



## 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 2100 UTC OF 16.10.2024 BASED ON 1800 UTC OF 16.10.2024.**

### **BAY OF BENGAL:**

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

THE DEPRESSION OVER SOUTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL MOVED WEST-NORTHWESTWARDS WITH A SPEED OF 22 KMPH DURING PAST 6 HOURS AND LAY CENTERED AT 18 UTC OF THE 16TH OCTOBER 2024 OVER WESTCENTRAL AND ADJOINING SOUTHWEST BAY OF BENGAL CLOSE TO SOUTH ANDHRA PRADESH-NORTH TAMIL NADU COASTS, NEAR LATITUDE 13.4° N AND LONGITUDE 80.8° E, ABOUT 80 KM EAST-NORTHEAST OF CHENNAI (43279, TAMIL NADU) AND 150 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 NORTH OF CHENNAI AROUND 0000 UTC OF 17TH OCTOBER. THEREAFTER, IT IS VERY LIKELY TO CONTINUE TO MOVE WEST-NORTHWESTWARDS AND WEAKEN INTO A WELL MARKED LOW PRESSURE AREA OVER SOUTH COASTAL ANDHRA PRADESH AND ADJOINING NORTH TAMIL NADU AROUND 0300- 0600 UTC OF 17TH OCTOBER.

AT 1800 UTC, THE INSAT-3D IMAGERY INDICATE INTENSITY OF THE SYSTEM IS CHARACTERISED AS T 1.5. INTENSE TO VERY INTENSE CONVECTION IS SEEN OVER SOUTH INTERIOR KARNTAKA, RAYALSEEMA, COASTAL ANDHRA PRADESH, SOUTH TAMILNADU, PALK STRAIT, WEST CENTRAL AND SOUTH WEST BAY OF BENGAL (MINIMUM CLOUD TOP TEMPERATURE IS MINUS 70-80°C). MODERATE TO INTENSE CONVECTION IS SEEN OVER SOUTH TELANGANA, NORTH TAMILNADU AND KERALA.

THE ASSOCIATED ESTIMATED CENTRAL PRESSURE IS 1002 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
16.10.24/1800	13.4/80.8	35-45 GUSTING TO 55	DEPRESSION
17.10.24/0600	13.9/79.5	25-35 GUSTING TO 45	WELL MARKED LOW PRESSURE AREA

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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**WARNINGS:****(I) WIND WARNING:**

SQUALLY WIND SPEED REACHING 35-45 KMPH GUSTING TO 55 KMPH IS LIKELY TO PREVAIL OVER SOUTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL AND ALONG & OFF TAMIL NADU, PUDUCHERRY AND SOUTH ANDHRA PRADESH COASTS IN TILL 0600 UTC OF THE 17<sup>TH</sup> 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 17TH 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.

**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 & KELVIN 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 ECMWF 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 50-60X10<sup>-5</sup>S<sup>-1</sup> OVER SOUTHWEST BOB OFF TAMILNADU & NORTH SRILANKA COASTS. POSITIVE LOW-LEVEL CONVERGENCE 05X10<sup>-6</sup> S<sup>-1</sup> OVER ANDHRA PRADESH COAST TO THE NORTHWEST OF SYSTEM CENTRE AND ANOTHER ZONE (05-10 X10<sup>-6</sup> S<sup>-1</sup>) OVER SOUTHWEST BOB. POSITIVE UPPER-LEVEL DIVERGENCE IS AROUND 05X10<sup>-6</sup> S<sup>-1</sup> OVER INTERIOR KARNATAKA 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). THE EAST-SOUTHEASTERLY WINDS PREVAILING OVER SOUTH BAY OF BENGAL ARE INDICATING WEST-NORTHWESTWARDS MOVEMENT OF THE SYSTEM. CURRENT ENVIRONMENTAL FEATURES INDICATE MODERATELY FAVOURABLE ENVIRONMENT 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.

