRAL BAY OF BENGAL MOVED NEARLY NORTHWARDS WITH A SPEED OF 09 KMPH DURING PAST 06 HOURS AND LAY CENTERED AT 1800 UTC OF TODAY, THE 11TH MAY 2023 OVER SOUTHEAST ADJOINING CENTRAL BAY OF BENGAL NEAR LATITUDE 12.7°N AND LONGITUDE 88.1°E, ABOUT 510 KM WEST-NORTHWEST OF PORT BLAIR, 1050 KM SOUTH-SOUTHWEST OF COX’S BAZAR (BANGLADESH) AND 970 KM SOUTH-SOUTHWEST OF SITTWE (MYANMAR).

IT IS VERY LIKELY TO MOVE NORTH-NORTHEASTWARDS AND INTENSIFY INTO A VERY SEVERE CYCLONIC STORM DURING NEXT 06 HOURS OVER CENTRAL BAY OF BENGAL. THEREAFTER, IT IS LIKELY TO CONTINUE TO MOVE NORTH-NORTHEASTWARDS WITH FURTHER INTENSIFICATION. IT IS LIKELY TO CROSS SOUTHEAST BANGLADESH AND NORTH MYANMAR COASTS BETWEEN COX’S BAZAR (BANGLADESH) AND KYAUKPYU (MYANMAR), CLOSE TO SITTWE (MYANMAR) 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
11.05.23/1800	12.7/88.1	95-105 GUSTING TO 115	SEVERE CYCLONIC STORM
12.05.23/0000	13.1/88.2.	115-125 GUSTING TO 135	VERY SEVERE CYCLONIC STORM
12.05.23/0600	13.8/88.3	125-135 GUSTING TO 150	VERY SEVERE CYCLONIC STORM
12.05.23/1200	14.5/88.6	135-145 GUSTING TO 160	VERY SEVERE CYCLONIC STORM
12.05.23/1800	15.2/89.0	140-150 GUSTING TO 165	VERY SEVERE CYCLONIC STORM
13.05.23/0600	16.7/90.0	145-155 GUSTING TO 170	VERY SEVERE CYCLONIC STORM
13.05.23/1800	18.3/91.2	150-160 GUSTING TO 175	VERY SEVERE CYCLONIC STORM
14.05.23/0600	20.0/92.6	150-160 GUSTING TO 175	VERY SEVERE CYCLONIC STORM
14.05.23/1800	22.4/94.6	60-70 GUSTING TO 80	CYCLONIC STORM
15.05.23/0600	24.8/97.0	30-40 GUSTING TO 50	DEPRESSION

THE MAXIMUM SUSTAINED SURFACE WIND SPEED IS 50 KNOTS GUSTING TO 60 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 991 HPA. SEA CONDITION IS HIGH TO VERY HIGH OVER SOUTHEAST & ADJOINING EASTCENTRAL BAY OF BENGAL AND ADJOINING AREAS OF ANDAMAN SEA.

AS PER SATELLITE IMAGERY, INTENSITY IS T3.5. CLOUDS ASSOCIATED WITH THE SYSTEM ARE ORGANISED IN CURVED BAND PATTERN. ASSOCIATED BROKEN LOW/MED CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTH AND ADJOINING BAY OF BENGAL BETWEEN LATITUDE 8.0N TO 18.0N AND LONG 80.0E TO 92.0E. MINIMUM CLOUD TOP TEMPERATURE (CTT) IS MINUS 93 DEG CELSIUS.

AT 1800 UTC A BUOY NEAR 10.4°N/94.1°E REPORTED MEAN SEA LEVEL PRESSURE OF 1008.4 HPA AND MAXIMUM SUSTAINED WIND SPEED OF 190⁰/29.2 KTS. ANOTHER BUOY NEAR 16.2°N/88°E REPORTED MEAN SEA LEVEL PRESSURE OF 1003.5 HPA AND MAXIMUM SUSTAINED WIND SPEED OF 300⁰/23.3 KTS. A SHIP NEAR 11.5°N/92.5°E REPORTED MEAN SEA LEVEL PRESSURE OF 1007.1 HPA.

