



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

**DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 14.10.2024**

**SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 168 HOURS ISSUED AT 0630 UTC OF 14.10.2024 BASED ON 0300 UTC OF 14.10.2024.**

### **ARABIAN SEA:**

#### **SUB: DEPRESSION OVER CENTRAL ARABIAN SEA**

THE DEPRESSION OVER CENTRAL ARABIAN SEA MOVED SLOWLY WEST-NORTHWESTWARDS WITH A SPEED OF 4 KMPH DURING PAST 6 HOURS, AND LAY CENTRED AT 0300 UTC OF TODAY, THE 14TH OCTOBER, 2024 OVER THE SAME REGION NEAR LATITUDE 15.8°N AND LONGITUDE 64.3°E, ABOUT 790 KM SOUTHEAST OF MASIRAH (41288, OMAN), 1100 KM EAST OF SALALAH (41316, OMAN) AND 1310 KM EAST OF AL GHADAH (41398, YEMEN).

IT IS LIKELY TO MOVE WEST-NORTHWESTWARDS TOWARDS OMAN COAST AND WEAKEN GRADUALLY INTO A WELL-MARKED LOW PRESSURE AREA DURING NEXT 24 HOURS.

LATEST SATELLITE IMAGERY AT 0300 UTC INDICATED THAT THE INTENSITY OF THE SYSTEM IS CHARACTERISED AS T1.5. ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER ARABIAN SEA BETWEEN LATITUDE 12.0N TO 23.0N AND LONGITUDE 60.0E TO 68.0E. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 80-90 DEG CELSIUS. MULTI-SATELLITE BASED WINDS INDICATE STRONGER WINDS IN THE NORTHEAST SECTOR.

THE ASSOCIATED ESTIMATED CENTRAL PRESSURE IS 1006 HPA WITH MAXIMUM SUSTAINED WIND SPEED ASSOCIATED WITH THE SYSTEM IS 25 KTS GUSTING TO 35 KTS.

### **WARNINGS:**

#### **(I) WIND WARNING:**

- SQUALLY WIND SPEED REACHING 40-50 KMPH GUSTING TO 60 KMPH IS LIKELY TO PREVAIL OVER CENTRAL PARTS OF ARABIAN SEA TILL 1200 UTC OF 14<sup>TH</sup> OCTOBER AND DECREASE GRADUALLY THEREAFTER.
- SQUALLY WIND SPEED REACHING 35-45 KMPH GUSTING TO 55 KMPH IS LIKELY TO PREVAIL OVER ADJOINING CENTRAL PARTS OF NORTH ARABIAN SEA TILL 1200 UTC OF 14<sup>TH</sup> OCTOBER AND DECREASE GRADUALLY THEREAFTER.

- SQUALLY WIND SPEED REACHING 35-45 KMPH GUSTING TO 55 KMPH IS LIKELY TO PREVAIL OVER WESTCENTRAL ARABIAN SEA FROM 1800 UTC OF 14<sup>TH</sup> TILL 0000 UTC OF 16<sup>TH</sup> AND DECREASE GRADUALLY THEREAFTER.

**(II) SEA CONDITION:**

- ROUGH SEA CONDITIONS IS LIKELY TO PREVAIL OVER CENTRAL PARTS OF ARABIAN SEA TILL 1200 UTC OF 14<sup>TH</sup> AND IMPROVE THEREAFTER.
- ROUGH SEA CONDITION IS LIKELY OVER CENTRAL PARTS OF NORTH ARABIAN SEA TILL 1200 UTC OF 14<sup>TH</sup>.
- ROUGH SEA CONDITION IS LIKELY TO PREVAIL ONLY OVER WESTCENTRAL ARABIAN SEA FROM 1800 UTC OF 14<sup>TH</sup> TO 0000 UTC OF 16<sup>TH</sup> OCTOBER.

**(III) FISHERMEN WARNING:**

FISHERMEN ARE ADVISED NOT VENTURE INTO

- CENTRAL AND ADJOINING NORTH ARABIAN SEA TILL 1200 UTC OF 14<sup>TH</sup> OCTOBER.
- WESTCENTRAL ARABIAN SEA TILL 0000 UTC OF 16<sup>TH</sup> OCTOBER.

**BAY OF BENGAL:**

**SUB: LOW PRESSURE AREA OVER SOUTHEAST BAY OF BENGAL**

THE LOW PRESSURE AREA OVER SOUTHEAST BAY OF BENGAL PERSISTED OVER THE SAME REGION AT 0300 UTC OF TODAY, THE 14TH OCTOBER 2024.

