



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

**DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 10.10.2024**

**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 10.10.2024 BASED ON 0300 UTC OF 10.10.2024.**

**BAY OF BENGAL:**

A FRESH CYCLONIC CIRCULATION VERY LIKELY TO DEVELOP OVER CENTRAL PARTS OF SOUTH BAY OF BENGAL AROUND 12TH OCTOBER AT LOWER & MIDDLE TROPOSPHERIC LEVELS

SCATTERED LOW AND MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION LAY OVER WESTCENTRAL & SOUTH BAY OF BENGAL AND ANDAMAN 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	NIL	NIL	NIL

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

**ARABIAN SEA:**

YESTERDAY'S LOW-PRESSURE AREA OVER LAKSHADWEEP AND ADJOINING SOUTHEAST & EASTCENTRAL ARABIAN SEA LAY AS A WELL MARKED LOW PRESSURE AREA OVER EASTCENTRAL ARABIAN SEA OFF KARNATAKA GOA COASTS AT 0300 UTC OF TODAY, THE 10TH OCTOBER 2024 WITH ASSOCIATED CYCLONIC CIRCULATION EXTENDING UPTO 5.8 KM ABOVE MEAN SEA LEVEL. IT IS LIKELY TO MOVE NORTHWESTWARDS AND INTENSIFY INTO A DEPRESSION OVER CENTRAL ARABIAN SEA DURING NEXT 2-3 DAYS.

YESTERDAY'S CYCLONIC CIRCULATION OVER SRI LANKA AND NEIGHBOURHOOD MERGED WITH THE TROUGH EXTENDING FROM EASTCENTRAL ARABIAN SEA TO SOUTHWEST BAY OF BENGAL ACROSS KERALA & TAMILNADU.

LATEST SATELLITE IMAGERY INDICATES FURTHER ORGANISATION OF THE SYSTEM AND BANDING FEATURES HAVE APPEARED IN THE SATELLITE IMAGERY. SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER EASTCENTRAL & SOUTHEAST ARABIAN SEA, LAKSHADWEEP ISLANDS AREA, MALDIVES & COMORIN AREA (MINIMUM CTT MINUS 70-93 DEGREE CELCIUS). SCATTERED LOW AND MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION LAY OVER

SOUTHWEST ARABIAN SEA AND WEAK TO MODERATE CONVECTION LAY OVER NORTHEAST ARABIAN SEA GULF OF CAMBAY.

CURRENT SYNOPTIC OBSERVATIONS INDICATE THAT THE WELL MARKED LOW-PRESSURE AREA IS LOCATED NEAR 13.7° N & 72.7° E OVER EASTCENTRAL AS. ASSOCIATED ESTIMATED CENTRAL PRESSURE IS 1004 HPA. AMINIDIVI (43311) REPORTED MEAN SEA LEVEL PRESSURE OF 1007.7 HPA & DEPARTURE OF -2.6 HPA. AGATHI (43266) REPORTED MEAN SEA LEVEL PRESSURE OF 1008.4 HPA & DEPARTURE OF -3.0 HPA. AGATHI REPORTED MAXIMUM SUSTAINED WIND SPEED OF 250°/20 KTS. AS COMPARED TO YESTERDAY THE WINDS OVER LAKSHADWEEP REGION HAVE INCREASED FROM 10 TO 20 KNOTS. HONAVAR (43226) REPORTED MEAN SEA LEVEL PRESSURE OF 1004.4 HPA & DEPARTURE OF -6.7 HPA AND PRESSURE FALL OF 1.5 HPA DURING PAST 24 HOURS.

