

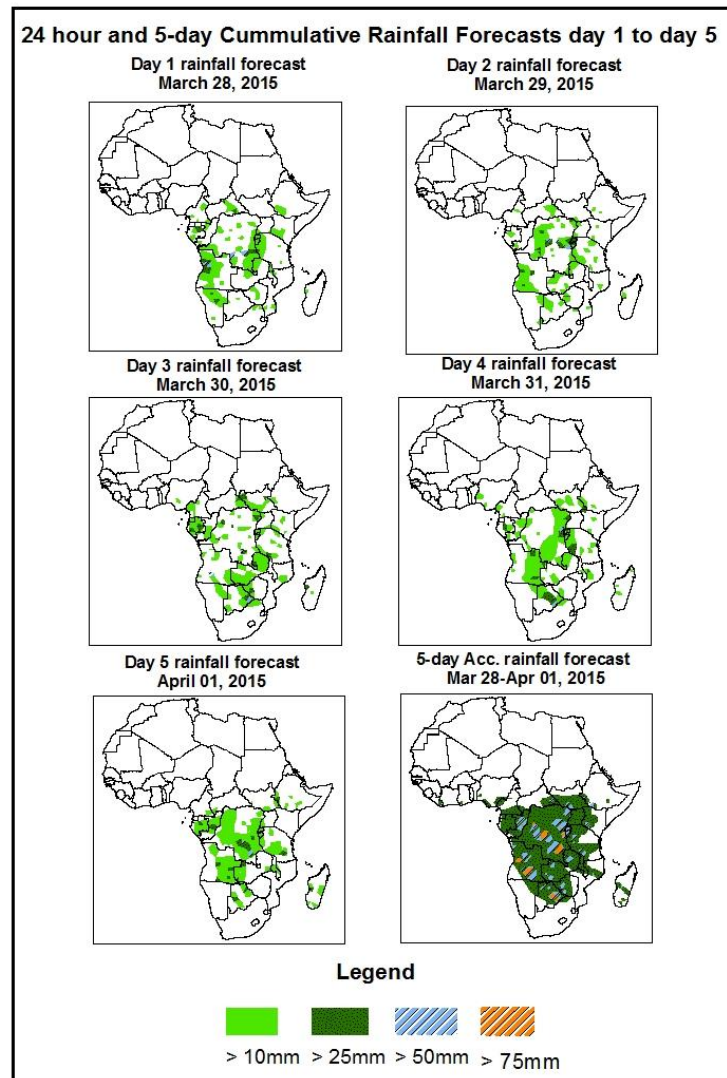


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1. Rainfall Forecast: Valid 06Z of March 28 – 06Z of April 01, 2015. (Issued at 1700Z of March 27, 2015)

### 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 the NCEP global ensemble forecasts system (GEFS) and expert assessment.

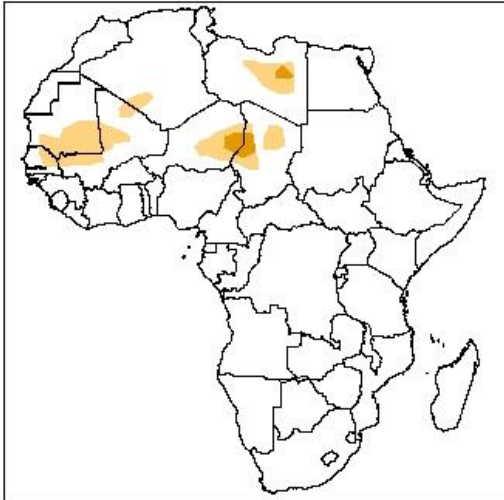


### Summary

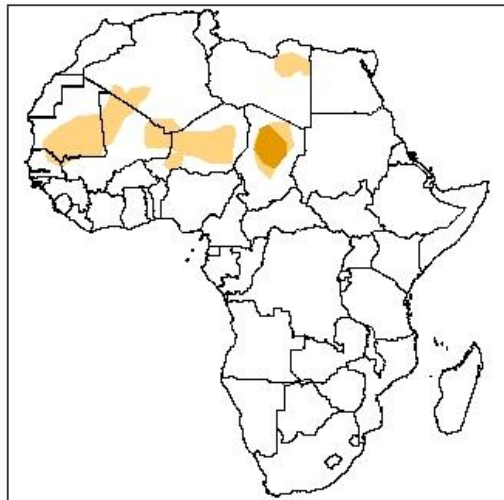
In the next five days, lower-level wind convergence in the region between Cameroon and Angola is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over Congo Brazzaville, DRC, Burundi, Zambia, Botswana and Angola.

