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

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 31.01.2023

SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0700 UTC OF 31.01.2023 BASED ON 0300 UTC OF 31.01.2023.

SUB: DEPRESSION OVER SOUTHWEST BAY OF BENGAL

THE DEPRESSION OVER SOUTHWEST BAY OF BENGAL MOVED NEARLY WEST-NORTHWESTWARDS WITH A SPEED OF 13 KMPH DURING PAST 6 HOURS AND LAY CENTERED AT 0300 UTC OF TODAY, THE 31ST JANUARY, 2023 OVER THE SAME REGION NEAR LATITUDE 8.4°N AND LONGITUDE 84.3°E, ABOUT 340 KM EAST OF TRINCOMALEE (SRI LANKA) AND 560 KM EAST-SOUTHEAST OF KARAIKAL (INDIA).

IT IS VERY LIKELY TO MOVE WEST-NORTHWESTWARDS TILL 1200 UTC OF TODAY, THE 31ST JANUARY. THEREAFTER, IT IS LIKELY TO RECURVE GRADUALLY SOUTHWESTWARDS AND CROSS SRI LANKA COAST BETWEEN LATITUDE 7°N TO 8°N AROUND 0600 UTC OF 01ST FEBRUARY 2023.

Forecast track and intensity are given below:

Date/Time(UTC)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
31.01.23/0300	8.4/84.3	45-55 gusting to 65	Depression
31.01.23/1200	8.6/83.5	45-55 gusting to 65	Depression
01.02.23/0000	8.0/82.3	45-55 gusting to 65	Depression
01.02.23/1200	7.2/81.3	40-50 gusting to 60	Depression
02.02.23/0000	6.4/80.3	40-50 gusting to 60	Depression

INTENSITY OF THE SYSTEM IS CHARACTERIZED AS T 1.5. ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTH & ADJOINING CENTRAL BAY OF BENGAL BETWEEN LAT 6.5^{0}N TO 14.0^{0}N LONG 81.0^{0}E TO 87.5^{0}E. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 93^{0}C. AS PER MULTISATELLITE BASED WINDS, STRONGER WINDS ARE SEEN IN THE NORTHEAST SECTOR. THE INTENSE CLOUD MASS IS ALSO SEEN IN NORTHERN SECTOR.

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 25 KNOTS GUSTING TO 35 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS 1004 HPA. SEA CONDITION IS ROUGH TO VERY ROUGH OVER SOUTHWEST BOB.

REMARKS:

THE MADDEN JULIAN OSCILLATION (MJO) INDEX CURRENTLY LIES IN PHASE 3 WITH AMPLITUDE AROUND 2. IT WILL CONTINUE IN SAME PHASE WITH SIMILAR INCREASED AMPLITUDE DURING NEXT 7 DAYS. MJO INDEX IS THUS CONDUCIVE FOR ENHANCEMENT OF CONVECTIVE ACTIVITY OVER BAY OF BENGAL (BOB) AND MAINTENANCE OF INTENSITY OF THE SYSTEM. THE CFS BASED FORECAST FOR EQUATORIAL WAVES INDICATE STRONG

EASTERLY WINDS (5-7 MPS) OVER SOUTH BOB, STRONG WESTERLY WINDS (5-7 MPS) OVER EQUATORIAL INDIAN OCEAN (EIO) AND ADJOINING SOUTH BOB ALONGWITH KELVIN WAVES, MJO AND EQUATORIAL ROSSBY WAVES OVER EIO AND ADJOINING SOUTH BOB ON 31ST JANURAY. ALL THESE EQUATORIAL WAVES ARE CONTRIBUTING TOWARDS MAINTENANCE OF INTENSITY OF THE SYSTEM.