**\*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	LOW	MOD	MOD	-	-

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

“-“ INDICATE GENESIS HAS ALREADY OCCURRED

**REMARKS:**

THE MADDEN-JULIAN OSCILLATION (MJO) IS CURRENTLY IN PHASE 4, WITH AMPLITUDE LESS THAN 1, AND IS EXPECTED TO MOVE ACROSS PHASE 4 DURING THE SUBSEQUENT 7 DAYS WITH AMPLITUDE BECOMING MORE THAN 1 FROM 12<sup>TH</sup> ONWARDS. THUS, MJO IS NOT LIKELY TO SUPPORT ENHANCEMENT OF CONVECTIVE ACTIVITY OVER ARABIAN SEA. IMD GFS IS INDICATING PRESENCE OF EQUATORIAL ROSSBY WAVES OVER THE SOUTHEAST ARABIAN SEA AND KELVIN WAVES DURING NEXT 3 DAYS. IT IS ALSO INDICATING THE PRESENCE OF KELVIN WAVES AND ROSSBY WAVES OVER SOUTHWEST BOB DURING 13<sup>TH</sup> TO 15<sup>TH</sup> OCTOBER. THE MODEL IS ALSO INDICATING ENHANCES WESTERLY WINDS OVER SOUTH ARABIAN SEA & ADJOINING SOUTHWEST BOB DURING NEXT 4 DAYS.

**BAY OF BENGAL (BOB)**

THE SEA SURFACE TEMPERATURE (SST) IS 29-31°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, 80-100 OVER SOUTHWEST & ADJOINING BOB WHILE IT IS BELOW 50 KJ/CM<sup>2</sup> OVER REMAINING PARTS OF THE BOB. A ZONE OF POSITIVE CYCLONIC VORTICITY OF 20-30 X 10<sup>-5</sup> IS SEEN OVER SOUTHEAST BOB. POSITIVE LOW-LEVEL CONVERGENCE AROUND 05X10<sup>-5</sup> S<sup>-1</sup> IS SEEN OVER SOUTH BOB. POSITIVE UPPER-LEVEL DIVERGENCE IS AROUND 10-20X10<sup>-5</sup> S<sup>-1</sup> IS SEEN OVER SOUTHEAST BOB & ADJOINING EQUATORIAL INDIAN OCEAN. VERTICAL WIND SHEAR (VWS) IS

LOW (05-10 KNOTS) OVER ENTIRE BOB AND ANDAMAN SEA. UPPER TROPOSPHERIC RIDGE RUNS ALONG 16°N IN ASSOCIATION WITH ANTICYCLONIC CIRCULATION OVER BANGLADESH IN 100-250 HPA LEVELS.

MOST OF THE MODELS ARE INDICATING NEARLY WESTWARDS MOVEMENT OF THE EXISTING CYCLONIC CIRCULATION OVER SOUTHWEST BOB DURING NEXT 2 DAYS WITH NO SIGNIFICANT INTENSIFICATION.

MODELS LIKE IMD GFS, NCEP GFS AND ECMWF ARE INDICATING DEVELOPMENT OF A FRESH CYCLONIC CIRCULATION OVER SOUTHWEST BOB. HOWEVER, GFS GROUP OF MODELS ARE INDICATING FURTHER INTENSIFICATION OF SYSTEM INTO A DEPRESSION DURING 13<sup>TH</sup> TO 15<sup>TH</sup>. IMD GFS IS ALSO INDICATING FURTHER INTENSIFICATION OF THIS SYSTEM INTO A DEEP DEPRESSION AND CROSSING OVER AP COAST ON 17<sup>TH</sup>. IT IS ALSO INDICATING A SYSTEM TO MOVE ACROSS SOUTHERN PENINSULAR REGION AND EMERGE INTO EASTCENTRAL AS AROUND 19<sup>TH</sup> AND MOVE WEST-NORTHWESTWARDS WITH SLIGHT INTENSIFICATION. NCEP GFS IS INDICATING HIGHER INTENSIFICATION OF THIS SYSTEM AND CROSSING OVER NORTH TAMILNADU-SOUTH AP COAST AROUND 15<sup>TH</sup>. IT IS ALSO INDICATING SIMILAR FEATURES W.R.T EMERGENCE OF THIS SYSTEM INTO EASTCENTRAL AS AND FURTHER WEST-NORTHWESTWARDS MOVEMENT WITH MARGINAL INTENSIFICATION. ECMWF IS NOT INDICATING ANY SIGNIFICANT INTENSIFICATION AND NCUM IS NOT SHOWING ANY SYSTEM CURRENTLY. IN VIEW OF ALL THE ABOVE, IT IS INFERRED THAT THERE IS LIKELIHOOD OF DEVELOPMENT OF A FRESH UPPER AIR CYCLONIC CIRCULATION OVER SOUTHWEST BOB AROUND 12<sup>TH</sup> OCTOBER. IT IS LIKELY TO BECOME MORE MARKED SUBSEQUENTLY.