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

STORM SURGE WITH HEIGHT OF ABOUT 2.0-2.5 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 MAJOR PARTS OF SOUTHEAST AND CENTRAL BAY OF BENGAL (BOB). IT IS INDICATING DECREASING TENDENCY ABOUT 60-70 KJ/CM² ALONG MYANMAR COAST. SEA SURFACE TEMPERATURE (SST) IS AROUND 30°C OVER SOUTHEAST BOB. IT IS SLIGHTLY HIGHER OVER EASTCENTRAL BOB AROUND 31°C AND LESS OFF MYANMAR COAST. THE SEA CONDITIONS OVER BOB ARE ALSO CONDUCIVE FOR FURTHER INTENSIFICATION OF SYSTEM OVER EASTCENTRAL BOB. TOTAL PRECIPITABLE WATER IMAGERY (TPW) INDICATES WARM MOIST AIR INCURSION INTO THE SYSTEM AREA FROM SOUTH.

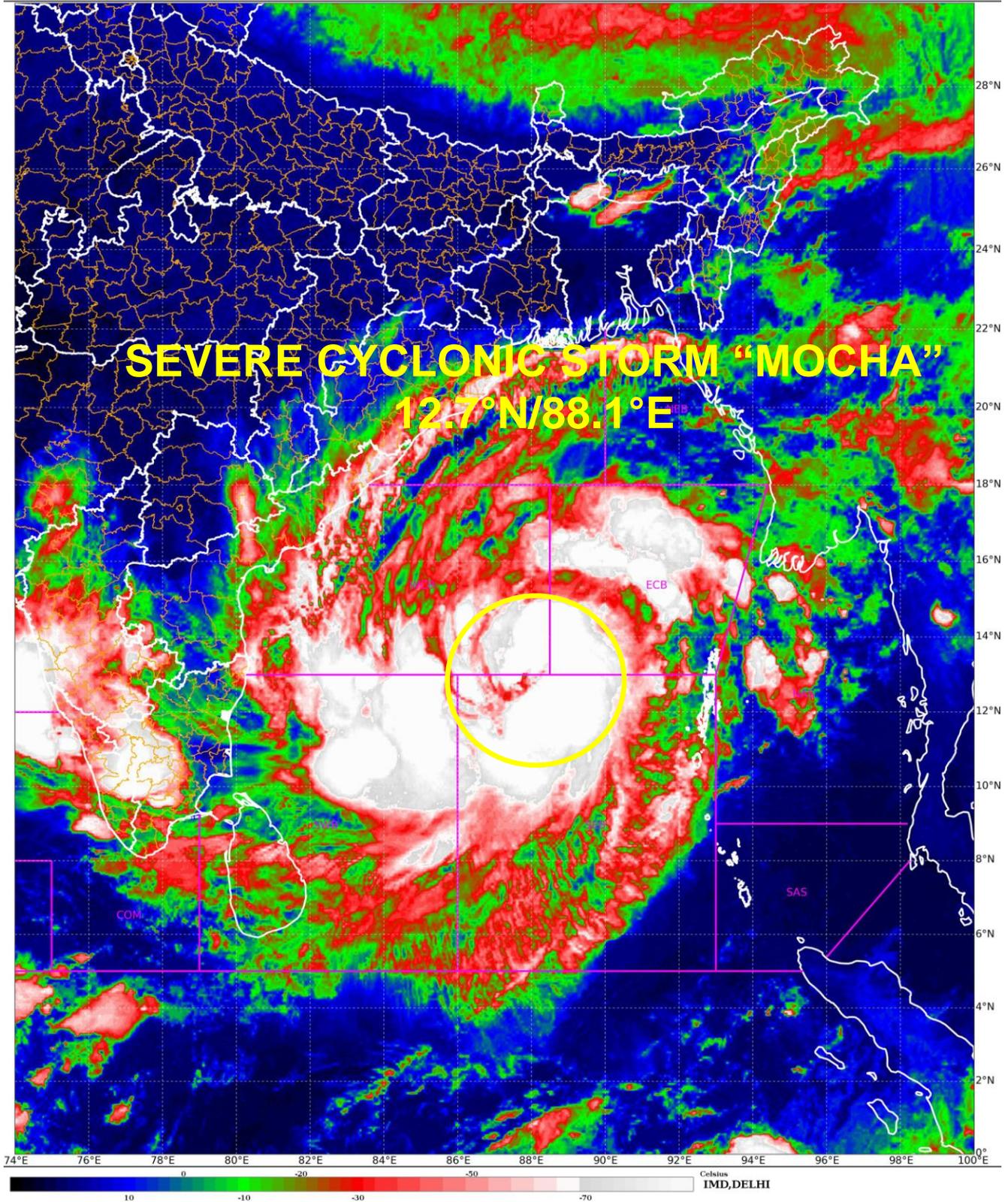
CONSIDERING THE ENVIRONMENTAL CONDITIONS, THE LOW LEVEL VORTICITY AT 850 HPA IS AROUND 250X10⁻⁶S⁻¹ TO THE SOUTH OF THE SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 200 HPA LEVELS. LOW LEVEL CONVERGENCE IS AROUND 20 X10⁻⁵ S⁻¹ TO THE SOUTH-SOUTHWEST OF THE SYSTEM CENTER. UPPER LEVEL DIVERGENCE IS ABOUT 30X10⁻⁵S⁻¹ TO THE SOUTH AND THE ANOTHER ZONE OF UPPER LEVEL DIVERGENCE OVER THE NORTHEAST OF THE SYSTEM CENTER HAS INCREASED TO 40X10⁻⁵S⁻¹. THE VERTICAL WIND SHEAR IS MODRATE (15-20 KNOTS) OVER THE SYSTEM AREA AND 5-10 KNOTS OVER

