



**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 1530 UTC OF 10.05.2023 BASED ON 1200 UTC OF 10.05.2023.

BAY OF BENGAL:

SUB: DEEP DEPRESSION OVER SOUTHEAST BAY OF BENGAL

THE DEEP DEPRESSION OVER SOUTHEAST BAY OF BENGAL MOVED NORTH-NORTHWESTWARDS WITH A SPEED OF 17 KMPH DURING PAST 06 HOURS AND LAY CENTERED AT 1200 UTC OF TODAY, THE 10TH MAY 2023 OVER THE SAME REGION NEAR LATITUDE 10.0°N AND LONGITUDE 88.4°E, ABOUT 510 KM WEST-SOUTHWEST OF PORT BLAIR (INDIA, 43333), 1320 KM SOUTH-SOUTHWEST OF COX'S BAZAR (BANGLADESH, 41992) AND 1220KM SOUTH-SOUTHWEST OF SITTWE (MYANMAR, 48062).

IT IS VERY LIKELY TO MOVE NORTH-NORTHWESTWARDS AND INTENSIFY GRADUALLY INTO A CYCLONIC STORM OVER THE SAME REGION BY 2100 UTC OF TODAY, THE 10TH MAY. THEN CONTINUING TO MOVE NORTH-NORTHWESTWARDS, IT WILL GRADUALLY INTENSIFY FURTHER INTO A SEVERE CYCLONIC STORM AROUND 1200 UTC OF 11TH MAY AND VERY SEVERE CYCLONIC STORM AROUND 0600 UTC OF 12TH MAY OVER CENTRAL BAY OF BENGAL. THEREAFTER, IT IS LIKELY TO RECURVE GRADUALLY, AND MOVE NORTH-NORTHEASTWARDS FROM 0000 UTC OF 12TH MAY. IT IS LIKELY TO WEAKEN SLIGHTLY FROM 1200 UTC OF 13TH MAY AND CROSS SOUTHEAST BANGLADESH AND NORTH MYANMAR COASTS BETWEEN COX'S BAZAR (BANGLADESH) AND KYAUKPYU (MYANMAR) DURING 0300 TO 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. °N/ LONG. °E	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
10.05.23/1200	10.0/88.4	55-65 GUSTING TO 75	DEEP DEPRESSION
10.05.23/1800	10.6/88.2	60-70 GUSTING TO 80	CYCLONIC STORM
11.05.23/0000	11.2/88.0	70-80 GUSTING TO 90	CYCLONIC STORM
11.05.23/0600	11.7/87.9	75-85 GUSTING TO 95	CYCLONIC STORM
11.05.23/1200	12.2/87.8	90-100 GUSTING TO 110	SEVERE CYCLONIC STORM
12.05.23/0000	13.1/87.9	110-120 GUSTING TO 135	SEVERE CYCLONIC STORM
12.05.23/1200	14.4/88.4	130-140 GUSTING TO 155	VERY SEVERE CYCLONIC STORM
13.05.23/0000	15.8/89.2	140-150 GUSTING TO 165	VERY SEVERE CYCLONIC STORM
13.05.23/1200	17.5/90.5	120-130 GUSTING TO 145	VERY SEVERE CYCLONIC STORM
14.05.23/0000	19.3/92.0	110-120 GUSTING TO 135	VERY SEVERE CYCLONIC STORM
14.05.23/1200	22.1/94.5	55-65 GUSTING TO 75	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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THE MAXIMUM SUSTAINED SURFACE WIND SPEED IS 30 KNOTS GUSTING TO 40 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 998 HPA. SEA CONDITION IS ROUGH TO VERY ROUGH OVER SOUTHEAST BAY OF BENGAL AND ADJOINING AREAS OF ANDAMAN SEA.

AS PER SATELLITE IMAGERY 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 OF BENGAL BETWEEN LATITUDE 5.0N TO 13.0N AND LONG 80.0E TO 93.0E. MINIMUM CLOUD TOP TEMPERATURE (CTT) IS MINUS 93 DEG CELSIUS. INTENSE TO VERY INTENSE CONVECTION LIES OVER WEST SECTOR OF THE SYSTEM CENTRE.

