

WTIO30 FMEE 150034

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 16/2/20232024

1.A TROPICAL CYCLONE 2 (BELAL)

2.A POSITION 2024/01/15 AT 0000 UTC:

WITHIN 20 NM RADIUS OF POINT 20.3 S / 54.3 E

(TWENTY DECIMAL THREE DEGREES SOUTH AND  
FIFTY FOUR DECIMAL THREE DEGREES EAST)

MOVEMENT: EAST-SOUTH-EAST 6 KT

3.A DVORAK ANALYSIS: 5.0/5.0/D 0.5/12 H

4.A CENTRAL PRESSURE: 966 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 80 KT

RADIUS OF MAXIMUM WINDS (RMW): 41 KM

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

28 KT NE: 220 SE: 240 SW: 185 NW: 195

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

48 KT NE: 100 SE: 110 SW: 100 NW: 95

64 KT NE: 65 SE: 65 SW: 65 NW: 55

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1009 HPA / 1000 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS (WINDS RADII IN KM):

12H: 2024/01/15 12 UTC: 21.4 S / 55.8 E, VENT MAX= 080 KT, TROPICAL CYCLONE

28 KT NE: 250 SE: 260 SW: 220 NW: 175

34 KT NE: 150 SE: 150 SW: 150 NW: 100

48 KT NE: 75 SE: 95 SW: 95 NW: 65

64 KT NE: 55 SE: 55 SW: 55 NW: 45

24H: 2024/01/16 00 UTC: 21.9 S / 57.2 E, VENT MAX= 075 KT, TROPICAL CYCLONE

28 KT NE: 285 SE: 280 SW: 240 NW: 205

34 KT NE: 165 SE: 165 SW: 155 NW: 120

48 KT NE: 85 SE: 95 SW: 85 NW: 55

64 KT NE: 55 SE: 45 SW: 55 NW: 45

36H: 2024/01/16 12 UTC: 22.4 S / 58.9 E, VENT MAX= 075 KT, TROPICAL CYCLONE

28 KT NE: 305 SE: 270 SW: 270 NW: 215

34 KT NE: 175 SE: 165 SW: 155 NW: 120

48 KT NE: 75 SE: 95 SW: 85 NW: 55

64 KT NE: 65 SE: 45 SW: 55 NW: 45

48H: 2024/01/17 00 UTC: 22.5 S / 60.5 E, VENT MAX= 075 KT, TROPICAL CYCLONE  
28 KT NE: 285 SE: 325 SW: 250 NW: 240  
34 KT NE: 165 SE: 195 SW: 175 NW: 140  
48 KT NE: 75 SE: 95 SW: 95 NW: 55  
64 KT NE: 45 SE: 45 SW: 45 NW: 45

60H: 2024/01/17 12 UTC: 22.4 S / 61.8 E, VENT MAX= 070 KT, TROPICAL CYCLONE  
28 KT NE: 260 SE: 270 SW: 240 NW: 205  
34 KT NE: 150 SE: 155 SW: 155 NW: 110  
48 KT NE: 75 SE: 95 SW: 85 NW: 75  
64 KT NE: 55 SE: 45 SW: 55 NW: 45

72H: 2024/01/18 00 UTC: 22.2 S / 62.8 E, VENT MAX= 065 KT, TROPICAL CYCLONE  
28 KT NE: 240 SE: 295 SW: 240 NW: 195  
34 KT NE: 140 SE: 185 SW: 165 NW: 120  
48 KT NE: 65 SE: 95 SW: 85 NW: 65  
64 KT NE: 45 SE: 45 SW: 45 NW: 45

#### 2.B LONGER-RANGE OUTLOOK:

96H: 2024/01/19 00 UTC: 21.6 S / 62.8 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM  
28 KT NE: 165 SE: 215 SW: 185 NW: 120  
34 KT NE: 95 SE: 140 SW: 110 NW: 75  
48 KT NE: 65 SE: 75 SW: 65 NW: 45

120H: 2024/01/20 00 UTC: 21.8 S / 61.8 E, VENT MAX= 060 KT, SEVERE TROPICAL STORM  
28 KT NE: 165 SE: 175 SW: 150 NW: 120  
34 KT NE: 100 SE: 120 SW: 110 NW: 75  
48 KT NE: 60 SE: 80 SW: 70 NW: 60

