



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

**DEMS-RSMC SPECIAL TROPICAL CYCLONES NEW DELHI DATED 02.12.2021**

**SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 2100 UTC OF 02.12.2021 BASED ON 1800 UTC OF 02.12.2021.**

THE **DEPRESSION** OVER SOUTHEAST BAY OF BENGAL MOVED WEST-NORTHWESTWARDS WITH A SPEED OF 32 KMPH DURING PAST 06 HOURS AND LAY CENTERED AT 1800 UTC OF 2ND DECEMBER 2021, OVER THE SAME REGION NEAR LAT. 12.0°N AND LONG. 87.5°E, ABOUT 770 KM SOUTH-SOUTHEAST OF VISHAKHAPATNAM (ANDHRA PRADESH), 850 KM SOUTH-SOUTHEAST OF GOPALPUR (ODISHA) & 920 KM SOUTH-SOUTHEAST OF PARADIP (ODISHA).

IT IS LIKELY TO MOVE NORTHWESTWARDS AND INTENSIFY INTO A CYCLONIC STORM OVER CENTRAL PARTS OF THE BAY OF BENGAL DURING NEXT 24 HOURS. FURTHER, IT IS LIKELY TO REACH WESTCENTRAL BAY OF BENGAL OFF NORTH ANDHRA PRADESH – SOUTH ODISHA COASTS AROUND 4TH DECEMBER MORNING (0000 UTC). THEREAFTER, IT IS LIKELY TO MOVE NORTH-NORTHEASTWARDS. FORECAST TRACK AND INTENSITY OF THE SYSTEM IS GIVEN IN TABLE:

DATE/TIME(UTC)	POSITION LAT. °N/ LONG. °E	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
02.12.21/1800	12.0/87.5	45-55 GUSTING TO 65	DEPRESSION
03.12.21/0600	13.6/85.4	50-60 GUSTING TO 70	DEEP DEPRESSION
03.12.21/1800	15.2/84.1	70-80 GUSTING TO 90	CYCLONIC STORM
04.12.21/0600	16.9/83.6	90-100 GUSTING TO 110	SEVERE CYCLONIC STORM
04.12.21/1800	18.4/84.5	80-90 GUSTING TO 100	CYCLONIC STORM
05.12.21/0600	19.5/85.6	60-70 GUSTING TO 80	CYCLONIC STORM

THE INTENSITY OF THE SYSTEM IS CHARACTERIZED AS T 1.5. THE CLOUD MASS IS ORGANIZED IN SHEAR PATTERN. THE CONVECTIVE CLOUD CLUSTERS ARE SHEARED TO WEST-NORTHWEST SECTOR. ASSOCIATED SCATTERED TO BROKEN LOW & MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTHEAST & ADJOINING SOUTHWEST BOB AND CENTRAL BOB BETWEEN LATITUDE 10.0 N & 19.0N AND LONGITUDE 81.0 E & 92.0 E, ANDAMAN ISLANDS AND ADJOINING ANDAMAN SEA.

THE MAXIMUM SUSTAINED SURFACE WIND SPEED IS 25 KNOTS GUSTING TO 35 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1004 HPA. SEA CONDITION IS ROUGH TO VERY ROUGH OVER SOUTHEAST BAY OF BENGAL.

A SHIP NEAR 18.0N/88.0E REPORTED MEAN SEA LEVEL PRESSURE OF 1012 HPA AND MAXIMUM SUSTAINED WIND SPEED OF 10<sup>0</sup>/24 KTS.

