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RSMC / TROPICAL CYCLONE CENTER / LA REUNION
TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 12/4/20222023
1.A INTENSE TROPICAL CYCLONE 4 (DARIAN)

2.A POSITION 2022/12/24 AT 0000 UTC:
WITHIN 10 NM RADIUS OF POINT 12.2 S / 83.0 E
(TWELVE DECIMAL TWO DEGREES SOUTH AND
EIGHTY THREE DECIMAL ZERO DEGREES EAST)
MOVEMENT: QUASI-STATIONARY.

3.A DVORAK ANALYSIS: 6.0/6.0/S 0.0/6 H

4.A CENTRAL PRESSURE: 932 HPA
5.A MAX AVERAGE WIND SPEED (10 MN): 105 KT
RADIUS OF MAXIMUM WINDS (RMW): 15 NM

6.A EXTENSION OF WIND BY QUADRANTS (KM):
28 KT NE: 260 SE: 350 SW: 345 NW: 220
34 KT NE: 175 SE: 195 SW: 215 NW: 150
48 KT NE: 85 SE: 95 SW: 80 NW: 85
64 KT NE: 65 SE: 65 SW: 65 NW: 65

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1006 HPA / 1100 KM
8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):
12H: 2022/12/24 12 UTC: 13.0 S / 83.2 E, VENT MAX= 105 KT, INTENSE TROPICAL CYCLONE
28 KT NE: 260 SE: 350 SW: 345 NW: 220
34 KT NE: 175 SE: 195 SW: 215 NW: 150
48 KT NE: 85 SE: 95 SW: 85 NW: 85
64 KT NE: 65 SE: 65 SW: 65 NW: 65

24H: 2022/12/25 00 UTC: 14.2 S / 83.9 E, VENT MAX= 095 KT, INTENSE TROPICAL CYCLONE
28 KT NE: 280 SE: 360 SW: 325 NW: 250
34 KT NE: 185 SE: 205 SW: 205 NW: 150
48 KT NE: 85 SE: 95 SW: 85 NW: 85
64 KT NE: 65 SE: 65 SW: 65 NW: 65

36H: 2022/12/25 12 UTC: 15.4 S / 84.4 E, VENT MAX= 090 KT, INTENSE TROPICAL CYCLONE
28 KT NE: 250 SE: 360 SW: 345 NW: 250
34 KT NE: 165 SE: 215 SW: 215 NW: 165

48 KT NE: 95 SE: 95 SW: 85 NW: 85
64 KT NE: 65 SE: 65 SW: 65 NW: 55

48H: 2022/12/26 00 UTC: 16.4 S / 84.7 E, VENT MAX= 080 KT, TROPICAL CYCLONE
28 KT NE: 270 SE: 400 SW: 380 NW: 240
34 KT NE: 175 SE: 240 SW: 220 NW: 155
48 KT NE: 95 SE: 95 SW: 85 NW: 85
64 KT NE: 65 SE: 65 SW: 65 NW: 55

60H: 2022/12/26 12 UTC: 17.1 S / 84.4 E, VENT MAX= 070 KT, TROPICAL CYCLONE
28 KT NE: 280 SE: 435 SW: 405 NW: 240
34 KT NE: 175 SE: 260 SW: 250 NW: 150
48 KT NE: 85 SE: 100 SW: 95 NW: 85
64 KT NE: 65 SE: 65 SW: 75 NW: 55

72H: 2022/12/27 00 UTC: 17.7 S / 83.5 E, VENT MAX= 065 KT, TROPICAL CYCLONE
28 KT NE: 305 SE: 480 SW: 415 NW: 230
34 KT NE: 195 SE: 285 SW: 250 NW: 140
48 KT NE: 85 SE: 110 SW: 110 NW: 85
64 KT NE: 65 SE: 75 SW: 75 NW: 55

2.B LONGER-RANGE OUTLOOK:
96H: 2022/12/28 00 UTC: 19.7 S / 79.2 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM
28 KT NE: 260 SE: 500 SW: 370 NW: 205
34 KT NE: 155 SE: 305 SW: 230 NW: 130
48 KT NE: 65 SE: 110 SW: 120 NW: 45

120H: 2022/12/29 00 UTC: 23.4 S / 72.9 E, VENT MAX= 045 KT, MODERATE TROPICAL STORM
28 KT NE: 260 SE: 455 SW: 335 NW: 195
34 KT NE: 155 SE: 285 SW: 220 NW: 120

2.C ADDITIONAL INFORMATION:
T=CI=6.0+

AS BEFORE DURING THE LAST 6 HOURS, THE CONVECTIVE ACTIVITY HAS BEEN MAINTAINED WHILE PRESENTING A GLOBAL WARMING OF THE HIGHEST TOPS. THE INFRARED IMAGES AND THE DIFFERENT MICROWAVE DATA SHOW THAT DARIAN IS ALMOST STATIONARY. THE EVOLUTION OF THE CLOUD PATTERN NEAR THE CENTER ALSO SUGGESTS A WIDENING OF THE MAXIMUM WIND EXTENSIONS, DUE TO A POSSIBLE REPLACEMENT CYCLE OF THE EYEWALL HELPED BY THE WEAK DISPLACEMENT OF THE SYSTEM. IN THIS CONTEXT, THE INTENSITY OF DARIAN CAN BE ESTIMATED AT 105KT.

DARIAN HAS BEEN QUASI-STATIONARY FOR ALMOST 4 HOURS NOW. UNDER THE STILL CONTRADICTORY INFLUENCE OF THE TWO MAIN FLOWS, DARIAN IS PREPARING TO MAKE ITS TURN. WITH THE RESUMPTION OF THE DIRECTING FLOW BY THE NEAR EQUATORIAL RIDGE TO THE NORTH, THE TRACK WILL GRADUALLY TAKE A SOUTH-SOUTHEAST ORIENTATION AND ACCELERATE. DARIAN WILL MAINTAIN THIS TRACK UNTIL THE BEGINNING OF NEXT WEEK, BEFORE STARTING A NEW TURN TOWARDS THE SOUTH-WEST, IN CONNECTION WITH THE SWELLING OF THE SUBTROPICAL RIDGE IN THE SOUTH. THE TIMING OF THIS SECOND TURN IS

STILL QUITE UNCERTAIN, WHICH IS REPRESENTED BY THE STILL IMPORTANT DISPERSION AT THESE TIMES.

THE ENVIRONMENTAL CONDITIONS IN WHICH THE SYSTEM EVOLVES ARE STILL FAVORABLE TO MAINTAIN ITS INTENSITY IN THE SHORT TERM DESPITE ITS QUASI-STATIONARY CHARACTER. WITH AN EXTENSION OF THE MAXIMUM WINDS WHICH IS CURRENTLY LINKED, REFLECTING A POSSIBLE CYCLE OF REPLACEMENT OF THE EYEWALL, THE INTENSITY COULD FLUCTUATE DURING THE NEXT 24 HOURS. THEREAFTER, WITH LESS OCEAN POTENTIAL AND A SLIGHT INCREASE IN MID-TROPOSPHERE SHEAR, THE INTENSITY SHOULD GRADUALLY WEAKEN. FROM TUESDAY ONWARDS, AN INCREASE IN DEEP SHEAR COMBINED WITH INCURSIONS OF DRY MID-TROPOSPHERIC AIR AND A DECREASING OCEANIC POTENTIAL SHOULD AMPLIFY THE WEAKENING OF THE SYSTEM.