

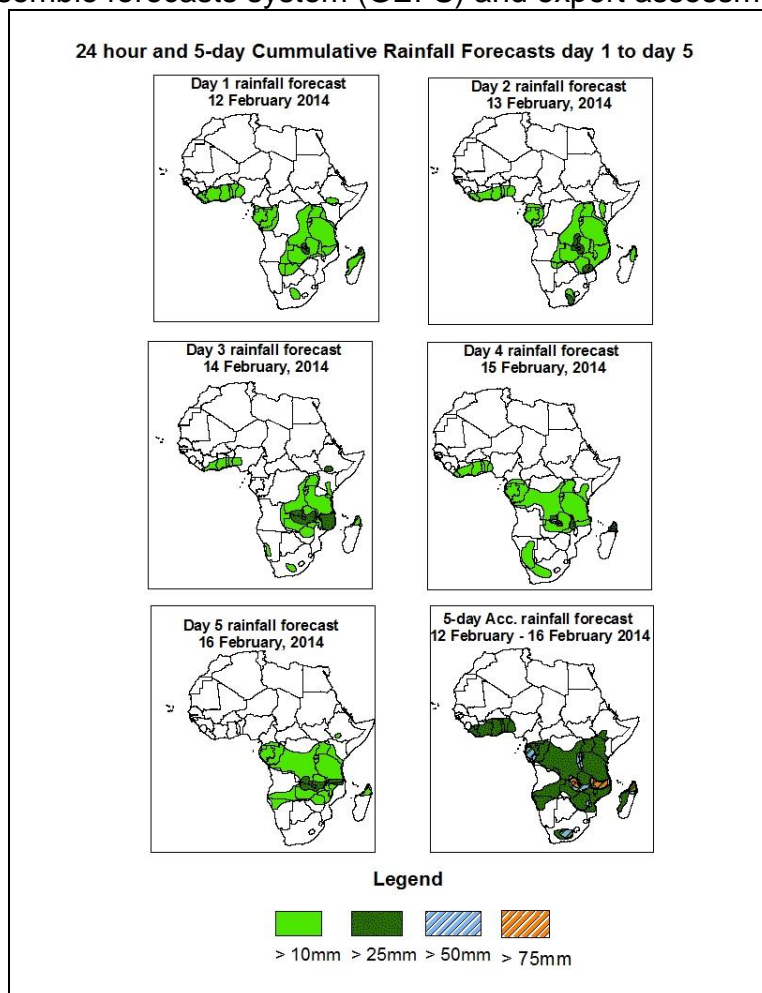


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1.0. Rainfall Forecast: Valid 06Z of 12 February – 06Z of 16 February, 2014. (Issued at 1800Z of 11 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.



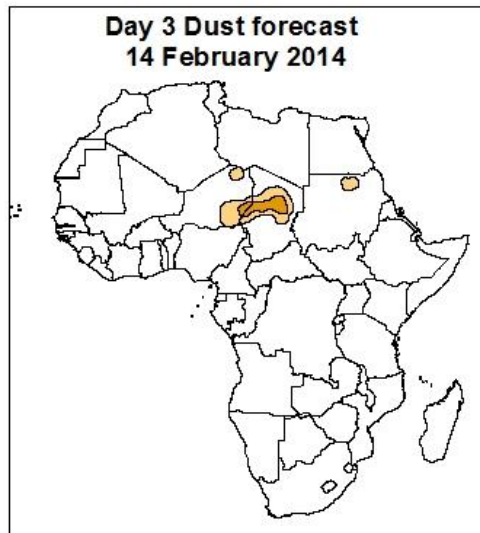
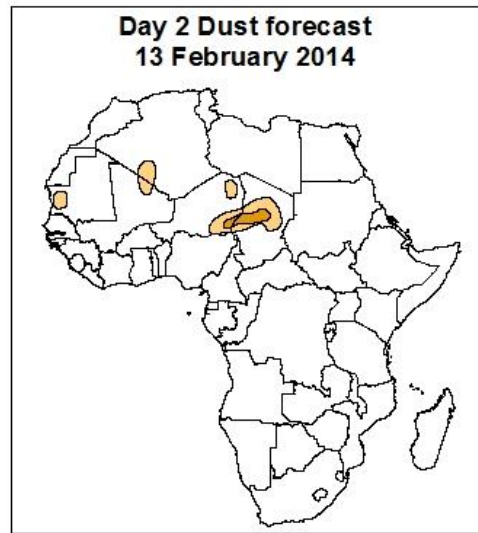
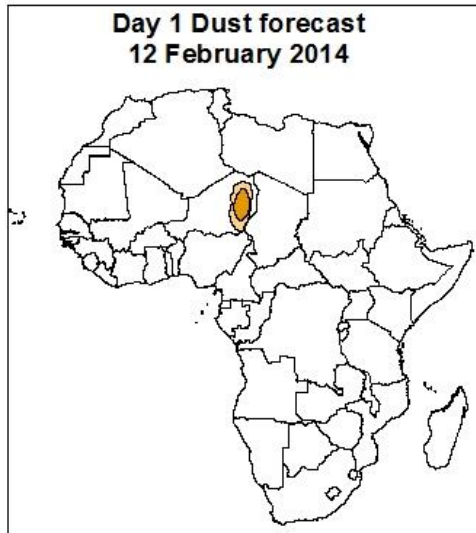
### Summary

