



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

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 09.09.2024

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 168 HOURS ISSUED AT 0700 UTC OF 09.09.2024 BASED ON 0300 UTC OF 09.09.2024.

SUB: DEEP DEPRESSION OVER NORTHWEST BAY OF BENGAL

THE DEEP DEPRESSION OVER NORTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL MOVED NEARLY NORTH-NORTHWESTWARDS WITH A SPEED OF 10 KMPH DURING PAST 6 HOURS AND LAY CENTERED AT 0300 UTC OF TODAY, THE 9TH SEPTEMBER, 2024 OVER NORTHWEST BAY OF BENGAL NEAR LATITUDE 19.6°N AND LONGITUDE 86.2°E, ABOUT 50 KM EAST-SOUTHEAST OF PURI (43053), 90 KM SOUTHWEST OF PARADIP (42976), 140 KM EAST-NORTHEAST OF GOPALPUR (43049), 140 KM SOUTH-SOUTHWEST OF CHANDBALI (42973), 260 KM EAST-NORTHEAST OF KALINGAPATNAM (43105) AND 260 KM SOUTH-SOUTHWEST OF DIGHA (42901).

IT IS VERY LIKELY TO MOVE NEARLY NORTHWESTWARDS AND CROSS ODISHA COAST NEAR PURI DURING NEXT 3 HOURS OF TODAY, THE 9TH SEPTEMBER, 2024. CONTINUING TO MOVE FURTHER NORTHWESTWARDS ACROSS ODISHA, IT IS LIKELY TO MAINTAIN ITS INTENSITY OF DEEP DEPRESSION TILL 1200 UTC AND WEAKEN GRADUALLY INTO A DEPRESSION BY 1800 UTC OF TODAY, THE 9TH SEPTEMBER. THEREAFTER, IT IS LIKELY TO MOVE WEST-NORTHWESTWARDS ACROSS CHHATTISGARH DURING SUBSEQUENT 24 HOURS.

THE SYSTEM IS UNDER THE CONTINUOUS SURVEILLANCE OF DOPPLER WEATHER RADARS AT GOPALPUR.

FORECAST TRACK AND INTENSITY ARE GIVEN IN THE FOLLOWING TABLE:

| DATE/TIME (UTC) | POSITION (LAT. °N/ LONG. °E) | MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH) | CATEGORY OF CYCLONIC DISTURBANCE |
|-----------------|------------------------------|---|----------------------------------|
| 09.09.24/0300 | 19.6/86.2 | 55-65 gusting to 75 | Deep Depression |
| 09.09.24/0600 | 19.9/86.0 | 55-65 gusting to 75 | Deep Depression |
| 09.09.24/1200 | 20.5/85.4 | 50-60 gusting to 70 | Deep Depression |
| 09.09.24/1800 | 21.1/84.6 | 45-55 gusting to 65 | Depression |
| 10.09.24/0000 | 21.6/83.7 | 40-50 gusting to 60 | Depression |
| 10.09.24/1200 | 22.6/81.9 | 35-45 gusting to 55 | Depression |

AT 0300 UTC, INTENSITY OF THE SYSTEM IS CHARACTERISED AS T2.0. AS PER INSAT 3DR IMAGERY AT 0315 UTC, ASSOCIATED SCATTERED TO BROKEN LOW & MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER NORTHWEST & ADJOINING WESTCENTRAL BAY OF BENGAL, NORTH COASTAL ANDHRA PRADESH, SOUTH ODISHA, SOUTH CHHATTISGARH, VIDHARBHA AND TELANGANA. MINIMUM CLOUD TOP TEMPERATURE IS -93°C.

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED (MSW) IN ASSOCIATION WITH THE SYSTEM IS 30 KTS GUSTING TO 40 KTS. ESTIMATED CENTRAL PRESSURE IS 991 HPA.

AT 0300 UTC, PURI REPORTED MSLP OF 994.3 HPA, PRESSURE DEPARTURE OF -11.6 HPA AND PRESSURE CHANGE IN 24 HOURS AS -6.6 HPA. GOPALPUR REPORTED MSLP OF 994.3 HPA, PRESSURE CHANGE IN 24 HOURS AS -5.6 HPA, AND MSW OF 340°/09KT. PARADIP REPORTED MSLP OF 995.9 HPA, PRESSURE CHANGE IN 24 HOURS AS -5.6 HPA AND MSW OF 110°/08KT.

