



**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 0630 UTC OF 16.10.2024 BASED ON 0300 UTC OF 16.10.2024.

BAY OF BENGAL:

SUB: DEPRESSION OVER SOUTHWEST BAY OF BENGAL

THE DEPRESSION OVER SOUTHWEST BAY OF BENGAL MOVED WEST-NORTHWESTWARDS WITH A SPEED OF 15 KMPH DURING PAST 6 HOURS AND LAY CENTERED AT 0300 UTC OF TODAY, THE 16TH OCTOBER 2024 OVER SOUTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL NEAR LATITUDE 12.3° N AND LONGITUDE 83.0° E, ABOUT 320 KM EAST-SOUTHEAST OF CHENNAI (43279, TAMIL NADU), 350 KM EAST-NORTHEAST OF PUDUCHERRY (43331, PUDUCHERRY) AND 400 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 0300 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 CONVECTION IS SEEN OVER ANDHRA PRADESH, RAYALSEEMA, NORTH TAMILNADU, SOUTH TELANGANA AND SOUTH INTERIOR KARNATAKA. 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
16.10.24/0830	12.3/83.0	40-50 gusting to 60	Depression
16.10.24/1730	12.7/82.1	40-50 gusting to 60	Depression
17.10.24/0530	13.2/80.5	35-45 gusting to 55	Depression
17.10.24/1730	13.6/79.0	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 40-50 KMPH GUSTING 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 0600 UTC OF 17TH OCTOBER AND DECREASE GRADUALLY THEREAFTER.

(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 17TH 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/CM² OVER WESTCENTRAL & ADJOINING SOUTHWEST BOB AND SOUTH ANDAMAN SEA, 80-100 KJ/CM² OVER SOUTHEAST BOB. LOW-LEVEL VORTICITY HAS REDUCED SLIGHTLY AND IS AROUND 60-70X10⁻⁵ S⁻¹ OVER SOUTHWEST BOB OFF TAMILNADU & NORTH SRILANKA COASTS. POSITIVE LOW-LEVEL CONVERGENCE 20X10⁻⁶ S⁻¹ OVER SOUTHWEST BOB OFF TAMILNADU COAST TO THE WEST OF SYSTEM CENTRE. POSITIVE UPPER-LEVEL DIVERGENCE IS AROUND 30X10⁻⁶ S⁻¹ 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°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 21ST WITH NORTHWESTWARDS MOVEMENT TOWARDS ODISHA COAST ON 24TH OCT.

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

NCEP GFS IS INDICATING A LOW PRESSURE AREA OVER WESTCENTRAL BOB ON 16TH WITH WESTNORTHWESTWARDS MOVEMENT TOWARDS TAMILNADU COAST ON 17TH (13.7/81.2) AND CROSSING COAST AROUND 17/03 AS A LOW PRESSURE AREA & BECOMING LESS MARKED ON 18TH. MODEL IS ALSO INDICATING A FRESH LOW PRESSURE AREA ON EASTCENTRAL AS ON 18TH WITH WEST-NORTHWESTWARDS MOVEMENT TOWARDS GULF OF ADEN TILL 22ND OCT & LESS MARKED THEREAFTER. MODEL IS ALSO INDICATING EMERGENCE OF A LOW PRESSURE AREA/CYCLONIC CIRCULATION INTO NORTH ANDAMAN SEA ON 21ST 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.

