



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

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**DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 21.12.2024**

**SPECIAL TROPICAL WEATHER OUTLOOK FOR THE NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR THE NEXT 120 HOURS ISSUED AT 1000 UTC OF 21.12.2024 BASED ON 0600 UTC OF 21.12.2024.**

**SUB: DEPRESSION OVER WESTCENTAL BAY OF BENGAL**

THE DEPRESSION OVER WESTCENTRAL BAY OF BENGAL MOVED EAST-NORTHEASTWARDS WITH THE SPEED OF 8 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 0600 UTC OF 21ST DECEMBER 2024 OVER THE WESTCENTRAL BAY OF BENGAL, NEAR LATITUDE 14.1°N AND LONGITUDE 84.6°E, ABOUT 430 KM SOUTH-SOUTHEAST OF VISAKHAPATNAM (43149), 490 KM EAST-NORTHEAST OF CHENNAI (43279) AND 580 KM SOUTH OF GOPALPUR (43049).

THE SYSTEM IS LIKELY TO MOVE SLOWLY EAST-NORTHEASTWARDS MAINTAINING ITS INTENSITY AS A DEPRESSION FOR NEXT 06 HOURS AND WEAKEN GRADUALLY THEREAFTER OVER THE SEA.

ESTIMATED CENTRAL PRESSURE IN ASSOCIATION WITH THE SYSTEM IS 1004 HPA AND ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 25 KTS GUSTING TO 35 KTS. ROUGH TO VERY ROUGH SEA CONDITIONS ARE VERY LIKELY TO PREVAIL OVER WESTCENTRAL AND ADJOINING CENTRAL PARTS OF SOUTH BAY OF BENGAL TILL 0000 UTC OF 23<sup>RD</sup> DECEMBER.

AS PER LATEST SATELLITE IMAGERY, INTENSITY OF THE SYSTEM IS T 1.5. CLOUDS ARE ORGANISED IN SHEAR PATTERN. ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER BAY OF BENGAL BETWEEN LATITUDE 8.0°N TO 15.0°N AND LONGITUDE 82.0°E TO 90.0 °E WITH MINIMUM CLOUD TOP TEMPERATURE AS MINUS 82-90°C AND MODERATE CONVECTION LAY OVER MIZORAM, TRIPURA AND ADJOINING AREAS AND LOW/MEDIUM CLOUDS OVER SOUTH GANGETIC WEST BENGAL, ODISHA, NORTH COASTAL ANDHRA PRADESH AND NORTH EASTERN STATES.

AS PER THE ASCAT IMAGERY AT 0441 UTC, BROAD SCALE CIRCULATION IS PREVAILING OVER CENTRAL & ADJOINING SOUTH BAY OF BENGAL. STRONG AND GUSTY WINDS OF SPEED AROUND 20 KTS ARE PREVAILING OFF ANDHRA PRADESH COAST. MAXIMUM SUSTAINED WIND SPEED OF 20 KNOTS GUSTING TO 30 KNOTS IS ASSOCIATED WITH THE SYSTEM.

**WIND WARNING:**

SQUALLY WIND SPEED REACHING 45-55 KMPH GUSTING TO 65 KMPH IS LIKELY TO PREVAIL OVER WESTCENTRAL AND ADJOINING CENTRAL PARTS OF SOUTH BAY OF

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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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BENGAL TILL 0000 UTC OF 23<sup>RD</sup> DECEMBER.

SQUALLY WIND SPEED REACHING 35 TO 45 KMPH GUSTING TO 55 KMPH IS LIKELY TO PREVAIL ALONG AND OFF SOUTH ODISHA-ANDHRA PRADESH-NORTH TAMIL NADU COASTS ON 21<sup>ST</sup> & 22<sup>ND</sup> DECEMBER;

**SEA CONDITION:**

SQUALLY WEATHER CONDITION IS PREVAILING ALONG & OFF ANDHRA PRADESH COAST AND OVER WEST CENTRAL BAY OF BENGAL. ROUGH TO VERY ROUGH SEA CONDITIONS ARE VERY LIKELY TO PREVAIL OVER WESTCENTRAL AND ADJOINING CENTRAL PARTS OF SOUTH BAY OF BENGAL TILL 0000 UTC OF 23<sup>RD</sup> DECEMBER.

