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

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 10.05.2023

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0330 UTC OF 10.05.2023 BASED ON 0000 UTC OF 10.05.2023.

BAY OF BENGAL:

SUB: DEPRESSION INTENSIFIED INTO A DEEP DEPRESSION OVER SOUTHEAST BAY OF BENGAL

THE DEPRESSION OVER SOUTHEAST BAY OF BENGAL MOVED WEST-NORTHWESTWARDS WITH A SPEED OF 05 KMPH DURING PAST 06 HOURS, INTENSIFIED INTO A DEEP DEPRESSION AND LAY CENTERED AT 0000 UTC OF TODAY, THE 10TH MAY 2023 OVER THE SAME REGION NEAR LATITUDE 8.5°N AND LONGITUDE 89.0.°E, ABOUT 540 KM WEST-SOUTHWEST OF PORT BLAIR(43333), 1460 KM SOUTH-SOUTHWEST OF COX'S BAZAR (41992, BANGLADESH) AND 1350 KM SOUTH-SOUTHWEST OF SITTWE (48062, MYANMAR).

IT IS VERY LIKELY TO MOVE NORTHWESTWARDS FOR SOME TIME AND THEN NORTH-NORTHWESTWARDS AND INTENSIFY GRADUALLY INTO A CYCLONIC STORM OVER THE SAME REGION AROUND 1200 UTC OF TODAY. THEN CONTINUING TO MOVE NORTH-NORTHWESTWARDS, IT WILL GRADUALLY INTENSIFY FURTHER INTO A SEVERE CYCLONIC STORM BY 0000UTC 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 WEAKEN SLIGHTLY FROM 13TH MAY AND CROSS SOUTHEAST BANGLADESH AND NORTH MYANMAR COASTS BETWEEN COX'S BAZAR (BANGLADESH) AND KYAUKPYU (MYANMAR) AROUND 0600 UTC OF 14TH MAY, 2023 WITH MAXIMUM SUSTAINED WIND SPEED OF 110-120 KMPH GUSTING TO 130 KMPH.

Forecast track and intensity are given below:

Date/Time (UTC)	Position Lat. ^{0}N/ long. ^{0}E	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
10.05.23/0000	8.5/89.0	50-60 GUSTING TO 70	DEEP DEPRESSION
10.05.23/0600	9.1/88.6	55-65 GUSTING TO 75	DEEP DEPRESSION
10.05.23/1200	9.7/88.1	60-70 GUSTING TO 80	CYCLONIC STORM
10.05.23/1800	10.3/87.7	70-80 GUSTING TO 90	CYCLONIC STORM
11.05.23/0000	11.0/87.6	90-100 GUSTING TO 110	SEVERE CYCLONIC STORM
11.05.23/1200	11.9/87.5	105-115 GUSTING TO 125	SEVERE CYCLONIC STORM
12.05.23/0000	13.1/87.6	125-135 GUSTING TO 150	VERY SEVERE CYCLONIC STORM

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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12.05.23/1200	14.3/88.2	130-140 GUSTING TO 155	VERY SEVERE CYCLONIC STORM
13.05.23/0000	15.8/89.3	140-150 GUSTING TO 165	VERY SEVERE CYCLONIC STORM
13.05.23/1200	17.9/90.8	130-140 GUSTING TO 155	VERY SEVERE CYCLONIC STORM
14.05.23/0000	20.0/92.2	120-130 GUSTING TO 140	VERY SEVERE CYCLONIC STORM
14.05.23/1200	22.1/93.5	55-65 GUSTING TO 75	DEEP DEPRESSION

SYSTEM HAS FURTHER INTENSIFIED DURING LAST 06 HRS AND INTENSITY OF THE SYSTEM IS CHARACTERISED AS T2.0. ASSOCIATED BROKEN LOW/MED CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTH BAY ADJ EQUTORIAL INDIAN OCEAN BET LAT 5.0N TO 13N LONG 80.0E TO 93.0E. MINIMUM CLOUD TOP TEMPERATURE (CTT) IS MINUS 93 DEG CELSIUS. ASSOCIATED INTENSE TO VERY INTENSE CONVECTION HAS FURTHER ENHANCED AND CONSOLIDATED INTO SINGLE CLUSTER AND LAY TO THE WESTERN SECTOR OF THE SYSTEM CENTRE

THE MAXIMUM SUSTAINED SURFACE WIND SPEED IS 30 KNOTS GUSTING TO 40 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1000 HPA. SEA CONDITION IS ROUGH TO VERY ROUGH OVER SOUTHEAST BAY OF BENGAL AND ADJOINING SOUTH ANDAMAN SEA.

