REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI

TROPICAL WEATHER OUTLOOK

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 09.05.2023

TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0600 UTC OF 09.05.2023 BASED ON 0300 UTC OF 09.05.2023.

BAY OF BENGAL:

SUB: WELL MARKED LOW PRESSURE AREA OVER SOUTHEAST BAY OF BENGAL & ADJOINING SOUTH ANDAMAN SEA

YESTERDAY'S LOW PRESSURE AREA OVER SOUTHEAST BAY OF BENGAL AND ADJOINING SOUTH ANDAMAN SEA LAY AS A WELL MARKED LOW PRESSURE AREA OVER THE SAME REGION AT 0000 UTC AND IT PERSISTED OVER THE SAME REGION AT 0300 UTC OF TODAY, THE 9TH MAY 2023.

IT IS LIKELY TO INTENSIFY INTO A DEPRESSION BY TODAY EVENING OVER THE SAME REGION AND SUBSEQUENTLY INTO A CYCLONIC STORM OVER SOUTHEAST BAY OF BENGAL AND ADJOINING AREAS OF EASTCENTRAL BAY OF BENGAL AND ANDAMAN SEA ON 10TH MAY. IT IS LIKELY TO MOVE INITIALLY NORTH-NORTHWESTWARDS TOWARDS EASTCENTRAL BAY OF BENGAL TILL 11TH MAY. THEREAFTER, IT IS LIKELY TO RECURVE GRADUALLY AND MOVE NORTH-NORTHEASTWARDS TOWARDS BANGLADESH-MYANMAR COASTS.

LATEST SATELLITE IMAGERY INDICATES A LOW LEVEL CIRCULATION CENTRE OVER SOUTHEAST BAY OF BENGAL. INTENSITY OF THE SYSTEM IS CHARACTERISED AS T1.0. BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTH BAY OF BENGAL AND ADJOINING EQUATORIAL INDIAN OCEAN BETWEEN LATITUDE 2.0N TO 13.0N & LONGITUDE 83.0E TO 93.0E. MINIMUM CLOUD TOP TEMPERATURE IS -93°C. INTENSE TO VERY INTENSE CONVECTION LAY TO THE WEST OF SYSTEM CENTRE.

ASCAT PASS AT 1514 UTC OF 8TH MAY IS INDICATING STRONGER WINDS IN THE SOUTHEREN SECTOR. WESTERLY WIND BURST OVER THE SOUTH BAY OF BENGAL IS SEEN, WHICH WILL FAVOUR CYCLOGENESIS BY INCREASING VORTICITY AND CONVERGENCE OVER THE REGION DURING NEXT 12 HOURS.

CONSIDERING THE SURFACE OBSERVATIONS, ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 15-20 KTS. THE ESTIMATED CENTRAL PRESSURE OVER THE SYSTEM AREA IS 1004 HPA. THERE IS A FALLING TENDENCY OF MEAN SEA LEVEL PRESSURE OVER NICOBAR ISLANDS (1-2 HPA BELOW NORMAL).

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION) DURING NEXT 120 HRS:

24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS
HIGH	HIGH	HIGH	HIGH	HIGH

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

ARABIAN SEA:

SCATTERED LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE LAY OVER EASTCENTRAL ARABIAN SEA OFF MAHARASHTRA – KARNATAKA COASTS AND MODERATE TO INTENSE CONVECTION OVER SOUTH ARABIAN SEA & COMORIN AREA.

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION) DURING NEXT 120 HRS:

24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS
NIL	NIL	NIL	NIL	NIL

REMARKS:

INCREASED WESTERLY WINDS ARE LIKELY TO PREVAIL OVER THE SOUTH BOB AND SOUTH ANDAMAN SEA WITH EASTERLY WINDS OVER CENTRAL & NORTH BOB ON ALONGWITH MJO DURING NEXT 5-6 DAYS. THUS, THE ENHANCED WESTERLY WINDS AND MJO ARE LIKELY TO COLLECTIVELY CONTRIBUTE TOWARDS ENHANCEMENT OF CONVECTIVE ACTIVITY AND HENCE CYCLOGENESIS OVER SOUTHEAST & ADJOINING CENTRAL BOB DURING NEXT 4-5 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 CYCLOGENESIS.