**REMARKS:**

THE SEA SURFACE TEMPERATURE IS 29-31°C OVER ENTIRE BOB. TROPICAL CYCLONE HEAT POTENTIAL IS 100-120 KJ/CM<sup>2</sup> OVER SOUTHEAST BAY OF BENGAL (BOB) AND ADJOINING ANDAMAN SEA. IT IS GRADUALLY DECREASING TOWARDS NORTHWEST BECOMING 60-80 OVER WESTCENTRAL & NORTHWEST BOB. 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. IT WILL CONTINUE IN SAME PHASE DURING NEXT 7 DAYS. WIND SHEAR IS MODERATE 15-20 KNOTS OVER THE SYSTEM AREA OVER SOUTHEAST BOB. IT IS BECOMING SLIGHTLY HIGHER TOWARDS WESTCENTRAL & NORTHWEST BOB. POSITIVE LOW LEVEL VORTICITY IS AROUND 100x10<sup>-6</sup>S<sup>-1</sup> AROUND THE SYSTEM CENTER. LOW LEVEL CONVERGENCE IS 20x10<sup>-6</sup>S<sup>-1</sup> TO THE NORTH OF THE SYSTEM CENTRE. UPPER LEVEL DIVERGENCE IS 50x10<sup>-5</sup>S<sup>-1</sup> TO THE NORTHWEST OF SYSTEM CENTRE. THUS, ENVIRONMENTAL FEATURES ARE FAVOURABLE FOR FURTHER INTENSIFICATION OF SYSTEM. UPPER TROPOSPHERIC RIDGE RUNS ALONG 15°N. A TROUGH IN MID & UPPER TROPOSPHERIC WESTERLIES RUNS ALONG LONG. 67°E TO THE NORTH OF LAT. 10°N. AS THE SYSTEM COMES CLOSER TO THE RIDGE, IT WILL MOVE NORTHWESTWARDS DURING NEXT 24 HOURS. THEREAFTER, THE SYSTEM WILL CROSS THE RIDGE AND WILL BE STEERED NORTH-NORTHEASTWARDS FROM 4<sup>TH</sup> DECEMBER ONWARDS, 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 DEPRESSION OVER SOUTHEAST BOB WOULD INTENSIFY INTO A CYCLONIC STORM ON 3RD DECEMBER. HOWEVER, THERE IS SOME DIVERGENCE AMONG VARIOUS MODELS W.R.T. TRACK OF THIS SYSTEM. MODELS INCLUDING IMD GFS, IMD MME, NCEP GFS, NCUM AND NEPS ARE INDICATING THE SYSTEM TO MOVE WEST-NORTHWESTWARDS INITIALLY, WITH GRADUAL CHANGE IN MOVEMENT TO NORTHWEST/NORTH-NORTHWEST TILL 4TH EVENING (1200 UTC). THEREAFTER, THE SYSTEM WILL RE-CURVE NORTH-NORTHEASTWARDS. HOWEVER, ECMWF DETERMINISTIC & ENSEMBLE MODELS AND GEFS ARE INDICATING THAT THE SYSTEM WOULD CROSS NORTH ANDHRA PRADESH-SOUTH ODISHA COASTS IN THE LATE NIGHT OF 4TH DECEMBER. THE GENESIS POTENTIAL PARAMETER (GPP) OF IMD IS ALSO INDICATING POTENTIAL ZONE OF CYCLOGENESIS DURING 3RD TO 5TH OVER WESTCENTRAL AND NORTHWEST BOB. THOUGH ALL THESE MODELS ARE IN AGREEMENT WITH THE POTENTIAL GENESIS AND INTENSIFICATION OVER THE BOB, STILL, THERE IS LARGE UN-CERTAINTY WITH RESPECT TO LIKELY MOVEMENT POINT AND TIME OF RECURVATURE AND HENCE THE LANDFALL POINT & TIME.

