



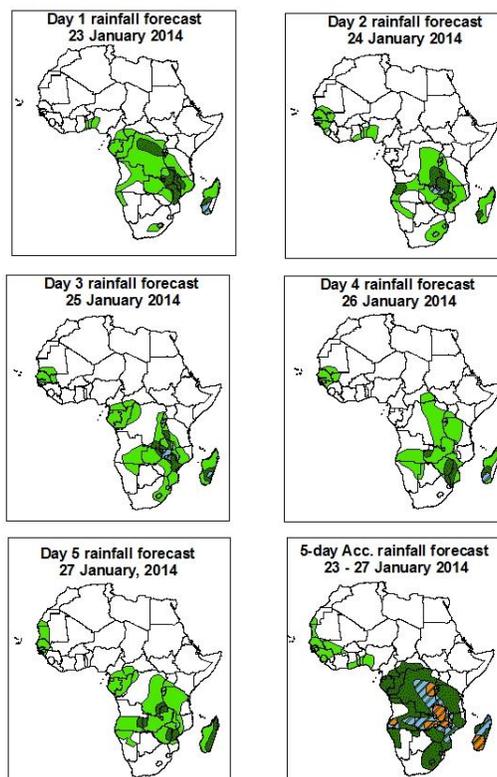
# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1.0. Rainfall Forecast: Valid 06Z of 23 January – 06Z of 27 January, 2014. (Issued at 1800Z of 22 January 2014)

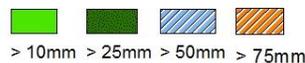
### 1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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

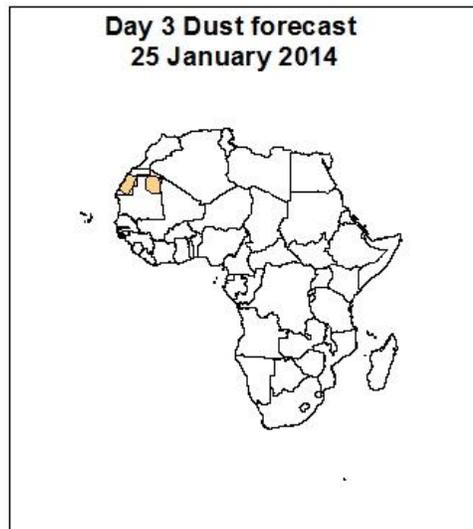
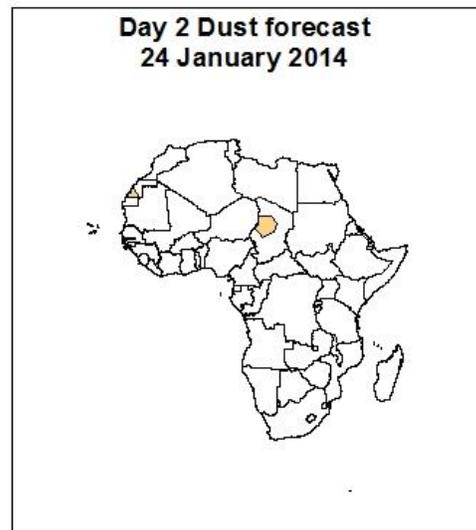
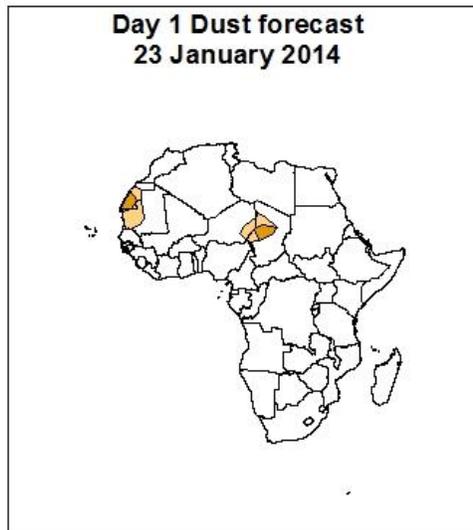


### Summary

Mascarene high pressure is expected to intensify with its central pressure changing from 1023hpa to 1030hpa. However due to its Eastern position it will allow some rains over South Mozambique, Zimbabwe and South Africa for most part of the forecast period. St. Helena High Pressure System is expected to be dominant and maintain its intensity at between 1022hpa and 1019hpa during the forecast period. This will result into continued dry conditions over Namibia, Botswana, Angola and South Africa for most part of the forecast period. However its westward position during most part of the forecast will allow some rains in parts of Namibia, South Africa and Angola. Parts of Senegal, Guinea, Gambia, Togo, Benin, Nigeria, Ghana, Mali, and Ghana are expected to receive some rainfall during the forecast period as a result of strong extra-tropical- Tropical interactions.

## 1.2. Atmospheric Dust Forecasts: Valid 23 January - 25 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 Chad, Niger, Mauritania and West Sahara.



## **1.2. Model Discussion: Valid from 00Z of 22 January 2014**

*Model comparison (GFS and UKMET Valid from 00Z: 22 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 be dominant and maintain its intensity at between 1022hpa and 1019hpa during the forecast period. This will result into continued dry conditions over Namibia, Botswana, Angola and South Africa for most part of the forecast period. However its westward position during most part of the forecast will allow some rains in parts of Namibia, South Africa and Angola.

According to both the GFS model and the UKMET model, the Mascarene high pressure is expected to intensify with its central pressure changing from 1023hpa to 1030hpa. However due to its Eastern position it will allow some rains over South Mozambique, Zimbabwe and South Africa for most part of the forecast period.

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, South Africa, 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 forecast period. The systems are expected to have the effect of isolated rains over Senegal, Guinea, Gambia, Togo, Benin, Nigeria, Ghana, Mali, and Ghana during the forecast period.

At 200hpa level, the sub-tropical Westerly Jet mainly (with wind speed >70kts and <130 kts), extending between Senegal, Mauritania, Morocco, Algeria, and Egypt, and across, Mali, Togo, Benin, Burkina Faso, 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 though rarely over South Africa and the Indian Ocean.

Therefore, the Mascarene high pressure is expected to intensify with its central pressure changing from 1023hpa to 1030hpa. However due to its Eastern position it will allow some rains over South Mozambique, Zimbabwe and South Africa for most part of the forecast period. St. Helena High Pressure System is expected to be dominant and maintain its intensity at between 1022hpa and 1019hpa during the forecast period. This will result into continued dry conditions over Namibia, Botswana, Angola and South Africa for most part of the forecast period. However its westward position during most part of the forecast will allow some rains in parts of Namibia, South Africa and Angola. Parts of Senegal, Guinea, Gambia, Togo, Benin, Nigeria, Ghana, Mali, and Ghana 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

(21 January 2014– 22 January 2014)

### 2.1. Weather assessment for the previous day (21 January 2014)

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

### 2.2. Weather assessment for the current day (22 January 2014)

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

