



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

### DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 27.08.2024

**SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 168 HOURS ISSUED AT 0300 UTC OF 27.08.2024 BASED ON 0000 UTC OF 27.08.2024.**

#### LAND DEPRESSION OVER WEST INDIA:

##### SUB: DEEP DEPRESSION OVER NORTH GUJARAT

THE DEEP DEPRESSION OVER NORTH GUJARAT MOVED SLOWLY WESTWARDS WITH A SPEED OF 4 KMPH DURING PAST 6 HOURS AND LAY CENTERED 0000 UTC OF TODAY, THE 27TH AUGUST OVER THE SAME REGION NEAR LATITUDE 23.8°N AND LONGITUDE 72.2 °E, CLOSE TO PATAN, ABOUT 40 KM SOUTH OF DEESA (42539), 90 KM NORTH-NORTHWEST OF AHMEDABAD (42697), 130 KM NORTH-NORTHEAST OF SURENDRANAGAR (42740) AND 250 KM EAST-NORTHEAST OF BHUJ (42634).

IT IS LIKELY TO MOVE SLOWLY WEST-SOUTHWESTWARDS ACROSS GUJARAT REGION AND REACH SAURASHTRA & KUTCH COAST AND ADJOINING AREAS OF PAKISTAN AND NORTHEAST ARABIAN SEA BY 0000 UTC OF 29TH AUGUST.

INSAT 3DR IMAGERY AT 0000 UTC SHOWS ASSOCIATED SCATTERED TO BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION OVER GUJARAT ADJOINING SOUTH RAJASTHAN, SOUTHWEST MADHYA PRADESH, NORTH MADHYA MAHARASHTRA, GULF OF KUTCH, GULF OF CAMBAY NORTHEAST ARABIAN SEA ADJOINING SOUTH PAKISTAN (MINIMUM CTT MINUS 93 DEG CEL) AND MODERATE TO INTENSE CONVECTION OVER SOUTH RAJASHAN AND NORTH KONKAN.

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 30 KTS GUSTING TO 40 KTS. ESTIMATED CENTRAL PRESSURE IS 992 HPA. AT 0000 UTC, DEESA REPORTED MEAN SEA LEVEL PRESSURE OF 992.1 HPA & PRESSURE CHANGE IN 24 HOURS AS -4.1 HPA, WIND SPEED 2 KT. AHMEDABAD REPORTED MEAN SEA LEVEL PRESSURE OF 994.7 HPA & PRESSURE CHANGE IN 24 HOURS AS -1.8HPA, WIND SPEED 11KT.

#### ARABIAN SEA:

(I) **SEA CONDITION AND ADVISORY FOR FISHERMEN IN ASSOCIATION WITH THE MOVEMENT OF THE SYSTEM OVER SAURASHTRA & KUTCH AND ADJOINING PAKISTAN AND NORTHEAST ARABIAN SEA FROM INDIA DURING 27-30<sup>TH</sup> AUGUST:**

- SQUALLY WIND SPEED REACHING 55-65 KMPH GUSTING TO 75 KMPH IS LIKELY TO PREVAIL ALONG & OFF GUJARAT COASTS & ADJOINING PAKISTAN COASTS AND

NORTHEAST AND ADJOINING EASTCENTRAL ARABIAN SEA DURING 27<sup>TH</sup>-30<sup>TH</sup> AUGUST.

- ROUGH TO VERY ROUGH SEA CONDITIONS IS VERY LIKELY TO PREVAIL ALONG & OFF PAKISTAN, GUJARAT & NORTH MAHARASHTRA COASTS AND NORTHEAST & ADJOINING EASTCENTRAL ARABIAN SEA TILL 30<sup>TH</sup> AUGUST.
- FISHERMEN ARE ADVISED NOT TO VENTURE INTO NORTHEAST & ADJOINING EASTCENTRAL ARABIAN SEA AND ALONG & OFF PAKISTAN, GUJARAT & NORTH MAHARASHTRA COASTS TILL 30<sup>TH</sup> AUGUST.

**(II) CLOUDS ASSOCIATED WITH ARABIAN SEA:**

SCATTERED LOW AND MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION LAY OVER NORTHWEST AND CENTRAL ARABIAN SEA. SCATTERED LOW AND MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION LAY OVER REST OF NORTHWEST AND CENTRAL ARABIAN SEA AND ISOLATED WEAK CONVECTION LAY OVER SOUTH ARABIAN SEA.