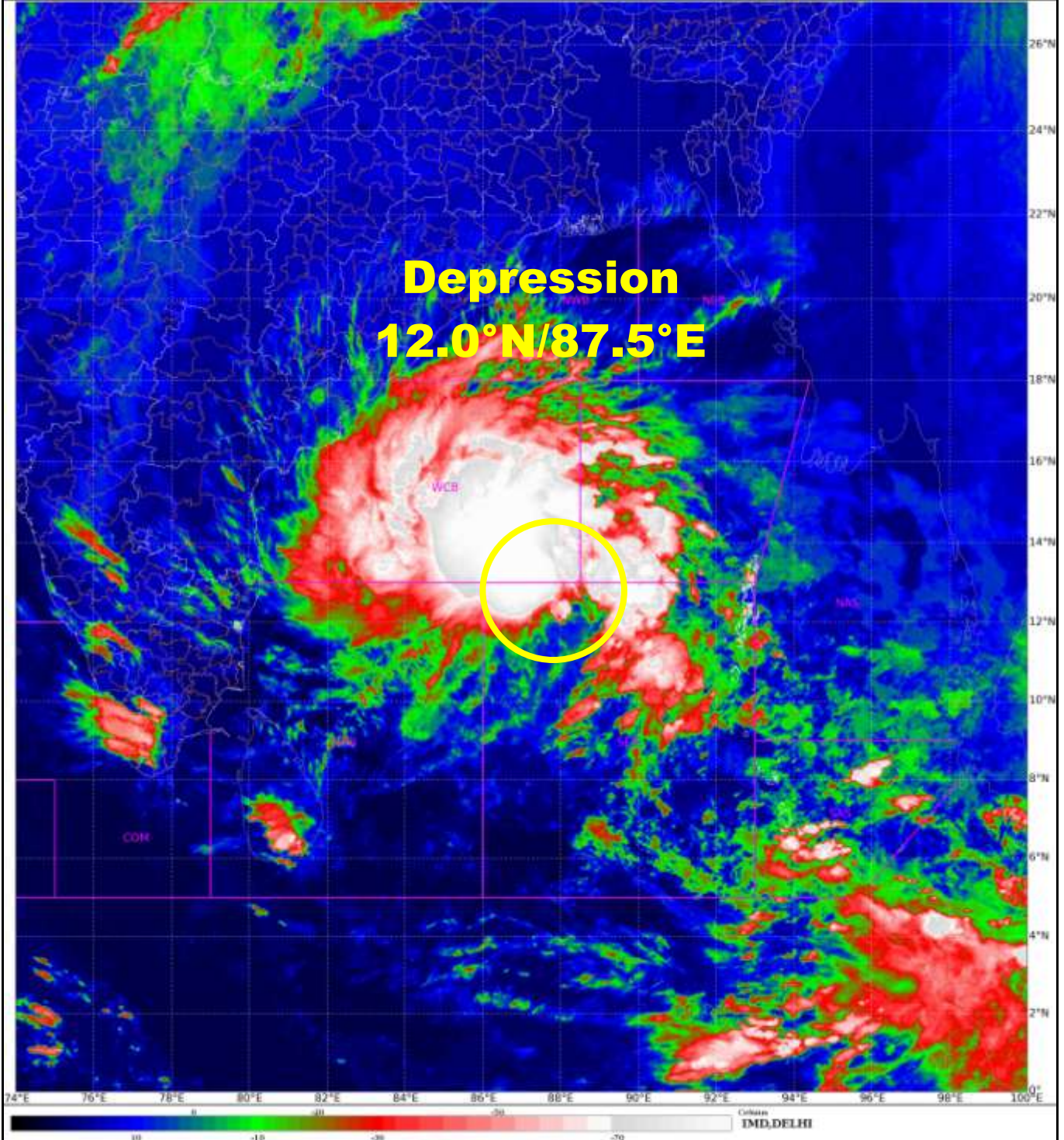
UNDER, THESE CONDITIONS, THE SYSTEM IS LIKELY TO MOVE NORTHWESTWARDS AND INTENSIFY INTO A CYCLONIC STORM DURING NEXT 24 HOURS. THE SYSTEM IS LIKELY TO REACH WESTCENTRAL BAY OF BENGAL OFF NORTH ANDHRA PRADESH – SOUTH ODISHA COASTS AROUND 4TH DECEMBER MORNING (0000 UTC). THEREAFTER, IT IS LIKELY TO RE-CURVE NORTH-NORTHEASTWARDS GRADUALLY.

NEXT BULLETIN WILL BE ISSUED AT 0300 UTC OF 3<sup>RD</sup> DECEMBER 2021.