AT 1200 UTC, A BUOY NEAR 10.6°N/93.7°E REPORTED MEAN SEA LEVEL PRESSURE OF 1006.5 HPA AND MAXIMUM SUSTAINED WIND SPEED OF 130⁰/11.7 KTS. ANOTHER BUOY NEAR 14.0°N/87.0°E REPORTED MEAN SEA LEVEL PRESSURE OF 1003.5 HPA.

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

STORM SURGE WITH HEIGHT OF ABOUT 1.5-2.0 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 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.

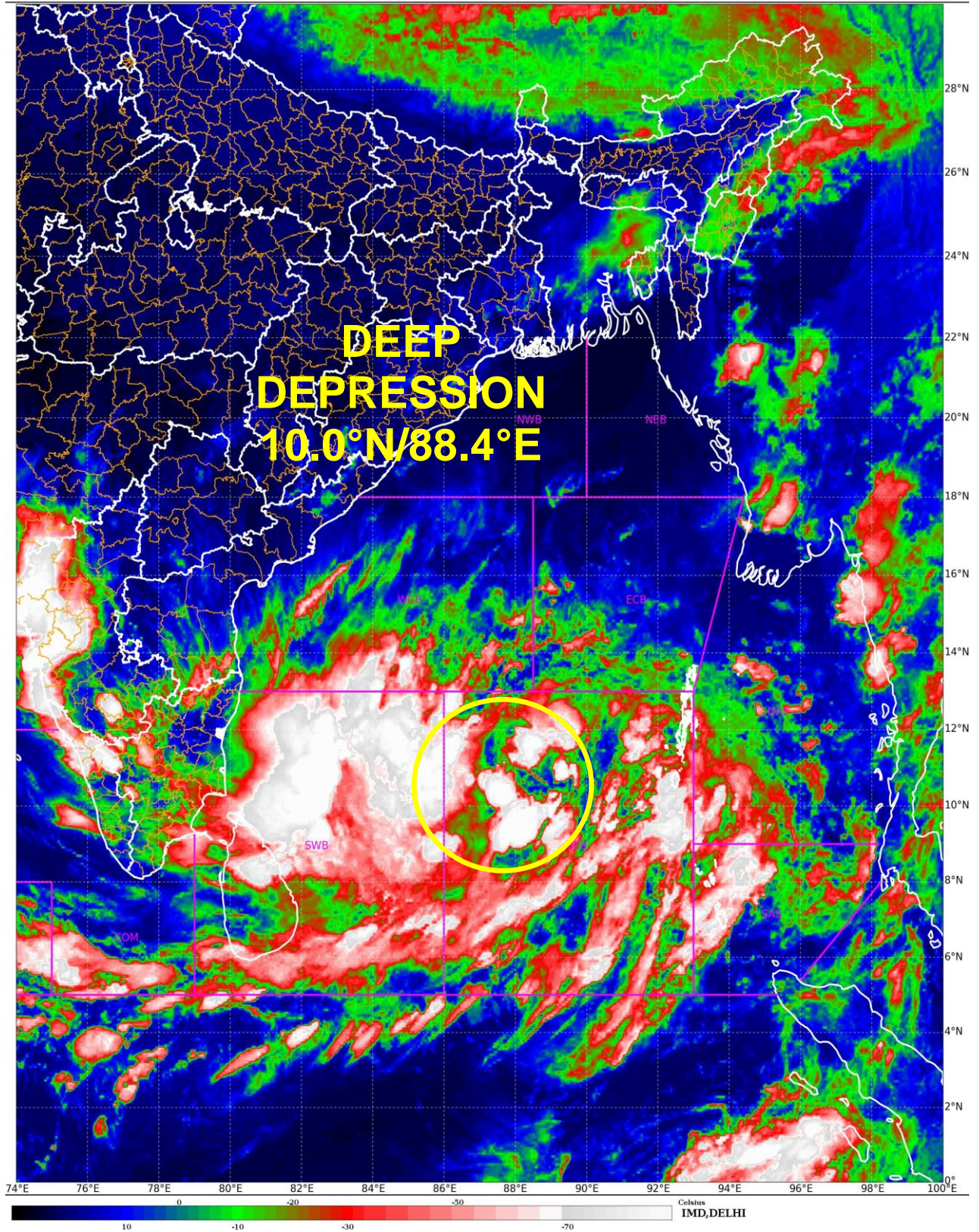
CONSIDERING THE ENVIRONMENTAL CONDITIONS, THE LOW LEVEL VORTICITY AT 850 HPA HAS INCREASED DURING PAST 6 HOURS WITH VALUE AROUND 200X10⁻⁶S⁻¹ TO THE SOUTH OF THE SYSTEM CENTRE. LOW LEVEL CONVERGENCE IS AROUND 20 X10⁻⁵ S⁻¹ TO THE SOUTHWEST OF THE SYSTEM CENTER. UPPER LEVEL DIVERGENCE IS ABOUT 30X10⁻⁵S⁻¹ TO THE SOUTHWEST. THE VERTICAL WIND SHEAR IS LOW (5-15 KNOTS) OVER THE SYSTEM AREA AND LOW TO MODRATE (10-20) ALONG THE EXPECTED TRACK OVER CENTRAL BOB. THE SEA CONDITIONS AND ENVIRONMENTAL FEATURES INDICATE FAVOURABLE ENVIRONMENT FOR FURTHER INTENSIFICATION OVER THE REGION. THE SYSTEM IS LYING IN THE PERIPHERY OF UPPER TROPOSPHERIC RIDGE NEAR 15.0N IN ASSOCIATION WITH ANTI CYCLONIC CIRCULATION OVER ESATCENTRAL BOB. THE SYSTEM IS EXPECTED TO MOVE NORTH-NORTHWESTWARDS ALONG IT'S PERIPHERY. 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. HOWEVER, THERE IS VARIATION AMONG VARIOUS MODELS WRT LANDFALL TIME AND INTENSITY OF THE SYSTEM. BUT, THERE IS CONSENSUS AMONG VARIOUS MODELS WRT SLIGHT WEAKENING OF THE SYSTEM BEFORE LANDFALL. IMD GFS IS INDICATING LANDFALL AROUND 14/0600 UTC NEAR 20.1N/93.2E. ECMWF IS INDICATING LANDFALL AROUND 14/0300 UTC NEAR 20.4N/92.7E. IMD MME IS INDICATING LANDFALL AROUND 14/0300 UTC NEAR 20.0N/93.1E. PEAK INTENSITY BY VARIOUS MODELS IS VARYING

