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

0.A WARNING NUMBER: 35/5/20242025
1.A TROPICAL CYCLONE 5 (DIKELEDI)

2.A POSITION 2025/01/15 AT 1200 UTC:
WITHIN 20 NM RADIUS OF POINT 23.7 S / 41.7 E
(TWENTY THREE DECIMAL SEVEN DEGREES SOUTH AND
FORTY ONE DECIMAL SEVEN DEGREES EAST)
MOVEMENT: SOUTH-SOUTH-EAST 21 KT

3.A DVORAK ANALYSIS: 4.5/4.5/D 0.5/6 H

4.A CENTRAL PRESSURE: 967 HPA
5.A MAX AVERAGE WIND SPEED (10 MN): 70 KT
RADIUS OF MAXIMUM WINDS (RMW): 26 KM

6.A EXTENSION OF WIND BY QUADRANTS (KM):
28 KT NE: 390 SE: 280 SW: 95 NW: 230
34 KT NE: 260 SE: 205 SW: 65 NW: 110
48 KT NE: 100 SE: 85 SW: 50 NW: 65
64 KT NE: 45 SE: 35 SW: 0 NW: 0

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1001 HPA / 400 KM
8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):
12H: 2025/01/16 00 UTC: 27.0 S / 43.4 E, VENT MAX= 100 KT, INTENSE TROPICAL CYCLONE
28 KT NE: 370 SE: 220 SW: 120 NW: 220
34 KT NE: 250 SE: 140 SW: 85 NW: 100
48 KT NE: 100 SE: 85 SW: 45 NW: 45
64 KT NE: 55 SE: 45 SW: 30 NW: 30

24H: 2025/01/16 12 UTC: 30.1 S / 46.7 E, VENT MAX= 095 KT, INTENSE TROPICAL CYCLONE
28 KT NE: 370 SE: 205 SW: 130 NW: 215
34 KT NE: 215 SE: 120 SW: 75 NW: 100
48 KT NE: 100 SE: 75 SW: 55 NW: 65
64 KT NE: 55 SE: 55 SW: 35 NW: 35

36H: 2025/01/17 00 UTC: 32.4 S / 51.3 E, VENT MAX= 075 KT, TROPICAL CYCLONE
28 KT NE: 380 SE: 195 SW: 150 NW: 240
34 KT NE: 195 SE: 110 SW: 85 NW: 120
48 KT NE: 100 SE: 75 SW: 55 NW: 55

64 KT NE: 55 SE: 55 SW: 35 NW: 35

48H: 2025/01/17 12 UTC: 33.9 S / 57.1 E, VENT MAX= 055 KT, SEVERE TROPICAL STORM
28 KT NE: 380 SE: 220 SW: 185 NW: 240
34 KT NE: 185 SE: 130 SW: 120 NW: 120
48 KT NE: 95 SE: 75 SW: 65 NW: 55

60H: 2025/01/18 00 UTC: 34.5 S / 62.9 E, VENT MAX= 050 KT, POST-TROPICAL DEPRESSION
28 KT NE: 350 SE: 175 SW: 205 NW: 280
34 KT NE: 175 SE: 110 SW: 120 NW: 150
48 KT NE: 95 SE: 55 SW: 45 NW: 55

72H: 2025/01/18 12 UTC: 34.6 S / 67.0 E, VENT MAX= 045 KT, POST-TROPICAL DEPRESSION
28 KT NE: 325 SE: 140 SW: 155 NW: 240
34 KT NE: 150 SE: 85 SW: 95 NW: 120

2.B LONGER-RANGE OUTLOOK:
96H: 2025/01/19 12 UTC: 33.9 S / 72.3 E, VENT MAX= 040 KT, POST-TROPICAL DEPRESSION
28 KT NE: 195 SE: 165 SW: 130 NW: 120
34 KT NE: 75 SE: 110 SW: 0 NW: 0

2.C ADDITIONAL INFORMATION:
NOTE : THE SYSTEM'S PAST BEST-TRACK HAS BEEN UPDATED, DOWNGRADING ITS INTENSITY TO MODERATE TROPICAL STORM AS IT PASSED SOUTH OF MAYOTTE ON SUNDAY 12TH AND WHILE IT CAME OFF THE MOZAMBICAN COAST ON TUESDAY 14TH, BASED ON AFTERHAND ANALYSIS OF VARIOUS DATA (ASCAT, SMAP).

