

WTIO30 FMEE 111347

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

0.A WARNING NUMBER: 2/2/20232024

1.A ZONE OF DISTURBED WEATHER 2

2.A POSITION 2024/01/11 AT 1200 UTC:
WITHIN 60 NM RADIUS OF POINT 10.4 S / 60.2 E
(TEN DECIMAL FOUR DEGREES SOUTH AND
SIXTY DECIMAL TWO DEGREES EAST)
MOVEMENT: SOUTH 6 KT

3.A DVORAK ANALYSIS: NIL

4.A CENTRAL PRESSURE: 1006 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 20 KT
RADIUS OF MAXIMUM WINDS (RMW): NIL

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

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1009 HPA / 700 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: SHALLOW

1.B FORECASTS (WINDS RADII IN KM):

12H: 2024/01/12 00 UTC: 12.1 S / 59.8 E, VENT MAX= 025 KT, TROPICAL DISTURBANCE

24H: 2024/01/12 12 UTC: 13.8 S / 58.6 E, VENT MAX= 030 KT, TROPICAL DEPRESSION
28 KT NE: 140 SE: 195 SW: 220 NW: 100

36H: 2024/01/13 00 UTC: 14.9 S / 57.1 E, VENT MAX= 040 KT, MODERATE TROPICAL
STORM

28 KT NE: 150 SE: 215 SW: 220 NW: 110

34 KT NE: 85 SE: 120 SW: 140 NW: 75

48H: 2024/01/13 12 UTC: 16.5 S / 56.1 E, VENT MAX= 045 KT, MODERATE TROPICAL
STORM

28 KT NE: 155 SE: 230 SW: 220 NW: 110

34 KT NE: 85 SE: 130 SW: 140 NW: 75

60H: 2024/01/14 00 UTC: 17.8 S / 55.3 E, VENT MAX= 055 KT, SEVERE TROPICAL STORM

28 KT NE: 165 SE: 260 SW: 220 NW: 120

34 KT NE: 95 SE: 140 SW: 140 NW: 75

48 KT NE: 65 SE: 55 SW: 55 NW: 45

72H: 2024/01/14 12 UTC: 18.6 S / 55.7 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM

28 KT NE: 175 SE: 280 SW: 220 NW: 130

34 KT NE: 100 SE: 140 SW: 140 NW: 85
48 KT NE: 65 SE: 55 SW: 55 NW: 45

2.B LONGER-RANGE OUTLOOK:

96H: 2024/01/15 12 UTC: 20.3 S / 57.2 E, VENT MAX= 085 KT, TROPICAL CYCLONE
28 KT NE: 185 SE: 325 SW: 220 NW: 150
34 KT NE: 110 SE: 155 SW: 140 NW: 85
48 KT NE: 65 SE: 55 SW: 65 NW: 55
64 KT NE: 45 SE: 45 SW: 45 NW: 45

120H: 2024/01/16 12 UTC: 22.1 S / 60.2 E, VENT MAX= 085 KT, TROPICAL CYCLONE
28 KT NE: 205 SE: 370 SW: 220 NW: 165
34 KT NE: 130 SE: 165 SW: 140 NW: 95
48 KT NE: 60 SE: 60 SW: 60 NW: 60
64 KT NE: 60 SE: 60 SW: 60 NW: 50

2.C ADDITIONAL INFORMATION:

A TECHNICAL INCIDENT LED TO AN UNTIMELY INCREASE IN THE ADVISORY NUMEROTATION. RSMC LA REUNION APOLOGIZES FOR ANY INCONVENIENCE CAUSED.

IN A FAVORABLE UNDULATORY CONTEXT OVER THE SOUTH-WESTERN INDIAN OCEAN BASIN (WET MJO PHASE AND CIRCULATION OF AN EQUATORIAL ROSSBY WAVE), A SOLID MONSOON TROUGH HAS BEEN CONSOLIDATING FOR SEVERAL DAYS NOW, TO THE NORTH-NORTHEAST OF MADAGASCAR. WITHIN THIS LARGE DEPRESSION ZONE, A LOW-LEVEL PRECURSOR IS CONSOLIDATING, FED MAINLY BY A DYNAMIC MONSOON FLOW ON ITS NORTHERN SEMICIRCLE. ON ANALYSIS, THE TRADES WINDS CONVERGENCE IS STILL HAVING A LITTLE TROUBLE FEEDING THE SYSTEM WITH MOISTURE ALOFT. CONVECTIVE ACTIVITY DURING THE DAY WAS RELATIVELY MODEST, BUT THE LATEST SATELLITE IMAGES SUGGEST A SLIGHT INTENSIFICATION NEAR THE CENTER OF THE LOWER LAYERS. IN THE ABSENCE OF DIRECT OBJECTIVE DATA (SCATTEROMETERS AND STATION DATA) ON THE DEPRESSION ZONE, THE INTENSITY OF THE VORTEX IS DEDUCED FROM THE VARIOUS MODEL ANALYSES, GIVING AN AVERAGE WIND OF AROUND 20KT.

