

WTIO30 FMEE 111855

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 81/7/20222023

1.A TROPICAL CYCLONE 7 (FREDDY)

2.A POSITION 2023/03/11 AT 1800 UTC:

WITHIN 20 NM RADIUS OF POINT 17.8 S / 37.1 E

(SEVENTEEN DECIMAL EIGHT DEGREES SOUTH AND  
THIRTY SEVEN DECIMAL ONE DEGREES EAST)

MOVEMENT: NORTH-WEST 3 KT

3.A DVORAK ANALYSIS: 4.5/5.5/S 0.0/6 H

4.A CENTRAL PRESSURE: 963 HPA

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

RADIUS OF MAXIMUM WINDS (RMW): 30 KM

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

28 KT NE: 230 SE: 260 SW: 240 NW: 140

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

48 KT NE: 45 SE: 45 SW: 50 NW: 45

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

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1008 HPA / 600 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2023/03/12 06 UTC: 17.6 S / 36.7 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM

28 KT NE: 165 SE: 325 SW: 175 NW: 95

34 KT NE: 100 SE: 195 SW: 130 NW: 0

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

24H: 2023/03/12 18 UTC: 17.2 S / 35.9 E, VENT MAX= 035 KT, OVERLAND DEPRESSION

28 KT NE: 0 SE: 325 SW: 0 NW: 0

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

36H: 2023/03/13 06 UTC: 16.8 S / 35.2 E, VENT MAX= 025 KT, OVERLAND DEPRESSION

48H: 2023/03/13 18 UTC: 16.6 S / 35.2 E, VENT MAX= 020 KT, OVERLAND DEPRESSION

60H: 2023/03/14 06 UTC: 16.7 S / 35.4 E, VENT MAX= 020 KT, OVERLAND DEPRESSION

72H: 2023/03/14 18 UTC: 17.2 S / 36.3 E, VENT MAX= 020 KT, OVERLAND DEPRESSION

2.B LONGER-RANGE OUTLOOK:

96H: 2023/03/15 18 UTC: 18.9 S / 38.8 E, VENT MAX= 025 KT, ZONE OF DISTURBED WEATHER

120H: 2023/03/16 18 UTC: 21.2 S / 41.6 E, VENT MAX= 030 KT, TROPICAL DEPRESSION 28 KT NE: 335 SE: 335 SW: 335 NW: 0

## 2.C ADDITIONAL INFORMATION:

T=4.5 CI=5.5-

THE EYE OF FREDDY STARTED TO REACH THE COAST AROUND 1330Z TO BE CENTERED ON THE COAST AROUND 1715Z. IF THE DVORAK SIGNATURE OF THE SYSTEM HAS BEEN QUITE STABLE AT 4.5 DURING THE WHOLE AFTERNOON (AND EVEN NOW WHILE THE CENTER IS ALMOST ENTIRELY ON LAND), OBJECTIVE ESTIMATES BASED ON MICROWAVE IMAGERY AS WELL AS ADT AND AIDT SUGGEST A SIGNIFICANTLY HIGHER INTENSITY. THE INTENSITY AT THE LANDFALL (AND AT 12Z AS WELL) HAS BEEN ESTIMATED TO BE 85 KT / 960 HPA. WHILE THE MAXIMUM WIND RADIUS HAS BEEN PARTLY OVERLAND FOR SEVERAL HOURS NOW, THE INTENSITY AT 18Z IS SLIGHTLY LOWERED TO 80 KT.

THE RECENT ARRIVAL ON LAND HAS ALLOWED TO RECALIBRATE THE GUIDANCE AND TO GIVE LESS CREDIT TO THE ONE (INCLUDING GFS/12Z) WHICH STILL LET THE CYCLONE WELL AT SEA AT 18Z. THE CMRS FORECAST IS BASED ON A COMPROMISE BETWEEN THE BEST GUIDANCE ON THE CURRENT SITUATION. WITH A STEERING FLOW THAT WILL GRADUALLY DESCEND, THE TRAJECTORY OF THE NEXT 36H WILL BE DRIVEN BY THE SUBTROPICAL RIDGE PRESENT IN THE SOUTHWEST OF THE SYSTEM. FROM MONDAY ONWARDS, THE NORTH-WESTERLY FLOW DRIVEN BY A RIDGE OF HIGH PRESSURE CLOSE TO THE EQUATOR SHOULD TAKE THE UPPER HAND AND FAVOUR A RETURN OF THE SYSTEM TO THE WATERS OF THE MOZAMBIQUE CHANNEL.

FREDDY IS WEAKENING ON LAND ON A COURSE THAT IS EXPECTED TO LAST SEVERAL DAYS. IF THE HYPOTHESIS OF A RETURN TO THE SEA IS CONFIRMED IN THE FIRST PART OF THE WEEK, THE CONDITIONS DO NOT SEEM TO BE FAVORABLE FOR A FRANK RE-INTENSIFICATION FOR THE MOMENT WITH VERTICAL NORTH-WESTERLY SHEAR ASSOCIATED WITH ADVECTIONS OF DRY AIR (NOT TO MENTION THAT IT COULD PASS AGAIN OVER WATERS THAT IT HAS COOLED ITSELF). NO SIGNIFICANT RE-INTENSIFICATION IS SUGGESTED AT THIS TIME.

## IMPACTS ON INHABITED LANDS OVER THE NEXT 72 HOURS:

THE CURRENT AND FORECAST SLOW MOVEMENT OF FREDDY REMAINS AN AGGRAVATING FACTOR ON THE EXPECTED IMPACTS.

- MOZAMBIQUE :

\* HURRICANE CONDITIONS NEAR THE CENTER DURING THE NEXT 6 HOURS. STORM CONDITIONS NEAR THE CENTER UNTIL TOMORROW MORNING. GALE CONDITIONS PERSIST THROUGHOUT THE DAY ALONG THE NEAREST COASTS.

\* HIGH TO VERY HIGH SEAS (8 TO 10M WAVES) STILL DURING THE NEXT FEW HOURS THEN BEGINNING TO SUBSIDE BEFORE THE END OF THE NIGHT. THE SEA REMAINS VERY ROUGH (WAVES OF MORE THAN 4M) IN THE MORNING OF TOMORROW BEFORE DAMPING AT THE END OF THE DAY. A SURGE ESTIMATED BETWEEN 2M AND 2M50 IS POSSIBLE NEAR THE LANDING ZONE AT QUELIMANE. IMPROVEMENT EXPECTED TOMORROW.

\* HEAVY RAINS CONTINUE OVER ZAMBEZIA PROVINCE. IN THE NEXT 24 HOURS,

BETWEEN 200 AND 300 MM ARE EXPECTED ON THE NEAR COAST AND GLOBALLY BETWEEN 100 / 200 MM IN THE INTERIOR (ZAMBEZIE AND NORTH SOFALA PROVINCES). WITHIN 72 HOURS, BETWEEN 400 AND 500 MM EXPECTED OVER THE INTERIOR OF ZAMBEZIA PROVINCE MAINLY.

-MALAWI:

THE RAINY EPISODE STARTED ON SUNDAY WITH ACCUMULATIONS OVER 72H THAT COULD REACH 300 TO 500 MM OVER THE SOUTH OF THE COUNTRY (ACCUMULATIONS IN 24H EXPECTED TO BE AROUND 100 TO 200 MM)