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RSMC / TROPICAL CYCLONE CENTER / LA REUNION
TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 3/6/20232024
1.A TROPICAL DEPRESSION 6

2.A POSITION 2024/02/15 AT 1200 UTC:
WITHIN 20 NM RADIUS OF POINT 15.3 S / 64.2 E
(FIFTEEN DECIMAL THREE DEGREES SOUTH AND
SIXTY FOUR DECIMAL TWO DEGREES EAST)
MOVEMENT: SOUTH-SOUTH-EAST 5 KT

3.A DVORAK ANALYSIS: 2.5/2.5/D 0.5/6 H

4.A CENTRAL PRESSURE: 1001 HPA
5.A MAX AVERAGE WIND SPEED (10 MN): 30 KT
RADIUS OF MAXIMUM WINDS (RMW): NIL

6.A EXTENSION OF WIND BY QUADRANTS (KM):
28 KT NE: 100 SE: 155 SW: 165 NW: 100

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: 2024/02/16 00 UTC: 15.9 S / 65.8 E, VENT MAX= 035 KT, MODERATE TROPICAL STORM
28 KT NE: 185 SE: 130 SW: 0 NW: 0
34 KT NE: 110 SE: 75 SW: 0 NW: 0

24H: 2024/02/16 12 UTC: 16.0 S / 67.6 E, VENT MAX= 040 KT, MODERATE TROPICAL STORM
28 KT NE: 195 SE: 0 SW: 150 NW: 0
34 KT NE: 120 SE: 0 SW: 0 NW: 0

36H: 2024/02/17 00 UTC: 16.1 S / 69.4 E, VENT MAX= 045 KT, MODERATE TROPICAL STORM
28 KT NE: 175 SE: 185 SW: 215 NW: 85
34 KT NE: 100 SE: 110 SW: 85 NW: 0

48H: 2024/02/17 12 UTC: 16.5 S / 72.2 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM
28 KT NE: 345 SE: 230 SW: 335 NW: 230
34 KT NE: 205 SE: 150 SW: 95 NW: 120
48 KT NE: 55 SE: 35 SW: 0 NW: 45

60H: 2024/02/18 00 UTC: 17.9 S / 76.2 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM

28 KT NE: 370 SE: 280 SW: 370 NW: 285
34 KT NE: 215 SE: 175 SW: 75 NW: 155
48 KT NE: 75 SE: 45 SW: 45 NW: 55

72H: 2024/02/18 12 UTC: 20.4 S / 80.5 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM
28 KT NE: 370 SE: 240 SW: 405 NW: 295
34 KT NE: 215 SE: 150 SW: 155 NW: 175
48 KT NE: 85 SE: 65 SW: 65 NW: 65

2.B LONGER-RANGE OUTLOOK:
96H: 2024/02/19 12 UTC: 27.2 S / 89.3 E, VENT MAX= 055 KT, SEVERE TROPICAL STORM
28 KT NE: 400 SE: 285 SW: 360 NW: 240
34 KT NE: 215 SE: 185 SW: 175 NW: 130
48 KT NE: 85 SE: 75 SW: 65 NW: 55

120H: 2024/02/20 12 UTC: 31.8 S / 100.3 E, VENT MAX= 040 KT, EXTRATROPICAL DEPRESSION
28 KT NE: 270 SE: 165 SW: 280 NW: 280
34 KT NE: 110 SE: 100 SW: 95 NW: 155

2.C ADDITIONAL INFORMATION:
T=CI=2.5-

OVER THE PAST 6 HOURS, THE CURVED BAND CLOUD CONFIGURATION OF SYSTEM 06-20232024 HAS EXPANDED. THE T-NUMBER ESTIMATE BY DVORAK ANALYSIS HAS THEREFORE INCREASED FROM 2 TO 2.5-, DEFINING MAXIMUM WINDS OF THE ORDER OF 30KT FOR CLASSIFICATION AS A TROPICAL DEPRESSION. THE LATEST SATELLITE IMAGES AVAILABLE ARE GEOSTATIONARY VISIBLE AND INFRARED IMAGES ONLY. THE LOCATION OF THE CIRCULATION CENTER REMAINS RATHER IMPRECISE, ALTHOUGH IT IS IMPORTANT FOR THE CHOICE OF THE FORECAST TRACK SCENARIO.