THE NORTHEAST OF THE SYSTEM. STRONG POLEWARD AND EQUATORWARD OUTFLOW IS SEEN. HIGHER SEA SURFACE TEMPERATURE, POLEWARD & EQUATORWARD OUTFLOW AND MODERATE WIND SHEAR ARE FAVOURABLE CONDITIONS FOR FURTHER INTENSIFICATION OF THE SYSTEM. THE SYSTEM IS LYING IN THE PERIPHERY OF UPPER TROPOSPHERIC RIDGE NEAR 17.5 N IN ASSOCIATION WITH ANTI-CYCLONIC CIRCULATION OVER EASTCENTRAL BOB. THE SYSTEM IS EXPECTED TO MOVE INITIALLY NORTHWARDS DURING NEXT 06 HOURS AND NORTH-NORTHEASTWARDS THEREAFTER. ONCE IT CROSSES 15.0N, IT WILL GRADUALLY RECURVE NORTH-NORTHEASTWARDS, TOWARDS MYANMAR-BANGLADESH COASTS.

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 14/0600 UTC NEAR 20.8N/92.8E. ECMWF IS INDICATING LANDFALL AROUND 14/0900 UTC NEAR 20.8N/92.2E. IMD MME IS INDICATING LANDFALL AROUND 14/0900 UTC NEAR 20.3N/92.8E.

IT IS CONCLUDED THAT THE SEVERE CYCLONIC STORM "MOCHA" OVER SOUTHEAST BAY OF BENGAL IS VERY LIKELY TO MOVE NORTH-NORTHEASTWARDS AND INTENSIFY INTO A VERY SEVERE CYCLONIC STORM DURING NEXT 06 HOURS OVER CENTRAL BAY OF BENGAL. THEREAFTER, IT IS LIKELY TO CONTINUE TO MOVE NORTH-NORTHEASTWARDS WITH FURTHER INTENSIFICATION. IT IS LIKELY TO CROSS SOUTHEAST BANGLADESH AND NORTH MYANMAR COASTS BETWEEN COX'S BAZAR (BANGLADESH) AND KYAUKPYU (MYANMAR), CLOSE TO SITTWE (MYANMAR) 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.

