



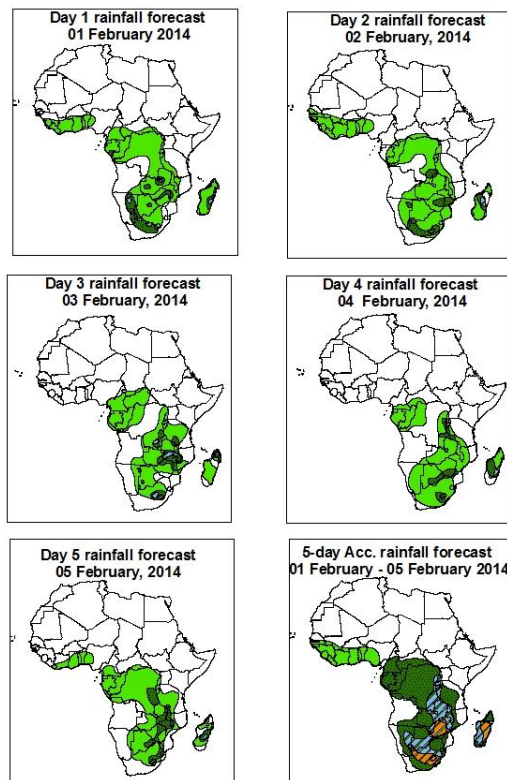
# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1.0. Rainfall Forecast: Valid 06Z of 01 February – 06Z of 05 February, 2014. (Issued at 1800Z of 31 January 2014)

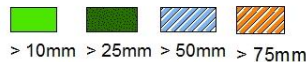
### 1.1. Twenty Four Hour Cumulative Rainfall Forecasts

The forecasts are expressed in terms of 75% probability of precipitation (POP) exceeded, based on the NCEP, UK Met Office and the ECMWF NWP outputs, the NCEP global ensemble forecasts system (GEFS) and expert assessment.

24 hour and 5-day Cumulative Rainfall Forecasts day 1 to day 5



Legend

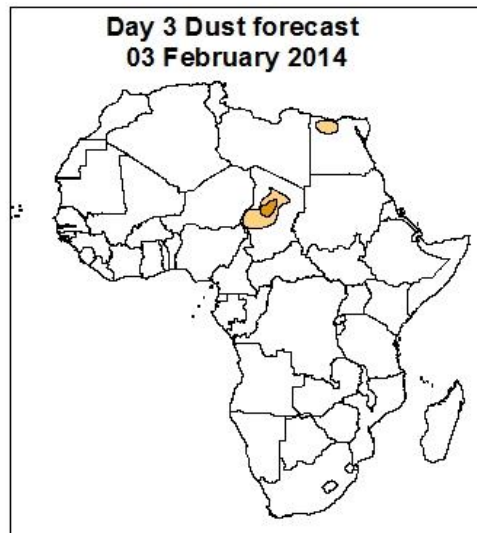
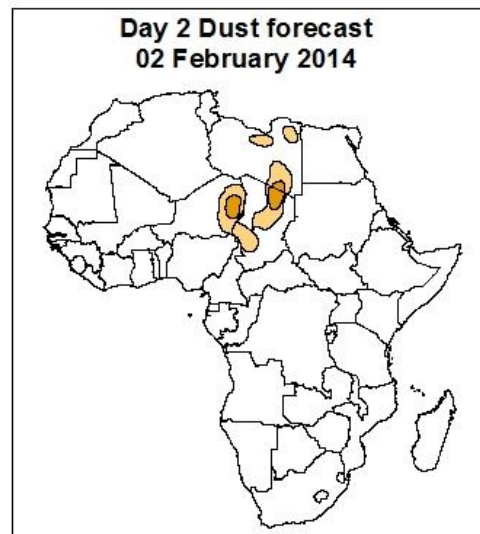
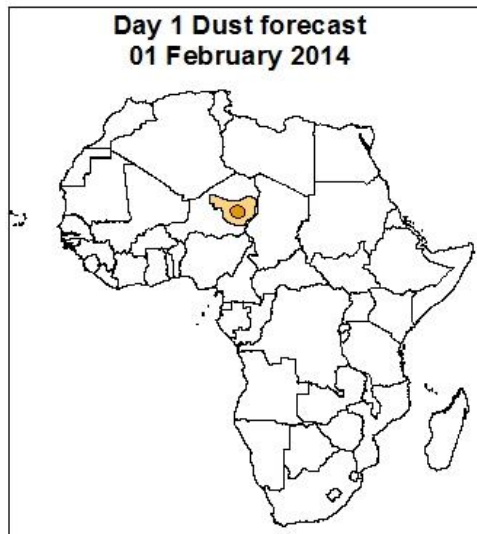


