

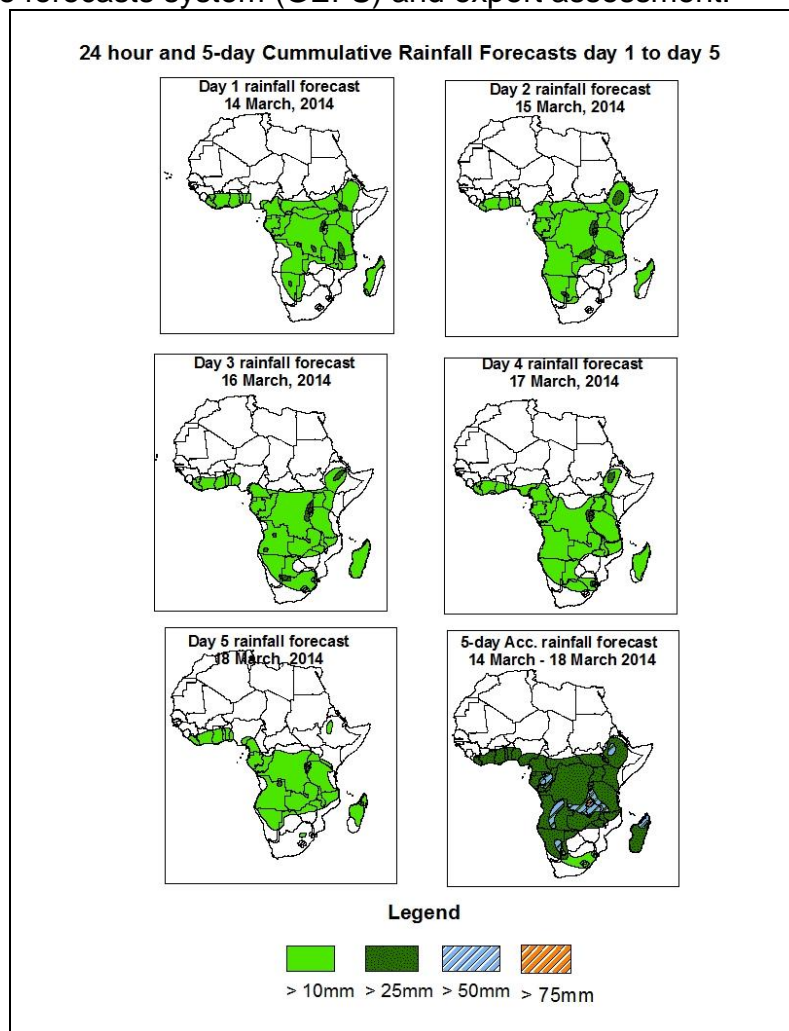


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1.0. Rainfall Forecast: Valid 06Z of 14 March – 06Z of 18 March, 2014. (Issued at 1600Z of 13 March 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, East, Central and southern Africa countries are expected to persist and hence continued moderate rains over Angola, Cameroon, Gabon, Equatorial Guinea, Uganda, Congo Brazzaville, Zambia, DRC, Kenya, Tanzania, Ethiopia, parts of Namibia, Madagascar, Parts of South Africa, South Sudan and Mozambique.

## 1.2. Atmospheric Dust Forecasts: Valid 14 March – 16 March 2014

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

**Day 1 Dust forecast**  
14 March, 2014



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



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



**Highlights**

**There is an increased chance for moderate to high dust concentration over Niger, Chad and Mali.**

**Legend**



MDC, Vis. < 5km



HDC, Vis. < 1km

### **1.3. Model Discussion: Valid from 00Z of 14 March 2014**

*Model comparison (GFS and UKMET Valid from 00Z: 14 March 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 maintain its central pressure value at about 1026 Hpa. This will result in continued dry conditions over southern Namibia and most of South Africa, but increase of rains over Angola.

According to both the GFS and UKMET model, the Mascarene high pressure is expected to slightly relax with its central pressure values between 1023Hpa and 1019Hpa, but remain active over the Mozambique Channel. This will result in dry condition over South Africa, Mozambique and Zimbabwe but continued rains over Tanzania and parts of Kenya.

At 850hpa level, Moderate to strong convergence is expected to persist throughout the forecast period over Democratic Republic of Congo (DRC), Central Africa Republic (CAR), Uganda, Gabon, Angola and parts of Nigeria, Cameroon, Ethiopia, Zambia, Namibia, Ghana, South Sudan, Botswana, Ivory Coast, Tanzania, Mozambique, Kenya, Madagascar and South Africa.

At 500hpa level, troughs associated with mid-latitude frontal system over Algeria and propagating eastward are expected to result in some tropical, extra-tropical interactions with light rains expected over Liberia, Sierra Leone, Ethiopia and guinea in the beginning of the forecast period

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

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

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

**(12 March 2014 – 13 March 2014)**

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

During the previous day, moderate rainfall was observed over local areas in Angola, DRC, Botswana, South Africa, South Sudan, Ethiopian, Uganda, Zambia, Tanzania, Kenya, Togo, Ghana, Burkina Faso, Ivory Coast, Zimbabwe, South Mozambique and Madagascar.

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

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

