



REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
SPECIAL TROPICAL WEATHER OUTLOOK

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 09.05.2023

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 2130 UTC OF 09.05.2023 BASED ON 1800 UTC OF 09.05.2023.

BAY OF BENGAL:

SUB: DEPRESSION OVER SOUTHEAST BAY OF BENGAL

THE DEPRESSION OVER SOUTHEAST BAY OF BENGAL MOVED NORTHWESTWARDS DURING PAST 06 HOURS WITH A SPEED OF 05 KMPH AND LAY CENTERED AT 1800 UTC OF 9TH MAY 2023 OVER THE SAME REGION NEAR LATITUDE 8.5°N AND LONGITUDE 89.3°E, ABOUT 510 KM WEST-SOUTHWEST OF PORT BLAIR, 1460 KM SOUTH-SOUTHWEST OF COX'S BAZAR (BANGLADESH) AND 1340 KM SOUTH-SOUTHWEST OF SITTWE (MYANMAR).

IT IS VERY LIKELY TO MOVE NORTH-NORTHWESTWARDS AND INTENSIFY GRADUALLY INTO A CYCLONIC STORM OVER THE SAME REGION AROUND 1200 UTC OF 10TH MAY EVENING. CONTINUING TO MOVE NORTH-NORTHWESTWARDS, IT WILL GRADUALLY INTENSIFY FURTHER INTO A SEVERE CYCLONIC STORM BY 0600 UTC OF 11TH MAY AND VERY SEVERE CYCLONIC STORM BY 1800 UTC OF 11TH MAY OVER SOUTHEAST AND ADJOINING CENTRAL BAY OF BENGAL. THEREAFTER, IT IS LIKELY TO RECURVE GRADUALLY, MOVE NORTH-NORTHEASTWARDS AND CROSS SOUTHEAST BANGLADESH AND NORTH MYANMAR COASTS BETWEEN COX'S BAZAR (BANGLADESH) AND KYAUKPYU (MYANMAR) AROUND 0600 UTC OF 14TH MAY, 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
09.05.23/1800	8.5/89.3	45-55 GUSTING TO 65	DEPRESSION
10.05.23/0600	9.8/88.1	50-60 GUSTING TO 70	DEEP DEPRESSION
10.05.23/1800	10.9/87.5	80-90 GUSTING TO 100	CYCLONIC STORM
11.05.23/0600	12.1/87.4	100-110 GUSTING TO 120	SEVERE CYCLONIC STORM
11.05.23/1800	13.1/87.4	120-130 GUSTING TO 140	VERY SEVERE CYCLONIC STORM
12.05.23/0600	14.1/87.7	135-145 GUSTING TO 160	VERY SEVERE CYCLONIC STORM
12.05.23/1800	15.3/88.6	140-150 GUSTING TO 165	VERY SEVERE CYCLONIC STORM
13.05.23/0600	16.9/89.9	135-145 GUSTING TO 160	VERY SEVERE CYCLONIC STORM
13.05.23/1800	18.7/91.3	120-130 GUSTING TO 140	VERY SEVERE CYCLONIC STORM
14.05.23/0600	20.8/92.6	90-100 GUSTING TO 110	SEVERE CYCLONIC STORM
14.05.23/1800	22.8/94.0	50-60 GUSTING TO 70	DEEP 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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CONVECTION HAS ORGANISED DURING LAST 06 HRS AND INTENSITY OF THE SYSTEM IS CHARACTERISED AS T1.5. ASSOCIATED BROKEN LOW/MED CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTH BAY ADJ EQUATORIAL INDIAN OCEAN BET LAT 5.0N TO 12.5N LONG 81.0E TO 92.0E. MINIMUM CLOUD TOP TEMPERATURE (CTT) IS MINUS 93 DEG CELSIUS. INTENSE TO VERY INTENSE CONVECTION LAY TO THE WESTERN SECTOR OF THE SYSTEM CENTRE

THE MAXIMUM SUSTAINED SURFACE WIND SPEED IS 25 KNOTS GUSTING TO 35 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1002 HPA. SEA CONDITION IS ROUGH TO VERY ROUGH OVER SOUTHEAST BAY OF BENGAL AND ADJOINING SOUTH ANDAMAN SEA.

