



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

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 12.09.2024

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 168 HOURS ISSUED AT 0700 UTC OF 12.09.2024 BASED ON 0300 UTC OF 12.09.2024.

SUB: DEPRESSION OVER SOUTHWEST UTTAR PRADESH AND NEIGHBOURHOOD

THE DEPRESSION OVER NORTHWEST MADHYA PRADESH AND NEIGHBOURHOOD MOVED NORTH-NORTHEASTWARDS WITH A SPEED OF 10 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 0300 UTC OF TODAY, THE 12TH SEPTEMBER OVER SOUTHWEST UTTAR PRADESH AND NEIGHBOURHOOD NEAR LATITUDE 27.0°N AND LONGITUDE 78.5°E, ABOUT 50 KM EAST-SOUTHEAST OF AGRA (42261), 90 KM NORTH-NORTHEAST OF GWALIOR (42361), 110 KM SOUTH-SOUTHEAST OF ALIGARH (42262) AND 180 KM SOUTH-SOUTHWEST OF BAREILLY (42189).

IT IS LIKELY TO MOVE NORTH-NORTHEASTWARDS AND MAINTAIN ITS INTENSITY TODAY, THE 12TH SEPTEMBER AND WEAKEN GRADUALLY THEREAFTER FROM TOMORROW, THE 13TH SEPTEMBER.

THE SYSTEM IS UNDER CONTINUOUS SURVEILLANCE OF DOPPLER WEATHER RADARS AT DELHI AND LUCKNOW.

AS PER INSAT 3DR IMAGERY AT 0300 UTC, THE CONVECTIVE CLOUDS ARE SHEARED TOWARDS NORTHEAST UNDER THE INFLUENCE OF APPROACHING WESTERLY TROUGH IN THE MIDDLE AND UPPER TROPOSPHERIC LEVELS. ASSOCIATED SCATTERED TO BROKEN LOW & MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER EAST RAJASTHAN, WEST MADHYA PRADESH, WEST UTTAR PRADESH & UTTARAKHAND WITH MINIMUM CLOUD TOP TEMPERATURE OF MINUS 80-93°C AND MODERATE TO INTENSE CONVECTION LAY OVER HIMACHAL PRADESH, HARYANA, DELHI, EAST UTTAR PRADESH, EAST MADHYA PRADESH WITH MINIMUM CLOUD TOP TEMPERATURE OF MINUS 50-70°C.

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED (MSW) IN ASSOCIATION WITH THE SYSTEM IS 20 KTS GUSTING TO 30 KTS. ESTIMATED CENTRAL PRESSURE IS 993 HPA.

At 0300 UTC, THE LOWEST MEAN SEA LEVEL PRESSURE 994.6 HPA IS RECORDED AT GWALIOR (42361).

REMARKS:

MADDEN JULIAN OSCILLATION (MJO) INDEX IS CURRENTLY IN PHASE 5 WITH AMPLITUDE CLOSE TO 1. IT IS LIKELY TO CONTINUE IN SAME PHASE DURING NEXT 2-3 DAYS. THUS, MJO WOULD SUPPORT ENHANCEMENT OF CONVECTIVE ACTIVITY OVER NORTHERN PART OF INDIA.

THE LOW LEVEL CONVERGENCE IS ABOUT $20 \times 10^{-5} \text{ S}^{-1}$ AROUND THE SYSTEM AREA. UPPER LEVEL DIVERGENCE IS ABOUT $20 \times 10^{-5} \text{ S}^{-1}$ AROUND SYSTEM AREA. THE WIND SHEAR IS MODERATE (10-15 KT) OVER SYSTEM AREA AND HIGH (>20) TO THE NORTH OF SYSTEM AREA. VORTICITY AT 850 HPA LEVEL IS AROUND $200 \times 10^{-5} \text{ S}^{-1}$ OVER SYSTEM AREA WITH

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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VERTICAL EXTENSION UPTO 500 HPA LEVEL. CURRENT ENVIRONMENTAL CONDITIONS INDICATE THAT THE DEPRESSION OVER WEST UTTAR PRADESH IS LYING IN A MODERATELY FAVOURABLE ENVIRONMENT. HOWEVER IT WILL ENCOUNTER HIGH WIND SHEAR WHILE MOVING NORTHEASTWARDS LEADING TO WEAKENING OF THE SYSTEM BY TOMORROW.