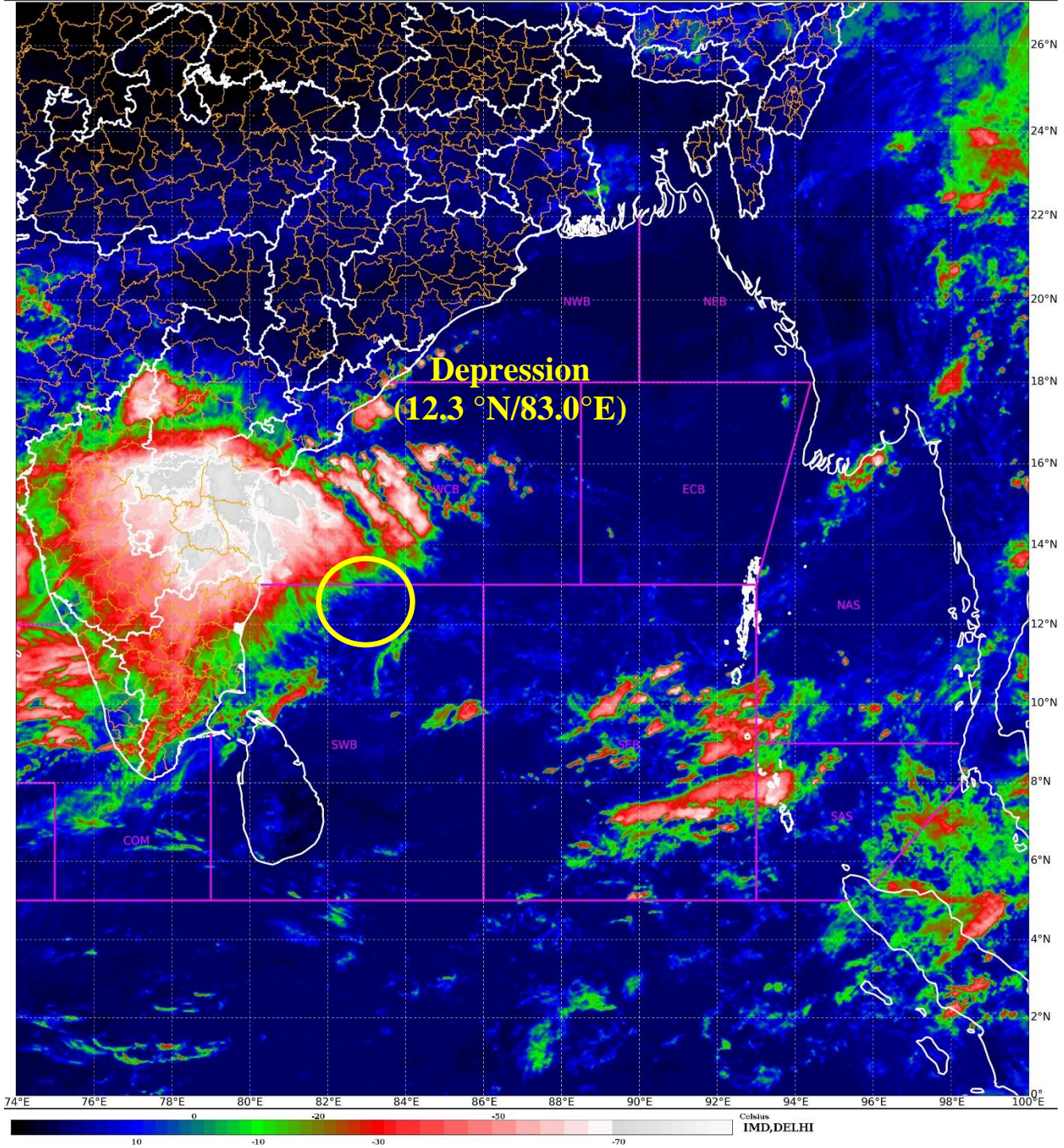
ECMWF IS INDICATING, DEPRESSION OVER SOUTHWEST & ADJOINING WESTCENTRAL BOB ON 16/00, REACHING TAMILNADU COAST NEAR CHENNAI AROUND 17/03 UTC AS A LOW PRESSURE AREA AND PERSISTING OVER WESTCENTRAL & ADJOINING SOUTHWEST BOB TILL 18/0000 UTC. MODEL IS ALSO INDICATING A FRESH LOW PRESSURE AREA OVER EASTCENTRAL ARABIAN SEA ON 17/12 UTC, MOVING TOWARDS GULF OF ADEN TILL 21ST 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 0900 UTC BASED ON 0600 UTC OF 16TH OCTOBER, 2024.

