



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

**DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 16.10.2024**

**SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 168 HOURS ISSUED AT 0930 UTC OF 16.10.2024 BASED ON 0600 UTC OF 16.10.2024.**

**BAY OF BENGAL:**

**SUB: DEPRESSION OVER SOUTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL**

THE DEPRESSION OVER SOUTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL MOVED WEST-NORTHWESTWARDS WITH A SPEED OF 15 KMPH DURING PAST 6 HOURS AND LAY CENTERED AT 0600 UTC OF TODAY, THE 16TH OCTOBER 2024 OVER THE SAME REGION NEAR LATITUDE 12.5° N AND LONGITUDE 82.7° E, ABOUT 280 KM EAST-SOUTHEAST OF CHENNAI (43279, TAMIL NADU), 320 KM EAST-NORTHEAST OF PUDUCHERRY (43331, PUDUCHERRY) AND 370 KM SOUTHEAST OF NELLORE (43245, ANDHRA PRADESH).

IT IS LIKELY TO MOVE WEST-NORTHWESTWARDS AND CROSS NORTH TAMIL NADU - SOUTH ANDHRA PRADESH COASTS BETWEEN PUDUCHERRY AND NELLORE, CLOSE TO CHENNAI AROUND 0000 UTC OF 17TH OCTOBER.

AT 0600 UTC, THE INSAT-3D IMAGERY INDICATE CLOUD MASS IS SHEARED TO THE NORTHWEST OF SYSTEM CENTRE. INTENSITY OF THE SYSTEM IS CHARACTERISED AS T 1.5. INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER SOUTH COASTAL ANDHRA PRADESH, RAYALSEEMA, SOUTH TELANGANA AND SOUTH INTERIOR KARNATAKA. MODERATE TO INTENSE CONVECTION IS SEEN OVER REST KARNATAKA, KERALA, SOUTH TAMILNADU, LAKSHADWEEP ISLANDS AND NICOBAR ISLANDS. ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER BAY OF BENGAL BETWEEN LATITUDE 9.0N TO 16.0N AND WEST OF LONGITUDE 85.0E AND MINIMUM CLOUD TOP TEMPERATURE IS MINUS 80-93°C.

THE ASSOCIATED ESTIMATED CENTRAL PRESSURE IS 1004 HPA AND MAXIMUM SUSTAINED WIND SPEED WITH THE SYSTEM IS 25 KTS GUSTING TO 35 KTS.

FORECAST TRACK AND INTENSITY ARE GIVEN IN THE FOLLOWING TABLE:

DATE/TIME (UTC)	POSITION (LAT. °N/ LONG. °E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
16.10.24/0600	12.5/82.7	40-50 gusting to 60	Depression
16.10.24/1800	13.0/81.3	40-50 gusting to 60	Depression
17.10.24/0600	13.5/79.7	25-35 gusting to 45	Well Marked Low Pressure Area

## **WARNINGS:**

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

SQUALLY WIND SPEED REACHING 40-50 KMPH GUSTING TO 60 KMPH IS LIKELY TO PREVAIL OVER SOUTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL AND ALONG & OFF TAMIL NADU, PUDUCHERRY AND SOUTH ANDHRA PRADESH COASTS TILL MID-NIGHT OF 16TH OCTOBER AND DECREASE GRADUALLY THEREAFTER BECOMING 35-45 KMPH GUSTING TO 55 KMPH FROM EARLY MORNING OF TOMORROW, THE 17TH OCTOBER.

### **(II) SEA CONDITION:**

ROUGH TO VERY ROUGH SEA CONDITION IS LIKELY TO PREVAIL OVER SOUTHWEST & ADJOINING WESTCENTRAL BAY OF BENGAL AND ALONG & OFF TAMIL NADU, PUDUCHERRY AND SOUTH ANDHRA PRADESH COASTS TILL 0600 UTC OF 17<sup>TH</sup> OCTOBER AND IMPROVE GRADUALLY THEREAFTER.

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

FISHERMEN ARE ADVISED NOT TO VENTURE INTO

- SOUTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL TILL 17<sup>TH</sup> OCTOBER.
- FISHERMEN OUT AT SEA ARE ADVISED TO RETURN TO COASTS.