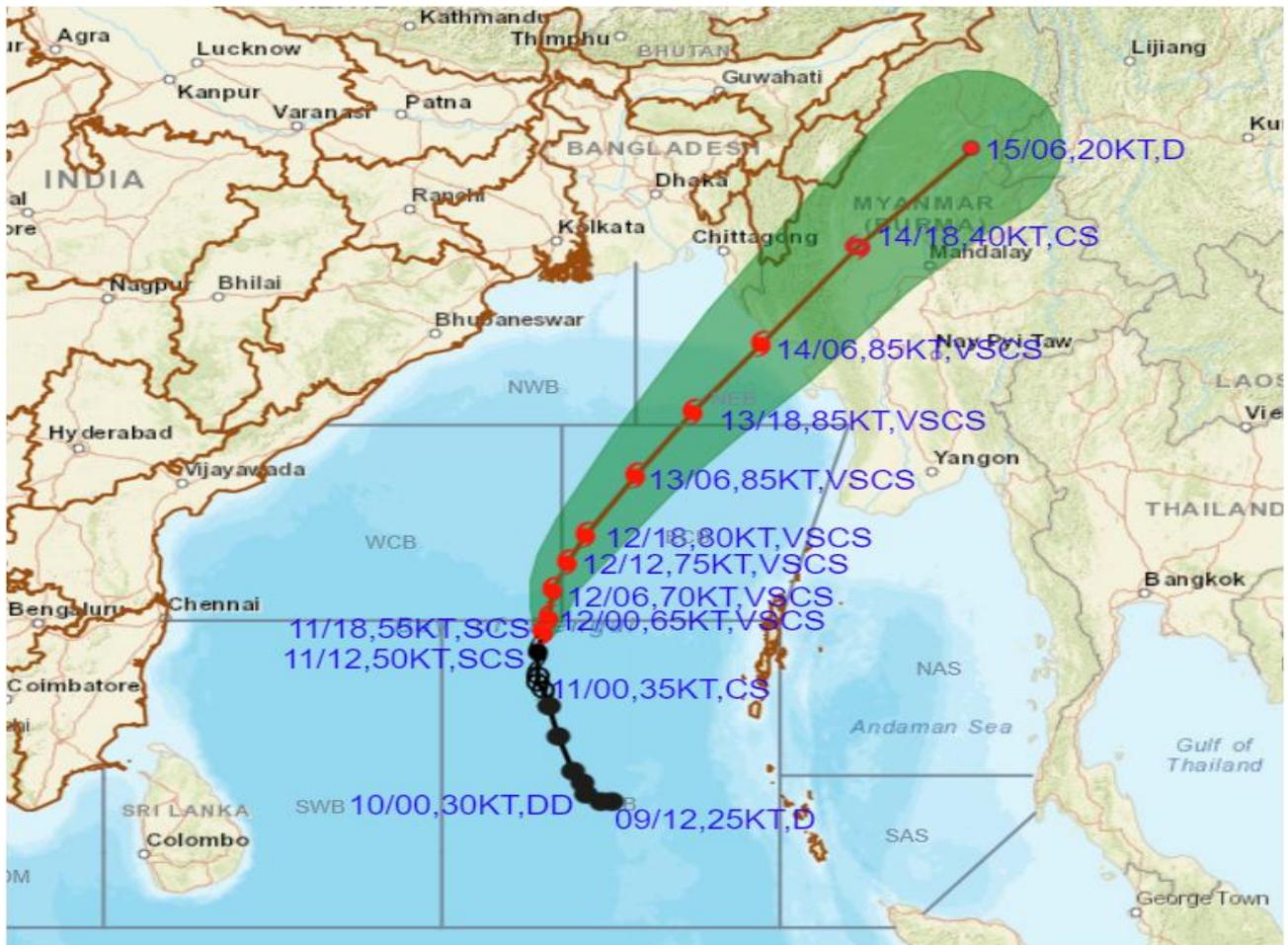
(M. T. BUSHAIR)
SCIENTIST-C
RSMC NEW DELHI