ROUGH SEA CONDITIONS ARE VERY LIKELY ALONG & OFF SOUTH ODISHA-ANDHRA PRADESH COAST-NORTH TAMIL NADU COASTS TILL ON 21<sup>ST</sup> & 22<sup>ND</sup> DECEMBER.

**FISHERMAN WARNING:**

FISHERMEN ARE ADVISED NOT TO VENTURE INTO WESTCENTRAL & ADJOINING CENTRAL PARTS OF SOUTH BAY OF BENGAL TILL 0000 UTC OF 23<sup>RD</sup> DECEMBER AND ALONG & OFF SOUTH ODISHA-ANDHRA PRADESH-NORTH TAMIL NADU COASTS ON 21<sup>ST</sup> & 22<sup>ND</sup> DECEMBER.

**REMARKS:**

THE SYSTEM IS OVER THE SEA AREA WITH WARM SST (27-29°C) AND TROPICAL CYCLONE HEAT POTENTIAL AROUND 70 KJ/CM<sup>2</sup>. THE TOTAL PRECIPITABLE WATER IMAGERY IS INDICATING DECREASE IN WARM MOIST AIR INCURSION AROUND SYSTEM AREA AND COLD DRY AIR INCURSION IS ALSO SEEN FROM SOUTHWEST SECTOR FROM LAND.

THE NCICS MODEL BASED FORECAST INDICATES PRESENCE OF MJO WAVES, WESTERLY WIND ANAMOLY OVER SOUTH BAY OF BENGAL AND EASTERLY WIND ANAMOLY OVER CENTRAL BAY OF BENGAL ALONG WITH KELVIN WAVES DURING NEXT 2 DAYS. THUS THE EQUATORIAL WAVES CONTRIBUTED TO GENESIS OF THE SYSTEM IN THE MONTH OF DECEMBER. GFS MODEL IS INDICATING ENHANCED CROSS EQUATORIAL WESTERLY FLOW SUPPORTED BY KELVIN WAVES ON 21<sup>ST</sup> DECEMBER, THEREBY SUPPORTING THE SYSTEM TO MAINTAIN ITS INTENSITY.

