



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

DEMS-RSMC SPECIAL TROPICAL CYCLONES NEW DELHI DATED 30.09.2023

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0930 UTC OF 30.09.2023 BASED ON 0600 UTC OF 30.09.2023.

SUB: A) DEPRESSION OVER EASTCENTRAL ARABIAN SEA OFF SOUTH KONKAN-GOA COASTS AND B) WELL MARKED LOW PRESSURE AREA OVER NORTHWEST BAY OF BENGAL

A) DEPRESSION OVER EASTCENTRAL ARABIAN SEA OFF SOUTH KONKAN-GOA COASTS

THE DEPRESSION OVER EASTCENTRAL ARABIAN SEA OFF SOUTH KONKAN-GOA COASTS MOVED NORTH-NORTHEASTWARDS WITH A SPEED OF 20 KMPH DURING PAST 3 HOURS AND LAY CENTERED AT 0600 UTC OF TODAY, THE 30TH SEPTEMBER, 2023 OVER THE SAME REGION, NEAR LATITUDE 16.4°N AND LONGITUDE 73.1°E, ABOUT 70 KM SOUTH-SOUTHWEST OF RATNAGIRI (MAHARASHTRA, 43110), 120 KM NORTHWEST OF PANJIM (GOA, 43192) AND 280 KM NORTHWEST OF HONAVAR (KARNATAKA, 43226).

IT IS LIKELY TO MOVE EAST-NORTHEASTWARDS AND CROSS KONKAN-GOA COASTS BETWEEN PANJIM (43192) AND RATNAGIRI (43110) BY TODAY EVENING/NIGHT (BETWEEN 1200-1500 UTC).

AS PER INSAT 3D IMAGERY INTENSITY OF THE SYSTEM IS T1.5. ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER EASTCENTRAL ARABIAN SEA BETWEEN LATITUDE 14.0N TO 20.0N AND LONGITUDE 68.0E TO 74.0E. MINIMUM CLOUD TOP TEMPERATURE IS -85°C AND MODERATE TO INTENSE CONVECTION LAY OVER KONKAN GOA. MULTI-SATELLITE WINDS INDICATE STRONGER WINDS IN THE SOUTHWEST SECTOR.

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 25 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS 1002 HPA. SEA CONDITION IS LIKELY TO BE ROUGH TO VERY ROUGH OVER EASTCENTRAL ARABIAN SEA ALONG & OFF MAHARSHTRA-GOA-KARNATAKA COASTS ON 30TH SEPTEMBER AND 1ST OCTOBER, 2023.

B) WELL MARKED LOW PRESSURE AREA OVER NORTHWEST BAY OF BENGAL

THE WELL MARKED LOW PRESSURE AREA OVER NORTHWEST BAY OF BENGAL PERSISTED OVER THE SAME REGION AT 0600 UTC OF TODAY, THE 30TH SEPTEMBER, 2023. IT IS LIKELY TO MOVE WEST-NORTHWESTWARDS ACROSS NORTH ODISHA & ADJOINING WEST BENGAL COASTS DURING NEXT 24 HOURS.

AS PER INSAT 3D IMAGERY, THE WELL MARKED LOW PRESSURE AREA OVER NW BAY OF BENGAL IS CENTERED WITHIN HALF A DEG OF 21.0N/89.8E. INTENSITY OF THE SYSTEM IS CHARACTERIZED AS T1.0. ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER NORTHWEST BAY OF BENGAL, NORTH COASTAL ODISHA- GANGETIC WEST BENGAL AND ADJOINING SOUTH BANGLADESH. MINIMUM CLOUD TOP TEMPERATURE IS -80°C.

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 10-15 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS 1000 HPA. SEA CONDITION IS LIKELY TO BE ROUGH OVER NORTH BAY OF BENGAL ALONG & OFF NORTH ODISHA-WEST BENGAL AND ADJOINING BANGLADESH COASTS ON 30TH SEPTEMBER AND 1ST OCTOBER, 2023.

