

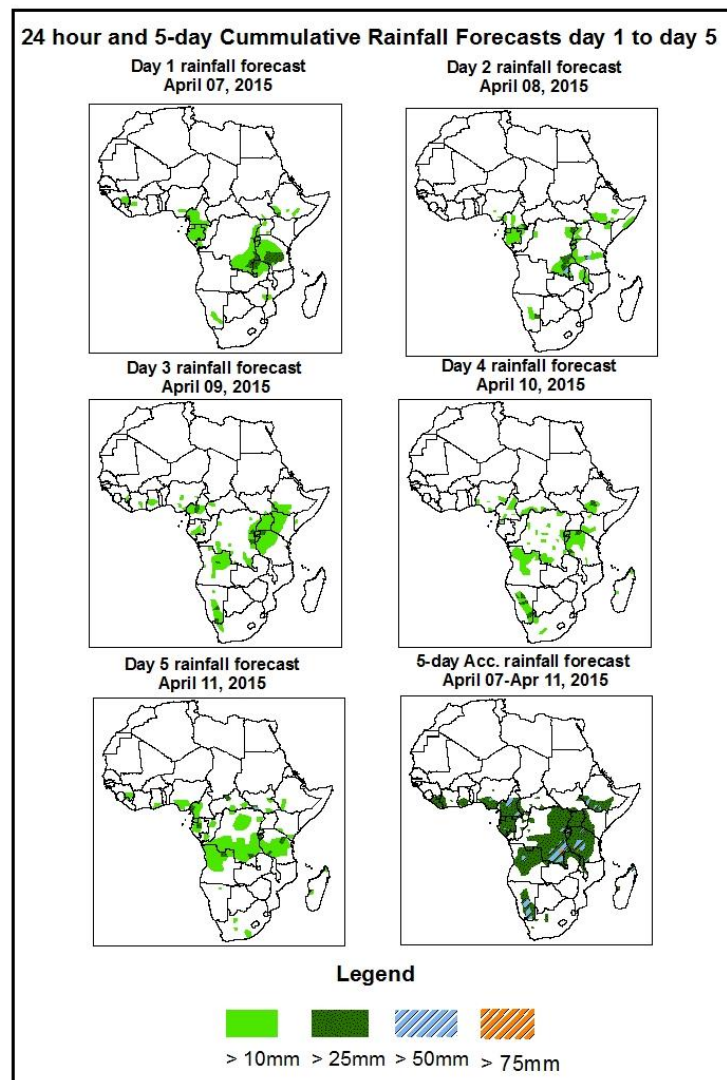


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1. Rainfall Forecast: Valid 06Z of April 07 – 06Z of April 11, 2015. (Issued at 1700Z of April 06, 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.

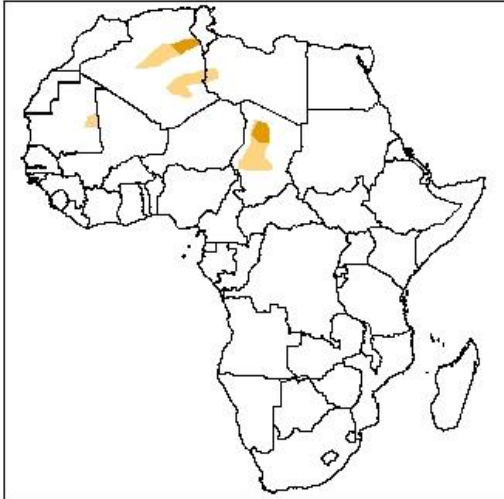


### Summary

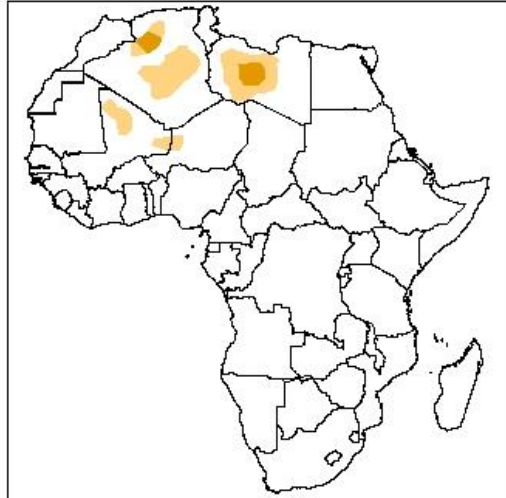
In the next five days, lower-level wind convergence in the region between Nigeria and Tanzania is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over Tanzania, DRC, Burundi, Namibia and Cameroon.

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

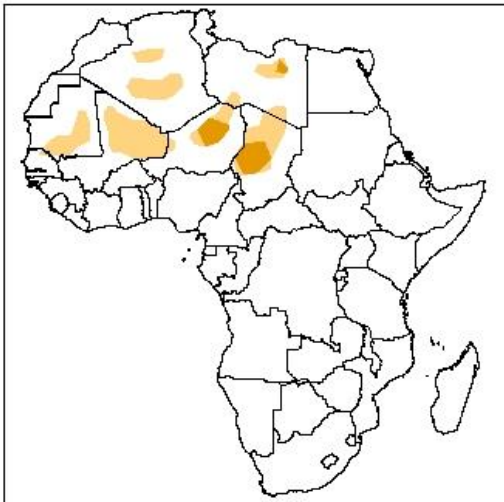
**Day 1 Dust forecast**  
April 07, 2015



**Day 2 Dust forecast**  
April 08, 2015



**Day 3 Dust forecast**  
April 09, 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 Mauritania, Libya, Mali, Niger, Chad and Algeria.

**Legend**



MDC, Vis. < 5km



HDC, Vis. < 1km

## **1.2. Model Discussion: Valid from 00Z of April 07, 2015**

The Azores high pressure system over the Northeast Atlantic Ocean is expected to weaken from a central pressure value of 1036hpa in 24 hours to 1032hpa in 120hours, according to the GFS model.

The Arabian High Pressure system is expected to remain constant at a central pressure value of 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 weaken from a value of 1023hpa in 24 hours to a value 1021hpa in 120 hours, according to the GFS model.

The St Helena high pressure system over the Southeast Atlantic Ocean is expected to weaken from a central pressure value of 1027hpa in 24 hours to 1018hpa 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 North central 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 South Sudan, Cameroon, CAR, DRC, Tanzania and Nigeria 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, convergence over DRC, Angola, 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, Easterlies over east and central Africa and westerly wind flow over Southern African countries 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 Nigeria and Tanzania is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over Tanzania, DRC, Burundi, Namibia and Cameroon.

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

(April 05, 2015 – April 06, 2015)

### 2.1. Weather assessment for the previous day (April 05, 2015)

Moderate to heavy rainfall were observed across Guinea Bissau, Ivory Coast, Ghana, Nigeria, Zambia, Malawi, Tanzania, Kenya, DRC and CAR.

### 2.2. Weather assessment for the current day (April 06, 2015)

Intense convective deep clouds are observed over DRC, Uganda, South Sudan, CAR, Ethiopia, Tanzania, Zimbabwe, Kenya and Zambia