**(SHOBHIT KATIYAR)**  
**Scientist-C, RSMC, New Delhi**

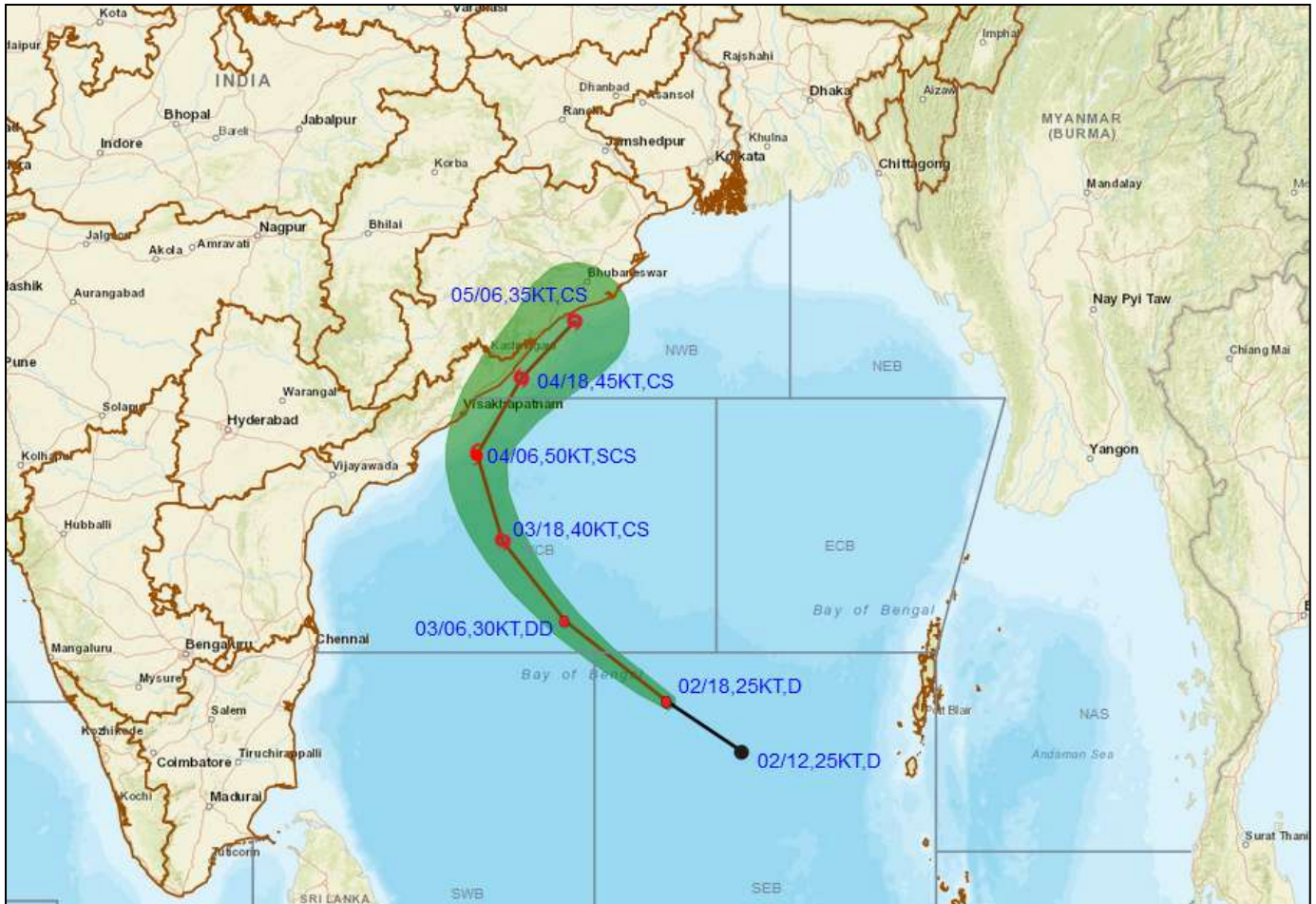
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IMG\_TIR1\_TEMP 10.8 um  
LIC Mercator

02-12-2021(1745 to 1812) GMT  
02-12-2021(2315 to 2342) IST





# OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF DEPRESSION OVER SOUTHEAST BAY OF BENGAL BASED ON 1800 UTC OF 2<sup>nd</sup> DECEMBER, 2021

