



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

**DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 01.02.2023**

**SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 1500 UTC OF 01.02.2023 BASED ON 1200 UTC OF 01.02.2023.**

**SUB: DEPRESSION OVER SOUTHWEST BAY OF BENGAL**

THE DEPRESSION OVER SOUTHWEST BAY OF BENGAL MOVED SLOWLY WESTWARDS WITH A SPEED OF 3 KMPH DURING PAST 6 HOURS AND LAY CENTERED AT 1200 UTC OF TODAY, THE 1<sup>ST</sup> FEBRUARY, 2023 OVER THE SAME REGION NEAR LATITUDE 8.2°N AND LONGITUDE 82.3°E, ABOUT 80 KM NORTHEAST OF BATTICALOA (SRI LANKA, 43436), 120 KM EAST-SOUTHEAST OF TRINCOMALEE (SRI LANKA, 43418) AND 400 KM SOUTHEAST OF KARAİKAL (INDIA, 43346).

IT IS VERY LIKELY TO MOVE NEARLY WESTWARDS AND CROSS SRI LANKA COAST BETWEEN BATTICALOA AND TRINCOMALEE AROUND DURING 2100 UTC OF 1<sup>ST</sup> FEBRUARY TO 0000 UTC OF 2<sup>ND</sup> FEBRUARY, THE 02<sup>ND</sup> 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
01.02.23/1200	8.2/82.3	45-55 gusting to 65	Depression
02.02.23/0000	8.0/81.5	45-55 gusting to 65	Depression
02.02.23/1200	7.7/80.7	40-50 gusting to 60	Depression
03.02.23/0000	7.2/79.9	40-50 gusting to 60	Depression

INTENSITY OF THE SYSTEM IS CHARACTERIZED AS T 1.5. CLOUDS ARE ORGANISED IN SHEAR PATTERN. INTENSE CONVECTION SHEARED TO NORTHWEST OF SYSTEM CENTRE. INTENSE CONVECTIVE CLOUD MASS IS OBSERVED OFF NORTH-EAST SRI LANKA COAST. ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTHWEST WEST BAY OF BENGAL BETWEEN LATITUDE 8.5°N TO 12.5°N LONG 79.0°E TO 83.0°E AND MODERATE TO INTENSE CONVECTION OVER TAMILNADU, NORTH SRI LANKA AND PALK STRAIT. MODERATE TO INTENSE CONVECTION IS SEEN OVER GULF OF MANNAR. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 93°C.

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:

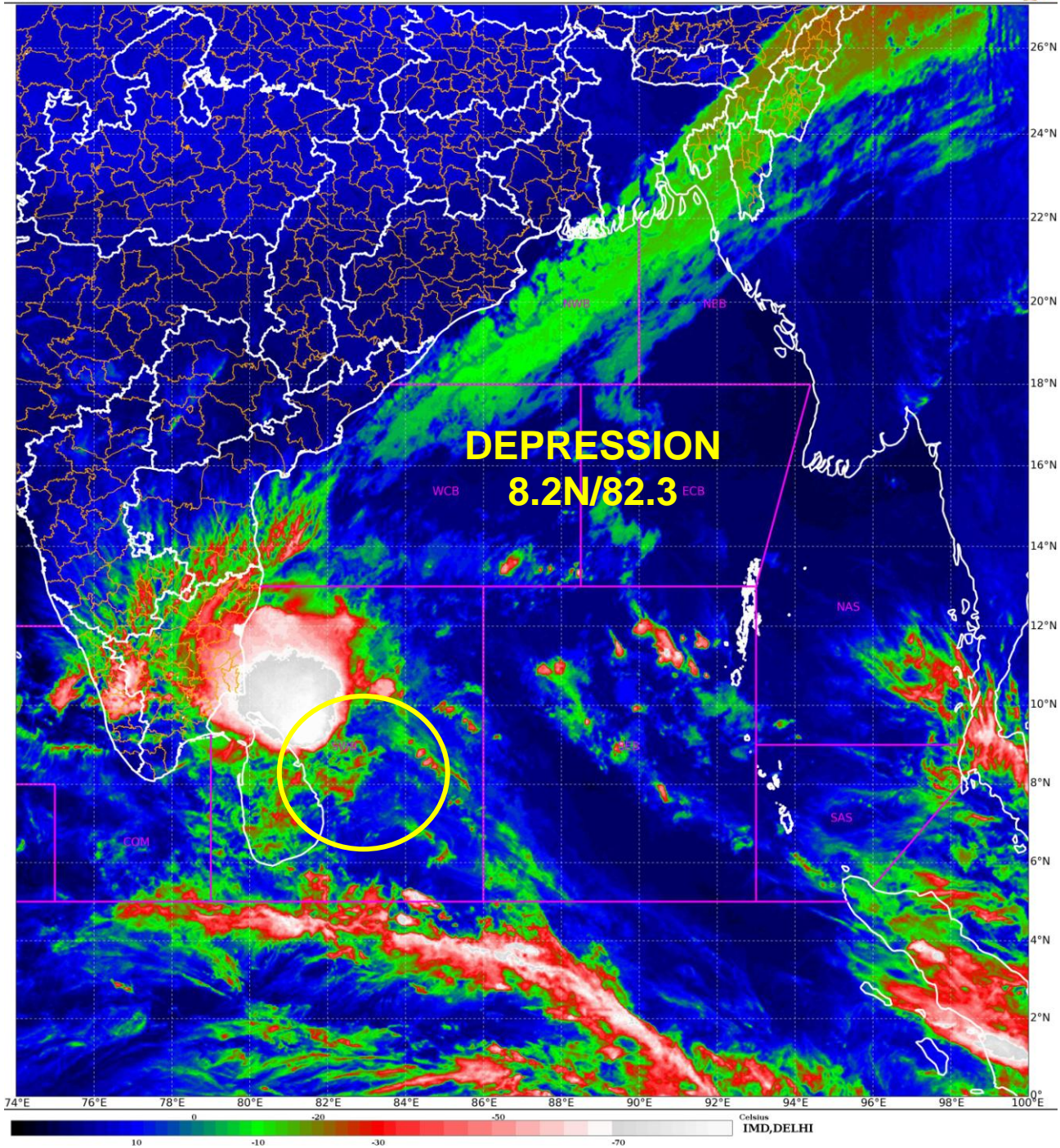
THE MADDEN JULIAN OSCILLATION (MJO) INDEX CURRENTLY LIES IN PHASE 3 WITH AMPLITUDE AROUND 2. IT WILL CONTINUE IN SAME PHASE WITH SIMILAR INCREASED AMPLITUDE DURING NEXT 6 DAYS. MJO INDEX IS THUS CONDUCIVE FOR ENHANCEMENT OF CONVECTIVE ACTIVITY OVER BAY OF BENGAL (BOB) AND MAINTENANCE OF INTENSITY OF 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) ALONGWITH KELVIN WAVES, MJO AND EQUATORIAL ROSSBY WAVES OVER EAST EQUATORIAL INDIAN OCEAN AND ADJOINING SOUTH BOB ON 1<sup>ST</sup> FEBRUARY. ALL THESE EQUATORIAL WAVES ARE CONTRIBUTING TOWARDS MAINTENANCE OF INTENSITY OF THE SYSTEM AND SLOW WEAKENING AFTER LANDFALL.

SEA SURFACE TEMPERATURE (SST) IS AROUND 27°C OVER SOUTHWEST 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 HAS DECREASED TO  $100 \times 10^{-6} \text{ S}^{-1}$  TO THE SOUTHWEST OF THE SYSTEM CENTER. LOW LEVEL CONVERGENCE IS  $10 \times 10^{-5} \text{ S}^{-1}$  AROUND THE SYSTEM CENTER. UPPER LEVEL DIVERGENCE HAS DECREASED AND IS AROUND  $10 \times 10^{-5} \text{ S}^{-1}$  TOWARDS NORTH OF THE SYSTEM CENTER. WIND SHEAR IS MODERATE (15-20 KNOTS) AROUND SYSTEM CENTRE OVER SOUTHWEST BAY OF BENGAL, AND IS INCREASING ALONG FORECAST TRACK (20-30 KNOTS). THE UPPER TROPOSPHERIC RIDGE IS SEEN ALONG 11.0°N OVER THE BOB. THE SYSTEM IS EXHIBITING SLOW MOVEMENT AND IS STEERED NEARLY WESTWARDS. THE VORTICITY FIELDS INDICATE THAT THE VERTICAL EXTENSION OF THE SYSTEM IS UPTO 500 HPA LEVEL. IMD GFS ANALYSIS FIELD OF WINDS AT 400 HPA LEVEL INDICATE, THERE IS A TROUGH IN WESTERLY AT 400 HPA LEVEL WITH AXIS RUNNING ALONG 82°E UPTO 15°N. THE TROUGH FROM THE CENTRE OF DEPRESSION IS RUNNING NORTHWRADS ALONG 82°E UPTO 13°N. THERE IS A PHASE LOCKING BETWEEN THE TROUGH IN WESTERLIES AND TROUGH IN EASTERLIES, LEADING TO SLOW MOVEMENT OF THE SYSTEM. AS THE SYSTEM WOULD REACH NEAR COAST, DRY COLD AIR WOULD INTRUDE INTO THE SYSTEM AREA FROM SOUTH, EASTERLY WIND SHEAR AND LAND SURFACE SURFACE FRICTION WOULD LEAD TO WEAKENING OF THE SYSTEM.