IT IS LIKELY TO MOVE WEST-NORTHWESTWARDS AND BECOME WELL MARKED LOW PRESSURE AREA OVER CENTRAL PARTS OF SOUTH BAY OF BENGAL BY 15TH OCTOBER. THEREAFTER, IT IS LIKELY TO CONTINUE TO MOVE WEST-NORTHWESTWARDS TOWARDS NORTH TAMIL NADU, PUDUCHERRY AND ADJOINING SOUTH ANDHRA PRADESH COASTS DURING SUBSEQUENT 2 DAYS.

THE TROUGH FROM THE LOW PRESSURE AREA OVER SOUTHEAST BAY OF BENGAL TO SOUTH COASTAL ANDHRA PRADESH AND EXTENDS UPTO 7.6 KM ABOVE MEAN SEA LEVEL HAS BECOME LESS MARKED

ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTHEAST BAY OF BENGAL & ADJOINING EQUATORIAL INDIAN OCEAN AND NICOBAR ISLANDS AREA (MINIMUM CLOUD TOP TEMPERATURE IS MINUS 80-93 DEG CEL).

**WARNINGS:**

**(I) WIND WARNING:**

SQUALLY WEATHER WITH WIND SPEED REACHING 35-45 KMPH GUSTING 55 KMPH IS LIKELY TO PREVAIL OVER SOUTHEAST AND ADJOINING SOUTHWEST & CENTRAL BAY OF BENGAL TILL 1200 UTC OF 15<sup>TH</sup>. THEREAFTER, IT IS LIKELY TO INCREASE BECOMING SQUALLY WIND SPEED REACHING 40-50 KMPH GUSTING TO 60 KMPH OVER SOUTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL AND ALONG & OFF TAMIL NADU, PUDUCHERRY AND SOUTH ANDHRA PRADESH COASTS TILL 0300 UTC OF 17<sup>TH</sup> OCTOBER AND DECREASE GRADUALLY THEREAFTER.

**(II) SEA CONDITION:**

MODERATE TO ROUGH SEA CONDITION IS LIKELY TO PREVAIL OVER SOUTHEAST AND ADJOINING SOUTHWEST & CENTRAL BAY OF BENGAL TILL 1200 UTC OF 15<sup>TH</sup>. IT IS LIKELY TO BECOME ROUGH SEA CONDITION THEREAFTER OVER SOUTHWEST & ADJOINING WESTCENTRAL BAY OF BENGAL AND ALONG & OFF TAMIL NADU, PUDUCHERRY AND SOUTH

ANDHRA PRADESH COASTS TILL 0300 UTC OF 17<sup>TH</sup> OCTOBER AND IMPROVE GRADUALLY THEREAFTER.

**(III) FISHERMEN WARNING:**

FISHERMEN ARE ADVISED NOT TO VENTURE INTO

- SOUTHEAST AND ADJOINING CENTRAL BAY OF BENGAL DURING 14<sup>TH</sup> TO 15<sup>TH</sup> OCTOBER.
- SOUTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL FROM 15<sup>TH</sup> TO 17<sup>TH</sup> OCTOBER.
- FISHERMEN OUT AT SEA ARE ADVISED TO RETURN TO COASTS BY TODAY, THE 14<sup>TH</sup> OCTOBER.

**\*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	LOW	MOD	-	-	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 4, WITH AMPLITUDE MORE THAN 1, AND IS EXPECTED TO MOVE ACROSS PHASE 4 DURING NEXT 4 DAYS WITH FURTHER INCREASING AMPLITUDE. THUS, MJO WOULD SUPPORT ENHANCEMENT OF CONVECTIVE ACTIVITY OVER BAY OF BENGAL DURING NEXT 5 DAYS. THE GUIDANCE FROM CICS MODEL INDICATE PRESENCE OF STRONG WESTERLY WINDS (7-9 MPS) OVER SOUTH ARABIAN SEA AND STRONG EASTERLY WINDS (7-9 MPS) OVER CENTRAL ARABIAN SEA ALONGWITH EASTWARD MOVING KELWIN WAVES & MJO AND WESTWARDS MOVING LARGE EQUATORIAL ROSSBY WAVE EXTENDING FROM SOUTH BAY OF BENGAL TO SOUTH ARABIAN SEA DURING NEXT 2 DAYS. THESE FEATURES ARE SUPPORTIVE FOR SUPPORTING CONVECTIVE ACTIVITY OVER THE CENTRAL AS.

