



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

DEMS-RSMC SPECIAL TROPICAL CYCLONES NEW DELHI DATED 07.12.2022

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0300 UTC OF 07.12.2022 BASED ON 0000 UTC OF 07.12.2022.

BAY OF BENGAL:

THE DEPRESSION OVER SOUTHEAST BAY OF BENGAL MOVED WEST-NORTHWESTWARDS WITH A SPEED OF 12 KMPH DURING PAST 06 HOURS, INTENSIFIED INTO A DEEP DEPRESSION AND LAY CENTRED AT 0000UTC OF TODAY, THE 07TH DECEMBER, 2022 OVER SOUTHEAST & ADJOINING SOUTHWEST BAY OF BENGAL, NEAR LATITUDE 8.6°N AND LONGITUDE 86.4°E, ABOUT 570 KM EAST OF TRINCOMALEE (43418), ABOUT 710 KM EAST-SOUTHEAST OF JAFFNA (43404), ABOUT 770 KM EAST-SOUTHEAST OF KARAIKAL(43346) AND ABOUT 830 KM SOUTHEAST OF CHENNAI(43279.)

IT IS VERY LIKELY TO MOVE WEST-NORTHWESTWARDS AND INTENSIFY FURTHER GRADUALLY INTO A CYCLONIC STORM AROUND 07TH DECEMBER EVENING AND REACH SOUTHWEST BAY OF BENGAL OFF NORTH TAMIL NADU-PUDUCHERRY & ADJOINING SOUTH ANDHRA PRADESH COASTS BY 08TH DECEMBER MORNING. IT WILL CONTINUE TO MOVE WEST-NORTHWESTWARDS TOWARDS NORTH TAMIL NADU-PUDUCHERRY & ADJOINING SOUTH ANDHRA PRADESH COASTS DURING SUBSEQUENT 48 HOURS.

FORECAST TRACK AND INTENSITY ARE GIVEN BELOW:

DATE/TIME(UTC)	POSITION LAT. °N/ LONG. °E	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
07.12.22/0000	8.6/86.4	50-60 GUSTING TO 70	DEEP DEPRESSION
07.12.22/0600	8.9/85.6	55-65 GUSTING TO 75	DEEP DEPRESSION
07.12.22/1200	9.2/84.9	60-70 GUSTING TO 80	CYCLONIC STORM
07.12.22/1800	9.6/84.3	70-80 GUSTING TO 90	CYCLONIC STORM
08.12.22/0000	10.0/83.8	80-90 GUSTING TO 100	CYCLONIC STORM
08.12.22/1200	10.7/82.8	80-90 GUSTING TO 100	CYCLONIC STORM
09.12.22/0000	11.4/81.7	70-80 GUSTING TO 90	CYCLONIC STORM
09.12.22/1200	12.1/80.8	70-80 GUSTING TO 90	CYCLONIC STORM
10.12.22/0000	12.8/80.0	50-60 GUSTING TO 70	DEEP DEPRESSION
10.12.22/1200	13.1/79.4	30-40 GUSTING TO 50	DEPRESSION

CONVECTION HAS FURTHER ORGANISED DURING LAST 6 HRS AND IT SHOWS SHEAR PATTERN. CONVECTIVE CLOUDS ARE SHEARED TO THE WEST OF THE SYSTEM CENTER. AS PER INSAT 3D IMAGERY, THE SYSTEM HAS INTENSIFIED AND MOVED WEST-NORTHWEST WARDS IN LAST 06 HOURS. ASSOCIATED CONVECTION HAS CONCENTRATED DURING LAST 06 HOURS. MICROWAVE IMAGERY AT 22:24 UTC OF 6TH DEC EXPOSES THE LOW LEVEL CIRCULATION CENTRE DEPICTING CURVED BAND PATTERN WITH INTENSE CONVECTION IN WESTERN SECTOR OF THE SYSTEM CENTRE.

THE MAXIMUM SUSTAINED SURFACE WIND SPEED IS 30 KNOTS GUSTING TO 40 KNOTS.

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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THE ESTIMATED CENTRAL PRESSURE IS ABOUT 1002 HPA. SEA CONDITION IS ROUGH TO VERY ROUGH OVER SOUTHEAST & ADJOINING SOUTHWEST BAY OF BENGAL.

