

WTIO30 FMEE 181307

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 1/7/20232024

1.A TROPICAL DISTURBANCE 7

2.A POSITION 2024/02/18 AT 1200 UTC:

WITHIN 40 NM RADIUS OF POINT 15.9 S / 52.8 E

(FIFTEEN DECIMAL NINE DEGREES SOUTH AND

FIFTY TWO DECIMAL EIGHT DEGREES EAST)

MOVEMENT: NORTH-EAST 7 KT

3.A DVORAK ANALYSIS: 1.5/1.5/D 1.5/24 H

4.A CENTRAL PRESSURE: 1005 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 25 KT

RADIUS OF MAXIMUM WINDS (RMW): NIL

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

NIL

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1006 HPA / 400 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2024/02/19 00 UTC: 15.2 S / 54.5 E, VENT MAX= 035 KT, MODERATE TROPICAL
STORM

28 KT NE: 100 SE: 155 SW: 150 NW: 140

34 KT NE: 75 SE: 130 SW: 120 NW: 75

24H: 2024/02/19 12 UTC: 14.6 S / 56.7 E, VENT MAX= 040 KT, MODERATE TROPICAL
STORM

28 KT NE: 130 SE: 165 SW: 165 NW: 95

34 KT NE: 85 SE: 130 SW: 95 NW: 55

36H: 2024/02/20 00 UTC: 14.4 S / 58.6 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM

28 KT NE: 150 SE: 120 SW: 140 NW: 140

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

48 KT NE: 45 SE: 65 SW: 35 NW: 0

48H: 2024/02/20 12 UTC: 14.8 S / 59.6 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM

28 KT NE: 155 SE: 250 SW: 220 NW: 150

34 KT NE: 100 SE: 165 SW: 130 NW: 95

48 KT NE: 45 SE: 55 SW: 35 NW: 0

60H: 2024/02/21 00 UTC: 15.6 S / 59.9 E, VENT MAX= 070 KT, TROPICAL CYCLONE

28 KT NE: 165 SE: 185 SW: 205 NW: 165
34 KT NE: 110 SE: 120 SW: 110 NW: 100
48 KT NE: 55 SE: 55 SW: 55 NW: 55
64 KT NE: 45 SE: 35 SW: 30 NW: 30

72H: 2024/02/21 12 UTC: 16.5 S / 59.7 E, VENT MAX= 075 KT, TROPICAL CYCLONE
28 KT NE: 175 SE: 215 SW: 175 NW: 155
34 KT NE: 120 SE: 130 SW: 100 NW: 95
48 KT NE: 55 SE: 65 SW: 55 NW: 45
64 KT NE: 45 SE: 35 SW: 30 NW: 30

2.B LONGER-RANGE OUTLOOK:

96H: 2024/02/22 12 UTC: 18.8 S / 58.0 E, VENT MAX= 065 KT, TROPICAL CYCLONE
28 KT NE: 195 SE: 295 SW: 230 NW: 185
34 KT NE: 130 SE: 175 SW: 140 NW: 110
48 KT NE: 55 SE: 65 SW: 35 NW: 55
64 KT NE: 30 SE: 35 SW: 0 NW: 0

120H: 2024/02/23 12 UTC: 21.3 S / 57.0 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM
28 KT NE: 195 SE: 305 SW: 230 NW: 205
34 KT NE: 130 SE: 155 SW: 140 NW: 110
48 KT NE: 50 SE: 60 SW: 60 NW: 60

2.C ADDITIONAL INFORMATION:

T=CI=1.5

THE LOW-LEVEL PRECURSOR LOCATED OFF THE EAST COAST OF MADAGASCAR OVER THE LAST FEW DAYS IS BEING MONITORED BY THE RSMC LA REUNION. ZONE OF DISTURBED WEATHER N°07-20232024 HAS CHANGED LITTLE IN TERMS OF POSITION SINCE YESTERDAY AND IS CURRENTLY MOVING NORTHEAST ALONG THE EAST COAST OF MADAGASCAR. THERE HAS BEEN A SLIGHT IMPROVEMENT IN THE SURFACE WIND STRUCTURE OVER THE LAST 36 HOURS, IF WE COMPARE THE LAST SCATTEROMETER PASSES HY-2B AT 0230 UTC AND HY-2C AT 2230 UTC. DESPITE EVERYTHING, THE LOW-LEVEL STRUCTURE REMAINS STRETCHED, WITH AVERAGE WINDS OF AROUND 20KT LOCALIZED IN THE TRADE WIND FLOW. DIFFUSIOMETRIC PASSES SSMIS-F17 AT 0236Z AND AMSR2 AT 1031Z ALSO SHOW THAT THE LOW-LEVEL CORE IS GRADUALLY BECOMING MORE SYMMETRICAL, DEMONSTRATING A GAIN IN ORGANIZATION. MOREOVER, THE ANIMATION OF THE LATEST INFRA-RED IMAGES SHOWS THAT THE LOW-LEVEL CLOUD CENTER HAS SLIPPED BENEATH THE MAIN CONVECTION, WHICH HAS BECOME MORE ACTIVE, WITH CLOUD TOPS THAT HAVE COOLED TO AROUND -80°C/-85°C. GIVEN THESE LATEST QUALITATIVE DATA AND THE CURRENT ENVIRONMENTAL POTENTIAL, WE CAN REASONABLY ASSUME THAT THE SYSTEM HAS NOW REACHED THE STAGE OF A TROPICAL DISTURBANCE FOR 25 KT.

