

WTIO30 FMEE 070649

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 63/7/20222023

1.A SEVERE TROPICAL STORM 7 (FREDDY)

2.A POSITION 2023/03/07 AT 0600 UTC:

WITHIN 20 NM RADIUS OF POINT 23.4 S / 42.2 E

(TWENTY THREE DECIMAL FOUR DEGREES SOUTH AND  
FORTY TWO DECIMAL TWO DEGREES EAST)

MOVEMENT: NORTH-WEST 6 KT

3.A DVORAK ANALYSIS: 4.0/4.0/D 0.5/24 H

4.A CENTRAL PRESSURE: 975 HPA

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

RADIUS OF MAXIMUM WINDS (RMW): 26 KM

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

28 KT NE: 205 SE: 425 SW: 445 NW: 350

34 KT NE: 150 SE: 150 SW: 150 NW: 220

48 KT NE: 55 SE: 65 SW: 60 NW: 55

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: 2023/03/07 18 UTC: 22.5 S / 41.5 E, VENT MAX= 065 KT, TROPICAL CYCLONE

28 KT NE: 220 SE: 285 SW: 305 NW: 205

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

48 KT NE: 55 SE: 75 SW: 65 NW: 45

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

24H: 2023/03/08 06 UTC: 21.6 S / 40.8 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM

28 KT NE: 240 SE: 335 SW: 295 NW: 215

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

48 KT NE: 55 SE: 85 SW: 75 NW: 45

36H: 2023/03/08 18 UTC: 20.8 S / 40.1 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM

28 KT NE: 215 SE: 295 SW: 280 NW: 230

34 KT NE: 130 SE: 150 SW: 150 NW: 110

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

48H: 2023/03/09 06 UTC: 20.2 S / 39.6 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM

28 KT NE: 230 SE: 315 SW: 250 NW: 230

34 KT NE: 140 SE: 155 SW: 150 NW: 120

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

60H: 2023/03/09 18 UTC: 19.5 S / 39.0 E, VENT MAX= 065 KT, TROPICAL CYCLONE

28 KT NE: 220 SE: 295 SW: 285 NW: 215

34 KT NE: 140 SE: 140 SW: 165 NW: 110

48 KT NE: 55 SE: 75 SW: 65 NW: 45

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

72H: 2023/03/10 06 UTC: 18.7 S / 38.5 E, VENT MAX= 080 KT, TROPICAL CYCLONE

28 KT NE: 220 SE: 325 SW: 295 NW: 195

34 KT NE: 140 SE: 155 SW: 165 NW: 110

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

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

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

96H: 2023/03/11 06 UTC: 17.4 S / 37.6 E, VENT MAX= 075 KT, TROPICAL CYCLONE

28 KT NE: 185 SE: 295 SW: 250 NW: 150

34 KT NE: 120 SE: 130 SW: 120 NW: 65

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

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

120H: 2023/03/12 06 UTC: 16.9 S / 36.3 E, VENT MAX= 025 KT, TROPICAL DISTURBANCE

#### 2.C ADDITIONAL INFORMATION:

T=CI=4.0+

SINCE THE END OF THE NIGHT, THE CLOUD PATTERN HAS CONTINUED TO IMPROVE WITH AN ILL-DEFINED EYE STARTING TO APPEAR WITHIN THE CDO. THIS ONE DISAPPEARED HOWEVER AFTER 04Z. THE LAST MICROWAVE IMAGES (AMSR2 FROM 2154Z, SSMIS FROM 01Z) SHOWED A NOTICEABLE IMPROVEMENT OF THE INNER CORE. THE INTENSITY AT 60 KT IS BASED ON DVORAK'S SUBJECTIVE ESTIMATE (FMEE AND SAB AT 4.0, PGTW AT 4.5) AND IS QUITE COHERENT WITH THE OBJECTIVE AIDT ESTIMATE (65-70 KT 1-MIN AT 0530Z). THE GALE EXTENT HAS BEEN REVISED IN THE NORTHWEST QUADRANT BASED ON OBSERVATIONS FROM EUROPA ISLAND.

