



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

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 11.10.2024

TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 168 HOURS ISSUED AT 0700 UTC OF 11.10.2024 BASED ON 0300 UTC OF 11.10.2024.

BAY OF BENGAL:

A CYCLONIC CIRCULATION LAY OVER SOUTHWEST BOB OFF TAMIL NADU COAST AT 0300 UTC OF 10TH OCTOBER, 2024. IT LAY OVER SOUTH TAMIL NADU & NEIGHBOURHOOD EXTENDING UPTO 4.5 KM ABOVE MEAN SEA LEVEL AT 0300 UTC OF TODAY, THE 11TH OCTOBER, 2024.

ANOTHER CYCLONIC CIRCULATION LAY OVER CENTRAL PARTS OF SOUTH BAY OF BENGAL AT 0300 UTC OF TODAY, THE 11TH OCTOBER, 2024.

SCATTERED TO BROKEN LOW & MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTH BAY OF BENGAL, SOUTH OF LAT 10.0N AND ADJOINING EQUATORIAL INDIAN OCEAN (MINIMUM CLOUD TOP TEMPERATURE MINUS 80-93 DEG CELCIUS). SCATTERED LOW & MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION LAY OVER WESTCENTRAL BAY OF BENGAL OFF ANDHRA PRADESH COAST & 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	LOW	NIL	NIL	NIL

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

ARABIAN SEA:

YESTERDAY'S WELL MARKED LOW PRESSURE AREA OVER EASTCENTRAL ARABIAN SEA OFF KARNATAKA GOA COASTS MOVED NORTHWESTWARDS AND LAY OVER EASTCENTRAL AS OFF MAHARASHTRA COAST AT 0300 UTC OF TODAY, THE 11TH OCTOBER 2024 WITH ASSOCIATED CYCLONIC CIRCULATION EXTENDING UPTO 5.8 KM ABOVE MEAN SEA LEVEL. IT IS LIKELY TO MOVE WEST-NORTHWESTWARDS AND INTENSIFY INTO A DEPRESSION OVER CENTRAL ARABIAN SEA BY MORNING OF 13TH OCTOBER, 2024.

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

LATEST SATELLITE IMAGERY INDICATES SLIGHT DISORGANISATION OF THE CLOUD MASS ASSOCIATED WITH THE SYSTEM AND CLOUD MASS IS EAST-WEST ORIENTED. 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 AND GULF OF CAMBAY.

CURRENT SYNOPTIC OBSERVATIONS INDICATE THAT THE WELL MARKED LOW-PRESSURE AREA IS LOCATED NEAR 16.5⁰ N & 72.0⁰ E OVER EASTCENTRAL AS. ASSOCIATED ESTIMATED CENTRAL PRESSURE IS 1004 HPA. RATNAGIRI (MAHARASHTRA) REPORTED MEAN SEA LEVEL PRESSURE OF 1007.9 WITH ASSOCIATED MAXIMUM SUSTAINED WIND SPEED OF 110⁰/05 KTS.

SCATTERED TO BROKEN LOW & MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER EASTCENTRAL & SOUTHEAST ARABIAN SEA LAKSHADWEEP ISLANDS AREA, MALDIVES & COMORIN AREA (MINIMUM CLOUD TOP TEMPERATURE MINUS 70-90 DEG CELCIUS). SCATTERED LOW & MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION LAY OVER SOUTHWEST ARABIAN SEA AND WEAK TO MODERATE CONVECTION LAY OVER WESTCENTRAL & NORTHEAST ARABIAN SEA, GULF OF CAMBAY AND GULF OF KUTCH.

***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	MOD	HIGH	-	-	NIL	NIL

*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 CLOSE TO 1, AND IS EXPECTED TO MOVE ACROSS PHASE 4 DURING THE SUBSEQUENT 7 DAYS WITH AMPLITUDE BECOMING MORE THAN 1 FROM 12TH 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 13TH TO 15TH OCTOBER. THE MODEL IS ALSO INDICATING ENHANCED 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/CM² OVER THE NORTHERN AND OFF THE COASTS OF WEST BENGAL, BANGLADESH & MYANMAR, OVER WESTCENTRAL & ADJOINING SOUTHWEST BOB AND SOUTH ANDAMAN SEA, 80-100 KJ/CM² OVER SOUTHEAST BOB & ADJOINING EQUATORIAL INDIAN OCEAN WHILE IT IS BELOW 50 KJ/CM² OVER REMAINING PARTS OF THE BOB. A ZONE OF POSITIVE CYCLONIC VORTICITY OF 50-60 X 10⁻⁵ IS SEEN OVER SOUTHWEST BOB & ADJOINING EQUATORIAL INDIAN OCEAN. POSITIVE LOW-LEVEL CONVERGENCE IS AROUND 10-20X10⁻⁵ S⁻¹ IS SEEN OVER SOUTHWEST BOB & ADJOINING EQUATORIAL INDIAN OCEAN. POSITIVE UPPER-LEVEL DIVERGENCE IS AROUND 30X10⁻⁵ S⁻¹ IS SEEN OVER SOUTHWEST 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 10°N IN ASSOCIATION WITH ANTICYCLONIC CIRCULATION OVER GULF OF THAILAND IN 100-250 HPA LEVELS.