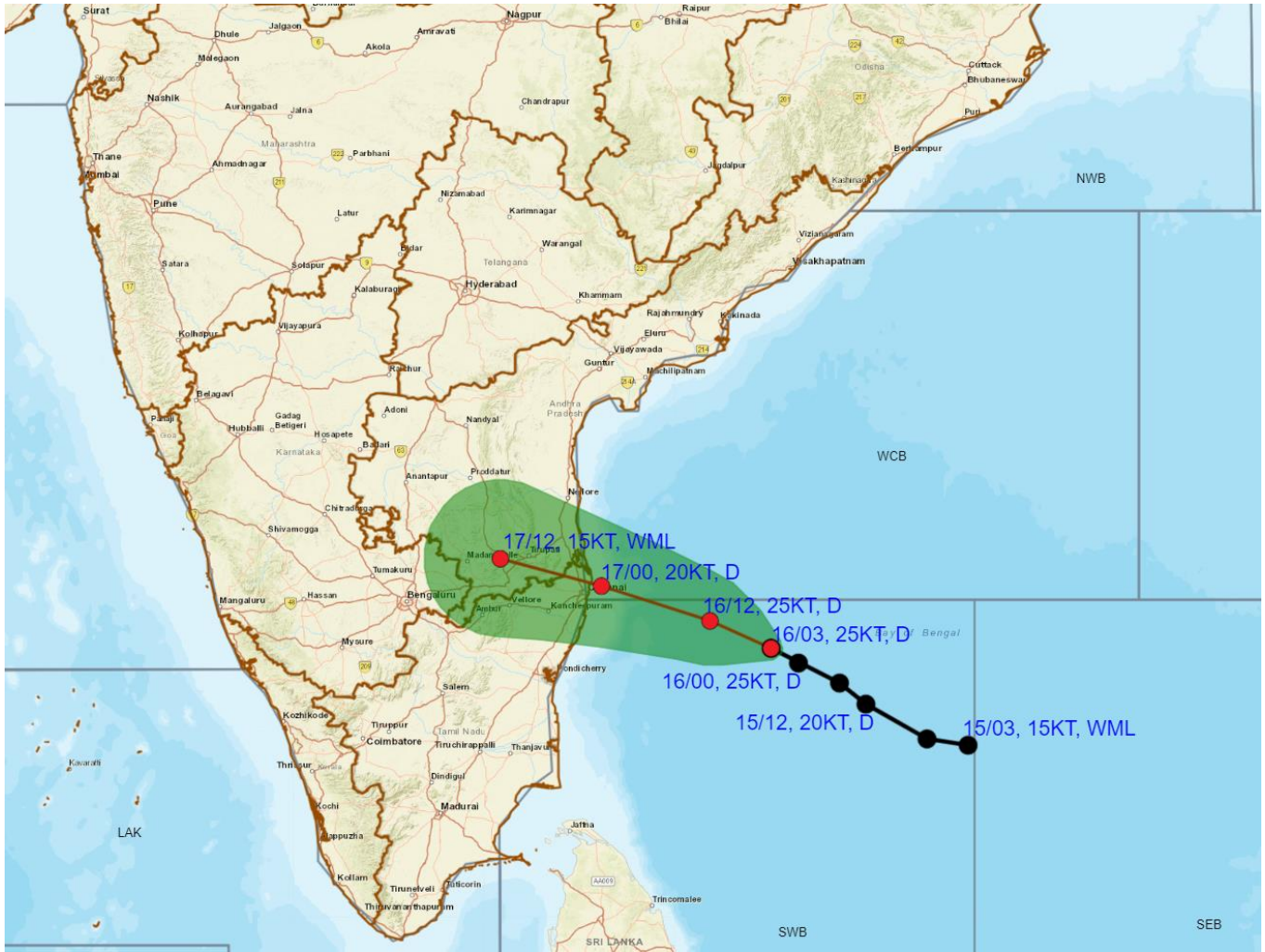
(MONICA SHARMA)
SC. D, RSMC, NEW DELHI



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OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY (COU) OF DEPRESSION OVER SOUTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL BASED ON 0300 UTC (0830 Hrs. IST) OF 16th OCTOBER, 2024