SIMILARLY, OVER THE BAY OF BENGAL, CICS BASED FORECAST INDICATES STRONG WESTERLY WINDS (5-7 MPS) OVER SOUTH BOB AND ADJOINING EQUATORIAL INDIAN OCEAN AND STRONG EASTERLY WINDS (5-7 MPS) OVER WESTCENTRAL BAY OF BENGAL. MJO& KELWIN WAVES ALONGWITH ROSSBY WAVES ARE ALSO LIKELY OVER THE BAY OF BENGAL DURING NEXT 8-10 DAYS. THESE FEATURES INDICATE FAVOURABLE ENVIRONMENT FOR CYCLOGENESIS (FORMATION OF DEPRESSION) OVER THE BAY OF BENGAL.

**BAY OF BENGAL (BOB)**

THE SEA SURFACE TEMPERATURE (SST) IS 29-31°C OVER ENTIRE BOB. THE TROPICAL CYCLONE HEAT POTENTIAL (TCHP) OVER >100 KJ/CM<sup>2</sup> OVER WESTCENTRAL & ADJOINING SOUTHWEST BOB AND SOUTH ANDAMAN SEA, 80-100 KJ/CM<sup>2</sup> OVER SOUTHEAST BOB. A ZONE OF POSITIVE CYCLONIC VORTICITY OF 60-80 X 10<sup>-5</sup> IS SEEN OVER SOUTH BOB. TWO ZONES OF POSITIVE LOW-LEVEL CONVERGENCE AROUND 10-15X10<sup>-5</sup> S-1 IS SEEN OVER SOUTHWEST BOB AND ANOTHER 15-20X10<sup>-5</sup> S-1 OVER SOUTHEAST BOB. POSITIVE UPPER-LEVEL DIVERGENCE IS AROUND 10-20X10<sup>-5</sup> S-1 OVER SOUTH BOB & ADJOINING EQUATORIAL INDIAN OCEAN AND ANOTHER ZONE OF 30X10<sup>-5</sup> S-1 IS SEEN OVER NORTH TAMILNADU & ADJOINING SOUTH ANDHRA PRADESH COAST, VERTICAL WIND SHEAR (VWS) IS LOW (10-15 KNOTS) OVER CENTRAL AND ADJOINING AREAS OF SOUTH BAY OF BENGAL (OVER THE SSYSTEM AREA). UPPER TROPOSPHERIC RIDGE RUNS ALONG 20°N. THE EAST-SOUTHEASTERLY WINDS

PREVAILING OVER SOUTH BAY OF BENGAL ARE INDICATING WEST-NORTHWESTWARDS MOVEMENT OF SYSTEM. MULTI-SATELLITE WINDS INDICATE STRONGER WINDS IN THE SOUTHWEST SECTOR. CURRENT ENVIRONMENTAL FEATURES ARE SUPPORTIVE FOR CYCLOGENESIS (FORMATION OF DEPRESSION) OVER CENTRAL PARTS OF SOUTH BAY OF BENGAL.