AT 0000 UTC, A SHIP NEAR 6°N/88°E REPORTED MEAN SEA LEVEL PRESSURE OF 1004.1HPA AND MAXIMUM SUSTAINED WIND SPEED OF 230⁰/20 KTS. ANOTHER SHIP NEAR 4.2°N/86.2°E REPORTED MEAN SEA LEVEL PRESSURE OF 1006.7 HPA AND MAXIMUM SUSTAINED WIND SPEED OF 020⁰/18 KTS.

REMARKS:

THE MADDEN JULIAN OSCILLATION (MJO) INDEX CURRENTLY LIES IN PHASE 3 AND REMAIN THERE TILL 9TH DECEMBER. MJO INDEX IS THUS CONDUCIVE FOR ENHANCEMENT OF CONVECTIVE ACTIVITY OVER BAY OF BENGAL AND INTENSIFICATION OF THE SYSTEM. SEA SURFACE TEMPERATURE (SST) IS AROUND 29°C OVER SOUTHEAST AND ADJOINING PARTS OF CENTRAL BOB, SOUTHWEST BOB. It DECREASES TO 28°C OVER SOUTHWEST BOB AND ALONG AND OFF TAMILNADU AND WESTERN PARTS OF THE COAST. ALSO THE OCEAN HEAT CONTENT (OHC) IS 90-110 KJ/CM² OVER SOUTHEAST BOB AND ADJOINING SOUTH ANDAMAN SEA AND LESS THAN 50 KJ/CM² OVER WESTCENTRAL AND SOUTHWEST BOB ALONG EAST COAST OF INDIA. THERE IS WARM AIR ADVECTION TO THE SYSTEM FROM THE SOUTHERN SECTOR. IT WOULD CONTINUE SO TILL 9TH DECEMBER MORNING.

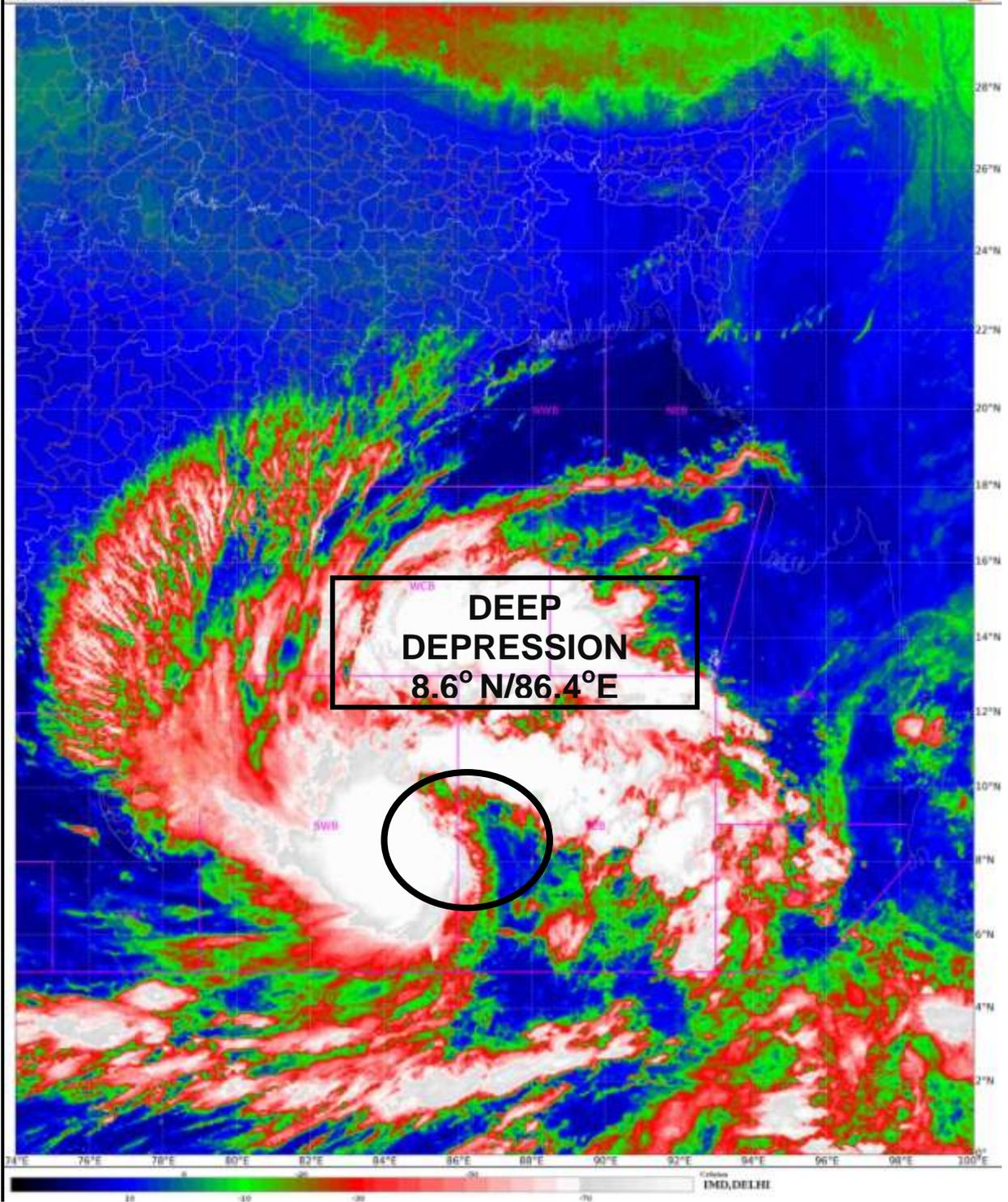
LOW LEVEL VORTICITY HAVE INCREASED FROM 100 X10⁻⁶ S⁻¹ TO 200 X10⁻⁶ S⁻¹ IN LAST 6-HOURS AND LIES AROUND THE SYSTEM CENTER. LOW LEVEL CONVERGENCE AND UPPER LEVEL DIVERGENCE HAVE ALSO INCREASED TO ABOUT 60 X10⁻⁵ S⁻¹ & 40 X10⁻⁵ S⁻¹ RESPECTIVELY AND LIES TO THE WEST OF THE SYSTEM CENTER. ALL THESE FEATURES SHOW THE SYSTEM HAS BEEN INTENSIFIED DURING LAST 6 HOURS.