REMARKS:

ARABIAN SEA:

SEA SURFACE TEMPERATURE IS AROUND 28°C OVER EASTCENTRAL ARABIAN SEA. THE EQUATORIAL WAVES FORECAST INDICATES STRONG WESTERLY WINDS (5-7 MPS) OVER SOUTHEAST & ADJOINING EASTCENTRAL ARABIAN SEA, EASTERLY WINDS (1-3 MPS) OVER NORTHEAST ARABIAN SEA AND EQUATORIAL ROSSBY WAVES OVER SOUTHEAST ARABIAN SEA ARE LIKELY TO PREVAIL DURING NEXT 2 DAYS. THE ENVIRONMENTAL FEATURES INDICATE POSITIVE LOW LEVEL VORTICITY ($100 \times 10^{-6} \text{S}^{-1}$) AROUND SYSTEM CENTRE WITH EXTENSION UPTO 500 HPA. THE SYSTEM IS BEING STEERED EAST-NORTHEASTWARDS BY THE MEAN WIND FLOW IN THE LOWER TO MIDDLE TROPOSPHERIC LEVELS IN ASSOCIATION WITH LARGE SCALE SOUTHWEST MONSOON FLOW. THE POSITIVE CONVERGENCE IS ABOUT $10 \times 10^{-5} \text{S}^{-1}$ OVER THE SYSTEM CENTRE AND, POSITIVE UPPER LEVEL DIVERGENCE IS ABOUT $20 \times 10^{-5} \text{S}^{-1}$ TO THE SOUTHWEST OF SYSTEM CENTRE. WIND SHEAR IS MODERATE OVER SYSTEM AREA (10-15 KNOTS) AND TO THE NORTHEAST OF SYSTEM AREA. UNDER THESE FAVOURABLE CONDITIONS, THE DEPRESSION OVER EASTCENTRAL ARABIAN SEA WOULD MAINTAIN THE INTENSITY OF DEPRESSION DURING NEXT 24 HOURS AND WEAKEN GRADUALLY AFTER LANDFALL.

MOST OF THE MODELS SUCH AS ECMWF, IMDGFS, NCEP GFS AND NCUM ARE INDICATING GRADUAL EAST-NORTHEASTWARDS MOVEMENT OF THE SYSTEM WITH SUSTAINED INTENSITY TILL 1200 UTC AND CROSSING AROUND 1800 UTC.

CONSIDERING ALL THESE, THE DEPRESSION OVER EASTCENTRAL ARABIAN SEA IS LIKELY TO MOVE EAST-NORTHEASTWARDS AND CROSS KONKAN-GOA COASTS BETWEEN PANJIM AND RATNAGIRI BY TODAY EVENING/NIGHT (BETWEEN 1200-1500 UTC).

BAY OF BENGAL:

SEA SURFACE TEMPERATURE IS AROUND 29-30°C OVER NORTH BAY OF BENGAL WITH HIGHER SST OVER NORTHWEST BAY OF BENGAL. TOTAL PRECIPITABLE WATER IMAGERY INDICATES WARM MOIST AIR INCURSION INTO THE CORE OF SYSTEM. MADDEN JULIAN OSCILLATION INDEX IS IN PHASE 5 WITH AMPLITUDE LESS THAN 1. THE EQUATORIAL WAVES FORECAST INDICATES STRONG WESTERLY WINDS (5-7 MPS) OVER SOUTH BAY OF BENGAL, EASTERLY WINDS (1-3 MPS) OVER NORTH BAY OF BENGAL AND EQUATORIAL ROSSBY WAVES (ERW) OVER SOUTH BAY OF BENGAL ARE LIKELY TO PREVAIL DURING NEXT 2 DAYS. ALL THESE FEATURES INDICATE A FAVOURABLE ENVIRONMENT FOR THE MAINTENANCE OF INTENSITY OF THIS SYSTEM. THUS, MJO IS FAVOURABLE AND ERW IS NOT FAVOURABLE FOR FURTHER INTENSIFICATION OF THIS SYSTEM.

THE ENVIROMENTAL FEATURES INDICATE POSITIVE LOW LEVEL VORTICITY ($100 \times 10^{-6} \text{S}^{-1}$) TO THE SOUTHWEST OF SYSTEM CENTRE WITH EXTENSION UPTO 500 HPA. THE SYSTEM IS BEING STEERED WEST-NORTHWESTWARDS BY THE EAST-SOUTHEASTERLY WINDS IN THE LOWER TO MIDDLE TROPOSPHERIC LEVELS. POSITIVE CONVERGENCE OF ABOUT $10 \times 10^{-5} \text{S}^{-1}$ LIES TO THE NORTHWEST OF SYSTEM CENTRE, POSITIVE UPPER LEVEL DIVERGENCE OF ABOUT $10 \times 10^{-5} \text{S}^{-1}$ LIES TO THE NORTH OF SYSTEM CENTRE. WIND SHEAR IS LOW OVER SYSTEM AREA (05-10 KNOTS) AND TO THE NORTHWEST OF SYSTEM AREA.

