





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

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 15.10.2024

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 168 HOURS ISSUED AT 1600 UTC OF 15.10.2024 BASED ON 1200 UTC OF 15.10.2024.

BAY OF BENGAL:

SUB: DEPRESSION OVER SOUTHWEST BAY OF BENGAL

THE WELL MARKED LOW PRESSURE AREA OVER THE SOUTH WEST AND ADJOINING SOUTH EAST BAY OF BENGAL MOVED WEST-NORTH WESTWARD, INTENSIFIESD INTO A DEPRESSION AND LAY CENTRED AT 1200 UTC OF TODAY, THE 15TH OCTOBER 2024 OVER SOUTH WEST BAY OF BENGAL NEAR LATITUDE 11.4N, LONGITUDE 84.4E, ABOUT 490 KM EAST-SOUTH EAST OF CHENNAI (43279), 500 KM EAST SOUTH-EAST OF PUDUCHERRY(43331) AND 590 KM SOUTH-EAST OF NELLORE(43245).

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

AT 1200 UTC, INTENSITY OF THE SYSTEM IS CHARACTERISED AS T 1.5. ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER WESTCENTRAL AND SOUTH BAY OF BENGAL (MINIMUM CLOUD TOP TEMPERATURE IS MINUS 80-93°C).

THE ASSOCIATED ESTIMATED CENTRAL PRESSURE IS 1002 HPA AND MAXIMUM SUSTAIND WIND SPEED WITH THE SYSTEM IS 25 KTS GUSTING TO 35 KTS.

FORECAST TRACK AND INTENSITY ARE GIVEN IN THE FOLLOWING TABLE:

DATE/TIME	POSITION	MAXIMUM	CATEGORY OF CYCLONIC
(IST)	(LAT. °N/	SUSTAINED SURFACE WIND	DISTURBANCE
	LONG. °E)	SPEED (KMPH)	
15.10.24/1200	11.4/84.4	35-45 GUSTING TO 55	DEPRESSION
16.10.24/0000	11.9/83.0	40-50 GUSTING TO 60	DEPRESSION
16.09.24/1200	12.6/81.5	40-50 GUSTING TO 60	DEPRESSION
17.09.24/0000	13.2/80.4	40-50 GUSTING TO 60	DEPRESSION
17.09.24/1200	13.7/79.7	40-50 GUSTING TO 60	DEPRESSION
18.09.24/0000	14.3/78.5	30-40 GUSTING TO 50	WELL MARKED LOW
			PRESSURE AREA

WARNINGS:

(I) RAINFALL WARNING:

TAMIL NADU & PUDUCHERRY: LIGHT TO MODERATE RAINFALL OVER MOST PLACES WITH HEAVY TO VERY HEAVY RAINFALL AT ISOLATED PLACES OVER TAMIL NADU & PUDUCHERRY AND EXTREMELY HEAVY RAINFALL AT ISOLATED PLACES OVER NORTH TAMIL NADU ON 15TH OCTOBER.

LIGHT TO MODERATE RAINFALL OVER MOST PLACES WITH HEAVY TO VERY HEAVY RAINFALL AT A FEW PLACES WITH EXTREMELY HEAVY RAINFALL AT ISOLATED PLACES IS VERY LIKELY OVER NORTH TAMIL NADU & PUDUCHERRY ON 16^{TH} OCTOBER AND ISOLATED HEAVY TO VERY HEAVY RAINFALL OVER NORTH INTERIOR TAMIL NADU ON 17^{TH} OCTOBER.

LIGHT TO MODERATE RAINFALL OVER MOST PLACES WITH HEAVY RAINFALL AT ISOLATED PLACES IS VERY LIKELY OVER SOUTH TAMIL NADU DURING $15^{\rm TH}$ TO $17^{\rm TH}$ OCTOBER.

SOUTH ANDHRA PRADESH & RAYALASEEMA LIGHT TO MODERATE RAINFALL OVER MOST PLACES WITH HEAVY TO VERY HEAVY RAINFALL AT ISOLATED PLACES IS VERY LIKELY ON 15TH; HEAVY TO VERY HEAVY RAINFALL AT A FEW PLACES WITH EXTREMELY HEAVY RAINFALL AT ISOLATED PLACES IS LIKELY ON 16TH OCTOBER AND HEAVY RAINFALL AT ISOLATED PLACES IS LIKELY ON 17TH OCTOBER.