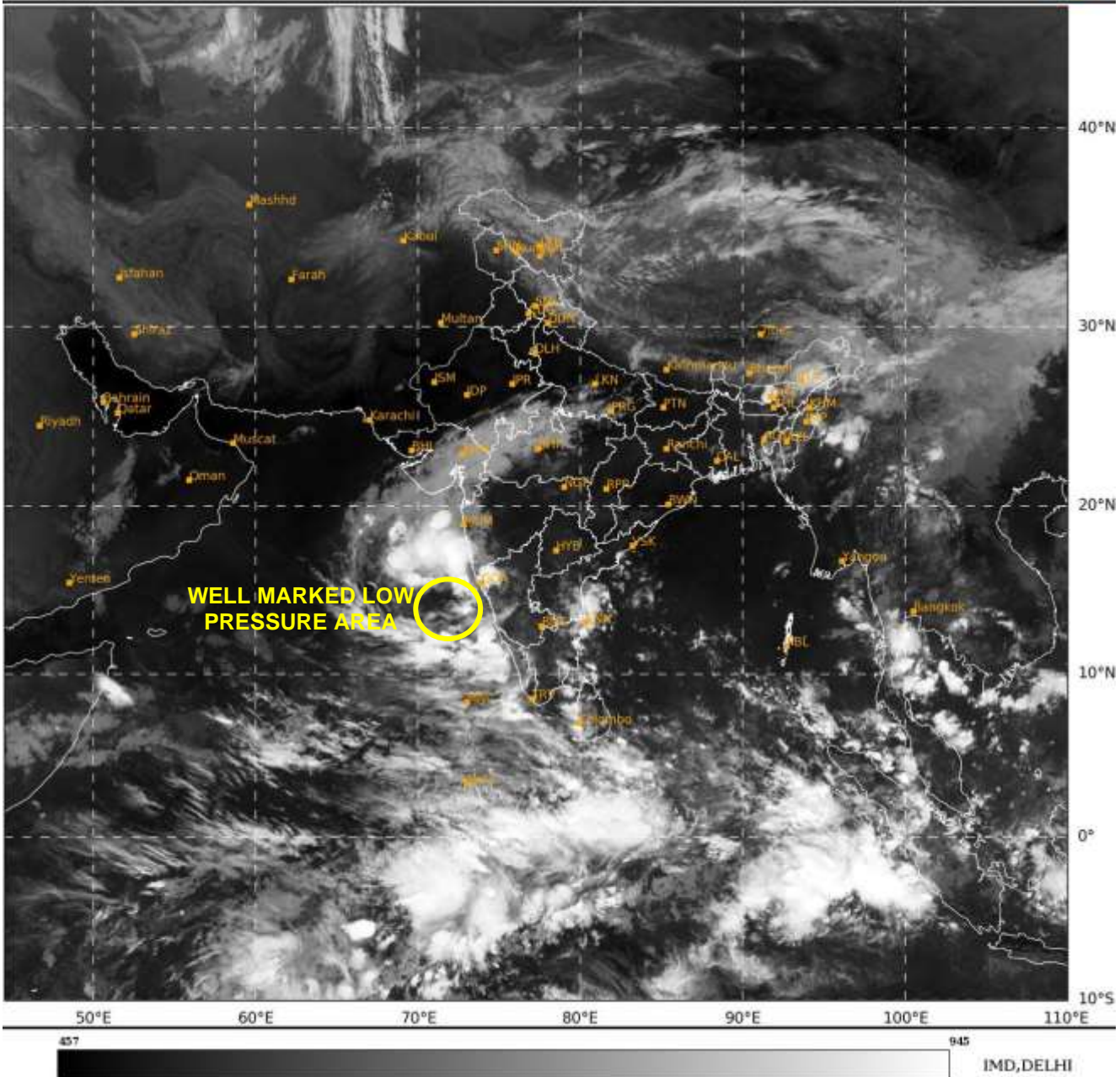
## **ARABIAN SEA (AS)**

THE SEA SURFACE TEMPERATURE (SST) IS 28-30°C OVER THE EASTERN PARTS OF AS, LAKSHADWEEP AND COMORIN AREA. BELOW 27°C OVER THE WESTCENTRAL AND SOUTHWEST PARTS OF AS. THE TCHP IS 50-60 KJ/CM<sup>2</sup> OVER LAKSHADWEEP & ADJOINING AREAS OF 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. VORTICITY AND HAS INCREASED AND ALSO ORGANIZED DURING PAST 24 HOURS AND IS AROUND 50-60 X 10<sup>-5</sup> OVER EASTCENTRAL & ADJOINING SOUTHEAST AS AND LAKSHADWEEP WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL. FURTHER IT IS GETTING DETACHED FROM ITCZ. ANOTHER ZONE OF POSITIVE LOW-LEVEL VORTICITY OF 30-40 X 10<sup>-5</sup> IS SEEN OVER SOUTHEAST AS & ADJOINING COMORIN AREA AND OVER WESTCENTRAL AS. POSITIVE NORTH-SOUTH ORIENTED LOW-LEVEL CONVERGENCE (5-10 X 10<sup>-5</sup> S<sup>-1</sup>) IS SEEN OVER EASTCENTRAL AS AND ADJOINING LAKSHADWEEP AREA. A NORTH-SOUTH ORIENTED ZONE OF POSITIVE UPPER-LEVEL DIVERGENCE (5-10 X 10<sup>-5</sup> S<sup>-1</sup>) IS SEEN OVER EASTCENTRAL AND LAKSHADWEEP AREA. CONVERGENCE AND DIVERGENCE ZONES ARE OVER THE SAME AREA. VERTICAL WIND SHEAR (VWS) IS MODERATE (10-20 KNOTS) OVER