## **REMARKS:**

OVER THE BAY OF BENGAL, CFS-NCICS 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 5 DAYS. THESE FEATURES MAY SUPPORT CONVECTIVE ACTIVITY OVER WESTCENTRAL BAY OF BENGAL AND SOUTHERN PENINSULAR INDIA. AS PER ECMM BASED MADDEN JULIAN OSCILLATION GUIDANCE, IT IS CURRENTLY IN PHASE 4 WITH AMPLITUDE GREATER THAN 1 AND IS LIKELY TO MOVE TO PHASE 5 DURING SUBSEQUENT 5-6 DAYS WITH AMPLITUDE REMAINING MORE THAN 1. THUS MJO IS FAVOURABLE FOR ENHANCEMENT OF CONVECTIVE ACTIVITY OVER BAY OF BENGAL.

THE SEA SURFACE TEMPERATURE (SST) IS 28-32°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. LOW-LEVEL VORTICITY HAS REDUCED SLIGHTLY AND IS AROUND 60-70X10<sup>-5</sup> S<sup>-1</sup> OVER SOUTHWEST BOB OFF TAMILNADU & NORTH SRILANKA COASTS. POSITIVE LOW-LEVEL CONVERGENCE 20X10<sup>-6</sup> S<sup>-1</sup> OVER SOUTHWEST BOB OFF TAMILNADU COAST TO THE WEST OF SYSTEM CENTRE. POSITIVE UPPER-LEVEL DIVERGENCE IS AROUND 30X10<sup>-6</sup> S<sup>-1</sup> OVER INTERIOR TAMILNADU TO THE WEST OF SYSTEM AREA. VERTICAL WIND SHEAR (VWS) IS LOW TO MODERATE (05-15 KNOTS) OVER CENTRAL AND ADJOINING AREAS OF SOUTH BAY OF BENGAL (AROUND THE SYSTEM AREA). UPPER TROPOSPHERIC RIDGE RUNS ALONG 20<sup>0</sup>N. THE EAST-SOUTHEASTERLY WINDS PREVAILING OVER SOUTH BAY OF BENGAL ARE INDICATING WEST-NORTHWESTWARDS MOVEMENT OF SYSTEM. THE CIMSS BASED LOW-LEVEL WINDS INDICATES CLEAR CIRCULATION OVER WESTCENTRAL & ADJOINING SOUTHWEST BOB WITH AROUND 20-25 KTS WINDS IN 850-950 HPA LAYER. CURRENT ENVIRONMENTAL FEATURES ARE SUPPORTIVE FOR MAINTENANCE OF INTENSITY OF THE SYSTEM OVER SOUTHWEST & ADJOINING WESTCENTRAL BAY OF BENGAL.

IMD GFS INDICATES A DEPRESSION/WELL MARKED LOW PRESSURE AREA OVER SOUTHWEST & ADJOINING WESTCENTRAL BOB AT 16/00. THE FORECAST IS INDICATING SLIGHT WEAKENING OF SYSTEM BEFORE REACHING CHENNAI COAST ON 17/00 UTC. MODEL IS ALSO INDICATING A FRESH LOW PRESSURE AREA OVER EASTCENTRAL BOB ON 21<sup>ST</sup> WITH NORTHWESTWARDS MOVEMENT TOWARDS ODISHA COAST ON 24<sup>TH</sup> OCT.

NCUM IS INDICATING A CYCLONIC CIRCULATION OVER WESTCENTRAL & ADJOINING SOUTHWEST BAY OF BENGAL ON 16<sup>TH</sup> WITH NEARLY WESTWARDS MOVEMENT AND EMERGENCE INTO EASTCENTRAL ARABIAN SEA (AS) ON 18<sup>TH</sup> AS AN EXTENDED LOW AND NEARLY WEST-NORTHWESTWARDS MOVEMENT TOWARDS GULF OF ADEN AS A CYCLONIC CIRCULATION/LOW PRESSURE AREA TILL 29<sup>TH</sup> OCT. IT IS ALSO INDICATING EMERGENCE OF A CYCLONIC CIRCULATION FROM GULF OF THAILAND INTO NORTH ANDAMAN SEA ON 24<sup>TH</sup> OCT, BECOMING LOW PRESSURE AREA (LPA) ON 25<sup>TH</sup> OVER NORTH ANDAMAN SEA & DEPRESSION OVER EASTCENTRAL BOB ON 26<sup>TH</sup> OVER EASTCENTRAL BOB.

