



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

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 0900 UTC OF 21.12.2024 BASED ON 0300 UTC OF 21.12.2024.

SUB: DEPRESSION OVER WESTCENTAL BAY OF BENGAL

THE DEPRESSION OVER WESTCENTRAL BAY OF BENGAL OFF ANDHRA PRADESH COAST MOVED EAST-NORTHEASTWARDS WITH THE SPEED OF 12 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 0300 UTC OF 21ST DECEMBER 2024 OVER THE WESTCENTRAL BAY OF BENGAL, NEAR LATITUDE 14.0°N AND LONGITUDE 84.5°E, ABOUT 430 KM SOUTH-SOUTHEAST OF VISAKHAPATNAM (43149), 480 KM EAST-NORTHEAST OF CHENNAI (43279) AND 590 KM SOUTH- OF GOPALPUR (43049).

THE SYSTEM IS LIKELY TO MOVE SLOWLY EAST-NORTHEASTWARDS MAINTAINING ITS INTENSITY AS A DEPRESSION FOR NEXT 12 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 23RD 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 0344 UTC, BROAD SCALE CIRCULATION IS PREVAILING OVER WEST & 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 BENGAL TILL 0000 UTC OF 23RD 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 21ST & 22ND 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 23RD DECEMBER.

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

FISHERMAN WARNING:

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

REMARKS:

THE SYSTEM IS OVER THE SEA AREA WITH WARM SST (27-29°C) AND TROPICAL CYCLONE HEAT POTENTIAL AROUND 70 KJ/CM². 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 21ST DECEMBER, THEREBY SUPPORTING THE SYSTEM TO MAINTAIN ITS INTENSITY.

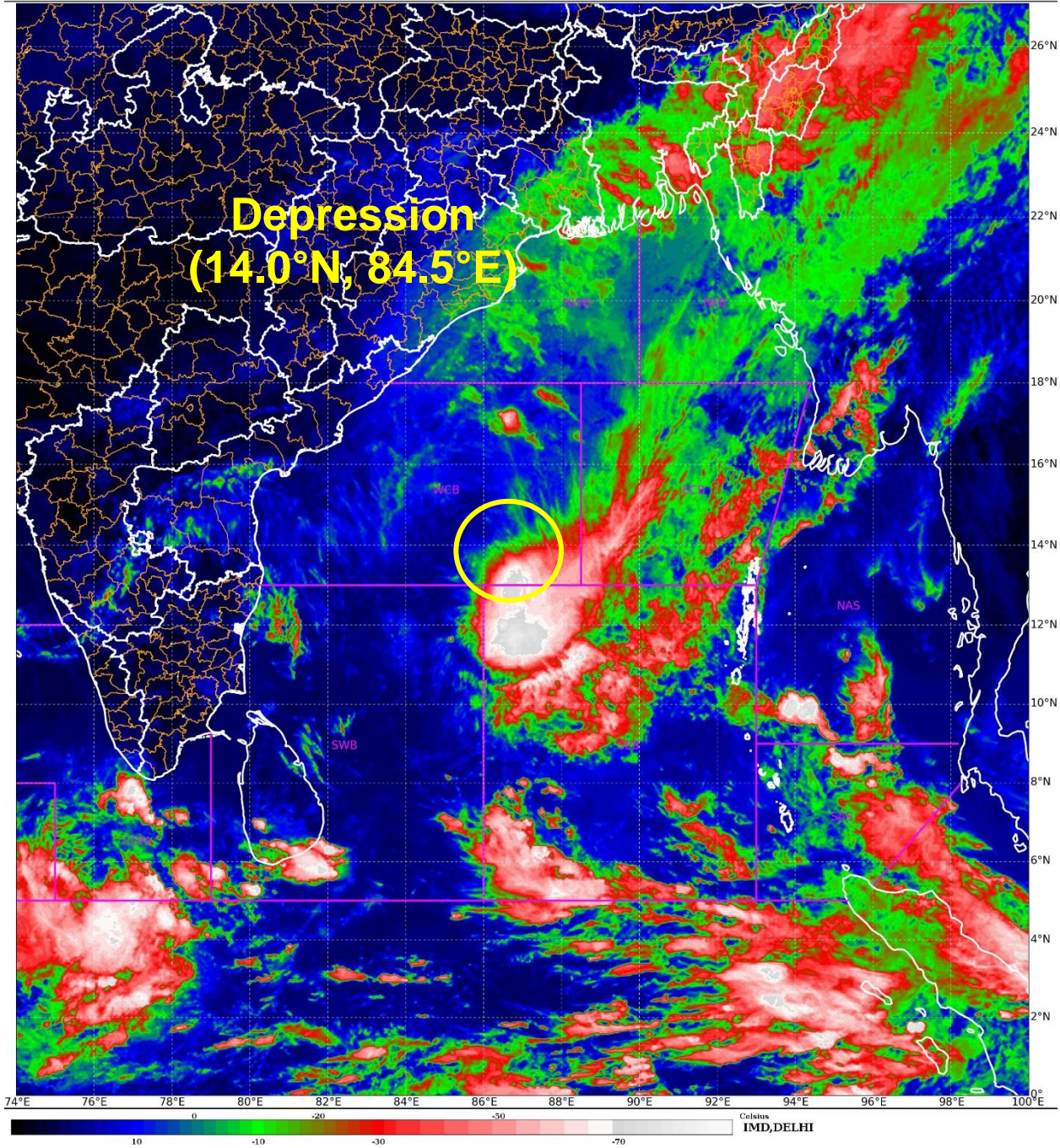
LOW LEVEL POSITIVE CYCLONIC VORTICITY AT 850 HPA LEVEL HAS DECREASED SIGNIFICANTLY IN PAST 24 HOURS AND IS AROUND $50 \times 10^{-5} \text{ S}^{-1}$ TO THE NORTH-NORTHEAST OF THE SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL. THE LOW LEVEL CONVERGENCE HAS INCREASED IN PAST 24 HOUR AND IS AROUND $30 \times 10^{-5} \text{ S}^{-1}$ TO THE NORTH-NORTHEAST OF SYSTEM CENTRE AND AT THE SAME TIME, THE UPPER LEVEL DIVERGENCE HAS DECREASED SIGNIFICANTLY IN PAST 24 HOURS AND IS AROUND TO $10 \times 10^{-5} \text{ S}^{-1}$ TO THE SOUTHEAST AND ANOTHER ZONE TO NORTHEAST SECTOR OF SYSTEM CENTRE. THUS DIVERGENCE HAS BECOME SIGNIFICANTLY LESS THAN CONVERGENCE, INDICATING NO FURTHER INTENSIFICATION OF SYSTEM. THE MID LEVEL VERTICAL WIND SHEAR IS

