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

DEMS-RSMC SPECIAL TROPICAL CYCLONES NEW DELHI DATED 03.12.2021

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0630 UTC OF 03.12.2021 BASED ON 0300 UTC OF 03.12.2021.

SUB: DEEP DEPRESSION OVER WESTCENTRAL BAY OF BENGAL: CYCLONE ALERT FOR NORTH ANDHRA PRADESH AND ODISHA COASTS.

THE **DEEP DEPRESSION** OVER WESTCENTRAL AND ADJOINING SOUTH BAY OF BENGAL MOVED NORTH-NORTHWESTWARDS WITH A SPEED OF 30 KMPH DURING PAST 06 HOURS, AND LAY CENTERED AT 0300 UTC OF TODAY, THE 3RD DECEMBER 2021, OVER WESTCENTRAL OF BENGAL NEAR LAT. 14.0°N AND LONG. 86.0°E, ABOUT 480 KM SOUTH-SOUTHEAST OF VISHAKHAPATNAM (43149), 600 KM SOUTH-SOUTHEAST OF GOPALPUR (42049) AND 700 KM SOUTH-SOUTHWEST OF PARADIP (42976).

IT IS LIKELY TO MOVE NORTHWESTWARDS AND INTENSIFY INTO A **CYCLONIC STORM** DURING NEXT 06 HOURS. IT IS LIKELY TO REACH WESTCENTRAL BAY OF BENGAL OFF NORTH ANDHRA PRADESH – SOUTH ODISHA COASTS BY 0000 UTC OF 4TH DECEMBER. THEREAFTER, IT IS LIKELY TO RECURVE NORTH-NORTHEASTWARDS AND MOVE ALONG ODISHA COAST DURING THE SUBSEQUENT 24 HOURS WITH A MAXIMUM SUSTAINED WIND SPEED OF 80-90 KMPH GUSTING TO 100 KMPH.

FORECAST TRACK AND INTENSITY OF THE SYSTEM IS GIVEN IN TABLE:

DATE/TIME(UTC)	POSITION (LAT.^{0}N/ LONG.^{0}E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
03.12.21/0300	14.0/86.0	55-65 gusting to 75	Deep Depression
03.12.21/0600	14.6/85.5	60-70 gusting to 80	Cyclonic Storm
03.12.21/1200	15.2/85.0	70-80 gusting to 90	Cyclonic Storm
03.12.21/1800	15.7/84.6	75-85 gusting to 95	Cyclonic Storm
04.12.21/0000	16.5/84.3	80-90 gusting to 100	Cyclonic Storm
04.12.21/1200	17.8/84.3	90-100 gusting to 110	Severe Cyclonic Storm
05.12.21/0000	19.0/85.1	80-90 gusting to 100	Cyclonic Storm
05.12.21/1200	19.8/86.1	60-70 gusting to 80	Cyclonic Storm

THE INTENSITY OF THE SYSTEM IS CHARACTERIZED AS T 2.0. THE CLOUD MASS IS ORGANIZED IN SHEAR PATTERN. THE SYSTEM HAS FURTHER ORGANISE DURING PAST 3 HOURS. THE CONVECTIVE CLOUD CLUSTERS ARE SHEARED TO NORTHWEST SECTOR. AREA OF INTENSE CONVECTION LIES IN THE NORTHERN SECTOR. SECONDARY CLOUD BANDS ARE OBSERVED OVER NORTH ANDHRA PRADESH AND SOUTH ODISHA COASTS. ASSOCIATED BROKEN LOW & MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER CENTRAL & ADJOINING NORTHWEST BOB BETWEEN LATITUDE 13.0^{0}N & 20.0^{0}N AND LONGITUDE 81.0^{0}E & 92.0^{0}E, NORTH COASTAL ANDHRA PRADESH AND EAST ODISHA. MICROWAVE IMAGERY AT 0056 UTC EXPOSES THE LOW LEVEL CIRCULATION TO SOUTHEAST OF THE INTENSE CONVECTIVE CLOUD MASS

INDICATING A SHEARED PATTERN.

