



## 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 0330 UTC OF 14.10.2024 BASED ON 0000 UTC OF 14.10.2024.**

### **ARABIAN SEA:**

#### **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 0000 UTC OF TODAY, THE 14TH OCTOBER, 2024 OVER THE SAME REGION NEAR LATITUDE 15.8°N AND LONGITUDE 64.5°E, ABOUT 800 KM SOUTHEAST OF MASIRAH (41288, OMAN), 1120 KM EAST OF SALALAH (41316, OMAN) AND 1330 KM EAST OF AL GHAI DAH (41398, YEMEN).

IT IS LIKELY TO MOVE WEST-NORTHWESTWARDS TOWARDS OMAN COAST DURING NEXT 2 DAYS.

LATEST SATELLITE IMAGERY AT 0000 UTC, INDICATED THAT THE INTENSITY OF THE SYSTEM IS CHARACTERISED AS T1.5. ASSOCIATED SCATTERED LOW/MED CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER ARABIAN SEA BETWEEN LATITUDE 10.0N & 23.0N AND LONGITUDE 60.0E & 72.0E. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 80-90 DEG CELSIUS. MULTI-SATELLITE BASED WINDS INDICATE STRONGER WINDS IN THE SOUTHWEST AND NORTHWEST SECTOR.

THE ASSOCIATED ESTIMATED CENTRAL PRESSURE IS 1004 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 EVENING AND DECREASE GRADUALLY THEREAFTER.
- SQUALLY WEATHER WITH WIND SPEED REACHING 35-45 KMPH GUSTING TO 55 KMPH IS LIKELY TO PREVAIL OVER ADJOINING EASTCENTRAL ARABIAN SEA TILL 1200 UTC OF 14<sup>TH</sup> EVENING AND IMPROVE GRADUALLY THEREAFTER.

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

- SQUALLY WIND SPEED REACHING 35-45 KMPH GUSTING TO 55 KMPH IS LIKELY TO PREVAIL OVER WESTCENTRAL ARABIAN SEA FROM 1800 UTC OF 14TH TILL 0000 UTC OF 16th 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 ADJOINING EASTCENTRAL ARABIAN SEA TILL 1200 UTC OF 14<sup>TH</sup> OCTOBER.
- ROUGH SEA CONDITION IS LIKELY TO PREVAIL ONLY OVER WESTCENTRAL ARABIAN SEA FROM 1800 UTC OF 14TH TILL 0000 UTC OF 16<sup>th</sup>.

## **(III) FISHERMEN WARNING:**

FISHERMEN ARE ADVISED NOT VENTURE INTO

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

## **BAY OF BENGAL:**

### **LOW PRESSURE AREA OVER SOUTHEAST BAY OF BENGAL**

LATEST OBSERVATIONS SHOW THAT A LOW PRESSURE AREA FORMED OVER SOUTHEAST BAY OF BENGAL AT 0000 UTC OF TODAY, THE 14TH OCTOBER 2024. IT IS LIKELY TO BECOME WELL MARKED LOW PRESSURE AREA AND MOVE WEST-NORTHWESTWARDS TOWARDS NORTH TAMIL NADU, PUDUCHERRY AND ADJOINING SOUTH ANDHRA PRADESH COASTS DURING NEXT 2 DAYS.

A TROUGH RUNS FROM THE ABOVE LOW PRESSURE AREA OVER SOUTHEAST BAY OF BENGAL TO SOUTH COASTAL ANDHRA PRADESH AND EXTENDS UPTO 7.1 KM ABOVE MEAN SEA LEVEL

SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER CENTRAL BAY OF BENGAL, SOUTH BAY OF BENGAL AND ADJOINING EQUATORIAL INDIAN OCEAN (MINIMUM CTT MINUS 80-93 DEG CEL). SCATTERED LOW AND MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION LAY OVER ANDAMAN SEA GULF OF MARTABAN & TENASSERIM COAST.

## **WARNINGS:**

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

SQUALLY WEATHER WITH WIND SPEED REACHING 35-45 KMPH GUSTING 55 KMPH IS LIKELY TO PREVAIL OVER SOUTHEAST AND ADJOINING CENTRAL BAY OF BENGAL TILL 1200 UTC OF 15<sup>TH</sup>. IT IS LIKELY TO INCREASE BECOMING SQUALLY WIND SPEED REACHING 40-50 KMPH GUSTING TO 60 KMPH TILL 0000 UTC OF 17<sup>TH</sup> OCTOBER AND DECREASE GRADUALLY THEREAFTER.

