

WTIO30 FMEE 280028

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 28/4/20222023

1.A SEVERE TROPICAL STORM 4 (DARIAN)

2.A POSITION 2022/12/28 AT 0000 UTC:

WITHIN 30 NM RADIUS OF POINT 19.6 S / 79.0 E
(NINETEEN DECIMAL SIX DEGREES SOUTH AND
SEVENTY NINE DECIMAL ZERO DEGREES EAST)
MOVEMENT: WEST-SOUTH-WEST 15 KT

3.A DVORAK ANALYSIS: 3.0/4.0/W 1.5/18 H

4.A CENTRAL PRESSURE: 982 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 55 KT
RADIUS OF MAXIMUM WINDS (RMW): 37 KM

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

28 KT NE: 295 SE: 595 SW: 480 NW: 220
34 KT NE: 205 SE: 315 SW: 280 NW: 150
48 KT NE: 0 SE: 150 SW: 130 NW: 0
64 KT NE: 0 SE: 0 SW: 0 NW: 0

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1010 HPA / 800 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2022/12/28 12 UTC: 21.2 S / 76.1 E, VENT MAX= 055 KT, SEVERE TROPICAL STORM
28 KT NE: 270 SE: 545 SW: 405 NW: 205
34 KT NE: 150 SE: 315 SW: 270 NW: 120
48 KT NE: 55 SE: 120 SW: 150 NW: 55

24H: 2022/12/29 00 UTC: 22.8 S / 73.5 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM
28 KT NE: 260 SE: 545 SW: 380 NW: 175
34 KT NE: 140 SE: 315 SW: 230 NW: 95
48 KT NE: 55 SE: 110 SW: 150 NW: 45

36H: 2022/12/29 12 UTC: 24.7 S / 71.3 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM
28 KT NE: 305 SE: 470 SW: 370 NW: 155
34 KT NE: 165 SE: 280 SW: 220 NW: 85
48 KT NE: 65 SE: 100 SW: 140 NW: 45

48H: 2022/12/30 00 UTC: 26.7 S / 69.6 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM
28 KT NE: 345 SE: 480 SW: 360 NW: 175
34 KT NE: 185 SE: 295 SW: 240 NW: 95

48 KT NE: 65 SE: 100 SW: 150 NW: 45

60H: 2022/12/30 12 UTC: 28.7 S / 68.4 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM
28 KT NE: 350 SE: 500 SW: 370 NW: 220
34 KT NE: 185 SE: 315 SW: 250 NW: 150
48 KT NE: 65 SE: 100 SW: 150 NW: 45

72H: 2022/12/31 00 UTC: 30.6 S / 68.0 E, VENT MAX= 045 KT, MODERATE TROPICAL STORM
28 KT NE: 360 SE: 490 SW: 345 NW: 220
34 KT NE: 185 SE: 315 SW: 230 NW: 120

2.B LONGER-RANGE OUTLOOK:

96H: 2023/01/01 00 UTC: 33.5 S / 70.0 E, VENT MAX= 035 KT, POST-TROPICAL DEPRESSION
28 KT NE: 400 SE: 415 SW: 345 NW: 240
34 KT NE: 185 SE: 295 SW: 215 NW: 150

120H: 2023/01/02 00 UTC: 37.6 S / 76.3 E, VENT MAX= 035 KT, EXTRATROPICAL DEPRESSION
28 KT NE: 425 SE: 415 SW: 260 NW: 120
34 KT NE: 195 SE: 305 SW: 140 NW: 75

2.C ADDITIONAL INFORMATION:

T=3.0 CI=4.0-

DURING THE LAST 6 HOURS, DARIAN'S CLOUD PATTERN HAS CONTINUED TO DETERIORATE SIGNIFICANTLY. THE 1953Z AMSR2 MICROWAVE PASS SHOWS AN EXPOSED LOW-LEVEL CENTER OUTSIDE OF THE DEEP CONVECTION AREA, WHICH IS NOW ONLY PRESENT IN THE SOUTHERN SEMICIRCLE. CLOUD TOPS HAVE CONTINUED TO WARM UP, NO LONGER EXCEEDING -55/-60C. OBJECTIVE INTENSITY ESTIMATES (SATCON, ADT) ARE CLEARLY DOWN, AS WELL AS THE SUBJECTIVE DVORAK ANALYSIS. THE INTENSITY IS NOW ESTIMATED AT 55KT, THE STRONGEST WINDS BEING LOCATED IN THE SOUTHERN SEMICIRCLE OF THE SYSTEM. DARIAN IS THUS BACK DOWN TO SEVERE TROPICAL STORM STAGE, AFTER HAVING BEEN AT A STAGE OF TROPICAL CYCLONE (OR MORE) FOR 8.5 DAYS INCLUDING 6.5 DAYS IN THE SOUTH-WESTERN INDIAN OCEAN, A LIFETIME AT THE STAGE OF TROPICAL CYCLONE AMONG THE LONGEST RECORDED IN OUR BASIN.

DARIAN WILL CONTINUE HEADING SOUTHWESTWARDS UNTIL FRIDAY TOWARDS A WEAKNESS ON THE WESTERN EDGE OF THE SUBTROPICAL RIDGE. FROM SATURDAY, DARIAN SHOULD START A SOUTHEASTWARD TURN, AHEAD OF AN APPROACHING MID-LATITUDE UPPER TROUGH : IT SHOULD THEN PASS SOUTH OF THE 30TH PARALLEL. NEAR JANUARY 2ND, IT COULD TRACK CLOSE TO AMSTERDAM ISLAND, LIKELY ASSOCIATED WITH GALE FORCE WINDS.

DARIAN HAS NO LONGER FAVORABLE OCEANIC HEAT CONTENT AND SHOULD KEEP SLOWLY WEAKENING THROUGHOUT THE WEEK, ESPECIALLY AT THE END OF THE WEEK WHEN THE NORTHWESTERLY MID-TROPOSPHERE SHEAR WILL BECOME STRONGER AHEAD OF A UPPER TROUGH APPROACHING FROM THE WEST, WHICH WILL FINALLY BRING DRY AIR OVER THE SYSTEM'S WARM CORE. THUS, FROM SATURDAY, DARIAN SHOULD BEGIN ITS EXTRATROPICAL TRANSITION.

