



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

**DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 08.10.2024**

**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 08.10.2024 BASED ON 0300 UTC OF 08.10.2024.**

**BAY OF BENGAL:**

SCATTERED LOW & MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTH BAY OF BENGAL, WESTCENTRAL BAY OF BENGAL AND ANDAMAN SEA (MINIMUM CLOUD TOP TEMPERATURE MINUS 75-90 DEG CELCIUS). SCATTERED LOW & MEDIUM CLOUDS WITH EMBEDDED ISOLATED MODERATE TO INTENSE CONVECTION LAY OVER EASTCENTRAL BAY OF BENGAL AND WEAK TO MODERATE CONVECTION LAY OVER REST OF 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 UPPER-AIR CYCLONIC CIRCULATION OVER SOUTH KERALA AND NEIGHBOURHOOD LAY OVER LAKSHADWEEP AND ADJOINING SOUTHEAST ARABIAN SEA AND EXTENDING UPTO 5.8 KM ABOVE MEAN SEA LEVEL. THE TROUGH NOW RUNS FROM NORTH COASTAL TAMIL NADU TO THE CYCLONIC CIRCULATION OVER LAKSHADWEEP & ADJOINING SOUTHEAST ARABIAN SEA ACROSS KERALA AND EXTENDS UPTO 1.5 KM ABOVE MEAN SEA LEVEL.

UNDER THEIR INFLUENCE, A LOW PRESSURE AREA IS LIKELY TO FORM OVER LAKSHADWEEP AND ADJOINING SOUTHEAST & EASTCENTRAL ARABIAN SEA AROUND 09<sup>TH</sup> OCTOBER. IT IS LIKELY TO MOVE NORTHWESTWARDS AND INTENSIFY FURTHER INTO A DÉPRESSION OVER CENTRAL ARABIAN SEA DURING SUBSÉQUENT 3 DAYS.

SCATTERED TO BROKEN LOW & MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTH ARABIAN SEA, EASTCENTRAL ARABIAN SEA, MALDIVES & COMORIN AREA AND LAKSHADWEEP ISLANDS AREA (MINIMUM CLOUD TOP TEMPERATURE MINUS 75-93 DEG CELCIUS). SCATTERED LOW & MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION LAY OVER SOUTHERN PARTS OF

WESTCENTRAL ARABIAN SEA AND WEAK CONVECTION LAY OVER REST OF ARABIAN SEA.

**\*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	LOW	MED	MED

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

**REMARKS:**

THE MADDEN-JULIAN OSCILLATION (MJO) IS CURRENTLY IN PHASE 3, WITH AMPLITUDE CLOSE TO 1, AND IS EXPECTED TO MOVE TO PHASE 4 AND WOULD CONTINUE IN SAME PHASE DURING THE SUBSEQUENT 7 DAYS. THUS, MJO IS FAVOURABLE FOR THE ENHANCEMENT OF CONVECTIVE ACTIVITY OVER THE BAY OF BENGAL FROM 9<sup>TH</sup> ONWARDS. NCICS MODEL GUIDANCE REGARDING EQUATORIAL WAVES IS INDICATING (5-7 MPS) EASTERLY WIND ANOMALY OVER THE SOUTH & ADJOINING CENTRAL BAY OF BENGAL (BOB) DURING 4<sup>TH</sup>-10<sup>TH</sup> OCTOBER. DURING WEEK 1, WESTERLY WIND ANOMALY (3-5MPS) IS LIKELY WEST EQUATORIAL INDIAN OCEAN & ADJOINING SOUTH ARABIAN SEA (AS) ALONGWITH EASTERLY WIND ANOMALY (1-3 MPS) OVER SOUTH & CENTRAL AS (TO THE NORTH OF WESTERLY WIND ANOMALY). IT IS INDICATING FAVOURABLE ENVIRONMENT FOR THE DEVELOPMENT OF LOW-PRESSURE AREA/DEPRESSION OVER THE AS DURING THE ENSUING WEEK.

