

WTIO30 FMEE 210648

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 25/5/20212022

1.A TROPICAL CYCLONE 5 (EMNATI)

2.A POSITION 2022/02/21 AT 0600 UTC:

WITHIN 20 NM RADIUS OF POINT 17.9 S / 53.5 E

(SEVENTEEN DECIMAL NINE DEGREES SOUTH AND
FIFTY THREE DECIMAL FIVE DEGREES EAST)

MOVEMENT: WEST-SOUTH-WEST 6 KT

3.A DVORAK ANALYSIS: 5.0/5.5/W 0.5/12 H

4.A CENTRAL PRESSURE: 954 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 85 KT

RADIUS OF MAXIMUM WINDS (RMW): 72 KM

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

28 KT NE: 370 SE: 465 SW: 465 NW: 370

34 KT NE: 295 SE: 335 SW: 315 NW: 315

48 KT NE: 165 SE: 205 SW: 190 NW: 165

64 KT NE: 95 SE: 95 SW: 95 NW: 95

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1004 HPA / 1300 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2022/02/21 18 UTC: 19.0 S / 52.0 E, VENT MAX= 090 KT, INTENSE TROPICAL
CYCLONE

28 KT NE: 400 SE: 535 SW: 465 NW: 370

34 KT NE: 295 SE: 335 SW: 315 NW: 295

48 KT NE: 165 SE: 185 SW: 185 NW: 165

64 KT NE: 110 SE: 120 SW: 100 NW: 95

24H: 2022/02/22 06 UTC: 20.3 S / 50.2 E, VENT MAX= 100 KT, INTENSE TROPICAL
CYCLONE

28 KT NE: 425 SE: 555 SW: 465 NW: 390

34 KT NE: 295 SE: 345 SW: 295 NW: 280

48 KT NE: 150 SE: 165 SW: 165 NW: 130

64 KT NE: 95 SE: 110 SW: 95 NW: 95

36H: 2022/02/22 18 UTC: 21.6 S / 48.2 E, VENT MAX= 095 KT, INTENSE TROPICAL
CYCLONE

28 KT NE: 435 SE: 535 SW: 350 NW: 280

34 KT NE: 280 SE: 315 SW: 205 NW: 185

48 KT NE: 130 SE: 130 SW: 130 NW: 130
64 KT NE: 75 SE: 100 SW: 85 NW: 55

48H: 2022/02/23 06 UTC: 23.2 S / 46.2 E, VENT MAX= 045 KT, OVERLAND DEPRESSION
28 KT NE: 400 SE: 520 SW: 350 NW: 250
34 KT NE: 240 SE: 325 SW: 165 NW: 175

60H: 2022/02/23 18 UTC: 25.0 S / 44.0 E, VENT MAX= 040 KT, MODERATE TROPICAL
STORM
28 KT NE: 345 SE: 520 SW: 350 NW: 325
34 KT NE: 205 SE: 335 SW: 280 NW: 220

72H: 2022/02/24 06 UTC: 26.6 S / 42.5 E, VENT MAX= 040 KT, MODERATE TROPICAL
STORM
28 KT NE: 325 SE: 510 SW: 370 NW: 350
34 KT NE: 195 SE: 335 SW: 250 NW: 230

2.B LONGER-RANGE OUTLOOK:

96H: 2022/02/25 06 UTC: 31.1 S / 41.2 E, VENT MAX= 045 KT, POST-TROPICAL
DEPRESSION
28 KT NE: 490 SE: 565 SW: 415 NW: 390
34 KT NE: 280 SE: 370 SW: 305 NW: 250

120H: 2022/02/26 06 UTC: 32.5 S / 42.1 E, VENT MAX= 045 KT, POST-TROPICAL
DEPRESSION
28 KT NE: 325 SE: 665 SW: 575 NW: 510
34 KT NE: 175 SE: 455 SW: 380 NW: 325

2.C ADDITIONAL INFORMATION:

T=5.0;CI=5.5

DURING THE LAST 6 HOURS, EMNATI HAS BEEN UNDERGOING A PROCESS OF EYEWALL REPLACEMENT CYCLE (ERC), WITH A WEAKENING OF THE INITIAL INNER CORE AND A STRENGTHENING OF THE NEW OUTER CORE, AS SHOWN BY THE COMPARISON BETWEEN LATE NIGHT SSMIS PASSES AND THE PREVIOUS AMSR2 PASS. THE INNER RING IS STILL VISIBLE ON CLASSICAL SATELLITE IMAGERY, BUT THE MAXIMUM WINDS ARE NOW PROBABLY LOCATED IN THE NEW OUTER RING. THE RADIUS OF MAXIMUM WINDS HAS BEEN INCREASED ACCORDINGLY AS WELL AS THE EXTENSION OF STRONG WINDS AT THE CYCLONE'S PERIPHERY. OBJECTIVE INTENSITY ESTIMATES SHOW A SLIGHT DECREASE SINCE YESTERDAY 18UTC, CONSISTENT WITH THE ERC PROCESS. A SMAP PASS AT 0223Z SHOWS WINDS AT 78KT AND CONFIRMS THE BROADENING OF RMW. THE CYCLONE'S INTENSITY IS THUS ESTIMATED AT 85KT, MAKING EMNATI TEMPORARILY GO BACK DOWN TO TROPICAL CYCLONE STAGE.

