

WTIO30 FMEE 111819

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 13/11/20182019

1.A INTENSE TROPICAL CYCLONE 11 (IDAI)

2.A POSITION 2019/03/11 AT 1800 UTC:

WITHIN 20 NM RADIUS OF POINT 17.9 S / 42.5 E

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

MOVEMENT: SOUTH-SOUTH-WEST 4 KT

3.A DVORAK ANALYSIS: 5.0/5.5/S 0.0/18 H

4.A CENTRAL PRESSURE: 958 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 90 KT

RADIUS OF MAXIMUM WINDS (RMW): 19 KM

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

28 KT NE: 200 SE: 190 SW: 220 NW: 200

34 KT NE: 160 SE: 150 SW: 150 NW: 160

48 KT NE: 80 SE: 80 SW: 90 NW: 90

64 KT NE: 60 SE: 60 SW: 60 NW: 60

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1007 HPA / 500 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS:

12H: 2019/03/12 06 UTC: 18.5 S / 42.1 E, VENT MAX= 080 KT, TROPICAL CYCLONE

24H: 2019/03/12 18 UTC: 19.2 S / 41.4 E, VENT MAX= 095 KT, INTENSE TROPICAL
CYCLONE

36H: 2019/03/13 06 UTC: 19.6 S / 40.1 E, VENT MAX= 110 KT, INTENSE TROPICAL
CYCLONE

48H: 2019/03/13 18 UTC: 19.8 S / 39.0 E, VENT MAX= 110 KT, INTENSE TROPICAL
CYCLONE

60H: 2019/03/14 06 UTC: 19.9 S / 37.8 E, VENT MAX= 105 KT, INTENSE TROPICAL
CYCLONE

72H: 2019/03/14 18 UTC: 19.8 S / 36.7 E, VENT MAX= 100 KT, INTENSE TROPICAL
CYCLONE

2.B LONGER-RANGE OUTLOOK:

96H: 2019/03/15 18 UTC: 18.8 S / 35.1 E, VENT MAX= 060 KT, OVERLAND DEPRESSION

120H: 2019/03/16 18 UTC: 18.0 S / 35.5 E, VENT MAX= 030 KT, OVERLAND DEPRESSION

2.C ADDITIONAL INFORMATION:

T=5.0 CI=5.5

OVER THE LAST 6 HOURS, THE IDAI'S EYE HAS DETERIORATED AND THE CONVECTION IS WARMER TOO. IN THIS PATTERN, THE DVORAK ANALYSIS IS SEEN DOWNWARDS LEAVING A WIND ESTIMATE OF AROUND 90KT, AT THE THRESHOLD OF AN INTENSE TROPICAL CYCLONE. THE LAST MICROWAVE IMAGES OF 1533UTC SHOW A BEGINNING OF THE REPLACEMENT CYCLE OF THE EYE WALL. THIS HELPS TO LIMIT THE IDAI'S INTENSITY, AS WELL AS THE ENERGY POTENTIAL OF THE OCEAN, WHICH HAS BEEN WELL CONSUMED DUE TO THE SLOW DISPLACEMENT OF THE SYSTEM.

IDAI MAINTAIN A TRACK TO THE SOUTHWEST WITH THE STRENGTHENING INFLUENCE OF A SUBTROPICAL RIDGE LOCATED IN THE SOUTH-WEST. FROM WEDNESDAY, THE TRACK SHOULD BEND WESTWARD. THE MAJORITY OF THE AVAILABLE MODELS ALSO SUGGEST THAT THIS TURN COULD CONTINUE ON THURSDAY, GIVING A NORTH-WESTWARD MOTION TO IDAI AT THE MOMENT OF ITS IMPACT ON THE MOZAMBICAN COASTS. THE TIMING AND LOCALISATION OF THE IMPACT THUS REMAIN RELATIVELY UNCERTAIN. LATER, MOST MODELS OFFER A RETURN TO SEA OF THE LOWLEVEL CLOCKWISE CIRCULATION THAT COULD INTENSIFY AGAIN.

ON THIS TRACK, THE ENVIRONMENTAL CONDITIONS REMAIN CONDUCIVE FOR THE SYSTEM, WHICH SHOULD CONTINUE TO STRENGTHEN, ESPECIALLY TUESDAY AND WEDNESDAY AS IT PASSES OVER AN OCEANIC GYRE CONCENTRATING HIGH ENERGY CONTENT, BASED ON DATA FROM THE PSY4 OCEAN MODEL OF MERCATOR-OCEAN. HOWEVER, EVIDENCE OF A CYCLE OF EYE WALL REPLACEMENT SUGGESTS A TEMPORARY WEAKENING OF IDAI'S INTENSITY OVER THE NEXT 24 HOURS. AFTER THE SYSTEM TRACKS UNDER THE AXIS OF AN UPPER RIDGE AND THUS BENEFITS FROM A GOOD UPPER DIVERGENCE, SO ITS INTENSIFICATION WILL BE ABLE TO RESUME DURING THE NIGHT FROM WEDNESDAY TO THURSDAY. IDAI SHOULD LAND AT THE INTENSE TROPICAL CYCLONE STAGE.

IDAI SHOULD BE A VERY DANGEROUS STORM AT THE TIME OF ITS LANDING, WHICH IS STILL FORECASTED ON FRIDAY ON THE MOZAMBICAN COASTLINE BETWEEN BEIRA AND QUELIMANE APPROXIMATELY. THE FIRST STORM SURGE ESTIMATIONS EXCEED 6M OVER THE ZAMBEZE'S DELTA AND ARE CLOSE TO 4M AROUND BEIRA AND QUELIMANE. TO THIS, WE MUST ADD A CYCLONIC SWELL ALREADY PRESENT ON THE MALAGASY AND AFRICAN COASTS WHICH WILL CONTINUE TO GROW. SATELLITE WAVE MEASUREMENTS CURRENTLY PROVIDE VALUES OF MORE THAN 7M (I.E. MAXIMUM HEIGHTS OF NEARLY 12M) NEAR IDAI. WAVES OF 12 METRES ARE EXPECTED ON THE MOZAMBICAN COASTS DURING LANDING, REACHING MAXIMUM HEIGHTS OF 20 METRES.