



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

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 28.08.2024

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 168 HOURS ISSUED AT 0600 UTC OF 28.08.2024 BASED ON 0300 UTC OF 28.08.2024.

LAND DEPRESSION OVER NORTHWEST INDIA:

SUB: (A) DEEP DEPRESSION OVER SAURASHTRA & KACHCHH

THE DEEP DEPRESSION OVER SAURASHTRA & KACHCHH MOVED WESTWARDS WITH A SPEED OF 12 KMPH DURING PAST 6 HOURS AND LAY CENTERED AT 0300 UTC OF TODAY, THE 28TH AUGUST OVER THE SAME REGION NEAR LATITUDE 23.7°N AND LONGITUDE 69.7 °E, 50 KM NORTH-NORTHWEST OF BHUJ (42634), 100 KM EAST-NORTHEAST OF NALIYA (42631) AND 290 KM EAST-SOUTHEAST OF KARACHI (41780).

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

INSAT 3DR IMAGERY, AT 0300 UTC OF 28TH AUGUST SHOWS SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION OVER KATCHCHH & SAURASHTRA, NORTHEAST ARABIAN SEA, GULF OF KATCHCHH (MINIMUM CTT MINUS 90⁰C) AND MODERATE TO INTENSE CONVECTION LAY OVER SOUTH PAKISTAN, SOUTH RAJASTHAN, GUJARAT REGION AND GULF OF CAMBAY. MUTISATELLITE BASED WINDS INDICATE STRONGER WINDS IN THE NORTHERN SECTOR.

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 30 KTS GUSTING TO 40 KTS. ESTIMATED CENTRAL PRESSURE IS 992 HPA. AT 0300 UTC, BHUJ REPORTED MEAN SEA LEVEL PRESSURE OF 993.6 HPA & PRESSURE CHANGE IN 24 HOURS AS -2.6 HPA AND DEPARTURE FROM NORMAL AS -10.5 HPA. NALIYA REPORTED MEAN SEA LEVEL PRESSURE OF 995.7 HPA & PRESSURE CHANGE IN 24 HOURS AS -1.9 HPA AND DEPARTURE OF -8.9 HPA. KANDLA REPORTED MEAN SEA LEVEL PRESSURE OF 993.8 HPA & PRESSURE CHANGE OF -2.6 HPA AND DEPARTURE OF -10.1 HPA.

(II) ARABIAN SEA:

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 28TH-30TH 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 28TH-30TH AUGUST.
- SQUALLY WEATHER WITH ROUGH TO VERY ROUGH SEA CONDITIONS IS VERY LIKELY TO PREVAIL ALONG & OFF GUJARAT & ADJOINING PAKISTAN AND NORTH MAHARASHTRA COASTS AND NORTHEAST & ADJOINING EASTCENTRAL ARABIAN SEA TILL 30TH AUGUST.
- FISHERMEN ARE ADVISED NOT VENTURE INTO NORTHEAST & ADJOINING EASTCENTRAL ARABIAN SEA AND ALONG & OFF GUJARAT & ADJOINING PAKISTAN AND NORTH MAHARASHTRA COASTS TILL 30TH AUGUST.

CLOUDS ASSOCIATED WITH ARABIAN SEA:

SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION OVER NORTHEAST ARABIAN SEA AND GULF OF KUTCH. SCATTERED LOW/MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION OVER GULF OF CAMBAY, EASTCENTRAL ARABIAN SEA, PARTS OF SOUTH ARABIAN SEA AND WEAK TO MODERATE CONVECTION OVER REST ARABIAN SEA LAKSHADWEEP ISLANDS & COMORIN AREA.

***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
MOD	HIGH	HIGH	-	-	-	-

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

(III) BAY OF BENGAL:

A CYCLONIC CIRCULATION IS SEEN OVER EASTCENTRAL BAY OF BENGAL AND ADJOINING AREAS, FROM 0.9 TO 5.8 KM ABOVE MEAN SEA LEVEL. UNDER IT'S INFLUENCE, A FRESH LOW PRESSURE AREA IS LIKELY TO FORM OVER EASTCENTRAL BAY OF BENGAL AND NEIGHBOURHOOD ON 29TH AUGUST. IT IS LIKELY TO MOVE WEST-NORTHWESTWARDS TOWARDS SOUTH ODISHA AND NORTH ANDHRA PRADESH COASTS DURING SUBSEQUENT TWO DAYS.

SCATTERED LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER BAY OF BENGAL AND SOUTH ANDAMAN SEA. SCATTERED LOW AND MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION LAY OVER NORTH BAY OF BENGAL, NORTH ANDAMAN SEA, ARAKAN COAST, GULF OF MARTABAN & TENASSERIM COAST.