CONSIDERING THE ENVIRONMENTAL CONDITIONS, THE LOW LEVEL VORTICITY AT 850 HPA HAS ORGANISED AND INCREASED TO 100x10^{-6}S^{-1} OVER SOUTHEAST BAY OF BENGAL TO THE WEST OF SYSTEM CENTRE. LOW LEVEL CONVERGENCE IS AROUND 20 x10^{-5} S^{-1} OVER SOUTHEAST BOB AND ANOTHER ZONE OVER SOUTHWEST BOB. UPPER LEVEL DIVERGENCE HAS INCREASED AND IS ABOUT 40x10^{-5}S^{-1} TO THE WEST OF SYSTEM CENTRE. GOOD POLEWARD OUFLOW IS SEEN. THE VERTICAL WIND IS LOW TO MODERATE (10-15 KNOTS) OVER THE SYSTEM AREA AND ALSO ALONG THE EXPECTED TRACK. THE SEA CONDITIONS AND ENVIRONMENTAL FEATURES INDICATE FAVOURABLE ENVIRONMENT FOR CYCLOGENESIS 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 MAY AND GRADUAL NORTH-NORTHEASTWARDS RECURVATURE THEREAFTER TOWARDS BANGLADESH-MYANMAR COASTS. TODAY, THERE IS CONSENSUS AMONG THESE MODELS 9IMD GFS: LANDFALL NEAR 22.0N/92.5 AROUND 14/12 UTC, ECMWF: 22.5N/91.7E AROUND 14/18 UTC AND IMD MME: 20.7N/92.5E AROUND 14/03 UTC).

CURRENT INFERENCE IS BASED UPON THE SYNOPTIC ANALYSIS, ENVIRONMENTAL FEATURES AND GUIDANCE FROM GFS GROUP, ECMWF AND IMD MME MODELS.

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HENCE TO CONCLUDE, THE WELL MARKED LOW PRESSURE AREA OVER SOUTHEAST BAY OF BENGAL & ADJOINING SOUTH IS LIKELY TO INTENSIFY INTO A DEPRESSION BY TODAY EVENING OVER THE SAME REGION AND SUBSEQUENTLY INTO A CYCLONIC STORM OVER SOUTHEAST BAY OF BENGAL AND ADJOINING AREAS OF EASTCENTRAL BAY OF BENGAL AND ANDAMAN SEA ON 10TH MAY. IT IS LIKELY TO MOVE INITIALLY NORTH-NORTHWESTWARDS TOWARDS EASTCENTRAL BAY OF BENGAL TILL 11TH MAY. THEREAFTER, IT IS LIKELY TO RECURVE GRADUALLY AND MOVE NORTH-NORTHEASTWARDS TOWARDS BANGLADESH-MYANMAR COASTS.

