

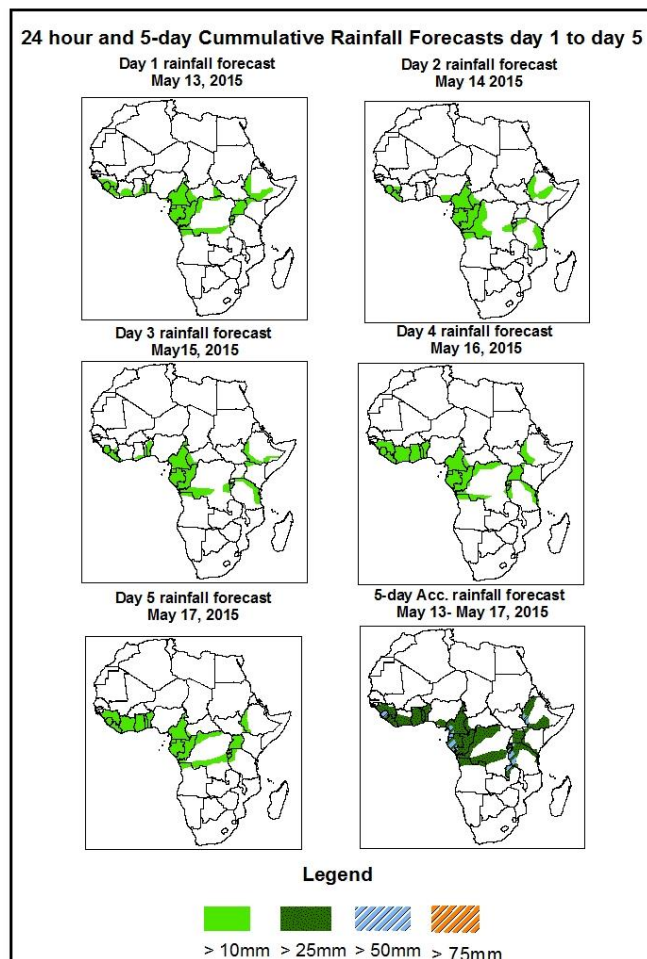


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1. Rainfall Forecast: Valid 06Z of May 13 – 06Z of May 17, 2015. (Issued at 1600Z of May 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.

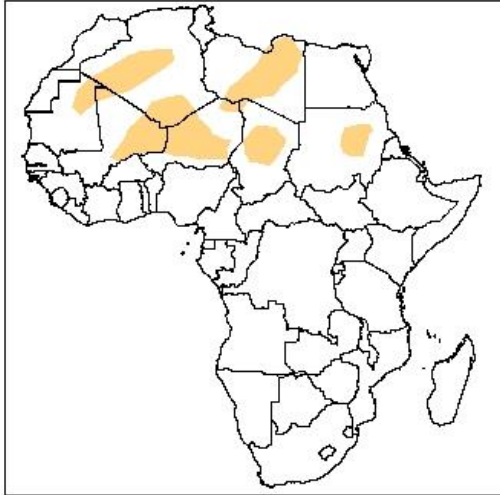


### Summary

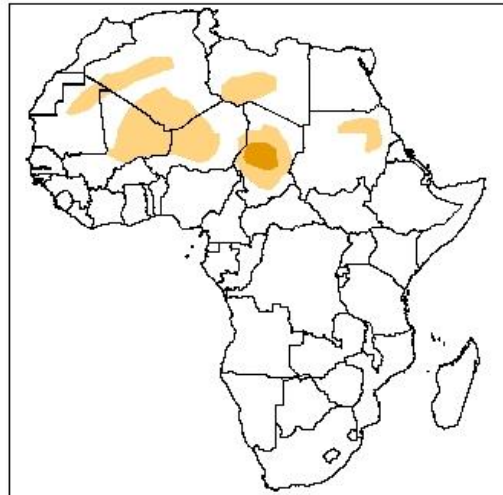
In the next five days, lower-level wind convergence over Mali, Cameroon, CAR, Sudan, and Ethiopia, is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over Cameroon, Gabon, Tanzania, Equatorial Guinea, Rwanda, Sierra Leon, Burundi, and Ethiopia.

