

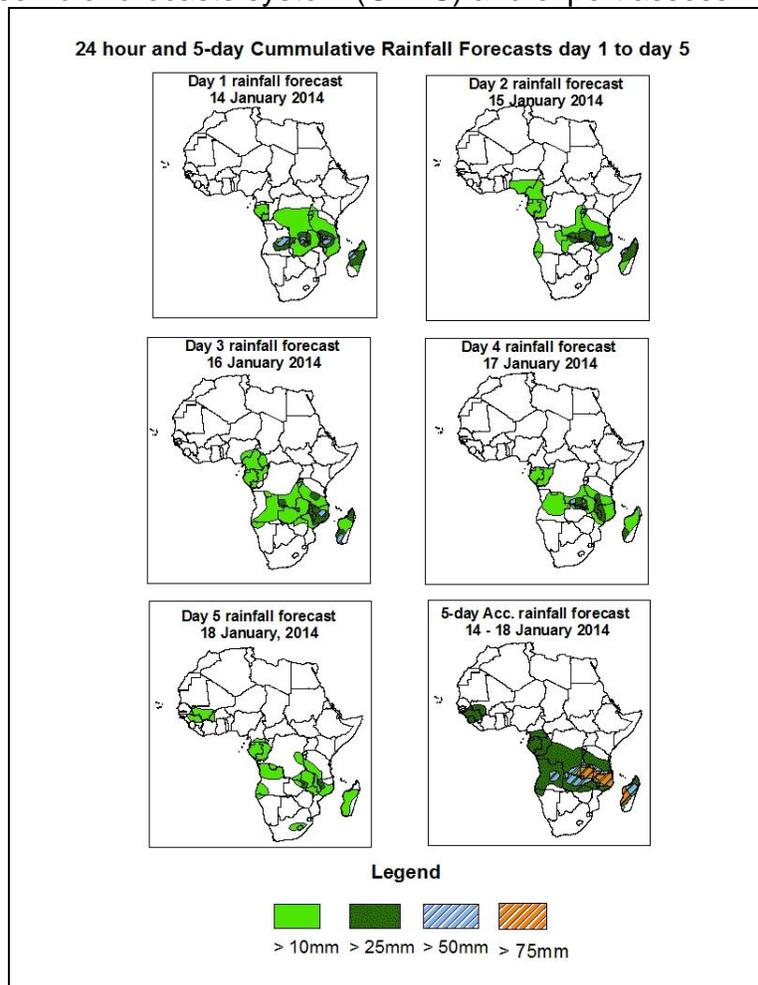


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1.0. Rainfall Forecast: Valid 06Z of 14 January – 06Z of 18 January, 2014. (Issued at 1800Z of 13 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.

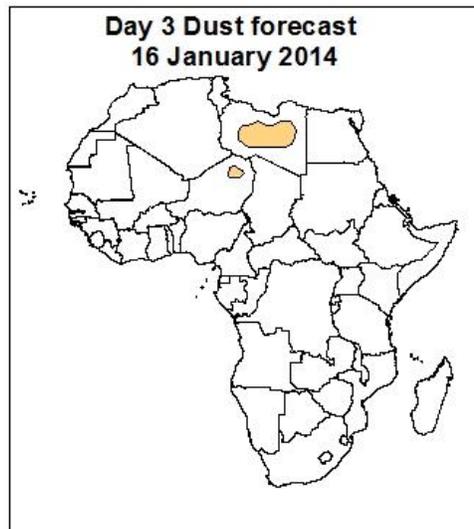


### Summary

Mascarene anticyclone is expected to generally intensify pushing the rains to the northern Zimbabwe and Mozambique. St. Helena High Pressure System is expected to weaken during the first half of the forecast period from 1028hpa to 1018 hpa resulting to some rains over the northern Namibia and Botswana. However it is expected to intensify in the second half minimizing rains over Namibia, Angola, Botswana and South Africa for the rest part t of the forecast period. Parts of Chad, Mali, Guinea, Nigeria, Niger, Cameroon, Gabon and Congo Brazzaville are expected to receive some rainfall during the forecast period as a result of strong extra-tropical-

## 1.2. Atmospheric Dust Forecasts: Valid 14 January - 16 January 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 Libya and Niger.



## **1.2. Model Discussion: Valid from 00Z of 13 January 2014**

*Model comparison (GFS and UKMET Valid from 00Z: 13 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 weaken during the first half of the forecast period from 1028hpa to 1018 hpa resulting to some rains over the northern Namibia and Botswana. However it is expected to intensify in the second half minimizing rains over Namibia, Angola, Botswana and South Africa for the rest part t of the forecast period.

According to both the GFS model and the UKMET model, the Mascarene high pressure is expected to generally intensify pushing the rains to the northern Zimbabwe and Mozambique.

At 850hpa level, strong convergence is still expected over Democratic Republic of Congo (DRC), Gabon Congo Brazzaville, Uganda, Zambia, Angola, Tanzania, Malawi, Mozambique, Namibia, 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 occasional during the forecast period. These interactions are expected to result to moderate rains over Chad, Mali, Guinea, Nigeria, Niger, Cameroon, Gabon and Congo Brazzaville.

At 200hpa level, the sub-tropical Westerly Jet mainly (with wind speed >70kts and <130 kts), extending between West Sahara, Mauritania, Morocco, Algeria, and Egypt, and across, Mali, Algeria, Tunisia, Niger, Chad, Libya and Northern Sudan persist during the forecast period. In the south, the sub-tropical westerly Jet (with 70 to 90kts wind speed) is expected over South Africa and the Indian Ocean.

Therefore, Mascarene anticyclone is expected to generally intensify pushing the rains to the northern Zimbabwe and Mozambique.

St. Helena High Pressure System is expected to weaken during the first half of the forecast period from 1028hpa to 1018 hpa resulting to some rains over the northern Namibia and Botswana. However it is expected to intensify in the second half minimizing rains over Namibia, Angola, Botswana and South Africa for the rest part t of the forecast period. Parts of Chad, Mali, Guinea, Nigeria, Niger, Cameroon, Gabon and Congo Brazzaville are expected to receive some rainfall during the forecast period as a result of strong extra-tropical- Tropical interactions.

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

**(12 January 2014– 13 January 2014)**

### **2.1. Weather assessment for the previous day (12 January 2014)**

During the previous day, moderate to heavy rainfall was observed over Congo Brazzaville, DRC, Angola, Zambia, Malawi, Mozambique, Madagascar, South Africa and Tanzania.

### **2.2. Weather assessment for the current day (13 January 2014)**

Intense clouds were observed over Gabon, Congo Brazzaville, Angola, DRC, Mozambique, Malawi, Tanzania, Zambia and Madagascar.