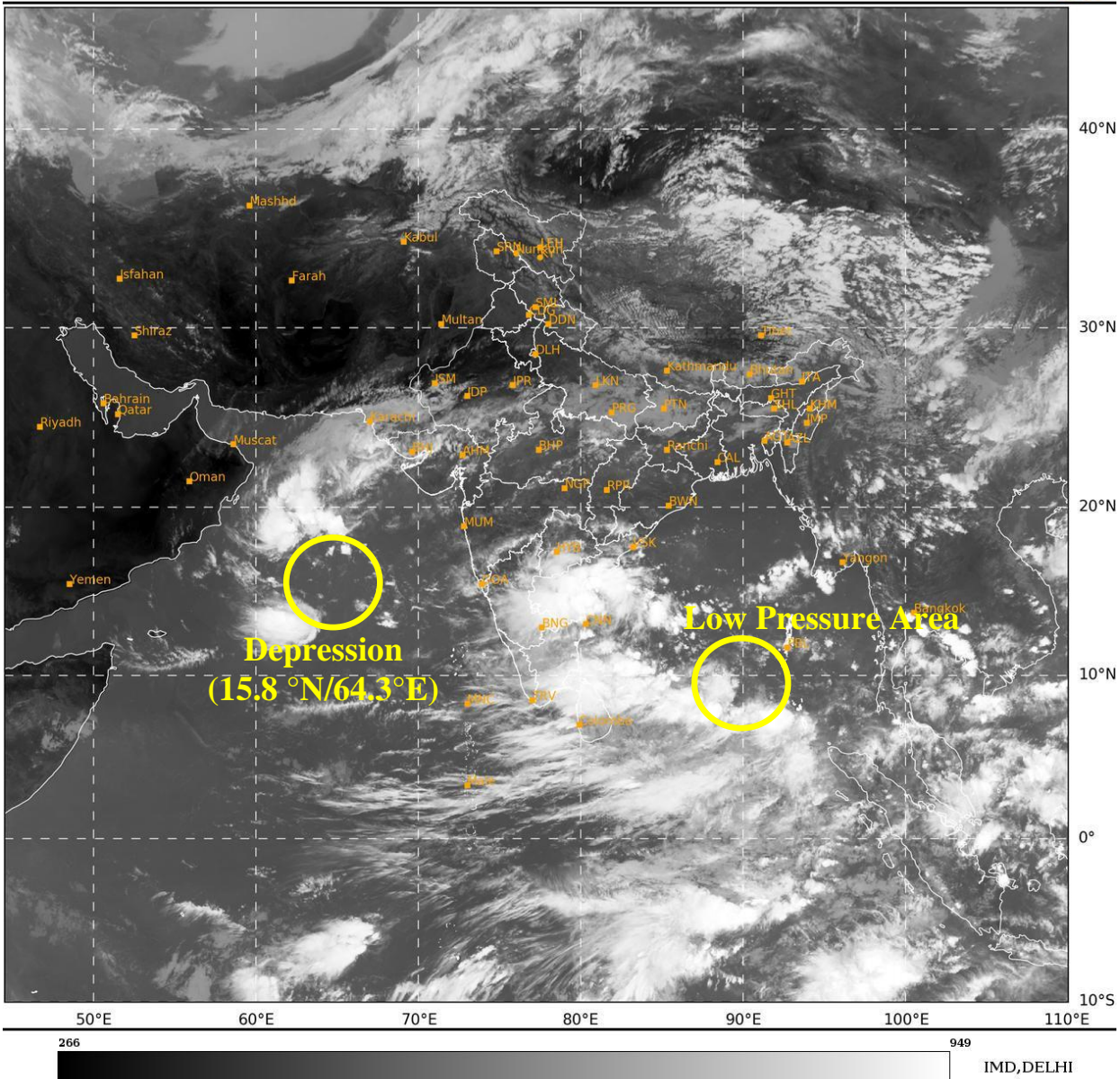
#### **ARABIAN SEA (AS)**

THE SEA SURFACE TEMPERATURE (SST) IS 28-30°C OVER EASTCENTRAL AS. AROUND 27°C OVER THE WESTCENTRAL AND SOUTHWEST PARTS OF AS. THE TROPICAL CYCLONE HEAT POTENTIAL IS 60-70KJ/CM<sup>2</sup> OVER EASTCENTRAL AS AND IT IS LESS THAN 50 KJ/CM<sup>2</sup> OVER WESTCENTRAL AS & OFF OMAN COAST. TOTAL PRECIPITABLE WATER IMAGERY INDICATE CONTINUOUS WARM MOIST AIR INTRUSION INTO THE CORE. HOWEVER, AS THE SYSTEM ENTERS, WESTCENTRAL AS, COLD DRY AIR INTRUSION WOULD COMMENCE AND TROPICAL CYCLONE HEAT POTENTIAL WOULD ALSO BECOME LESS THAN 50 KJ/CM<sup>2</sup>.

LOW-LEVEL VORTICITY IS THE SAME DURING PAST 24 HOURS AND IS AROUND 50-60 X 10<sup>-5</sup> OVER THE SYSTEM AREA WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL. LOW-LEVEL CONVERGENCE IS SAME IN PAST 24 HOURS AND IS AROUND 05-10X10<sup>-5</sup>S<sup>-1</sup> OVERSYSTEM AREA. POSITIVE UPPER-LEVEL DIVERGENCE IS HAS DECREASED AND IS AROUND 10X10<sup>-5</sup> S<sup>-1</sup> TO THE NORTHWEST OF SYSTEM AREA. DEEP LAYER WIND SHEAR (VWS) IS LOW TO MODERATE (05-15 KNOTS) OVER SYSTEM AREA AND ALONG THE EXPECTED PATH. LOW LEVEL WINDS INDICATE WELL DEFINED CIRCULATION OVER WESTCENTRAL ARABIAN SEA. MULTI-SATELLITE WINDS INDICATE STRONGER WINDS IN THE NORTHEAST SECTOR. UPPER TROPOSPHERIC RIDGE RUNS ALONG 20°N. THE SYSTEM IS LIKELY TO MOVE WEST-NORTHWESTWARDS UNDER THE INFLUENCE OF EAST-SOUTHEASTERLY WINDS PREVAILING OVER THE SYSTEM AREA. VARIOUS ENVIRONMENTAL FEATURES INDICATE A MODERATELY FAVOURABLE ENVIRONMENT FOR MAINTENANCE OF INTENSITY OF SYSTEM.

