Direction Interrégionale de Météo-France pour l'Océan Indien
50 Boulevard du Chaudron
97490 Sainte-Clotilde
Tél : 0262 92 11 00

WTIO30 FMEE 100208
RSMC / TROPICAL CYCLONE CENTER / LA REUNION
TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 4/4/20242025
1.A MODERATE TROPICAL STORM 4 (CHIDO)

2.A POSITION 2024/12/10 AT 0000 UTC:
WITHIN 20 NM RADIUS OF POINT 11.2 S / 61.5 E
(ELEVEN DECIMAL TWO DEGREES SOUTH AND
SIXTY ONE DECIMAL FIVE DEGREES EAST)
MOVEMENT: WEST 8 KT

3.A DVORAK ANALYSIS: 3.0/3.0/D 0.5/6 H

4.A CENTRAL PRESSURE: 995 HPA
5.A MAX AVERAGE WIND SPEED (10 MN): 40 KT
RADIUS OF MAXIMUM WINDS (RMW): 35 KM

6.A EXTENSION OF WIND BY QUADRANTS (KM):
28 KT NE: 95 SE: 165 SW: 205 NW: 150
34 KT NE: 55 SE: 65 SW: 95 NW: 85

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1009 HPA / 900 KM
8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):
12H: 2024/12/10 12 UTC: 11.0 S / 60.2 E, VENT MAX= 045 KT, MODERATE TROPICAL STORM
28 KT NE: 95 SE: 150 SW: 205 NW: 130
34 KT NE: 65 SE: 75 SW: 95 NW: 75

24H: 2024/12/11 00 UTC: 10.9 S / 58.8 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM
28 KT NE: 100 SE: 155 SW: 220 NW: 110
34 KT NE: 65 SE: 75 SW: 85 NW: 65
48 KT NE: 35 SE: 45 SW: 45 NW: 45

36H: 2024/12/11 12 UTC: 10.8 S / 57.1 E, VENT MAX= 055 KT, SEVERE TROPICAL STORM
28 KT NE: 110 SE: 155 SW: 215 NW: 110
34 KT NE: 75 SE: 85 SW: 85 NW: 75
48 KT NE: 45 SE: 55 SW: 55 NW: 55

48H: 2024/12/12 00 UTC: 11.0 S / 55.2 E, VENT MAX= 065 KT, TROPICAL CYCLONE
28 KT NE: 110 SE: 175 SW: 185 NW: 100
34 KT NE: 85 SE: 95 SW: 85 NW: 65
48 KT NE: 45 SE: 45 SW: 45 NW: 45
64 KT NE: 30 SE: 30 SW: 35 NW: 35

60H: 2024/12/12 12 UTC: 11.3 S / 53.2 E, VENT MAX= 075 KT, TROPICAL CYCLONE
28 KT NE: 110 SE: 185 SW: 185 NW: 110
34 KT NE: 65 SE: 85 SW: 85 NW: 55
48 KT NE: 35 SE: 45 SW: 45 NW: 35
64 KT NE: 30 SE: 30 SW: 30 NW: 30

72H: 2024/12/13 00 UTC: 11.7 S / 51.1 E, VENT MAX= 065 KT, TROPICAL CYCLONE
28 KT NE: 150 SE: 205 SW: 185 NW: 130
34 KT NE: 65 SE: 85 SW: 85 NW: 55
48 KT NE: 35 SE: 45 SW: 45 NW: 35
64 KT NE: 30 SE: 30 SW: 30 NW: 30

2.B LONGER-RANGE OUTLOOK:
96H: 2024/12/14 00 UTC: 12.9 S / 46.7 E, VENT MAX= 045 KT, MODERATE TROPICAL STORM
28 KT NE: 150 SE: 185 SW: 185 NW: 110
34 KT NE: 75 SE: 85 SW: 75 NW: 0

120H: 2024/12/15 00 UTC: 15.4 S / 41.7 E, VENT MAX= 040 KT, MODERATE TROPICAL STORM
28 KT NE: 150 SE: 185 SW: 185 NW: 110
34 KT NE: 75 SE: 85 SW: 85 NW: 0

