

WTIO30 FMEE 100705

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 5/4/20242025

1.A SEVERE TROPICAL STORM 4 (CHIDO)

2.A POSITION 2024/12/10 AT 0600 UTC:

WITHIN 20 NM RADIUS OF POINT 10.9 S / 60.8 E

(TEN DECIMAL NINE DEGREES SOUTH AND
SIXTY DECIMAL EIGHT DEGREES EAST)

MOVEMENT: WEST 8 KT

3.A DVORAK ANALYSIS: 3.5/3.5/D 0.5/6 H

4.A CENTRAL PRESSURE: 988 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 55 KT

RADIUS OF MAXIMUM WINDS (RMW): 46 KM

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

28 KT NE: 95 SE: 165 SW: 205 NW: 220

34 KT NE: 75 SE: 110 SW: 150 NW: 175

48 KT NE: 45 SE: 55 SW: 50 NW: 55

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1009 HPA / 600 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2024/12/10 18 UTC: 10.8 S / 59.6 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM

28 KT NE: 110 SE: 195 SW: 220 NW: 155

34 KT NE: 75 SE: 100 SW: 130 NW: 85

48 KT NE: 55 SE: 65 SW: 55 NW: 45

24H: 2024/12/11 06 UTC: 10.8 S / 58.0 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM

28 KT NE: 120 SE: 195 SW: 220 NW: 140

34 KT NE: 95 SE: 100 SW: 140 NW: 95

48 KT NE: 45 SE: 65 SW: 55 NW: 45

36H: 2024/12/11 18 UTC: 11.0 S / 56.2 E, VENT MAX= 065 KT, TROPICAL CYCLONE

28 KT NE: 120 SE: 195 SW: 205 NW: 140

34 KT NE: 95 SE: 110 SW: 130 NW: 85

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

48H: 2024/12/12 06 UTC: 11.3 S / 54.2 E, VENT MAX= 080 KT, TROPICAL CYCLONE

28 KT NE: 140 SE: 205 SW: 195 NW: 140

34 KT NE: 100 SE: 120 SW: 140 NW: 95

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

64 KT NE: 45 SE: 45 SW: 35 NW: 35

60H: 2024/12/12 18 UTC: 11.7 S / 52.1 E, VENT MAX= 075 KT, TROPICAL CYCLONE
28 KT NE: 110 SE: 175 SW: 240 NW: 165
34 KT NE: 85 SE: 100 SW: 140 NW: 110
48 KT NE: 55 SE: 65 SW: 65 NW: 65
64 KT NE: 45 SE: 45 SW: 45 NW: 35

72H: 2024/12/13 06 UTC: 12.2 S / 49.9 E, VENT MAX= 070 KT, TROPICAL CYCLONE
28 KT NE: 120 SE: 185 SW: 155 NW: 150
34 KT NE: 85 SE: 100 SW: 120 NW: 95
48 KT NE: 45 SE: 65 SW: 55 NW: 45
64 KT NE: 35 SE: 35 SW: 35 NW: 30

2.B LONGER-RANGE OUTLOOK:

96H: 2024/12/14 06 UTC: 14.0 S / 45.6 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM
28 KT NE: 0 SE: 110 SW: 110 NW: 0
34 KT NE: 0 SE: 65 SW: 85 NW: 0
48 KT NE: 0 SE: 45 SW: 0 NW: 0

120H: 2024/12/15 06 UTC: 16.0 S / 40.4 E, VENT MAX= 040 KT, MODERATE TROPICAL STORM
28 KT NE: 0 SE: 140 SW: 110 NW: 0
34 KT NE: 0 SE: 95 SW: 0 NW: 0

2.C ADDITIONAL INFORMATION:

PT=CI=3.5

OVER THE LAST 6 HOURS, THE CLOUD PATTERN IN CDO HAS NOT CHANGED MUCH. THE CENTER IS ESTIMATED TO BE IN THE SOUTHERN PART OF CDO, HELPED BY THE SAR PASS AT 0140UTC AND THE GPM PASS AT 0321UTC. THE EAST-NORTHEAST SHEAR CONTINUES TO WEAKEN, FAVORING A SLIGHT INTENSIFICATION OF THE SYSTEM. THE DVORAK ANALYSIS WOULD LEAVE A CI VALUE OF 3.5, ESTIMATING WINDS OF THE ORDER OF 50KT, WHICH IS VALIDATED BY THE LATEST SMOS PASS. THE SAR PASS GIVES A SLIGHTLY HIGHER ESTIMATE, WHICH THE RSMC FOLLOWS. WINDS AVERAGED OVER 10MIN ARE THEREFORE ESTIMATED AT 55KT AT 06UTC WITH A DVORAK ANALYSE OF 3.5, CLASSIFYING CHIDO AS A STRONG TROPICAL STORM.

