

WTIO30 FMEE 201116

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 3/16/20202021

1.A TROPICAL DEPRESSION 16

2.A POSITION 2021/04/20 AT 1200 UTC:

WITHIN 20 NM RADIUS OF POINT 10.8 S / 51.1 E

(TEN DECIMAL EIGHT DEGREES SOUTH AND

FIFTY ONE DECIMAL ONE DEGREES EAST)

MOVEMENT: WEST 12 KT

3.A DVORAK ANALYSIS: 2.5/2.5/S 0.0/0 H

4.A CENTRAL PRESSURE: 1002 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 30 KT

RADIUS OF MAXIMUM WINDS (RMW): 37 KM

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

28 KT NE: 0 SE: 165 SW: 165 NW: 0

34 KT NE: 0 SE: 0 SW: 75 NW: 0

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1010 HPA / 200 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2021/04/21 00 UTC: 10.2 S / 49.4 E, VENT MAX= 040 KT, MODERATE TROPICAL STORM

28 KT NE: 55 SE: 195 SW: 120 NW: 75

34 KT NE: 45 SE: 55 SW: 35 NW: 45

24H: 2021/04/21 12 UTC: 9.9 S / 47.9 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM

28 KT NE: 55 SE: 220 SW: 120 NW: 55

34 KT NE: 45 SE: 75 SW: 45 NW: 45

48 KT NE: 35 SE: 45 SW: 35 NW: 35

36H: 2021/04/22 00 UTC: 9.8 S / 46.6 E, VENT MAX= 055 KT, SEVERE TROPICAL STORM

28 KT NE: 75 SE: 215 SW: 140 NW: 75

34 KT NE: 65 SE: 65 SW: 45 NW: 45

48 KT NE: 35 SE: 45 SW: 35 NW: 35

48H: 2021/04/22 12 UTC: 9.8 S / 45.7 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM

28 KT NE: 75 SE: 205 SW: 140 NW: 55

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

48 KT NE: 35 SE: 45 SW: 35 NW: 35

60H: 2021/04/23 00 UTC: 9.6 S / 44.8 E, VENT MAX= 040 KT, MODERATE TROPICAL STORM

28 KT NE: 55 SE: 165 SW: 130 NW: 45

34 KT NE: 45 SE: 30 SW: 35 NW: 30

72H: 2021/04/23 12 UTC: 9.3 S / 44.0 E, VENT MAX= 030 KT, TROPICAL DEPRESSION

28 KT NE: 150 SE: 155 SW: 85 NW: 35

## 2.B LONGER-RANGE OUTLOOK:

96H: 2021/04/24 12 UTC: 9.3 S / 42.1 E, VENT MAX= 025 KT, FILLING UP

120H: 2021/04/25 12 UTC: 8.2 S / 39.3 E, VENT MAX= 020 KT, OVERLAND DEPRESSION

## 2.C ADDITIONAL INFORMATION:

T=CI=2.5

THE SYSTEM SHOWS SIGNS OF BETTER ORGANIZATION, AS IT TRACKS TOWARDS THE NORTH OF MADAGASCAR THIS THUESDAY.

THE LAST ASCAT SWATH OF THIS MORNING INDICATE WINDS OF 30 KT IN THE SOUTHERN SEMI-CERCLE, MORE LOCALLY 35KT, IN THE SOUTHWESTERN QUADRANT OF THE SYSTEM, BUT WITH A STRUCTURE THAT REMAINS ASYMMETRIC (SIGNIFICANTLY WEAKER WINDS IN THE NORTHWESTERN SEMICIRCLE).

THE AMSR2 MICROWAVE PASS OF 0951Z SHOWS THE BEGINNING OF AN ORGANIZATION OF THE SYSTEM, WITH A BUILDING EYE IN 37GHZ.