KERALA & SOUTH INTERIOR KARNATAKA: LIGHT TO MODERATE RAINFALL OVER MOST PLACES WITH HEAVY TO VERY HEAVY RAINFALL AT ISOLATED PLACES IS LIKELY OVER KERALA AND SOUTH INTERIOR KARNATAKA DURING 15TH TO 17TH OCTOBER.

(II) WIND WARNING:

SQUALLY WEATHER WITH WIND SPEED REACHING 35-45 KMPH GUSTING 55 KMPH IS PREVAILING OVER SOUTHWEST AND ADJOINING SOUTHEAST & WESTCENTRAL BAY OF BENGAL. 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 17TH OCTOBER AND DECREASE GRADUALLY THEREAFTER.

(III) SEA CONDITION:

ROUGH SEA CONDITION IS PREVAILING OVER SOUTHEAST AND ADJOINING SOUTHWEST & WESTCENTRAL BAY OF BENGAL. IT IS LIKELY TO BECOME ROUGH TO VERY ROUGH SEA CONDITION OVER SOUTHWEST & ADJOINING WESTCENTRAL BAY OF BENGAL AND ALONG & OFF TAMIL NADU, PUDUCHERRY AND SOUTH ANDHRA PRADESH COASTS TILL 17TH OCTOBER AND IMPROVE GRADUALLY THEREAFTER.

(IV) FISHERMEN WARNING:

FISHERMEN ARE ADVISED NOT TO VENTURE INTO

- SOUTHEAST AND ADJOINING CENTRAL BAY OF BENGAL ON 15TH OCTOBER.
- SOUTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL FROM 15TH TO 17TH OCTOBER.
- FISHERMEN OUT AT SEA ARE ADVISED TO RETURN TO COASTS.

ARABIAN SEA:

SUB: DEPRESSION OVER WESTCENTRAL ARABIAN SEA OFF OMAN COAST

THE DEPRESSION OVER WESTCENTRAL ARABIAN SEA OFF OMAN COAST MOVED NORTHWESTWARDS WITH A SPEED OF 23 KMPH DURING PAST 6 HOURS, AND LAY CENTRED AT 1200 UTC OF TODAY, THE 15TH OCTOBER, 2024 OVER THE SAME REGION NEAR LATITUDE 18.3°N AND LONGITUDE 58.8°E, ABOUT 180 KM SOUTHEAST OF DUQM (41291, OMAN), 260 KM SOUTH OF MASIRAH (41291, OMAN), 520 KM EAST-NORTHEAST OF SALALAH (41316, OMAN).

IT IS LIKELY TO MOVE NEARLY NORTH-WESTWARDS AND CROSS OMAN COAST CLOSE TO DUQM (41291, OMAN) AROUND 1800-2100 UTC OF TODAY, THE 15TH OCTOBER 2024.

LATEST SATELLITE IMAGERY AT 1200 UTC INDICATED THAT THE INTENSITY OF THE SYSTEM IS CHARACTERISED AS T 1.5. ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER WESTCENTRAL AND NORTH ARABIAN SEA. MIMIMUM CLOUD TOP TEMPERATURE IS MINUS 75-80 DEG CELSIUS.

THE ASSOCIATED ESTIMATED CENTRAL PRESSURE IS 1006 HPA WITH MAXIMUM SUSTAIND WIND SPEED ASSOCIATED WITH THE SYSTEM IS 20 KTS GUSTING TO 30 KTS.

WARNINGS:

(I) WIND WARNING:

SQUALLY WIND SPEED REACHING 40-50 KMPH GUSTING TO 60 KMPH IS LIKELY TO PREVAIL OVER WESTCENTRAL ARABIAN SEA AND ALONG AND OFF OMAN COAST TILL 0000 UTC OF 16^{TH} OCTOBER AND DECREASE GRADUALLY THEREAFTER.

(II) SEA CONDITION:

ROUGH TO VERY ROUGH SEA CONDITION IS LIKELY TO PREVAIL ONLY OVER WESTCENTRAL ARABIAN SEA AND ALONG & OFF OMAN COAST TILL 0000 UTC OF 16^{TH} OCTOBER AND IMPROVE GRADUALLY THEREAFTER.

(III) FISHERMEN WARNING:

FISHERMEN ARE ADVISED NOT VENTURE INTO WESTCENTRAL ARABIAN SEA AND ALONG & OFF OMAN COAST TILL 0000 UTC OF 16^{TH} OCTOBER.

