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

0.A WARNING NUMBER: 11/14/20132014

1.A INTENSE TROPICAL CYCLONE 14 (HELLEN)

2.A POSITION 2014/03/30 AT 1200 UTC:

WITHIN 10 NM RADIUS OF POINT 14.7 S / 44.7 E

(FOURTEEN DECIMAL SEVEN DEGREES SOUTH AND FORTY FOUR DECIMAL SEVEN DEGREES EAST)

MOVEMENT : SOUTH-EAST 4 KT

3.A DVORAK ANALYSIS: 6.5/6.5/D 3.0/24 H

4.A CENTRAL PRESSURE: 935 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 115 KT

RADIUS OF MAXIMUM WINDS (RMW) :17 KM

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

28 KT NE: 110 SE: 180 SW: 180 NW: 130

34 KT NE: 70 SE: 90 SW: 100 NW: 90

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

64 KT NE: 50 SE: 50 SW: 50 NW: 50

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1008 HPA / 500 KM

8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION : DEEP

1.B FORECASTS:

12H: 2014/03/31 00 UTC: 15.2 S / 45.0 E, MAX WIND=110 KT, INTENSE TROPICAL CYCLONE

24H: 2014/03/31 12 UTC: 15.7 S / 45.0 E, MAX WIND=090 KT, INTENSE TROPICAL CYCLONE

36H: 2014/04/01 00 UTC: 16.0 S / 44.6 E, MAX WIND=090 KT, INTENSE TROPICAL CYCLONE

48H: 2014/04/01 12 UTC: 16.6 S / 43.8 E, MAX WIND=070 KT, TROPICAL CYCLONE

60H: 2014/04/02 00 UTC: 17.1 S / 42.9 E, MAX WIND=070 KT, TROPICAL CYCLONE

72H: 2014/04/02 12 UTC: 17.4 S / 41.9 E, MAX WIND=075 KT, TROPICAL CYCLONE

2.B LONGER-RANGE OUTLOOK :

96H: 2014/04/03 12 UTC: 17.9 S / 39.8 E, MAX WIND=080 KT, TROPICAL CYCLONE

120H: 2014/04/04 12 UTC: 17.7 S / 37.3 E, MAX WIND=080 KT, TROPICAL CYCLONE

2.C ADDITIONAL INFORMATION:

T=CI=6.5+

HELLEN HAS CONTINUED TO INTENSIFY DURING THE LAST 6 HOURS WITH AN

IMPRESSIVE WELL DEFINED 18NM WIDE EYE. THE CURRENT ESTIMATION OF THE INTENSITY IS BASED ON MANUAL DVORAK ESTIMATES WITH A 3 HR AVERAGE AT 6.7 IN GOOD AGREEMENT WITH THE NESDIS ADT AT 6.9 AT 1200Z. RAW DT IS AT 7.0 SINCE 11Z AND NESDIS ADT IS AT 6.9 AT 12Z. ON THIS BASIS THE SYSTEM SHOULD REACH THE VERY INTENSE TROPICAL CYCLONE STAGE WITHIN THE NEXT FEW HOURS. HELLEN IS LIKELY TO BE ONE OF THE MOST POWERFULL TROPICAL CYCLONE EVER SEEN OVER THE NORTHERN CHANNEL SINCE THE SATELLITE ERA.

THE SYSTEM IS LYING UNDER AN UPPER LEVEL RIDGE AXIS ALOFT. VERTICAL WINDSHEAR IS WEAK (4.4 M/S ACCORDING TO CIMSS AT 1200Z) AND UPPER LEVEL DIVERGENCE IS GOOD MAINLY POLEWARD IN RELATIONSHIP WITH A WESTERLY SUBTROPICAL JET EXISTING SOUTH OF 18S. UNDER THE STEERING INFLUENCE OF THE MID-LEVELS RIDGE LOCATED NORTHWARD, HELLEN WILL KEEP ON TRACKING SLOWLY SOUTH-EASTWARDS DURING THE NEXT 6 HOURS BEFORE BEING WITHIN A TOO SLOW STEERING ENVIRONMENT THAT SHOULD LEAD TO A QUASI-STAT MOTION. A WEAKENING TREND INITIATED BY INDUCED COLD SST MAY TAKEN PLACE BY THAT TIME. ON THE HAND SOME NWP MODELS SUGGEST A TEMPORARILY RISING OF THE VWS TONIGHT. THE INTENSITY FORECAST REMAINS UNCERTAIN ACCORDING TO THE SMALL SIZE OF THE SYSTEM AND ITS SENSIBILITY TO THE VARIATION OF THE ENVIRONMENTAL CONDITIONS.

SUNDAY NIGHT, THE MID-TROPOSPHERIC NEAR-EQUATORIAL RIDGE IS EXPECTED TO WEAKEN. HELLEN IS THEREFORE EXPECTED TO SLOW DOWN CLEARLY. ON AND AFTER MONDAY, HELLEN SHOULD RE-CURVE WESTWARDS THEN SOUTH-WESTWARDS UNDER THE STEERING INFLUENCE OF THE SUBTROPICAL RIDGE REBUILDING SOUTHWARD.

HELLEN SHOULD KEEP ON TRACKING ON THIS WEST-SOUTH-WEST PATH UP TO ITS LANDFALL WEDNESDAY NIGHT OR THURSDAY ON THE MOZAMBICAN COASTLINES IN THE AREA OF QUELIMANE. GIVEN THE FAVOURABLE WINDS PATTERN SEEN ON NWP MODELS AT THIS LEAD TIME, THE INTENSITY FORECAST IS SIGNIFICANTLY UPGRADED.

THE TRACK FORECAST HAS BEEN ADJUSTED SOUTHWARDS AND LIES BETWEEN THE ECMWF AND GFS TRACKS. THE INHABITANTS OF THE NORTH-WESTERN COASTS OF MADAGASCAR EMBRACED FOR AN EXTREMELY DANGEROUS TROPICAL CYCLONE. ALL PREPARATIONS FOR A "WORST CASE" SCENARIO SHOULD BE UNDERWAY AS A LANDFALLING INTENSE SYSTEM IS STILL CLEARLY A POSSIBILITY.

GIVEN THE VICINITY OF THE COMOROS ARCHIPELAGO AND MAYOTTE, THE INHABITANTS OF THIS ISLANDS SHOULD STILL CLOSELY MONITOR THE PROGRESS OF THIS SYSTEM.