BETWEEN 60 KT-110 KT. ACCORDINGLY, OPERATIONALLY THE PEAK INTENSITY HAS BEEN TAKEN AS 80 KTS BASED ON MME.

IT IS CONCLUDED THAT, THE DEEP DEPRESSION OVER SOUTHEAST BAY OF BENGAL IS VERY LIKELY TO MOVE NORTH-NORTHWESTWARDS AND INTENSIFY GRADUALLY INTO A CYCLONIC STORM OVER THE SAME REGION BY 2100 UTC OF TODAY, THE 10TH MAY. THEN CONTINUING TO MOVE NORTH-NORTHWESTWARDS, IT WILL GRADUALLY INTENSIFY FURTHER INTO A SEVERE CYCLONIC STORM AROUND 1200 UTC OF 11TH MAY AND VERY SEVERE CYCLONIC STORM AROUND 0600 UTC OF 12TH MAY OVER CENTRAL BAY OF BENGAL. THEREAFTER, IT IS LIKELY TO RECURVE GRADUALLY, AND MOVE NORTH-NORTHEASTWARDS FROM 0000 UTC OF 12TH MAY. IT IS LIKELY TO WEAKEN SLIGHTLY FROM 1200 UTC OF 13TH MAY AND CROSS SOUTHEAST BANGLADESH AND NORTH MYANMAR COASTS BETWEEN COX'S BAZAR (BANGLADESH) AND KYAUKPYU (MYANMAR) DURING 0300 TO 0600 UTC OF 14TH MAY, 2023 WITH MAXIMUM SUSTAINED WIND SPEED OF 110-120 KMPH GUSTING TO 130 KMPH.