NCEP GFS IS INDICATING A LOW PRESSURE AREA OVER WESTCENTRAL BOB ON 16<sup>TH</sup> WITH WESTNORTHWESTWARDS MOVEMENT TOWARDS TAMILNADU COAST ON 17<sup>TH</sup> (13.7/81.2) AND CROSSING COAST AROUND 17/03 AS A LOW PRESSURE AREA & BECOMING LESS MARKED ON 18<sup>TH</sup>. MODEL IS ALSO INDICATING A FRESH LOW PRESSURE AREA ON EASTCENTRAL AS ON 18<sup>TH</sup> WITH WEST-NORTHWESTWARDS MOVEMENT TOWARDS GULF OF ADEN TILL 22<sup>ND</sup> OCT & LESS MARKED THEREAFTER. MODEL IS ALSO INDICATING EMERGENCE OF A LOW PRESSURE AREA/CYCLONIC CIRCULATION INTO NORTH ANDAMAN SEA ON 21<sup>ST</sup> FROM GULF OF THAILAND, BECOMING DEPRESSION OFF SOUTH MYANMAR COAST ON 21/12 UTC, CYCLONIC STORM OVER EASTCENTRAL BOB ON 22/06 UTC, INTENSIFYING FURTHER AND MOVING NEARLY NORTH-NORTHWESTWARDS TILL 22/12 UTC & NORTHWARDS THEREAFTER REACHING BANGLADESH COAST ON 23/18 UTC AS AN INTENSE CYCLONIC STORM.

ECMWF IS INDICATING, DEPRESSION OVER SOUTHWEST & ADJOINING WESTCENTRAL BOB ON 16/00, REACHING TAMILNADU COAST NEAR CHENNAI AROUND 17/03 UTC AS A LOW PRESSURE AREA AND PERSISTING OVER WESTCENTRAL & ADJOINING SOUTHWEST BOB TILL 18/0000 UTC. MODEL IS ALSO INDICATING A FRESH LOW PRESSURE AREA OVER EASTCENTRAL ARABIAN SEA ON 17/12 UTC, MOVING TOWARDS GULF OF ADEN TILL 21<sup>ST</sup> OCT AND LESS MARKED THEREAFTER.

