

WTIO30 FMEE 211212

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 1/1/20212022

1.A ZONE OF DISTURBED WEATHER 1

2.A POSITION 2022/01/21 AT 1200 UTC:

WITHIN 30 NM RADIUS OF POINT 17.2 S / 55.9 E

(SEVENTEEN DECIMAL TWO DEGREES SOUTH AND  
FIFTY FIVE DECIMAL NINE DEGREES EAST)

MOVEMENT: WEST-SOUTH-WEST 19 KT

3.A DVORAK ANALYSIS: 1.5/1.5/S 0.0/24 H

4.A CENTRAL PRESSURE: 1003 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 25 KT

RADIUS OF MAXIMUM WINDS (RMW): NIL

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

NIL

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1006 HPA / 300 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: MEDIUM

1.B FORECASTS (WINDS RADII IN KM):

12H: 2022/01/22 00 UTC: 18.3 S / 52.7 E, VENT MAX= 030 KT, TROPICAL DEPRESSION  
28 KT NE: 0 SE: 110 SW: 0 NW: 0

24H: 2022/01/22 12 UTC: 17.2 S / 49.8 E, VENT MAX= 035 KT, MODERATE TROPICAL  
STORM

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

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

36H: 2022/01/23 00 UTC: 16.4 S / 48.1 E, VENT MAX= 025 KT, OVERLAND DEPRESSION

48H: 2022/01/23 12 UTC: 15.8 S / 45.9 E, VENT MAX= 020 KT, OVERLAND DEPRESSION

60H: 2022/01/24 00 UTC: 15.7 S / 43.5 E, VENT MAX= 030 KT, TROPICAL DEPRESSION

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

72H: 2022/01/24 12 UTC: 15.7 S / 41.1 E, VENT MAX= 035 KT, MODERATE TROPICAL  
STORM

28 KT NE: 130 SE: 110 SW: 0 NW: 0

34 KT NE: 100 SE: 75 SW: 0 NW: 0

2.B LONGER-RANGE OUTLOOK:

96H: 2022/01/25 12 UTC: 16.0 S / 37.1 E, VENT MAX= 020 KT, OVERLAND DEPRESSION

120H: 2022/01/26 12 UTC: 16.8 S / 33.8 E, VENT MAX= 015 KT, OVERLAND DEPRESSION

## 2.C ADDITIONAL INFORMATION:

THE CYCLONE SEASON OVER THE SOUTHWEST INDIAN OCEAN IS EXPERIENCING A PARTICULARLY LATE START. UNDER THE IMPULSE OF A SURGE OF MONSOON FLOW NORTH-EAST OF MADAGASCAR, A WEAK TROPICAL LOW PRESSURE MINIMUM HAS PROGRESSIVELY BUILT UP SINCE THE MIDDLE OF THE WEEK BETWEEN AGALEGA AND SAINT-BRANDON, ON THE NORTH-EAST EDGE OF A LARGE LOW PRESSURE AREA EXTENDING FROM THE MOZAMBIQUE CHANNEL TO THE NORTH OF THE MASCAREIGNES. CONVECTION ASSOCIATED WITH THIS SMALL LOW INTENSIFIED SLIGHTLY ON THURSDAY BUT DID NOT REALLY STRENGTHEN ON FRIDAY. THE MODERATE TO STRONG CONVECTIVE ACTIVITY IS LOCATED IN THE WESTERN SEMICIRCLE OF THE CIRCULATION, IN CONNECTION WITH THE PRESENCE OF A DEEP MODERATE EASTERLY SHEAR OF ABOUT 20KT. ASCAT DATA OF YESTERDAY EVENING SHOWED A CIRCULATION STILL VERY ELONGATED AND POORLY CLOSED IN ITS EASTERN PART, WITH WINDS REACHING 25 TO 30 KT IN THE NORTHWEST SEMICIRCLE. CONVECTION BURSTS PRESENT AT THIS TIME INTERFERED WITH THE ASCAT OF 1830Z WHERE PEAKS OF 35KT WERE PRESENT, NOT REPRESENTATIVE OF THE LOW'S CIRCULATION. THIS FRIDAY'S ASCAT DATA SHOW A CIRCULATION STILL QUITE ELONGATED ALTHOUGH A LITTLE MORE COMPACT WITH WINDS STILL OF THE ORDER OF 25KT AND VERY LOCALLY 30KT. THE LATEST SATELLITE IMAGES SUGGEST NEVERTHELESS A SLIGHTLY MORE CIRCULAR LOW LEVEL CIRCULATION SINCE THIS MORNING WITH CONVECTION A BIT LESS OFFSET FROM THE SURFACE CENTER. AVAILABLE MICROWAVE DATA (AMSR2 FROM 20 TO 2112Z, SSMIS FROM 21 TO 0108Z, AMSR2 0926Z AND GMI 0942Z) CONFIRM A SHEARED SYSTEM AND DO NOT SHOW CLEAR SIGNS OF SYMMETRIZATION. SUBJECTIVE DVORAK ANALYSIS IS TYPICAL OF A SYSTEM IN THE EARLY STAGES OF ITS LIFE AND STILL RATHER POORLY ORGANIZED, GIVING A T NUMBER OF 1.5+. THIS SYSTEM IS THUS A DISTURBED ZONE AT THE LIMIT OF THE TROPICAL DISTURBANCE WITH ESTIMATED WINDS OF 25KT, WHICH COULD REACH VERY LOCALLY THE THRESHOLD OF NEAR GALE FORCE WINDS.