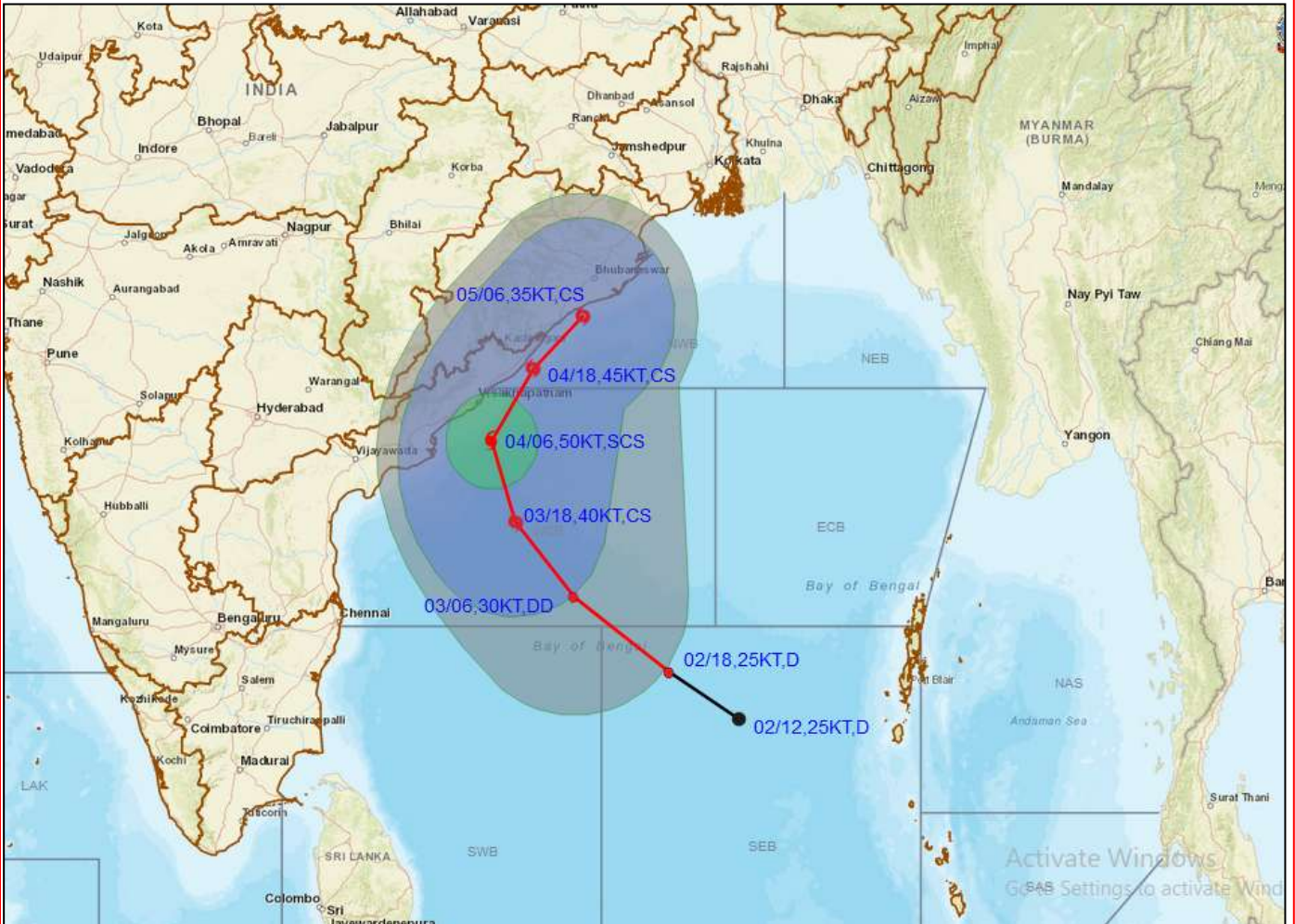


**DATE/TIME IN UTC**  
**IST=UTC + 0530**  
**L: LOW PRESSURE AREA**  
**WML: WELL MARKED LOW PRESSURE AREA**  
**D: DEPRESSION (17-27 KT)**  
**DD: DEEP DEPRESSION (28-33 KT)**  
**CS: CYCLONIC STORM (34-47 KT)**  
**SCS: SEVERE CYCLONIC STORM (48-63KT)**  
**VSCS: VERY SEVERE CYCLONIC STORM (64-89 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