IMD GFS IS PREDICTING THE EVOLUTION OF THE UPCOMING LOW PRESSURE SYSTEM VERY DIFFERENTLY FROM OTHER MODELS. THE MODEL FORECASTS INDICATE FORMATION OF A LOW PRESSURE AREA OVER SOUTHEAST BOB AROUND 13TH. THEREAFTER, THE SYSTEM IS LIKELY TO MOVE NORTHWESTWARDS AND INTENSIFY RAPIDLY INTO A DEPRESSION ON 14TH AND A SEVERE CYCLONIC STORM ON 15TH. IT IS LIKELY TO CROSS TAMIL NADU COAST ON 15TH OCTOBER. AS A CYCLONIC STORM. THE OTHER MODELS E.G., NCEP-GFS, ECMWF AND NCUM DO NOT PORTRAY ANY SUCH INTENSIFICATION OF THE SYSTEM. ECMWF PREDICTED ON A LOW PRESSURE AREA REACHING SOUTH ANDHRA PRADESH COAST ON 16TH AND IN NCEP-GFS FORECASTS THE SYSTEM IS LIKELY TO BECOME A DEPRESSION AND CROSS TAMIL NADU COAST ON 17TH OCTOBER.

GFS GROUP OF MODELS AND ECMWF INDICATE THAT THE LOW PRESSURE SYSTEM IS LIKELY TO EMERGE OVER ARABIAN SEA MOVING ACROSS PENINSULAR INDIA. THERE IS VARIATION IN THE TIME OF EMERGENCE BETWEEN 18TH AND 19TH. AFTER IT EMERGES OVER EASTCENTRAL AS, THE SYSTEM IS LIKELY TO PERSISTS AND RE-INTENSIFY FURTHER. INTO A WELL MARKED LOW PRESSURE AREA ALONG WITH ITS NOTHWESTWARDS MOVEMENT.

ARABIAN SEA (AS)