THERE IS A GOOD AGREEMENT BETWEEN MODELS ABOUT THE SYSTEM'S TRACK UNTIL WEDNESDAY, WITH A WESTWARD MOVEMENT ON THE NORTHERN SIDE OF THE LOW TROPOSPHERIC SUBTROPICAL RIDGE, TRACKING IMMEDIATELY SOUTH OF THE FARQUHAR ATOLL AND OFF NORTHERN MADAGASCAR. FROM WEDNESDAY AND THURSDAY, WHEN THE SYSTEM WILL REACH THE NORTH OF THE MOZAMBIQUE CHANNEL AND OFF THE COMOROS, THE STEERING FLOWS BECOME WEAKER AND THE TRAJECTORY IS MORE UNCERTAIN , MARKING A SLOWDOWN ACCORDING TO MOST OF THE MODELS IN THE NORTH OF THE COMOROS. IN CONSEQUENCES, THE MORE OR LESS IMPORTANT INFLUENCE ON THE NORTH OF THE COMOROS ARCHIPELAGO REMAINS TO BE SPECIFIED.

ENVIRONMENTAL CONDITIONS ARE RELATIVELY FAVORABLE TO SHORT TERM DEVELOPMENT : IN THE LOW LAYERS, A TRADEWINDS SURGE IS ONGOING, REINFORCED TOMORROW BY THE ACCELERATION RELATED TO THE BYPASS OF THE NORTHERN TIP OF MADAGASCAR, WHICH SHOULD INCREASE THE POLEWARD LOW LEVEL CONVERGENCE. HOWEVER, DURING THIS TIME, THE EQUATORWARD CONVERGENCE REMAINS WEAK TO VERY WEAK, WHICH BRINGS UNCERTAINTY ON THE MORE OR LESS EFFICIENT CONSOLIDATION OF THE LOW'S INNER CORE. ALOFT, DEEP SHEAR IS WEAK AND SHOULD REMAIN SO FOR THE NEXT FEW DAYS (AROUND 10 KT OR LESS), AND NO INTRUSION OF DRY AIR IN THE MID-TROPOSPHERE SHOULD INTERFERE WITH CONVECTION NEAR THE CORE OF THE SYSTEM UNTIL WEDNESDAY. UPPER-TROPOSPHERIC DIVERGENCE IS QUITE GOOD WITH A TEMPORARY LIGHT EQUATORWARD OUTFLOW CHANNEL IN THE SHORT RUN ON THUESDAY, THEN, FROM MID-WEEK, AN INCREASE OF UPPER DIVERGENCE ON THE EDGE OF A SUBTROPICAL TROUGH CIRCULATING FURTHER SOUTH. ON THE OTHER HAND, THE OCEANIC POTENTIAL IS PRESENT WITH SST AROUND 28-29C AND A GRADUAL INCREASE OF THE DEPTH OF THE ISO-26C, BECOMING HIGHER IN THE

NORTH OF THE MOZAMBIQUE CHANNEL. THUS, CONDITIONS SEEM TO BE GATHERED FOR MODERATE INTENSIFICATION UNTIL WEDNESDAY, PROBABLY UNTIL THE STAGE OF A MODERATE TROPICAL STORM OR EVEN SEVERE TROPICAL STORM. FROM THURSDAY, THE INCREASE OF THE NORTH-WESTERLY SHEAR AT MIDDLE LEVEL ALONG A TROUGH PASSING OVER THE SOUTH OF MADAGASCAR SHOULD TILT THE CONVECTIVE CORE AND WEAKEN IT BY ADVECTING DRY AIR. THIS SHOULD LEAD TO THE WEAKENING OF THE SYSTEM IN THE SECOND PART OF THE WEEK.

THE SMALL SIZE OF THE LOW'S CORE, MAKING IT VERY REACTIVE TO ITS ENVIRONMENT, INDUCES A HIGHER THAN AVERAGE UNCERTAINTY ON THE PRESENT INTENSITY FORECAST.