SQUALLY WIND SPEED REACHING 35-45 KMPH GUSTING TO 55 KMPH IS PREVAILING OVER SOUTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL. IT IS LIKELY TO BECOME 40-50 KMPH GUSTING TO 60 KMPH FROM 1200 UTC OF 15<sup>TH</sup> TILL 17<sup>TH</sup> OCTOBER AND DECREASE GRADUALLY THEREAFTER.

SQUALLY WIND SPEED REACHING 35-45 KMPH GUSTING 55 KMPH IS LIKELY ALONG AND OFF NORTH TAMIL NADU AND SOUTH ANDHRA PRADESH COASTS FROM 0000 UTC OF 15<sup>TH</sup> OCTOBER. IT IS LIKELY TO INCREASE BECOMING SQUALLY WIND SPEED REACHING 40-50 KMPH GUSTING TO 60 KMPH TILL 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 CENTRAL BAY OF BENGAL TILL 1200 UTC OF 15<sup>TH</sup>. IT IS LIKELY TO BECOME ROUGH SEA CONDITION TILL 0000 UTC OF 17<sup>TH</sup> OCTOBER AND IMPROVE GRADUALLY THEREAFTER.

MODERATE TO ROUGH SEA CONDITION IS PREVAILING OVER SOUTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL. IT IS LIKELY TO BECOME ROUGH SEA CONDITION FROM 1200 UTC OF 15<sup>TH</sup> TILL 17<sup>TH</sup> OCTOBER AND IMPROVE GRADUALLY THEREAFTER.

MODERATE TO ROUGH SEA CONDITION IS LIKELY ALONG AND OFF NORTH TAMIL NADU AND SOUTH ANDHRA PRADESH COASTS FROM 0000 UTC OF 15<sup>TH</sup> OCTOBER. IT IS LIKELY TO BECOME ROUGH SEA CONDITION TILL 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 16<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 1200 UTC OF TODAY.

## \*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 SUPPORTED MARGINAL INTENSIFICATION OF THE WELL MARKED LOW PRESSURE AREA OVER ARABIAN SEA INTO A DEPRESSION.

## ARABIAN SEA:

THE SEA SURFACE TEMPERATURE (SST) IS 28-30°C OVER EASTCENTRAL IS 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>.