REMARKS:

THE DEPRESSION OVER WEST CENTRAL ARABIAN SEA OFF OMAN COAST IS LIKELY TO MOVE NEARLY NORTH-WESTWARDS AND CROSS OMAN COAST CLOSE TO DUQM (41291, OMAN) AROUND 1800-2100 UTC OF TODAY, THE 15TH OCTOBER 2024.

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 HIGHLY 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/CM² OVER WESTCENTRAL & ADJOINING SOUTHWEST BOB AND SOUTH ANDAMAN SEA, 80-100 KJ/CM² OVER SOUTHEAST BOB. A ZONE OF POSITIVE CYCLONIC VORTICITY OF 50 X 10-5 S-1 IS SEEN OVER SOUTHWEST BOB. POSITIVE LOW-LEVEL CONVERGENCE 05-10X10-5 S-1 IS SEEN OVER SOUTHWEST BOB AND WESTCENTRAL BOB. POSITIVE UPPER-LEVEL DIVERGENCE IS AROUND 10-20X10-5 S-1 OVER SOUTHWEST BOB & ADJOINING EASTCENTRAL ARABIAN. VERTICAL WIND SHEAR (VWS) IS LOW (5-10 KNOTS) OVER CENTRAL AND ADJOINING AREAS OF SOUTH BAY OF BENGAL (OVER 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. MULTI-SATELLITE WINDS INDICATE STRONGER WINDS IN THE NORTHERN AND SOUTHWEST SECTOR. CURRENT ENVIRONMENTAL FEATURES ARE SUPPORTIVE FOR CYCLOGENESIS (FORMATION OF DEPRESSION) OVER SOUTHWEST BAY OF BENGAL.

IMD GFS INDICATES A LOW PRESSURE OVER SOUTH BOB AT 15/00. TODAY THE FORECAST HAS CHANGED AND IT IS THE SYSTEM TO INTENSIFY INTO A DEPRESSION BY 16/00 AND REACH CHENNAI COAST ON 17/00 UTC. IT IS FURTHER INDICATING EMERGENCE OF SYSTEM INTO EASTCENTRAL AS ON 19TH OCT AND INDICATING THE SYSTEM TO MOVE WEST-NORTHWESTWARDS WITHOUT ANY SIGNIFICANT INTENSIFICATION TILL 22^{ND} OCTOBER. NCUM GROUP OF MODELS ARE NOT INDICATING ANY SIGNIFICAT INTENSIFICATION OF SYSTEM. HOWEVER, THIS GROUP IS ALSO INDICATING MOVEMENT TOWARDS NORTH TAMIL NADU COAST AND EMERGENCE OF THE CYCLONIC CIRCULATION/LOW PRESSURE AREA INTO EASTCENTRAL AS ON 18^{TH} .

ECMWF IS INDICATING A LOW PRESSURE AREA ON 15TH 0000 UTC AND INDICATING FURTHER INTENSIFICATION INTO A WELL MARKED LOW PRESSURE AREA/DEPRESSION ON 16TH OCTOBER. THE MODEL IS INDICATING THE WELL MARKED LOW PRESSURE TO MOVE WEST-NORTHWESTWARDS AND TO CROSS NORTH TAMILNADU-SOUTH ANDHRA PRADESH COAST NEAR 13.1/80.4 ON 17/09 UTC AS A WELL MARKED LOW PRESSURE AREA. IT IS ALSO INDICATING EMERGENCE INTO EASTCENTRAL ARABIAN SEA AROUND 19TH OCTOBER AND AND THEN WEST-NORTHWESTWARDS MOVEMENT TOWARDS OMAN COAST WITHOUT SIGNIFICANT INTENSIFICATION. IMD MULTI MODEL ENSEMBLE IS INDICATING NEARLY NORTHWESTWARDS MOVEMENT OF THE SYSTEM TOWARDS CHENNAI AND CROSSING AROUND 17/14 UTC NEAR 12.7/80.2.

ARABIAN SEA (AS)

THE SEA SURFACE TEMPERATURE (SST) IS 27-29°C OVER EASTCENTRAL AS. AROUND 27°C OVER THE WESTCENTRAL AND SOUTHWEST PARTS OF AS. THE TROPICAL CYCLONE HEAT POTENTIAL IS 60-70KJ/CM² OVER EASTCENTRAL AS AND IT IS LESS THAN 50 KJ/CM² OVER WESTCENTRAL AS & OFF OMAN COAST. TOTAL PRECIPITABLE WATER IMAGERY INDICATES 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/CM².

