



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

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 16.09.2024

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 168 HOURS ISSUED AT 0300 UTC OF 16.09.2024 BASED ON 0000 UTC OF 16.09.2024.

SUB: DEEP DEPRESSION OVER GANGETIC WEST BENGAL

THE DEEP DEPRESSION OVER GANGETIC WEST BENGAL MOVED SLOWLY NORTHWESTWARDS WITH A SPEED OF 3 KMPH DURING PAST 6 HOURS AND LAY CENTERED AT 0000 UTC OF TODAY, THE 16TH SEPTEMBER 2024, OVER THE SAME REGION NEAR LATITUDE 23.0° N AND LONGITUDE 87.0° E, 40 KM SOUTH OF BANKURA (42706), 90 KM EAST-NORTHEAST OF JAMSHEDPUR (42799) AND 180 KM EAST OF RANCHI (42701).

IT IS LIKELY TO MOVE SLOWLY WEST-NORTHWESTWARDS ACROSS GANGETIC WEST BENGAL AND WEAKEN INTO A DEPRESSION DURING NEXT 12 HOURS. THEREAFTER, IT WILL CONTINUE TO MOVE WEST-NORTHWESTWARDS ACROSS JHARKHAND AND NORTH CHHATTISGARH DURING SUBSEQUENT 24 HOURS.

THE DEEP DEPRESSION IS UNDER CONTINUOUS SURVEILLANCE BY THE DOPPLER WEATHER RADAR AT KOLKATA.

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
16.09.24/0000	23.0/87.0	50-60 GUSTING TO 70	DEEP DEPRESSION
16.09.24/1200	23.3/85.9	50-60 GUSTING TO 70	DEEP DEPRESSION
17.09.24/0000	23.6/84.4	45-55 GUSTING TO 65	DEPRESSION
17.09.24/1200	24.2/82.9	35-45 GUSTING TO 55	DEPRESSION

AT 0000 UTC, AS PER INSAT 3DR IMAGERY, SPIRAL BAND ORGANISATION OF CLOUDS CONTINUES. ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER NORTH CHHATTISGARH, NORTHEAST MADHAYAPRADESH, SOUTH BIHAR, JHARKHAND, NORTH ODISHA, GANGETIC WEST BENGAL, BANGALADESH, MEGHALAYA, TRIPURA, AND NORTH BAY OF BENGAL (MINIMUM CLOUD TOP TEMPERATURE MINUS 70-90 DEG CEL). MODERATE TO INTENSE CONVECTION LAY OVER NORTH BIHAR, WEST ASSAM, SUB-HIMALAYAN WEST BENAGL

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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(MINIMUM CLOUD TOP TEMPERATURE IS MINUS 60-70 DEG CEL). TOTAL PRECIPITABLE WATER IMAGERY IS INDICATING WARM MOIST AIR ADVECTION FROM NORTH BAY OF BENGAL INTO THE SYSTEM AREA. THE INFRARED-WATER VAPOUR (IR-WV) IMAGERY IS INDICATING (-NEGATIVE OVER SYSTEM AREA) THE DEEP CONVECTION OVER THE REGION. IR-WV IMAGERY IS INDICATING MESOSCALE CONVECTIVE CLUSTERS OVER BANGLADESH, AROUND SYSTEM AREA AND OVER JHARKHAND.

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED (MSW) IN ASSOCIATION WITH THE SYSTEM IS 30 KTS GUSTING TO 40 KTS. ESTIMATED CENTRAL PRESSURE IS 992HPA.

AT 0000 UTC, BANKURA REPORTED LOWEST MEAN SEA LEVEL PRESSURE (MSLP) OF 991.7 HPA AND MAXIMUM WIND SPEED (MSW) OF 50°/03KT. JAMSHEDPUR REPORTED LOWEST MEAN SEA LEVEL PRESSURE (MSLP) OF 991.8 HPA AND MAXIMUM WIND SPEED (MSW) OF 320°/06KT. RANCHI REPORTED LOWEST MEAN SEA LEVEL PRESSURE (MSLP) OF 994.9 HPA AND MAXIMUM WIND SPEED (MSW) OF 320°/06KT.

WIND WARNING:

SQUALLY WIND SPEED REACHING 50-60 KMPH GUSTING TO 70 KMPH IS LIKELY TO PREVAIL ALONG & OFF BANGLADESH, WEST BENGAL, AND NORTH ODISHA COASTS ADJOINING NORTH BAY OF BENGAL TILL 1200 UTC OF 16TH SEPTEMBER. THEREAFTER, IT IS LIKELY TO BECOME 40-50 KMPH GUSTING TO 60 KMPH AND DECREASE THEREAFTER.

