



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

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 19.07.2024

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0700 UTC OF 19.07.2024 BASED ON 0300 UTC OF 19.07.2024.

BAY OF BENGAL:

YESTERDAY'S LOW-PRESSURE AREA OVER CENTRAL AND ADJOINING NORTH BAY OF BENGAL LAY AS A WELL MARKED LOW PRESSURE AREA OVER THE SAME REGION IN THE EVENING (1200 UTC) OF YESTERDAY, THE 18TH JULY, 2024. IT MOVED NORTHWESTWARDS AND CONCENTRATED INTO A DEPRESSION AND LAY CENTERED AT 0300 UTC OF TODAY, THE 19TH JULY, 2024 OVER NORTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL OFF ODISHA AND ADJOINING NORTH ANDHRA PRADESH COASTS NEAR LATITUDE 19.2°N AND LONGITUDE 86.2°E, ABOUT 70 KM SOUTHEAST OF PURI (ODISHA, 43053), 130 KM EAST OF GOPALPUR (ODISHA, 43049), 130 KM SOUTH-SOUTHEAST OF PARADIP (ODISHA, 42976) AND 240 KM EAST-NORTHEAST OF KALINGAPATNAM (ANDHRA PRADESH, 43105).

IT IS LIKELY TO MOVE NORTHWESTWARDS AND CROSS ODISHA COAST NEAR PURI AS A DEPRESSION AROUND 0000 UTC OF TOMORROW, THE 20TH JULY, 2024. THEREAFTER, IT WOULD MOVE WEST-NORTHWESTWARDS ACROSS ODISHA & CHHATTISGARH AND WEAKEN GRADUALLY DURING SUBSEQUENT 24 HOURS.

AS PER INSAT-3D IMAGERY, THE CONVECTION HAS FURTHER ORGANISED. INTENSITY OF THE SYSTEM IS T1.0/C.I.1.5. ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER NORTHWEST & ADJOINING WESTCENTRAL BAY OF BENGAL AND NORTH COASTAL ANDHRA PRADESH AND SOUTH ODISHA. MINIMUM CLOUD TOP TEMPERATURE IS -93°C.

AS PER SCATTEROMETER BASED WINDS, STRONGER WINDS AROUND 30 KT ARE SEEN IN SOUTHWEST SECTOR. HOWEVER, EASTERLY WINDS AROUND 20 KT ARE PREVAILING IN THE NORTHERN SECTOR. THE CURRENT INTENSITY IS BASED ON THE EASTERLY WINDS PREVAILING IN NORTHERN SECTOR IN THE SYSTEM FIELD.

AS PER OBSERVATIONS AT 0300 UTC, ESTIMATED CENTRAL PRESSURE IS 992 HPA AND THE PRESSURE DROP AT CENTRE IS 4 HPA. AT 0300 UTC, LOWEST MEAN SEA LEVEL PRESSURE OF 993.7 HPA IS OBSERVED AT PURI (43053). DEPARTURE FROM NORMAL AT PURI IS -7.5 HPA AND PRESSURE CHANGE DURING PAST 24 HOURS AT PURI IS -4.7 HPA. THE PRESSURE CHANGE ANALYSIS IS INDICATING THE SYSTEM TO MOVE ACROSS ODISHA AND CHHATTISGARH.

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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WIND WARNING

SQUALLY WEATHER WITH WIND SPEED REACHING 45-55 KMPH GUSTING TO 65 KMPH IS VERY LIKELY TO PREVAIL OVER NORTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL AND ALONG AND OFF NORTH ANDHRA PRADESH, ODISHA, WEST BENGAL & ADJOINING BANGLADESH COASTS ON 19TH AND 20TH JULY AND WOULD DECREASE GRADUALLY THEREAFTER.

SEA CONDITION: ROUGH TO VERY ROUGH SEA CONDITION IS VERY LIKELY TO PREVAIL OVER NORTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL AND ALONG AND OFF NORTH ANDHRA PRADESH, ODISHA, WEST BENGAL & ADJOINING BANGLADESH COASTS ON 19TH AND 20TH JULY AND WOULD IMPROVE GRADUALLY THEREAFTER.

FISHERMEN WARNING

FISHERMEN ARE ADVISED NOT TO VENTURE INTO NORTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL AND ALONG & OFF NORTH ANDHRA PRADESH, ODISHA, WEST BENGAL & ADJOINING BANGLADESH COASTS ON 19TH AND 20TH JULY.

