

WTIO30 FMEE 170700

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 17/10/20222023

1.A TROPICAL CYCLONE 10 (FABIEN)

2.A POSITION 2023/05/17 AT 0600 UTC:

WITHIN 20 NM RADIUS OF POINT 8.8 S / 73.8 E

(EIGHT DECIMAL EIGHT DEGREES SOUTH AND

SEVENTY THREE DECIMAL EIGHT DEGREES EAST)

MOVEMENT: SOUTH-WEST 6 KT

3.A DVORAK ANALYSIS: 4.5/5.0/S 0.0/6 H

4.A CENTRAL PRESSURE: 970 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 80 KT

RADIUS OF MAXIMUM WINDS (RMW): 24 KM

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

28 KT NE: 240 SE: 240 SW: 205 NW: 130

34 KT NE: 165 SE: 165 SW: 165 NW: 100

48 KT NE: 85 SE: 85 SW: 70 NW: 65

64 KT NE: 45 SE: 55 SW: 55 NW: 45

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1011 HPA / 900 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2023/05/17 18 UTC: 9.4 S / 73.0 E, VENT MAX= 075 KT, TROPICAL CYCLONE

28 KT NE: 195 SE: 295 SW: 220 NW: 155

34 KT NE: 150 SE: 140 SW: 165 NW: 110

48 KT NE: 85 SE: 95 SW: 75 NW: 65

64 KT NE: 55 SE: 65 SW: 65 NW: 55

24H: 2023/05/18 06 UTC: 9.8 S / 71.9 E, VENT MAX= 075 KT, TROPICAL CYCLONE

28 KT NE: 195 SE: 315 SW: 215 NW: 155

34 KT NE: 140 SE: 155 SW: 175 NW: 110

48 KT NE: 85 SE: 95 SW: 85 NW: 65

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

36H: 2023/05/18 18 UTC: 9.9 S / 70.8 E, VENT MAX= 075 KT, TROPICAL CYCLONE

28 KT NE: 165 SE: 285 SW: 240 NW: 150

34 KT NE: 130 SE: 140 SW: 175 NW: 100

48 KT NE: 85 SE: 85 SW: 75 NW: 65

64 KT NE: 55 SE: 55 SW: 55 NW: 45

48H: 2023/05/19 06 UTC: 9.8 S / 69.9 E, VENT MAX= 070 KT, TROPICAL CYCLONE
28 KT NE: 185 SE: 260 SW: 230 NW: 155
34 KT NE: 140 SE: 120 SW: 155 NW: 110
48 KT NE: 85 SE: 85 SW: 75 NW: 65
64 KT NE: 55 SE: 55 SW: 55 NW: 45

60H: 2023/05/19 18 UTC: 9.7 S / 69.5 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM
28 KT NE: 175 SE: 270 SW: 205 NW: 155
34 KT NE: 130 SE: 120 SW: 155 NW: 110
48 KT NE: 75 SE: 85 SW: 75 NW: 65

72H: 2023/05/20 06 UTC: 9.7 S / 69.8 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM
28 KT NE: 195 SE: 260 SW: 215 NW: 155
34 KT NE: 140 SE: 130 SW: 155 NW: 100
48 KT NE: 75 SE: 85 SW: 75 NW: 75

2.B LONGER-RANGE OUTLOOK:

96H: 2023/05/21 06 UTC: 10.1 S / 70.4 E, VENT MAX= 035 KT, MODERATE TROPICAL STORM

28 KT NE: 155 SE: 220 SW: 185 NW: 110
34 KT NE: 120 SE: 100 SW: 120 NW: 85

120H: 2023/05/22 06 UTC: 11.1 S / 70.7 E, VENT MAX= 030 KT, FILLING UP
28 KT NE: 110 SE: 215 SW: 195 NW: 95

2.C ADDITIONAL INFORMATION:

T=4.5+ CI=5.0

THE MICROWAVE IMAGERY AVAILABLE SINCE THE END OF THE NIGHT SHOWS A VERY CLEAR EROSION OF THE WESTERN PART OF THE EYE WALL, PROBABLY UNDER THE EFFECT OF A VERY MODERATE SHEAR CONSTRAINT FROM WEST TO SOUTH-WEST BUT PRESENT IN DEEP SHEAR AND ESPECIALLY IN MID-SHEAR. THE EYE CONFIGURATION HAS MORE OR LESS STABILIZED IN IR IMAGERY (WITH A DT FLUCTUATING BETWEEN 4.5 AND 5.0), BUT THE LAST VISIBLE HIGH RESOLUTION IMAGES SHOW THAT THE EROSION OF THE WESTERN WALL REMAINS VERY SIGNIFICANT. THE FINAL INTENSITY IS LOWERED TO 80 KT IN GOOD AGREEMENT WITH THE LOWEST SUBJECTIVE ESTIMATES AS WELL AS THE AIDT (85 KT AT 06Z) AND THE SATCON (89 KT 1-MIN AT 0302Z).

ON THE TRACK FORECAST, THE OFFICIAL FORECAST HAS BEEN SLIGHTLY SHIFTED TO THE SOUTH AND IS SLOWER COMPARED TO THE PREVIOUS FORECAST TO TAKE INTO ACCOUNT BOTH THE OBSERVED EVOLUTION AND THE LAST TREND OF THE FORECAST MODELS.

FABIEN IS HEADING SOUTHWEST UNDER THE EFFECT OF A RIDGE OF HIGH PRESSURE LOCATED TO THE EAST. FROM THURSDAY, FABIEN SHOULD STRAIGHTEN ITS TRAJECTORY TOWARDS THE WEST WITH THE ARRIVAL OF A SUBTROPICAL RIDGE FROM THE SOUTHWEST. BETWEEN FRIDAY AND SATURDAY, FABIEN WILL BE SUBJECT TO MORE CONTRADICTORY STEERING FLOWS BETWEEN TWO RIDGES, WHICH COULD MAKE IT TEMPORARILY QUASI-STATIONARY. THE UNCERTAINTY INCREASES FROM THIS WEEKEND, BECAUSE, IN ADDITION TO COMPLEX STEERING FLOWS, THE MOVEMENT WILL ALSO DEPEND ON THE SPEED OF WEAKENING OF THE SYSTEM. THIS TRANSLATES INTO A SIGNIFICANT INCREASE IN THE DISPERSION

WITHIN THE NUMERICAL MODELS AT THE END OF THE TIME SCALE. THE CURRENT RSMC TRAJECTORY IS A COMPROMISE BETWEEN THE MAIN MODELS.

THE INTENSITY FORECAST HAS BEEN REVISED DOWNWARDS TO TAKE INTO ACCOUNT THE RECENT EVOLUTION AND THE PERSISTENCE OF A WESTERLY CONSTRAINT AT MINIMUM IN THE MIDDLE TROPOSPHERE. NEVERTHELESS, UNTIL FRIDAY, THE ENVIRONMENTAL CONDITIONS (GOOD ALTITUDE DIVERGENCE, INCREASE OF SST) SHOULD ALLOW FABIEN TO REMAIN AT A MATURE STAGE (PROBABLY AT THE STAGE OF A TROPICAL CYCLONE). FLUCTUATIONS IN INTENSITY ARE POSSIBLE OVER THE PERIOD. AT THE END OF THE PERIOD, THE STRENGTHENING OF THE SOUTH-EAST SHEAR AND ESPECIALLY THE POSSIBLE COLLAPSE OF THE UNDERLYING OCEANIC POTENTIAL DUE TO THE QUASI-STATIONARITY SHOULD LEAD TO A SIGNIFICANT WEAKENING.

IN THE NEXT FEW DAYS, FABIEN WILL GO AROUND THE CHAGOS ARCHIPELAGO (DIEGO-GARCIA) FROM THE SOUTH, MORE THAN 200 KM AWAY. IN THE CURRENT SCENARIO, THE IMPACTS (WINDS, RAIN AND SEA) AT THE PERIPHERY OF THE SYSTEM REMAIN NO SIGNIFICANT. FABIEN DOES NOT POSE A THREAT TO THE OTHER ISLANDS OF THE BASIN.