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

0.A WARNING NUMBER: 3/6/20222023
1.A MODERATE TROPICAL STORM 6 (DINGANI)

2.A POSITION 2023/02/09 AT 1800 UTC:
WITHIN 20 NM RADIUS OF POINT 16.6 S / 86.5 E
(SIXTEEN DECIMAL SIX DEGREES SOUTH AND
EIGHTY SIX DECIMAL FIVE DEGREES EAST)
MOVEMENT: WEST 13 KT

3.A DVORAK ANALYSIS: 3.0/3.0/S 0.0/6 H

4.A CENTRAL PRESSURE: 997 HPA
5.A MAX AVERAGE WIND SPEED (10 MN): 40 KT
RADIUS OF MAXIMUM WINDS (RMW): 37 KM

6.A EXTENSION OF WIND BY QUADRANTS (KM):
28 KT NE: 85 SE: 280 SW: 280 NW: 175
34 KT NE: 45 SE: 155 SW: 155 NW: 120
48 KT NE: 0 SE: 0 SW: 0 NW: 0
64 KT NE: 0 SE: 0 SW: 0 NW: 0

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1007 HPA / 700 KM
8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):
12H: 2023/02/10 06 UTC: 16.5 S / 84.4 E, VENT MAX= 045 KT, MODERATE TROPICAL STORM
28 KT NE: 0 SE: 195 SW: 195 NW: 110
34 KT NE: 0 SE: 100 SW: 120 NW: 55

24H: 2023/02/10 18 UTC: 16.1 S / 82.1 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM
28 KT NE: 95 SE: 240 SW: 195 NW: 120
34 KT NE: 65 SE: 130 SW: 140 NW: 85
48 KT NE: 0 SE: 55 SW: 45 NW: 45

36H: 2023/02/11 06 UTC: 16.2 S / 79.6 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM
28 KT NE: 95 SE: 220 SW: 185 NW: 120
34 KT NE: 65 SE: 110 SW: 130 NW: 75
48 KT NE: 0 SE: 45 SW: 45 NW: 45

48H: 2023/02/11 18 UTC: 16.6 S / 77.7 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM
28 KT NE: 120 SE: 215 SW: 175 NW: 120
34 KT NE: 85 SE: 110 SW: 120 NW: 65

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

60H: 2023/02/12 06 UTC: 17.7 S / 76.1 E, VENT MAX= 055 KT, SEVERE TROPICAL STORM
28 KT NE: 120 SE: 205 SW: 165 NW: 130
34 KT NE: 85 SE: 110 SW: 130 NW: 85
48 KT NE: 35 SE: 55 SW: 45 NW: 45

72H: 2023/02/12 18 UTC: 19.0 S / 75.1 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM
28 KT NE: 130 SE: 230 SW: 175 NW: 130
34 KT NE: 85 SE: 130 SW: 140 NW: 85
48 KT NE: 35 SE: 55 SW: 55 NW: 45

2.B LONGER-RANGE OUTLOOK:
96H: 2023/02/13 18 UTC: 20.9 S / 74.0 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM
28 KT NE: 130 SE: 280 SW: 250 NW: 130
34 KT NE: 75 SE: 165 SW: 155 NW: 85
48 KT NE: 35 SE: 45 SW: 55 NW: 45

120H: 2023/02/14 18 UTC: 22.2 S / 70.6 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM
28 KT NE: 100 SE: 305 SW: 295 NW: 100
34 KT NE: 0 SE: 175 SW: 150 NW: 65
48 KT NE: 0 SE: 60 SW: 60 NW: 50

2.C ADDITIONAL INFORMATION:
DURING THE LAST 6 HOURS, DINGANI HAS KEPT A SHEARED PATTERN DUE TO THE PERSISTENCE OF A NORTHEASTERLY VERTICAL WINDSHEAR OF ABOUT 20KT ACCORDING TO THE LATEST CIMSS ANALYSIS. THE MICROWAVE DATA OF THIS AFTERNOON, AS WELL AS THE CLASSICAL SATELLITE IMAGES, SHOW A MODERATE CONVECTION, DISPLACED IN THE WESTERN SEMICIRCLE OF THE LOW LEVEL CIRCULATION. THE NEGATIVE EFFECTS OF THE VERTICAL WIND SHEAR SEEM TO BE OFFSET BY THE WESTWARD MOVEMENT OF DINGANI, AS WELL AS BY THE PRESENCE OF A STRONG UPPER DIVERGENCE IN THE SOUTHERN SEMICIRCLE OF THE SYSTEM. GIVEN THE GENERAL ASPECT OF THE CLOUD PATTERN AND THE 1530Z ASCAT PASS, THE INTENSITY IS YIELD AT 40KT.

BY SATURDAY EVENING, THE SYSTEM WILL ACCELERATE SLIGHTLY TOWARDS THE WEST, AT THE NORTHERN EDGE OF THE SUBTROPICAL RIDGE. FOR THE NEXT 48 HOURS THE AMERICAN AND EUROPEAN ENSEMBLE MODELS ARE CONSISTENT AND NOT VERY DISPERSIVE. FROM SUNDAY, THE SUBTROPICAL RIDGE WILL SHIFT TO THE EAST OF THE BASIN, AS A HIGH TROUGH APPROACHES FROM THE SOUTHWEST. DINGANI, SHOULD THUS CURVE ITS TRAJECTORY TOWARDS THE SOUTH-WEST WHILE SLOWING DOWN GRADUALLY. BETWEEN SUNDAY AND THE BEGINNING OF NEXT WEEK, THE DISPERSION OF THE GUIDANCE BECOMES MUCH MORE IMPORTANT, WITH HOWEVER A SIGNAL WHICH SEEMS TO PREVAIL IN DIRECTION OF THE SOUTH-WEST, BUT WHICH REMAINS TO BE SPECIFIED. THE CMRS FORECAST IS BASED ON A COMPROMISE BETWEEN THE BEST AVAILABLE GUIDANCE LEADING TO A HIGHER UNCERTAINTY ON THE TRACK OF THE SYSTEM AT THE BEGINNING OF NEXT WEEK.

DINGANI IS CURRENTLY UNDER NORTHEASTERLY VWSH, THE EFFECTS OF WHICH ARE PARTLY OFFSET BY A STRONG POLAR DIVERGENCE, PARTICULARLY WARM SURFACE WATERS, AND ITS WESTWARD MOTION. THESE MIXED CONDITIONS

SHOULD ALLOW A SLOW INTENSIFICATION OF THE SYSTEM UNTIL NEXT SATURDAY. BEYOND THAT, BETWEEN SUNDAY AND MONDAY, THE ENVIRONMENTAL CONDITIONS SHOULD PUNCTUALLY IMPROVE WITH THE RELAXATION OF THE VERTICAL WINDSHEAR AS THE SYSTEM APPROACHES THE AXIS OF THE SUBTROPICAL RIDGE AND THE DIVERGENCE IS MAINTAINED. DINGANI COULD THEN POTENTIALLY REACH THE MINIMAL STAGE OF A TROPICAL CYCLONE. HOWEVER, DINGANI COULD GAIN COOLER WATERS QUITE QUICKLY FROM MONDAY OR TUESDAY, WHICH WOULD START A WEAKENING PHASE OF THE SYSTEM, CUMULATED AT THE VERY END, WITH THE STRENGTHENING OF THE NORTH-WESTERN CONSTRAINT, PROGRESSIVELY INJECTING DRY AIR INTO THE SYSTEM.

THE SYSTEM DOES NOT PRESENT A THREAT TO THE INHABITED LANDS.