

WTIO30 FMEE 090701

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 71/7/20222023

1.A SEVERE TROPICAL STORM 7 (FREDDY)

2.A POSITION 2023/03/09 AT 0600 UTC:

WITHIN 20 NM RADIUS OF POINT 20.2 S / 39.1 E

(TWENTY DECIMAL TWO DEGREES SOUTH AND

THIRTY NINE DECIMAL ONE DEGREES EAST)

MOVEMENT: NORTH-WEST 6 KT

3.A DVORAK ANALYSIS: 4.0/4.5/D 0.5/6 H

4.A CENTRAL PRESSURE: 978 HPA

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

RADIUS OF MAXIMUM WINDS (RMW): 28 KM

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

28 KT NE: 240 SE: 230 SW: 220 NW: 240

34 KT NE: 120 SE: 130 SW: 120 NW: 100

48 KT NE: 65 SE: 85 SW: 60 NW: 65

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1008 HPA / 1100 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2023/03/09 18 UTC: 19.7 S / 38.3 E, VENT MAX= 065 KT, TROPICAL CYCLONE

28 KT NE: 220 SE: 250 SW: 215 NW: 220

34 KT NE: 120 SE: 140 SW: 150 NW: 100

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

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

24H: 2023/03/10 06 UTC: 19.0 S / 37.6 E, VENT MAX= 070 KT, TROPICAL CYCLONE

28 KT NE: 205 SE: 240 SW: 215 NW: 165

34 KT NE: 110 SE: 140 SW: 130 NW: 100

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

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

36H: 2023/03/10 18 UTC: 18.3 S / 36.9 E, VENT MAX= 085 KT, TROPICAL CYCLONE

28 KT NE: 140 SE: 205 SW: 130 NW: 140

34 KT NE: 85 SE: 110 SW: 100 NW: 85

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

64 KT NE: 0 SE: 30 SW: 35 NW: 30

48H: 2023/03/11 06 UTC: 17.8 S / 36.3 E, VENT MAX= 040 KT, OVERLAND DEPRESSION

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

34 KT NE: 0 SE: 100 SW: 0 NW: 10

60H: 2023/03/11 18 UTC: 17.4 S / 35.5 E, VENT MAX= 025 KT, OVERLAND DEPRESSION

72H: 2023/03/12 06 UTC: 16.9 S / 34.5 E, VENT MAX= 020 KT, OVERLAND DEPRESSION

2.B LONGER-RANGE OUTLOOK:

96H: 2023/03/13 06 UTC: 16.3 S / 32.3 E, VENT MAX= 020 KT, OVERLAND DEPRESSION

2.C ADDITIONAL INFORMATION:

FT=4.0 CI=4.5-

THE CLOUD PATTERN HAS IMPROVED OVER THE LAST FEW HOURS, WITH CONVECTION STRENGTHENING IN THE SOUTH-WESTERN QUADRANT NEAR THE CENTER. THIS IS PROBABLY RELATED TO A SLIGHT DECREASE OF THE SOUTHERLY SHEAR AFFECTING THE SYSTEM. THE LAST MICROWAVE IMAGES CONFIRM THIS IMPROVEMENT WITH A BETTER CURVATURE AND WRAPPING AROUND THE CENTER ON THE CONSECUTIVE SSMIS PASSES (0033Z, 0235Z AND 0349Z). THE INTENSITY IS CURRENTLY MAINTAINED AT 60KT DUE TO A LACK OF RELIABLE DATA.

THE MOVEMENT OF FREDDY REMAINS DRIVEN BY THE PRESENCE OF A SUBTROPICAL RIDGE OVER AFRICA WHICH EXTENDS SOUTH OF THE MOZAMBIQUE CHANNEL. HOWEVER, DEPENDING ON THE DEPTH OF THE STEERING FLOW ANALYZED BY THE MODELS (LINK WITH THE INTENSITY FORECAST), DIFFERENCES IN HEADING BUT ESPECIALLY IN MOTION SPEED ARE OBSERVED AMONGST THE AVAILABLE GUIDANCE. GFS IS EVEN SIGNIFICANTLY DIFFERENT FROM THE OTHER GUIDANCE BY BEING THE SLOWEST AND BY NOT MAKING THE SYSTEM LANDFALL (OUTLIER SCENARIO FOR THE MOMENT). THE RSMC FORECAST REMAINS ON A COMPROMISE WITH A LANDFALL STILL EXPECTED ON THE MOZAMBIQUE COAST, ON THE WESTERN APRTS OF THE ZAMBEZIA PROVINCE, NEAR QUELIMANE, ON LATE FRIDAY OR DURING THE FOLLOWING NIGHT.

IN TERMS OF INTENSITY, FREDDY IS STILL IN AN AREA WITH SOME MID SHEAR SHEAR CONSTRAINT MARKED FROM SOUTH. THIS CONSTRAINT, STILL EXPECTED TO PERSIST TODAY, SHOULD STILL HINDER ATTEMPTS TO REORGANIZE AN INNER CORE WITH DRY AIR INTRUSIONS. THEN FROM THURSDAY EVENING, THE SHEAR COULD BE LOW ENOUGH AGAIN, FREDDY COULD MEET WARMER WATERS WITH A BETTER UPPER LEVELS DIVERGENCE AND THUS INTENSIFY AGAIN AT THE STAGE OF TROPICAL CYCLONE OR INTENSE TROPICAL CYCLONE BEFORE ITS LANDFALL ON THE COASTS OF MOZAMBIQUE. THIS PREDICTION REMAINS UNCERTAIN AND WILL DEPEND ON THE DURATION OF THE WEAKENING AND THE TIME REMAINING BEFORE LANDFALL. THIS WEEKEND, FREDDY IS EXPECTED TO WEAKEN OVER LAND.

IMPACTS ON INHABITED LANDS OVER THE NEXT 72 HOURS:

FREDDY'S EFFECTS WILL BE CONTAINED DUE TO THE SMALL SIZE OF THE SYSTEM.

- MOZAMBIQUE :

* GALE FORCE WINDS ARE LIKELY TO ARRIVE IN THE MORNING OF FRIDAY OVER ZAMBEZE PROVINCE AND THE NORTHERN PART OF SOFALA PROVINCE, FOLLOWED BY STORM FORCE WINDS IN THE AFTERNOON OR EVENING. HURRICANE WINDS

POSSIBLE IN THE IMMEDIATE VICINITY OF THE CENTER.

* DEGRADATION OF THE SEA STATE WITH A SEA BECOMING VERY ROUGH TO BIG DURING THE DAY ON FRIDAY (H1/3 BETWEEN 4 AND 6 M). A SURGE OF ABOUT 1M TO 1M50 IS POSSIBLE NEAR THE LANDFALL AREA.

* HEAVY RAINS ARE LIKELY DURING THE DAY ON FRIDAY AND THE FOLLOWING NIGHT WITH THE ARRIVAL OF THE HEART OF THE SYSTEM ON THE COAST. EXPECTED RAINFALL AMOUNTS OF 100 TO 150 MM, LOCALLY 200 TO 300 MM NEAR THE CORE.

-MALAWI:

* POSSIBLE ARRIVAL OF HEAVY RAINS RELATED TO FREDDY OVER THE EXTREME SOUTH OF THE COUNTRY DURING THE DAY ON SATURDAY. CUMULATIVE RAINFALL IN THE ORDER OF 100 MM IN 24 HOURS EXPECTED FOR THE MOMENT.