AT 0000 UTC, A SHIP NEAR 5.5°N/93°E REPORTED MEAN SEA LEVEL PRESSURE OF 1006.3 HPA AND MAXIMUM SUSTAINED WIND SPEED OF 220^0/22.9 KTS. ANOTHER SHIP NEAR 6.0°N/87.2°E REPORTED MEAN SEA LEVEL PRESSURE OF 1007.3 HPA AND MAXIMUM SUSTAINED WIND SPEED OF 260^0/26 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 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 DAYS.

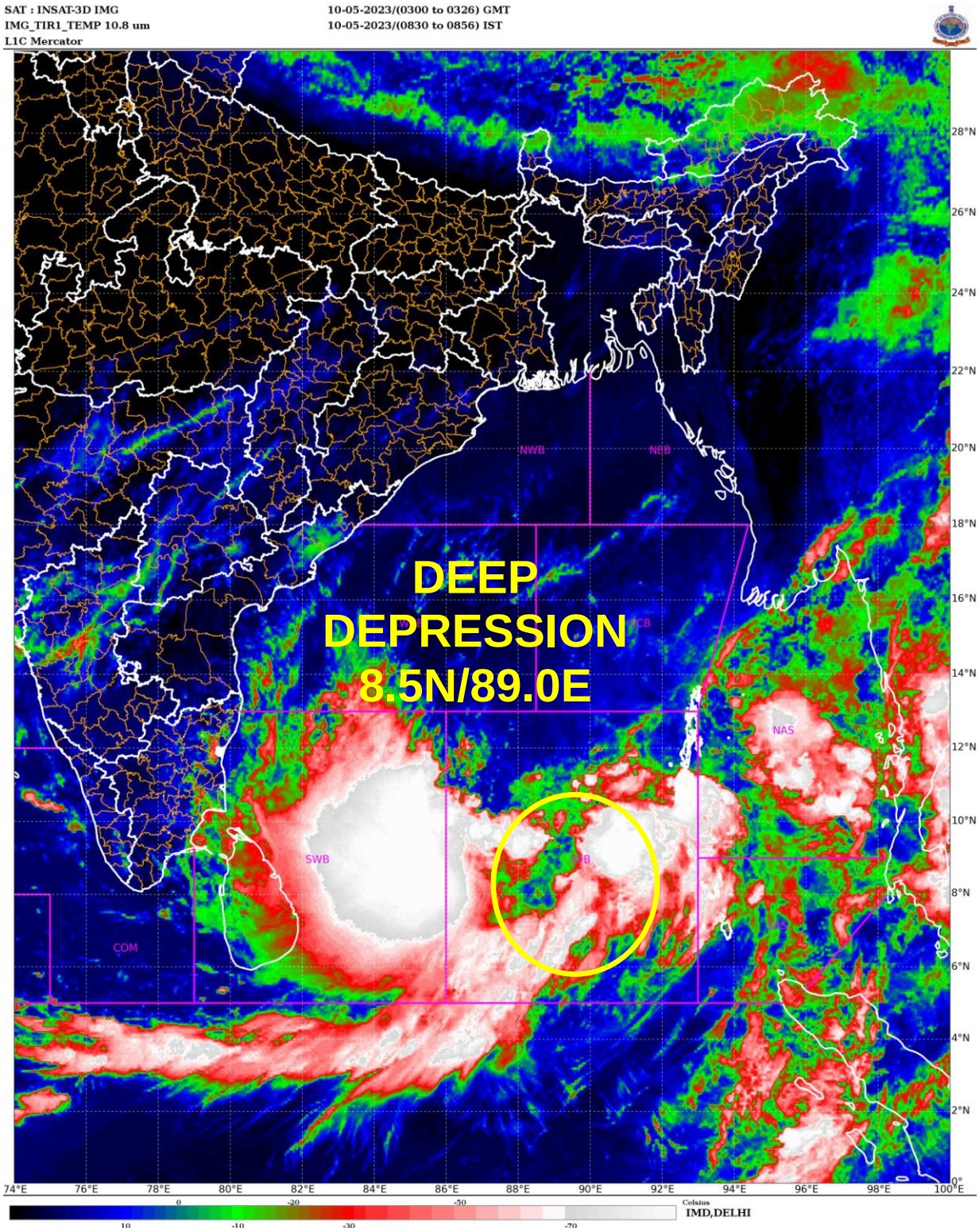
THE TROPICAL CYCLONE HEAT POTENTIAL (TCHP) IS MORE THAN 100 KJ/CM^2 OVER MAJOR PARTS OF SOUTH ANDAMAN SEA & ADJOINING SOUTHEAST BOB AND CENTRAL BOB. IT IS INDICATING DECREASING TENDENCY ABOUT 60-70 KJ/CM^2 ALONG THE EAST COAST OF INDIA & ALONG MYANMAR COAST. SEA SURFACE TEMPERATURE (SST) IS AROUND 30-32°C 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 $100X10^{-6}S^{-1}$ AND LAY TO THE EAST OF SYSTEM CENTRE. LOW LEVEL CONVERGENCE HAS INCREASED DURING PAST 6-HOURS AND IS AROUND 30 $X10^{-5}$ S^{-1} OVER AND LAY TO THE WEST OF THE SYSTEM CENTER. UPPER LEVEL DIVERGENCE IS ABOUT $40X10^{-5}S^{-1}$ TO THE SOUTHWEST OF SYSTEM CENTRE. GOOD POLEWARD AND EQUATOR-WARD OUFLOW 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 18.0N. THE RIDGE LOCATION INDICATES THAT THE SYSTEM WOULD MOVE INITIALLY NORTH-NORTHWESTWARDS AND THEN RECURVE GRADUALLY 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. HOWEVER, THERE IS VARIATION AMONG VARIOUS MODELS WRT LANDFALL TIME AND INTENSITY OF THE SYSTEM. HOWEVER, THERE IS CONSENSUS AMONG VARIOUS MODELS WRT SLIGHT WEAKENING OF THE SYSTEM BEFORE LANDFALL.