IN THE SHORT TERM, THE LOW-PRESSURE SYSTEM WILL BEGIN A MERIDIAN TRACK TOWARDS THE SOUTH-SOUTHEAST, ON THE EASTERN EDGE OF A RIDGE OF HIGH PRESSURE NEAR THE EQUATOR, WHICH WILL IMPART A GENERAL SOUTHERLY FLOW. FROM SATURDAY ONWARDS, THE TRACK WILL BECOME MORE SOUTH-WESTERLY TOWARDS THE NORTH OF THE MASCAREIGNES ARCHIPELAGO, AS A MID-TROPOSPHERE RIDGE CONSOLIDATES FURTHER EAST. THE METEOR SHOULD START TO TURN SOUTH-EASTERLY ON SUNDAY, DEPENDING ON THE WEAKNESS OF THE RIDGE FURTHER SOUTH. ACCORDING TO THE RSMC FORECAST, THE SYSTEM SHOULD EVOLVE OVER THE NORTHERN MASCARENE ISLANDS BETWEEN SUNDAY NIGHT AND MONDAY MORNING. EUROPEAN AND AMERICAN DETERMINISTIC GUIDANCE STILL DIFFERS ON THE EXACT POSITION OF THIS TURN AT PRESENT, AND THERE IS A WIDE DISPERSION OF ENSEMBLE FORECAST MEMBERS OVER THE MASCAREIGNES ARCHIPELAGO. THE RSMC FORECAST IS BASED ON A COMPROMISE BETWEEN THE BEST AVAILABLE MOEDELES, WHOSE DISPERSION REMAINS SIGNIFICANT, INDUCING UNCERTAINTY ON THE FINAL TRACK OF THE SYSTEM.

THE LOW IS CURRENTLY EVOLVING IN TROPICAL LATITUDES MARKED BY VERY WARM WATERS WITH HIGH OCEAN HEAT CONTENT. THE SYSTEM BENEFITS FROM A GOOD LOW LEVEL CONVERGENCES ON THE EQUATORIAL COAST THANKS TO A DYNAMIC MONSOON FLOW. THE TRADE WINDS FLOW, TO THE SOUTH OF THE SYSTEM, IS STRUGGLING TO CONVERGE, BUT OVER THE NEXT 24/36 HOURS, WITH THE CONSOLIDATION OF THE MASCAREIGNES RIDGE TO THE SOUTH, LOW-LEVEL VORTICITY SHOULD INCREASE SIGNIFICANTLY, AND THE SYSTEM SHOULD GRADUALLY SYMMETRIZE. IN ADDITION, THERE WILL BE EXCELLENT POLAR UPPER LEVEL DIVERGENCE, REINFORCED BY THE PASSAGE OF A SOUTH-WESTERLY TROUGH BY TOMORROW. THESE ENVIRONMENTAL CONDITIONS, WHICH ARE HIGHLY CONDUCIVE TO SUSTAINED INTENSIFICATION, ARE SET TO CONTINUE OVER THE NEXT FEW DAYS, AND SHOULD REACH THE MODERATE TROPICAL STORM STAGE ON SATURDAY. APPROACHING THE MASCAREIGNES ARCHIPELAGO (REUNION - MAURITIUS), THE SYSTEM IS LIKELY TO REACH THE TROPICAL CYCLONE STAGE.

EXPECTED IMPACTS OVER THE NEXT 72 HOURS:

- WAVES OF THE ORDER OF 4 METERS ARE EXPECTED NORTH OF THE MASCAREIGNES ON SUNDAY, GROWING TO 6 METERS AS THE SYSTEM PASSES OVER THE WEEKEND AND THEN RAPIDLY SUBSIDING. THE HIGHEST WAVES MAY REACH TWICE THESE HEIGHTS.
- HEAVY RAIN CONCENTRATED AROUND THE SYSTEM (COMPACT) SLIDING BETWEEN AGALEGA AND THE SOUTH OF TROMELIN, OF THE ORDER OF 100 TO 200 MM OVER THE NEXT 72 HOURS.
- GRADUAL DETERIORATION IN WEATHER CONDITIONS OVER THE MASCAREIGNES, WITH VERY FRESH WINDS FROM SUNDAY AFTERNOON. BANDS OF RAIN MAY REACH THE SISTER ISLANDS OF FRIDAY, ON THE PERIPHERY OF THE SYSTEM, CAUSING HEAVY RAIN IN THE GENERAL EASTERLY FLOW.