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

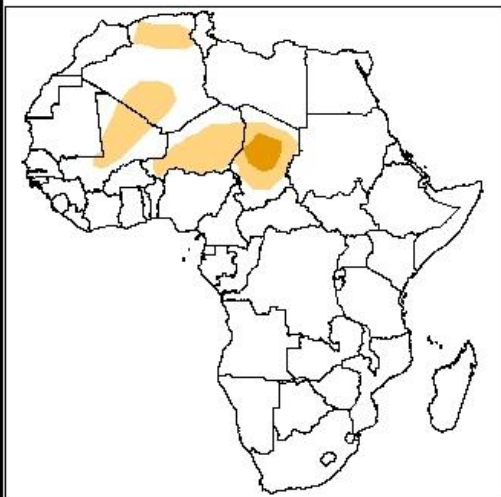
**Day 1 Dust forecast**  
May 13, 2015



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



**Day 3 Dust forecast**  
May 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 of Chad.

**Legend**



MDC, Vis. < 5km



HDC, Vis. < 1km

## **1.2. Model Discussion: Valid from 06Z of May 13, 2015**

The Azores high pressure system over the Northeast Atlantic Ocean is expected to intensify from central pressure value of 1024hpa in 24 hours to 1036hpa in 120hours, according to the GFS model.

The Arabian High Pressure system is expected to intensify from central pressure value of 1019hpa in 72 hours to 1021hpa in 120hours, 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 central pressure value of 1040hpa in 48 hours to 1036hpa in 96hours, according to the GFS model.

The St Helena high pressure system over the Southeast Atlantic Ocean is expected to slightly weaken from central pressure value of 1029hpa in 24 hours to 1028hpa in 120hours, according to the GFS model.

At 925Hpa level, easterly and north-easterly wind (>20kts) is expected to prevail across much of the African countries through 24 to 120 hours while the intensity of the wind tends to weaken across the North, central, Northeastern regions of Africa, while remaining moderately strong across Northwestern Africa towards end of the forecast period, according to the GFS model.

At 850Hpa level, Easterly and North-Easterly wind over North and West African countries, Easterly and South Easterly wind over East, Central and southern African countries, is expected to prevail across in these Region, While wind convergence is expected to remain active in Mali, Cameroon, CAR, Sudan and Ethiopia during the forecast period, according to the GFS model.

At 700hpa level, a trough associated with mid-latitude frontal system is expected to prevail across North and Northeast African countries. Easterly wind over west, East and Central African countries, Southeasterly winds over Southern African countries, is

expected to prevail across in these Regions, during the forecast period, according to the GFS model.

At 500Hpa level, a trough associated with mid-latitude frontal system is expected to prevail across North and Northeast African countries. Easterly wind is expected to prevail across West, Central and East African countries. While Westerly wind over Southern African countries, is expected to prevail across in these regions, during the forecast period, according to the GFS model.

In the next five days, lower-level wind convergence over Mali, Cameroon, CAR, Sudan, and Ethiopia, is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over Cameroon, Gabon, Tanzania, Equatorial Guinea, Rwanda, Sierra Leon, Burundi, and Ethiopia.

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

(May 11, 2015 – May 12, 2015)

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

Moderate to heavy rainfall were observed across Guinea, Sierra Leon, Ivory Coast, Liberia, Equatorial Guinea, Southern Chad, CAR, Nigeria, DRC, Uganda, few places of Kenya and Angola, South Sudan and Ethiopia.

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

Intense convective deep clouds are observed over Gabon, DRC, Cameroon, CAR, Southern Chad, South Sudan, Sudan and Ethiopia.