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%
This is a guidance Bulletin for WMO/ESCAP Panel Member countries. Visit respective National websites for Country specific Bulletins



OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF SEVERE CYCLONE MOCHA OVER SOUTHEAST BAY OF BENGAL BASED ON 1800 UTC (2330 IST) OF 11TH MAY 2023



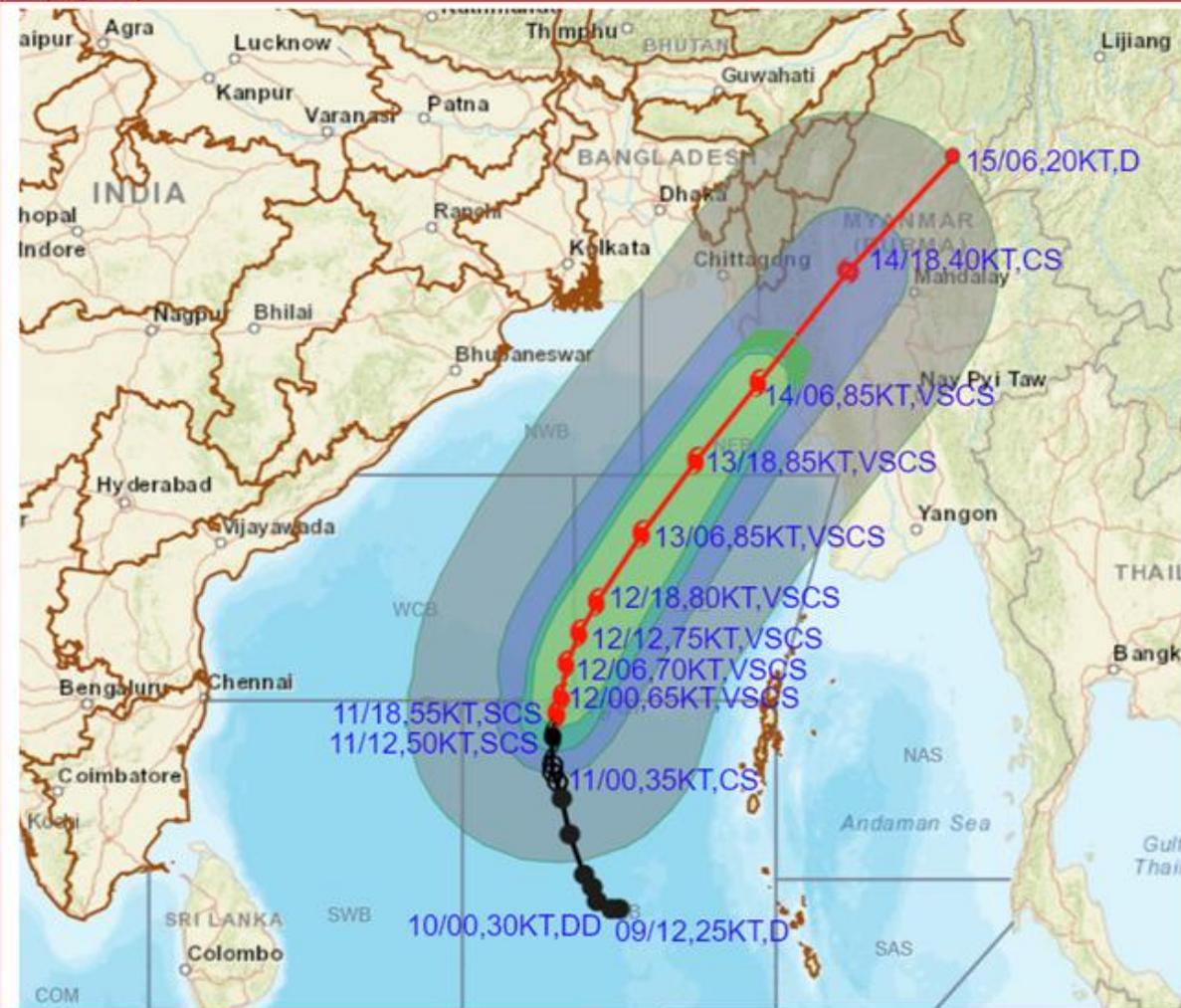
DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 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

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OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF SEVERE CYCLONE MOCHA OVER SOUTHEAST BAY OF BENGAL BASED ON 1800 UTC (2330 IST) OF 11TH MAY 2023.