AT 1800 UTC, A SHIP NEAR 6°N/91.7°E REPORTED MEAN SEA LEVEL PRESSURE OF 1005.3 HPA AND MAXIMUM SUSTAINED WIND SPEED OF 220⁰/25 KTS. ANOTHER SHIP NEAR 6.1°N/93.6°E REPORTED MEAN SEA LEVEL PRESSURE OF 1008 HPA AND MAXIMUM SUSTAINED WIND SPEED OF 200⁰/06 KTS.

REMARKS:

INCREASED WESTERLY WINDS ARE LIKELY TO PREVAIL OVER THE SOUTH BOB AND SOUTH ANDAMAN SEA WITH EASTERLY WINDS OVER CENTRAL & NORTH BOB DURING ALONGWITH MJO DURING NEXT 3-4 DAYS. THUS, THE ENHANCED WESTERLY WINDS AND MJO ARE LIKELY TO COLLECTIVELY CONTRIBUTE TOWARDS ENHANCEMENT OF CONVECTIVE ACTIVITY AND FURTHER INTENSIFICATION OVER SOUTHEAST & ADJOINING CENTRAL BOB DURING NEXT 3-4 DAYS.

THE TROPICAL CYCLONE HEAT POTENTIAL (TCHP) IS MORE THAN 100 KJ/CM² OVER MAJOR PARTS OF SOUTH ANDAMAN SEA & ADJOINING SOUTHEAST BOB AND CENTRAL BOB. IT IS INDICATING DECREASING TENDENCY ABOUT 60-70 KJ/CM² ALONG THE EAST COAST OF INDIA & ALONG MYANMAR COAST. SEA SURFACE TEMPERATURE (SST) IS AROUND 30-32°C OVER ENTIRE BOB. THE SEA CONDITIONS OVER BOB ARE ALSO CONDUCIVE FOR FURTHER INTENSIFICATION.

CONSIDERING THE ENVIRONMENTAL CONDITIONS, THE LOW LEVEL VORTICITY AT 850 HPA IS AROUND $100 \times 10^{-6} \text{S}^{-1}$ OVER SOUTH-SOUTHEAST BAY OF BENGAL TO THE SOUTHEAST OF SYSTEM CENTRE. LOW LEVEL CONVERGENCE IS AROUND $20 \times 10^{-5} \text{S}^{-1}$ OVER SOUTHEAST BOB TO THE SOUTHWEST OF THE SYSTEM CENTER. UPPER LEVEL DIVERGENCE IS ABOUT $40 \times 10^{-5} \text{S}^{-1}$ TO THE SOUTHWEST OF SYSTEM CENTRE. GOOD POLEWARD AND EQUATOR-WARD OUTFLOW ARE FAVOURABLE FOR FURTHER INTENSIFICATION OF THE SYSTEM. THE VERTICAL WIND IS LOW TO MODERATE (05-10 KNOTS) OVER THE SYSTEM AREA AND IT IS 10-15 KNOTS ALONG THE EXPECTED TRACK. THE SEA CONDITIONS AND ENVIRONMENTAL FEATURES INDICATE FAVOURABLE ENVIRONMENT FOR FURTHER INTENSIFICATION OVER THE REGION. THE UPPER TROPOSPHERIC RIDGE AT 500 HPA IS LOCATED NEAR 15.0N. THE RIDGE LOCATION INDICATES THAT THE SYSTEM WOULD MOVE INITIALLY NORTH-NORTHWESTWARDS AND THEN RECURVE GRADUALLY NORTH-NORTHEASTWARDS.

CONSIDERING THE MODEL GUIDANCE, MODELS LIKE IMD GFS, NCEP GFS, ECMWF AND IMD MME BASED ON THESE MODELS ARE INDICATING INITIAL NORTH-NORTHWESTWARDS MOVEMENT TILL 11TH AND GRADUAL NORTH-NORTHEASTWARDS RECURVATURE THEREAFTER WITH CROSSING OVER SOUTHEAST BANGLADESH AND NORTH MYANMAR COASTS BETWEEN COX'S BAZAR (BANGLADESH) AND KYAUKPYU (MYANMAR) AROUND FORENOON OF 14TH