SEA SURFACE TEMPERATURE (SST) IS AROUND 27-28°C OVER SOUTH BOB AND ADJOINING EQUATORIAL INDIAN OCEAN (EIO. TOTAL PRECIPITABLE WATER IMAGERY INDICATES WARM MOIST AIR INCURSION INTO THE CORE OF THE SYSTEM. LOW LEVEL VORTICITY OF 100 X10-6 S^{-1} TO THE SOUTH OF SYSTEM CENTER. LOW LEVEL CONVERGENCE HAS INCREASED AND IS AROUND 20 $X10^{-5}$ S^{-1} TO THE SOUTHWEST OF THE SYSTEM CENTER. UPPER LEVEL DIVERGENCE HAS ALSO INCREASED AND IS AROUND 30 $X10^{-5}$ S^{-1} TO THE SOUTHWEST OF THE SYSTEM CENTER. WIND SHEAR IS MODERATE (15-20 KNOTS) AROUND SYSTEM CENTRE OVER SOUTHWEST BAY OF BENGAL. THE UPPER TROPOSPHERIC RIDGE IS SEEN ALONG 15.0°N OVER THE BOB. THE SYSTEM IS LIKELY TO BE STEERED WEST-NORTHWESTWARDS UNDER THE INFLUENCE OF EAST-SOUTHEASTERLY WINDS ALONG THE PERIPHERY OF RIDGE TILL 1200 UTC OF 31ST JANUARY. AS THE SYSTEM WOULD REACH NEAR COAST, DRY COLD AIR WOULD INTRUDE INTO THE SYSTEM AREA FROM SOUTH AND EASTERLY WIND SHEAR WOULD LEAD TO WEAKENING OF THE SYSTEM. THEREAFTER, THE STEERING LEVEL WOULD CHANGE AND THE SYSTEM WILL BE SHEARED SOUTHWESTWARDS.

MOST OF THE MODELS INCLUDING IMD GFS, NCUM AND ECMWF ARE INDICATING INITIAL WEST-NORTHWESTWARDS MOVEMENT OF THE SYSTEM FOLLOWED BY SOUTH-SOUTHWESTWARDS RECURVATURE TOWARDS SRI LANKA COAST AND CROSSING BETWEEN 0000 TO 0600 UTC OF 1ST FEBRUARY AND BETWEEN 7.5°N -8.5°N. IMD MME IS INDICATING CROSSING OVER SRI LANKA AROUND 0300 UTC OF 1ST FEBRUARY NEAR 8.0°N .