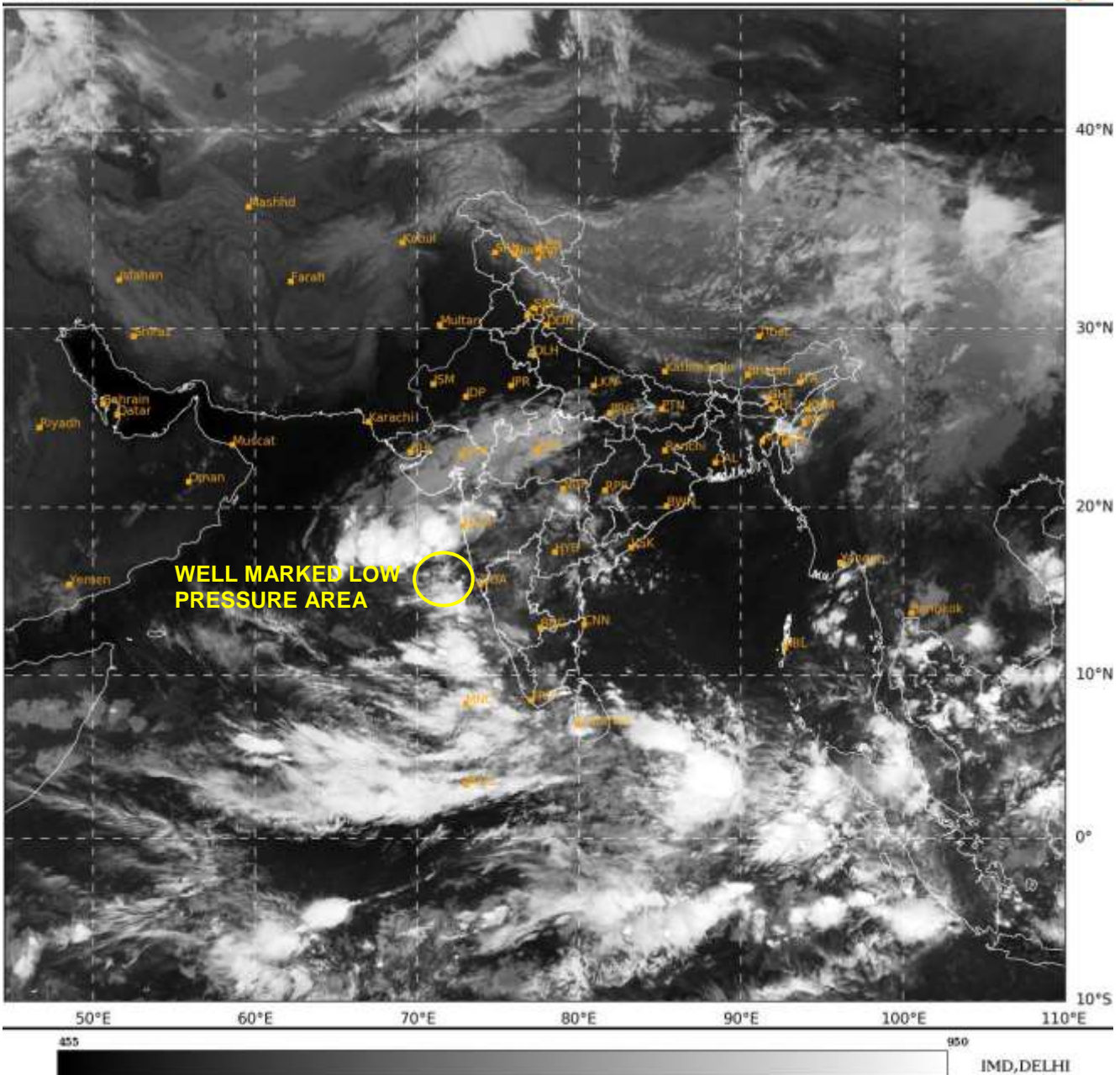
THE SEA SURFACE TEMPERATURE (SST) IS 28-30°C OVER THE EASTERN PARTS OF AS, LAKSHADWEEP AND COMORIN AREA. BELOW 27°C OVER THE WESTCENTRAL AND SOUTHWEST PARTS OF AS. THE TCHP IS 50-60KJ/CM² OVER LAKSHADWEEP & ADJOINING AREAS OF EASTCENTRAL AND SOUTHEAST AS AND >100 KJ/CM² OVER THE CENTRAL PARTS OF SOUTH AS. IT IS <50 KJ/CM² OVER WESTCENTRAL AS AND OFF OMAN COAST. VORTICITY HAS SLIGHTLY DECREASED DURING PAST 24 HOURS AND IS AROUND 50-60 X 10⁻⁵ OVER EASTCENTRAL & ADJOINING SOUTHEAST AS WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL. ANOTHER ZONE OF POSITIVE LOW-LEVEL VORTICITY OF 40-50 X 10⁻⁵ IS SEEN OVER SOUTHEAST AS & ADJOINING COMORIN AREA. POSITIVE EAST-WEST ORIENTED LOW-LEVEL CONVERGENCE (10-20 X10⁻⁵ S⁻¹) IS SEEN OVER EASTCENTRAL AS AND ADJOINING LAKSHADWEEP AREA. POSITIVE

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

UPPER-LEVEL DIVERGENCE HAS INCREASED AND IS AROUND $10-20 \times 10^{-5} \text{ S}^{-1}$ OVER EASTCENTRAL AS. CONVERGENCE AND DIVERGENCE ZONES ARE OVER THE SAME AREA. VERTICAL WIND SHEAR (VWS) IS MODERATE (10-15 KNOTS) OVER EASTCENTRAL AS AND HIGH OVER REMAINING AS. UPPER TROPOSPHERIC RIDGE RUNS ALONG 18.5°N IN 250-350 HPA LEVEL.

VARIOUS MODELS INCLUDING (IMD GFS, NCEP GFS, NCUM AND ECMWF) ARE INDICATING LIKELY FORMATION OF DEPRESSION BY 13TH OCTOBER OVER CENTRAL AS. HOWEVER, THERE ARE VARIATIONS IN THE INTENSITIES PREDICTED BY THE MODELS. NCEP GFS, IMD GFS AND NCUM ARE PREDICTING COMPARATIVELY HIGHER INTENSITY THAN ECMWF MODEL. THERE IS A CONSENSUS AMONG ALL MODELS ABOUT THE MOVEMENT OF THE SYSTEM AFTER IT BECOMES DEPRESSION. AS PER MODEL PREDICTION IT IS LIKELY TO MOVE WEST-NORTHWESTWARDS ACROSS CENTRAL AS TOWARDS OMAN-YEMEN COAST WITH GRADUAL WEAKENING NEAR OMAN-YEMEN COAST AS A WELL MARKED 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 AS OFF MAHARASHTRA COAST IS LIKELY TO MOVE WEST-NORTHWESTWARDS AND INTENSIFY INTO A DEPRESSION OVER CENTRAL ARABIAN SEA BY MORNING (0000 UTC) OF 13TH OCTOBER, 2024. HENCE PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION) IS TAKEN AS MODERATE TO HIGH 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%
This is a guidance Bulletin for WMO/ESCAP Panel Member countries. Visit respective National websites for Country specific Bulletins