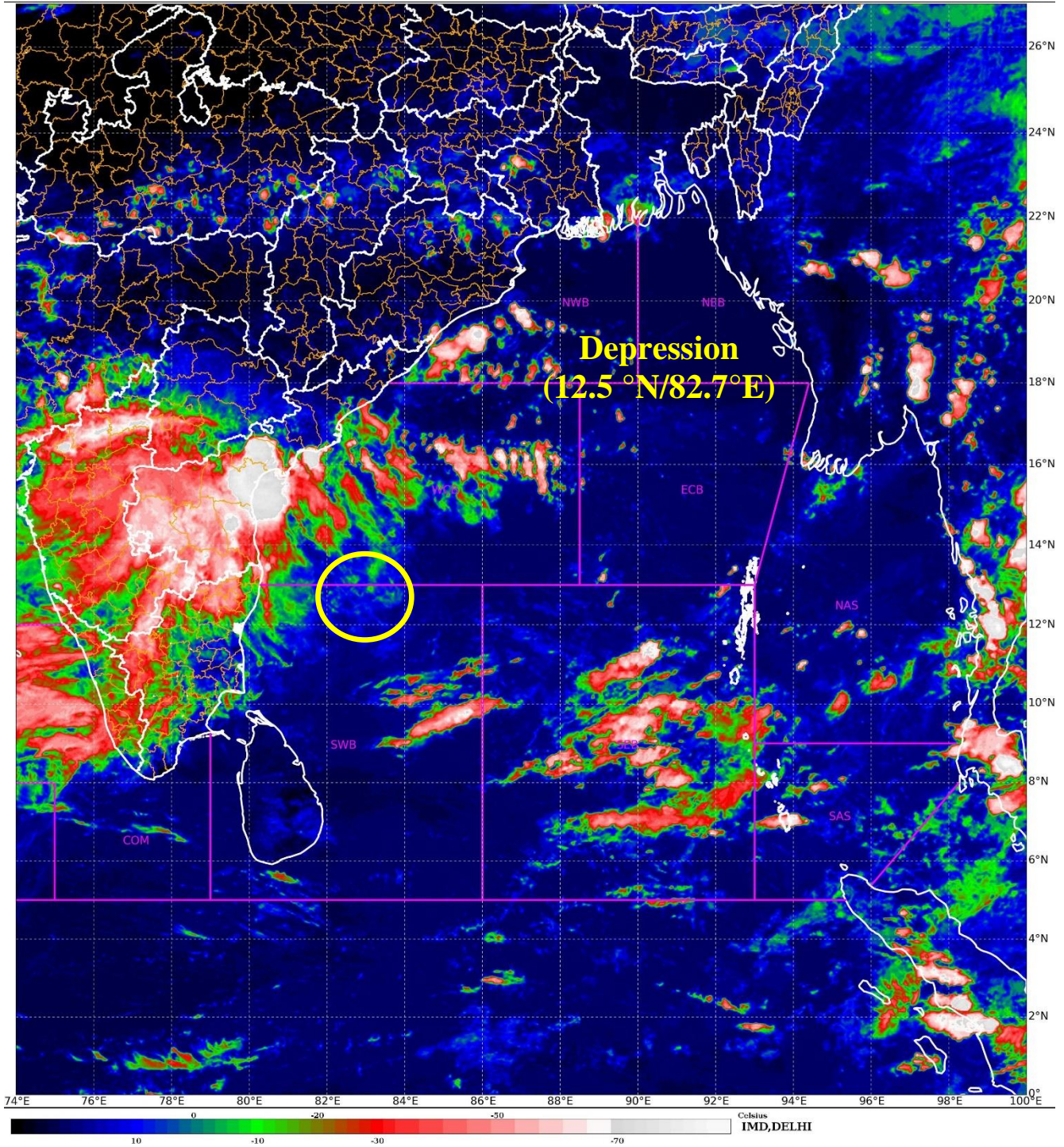
IMD MME IS INDICATING THE EXISTING DEPRESSION OVER OVER SOUTHWEST BOB TO MOVE NEARLY WEST-NORTHWESTWARDS AND CROSS NEAR CHENNAI AROUND 17/02 UTC (13.0/80.2) AS A DEPRESSION/WELL MARKED LOW PRESSURE AREA.

CONSIDERING VARIOUS ENVIRONMENTAL FEATURES AND MODEL GUIDANCE, IT IS INFERRED THAT THE DEPRESSION OVER SOUTHWEST & ADJOINING WESTCENTRAL BAY OF BENGAL IS LIKELY TO MOVE WEST-NORTHWESTWARDS AND CROSS NORTH TAMIL NADU - SOUTH ANDHRA PRADESH COASTS BETWEEN PUDUCHERRY AND NELLORE, CLOSE TO CHENNAI AROUND 0000 UTC OF 17TH OCTOBER.

