



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

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 04.10.2024

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 04.10.2024 BASED ON 0300 UTC OF 04.10.2024.

BAY OF BENGAL:

YESTERDAY'S CYCLONIC CIRCULATION OVER SOUTHEAST BANGLADESH LAY OVER SOUTHWEST BANGLADESH & NEIGHBOURHOOD IN THE EVENING (12 UTC OF YESTERDAY). UNDER ITS INFLUENCE A LOW PRESSURE AREA FORMED OVER NORTH BAY OF BENGAL & ADJOINING COASTAL AREAS OF BANGLADESH & WEST BENGAL AT 0300 UTC OF TODAY THE 04TH OCTOBER. THE ASSOCIATED CYCLONIC CIRCULATION EXTENDED UPTO 5.8 KM ABOVE MEAN SEA LEVEL TILTING SOUTH-WESTWARDS WITH HEIGHT.

A FRESH UPPER AIR CYCLONIC CIRCULATION LAY OVER WESTCENTRAL AND ADJOINING SOUTH BAY OF BENGAL AT 0300 UTC OF TODAY THE 04TH OCTOBER. IT EXTENDED UPTO 1.5 KM ABOVE MEAN SEA LEVEL.

SCATTERED TO BROKEN LOW & MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER NORTH BAY OF BENGAL, EASTCENTRAL & SOUTHEAST BAY OF BENGAL, ANDAMAN SEA AND GULF OF MARTABAN (MINIMUM CLOUD TOP TEMPERATURE MINUS 70-90 DEG CELCIUS). SCATTERED LOW & MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION LAY OVER REST BAY OF BENGAL.

***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**

ARABIAN SEA:

YESTERDAY'S CYCLONIC CIRCULATION OVER LAKSHADWEEP & NEIGHBOURHOOD LAY OVER SOUTHEAST ARABIAN SEA AT 0300 UTC OF TODAY THE 4TH OCTOBER AND EXTENDED UPTO 1.5 KM ABOVE MEAN SEA LEVEL.

SCATTERED LOW & MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION LAY OVER EASTCENTRAL & SOUTH ARABIAN SEA AND LAKSHADWEEP ISLANDS 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) IS CURRENTLY IN PHASE 2, WITH AMPLITUDE CLOSE TO 1, AND IS EXPECTED TO CONTINUE IN SAME PHASE DURING NEXT 2 DAYS. IT IS LIKELY TO MOVE ACROSS PHASES 3 & 4 DURING SUBSEQUENT 5 DAYS. THUS, MJO IS FAVOURABLE FOR ENHANCEMENT OF CONVECTIVE ACTIVITY OVER THE ARABIAN SEA (AS) DURING NEXT 3-4 DAYS AND THE BAY OF BENGAL FROM 7TH ONWARDS. CICS MODEL GUIDANCE REGARDING EQUATORIAL WAVES INDICATE STRONG (7-9 MPS) EASTERLY WIND ANOMALY OVER THE SOUTH & CENTRAL BAY OF BENGAL (BOB) AND ARABIAN SEA (AS) DURING NEXT 7 DAYS. WESTERLY WIND ANOMALY (1-3 MPS) IS INDICATED OVER NORTH BOB & SOUTH BANGLADESH.

BAY OF BENGAL (BOB)