WIND WARNING

SQUALLY WEATHER WITH WIND SPEED REACHING 55-65 KMPH GUSTING TO 75 KMPH IS PREVAILING OVER NORTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL AND ALONG & OFF ANDHRA PRADESH-ODISHA-WEST BENGAL COASTS AND IS LIKELY TO CONTINUE NEXT 3 HOURS. IT IS LIKELY TO DECREASE, GRADUALLY BECOMING 45-55 KMPH GUSTING TO 65 KMPH BY 1200 OF 9TH SEPTEMBER. IT WILL DECREASE GRADUALLY THEREAFTER.

SEA CONDITION

ROUGH TO VERY ROUGH SEA CONDITION IS LIKELY OVER NORTHWEST AND ADJOINING NORTHEAST & CENTRAL BAY OF BENGAL AND ALONG & OFF ANDHRA PRADESH-ODISHA-WEST BENGAL COASTS TILL 1200 UTC OF THE 9TH SEPTEMBER AND ROUGH SEA CONDITION ON 10TH SEPTEMBER. IT IS LIKELY TO IMPROVE GRADUALLY THEREAFTER.

FISHERMEN WARNING

ROUGH TO VERY ROUGH SEA CONDITION OVER NORTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL AND ALONG & OFF ANDHRA PRADESH-ODISHA-WEST BENGAL COASTS TILL 1200 UTC OF 9TH AND ROUGH SEA CONDITION ON 10TH SEPTEMBER. IT IS LIKELY TO IMPROVE GRADUALLY THEREAFTER.

REMARKS:

CURRENT ENVIRONMENTAL CONDITIONS INDICATE THAT THE DEEP DEPRESSION OVER WESTCENTRAL BAY OF BENGAL (BOB) IS LYING IN A FAVOURABLE ENVIRONMENT. SEA SURFACE TEMPERATURE IS 29-30°C OVER WESTCENTRAL & ADJOINING EASTCENTRAL BOB. IT IS HIGHER AROUND 32°C OVER NORTHWEST BOB OFF ODISHA COAST. TROPICAL CYCLONE HEAT POTENTIAL IS 60-80KJ/CM² NEAR SYSTEM LOCATION. IT IS SLIGHTLY HIGHER OVER NORTHWEST BOB (100 KJ/CM²). THUS, DURING ITS NORTH-NORTHWESTWARDS MOVEMENT, IT WILL ENTER INTO WARM OCEANIC AREA.

MADDEN JULIAN OSCILLATION (MJO) INDEX IS CURRENTLY IN PHASE 5 WITH AMPLITUDE LESS THAN 1. IT IS LIKELY TO CONTINUE IN SAME PHASE DURING NEXT 4 DAYS. THUS, MJO WOULD SUPPORT ENHANCEMENT OF CONVECTIVE ACTIVITY OVER NORTH BOB. NCICS BASED GUIDANCE ON EQUATORIAL WAVES INDICATE, STRONG