***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
-	LOW	MOD	MOD	-	-	-

***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 BAY OF BENGAL, 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. THESE FEATURES ARE FAVOURABLE FOR ENHANCEMENT OF CONVECTIVE ACTIVITY OVER THE ARABIAN SEA AND ALSO OVER THE BAY OF BENGAL.

VORTICITY AT 850 HPA LEVEL IS AROUND $250 \times 10^{-5} \text{ S}^{-1}$ NEAR THE SYSTEM AREA EXTENDING UPTO 200 HPA. SHEAR TENDENCY IS INCREASING OVER SYSTEM AREA AND DECREASING TOWARDS SOUTH PAKISTAN. THE LOW LEVEL CONVERGENCE IS ABOUT $15 \times 10^{-5} \text{ S}^{-1}$ TO THE WEST OF SYSTEM AREA. UPPER LEVEL DIVERGENCE IS ABOUT $20 \times 10^{-5} \text{ S}^{-1}$ TO THE WEST OF SYSTEM AREA EXTENDING UPTO NORTHEAST ARABIAN SEA. THE WIND SHEAR IS MODERATE (15-20 KNOTS) OVER THE SYSTEM AREA.

MOST OF THE NUMERICAL WEATHER PREDICTION MODELS (IMD GFS, NCEP GFS, GEFS, ECMWF, AND NCUM) INDICATE THAT THE EXISTING DEEP DEPRESSION OVER SAURASHTRA & KACHCHH LIKELY TO MOVE WEST-SOUTHWESTWARDS ACROSS SAURASHTRA & KACHCHH. THERE IS A CONSENSUS AMONG VARIOUS MODELS THAT THE SYSTEM WOULD PERSIST OVER SAURASHTRA & KACHCHH REGION DURING 28TH TO 30TH AUGUST. HOWEVER, THERE IS VARIATION AMONG MODELS WITH RESPECT TO INTENSIFICATION OF SYSTEM WITH GFS & NCUM GROUP STILL SHOWING HIGHER INTENSIFICATION UPTO VERY SEVERE CYCLONIC STORM AND ECMWF & NCEP GFS ARE INDICATING PEAK INTENSIFICATION UPTO MARGINAL CYCLONIC STORM. ECMWF AND NCEP GFS ARE ALSO INDICATING DRY AIR INCURSION INTO THE SYSTEM AREA FROM 29TH/1200 UTC ONWARDS. IMD MME IS INDICATING NEAR WESTWARDS MOVEMENT AND PEAK INTENSIFICATION UPTO MARGINAL CYCLONIC STORM/DEEP DEPRESSION. MOST OF THE MODELS ARE INDICATING THE SYSTEM TO REACH OMAN COAST AS A LOW PRESSURE AREA. IMD MME IS ALSO INDICATING NEAR WESTWARDS MOVEMENT TOWARDS OMAN COAST AND INTENSIFICATION INTO A MARGINAL CYCLONE AROUND 30TH AUGUST/ 1200 UTC BEFORE EMERGING INTO NORTHEAST ARABIAN SEA.

