

WTIO30 FMEE 141248

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 22/4/20242025

1.A INTENSE TROPICAL CYCLONE 4 (CHIDO)

2.A POSITION 2024/12/14 AT 1200 UTC:

WITHIN 20 NM RADIUS OF POINT 13.0 S / 44.2 E

(THIRTEEN DECIMAL ZERO DEGREES SOUTH AND  
FORTY FOUR DECIMAL TWO DEGREES EAST)

MOVEMENT: WEST-SOUTH-WEST 14 KT

3.A DVORAK ANALYSIS: 6.0/6.0/D 1.0/12 H

4.A CENTRAL PRESSURE: 948 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 105 KT

RADIUS OF MAXIMUM WINDS (RMW): 17 KM

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

28 KT NE: 140 SE: 165 SW: 150 NW: 120

34 KT NE: 95 SE: 100 SW: 95 NW: 75

48 KT NE: 65 SE: 65 SW: 60 NW: 55

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

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1009 HPA / 400 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2024/12/15 00 UTC: 13.2 S / 41.5 E, VENT MAX= 120 KT, VERY INTENSE TROPICAL  
CYCLONE

28 KT NE: 175 SE: 165 SW: 130 NW: 100

34 KT NE: 100 SE: 100 SW: 95 NW: 75

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

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

24H: 2024/12/15 12 UTC: 13.6 S / 38.8 E, VENT MAX= 055 KT, SEVERE TROPICAL STORM

28 KT NE: 85 SE: 150 SW: 110 NW: 55

34 KT NE: 0 SE: 85 SW: 65 NW: 0

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

36H: 2024/12/16 00 UTC: 14.4 S / 36.2 E, VENT MAX= 035 KT, MODERATE TROPICAL  
STORM

28 KT NE: 85 SE: 140 SW: 110 NW: 0

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

48H: 2024/12/16 12 UTC: 15.8 S / 34.0 E, VENT MAX= 030 KT, TROPICAL DEPRESSION

28 KT NE: 75 SE: 130 SW: 110 NW: 0

60H: 2024/12/17 00 UTC: 16.6 S / 32.0 E, VENT MAX= 020 KT, OVERLAND DEPRESSION

72H: 2024/12/17 12 UTC: 17.6 S / 30.4 E, VENT MAX= 020 KT, OVERLAND DEPRESSION

2.B LONGER-RANGE OUTLOOK:

NIL

2.C ADDITIONAL INFORMATION:

T=CI=6.0-

OVER THE LAST 6 HOURS, CHIDO'S EYE PATTERN IN INFRARED IMAGERY HAS FIRST IMPROVED BETWEEN 0600Z AND 0930Z, THEN DETERIORATED SLIGHTLY JUST BEFORE 12UTC, BUT THIS DETERIORATION APPEARS TO BE TEMPORARY. THUNDERSTORM ACTIVITY HAS REMAINED PARTICULARLY INTENSE IN THE NORTHERN EYEWALL WITHIN A VORTICAL HOT TOWER. THE 1107Z AMSR2 MICROWAVE IMAGE SHOWS A COMPACT AND VERY SOLID CONVECTIVE CORE, DESPITE A SLIGHT WEAKNESS ON ITS EASTERN SIDE. SUBJECTIVE DVORAK ANALYSIS VARIES BETWEEN 5.5 AND 6.0, WITH A FINAL T-NUMBER ESTIMATED AT 6.0-. HOWEVER, THIS ANALYSIS SEEMS TO UNDERESTIMATE THE SYSTEM'S ACTUAL INTENSITY DUE TO ITS VERY SMALL SIZE. MICROWAVE DATA SUGGEST AN INTENSITY CLOSER TO 105 KT AT 12UTC, SLIGHTLY HIGHER THAN OBJECTIVE CIMSS ESTIMATES (AIDT, SATCON) WHICH DO NOT EXCEED 95-100 KT. THE WELL-DEFINED EYE IN MICROWAVE AND VISIBLE IMAGERY ENABLES US TO CORRECTLY LOCATE THE CENTER, WHICH IS MOVING AWAY FROM MAYOTTE WHERE WINDS HAVE NOW DROPPED BELOW GALE FORCE.

FINAL MEASUREMENTS AT PAMANDZI AIRPORT (MAYOTTE) BETWEEN 07 AND 08 UTC (10 TO 11 AM LOCAL TIME) :

- MAXIMUM AVERAGE WIND SPEED OF 84 KT
- MAXIMUM GUST OF 122 KT OR 226 KM/H (ALL-TIME RECORD FOR THE STATION)
- MINIMUM PRESSURE OF 982 HPA (LOWER THAN THE 985 HPA RECORDED DURING CYCLONE KAMISY IN 1984).

