

WTIO30 FMEE 131819

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 6/4/20212022

1.A MODERATE TROPICAL STORM 4 (DUMAKO)

2.A POSITION 2022/02/13 AT 1800 UTC:

WITHIN 20 NM RADIUS OF POINT 15.6 S / 58.4 E

(FIFTEEN DECIMAL SIX DEGREES SOUTH AND

FIFTY EIGHT DECIMAL FOUR DEGREES EAST)

MOVEMENT: WEST 13 KT

3.A DVORAK ANALYSIS: 3.0/3.0/D 0.5/6 H

4.A CENTRAL PRESSURE: 995 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 40 KT

RADIUS OF MAXIMUM WINDS (RMW): 28 KM

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

28 KT NE: 0 SE: 95 SW: 95 NW: 0

34 KT NE: 0 SE: 45 SW: 45 NW: 0

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1007 HPA / 900 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2022/02/14 06 UTC: 16.1 S / 56.1 E, VENT MAX= 045 KT, MODERATE TROPICAL STORM

28 KT NE: 0 SE: 155 SW: 130 NW: 0

34 KT NE: 0 SE: 85 SW: 85 NW: 0

24H: 2022/02/14 18 UTC: 16.4 S / 53.5 E, VENT MAX= 045 KT, MODERATE TROPICAL STORM

28 KT NE: 0 SE: 150 SW: 130 NW: 0

34 KT NE: 0 SE: 85 SW: 85 NW: 0

36H: 2022/02/15 06 UTC: 16.2 S / 51.6 E, VENT MAX= 040 KT, MODERATE TROPICAL STORM

28 KT NE: 0 SE: 150 SW: 130 NW: 0

34 KT NE: 0 SE: 85 SW: 85 NW: 0

48H: 2022/02/15 18 UTC: 15.6 S / 49.9 E, VENT MAX= 035 KT, OVERLAND DEPRESSION

28 KT NE: 100 SE: 150 SW: 120 NW: 0

34 KT NE: 75 SE: 85 SW: 85 NW: 0

60H: 2022/02/16 06 UTC: 14.9 S / 48.2 E, VENT MAX= 020 KT, OVERLAND DEPRESSION

2.B LONGER-RANGE OUTLOOK:
NIL

2.C ADDITIONAL INFORMATION:
T=CI=3.0-

AT 1430UTC, FOLLOWING THE EVOLUTION OF THE CLOUD PATTERN AND THE OBSERVATIONS OF SAINT BRANDON, THE THRESHOLD OF 34KT HAS BEEN VALIDATED. THE MAURITIAN METEOROLOGICAL SERVICE HAS NAMED THE MODERATE TROPICAL STORM DUMAKO. DURING THE LAST 6 HOURS, THE CONVECTIVE ACTIVITY HAS BEEN MAINTAINED CLOSE TO THE CENTER OF THE SYSTEM AND THE CONFIGURATION IN CDO ALLOWS TO MAINTAIN A DVORAK ANALYSIS AT 3.0, LEAVING STILL ESTIMATED WINDS OF ABOUT 40KT. THE GPM MICROWAVE PASS OF 1533UTC ALLOWS TO VALIDATE THIS SMALL INCREASE OF DUMAKO INTENSITY WHILE THE 1729UTC ASCAT SWATH ALLOWS TO VALIDATE VALUES OF 35KT WHICH COULD BE SLIGHTLY UNDERESTIMATED BECAUSE OF THE SMALL SIZE OF THE SYSTEM.