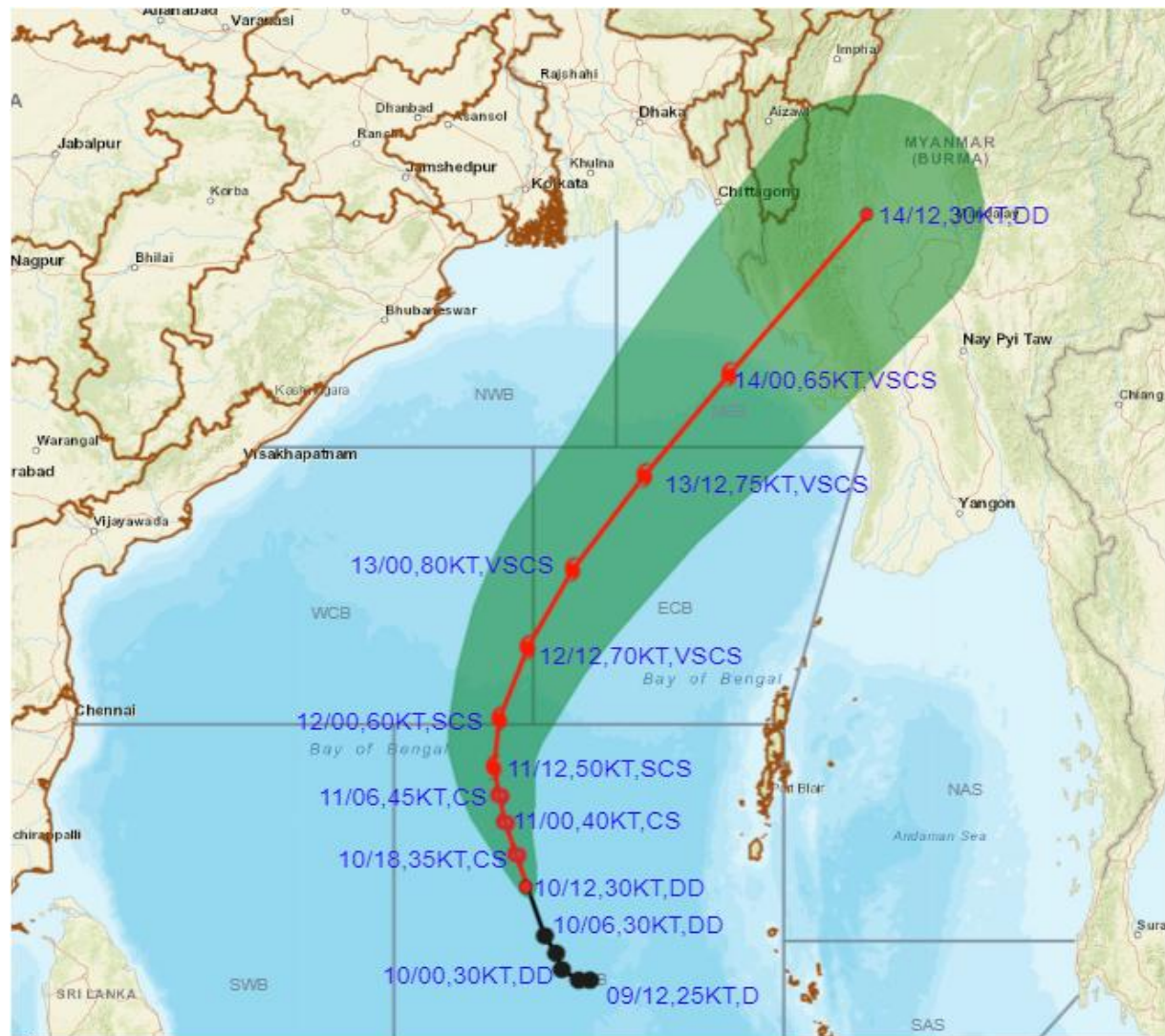
(M. SHARMA)
SCIENTIST-D
RSMC NEW DELHI



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OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF DEEP DEPRESSION OVER SOUTHEAST BAY OF BENGAL BASED ON 1200 UTC OF 10TH MAY 2023.