THE MAXIMUM SUSTAINED SURFACE WIND SPEED IS 30 KNOTS GUSTING TO 40 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1002 HPA. SEA CONDITION IS ROUGH TO VERY ROUGH OVER WESTCENTRAL & ADJOINING SOUTH BAY OF BENGAL.

AT 0000 UTC, A SHIP NEAR 19.0N/86.2E REPORTED MEAN SEA LEVEL PRESSURE OF 1012 HPA AND MAXIMUM SUSTAINED WIND SPEED OF 20^0/21 KTS.

REMARKS:

THE SEA SURFACE TEMPERATURE IS 29-31°C OVER ENTIRE BOB. TROPICAL CYCLONE HEAT POTENTIAL IS 100-120 KJ/CM^2 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 26^0C 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 MODERTE 15-20 KNOTS OVER THE SYSTEM AREA. IT IS BECOMING SLIGHTLY HIGHER TOWARDS WESTCENTRAL & NORTHWEST BOB. POSITIVE LOW LEVEL VORTICITY HAS INCREASED SLIGHTLY DURING PAST 3 HOURS AND IS ABOUT $180x10^{-6}S^{-1}$ AROUND THE SYSTEM CENTER WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL. LOW LEVEL CONVERGENCE IS $30x10^{-6}S^{-1}$ TO THE NORTHWEST OF THE SYSTEM CENTRE. UPPER LEVEL DIVERGENCE IS $30x10^{-5}S^{-1}$ TO THE NORTHWEST OF SYSTEM CENTRE. THUS, ENVIRONMENTAL FEATURES ARE FAVOURABLE FOR FURTHER INTENSIFICATION OF SYSTEM. UPPER TROPOSPHERIC RIDGE RUNS ALONG 16^0N. A TROUGH IN MID & UPPER TROPOSPHERIC WESTERLIES RUNS ALONG LONG. 70^0E TO THE NORTH OF LAT. 15^0N. 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 4TH DECEMBER 0000 UTC 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 DEEP DEPRESSION OVER SOUTHEAST BOB WOULD INTENSIFY INTO A CYCLONIC STORM DURING NEXT 12 HOURS. ALL MODELS ARE INDICATING NORTH-NORTHEASTWARDS RECURVATURE OF THE SYSTEM. HOWEVER, THERE IS SOME LARGE DIVERGENCE AMONG VARIOUS W.R.T. POINT AND TIME OF RECURVATURE AND HENCE LANDFALL POINT & TIME. MODELS INCLUDING IMD GFS AND ECMWF ARE INDICATING THE SYSTEM TO CROSS SOUTH ODISHA COAST AS A DEEP DEPRESSION DURING 1500-1800 UTC OF 4TH DECEMBER. NCEP GFS AND NCUM ARE INDICATING THE SYSTEM TO SKIRT ODISHA COAST FROM 5TH/0000 UTC ONWARDS AS A DEEP DEPRESSION. IMD MME IS ALSO INDICATING THAT THE SYSTEM WILL SKIRT ODISHA COAST AS A DEEP DEPRESSION DURING 0000-1200 UTC OF 5TH DECEMBER.

UNDER, THESE CONDITIONS, THE SYSTEM IS LIKELY TO MOVE NORTHWESTWARDS AND INTENSIFY INTO A **CYCLONIC STORM** DURING NEXT 06 HOURS. IT IS LIKELY TO REACH WESTCENTRAL BAY OF BENGAL OFF NORTH ANDHRA PRADESH – SOUTH ODISHA COASTS BY 0000 UTC OF 4TH DECEMBER. THEREAFTER, IT IS LIKELY TO RECURVE NORTH-NORTHEASTWARDS AND MOVE ALONG ODISHA COAST DURING THE SUBSEQUENT 24 HOURS WITH A MAXIMUM SUSTAINED WIND SPEED OF 80-90 KMPH GUSTING TO 100 KMPH.

