

WTIO30 FMEE 180031

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 20/10/20222023

1.A SEVERE TROPICAL STORM 10 (FABIEN)

2.A POSITION 2023/05/18 AT 0000 UTC:

WITHIN 20 NM RADIUS OF POINT 8.9 S / 72.5 E

(EIGHT DECIMAL NINE DEGREES SOUTH AND

SEVENTY TWO DECIMAL FIVE DEGREES EAST)

MOVEMENT: WEST 5 KT

3.A DVORAK ANALYSIS: 3.5/4.0/W 0.0/12 H

4.A CENTRAL PRESSURE: 986 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 60 KT

RADIUS OF MAXIMUM WINDS (RMW): 19 KM

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

28 KT NE: 130 SE: 230 SW: 280 NW: 130

34 KT NE: 65 SE: 165 SW: 220 NW: 85

48 KT NE: 35 SE: 65 SW: 70 NW: 35

64 KT NE: 0 SE: 0 SW: 0 NW: 0

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1011 HPA / 600 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2023/05/18 12 UTC: 9.2 S / 71.4 E, VENT MAX= 055 KT, SEVERE TROPICAL STORM

28 KT NE: 130 SE: 270 SW: 240 NW: 150

34 KT NE: 100 SE: 120 SW: 165 NW: 95

48 KT NE: 55 SE: 75 SW: 75 NW: 65

24H: 2023/05/19 00 UTC: 9.5 S / 70.4 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM

28 KT NE: 120 SE: 240 SW: 230 NW: 140

34 KT NE: 95 SE: 110 SW: 155 NW: 95

48 KT NE: 55 SE: 65 SW: 75 NW: 45

36H: 2023/05/19 12 UTC: 9.8 S / 69.6 E, VENT MAX= 055 KT, SEVERE TROPICAL STORM

28 KT NE: 120 SE: 240 SW: 220 NW: 120

34 KT NE: 95 SE: 110 SW: 155 NW: 65

48 KT NE: 35 SE: 55 SW: 75 NW: 45

48H: 2023/05/20 00 UTC: 10.0 S / 69.4 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM

28 KT NE: 120 SE: 220 SW: 205 NW: 140

34 KT NE: 95 SE: 100 SW: 150 NW: 75

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

60H: 2023/05/20 12 UTC: 10.1 S / 69.7 E, VENT MAX= 045 KT, MODERATE TROPICAL STORM

28 KT NE: 110 SE: 220 SW: 195 NW: 130

34 KT NE: 85 SE: 100 SW: 150 NW: 85

72H: 2023/05/21 00 UTC: 10.9 S / 69.9 E, VENT MAX= 045 KT, MODERATE TROPICAL STORM

28 KT NE: 120 SE: 205 SW: 185 NW: 130

34 KT NE: 95 SE: 95 SW: 130 NW: 75

## 2.B LONGER-RANGE OUTLOOK:

96H: 2023/05/22 00 UTC: 12.3 S / 69.6 E, VENT MAX= 030 KT, FILLING UP

28 KT NE: 100 SE: 175 SW: 165 NW: 100

120H: 2023/05/23 00 UTC: 13.4 S / 68.3 E, VENT MAX= 030 KT, DISSIPATING

28 KT NE: 0 SE: 220 SW: 230 NW: 0

## 2.C ADDITIONAL INFORMATION:

T=3.5+ CI=4.0+

DURING THE LAST 6 HOURS, THE CONVECTIVE ACTIVITY HAS WARMED UP AGAIN BUT IT SEEMS THAT THE CENTER IS A BIT MORE UNDER THIS CONVECTIVE ACTIVITY. THIS IS CONFIRMED BY THE LAST MICROWAVE IMAGES OF 2102UTC AND 2243UTC WHICH ALSO SHOW A WEAKENING OF THE SHEAR DUE TO THE DECREASE OF THE POSITION OFFSET BETWEEN THE DIFFERENT LEVELS. THE T-ANALYSIS DOES NOT EVOLVE BUT THE INTENSITY CONTINUES TO WEAKEN LEAVING ESTIMATED WINDS OF ABOUT 60KT. FABIEN IS THEREFORE DOWNGRADED TO A SEVERE TROPICAL STORM. THE WEAKENING SHOULD STOP BECAUSE OF THE DECREASE OF THE SHEAR DURING THE NEXT HOURS.

LITTLE CHANGE IN TERMS OF TRACK FORECAST WITH STILL A LOT OF DISPERSION AT LONG RANGES. FABIEN IS CURRENTLY HEADING WEST AND WILL TAKE A WEST-SOUTHWEST COMPONENT GUIDED BY THE SUBTROPICAL RIDGE SLIDING FURTHER SOUTH OF THE SYSTEM. BETWEEN FRIDAY AND SATURDAY, FABIEN WILL BE SUBJECT TO MORE CONTRADICTIONARY 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 TRACK FAVORS A SOUTHWARD DESCENT AT THE END OF THE TIME SCALE (RATHER THAN A STRAIGHTFORWARD TURNAROUND) DUE TO THE DISAPPEARANCE OF THE SUBTROPICAL RIDGE.

FABIEN'S INTENSITY WILL CONTINUE THE CURRENT TREND, I.E. A MODERATE WEAKENING DURING THE NEXT 48H. DURING THIS PERIOD, A SLIGHT REINTENSIFICATION IS POSSIBLE UNDER THE EFFECT OF THE DECREASE OF THE WIND SHEAR AND A WELL PRESENT OCEANIC POTENTIAL. FROM SATURDAY, 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 AND DEFINITIVE WEAKENING FROM SUNDAY, IN SPITE OF THE RESUMPTION OF FABIEN'S DISPLACEMENT. THE SYSTEM WILL EVOLVE SOUTHWARD INTO A FILLING LOW THEN A REMNANT LOW.

IN THE NEXT FEW DAYS, FABIEN WILL GO AROUND THE CHAGOS ARCHIPELAGO (DIEGO-GARCIA) BY THE SOUTH, ABOUT 200 KM AWAY. IN THE CURRENT SCENARIO, THE IMPACTS (WINDS, RAIN AND SEA) ON THE PERIPHERY OF THE SYSTEM REMAIN INSIGNIFICANT.

FABIEN DOES NOT POSE A THREAT TO THE OTHER ISLANDS OF THE BASIN.