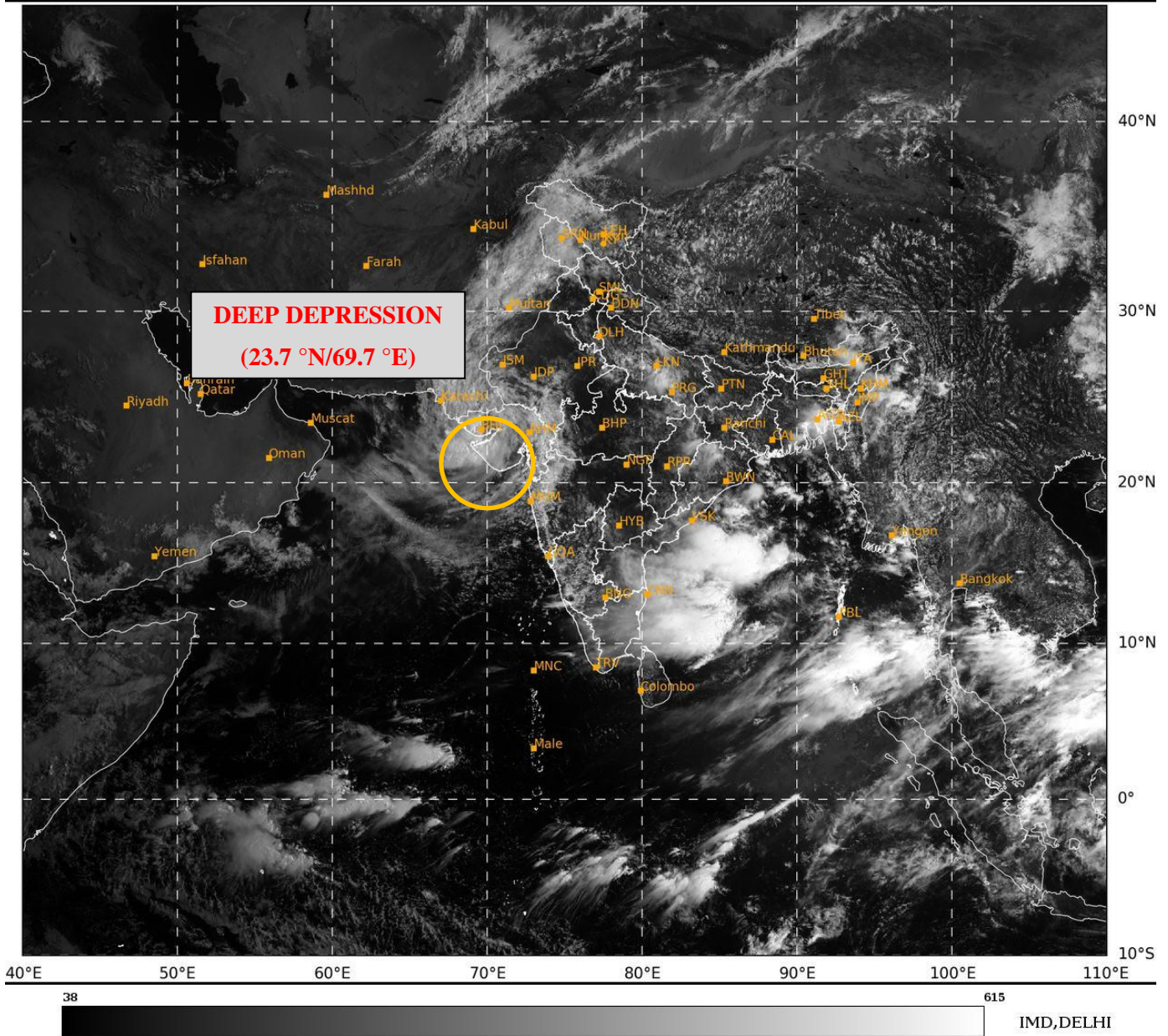
OVER THE BAY OF BENGAL, MOST OF THE MODELS ARE INDICATING DEVELOPMENT OF LOW PRESSURE AREA OVER CENTRAL BAY OF BENGAL AROUND 29TH AUGUST WITH WEST-NORTHWESTWARDS MOVEMENT TOWARDS SOUTH ODISHA & ADJOINING NORTH ANDHRA PRADESH COASTS. MODELS ARE ALSO INDICATING INTENSIFICATION OF THE SYSTEM INTO A DEPRESSION AROUND 29TH/1200 UTC (ECMWF), 30TH/1200 UTC (NCUM) & IMD GFS (31ST/1200 UTC). ACCORDINGLY, LOW TO MODERATE PROBABILITY IS ASSIGNED TO

FORMATION OF DEPRESSION OVER NORTHWEST & ADJOINING WESTCENTRAL BAY OF BENGAL DURING NEXT 2-3 DAYS.

CONSIDERING ALL THE ABOVE, IT IS INFERRED THAT:

- (1) DEEP DEPRESSION OVER SAURASHTRA & KACHCHH IS LIKELY TO MOVE SLOWLY WEST-SOUTHWESTWARDS ACROSS SAURASHTRA & KACHCHH REGION AND REACH SAURASHTRA & KACHCHH COAST & ADJOINING AREAS OF PAKISTAN AND NORTHEAST ARABIAN SEA BY 0000 UTC OF 29TH AUGUST.
- (2) A FRESH LOW PRESSURE AREA IS LIKELY TO FORM OVER EASTCENTRAL AND ADJOINING NORTH BAY OF BENGAL ON 29TH AUGUST. IT IS LIKELY TO MOVE WEST-NORTHWESTWARDS TOWARDS SOUTH ODISHA AND NORTH ANDHRA PRADESH COASTS DURING SUBSEQUENT TWO DAYS.

(M. 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 DEEP DEPRESSION OVER SAURASHTRA & KACHCHH BASED ON 0300 UTC (0830 IST) OF 28TH 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**

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