Mascarene high pressure is expected to intensify with its central pressure value changing from 1019 Hpa to 1025 Hpa. The system is expected to remain over the Mozambique Channel for most part of the forecast period pushing away the rains from South Africa, Southern Mozambique and Zimbabwe into Tanzania and parts of Kenya.

St. Helena High Pressure System is expected to intensify with its central pressure value increasing from 1019 Hpa to 1029 Hpa. This will result into continued dry spell over the most parts of Angola, Namibia and South Africa during the forecast period. However isolated rains are expected over few areas of Namibia, Angola and South Africa. Parts of Liberia, Sierra Leone, Ivory Coast, Ghana, Benin, Togo and Nigeria are expected to receive some rains during the forecast period as a result of expected extra-tropical- Tropical interactions.

## 1.2. Atmospheric Dust Forecasts: Valid 12 February - 14 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 Algeria, Mali, Mauritania, Chad, North Sudan, and Niger

### Legend



MDC, Vis. < 5km



HDC, Vis. < 1km

## **1.2. Model Discussion: Valid from 00Z of 11 February 2014**

*Model comparison (GFS and UKMET Valid from 00Z: 11 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 intensify with its central pressure value increasing from 1019 Hpa to 1029 Hpa. This will result into continued dry spell over the most parts of Angola, Namibia and South Africa during the forecast period. However isolated rains are expected over few areas of Namibia, Angola and South Africa.

According to both the GFS model and the UKMET model, the Mascarene high pressure is expected to intensify with its central pressure value changing from 1019 Hpa to 1025 Hpa. The system is expected to remain over the Mozambique Channel for most part of the forecast period pushing away the rains from South Africa, Southern Mozambique and Zimbabwe into Tanzania and parts of Kenya.

At 850hpa level, Moderate to strong convergence is still expected over Democratic Republic of Congo (DRC), Congo Brazzaville, Gabon, Namibia, 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 persists most of the forecast period over Mali with expected isolated rains over parts of Liberia, Sierra Leone, Ivory Coast, Ghana, Benin, Togo and Nigeria.

At 200hpa level, the sub-tropical Westerly Jet mainly (with wind speed >70 knots and <150 knots), extending between Senegal, Mauritania, Algeria, and Egypt, and across, Mali, Algeria, Niger, Chad and Libya 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 Indian Ocean.

Therefore, Mascarene high pressure is expected to intensify with its central pressure value changing from 1019 Hpa to 1025 Hpa. The system is expected to remain over the Mozambique Channel for most part of the forecast period pushing away the rains from South Africa, Southern Mozambique and Zimbabwe into Tanzania and parts of Kenya. St. Helena High Pressure System is expected to intensify with its central pressure value increasing from 1019 Hpa to 1029 Hpa. This will result into continued dry spell over the most parts of Angola, Namibia and South Africa during the forecast period. However isolated rains are expected over few areas of Namibia, Angola and South Africa. Parts of Liberia, Sierra Leone, Ivory Coast, Ghana, Benin, Togo and Nigeria are expected to receive some rains during the forecast period as a result of expected extra-tropical-Tropical interactions.

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

(10 February 2014 – 11 February 2014)

### 2.1. Weather assessment for the previous day (10 February 2014)

During the previous day, moderate to heavy rainfall was observed over Gabon, Congo Brazzaville, Zambia, Tanzania, Mozambique, Malawi, Zimbabwe, Madagascar, Namibia, and Botswana.

### 2.2. Weather assessment for the current day (11 February 2014)

Intense clouds were observed over, Gabon, Nigeria, Ivory Coast, Central African Republic, DRC, Angola, Zambia, Malawi, Tanzania, Uganda, Kenya, Zimbabwe, Mozambique, Madagascar, Namibia and Botswana.