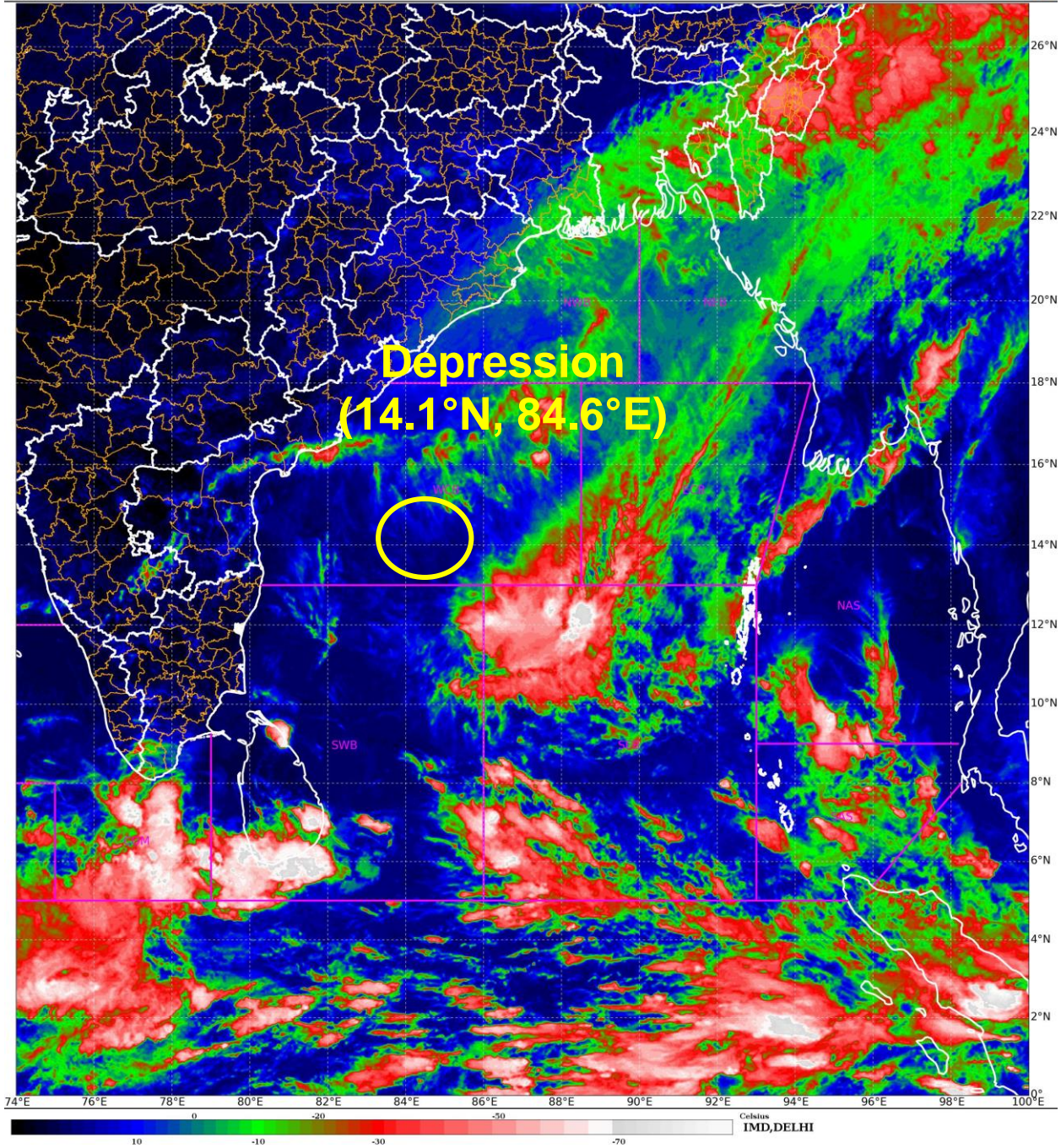
LOW LEVEL POSITIVE CYCLONIC VORTICITY AT 850 HPA LEVEL IS THE SAME IN PAST 3 HOURS AND IS AROUND  $50 \times 10^{-5} \text{ S}^{-1}$  TO THE NORTH-NORTHEAST OF THE SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL. THE LOW LEVEL CONVERGENCE HAS DECREASED IN PAST 03 HOURS AND IS AROUND  $20 \times 10^{-5} \text{ S}^{-1}$  TO THE NORTH-NORTHEAST OF SYSTEM CENTRE AND AT THE SAME TIME, THE UPPER LEVEL DIVERGENCE HAS DECREASED SIGNIFICANTLY IN PAST 3 HOURS WITH EMERGENCE OF A CONVERGENCE ZONE TO THE NORTHEAST OF SYSTEM CENTRE. THE MID LEVEL VERTICAL WIND SHEAR IS MODERATE (15-20 KT) OVER THE SYSTEM AREA, WHICH WOULD SUPPORT THE SYSTEM TO MAINTAIN ITS INTENSITY FOR SOME TIME. THE WEST-SOUTHWESTERLY WINDS PREVAILING IN THE MID-TROPOSPHERIC LEVELS ARE STEERING THE SYSTEM EAST-NORTHEASTWARDS. FURTHER, THE INTENSE CONVECTION TO THE SOUTHEAST OF SYSTEM CENTRE INDICATES VORTICITY ADVECTION TOWARDS SOUTHEAST SECTOR. WHILE THE VORTICITY ADVECTION SUGGESTS

SOUTHEASTWARDS OVEMENT OF THE SYSTEM, THE MID LEVEL FLOW SUGGESTS EAST NORTHEASTWARDS MOVEMENT OF THE SYSTEM AND THUS, THE SYSTEM IS MOVING SLOWLY IN EAST-NORTHEASTWARD DIRECTION. CURRENTLY, THE SYSTEM IS IN A MODERATELY FAVOURABLE ENVIRONMENT (SST 27-28C AND MODERATE WIND SHEAR) AND WOULD THUS MAINTAIN ITS INTENSITY FOR NEXT 06 HOURS AND WEAKEN THEREAFTER AS DECREASING TREND IN CONVERGENCE & DIVERGENCE IS SEEN.

MOST OF THE MODELS ARE INDICATING THAT THE SYSTEM WOULD MOVE SLOWLY OVER CENTRAL PARTS OF BAY OF BENGAL DURING NEXT 24 HOURS AND WEAKEN THEREAFTER.

THUS THE DEPRESSION OVER WESTCENTRL BAY OF BENGAL IS LIKELY TO MOVE SLOWLY EAST-NORTHEASTWARDS MAINTAINING ITS INTENSITY AS A DEPRESSION FOR NEXT 06 HOURS AND WEAKEN GRADUALLY THEREAFTER OVER THE SEA.