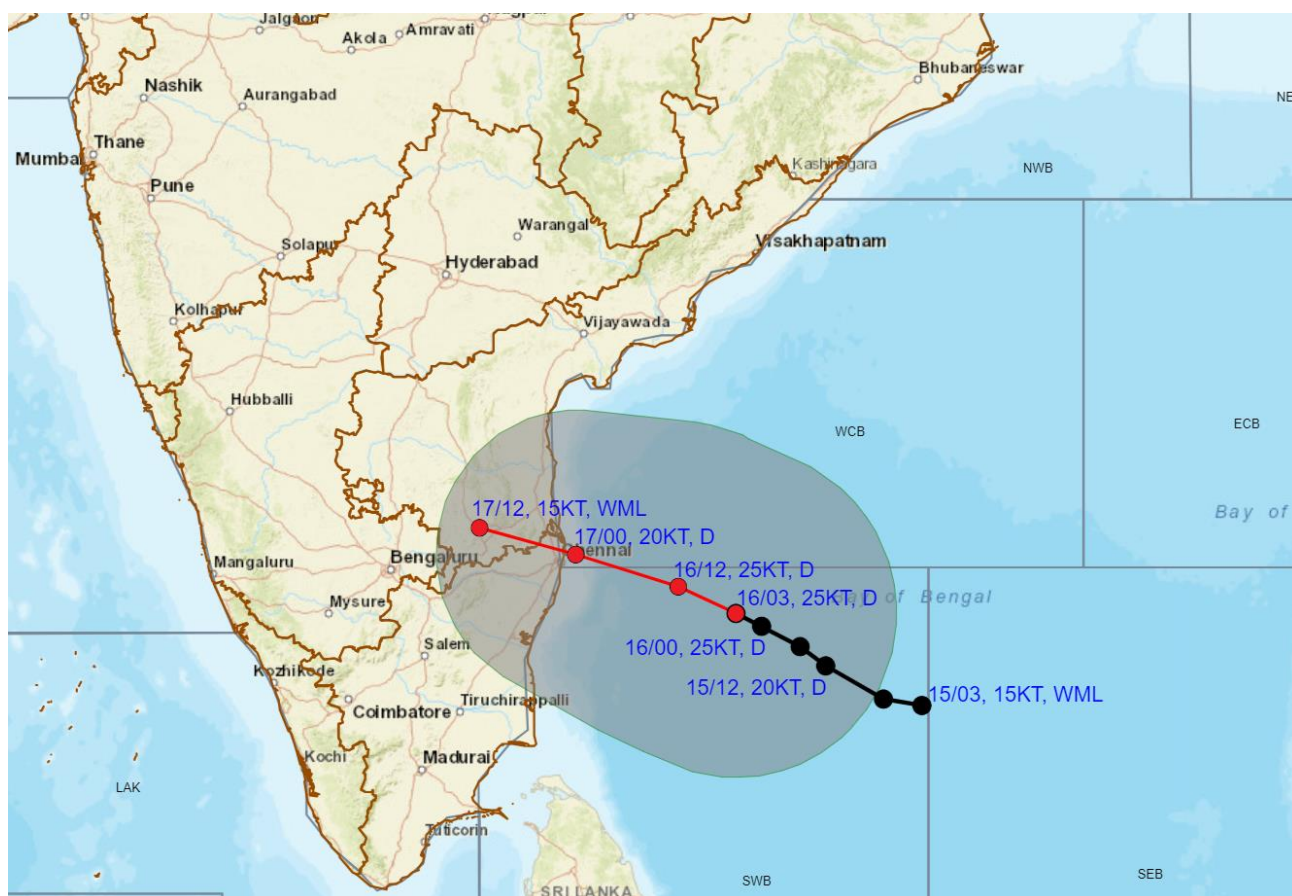
DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

- LESS THAN 34 KT
- 34-47 KT
- ≥ 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- CONE OF UNCERTAINTY

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OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEPRESSION OVER SOUTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL BASED ON 0300 UTC (0830 Hrs. IST) OF 16th 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)