MOST OF THE MODELS ARE INDICATING THAT THE SYSTEM WILL MAINTAIN ITS INTENSITY TODAY AND GRADUALLY WEAKEN FROM TOMORROW.

IN VIEW OF ALL THE ABOVE, IT IS LIKELY TO MOVE NORTH-NORTHEASTWARDS AND MAINTAIN ITS INTENSITY TODAY, THE 12TH SEPTEMBER AND WEAKEN GRADUALLY THEREAFTER FROM TOMORROW, THE 13TH SEPTEMBER.

NEXT UPDATE IN ASSOCIATION WITH THIS SYSTEM WILL BE ISSUED AT 0900 UTC OF TODAY, THE 12TH SEPTEMBER.

BAY OF BENGAL:

YESTERDAY'S UPPER AIR CYCLONIC CIRCULATION OVER WESTCENTRAL MYANMAR & NEIGHBOURHOOD LAY OVER SOUTHEAST BANGLADESH AND NEIGHBOURHOOD AT 0300 UTC OF TODAY, THE 12TH SEPTEMBER 2024. UNDER ITS INFLUENCE, A LOW PRESSURE AREA IS LIKELY TO FORM OVER COASTAL BANGLADESH AND ADJOINING NORTH BAY OF BENGAL DURING NEXT 24 HOURS. THEREAFTER, IT IS LIKELY TO MOVE SLOWLY WEST-NORTHWESTWARDS AND CONCENTRATE INTO A DEPRESSION OVER COASTAL WEST BENGAL AND ADJOINING NORTHWEST BAY OF BENGAL DURING SUBSEQUENT 48 HOURS.

RECENT INSAT SATELLITE IMAGERY INDICATES THE LOW LEVEL CYCLONIC CIRCULATION OVER SOUTHEAST BANGLADESH AND NEIGHBOURHOOD AT 0300 UTC. ASSOCIATED CONVECTIVE CLOUD LIES TO THE WEST OF LOW LEVEL CYCLONIC CIRCULATION. BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER NORTH & ADJOINING BAY OF BENGAL, ARAKAN COAST WITH MINIMUM CLOUD TOP TEMPERATURE OF MINUS 93°C. SCATTERED LOW AND MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION LAY OVER SOUTH BAY OF BENGAL, ANDAMAN SEA, TENASSERIM COAST AND GULF OF MARTABAN.

THE LOW LEVEL CONVERGENCE IS ABOUT $30 \times 10^{-5} \text{ S}^{-1}$ OVER NORTHEAST BAY OF BENGAL & ADJOINING MYANMAR. UPPER LEVEL DIVERGENCE IS ABOUT $30 \times 10^{-5} \text{ S}^{-1}$ OVER NORTHEAST BAY OF BENGAL & ADJOINING MYANMAR. THE WIND SHEAR IS LOW TO MODERATE (5-15 KT) OVER COASTAL BANGLADESH & NEIGHBOURHOOD. VORTICITY AT 850 HPA LEVEL IS AROUND $100 \times 10^{-5} \text{ S}^{-1}$ OVER NORTHEAST BAY OF BENGAL & ADJOINING MYANMAR WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL.