THE GLOBAL MODELS ARE ARE IN AGREEMENT THAT THE SYSTEM WOULD MOVE WEST-NORTHWESTWARDS ACROSS ODISHA-WEST BENGAL COASTS DURING NEXT 24 HOURS.

CONSIDERING ALL THESE, THE WELL MARKED LOW PRESSURE AREA OVER NORTHWEST BAY OF BENGAL IS LIKELY TO MOVE WEST-NORTHWESTWARDS ACROSS NORTH ODISHA & ADJOINING WEST BENGAL COASTS DURING NEXT 24 HOURS.

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OBSERVED AND FORECAST TRACK OF DEPRESSION OVER EASTCENTRAL ARABIAN SEA AND LOCATION OF WELL MARKED LOW PRESSURE AREA OVER NORTH WEST BAY OF BENGAL BASED ON 0600 UTC (1130 IST) OF 30Th SEPTEMBER, 2023.



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

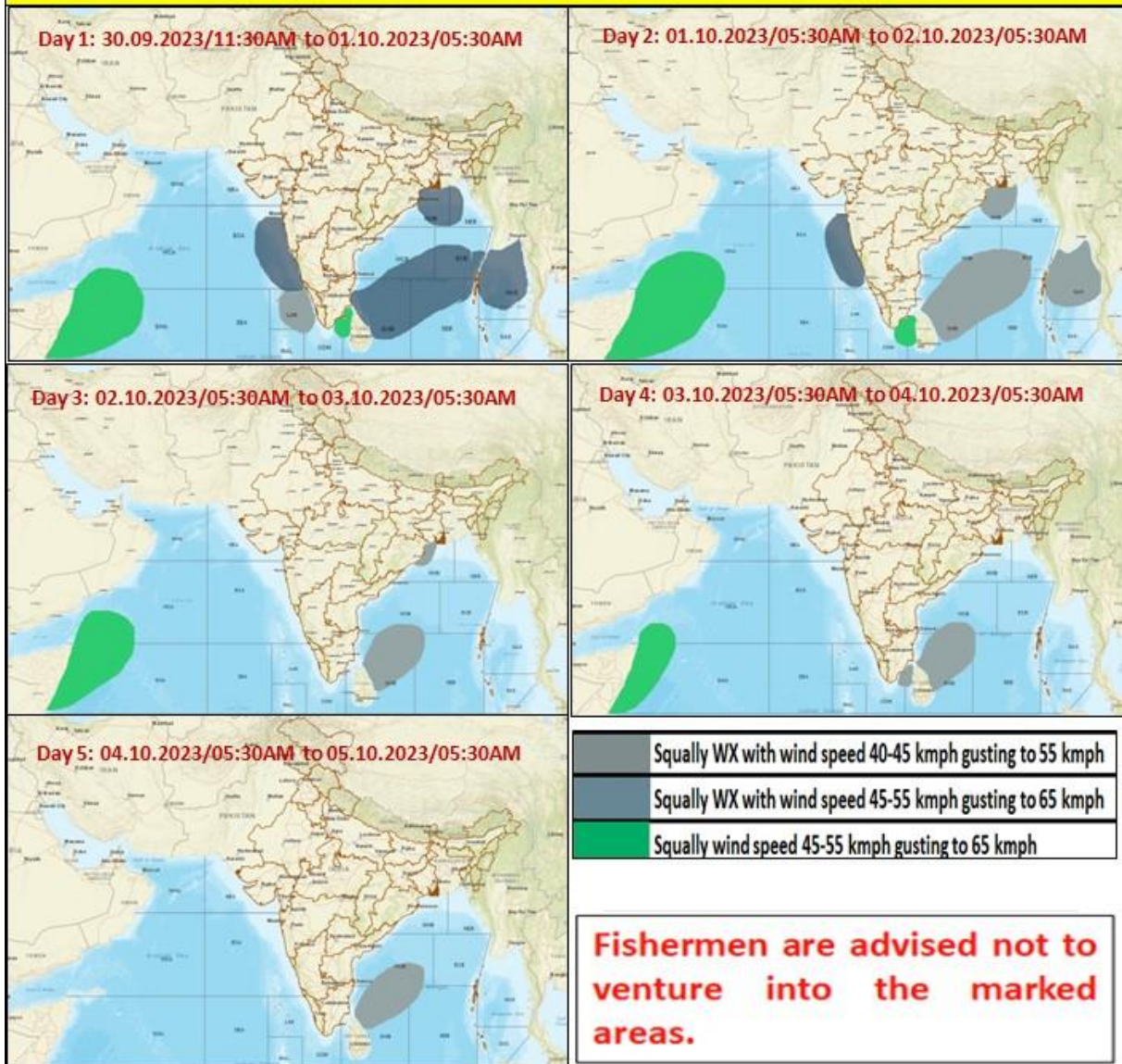
— OBSERVED TRACK

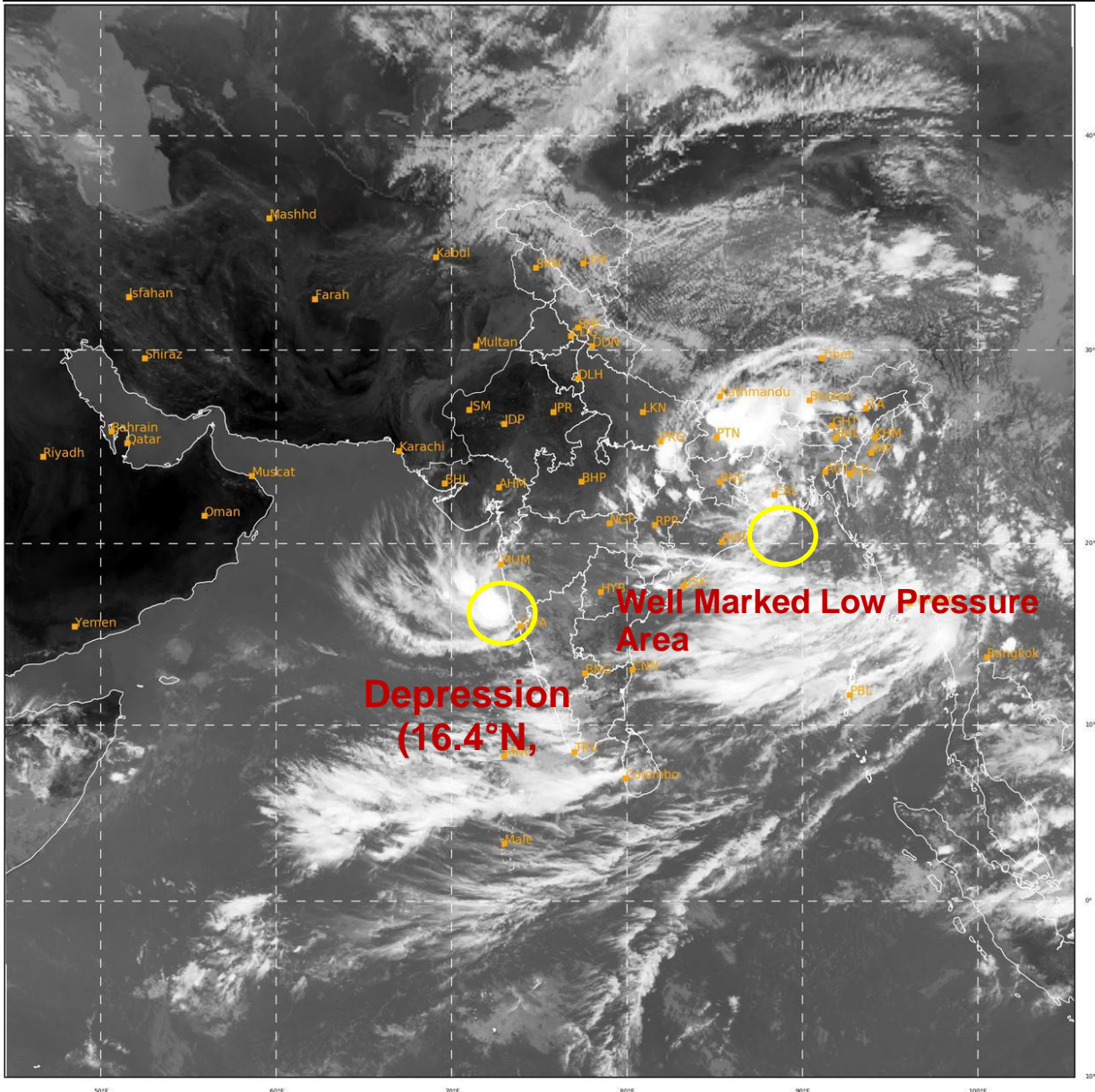
— FORECAST TRACK

▲ 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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Fishermen warning graphics





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