WIND SHEAR IS MODERATE (10-20 KNOTS) OVER & AROUND THE SYSTEM CENTER AND HIGH (20-30 KNOTS) ALONG THE EXPECTED TRACK. THE UPPER TROPOSPHERIC RIDGE RUNS ROUGHLY ALONG 15.0°N OVER THE BOB. THE SYSTEM IS UNDER THE INFLUENCE OF EAST SOUTHEASTERLY STEERING WINDS AT MIDDLE TROPOSPHERIC LEVELS AND HENCE THE PRESENT SYSTEM IS LIKELY TO BE STEERED TOWARDS WEST-NORTHWEST TILL 8TH DECEMBER. THERAFTER, AS THE SYSTEM WILL COME CLOSER TOWARDS THE RIDGE, THE NORTHERLY COMPONENT IS LIKELY TO INCREASE LEADING TO NORTHWESTWARD MOVEMENT AND ALSO THE RELATIVELY SLOWER MOVEMENT FROM 9TH DECEMBER ONWARDS. THE INTENSIFICATION PARAMETERS AS MENTIONED ABOVE WILL CONTINUE TO BE FAVOURABLE FOR INTENSIFICATION OF THE SYSTEM TILL 9TH DECEMBER MORNING. THEREAFTER, DUE TO SLOW MOVEMENT OF THE SYSTEM, COLD AND DRY AIR INTRUSION FROM SOUTH PENINSULAR INDIA, THE SYSTEM WOULD SHOW SLIGHTLY WEAKENING TREND WHILE MOVING TOWARDS COAST.

THE NWP MODELS ARE DIVERGING WITH RESPECT TO THE LANDFALL TIMING, LOCATION AND INTENSITY. HOWEVER, THERE IS A CONSENSUS AMONG THE MODELS REGARDING ITS LIKELY WEST-NORTHWESTWARDS MOVEMENT AND INTENSIFYING INTO A CYCLONIC STORM TOWARDS NORTH TAMIL NADU-PUDUCHERRY & ADJOINING SOUTH ANDHRA PRADESH COASTS AND SLIGHT WEAKENING WHILE NEARING THE COAST.