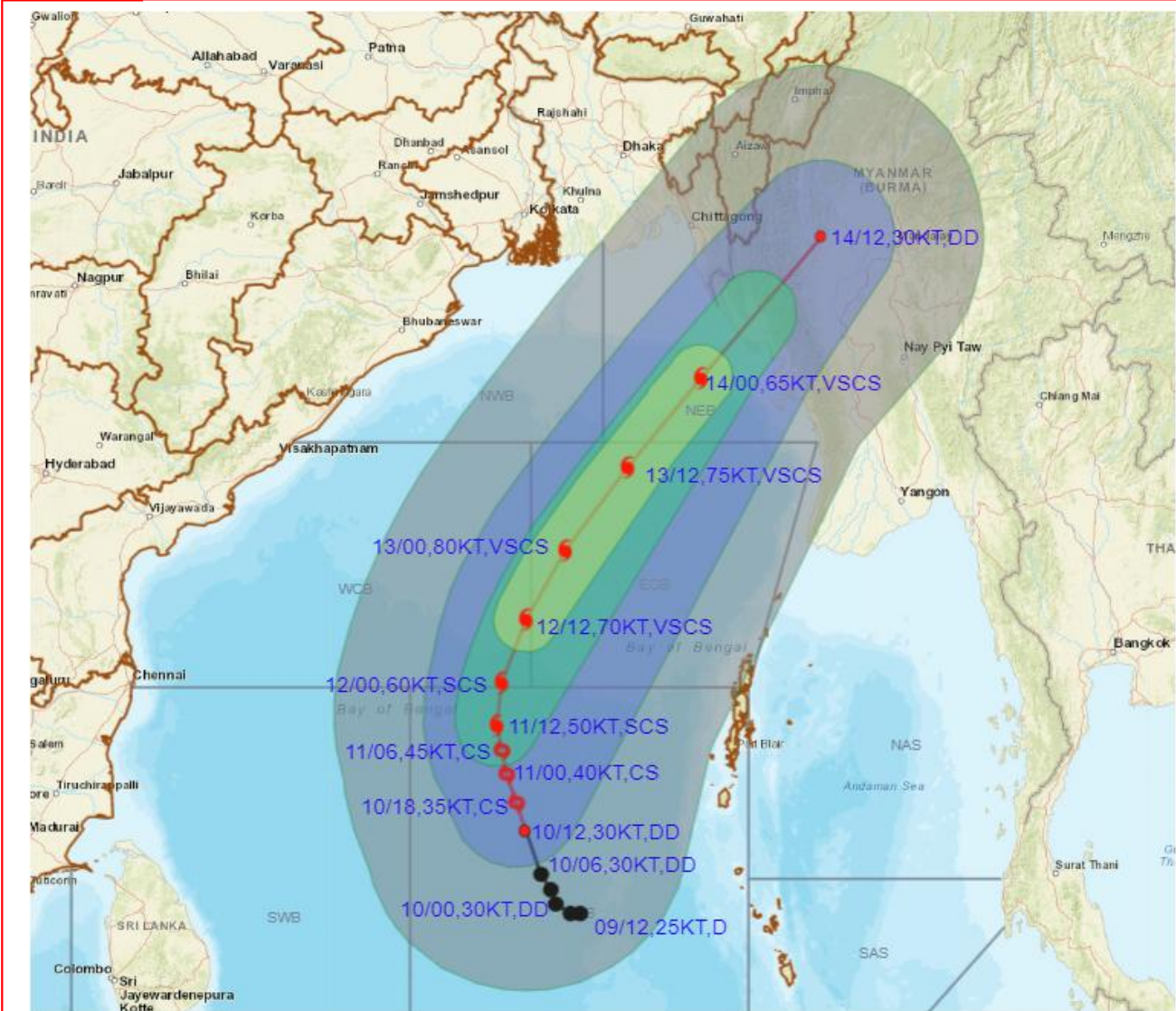


DATE/TIME IN UTC
 IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ECS: EXTREMELY SEVERE CYCLONIC STORM (90-119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



OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEEP DEPRESSION OVER SOUTHEAST BAY OF BENGAL BASED ON 1200 UTC 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)

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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)

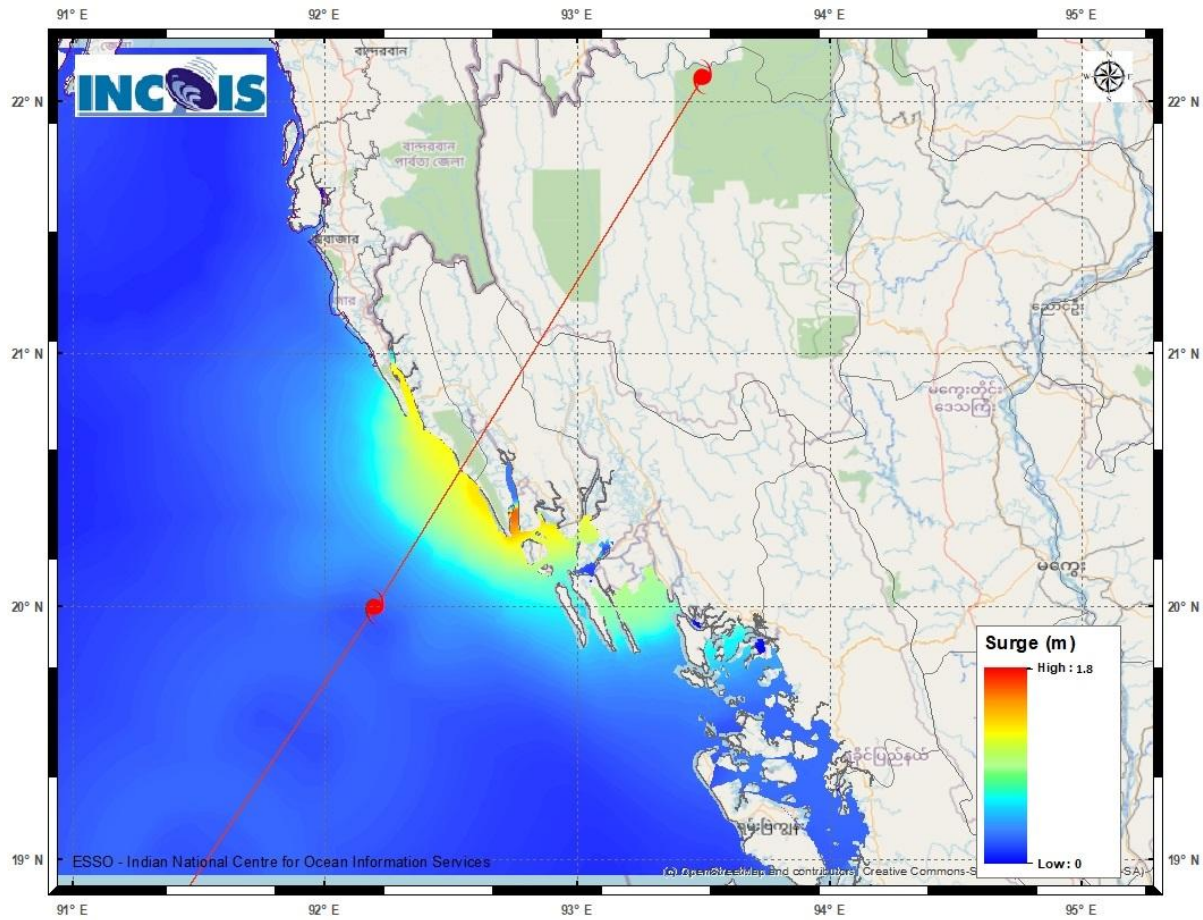
■ ≥ 64 KT (≥ 118 KMPH)

