



**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI**  
**TROPICAL CYCLONE ADVISORY NO. 4**

**FROM: RSMC –TROPICAL CYCLONES, NEW DELHI**

**TO: STORM WARNING CENTRE, NAYPYI TAW (MYANMAR)**  
**STORM WARNING CENTRE, BANGKOK (THAILAND)**  
**STORM WARNING CENTRE, COLOMBO (SRILANKA)**  
**STORM WARNING CENTRE, DHAKA (BANGLADESH)**  
**STORM WARNING CENTRE, KARACHI (PAKISTAN)**  
**METEOROLOGICAL OFFICE, MALE (MALDIVES)**  
**OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH)**  
**YEMEN METEOROLOGICAL SERVICES, REPUBLIC OF YEMEN (THROUGH RTH JEDDAH)**  
**NATIONAL CENTRE FOR METEOROLOGY, UAE (THROUGH RTH JEDDAH)**  
**PRESIDENCY OF METEOROLOGY AND ENVIRONMENT, SAUDI ARABIA (THROUGH RTH JEDDAH)**  
**IRAN METEOROLOGICAL ORGANISATION, (THROUGH RTH JEDDAH)**  
**QATAR METEOROLOGICAL DEPARTMENT (THROUGH RTH JEDDAH)**

**TROPICAL CYCLONE ADVISORY NO. 4 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 1730 UTC OF 03.12.2021 BASED ON 1500 UTC OF 03.12.2021**

**SUB: CYCLONIC STORM 'JAWAD' OVER WESTCENTRAL BAY OF BENGAL**

THE **CYCLONIC STORM 'JAWAD'** (PRONOUNCED AS JOWAD) OVER WESTCENTRAL BAY OF BENGAL CONTINUED TO MOVE NORTH-NORTHWESTWARDS WITH A SPEED OF 14 KMPH DURING PAST 06 HOURS AND LAY CENTERED AT 1500 UTC OF TODAY, THE 3<sup>RD</sup> DECEMBER 2021, OVER WESTCENTRAL BAY OF BENGAL NEAR LAT. 15.7N AND LONG. 85.0°E, ABOUT 280 KM SOUTH-SOUTHEAST OF VISHAKHAPATNAM (43149), 400 KM NEARLY SOUTH OF GOPALPUR (42049), 460 KM SOUTH-SOUTHWEST OF PURI (42053) AND 540 KM SOUTH-SOUTHWEST OF PARADIP (42976).

IT IS LIKELY TO MOVE NORTH-NORTHWESTWARDS AND REACH WEST-CENTRAL BAY OF BENGAL OFF NORTH ANDHRA PRADESH – SOUTH ODISHA COASTS BY TOMORROW, THE 4<sup>TH</sup> DECEMBER MORNING. THEREAFTER IT IS LIKELY TO RECURVE NORTH-NORTHEASTWARDS AND MOVE ALONG ODISHA COAST REACHING NEAR PURI AROUND 5<sup>TH</sup> DECEMBER 0600UTC. SUBSEQUENTLY IT IS LIKELY TO CONTINUE TO MOVE NORTH-NORTHEASTWARDS ALONG COASTAL ODISHA TOWARDS WEST BENGAL COAST.

DATE/TIME(UTC)	POSITION (LAT. °N/ LONG. °E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
03.12.21/1500	15.7/85.0	70-80 GUSTING TO 90	CYCLONIC STORM
03.12.21/1800	15.9/84.7	75-85 GUSTING TO 95	CYCLONIC STORM
04.12.21/0000	16.5/84.4	80-90 GUSTING TO 100	CYCLONIC STORM
04.12.21/0600	17.1/84.3	90-100 GUSTING TO 110	SEVERE CYCLONIC STORM
04.12.21/1200	17.9/84.5	90-100 GUSTING TO 110	SEVERE CYCLONIC STORM
05.12.21/0000	19.2/85.3	85-95 GUSTING TO 105	CYCLONIC STORM
05.12.21/1200	20.1/86.3	70-80 GUSTING TO 90	CYCLONIC STORM
06.12.21/0000	21.0/87.4	55-65 GUSTING TO 75	DEEP DEPRESSION
06.12.21/1200	21.9/88.5	45-55 GUSTING TO 65	DEPRESSION