**BAY OF BENGAL (BOB)**

THE SEA SURFACE TEMPERATURE (SST) IS 28-32°C OVER ENTIRE BOB. THE TROPICAL CYCLONE HEAT POTENTIAL (TCHP) IS GREATER THAN 100 KJ/CM<sup>2</sup> OVER THE NORTHERN AND OFF THE COASTS OF WEST BENGAL, BANGLADESH & MYANMAR, AND OVER WESTCENTRAL & ADJOINING SOUTHWEST BOB OFF TAMIL NADU COAST, THE SOUTH ANDAMAN SEA AND ADJOINING SOUTHEAST BOB, WHILE IT IS BELOW 50 KJ/CM<sup>2</sup> OVER REMAINING PARTS OF THE BOB. NO SIGNIFICANT POSITIVE LOW-LEVEL VORTICITY IS SEEN OVER BAY OF BENGAL. POSITIVE LOW-LEVEL CONVERGENCE AROUND 05-15 X10<sup>-5</sup> S<sup>-1</sup> IS SEEN OVER SOUTHWEST BOB. POSITIVE UPPER-LEVEL DIVERGENCE IS AROUND 5-10X10<sup>-5</sup> S<sup>-1</sup> IS SEEN OVER SOUTH ANDAMAN SEA AND SOUTHWEST BAY OF BENGAL. VERTICAL WIND SHEAR (VWS) IS LOW (05-10 KNOTS) OVER ENTIRE BOB AND ANDAMAN SEA. UPPER TROPOSPHERIC RIDGE RUNS ALONG 22°N IN ASSOCIATION WITH ANTICYCLONIC CIRCULATION OVER BANGLADESH IN 100-250 HPA LEVELS.

MODELS LIKE NCUM, IMD GFS, AND NCEP GFS ARE NOT INDICATING ANY CYCLONIC DISTURBANCE OVER THE BOB DURING NEXT 7 DAYS.

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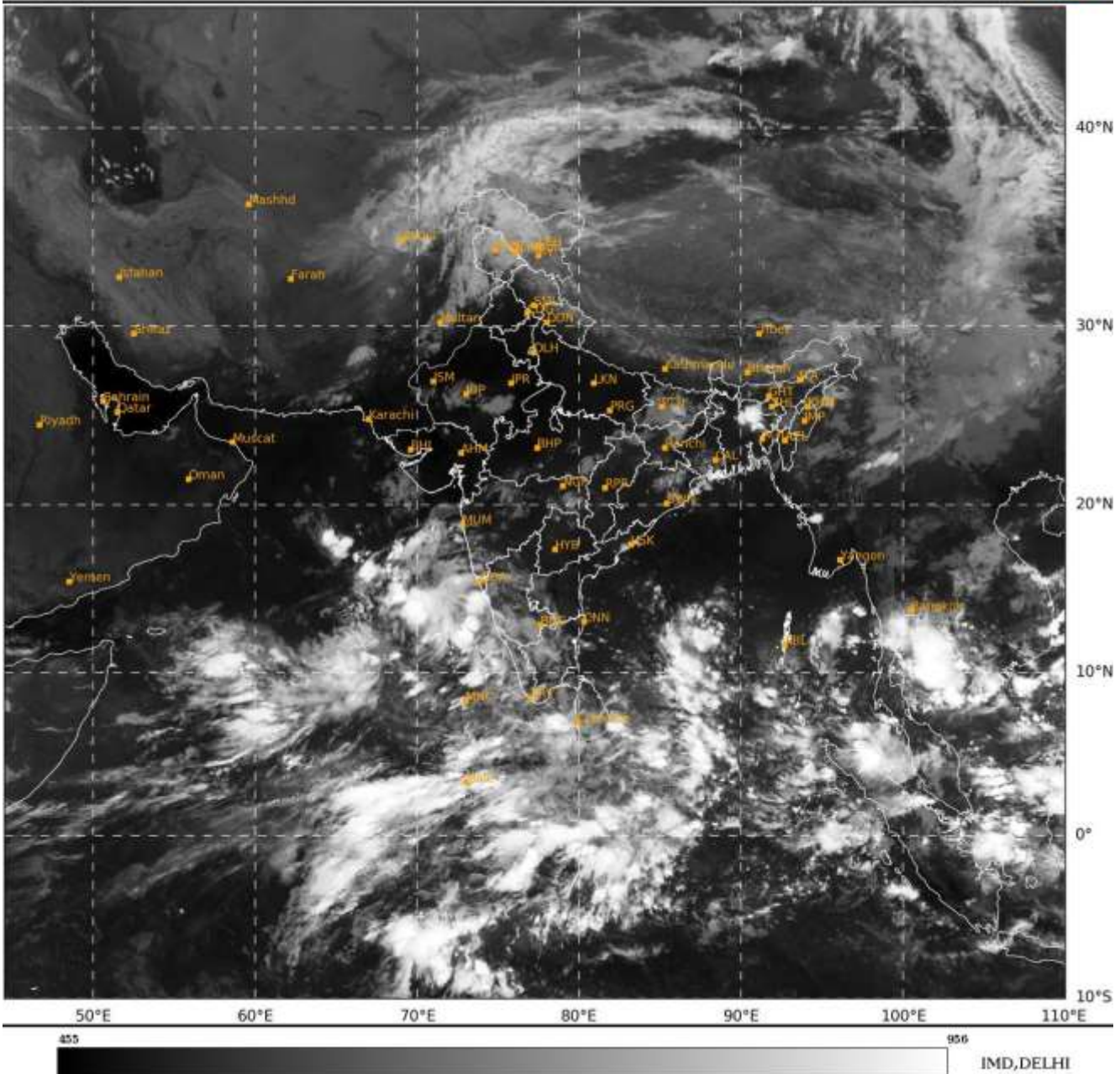
## **ARABIAN SEA (AS)**

