

WTIO30 FMEE 221850

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 7/4/20222023

1.A TROPICAL CYCLONE 4 (DARIAN)

2.A POSITION 2022/12/22 AT 1800 UTC:

WITHIN 20 NM RADIUS OF POINT 12.8 S / 85.7 E
(TWELVE DECIMAL EIGHT DEGREES SOUTH AND
EIGHTY FIVE DECIMAL SEVEN DEGREES EAST)

MOVEMENT: WEST 9 KT

3.A DVORAK ANALYSIS: 4.5/5.5/W 1.0/24 H

4.A CENTRAL PRESSURE: 952 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 85 KT
RADIUS OF MAXIMUM WINDS (RMW): 10

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

28 KT NE: 165 SE: 370 SW: 335 NW: 165

34 KT NE: 120 SE: 175 SW: 185 NW: 120

48 KT NE: 55 SE: 85 SW: 90 NW: 85

64 KT NE: 35 SE: 45 SW: 45 NW: 45

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1005 HPA / 700 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2022/12/23 06 UTC: 12.6 S / 83.8 E, VENT MAX= 095 KT, INTENSE TROPICAL
CYCLONE

28 KT NE: 175 SE: 335 SW: 295 NW: 175

34 KT NE: 130 SE: 155 SW: 185 NW: 120

48 KT NE: 75 SE: 85 SW: 85 NW: 75

64 KT NE: 55 SE: 55 SW: 55 NW: 45

24H: 2022/12/23 18 UTC: 12.5 S / 82.7 E, VENT MAX= 100 KT, INTENSE TROPICAL
CYCLONE

28 KT NE: 205 SE: 335 SW: 305 NW: 205

34 KT NE: 150 SE: 155 SW: 195 NW: 140

48 KT NE: 85 SE: 85 SW: 85 NW: 75

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

36H: 2022/12/24 06 UTC: 12.9 S / 82.3 E, VENT MAX= 100 KT, INTENSE TROPICAL
CYCLONE

28 KT NE: 220 SE: 335 SW: 370 NW: 215

34 KT NE: 155 SE: 155 SW: 195 NW: 140

48 KT NE: 85 SE: 95 SW: 95 NW: 85
64 KT NE: 65 SE: 65 SW: 65 NW: 65

48H: 2022/12/24 18 UTC: 13.6 S / 82.6 E, VENT MAX= 090 KT, INTENSE TROPICAL CYCLONE

28 KT NE: 250 SE: 380 SW: 370 NW: 220
34 KT NE: 165 SE: 195 SW: 195 NW: 140
48 KT NE: 85 SE: 95 SW: 95 NW: 85
64 KT NE: 65 SE: 65 SW: 65 NW: 65

60H: 2022/12/25 06 UTC: 14.9 S / 83.3 E, VENT MAX= 085 KT, TROPICAL CYCLONE

28 KT NE: 250 SE: 370 SW: 350 NW: 230
34 KT NE: 165 SE: 195 SW: 205 NW: 155
48 KT NE: 85 SE: 95 SW: 100 NW: 85
64 KT NE: 65 SE: 65 SW: 65 NW: 65

72H: 2022/12/25 18 UTC: 15.8 S / 83.9 E, VENT MAX= 080 KT, TROPICAL CYCLONE

28 KT NE: 240 SE: 400 SW: 380 NW: 240
34 KT NE: 155 SE: 205 SW: 215 NW: 155
48 KT NE: 85 SE: 95 SW: 100 NW: 85
64 KT NE: 65 SE: 55 SW: 55 NW: 65

2.B LONGER-RANGE OUTLOOK:

96H: 2022/12/26 18 UTC: 17.2 S / 83.5 E, VENT MAX= 070 KT, TROPICAL CYCLONE

28 KT NE: 260 SE: 465 SW: 425 NW: 215
34 KT NE: 165 SE: 250 SW: 240 NW: 140
48 KT NE: 85 SE: 100 SW: 110 NW: 75
64 KT NE: 65 SE: 55 SW: 65 NW: 45

120H: 2022/12/27 18 UTC: 18.8 S / 79.6 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM

28 KT NE: 220 SE: 510 SW: 370 NW: 185
34 KT NE: 140 SE: 280 SW: 250 NW: 130
48 KT NE: 80 SE: 100 SW: 130 NW: 60

2.C ADDITIONAL INFORMATION:

T=4.5 CI=5.5-

AFTER HAVING BEEN IMPACTED BY THE STRONG EASTERN SHEAR TODAY (CF SSMIS OF 1145Z), THE CLOUD PATTERN IS SHOWING SIGNS OF IMPROVEMENT SINCE 15Z: THE CLOUD TOPS HAVE BECOME VERY COLD AND AN ILL-DEFINED EYE IS REAPPEARING WITHIN THE CDO. WE ALSO NOTICE IN THE LAST 3H, AN IMPORTANT ELECTRICAL ACTIVITY NEAR THE CENTER. THESE SIGNS OF INTENSIFICATION ARE STILL TOO EARLY TO IMPACT THE INTENSITY GUIDANCE. THE CURRENT 85 KT INTENSITY IS A COMPROMISE OF THE LAST SUBJECTIVE AND OBJECTIVE GUIDANCE.

LITTLE CHANGE IN FORECAST PHILOSOPHY:

DARIAN CONTINUES TO TRACK WESTWARD, GUIDED BY A MID TO UPPER TROPOSPHERE RIDGE FURTHER SOUTH. ON SATURDAY, THE SYSTEM SHOULD BEGIN A SHARP TURN TO THE SOUTH-SOUTHEAST OR SOUTHEAST WHILE SLOWING ITS PROGRESS, FOLLOWING THE TEMPORARY WITHDRAWAL OF THE SUBTROPICAL

RIDGE AND THE RESUMPTION OF THE STEERING FLOW BY THE NEAR EQUATORIAL RIDGE TO THE NORTH. EARLY NEXT WEEK, DARIAN SHOULD AGAIN BEGIN A SOUTHWESTERLY TURN, IN CONJUNCTION WITH THE STRENGTHENING OF THE SUBTROPICAL RIDGE TO THE SOUTH. THE RSMC FORECAST IS BASED ON A COMPROMISE BETWEEN THE BEST AVAILABLE GUIDANCE. THE DISPERSION IS RELATIVELY WEAK UNTIL SATURDAY THEN BECOMES SIGNIFICANTLY MORE IMPORTANT THEREAFTER, DURING THE COMPLEX PHASE OF THE DOUBLE TURN TO THE SOUTH.

THE EASTERLY CONSTRAINT IS EXPECTED TO DECREASE TONIGHT AND DARIAN SEEMS TO REACT TO THIS DECREASE OF THE CONSTRAINT. CONDITIONS SEEM TO BE FAVORABLE FOR A RE-INTENSIFICATION FROM TOMORROW BUT THIS MAY BE LIMITED WITHIN 24/36H BY THE SLOWER MOVEMENT OF THE SYSTEM. FROM TUESDAY ONWARDS, AN INCREASE IN SHEAR COMBINED WITH INCURSIONS OF DRY MID-TROPOSPHERIC AIR AND A DECREASING OCEANIC POTENTIAL SHOULD CONTINUE TO WEAKEN THE SYSTEM.