IN VIEW OF ALL THE ABOVE, IT IS INFERRED THAT THE DEEP DEPRESSION OVER SOUTHEAST & ADJOINING SOUTHWEST BAY OF BENGAL IS LIKELY TO MOVE MOVE WEST-NORTHWESTWARDS AND INTENSIFY FURTHER GRADUALLY INTO A CYCLONIC STORM BY 7TH DECEMBER EVENING AND REACH SOUTHWEST BAY OF BENGAL NEAR NORTH TAMIL NADU-PUDUCHERRY & ADJOINING SOUTH ANDHRA PRADESH COASTS BY 08TH DECEMBER MORNING. IT WILL CONTINUE TO MOVE WEST-NORTHWESTWARDS TOWARDS NORTH TAMIL NADU-PUDUCHERRY & ADJOINING SOUTH ANDHRA PRADESH COASTS DURING SUBSEQUENT 48 HOURS.

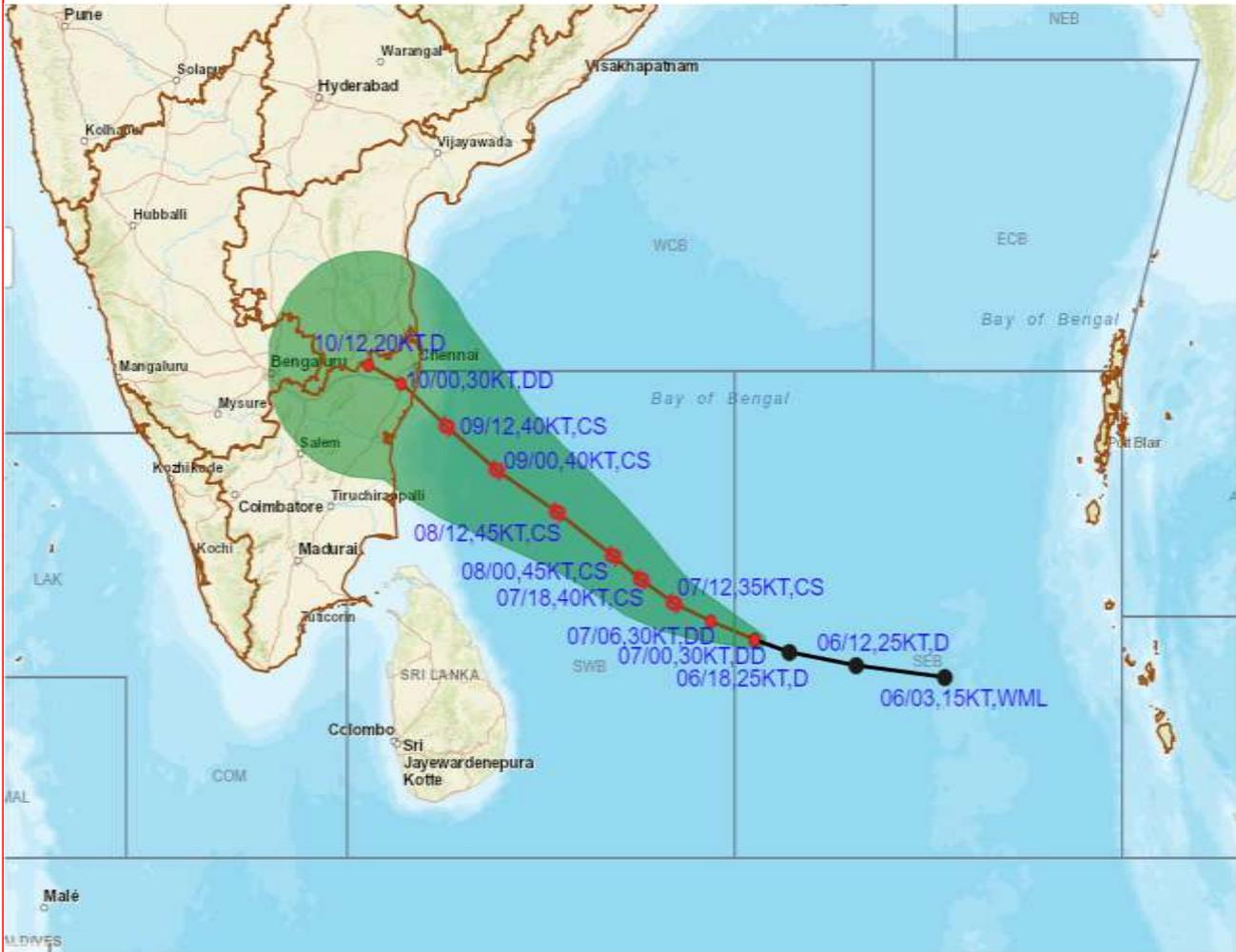
**DR RK JENAMANI
SCIENTIST-F,RSMC, NEW DELHI**



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OBSERVED AND FORECAST TRACK OF DEEP DEPRESSION OVER SOUTHEAST AND ADJOINING SOUTHWEST BAY OF BENGAL BASED ON 0000 UTC OF 07th DECEMBER, 2022.