AS PER SATELLITE IMAGERY BASED ON 1500 UTC OF 3 DEC, THE INTENSITY OF THE SYSTEM IS CHARACTERIZED AS T 2.5. THE CLOUD MASS CONTINUES TO ORGANIZE IN NORTHERN SECTOR CLOSE TO THE LLC AND EXHIBITS SHEAR PATTERN. THE SYSTEM MOVED NORTH- NORTHWESTWARDS DURING LAST 6 HOURS WITH ABOUT A SPEED OF 14 KMPH AND CONSOLIDATED FURTHER. INTENSE TO VERY INTENSE CONVECTION LIES IN THE NORTHERN SECTOR.. OUTFLOW CLOUD BANDS EMBEDDED WITH INTENSE CONVECTIVE CELLS ARE OBSERVED OVER NORTH ANDHRA PRADESH AND ODISHA AND GANGETIC WEST BENGAL. ASSOCIATED BROKEN LOW & MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER WEST CENTRAL AND NORTHWEST BOB BETWEEN LATITUDE 15.0°N & 21.5°N AND LONGITUDE 83.0°E & 89.0°E, NORTH COASTAL ANDHRA PRADESH, ODISHA, SOUTHERN JHARKHAND AND SOUTHERN PARTS OF GANGETIC WEST BENGAL .

THE MAXIMUM SUSTAINED SURFACE WIND SPEED IS 40 KNOTS GUSTING TO 50 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 999 HPA. SEA CONDITION IS HIGH OVER WESTCENTRAL BAY OF BENGAL AROUND THE SYSTEM CENTRE.

AT 1500 UTC, THREE BUOYS: NEAR 16.2°N/88.0°E AND 14.0°N/87.0°E REPORTED MAXIMUM SUSTAINED WIND OF 150°/18KTS AND 200°/18KTS , MEAN SEA LEVEL PRESSURE OF 1010.0 HPA, EACH AND SEA SURFACE TEMPERATURE 28.9°C EACH.

**REMARKS:**

THE SEA SURFACE TEMPERATURE IS 28-29°C OVER WESTCENTRAL BOB AND THEN OF 27-28°C TOWARDS NORTHWEST BOB. TROPICAL CYCLONE HEAT POTENTIAL IS 80-100 KJ/CM<sup>2</sup> OVER WESTCENTRAL BOB AND GRADUALLY DECREASING TOWARDS EXTREME NORTHWEST BECOMING 50-60. DEPTH OF 26°C ISOTHERM IS 100-120 M OVER WESTCENTRAL & ADJOINING NORTHWEST BOB. THE MADDEN JULIAN OSCILLATION INDEX IS CURRENTLY IN PHASE 6 WITH AMPLITUDE MORE THAN 1 AND IS NOT FAVOURABLE FOR INTENSIFICATION. IT WILL CONTINUE IN SAME PHASE DURING NEXT 5 DAYS. WIND SHEAR IS MODERATE 15-20 KNOTS OVER THE SYSTEM AREA. IT IS BECOMING HIGHER TOWARDS NORTHWEST BOB. POSITIVE LOW LEVEL VORTICITY IS ABOUT  $150 \times 10^{-6} \text{S}^{-1}$  AROUND THE SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL. LOW LEVEL CONVERGENCE IS  $10-20 \times 10^{-6} \text{S}^{-1}$  TO THE NORTHEAST OF THE SYSTEM CENTRE. UPPER LEVEL DIVERGENCE IS  $30 \times 10^{-5} \text{S}^{-1}$  TO THE NORTH OF SYSTEM CENTRE. THUS, ENVIRONMENTAL FEATURES ARE FAVOURABLE FOR SLIGHT INTENSIFICATION OF SYSTEM. UPPER TROPOSPHERIC RIDGE RUNS ALONG 16°N. THE TROUGH IN MID & UPPER TROPOSPHERIC WESTERLIES NOW RUNS ALONG LONG. 73.0°E TO THE NORTH OF LAT. 20°N. AS THE SYSTEM COMES CLOSER TO THE RIDGE, AT NEARLY AROUND 0000UTC OF 4<sup>TH</sup> NOV. IT WILL CROSS THE RIDGE AND WILL BE STEERED NORTH-NORTHEASTWARDS, UNDER THE INFLUENCE OF SOUTH-SOUTHWESTERLIES PREVAILING IN THE NORTHERN PERIPHERY OF RIDGE AND THE APPROACHING TROUGH IN WESTERLIES AT MIDDLE AND UPPER TROPOSPHERIC LEVELS.

