

WTIO30 FMEE 131851

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 19/6/20222023

1.A TROPICAL CYCLONE 6 (DINGANI)

2.A POSITION 2023/02/13 AT 1800 UTC:

WITHIN 20 NM RADIUS OF POINT 20.2 S / 73.0 E

(TWENTY DECIMAL TWO DEGREES SOUTH AND
SEVENTY THREE DECIMAL ZERO DEGREES EAST)

MOVEMENT: SOUTH-SOUTH-WEST 10 KT

3.A DVORAK ANALYSIS: 4.0/5.0/W 0.0/6 H

4.A CENTRAL PRESSURE: 975 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 70 KT

RADIUS OF MAXIMUM WINDS (RMW): 22 KM

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

28 KT NE: 140 SE: 220 SW: 280 NW: 140

34 KT NE: 110 SE: 95 SW: 150 NW: 110

48 KT NE: 35 SE: 75 SW: 70 NW: 35

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

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1009 HPA / 700 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2023/02/14 06 UTC: 21.5 S / 72.0 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM

28 KT NE: 215 SE: 335 SW: 240 NW: 130

34 KT NE: 130 SE: 195 SW: 150 NW: 85

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

24H: 2023/02/14 18 UTC: 23.8 S / 70.5 E, VENT MAX= 045 KT, MODERATE TROPICAL
STORM

28 KT NE: 250 SE: 345 SW: 240 NW: 140

34 KT NE: 140 SE: 215 SW: 165 NW: 75

36H: 2023/02/15 06 UTC: 26.4 S / 69.0 E, VENT MAX= 040 KT, MODERATE TROPICAL
STORM

28 KT NE: 220 SE: 285 SW: 280 NW: 100

34 KT NE: 120 SE: 185 SW: 140 NW: 0

48H: 2023/02/15 18 UTC: 28.5 S / 67.1 E, VENT MAX= 045 KT, POST-TROPICAL
DEPRESSION

28 KT NE: 230 SE: 280 SW: 250 NW: 150

34 KT NE: 120 SE: 185 SW: 175 NW: 100

60H: 2023/02/16 06 UTC: 29.5 S / 66.1 E, VENT MAX= 040 KT, POST-TROPICAL DEPRESSION

28 KT NE: 215 SE: 185 SW: 155 NW: 110

34 KT NE: 110 SE: 140 SW: 95 NW: 65

72H: 2023/02/16 18 UTC: 30.7 S / 67.0 E, VENT MAX= 035 KT, POST-TROPICAL DEPRESSION

28 KT NE: 220 SE: 150 SW: 130 NW: 0

34 KT NE: 110 SE: 120 SW: 85 NW: 0

2.B LONGER-RANGE OUTLOOK:

96H: 2023/02/17 18 UTC: 32.7 S / 71.0 E, VENT MAX= 025 KT, REMNANT LOW

2.C ADDITIONAL INFORMATION:

T=4.0 CI=5.0-

DURING THE LAST 6 HOURS, CYCLONE DINGANI HAS STARTED TO WEAKEN WITH A CENTER CONFIGURATION EMBEDDED IN THE MASS BUT WITH A DECREASING CONVECTION AROUND THE CENTER. MOREOVER, UNDER THE EFFECT OF THE SHEAR, THE CENTER MOVED CLOSER TO THE EDGE OF THE CDO. THIS TRANSITION PHASE TOWARDS A SHEAR SYSTEM CONFIGURATION IS CONFIRMED BY THE SSMIS MICROWAVE IMAGE FROM 1328Z WHICH SHOWS CONVECTION ESSENTIALLY IN THE SOUTHERN QUADRANT OF THE SYSTEM. MOREOVER, THE ASCAT PASS OF 1645Z HAS ALLOWED A POSITIONING OF THE CENTER AROUND 20.18S/72.95E. IN THESE CONDITIONS, THE INTENSITY OF DINGANI IS REVISED SLIGHTLY DOWNWARDS WITH WINDS AROUND 70KT.

NO CHANGE IN TERMS OF FORECAST, ALL THE MODELS NOW REMAINING IN GOOD AGREEMENT AT LEAST UNTIL WEDNESDAY. THE SYSTEM WILL CONTINUE ITS SOUTH-SOUTH-WESTERN TRACK, ACCELERATING PROGRESSIVELY AS THE SUBTROPICAL RIDGE RETREATS EASTWARD AND AS THE STEERING FLOW DESCENDS, WHEN THE SYSTEM WEAKENS MORE FRANKLY. ON THURSDAY, THE SYSTEM COULD SLOW DOWN IN A BAROMETRIC COLLAR BEFORE RESUMING A SOUTHEASTERLY MOVEMENT BY BEING PROGRESSIVELY TAKEN BACK INTO THE MID-LATITUDE CIRCULATION. AT THESE TIMES, THE CHRONOLOGY DIFFERS A LITTLE MORE BETWEEN THE DIFFERENT MODELS BUT THE CONTEXT REMAINS GLOBALLY THE SAME: A DISAPPEARANCE IN THE MID-LATITUDE CIRCULATION.

CIMSS ANALYSES SHOW THAT THE ENVIRONMENT OF DINGANI IS BEGINNING TO BE UNFAVORABLE FOR MAINTAINING ITS INTENSITY WITH THE INCREASE OF THE NORTHWEST SHEAR. THUS OVER THE NEXT 6H WITH THE MORE SOUTHERLY DISPLACEMENT, DINGANI SHOULD SHOW A WEAKENING OF ITS INTENSITY. PROGRESSIVELY DRY INTRUSIONS FROM THE NORTHERN FACADE SHOULD ALSO BE PRESENT MAKING THE ATMOSPHERIC CONDITIONS MORE HOSTILE AND LONG LASTING. IN THIS UNFAVORABLE ENVIRONMENT, DINGANI WILL ENTER A PHASE OF LASTING WEAKENING. FROM WEDNESDAY OR THURSDAY, IT COULD START TO PROGRESSIVELY LOSE ITS TROPICAL CHARACTERISTICS WHILE KEEPING A GOOD INTENSITY THANKS TO BAROCLINIC PROCESSES AT THE EDGE OF A TROUGH. THESE BAROCLINIC PROCESSES COULD EVEN ALLOW A TEMPORARY INCREASE IN

INTENSITY BY THURSDAY. BUT BETWEEN FRIDAY AND SATURDAY, IN A TOTALLY HOSTILE ENVIRONMENT, THE SYSTEM SHOULD WEAKEN DEFINITELY AND MERGE WITH THE MID-LATITUDE CIRCULATION.