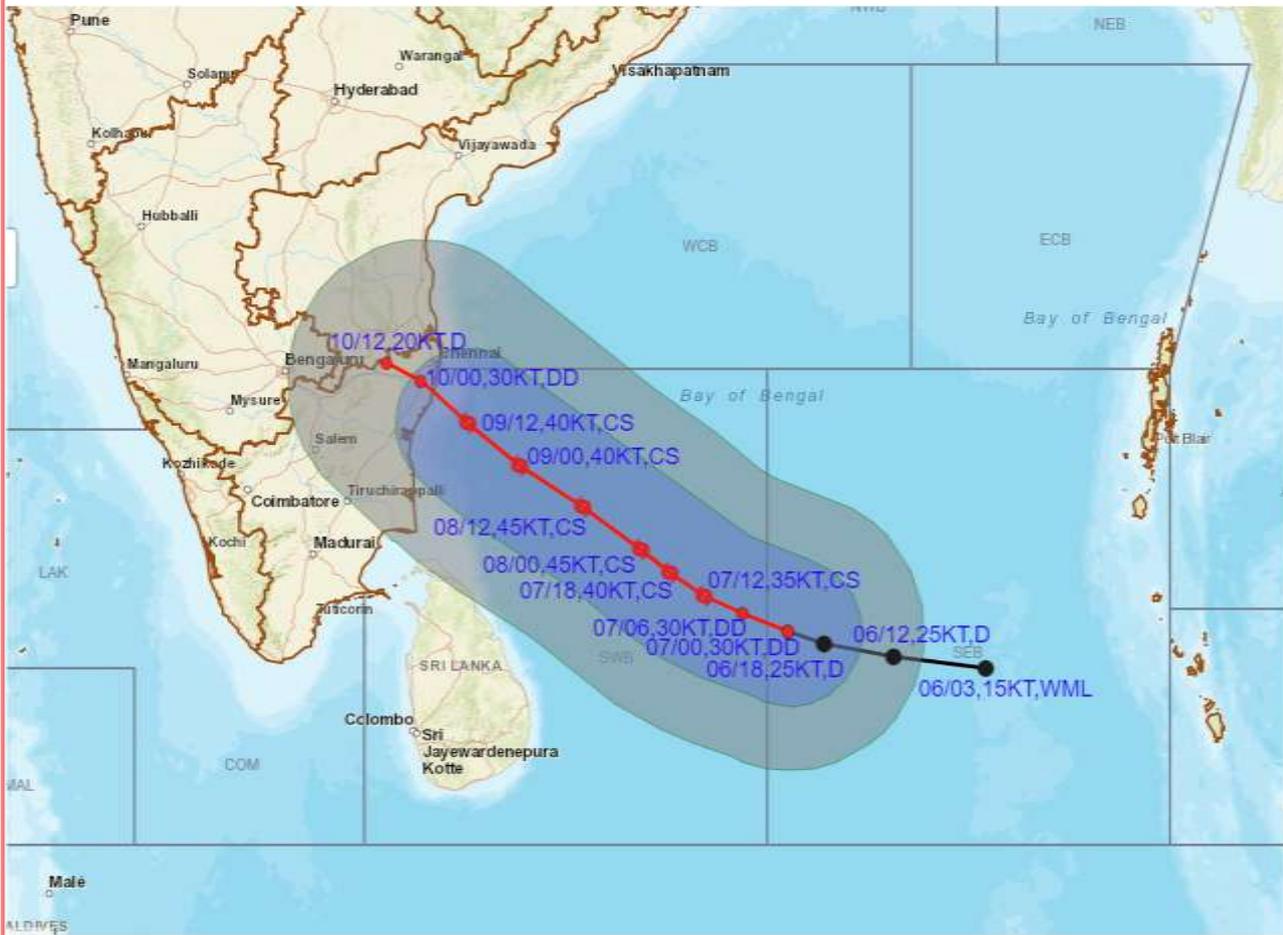
DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119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

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OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEEP DEPRESSION OVER SOUTHEAST AND ADJOINING SOUTHWEST BAY OF BENGAL BASED ON 0000 UTC OF 07th DECEMBER, 2022.