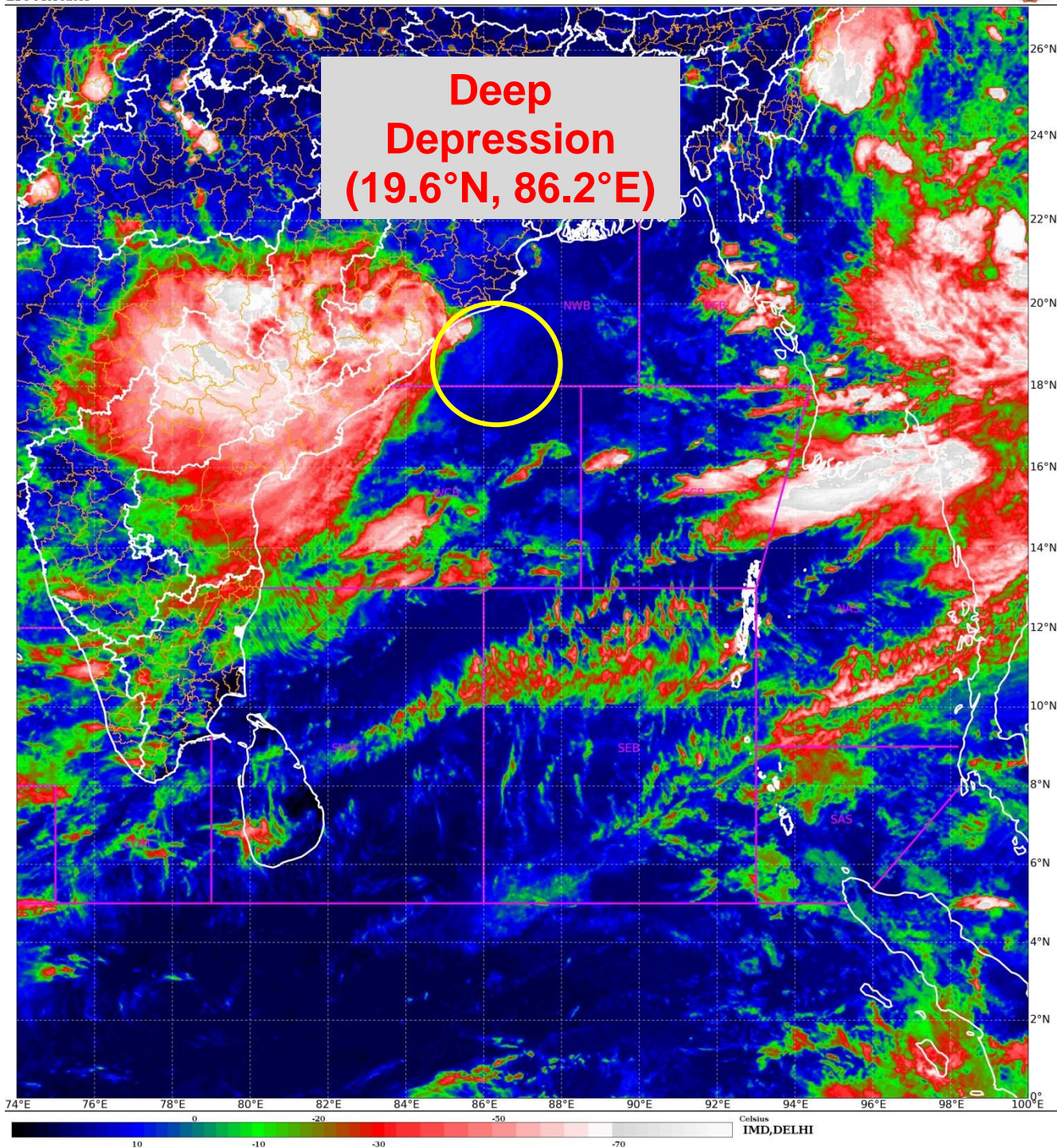
WESTERLY WINDS (5-7 MPS) ALONGWITH ROSSBY WAVES OVER SOUTH BOB AND STRONG EASTERLY WINDS (5-7MPS) OVER NORTH BOB.

THE LOW LEVEL CONVERGENCE IS AROUND $15 \times 10^{-5} \text{ S}^{-1}$ TO THE SOUTHWEST OF SYSTEM CENTRE. UPPER LEVEL DIVERGENCE IS AROUND $30 \times 10^{-5} \text{ S}^{-1}$ TO THE SOUTHWEST AND ANOTHER ZONE OF $5 \times 10^{-5} \text{ S}^{-1}$ TO THE EAST OF SYSTEM CENTRE. THE WIND SHEAR IS LOW (05-10 KT) OVER SYSTEM AREA AND ALONG THE FORECAST TRACK. VORTICITY AT 850 HPA LEVEL IS AROUND $150 \times 10^{-5} \text{ S}^{-1}$ TO THE SOUTH OF SYSTEM AREA WITH EXTENSION UPTO 500 HPA LEVEL.

THERE IS CONSENSUS AMONG VARIOUS MODELS REGARDING CROSSING NEAR 0600 UTC OF 9TH SEPTEMBER. THERE IS CONSENSUS AMONG ALL MODELS REGARDING WEST-NORTHWESTWARDS MOVEMENT OF THE SYSTEM AFTER LANDFALL ACROSS ODISHA AND CHHATTISGARH.