#### 2.C ADDITIONAL INFORMATION:

FT=CI=5.0-

OVER THE LAST 6 HOURS, CONVECTION INITIALLY INTENSIFIED UNTIL 22UTC, THEN THE CLOUD PATTERN BEGAN DETERIORATING JUST BEFORE 00UTC. THE CYCLONE'S STRUCTURE BECAME MORE ASYMMETRICAL, PROBABLY UNDER THE EFFECT OF WEST-SOUTHWESTERLY SHEAR, WITH CONVECTIVE ACTIVITY VERY MARKED IN THE SOUTHEAST SEMICIRCLE BUT WEAKER ON THE NORTHWEST SIDE. RADIAL VELOCITY DATA FROM THE COLORADO RADAR SHOW WINDS CLOSE TO 90-95KT AT 2000M ABOVE SEA LEVEL IN THE SOUTHERN EYEWALL, SUGGESTING WINDS CLOSE TO 80KT AT THE SURFACE. ON THE OTHER HAND, WINDS ARE TENDING TO WEAKEN ON THE NORTH SIDE.

BELAL CONTINUES ON AN EAST-SOUTHEASTWARD TO SOUTHEASTWARD TRACK, WHICH SHOULD LEAD TO LANDFALL ON REUNION ISLAND THIS MONDAY SHORTLY AFTER 06UTC. THIS MOVEMENT WILL CONTINUE UNTIL TUESDAY, AS THE NEAR-EQUATORIAL RIDGE TO THE NORTHEAST OF THE SYSTEM STRENGTHENS. AT THE END OF THE WEEK, WITH A NEW RIDGE SWELLING TO THE WEST AND SOUTH-WEST OF THE SYSTEM, MORE CONTRADICTORY STEERING FLOWS SHOULD LEAD TO A SLOWER MOTION : A QUASI-STATIONNARY PHASE OR EVEN A SLIGHT WESTWARD DRIFT IS EXPECTED, WHILE REMAINING IN THE TROPICS.

THE SLIGHTLY INCREASING WEST-SOUTH-WESTERLY SHEAR IS EXPECTED TO

LEVEL OFF INTENSITY BEFORE LANDFALL ON REUNION: IT IS NO LONGER FORECAST TO BE AT INTENSE TROPICAL CYCLONE STAGE. THIS WIND SHEAR AS WELL AS LAND INTERACTION WITH REUNION'S HIGH GROUNDS SHOULD LEAD TO RELATIVE WEAKENING OF THE SYSTEM BY MONDAY EVENING. IN THE LONGER TERM, THE SHEAR COULD WEAKEN. OVER STILL-WARM WATERS, BELAL COULD CONTINUE TO EVOLVE AT SIGNIFICANT INTENSITY. HOWEVER, ITS QUASI-STATIONARY PHASE AT THE END OF THE WEEK COULD REDUCE ITS OCEANIC POTENTIAL AND WEAKEN IT SOMEWHAT.

EXPECTED IMPACTS ON REUNION AND MAURITIUS OVER THE NEXT 72 HOURS :

REUNION:

- ONGOING GALE FORCE WINDS, ONSET OF STORM FORCE EARLY THIS MONDAY MORNING, WITH A HIGH LIKELIHOOD OF HURRICANE FORCE WINDS ON MONDAY. END OF GALE FORCE WINDS ON MONDAY NIGHT.
- HEAVY RAINFALL TOTALS OF AROUND 200-400MM IN 24HRS OVER LOW-LYING AREAS AND AROUND 1000-1500MM IN 24HRS OVER HIGH GROUNDS BY MONDAY EVENING.
- WAVES AROUND 8M ON MONDAY. THE HIGHEST WAVES COULD REACH TWICE THESE HEIGHTS.
- A STORM SURGE NEAR 50CM IS EXPECTED.

MAURITIUS :

- THE ISLAND OF MAURITIUS IS NO LONGER IN THE CONE OF UNCERTAINTY OF THE TRACK, REMOVING THE SCENARIO OF A POSSIBLE DIRECT IMPACT.
- GALE FORCE WINDS LIKELY MONDAY EVENING.
- HEAVY RAINFALL AROUND 100MM IN 24HRS BETWEEN MONDAY AND THE FOLLOWING NIGHT.
- WAVES IN EXCESS OF 6M THIS MONDAY.