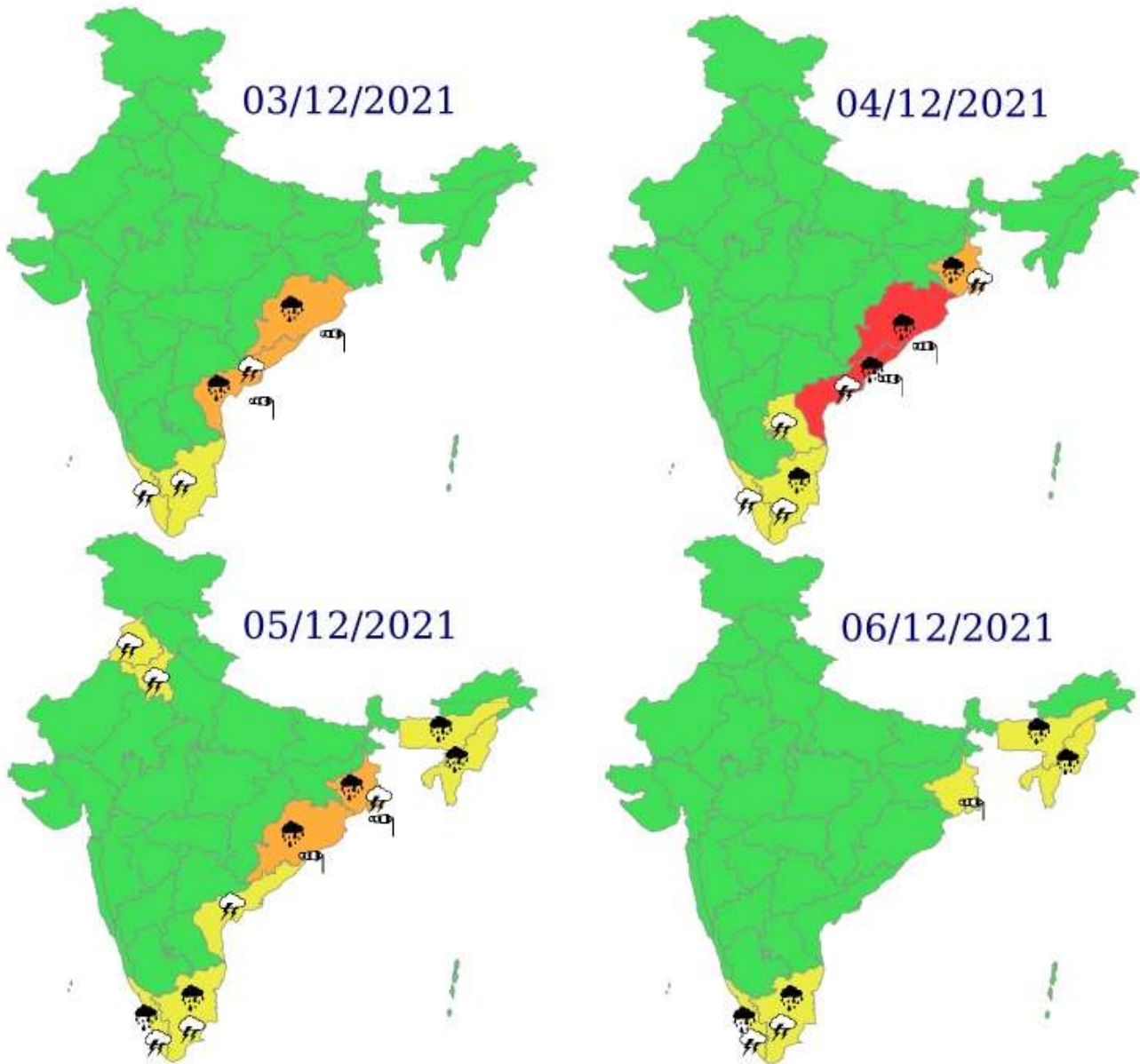
# OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEPRESSION OVER SOUTHEAST BAY OF BENGAL BASED ON 1800 UTC OF 2<sup>nd</sup> DECEMBER, 2021



**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)**

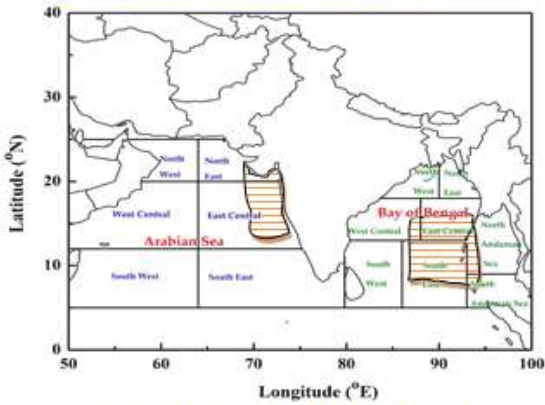
- LESS THAN 34 KT
- 34-47 KT
- ≥ 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- CONE OF UNCERTAINTY