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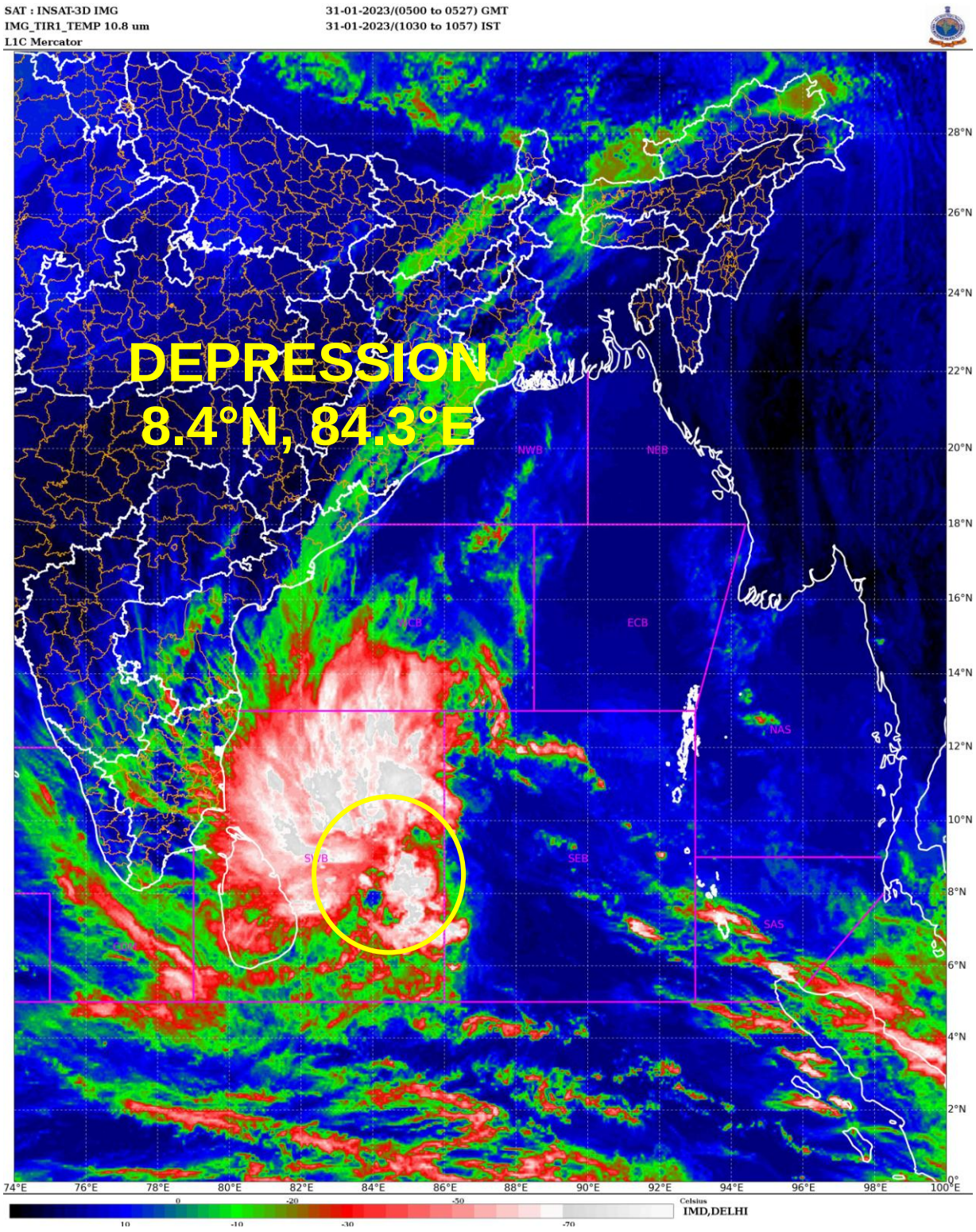
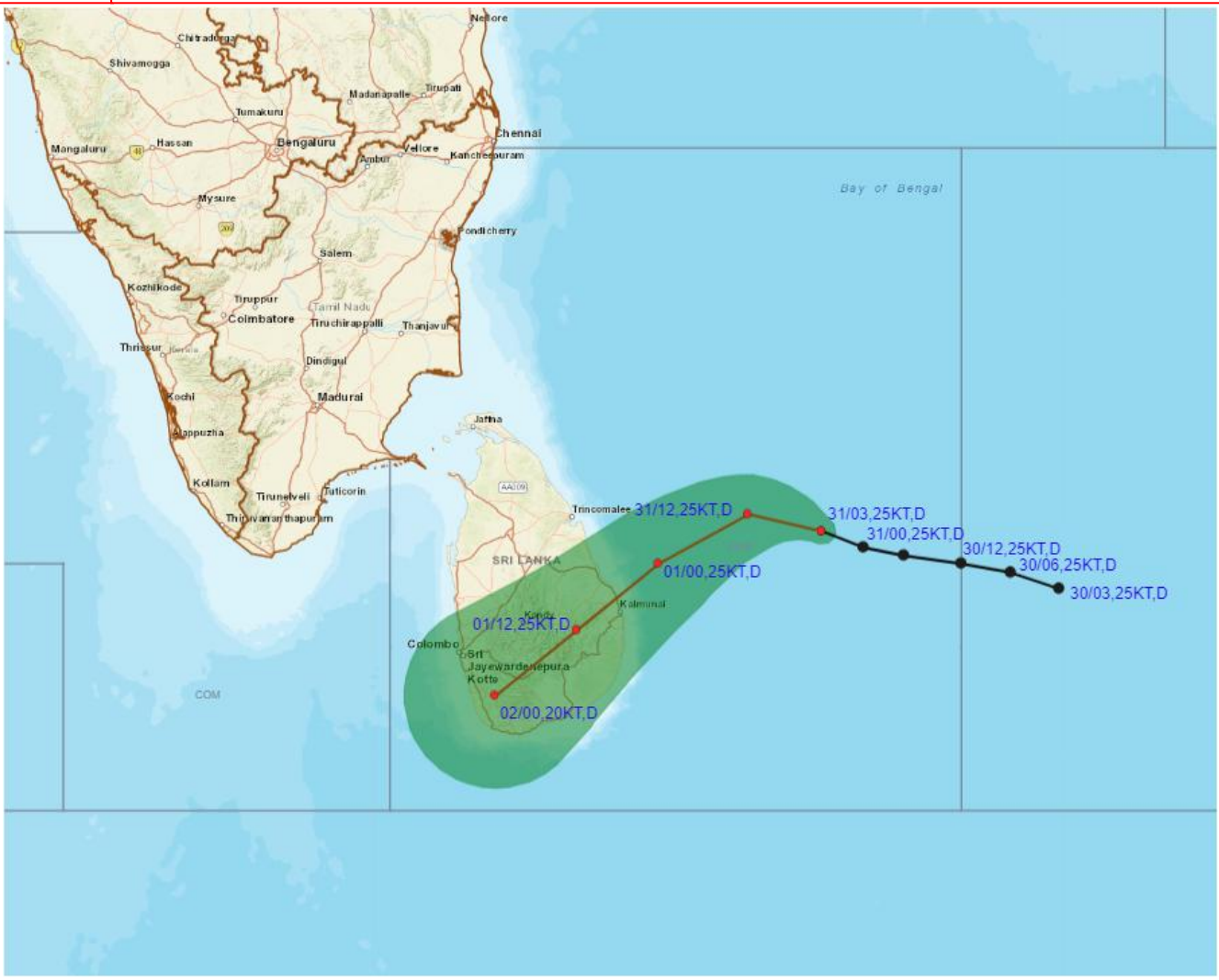
(M. SHARMA)
SCIENTIST-D
RSMC, NEW DELHI



