

WTIO30 FMEE 151925

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 4/6/20232024

1.A MODERATE TROPICAL STORM 6 (DJOUNGOU)

2.A POSITION 2024/02/15 AT 1800 UTC:

WITHIN 30 NM RADIUS OF POINT 15.3 S / 65.0 E

(FIFTEEN DECIMAL THREE DEGREES SOUTH AND
SIXTY FIVE DECIMAL ZERO DEGREES EAST)

MOVEMENT: EAST 8 KT

3.A DVORAK ANALYSIS: 2.5/2.5/D 0.5/12 H

4.A CENTRAL PRESSURE: 1001 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 35 KT

RADIUS OF MAXIMUM WINDS (RMW): 33 KM

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

28 KT NE: 295 SE: 280 SW: 55 NW: 110

34 KT NE: 75 SE: 75 SW: 35 NW: 45

48 KT NE: 0 SE: 0 SW: 0 NW: 0

64 KT NE: 0 SE: 0 SW: 0 NW: 0

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1009 HPA / 1100 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: MEDIUM

1.B FORECASTS (WINDS RADII IN KM):

12H: 2024/02/16 06 UTC: 16.0 S / 66.8 E, VENT MAX= 040 KT, MODERATE TROPICAL
STORM

28 KT NE: 345 SE: 205 SW: 110 NW: 0

34 KT NE: 195 SE: 100 SW: 85 NW: 0

24H: 2024/02/16 18 UTC: 16.2 S / 68.8 E, VENT MAX= 045 KT, MODERATE TROPICAL
STORM

28 KT NE: 260 SE: 220 SW: 215 NW: 220

34 KT NE: 140 SE: 110 SW: 85 NW: 165

36H: 2024/02/17 06 UTC: 16.2 S / 71.1 E, VENT MAX= 040 KT, MODERATE TROPICAL
STORM

28 KT NE: 390 SE: 260 SW: 260 NW: 240

34 KT NE: 220 SE: 130 SW: 85 NW: 175

48H: 2024/02/17 18 UTC: 16.9 S / 73.9 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM

28 KT NE: 435 SE: 400 SW: 280 NW: 240

34 KT NE: 250 SE: 240 SW: 195 NW: 165

48 KT NE: 85 SE: 55 SW: 55 NW: 65

60H: 2024/02/18 06 UTC: 18.8 S / 78.1 E, VENT MAX= 065 KT, TROPICAL CYCLONE

28 KT NE: 435 SE: 315 SW: 295 NW: 280

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

48 KT NE: 100 SE: 75 SW: 75 NW: 85

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

72H: 2024/02/18 18 UTC: 21.8 S / 82.8 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM

28 KT NE: 465 SE: 305 SW: 280 NW: 280

34 KT NE: 260 SE: 155 SW: 165 NW: 175

48 KT NE: 100 SE: 75 SW: 65 NW: 65

2.B LONGER-RANGE OUTLOOK:

96H: 2024/02/19 18 UTC: 28.4 S / 91.9 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM

28 KT NE: 445 SE: 285 SW: 205 NW: 305

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

48 KT NE: 85 SE: 55 SW: 45 NW: 55

120H: 2024/02/20 18 UTC: 32.5 S / 103.2 E, VENT MAX= 040 KT, EXTRATROPICAL DEPRESSION

28 KT NE: 305 SE: 220 SW: 260 NW: 230

34 KT NE: 110 SE: 120 SW: 95 NW: 110

2.C ADDITIONAL INFORMATION:

T=CI=2.5+

OVER THE PAST 6 HOURS, THE SYSTEM'S CURVED-BAND CLOUD CONFIGURATION HAS STRENGTHENED. THE LATEST MICROWAVE IMAGES, F17 FROM 1408Z AND GPM FROM 1721Z, SHOW THE FORMATION OF AN EYE AT 37GHZ. INFRARED IMAGERY SHOWS ENHANCED CONVECTION. DVORACK'S SUBJECTIVE ANALYSIS HAS ENABLED US TO INCREASE THE T-NUMBER OVER THE LAST 12 HOURS FROM 2.0 TO 2.5+, DEFINING MAXIMUM WINDS OF THE ORDER OF 35KT. IN ADDITION, THE ASCAT PASS AT 1642Z CONFIRMS A WIND OF THE SAME STRENGTH 40MN FROM THE CENTER. THIS INTENSITY CORRESPONDS TO A MODERATE TROPICAL STORM AND THE SYSTEM WAS THEREFORE NAMED DJOUNGOU AT 1800Z BY THE MAURITIAN METEOROLOGICAL SERVICES.