EASTCENTRAL AS AND HIGH OVER NORTH & SOUTH AS. UPPER TROPOSPHERIC RIDGE RUNS ALONG 18°N IN 250-350 HPA LEVEL IN ASSOCIATION WITH ANTICYCLONIC CIRCULATION OVER SOUTH MAHARASHTRA.

VARIOUS MODELS INCLUDING (IMD GFS, NCEP GFS, NCUM AND ECMWF) ARE INDICATING FORMATION OF DEPRESSION DURING 12<sup>TH</sup> TO 14<sup>TH</sup> OCTOBER. HOWEVER, NCEP GFS IS INDICATING FURTHER INTENSIFICATION OF THE SYSTEM INTO A CYCLONIC STORM. OTHER MODELS ARE NOT INDICATING HIGHER INTENSIFICATION. BUT THERE IS A CONSENSUS AMONG ALL MODELS THAT THE SYSTEM WOULD WEAKEN OVER WESTCENTRAL AS AND REACH 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, THE WELL LOW-PRESSURE AREA OVER EASTCENTRAL ARABIAN SEA OFF KARNATAKA AND GOA COASTS IS LIKELY TO INTENSIFY INTO A DEPRESSION OVER CENTRAL AS DURING NEXT 2-3 DAYS. HENCE PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION) IS TAKEN AS LOW TO MODERATE DURING NEXT 2-3 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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