IN TERMS OF TRACK, THERE WAS FAIRLY GOOD AGREEMENT BETWEEN THE MODELS UNTIL THURSDAY MORNING ON A TRACK TOWARDS THE WEST, THEN WEST-SOUTHWEST, UNDER THE EFFECT OF A POWERFUL SUBTROPICAL RIDGE TO THE SOUTH, SLIDING PROGRESSIVELY TOWARDS THE SOUTHEAST. THE DIFFERENCES ARE MAINLY DOWN TO SPEED. FROM THURSDAY EVENING ONWARDS, THE DIFFERENCES INCREASE, NOTABLY CONCERNING THE TIMING OF THE LANDFALL OVER NORTHERN MADAGASCAR, SCHEDULED FOR FRIDAY DURING THE DAY, FOLLOWED BY A RETURN TO THE MOZAMBIQUE CHANNEL. THE PREDICTED TRACK IS A COMPROMISE BETWEEN THE EPS ENSEMBLE AND THE DETERMINIST MODELS BEST SUITED TO THE INITIAL STATE. THERE IS ALSO A TENDENCY IN THE LATEST RSMC FORECAST TO STEER THE TRACK PROGRESSIVELY SOUTH-WESTWARDS AS THE SYSTEM RE-EMERGES FROM THE MOZAMBIQUE CHANNEL, BUT THERE IS CONSIDERABLE UNCERTAINTY ABOUT THE TRACK AT THESE TIMES.

IN TERMS OF INTENSITY, AGAINST A BACKDROP OF STRONG OCEANIC POTENTIAL AND GOOD LOW-LEVEL CONVERGENCE, THE SYSTEM IS CURRENTLY STILL CONSTRAINED BY AN EASTERLY TO NORTHEASTERLY SHEAR WHICH IS GRADUALLY WEAKENING. THIS SHEAR SHOULD CONTINUE TO DECREASE SLOWLY OVER THE NEXT FEW HOURS, ESPECIALLY ON THE WEST-SOUTH-WEST TRACK THE SYSTEM IS SET TO TAKE. THIS WILL ALLOW THE SYSTEM TO GRADUALLY INTENSIFY. CHIDO SHOULD THUS REACH TROPICAL CYCLONE STATUS DURING THE DAY ON WEDNESDAY. FROM THURSDAY OR FRIDAY, THE SHEAR COULD STRENGTHEN AGAIN. THE DISPERSION BETWEEN MODELS THEN BECOMES VERY SIGNIFICANT, WITH SOME SCENARIOS SUGGESTING INTENSIFICATION TO THE INTENSE TROPICAL CYCLONE STAGE ON THURSDAY, AND OTHERS HAVING DIFFICULTY GETTING BEYOND THE MODERATE TROPICAL STORM STAGE. HOWEVER, THE TREND IS TOWARDS INTENSIFICATION OVER THE COURSE OF THE ANALYSIS TIME, WITH THE SYSTEM BEING MORE OR LESS AFFECTED BY SHEAR DEPENDING ON ITS SPEED OF MOVEMENT. THE UNCERTAINTY SURROUNDING THE INTENSITY FORECAST IS THEREFORE PARTICULARLY HIGH FROM THURSDAY ONWARDS.

IMPACTS ON INHABITED LAND OVER THE NEXT 72 HOURS:

AGALEGA:

- GALE FORCE WINDS POSSIBLE ON WEDNESDAY FROM MIDDAY TO EVENING.
- RAINFALL TOTALS OF 100-200 MM POSSIBLE ON WEDNESDAY AFTERNOON AND FOLLOWING NIGHT.
- VERY ROUGH SEAS (4 TO 6-METER WAVES) FROM WEDNESDAY AFTERNOON INTO THE FOLLOWING NIGHT.

MADAGASCAR (ANTSIRANANA PROVINCE):

- GALE ARRIVAL FRIDAY 13 AT 00UTC PROBABLE. AS THE SYSTEM IS EXPECTED TO BE SMALLER THAN AVERAGE, THE AREA IMPACTED BY THE STRONG WINDS SHOULD BE FAIRLY RESTRICTED.
- LANDFALL EXPECTED DURING THE DAY ON FRIDAY 13.
- SEA: POSSIBLE ARRIVAL OF WAVES OVER 4 M ON FRIDAY 13 AT 00UTC.