**THE NEXT BULLETIN WILL BE ISSUED AT 1500 UTC BASED ON 0200 UTC OF 16<sup>TH</sup> OCTOBER, 2024.**

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



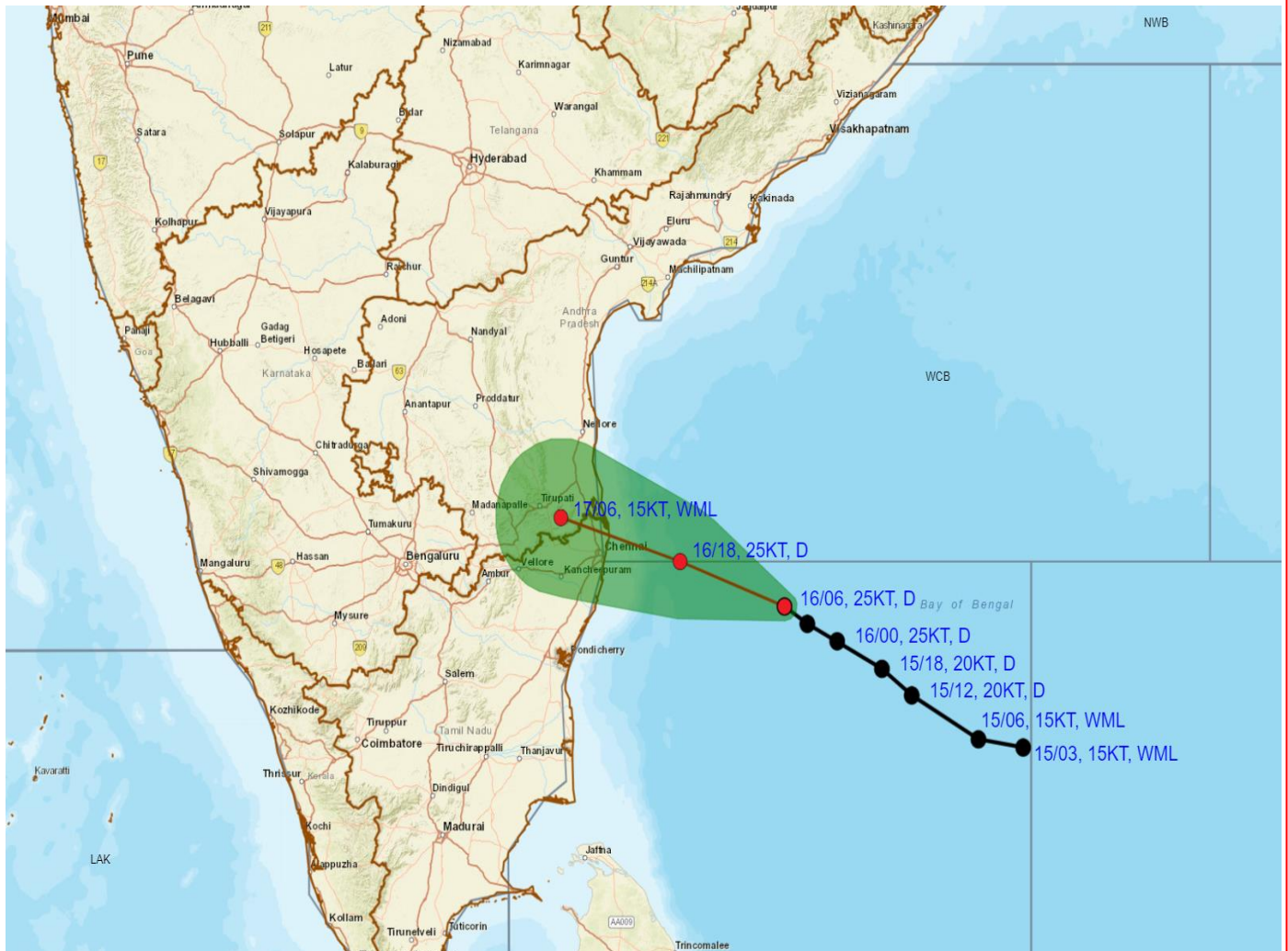


Cloud distribution: (a) Isolated: <25%, Scattered:25-50%, Broken: 51-75%, Solid:>75%, Convection Intensity: (a) Weak: Cloud Top Temperature (CTT) >-25°C, (b) Moderate: CTT: - 25°C to -40°C, (c) Intense: CTT: - 41°C to -70°C and (d) Very Intense: : Less than -70°C  
PROBABILITY OF CYCLOGENESIS (FORMATION 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 ALONGWITH CONE OF UNCERTAINTY (COU) OF DEPRESSION OVER SOUTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL BASED ON 0600 UTC (1130 Hrs. IST) OF 16<sup>th</sup> OCTOBER, 2024