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● LESS THAN 34 KT

○ 34-47 KT

● ≥ 48 KT

— OBSERVED TRACK

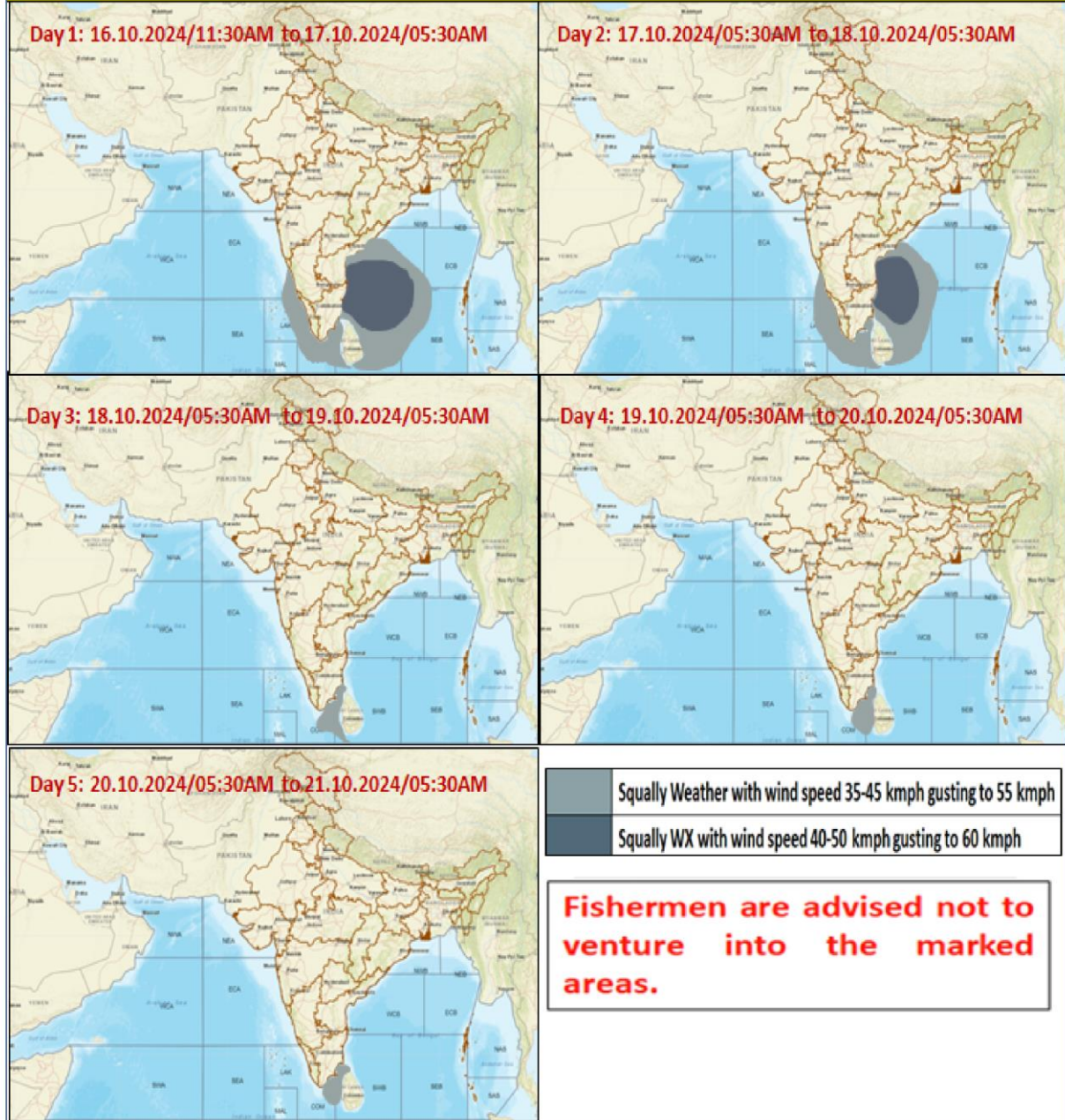
— FORECAST TRACK

▲ CONE OF UNCERTAINTY

AREA OF MAXIMUM SUSTAINED WIND SPEED:

■ 20-30 KT (35-55 KMPH)

Fishermen Warning Graphics



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