ARABIAN SEA:

SCATTERED LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER NORTHEAST ARABIAN SEA, GULF OF KUTCH, GULF OF CAMBAY AND EASTCENTRAL ARABIAN SEA. SCATTERED LOW AND MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION LAY OVER REST OF ARABIAN SEA, LAKSHADWEEP ISLANDS AREA, MALDIVES AND COMORIN AREA

*PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION) DURING NEXT 168 HRS:

| 24 HOURS | 24-48 HOURS | 48-72 HOURS | 72-96 HOURS | 96-120 HOURS | 120-144 HOURS | 144-168 HOURS |
|----------|-------------|-------------|-------------|--------------|---------------|---------------|
| NIL | NIL | NIL | NIL | NIL | NIL | NIL |

*NOTE: EVERY 24HR FORECAST IS VALID UPTO 0300 UTC (0830 IST) OF NEXT DAY

REMARKS:

THE MADDEN JULIAN OSCILLATION (MJO) INDEX IS CURRENTLY LOCATED IN PHASE 5 WITH AMPLITUDE MORE THAN 1 AND IS LIKELY TO REMAIN IN SAME PHASE FOR NEXT 2 DAYS. THUS, MJO PHASE AND AMPLITUDE IS FAVOURABLE FOR ENHANCEMENT OF CONVECTIVE ACTIVITY OVER THE NORTH BAY OF BENGAL (BOB). THE NCICS BASED FORECASTS FOR ZONAL WINDS INDICATE STRONG EASTERLY WINDS (~ 3 TO 7 MPS) OVER NORTH BOB AND ADJOINING CENTRAL INDIA AND STRONG WESTERLY WINDS (~ 3 TO 7 MPS) OVER THE SOUTHERN AND ADJOINING EAST CENTRAL PART OF BOB DURING FIRST WEEK. ADDITIONALLY, THERE IS EQUATORIAL ROSSBY WAVE (ERW). THUS, ZONAL WINDS AND EQUATORIAL WAVES CONTRIBUTED TO FORMATION OF DEPRESSION OVER NORTH BAY OF BENGAL.

CONSIDERING THE ENVIRONMENTAL CONDITIONS, LOW LEVEL VORTICITY IS ABOUT $120 \times 10^{-5} \text{S}^{-1}$ AROUND THE SYSTEM CENTRE OVER WESTCENTRAL & ADJOINING NORTHEASTCENTRAL BAY OF BENGAL WITH VERTICAL EXTENSION UPTO 700 HPA LEVELS. LOW LEVEL CONVERGENCE IS EAST-WEST ORIENTED AND IS ABOUT $10-15 \times 10^{-5} \text{S}^{-1}$ TO THE WEST OF THE SYSTEM CENTER. UPPER LEVEL DIVERGENCE IS ALSO EAST-WEST ORIENTED AND IS ABOUT $10-20 \times 10^{-5} \text{S}^{-1}$ AROUND THE SYSTEM CENTER. VERTICAL WIND SHEAR (VWS) IS LOW TO MODERATE (10-15 KT) NEAR THE SYSTEM CENTER.