2.C ADDITIONAL INFORMATION:
FT=CI=3.0-

OVER THE PAST 6 HOURS, CONVECTION HAS STRONGLY INTENSIFIED AROUND THE CENTER OF THE SYSTEM, WITH COOLING OF CLOUD TOPS AND EXPANSION OF THE CDO. THE 09/2126Z GCOM-W AMSR2 MICROWAVE IMAGE SHOWS A CLEAR IMPROVEMENT OF THE INNER CONVECTIVE STRUCTURE, WITH THE FORMATION OF A PARTIAL CYAN RING IN 37GHZ. EAST-NORTHEASTERLY SHEAR HAS SLIGHTLY DECREASED BUT CONTINUES TO BE EVIDENCED BY A WESTWARD SHIFT OF THE MID-LEVEL CONVECTIVE CORE AT 89GHZ. SUBJECTIVE DVORAK ANALYSIS BASED ON MET RISES TO 3.0, WHILE DT BASED ON SHEAR OR CURVED BAND PATTERNS VARIES BETWEEN 2.5 AND 3.0. FT IS THEREFORE ESTIMATED AT 3.0-. THESE VARIOUS INDICATIONS LEAD US TO ESTIMATE THAT THE SYSTEM HAS REACHED MODERATE TROPICAL STORM STAGE, THUS NAMED CHIDO BY MAURITIUS METEOROLOGICAL SERVICES AT 00UTC. INTENSITY IS ESTIMATED AT 40 KT. CONFIDENCE ON THE POSITION IS GOOD THANKS TO RECENT MICROWAVE DATA.

IN TERMS OF TRACK FORECAST, THERE IS QUITE A GOOD AGREEMENT BETWEEN MODELS UNTIL THURSDAY MORNING, ON A WESTWARD THEN WEST-SOUTHWESTWARD MOVEMENT DRIVEN BY A POWERFUL SUBTROPICAL RIDGE TO THE SOUTH THEN SOUTH-EAST. HOWEVER, ALONG-TRACK DISPERSION IS ALREADY QUITE SUBSTANTIAL. FROM THURSDAY EVENING ONWARDS, DIFFERENCES INCREASE, NOTABLY ABOUT WHETHER OR NOT TO THE SYSTEM WILL MAKE LANDFALL OVER NORTHERN MADAGASCAR, AND THEN HOW CLOSE TO MADAGASCAR THE SYSTEM WILL MOVE INTO THE MOZAMBIQUE CHANNEL. THE FORECAST IS A COMPROMISE BETWEEN THE EPS ENSEMBLE AND THE MOST ACCURATE DETERMINIST MODELS (SOME OF AROME AND GFS RUNS). A PASSAGE CLOSE TO THE NORTHERN TIP OF MADAGASCAR IS FORECAST ON FRIDAY, THEN

INTO THE NORTHERN MOZAMBIQUE CHANNEL, BUT WITH HIGH UNCERTAINTY ABOUT THE EXACT TRACK AND ITS TIMING.

IN TERMS OF INTENSITY, DESPITE HIGH OCEANIC POTENTIAL AND GOOD LOW-LEVEL CONVERGENCE, THE SYSTEM IS STILL CONSTRAINED BY SOME MODERATE EASTERLY TO NORTH-EASTERLY WIND SHEAR. THIS SHEAR SHOULD CONTINUE TO SLOWLY EASE A BIT OVER THE NEXT HOURS, ALLOWING THE SYSTEM TO GRADUALLY INTENSIFY. CHIDO IS THUS EXPECTED TO REACH SEVERE TROPICAL STORM STAGE BY WEDNESDAY AND POSSIBLY TROPICAL CYCLONE BY THURSDAY. FROM THURSDAY OR FRIDAY, SHEAR COULD INCREASE AGAIN. THERE IS CONSIDERABLE DISPERSION AMONG VARIOUS NWP OUTPUT, WITH SOME SCENARIOS SUGGESTING UP TO INTENSE TROPICAL CYCLONE STAGE ON THURSDAY, AND OTHERS HAVING DIFFICULTY GETTING BEYOND MODERATE TROPICAL STORM STAGE, AS THE SYSTEM IS MORE OR LESS AFFECTED BY SHEAR DEPENDING ON ITS FOREWARD MOTION. THE UNCERTAINTY SURROUNDING THE INTENSITY FORECAST IS THEREFORE PARTICULARLY HIGH FROM THURSDAY ONWARDS.

IMPACTS ON AGALEGA OVER THE NEXT 72 HOURS:
- 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):
- LOW PROBABILITY OF GALE FORCE WINDS ONSET FRIDAY 13 AT 00UTC (IN CASE OF A FASTER TRACK SCENARIO). AS THE SYSTEM IS EXPECTED TO BE SMALLER THAN AVERAGE, THE AREA IMPACTED BY STRONG WINDS SHOULD BE FAIRLY LIMITED.
- SEA : POSSIBLE ARRIVAL OF WAVES OVER 4 METERS ON FRIDAY 13 AT 00UTC.