***THE NEXT BULLETIN WILL BE ISSUED AT 1000 UTC BASED ON 0600 UTC OF 14<sup>TH</sup> OCTOBER, 2024.***

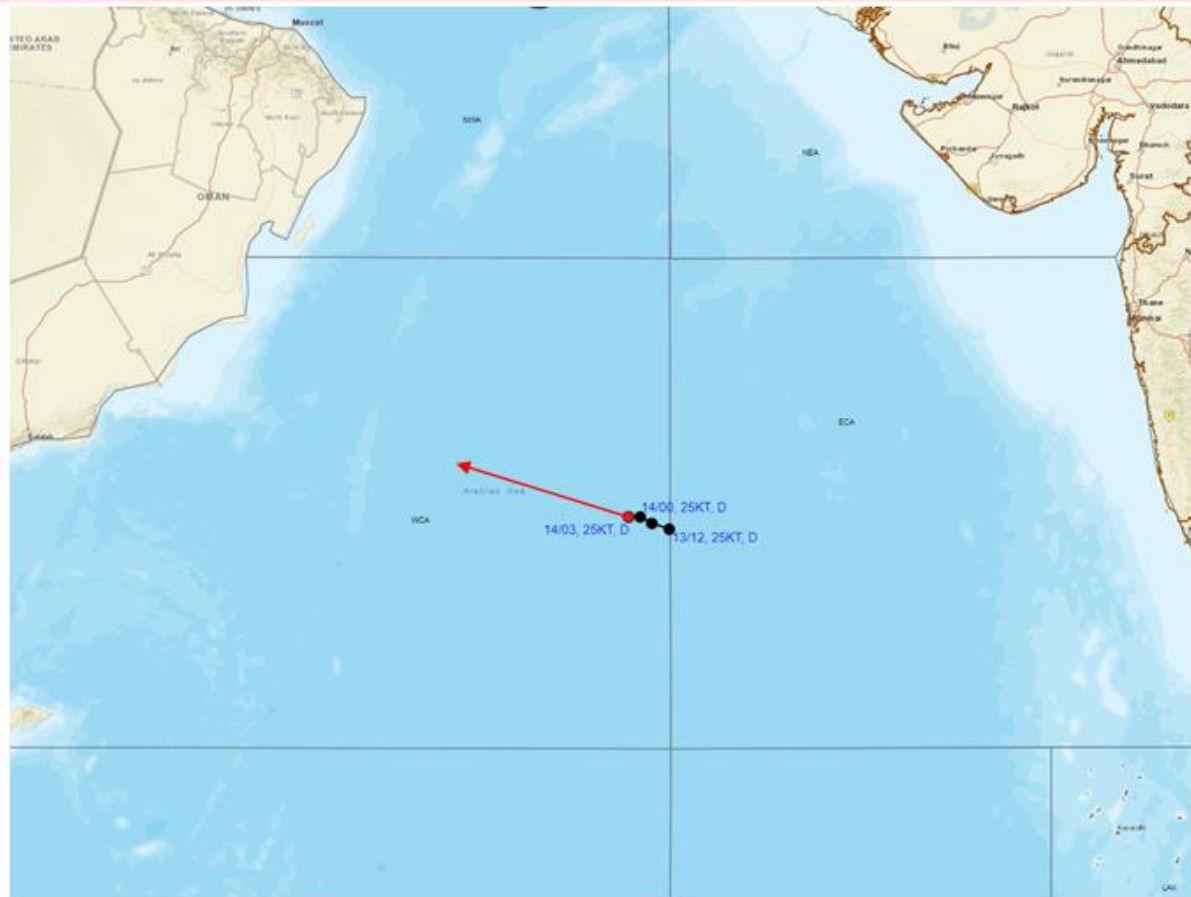
(DR. D. R. PATTANAİK)  
SC. F, RSMC, NEW DELHI