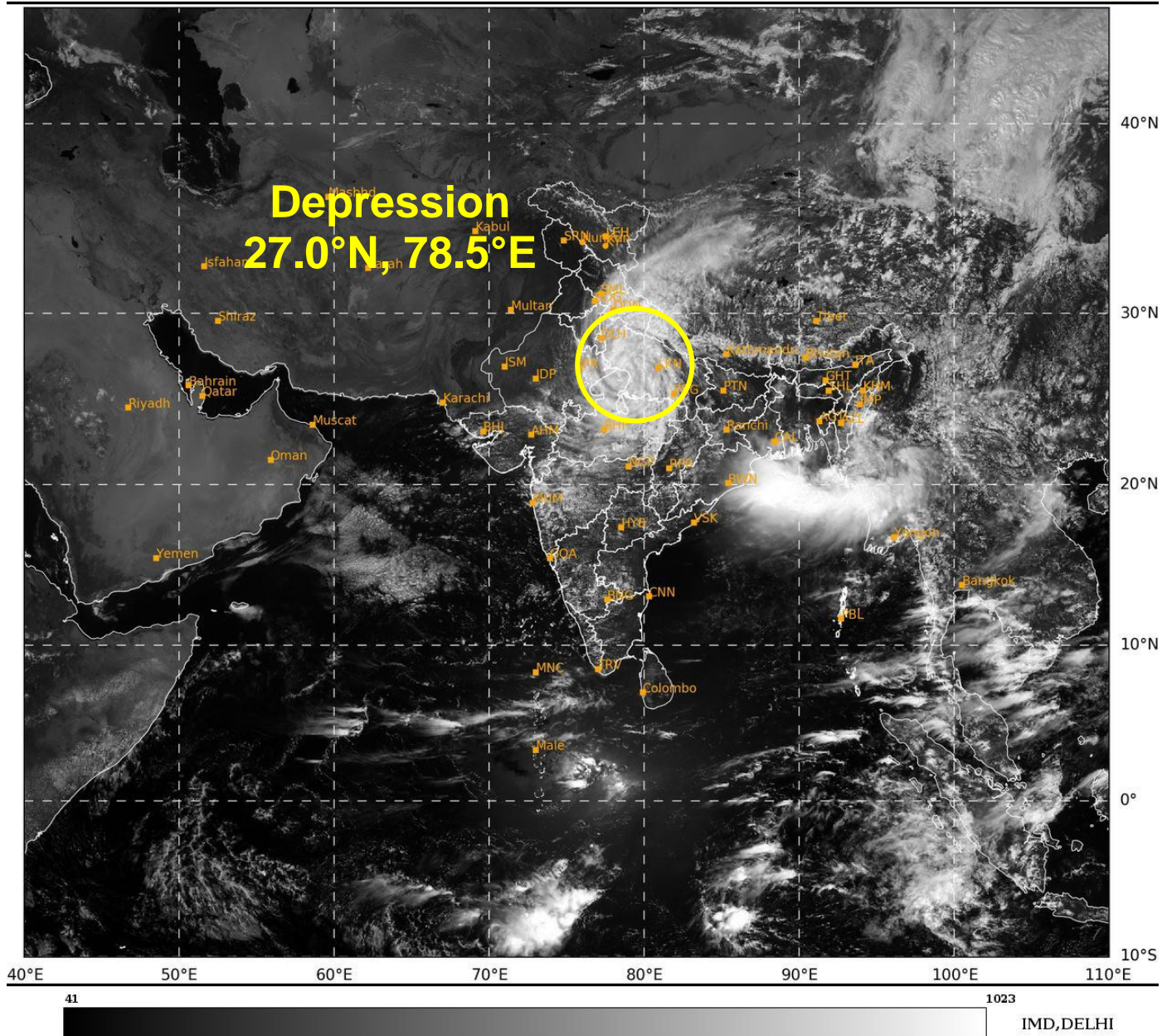
MOST OF THE NWP MODELS INDICATE GRADUAL WEST-NORTHWESTWARD MOVEMENT AND INTENSIFICATION INTO A DEPRESSION DURING NEXT 3 DAYS.

***PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION) DURING NEXT 168 HRS:**

24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS	120-144 HOURS	144-168 HOURS
NIL	LOW	MOD	HIGH	-	-	-

***NOTE: EVERY 24HR FORECAST IS VALID UPTO 0300 UTC (0830 IST) OF NEXT DAY**

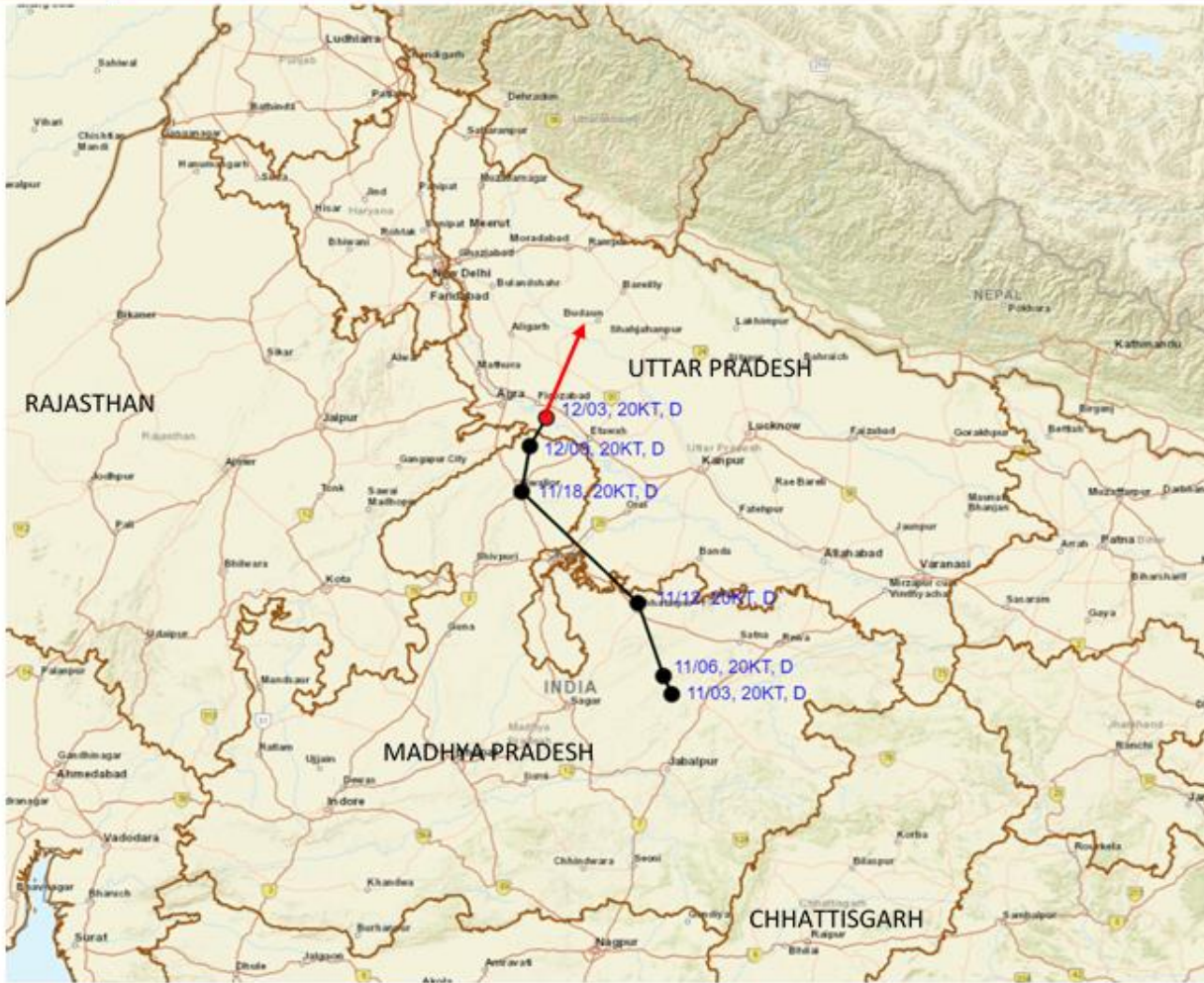
Dr. D.R. PATTANAİK)
SC.-F, RSMC NEW DELHI



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OBSERVED AND FORECAST TRACK OF DEPRESSION OVER SOUTHWEST UTTAR PRADESH AND NEIGHBOURHOOD BASED ON 0300 UTC (0830 IST) OF 12TH SEPTEMBER, 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)

ECS: 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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