MODERATE (10-20 KT) OVER THE SYSTEM AREA, WHICH WOULD SUPPORT THE SYSTEM TO MAINTAIN ITS INTENSITY. THE WEST-SOUTHWESTERLY WINDS PREVAILING IN THE MID-TROPOSPHERIC LEVELS ARE STEERING THE SYSTEM EAST-NORTHEASTWARDS. FURTHER, THE PRESENCE OF CONVERGENCE ZONE TO THE SOUTHEAST OF SYSTEM AREA IS INDICATING VORTICITY ADVECTION TOWARDS SOUTHEAST SECTOR. WHILE THE VORTICITY ADVECTION SUGGESTS SOUTHEASTWARDS MOVEMENT 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, MODERATE WIND SHEAR AND POLEWARD OUTFLOW) AND WOULD THUS MAINTAIN ITS INTENSITY.

MOST OF THE MODELS ARE INDICATING THAT THE SYSTEM WOULD MOVE SLOWLY OVER CENTRAL PARTS OF BAY OF BENGAL DURING NEXT 24 HOURS. NO INTENSIFICATION OF SYSTEM IS INDICATED BY ANY OF THE MODEL.

THUS THE DEPRESSION OVER WESTCENTRAL BAY OF BENGAL IS LIKELY TO MOVE SLOWLY EAST-NORTHEASTWARDS MAINTAINING ITS INTENSITY AS A DEPRESSION FOR NEXT 12 HOURS AND WEAKEN GRADUALLY THEREAFTER OVER THE SEA.