(M. SHARMA)
SCIENTIST-D
RSMC NEW DELHI

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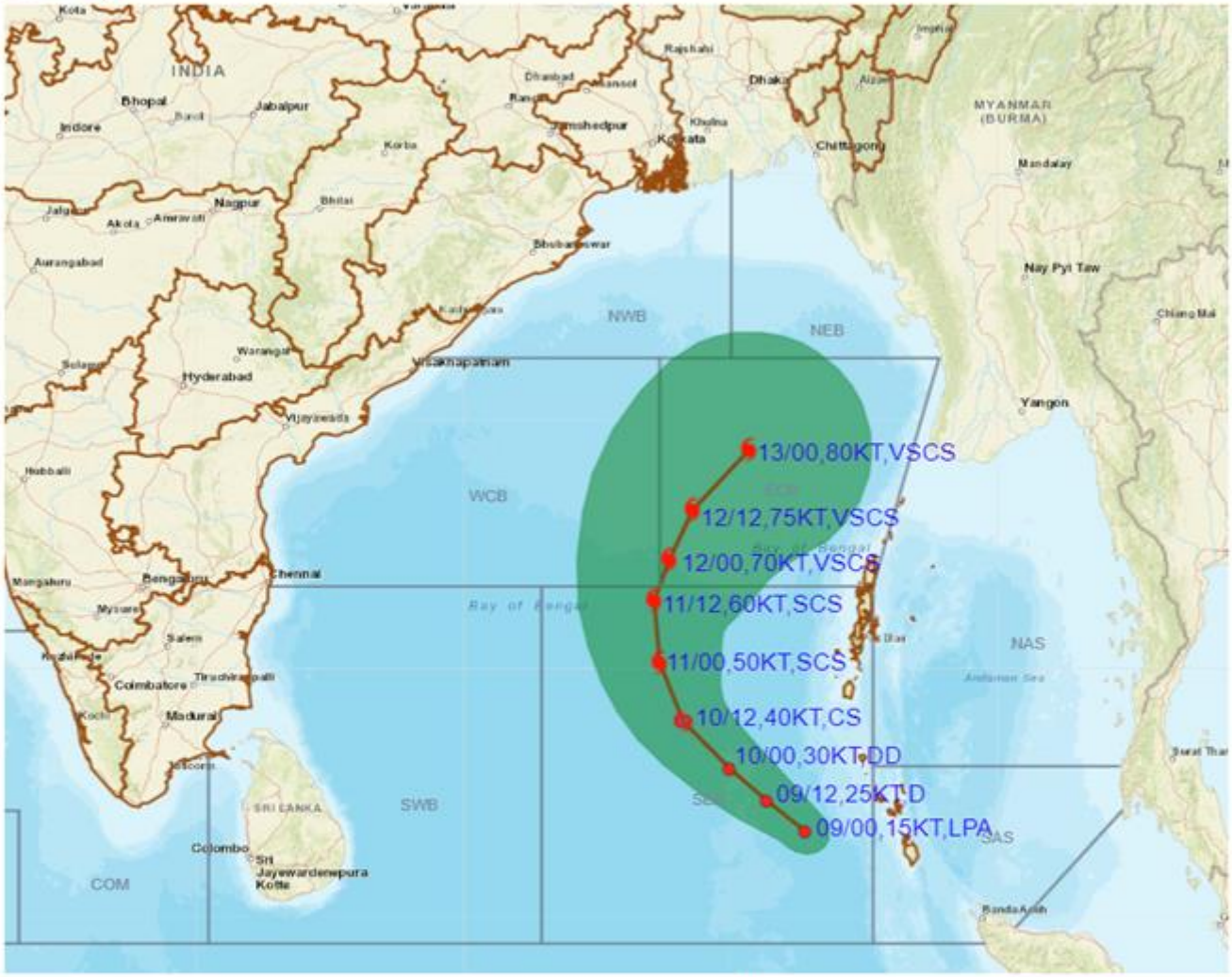
PRE-GENESIS TRACK FORECAST FOR WELL MARKED LOW PRESSURE AREA OVER SOUTHEAST BAY OF BENGAL AND ADJOINING SOUTH ANDAMAN SEA BASED ON 0000 UTC (0530 IST) OF 09TH MAY 2023.