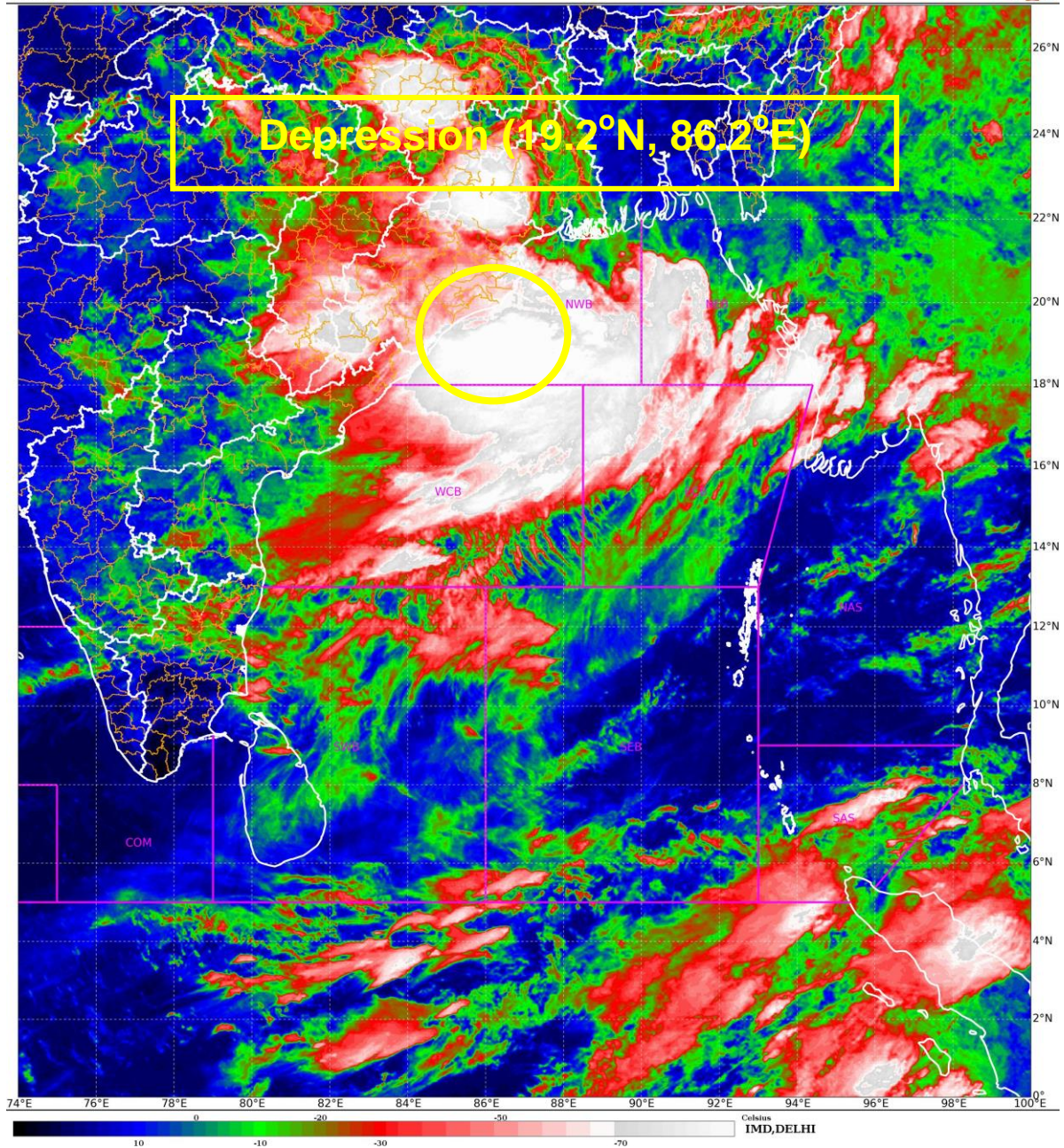
VARIOUS NUMERICAL MODELS ARE INDICATING THE SYSTEM TO CROSS ODISHA COAST NEAR PURI AROUND 0000 UTC OF 20TH JULY. THEREAFTER, MODELS ARE INDICATING THE SYSTEM TO MOVE ACROSS ODISHA AND CHHATTISGARH AND WEAKEN GRADUALLY AROUND 0000 UTC OF 21ST JULY.

CONSIDERING ALL THE ABOVE, THE DEPRESSION OVER NORTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGALL OFF ODISHA & ADJOINING NORTH ANDHRA PRADESH COASTS IS LIKELY TO MOVE NORTHWESTWARDS AND CROSS ODISHA COAST NEAR PURI AS A DEPRESSION AROUND 0000 UTC OF TOMORROW, THE 20TH JULY, 2024. THEREAFTER, IT WOULD MOVE WEST-NORTHWESTWARDS ACROSS ODISHA & CHHATTISGARH AND WEAKEN GRADUALLY DURING SUBSEQUENT 24 HOURS.

MONICA SHARMA
SCIENTIST D
RSMC, NEW DELHI

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

01-08-2023/(0245 to 0312) GMT
01-08-2023/(0815 to 0842) IST



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OBSERVED AND FORECAST TRACK OF DEPRESSION OVER NORTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL OFF ODISHA AND ADJOINING NORTH ANDHRA PRADESH COASTS BASED ON 0300 UTC OF 19TH JULY, 2024.