MOST OF THE MODELS ARE INDICATING THAT THE CURRENT CYCLONIC STORM OVER WESTCENTRAL BOB WOULD FURTHER INTENSIFY SLIGHTLY DURING NEXT 24 HOURS. MOST OF THE MODELS INDICATE THAT IT IS LIKELY TO RECURVE NORTH-NORTHEASTWARDS AND MOVE ALONG ODISHA

NEXT BULLETIN WILL BE ISSUED AT 2100 UTC OF 3<sup>RD</sup> DECEMBER 2021.

**(D R Pattanaik)**  
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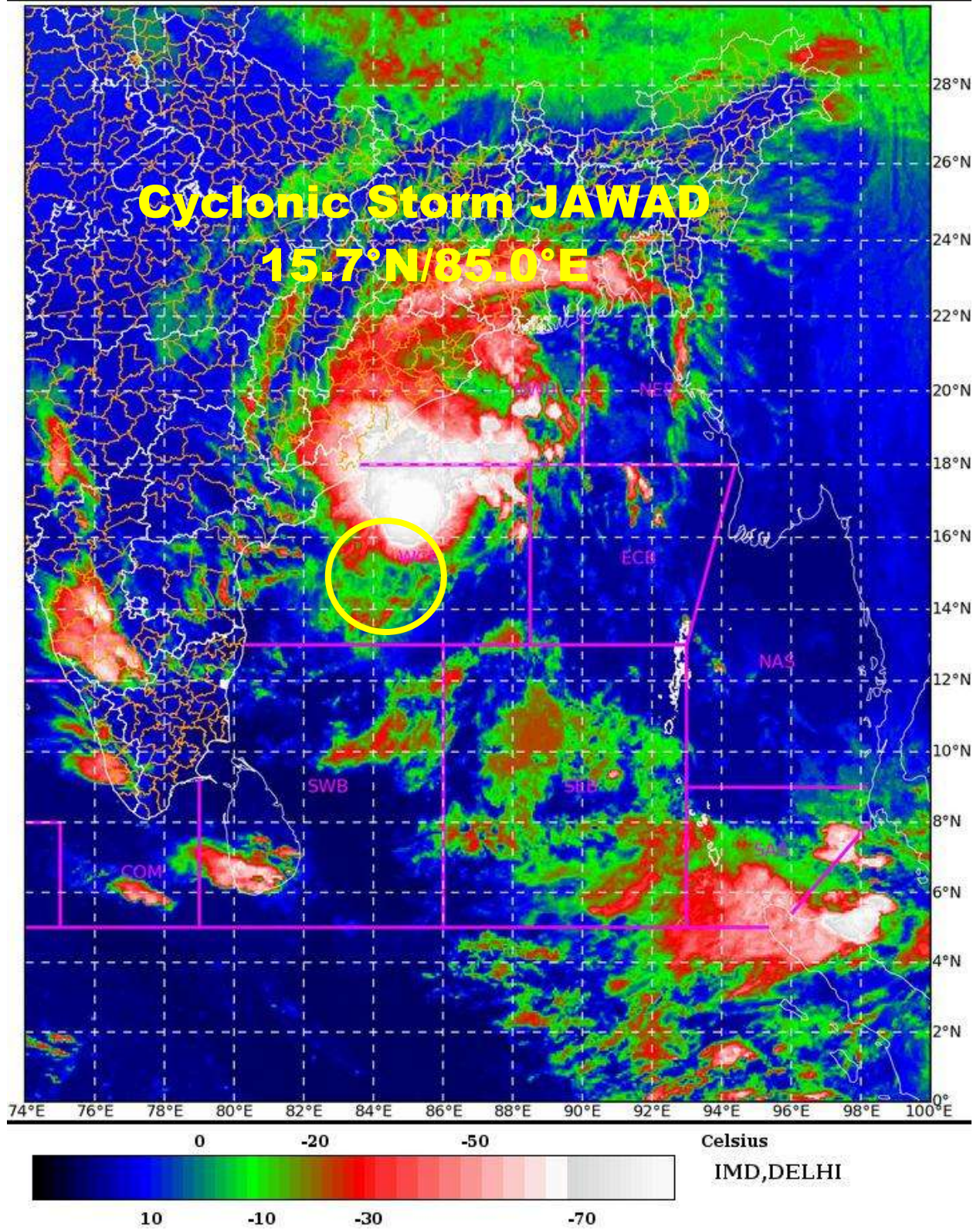
SAT : INSAT-3D IMG