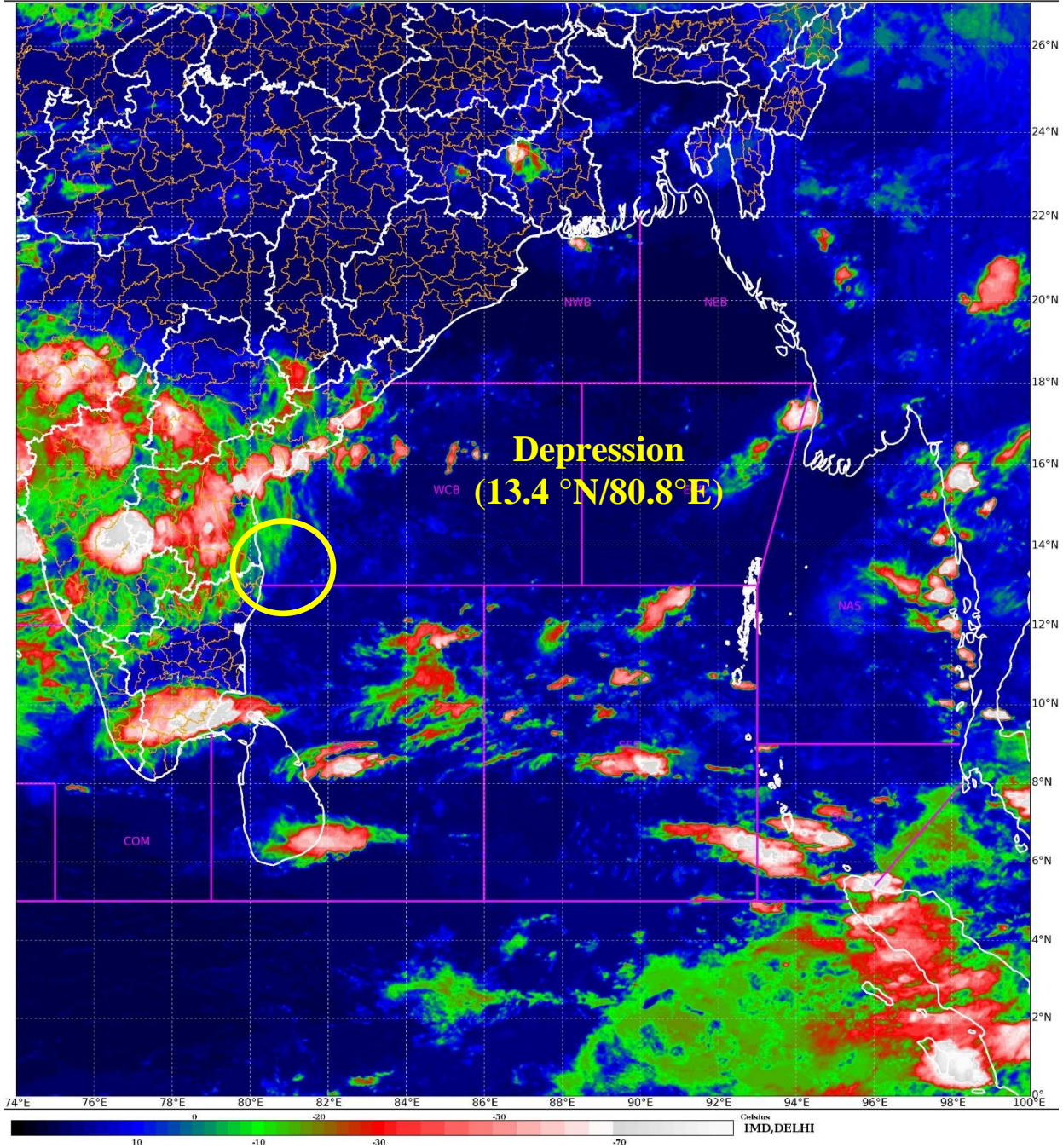
IMD MME IS INDICATING THE EXISTING DEPRESSION OVER SOUTHWEST BOB TO MOVE NEARLY WEST-NORTHWESTWARDS AND CROSS NEAR CHENNAI AROUND 17/02 UTC (13.0/80.2) AS A DEPRESSION/WELL MARKED LOW PRESSURE AREA.

