

WTIO30 FMEE 161839

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 15/10/20222023

1.A INTENSE TROPICAL CYCLONE 10 (FABIEN)

2.A POSITION 2023/05/16 AT 1800 UTC:

WITHIN 20 NM RADIUS OF POINT 7.9 S / 74.5 E

(SEVEN DECIMAL NINE DEGREES SOUTH AND

SEVENTY FOUR DECIMAL FIVE DEGREES EAST)

MOVEMENT: SOUTH-WEST 8 KT

3.A DVORAK ANALYSIS: 5.5/5.5/D 0.5/12 H

4.A CENTRAL PRESSURE: 962 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 90 KT

RADIUS OF MAXIMUM WINDS (RMW): 24 KM

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

28 KT NE: 240 SE: 295 SW: 240 NW: 150

34 KT NE: 120 SE: 165 SW: 150 NW: 100

48 KT NE: 75 SE: 95 SW: 90 NW: 65

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

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1011 HPA / 800 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2023/05/17 06 UTC: 8.9 S / 73.5 E, VENT MAX= 095 KT, INTENSE TROPICAL
CYCLONE

28 KT NE: 195 SE: 335 SW: 230 NW: 155

34 KT NE: 140 SE: 150 SW: 175 NW: 100

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

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

24H: 2023/05/17 18 UTC: 9.6 S / 72.5 E, VENT MAX= 090 KT, INTENSE TROPICAL
CYCLONE

28 KT NE: 185 SE: 335 SW: 230 NW: 150

34 KT NE: 130 SE: 155 SW: 165 NW: 100

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

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

36H: 2023/05/18 06 UTC: 9.7 S / 71.5 E, VENT MAX= 085 KT, TROPICAL CYCLONE

28 KT NE: 165 SE: 315 SW: 230 NW: 155

34 KT NE: 120 SE: 150 SW: 165 NW: 110

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

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

48H: 2023/05/18 18 UTC: 9.7 S / 70.4 E, VENT MAX= 080 KT, TROPICAL CYCLONE
28 KT NE: 175 SE: 305 SW: 250 NW: 155
34 KT NE: 120 SE: 140 SW: 155 NW: 110
48 KT NE: 75 SE: 85 SW: 95 NW: 65
64 KT NE: 55 SE: 55 SW: 55 NW: 45

60H: 2023/05/19 06 UTC: 9.6 S / 69.5 E, VENT MAX= 075 KT, TROPICAL CYCLONE
28 KT NE: 185 SE: 315 SW: 260 NW: 155
34 KT NE: 130 SE: 150 SW: 165 NW: 110
48 KT NE: 75 SE: 85 SW: 95 NW: 65
64 KT NE: 55 SE: 55 SW: 55 NW: 45

72H: 2023/05/19 18 UTC: 9.4 S / 69.1 E, VENT MAX= 070 KT, TROPICAL CYCLONE
28 KT NE: 185 SE: 285 SW: 250 NW: 175
34 KT NE: 130 SE: 130 SW: 165 NW: 120
48 KT NE: 75 SE: 85 SW: 95 NW: 65
64 KT NE: 55 SE: 55 SW: 55 NW: 45

2.B LONGER-RANGE OUTLOOK:

96H: 2023/05/20 18 UTC: 9.2 S / 69.2 E, VENT MAX= 055 KT, SEVERE TROPICAL STORM
28 KT NE: 175 SE: 280 SW: 230 NW: 165
34 KT NE: 120 SE: 120 SW: 155 NW: 110
48 KT NE: 75 SE: 65 SW: 85 NW: 65

120H: 2023/05/21 18 UTC: 9.4 S / 69.5 E, VENT MAX= 040 KT, MODERATE TROPICAL STORM
28 KT NE: 110 SE: 230 SW: 155 NW: 100
34 KT NE: 85 SE: 100 SW: 110 NW: 75

2.C ADDITIONAL INFORMATION:

T=CI=5.5

DURING THE LAST SIX HOURS, FABIEN HAS KEPT A WELL DEFINED EYE PATTERN. SUBJECTIVE DVORAK ANALYSIS HAS VARIED BETWEEN 5.0 AND 6.0 WITH A MAXIMUM AROUND 15UTC, GIVING AN 6H-AVERAGED DT OF 5.5. ON THE VERY LAST IMAGES, THE COLD CONVECTION RING HAS BECOME A BIT LESS SOLID, BRINGING THE INSTANT DT DOWN TO 5.0 OR 4.5. THE FT, BASED ON THE 6H-AVERAGED DT, IS THUS SET AT 5.5, SUGGESTING MAX WINDS UP TO 90KT. THIS IS CONFIRMED BY A SAR RCM PASS AT 1323Z AND BY AIDT AND SATCON ESTIMATES. THESE DATA ALSO SUGGEST THAT THE 12Z INTENSITY WAS PROBABLY ALREADY AT LEAST 85KT. MICROWAVE IMAGERY (SSMIS-F16 AT 1211Z) ALSO CONFIRMS A SOLID AND SYMMETRICAL INNER CONVECTIVE RING, BUT WITH ALSO THE CONSTITUTION OF SECONDARY BANDS, WHICH COULD BE THE FIRST SIGNS OF A FUTURE EYEWALL REPLACEMENT CYCLE. THE INTENSITY PEAK SEEMS TO BE IN PROGRESS OR TO COME IN THE NEXT HOURS.

FABIEN IS THUS REWRITING A PAGE OF THE SOUTH-WEST INDIAN OCEAN BASIN'S HISTORY, BY REACHING INTENSE TROPICAL CYCLONE STAGE AT THE LATEST DATE OF THE CYCLONIC SEASON, 6 DAYS LATER THAN LILA (EX-BILLY) WHICH WAS CLASSIFIED ITC ON MAY 10, 1986 (MAXIMUM INTENSITY REANALYZED AT 100KT).

FABIEN IS MOVING SOUTHWESTWARDS UNDER THE INFLUENCE OF A RIDGE TO ITS EAST. FROM THURSDAY, IT SHOULD TURN WESTWARDS AS A SUBTROPICAL RIDGE BUILDS FROM THE SOUTHWEST, WHILE SLOWING DOWN. THIS WEEKEND, FABIEN SHOULD BE UNDER CONTRADICTORY STEERING FLOWS, BETWEEN TWO RIDGES, WHICH COULD MAKE IT STATIONARY. AT LONGER RANGE, UNCERTAINTY INCREASES AS THE MOVEMENT WILL DEPEND ON THE SYSTEM'S WEAKENING RATE. THE MORE INTENSE THE SYSTEM WILL BE, THE MORE THE WESTERLY FLOW COULD TAKE OVER. THIS TRANSLATES INTO A STRONGER DISPERSION WITHIN NUMERICAL MODELS IN THE LONG TERM. THE CURRENT RSMC TRACK IS A CONSENSUS BETWEEN THE MAIN MODELS.

FABIEN COULD CONTINUE TO SLIGHTLY INTENSIFY IN THE NEXT FEW HOURS IN A FAVORABLE ENVIRONMENT. DURING THE NEXT 3 DAYS, THE SYSTEM SHOULD REMAIN IN RATHER FAVORABLE CONDITIONS EXCEPT FOR THE PRESENCE OF A WEAK WEST-SOUTHWESTERLY SHEAR ON WEDNESDAY/THURSDAY. AN EYEWALL REPLACEMENT CYCLE IS ALSO POSSIBLE. EVEN IF IT WEAKENS A BIT, IT SHOULD AT LEAST REMAIN AT TROPICAL CYCLONE STAGE. LATER ON, THE STRENGTHENING OF SOUTHEASTERLY SHEAR AND ESPECIALLY THE POSSIBLE COLLAPSE OF THE UNDERLYING OCEANIC POTENTIAL DUE TO STATIONARITY, SHOULD LEAD TO SIGNIFICANT WEAKENING.

FABIEN IS CURRENTLY LOCATED AT 250 KM TO THE EAST-SOUTH-EAST OF DIEGO-GARCIA, AND IS EXPECTED TO TRACK AT ALMOST 200 KM FROM THE ISLAND IN THE NEXT FEW HOURS, LEAVING IT OUT OF THE STRONGEST WINDS. FABIEN POSES NO THREAT TO OTHER ISLANDS IN THE BASIN.