LOW-LEVEL VORTICITY IS AROUND 50 X 10⁻⁵ OVER THE SYSTEM AREA WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL. LOW-LEVEL CONVERGENCE IS AROUND 20X10⁻⁵S⁻¹ OVER SYSTEM AREA. POSITIVE UPPER-LEVEL DIVERGENCE IS AROUND 05-10 X10⁻⁵ S⁻¹ TO THE NORTHWEST OF SYSTEM AREA. DEEP LAYER WIND SHEAR (VWS) IS MODERATE (15 KNOTS) OVER SYSTEM AREA AND ALONG THE EXPECTED PATH. LOW LEVEL WINDS INDICATE WELL DEFINED CIRCULATION OVER WESTCENTRAL ARABIAN SEA OFF OMAN COAST. MULTI-SATELLITE WINDS INDICATE STRONGER WINDS IN THE NORTHERN SECTOR. THE TOTAL PRECIPITABLE WATER IMAGERY INDICATES DRY COLD AIR INTRUSION INTO THE CORE OF SYSTEM FROM ARABAN PENINSULAR REGION. UPPER TROPOSPHERIC RIDGE RUNS ALONG 20°N. THE SYSTEM IS LIKELY TO MOVE NEARLY NORTHWESTWARDS UNDER THE INFLUENCE OF SOUTHEASTERLY WINDS PREVAILING OVER THE REGION. VARIOUS ENVIRONMENTAL FEATURES INDICATE MODERATELY FAVOURABLE ENVIRONMENT FOR MAINTENANCE OF INTENSITY OF SYSTEM DURING NEXT 06 HOURS AND WEAKEN GRADUALLY AS IT WILL ENCOUNTER COLDER SEA NEAR OMAN COAST AND DRY AIR INTRUSION INTO THE CORE.

MOST OF THE MODELS ARE INDICATING NEARLY NORTHWESTWARDS MOVEMENT TOWARDS OMAN COAST AS A LOW PRESSURE AREA DURING NEXT 24 HOURS.

CONSIDERING VARIOUS ENVIRONMENTAL FEATURES AND MODEL GUIDANCE, IT IS INFERRED THAT:

(i) THE WELL MARKED LOW PRESSURE AREA OVER THE SOUTH WEST AND ADJOINING

SOUTH EAST BAY OF BENGAL MOVED WEST-NORTH WESTWARD, INTENSIFIESD INTO A DEPRESSION AND LAY CENTRED AT 1200 UTC OF TODAY, THE 15TH OCTOBER 2024 OVER SOUTH WEST BAY OF BENGAL NEAR LATITUDE 11.4N, LONGITUDE 84.4E.

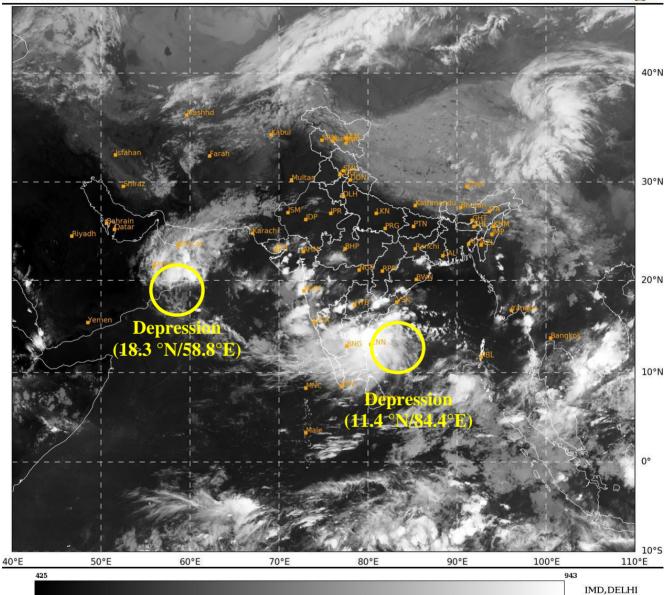
IT IS LIKELY TO CONTINUE TO MOVE WEST-NORTHWESTWARDS AND CROSS NORTH TAMIL NADU-SOUTH-SOUTH ANDHRA PRADESH COASTS BETWEEN PUDUCHERRY AND NELLORE, CLOSE TO CHENNAI AROUND 0000 UTC OF $17^{\rm TH}$ OCTOBER AS A DEPRESSION.