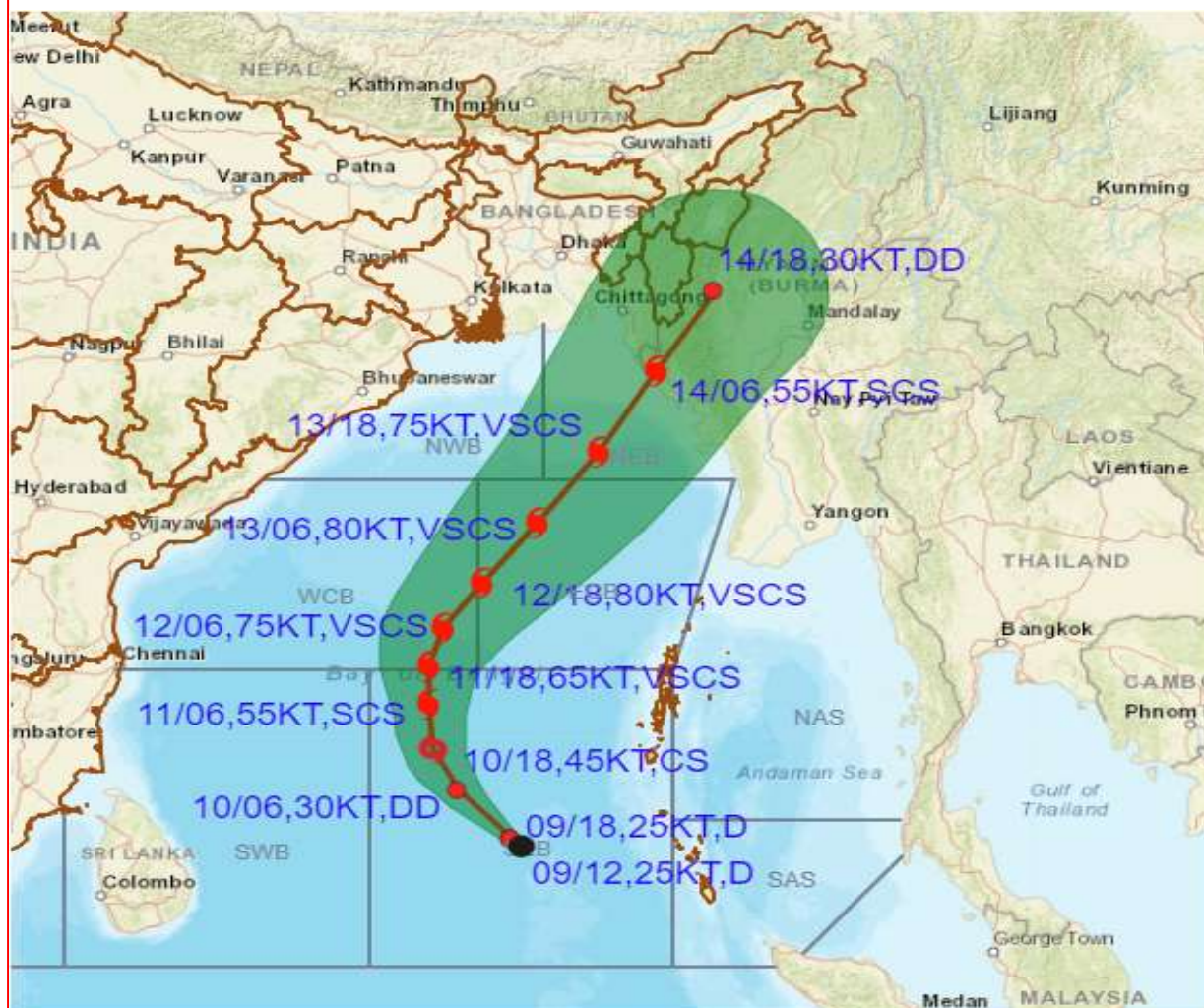
MAY, 2023.

HENCE IT IS CONCLUDED THAT, THE DEPRESSION OVER SOUTHEAST BAY OF BENGAL IS VERY LIKELY TO MOVE NORTH-NORTHWESTWARDS AND INTENSIFY GRADUALLY INTO A CYCLONIC STORM OVER THE SAME REGION AROUND 10TH MAY MID NIGHT. CONTINUING TO MOVE NORTH-NORTHWESTWARDS, IT WILL GRADUALLY INTENSIFY FURTHER INTO A SEVERE CYCLONIC STORM BY 11TH MAY FORENOON AND VERY SEVERE CYCLONIC STORM BY 11TH MAY MID NIGHT OVER SOUTHEAST AND ADJOINING CENTRAL BAY OF BENGAL. THEREAFTER, IT IS LIKELY TO RECURVE GRADUALLY, MOVE NORTH-NORTHEASTWARDS AND CROSS SOUTHEAST BANGLADESH AND NORTH MYANMAR COASTS BETWEEN COX'S BAZAR (BANGLADESH) AND KYAUKPYU (MYANMAR) AROUND FORENOON OF 14TH MAY, 2023.