IN THE SHORT TERM, THE 06-20232024 SYSTEM WILL MOVE RATHER SLOWLY IN A SOUTHEASTERLY DIRECTION, DUE TO A LACK OF MID-TROPOSPHERE STEERING FLOW. AS THE SYSTEM STRENGTHENS, IT IS CARRIED ALONG BY THE GENERAL CIRCULATION AT HIGHER LEVELS, AND WILL ACCELERATE EASTWARDS UNDER THE IMPETUS OF A WESTERLY FLOW ALONG THE SOUTHERN EDGE OF THE NEAR-EQUATORIAL RIDGE, WHICH IS INCREASINGLY PRESENT. ON SATURDAY, THE SYSTEM WILL MOVE SOUTH-EASTWARDS, BETWEEN A RIDGE TO THE EAST AND A TROUGH TO THE SOUTH. ACCORDING TO THE CURRENT FORECAST, THIS CONFIGURATION COULD LEAD THE SYSTEM TO LEAVE THE SOUTH-WESTERN INDIAN OCEAN BASIN TOWARDS THE AUSTRALIAN ZONE OF RESPONSIBILITY DURING THE DAY ON MONDAY. ALL THE GUIDANCE PATTERNS ARE GROUPED INTO TWO CLASSES. ONE CLASS GROUPS FASTER, MORE NORTHERLY LOCALIZED TRACKS, THE OTHER CLASS GROUPS SLOWER, MORE SOUTHERLY LOCALIZED TRACK. COMPARED WITH THE PREVIOUS FORECAST, THE CURRENT RSMC FORECAST IS SLOWER AND LOCATED FURTHER SOUTH, BRINGING IT CLOSER TO THE SECOND CLASS. CONFIDENCE IN THE TRACK FORECAST REMAINS MODERATE, NOTABLY DUE TO UNCERTAINTY OVER THE SYSTEM'S POSITION IN THE EARLY STAGES.

IN TERMS OF INTENSITY, LITTLE DIFFERENCE FROM THE PREVIOUS FORECAST. THE

INTENSIFICATION RATE HAS BEEN SLIGHTLY REVISED DOWNWARDS: DUE TO ITS FORECAST TRACK FURTHER SOUTH, TROPICAL DISTURBANCE 06-20232024 WILL ENCOUNTER SLIGHTLY LESS FAVORABLE CONDITIONS, NOTABLY IN TERMS OF VERTICAL WIND SHEAR. HOWEVER, ENVIRONMENTAL CONDITIONS REMAIN SATISFACTORY FOR ITS DEVELOPMENT: SUFFICIENT OCEANIC POTENTIAL, LITTLE VERTICAL WIND SHEAR, GOOD SUPPLY OF MOISTURE IN THE MIDDLE LAYERS OF THE ATMOSPHERE, AND A FINE ALTITUDE DIVERGENCE MARKED BY THE PRESENCE OF AN OUTFLOW CHANNEL IN THE SOUTHERN SEMICIRCLE. HOWEVER, DESPITE AN EXCELLENT SUPPLY OF MOISTURE FROM THE MONSOON FLOW, POLAR CONVERGENCE IS STILL LACKING AT THE START OF THE PERIOD. THIS LOW-LEVEL CONVERGENCE SHOULD IMPROVE FAIRLY RAPIDLY OVER THE NEXT 18-24 HOURS, HOWEVER, AND ENVIRONMENTAL CONDITIONS SHOULD CONTINUE TO FAVOUR STRENGTHENING OF THE SYSTEM TO THE PROBABLE STAGE OF A STRONG TROPICAL STORM. 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 EVENING, THIS CONSTRAINT SHOULD BE ACCOMPANIED BY A GRADUAL DROP IN OCEANIC POTENTIAL AS THE SYSTEM MOVES OVER COOLER WATERS. ON MONDAY, ON THE EASTERN FLANK OF THE SOUTH-WESTERN TROUGH, UPPER-LEVEL SHEAR BECOMES PREDOMINANT AND EVENTUALLY INJECTS DRY AIR OVER THE LOW-LEVEL CENTER, GRADUALLY CAUSING THE SYSTEM TO LOSE ITS TROPICAL CHARACTERISTICS.

IMPACTS ON INHABITED LAND OVER THE NEXT 72 HOURS:
RODRIGUES ISLAND:
- SEA STATE GRADUALLY WORSENING TODAY, THEN MORE MARKEDLY FROM FRIDAY EVENING, WITH AVERAGE WAVES BETWEEN 4 AND 5 METERS. IMPROVEMENT ON SUNDAY, AS THE SYSTEM MOVES AWAY.

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