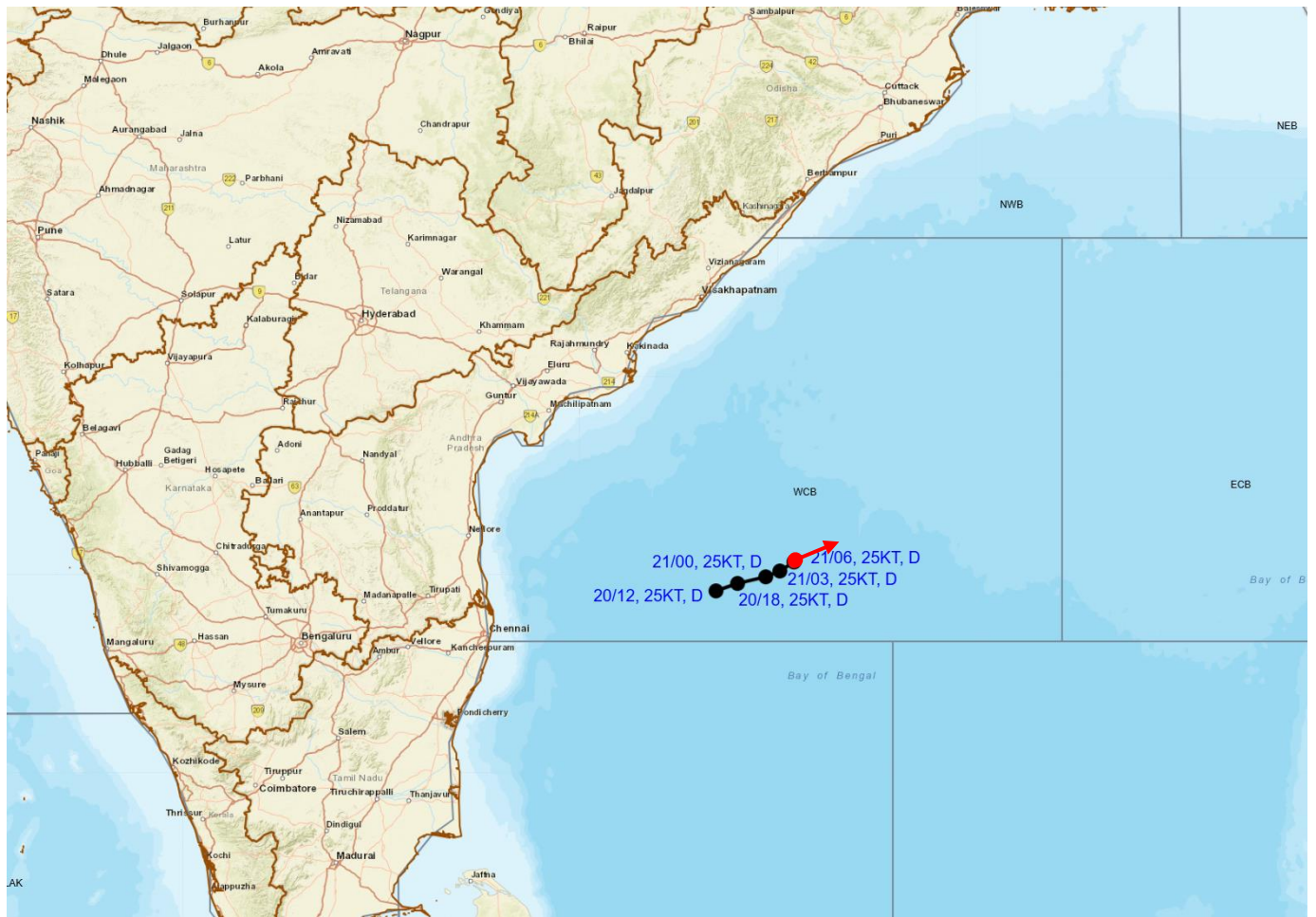
**(MONICA SHARMA)**  
**SCIENTIST-D, RSMC, NEW DELHI**



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# OBSERVED AND FORECAST TRACK OF DEPRESSION OVER WESTCENTRAL BAY OF BENGAL ON 0600 UTC (1130 HRS. IST) OF 21<sup>st</sup> DECEMBER, 2024.