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

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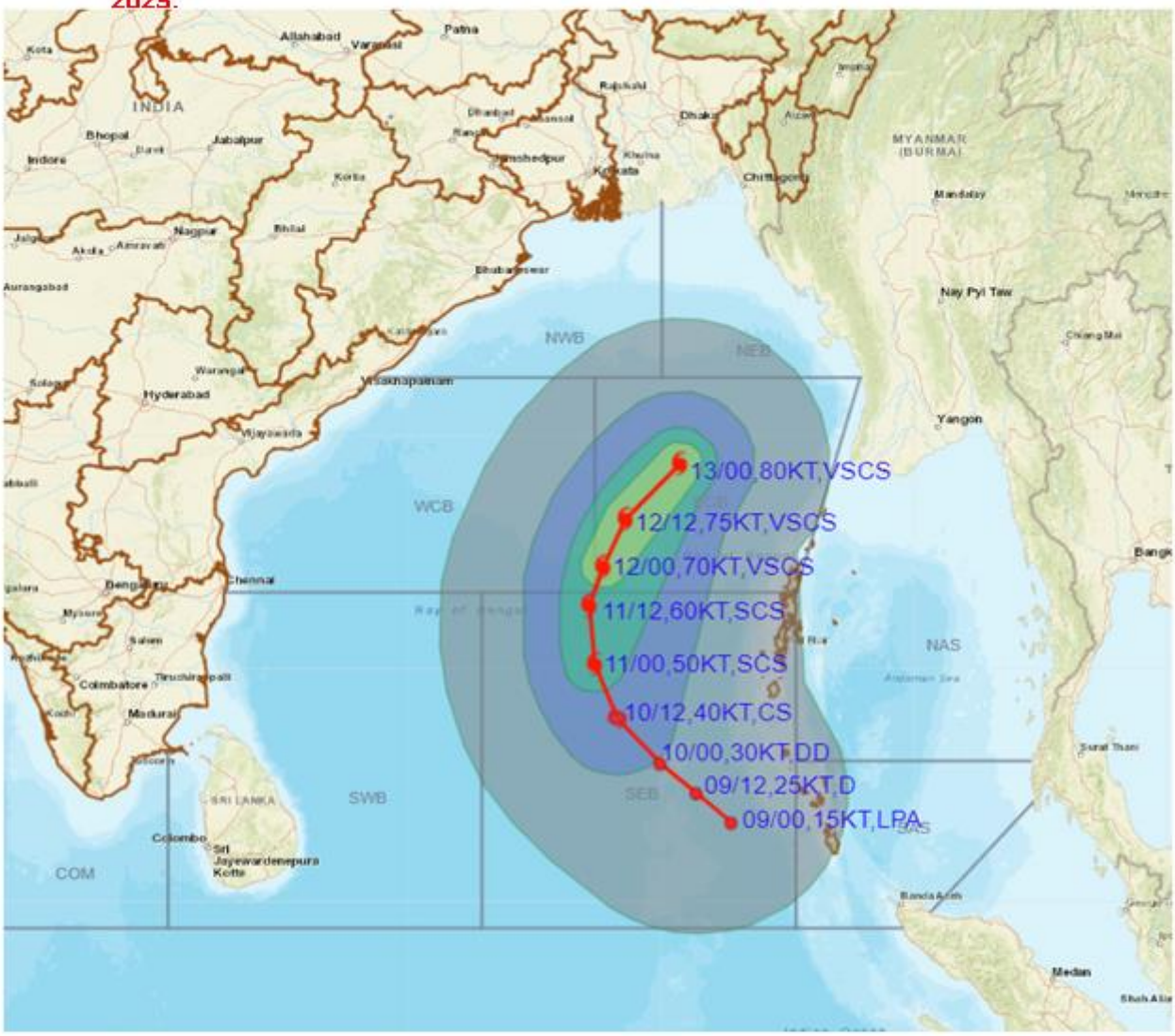
PRE-GENESIS TRACK FORECAST ALONGWITH QUADRANT WIND DISTRIBUTION FOR WELL MARKED LOW PRESSURE AREA OVER SOUTHEAST BAY OF BENGAL AND ADJOINING SOUTH ANDAMAN SEA BASED ON 0000 UTC (0530 IST) OF 09TH MAY 2023.



