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WTIO30 FMEE 181224
RSMC / TROPICAL CYCLONE CENTER / LA REUNION
TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 12/7/20202021
1.A MODERATE TROPICAL STORM 7 (ELOISE)

2.A POSITION 2021/01/18 AT 1200 UTC:
WITHIN 30 NM RADIUS OF POINT 14.4 S / 54.7 E
(FOURTEEN DECIMAL FOUR DEGREES SOUTH AND
FIFTY FOUR DECIMAL SEVEN DEGREES EAST)
MOVEMENT: WEST 14 KT

3.A DVORAK ANALYSIS: 3.0/3.0/D 0.5/24 H

4.A CENTRAL PRESSURE: 993 HPA
5.A MAX AVERAGE WIND SPEED (10 MN): 40 KT
RADIUS OF MAXIMUM WINDS (RMW): NIL

6.A EXTENSION OF WIND BY QUADRANTS (KM):
28 KT NE: 280 SE: 370 SW: 390 NW: 390
34 KT NE: 150 SE: 185 SW: 185 NW: 185

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: 2021/01/19 00 UTC: 15.2 S / 53.0 E, VENT MAX= 040 KT, MODERATE TROPICAL STORM
28 KT NE: 240 SE: 270 SW: 205 NW: 175
34 KT NE: 150 SE: 140 SW: 95 NW: 140

24H: 2021/01/19 12 UTC: 15.8 S / 51.5 E, VENT MAX= 045 KT, MODERATE TROPICAL STORM
28 KT NE: 230 SE: 250 SW: 215 NW: 110
34 KT NE: 140 SE: 130 SW: 110 NW: 100

36H: 2021/01/20 00 UTC: 16.1 S / 50.2 E, VENT MAX= 055 KT, SEVERE TROPICAL STORM
28 KT NE: 230 SE: 250 SW: 215 NW: 110
34 KT NE: 140 SE: 130 SW: 110 NW: 100
48 KT NE: 65 SE: 30 SW: 45 NW: 35

48H: 2021/01/20 12 UTC: 16.3 S / 47.6 E, VENT MAX= 050 KT, OVERLAND DEPRESSION
28 KT NE: 110 SE: 95 SW: 85 NW: 120
34 KT NE: 75 SE: 45 SW: 55 NW: 110
48 KT NE: 65 SE: 35 SW: 45 NW: 35

60H: 2021/01/21 00 UTC: 17.2 S / 45.2 E, VENT MAX= 020 KT, OVERLAND DEPRESSION

72H: 2021/01/21 12 UTC: 18.5 S / 43.4 E, VENT MAX= 030 KT, TROPICAL DEPRESSION
28 KT NE: 165 SE: 150 SW: 120 NW: 110

2.B LONGER-RANGE OUTLOOK:
96H: 2021/01/22 12 UTC: 20.5 S / 40.0 E, VENT MAX= 055 KT, SEVERE TROPICAL STORM
28 KT NE: 305 SE: 400 SW: 215 NW: 220
34 KT NE: 155 SE: 240 SW: 150 NW: 85
48 KT NE: 65 SE: 65 SW: 100 NW: 35

120H: 2021/01/23 12 UTC: 22.4 S / 36.1 E, VENT MAX= 080 KT, TROPICAL CYCLONE
28 KT NE: 370 SE: 415 SW: 260 NW: 165
34 KT NE: 185 SE: 270 SW: 175 NW: 130
48 KT NE: 100 SE: 80 SW: 70 NW: 90
64 KT NE: 50 SE: 30 SW: 50 NW: 60

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

LITTLE CHANGE IN THE CLOUD PATTERN THAT HAS REMAINED SHEARED DURING THE LAST 6 HOURS WITH A CENTER, LOCATED WITH THE HELP OF THE LAST SCATSAT DATA AND THE SATELLITE 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.
THE INTENSITY IS SLIGHTLY INCREASED AT 40 KT IN AGREEMENT WITH THE LAST SCATSAT DATA AND DVORAK'S SUBJECTIVE ANALYSES.

INCREASING THE SPEED OF THE SYSTEM MOVEMENT IN THE SAME DIRECTION AS THE SHEAR HAS SLIGHTLY REDUCED THE IMPACT OF THE SHEAR ON THE SYSTEM, ALLOWING A SLIGHT INTENSIFICATION.
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 AND IN PHASE WITH THE PASSAGE OF A TROUGH IN THE SOUTH WHICH WILL TEMPORARILY WEAKEN THE RIDGE.
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.
ON TUESDAY AND WEDNESDAY, RAINFALL AMOUNT OF 200 TO 300 MM/24H OR EVEN 400 MM LOCALLY ARE EXPECTED NEAR THE LANDING ZONE, I.E. IN THE REGIONS SURROUNDING THE BAY OF ANTONGIL.
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.