THERE IS GOOD NWP AGREEMENT ON A WEST-SOUTH-WESTWARD TRACK DRIVEN BY A POWERFUL SUBTROPICAL RIDGE TO THE SOUTH THEN SOUTH-EAST. CHIDO'S CENTER IS CURRENTLY PASSING SOME 60 TO 80 KM SOUTH OF MOHELI ISLAND (COMOROS). IT WILL MAKE LANDFALL ON THE COAST OF NORTHERN MOZAMBIQUE ON SUNDAY MORNING NEAR 04Z, BEFORE MOVING OVERLAND OVER SOUTHERN AFRICA.

IN TERMS OF INTENSITY, CHIDO COULD STILL INTENSIFY SLIGHTLY BEFORE LANDFALL OVER NORTHERN MOZAMBIQUE, BENEFITING FROM EXCELLENT ENVIRONMENTAL CONDITIONS : EXCEPTIONAL OCEAN POTENTIAL (SST CLOSE TO 30C AND VERY DEEP WARM WATERS) AS WELL AS REDUCED WIND SHEAR. GIVEN ITS SMALL SIZE, ITS ALREADY SOLID INTERNAL CORE AND THE ABSENCE OF PERIPHERAL BANDS WHICH COULD HAVE LIMITED MOISURE INFLOW INTO ITS EYEWALL, CHIDO THEREFORE HAS A POSSIBILITY TO REACH OR APPROACH VERY INTENSE TROPICAL CYCLONE STAGE OVERNIGHT. AFTER LANDFALL, THE LOW-PRESSURE CIRCULATION IS EXPECTED TO WEAKEN INLAND OVER SOUTHERN

AFRICA, BUT THE WARM-CORE LOW-PRESSURE CIRCULATION COULD STILL PERSIST FAIRLY FAR INLAND, BRINGING WINDS INLAND FROM MOZAMBIQUE AND SOME DEEP CONVECTION AS FAR SOUTH AS MALAWI. DISSIPATION IS LIKELY AROUND TUESDAY NEAR EASTERN ZIMBABWE.

IMPACTS ON INHABITED LANDS IN THE NEXT 72 HOURS :

MAYOTTE : AMELIORATION CE SAMEDI SOIR.

COMOROS (SATURDAY EVENING AND FOLLOWING NIGHT):

- WIDESPREAD GALES OVER ANJOUAN AND MOHELI, STORM FORCE WINDS POSSIBLE VERY LOCALLY.
  - RAINFALL TOTALS OF 100 TO 200MM IN 12 TO 24 HOURS, LOCALLY 300MM OVER MOUNTAINOUS AREAS, WHICH MAY AFFECT ALL COMOROS ISLANDS.
  - WAVES OF 4 TO 6M OVER SOUTHERN ANJOUAN AND MOHELI.
- CONDITIONS IMPROVING ON SUNDAY.

MOZAMBIQUE (SOUTH OF THE CABO DELGADO PROVINCE, NORTH OF NAMPULA PROVINCE) :

- DANGEROUS CONDITIONS STARTING SATURDAY NIGHT AND WORSENING SUNDAY MORNING, WITH A POTENTIALLY CATASTROPHIC CYCLONIC IMPACT SOUTH OF PEMBA SUNDAY EARLY MORNING (VIOLENT WINDS SHOULD BE CONCENTRATED IN A QUITE SMALL AREA DUE TO THE CYCLONE'S SMALL SIZE).
- GALE FORCE WINDS ONSET FROM SUNDAY 00UTC. HURRICANE FORCE NEAR LANDFALL AREA SUNDAY MORNING.
- RAINFALL TOTALS OF 100 TO 200MM IN 12 TO 24H.
- HIGH TO VERY HIGH SEAS (WAVES AROUND 6 TO 10M).
- POSSIBLE STORM SURGE OF 50CM TO 1M, LOCALLY 1M TO 1M50 NEAR THE MOUTH OF RIVER LURIO (BORDER BETWEEN BOTH PROVINCES).

MALAWI (SUNDAY NIGHT INTO MONDAY) :

- RAINFALL TOTALS NEAR 100 MM OVER THE SOUTH OF THE COUNTRY.
- STRONG GUSTS OVER MOUNTAINOUS AREAS.