



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

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 20.12.2024

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 1500 UTC OF 20.12.2024 BASED ON 1200 UTC OF 20.12.2024.

SUB: DEPRESSION OVER WESTCENTAL BAY OF BENGAL OFF ANDHRA PRADESH COAST

THE WELL MARKED LOW PRESSURE AREA OVER WESTCENTRAL & ADJOINING SOUTHWEST BAY OF BENGAL HAS MOVED SLIGHTLY NORTHWARDS, CONCENTRATED INTO A DEPRESSION AND LAY CENTRED AT 1200 UTC OF 20TH DECEMBER 2024 OVER WESTCENTAL BAY OF BENGAL OFF ANDHRA PRADESH COAST, NEAR LATITUDE 13.7°N AND LONGITUDE 83.5°E, ABOUT 370 KM EAST-NORTHEAST OF CHENNAI (43279), 450 KM SOUTH OF VISAKHAPATNAM (43149) AND 640 KM SOUTH-SOUTHWEST OF GOPALPUR (43049).

THE SYSTEM IS LIKELY TO MOVE NORTH-NORTHEASTWARDS DURING NEXT 24 HOURS.

ESTIMATED CENTRAL PRESSURE IN ASSOCIATION WITH THE SYSTEM IS 1003 HPA AND ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 25 KTS GUSTING TO 35 KTS. ROUGH TO VERY ROUGH SEA CONDITIONS IS LIKELY TO PREVAIL OVER WESTCENTRAL AND ADJOINING SOUTHWEST BAY OF BENGAL AND ADJOINING AREAS OF WESTCENTRAL BAY OF BENGAL, AND ROUGH SEA CONDITION ALONG & OFF ANDHRA PRADESH COAST TILL 0000 UTC OF 22ND DECEMBER. IT WILL GRDUALY IMPROVES THEREAFTER.

AS PER LATEST SATELLITE IMAGERY, ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER BAY BETWEEN LATITUDE 12.0°N TO 18.0°N AND LONGITUDE 82.0°E TO 87.0 °E WITH MINIMUM CLOUD TOP TEMPERATURE AS MINUS 80-90°C AND MODERATE TO INTENSE CONVECTION OVER SOUTH GANGETIC WEST BENGAL, ODISHA AND NORTH COASTAL ANDHRA PRADESH.

VISHAPATNAM REPORTED MEAN SEA LEVEL PRESSURE (MSLP) OF 1009.7 HPA, WIND 6KT/110°, 24 HRS PRESSURE CHANGE OF (P24) OF -1.1 HPA. GOPALPUR REPORTED MEAN SEA LEVEL PRESSURE (MSLP) OF 1011.6 HPA, WIND 4KT/340°, 24 HRS PRESSURE CHANGE OF (P24) OF -0.7 HPA. KALINGAPATNAM REPORTED MEAN SEA LEVEL PRESSURE (MSLP) OF 1009.6 HPA, WIND 3KT/50°, 24 HRS PRESSURE CHANGE OF (P24) OF -1.4 HPA.

WIND WARNING:

SQUALLY WIND SPEED REACHING 45-55 KMPH GUSTING TO 65 KMPH IS LIKELY TO PREVAIL OVER WESTCENTRAL AND ADJOINING SOUTHWEST BAY OF BENGAL TILL 0000 UTC OF 23RD DECEMBER.

SQUALLY WIND SPEED REACHING 40-50 KMPH GUSTING TO 60 KMPH IS LIKELY TO PREVAIL ALONG & OFF ANDHRA PRADESH AND NORTH TAMIL NADU COASTS ON 21ST AND 22ND DECEMBER.

SQUALLY WEATHER WITH WIND SPEED REACHING 35-45 KMPH HUSTING TO 55 KMPH IS LIKELY TO PREVAIL ALONG & OFF SOUTH ODISHA COAST ON 21ST AND 22ND DECEMBER.