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

THEREAFTER, IT IS VERY LIKELY TO CONTINUE TO MOVE WEST-NORTHWESTWARDS AND WEAKEN INTO A WELL MARKED LOW PRESSURE AREA OVER SOUTH COASTAL ANDHRA PRADESH AND ADJOINING NORTH TAMIL NADU AROUND 0300- 0600 UTC OF 17TH OCTOBER.

**THE NEXT BULLETIN WILL BE ISSUED AT 0300 UTC BASED ON 0000 UTC OF 17<sup>TH</sup> OCTOBER, 2024.**

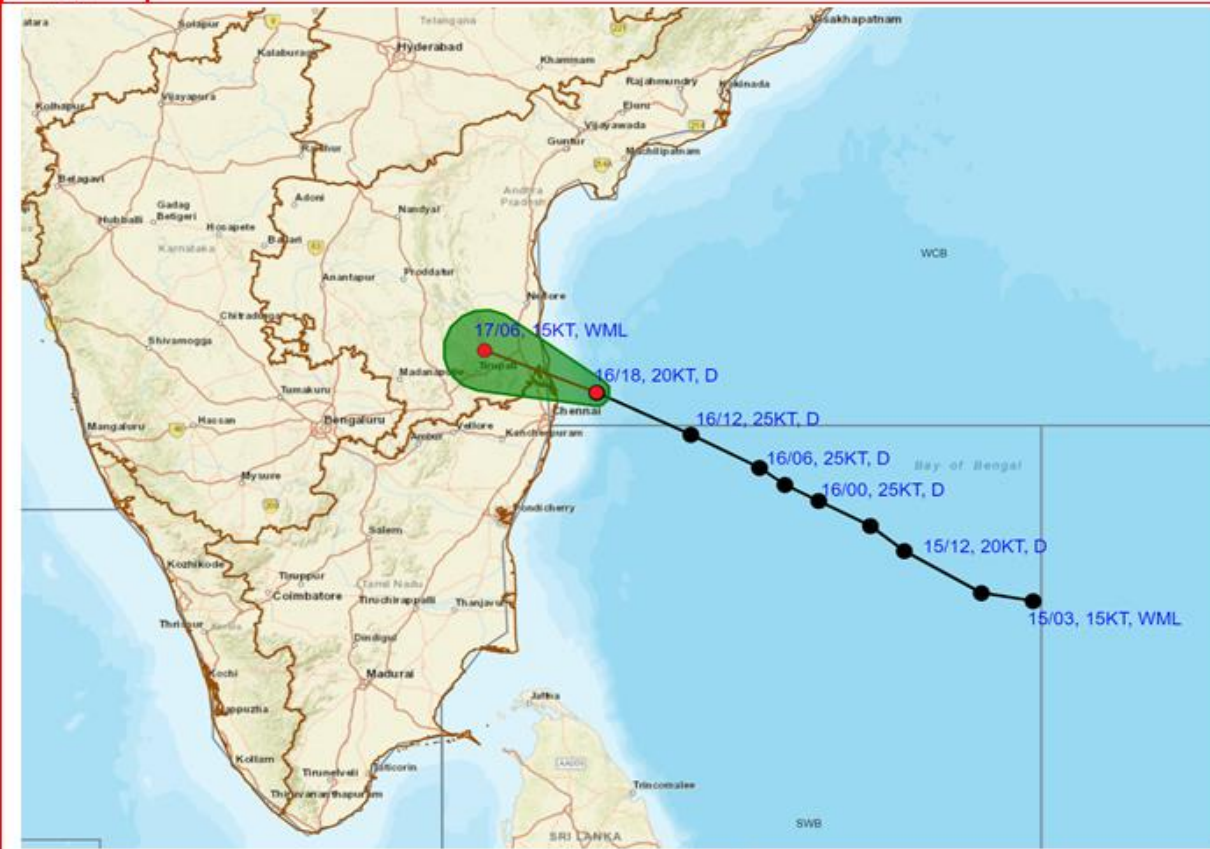
(JOHNY C J)  
SC. D, RSMC, NEW DELHI



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%  
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**OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY (COU) OF DEPRESSION OVER WESTCENTRAL AND ADJOINING SOUTHWEST BAY OF BENGAL BASED ON 1800 UTC (2330 Hrs. IST) OF 16<sup>th</sup> OCTOBER, 2024**

