

WTIO30 FMEE 191303

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 14/11/20202021

1.A TROPICAL CYCLONE 11 (GUAMBE)

2.A POSITION 2021/02/19 AT 1200 UTC:

WITHIN 20 NM RADIUS OF POINT 24.9 S / 36.5 E

(TWENTY FOUR DECIMAL NINE DEGREES SOUTH AND
THIRTY SIX DECIMAL FIVE DEGREES EAST)

MOVEMENT: SOUTH-WEST 6 KT

3.A DVORAK ANALYSIS: 5.5/5.5/D 0.5/6 H

4.A CENTRAL PRESSURE: 953 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 85 KT

RADIUS OF MAXIMUM WINDS (RMW): 9 KM

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

28 KT NE: 315 SE: 370 SW: 295 NW: 260

34 KT NE: 260 SE: 185 SW: 65 NW: 55

48 KT NE: 35 SE: 35 SW: 40 NW: 35

64 KT NE: 30 SE: 30 SW: 20 NW: 20

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1006 HPA / 700 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2021/02/20 00 UTC: 25.4 S / 36.1 E, VENT MAX= 100 KT, INTENSE TROPICAL
CYCLONE

28 KT NE: 345 SE: 390 SW: 285 NW: 155

34 KT NE: 230 SE: 260 SW: 195 NW: 150

48 KT NE: 120 SE: 130 SW: 100 NW: 85

64 KT NE: 75 SE: 55 SW: 45 NW: 65

24H: 2021/02/20 12 UTC: 26.5 S / 36.2 E, VENT MAX= 100 KT, INTENSE TROPICAL
CYCLONE

28 KT NE: 345 SE: 360 SW: 250 NW: 220

34 KT NE: 220 SE: 240 SW: 175 NW: 175

48 KT NE: 120 SE: 120 SW: 100 NW: 100

64 KT NE: 65 SE: 35 SW: 35 NW: 75

36H: 2021/02/21 00 UTC: 28.0 S / 36.8 E, VENT MAX= 100 KT, INTENSE TROPICAL
CYCLONE

28 KT NE: 360 SE: 370 SW: 260 NW: 250

34 KT NE: 230 SE: 250 SW: 185 NW: 165

48 KT NE: 130 SE: 140 SW: 110 NW: 95
64 KT NE: 65 SE: 45 SW: 45 NW: 75

48H: 2021/02/21 12 UTC: 29.9 S / 38.5 E, VENT MAX= 095 KT, INTENSE TROPICAL CYCLONE

28 KT NE: 390 SE: 350 SW: 325 NW: 305
34 KT NE: 240 SE: 260 SW: 230 NW: 220
48 KT NE: 130 SE: 150 SW: 120 NW: 110
64 KT NE: 65 SE: 45 SW: 45 NW: 75

60H: 2021/02/22 00 UTC: 32.3 S / 42.7 E, VENT MAX= 080 KT, TROPICAL CYCLONE

28 KT NE: 470 SE: 435 SW: 405 NW: 405
34 KT NE: 285 SE: 315 SW: 295 NW: 305
48 KT NE: 140 SE: 155 SW: 155 NW: 120
64 KT NE: 75 SE: 55 SW: 45 NW: 85

72H: 2021/02/22 12 UTC: 35.3 S / 50.0 E, VENT MAX= 065 KT, POST-TROPICAL DEPRESSION

28 KT NE: 500 SE: 685 SW: 945 NW: 425
34 KT NE: 295 SE: 500 SW: 535 NW: 360
48 KT NE: 155 SE: 195 SW: 195 NW: 130
64 KT NE: 85 SE: 65 SW: 65 NW: 95

2.B LONGER-RANGE OUTLOOK:

96H: 2021/02/23 12 UTC: 39.6 S / 65.3 E, VENT MAX= 040 KT, POST-TROPICAL DEPRESSION

28 KT NE: 510 SE: 455 SW: 345 NW: 315
34 KT NE: 335 SE: 350 SW: 260 NW: 140

2.C ADDITIONAL INFORMATION:

T=CI=5.5-

OVER THE PAST 6 HOURS, GUAMBE'S EYE PATTERN HAS KEPT IMPROVING, WITH A WELL-DEFINED AND VERY SMALL EYE SURROUNDED BY INCREASINGLY SYMMETRICAL CONVECTION AROUND THE CENTER. THE CIRRUS OUTFLOW VISIBLE ON SATELLITE IMAGERY SHOWS HEALTHY UPPER-TROPOSPHERIC DIVERGENCE. TAKING INTO ACCOUNT THE VERY SMALL SIZE OF THE VORTEX WHICH INDUCES A NEGATIVE BIAS TO OBJECTIVE DVORAK ESTIMATES, WE CAN ESTIMATE A MEAN DT AROUND 5.5- ON THE LAST SATELLITE IMAGES. THE INTENSITY IS THUS SET AT 85 KT AT 1200Z.

