

WTIO30 FMEE 190708

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 13/11/20202021

1.A TROPICAL CYCLONE 11 (GUAMBE)

2.A POSITION 2021/02/19 AT 0600 UTC:

WITHIN 20 NM RADIUS OF POINT 24.4 S / 36.9 E

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

MOVEMENT: SOUTH-WEST 5 KT

3.A DVORAK ANALYSIS: 5.0/5.0/S 0.0/0 H

4.A CENTRAL PRESSURE: 963 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 75 KT

RADIUS OF MAXIMUM WINDS (RMW): 9 KM

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

28 KT NE: 370 SE: 370 SW: 280 NW: 220

34 KT NE: 240 SE: 240 SW: 130 NW: 130

48 KT NE: 55 SE: 55 SW: 60 NW: 55

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

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1008 HPA / 800 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2021/02/19 18 UTC: 24.9 S / 36.1 E, VENT MAX= 095 KT, INTENSE TROPICAL  
CYCLONE

28 KT NE: 325 SE: 350 SW: 280 NW: 140

34 KT NE: 205 SE: 240 SW: 165 NW: 130

48 KT NE: 110 SE: 65 SW: 75 NW: 85

64 KT NE: 35 SE: 30 SW: 20 NW: 65

24H: 2021/02/20 06 UTC: 25.7 S / 36.0 E, VENT MAX= 100 KT, INTENSE TROPICAL  
CYCLONE

28 KT NE: 380 SE: 400 SW: 270 NW: 155

34 KT NE: 230 SE: 280 SW: 185 NW: 150

48 KT NE: 120 SE: 100 SW: 85 NW: 95

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

36H: 2021/02/20 18 UTC: 27.3 S / 36.4 E, VENT MAX= 100 KT, INTENSE TROPICAL  
CYCLONE

28 KT NE: 345 SE: 345 SW: 240 NW: 205

34 KT NE: 205 SE: 240 SW: 175 NW: 155

48 KT NE: 120 SE: 110 SW: 100 NW: 95  
64 KT NE: 75 SE: 55 SW: 55 NW: 65

48H: 2021/02/21 06 UTC: 29.0 S / 37.3 E, VENT MAX= 100 KT, INTENSE TROPICAL CYCLONE

28 KT NE: 390 SE: 360 SW: 295 NW: 285  
34 KT NE: 230 SE: 260 SW: 205 NW: 205  
48 KT NE: 130 SE: 130 SW: 100 NW: 100  
64 KT NE: 75 SE: 65 SW: 65 NW: 75

60H: 2021/02/21 18 UTC: 31.2 S / 40.2 E, VENT MAX= 090 KT, INTENSE TROPICAL CYCLONE

28 KT NE: 415 SE: 315 SW: 370 NW: 390  
34 KT NE: 250 SE: 240 SW: 230 NW: 250  
48 KT NE: 130 SE: 120 SW: 100 NW: 110  
64 KT NE: 65 SE: 55 SW: 65 NW: 75

72H: 2021/02/22 06 UTC: 34.1 S / 46.4 E, VENT MAX= 070 KT, POST-TROPICAL DEPRESSION

28 KT NE: 490 SE: 445 SW: 715 NW: 445  
34 KT NE: 280 SE: 335 SW: 435 NW: 360  
48 KT NE: 150 SE: 155 SW: 175 NW: 130  
64 KT NE: 85 SE: 75 SW: 75 NW: 95

#### 2.B LONGER-RANGE OUTLOOK:

96H: 2021/02/23 06 UTC: 38.5 S / 56.7 E, VENT MAX= 045 KT, POST-TROPICAL DEPRESSION

28 KT NE: 530 SE: 555 SW: 335 NW: 315  
34 KT NE: 305 SE: 400 SW: 285 NW: 165

#### 2.C ADDITIONAL INFORMATION:

T=CI=5.0-

OVER THE PAST 6 HOURS, GUAMBE'S EYE PATTERN HAS GRADUALLY IMPROVED ON INFRARED AND VISIBLE SATELLITE IMAGES, WITH A SMALL EYE. THE LATEST MICROWAVE IMAGES ALSO SHOW A MORE SYMMETRICAL AND BETTER STRUCTURED INNER CORE. THESE DATA CONFIRM THE PRESENCE OF A WELL-CONSOLIDATED CYCLONIC CORE, WHICH IS PROBABLY IN A RAPID INTENSIFICATION PROCESS. DVORAK ANALYSIS AVERAGED OVER THE LAST 3 HOURS IS AT 5.0-, HENCE AN INTENSITY RISEN TO THE STAGE OF A TROPICAL CYCLONE WITH WINDS ESTIMATED AT 75 KT AT 06UTC.

GUAMBE'S TRACK HAS TAKEN A TEMPORARY SOUTH-WESTERLY TURN THIS FRIDAY MORNING, UNDER THE COMBINED INFLUENCES OF A RIDGE LOCATED EAST OF THE SYSTEM AND AN AXIS OF HIGH GEOPOTENTIAL BRIDGING ACCROSS 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 TURN FROM SATURDAY ONWARDS, UNDER THE INFLUENCE OF THE SUBTROPICAL RIDGE TO THE EAST OF THE SYSTEM AND AN APPROACHING MID-LATITUDE TROUGH FROM THE SOUTH. THIS SHOULD 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 SOUTH-EASTWARDS, BUT THE TIMING OF THIS 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 SHORT RUN, MAKING IT PROBABLY REACHING THE STAGE OF INTENSE TROPICAL CYCLONE BY THIS FRIDAY EVENING. FROM SATURDAY ONWARDS, DESPITE THE STILL FAVOURABLE ENVIRONMENTAL CONDITIONS, THE OCCURRENCE OF AN EYE WALL REPLACEMENT CYCLE (ERC) IS LIKELY BY SUNDAY, WHICH COULD LIMIT ITS INTENSITY. HOWEVER, GIVEN THE LOW PREDICTABILITY OF CYCLONE INTENSITY IN THIS TYPE OF CONTEXT, 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 SHOULD GRADUALLY STRENGTHEN, LEADING TO THE WEAKENING OF THE SYSTEM. AS WITH THE TRACK THE SYSTEM'S 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 ABOUT 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.