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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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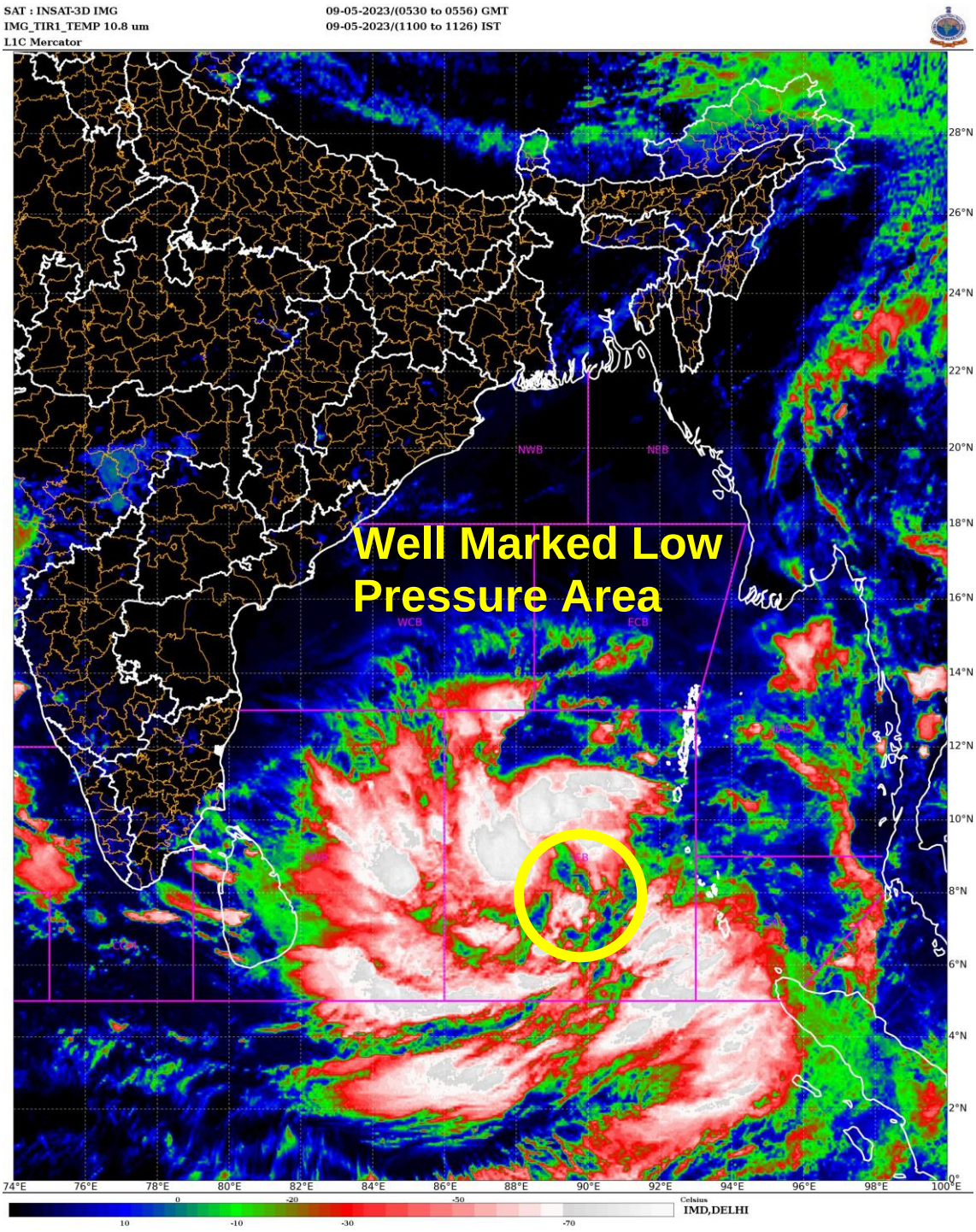

