

WTIO30 FMEE 040627

RSMC / TROPICAL CYCLONE CENTER / LA REUNION  
TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 51/7/20222023

1.A MODERATE TROPICAL STORM 7 (FREDDY)

2.A POSITION 2023/03/04 AT 0600 UTC:

WITHIN 30 NM RADIUS OF POINT 22.2 S / 39.3 E

(TWENTY TWO DECIMAL TWO DEGREES SOUTH AND  
THIRTY NINE DECIMAL THREE DEGREES EAST)

MOVEMENT: EAST-SOUTH-EAST 5 KT

3.A DVORAK ANALYSIS: 2.5/2.5/D 1.0/24 H

4.A CENTRAL PRESSURE: 997 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 35 KT

RADIUS OF MAXIMUM WINDS (RMW): NIL

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

28 KT NE: 520 SE: 405 SW: 280 NW: 0

34 KT NE: 0 SE: 220 SW: 0 NW: 0

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1010 HPA / 1300 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2023/03/04 18 UTC: 22.4 S / 40.4 E, VENT MAX= 040 KT, MODERATE TROPICAL  
STORM

28 KT NE: 335 SE: 270 SW: 280 NW: 85

34 KT NE: 100 SE: 205 SW: 0 NW: 55

24H: 2023/03/05 06 UTC: 22.6 S / 41.5 E, VENT MAX= 045 KT, MODERATE TROPICAL  
STORM

28 KT NE: 400 SE: 285 SW: 230 NW: 95

34 KT NE: 140 SE: 220 SW: 85 NW: 65

36H: 2023/03/05 18 UTC: 22.9 S / 42.3 E, VENT MAX= 055 KT, SEVERE TROPICAL STORM

28 KT NE: 345 SE: 220 SW: 350 NW: 110

34 KT NE: 100 SE: 195 SW: 0 NW: 65

48 KT NE: 55 SE: 45 SW: 0 NW: 45

48H: 2023/03/06 06 UTC: 23.5 S / 42.6 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM

28 KT NE: 270 SE: 215 SW: 360 NW: 95

34 KT NE: 65 SE: 185 SW: 100 NW: 65

48 KT NE: 45 SE: 35 SW: 0 NW: 45

60H: 2023/03/06 18 UTC: 23.2 S / 42.0 E, VENT MAX= 055 KT, SEVERE TROPICAL STORM  
28 KT NE: 250 SE: 220 SW: 360 NW: 100  
34 KT NE: 65 SE: 195 SW: 100 NW: 65  
48 KT NE: 45 SE: 45 SW: 0 NW: 45

72H: 2023/03/07 06 UTC: 22.8 S / 41.6 E, VENT MAX= 055 KT, SEVERE TROPICAL STORM  
28 KT NE: 260 SE: 195 SW: 325 NW: 95  
34 KT NE: 65 SE: 165 SW: 0 NW: 65  
48 KT NE: 45 SE: 35 SW: 0 NW: 45

#### 2.B LONGER-RANGE OUTLOOK:

96H: 2023/03/08 06 UTC: 21.2 S / 40.4 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM  
28 KT NE: 400 SE: 305 SW: 305 NW: 150  
34 KT NE: 110 SE: 270 SW: 140 NW: 100  
48 KT NE: 65 SE: 65 SW: 65 NW: 65

120H: 2023/03/09 06 UTC: 19.6 S / 39.4 E, VENT MAX= 065 KT, TROPICAL CYCLONE  
28 KT NE: 445 SE: 335 SW: 285 NW: 175  
34 KT NE: 140 SE: 295 SW: 130 NW: 120  
48 KT NE: 70 SE: 90 SW: 60 NW: 70  
64 KT NE: 50 SE: 80 SW: 60 NW: 60