GUAMBE CONTINUES ON ITS SOUTHWESTWARD TRACK THIS FRIDAY EVENING UNDER THE COMBINED INFLUENCES OF A RIDGE LOCATED EAST OF THE SYSTEM AND AN AXIS OF HIGH GEOPOTENTIAL BRIDGING ACROSS THE SOUTH OF THE SYSTEM TOWARDS A RIDGE LOCATED OVER SOUTHERN AFRICA. ACCORDING TO MOST NWP MODELS, THE STEERING FLOW SHOULD THEN TAKE A NORTH TO NORTHWEST COMPONENT FROM SATURDAY ONWARDS, UNDER THE INFLUENCE OF THE SUBTROPICAL RIDGE TO THE EAST OF THE SYSTEM AND THE APPROACH OF A MID-LATITUDE TROUGH FROM THE SOUTH. THIS WILL KEEP GUAMBE AWAY FROM THE COAST OF MOZAMBIQUE. OVER THE WEEKEND, THE PRESENCE OF THE DEEP MID-LATITUDE TROUGH TO THE SOUTH SHOULD ACCELERATE GUAMBE'S

MOVEMENT SOUTHEASTWARDS, BUT WITH A TIMING THAT REMAINS UNCERTAIN FROM SUNDAY ONWARDS.

THE FAVOURABLE OCEANIC AND ATMOSPHERIC ENVIRONMENT AS WELL AS THE SMALL SIZE OF THE CYCLONE'S CORE FAVOUR A RAPID INTENSIFICATION OF GUAMBE IN THE VERY SHORT RUN, MAKING IT PROBABLY REACH THE STAGE OF INTENSE TROPICAL CYCLONE BY THIS FRIDAY NIGHT. FROM SATURDAY ONWARDS, DESPITE THE STILL FAVOURABLE ENVIRONMENTAL CONDITIONS, THE OCCURRENCE OF AN EYE WALL REPLACEMENT CYCLE (ERC) IS LIKELY, WHICH COULD LIMIT ITS INTENSITY. HOWEVER, GIVEN THE LOW PREDICTABILITY OF CYCLONE INTENSITY DURING AND AFTER AN ERC, THIS FORECAST DOES NOT TAKE FULL ACCOUNT OF IT.

AT THE END OF THE FORECAST PERIOD, ON THE EDGE OF THE MID-LATITUDE TROUGH, THE NORTHWESTERLY SHEAR WILL GRADUALLY STRENGTHEN, LEADING TO WEAKENING OF THE SYSTEM. INCREASINGLY RAPID SPEED OF MOVEMENT IN THE DIRECTION OF THE SHEAR MAINTAINS UNCERTAINTY ABOUT THE TIMING OF ITS WEAKENING. AT THE END OF THE TIME SPAN, A TRANSITION TO POST-TROPICAL STATUS IS LIKELY, DEPENDING ON THE DEGREE OF INTERACTION WITH THE SUBTROPICAL JET.

EVEN IF THE PRESENT FORECAST TAKES GUAMBE SLIGHTLY MORE THAN 100KM OFF THE MOZAMBIKAN COAST, GUAMBE IS LIKELY TO SIGNIFICANTLY IMPACT THE WEATHER CONDITIONS IN SOUTHERN MOZAMBIQUE ON FRIDAY AND SATURDAY BETWEEN INHAMBANE TO THE NORTH AND XAI-XAI TO THE SOUTH. HEAVY RAINS THAT CAN REACH AND LOCALLY EXCEED 150 MM IN 24 HOURS ARE POSSIBLE IN THESE AREAS. STRONG WINDS GUSTING UP TO 100 KM/H ON THE COAST ARE POSSIBLE FROM FRIDAY.