

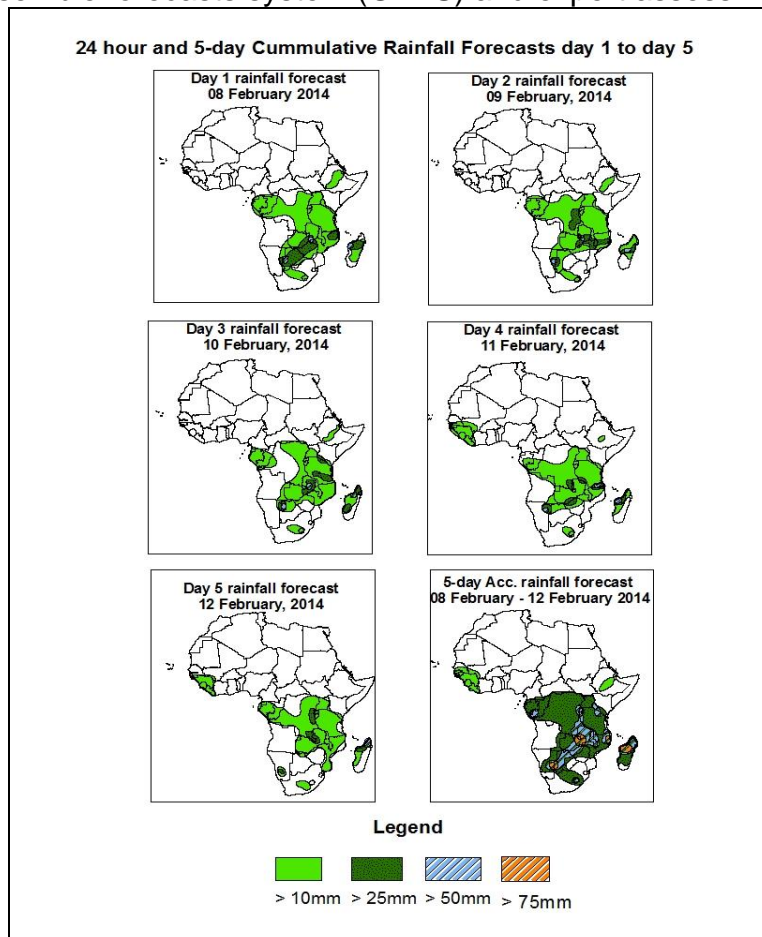


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1.0. Rainfall Forecast: Valid 06Z of 08 February – 06Z of 12 February, 2014. (Issued at 1800Z of 07 February 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.

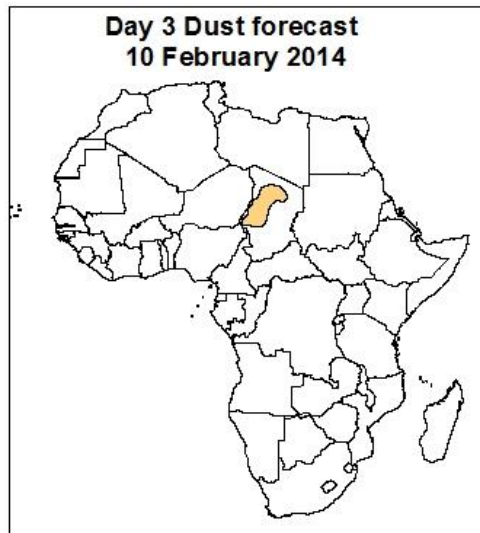
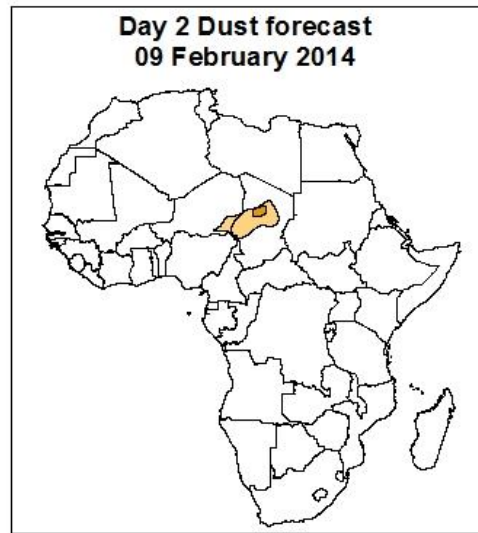
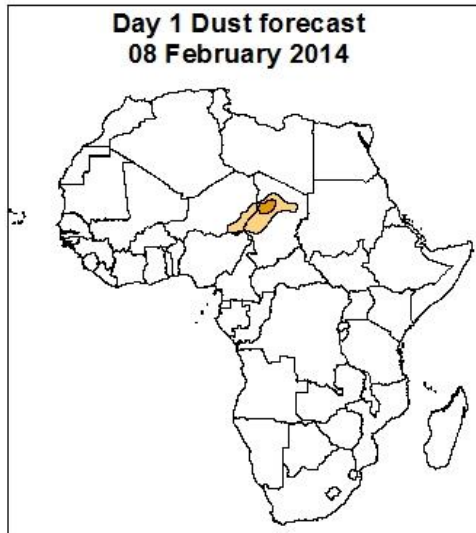


