

WTIO30 FMEE 240725

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 13/4/20222023

1.A INTENSE TROPICAL CYCLONE 4 (DARIAN)

2.A POSITION 2022/12/24 AT 0600 UTC:

WITHIN 20 NM RADIUS OF POINT 12.5 S / 83.2 E
(TWELVE DECIMAL FIVE DEGREES SOUTH AND
EIGHTY THREE DECIMAL TWO DEGREES EAST)
MOVEMENT: SOUTH-EAST 3 KT

3.A DVORAK ANALYSIS: 5.0/5.5/W 1.0/24 H

4.A CENTRAL PRESSURE: 945 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 95 KT
RADIUS OF MAXIMUM WINDS (RMW): 14 NM

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

28 KT NE: 240 SE: 295 SW: 315 NW: 230
34 KT NE: 155 SE: 185 SW: 205 NW: 155
48 KT NE: 100 SE: 110 SW: 110 NW: 100
64 KT NE: 65 SE: 65 SW: 65 NW: 65

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1008 HPA / 1400 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2022/12/24 18 UTC: 13.8 S / 84.3 E, VENT MAX= 085 KT, TROPICAL CYCLONE
28 KT NE: 270 SE: 360 SW: 345 NW: 230
34 KT NE: 175 SE: 195 SW: 215 NW: 150
48 KT NE: 95 SE: 95 SW: 100 NW: 75
64 KT NE: 65 SE: 65 SW: 65 NW: 65

24H: 2022/12/25 06 UTC: 15.5 S / 84.8 E, VENT MAX= 080 KT, TROPICAL CYCLONE

28 KT NE: 280 SE: 380 SW: 335 NW: 260
34 KT NE: 175 SE: 205 SW: 215 NW: 155
48 KT NE: 85 SE: 100 SW: 100 NW: 75
64 KT NE: 65 SE: 65 SW: 65 NW: 65

36H: 2022/12/25 18 UTC: 16.6 S / 85.1 E, VENT MAX= 075 KT, TROPICAL CYCLONE

28 KT NE: 260 SE: 400 SW: 380 NW: 240
34 KT NE: 165 SE: 220 SW: 220 NW: 150
48 KT NE: 85 SE: 95 SW: 100 NW: 75
64 KT NE: 65 SE: 65 SW: 65 NW: 65

48H: 2022/12/26 06 UTC: 17.2 S / 85.1 E, VENT MAX= 075 KT, TROPICAL CYCLONE
28 KT NE: 270 SE: 415 SW: 425 NW: 250
34 KT NE: 165 SE: 240 SW: 250 NW: 155
48 KT NE: 95 SE: 100 SW: 110 NW: 75
64 KT NE: 65 SE: 65 SW: 65 NW: 65

60H: 2022/12/26 18 UTC: 17.6 S / 84.4 E, VENT MAX= 070 KT, TROPICAL CYCLONE
28 KT NE: 280 SE: 455 SW: 400 NW: 220
34 KT NE: 175 SE: 260 SW: 240 NW: 140
48 KT NE: 85 SE: 100 SW: 120 NW: 75
64 KT NE: 65 SE: 65 SW: 65 NW: 65

72H: 2022/12/27 06 UTC: 18.5 S / 83.0 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM
28 KT NE: 260 SE: 520 SW: 415 NW: 215
34 KT NE: 155 SE: 295 SW: 270 NW: 130
48 KT NE: 65 SE: 110 SW: 130 NW: 75

2.B LONGER-RANGE OUTLOOK:

96H: 2022/12/28 06 UTC: 21.8 S / 77.0 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM
28 KT NE: 260 SE: 480 SW: 360 NW: 195
34 KT NE: 150 SE: 285 SW: 250 NW: 120
48 KT NE: 65 SE: 85 SW: 130 NW: 45

120H: 2022/12/29 06 UTC: 25.3 S / 71.5 E, VENT MAX= 040 KT, MODERATE TROPICAL STORM
28 KT NE: 205 SE: 350 SW: 350 NW: 130
34 KT NE: 110 SE: 220 SW: 175 NW: 0

2.C ADDITIONAL INFORMATION:

T=5.0- CI=5.5-

DURING THE LAST 6 HOURS, THE CLOUD PATTERN REMAINED DETERIORATED FOLLOWING THE EYEWALL REPLACEMENT CYCLE. ALTHOUGH THE 0026Z SSMIS MICROWAVE DATA AND VISIBLE IMAGES SUGGEST THE PRESENCE OF A STILL WELL-FORMED EYE. THE LATTER IS STILL MASKED BY A VEIL OF CIRRUS CLOUDS WHICH CAUSED A DECREASE IN THE DVORAK SIGNATURE. AMONG THE OBJECTIVE DATA, A DISAGREEMENT IS ALSO PRESENT BETWEEN THE ESTIMATES AROUND 00Z, WITH THE RCM3 SAR CLOSE TO 80KT 10MIN AND OTHER MEASUREMENTS LIKE THE SMAP PASS NEAR 110KT 10MIN. GIVEN THESE CONTRADICTORY DATA, THE INTENSITY ANALYSIS IS LOWERED TO 95KT, BUT THIS ESTIMATE COULD BE CONSERVATIVE.

DARIAN HAS STARTED TO MOVE SOUTHEASTWARD DRIVEN BY THE NEAR EQUATORIAL RIDGE TO THE NORTHEAST. EARLY NEXT WEEK, DARIAN SHOULD BEGIN A SOUTHWESTERLY TURN, IN RELATION TO THE BUILDING OF THE SUBTROPICAL RIDGE TO THE SOUTH. THE RSMC FORECAST IS BASED ON A COMBINATION OF THE BEST AVAILABLE GUIDANCE. THE DISPERSION IS RELATIVELY LOW UP TO THE LONGER RANGE, SUGGESTING A GOOD CONFIDENCE IN THE SCENARIO.

DURING THE NEXT 24 HOURS, A NORTH-WESTERN CONSTRAINT SHOULD BUILD UP AND LEAD TO A SLIGHT WEAKENING. THE ENVIRONMENTAL CONDITIONS COULD

BE AGAIN MORE FAVORABLE TEMPORARILY ON MONDAY WITH THE DECREASE OF THE SHEAR. AT LONGER RANGER, THE INCREASING NORTHWESTERLY SHEAR AND ESPECIALLY THE DECREASE OF THE OCEANIC POTENTIAL WITH WATERS BELOW 26C SOUTH OF 20S, SHOULD LEAD TO A STEADY WEAKENING OF THE SYSTEM.