

WTIO30 FMEE 221352

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 1/3/20232024

1.A ZONE OF DISTURBED WEATHER 3

2.A POSITION 2024/01/22 AT 1200 UTC:

WITHIN 40 NM RADIUS OF POINT 16.2 S / 59.5 E

(SIXTEEN DECIMAL TWO DEGREES SOUTH AND
FIFTY NINE DECIMAL FIVE DEGREES EAST)

MOVEMENT: SOUTH-EAST 6 KT

3.A DVORAK ANALYSIS: 1.5/1.5/S 0.0/6 H

4.A CENTRAL PRESSURE: 1002 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: 370 SE: 0 SW: 0 NW: 370

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1007 HPA / 1000 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: MEDIUM

1.B FORECASTS (WINDS RADII IN KM):

12H: 2024/01/23 00 UTC: 17.4 S / 59.5 E, VENT MAX= 030 KT, ZONE OF DISTURBED
WEATHER

28 KT NE: 350 SE: 0 SW: 0 NW: 335

24H: 2024/01/23 12 UTC: 18.4 S / 59.0 E, VENT MAX= 035 KT, MODERATE TROPICAL
STORM

28 KT NE: 350 SE: 205 SW: 240 NW: 335

34 KT NE: 215 SE: 0 SW: 0 NW: 240

36H: 2024/01/24 00 UTC: 19.1 S / 58.5 E, VENT MAX= 045 KT, MODERATE TROPICAL
STORM

28 KT NE: 370 SE: 205 SW: 285 NW: 345

34 KT NE: 215 SE: 110 SW: 110 NW: 240

48H: 2024/01/24 12 UTC: 20.1 S / 58.4 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM

28 KT NE: 405 SE: 240 SW: 305 NW: 345

34 KT NE: 280 SE: 185 SW: 120 NW: 280

48 KT NE: 65 SE: 65 SW: 65 NW: 65

60H: 2024/01/25 00 UTC: 21.4 S / 59.2 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM

28 KT NE: 405 SE: 295 SW: 315 NW: 305

34 KT NE: 240 SE: 195 SW: 155 NW: 240
48 KT NE: 85 SE: 85 SW: 85 NW: 85

72H: 2024/01/25 12 UTC: 23.3 S / 60.5 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM
28 KT NE: 405 SE: 345 SW: 335 NW: 295
34 KT NE: 185 SE: 205 SW: 150 NW: 165
48 KT NE: 85 SE: 85 SW: 85 NW: 85

2.B LONGER-RANGE OUTLOOK:

96H: 2024/01/26 12 UTC: 27.3 S / 62.4 E, VENT MAX= 045 KT, MODERATE TROPICAL STORM
28 KT NE: 425 SE: 435 SW: 370 NW: 295
34 KT NE: 195 SE: 220 SW: 175 NW: 165

120H: 2024/01/27 12 UTC: 29.5 S / 60.4 E, VENT MAX= 035 KT, POST-TROPICAL DEPRESSION
28 KT NE: 455 SE: 530 SW: 400 NW: 285
34 KT NE: 215 SE: 240 SW: 205 NW: 175

2.C ADDITIONAL INFORMATION:

T=CI=1.5

CURRENTLY, THE SYSTEM 03 REMAINS BROAD AND STILL DEVELOPING NORTHEAST OF THE MASCARENES. THE SURFACE CENTER IS STILL POORLY DEFINED, AS SHOWN BY THE 0547Z ASCAT PASS, AND CONVECTIVE ACTIVITY REMAINS FAR FROM THE CENTER. THE CENTRAL PRESSURE AND POSITION HAVE BEEN ADJUSTED WITH OBSERVATIONS FROM SAINT-BRANDON STATION, WHICH IS PROBABLY LOCATED LESS THAN 50 NM FROM THE CENTER. MAXIMUM WINDS EXCEEDED 30KT AND LOCALLY 35KT FAR FROM THE CENTER, IN THE NORTHERN SEMICIRCLE AS SHOWN BY THE ASCAT DATA.

TRACKWISE, SYSTEM 03 IS PROGRESSIVELY TURNING SOUTHWARDS, THEN SOUTH-WESTWARDS, UNDER THE INFLUENCE OF A LOW-LEVEL RIDGE TO THE SOUTH-EAST . FROM WEDNESDAY ONWARDS, WITH THE EASTWARD SHIFT OF THIS RIDGE AND THE ARRIVAL OF A TROUGH TO THE SOUTH-WEST, THE STEERING FLOW WILL GRADUALLY SWING TO THE NORTH-WEST, LEADING TO FASTER MOVEMENT SOUTH-EASTWARDS. ALL NUMERICAL MODELS AGREE ON THIS SCENARIO. HOWEVER, UNCERTAINTY PERSISTS AT SHORT RANGE DUE TO THE SYSTEM'S BROAD STRUCTURE, WHICH COULD FAVOR A SHIFT OF THE CENTER. BY THE END OF THE WEEK, WITH THE ARRIVAL OF A SUBTROPICAL RIDGE TO THE SOUTH-WEST AND A LOWER STEERING FLOW, SYSTEM 3 SHOULD SLOW DOWN AND MOVE SOUTH-WESTWARDS.

IN TERMS OF INTENSITY, SYSTEM 3 BENEFITS FROM AN EXCELLENT EARLY EQUATORIAL CONVERGENCE WITH A POWERFUL MONSOON FEEDING SYSTEM. HOWEVER, CONVERGENCE ON THE TRADE WINDS' SIDE REMAINS MARGINAL. THIS SITUATION FAVORS A WIDE STRUCTURE, INITIALLY LIMITING DEEPENING RATE. HOWEVER, THANKS TO AN INCREASINGLY FAVORABLE ENVIRONMENT (STRONG OCEANIC POTENTIAL, LOW VERTICAL SHEAR AND INCREASING UPPER LEVEL DIVERGENCE), A MORE COMPACT CORE SHOULD DEVELOP AND ENABLE A MORE SUSTAINED INTENSIFICATION FROM WEDNESDAY ONWARDS. THIS SCENARIO IS IN LINE WITH THE LATEST SIMULATIONS FROM AROME AND, TO A LESSER EXTENT,

GFS. SYSTEM 3 COULD THEREFORE REACH THE SEVERE TROPICAL STORM OR TROPICAL CYCLONE STAGE. BY THE END OF THE WEEK, THE STRENGTHENING OF THE NORTH-WESTERLY SHEAR AND THE SHARP DECREASE IN OCEANIC POTENTIAL SOUTH OF 25S SHOULD LEAD TO THE WEAKENING OR EVEN THE EXTROPICALIZATION OF THE SYSTEM.

EXPECTED IMPACTS IN THE NEXT 72 HOURS.

MAURITIUS:

- GALE FORCE WINDS LIKELY FROM MID-DAY WEDNESDAY.
- HEAVY RAIN BETWEEN WEDNESDAY AND THURSDAY, REACHING 50MM TO 100MM AND LOCALLY 150MM IN 24H ON THE HIGHLANDS.
- VERY ROUGH SEAS 4 TO 6M FROM TUESDAY NIGHT TO WEDNESDAY.

REUNION :

- HEAVY RAINS FROM TUESDAY EVENING TO THURSDAY OVER SOUTHERN HALF, REACHING 100MM TO 200MM IN 24H, AND EVEN 300 TO 500MM OVER EXPOSED HIGHLANDS.
- VERY ROUGH SEA 4M FROM WEDNESDAY

RODRIGUES :

- VERY ROUGH SEA 4M TO 6M FROM TUESDAY