

WTIO30 FMEE 050638

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 55/7/20222023

1.A MODERATE TROPICAL STORM 7 (FREDDY)

2.A POSITION 2023/03/05 AT 0600 UTC:

WITHIN 20 NM RADIUS OF POINT 23.0 S / 41.7 E

(TWENTY THREE DECIMAL ZERO DEGREES SOUTH AND
FORTY ONE DECIMAL SEVEN DEGREES EAST)

MOVEMENT: EAST 7 KT

3.A DVORAK ANALYSIS: 3.0/3.0/S 0.0/6 H

4.A CENTRAL PRESSURE: 988 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 45 KT

RADIUS OF MAXIMUM WINDS (RMW): NIL

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

28 KT NE: 350 SE: 360 SW: 315 NW: 220

34 KT NE: 240 SE: 285 SW: 195 NW: 130

48 KT NE: 0 SE: 0 SW: 0 NW: 0

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

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1008 HPA / 900 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2023/03/05 18 UTC: 23.1 S / 42.5 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM

28 KT NE: 220 SE: 240 SW: 370 NW: 155

34 KT NE: 130 SE: 195 SW: 150 NW: 85

48 KT NE: 85 SE: 85 SW: 45 NW: 55

24H: 2023/03/06 06 UTC: 23.5 S / 42.7 E, VENT MAX= 055 KT, SEVERE TROPICAL STORM

28 KT NE: 195 SE: 205 SW: 360 NW: 140

34 KT NE: 110 SE: 175 SW: 150 NW: 65

48 KT NE: 85 SE: 75 SW: 0 NW: 45

36H: 2023/03/06 18 UTC: 23.3 S / 42.3 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM

28 KT NE: 215 SE: 280 SW: 360 NW: 165

34 KT NE: 120 SE: 220 SW: 175 NW: 65

48 KT NE: 85 SE: 95 SW: 45 NW: 45

48H: 2023/03/07 06 UTC: 22.9 S / 42.0 E, VENT MAX= 055 KT, SEVERE TROPICAL STORM

28 KT NE: 240 SE: 240 SW: 360 NW: 175

34 KT NE: 140 SE: 205 SW: 150 NW: 85

48 KT NE: 95 SE: 95 SW: 45 NW: 55

60H: 2023/03/07 18 UTC: 22.2 S / 41.4 E, VENT MAX= 065 KT, TROPICAL CYCLONE

28 KT NE: 285 SE: 250 SW: 305 NW: 175

34 KT NE: 165 SE: 220 SW: 140 NW: 95

48 KT NE: 95 SE: 95 SW: 45 NW: 55

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

72H: 2023/03/08 06 UTC: 21.3 S / 40.5 E, VENT MAX= 065 KT, TROPICAL CYCLONE

28 KT NE: 335 SE: 295 SW: 295 NW: 195

34 KT NE: 185 SE: 260 SW: 185 NW: 120

48 KT NE: 95 SE: 100 SW: 65 NW: 65

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

2.B LONGER-RANGE OUTLOOK:

96H: 2023/03/09 06 UTC: 19.9 S / 39.3 E, VENT MAX= 080 KT, TROPICAL CYCLONE

28 KT NE: 345 SE: 315 SW: 295 NW: 215

34 KT NE: 185 SE: 280 SW: 185 NW: 130

48 KT NE: 100 SE: 100 SW: 65 NW: 65

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

120H: 2023/03/10 06 UTC: 18.8 S / 38.4 E, VENT MAX= 080 KT, TROPICAL CYCLONE

28 KT NE: 360 SE: 335 SW: 295 NW: 230

34 KT NE: 195 SE: 295 SW: 185 NW: 140

48 KT NE: 110 SE: 110 SW: 60 NW: 70

64 KT NE: 60 SE: 60 SW: 60 NW: 50

2.C ADDITIONAL INFORMATION:

FT=CI=3.0

DURING THE LAST 6 HOURS, THE CONVECTION HAS CLEARLY DECREASED BUT THE CIRCULATION AROUND THE CENTER HAS CONTINUED TO BE BETTER ORGANIZED. INDEED, THE SSMIS MICROWAVE IMAGE OF 0309Z SHOWS A MORE COMPACT CIRCULATION WITH A WELL CIRCULAR EYE VISIBLE ON THE 37GHZ, AND A MORE HOMOGENEOUS CONVECTION AROUND THE CENTER. IN AGREEMENT WITH THE AVAILABLE OBJECTIVE AND SUBJECTIVE ANALYSES, FREDDY IS MAINTAINED AT THE STAGE OF A MODERATE TROPICAL STORM WITH WINDS OF 45KT.