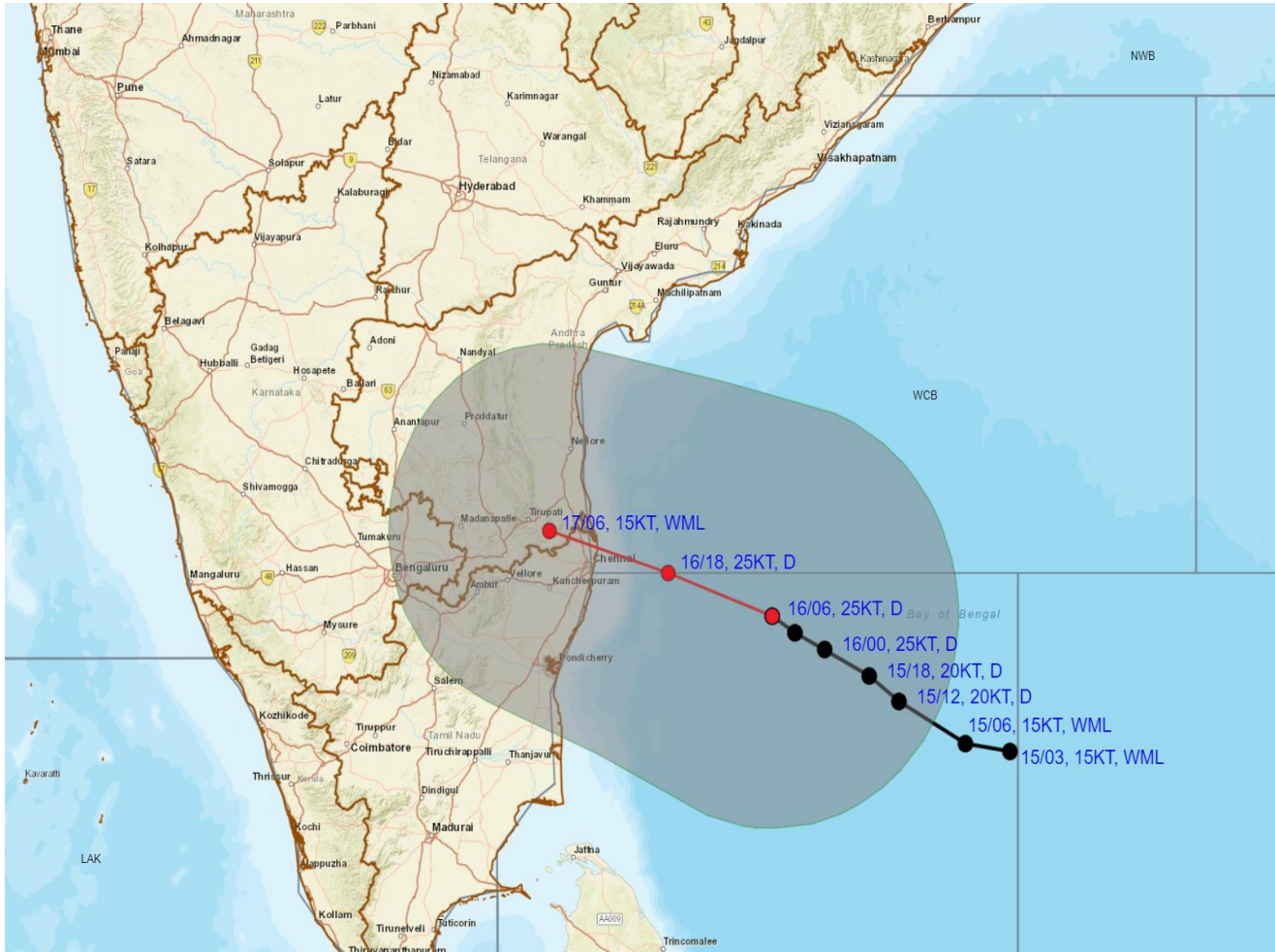
**DATE/TIME IN UTC**  
**IST=UTC + 0530**  
**L: LOW PRESSURE AREA**  
**WML: WELL MARKED LOW PRESSURE AREA**  
**D: DEPRESSION (17-27 KT)**  
**DD: DEEP DEPRESSION (28-33 KT)**  
**CS: CYCLONIC STORM (34-47 KT)**  
**SCS: SEVERE CYCLONIC STORM (48-63KT)**  
**VSCS: VERY SEVERE CYCLONIC STORM (64-89 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%**  
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**OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEPRESSION OVER SOUTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL BASED ON 0600 UTC (1130 Hrs. IST) OF 16<sup>th</sup> OCTOBER, 2024**