(ii)IT IS LIKELY TO MOVE NEARLY NORTH-WESTWARDS AND CROSS OMAN COAST CLOSE TO DUQM (41291, OMAN) AROUND 2100 UTC OF TODAY, THE $15^{\rm TH}$ OCTOBER 2024.

THE NEXT BULLETIN WILL BE ISSUED AT 2100 UTC BASED ON 1800 UTC OF 15TH OCTOBER, 2024.

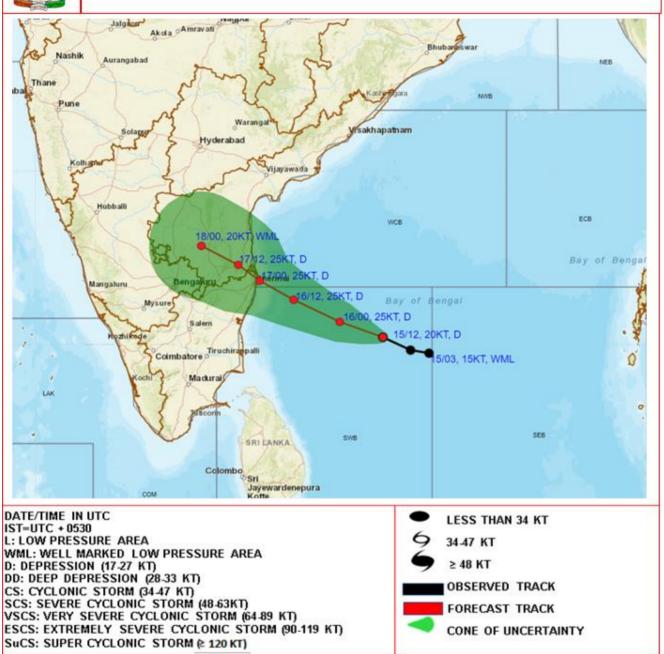
(TRISANU BANIK) SC. D, RSMC, NEW DELHI SAT : INSAT-3DR IMG IMG_TIR1 10.8 um L1C Mercator 15-10-2024/(1415 to 1442) GMT 15-10-2024/(1945 to 2012) IST





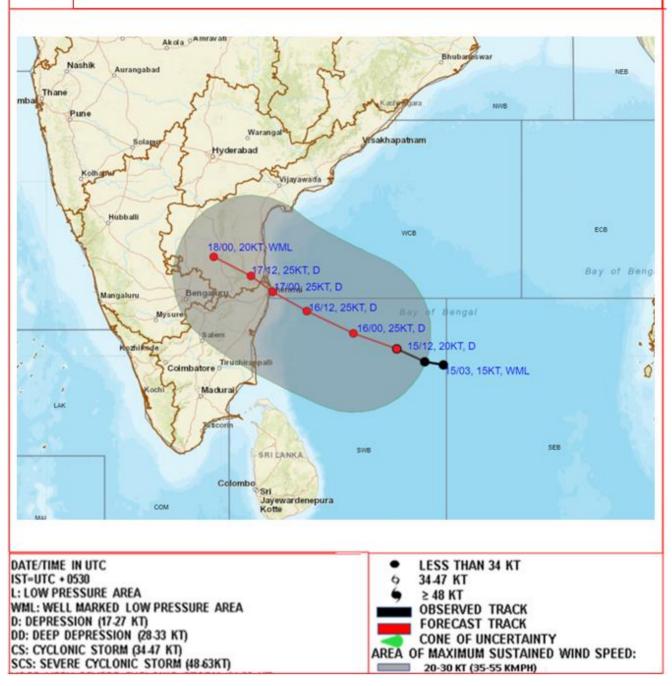


DEPRESSION OVER SOUTHWEST BAY OF BENGAL BASED ON 1200 UTC (1730 Hrs. IST) OF 15th OCTOBER, 2024





OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEPRESSION OVER SOUTHWEST BAY OF BENGAL BASED ON 1200 UTC (1730 Hrs. IST) OF 15th OCTOBER, 2024





OBSERVED AND FORECAST TRACK OF DEPRESSION OVER WESTCENTRAL ARABIAN SEA BASED ON 1200 UTC (1730 Hrs. IST) OF 15th OCTOBER, 2024

