

WTIO30 FMEE 180631

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 11/7/20202021

1.A MODERATE TROPICAL STORM 7 (ELOISE)

2.A POSITION 2021/01/18 AT 0600 UTC:

WITHIN 30 NM RADIUS OF POINT 14.2 S / 56.7 E

(FOURTEEN DECIMAL TWO DEGREES SOUTH AND
FIFTY SIX DECIMAL SEVEN DEGREES EAST)

MOVEMENT: WEST-SOUTH-WEST 14 KT

3.A DVORAK ANALYSIS: 2.5/2.5/S 0.0/24 H

4.A CENTRAL PRESSURE: 994 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 35 KT

RADIUS OF MAXIMUM WINDS (RMW): NIL

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

28 KT NE: 185 SE: 425 SW: 425 NW: 270

34 KT NE: 0 SE: 185 SW: 240 NW: 110

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1007 HPA / 900 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2021/01/18 18 UTC: 14.9 S / 54.2 E, VENT MAX= 035 KT, MODERATE TROPICAL
STORM

28 KT NE: 195 SE: 315 SW: 260 NW: 165

34 KT NE: 95 SE: 155 SW: 140 NW: 140

24H: 2021/01/19 06 UTC: 15.7 S / 52.4 E, VENT MAX= 040 KT, MODERATE TROPICAL
STORM

28 KT NE: 215 SE: 240 SW: 175 NW: 155

34 KT NE: 110 SE: 100 SW: 75 NW: 110

36H: 2021/01/19 18 UTC: 16.0 S / 51.3 E, VENT MAX= 045 KT, MODERATE TROPICAL
STORM

28 KT NE: 140 SE: 205 SW: 150 NW: 65

34 KT NE: 65 SE: 95 SW: 75 NW: 45

48H: 2021/01/20 06 UTC: 16.1 S / 49.6 E, VENT MAX= 055 KT, SEVERE TROPICAL STORM

28 KT NE: 140 SE: 205 SW: 150 NW: 65

34 KT NE: 65 SE: 95 SW: 75 NW: 45

48 KT NE: 35 SE: 20 SW: 45 NW: 35

60H: 2021/01/20 18 UTC: 16.4 S / 47.0 E, VENT MAX= 020 KT, OVERLAND DEPRESSION

72H: 2021/01/21 06 UTC: 17.7 S / 44.8 E, VENT MAX= 030 KT, OVERLAND DEPRESSION
28 KT NE: 100 SE: 140 SW: 140 NW: 130

2.B LONGER-RANGE OUTLOOK:

96H: 2021/01/22 06 UTC: 19.6 S / 41.9 E, VENT MAX= 045 KT, MODERATE TROPICAL STORM

28 KT NE: 240 SE: 325 SW: 195 NW: 95

34 KT NE: 45 SE: 205 SW: 85 NW: 45

120H: 2021/01/23 06 UTC: 21.5 S / 38.0 E, VENT MAX= 075 KT, TROPICAL CYCLONE

28 KT NE: 305 SE: 325 SW: 315 NW: 220

34 KT NE: 120 SE: 165 SW: 140 NW: 95

48 KT NE: 60 SE: 60 SW: 70 NW: 60

64 KT NE: 60 SE: 60 SW: 60 NW: 60

2.C ADDITIONAL INFORMATION:

T=2.5;CI=2.5

LITTLE CHANGE IN THE CLOUD PATTERN THAT HAS REMAINED SHEARED DURING THE LAST 6 HOURS WITH A CENTER, LOCATED WITH THE HELP OF MICROWAVE IMAGERY, AT THE SOUTH-EASTERN EDGE OF THE MAIN CONVECTION. THE THUNDERSTORM ACTIVITY WAS VIGOROUS OVERNIGHT WITH VERY COLD CLOUD TOPS AND BURST OF LIGHTNING. IN THE ABSENCE OF OBJECTIVE DATA, THE INTENSITY IS LEFT AT 35 KT IN AGREEMENT WITH DVORAK'S SUBJECTIVE ANALYSES BUT BELOW THE OBJECTIVE ESTIMATES WHICH ARE NEAR 45 KT.