**\*PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION) DURING NEXT 168 HRS OVER ARABIAN SEA:**

24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS	120-144 HOURS	144-168 HOURS
NIL	NIL	MOD	HIGH	HIGH	-	-

**\*NOTE: EVERY 24HR FORECAST IS VALID UPTO 0300 UTC (0830 IST) OF NEXT DAY (-) INDICATES GENESIS HAS ALREADY OCCURRED.**

**BAY OF BENGAL:**

**SUB: LOW PRESSURE AREA OVER JHARKHAND AND NEIGHBOURHOOD**

THE WELL MARKED LOW PRESSURE AREA OVER JHARKHAND AND NEIGHBOURHOOD MOVED WEST-NORTHWESTWARDS AND LAY AS A LOW PRESSURE AREA OVER THE SAME REGION AT 0000 UTC OF TODAY, THE 27TH AUGUST 2024. IT IS LIKELY TO MOVE WEST-NORTHWESTWARDS ACROSS JHARKHAND, AND NORTH CHHATTISGARH & ADJOINING SOUTHEAST UTTAR PRADESH AND WEAKEN GRADUALLY FURTHER DURING NEXT 24 HOURS.

ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER JHARKHAND, NORTH ODISHA, GANGETIC WEST BENGAL ADJOINING SUB-HIMALAYAN WEST BENGAL, BANGLADESH AND NORTH BAY OF BENGAL (MINIMUM CTT MINUS 80-90 DEG CEL).

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 10-15 KTS. ESTIMATED CENTRAL PRESSURE IS 1000 HPA. RANCHI (JHARKHAND) REPORTED 1001.6 HPA AND DALTONGANJ 1001 HPA.

**\*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:**

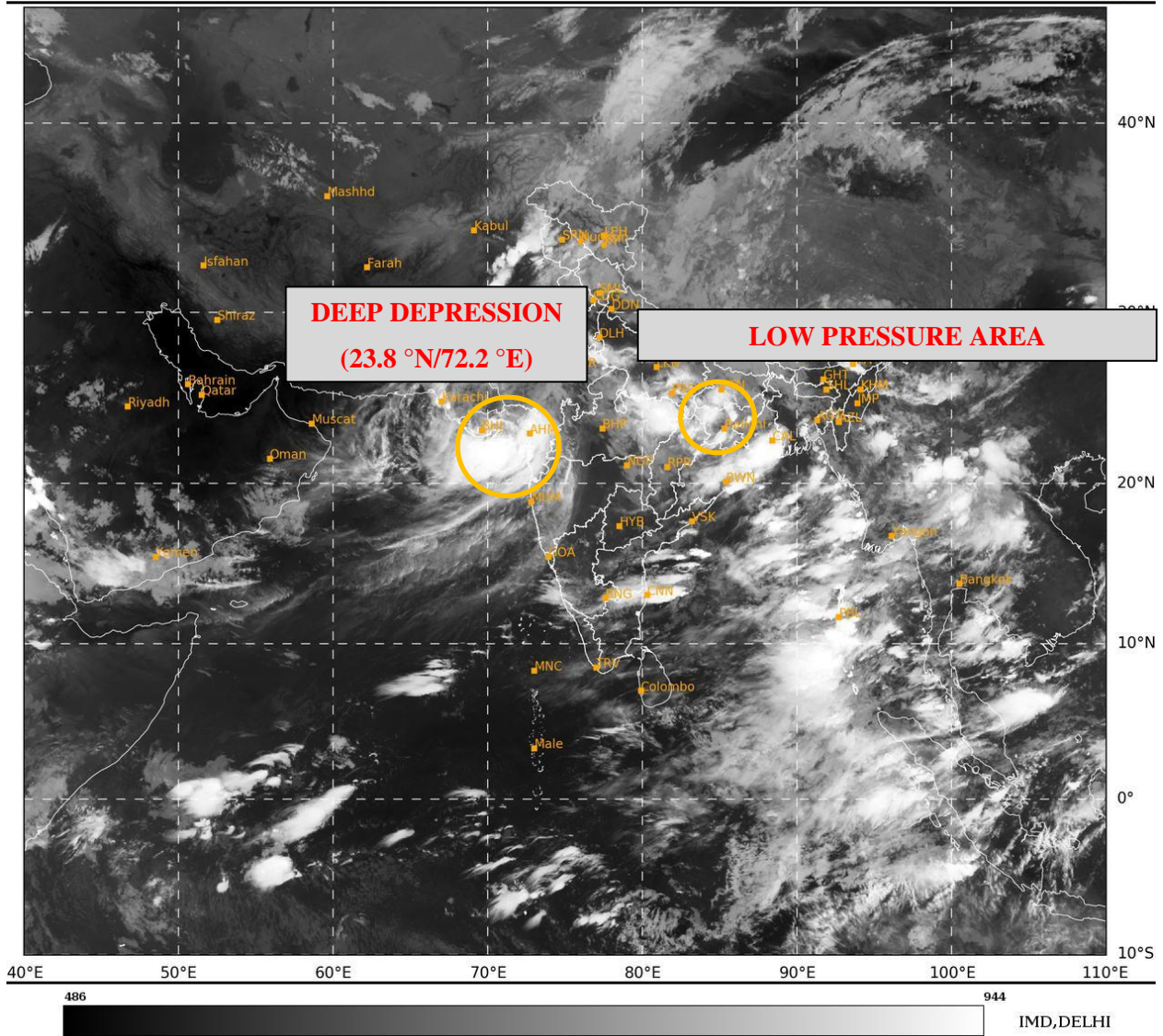
THE MADDEN JULIAN OSCILLATION (MJO) INDEX CURRENTLY LIES IN PHASE 4 WITH AMPLITUDE GREATER THAN 1. IT IS LIKELY TO MOVE ACROSS PHASE 4 AND 5 WITH AMPLITUDE REMAINING MORE THAN 1 DURING NEXT 5 DAYS. THE NCICS FORECASTS INDICATE SIGNIFICANT PRESENCE OF CONVECTIVELY COUPLED EQUATORIAL ROSSBY WAVES (ERW) PROPAGATING WESTWARDS STARTING FROM BOB,CENTRAL INDIA AND CENTRAL ARABIAN SEA DURING NEXT 5 DAYS. THE WESTERLY WINDS (5-7 MPS) ARE LIKELY OVER THE SAME REGION AND STRONG EASTERLIES (5-7 MPS) OVER THE NORTHWESTERN PARTS OF INDIA AND NORTHEAST ARABIAN SEA DURING NEXT FIVE DAYS. THE EASTWARD-MOVING KELVIN WAVES (KW) ARE ALSO LIKELY OVER SOUTHEAST ARABIAN SEA. THE LOW LEVEL CONVERGENCE IS AROUND  $40 \times 10^{-5} \text{ S}^{-1}$  TO SOUTHWEST OF THE SYSTEM AREA. UPPER LEVEL DIVERGENCE HAS DECREASED AND IS AROUND  $10 \times 10^{-5} \text{ S}^{-1}$  TO THE SOUTHWEST OF SYSTEM CENTRE EXTENDING UPTO EASTCENTRAL ARABIAN SEA. THE WIND SHEAR IS LOW TO MODERATE OVER THE SYSTEM AREA. VORTICITY AT 850 HPA LEVEL IS AROUND  $250 \times 10^{-5} \text{ S}^{-1}$  NEAR THE SYSTEM AREA EXTENDING UPTO 200 HPA. FAVORABLE MJO, PRESENCE OF EQUATORIAL WAVES, MOISTURE FEEDBACK FROM ARABIAN SEA AND LOW TO MODERATE WIND SHEAR ARE SUPPORTING SYSTEM TO MAINTAIN ITS INTENSITY.

