

WTIO30 FMEE 011826

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 2/10/20182019

1.A TROPICAL DEPRESSION 10

2.A POSITION 2019/03/01 AT 1800 UTC:

WITHIN 20 NM RADIUS OF POINT 10.7 S / 75.6 E

(TEN DECIMAL SEVEN DEGREES SOUTH AND
SEVENTY FIVE DECIMAL SIX DEGREES EAST)

MOVEMENT: WEST-SOUTH-WEST 7 KT

3.A DVORAK ANALYSIS: 2.0/2.0/D 0.5/6 H

4.A CENTRAL PRESSURE: 999 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: 370 SW: 170 NW: 0

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1006 HPA / 600 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: MEDIUM

1.B FORECASTS:

12H: 2019/03/02 06 UTC: 12.1 S / 74.5 E, VENT MAX= 045 KT, MODERATE TROPICAL
STORM

24H: 2019/03/02 18 UTC: 13.5 S / 73.6 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM

36H: 2019/03/03 06 UTC: 14.8 S / 73.2 E, VENT MAX= 055 KT, SEVERE TROPICAL STORM

48H: 2019/03/03 18 UTC: 16.0 S / 73.0 E, VENT MAX= 065 KT, TROPICAL CYCLONE

60H: 2019/03/04 06 UTC: 17.2 S / 72.9 E, VENT MAX= 070 KT, TROPICAL CYCLONE

72H: 2019/03/04 18 UTC: 18.2 S / 72.6 E, VENT MAX= 065 KT, TROPICAL CYCLONE

2.B LONGER-RANGE OUTLOOK:

96H: 2019/03/05 18 UTC: 20.1 S / 71.1 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM

120H: 2019/03/06 18 UTC: 22.2 S / 68.9 E, VENT MAX= 045 KT, MODERATE TROPICAL
STORM

2.C ADDITIONAL INFORMATION:

T=CI=2.0

LATEST SATELLITE AND SURFACE DATA SHOWN THAT THE SYSTEM IS
STRENGTHENING: VERY STRONG CONVECTION IS OCCURRING NEAR THE CENTER
AND AMSU MW IMAGERY FROM METOP-B AT 1632Z DEPICTS A BUILDING COMPACT
LOW LEVEL CIRCULATION ALONG WITH INCREASING BANDING FEATURES WITH

THE DEEP CONVECTION. ASCAT-C PARTIAL DATA FROM 1559Z AND A PREVIOUS SMAP PASS AROUND 13Z HAS HELPED TO ASSESS THAT NEAR GALE FORCE WINDS HAS DEVELOPED CLOSE TO THE CENTER BUT ONLY WITHIN THE SOUTHERN SEMI-CIRCLE. MOREOVER AT 15Z, SHIP V7WS6 REPORTED A PRESSURE OF 1001 MB AT MORE THAN 60 NM FROM THE CENTER IN THE NORTH-WESTERN QUADRANT. THE FINAL INTENSITY IS THEREFORE SET AT 30 KT A LITTLE ABOVE DVORAK ESTIMATES.

SOME NORTH-EASTERLY SHEAR IS EVIDENT IN ENVIRONMENTAL CLOUD MOTION AND CONVECTIVE ASYMMETRY BUT WV IMAGERY SHOW THAT THIS CONSTRAINT IS OFFSET BY EXCELLENT POLEWARDS OUTFLOW AHEAD OF AN UPPER TO MID LEVELS TROUGH LOCATED SOUTH OF 20S AND NEAR 70E.

THE SYSTEM IS MOVING ON THE NORTH-WESTERN EDGE OF THE SUBTROPICAL ANTICYCLONE. THE STEERING FLOW IS THEN EXPECTED TO BEND NORTHWARD AS THE LOW DEEPEN AND A WEAKNESS DEVELOPS IN THE SUBTROPICAL RIDGE UNDER THE INFLUENCE OF THE AFOREMENTIONED TROUGH. AT LONGER RANGE, THE SYSTEM MAY MOVE SOUTH-WESTWARD AHEAD OF A NEW SUBTROPICAL RIDGE. THIS SCENARIO REMAINS BASED ON THE CONSENSUS OF THE MAIN MODELS, TAKING INTO ACCOUNT CORRECTION AT INITIAL TIME.

REGARDS THE INTENSITY FORECAST, THE SYSTEM IS LIKELY TO BENEFIT FROM CONDUCIVE CONDITIONS IN THE NEXT 24 HOURS. IN FACT RI INDEX SUGGEST THAT A 25 KT INCREASE IS POSSIBLE DURING THAT TIME. THE OFFICIAL FORECAST REMAINS BELOW THAT RATE BUT IS MORE AGGRESSIVE THAN THE PREVIOUS ONE. AFTER THAT TIME, THE RATE OF INTENSIFICATION IS SLOW DOWN DUE TO MID LEVEL SUBTROPICAL DRY AIR INTERACTION AND POTENTIALLY SOME INCREASE OF THE MID-LEVEL SHEAR. SOME SIGNIFICANT OCEANIC CONTAIN MAY OFFSET THIS NEGATIVE THERMODYNAMICS EFFECTS.

FROM MONDAY AND BEYOND, VERY DRY MID-LEVEL AIR AND INCREASING DEEP LAYERS SHEAR ARE EXPECTED TO WEAKEN THE SYSTEM. AT THE END OF THE FORECAST PERIOD, ENVIRONMENTAL CONDITIONS MAY BECOME MORE FAVORABLE.