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T=CI=4.5

OVER THE PAST 6 HOURS, DIKELEDI HAS GRADUALLY ADOPTED AN EYE PATTERN, FIRST IN VISIBLE IMAGERY, THEN IN INFRARED IMAGERY AROUND 12UTC, WITH CONVECTION BECOMING MORE SYMMETRICAL. THE 1055Z GCOMW AMSR2 PASS CONFIRMS THIS IMPROVEMENT IN STRUCTURE. THE RADIUS OF MAXIMUM WINDS SEEMS TO BE CONTRACTING AND HAS BEEN ESTIMATED AT 14MN. THE DVORAK T-NUMBER CAN BE ESTIMATED AT 4.5 AND THE SYSTEM'S MAXIMUM WINDS CAN BE ESTIMATED AT 70KT, MAINLY IN THE EASTERN SEMI-CIRCLE, MAKING THE SYSTEM REACH TROPICAL CYCLONE STAGE. BESIDES, THE 0616Z ASCAT-C PASS CONFIRMED THE INTENSITY PREVIOUSLY ESTIMATED AT 06Z (60KT). THE SYSTEM PASSED 80KM EAST OF THE ISLAND OF EUROPA BETWEEN 07 AND 08Z, WHICH WAS AFFECTED BY THE PASSAGE OF THE NEAR-GALE FORCE WINDS AT MIDDAY WITH AVERAGE WINDS REACHING UP TO 29KT. THE CENTER OF THE CYCLONE IS CURRENTLY JUST UNDER 200KM OFF THE COAST OF MADAGASCAR, AND ITS MOVEMENT HAS ACCELERATED.

THE SYSTEM'S MOVEMENT IS DRIVEN BY THE MID-TROPOSPHERE STEERING FLOW BETWEEN A RIDGE TO THE EAST AND A TROUGH CIRCULATING FURTHER SOUTH. THERE ARE RELATIVELY LOW UNCERTAINTIES ON THE OVERALL TRACK SHAPE,

PASSING ABOUT 150 KM OFF THE MALAGASY COAST. HOWEVER, THERE REMAINS SOME QUITE HIGH ALONG-TRACK DISPERSION, DUE TO UNCERTAINTY ABOUT THE SPEED OF MOVEMENT. THE RSMC FORECAST IS QUITE CLOSE TO THE ECMWF MODEL SCENARIO, WHICH IS A BIT FASTER AND MORE CLOSELY ALIGNED WITH THE INITIAL MOVEMENT. DIKELEDI SHOULD EVACUATE SOUTH OF 30S LATITUDE BY THURSDAY EVENING, AND WILL NO LONGER POSE ANY THREAT TO INHABITED LANDS FROM THEN ON.

IN TERMS OF INTENSITY, DIKELEDI IS BENEFITING FROM HIGH OCEANIC HEAT CONTENT UNTIL THURSDAY, COUPLED WITH GOOD ENVIRONMENTAL CONDITIONS : WIND SHEAR IS BECOMING LOW TONIGHT WHILE THE SYSTEM IS PASSING UNDER THE UPPER RIDGE UNTIL THURSDAY MORNING, THUS BENEFITING FROM GOOD UPPER-LEVEL DIVERGENCE. RAPID INTENSIFICATION UP TO INTENSE TROPICAL CYCLONE STAGE IS THUS EXPECTED IN THE NEXT 24 HOURS. HOWEVER, THIS INTENSITY FORECAST REMAINS RATHER UNCERTAIN, WITH HIGH DISPERSION AMONG NWP MODELS. IN ADDITION, THE EVENTUALITY OF AN EYEWALL REPLACEMENT CYCLE COULD CAUSE THE INTENSITY TO FLUCTUATE. FROM THURSDAY ONWARDS, WESTERLY WIND SHEAR SHOULD GRADUALLY STRENGTHEN, BECOMING MORE IMPACTFUL FROM THURSDAY NIGHT INTO FRIDAY, LIKELY CAUSING DRY AIR INTRUSIONS. THIS INCREASING WIND SHEAR COMBINED WITH COOLER WATERS FROM FRIDAY SHOULD WEAKEN AND ASYMMETRIZE THE SYSTEM, MAKING IT BECOME POST-TROPICAL BY THE END OF THE WEEK.

IMPACTS ON INHABITED LANDS :

EUROPA :
- VERY ROUGH SEAS WITH WAVES BETWEEN 4 AND 5M. IMPROVEMENT TONIGHT.

SOUTHWEST MADAGASCAR (TOLIARA PROVINCE) :
- GALE FORCE WINDS ONGOING AND EXPECTED UNTIL THURSDAY EARLY MORNING.
- CUMULATIVE RAINFALL NEAR 100MM IN 24H ALONG THE COAST.
- VERY ROUGH SEAS WITH AVERAGE WAVES BETWEEN 4 AND 6M. MAXIMUM WAVES OF 10-12M POSSIBLE. IMPROVEMENT ON THURSDAY.
- RESIDENTS ARE INVITED TO KEEP INFORMED OF WEATHER FORECASTS THROUGH THEIR NATIONAL WEATHER SERVICE.