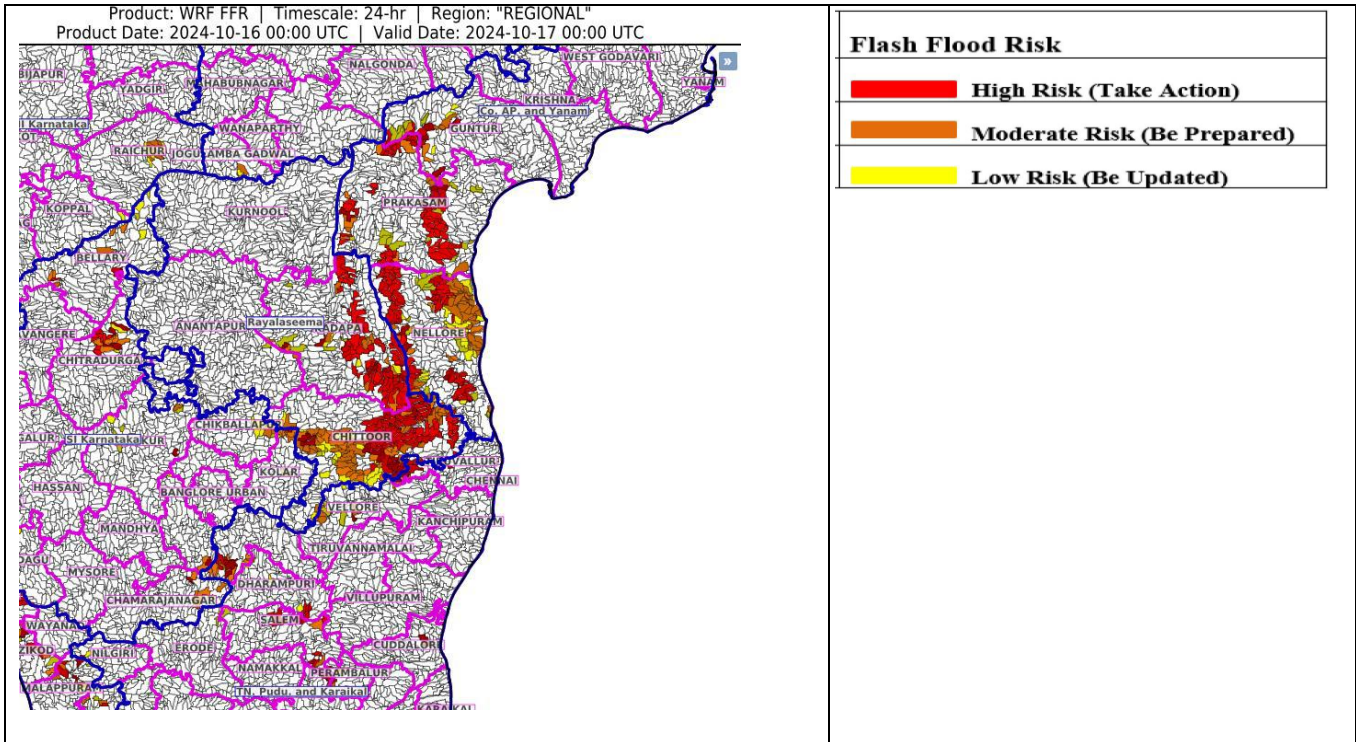
DATE/TIME IN UTC  
 IST=UTC + 0530  
 L: LOW PRESSURE AREA  
 WML: WELL MARKED LOW PRESSURE AREA  
 D: DEPRESSION (17-27 KT)  
 DD: DEEP DEPRESSION (28-33 KT)  
 CS: CYCLONIC STORM (34-47 KT)  
 SCS: SEVERE CYCLONIC STORM (48-63KT)

● LESS THAN 34 KT  
 ○ 34-47 KT  
 ● ≥ 48 KT  
 — OBSERVED TRACK  
 — FORECAST TRACK  
 — CONE OF UNCERTAINTY  
 AREA OF MAXIMUM SUSTAINED WIND SPEED:  
 ■ 20-30 KT (35-55 KMPH)

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  
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## Flash Flood Guidance



**24 hours Outlook for the Flash Flood Risk (FFR) till 0530 IST of 17-10-2024:**

Moderate flash flood risk likely over few watersheds & neighbourhoods of following Met Sub-divisions during next 24 hours