HENCE IT IS CONCLUDED THAT, THE DEEP DEPRESSION OVER SOUTHEAST BAY OF BENGAL IS VERY LIKELY TO MOVE NORTHWESTWARDS FOR SOME TIME AND THEN NORTH-NORTHWESTWARDS AND INTENSIFY GRADUALLY INTO A CYCLONIC STORM OVER THE SAME REGION AROUND 1200 UTC OF TODAY. THEN CONTINUING TO MOVE NORTH-NORTHWESTWARDS, IT WILL GRADUALLY INTENSIFY FURTHER INTO A SEVERE CYCLONIC STORM BY 0000 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 WEAKEN SLIGHTLY FROM 13TH MAY AND CROSS SOUTHEAST BANGLADESH AND NORTH MYANMAR COASTS BETWEEN COX'S BAZAR (BANGLADESH) AND KYAUKPYU (MYANMAR) AROUND 0600 UTC OF 14TH MAY, 2023 WITH MAXIMUM SUSTAINED WIND SPEED OF 110-120 KMPH GUSTING TO 130 KMPH.

(R K JENAMANI)
SCIENTIST-G
RSMC NEW DELHI



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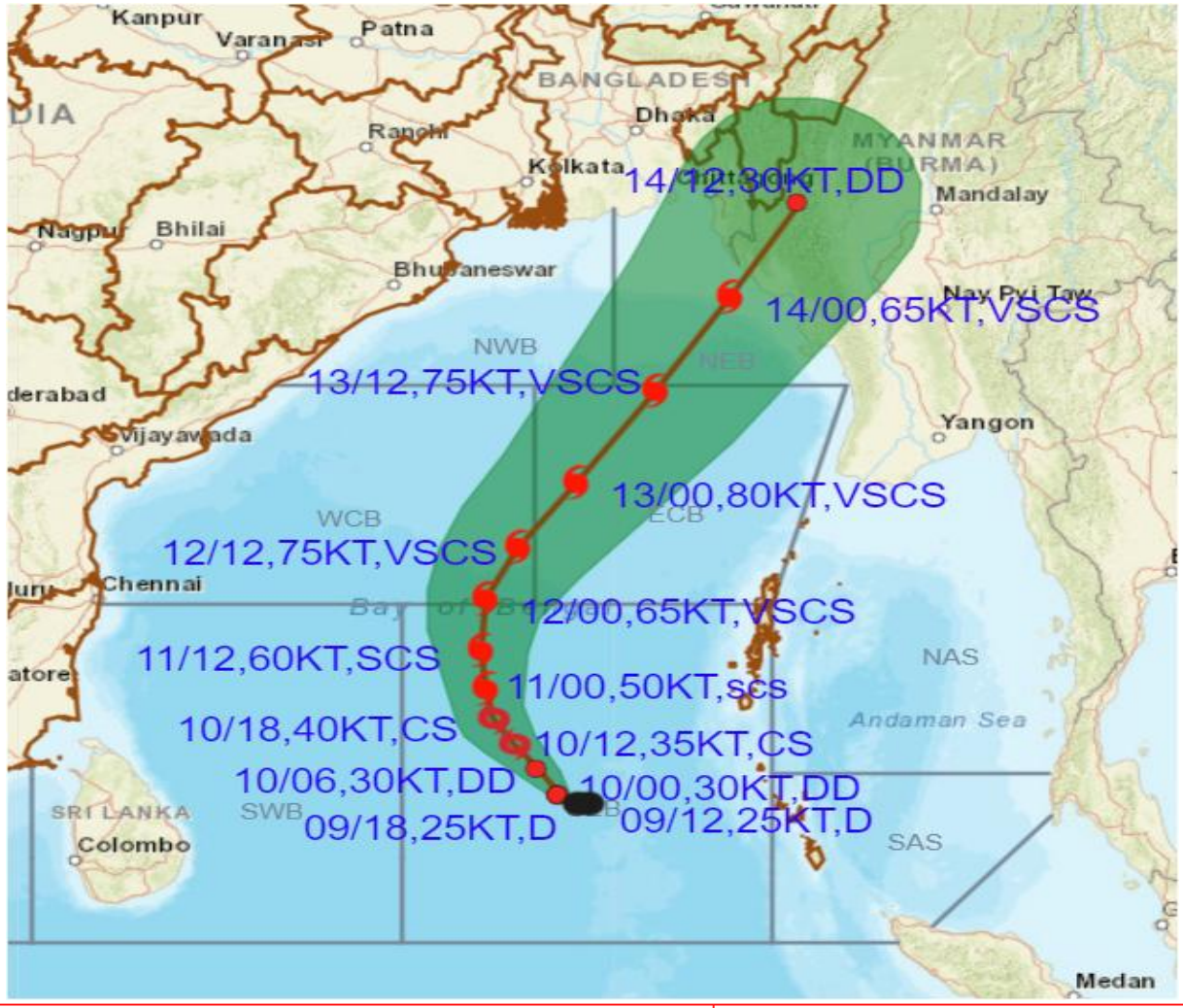
OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINITY OF DEEP DEPRESSION OVER SOUTHEAST BAY OF BENGAL BASED ON 0000 UTC (0530 IST) OF 10TH MAY 2023