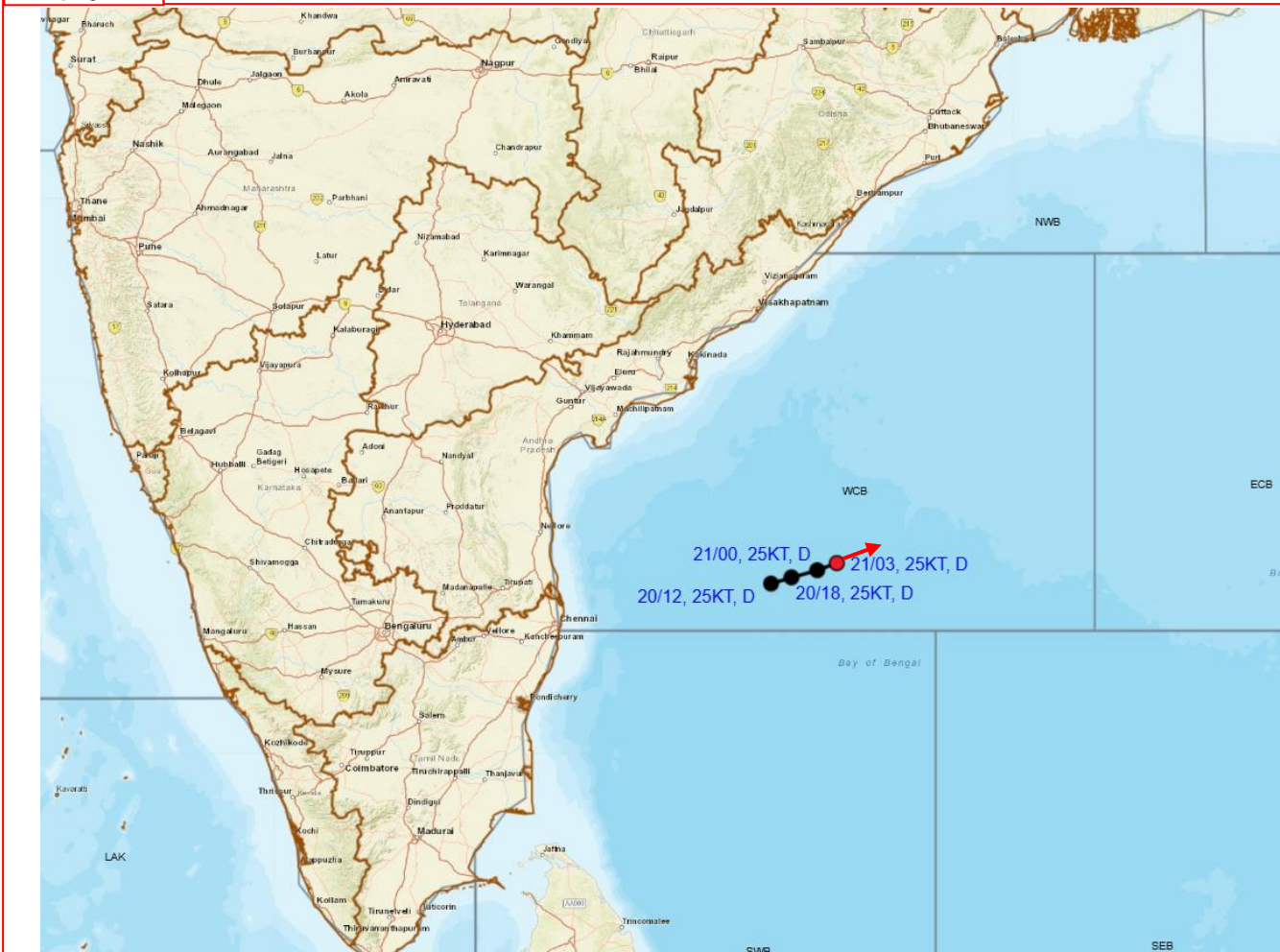
(MONICA SHARMA)
SCIENTIST-D, RSMC, NEW DELHI



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%
This is a guidance Bulletin for WMO/ESCAP Panel Member countries. Visit respective National websites for Country specific Bulletins



OBSERVED AND FORECAST TRACK OF DEPRESSION OVER WESTCENTRAL BAY OF BENGAL ON 0300 UTC (0830 HRS. IST) OF 21st DECEMBER, 2024.