IN THE SHORT RUN, EMNATI'S TRACK FOLLOWS A GENERAL WEST-SOUTH-WEST DIRECTION UNDER THE EFFECT OF THE SUBTROPICAL RIDGE TO THE SOUTH THEN SOUTH-EAST OF THE SYSTEM. MODEL GUIDANCE SHOWS A STRONG DISPERSION CONCERNING THE LATITUDE OF LANDFALL OVER MADAGASCAR ON TUESDAY EVENING. TO PARTLY TAKE INTO ACCOUNT THE GFS/GEFS MODEL MAKING THE CYCLONE PASS MUCH FURTHER SOUTH THAN THE EUROPEAN GUIDANCE, THE

TRACK HAS BEEN SLIGHTLY SHIFTED SOUTHWARDS. WITH THE SHIFT OF THE SUBTROPICAL RIDGE TO THE SOUTH-EAST OF THE SYSTEM, EMNATI SHOULD CROSS THE SOUTH OF MADAGASCAR ON A SOUTH-WESTERN TRACK, TO EMERGE OFF THE SOUTH OF THE ISLAND ON WEDNESDAY EVENING. BACK OVER SEA, EMNATI WILL FOLLOW A WEAKNESS OF THE HIGH GEOPOTENTIALS TO THE SOUTH AND TURN MORE SHARPLY SOUTHWARD TOWARDS THE MID-LATITUDES WHILE SLOWING DOWN ITS MOVEMENT.

IN TERMS OF INTENSITY, ENVIRONMENTAL CONDITIONS REMAIN VERY FAVORABLE WITH LOW SHEAR AND VERY GOOD UPPER DIVERGENCE. HOWEVER, DUE TO THE ONGOING EYEWALL REPLACEMENT CYCLE, EMNATI IS EXPECTED TO STALL IN INTENSITY IN THE VERY SHORT TERM BEFORE SLOWLY STRENGTHENING AGAIN AS IT MOVES TOWARDS THE COAST OF MADAGASCAR ON TUESDAY. EMNATI SHOULD THUS RE-INTENSIFY TO THE STAGE OF INTENSE TROPICAL CYCLONE UNTIL ITS LANDFALL ON MADAGASCAR TUESDAY EVENING. ON WEDNESDAY NIGHT AND THURSDAY, EMNATI IS EXPECTED TO EMERGE AT SEA IN A WEAKENED STATE AND IS EXPECTED TO UNDERGO A SHORT-LIVED AND LIMITED RE-INTENSIFICATION PHASE BEFORE EVOLVING INTO A POST-TROPICAL SYSTEM BY MOVING OVER COLDER WATERS AND UNDER THE INFLUENCE OF INCREASING WIND SHEAR AND DRY AIR ADVECTION OVER THE NORTH OF THE CIRCULATION.

EXPECTED IMPACTS ON INHABITED LANDS :

- REUNION ISLAND : DISTURBED WEATHER REMAINING THIS MONDAY IN THE WAKE OF THE CYCLONE WHICH IS MOVING AWAY VERY SLOWLY. MAXIMUM GUSTS OF 100-120 KM/H ON THE COAST, 120-140 KM/H IN THE HIGHLANDS, LOCALLY HEAVY RAINFALL AND HIGH SWELL ON THE NORTH OF THE ISLAND. IMPROVING CONDITIONS THEN ON TUESDAY.

- MADAGASCAR : EMNATI IS A DANGEROUS CYCLONE WHICH SHOULD MAKE LANDFALL ON TUESDAY EVENING AT THE STAGE OF AN INTENSE TROPICAL CYCLONE, THUS POSING A VERY SERIOUS THREAT FOR THE LANDFALL AREA, WHICH LOCATION IS STILL UNCERTAIN. THE MOST PROBABLE IMPACTED AREA HAS BEEN SHIFTED FURTHER SOUTH AND SEEMS TO BE LOCATED BETWEEN NOSY VARIKA AND FARAFANGANA (FIANARANTSOA PROVINCE). INHABITANTS ARE INVITED TO FOLLOW WITH ATTENTION THE EVOLUTION OF THIS SYSTEM AND TO FOLLOW AUTHORITIES RECOMMENDATIONS.