MOST OF THE NUMERICAL WEATHER PREDICTION MODELS (IMD GFS, NCEP GFS, GEFS, ECMWF, AND NCUM) INDICATE THAT THE EXISTING DEEP DEPRESSION OVER NORTH GUJARAT MOVE WEST-SOUTHWESTWARDS ACROSS NORTH GUJARAT. THERE IS A CONSENSUS AMONG VARIOUS MODELS THAT THE SYSTEM WOULD PERSIST OVER SAURASHTRA & KUTCH REGION DURING 28<sup>TH</sup> TO 30<sup>TH</sup> AUGUST. HOWEVER, THERE IS VARIATION AMONG MODELS WRT INTENSIFICATION OF SYSTEM WITH GFS & NCUM GROUP SHOWING HIGHER INTENSIFICATION UPTO VERY SEVERE CYCLONIC STORM CATEGORY AND ECMWF IS SHOWING PEAK INTENSIFICATION UPTO DEEP DEPRESSION/MARGINAL CYCLONIC STORM. ECMWF AND NCEP GFS ARE ALSO INDICATING DRY AIR INCURSION INTO THE SYSTEM AREA FROM 28<sup>TH</sup>/ 1200 UTC ONWARDS.

WITH RESPECT TO BAY OF BENGAL SYSTEM MODELS ARE NOT INDICATING SIGNIFICANT INTENSIFICATION AND THERE IS ALSO CONSENSUS AMONG MODELS REGARDING WEST NORTH WEST WARD MOVEMENT OF THE SYSTEM.