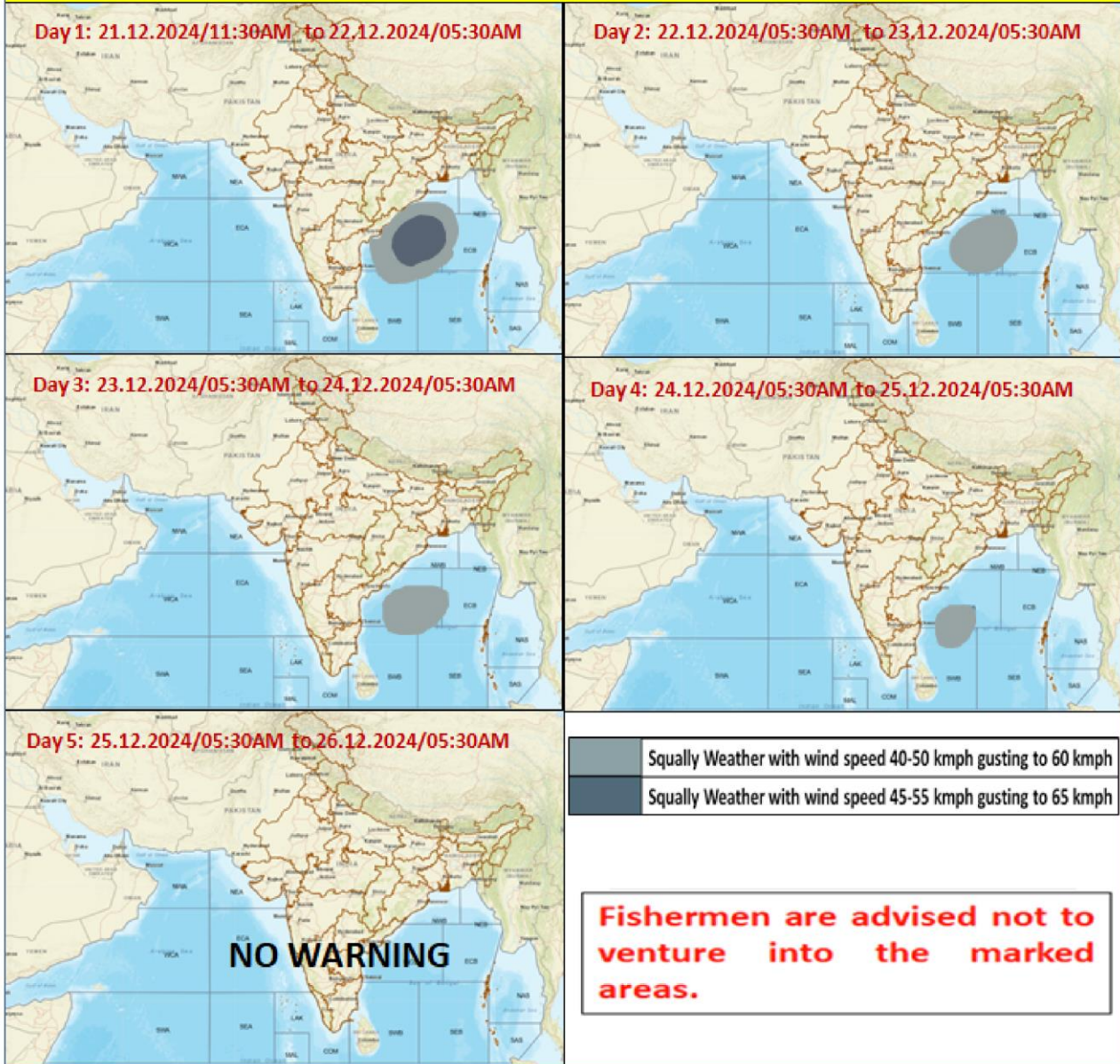


DATE/TIME	: IN UTC
IST	: UTC + 0530
KT	: NAUTICAL MILE S/HOUR = 1.85 KM/HOUR
LPA	: LOW PRESSURE AREA
WML	: WELL MARKED LOW PRESSURE AREA
D	: DEPRESSION (17-27 KT)
DD	: DEEP DEPRESSION (28-33 KT)
CS	: CYCLONIC STORM (34-47 KT)
SCS	: SEVERE CYCLONIC STORM (48-63 KT)
VSCS	: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS	: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS	: SUPER CYCLONIC STORM (≥120 KT)

	LESS THAN 34 KT
	34-47 KT
	≥ 48 KT
	OBSERVED TRACK
	FORECAST TRACK
	CONE OF UNCERTAINTY

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Fishermen Warning Graphics



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