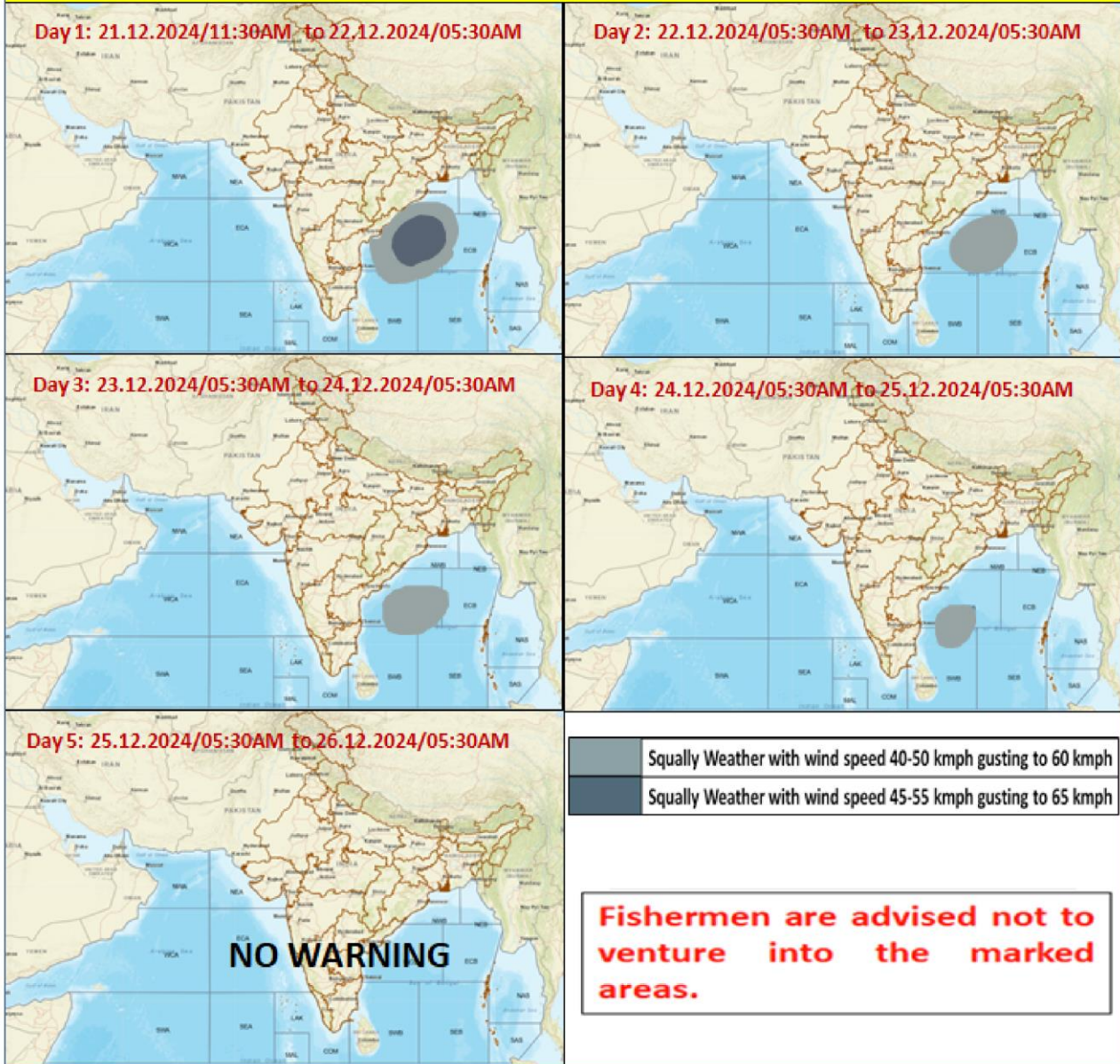


**DATE/TIME** : IN UTC  
**IST** : UTC + 0530  
**KT** : NAUTICAL MILE S/HOUR = 1.85 KM/HOUR  
**LPA** : LOW PRESSURE AREA  
**WML** : WELL MARKED LOW PRESSURE AREA  
**D** : DEPRESSION (17-27 KT)  
**DD** : DEEP DEPRESSION (28-33 KT)  
**CS** : CYCLONIC STORM (34-47 KT)  
**SCS** : SEVERE CYCLONIC STORM (48-63 KT)  
**VSCS** : VERY SEVERE CYCLONIC STORM (64-89 KT)  
**ESCS** : 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

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### Fishermen Warning Graphics



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