

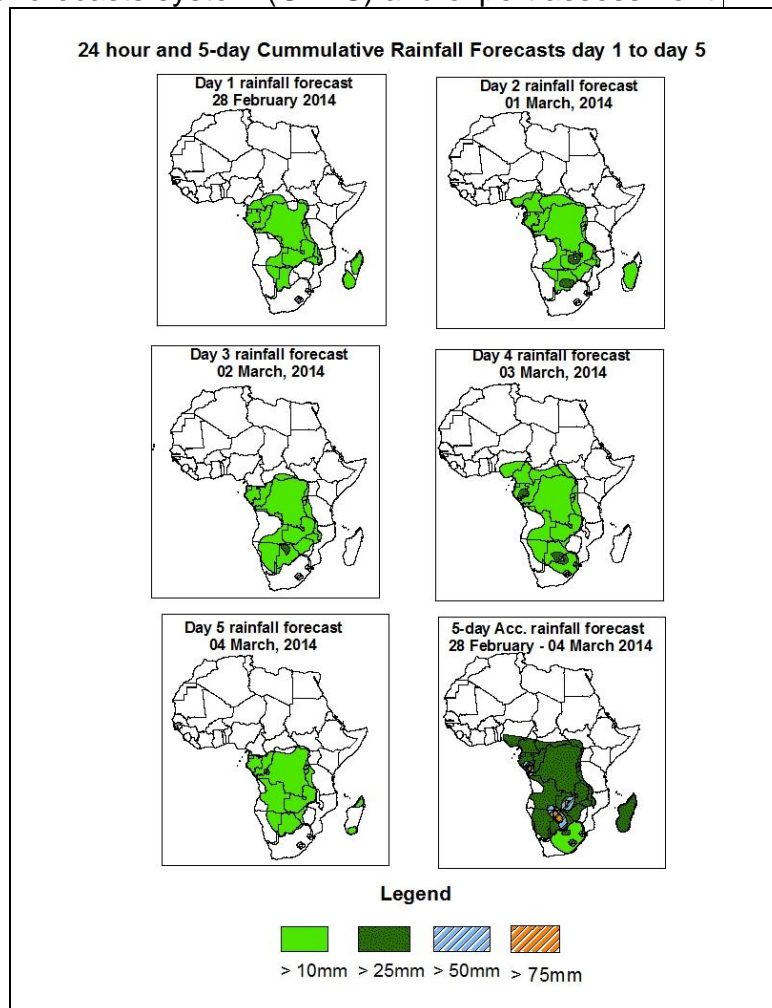


## NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

### 1.0. Rainfall Forecast: Valid 06Z of 28 February – 06Z of 04 March, 2014. (Issued at 1600Z of 27 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/GFS and UK Met Office NWP outputs, and the NCEP global ensemble forecasts system (GEFS) and expert assessment.



#### Summary

In the coming five days, lower-tropospheric wind convergences across the gulf of guinea, Central and southern Africa countries are expected to persist and hence continued moderate rains parts over Angola, Cameroon, Gabon, Equatorial Guinea, parts of Central Africa Republic, Botswana, Congo Brazzaville, Namibia, Zambia, DRC, Madagascar, Parts of South Africa, South Sudan, Zimbabwe, South Mozambique and even parts of South Africa.

## 1.2. Atmospheric Dust Forecasts: Valid 28 February – 02 March 2014

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

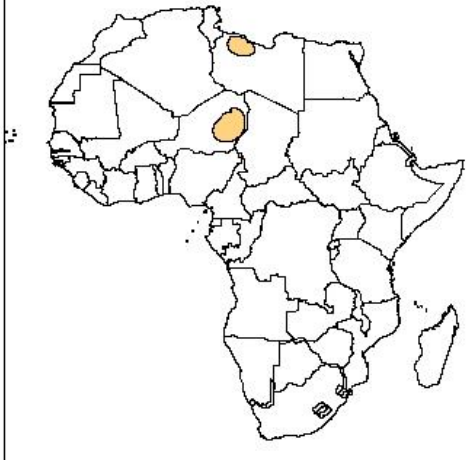
**Day 1 Dust forecast**  
28 February 2014



**Day 2 Dust forecast**  
01 March, 2014



**Day 3 Dust forecast**  
02 March, 2014



### Highlights

There is an increased chance for moderate to high dust concentration over Algeria, Libya, North Sudan, Niger, Mali and Chad.

### Legend



MDC, Vis. < 5km



HDC, Vis. < 1km

### **1.3. Model Discussion: Valid from 00Z of 27 February 2014**

*Model comparison (GFS and UKMET Valid from 00Z: 27 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.*

The St. Helena High Pressure System is expected to slightly intensify during the forecast period with its central pressure value is expected to vary between from between 1024 Hpa 1020Hpa. This will result in continued dry conditions over, most parts of Eastern South Africa and Namibia for most part of the forecast period. However some occasional rains are expected over Angola, Namibia and Parts of South Africa.

According to both the GFS and UKMET model, the Mascarene high pressure is expected to intensify during the forecast period, with its central pressure value reaching 1029 hpa but propagate eastward relaxing its diffuence effect on the continent. This will result increase rains over Zimbabwe and southern Mozambique and continued dry conditions over most part over Uganda, and Tanzania.

At 850hpa level, Moderate to strong convergence is expected over Democratic Republic of Congo (DRC), Cameroon, Central Africa Republic (CAR), Namibia, Zambia, Zimbabwe, Botswana, Angola and parts of South Africa

At 500hpa level, troughs associated with mid-latitude frontal system starting over Algeria and propagating eastward are weak during the forecast period and hence minimal weather interactions are expected.

At 200hpa level, the sub-tropical Westerly Jet mainly (with wind speed >70 knots and <150 knots), extending between Mauritania, Algeria, Libya and Egypt, and across, Mali, Niger, Chad, persist during the forecast period. In the south, the sub-tropical westerly Jet (with 70 knots wind speed) is expected over South Africa and Indian Ocean.

In the coming five days, lower-tropospheric wind convergences across the Gulf of Guinea, Central and southern African countries are expected to persist and hence continued moderate rains parts over Angola, Cameroon, Gabon, Equatorial Guinea, parts of Central Africa Republic, Botswana, Congo Brazzaville, Namibia, Zambia, DRC, Madagascar, Parts of South Africa, South Sudan, Zimbabwe, South Mozambique and even parts of South Africa.

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

**(26 February 2014 – 27 February 2014)**

### **2.1. Weather assessment for the previous day (26 February 2014)**

During the previous day, moderate rainfall was observed over local areas in Congo Brazzaville, Gabon, Angola, Uganda, Tanzania, DRC, Zambia, Malawi, Namibia and Botswana, Zimbabwe, Mozambique Channel, and Madagascar.

### **2.2. Weather assessment for the current day (27 February 2014)**

Intense clouds are observed over parts of Gulf of Guinea, Central and Southern African countries as well as Madagascar.

