

WTIO30 FMEE 270630

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 25/4/20222023

1.A TROPICAL CYCLONE 4 (DARIAN)

2.A POSITION 2022/12/27 AT 0600 UTC:

WITHIN 20 NM RADIUS OF POINT 18.0 S / 83.0 E

(EIGHTEEN DECIMAL ZERO DEGREES SOUTH AND
EIGHTY THREE DECIMAL ZERO DEGREES EAST)

MOVEMENT: SOUTH-WEST 7 KT

3.A DVORAK ANALYSIS: 4.5/5.0/W 1.0/18 H

4.A CENTRAL PRESSURE: 964 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 80 KT

RADIUS OF MAXIMUM WINDS (RMW): 30 KM

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

28 KT NE: 325 SE: 610 SW: 575 NW: 325

34 KT NE: 195 SE: 280 SW: 250 NW: 195

48 KT NE: 130 SE: 155 SW: 160 NW: 140

64 KT NE: 85 SE: 95 SW: 95 NW: 95

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1009 HPA / 900 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2022/12/27 18 UTC: 19.2 S / 80.5 E, VENT MAX= 070 KT, TROPICAL CYCLONE

28 KT NE: 285 SE: 575 SW: 445 NW: 230

34 KT NE: 165 SE: 305 SW: 260 NW: 130

48 KT NE: 95 SE: 120 SW: 140 NW: 75

64 KT NE: 55 SE: 75 SW: 75 NW: 55

24H: 2022/12/28 06 UTC: 20.7 S / 77.8 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM

28 KT NE: 285 SE: 595 SW: 425 NW: 220

34 KT NE: 165 SE: 325 SW: 270 NW: 130

48 KT NE: 85 SE: 110 SW: 150 NW: 65

36H: 2022/12/28 18 UTC: 22.2 S / 75.0 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM

28 KT NE: 280 SE: 545 SW: 415 NW: 215

34 KT NE: 150 SE: 305 SW: 260 NW: 120

48 KT NE: 65 SE: 110 SW: 140 NW: 45

48H: 2022/12/29 06 UTC: 24.0 S / 72.4 E, VENT MAX= 045 KT, MODERATE TROPICAL
STORM

28 KT NE: 285 SE: 500 SW: 400 NW: 165
34 KT NE: 155 SE: 285 SW: 215 NW: 85

60H: 2022/12/29 18 UTC: 25.6 S / 70.6 E, VENT MAX= 045 KT, MODERATE TROPICAL STORM

28 KT NE: 0 SE: 490 SW: 390 NW: 205
34 KT NE: 165 SE: 285 SW: 215 NW: 110

72H: 2022/12/30 06 UTC: 28.0 S / 68.9 E, VENT MAX= 045 KT, MODERATE TROPICAL STORM

28 KT NE: 335 SE: 520 SW: 405 NW: 220
34 KT NE: 165 SE: 315 SW: 250 NW: 120

2.B LONGER-RANGE OUTLOOK:

96H: 2022/12/31 06 UTC: 31.7 S / 68.1 E, VENT MAX= 040 KT, MODERATE TROPICAL STORM

28 KT NE: 350 SE: 390 SW: 360 NW: 240
34 KT NE: 175 SE: 240 SW: 185 NW: 100

120H: 2023/01/01 06 UTC: 35.3 S / 70.9 E, VENT MAX= 035 KT, POST-TROPICAL DEPRESSION

28 KT NE: 360 SE: 380 SW: 285 NW: 185
34 KT NE: 165 SE: 240 SW: 140 NW: 110

2.C ADDITIONAL INFORMATION:

T= 4.5+ CI=5.0

DURING THE LAST 6 HOURS, THE IMPROVEMENT OF THE DARIAN CLOUD CONFIGURATION HAS BEEN CONFIRMED AT THE BEGINNING OF THE PERIOD, WITH THE CONTINUATION OF THE COOLING OF THE EYE WALL AND A WARM AND WELL CIRCULAR EYE. THE LAST SATELLITE IMAGES SHOW NEVERTHELESS AN EYE WHICH BECOMES MORE ELONGATED.

THIS CAN BE EXPLAINED BY THE COMBINED EFFECT OF THE WEAKENING OF THE VERTICAL CRACKING, AND THE MAINTENANCE OF A VERY GOOD EVACUATION CHANNEL IN THE SOUTHEAST QUADRANT.

DARIAN IS HEADING SOUTHWESTWARD AND WILL CONTINUE TO DO SO UNTIL FRIDAY IN CONNECTION WITH THE WEAKNESS OF THE SUBTROPICAL RIDGE ON ITS WESTERN EDGE. FROM SATURDAY, DARIAN SHOULD START A NEW TURN TOWARDS THE SOUTHEAST WHILE SLOWING DOWN. CAUGHT BY A MID-LATITUDE TROUGH, IT SHOULD PASS THE 30 TH PARALLEL TO REACH THE SOUTHERN LATITUDES.

DARIAN WILL NO LONGER HAVE THE OCEANIC HEAT CONTENT THAT MADE ITS GOOD DAYS AND SHOULD GRADUALLY WEAKEN THROUGHOUT THIS WEEK, ESPECIALLY AT THE END OF THE WEEK/BEGINNING OF THE WEEKEND WHEN THE NORTHWESTERLY MID-TROPOSPHERE SHEAR WILL BECOME STRONG AHEAD OF A UPPER TROUGH RUNNING FROM THE WEST, EVENTUALLY INJECTING DRY AIR OVER THE WARM CORE OF THE SYSTEM. THUS, FROM SATURDAY, DARIAN SHOULD BEGIN ITS EXTRATROPICAL TRANSITION PHASE.