### Summary

Mascarene high pressure is expected to slightly weaken with its central pressure decreasing from 1024 hpa to 1018 hpa. Apart from few occasions, the anticyclone is expected to be positioned relatively east of the West Indian coast or relatively south of the continent relaxing its pressure over South Africa, Mozambique and Zimbabwe. This will result in continued rains over these areas. St. Helena High Pressure System is expected to maintain its central pressure but slightly fluctuating between 1022 hpa and 1019 hpa over the African west coast Atlantic Ocean. This will result into reduction of rains over the western parts Angola, Namibia and South Africa during the forecast period. Parts of Benin, Togo, Ghana, Ivory Coast, Burkina Faso and Niger are expected to receive some rainfall during the forecast period as a result of expected extra-tropical- Tropical interactions.

## 1.2. Atmospheric Dust Forecasts: Valid 01 February 03 February 2014

**Atmospheric Dust Forecasts, day 1 to day 3,**  
Moderate Dust Concentration (MDC) and High Dust Concentration (HDC)



**Highlights**  
There is an increased chance for moderate dust over Niger, Egypt, Chad, and Libya



## **1.2. Model Discussion: Valid from 00Z of 31 January 2014**

*Model comparison (GFS and UKMET Valid from 00Z: 31 January 2014) shows general agreement in terms of depicting positions of the northern and southern hemisphere sub-tropical highs, while they showed slight differences in depicting their intensity.*

According to both the GFS model and the UKMET model, St. Helena High Pressure System is expected to maintain with its central pressure slightly fluctuating between 1022 hpa and 1019 hpa over the African west coast Atlantic Ocean. This will result into reduction of rains over the western parts Angola, Namibia and South Africa during the forecast period.

According to both the GFS model and the UKMET model, the Mascarene high pressure is expected to slightly weaken with its central pressure decreasing from 1024 hpa to 1018 hpa. Apart from few occasions, the anticyclone is relatively east of the West Indian coast or relatively south of the continent relaxing its pressure over South Africa, Mozambique and Zimbabwe. This will result in continued rains over these areas.

At 850hpa level, Moderate to strong convergence is still expected over Democratic Republic of Congo (DRC), Gabon, Congo Brazzaville, Central African Republic (CAR) , Cameroon, Namibia, Uganda, Zambia, Angola, Tanzania, Malawi, Mozambique, and Madagascar. During the forecast period, moderate to severe weather is expected over these areas as shown by the rainfall map above.

At 500hpa level, troughs associated with mid-latitude frontal systems persist during the first part of the forecast period. The systems are expected to influence some isolated rains over Liberia, Sierra Leone, Benin, Togo, Ghana, Ivory Coast, Burkina Faso and Niger.

At 200hpa level, the sub-tropical Westerly Jet mainly (with wind speed >70 knots and <150 knots), extending between West Sahara, Mauritania, Algeria, and Egypt, and across, Mali, Algeria, Tunisia, Niger, Chad, Libya and Northern Sudan persist during the forecast period. Winds of over 150 Knots are also expected over Libya. In the south, the

sub-tropical westerly Jet (with 70 to 90kts wind speed) is occasionally expected over South Africa and the Indian Ocean.

Therefore, the Mascarene high pressure is expected to slightly weaken with its central pressure decreasing from 1024 hpa to 1018 hpa. Apart from few occasions, the anticyclone is expected to be positioned relatively east of the West Indian coast or relatively south of the continent relaxing its pressure over South Africa, Mozambique and Zimbabwe. This will result in continued rains over these areas. St. Helena High Pressure System is expected to maintain its central pressure but slightly fluctuating between 1022 hpa and 1019 hpa over the African west coast Atlantic Ocean. This will result into reduction of rains over the western parts Angola, Namibia and South Africa during the forecast period. Parts of Benin, Togo, Ghana, Ivory Coast, Burkina Faso and Niger are expected to receive some rainfall during the forecast period as a result of expected extra-tropical- Tropical interactions.

## 2.0. Previous and Current Day Weather Discussion over Africa (30 January 2014 – 31 January 2014)

### 2.1. Weather assessment for the previous day (30 January 2014)

During the previous day, moderate to heavy rainfall was observed over DRC, Angola, Zimbabwe, Mozambique, Madagascar, Namibia, South Africa and Botswana.

### 2.2. Weather assessment for the current day (31 January 2014)

Intense clouds were observed over Gabon, Cameroon, Nigeria, Ivory Coast, Central African Republic, Benin, Togo, Ghana, Congo Brazzaville, DRC, Angola, Zambia, Malawi, Zimbabwe, Mozambique, Madagascar, South Africa, Namibia and Botswana.