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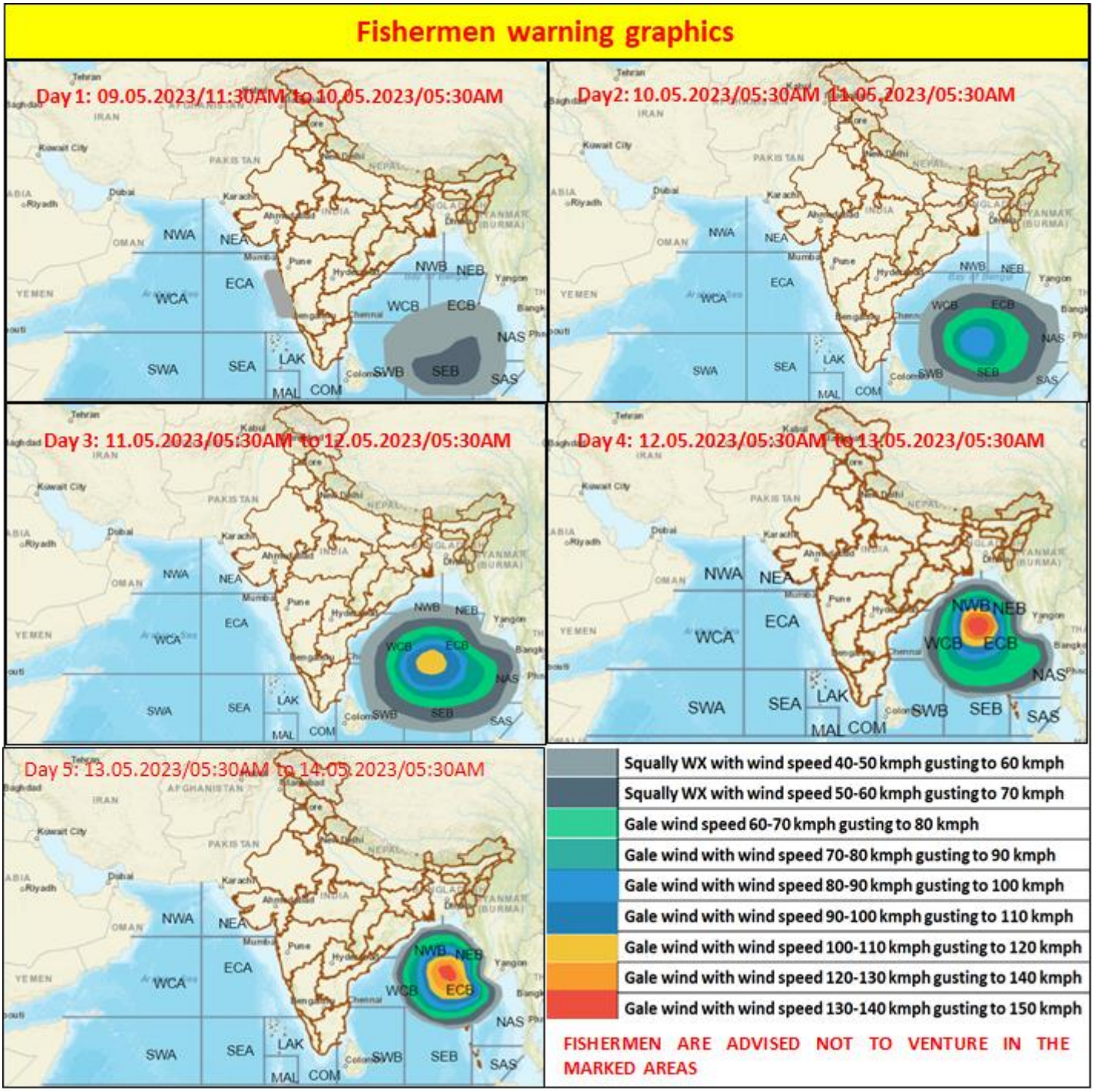
Fishermen warning graphics



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