SEA CONDITION:

ROUGH TO VERY ROUGH SEA CONDITION IS VERY LIKELY TO PREVAIL ALONG & OFF WEST BENGAL-ODISHA COASTS ADJOINING NORTH BAY OF BENGAL TILL 1200 UTC OF 16TH SEPTEMBER.

SUBSEQUENTLY, ROUGH SEA CONDITION IS LIKELY TO PREVAIL OVER NORTH BAY OF BENGAL AND ALONG & OFF WEST BENGAL-ODISHA COASTS AND IMPROVE THERAFTER.

FISHERMEN WARNING:

FISHERMEN ARE ADVISED NOT TO VENTURE INTO NORTH BAY OF BENGAL AND ALONG & OFF BANGLADESH, WEST BENGAL, AND ODISHA COASTS TILL 16TH SEPTEMBER.

REMARKS:

CURRENT ENVIRONMENTAL CONDITONS INDICATE THAT THE DEEP DEPRESSION OVER GANGETIC WEST BENGAL IS LYING IN A FAVOURABLE ENVIRONMENT. MADDEN JULIAN OSCILLATION (MJO) INDEX IS CURRENTLY IN PHASE 5 WITH AMPLITUDE GREATER THAN 1. IT IS LIKELY TO CONTINUE IN SAME PHASE DURING NEXT 2 DAYS AND THEN LIKELY TO MOVE TO PHASE 6. THE NCICS BASED FORECAST INDICATES PERSISTENCE OF STRONG WESTERLY WINDS (5-7 MPS) OVER SOUTH-CENTRAL BAY WITH STRONG EASTERLY WINDS (5-7 MPS) OVER EASTERN PARTS OF INDIA, PRESENCE OF EQUATORIAL ROSSBY WAVES, KELVIN WAVES AND MJ WAVES. ALL THESE FEATURES ARE SUPPORTING THE

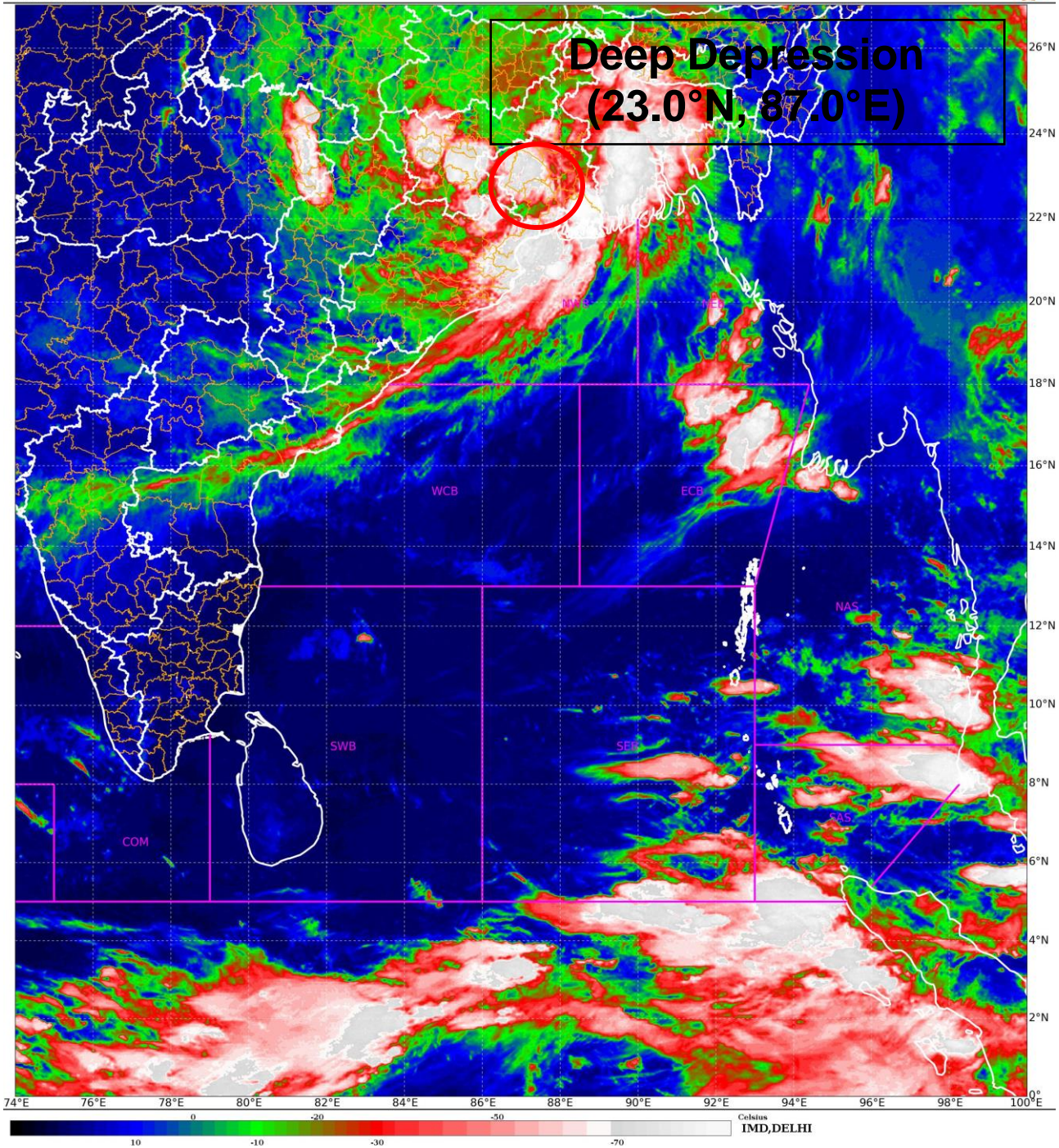
SYSTEM TO MAINTAIN ITS INTENSITY. WARM SEA SURFACE TEMPERATURE OVER HEAD BAY OF BENGAL IS CAUSING WARM MOIST AIR ADVECTION TOWARDS THE SYSTEM CENTRE.