MOST OF THE MODELS INCLUDING IMD GFS, NCUM AND ECMWF ARE INDICATING THE WESSTWARDS MOVEMENT TOWARDS SRI LANKA COAST TILL LANDFALL AND CROSS BETWEEN BATTICALOA AND TRINCOMALEE DURING 1800 UTC OF 01<sup>ST</sup> FEBRUARY TO 0000 UTC OF 2<sup>ND</sup> FEBRUARY, 2023.

IN VIEW OF ALL THE ABOVE, THE DEPRESSION OVER SOUTHWEST BOB IS VERY LIKELY TO MOVE NEARLY WESTWARDS AND CROSS SRI LANKA COAST BETWEEN BATTICALOA AND TRINCOMALEE AROUND DURING 2100 UTC OF 1<sup>ST</sup> FEBRUARY TO 0000 UTC OF 2<sup>ND</sup> FEBRUARY, THE 02<sup>ND</sup> FEBRUARY 2023.

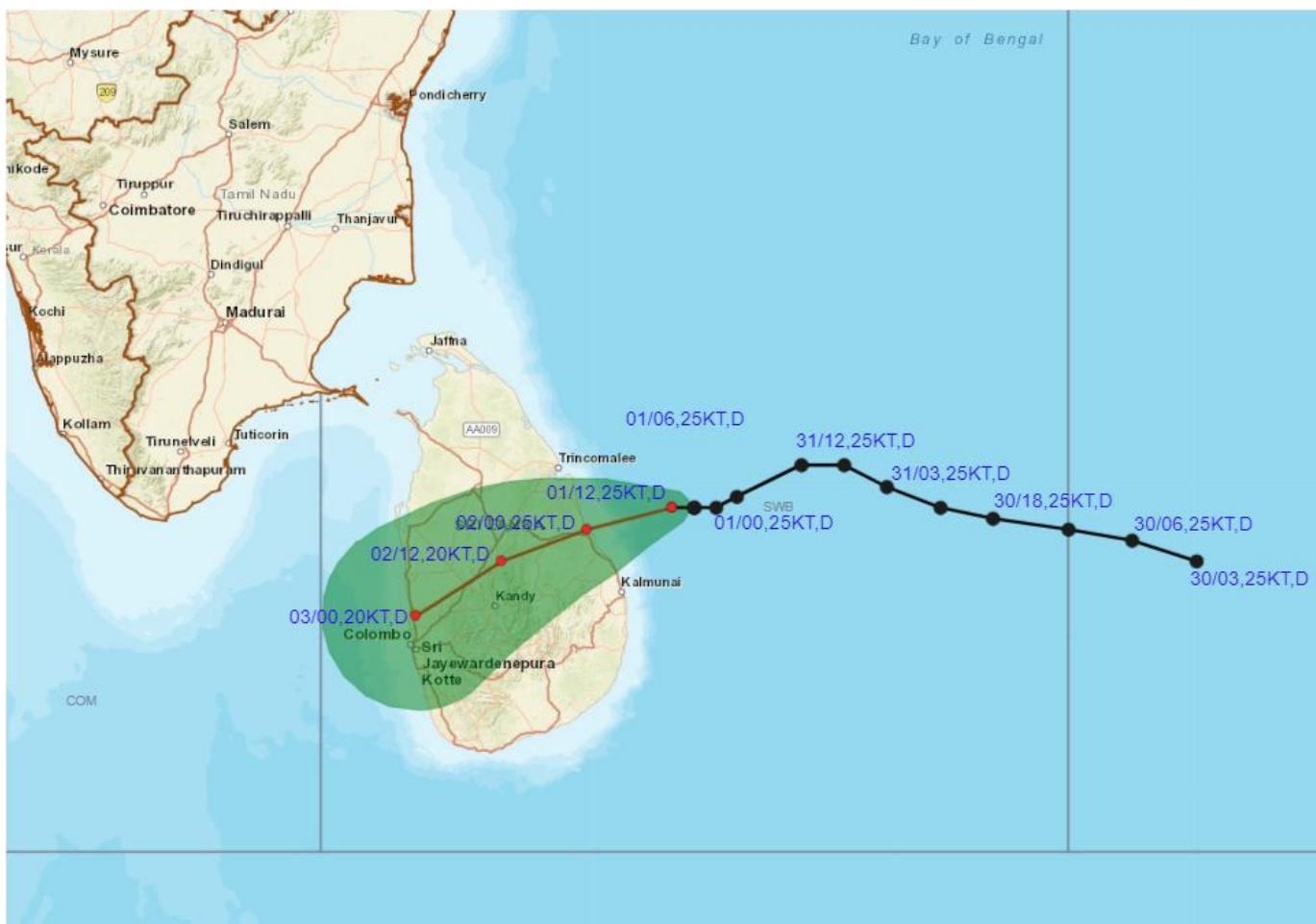
(M. SHARMA)  
RSMC, NEW DELHI



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%  
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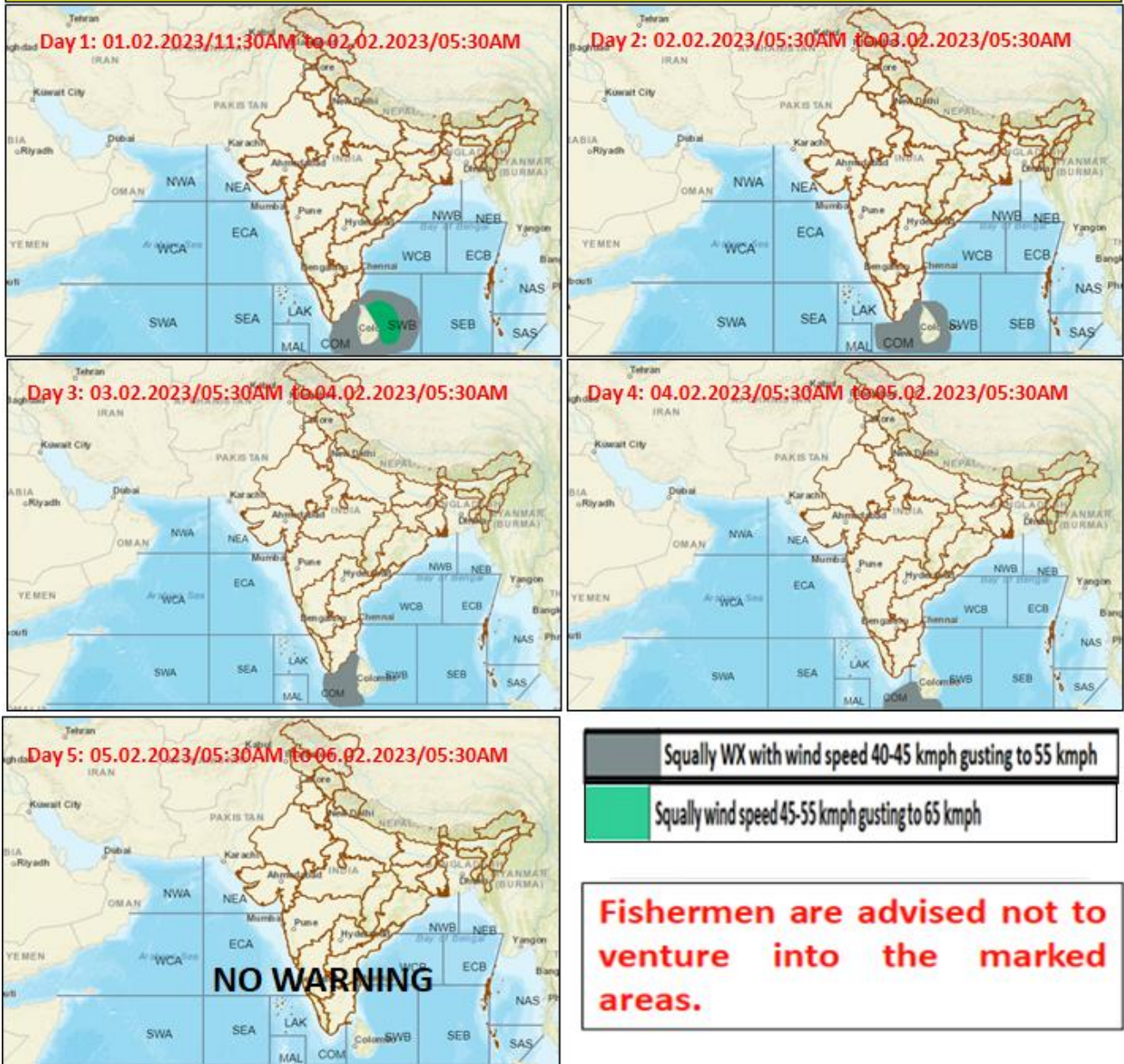
## OBSERVED AND FORECAST TRACK OF DEPRESSION OVER SOUTHWEST BAY OF BENGAL BASED ON 1200 UTC OF 01<sup>st</sup> FEBRUARY, 2023.



**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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