### Summary

Mascarene high pressure is expected to maintain its central pressure value between 1028 hpa and 1034 hpa. The system remains far south but maintains a moderate ridge over South Africa, Mozambique and Zimbabwe for most part of the forecast period reducing rains over these areas. This system is also expected to maintain a slight push of rains to the northern Democratic Republic of Congo (DRC), Uganda and some parts of Kenya. St. Helena High Pressure System is expected to maintain its central pressure value of between 1018hpa and 1022 hpa. This will result into continued dry spell over the western parts of Angola, Namibia and South Africa during the forecast period. However due to its persistence West Atlantic position, Occasional rains are expected over eastern parts of Namibia, Angola and Even South Africa. Parts of Liberia, Sierra Leone and Guinea are expected to receive some rainfall during the last part of the forecast period as a result of expected extra-tropical- Tropical interactions.

## 1.2. Atmospheric Dust Forecasts: Valid 08 February - 10 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 Chad and  
Niger



MDC, Vis. < 5km



HDC, Vis. < 1km

### Legend

## **1.2. Model Discussion: Valid from 00Z of 07 February 2014**

*Model comparison (GFS and UKMET Valid from 00Z: 07 February 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 its central pressure value of between 1018hpa and 1022 hpa. This will result into continued dry spell over the western parts of Angola, Namibia and South Africa during the forecast period. However due to its persistence West Atlantic position, Occasional rains are expected over eastern parts of Namibia, Angola and Even South Africa.

According to both the GFS model and the UKMET model, the Mascarene high pressure is expected to maintain its central pressure value between 1028 hpa and 1034 hpa. The system remains far south but maintains a moderate ridge over South Africa, Mozambique and Zimbabwe for most part of the forecast period reducing rains over these areas. This system is also expected to maintain a slight push of rains to the northern Democratic Republic of Congo (DRC), Uganda and some parts of Kenya.

At 850hpa level, Moderate to strong convergence is still expected over Democratic Republic of Congo (DRC), Gabon, Congo Brazzaville, Central African Republic (CAR) , Namibia, Botswana, Uganda, Kenya, 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 are minimal during the forecast period. However a moderate trough is expected over Mali towards the last part of the forecast period with expected isolated rains over Liberia, Sierra Leone and Guinea.

At 200hpa level, the sub-tropical Westerly Jet mainly (with wind speed >70 knots and <110 knots), extending between Senegal, Mauritania, Algeria, and Egypt, and across, Mali, Algeria, Niger, Chad, Libya and Northern Sudan persist during the forecast period.

In the south, the sub-tropical westerly Jet (with 90-110 kts wind speed) is expected on rare occasions over South Africa and the Indian Ocean.

Therefore, the Mascarene high pressure is expected to maintain its central pressure value between 1028 hpa and 1034 hpa. The system remains far south but maintains a moderate ridge over South Africa, Mozambique and Zimbabwe for most part of the forecast period reducing rains over these areas. This system is also expected to maintain a slight push of rains to the northern Democratic Republic of Congo (DRC), Uganda and some parts of Kenya. St. Helena High Pressure System is expected to maintain its central pressure value of between 1018hpa and 1022 hpa. This will result into continued dry spell over the western parts of Angola, Namibia and South Africa during the forecast period. However due to its persistence West Atlantic position, Occasional rains are expected over eastern parts of Namibia, Angola and Even South Africa. Parts of Liberia, Sierra Leone and Guinea are expected to receive some rainfall during the last part of the forecast period as a result of expected extra-tropical- Tropical interactions.

## 2.0. Previous and Current Day Weather Discussion over Africa

(06 February 2014 – 07 February 2014)

### 2.1. Weather assessment for the previous day (06 February 2014)

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

### 2.2. Weather assessment for the current day (07 February 2014)

Intense clouds were observed over, Central African Republic, DRC, Angola, Zambia, Malawi, Tanzania, Uganda, Kenya, Zimbabwe, Mozambique, Madagascar, South Africa, Namibia and Botswana.