DATE/TIME IN UTC
 IST=UTC + 0530
L: LOW PRESSURE AREA
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D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
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- LESS THAN 34 KT
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- CONE OF UNCERTAINTY

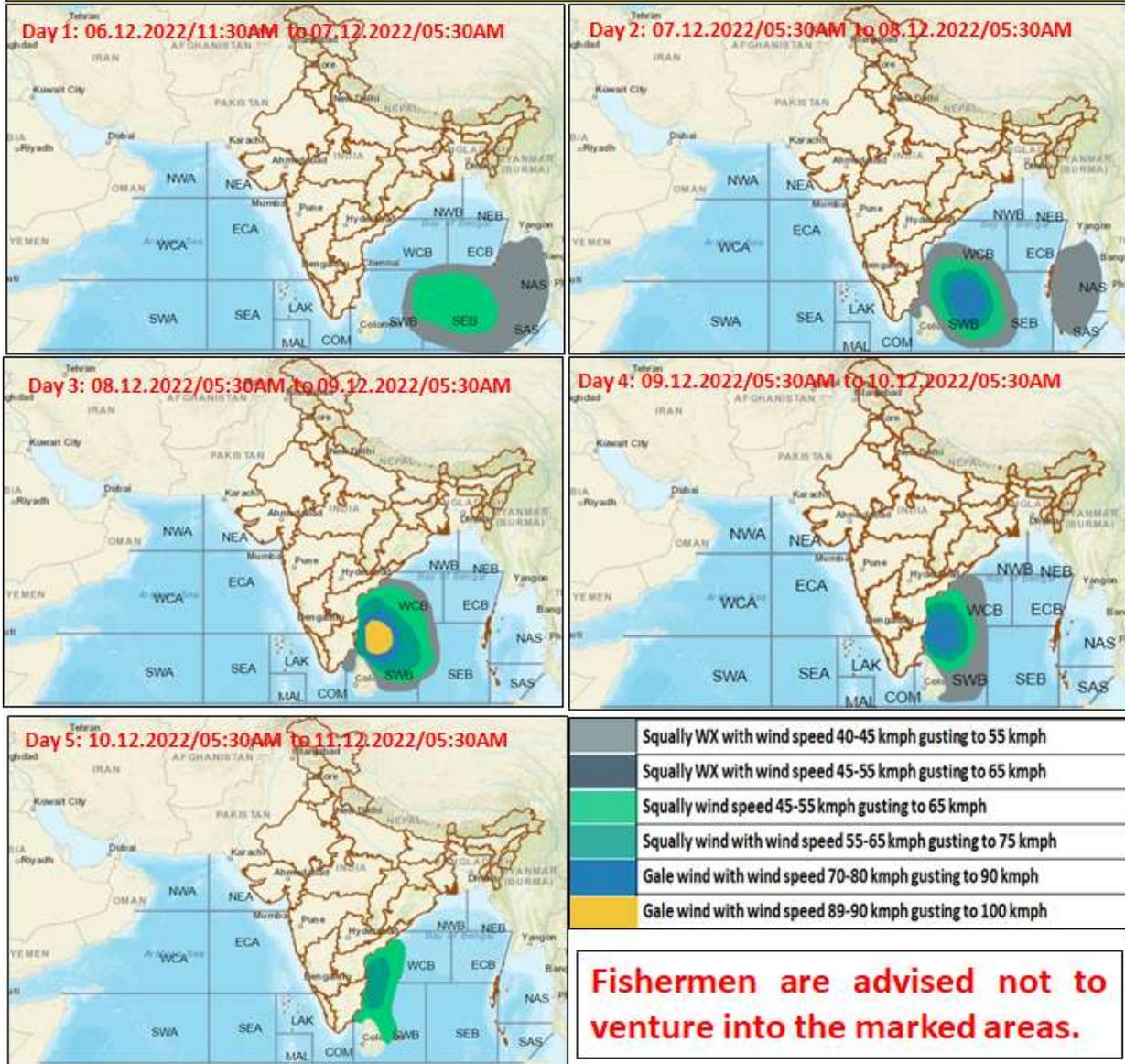
AREA OF MAXIMUM SUSTAINED WIND SPEED:

- 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



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