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

0.A WARNING NUMBER: 1/7/20222023
1.A TROPICAL CYCLONE 7 (FREDDY)

2.A POSITION 2023/02/14 AT 1200 UTC:
WITHIN 20 NM RADIUS OF POINT 15.3 S / 90.1 E
(FIFTEEN DECIMAL THREE DEGREES SOUTH AND
NINETY DECIMAL ONE DEGREES EAST)
MOVEMENT: WEST 12 KT

3.A DVORAK ANALYSIS: 5.5/5.5/D 1.0/6 H

4.A CENTRAL PRESSURE: 962 HPA
5.A MAX AVERAGE WIND SPEED (10 MN): 85 KT
RADIUS OF MAXIMUM WINDS (RMW): 22 KM

6.A EXTENSION OF WIND BY QUADRANTS (KM):
28 KT NE: 110 SE: 120 SW: 325 NW: 175
34 KT NE: 95 SE: 95 SW: 165 NW: 110
48 KT NE: 35 SE: 65 SW: 60 NW: 75
64 KT NE: 30 SE: 35 SW: 35 NW: 45

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1006 HPA / 800 KM
8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):
12H: 2023/02/15 00 UTC: 15.2 S / 87.8 E, VENT MAX= 085 KT, TROPICAL CYCLONE
28 KT NE: 140 SE: 230 SW: 280 NW: 155
34 KT NE: 100 SE: 120 SW: 155 NW: 100
48 KT NE: 65 SE: 75 SW: 65 NW: 65
64 KT NE: 45 SE: 55 SW: 55 NW: 45

24H: 2023/02/15 12 UTC: 15.0 S / 85.3 E, VENT MAX= 090 KT, INTENSE TROPICAL CYCLONE
28 KT NE: 140 SE: 215 SW: 250 NW: 155
34 KT NE: 100 SE: 120 SW: 155 NW: 100
48 KT NE: 65 SE: 75 SW: 65 NW: 65
64 KT NE: 45 SE: 55 SW: 45 NW: 45

36H: 2023/02/16 00 UTC: 14.9 S / 82.7 E, VENT MAX= 095 KT, INTENSE TROPICAL CYCLONE
28 KT NE: 155 SE: 250 SW: 260 NW: 165
34 KT NE: 110 SE: 140 SW: 165 NW: 110
48 KT NE: 65 SE: 85 SW: 75 NW: 75

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

48H: 2023/02/16 12 UTC: 14.8 S / 80.1 E, VENT MAX= 095 KT, INTENSE TROPICAL CYCLONE
28 KT NE: 150 SE: 250 SW: 260 NW: 155
34 KT NE: 110 SE: 130 SW: 165 NW: 110
48 KT NE: 65 SE: 75 SW: 75 NW: 75
64 KT NE: 55 SE: 55 SW: 55 NW: 45

60H: 2023/02/17 00 UTC: 14.9 S / 77.6 E, VENT MAX= 095 KT, INTENSE TROPICAL CYCLONE
28 KT NE: 165 SE: 260 SW: 270 NW: 175
34 KT NE: 120 SE: 140 SW: 175 NW: 110
48 KT NE: 75 SE: 85 SW: 75 NW: 85
64 KT NE: 55 SE: 55 SW: 55 NW: 55

72H: 2023/02/17 12 UTC: 15.2 S / 75.3 E, VENT MAX= 095 KT, INTENSE TROPICAL CYCLONE
28 KT NE: 175 SE: 260 SW: 270 NW: 175
34 KT NE: 120 SE: 140 SW: 175 NW: 120
48 KT NE: 75 SE: 85 SW: 75 NW: 85
64 KT NE: 55 SE: 55 SW: 55 NW: 35

2.B LONGER-RANGE OUTLOOK:
96H: 2023/02/18 12 UTC: 15.3 S / 71.5 E, VENT MAX= 095 KT, INTENSE TROPICAL CYCLONE
28 KT NE: 175 SE: 260 SW: 285 NW: 195
34 KT NE: 120 SE: 140 SW: 175 NW: 130
48 KT NE: 75 SE: 85 SW: 85 NW: 75
64 KT NE: 45 SE: 55 SW: 45 NW: 35

120H: 2023/02/19 12 UTC: 15.8 S / 67.4 E, VENT MAX= 095 KT, INTENSE TROPICAL CYCLONE
28 KT NE: 185 SE: 285 SW: 305 NW: 185
34 KT NE: 130 SE: 155 SW: 185 NW: 130
48 KT NE: 70 SE: 80 SW: 90 NW: 70
64 KT NE: 60 SE: 60 SW: 60 NW: 40

2.C ADDITIONAL INFORMATION:
T=5.5 AND CI=5.5-

THE TROPICAL CYCLONE FREDDY WAS UNTIL NOW MONITORED BY THE AUSTRALIAN METEOROLOGICAL SERVICE (BOM). THIS MATURE SYSTEM ENTERED THE EXTREME EAST OF OUR BASIN, AT THE TIME OF THE 12Z RUN, AS SHOWN BY THE LAST CLASSICAL SATELLITE IMAGES. SINCE 06Z, THE CLOUD PATTERN HAS BEEN GETTING BETTER AND BETTER WITH THE PROGRESSIVE APPEARANCE OF A HOT SPOT WITHIN A EMBEDDED CENTER PATTERN. FREDDY HAS GRADUALLY GAINED IN SYMMETRY, WITH PEAKS THAT HAVE COOLED DOWN, AND AN EYE THAT IS WELL VISIBLE IN IMAGING. MOREOVER THE LAST 0940Z SSMIS MICROWAVE SWATH SHOWS A SOLID INTERNAL STRUCTURE. THE LAST SUBJECTIVE ANALYSES ALLOW TO MAINTAIN FREDDY AS A TROPICAL CYCLONE AT 85KT.

IN TERMS OF TRACK FORECAST, FREDDY SHOULD EVOLVE AT A STEADY PACE IN A GENERAL WESTERLY DIRECTION, ALONG THE NORTHERN EDGE OF THE SUBTROPICAL RIDGE. ON THIS POINT, THE OVERALL EUROPEAN AND AMERICAN ENSEMBLE PRESENT LITTLE DISPSERSION UNTIL SUNDAY, WITH A ZONAL TRACK BASED ON THE 15TH PARALLEL.

FREDDY CURRENTLY BENEFITS FROM EXCELLENT ENVIRONMENTAL CONDITIONS COUNTERBALANCED BY A NORTHEASTERLY SHEAR ON THE ORDER OF 22KT, COMPENSATED HOWEVER BY THE WESTWARD MOVEMENT OF THE SYSTEM, AND WHICH DOES NOT SEEM TO BE REALLY PROHIBITIVE. FREDDY SHOULD INTENSIFY REGULARLY UNTIL IT REACHES THE STAGE OF INTENSE TROPICAL CYCLONE ON WEDNESDAY. THE FUTURE EVOLUTION IN TERMS OF INTENSITY REMAINS DELICATE, AND WILL DEPEND ON POSSIBLE INTERNAL PROCESSES SUCH AS THE EYEWALL REPLACEMENT CYCLE.

AT THIS STAGE, THERE IS NO DIRECT THREAT TO THE INHABITED LANDS DURING THE NEXT FIVE YEARS.