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

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
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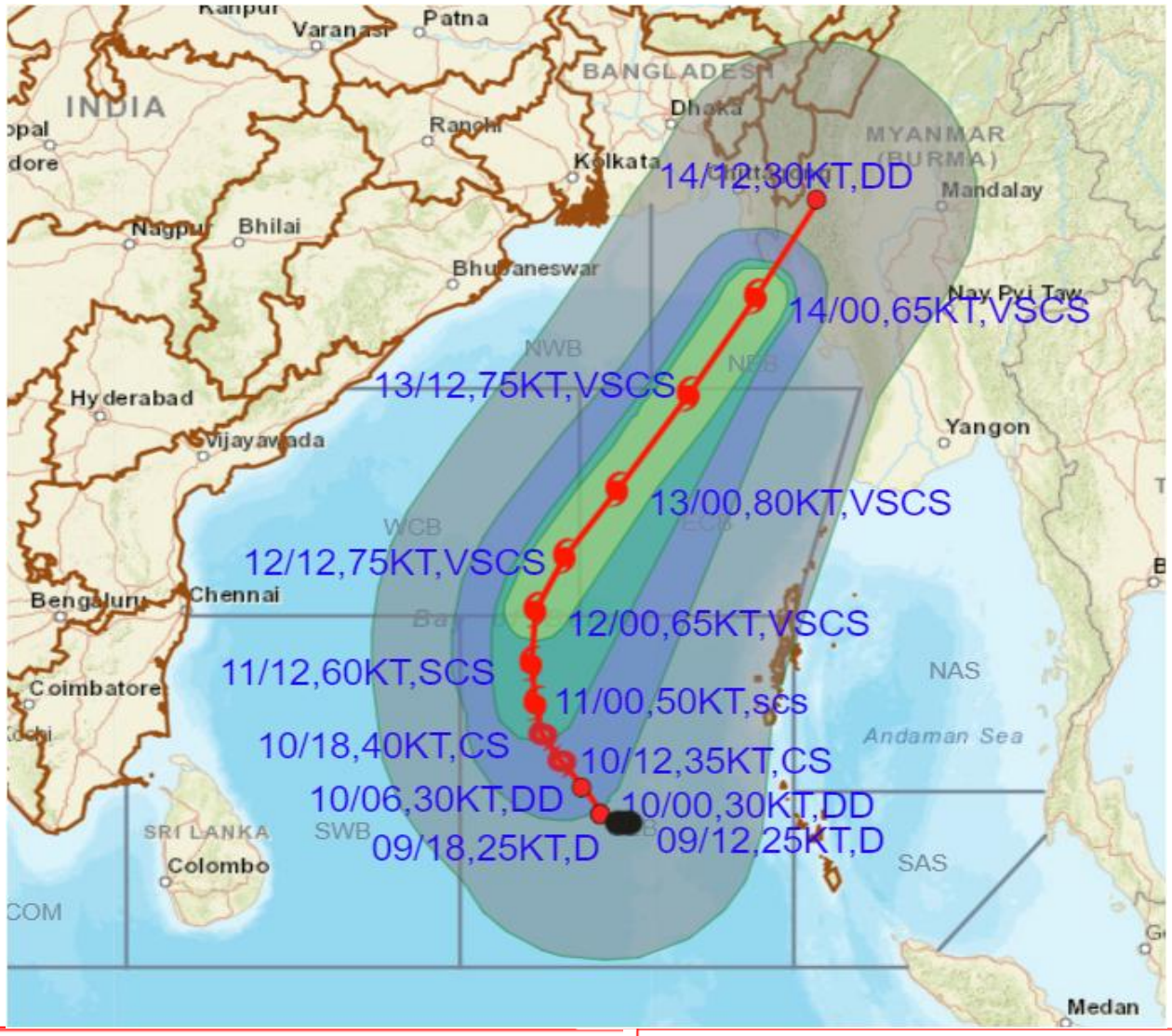
OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEEP DEPRESSION OVER SOUTHEAST BAY OF BENGAL BASED ON 0000 UTC (0530 IST) OF 10TH MAY 2023