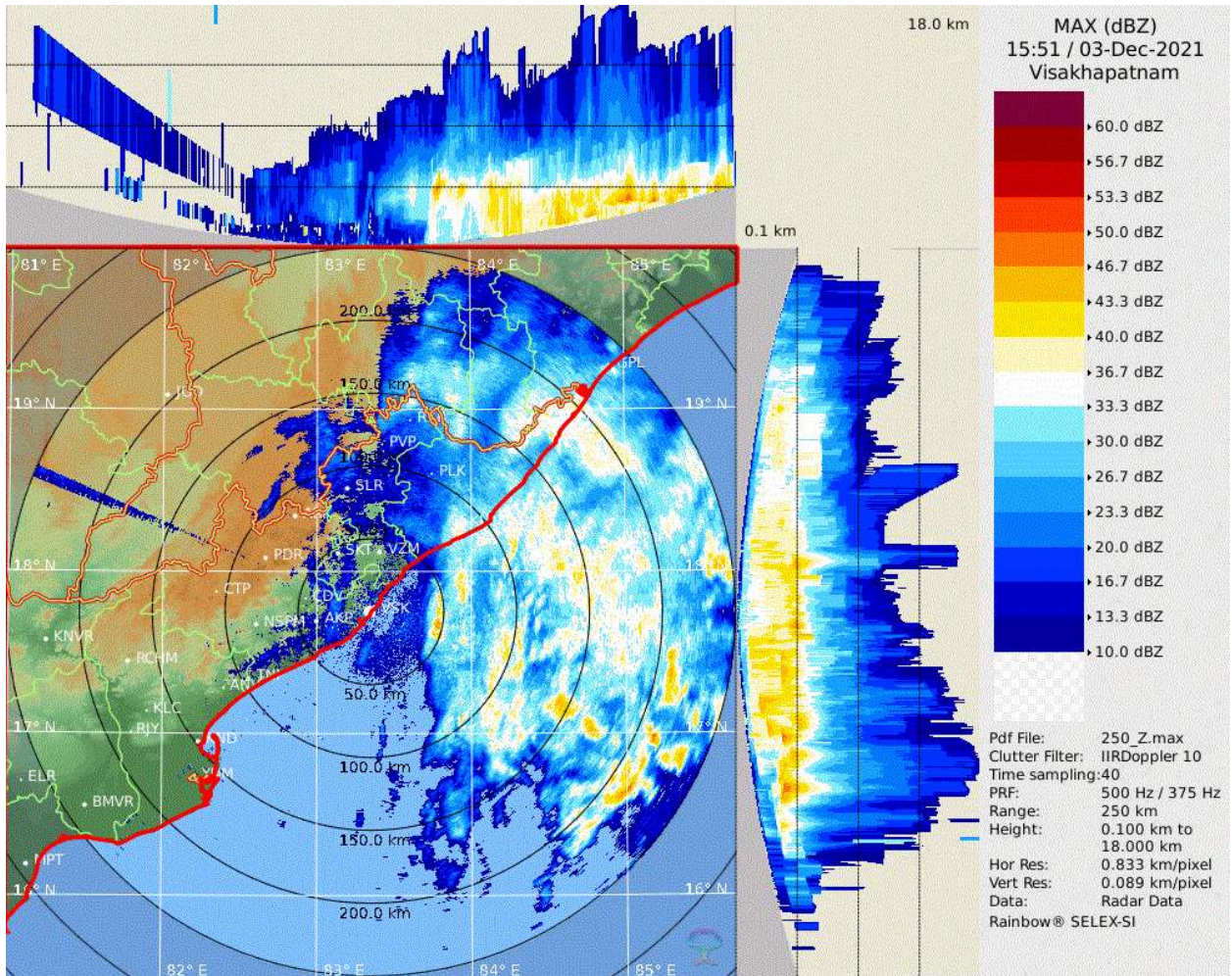
03-12-2021/(1500 to 1526) GMT

IMG\_TIR1\_TEMP 10.8 um

03-12-2021/(2030 to 2056) IST

L1C Mercator





**Doppler Weather RADAR imagery from Vishakhapatnam, depicting deep convective clouds over north Coastal Andhra Pradesh and south Odisha.**



# OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF CYCLONIC STORM 'JAWAD' OVER WESTCENTRAL BAY OF BENGAL BASED ON 1200 UTC OF 3<sup>rd</sup> DECEMBER, 2021

