

WTIO30 FMEE 261834

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 23/4/20222023

1.A TROPICAL CYCLONE 4 (DARIAN)

2.A POSITION 2022/12/26 AT 1800 UTC:

WITHIN 20 NM RADIUS OF POINT 17.1 S / 84.4 E

(SEVENTEEN DECIMAL ONE DEGREES SOUTH AND  
EIGHTY FOUR DECIMAL FOUR DEGREES EAST)

MOVEMENT: SOUTH-WEST 5 KT

3.A DVORAK ANALYSIS: 4.5/5.5/W 0.5/24 H

4.A CENTRAL PRESSURE: 961 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 85 KT

RADIUS OF MAXIMUM WINDS (RMW): 33 KM

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

28 KT NE: 295 SE: 445 SW: 405 NW: 295

34 KT NE: 185 SE: 240 SW: 260 NW: 205

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

64 KT NE: 85 SE: 100 SW: 100 NW: 95

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1009 HPA / 1200 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2022/12/27 06 UTC: 18.1 S / 82.5 E, VENT MAX= 075 KT, TROPICAL CYCLONE

28 KT NE: 315 SE: 530 SW: 435 NW: 240

34 KT NE: 185 SE: 285 SW: 280 NW: 150

48 KT NE: 95 SE: 110 SW: 140 NW: 85

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

24H: 2022/12/27 18 UTC: 19.3 S / 80.2 E, VENT MAX= 070 KT, TROPICAL CYCLONE

28 KT NE: 315 SE: 545 SW: 425 NW: 240

34 KT NE: 185 SE: 315 SW: 270 NW: 140

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

64 KT NE: 65 SE: 75 SW: 75 NW: 55

36H: 2022/12/28 06 UTC: 20.8 S / 77.5 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM

28 KT NE: 295 SE: 520 SW: 400 NW: 230

34 KT NE: 165 SE: 295 SW: 250 NW: 140

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

48H: 2022/12/28 18 UTC: 22.5 S / 74.6 E, VENT MAX= 055 KT, SEVERE TROPICAL STORM

28 KT NE: 280 SE: 490 SW: 380 NW: 215  
34 KT NE: 155 SE: 285 SW: 240 NW: 120  
48 KT NE: 85 SE: 100 SW: 140 NW: 45

60H: 2022/12/29 06 UTC: 24.0 S / 72.1 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM  
28 KT NE: 315 SE: 470 SW: 350 NW: 175  
34 KT NE: 165 SE: 285 SW: 230 NW: 75  
48 KT NE: 65 SE: 85 SW: 140 NW: 45

72H: 2022/12/29 18 UTC: 25.8 S / 70.1 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM  
28 KT NE: 360 SE: 465 SW: 335 NW: 195  
34 KT NE: 195 SE: 280 SW: 230 NW: 95  
48 KT NE: 85 SE: 100 SW: 150 NW: 45

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

96H: 2022/12/30 18 UTC: 29.3 S / 67.8 E, VENT MAX= 045 KT, MODERATE TROPICAL STORM  
28 KT NE: 345 SE: 470 SW: 370 NW: 230  
34 KT NE: 175 SE: 305 SW: 250 NW: 130

120H: 2022/12/31 18 UTC: 33.3 S / 69.3 E, VENT MAX= 040 KT, POST-TROPICAL DEPRESSION  
28 KT NE: 405 SE: 415 SW: 250 NW: 230  
34 KT NE: 205 SE: 285 SW: 220 NW: 100

#### 2.C ADDITIONAL INFORMATION:

T= 4.5 CI=5.5-

OVER THE LAST 6 HOURS, DARIAN'S CLOUD PATTERN HAS WARMED UP CONSIDERABLY, WITH HOWEVER THE PERSISTENCE OF A WELL VISIBLE EYE IN THE CLASSICAL IMAGERY. THIS IS PROBABLY DUE TO THE PASSAGE OF THE SYSTEM OVER MUCH COLDER SST, AS IT PROGRESSES SOUTHWARD, DESPITE AN EXCELLENT DIVERGENCE ALOFT IN THE SOUTHEAST QUADRANT. IT SHOULD ALSO BE NOTED THAT THE SYSTEM IS UNDER MODERATE EAST-NORTHEASTERLY WSH ACCORDING TO THE LATEST CIMSS DATA. THIS FACT IS CORROBORATED BY THE 1722Z GPM SWATH WHICH SHOWS AN ERODED CONVECTIVE RING IN THE NORTHEAST QUADRANT, WHICH WAS NOT SUGGESTED BY THE 1239Z SSMIS PASS. THE DVORAK SUBJECTIVE INTENSITY ANALYSIS SHOWS AN AVERAGE DT OVER 3H OF 4.5 DECREASING REGULARLY SINCE 12Z. THE OBJECTIVE ANALYSES (ADT, AIDT, SATCON) ARE ALSO DECREASING REGULARLY SINCE THIS AFTERNOON.

DARIAN CONFIRMS ITS SOUTH-WESTERN TURN AND WILL CONTINUE TO MOVE SOUTH-WESTWARD UNTIL THURSDAY / FRIDAY IN CONNECTION WITH THE SWELLING OF THE SUBTROPICAL RIDGE. FROM SATURDAY, THE SYSTEM SHOULD MOVE AWAY TO THE SOUTH OF 30S WITH A TRACK TURNING TO THE SOUTH THEN SOUTHEAST WHILE BEING GRADUALLY ATTRACTED BY A MID-LATITUDE TROUGH.

THE WEAKENING OF DARIAN IN THE LAST FEW HOURS IS EXPLAINED BY THE ENCOUNTER WITH A STRONGLY DECREASING OHC, AND TO A LESSER EXTENT, THE MODERATE EAST-NORTHEASTERLY SHEAR. NEVERTHELESS, FROM TOMORROW, TUESDAY, THE ENVIRONMENTAL CONDITIONS SHOULD REMAIN WEAK AND CONTINUE LEADING TO THE LASTING WEAKENING OF THE SYSTEM THROUGHOUT

THE WEEK. ON SATURDAY, AS IT PASSES SOUTH OF 30S, DARIAN SHOULD BEGIN ITS EXTRATROPICAL TRANSITION AHEAD OF AN UPPER TROUGH, WHICH WILL GRADUALLY INJECT DRY AIR INTO THE MID-TROPOSPHERE.