SEA CONDITION:

ROUGH TO VERY ROUGH SEA CONDITIONS ARE VERY LIKELY TO PREVAIL OVER WESTCENTRAL AND ADJOINING SOUTHWEST BAY OF BENGAL TILL MORNING OF 23RD DECEMBER.

ROUGH SEA CONDITIONS ARE VERY LIKELY ALONG & OFF ANDHRA PRADESH COAST-NORTH TAMIL NADU COAST TILL 23RD DECEMBER.

ALONG AND OFF SOUTH ODISHA COAST ON 21ST & 22ND DECEMBER.

FISHERMAN WARNING:

FISHERMEN ARE ADVISED NOT TO VENTURE INTO WESTCENTRAL & ADJOINING SOUTHWEST BAY OF BENGAL TILL MORNING OF 23RD DECEMBER; ALONG & OFF ANDHRA PRADESH COAST-NORTH TAMIL NADU COAST TILL 23RD DECEMBER AND ALONG & OFF SOUTH ODISHA COAST 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 WARM MOIST AIR AROUND SYSTEM AREA WITH FEEDING FROM SOUTHEAST SECTOR. HOWEVER, COLD DRY AIR IS APPROACHING INCURSION FROM SOUTHWEST SECTOR FROM LAND.

LOW LEVEL POSITIVE CYCLONIC VORTICITY AT 850 HPA LEVEL IS AROUND $10 \times 10^{-5} \text{ s}^{-1}$ OVER SOUTH OF THE SYSTEM AREA WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL. THE LOW LEVEL CONVERGENCE IS NOW $10 \times 10^{-5} \text{ s}^{-1}$ TO THE NORTH OF SYSTEM AREA. UPPER LEVEL DIVERGENCE IS REDUCED TO $10 \times 10^{-5} \text{ s}^{-1}$ OVER AN ELONGATED REGION EXTENDING OVER SOUTHEAST AND NORTHEAST SECTORS.. VERTICAL WIND SHEAR IS MODERATE (15-20 KT) OVER THE SYSTEM AREA. THE LOW SHEAR ZONE IS LYING SOUTH OF THE SYSTEM. THE RIDGE IS SITUATING ALONG 12°N LATITUDE AND SOUTH OF THE SYSTEM. THE SOUTHWESTERLY WINDS DUE TO RIDGE POSITION PREVAILING OVER SYSTEM AREA IS LIKELY TO STEER THE SYSTEM NORTH-NORTHEASTWRDS.