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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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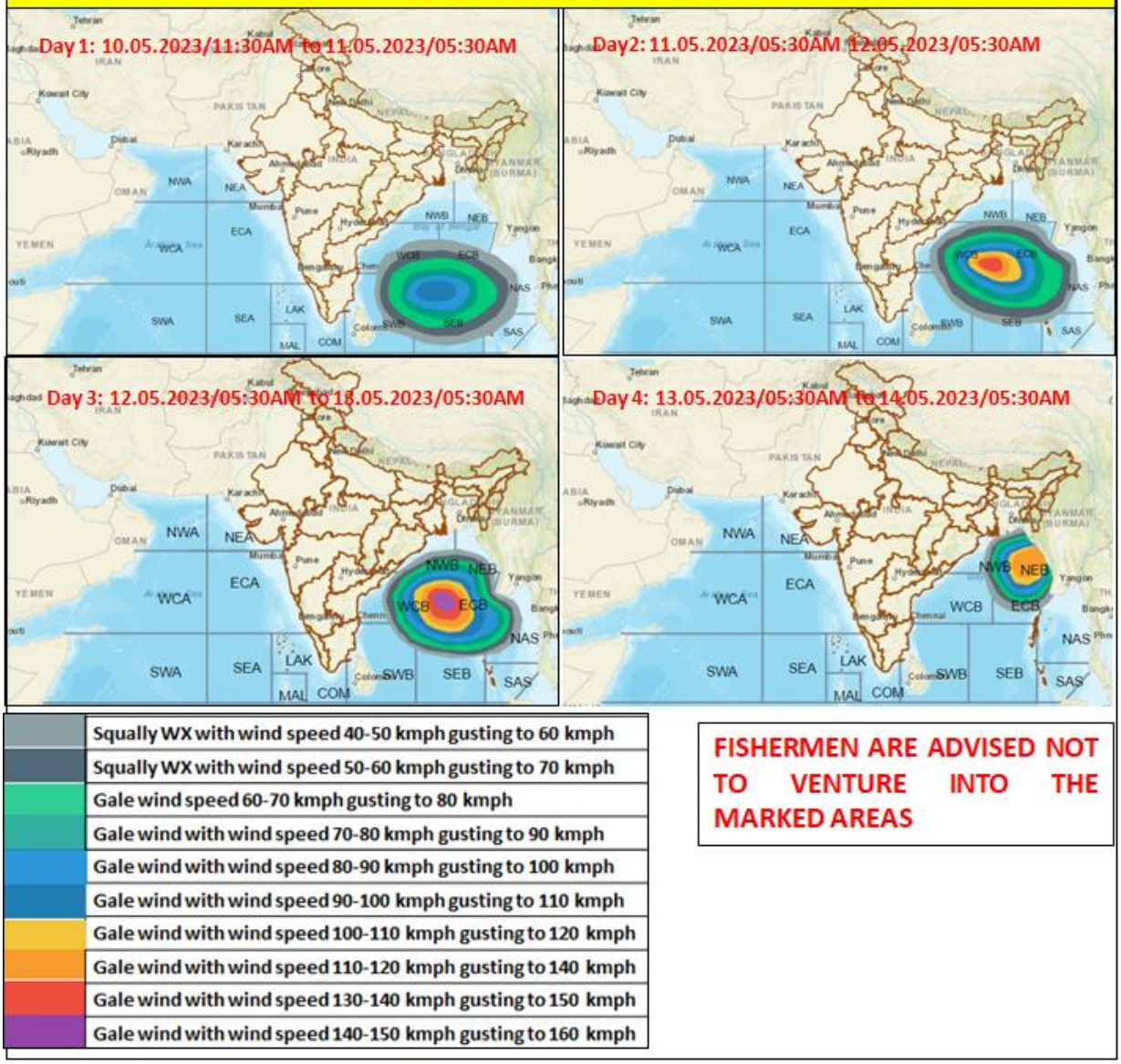
Fishermen warning graphics



	Squally WX with wind speed 40-50 kmph gusting to 60 kmph
	Squally WX with wind speed 50-60 kmph gusting to 70 kmph
	Gale wind speed 60-70 kmph gusting to 80 kmph
	Gale wind with wind speed 70-80 kmph gusting to 90 kmph
	Gale wind with wind speed 80-90 kmph gusting to 100 kmph
	Gale wind with wind speed 90-100 kmph gusting to 110 kmph
	Gale wind with wind speed 100-110 kmph gusting to 120 kmph
	Gale wind with wind speed 110-120 kmph gusting to 140 kmph
	Gale wind with wind speed 130-140 kmph gusting to 150 kmph
	Gale wind with wind speed 140-150 kmph gusting to 160 kmph

FISHERMEN ARE ADVISED NOT TO VENTURE INTO THE MARKED AREAS

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