THIS TROPICAL LOW IS SET TO TRACK INITIALLY NORTHEASTWARDS AND THEN EAST-NORTHEASTWARDS OVER THE NEXT 24 TO 36 HOURS, DRIVEN BY HIGH GEOPOTENTIAL CENTERS ON THE NEAR EQUATORIAL BELT. FOLLOWING ITS INTENSIFICATION OVER THE NEXT WEEK, THE SYSTEM SHOULD THEN GRADUALLY SLOW ITS COURSE EASTWARDS AND BE SLOWED BY THE SWELLING OF A RIDGE TO THE EAST, EXTENDING TO THE SOUTH-WEST OF THE SYSTEM, WHICH WILL CAUSE THE METEOR TO PLUNGE SOUTHWARDS AND THEN SOUTH-SOUTH-WESTWARDS

FROM WEDNESDAY. ITS FINAL TRACK, WHICH SHOULD TAKE IT AS CLOSE AS POSSIBLE TO THE MASCAREIGNES ISLANDS (REUNION AND MAURITIUS), WILL BE CLOSELY LINKED TO THE SWELLING OR DEFLATION OF THIS EASTERN RIDGE BY THURSDAY OR FRIDAY. ON THIS POINT, THE MAIN ENSEMBLE AND DETERMINIST GUIDELINES DIFFER ON THE SCENARIO TO BE FOLLOWED, RESULTING IN A VERY WIDE DISPERSION OF ENSEMBLE FORECAST MEMBERS BEYOND THE NEXT 48 HOURS. THE CURRENT RSMC TRACK FORECAST THEREFORE REMAINS RATHER UNCERTAIN, AND WILL BE REFINED OVER THE COMING DAYS.

THE SYSTEM N°07-20232024 IS CURRENTLY BENEFITING FROM EXCELLENT ENVIRONMENTAL CONDITIONS: STRONG OCEANIC HEAT POTENTIAL, HIGH MOISTURE CONTENT IN THE MID-TROPOSPHERE, WEAK MID-TROPOSPHERIC UPPER VERTICAL WIND SHEAR OF THE ORDER OF 5-10KT FROM THE SOUTH-WEST, AND GOOD UPPER DIVERGENCE MARKED BY AN EVACUATION CHANNEL IN THE SOUTHERN HALF-CIRCLE. THE ONLY PROBLEM AT THE MOMENT IS THE TEMPORARY LACK OF CONVERGENCE OF THE MONSOON FLOW WITHIN THE SYSTEM. HOWEVER, A CLOSED CIRCULATION SHOULD BE ABLE TO SET IN VERY QUICKLY OVER THE NEXT FEW HOURS, MECHANICALLY REINFORCING LOW-LEVEL VORTICITY AND, ULTIMATELY, THE CYCLOGENESIS AND INTENSIFICATION PROCESS UNTIL THURSDAY MORNING. BEYOND THIS, A MODERATE NORTHWESTERLY FLOW COULD BEGIN TO WEAKEN THE SYSTEM, ACCOMPANIED BY A DROP IN OCEANIC POTENTIAL TOWARDS THE END OF THE WEEK.

IMPACTS OVER THE NEXT 72 HOURS:

TROMELIN ISLAND:

- TOTAL SEA INCREASING BETWEEN 3 AND 4 METRES IN THE EVENING AND OVERNIGHT, EASING ON TUESDAY.
- POSSIBLE HEAVY RAINFALL OF 100 TO 150 MM IN 24 HOURS, CONCENTRATED AROUND THE COMPACT SYSTEM.
- STRONG GALE-FORCE WINDS IN THE EVENING THROUGH TO MONDAY MORNING. RAPIDLY IMPROVING WITH DISTANCE FROM THE SYSTEM.

SAINT-BRANDON ISLAND:

- RAINFALL TOTALS OF 100 TO 150 MM OVER THE NEXT 72 HOURS.
- TOTAL SEA INCREASING BETWEEN 3 AND 4 METRES ON TUESDAY, INCREASING BETWEEN 4 AND 5 METRES ON WEDNESDAY.
- POSSIBLE STRONG GALE FORCE WINDS FROM TUESDAY, BECOMING DESTRUCTIVE WITH STORM FORCE WINDS ON WEDNESDAY.