

WTIO30 FMEE 150042

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 1/6/20232024

1.A TROPICAL DISTURBANCE 6

2.A POSITION 2024/02/15 AT 0000 UTC:

WITHIN 40 NM RADIUS OF POINT 14.8 S / 64.0 E

(FOURTEEN DECIMAL EIGHT DEGREES SOUTH AND  
SIXTY FOUR DECIMAL ZERO DEGREES EAST)

MOVEMENT: WEST 6 KT

3.A DVORAK ANALYSIS: 2.0/2.0/D 1.0/12 H

4.A CENTRAL PRESSURE: 1003 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 25 KT

RADIUS OF MAXIMUM WINDS (RMW): NIL

6.A EXTENSION OF WIND BY QUADRANTS (KM):

NIL

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1008 HPA / 1200 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2024/02/15 12 UTC: 15.3 S / 65.1 E, VENT MAX= 030 KT, TROPICAL DEPRESSION  
28 KT NE: 100 SE: 155 SW: 165 NW: 95

24H: 2024/02/16 00 UTC: 15.6 S / 66.8 E, VENT MAX= 035 KT, MODERATE TROPICAL  
STORM

28 KT NE: 100 SE: 175 SW: 165 NW: 95

34 KT NE: 75 SE: 130 SW: 95 NW: 0

36H: 2024/02/16 12 UTC: 15.6 S / 69.1 E, VENT MAX= 040 KT, MODERATE TROPICAL  
STORM

28 KT NE: 100 SE: 185 SW: 165 NW: 95

34 KT NE: 75 SE: 130 SW: 95 NW: 0

48H: 2024/02/17 00 UTC: 15.6 S / 71.9 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM

28 KT NE: 350 SE: 195 SW: 165 NW: 270

34 KT NE: 220 SE: 130 SW: 95 NW: 195

48 KT NE: 95 SE: 55 SW: 35 NW: 0

60H: 2024/02/17 12 UTC: 16.4 S / 75.1 E, VENT MAX= 055 KT, SEVERE TROPICAL STORM

28 KT NE: 370 SE: 220 SW: 165 NW: 295

34 KT NE: 230 SE: 130 SW: 55 NW: 215

48 KT NE: 95 SE: 55 SW: 35 NW: 0

72H: 2024/02/18 00 UTC: 18.7 S / 80.2 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM  
28 KT NE: 435 SE: 490 SW: 280 NW: 445  
34 KT NE: 270 SE: 295 SW: 205 NW: 295  
48 KT NE: 100 SE: 75 SW: 35 NW: 0

2.B LONGER-RANGE OUTLOOK:

96H: 2024/02/19 00 UTC: 26.1 S / 89.0 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM  
28 KT NE: 480 SE: 455 SW: 175 NW: 260  
34 KT NE: 295 SE: 260 SW: 150 NW: 175  
48 KT NE: 110 SE: 65 SW: 35 NW: 0

120H: 2024/02/20 00 UTC: 30.0 S / 95.6 E, VENT MAX= 045 KT, POST-TROPICAL  
DEPRESSION  
28 KT NE: 185 SE: 270 SW: 165 NW: 165  
34 KT NE: 120 SE: 130 SW: 95 NW: 0

2.C ADDITIONAL INFORMATION:

T=CI=2.0

THE LOW-LEVEL PRECURSOR LOCATED TO THE NORTHEAST OF THE MASCAREIGNES ARCHIPELAGO IS NOW BEING CLOSELY MONITORED BY RSMC LA REUNION. IN A GENERAL CONTEXT MARKED BY A WELL-ESTABLISHED MONSOON TROUGH PATTERN, AND WITH FAVORABLE ENVIRONMENTAL CONDITIONS, THE CLOUD PATTERN OF SYSTEM 05-20232024 HAS GRADUALLY GAINED IN DEFINITION OVER THE LAST 24 HOURS. THIS MORNING, ASCAT-B AND C AT 0431Z AND 0524Z RESPECTIVELY PRESENTED AN ELONGATED, ILL-DEFINED, ASYMMETRICAL LOW-LEVEL STRUCTURE WITH MEAN WINDS OF AROUND 20KT. CONVECTION CONTINUED TO FLUCTUATE THROUGHOUT THE DAY, BUT A STUDY OF SATELLITE IMAGES OVER THE COURSE OF THE DAY LED TO AN INITIAL CLASSIFICATION OF DVORAK T = 1.0 AROUND 12 UTC. IN THE EVENING, THE PARTIAL ASCAT-B PASS AT 1704Z STILL CONFIRMS AN ELONGATED LOW-LEVEL CIRCULATION WITH MEAN WINDS OF AROUND 20KT IN THE SOUTHERN HALF-CIRCLE, WITH THE LLCC LOCATED AT THE NORTH-WESTERN EDGE OF THE MAIN CONVECTION. THE 1429Z 37GHZ SSMIS F17 SWATH SHOWED A CONSOLIDATING LOW-LEVEL CORE WITH CONVECTION DISPLACED INTO THE SYSTEM'S EASTERN SEMICIRCLE. SHORTLY BEFORE THE 00UTC NETWORK, THE MAIN CONVECTION HAS STRENGTHENED AND THE CLOUD PATTERN HAS BECOME MORE CURVED. A SUBJECTIVE DVORAK ANALYSIS GIVES A T OF 2.0, IN LINE WITH THE LATEST AVAILABLE MODEL ANALYSES, CLASSIFYING THE SYSTEM AS A TROPICAL DISTURBANCE. THE EXACT POSITION OF THE LOW-LEVEL CENTER REMAINS DIFFICULT TO DETERMINE FOR THE MOMENT, DUE TO A LACK OF MICROWAVE DATA.