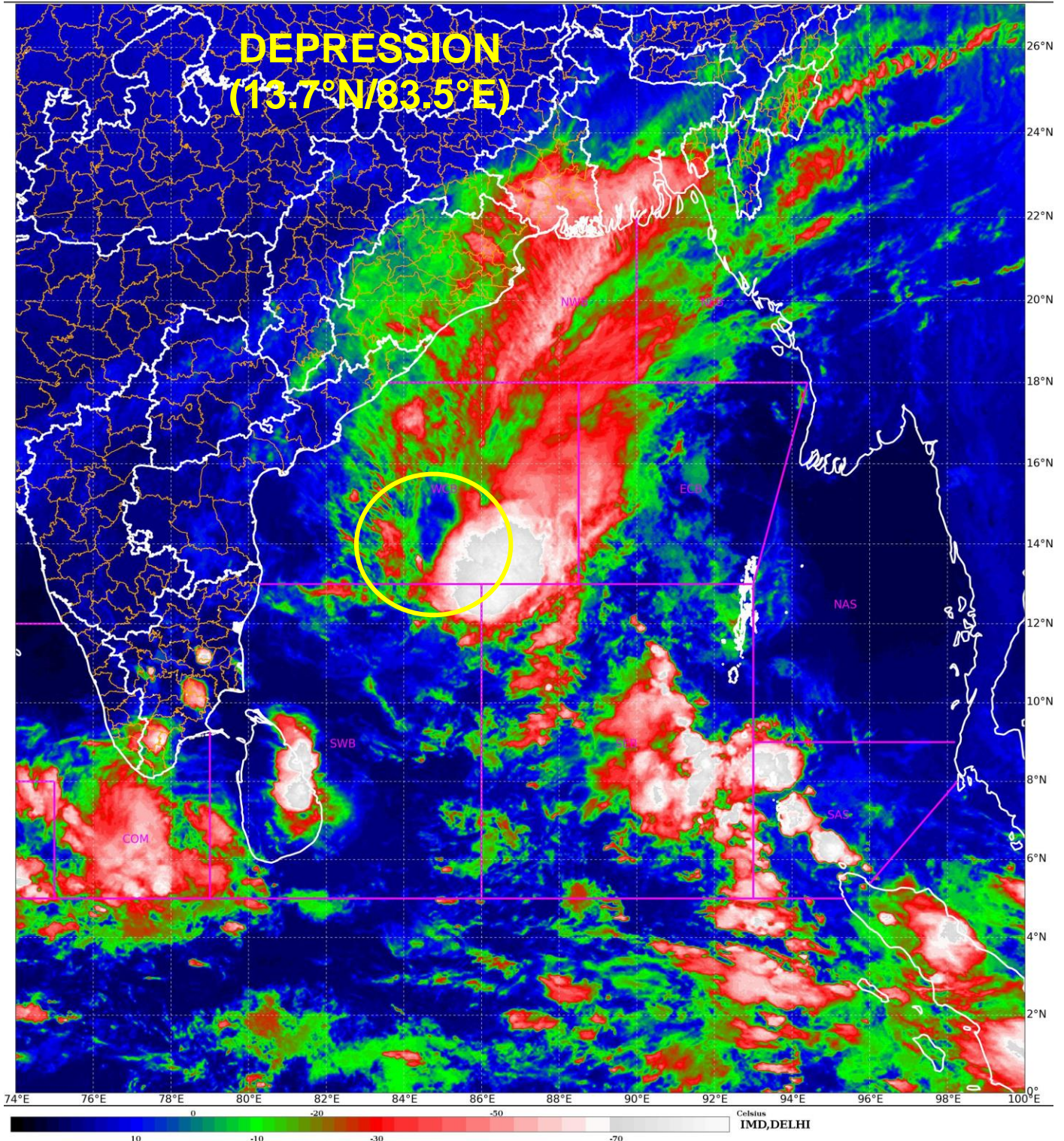
THERE IS CONVERGENCE AMONG VARIOUS MODELS WITH RESPECT TO MOVEMENT OF THE DEPRESSION INITIALLY TOWARDS NORTH-NORTHEAST DIRECTION FOR NEXT 24 HOURS OVER THE SAME REGION. ACCORDING TO THE CONSENSUS AMONGST VARIOUS MODELS IT IS INFERRED THAT THEREAFTER THE

DEPRESSION IS LIKELY TO MOVE SLIGHTLY SOUTH-SOUTHWESTWARDS AND WEAKEN GRADUALLY INTO A WELL MARKED LOW PRESSURE AREA OVER WESTCENTRAL AND ADJOINING SOUTHWEST BAY OF BENGAL AROUND 23RD DECEMBER.

(UMASANKAR DAS)
SCIENTIST-D, RSMC, NEW DELHI

SAT : INSAT-3DR IMG
IMG_TIR1_TEMP 10.8 um
LIC Mercator

20-12-2024/(1345 to 1412) GMT
20-12-2024/(1915 to 1942) IST





OBSERVED AND FORECAST TRACK OF DEPRESSION OVER WESTCENTRAL BAY OF BENGAL OFF ANDHRA PRADESH COAST ON 1200 UTC (1730 HRS. IST) OF 20th DECEMBER, 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)