(SHOBHIT KATIYAR)
SCIENTIST-C
RSMC NEW DELHI



OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF DEPRESSION OVER SOUTHEAST BAY OF BENGAL BASED ON 1800 UTC (2330 IST) OF 09TH 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

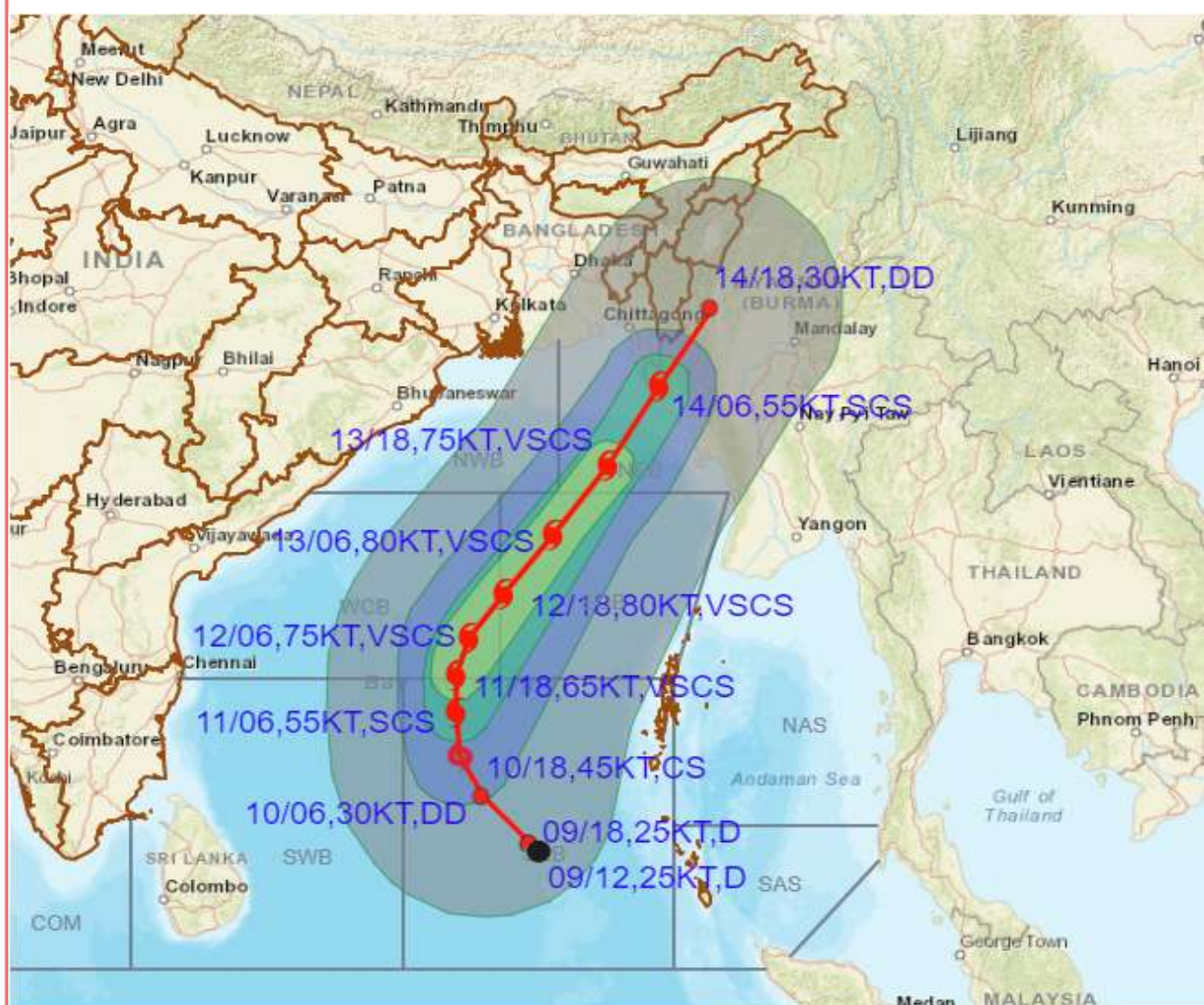
— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY



OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEPRESSION OVER SOUTHEAST BAY OF BENGAL BASED ON 1800 UTC (2330 IST) OF 09TH MAY 2023.