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%
This is a guidance Bulletin for WMO/ESCAP Panel Member countries. Visit respective National websites for Country specific Bulletins

OBSERVED AND FORECAST TRACK OF DEPRESSION OVER SOUTHWEST BAY OF BENGAL BASED ON 0300 UTC OF 31st JANUARY, 2023.



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

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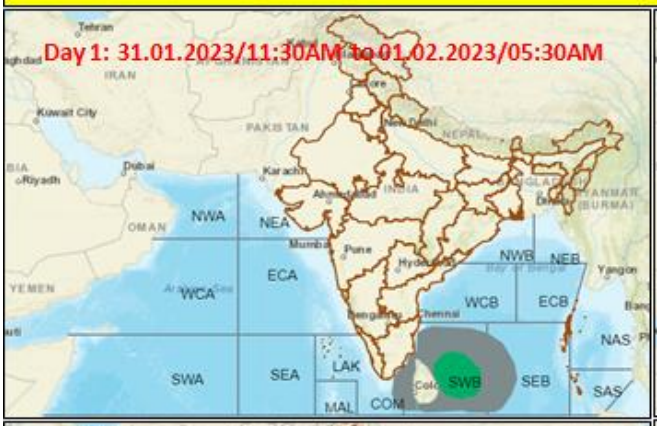
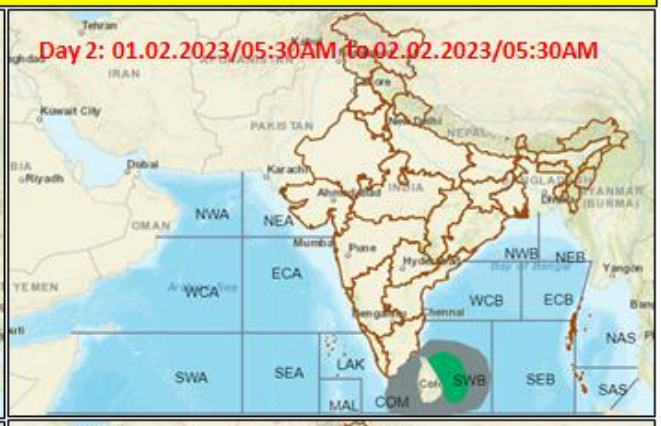
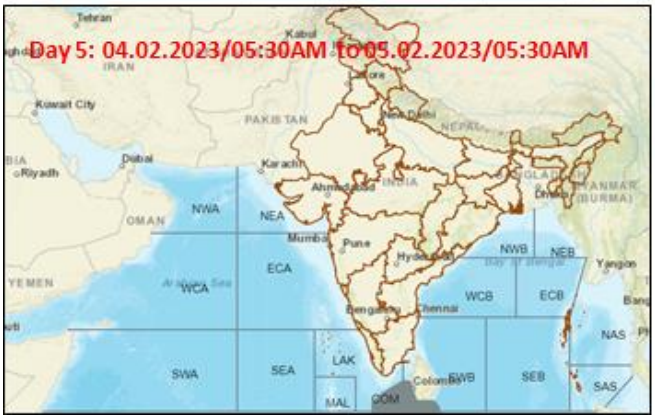
Fishermen warning graphics







Squally WX with wind speed 40-45 kmph gusting to 55 kmph

Squally wind speed 45-55 kmph gusting to 65 kmph

Fishermen are advised not to venture into the marked areas.

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