

WTIO30 FMEE 061822

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 3/2/20222023

1.A TROPICAL DEPRESSION 2

2.A POSITION 2022/10/06 AT 1800 UTC:

WITHIN 20 NM RADIUS OF POINT 9.4 S / 85.9 E

(NINE DECIMAL FOUR DEGREES SOUTH AND
EIGHTY FIVE DECIMAL NINE DEGREES EAST)

MOVEMENT: SOUTH-WEST 4 KT

3.A DVORAK ANALYSIS: 2.5/2.5/S 0.0/12 H

4.A CENTRAL PRESSURE: 1000 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: 0 SE: 520 SW: 390 NW: 0

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1008 HPA / 700 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: MEDIUM

1.B FORECASTS (WINDS RADII IN KM):

12H: 2022/10/07 06 UTC: 10.1 S / 85.5 E, VENT MAX= 030 KT, TROPICAL DEPRESSION
28 KT NE: 0 SE: 445 SW: 350 NW: 0

24H: 2022/10/07 18 UTC: 11.2 S / 85.4 E, VENT MAX= 035 KT, MODERATE TROPICAL
STORM

28 KT NE: 0 SE: 390 SW: 335 NW: 95

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

36H: 2022/10/08 06 UTC: 12.4 S / 85.5 E, VENT MAX= 035 KT, MODERATE TROPICAL
STORM

28 KT NE: 130 SE: 350 SW: 335 NW: 130

34 KT NE: 95 SE: 150 SW: 130 NW: 95

48H: 2022/10/08 18 UTC: 14.0 S / 86.0 E, VENT MAX= 035 KT, MODERATE TROPICAL
STORM

28 KT NE: 165 SE: 370 SW: 335 NW: 165

34 KT NE: 110 SE: 150 SW: 150 NW: 110

60H: 2022/10/09 06 UTC: 15.0 S / 86.3 E, VENT MAX= 035 KT, POST-TROPICAL
DEPRESSION

28 KT NE: 165 SE: 390 SW: 335 NW: 185

34 KT NE: 95 SE: 205 SW: 165 NW: 130

72H: 2022/10/09 18 UTC: 15.9 S / 86.5 E, VENT MAX= 035 KT, POST-TROPICAL DEPRESSION

28 KT NE: 150 SE: 445 SW: 370 NW: 185

34 KT NE: 0 SE: 280 SW: 185 NW: 130

2.B LONGER-RANGE OUTLOOK:

96H: 2022/10/10 18 UTC: 15.2 S / 84.4 E, VENT MAX= 030 KT, FILLING UP

28 KT NE: 0 SE: 445 SW: 370 NW: 0

120H: 2022/10/11 18 UTC: 14.9 S / 81.9 E, VENT MAX= 020 KT, REMNANT LOW

2.C ADDITIONAL INFORMATION:

T=CI=2.5-

TROPICAL DEPRESSION 02'S STRUCTURE HASN'T EVOLVED MUCH DURING THE EVENING HOURS. CONVECTIVE ACTIVITY REMAINS STRONG IN THE SOUTHWESTERN SEMI-CIRCLE UNDER MODERATE TO STRONG NORTHEASTERLY VERTICAL WIND SHEAR. TONIGHT'S RECENT ASCAT DATA, ESPECIALLY THE 1538Z PASS, SHOW MAX WINDS OF ABOUT 30KT AND SUGGEST THAT NEAR-GALE FORCE WINDS ARE LIMITED TO THE SOUTHERN SEMI-CIRCLE. WIND EXTENSIONS HAVE THEREFORE BEEN ADJUSTED ACCORDINGLY AND INTENSITY IS KEPT AT 30KT.

SYSTEM 02 IS BEGINNING A SOUTHWESTWARD TURN TONIGHT. A NORTHERLY STEERING FLOW WILL GRADUALLY INCREASE IN THE NEXT 48H AS A BAROMETRIC COL APPROACHES TO THE SOUTHWEST THEN SOUTH OF THE SYSTEM AND WITH A RIDGE REMAINING TO THE EAST. THE SYSTEM'S MOVEMENT SHOULD THUS ACCELERATE SOUTHWARD THEN SOUTH-SOUTHEASTWARD UNTIL SATURDAY. AT THE END OF THE FORECAST PERIOD, A NEW HIGH-PRESSURE CELL WILL APPROACH FROM THE SOUTHWEST AND WILL FAVOR A WESTWARD TRACK. THERE IS A STRONG SPREAD WITHIN NWP GUIDANCE ESPECIALLY ON THE SYSTEM'S MOVEMENT SPEED AND THE TIMING OF THE WESTWARD TURN. THEREFORE, THE FORECAST IS QUITE UNCERTAIN BEYOND 48H.

ENVIRONMENTAL CONDITIONS REMAIN RATHER UNFAVORABLE DUE TO SIGNIFICANT WIND SHEAR UNTIL FRIDAY MORNING. EQUATORWARD LOW-LEVEL CONVERGENCE SHOULD EVEN WEAKEN FRIDAY. HOWEVER, CONDITIONS SHOULD BECOME TEMPORARILY MORE CONDUCTIVE BETWEEN FRIDAY AFTERNOON AND SATURDAY, AS SHEAR GRADUALLY DECREASES (FORECAST NEAR 10/15KT BETWEEN FRIDAY AFTERNOON AND SATURDAY), AND AS THE SYSTEM MOVES FASTER AND BENEFITS FROM INCREASING UPPER DIVERGENCE. THIS COULD HELP DEEPEN THE SYSTEM UP TO MODERATE TROPICAL STORM STAGE. HOWEVER THIS FAVORABLE WINDOW SHOULD NOT LAST. FROM SUNDAY ONWARDS, AHEAD OF A MID-TROPOSPHERE TROUGH, THE NORTH-WESTERLY MID-SHEAR SHOULD STRENGTHEN AND ALTER THE SYSTEM STRUCTURE. MEANWHILE, OCEAN HEAT CONTENT SHOULD ALSO BECOME INSUFFICIENT. THE SYSTEM COULD THEN LOSE SOME OF ITS TROPICAL CHARACTERISTICS. EARLY NEXT WEEK, IN A DRY ENVIRONMENT IN THE MID-TROPOSPHERE, THE REMNANT LOW SHOULD GRADUALLY FILL UP.