

WTIO30 FMEE 091301

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

0.A WARNING NUMBER: 25/4/20162017

1.A SEVERE TROPICAL STORM 4 (CARLOS)

2.A POSITION 2017/02/09 AT 1200 UTC:

WITHIN 30 NM RADIUS OF POINT 24.6 S / 54.0 E

(TWENTY FOUR DECIMAL SIX DEGREES SOUTH AND FIFTY FOUR DECIMAL ZERO DEGREES EAST)

MOVEMENT : SOUTH-SOUTH-EAST 7 KT

3.A DVORAK ANALYSIS: 3.5/4.5/W 1.0/6 H

4.A CENTRAL PRESSURE: 978 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 60 KT

RADIUS OF MAXIMUM WINDS (RMW) :NIL

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

28 KT NE: 260 SE: 200 SW: 150 NW: 90

34 KT NE: 160 SE: 150 SW: 70 NW: 60

48 KT NE: 60 SE: 60 SW: 40 NW: 0

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1007 HPA / 600 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION : DEEP

1.B FORECASTS:

12H: 2017/02/10 00 UTC: 26.3 S / 55.9 E, MAX WIND=045 KT, MODERATE TROPICAL STORM

24H: 2017/02/10 12 UTC: 28.1 S / 58.2 E, MAX WIND=045 KT, POST-TROPICAL DEPRESSION

36H: 2017/02/11 00 UTC: 29.4 S / 61.3 E, MAX WIND=045 KT, POST-TROPICAL DEPRESSION

48H: 2017/02/11 12 UTC: 30.2 S / 64.3 E, MAX WIND=040 KT, POST-TROPICAL DEPRESSION

60H: 2017/02/12 00 UTC: 30.4 S / 64.5 E, MAX WIND=040 KT, SUBTROPICAL DEPRESSION

72H: 2017/02/12 12 UTC: 29.9 S / 63.8 E, MAX WIND=045 KT, SUBTROPICAL DEPRESSION

2.B LONGER-RANGE OUTLOOK :

96H: 2017/02/13 12 UTC: 30.0 S / 61.8 E, MAX WIND=045 KT, SUBTROPICAL DEPRESSION

120H: 2017/02/14 12 UTC: 30.9 S / 61.3 E, MAX WIND=055 KT, SUBTROPICAL DEPRESSION

2.C ADDITIONAL INFORMATION:

T=3.5+ CI=4.5-

THE DETERIORATION OF THE CLOUD PATTERN HAS CONTINUED WITH SOME CLEAR SIGNS OF WESTERLY SHEAR. THE SSMI F15 PASS OF 1137Z (RECEIVED SHORTLY AFTER THE FIRST MESSAGE OF 12Z WERE ISSUED) DEPICT NICELY THIS SHEAR PATTERN. GIVEN THAT THE ONSET OF THE CURRENT WEAKENING TREND HAS STARTED JUST BEFORE 06Z AND THAT INERTIAL EFFECT ON THE SURFACE WIND IS SHORTER FOR THIS SMALL SYSTEM THAN EXPECTED WITH THE DVORAK METHOD, THE CURRENT INTENSITY IS ASSESSED AT 60 KT.

THE SSMI PASS SUGGEST THAT THE CURRENT POSITION IS A BIT TOO MUCH TO THE WEST BUT REMAINS WITHIN THE INITIAL UNCERTAINTY OF 30 NM. WITH A SOMEWHAT LOWER STEERING FLOW LEVEL, CARLOS HAS RESUMED A GENERAL SOUTH-EASTWARDS TRACK STEERED BY A MID-TROPOSPHERIC RIDGE IN THE NORTH-EAST AND A TROUGH COMING FROM THE MID-LATITUDES. FROM SUNDAY, CARLOS SHOULD BE BLOCKED BY A HIGH CELL CIRCULATING EASTWARDS IN ITS SOUTH. THE MODEL GUIDANCE IS IN RATHER GOOD AGREEMENT. AT THE END OF THE TAUS, AS CARLOS SHOULD MAKE A U-TURN, THE UNCERTAINTY BECOMES GREATER.

TOMORROW, THE SHARP INCREASE IN VWS AND A SUGGESTED BAROCLINE INTERACTION WITH AN UPPER LEVEL TROUGH ARRIVING FROM THE SOUTH-WEST, SHOULD GIVE POST-TROPICAL CHARACTERISTICS TO THE SYSTEM. DURING THE WEEK-END, CARLOS COULD SHIFT UNDER THE UPPER TROUGH WHICH THEN ISOLATE ITSELF AS A CUT-OFF LOW ABOVE THE CIRCULATION, SHIELDING IT FROM THE SHEAR. IN THIS CONTEXT, CARLOS SHOULD BECOME A SUBTROPICAL SYSTEM ON SUNDAY, REGAINING TROPICAL CHARACTERISTICS OVER HOWEVER LOWER OHC WATERS.