



**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 2030 UTC OF 31.01.2023 BASED ON 1800 UTC OF 31.01.2023.

SUB: DEPRESSION OVER SOUTHWEST BAY OF BENGAL

THE DEPRESSION OVER SOUTHWEST BAY OF BENGAL MOVED NEARLY WEST-SOUTHWESTWARDS WITH A SPEED OF 12 KMPH DURING PAST 06 HOURS AND LAY CENTERED AT 1800 UTC OF TODAY, THE 31ST JANUARY, 2023 OVER THE SAME REGION NEAR LATITUDE 8.4°N AND LONGITUDE 82.9°E, ABOUT 180 KM EAST OF TRINCOMALEE (SRI LANKA, 43418) AND 440 KM SOUTHEAST OF KARAIKAL (INDIA, 43346).

IT IS VERY LIKELY TO RECURVE GRADUALLY WEST-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. °N/ LONG. °E	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
31.01.23/1800	8.4/82.9	45-55 GUSTING TO 65	DEPRESSION
01.02.23/0600	7.7/81.8	45-55 GUSTING TO 65	DEPRESSION
01.02.23/1800	6.9/80.8	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 LATITUDE 5.2°N TO 16.0°N LONG 78.0°E TO 85.5°E. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 93°C. AS PER MULTISATELLITE BASED WINDS, STRONGER WINDS ARE SEEN IN THE NORTHERN 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 $140 \times 10^{-6} \text{ S}^{-1}$ TO THE SOUTH OF SYSTEM CENTER. LOW LEVEL CONVERGENCE IS $10 \times 10^{-5} \text{ S}^{-1}$ TO THE SOUTHWEST OF THE SYSTEM CENTER. UPPER LEVEL DIVERGENCE IS $20 \times 10^{-5} \text{ S}^{-1}$ 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. AS THE VERTICAL EXTENT OF THE SYSTEM DECREASED DUE TO WEAKNING OF THE SYSTEM AS SHOWN IN THE DYNAMICAL PARAMETERS, THE SYSTEM WOULD BE STEERED BY THE LOWER-MID LEVEL MEAN NORTHEASTERLY WINDS. THEREFORE THE SYSTEM VERY LIKELY TO RECURVE GRADUALLY WEST-SOUTHWESTWARD TOWARDS SRI LANKA COAST. 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.

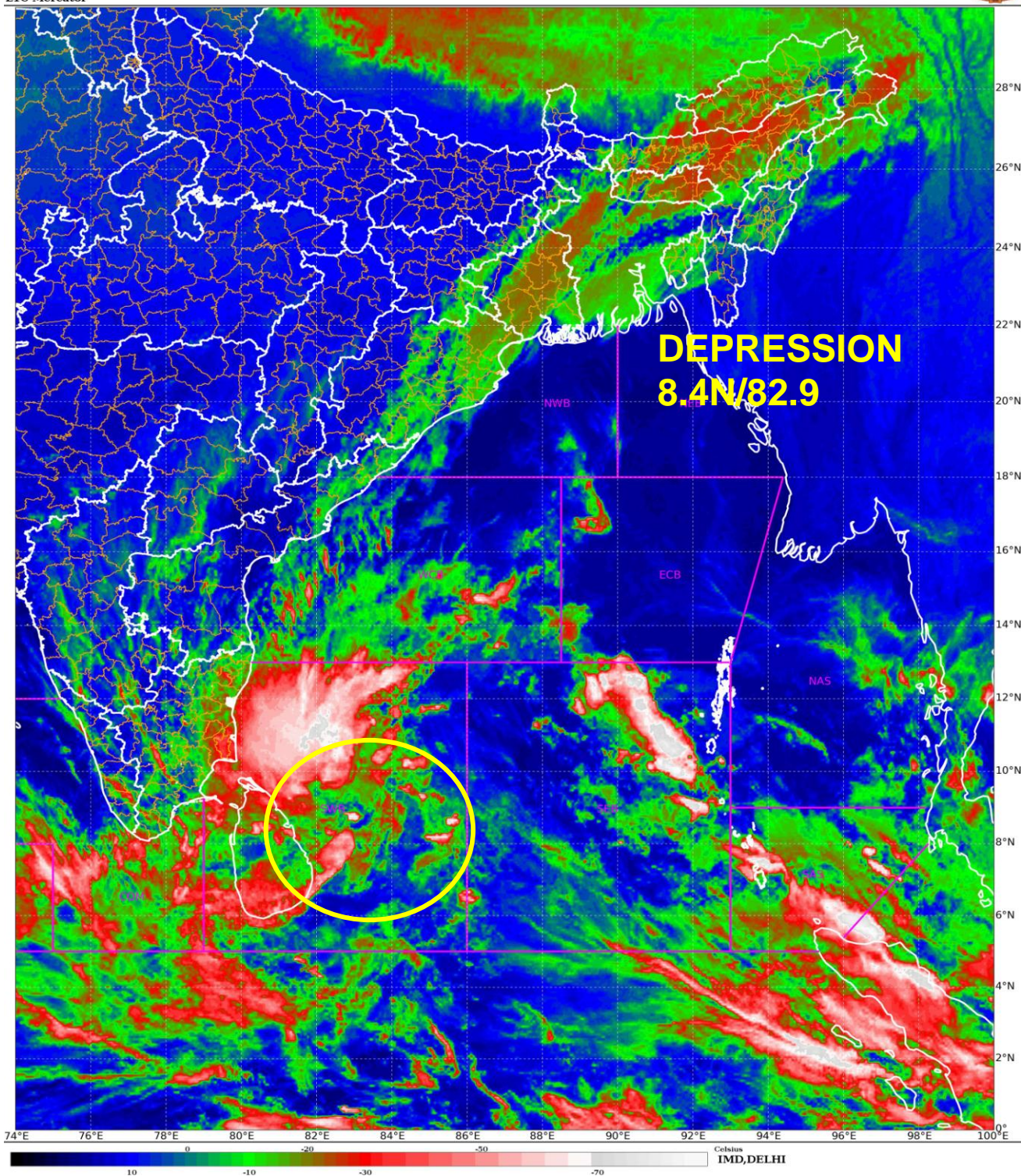
MOST OF THE MODELS INCLUDING IMD GFS, NCUM AND ECMWF ARE INDICATING THE WEST-SOUTHWESTWARDS RECURVATURE TOWARDS SRI LANKA COAST AND CROSSING BETWEEN 7.5°N-8.5°N. IMD MME IS INDICATING CROSSING OVER SRI LANKA AROUND 0600 UTC OF 1ST FEBRUARY NEAR 8.2°N.

