

WTIO30 FMEE 221232

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 4/1/20212022

1.A OVERLAND DEPRESSION 1

2.A POSITION 2022/01/22 AT 1200 UTC:

WITHIN 20 NM RADIUS OF POINT 17.4 S / 48.4 E

(SEVENTEEN DECIMAL FOUR DEGREES SOUTH AND

FORTY EIGHT DECIMAL FOUR DEGREES EAST)

MOVEMENT: WEST 20 KT

3.A DVORAK ANALYSIS: NIL

4.A CENTRAL PRESSURE: 1002 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 20 KT

RADIUS OF MAXIMUM WINDS (RMW): NIL

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

NIL

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1005 HPA / 300 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: MEDIUM

1.B FORECASTS (WINDS RADII IN KM):

12H: 2022/01/23 00 UTC: 16.6 S / 46.7 E, VENT MAX= 020 KT, OVERLAND DEPRESSION

24H: 2022/01/23 12 UTC: 15.8 S / 45.2 E, VENT MAX= 025 KT, TROPICAL DISTURBANCE

36H: 2022/01/24 00 UTC: 15.3 S / 43.1 E, VENT MAX= 035 KT, MODERATE TROPICAL  
STORM

28 KT NE: 100 SE: 110 SW: 0 NW: 0

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

48H: 2022/01/24 12 UTC: 15.5 S / 40.9 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM

28 KT NE: 120 SE: 110 SW: 95 NW: 100

34 KT NE: 95 SE: 75 SW: 65 NW: 75

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

60H: 2022/01/25 00 UTC: 15.7 S / 39.5 E, VENT MAX= 035 KT, OVERLAND DEPRESSION

28 KT NE: 55 SE: 110 SW: 0 NW: 0

34 KT NE: 45 SE: 75 SW: 0 NW: 0

72H: 2022/01/25 12 UTC: 16.3 S / 38.3 E, VENT MAX= 035 KT, OVERLAND DEPRESSION

28 KT NE: 0 SE: 110 SW: 0 NW: 0

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

## 2.B LONGER-RANGE OUTLOOK:

96H: 2022/01/26 12 UTC: 17.1 S / 35.9 E, VENT MAX= 025 KT, OVERLAND DEPRESSION

## 2.C ADDITIONAL INFORMATION:

T=CI=NIL

TROPICAL DEPRESSION 01-20212022 LANDED NEAR TAOMASINA SHORTLY BEFORE 0800UTC WITH ESTIMATED WINDS OF ABOUT 30KT. THE DATA OBSERVED IN MADAGASCAR DOES NOT ALLOW TO VALIDATE FOR THE MOMENT THE STAGE OF MODERATE TROPICAL STORM AT THE TIME OF ITS LANDING WHICH TOOK PLACE ALMOST 4H BEFORE THE RSMC FORECASTS. THE ASSOCIATED CONVECTIVE ACTIVITY REMAINS STRONG AND CAUSES HEAVY PRECIPITATIONS WHICH PENETRATE THE MALAGASY LANDS NORTH OF 21S. THE LAST MICROWAVE AT 1026UTC ALLOWS A RELATIVELY GOOD LOCALIZATION OF THE SYSTEM BUT ALSO SHOWS A SECONDARY CIRCULATION AROUND 16.6S/52.5E ASSOCIATED WITH A STRONG CONVECTIVE ACTIVITY.

SYNOPTIC CONDITIONS REMAIN UNCHANGED FOR THE SHORT TERM: DRIVEN BY THE STRENGTHENING OF THE MID-TROPOSPHERE HIGH GEOPOTENTIALS LOCATED SOUTH OF THE MOZAMBIQUE CHANNEL AND AIDED BY THE PRESENCE OF A SECONDARY VORTICITY POLE NOTED ABOVE, THE TRACK REMAINS WEST-NORTHWEST AS IT CROSSES MADAGASCAR. ON SUNDAY DURING THE DAY, THE SECONDARY MINIMUM ASSOCIATED WITH THE LARGE LOW-PRESSURE AREA SHOULD ALSO ENTER THE LAND BETWEEN ANTALAHA AND SAINTE-MARIE ISLAND AS SYSTEM 01 ARRIVES BACK AT SEA.

THEN GUIDED BY A STRONGER EASTERLY FLOW, THE SYSTEM IS HEADING TOWARDS THE MOZAMBICAN COASTS WHICH IT WILL REACH BY MONDAY EVENING. FOLLOWING THE SHIFT OF THE CENTER OF ACTION TO THE SOUTH-EAST OF MADAGASCAR, THE STEERING FLOW IS PROGRESSIVELY TAKING A NORTH-EAST DIRECTION ON A LONGER TIME SCALE. THE RSMC FORECAST THUS FORESEES A LANDING OF THE SYSTEM ON THE AFRICAN COASTS BUT WITH A TRACK TANGENT TO THE COASTS. THIS SITUATION LEAVES A WIND POTENTIAL CLOSE TO 30/35KT ALONG THE SEA COASTS BUT THE DISPERSION IN THE MODELS ABOUT THE SHIFT OF THE CENTER OF ACTION TO THE SOUTH OF THE CHANNEL LEAVES A POSSIBILITY OF A TRACK ON THE SEA, WHICH IS NOT FOLLOWED FOR THE MOMENT BY THE RSMC.

THE LANDING HAVING TAKEN PLACE EARLIER THAN EXPECTED, THE DEPRESSION WILL TRANSIT DURING THE NEXT 24 HOURS ON LAND BEFORE COMING OUT TOWARDS MAHAJANGA AT THE END OF SUNDAY MORNING. FROM SUNDAY/MONDAY, THE CONDITIONS APPEAR RATHER FAVORABLE ON THE NORTH OF THE CHANNEL FOR A DEVELOPMENT (STRONG OCEANIC POTENTIAL, GOOD MONSOON FEEDING) WITHOUT BEING HOWEVER COMPLETELY OPTIMAL BECAUSE OF AN OMNIPRESENT SHEAR. THE INTENSITY FORECAST IS QUITE FAITHFUL TO THE LAST AVAILABLE GUIDANCE, PRESENTING A POTENTIAL OF INTENSIFICATION A LITTLE MORE MARKED. A LANDING ON THE AFRICAN COASTS AT THE STAGE OF A STRONG TROPICAL STORM IS THUS EXPECTED ON MONDAY AT THE END OF THE DAY.

EXPECTED CONSEQUENCES ON INHABITED LANDS :

- OVER MADAGASCAR, THE RAINS ALREADY PRESENT WILL CONTINUE WITH

RAINFALL TOTALS OF MORE THAN 100 MM BETWEEN SAINTE-MARIE ISLAND IN THE NORTH AND MAHANORO IN THE SOUTH (SIGNIFICANTLY MORE ON THE PLATEAUS) DURING THE NEXT 24 HOURS. THE RAINS WILL CONTINUE ON SUNDAY. WIND GUSTS WILL WEAKEN.

- NORTH MOZAMBIC CHANNEL (COMOROS-MOZAMBIQUE ARCHIPELAGO):  
POTENTIALLY SIGNIFICANT RAINY AND WINDY DEGRADATION FROM SUNDAY  
(COMOROS ARCHIPELAGO) - MONDAY EVENING FOR MOZAMBIQUE.