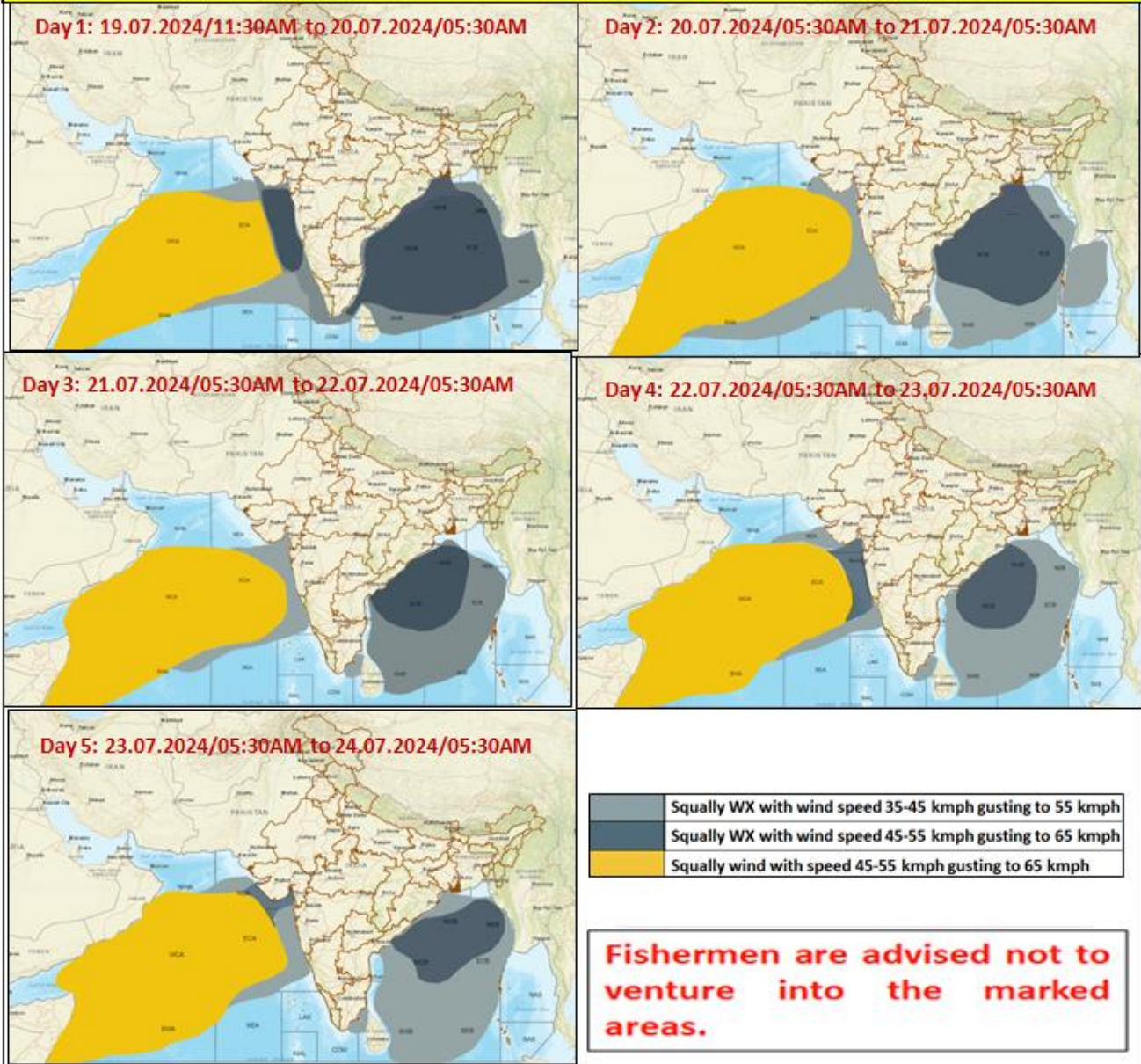
DATE/TIME IN UTC
 IST=UTC + 0530
 L: LOW PRESSURE AREA
 WML: WELL MARKED LOW PRESSURE AREA
 D: DEPRESSION (17-27 KT)
 DD: DEEP DEPRESSION (28-33 KT)
 CS: CYCLONIC STORM (34-47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63KT)
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM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

| Forecast | DISTANCE (KM) AND DIRECTION FROM STATIONS | | | |
|---------------------|---|----------|---------------|--------------|
| Date and Time (UTC) | PURI | GOPALPUR | PARADIP (CWR) | KALINGAPATAM |
| 19.07.24/0300 | 80, SSE | 140, E | 140, SSW | 240, ENE |

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Fishermen Warning Graphics



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