ECS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

1KT=1.85 KMPH

● LESS THAN 34 KT

○ 34-47 KT

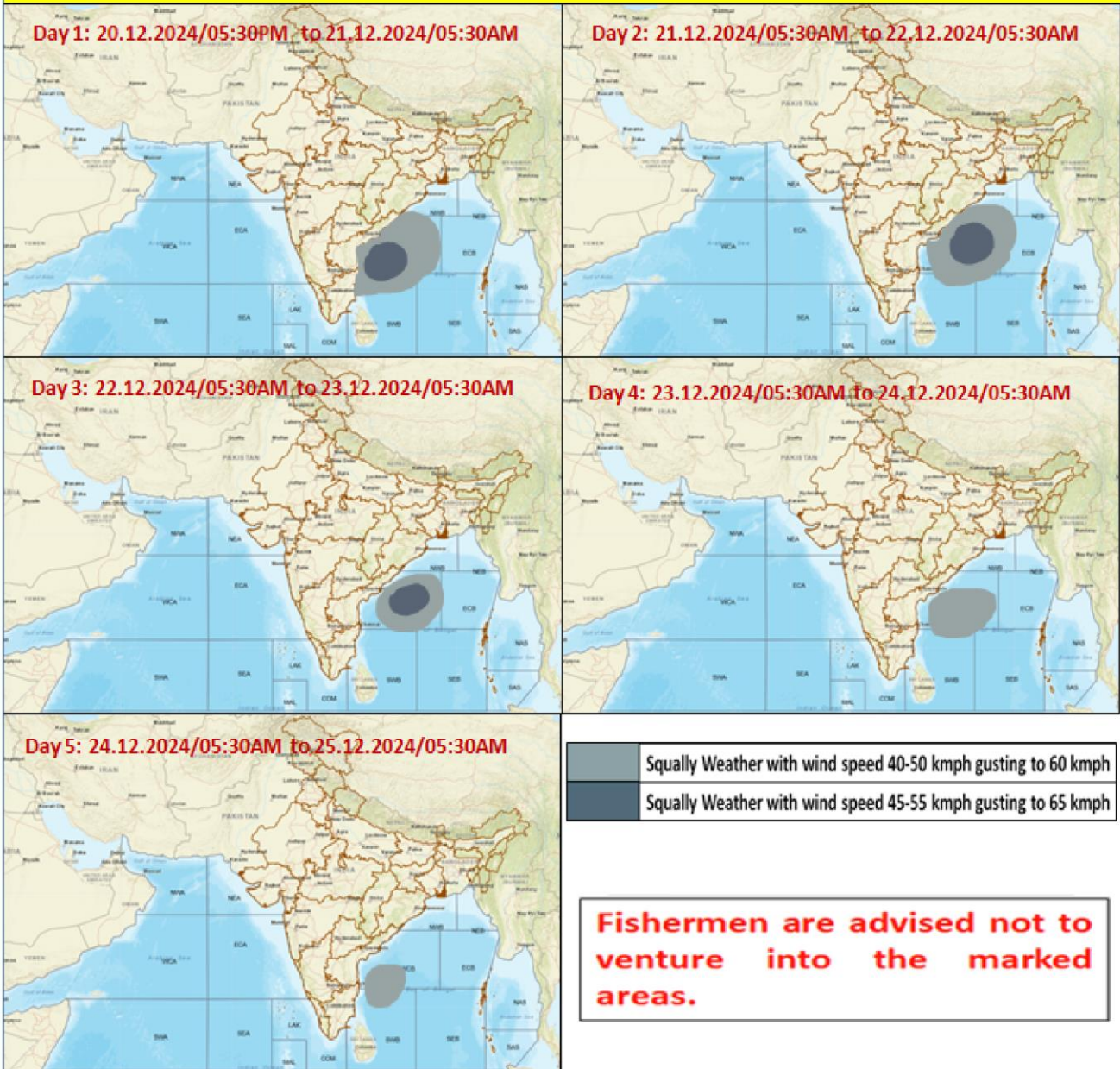
○ ≥ 48 KT

— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY

Fishermen Warning Graphics



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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