THE LOW LEVEL CONVERGENCE IS AROUND $10 \times 10^{-5} \text{ S}^{-1}$ AND IS ELONGATED SOUTH OF THE SYSTEM CENTER. UPPER LEVEL DIVERGENCE IS AROUND $10 \times 10^{-5} \text{ S}^{-1}$ ORIENTED IN THE NORTHEAST–SOUTHWEST DIRECTION. THE WIND SHEAR IS LOW TO MODERATE (10-15 KT) OVER SYSTEM AREA AND ALONG THE FORECAST TRACK. VORTICITY AT 850 HPA LEVEL IS AROUND $250 \times 10^{-5} \text{ S}^{-1}$ TO THE SOUTHWEST OF SYSTEM CENTRE AND EXTENDS UP TO 200 HPA ($50 \times 10^{-5} \text{ S}^{-1}$). THESE FEATURES INDICATE THAT THE SYSTEM IS STILL LYING IN A FAVOURABLE ENVIRONMENT. SYSTEM IS EMBEDDED IN SOUTHWEST MONSOON WESTERLIES. DEEP LAYER MEAN WIND SUGGEST WEST-NORTHWESTWARD MOVEMENT UPTO 80°E . APPROACHING TROUGH IN WESTERLY WILL SLOW DOWN THE SYSTEM AND MAY LEAD TO NEAR NORTHWESTWARDS MOVEMENT OF SYSTEM ACROSS UTTAR PRADESH.

MOST OF THE NWP MODELS INDICATE THAT THE SYSTEM IS LIKELY TO MOVE SLOWLY NEARLY WEST-NORTHWESTWARDS. MOST OF THE MODELS ARE INDICATING WEAKENING OF THE SYSTEM ON 16TH SEPTEMBER (BETWEEN 0000 TO 1200 UTC). IMD MME IS INDICATING WEAKENING INTO A DEPRESSION AT 0000 UTC OF 16TH SEPTEMBER. IT IS INDICATING INITIAL WESTWARDS MOVEMENT TILL 17TH/0000 UTC FOLLOWED BY NORTHWESTWARDS MOVEMENT THEREAFTER.