DATE/TIME IN UTC
IST=UTC + 0530

L: LOW PRESSURE AREA
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D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
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SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

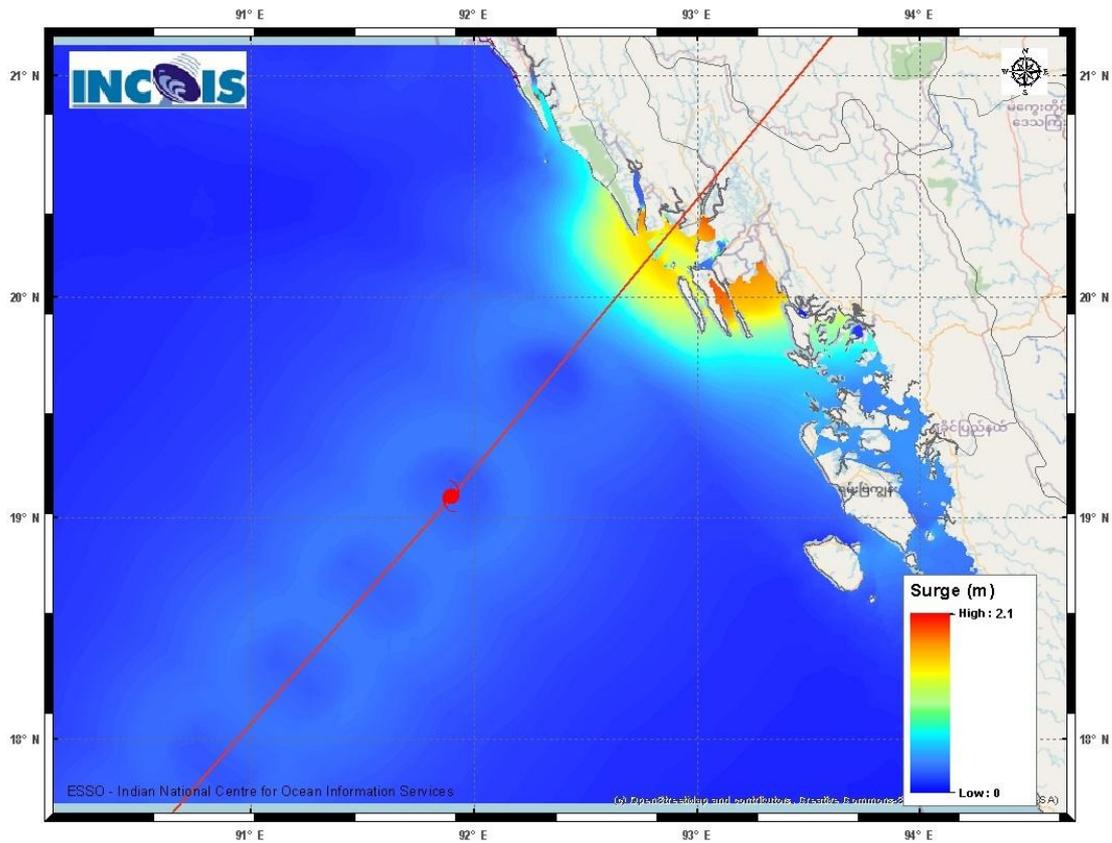
● LESS THAN 34 KT
○ 34-47 KT
● ≥ 48 KT
— OBSERVED TRACK
— FORECAST TRACK
— CONE OF UNCERTAINTY
AREA OF MAXIMUM SUSTAINED WIND SPEED:
■ 28-33 KT (52-61 KMPH)
■ 34-49 KT (62-91 KMPH)
■ 50-63 KT (92-117 KMPH)
■ ≥ 64 KT (≥118 KMPH)