IN TERMS OF TRACK FORECAST, IN THE SHORT RUN THIS SMALL SYSTEM GRAVITATES IN A CLOCKWISE DIRECTION ALONG THE PERIPHERY OF THE VAST LOW PRESSURE ZONE (OF WHICH IT CONSTITUTES A SECONDARY CORE) PRESENT BETWEEN THE MOZAMBIQUE CHANNEL AND THE VICINITY OF TROMELIN. THE APPROACH OF A SUBTROPICAL RIDGE EAST AND SOUTHEAST OF THE MASCAREIGNES CREATES A STRONG EAST-NORTHEAST STEERING FLOW CARRYING IT RAPIDLY BY SATURDAY MORNING WEST TO SOUTHWEST, THUS TRANSITING OFF THE NORTH OF THE GREAT MASCAREIGNES ON FRIDAY EVENING, PASSING AT A DISTANCE OF ABOUT 400KM NORTH OF REUNION ISLAND. ITS TRAJECTORY WILL THEN TURN WEST THEN NORTH-WEST DURING SATURDAY WHILE APPROACHING THE EAST COAST OF MADAGASCAR. THIS SMALL LOW COULD BE MORE OR LESS ABSORBED BY (OR INTERACT WITH) ANOTHER LOW-PRESSURE AREA LOCATED MORE TO THE NORTH, WHICH INDUCES A STRONG UNCERTAINTY ON THE TRACK FORECAST. THIS UNCERTAINTY IS EVEN MORE AMPLIFIED FROM SUNDAY ONWARDS WITH VERY DIFFERENT SCENARIOS ACCORDING TO FORECAST MODELS. THE EUROPEAN MODEL SOLUTION IS FAVOURED, BUT WITH A LOW LEVEL OF CONFIDENCE, COUNTING ON A CROSSING OF THE MOZAMBIQUE CHANNEL UNDER THE INFLUENCE OF AN EASTERLY STEERING FLOW ON THE NORTHERN EDGE OF A

NEW HIGH PRESSURE SYSTEM BUILDING SOUTH OF MADAGASCAR AROUND NEXT MONDAY.

IN TERMS OF INTENSITY, DESPITE GOOD UPPER LEVEL DIVERGENCE AND A VERY FAVORABLE OCEAN HEAT CONTENT AVAILABLE, CHANCES OF SHORT-TERM DEVELOPMENT ARE INHIBITED BY A MODERATE EAST-NORTHEAST SHEAR COMBINED WITH THE PRESENCE OF DRY AIR ON THE SOUTHEAST FLANK OF THE SYSTEM. MOREOVER, THE LOW LEVEL CONVERGENCE, VERY GOOD IN THE SHORT TERM ON THE SOUTH SIDE OF THE MINIMUM THANKS TO A PUSH OF TRADE WINDS AT THE MARGIN OF SUBTROPICAL HIGH PRESSURE, IS ON THE OTHER HAND LESS OPTIMAL ON THE EQUATORIAL SIDE OF THE LOW IN CONNECTION WITH THE COMPETING PRESENCE OF ANOTHER SMALL VORTEX TO NORTHEAST OF MADAGASCAR. NWP OUTPUT STRONGLY DIVERGES ON THE POSSIBLE INTENSIFICATION OF THE SYSTEM BEFORE ITS ARRIVAL OF THE SYSTEM NEAR THE MALAGASY COAST. THE RISK OF EVOLUTION INTO A MODERATE TROPICAL STORM CAN NOT BE RULED OUT EVEN IF THERE IS A HIGH UNCERTAINTY.

EXPECTED CONSEQUENCES ON INHABITED LANDS :

- STRENGTHENING OF WINDS THIS FRIDAY EVENING AND FOLLOWING NIGHT ON MAURITIUS AND REUNION ISLAND IN THE REMOTE PERIPHERY OF THE SYSTEM.
- RISK OF STRONG WINDS AND SUSTAINED THUNDERY RAINS FROM SATURDAY AFTERNOON AND SUNDAY ON MADAGASCAR NEAR THE SYSTEM'S TRACK (TAMATAVE REGION COULD BE AFFECTED).
- IMPACTS OVER MOZAMBIQUE ARE STILL VERY UNCERTAIN. DISTURBED WEATHER IS EXPECTED EARLY NEXT WEEK.