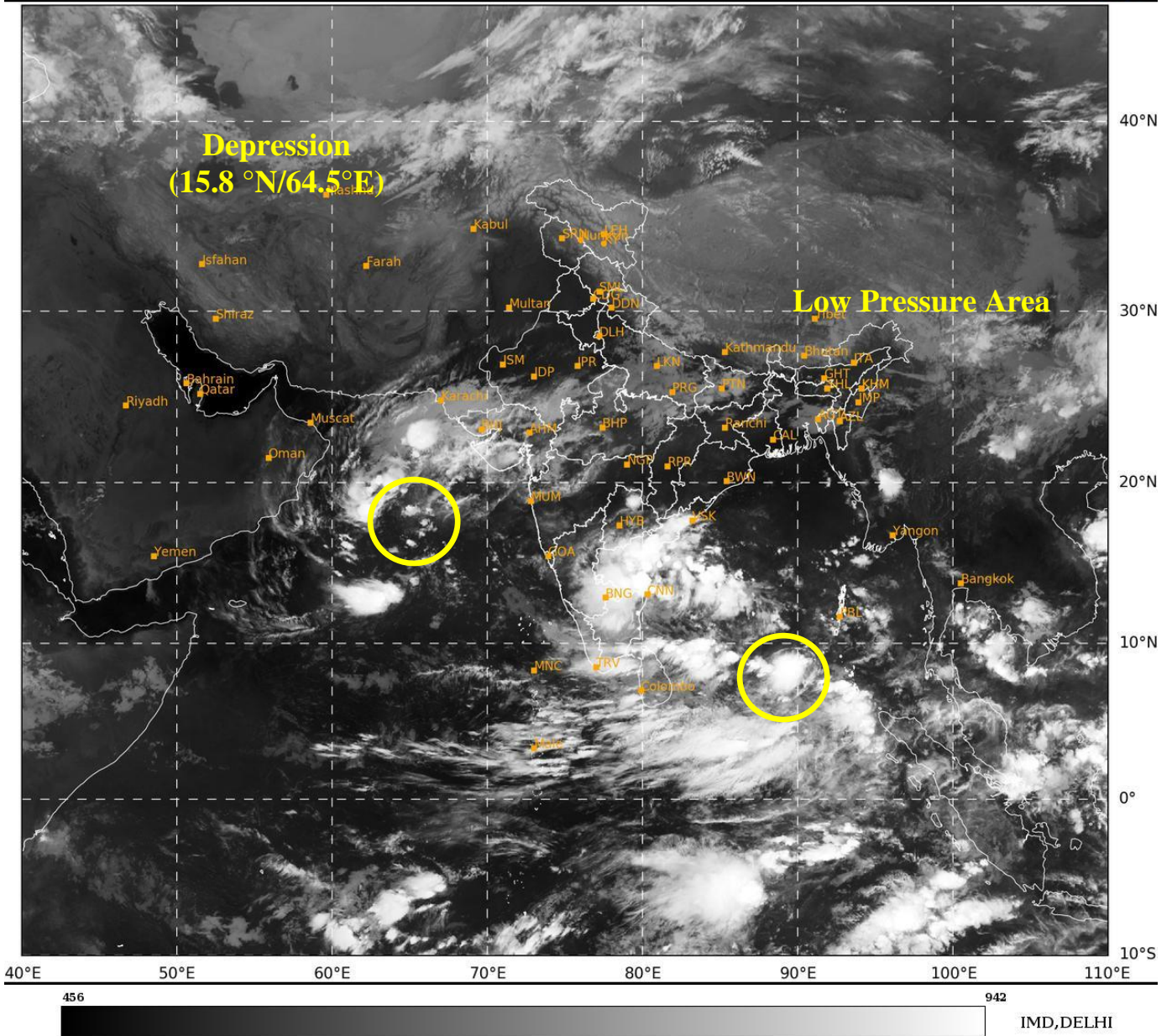
LOW-LEVEL VORTICITY IS AROUND  $50 \times 10^{-5} \text{S}^{-1}$  TO THE SOUTHEAST OF SYSTEM AREA WITH VERTICAL EXTENSION UPTO 200 HPA LEVEL. LOW-LEVEL CONVERGENCE IS AROUND  $05 \times 10^{-5} \text{S}^{-1}$  OVER NORTH EAST OF SYSTEM CENTRE. POSITIVE UPPER-LEVEL DIVERGENCE IS AROUND  $20 \times 10^{-5} \text{S}^{-1}$  OVER NORTHWEST THE SYSTEM AREA. DEEP LAYER WIND SHEAR (VWS) IS LOW TO MODERATE (05-15 KNOTS) OVER NORTH AND NORTHEAST OF THE SYSTEM AREA . 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 MODELS INCLUDING (IMD GFS, NCEP GFS, NCUM AND ECMWF) ARE INDICATING THE SYSTEM TO MAINTAIN ITS INTENSITY AS A DEPRESSION DURING NEXT 24 HOURS AND WEAKEN GRADUALLY THEREAFTER, FROM 15<sup>TH</sup> OCTOBER ONWARDS. THERE IS A CONSENSUS AMONG VARIOUS MODELS REGARDING THE WEST-NORTHWESTWARDS MOVEMENT OF THE SYSTEM TOWARDS OMAN-YEMEN COASTS. THIS FEATURE IS ALSO SUPPORTED BY LOW SST & LOW TCHP AND HIGH WIND SHEAR OVER WESTCENTRAL ARABIAN SEA AND ALONG & OFF OMAN COAST.

CONSIDERING ALL THE ABOVE, THE DEPRESSION OVER CENTRAL ARABIAN SEA IS LIKELY TO MOVE WEST-NORTHWESTWARDS TOWARDS OMAN COAST DURING NEXT 2 DAYS.