CONSIDERING ALL THE ABOVE, IT IS INFERRED THAT (1) THE DEEP DEPRESSION OVER NORTH GUJARAT IS LIKELY TO CONTINUE TO MOVE SLOWLY WEST-SOUTHWESTWARDS ACROSS GUJARAT REGION AND REACH SAURASHTRA & KUTCH COAST AND ADJOINING AREAS OF PAKISTAN AND NORTHEAST ARABIAN SEA BY 0000 UTC OF 29TH AUGUST.

(DR. SHASHI KANT)  
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



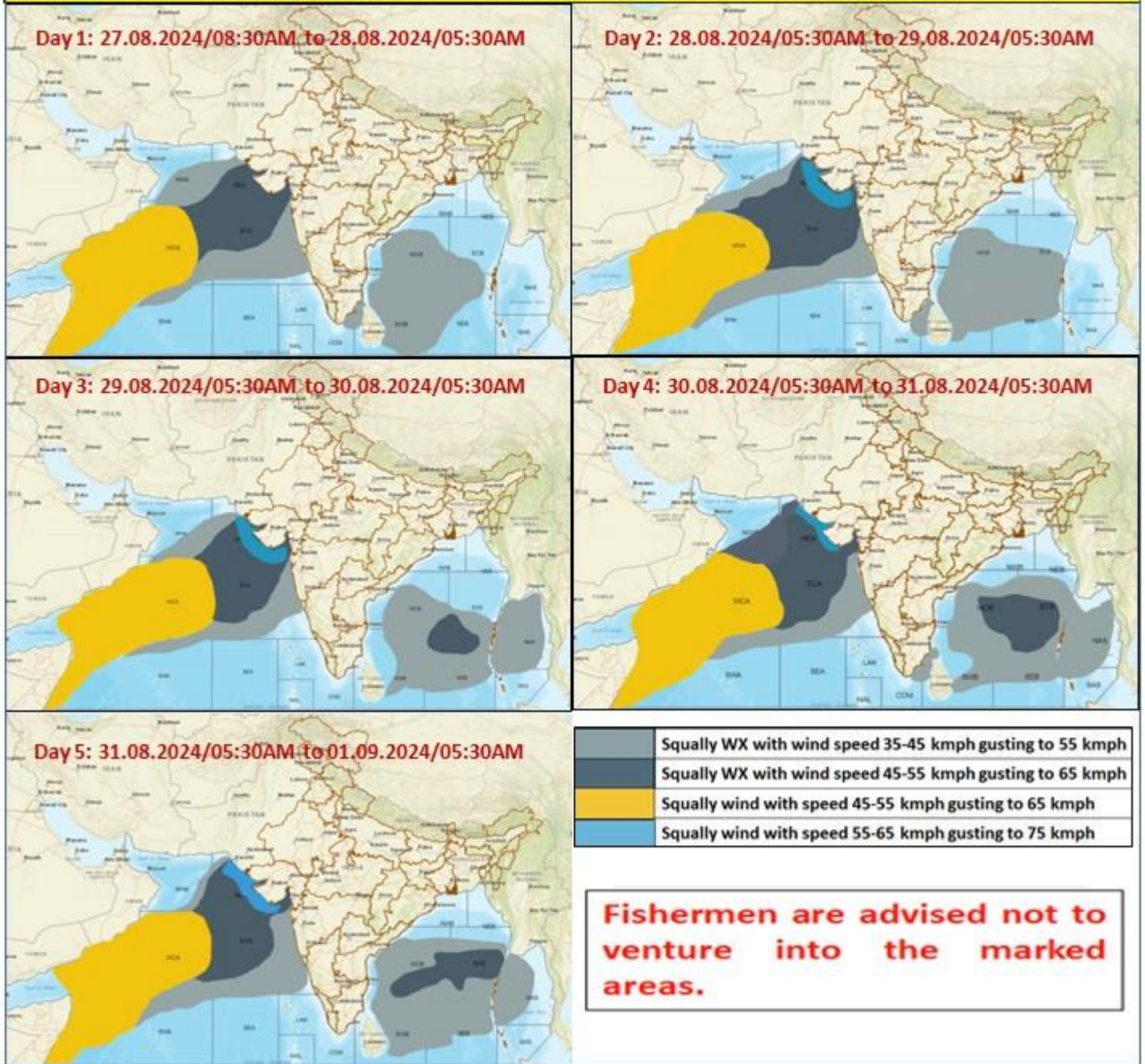
## OBSERVED AND FORECAST TRACK OF DEEP DEPRESSION OVER NORTH GUJARAT BASED ON 0000 UTC (0530 IST) OF 27<sup>TH</sup> AUGUST, 2024.



**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

## Fishermen Warning Graphics



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