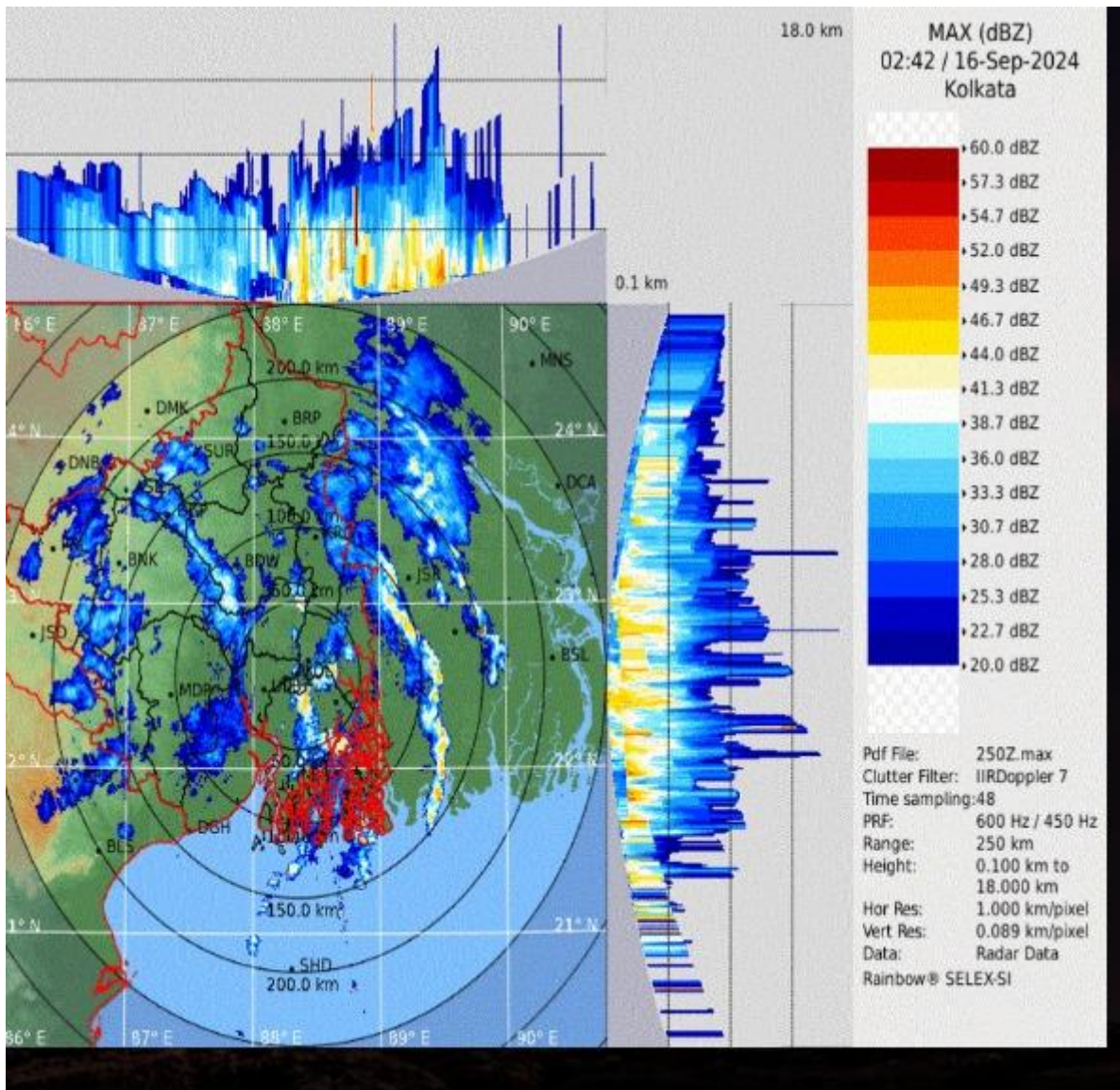
IN VIEW OF ALL THE ABOVE, THE DEEP DEPRESSION OVER GANGETIC WEST BENGAL IS LIKELY TO MOVE SLOWLY WEST-NORTHWESTWARDS ACROSS GANGETIC WEST BENGAL AND WEAKEN INTO A DEPRESSION DURING NEXT 12 HOURS. THEREAFTER, IT WILL CONTINUE TO MOVE WEST-NORTHWESTWARDS ACROSS JHARKHAND AND NORTH CHHATTISGARH DURING SUBSEQUENT 24 HOURS.

DR. AMIT BHARDWAJ
SC.-C, RSMC NEW DELHI



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Kolkata Radar Image



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OBSERVED AND FORECAST TRACK OF DEEP DEPRESSION OVER GANGETIC WEST BENGAL BASED ON 0000 UTC (0530 IST) OF 16TH SEPTEMBER, 2024.