IN VIEW OF ALL THE ABOVE, THE DEPRESSION OVER SOUTHWEST BOB IS VERY LIKELY TO RECURVE WEST-SOUTHWESTWARDS AND CROSS SRI LANKA COAST BETWEEN LATITUDE 7°N TO 8°N AROUND 0600 UTC OF 01ST FEBRUARY 2023.

**(ARULALAN T)
SCIENTIST-C
RSMC, NEW DELHI**

SAT : INSAT-3D IMG
IMG_TIR1_TEMP 10.8 um
LIC Mercator

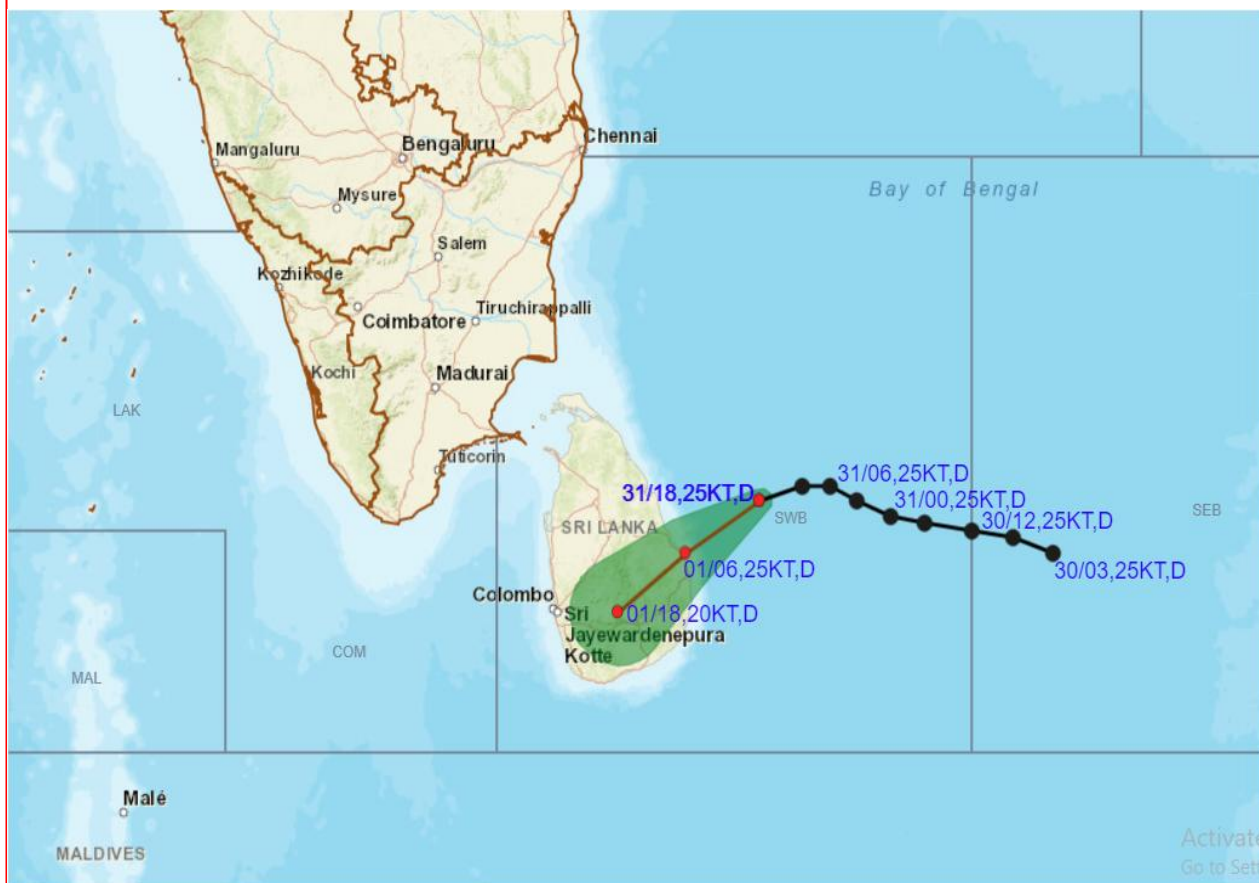
31-01-2023/(1730 to 1756) GMT
31-01-2023/(2300 to 2326) IST