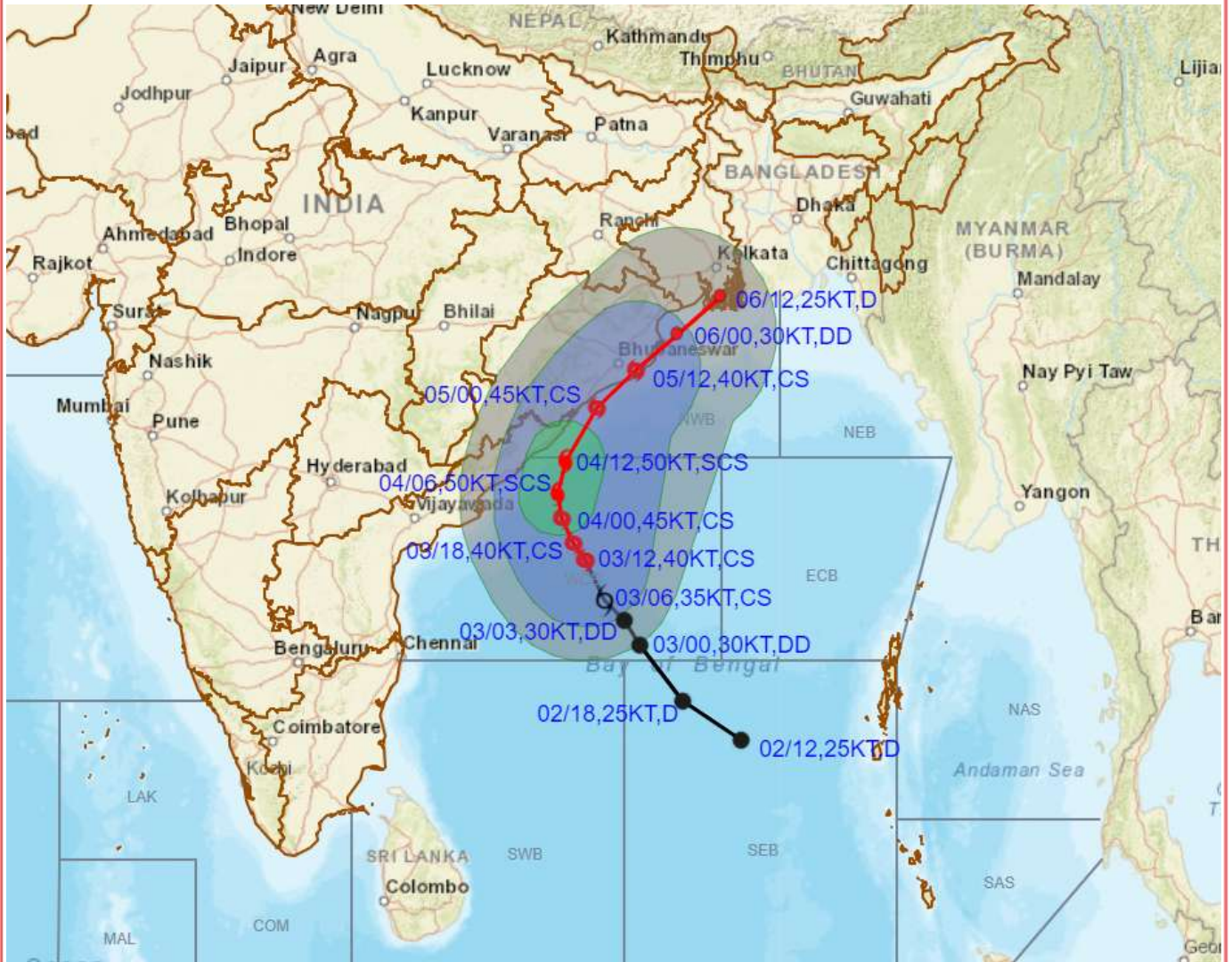


DATE/TIME IN UTC  
 IST=UTC + 0530  
 L: LOW PRESSURE AREA  
 WML: WELL MARKED LOW PRESSURE AREA  
 D: DEPRESSION (17-27 KT)  
 DD: DEEP DEPRESSION (28-33 KT)  
 CS: CYCLONIC STORM (34-47 KT)  
 SCS: SEVERE CYCLONIC STORM (48-63KT)  
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)  
 ESCS: EXTREMELY SEVERE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

- LESS THAN 34 KT
- 34-47 KT
- $\geq$  48 KT
- OBSERVED TRACK
- FORECAST TRACK
- CONE OF UNCERTAINTY



## OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM 'JAWAD' OVER WESTCENTRAL BAY OF BENGAL BASED ON 1200 UTC OF 3<sup>rd</sup> DECEMBER, 2021



### 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