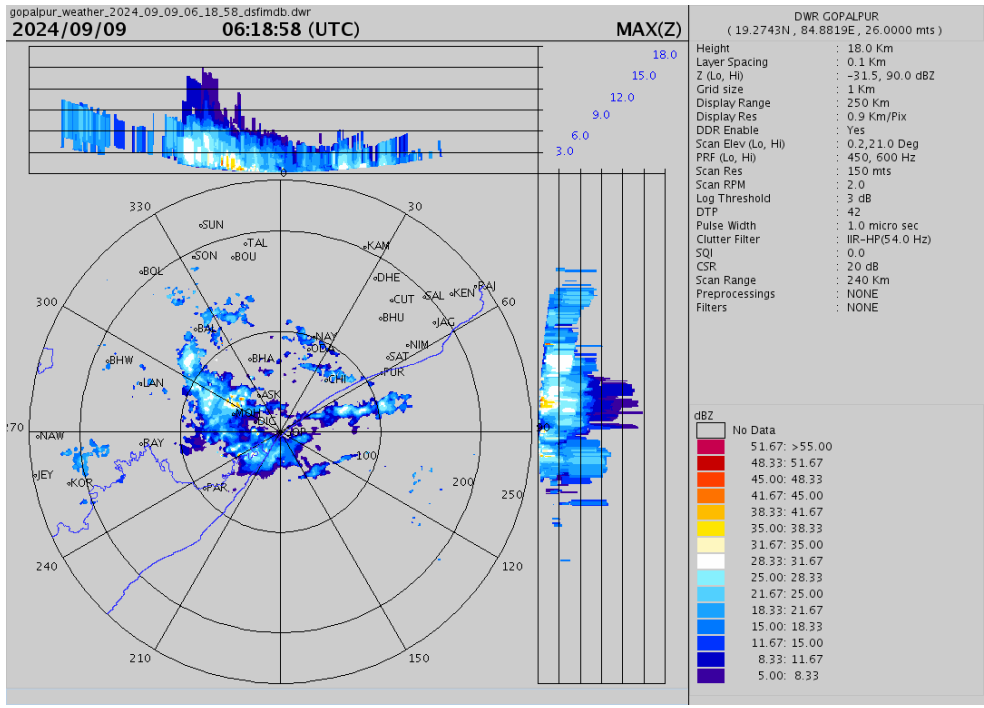
CONSIDERING ALL THE ABOVE, IT IS CONCLUDED THAT THE DEEP DEPRESSION OVER WESTCENTRAL BAY OF BENGAL IS VERY LIKELY TO MOVE NEARLY NORTHWESTWARDS AND CROSS ODISHA COAST NEAR PURI DURING NEXT 3 HOURS OF TODAY, THE 9TH SEPTEMBER, 2024. CONTINUING TO MOVE FURTHER NORTHWESTWARDS ACROSS ODISHA, IT IS LIKELY TO MAINTAIN ITS INTENSITY OF DEEP DEPRESSION TILL 1200 UTC AND WEAKEN GRADUALLY INTO A DEPRESSION BY 1800 UTC OF TODAY, THE 9TH SEPTEMBER. THEREAFTER, IT IS LIKELY TO MOVE WEST-NORTHWESTWARDS ACROSS CHHATTISGARH DURING SUBSEQUENT 24 HOURS.

(MONICA SHARMA)
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%
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Maximum reflectivity imagery from Doppler Weather Radar, Gopalpur



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OBSERVED AND FORECAST TRACK OF DEEP DEPRESSION OVER NORTHWEST BAY OF BENGAL BASED ON 0300 UTC (0830 IST) OF 9th SEPTEMBER, 2024.



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)

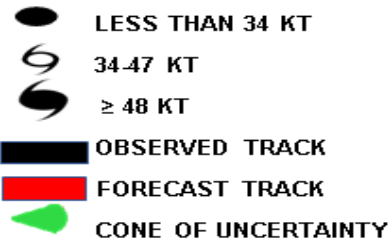
CS: CYCLONIC STORM (34-47 KT)

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)



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OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEEP DEPRESSION OVER NORTHWEST BAY OF BENGAL BASED ON 0300 UTC (0830 IST) OF 9th SEPTEMBER, 2024.