OVER THE NEXT FEW DAYS THE ENVIRONMENTAL CONDITIONS REMAIN AMBIVALENT. THE EASTERLY SHEAR REMAINS OMNIPRESENT WITH MID-TROPOSPHERE DRY AIR LOCATED IN THE EASTERN EDGE OF THE CIRCULATION, WHILE THE UPPER DIVERGENCE REMAINS GOOD IN THE NORTHWESTERN QUADRANT. IN THIS CONTEXT, A SLOW INTENSIFICATION OF THE SYSTEM IS EXPECTED IN AGREEMENT WITH MOST NUMERICAL GUIDANCE. FROM MONDAY EVENING, THE SHEAR CONSTRAINT COULD EASE OFF, FIRST IN THE UPPER LEVELS THEN AT THE MID-LEVELS. CONSEQUENTLY, THE DEVELOPMENT OF ELOISE COULD ACCELERATE BEFORE LADNFALL AS SUGGESTED BY SOME MODELS. THE DEGREE OF CONFIDENCE IN THIS INTENSITY PREDICTION IS LOW.

LATE THURSDAY, ELOISE SHOULD COME BACK OVER SEA ON THE MOZAMBIQUE CHANNEL. A NEW INTENSIFICATION PHASE IS AWAITED WITHIN CONDUCIVE ENVIRONMENTAL CONDITIONS.

THE SYSTEM IS EXPECTED TO KEEP ON HEADING WEST-SOUTH-WESTWARD ON THE NORTH-WESTERN SIDE OF THE LOW/MID-LEVEL SUTROPICAL RIDGE. TUESDAY, THE PASSAGE OF A TROUGH IN THE SOUTH WILL TEMPORARILY WEAKEN THE RIDGE AND COULD DRIVE A SLIGHT SOUTHWESTWARD INFLECTION OF THE TRACK. HOWEVER, THE RIDGE STRENGTHENS BACK UP AS SOON AS WEDNESDAY WHICH SOULD PREVENT ELOISE FROM SIGNIFICANTLY DIVING SOUTHWARDS. THE EURO ENSEMBLE AND DETERMINISTIC GUIDANCE DISPERSION IS WEAKER THAN NORMAL, WHICH YIELDS A GOOD CONFIDENCE IN THIS TRACK FORECAST.

THERE IS A RISK OF STRONG WINDS, FLOODS AND STORM SURGE OVER SOME COASTAL AREAS OF EASTERN MADAGASCAR MAINLY BETWEEN SAMBAVA TO THE NORTH AND TAMATAVE TO THE SOUTH. A LANDFALL AT TROPICAL CYCLONE INTENSITY REMAINS A REAL POSSIBILITY, ALTHOUGH LESS LIKELY BASED ON LATEST GUIDANCE.

KEY MESSAGES ON ASSOCIATED HAZARDS OVER MADAGASCAR:

-HEAVY RAINS: THIS IS THE MAIN DANGER ASSOCIATED WITH THIS SYSTEM. WEATHER CONDITIONS ARE EXPECTED TO DETERIORATE ALONG THE EAST COAST OF MADAGASCAR LATE MONDAY NIGHT OR TUESDAY MORNING. THOSE HEAVY RAINS WILL THEN SPREAD ON WEDNESDAY AND THURSDAY INLAND ALONG ELOISE'S TRACK AND OVER LARGE PART OF NORTH-WESTERN REGIONS OF MADAGASCAR, WHERE THE PASSAGE OF ELOISE IS EXPECTED TO ENHANCE THE MONSOON RAINS. GENERALIZED RAINFALL AMOUNT UP TO 100 MM / 24H ARE EXPECTED ON THESE AREAS REACHING MORE THAN 200 MM / 24H IN SOME PLACES.

THESE HEAVY RAINS CAN GENERATE FLASH FLOODS, WIDESPREAD FLOODINGS AND LANDSLIDES.

- STRONG WINDS: THERE IS AN INCREASING RISK OF STRONG WINDS WITH GUSTS UP TO 100 KM/H THAT CAN CAUSE DAMAGE TO LIFE AND PROPERTIES. THESE STRONG WINDS COULD START TO REACH THE COAST TUESDAY AFTERNOON OR TUESDAY NIGHT. STRONGER WINDS ARE POSSIBLE NEAR THE LANDFALL AREA DEPENDING ON THE FINAL SYSTEM INTENSITY AT THAT TIME.

- WAVE AND STORM SURGE: THE SWELL ASSOCIATED WITH THIS SYSTEM, VERY MODERATE AT LEAST INITIALLY AT 2M50-3M, WILL START TO AFFECT PORTION OF COASTAL REGIONS LATER TONIGHT OR TOMORROW. BASED ON THE CURRENT INTENSITY FORECAST AND THE ASSOCIATED UNCERTAINTIES, THE MOST LIKELY SCENARIO FOR THE TIME BEING IS BASED ON STORM SURGE OF LESS THAN 1M ALONG THE POTENTIAL LANDFALL AREA.