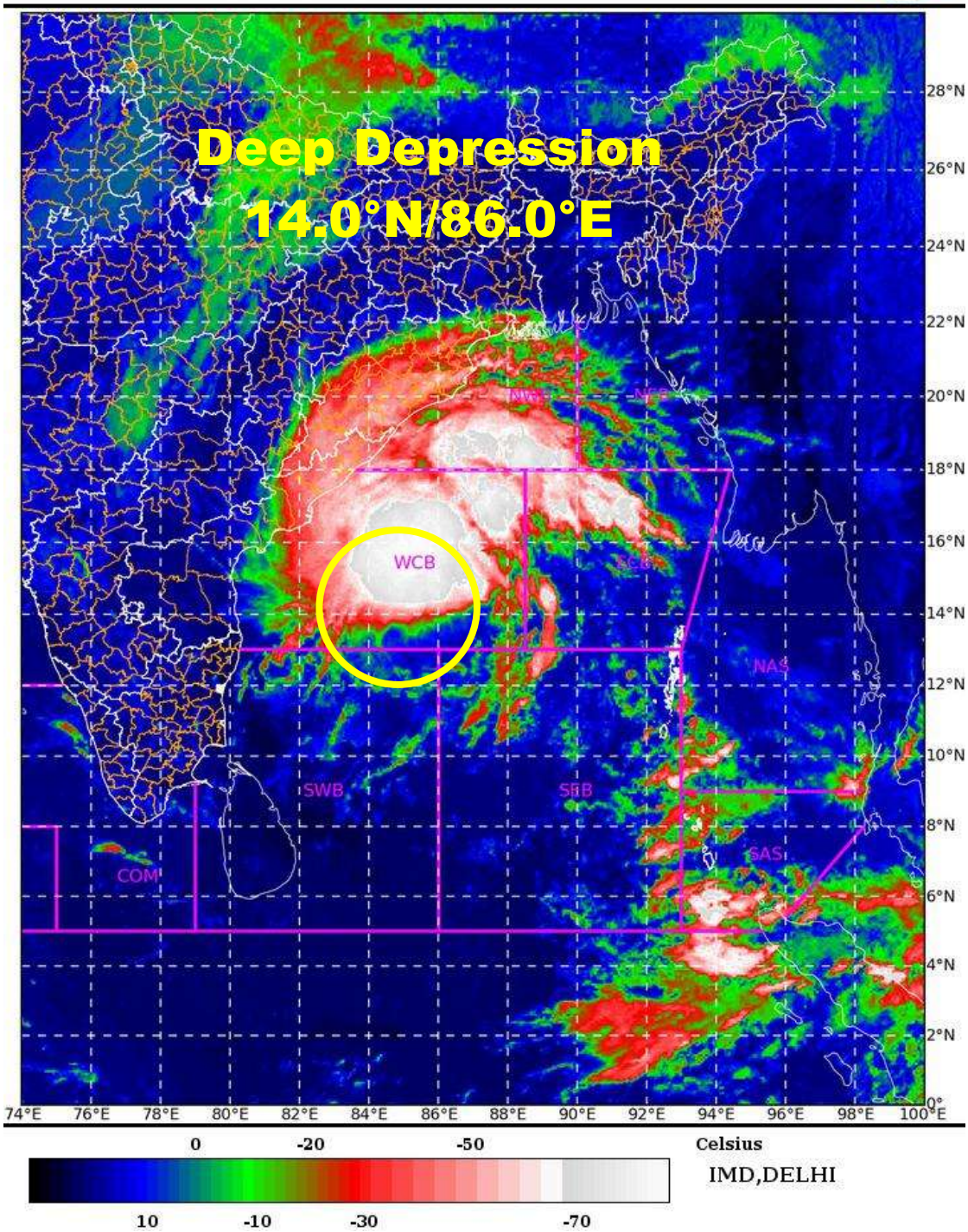
NEXT BULLETIN WILL BE ISSUED AT 0900 UTC OF 3RD DECEMBER 2021.