THE SUBTROPICAL RIDGE DEFINES THE MAIN DIRECTION OF DUMAKO'S TRACK, WITH A GENERAL WEST-SOUTHWEST MOVEMENT DURING THE NEXT 2 DAYS. THE SYSTEM SHOULD THEREFORE PASS MORE THAN 400 KM FROM MAURITIUS AND REUNION THIS MONDAY. THEREAFTER, WITH THE FILLING OF THE RIDGE, THE TRACK SHOULD STRAIGHTEN WEST-NORTHWEST BEFORE LANDING ON MADAGASCAR BETWEEN SAINT MARY'S ISLAND AND ANTALAHA, ON TUESDAY BETWEEN MIDDAY AND EVENING. THERE IS AN UNCERTAINTY ON THE TRACK WITH A SCENARIO A LITTLE MORE NORTH-WEST IN CASE THE SYSTEM WOULD BE OF WEAKER INTENSITY AND THUS DIRECTED BY SLIGHTLY LOWER STEERING FLOWS. THIS SCENARIO IS NOT FOLLOWED FOR THE MOMENT BY THE RSMC OF THE REUNION. THEREAFTER, THE WEAKNESS OF THE RESIDUAL DEPRESSION DOES NOT FORESEE AN EXIT AT SEA OTHER THAN IN THE FORM OF A LARGE DEPRESSION ZONE OVER THE NORTH OF THE MOZAMBIQUE CHANNEL. THE FORECAST OF THE RSMC TRACK STOPS NEXT WEDNESDAY.

ALONG THIS TRACK, THE ENVIRONMENT OF THE SYSTEM IS MIXED BUT TEMPORARILY BECOMES MORE FAVORABLE IN THE SHORT TERM: SUFFICIENT OCEANIC POTENTIAL, GOOD LOW-LEVEL CONVERGENCE ON THE SOUTH COAST BUT MORE LIMITED ON THE NORTH COAST, AND A MODERATE EAST-NORTHEAST SHEAR TEMPORARILY WEAKENING. THE ACCELERATION OF THE SYSTEM TOWARDS THE WEST-SOUTHWEST THIS EVENING AND TOMORROW ALLOWS IT TO BETTER RESIST THIS SHEAR AND SHOULD ALLOW IT TO MAINTAIN THE THRESHOLD OF MODERATE TROPICAL STORM DURING ITS TRANSIT TOWARDS MADAGASCAR. THE SMALL SIZE OF THE SYSTEM MAKES IT SUSCEPTIBLE TO RAPID FLUCTUATIONS IN INTENSITY, WHICH COULD BE GREATER THAN IN THE CURRENT FORECAST. HOWEVER, THE WEAKNESS OF THE WET FEEDING FROM THE NORTH IS STILL LIMITING ENOUGH TO ALLOW A FRANK INTENSIFICATION OF DUMAKO, WHICH IS EXPECTED TO LAND AS A MODERATE TROPICAL STORM ON THE EAST COAST OF MADAGASCAR. TRANSITING ON LAND, THE DOMINANT OPTION IS THEN IN FAVOR OF A PROGRESSIVE DISSIPATION OF THE SYSTEM AND THEN AN EXIT AT SEA VERY ATTENUATED IN THE FORM OF A LARGE LOW-PRESSURE AREA PRESENTING NO

RISK OF REINTENSIFICATION.

IMPACTS ON INHABITED LANDS:

-MAURITIUS AND LA REUNION: GIVEN THE SMALL SIZE OF THE SYSTEM AND THE PASSAGE MORE THAN 400 KM TO THE NORTH OF THE MASCARENE, MAURITIUS AND REUNION ISLANDS WILL NOT BE IMPACTED BY THE SYSTEM.

-MADAGASCAR: A SIGNIFICANT DETERIORATION OF WEATHER CONDITIONS IS EXPECTED ON TUESDAY DURING THE DAYTIME AND FOLLOWING NIGHT SOMEWHERE MAINLY BETWEEN SAINTE-MARIE ISLAND AND ANTALAHA. HEAVY RAINFALL (50-100 MM IN LESS THAN 24 HOURS POSSIBLE BETWEEN TOAMASINA AND ANTALAHA, WITH LOCAL ACCUMULATIONS UP TO 200-300MM LIKELY NEAR SAINTE-MARIE) AND STRONG WIND GUSTS (80-100 KM/H) ARE EXPECTED IN THE IMMEDIATE VICINITY OF THE LANDFALL AREA. MOREOVER, CONSIDERING THE SMALL SIZE OF THE SYSTEM, THE POSSIBLE IMPACTED AREAS SHOULD BE QUITE LIMITED. LOCAL POPULATION IS INVITED TO CLOSELY FOLLOW THE EVOLUTION OF THIS SYSTEM.