#### 2.C ADDITIONAL INFORMATION:

FT=CI=2.5+

FREDDY'S CLOUD PATTERN HAS CONTINUED TO IMPROVE THIS MORNING. THE ESTIMATED CENTER IS NOW UNDER THE WESTERN EDGE OF AN INTENSIFYING CURVED BAND WRAPPING A BIT MORE THAN HALF WAY ROUND. A 0336Z SMOS PASS SHOWS WINDS UP TO 44KT (PROBABLY OVERESTIMATED) AND THE PARTIAL 0648Z ASCAT-C PASS INDICATES AT LEAST 35KT, WHICH HINT THAT WINDS REACH GALE FORCE IN THE SYSTEM'S SOUTHEASTERN QUADRANT. FREDDY'S INTENSITY HAS THUS BEEN UPGRADED AT MODERATE TROPICAL STORM STAGE. MOREOVER, THE EXTENSION OF NEAR-GALE WINDS NOW REACHES THE INTENSE CONVECTIVE BAND SKIRTING THE MALAGASY CENTRAL-WESTERN COAST, AS CONFIRMED BY THE PARTIAL 0554Z AND 0648Z ASCAT PASSES.

FREDDY SHOULD MOVE EAST-SOUTHEASTWARDS UNDER THE INFLUENCE OF THE NEAR-EQUATORIAL RIDGE TO THE NORTH, UNTIL MONDAY. HOWEVER 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 HIGH PRESSURE SWELLS TO THE SOUTHWEST OF FREDDY AND SHOULD STEER IT NORTH OR NORTHWESTWARD. THE CURRENT TRACK FORECAST FOLLOWS A CONSENSUS OF MAIN MODELS AVAILABLE. IT SHOULD BE NOTED THAT THE DETAILS OF 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 FAR FROM BEING RULED OUT AT THIS TIME. IN THE LONGER TERM, GUIDANCE SHOWS STRONG DISPARITIES IN THE SPEED OF MOVEMENT ON THE NORTHWESTWARD TRACK.

FREDDY'S INTENSIFICATION RATE IS CURRENTLY QUITE SLOW DUE TO ITS BROAD

STRUCTURE AND WEAK TO MODERATE WESTERLY SHEAR THAT HAS ADVECTED DRY MID-TROPOSPHERE AIR INTO THE WESTERN SEMICIRCLE OF THE CIRCULATION. THE LATTER SHOULD CONTINUE THIS WEEKEND BEFORE WEAKENING ON MONDAY FAVORING A SLOW PACE OF DEVELOPMENT DESPITE THE UPWARD TREND IN OCEANIC POTENTIAL ALONG THE TRACK. EARLY NEXT WEEK, TAKING ADVANTAGE OF THE WARM WATERS AND REDUCED SHEAR, FREDDY IS EXPECTED TO INTENSIFY INTO A SEVERE TROPICAL STORM. IN THE LONGER TERM, THE LAST RUNS MAINTAIN CLEAR INTENSIFICATION WITH DECREASING SHEAR. IT IS NOW FORECAST THAT FREDDY COULD REACH TROPICAL CYCLONE STAGE AROUND MID-WEEK.

IMPACTS ON INHABITED LANDS DURING THE NEXT 72 HOURS :

- MADAGASCAR

\* HEAVY RAINS ARE EXPECTED FROM SATURDAY UNTIL AT LEAST MONDAY OVER THE COASTAL AREAS OF THE WEST COAST FROM MELAKY TO ATSIMO-ANDREFANA. WE EXPECT ACCUMULATIONS OVER 72 HOURS RANGING FROM 100 TO 200 MM WITH POTENTIALLY 300-400 MM OVER THE REGION OF ATSIMO-ANDREFANA (UP TO 200 MM IN 24 HOURS POSSIBLE) IF A SCENARIO OF EVEN CLOSER APPROACH OF THE SYSTEM SHOULD OCCUR AROUND SUNDAY-MONDAY. INDIRECTLY, RAINS ARE ALSO EXPECTED OVER THE SOUTHEAST AREA (VATOVAVY-FITOVINANY AND ATSIMO-ATSINANANA REGIONS) WITH ACCUMULATIONS THAT MAY EXCEED 150 MM IN 48H OVER THE SUNDAY-MONDAY PERIOD.

\* PROBABLE ONSET OF GALE FORCE WINDS ON SUNDAY OVER THE ATSIMO-ANDREFANA REGION.

\* FROM SUNDAY UNTIL AT LEAST MONDAY, VERY ROUGH SEA WITH WAVES OF 4 TO 5 M ON THE COASTS OF THE ATSIMO-ANDREFANA REGION (NORTH OF TULEAR MAINLY) AS WELL AS ON THE SOUTH OF THE MENABE REGION.