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 DEPRESSION OVER CENTRAL ARABIAN SEA  
BASED ON 0300 UTC (0830 Hrs IST) OF 14<sup>th</sup> OCTOBER, 2024**

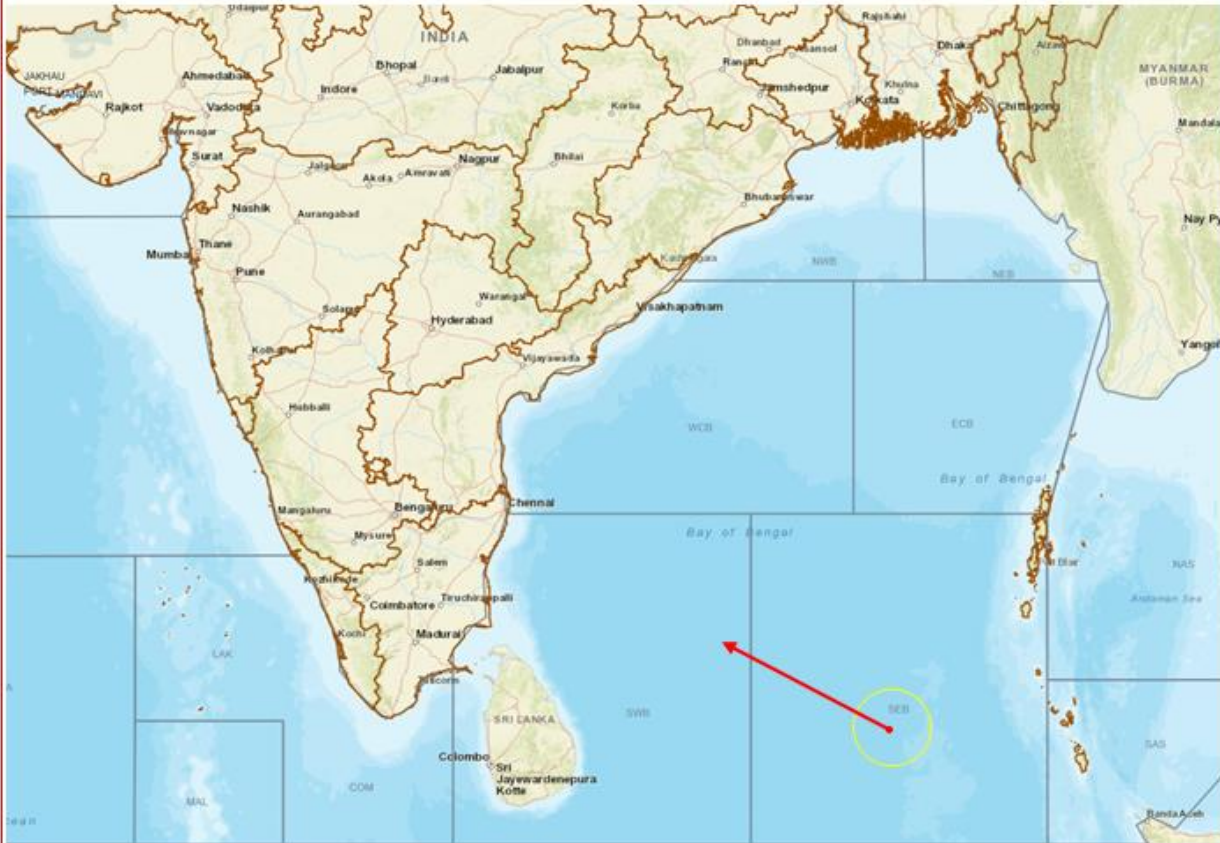


DATE/TIME IN UTC  
 IST=UTC + 0530  
 L: LOW PRESSURE AREA  
 WML: WELL MARKED LOW PRESSURE AREA  
 D: DEPRESSION (17-27 KT)  
 DD: DEEP DEPRESSION (28-33 KT)  
 CS: CYCLONIC STORM (34-47 KT)  
 SCS: SEVERE CYCLONIC STORM (48-63KT)  
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)  
 ESCS: EXTREMELY SEVERE 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



**LOW PRESSURE AREA OVER SOUTHEAST BAY OF BENGAL BASED ON 0300 UTC (0830 Hrs IST) OF 14<sup>th</sup> OCTOBER, 2024**



DATE/TIME IN UTC  
 IST=UTC + 0530  
 L: LOW PRESSURE AREA  
 WML: WELL MARKED LOW PRESSURE AREA  
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 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

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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### Fishermen Warning Graphics