DATE/TIME IN UTC

IST=UTC + 0530

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WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

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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)

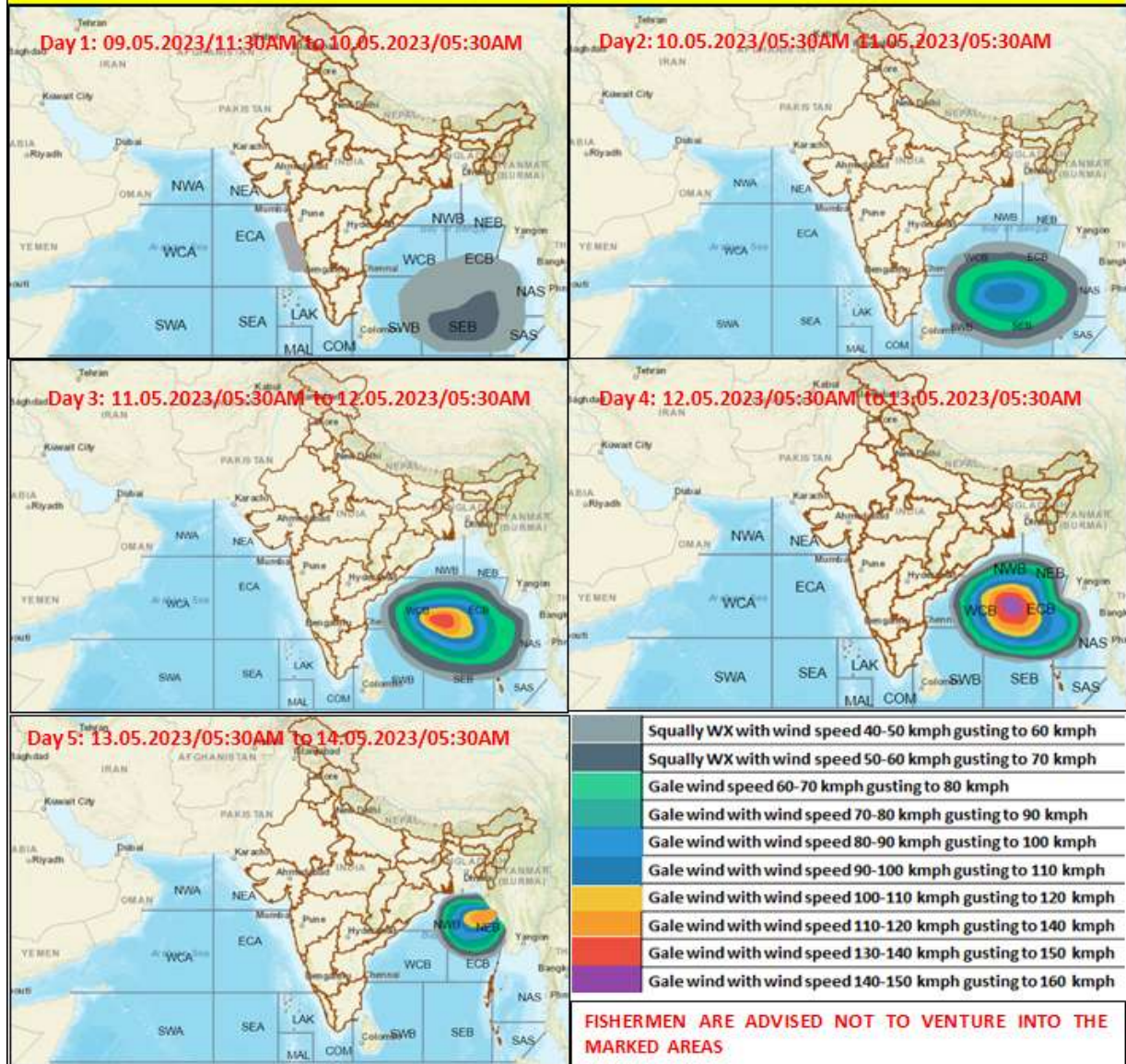
— ≥ 64 KT (≥ 118 KMPH)

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



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