THE SEA SURFACE TEMPERATURE (SST) IS MORE THAN 28°C OVER ENTIRE BOB. THE TROPICAL CYCLONE HEAT POTENTIAL (TCHP) IS GREATER THAN 100 KJ/CM² OVER THE NORTHERN AND ADJOINING CENTRAL PARTS OF BOB AND OFF THE COASTS OF ODISHA, WEST BENGAL, BANGLADESH & MYANMAR, AND OVER WESTCENTRAL & ADJOINING SOUTHWEST BOB OFF NORTH TAMIL NADU COAST, WHILE IT IS BELOW 50 KJ/CM² OVER REMAINING PARTS OF THE BOB AND THE ANDAMAN SEA. A ZONE OF POSITIVE LOW-LEVEL VORTICITY ($40-50 \times 10^{-5} S^{-1}$) IS SEEN OVER SOUTH BANGLADESH WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL. POSITIVE LOW-LEVEL CONVERGENCE IS AROUND $10 \times 10^{-5} S^{-1}$ OVER NORTH BOB OFF SOUTH BANGLADESH. POSITIVE UPPER-LEVEL DIVERGENCE IS AROUND $05-10 \times 10^{-5} S^{-1}$ TO THE EAST OF SYSTEM AREA. VERTICAL WIND SHEAR (VWS) IS LOW TO MODERATE (05-15 KNOTS) OVER THE SOUTH BANGLADESH & ADJOINING NORTH BOB. AN UPPER TROPOSPHERIC RIDGE RUNS ALONG 22°N IN ASSOCIATION WITH ANTICYCLONIC CIRCULATION OVER WEST BENGAL IN 100-250 HPA LAYER. ALL THESE FEATURES ARE INDICATING FAVOURABLE ENVIRONMENT FOR MAINTENANCE OF INTENSITY OF EXISTING CYCLONIC CIRCULATION OVER SOUTH BANGLADESH.

MODELS LIKE NCUM, IMD GFS, NCEP GFS ARE CAPTURING ARE INDICATING A CYCLONIC CIRCULATION OVER NORTH BANGLADESH & ADJOINING SUB-HIMALAYAN WEST BENGAL TO MOVE NORTH-NORTHWESTWARDS TILL 7TH OCTOBER HOWEVER, NO SIGNIFICANT INTENSIFICATION IS INDICATED.

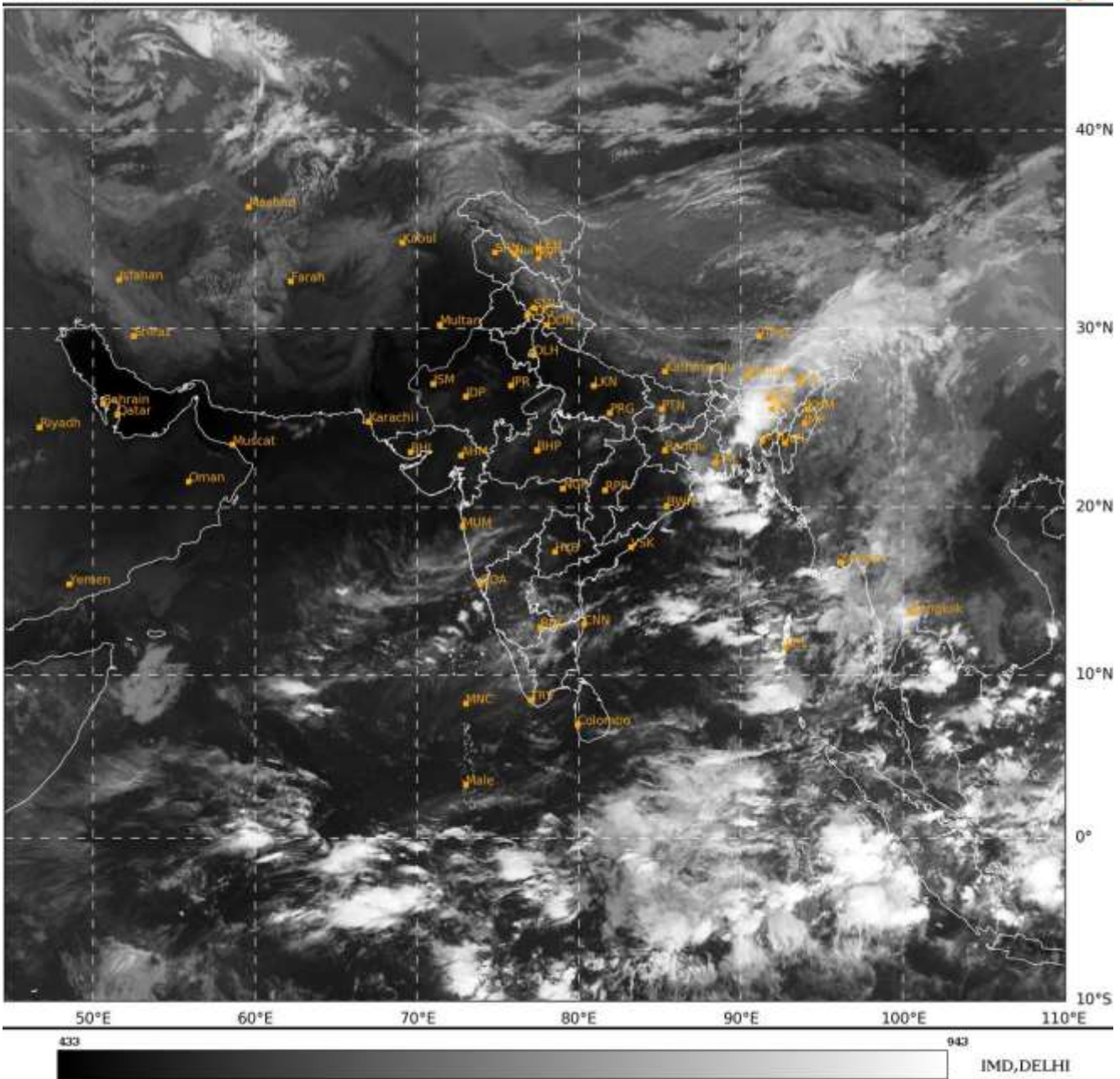
THUS, THE LOW PRESSURE AREA OVER NORTH BAY OF BANGAL AND ADJOINING AREAS OF COASTAL BANGLADESH & WEST BENGAL IS LIKELY TO MOVE WEST-NORTHWESTWARDS DURING NEXT 2-3 DAYS. HOWEVER, THERE IS NO POSSIBILITY OF ITS FURTHER INTENSIFICATION. HENCE, PROBABILITY OF CYCLOGENESIS OVER BOB MAY BE TAKEN AS NIL DURING NEXT 7 DAYS.

