

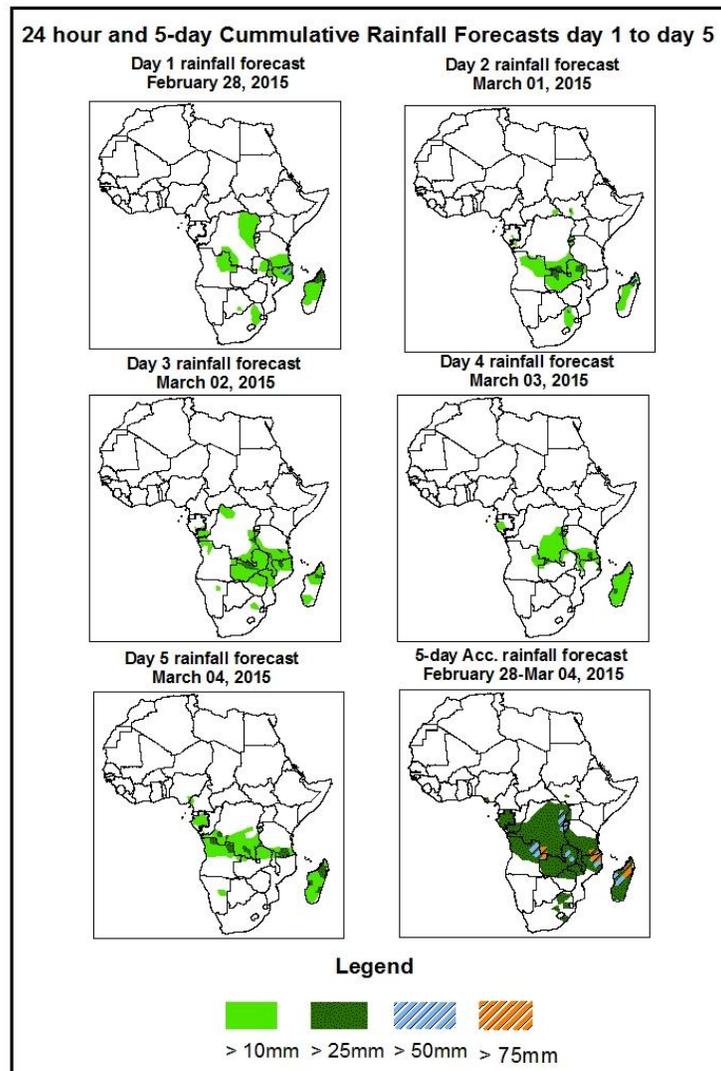


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1. Rainfall Forecast: Valid 06Z of February 28 – 06Z of March 04, 2015. (Issued at 1730Z of February 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.

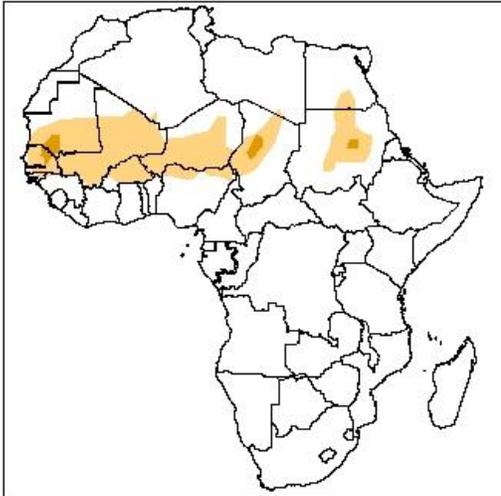


### Summary

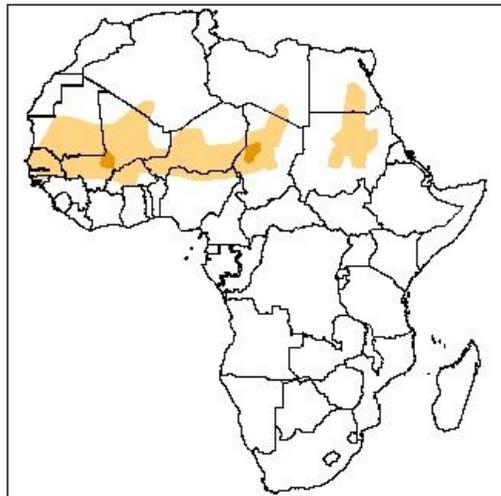
In the next five days, lower-level wind convergence in the region between Angola and Mozambique is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over CAR, DRC, Zambia, Southern Tanzania, Cameroon, Botswana, Rwanda, Southern Nigeria, Northern Mozambique, South Africa, Angola and Madagascar.

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

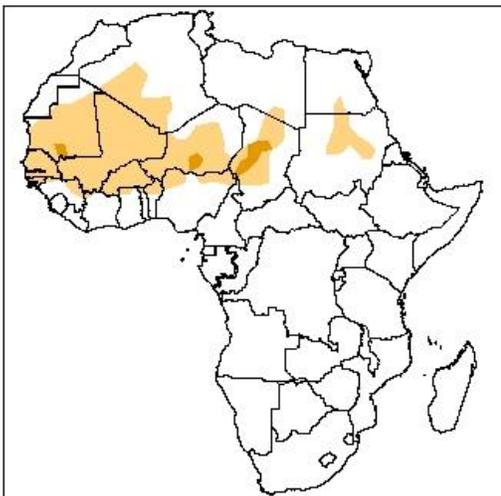
**Day 1 Dust forecast**  
February 28, 2015



**Day 2 Dust forecast**  
March 01, 2015



**Day 3 Dust forecast**  
March 02, 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 of Senegal, Chad, Gambia, Egypt, Mauritania, Algeria, Mali, Burkina Faso and Niger.

**Legend**



MDC, Vis. < 5km



HDC, Vis. < 1km

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

The Azores high pressure system over the Northeast Atlantic Ocean is expected to weaken from a central pressure value of 1037hpa in 24 hours to a central pressure value of 1033hpa 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 1021hpa in 24 hours to 1020hpa during the forecast period, according to the GFS model.

The central pressure value of the Mascarene high pressure system over the southwestern Indian Ocean is expected to intensify slightly from 1025hpa to 1026hpa during the forecast period, 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 1024hpa in 24 hours to a central pressure value of 1029hpa 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 DRC, Zambia, Mozambique, Namibia, Botswana, Madagascar, Rwanda, South Africa, CAR, Southern Nigeria, and Angola during the forecast period. Zonally oriented wind convergence is expected to prevail in the region.

At 700hpa level, a trough associated with mid-latitude frontal system is expected to prevail across North West Africa extending into the Sahel regions of West Africa. North easterly wind flow over east and central Africa and a trough within the Mozambique channel 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 and Greater Horn of Africa. 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 Angola and Mozambique is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over CAR, DRC, Zambia, Southern Tanzania, Cameroon, Botswana, Rwanda, Southern Nigeria, Northern Mozambique, South Africa, Angola and Madagascar.

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

(February 26, 2015 – February 27, 2015)

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

Moderate to heavy rainfall were observed across CAR, Cameroon, Equatorial Guinea, Congo Brazzaville, DRC, Angola, Malawi, Zambia, Northern Mozambique, South Africa, Ethiopia, Uganda, Tanzania, Botswana and Madagascar.

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

Intense convective deep clouds are observed over Southern Nigeria, Cameroon, Gabon, Equatorial Guinea, DRC, Angola, Zambia, Malawi, South Africa, Mozambique, Uganda, Tanzania and Madagascar.