CURRENT OBSERVATION INDICATES THAT THE CYCLONIC CIRCULATION IS LOCATED NEAR 10° N & 71° E OVER LAKSHADWEEP AND ADJOINING SOUTHEAST AS.

THE SEA SURFACE TEMPERATURE (SST) IS ABOVE 28-30°C OVER THE EASTERN PARTS OF AS, LAKSHADWEEP AND COMORIN AREA. BELOW 26°C OVER THE WESTCENTRAL AND SOUTHWEST PARTS OF AS. THE TCHP IS 50-60KJ/CM<sup>2</sup> OVER LAKSHADWEEP & ADJOINING AREAS EASTCENTRAL AND SOUTHEAST AS AND >100 KJ/CM<sup>2</sup> OVER THE CENTRAL PARTS OF SOUTH AS. IT IS <50 KJ/CM<sup>2</sup> OVER WESTCENTRAL AS AND OFF OMAN COAST. A ZONE OF POSITIVE CYCLONIC VORTICITY OF 30-40 X 10<sup>-5</sup> IS SEEN OVER SOUTHEAST AS AND LAKSHADWEEP WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL. ANOTHER ZONE OF POSITIVE LOW-LEVEL VORTICITY 30-40 X 10<sup>-5</sup> IS SEEN OVER WESTCENTRAL AS. POSITIVE LOW-LEVEL CONVERGENCE (5-15 X10<sup>-5</sup> S<sup>-1</sup>) IS SEEN OVER SOUTHEAST AS, LAKSHADWEEP AREA. AN EXTENDED ZONE OF POSITIVE UPPER-LEVEL DIVERGENCE (5-20 X10<sup>-5</sup> S<sup>-1</sup>) IS SEEN OVER SOUTH ARABIAN SEA, LAKSHADWEEP AND COMORIN AREA. VERTICAL WIND SHEAR (VWS) IS LOW TO MODERATE (05-10 KNOTS) OVER CENTRAL PARTS OF AS AND HIGH OVER NORTH & SOUTH AS. UPPER TROPOSPHERIC RIDGE RUNS ALONG 20°N IN 250-350 HPA LEVEL.

MOST OF THE MODELS INCLUDING IMD GFS, NCUM, GEFS, NCEP GFS, ECMWF ARE INDICATING DEVELOPMENT OF A LOW-PRESSURE AREA OVER LAKSHADWEEP & ADJOINING AREAS OF SOUTHEAST & EASTCENTRAL ARABIAN SEA DURING 8<sup>TH</sup> - 11<sup>TH</sup> OCTOBER. ACCORDINGLY, THERE IS VARIATION AMONG VARIOUS MODELS REGARDING DATE OF FORMATION OF DEPRESSION DURING 10<sup>TH</sup> -16<sup>TH</sup> OCTOBER. HOWEVER, NCUM GROUP AND NCEP GFS ARE INDICATING FURTHER INTENSIFICATION OF THE SYSTEM INTO A CYCLONIC STORM. BUT THERE IS CONSENSUS AMONG ALL MODELS THAT THE SYSTEM WOULD WEAKEN OVER WESTCENTRAL AS AND CROSS OMAN-YEMEN COAST AS A DEPRESSION/LOW PRESSURE AREA. THIS FEATURE IS ALSO SUPPORTED BY LOW SST & LOW TCHP OVER WESTCENTRAL ARABIAN SEA AND ALONG & OFF OMAN COAST.

CONSIDERING ALL THE ABOVE, PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION) IS TAKEN AS LOW TO MODERATE DURING NEXT 5-7 DAYS.



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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