ARABIAN SEA (AS)

THE SEA SURFACE TEMPERATURE (SST) IS ABOVE 28°C OVER THE EASTERN PARTS OF BOB AND BELOW 26°C OVER THE WESTCENTRAL AND SOUTHWEST PARTS OF AS. THE TCHP IS >100 KJ/CM² OVER THE CENTRAL PARTS OF SOUTH AS AND IS BELOW 50 KJ/CM² OVER THE REMAINING AREAS OIF AS. A ZONE OF POSITIVE CYCLONIC VORTICITY OF 30-40 X 10⁻⁵ IS SEEN OVER CENTRAL PARTS OF SOUTH AS. NO ZONE OF POSITIVE LOW-LEVEL CONVERGENCE IS SEEN OVER AS. ZONE OF POSITIVE UPPER-LEVEL DIVERGENCE AROUND 05 X10⁻⁵ S⁻¹ IS SEEN OVER SOUTHWEST AS AND ANOTHER OVER MALDIVES AREA. VERTICAL WIND SHEAR (VWS) IS LOW TO MODERATE (5-20 KNOTS) OVER MAJOR PARTS OF NORTH AS AND HIGH OVER REMAINING PARTS OF AS. UPPER TROPOSPHERIC RIDGE RUNS ALONG 22°N IN ASSOCIATION WITH ANTICYCLONIC CIRCULATION OVER GUJARAT REGION.

MOST OF THE MODELS ARE INDICATING CYCLONIC CIRCULATION OVER CENTRAL PARTS OF SOUTH AS ON 4TH OCTOBER, BECOMING LESS MARKED ON 5TH OCTOBER.

IN VIEW OF ALL THE ABOVE, THE EXISTING CYCLONIC CIRCULATION OVER SOUTHEAST AS IS LIKELY TO MOVE NEARLY WESTWARDS DURING NEXT 2 DAYS WITHOUT ANY SIGNIFICANT INTENSIFICATION.



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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