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

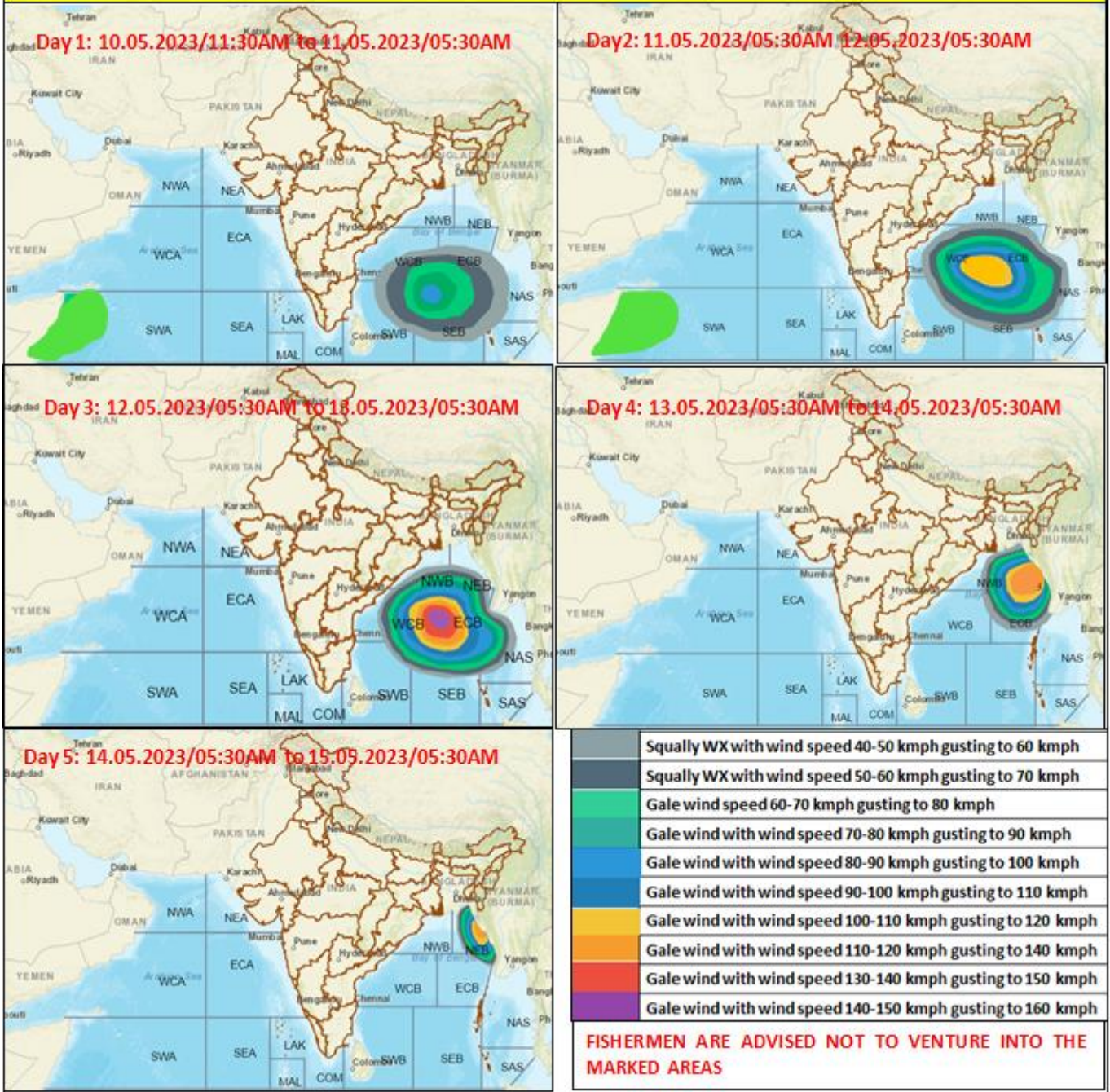
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Storm Surge Warning Graphics based on 0600 UTC Track OF IMD



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Fishermen warning graphics



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