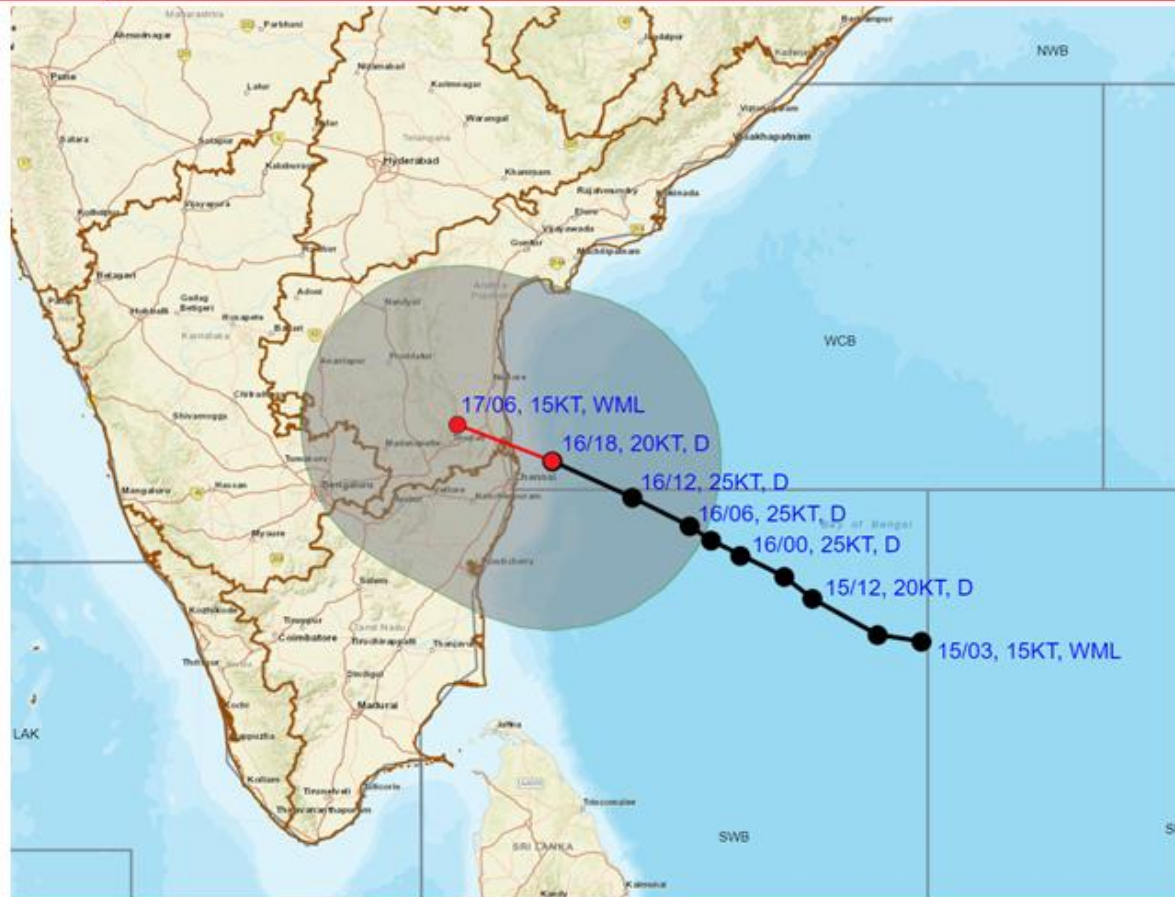


DATE/TIME IN UTC  
 IST=UTC + 0530  
 L: LOW PRESSURE AREA  
 WML: WELL MARKED LOW PRESSURE AREA  
 D: DEPRESSION (17-27 KT)  
 DD: DEEP DEPRESSION (28-33 KT)  
 CS: CYCLONIC STORM (34-47 KT)  
 SCS: SEVERE CYCLONIC STORM (48-63KT)  
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)  
 ESCS: EXTREMELY SEVERE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



**OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEPRESSION OVER WESTCENTRAL AND ADJOINING SOUTHWEST BAY OF BENGAL BASED ON 1800 UTC (2330 Hrs. IST) OF 16<sup>th</sup> OCTOBER, 2024**

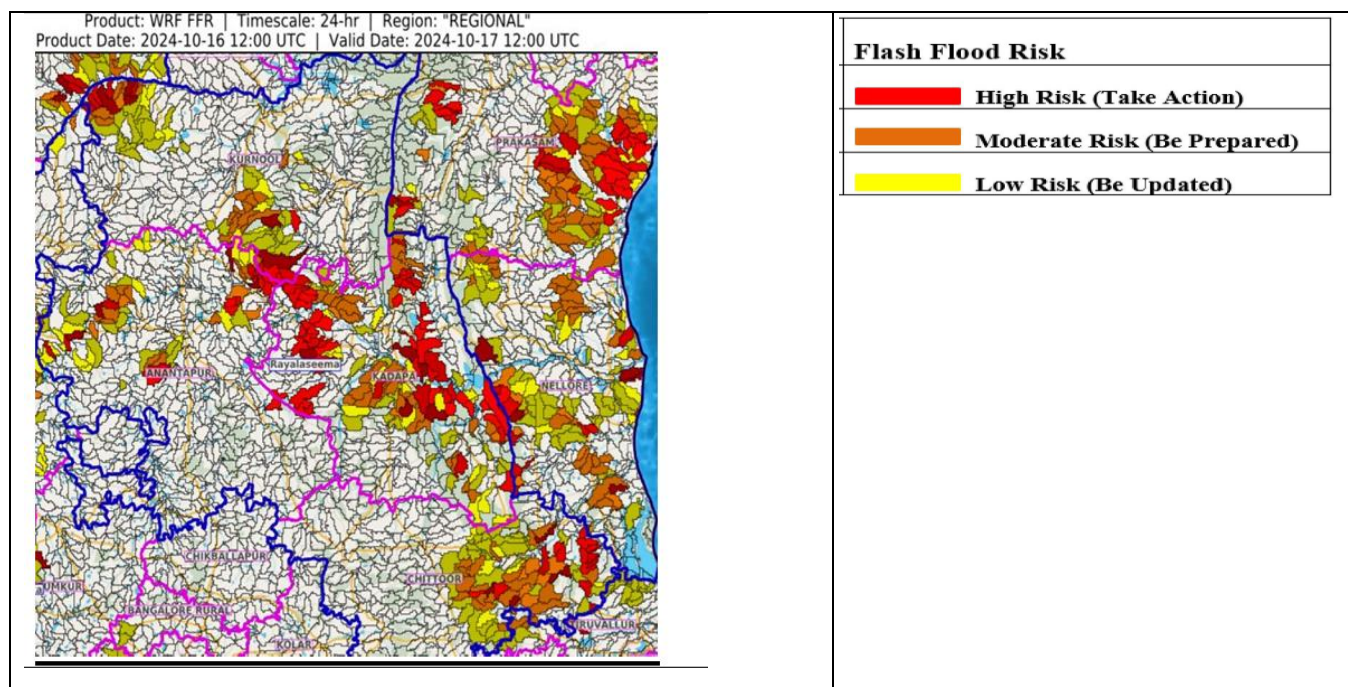


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● LESS THAN 34 KT  
 ○ 34-47 KT  
 ● ≥ 48 KT  
 — OBSERVED TRACK  
 — FORECAST TRACK  
 ■ CONE OF UNCERTAINTY  
 ■ AREA OF MAXIMUM SUSTAINED WIND SPEED:  
 ■ 20-30 KT (35-55 KMPH)