UNTIL THURSDAY, THE TROPICAL LOW SYSTEM WILL MOVE EAST-SOUTHEAST RATHER SLOWLY, DUE TO A LACK OF STEERING FLOW IN THE LOWER TROPOSPHERE. AS THE SYSTEM STRENGTHENS, IT IS TAKEN OVER BY THE GENERAL CIRCULATION AT HIGHER LEVELS AND WILL ACCELERATE EASTWARDS UNDER THE INFLUENCE OF AN EASTERLY FLOW ALONG THE SOUTHERN EDGE OF A NEAR-EQUATORIAL RIDGE. ON SATURDAY, THE SYSTEM WILL PLUNGE SOUTH-EASTWARDS, BETWEEN A RIDGE TO THE EAST AND A TROUGH TO THE SOUTH, EXTENDING INTO AN AXIS TO THE SOUTH-WEST OF THE SYSTEM.

ACCORDING TO THE CURRENT FORECAST, THIS PATTERN COULD LEAD THE SYSTEM TO LEAVE THE SOUTH-WESTERN INDIAN OCEAN BASIN FOR THE AUSTRALIAN AOR LATE ON MONDAY. THE RSMC TRACK FORECAST IS BASED ON A COMPROMISE BETWEEN THE BEST AVAILABLE GUIDANCE SYSTEMS, WHICH HAVE BEEN HIGHLY DISPERSIVE (CROSS TRACK AND ALONG TRACK) FOR SOME NETWORKS, LEADING TO LOW TO MODERATE CONFIDENCE IN THE SYSTEM'S TRACK.

IN TERMS OF INTENSITY, TROPICAL DISTURBANCE N°06-20232024 CURRENTLY ENJOYS GOOD ENVIRONMENTAL CONDITIONS FOR ITS DEVELOPMENT: WARM SURFACE WATERS BETWEEN 28 AND 29°C, LITTLE OR NO VERTICAL WIND SHEAR, EXCELLENT MID-LEVEL ATMOSPHERIC MOISTURE, GOOD DIVERGENCE ALOFT, MARKED BY THE PRESENCE OF AN EVACUATION CHANNEL IN THE SOUTHERN SEMICIRCLE. HOWEVER, IN SPITE OF AN EXCELLENT HUMID SUPPLY CARRIED BY THE MONSOON FLOW, HOWEVER, DESPITE AN EXCELLENT MOISTURE SUPPLY CARRIED BY THE MONSOON FLOW, THE LOW LEVEL CONVERGENCE (POLAR SIDE) IS STILL PARTLY LACKING, WHICH PROBABLY EXPLAINS THE RATHER MODEST SIZE OF THE WARM CORE OF THE SYSTEM ACCORDING TO THE LATEST CIMSS DATA. HOWEVER, THIS LOW-LEVEL CONVERGENCE SHOULD IMPROVE FAIRLY RAPIDLY OVER THE NEXT 24 HOURS, AND ENVIRONMENTAL CONDITIONS SHOULD REMAIN FAVORABLE FOR STRENGTHENING THE SYSTEM TO THE PROBABLE STAGE OF A SEVERE TROPICAL STORM. FROM FRIDAY EVENING, A SMALL SOUTHERLY CONSTRAINT IN THE MID-TROPOSPHERE SHOULD IMPACT THE METEOR AND INCREASE OVER THE WEEKEND, LIMITING THE STRENGTHENING OF THE SYSTEM. FROM SUNDAY ONWARDS, THIS STRESS SHOULD BE ACCOMPANIED BY A GRADUAL DROP IN OCEAN HEAT CONTENT AS THE SYSTEM MOVES OVER COOLER WATERS. ON MONDAY, ON THE EASTERN EDGE OF THE TROUGH LOCATED FURTHER SOUTH-WEST, UPPER-LEVEL SHEAR BECOMES PREDOMINANT AND ENDS UP INJECTING DRY AIR ABOVE THE LOW-LEVEL CENTER, CAUSING THE SYSTEM TO GRADUALLY LOSE ITS TROPICAL CHARACTERISTICS.

IMPACTS ON INHABITED LAND OVER THE NEXT 72 HOURS:

RODRIGUES ISLAND:

- PROGRESSIVELY ROUGHER SEA CONDITIONS FROM TOMORROW, THURSDAY, THEN MORE PRONOUNCED FROM FRIDAY EVENING, WITH AVERAGE WAVES BETWEEN 4 AND 5 METERS. IMPROVING ON SUNDAY.