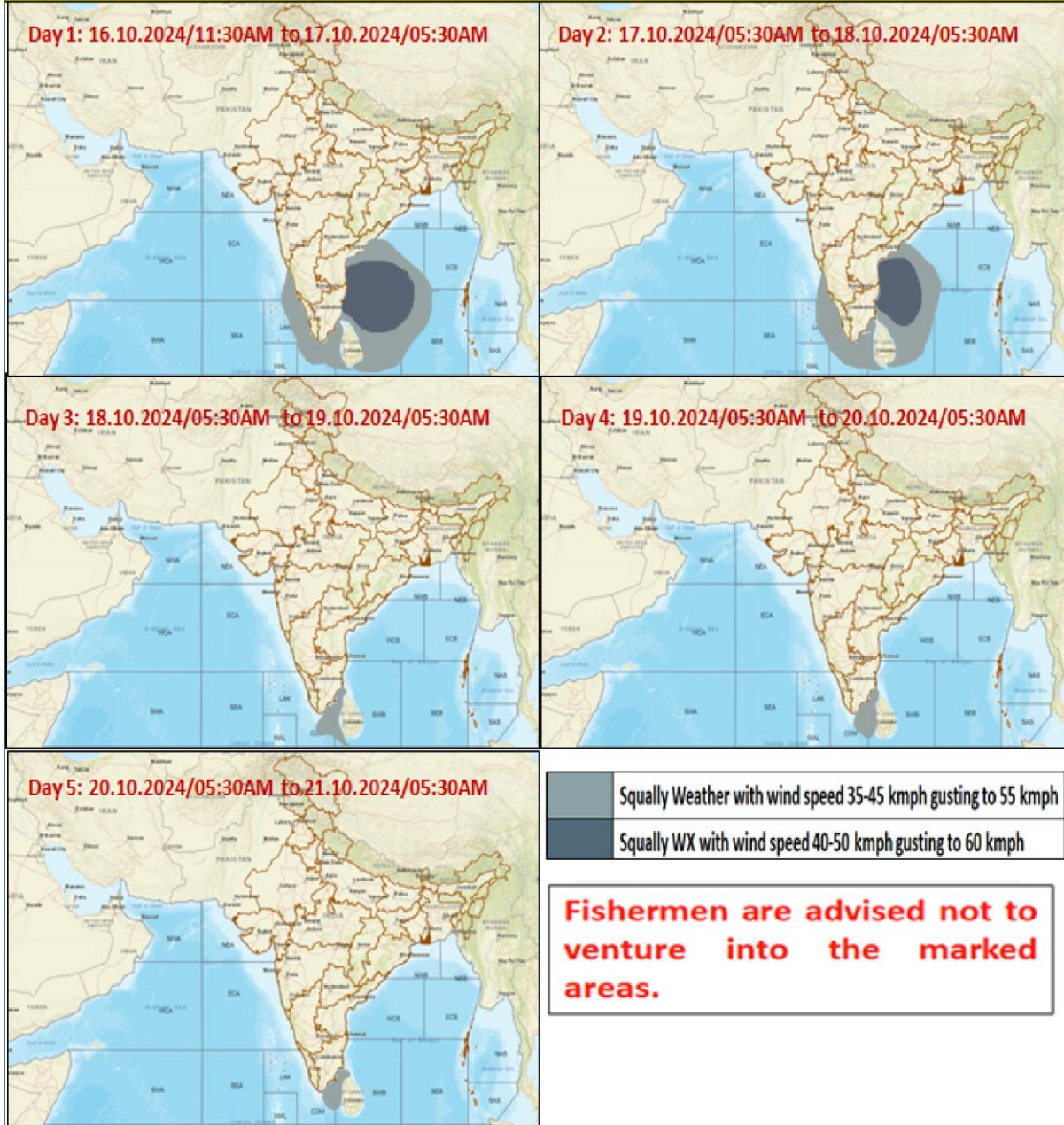
**Coastal Andhra Pradesh & Yanam** - Guntur, Prakasam and Nellore districts.

**Rayalaseema** - Chittoor and Kadapa districts.

**Tamil Nadu** - Cuddalore, Dharampuri, Krishnagiri, Perambalur, Salem, Tiruchirappalli, Tiruvallur and Vellore districts.

Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over area of concern as shown in map due to expected rainfall occurrence in next 24 hours.

## 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  
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