**THE NEXT BULLETIN WILL BE ISSUED AT 0700 UTC BASED ON 0300 UTC OF 14TH OCTOBER, 2024.**

(DR. SHASHI KANT)  
SC. D, 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 0000 UTC (0530 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 0000 UTC (0530 Hrs IST) OF 14<sup>th</sup> OCTOBER, 2024**

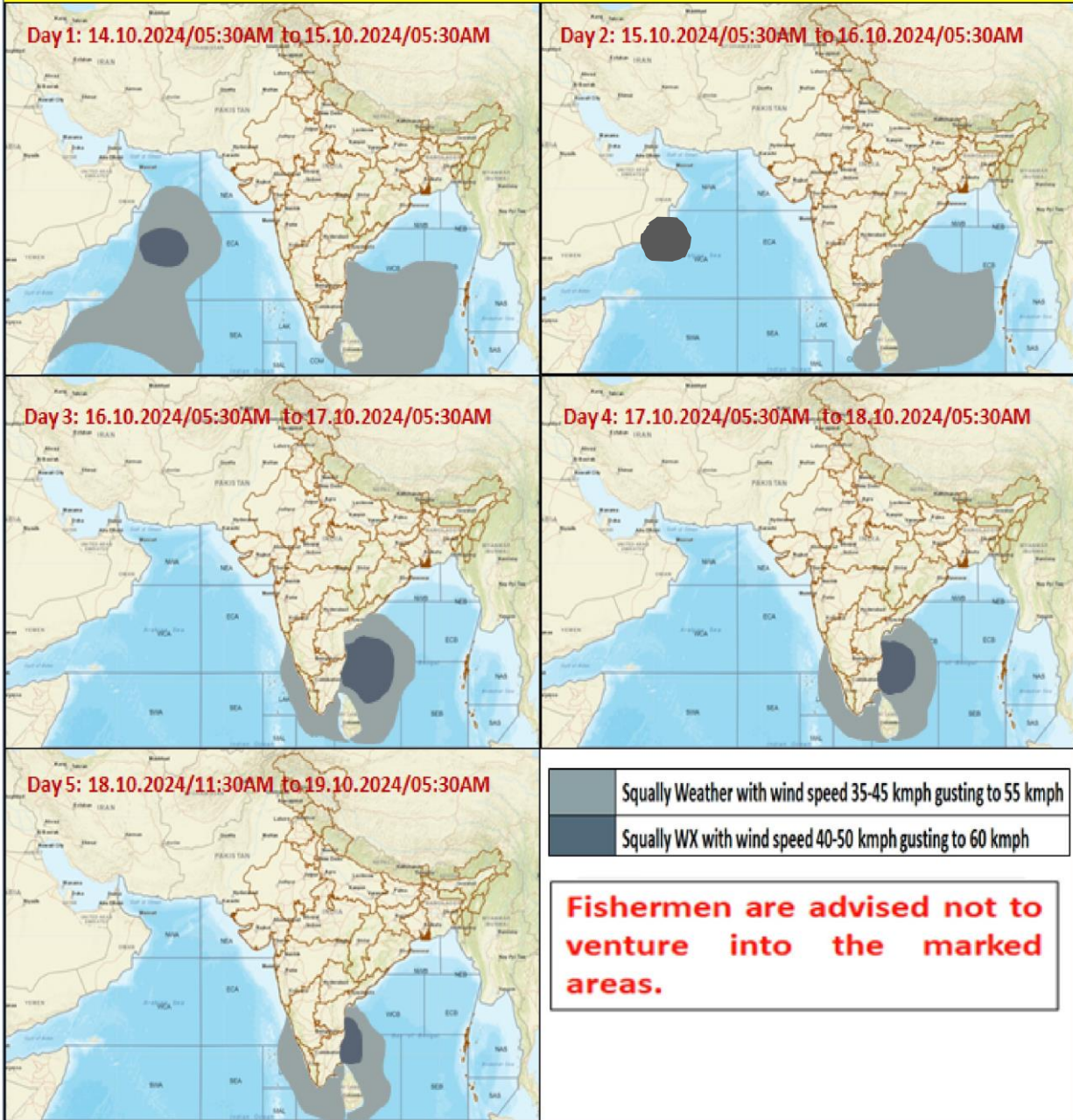


DATE/TIME IN UTC  
 IST=UTC + 0530  
 L: LOW PRESSURE AREA  
 WML: WELL MARKED LOW PRESSURE AREA  
 D: DEPRESSION (17-27 KT)  
 DD: DEEP DEPRESSION (28-33 KT)  
 CS: CYCLONIC STORM (34-47 KT)  
 SCS: SEVERE CYCLONIC STORM (48-63KT)  
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)  
 ESCS: EXTREMELY SEVERE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

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

## Fishermen Warning Graphics



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