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

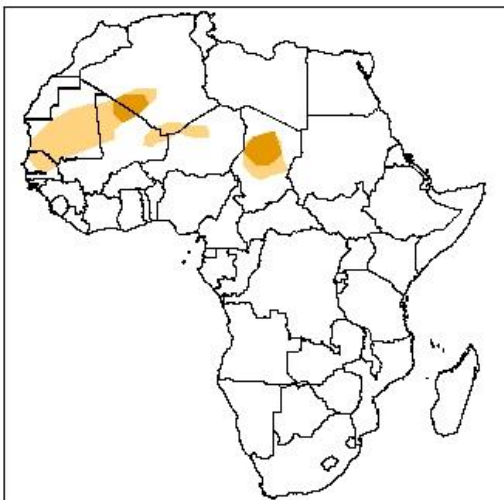
**Day 1 Dust forecast**  
March 28, 2015



**Day 2 Dust forecast**  
March 29, 2015



**Day 3 Dust forecast**  
March 30, 2015



**Highlights**

There is an increased chance for moderate to high dust concentration over some parts of the Sahel, and North Africa countries, with highest dust concentration expected over some parts Mali, Algeria, Libya, Mauritania, Chad and Niger.

**Legend**



MDC, Vis. < 5km



HDC, Vis. < 1km

## **1.2. Model Discussion: Valid from 00Z of March 28, 2015**

The Azores high pressure system over the Northeast Atlantic Ocean is expected to remain constant at a value of 1034hpa during the forecast period, according to the GFS model.

The Arabian High Pressure system is expected to weaken slightly from a central pressure value of 1019hpa in 24 hours to 1018hpa in 120 hours, according to the GFS model.

The central pressure value of the Mascarene high pressure system over the southwestern Indian Ocean is expected to intensify from a value of 1025hpa in 24 hours to a value of 1033hpa in 120 hours, according to the GFS model.

The St Helena high pressure system over the Southeast Atlantic Ocean is expected to intensify from a central pressure value of 1019hpa in 24 hours to a central pressure value of 1026hpa in 120 hours, according to the GFS model.

At 925Hpa level, dry northeasterly to easterly wind (>20kts) is expected to prevail across much of the Sahel countries through 24 to 72 hours, and the intensity of the wind tends to weaken across the Northcentral and Northeastern regions of Africa, while remaining moderately strong across Northwestern Africa towards end of the forecast period.

At 850Hpa level, northeasterly wind is expected to prevail across Central and East African countries during the forecast period. Wind convergences are expected to remain active in Cameroon, DRC, CAR and Angola during the forecast period.

At 700hpa level, a trough associated with mid-latitude frontal system is expected to prevail across Northwest Africa. Divergence over West Africa and Southern African countries, North-easterly wind flow over east and central Africa is expected to prevail during the forecast period, according to the GFS model.

At 500Hpa, a trough associated with a mid-latitude frontal system is expected to prevail across eastern Mediterranean Sea. Divergence over West Africa, Greater Horn of Africa and Mozambique channel, westerly wind flow over Southern African Countries and Easterlies over east and central Africa will prevail in the region during the forecast period, according to the GFS model.

In the next five days, lower-level wind convergence in the region between Cameroon and Angola is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over Congo Brazzaville, DRC, Burundi, Zambia, Botswana and Angola.

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

(March 26, 2015 – March 27, 2015)

### 2.1. Weather assessment for the previous day (March 26, 2015)

Moderate to heavy rainfall were observed across Nigeria, Cameroon, Gabon, Ghana, Ivory Coast, Benin, Uganda, Equatorial Guinea, Congo Brazzaville, DRC and CAR.

### 2.2. Weather assessment for the current day (March 27, 2015)

Intense convective deep clouds are observed over DRC, Ghana, Nigeria, Angola, Cameroon, Zimbabwe, CAR, Botswana, Namibia, Congo Brazzaville and Madagascar.

