

WTIO30 FMEE 111846

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 13/8/20232024

1.A SEVERE TROPICAL STORM 8 (FILIPO)

2.A POSITION 2024/03/11 AT 1800 UTC:

WITHIN 30 NM RADIUS OF POINT 20.8 S / 35.9 E

(TWENTY DECIMAL EIGHT DEGREES SOUTH AND

THIRTY FIVE DECIMAL NINE DEGREES EAST)

MOVEMENT: WEST-SOUTH-WEST 6 KT

3.A DVORAK ANALYSIS: 4.0/4.0/D 0.5/6 H

4.A CENTRAL PRESSURE: 989 HPA

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

RADIUS OF MAXIMUM WINDS (RMW): 56 KM

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

28 KT NE: 205 SE: 315 SW: 220 NW: 150

34 KT NE: 140 SE: 205 SW: 165 NW: 120

48 KT NE: 85 SE: 95 SW: 80 NW: 85

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

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1012 HPA / 700 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2024/03/12 06 UTC: 21.8 S / 34.7 E, VENT MAX= 045 KT, MODERATE TROPICAL STORM

28 KT NE: 220 SE: 295 SW: 0 NW: 0

34 KT NE: 120 SE: 165 SW: 0 NW: 0

24H: 2024/03/12 18 UTC: 23.6 S / 33.8 E, VENT MAX= 035 KT, OVERLAND DEPRESSION

28 KT NE: 260 SE: 295 SW: 0 NW: 0

34 KT NE: 0 SE: 185 SW: 0 NW: 0

36H: 2024/03/13 06 UTC: 25.8 S / 33.7 E, VENT MAX= 040 KT, MODERATE TROPICAL STORM

28 KT NE: 240 SE: 285 SW: 165 NW: 85

34 KT NE: 130 SE: 165 SW: 75 NW: 0

48H: 2024/03/13 18 UTC: 28.1 S / 35.5 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM

28 KT NE: 315 SE: 285 SW: 230 NW: 240

34 KT NE: 165 SE: 175 SW: 175 NW: 140

48 KT NE: 75 SE: 75 SW: 55 NW: 55

60H: 2024/03/14 06 UTC: 30.8 S / 38.8 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM
28 KT NE: 370 SE: 295 SW: 335 NW: 285
34 KT NE: 195 SE: 175 SW: 175 NW: 165
48 KT NE: 85 SE: 75 SW: 65 NW: 65

72H: 2024/03/14 18 UTC: 34.0 S / 44.2 E, VENT MAX= 065 KT, POST-TROPICAL
DEPRESSION
28 KT NE: 490 SE: 360 SW: 335 NW: 390
34 KT NE: 260 SE: 220 SW: 230 NW: 240
48 KT NE: 95 SE: 75 SW: 75 NW: 55
64 KT NE: 55 SE: 45 SW: 55 NW: 45

2.B LONGER-RANGE OUTLOOK:

96H: 2024/03/15 18 UTC: 38.8 S / 55.7 E, VENT MAX= 055 KT, POST-TROPICAL
DEPRESSION
28 KT NE: 500 SE: 480 SW: 360 NW: 350
34 KT NE: 260 SE: 305 SW: 285 NW: 195
48 KT NE: 100 SE: 100 SW: 100 NW: 75

120H: 2024/03/16 18 UTC: 42.0 S / 70.4 E, VENT MAX= 035 KT, EXTRATROPICAL
DEPRESSION
28 KT NE: 415 SE: 335 SW: 185 NW: 390
34 KT NE: 205 SE: 195 SW: 110 NW: 205

2.C ADDITIONAL INFORMATION:

T=CI=4.0-

FILIPO HAS INTENSIFIED TO SEVERE TROPICAL STORM STAGE AND ITS CENTER IS NOW LOCATED LESS THAN 100 KM OFF THE COAST OF MOZAMBIQUE. OVER THE LAST 6 HOURS, THE DEGREE OF CURVATURE OF THE CURVED BAND HAS CONTINUED TO IMPROVE, EXCEEDING ONE COMPLETE TURN. AT THE HEAD OF THE CURVED BAND, A CONVECTIVE CORE HAS FORMED, AS DEPICTED BY RECENT MICROWAVE IMAGES. SUBJECTIVE DVORAK ANALYSIS, BASED ON BOTH MET AND CURVED-BAND DT, IS ESTIMATED AT 4.0-. SATCON ESTIMATES FROM 14UTC ARE AROUND 60KT AND DPRINT VARIES BETWEEN 55 AND 66KT (WINDS 1MIN). THESE DIFFERENT ELEMENTS ENABLE US TO ESTIMATE AN INTENSITY OF 55KT (10MIN WINDS). IT SHOULD BE NOTED THAT THE RADIUS OF MAXIMUM WINDS IS FAIRLY LARGE (ESTIMATED AT 30 NM), MEANING THAT THE AREA AFFECTED BY VIOLENT WINDS IS SIGNIFICANT (STORM FORCE WINDS EXTEND TO AROUND 80 KM FROM THE CENTER). THE CENTER IS LESS THAN 100 KM FROM THE MOUTH OF THE RIVER SAVE, DELIMITING THE PROVINCES OF SOFALA TO THE NORTH AND INHAMBANE TO THE SOUTH, SO GALE FORCE WINDS ARE ALREADY AFFECTING THE COASTAL FRINGE AND THE ONSET OF STORM FORCE WINDS IS IMMINENT.