Sub-division wise heavy rainfall warning for next 4 days

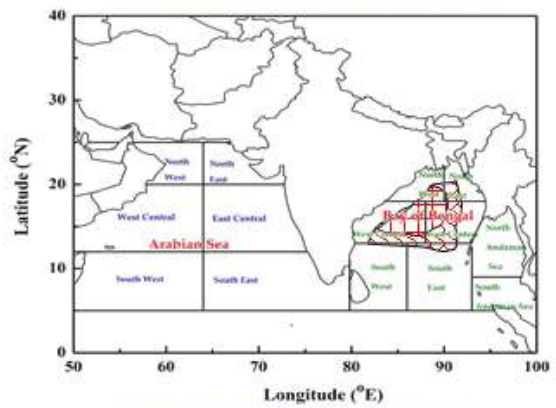


**INDIA METEOROLOGICAL DEPARTMENT**  
**FISHERMAN WARNING FOR BAY OF BENGAL AND ARABIAN SEA**

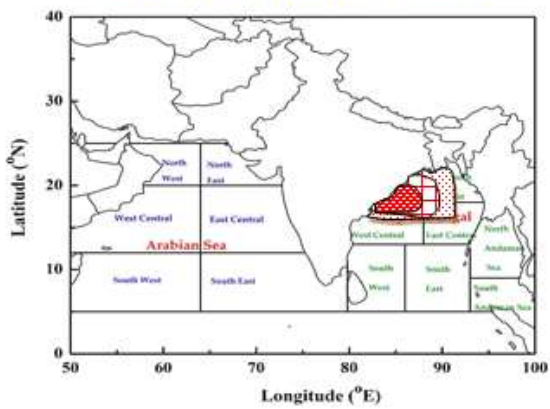
DAY-1: 02-12.2021/0600 UTC TO 03.12.2021/0600 UTC



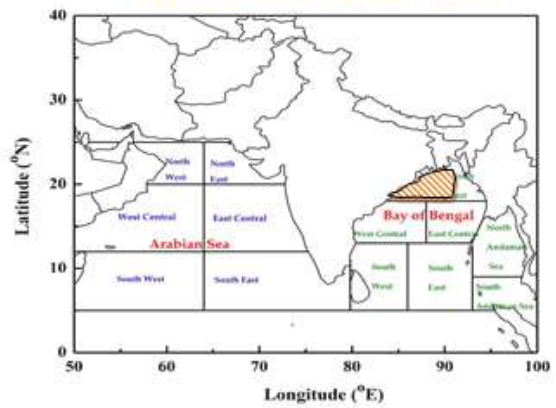
DAY-2: 03.12.2021/0600 UTC TO 04.12.2021/0600 UTC



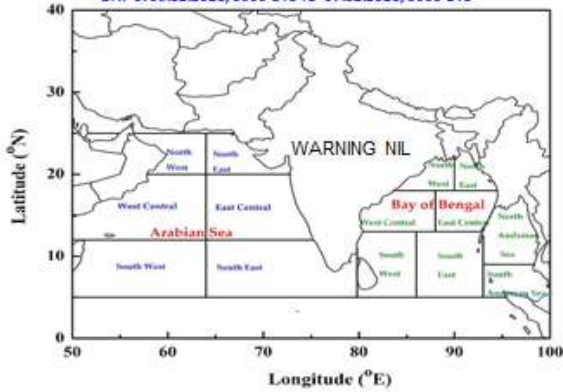
DAY-3: 04.12.2021/0600 UTC TO 05.12.2021/0600 UTC







DAY-4: 05.12.2021/0600 UTC TO 06.12.2021/0600 UTC



DAY-5: 06.12.2021/0600 UTC TO 07.12.2021/0600 UTC



**AREA UNDER FISHERMEN WARNING**

-  40-50 KMPH G TO 60 KMPH (SQ.WEATHER)
-  45-55 KMPH GUSTING TO 65 KMPH
-  50-60 KMPH G TO 70 KMPH
-  60-70 KMPH G TO 80 KMPH
-  70-80 KMPH G TO 90 KMPH
-  80-90 KMPH G TO 95 KMPH
-  90-100 KMPH G TO 110 KMPH