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## Flash Flood Guidance



**24 hours Outlook for the Flash Flood Risk (FFR) till 1730 IST of 17-10-2024 :**

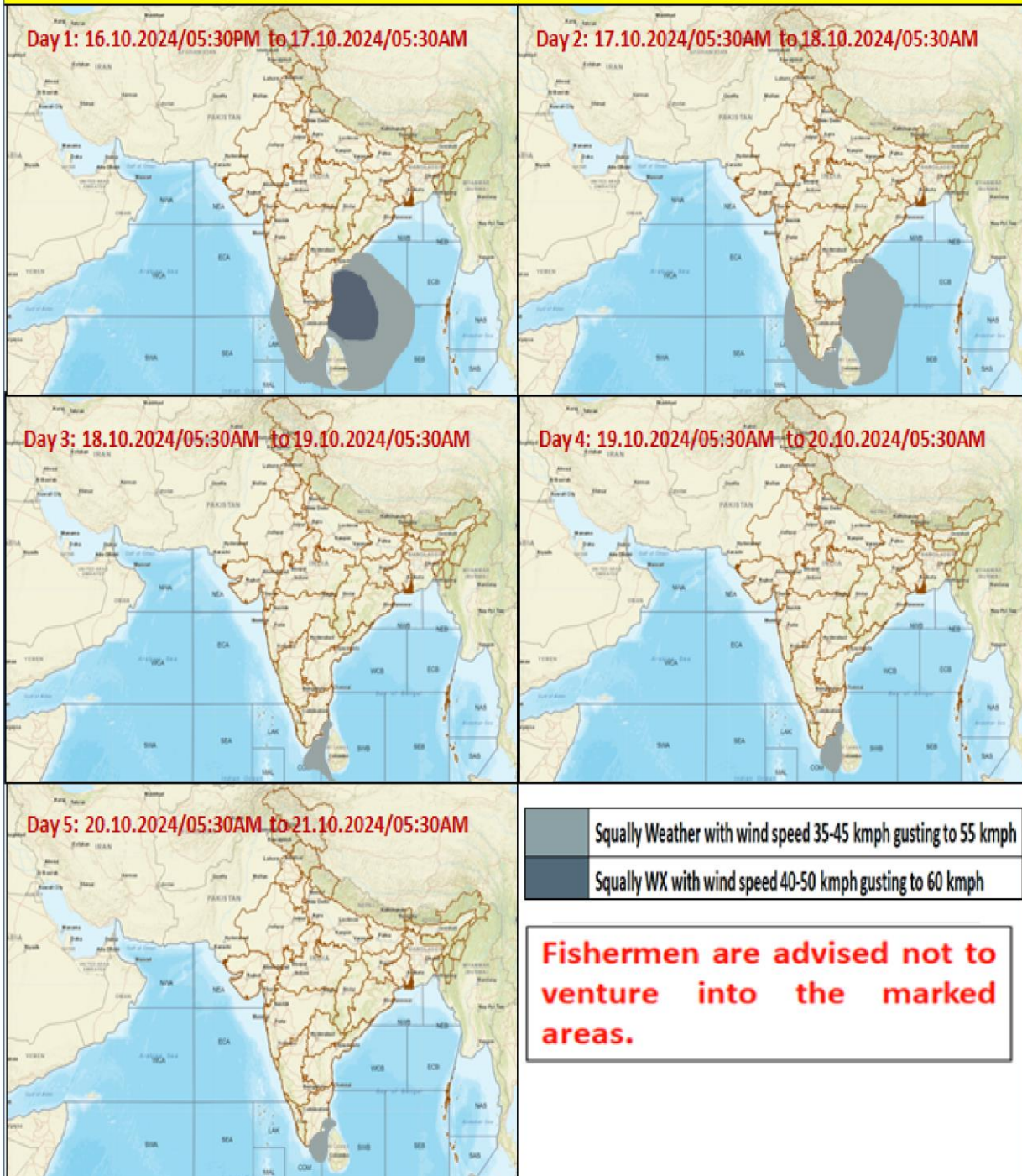
Low to Moderate flash flood risk likely over few watersheds & neighbourhoods of following Met Sub-divisions during next 24 hours.

**Coastal AP & Yanam - Prakasam and Nellore districts.**

**Rayalaseema – Chittoor, Kurnool, Anantpur and Kadapa districts.**

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

## Fishermen Warning Graphics



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