

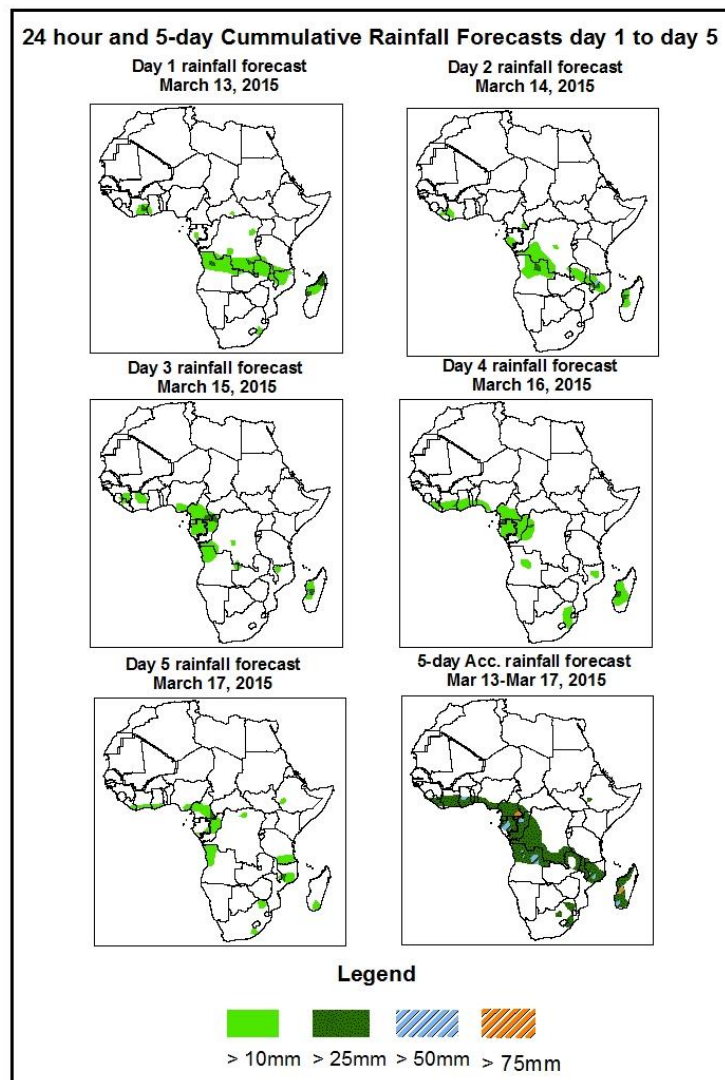


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1. Rainfall Forecast: Valid 06Z of March 13 – 06Z of March 17, 2015. (Issued at 1700Z of March 12, 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.

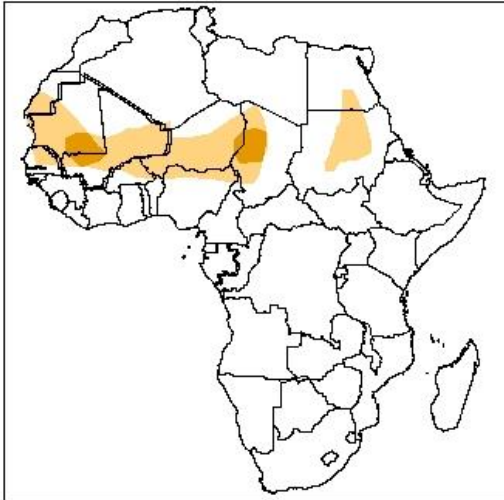


### Summary

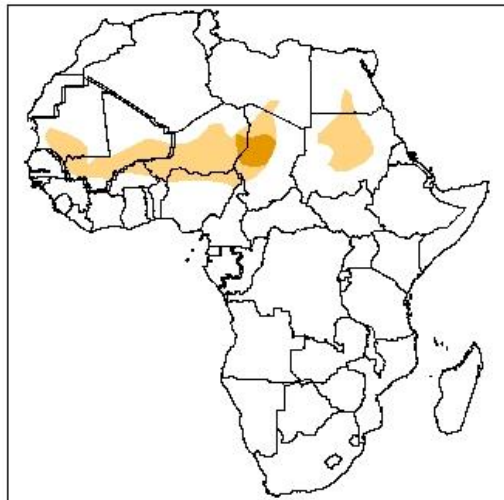
In the next five days, lower-level wind convergence in the region between Cameroon and Mozambique is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over Gabon, Ivory Coast, Northern Mozambique, Cameroon and Angola.

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

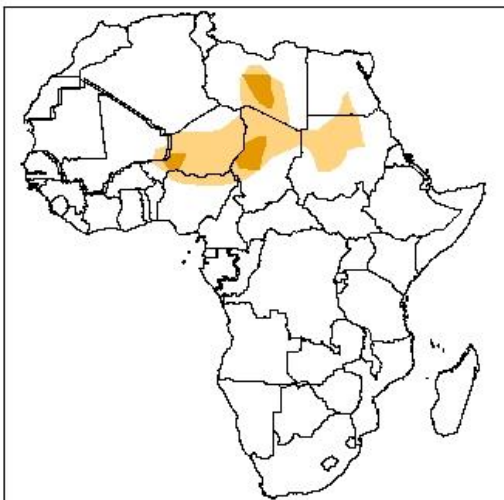
**Day 1 Dust forecast**  
March 13, 2015



**Day 2 Dust forecast**  
March 14, 2015



**Day 3 Dust forecast**  
March 15, 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 Sudan, Chad, Mauritania, Libya, Mali and Niger.

**Legend**



MDC, Vis. < 5km



HDC, Vis. < 1km

## **1.2. Model Discussion: Valid from 00Z of March 13, 2015**

The Azores high pressure system over the Northeast Atlantic Ocean is expected to weaken from a central pressure value of 1033hpa in 24 hours to a central pressure value of 1028hpa during the forecast period, according to the GFS model.

The Arabian High Pressure system is expected to weaken from a central pressure value of 1022hpa in 24 hours to 1019hpa 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 a value of 1030hpa in 24 hours to a value of 1031hpa in 120 hours, according to the GFS model.

The St Helena high pressure system over the Southeast Atlantic Ocean is expected to intensify slightly from a central pressure value of 1028hpa 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 Ivory Coast, Cameroon, Southern Nigeria, South Africa and Angola during the forecast period.

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. Divergence over 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 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 Mozambique is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over Gabon, Ivory Coast, Northern Mozambique, Cameroon and Angola.

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

(March 11, 2015 – March 12, 2015)

### 2.1. Weather assessment for the previous day (March 11, 2015)

Moderate to heavy rainfall were observed across Southern Nigeria, Cameroon, DRC, South Sudan, Angola, Ivory Coast, South Africa, Zambia and Madagascar.

### 2.2. Weather assessment for the current day (March 12, 2015)

Intense convective deep clouds are observed over DRC, Angola, Zambia, Northern Mozambique, South Africa, South Sudan, Southern Tanzania and Madagascar.