(SUNITHA DEVI S)
Scientist-F, RSMC, New Delhi

SAT : INSAT-3D IMG 03-12-2021/(0400 to 0427) GMT

IMG_TIR1_TEMP 10.8 um 03-12-2021/(0930 to 0957) IST

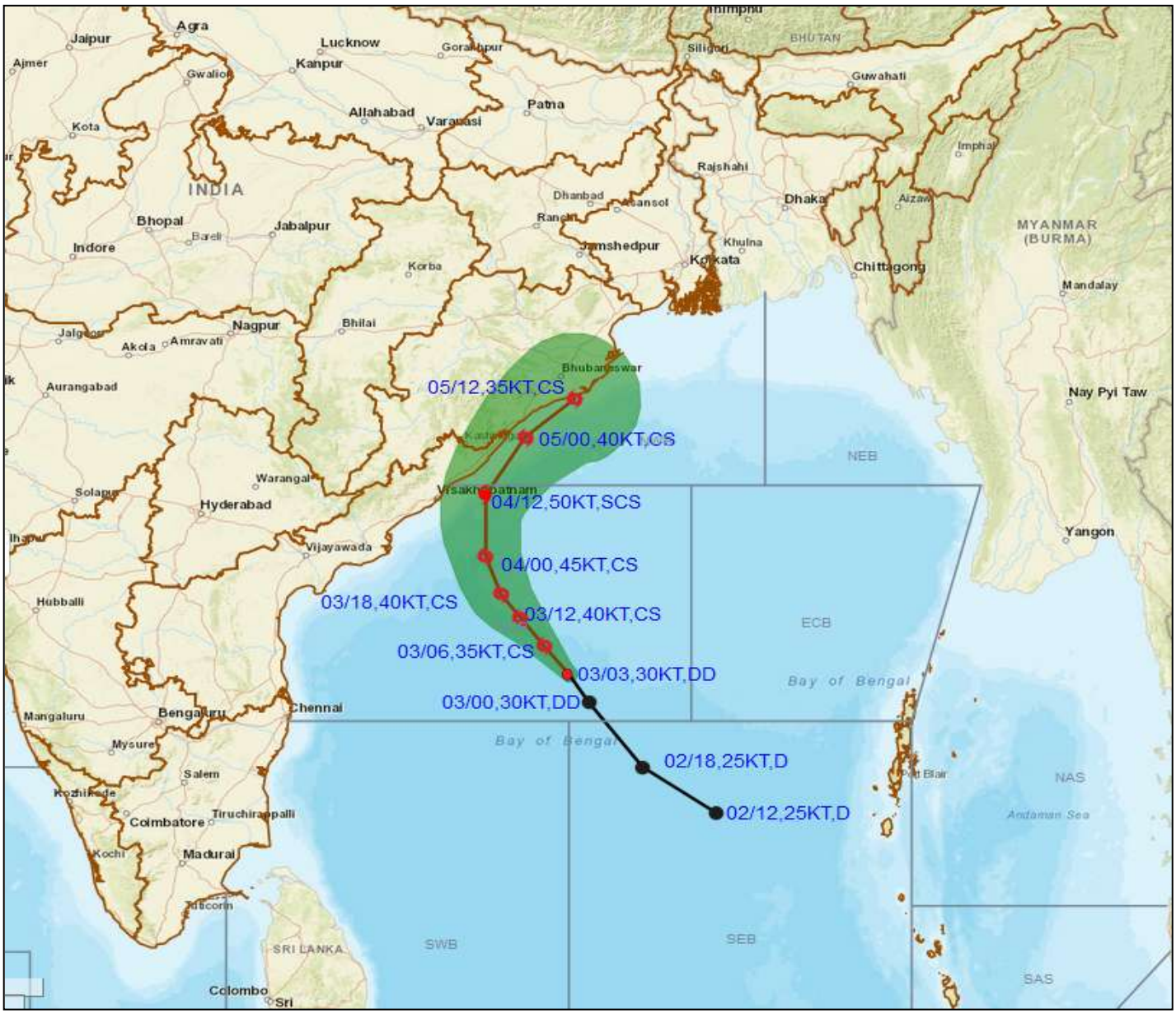
L1C Mercator



Celsius

IMD,DELHI

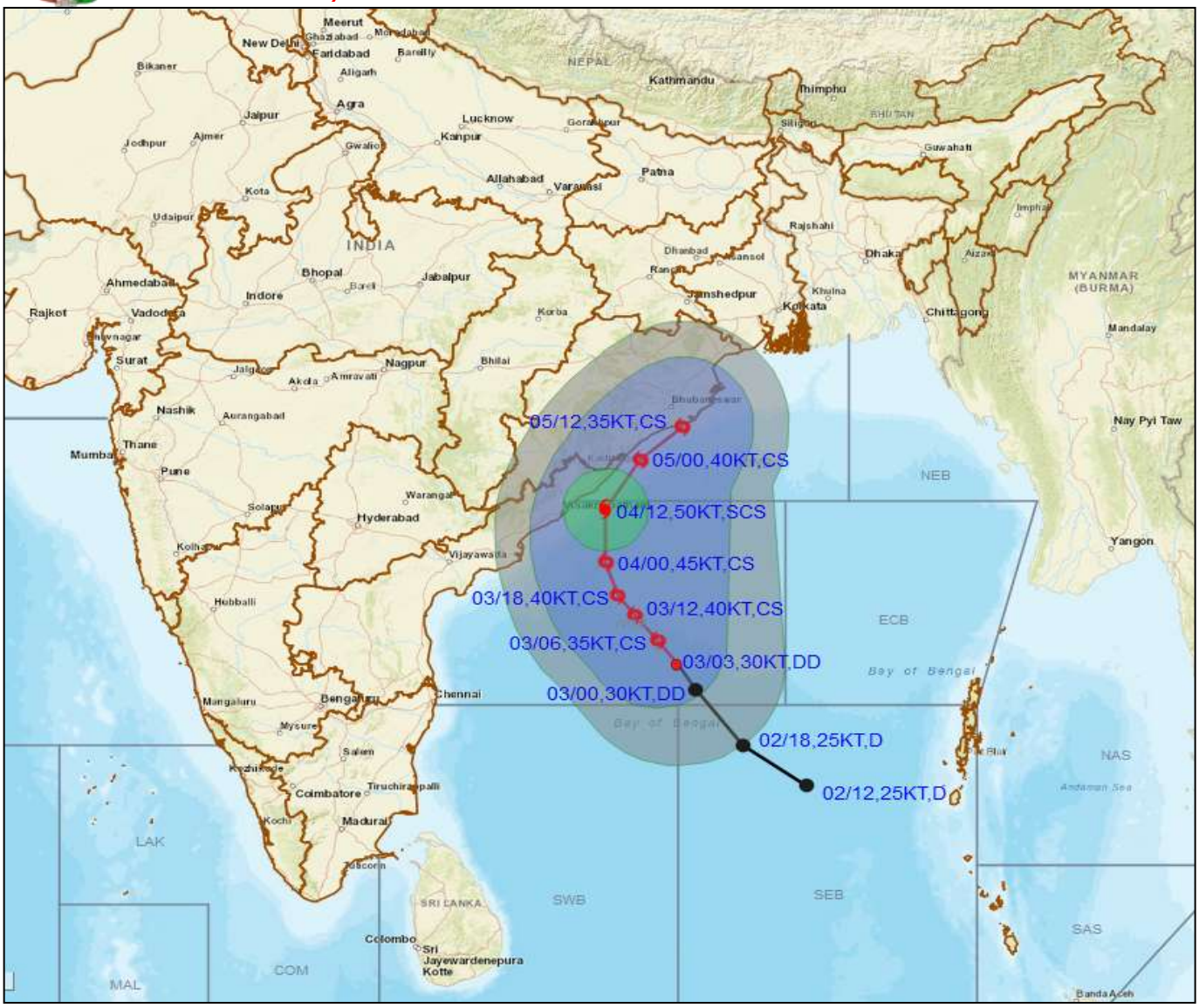
OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINITY OF DEEP DEPRESSION OVER WESTCENTRAL BAY OF BENGAL BASED ON 0300 UTC OF 3rd DECEMBER, 2021



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

OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEEP DEPRESSION OVER WESTCENTRAL BAY OF BENGAL BASED ON 0300 UTC OF 3rd DECEMBER, 2021



DATE/TIME IN UTC
IST=UTC + 0530
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WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
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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