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 1800 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

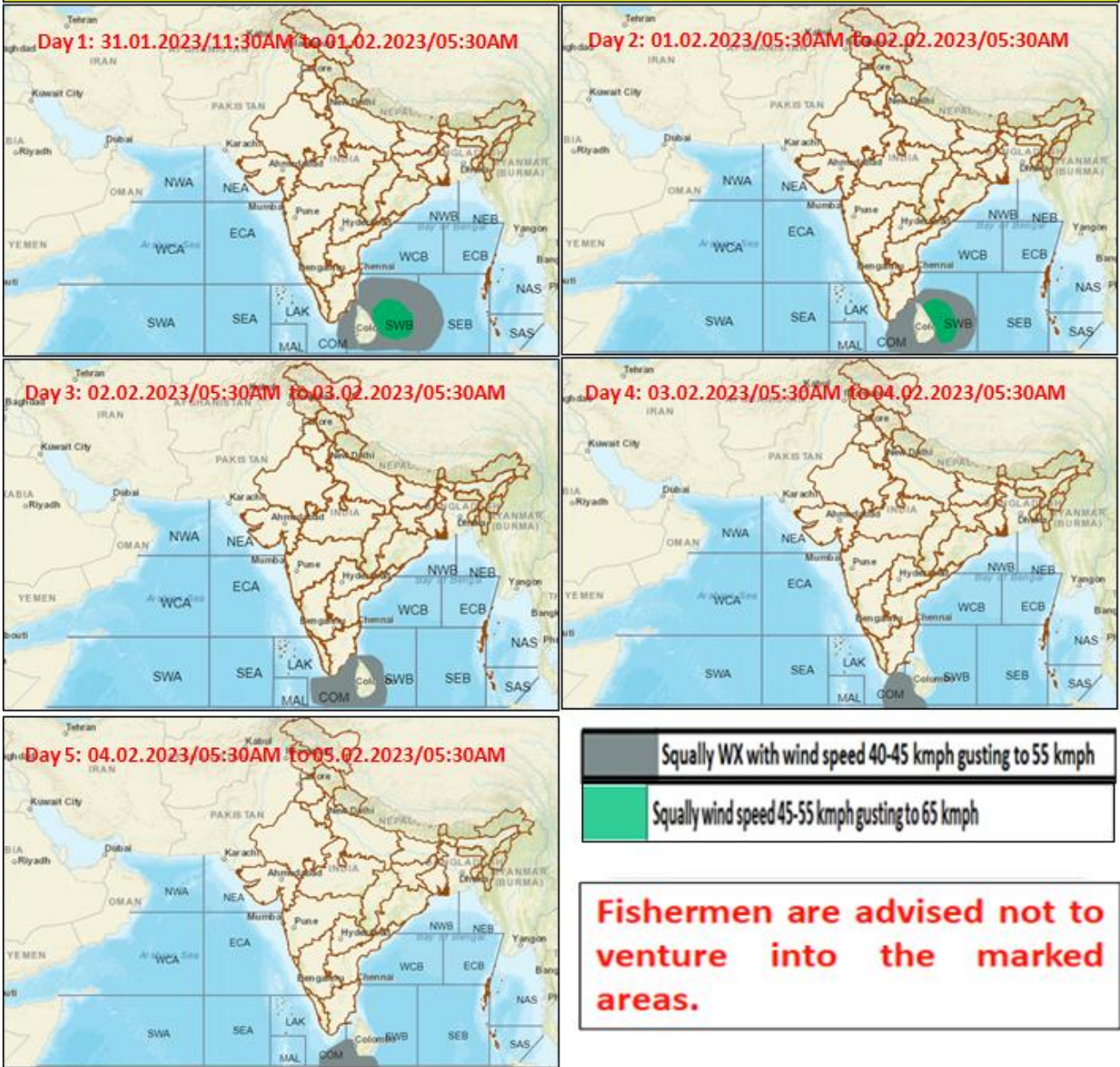
⊖ ≥ 48 KT

— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY

Fishermen warning graphics



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