FILIPO WILL KEEP TRACKING SOUTHWESTWARDS THEN SOUTHWARDS ALONG THE NORTHWESTERN EDGE OF A MID-LEVEL RIDGE WHICH IS SHIFTING TO THE SOUTH-EAST OF MADAGASCAR. THIS WILL MAKE IT TRACK ACROSS SOUTHERN MOZAMBIQUE LANDS AROUND TUESDAY. ON WEDNESDAY, THE SYSTEM SHOULD MOVE BACK OVER THE SOUTHERN MOZAMBIQUE CHANNEL, HEADING SOUTH-EAST AND ACCELERATING AS IT INTERACTS WITH THE EDGE OF A MID-LATITUDE TROUGH. IT SHOULD THEN EVACUATE DEFINITELY TOWARDS THE

SOUTHERN LATITUDES BY THE SECOND HALF OF THE WEEK.

ENVIRONMENTAL CONDITIONS ARE STILL CONDUCIVE IN THE SHORT TERM, WITH FAIRLY WEAK WIND SHEAR AND STRONG UPPER DIVERGENCE FAVORED BY AN OUTFLOW CHANNEL TO THE SOUTHEAST OF THE SYSTEM. FILIPO IS THUS STILL EXPECTED TO MAKE LANDFALL AT SEVERE TROPICAL STORM STAGE. AS THE SYSTEM EMERGES SOUTH OF MOZAMBIQUE ON WEDNESDAY, INTENSIFICATION COULD RESUME FAIRLY QUICKLY, IN A CONTEXT OF STRONG UPPER-LEVEL DIVERGENCE ON THE EDGE OF A SUBTROPICAL TROUGH AND OVER WARM WATERS NORTH OF 32S. HOWEVER, THIS INTENSIFICATION WILL DEPEND ON ITS ORGANIZATION AS IT EMERGES OVER SEA. INDEED, WITH RAPIDLY INCREASNG WIND SHEAR FROM WEDNESDAY EVENING AND THE SIGNIFICANT DECLINE OF OCEAN HEAT CONTENT ON THURSDAY EVENING, THE SYSTEM COULD MORE OR LESS RAPIDLY LOSE ITS TROPICAL CHARACTERISTICS. HOWEVER, MOST RECENT MODEL RUNS FAVOR A QUITE LATE EXTRATROPICAL TRANSITION AND A MORE SIGNIFICANT INTENSITY ENABLED BY THE SYSTEM'S RAPID MOVEMENT IN THE SAME DIRECTION AS THE WIND SHEAR. IT COULD THUS REACH TROPICAL CYCLONE INTENSITY ON THURSDAY AND THEN KEEP A VERY SIGNIFICANT INTENSITY UNTIL FRIDAY DESPITE BECOMING POST-TROPICAL.

IMPACTS EXPECTED ON INHABITED LANDS OVER THE NEXT 72 HOURS:

MOZAMBIQUE:

- LANDFALL EXPECTED LATE TONIGHT (NEAR 00UTC) OVER THE EXTREME NORTH OF INHAMBANE PROVINCE, SOUTH OF SAVE RIVER'S MOUTH AND NORTH OF VILANCULOS.
- WINDS: GALES LIKELY TO PERSIST WELL AFTER LANDFALL, ALONG THE ENTIRE SOUTHERN COASTLINE UNTIL WEDNESDAY AND THE SYSTEM'S EXIT. STORM-FORCE WINDS EXPECTED OVERNIGHT AND TOMORROW MORNING NEAR THE LANDFALL AREA.
- RAINFALL: 100-200 MM AND LOCALLY 300 MM OVER 48 HOURS, PARTICULARLY IN THE PROVINCES OF INHAMBANE AND GAZA, AND TO A LESSER EXTENT IN NEIGHBOURING PROVINCES.
- WAVES NEAR 6 M ONGOING AND UNTIL TUESDAY EVENING.
- EXPECTED SURGE OF AROUND 50CM TO 1M IN THE SOUTHERN VICINITY OF THE LANDFALL AREA.

ESWATINI AND EXTREME EASTERN SOUTH AFRICA :

- HEAVY RAINFALL ARE POSSIBLE, BUT HIGHLY DEPENDENT ON THE SYSTEM'S FINAL TRACK. ACCORDING TO THE CURRENT RSMC FORECAST, RAINFALL TOTALS SHOULD REMAIN BELOW 100 MM, BUT THIS WILL NEED TO BE CONFIRMED.