FREDDY IS MOVING EAST-SOUTHEASTWARD UNDER THE INFLUENCE OF THE NEAR-EQUATORIAL RIDGE TO THE NORTH UNTIL MONDAY. THIS MOVEMENT WILL REMAIN SLOW DUE TO A SECOND WEAKER CONTRADICTORY STEERING FLOW DRIVEN BY THE SUBTROPICAL RIDGE TO THE SOUTH. FROM MONDAY ONWARDS, A NEW RIDGE OF SUBTROPICAL AIR SWELLS TO THE SOUTHWEST OF FREDDY AND SHOULD STEER IT TO THE NORTHWEST. IT SHOULD BE NOTED THAT THE DETAILS OF THE LOCATION AND TIMING OF THE TURNING POINT OF THE TRACK NEAR MADAGASCAR ARE STILL UNCERTAIN AND THAT A MORE PESSIMISTIC OPTION WITH A CENTER CLOSER TO THE COAST IS NOT COMPLETELY EXCLUDED AT THE MOMENT. ON A LONGER TIME SCALE, THE GUIDELINES SHOW STRONG DISPARITIES IN THE SPEED OF MOVEMENT ON THE NORTHWEST TRACK. THE CURRENT FORECAST IS A CONSENSUS OF THE DIFFERENT MODELS AVAILABLE, WITH A TRACK THAT IS MORE SIMILAR TO IFS, BUT WITH A HIGHER DISPLACEMENT SPEED. HOWEVER, THE UNCERTAINTY REMAINS IMPORTANT ON THE LONG TERM.

IN TERMS OF INTENSITY, FREDDY IS CURRENTLY FINDING ENVIRONMENTAL CONDITIONS FAVORABLE TO ITS INTENSIFICATION. INDEED, WITH A WEAK WIND SHEAR UNTIL MONDAY, AN INCREASE OF THE OCEANIC POTENTIAL ALONG THE TRACK AND A GOOD DIVERGENCE OF ALTITUDE, FREDDY SHOULD REACH THE STAGE OF STRONG TROPICAL STORM DURING THE NEXT 12 HOURS. IN THE LONGER TERM, ALL THE MODELS SUGGEST THAT FREDDY SHOULD INTENSIFY UNTIL THE STAGE OF TROPICAL CYCLONE. NEVERTHELESS, WE CAN SEE THAT A SHEAR STRESS FROM THE SOUTH WILL BE PRESENT DURING ITS MOVEMENT TOWARDS THE NORTH, WHICH COULD TEMPORARILY BE A CONSTRAINT TO A MORE IMPORTANT INTENSIFICATION.

IMPACTS ON INHABITED LANDS DURING THE NEXT 72 HOURS :

- MADAGASCAR

* HEAVY RAINS IN THE NEXT 72 HOURS OVER THE COASTAL AREAS OF THE WEST COAST OF MENABE AND ATSIMO-ANDREFANA. CUMULATIVE RAINFALL OVER 72 HOURS RANGING FROM 100 TO 200 MM WITH POTENTIALLY 250-350 MM OVER THE REGION OF ATSIMO-ANDREFANA (UP TO 200 MM IN 24H POSSIBLE). INDIRECTLY, RAINFALL OVER THE SOUTHEAST AREA (VATOVAVY-FITOVINANY AND ATSIMO-ATSINANANA REGIONS) WITH CUMULUS THAT COULD BE AROUND 200-250MM IN 72H, INCLUDING 100-150MM IN THE NEXT 24H.

* GALE OVER THE ATSIMO-ANDREFANA REGION, FOR THE NEXT 48H, MAINLY OVER THE COASTAL AREAS, BEFORE AN IMPROVEMENT ON TUESDAY.

* VERY ROUGH SEA WITH WAVES OF 4 TO 6 M AT FIRST AROUND CAPE SAINT-VINCENT THEN EXTENDING TO CAPE SAINT-MARIE DURING THE DAY. GRADUAL DECREASE DURING THE DAY ON TUESDAY.