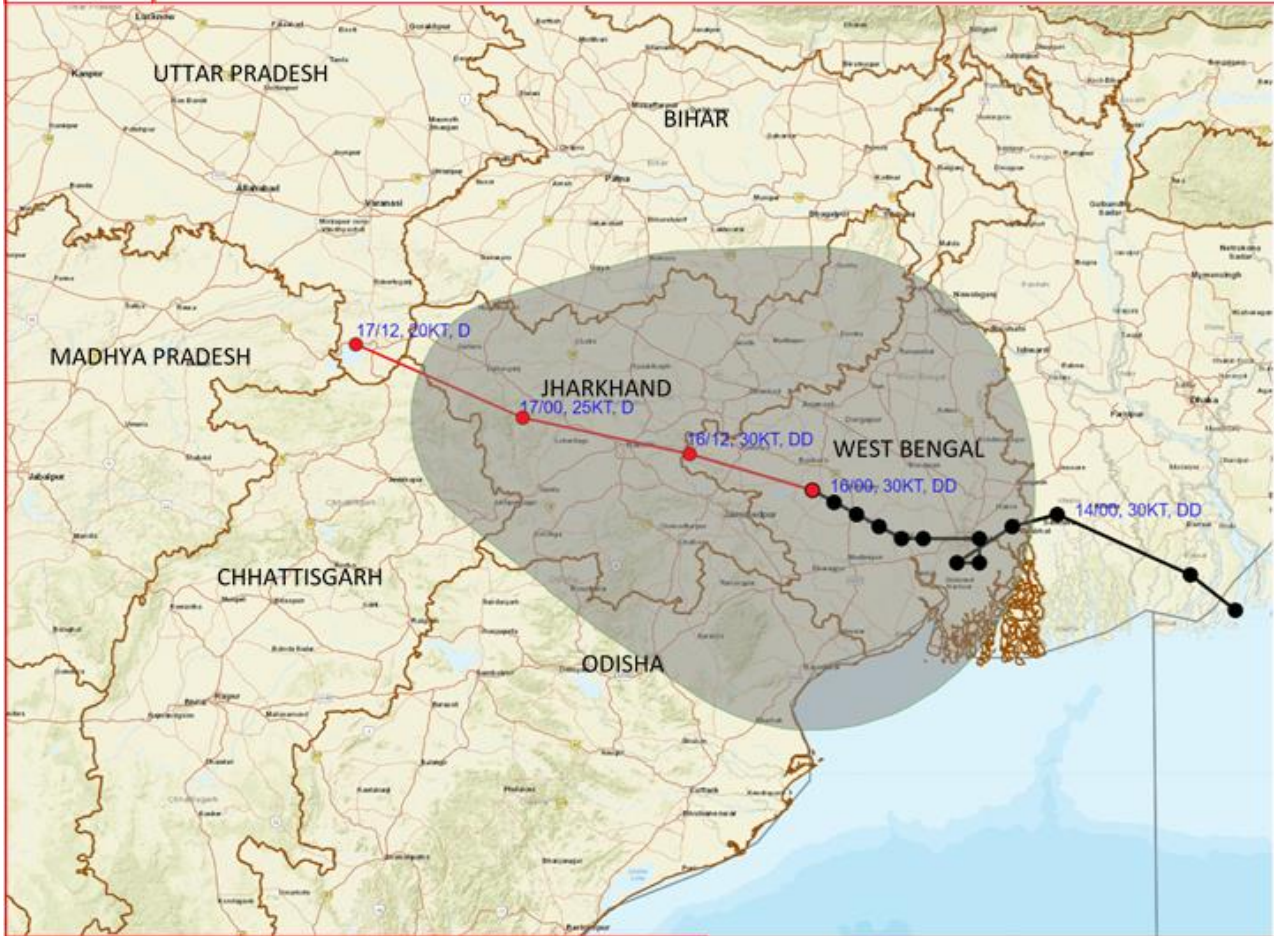
DATE/TIME IN UTC
 IST=UTC + 0530
 L: LOW PRESSURE AREA
 WML: WELL MARKED LOW PRESSURE AREA
 D: DEPRESSION (17-27 KT)
 DD: DEEP DEPRESSION (28-33 KT)
 CS: CYCLONIC STORM (34-47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63KT)
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
 SuCS: SUPER CYCLONIC STORM (≥ 20 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 ALONG WITH QUADRANT WIND DISTRIBUTION OF DEEP DEPRESSION OVER GANGETIC WEST BENGAL BASED ON 0000 UTC (0530 IST) OF 16TH 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)

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
- AREA OF MAXIMUM SUSTAINED WIND SPEED:
- 28-33 KT (52-61 KMPH)
- 34-49 KT (62-91 KMPH)
- 50-63 KT (92-117 KMPH)
- ≥ 64 KT (≥118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

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Fishermen Warning Graphics