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)

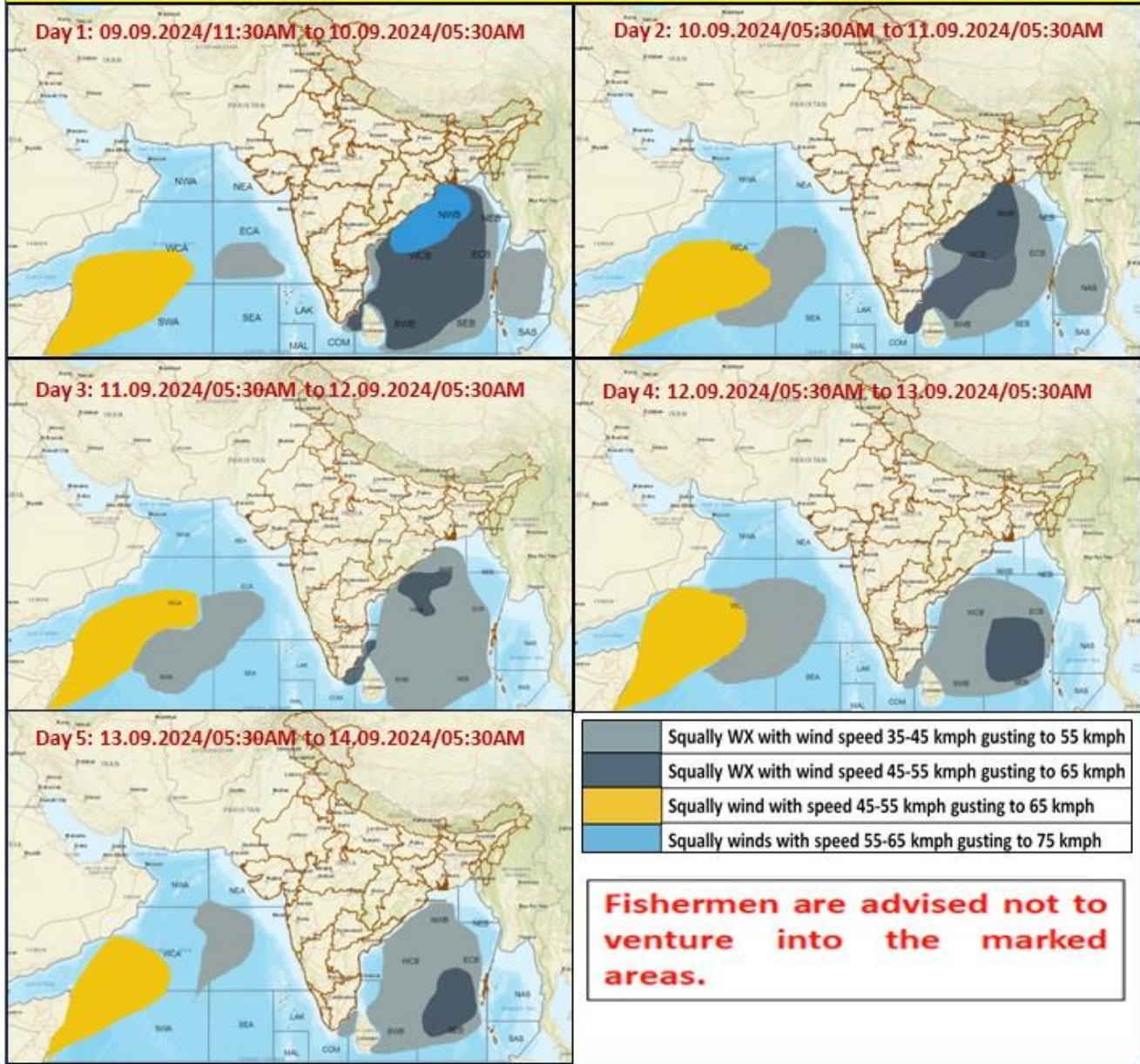
● LESS THAN 34 KT
 ○ 34-47 KT
 ● ≥ 48 KT
 — OBSERVED TRACK
 — FORECAST TRACK
 ▲ CONE OF UNCERTAINTY
 AREA OF MAXIMUM SUSTAINED WIND SPEED:
 ■ 28-33 KT (52-61 KMPH)
 ■ 34-49 KT (62-91 KMPH)
 ■ 50-63 KT (92-117 KMPH)
 ■ ≥ 64 KT (≥ 118 KMPH)

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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