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

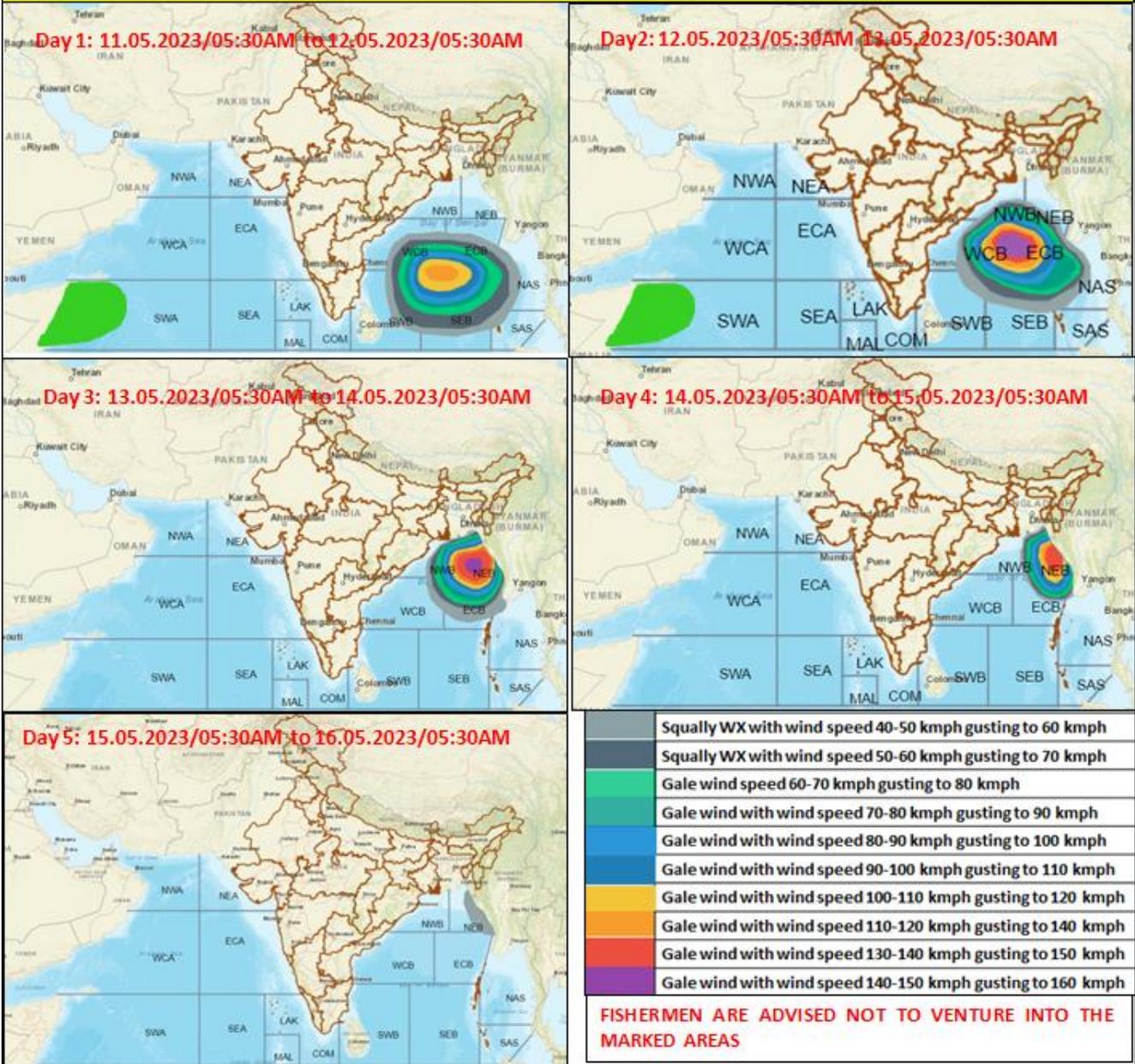
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Storm Surge Warning Graphics



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Fishermen warning graphics



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