LITTLE CHANGE IN THE PHILOSOPHY OF THE TRACK FORECAST - THE TRACK FORECAST IS A LITTLE SLOWER THAN THE PREVIOUS ONE AFTER H+24: UNDER THE IMPULSE OF THE STRENGTHENING OF THE SUBTROPICAL RIDGE TO THE SOUTH AND OF THE CLEARER ESTABLISHMENT OF THE RIDGE TO THE WEST OF THE SYSTEM, FREDDY HAS STARTED A NORTH-WESTERN MOVEMENT WHICH IT SHOULD MAINTAIN FOR A LONG TIME. THE DISPERSION BETWEEN THE MODELS IS STILL STRONG FOR THE REST OF THE WEEK, MAINLY CONCERNING THE SPEED OF MOVEMENT. THE RSMC FORECAST IS A COMPROMISE BETWEEN THE DIFFERENT SCENARIOS. ACCORDING TO THE PRESENT FORECAST, FREDDY COULD MAKE LANDFALL ON THE COASTS OF MOZAMBIQUE ON FRIDAY NIGHT OR SATURDAY MORNING ALTHOUGH AT THESE TIMES AND ACCORDING TO THE PRESENT UNCERTAINTY, A SHIFT OF +/-12 HOURS IS TO BE TAKEN INTO ACCOUNT.

THE INTENSIFICATION THIS MORNING TOOK PLACE IN A CONTEXT OF RATHER WEAK VERTICAL SHEAR (OF THE ORDER OF 10 KT OF SOUTH-WEST ACCORDING TO THE CIMSS AT 00Z). HOWEVER, BY TOMORROW, A MID-TROPOSPHERIC SHEAR FROM THE SOUTH SHOULD IMPACT FREDDY FOR ABOUT 48 HOURS. CONSEQUENTLY, THE

INTENSITY FORECAST HAS BEEN ADJUSTED: POSSIBLE CONTINUATION OF THE INTENSIFICATION IN THE SHORT TERM UNTIL THE STAGE OF TROPICAL CYCLONE, THEN POSSIBLE SLIGHT WEAKENING / STABILIZATION OF THE INTENSITY, ON WEDNESDAY AND THURSDAY UNDER THE SHEAR CONSTRAINT. FROM THURSDAY NIGHT ONWARDS, THE SHEAR FADES AND WITH AN INCREASING OCEANIC POTENTIAL, FREDDY COULD INTENSIFY FURTHER AS IT APPROACHES THE MOZAMBIQUE COAST ON FRIDAY.

IMPACTS ON INHABITED LANDS DURING THE NEXT 72 HOURS:

- MADAGASCAR :

- \* IMPROVEMENT IN PROGRESS: ADDITIONAL RAINFALL EXPECTED OVER MADAGASCAR SHOULD NOT EXCEED 100 MM IN 24 HOURS
- \* GALE OVER THE NORTHERN PART OF ATSIMO-ANDREFANA REGION FOR THE NEXT 06/12H. END OF THE GALE FORCE WINDS TONIGHT.
- \* SEA STATE STILL VERY STRONG ON A NORTHERN PORTION OF THE COAST OF THE REGION OF ATSIMO-ANDREFANA. IMPROVEMENT TONIGHT.

- MOZAMBIQUE :

- \* POSSIBLE ARRIVAL OF GALE FORCE WINDS ON FRIDAY OVER THE PROVINCE OF ZAMBEZE AND EVEN POTENTIALLY OVER THE NORTHERN PART OF THE PROVINCE OF SOFALA.
- \* SEA STATE DEGRADATION WITH SEA THAT MAY BECOME VERY ROUGH (SIGNIFICANT HEIGHT AT OR GREATER THAN 4M) ON FRIDAY.