IN THE SHORT TERM, MODERATE TROPICAL STORM DJOUNGOU WILL MOVE SLOWLY IN A SOUTHEASTERLY DIRECTION, DUE TO A LACK OF MID-TROPOSPHERE STEERING FLOW. AS THE SYSTEM STRENGTHENS, IT IS CARRIED ALONG BY THE GENERAL CIRCULATION AT HIGHER LEVELS, AND WILL ACCELERATE EASTWARDS UNDER THE IMPETUS OF A WESTERLY FLOW ALONG THE SOUTHERN EDGE OF THE NEAR-EQUATORIAL RIDGE, WHICH IS INCREASINGLY PRESENT. ON SATURDAY, THE SYSTEM WILL MOVE SOUTH-EASTWARDS, BETWEEN A RIDGE TO THE EAST AND A TROUGH TO THE SOUTH. ACCORDING TO THE CURRENT FORECAST, THIS CONFIGURATION COULD LEAD THE SYSTEM TO LEAVE THE SOUTH-WESTERN INDIAN OCEAN BASIN TOWARDS THE AUSTRALIAN ZONE OF RESPONSIBILITY DURING THE DAY ON MONDAY. ALL THE GUIDANCE PATTERNS ARE GROUPED INTO TWO CLASSES. ONE CLASS GROUPS FASTER, MORE NORTHERLY LOCALIZED TRACKS, THE OTHER CLASS GROUPS SLOWER, MORE SOUTHERLY LOCALIZED TRACK. COMPARED WITH THE PREVIOUS FORECAST, THE CURRENT RSMC

FORECAST IS SLOWER AND LOCATED FURTHER SOUTH, BRINGING IT CLOSER TO THE SECOND CLASS. CONFIDENCE IN THE TRACK FORECAST REMAINS MODERATE, NOTABLY DUE TO UNCERTAINTY OVER THE SYSTEM'S POSITION IN THE EARLY STAGES.

IN TERMS OF INTENSITY, THERE ARE FEW DIFFERENCES FROM THE PREVIOUS FORECAST. THE INTENSIFICATION RATE HAS BEEN REVISED SLIGHTLY HIGHER DUE TO LOWER SHEAR. HOWEVER, ENVIRONMENTAL CONDITIONS REMAIN SATISFACTORY FOR ITS DEVELOPMENT: SUFFICIENT OCEANIC POTENTIAL, LITTLE VERTICAL WIND SHEAR, GOOD SUPPLY OF MOISTURE IN THE MIDDLE LAYERS OF THE ATMOSPHERE, AND A FINE ALTITUDE DIVERGENCE MARKED BY THE PRESENCE OF AN OUTFLOW CHANNEL IN THE SOUTHERN SEMICIRCLE. LOW-LEVEL CONVERGENCE SHOULD IMPROVE FAIRLY RAPIDLY OVER THE NEXT 18-24 HOURS, AND ENVIRONMENTAL CONDITIONS SHOULD CONTINUE TO FAVOR STRENGTHENING OF THE SYSTEM TO THE PROBABLE STAGE OF A STRONG TROPICAL STORM, OR EVEN A TROPICAL CYCLONE ON SUNDAY. A SMALL SOUTHERLY CONSTRAINT IN THE MID-TROPOSPHERE SHOULD IMPACT THE METEOR AND INCREASE OVER THE WEEKEND AND COULD INHIBIT THE STRENGTHENING OF THE SYSTEM. FROM SUNDAY EVENING, THIS CONSTRAINT SHOULD BE ACCOMPANIED BY A GRADUAL DROP IN OCEANIC POTENTIAL AS THE SYSTEM MOVES OVER COOLER WATERS. ON MONDAY, ON THE EASTERN FLANK OF THE SOUTH-WESTERN TROUGH, UPPER-LEVEL SHEAR BECOMES PREDOMINANT AND EVENTUALLY INJECTS DRY AIR OVER THE LOW-LEVEL CENTER, GRADUALLY CAUSING THE SYSTEM TO LOSE ITS TROPICAL CHARACTERISTICS.

IMPACTS ON INHABITED LAND OVER THE NEXT 72 HOURS:

RODRIGUES ISLAND:

- SEA STATE GRADUALLY WORSENING TODAY, THEN MORE MARKEDLY FROM FRIDAY EVENING, WITH AVERAGE WAVES BETWEEN 4 AND 5 METERS. IMPROVEMENT ON SUNDAY, AS THE SYSTEM MOVES AWAY.