

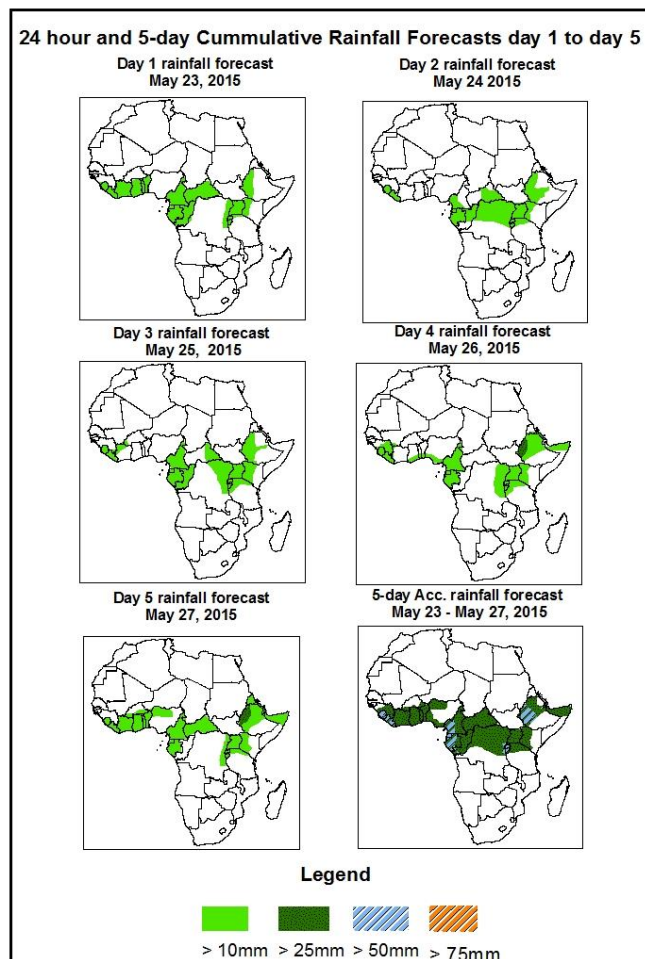


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1. Rainfall Forecast: Valid 06Z of May 23 – 06Z of May 27, 2015. (Issued at 1630Z of May 22, 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.

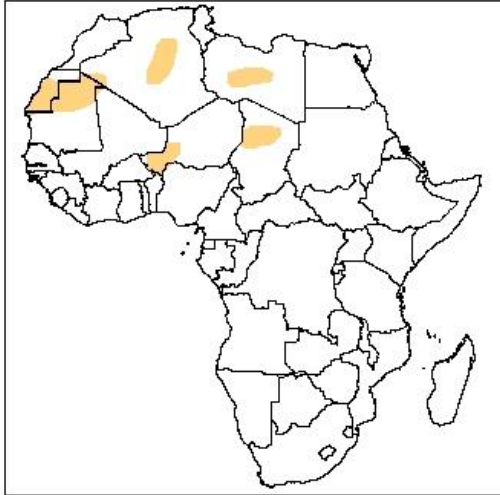


### Summary

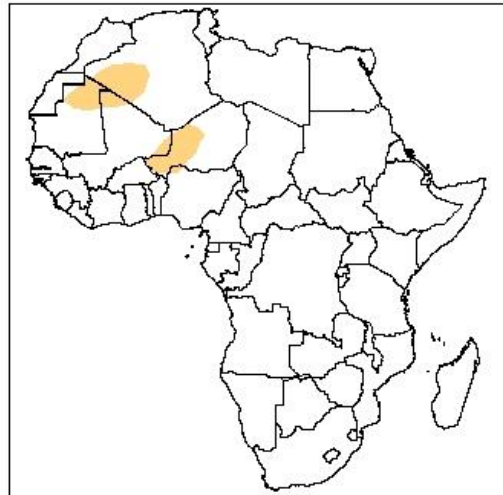
In the next five days, lower-level wind convergence over Mali, Nigeria, Southern Chad, Cameroon, Sudan, and Ethiopia, is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over Sierra Leone, Liberia, Uganda, Rwanda, Gabon, Burundi and Ethiopia.

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

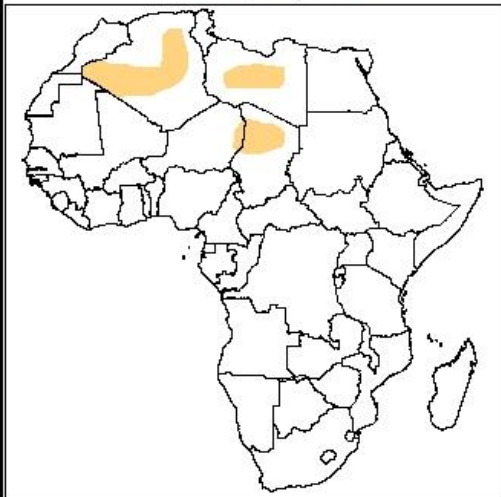
**Day 1 Dust forecast**  
May 23, 2015



**Day 2 Dust forecast**  
May 24, 2015



**Day 3 Dust forecast**  
May 25, 2015



**Highlights**

There is an increased chance for moderate to high dust concentration over some parts of the Sahel, and North African countries.

**Legend**



MDC, Vis. < 5km



HDC, Vis. < 1km

## **1.2. Model Discussion: Valid from 06Z of May 23, 2015**

The Azores high pressure system over the Northeast Atlantic Ocean is expected to slightly weaken from a central pressure value of 1036hpa in 24hours to 1035hpa 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 intensify from central pressure value of 1029hpa in 24 hours to 1034hpa in 120hours, 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 1025hpa in 24hours to 1022hpa in120 hours, according to the GFS model.

At 925Hpa level, easterly and north-easterly wind (>20kts) is expected to prevail across Northern and Western African countries and Southeasterly wind over East, Central and Southern 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 Countries 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, Nigeria, Cameroon, Southern Chad, 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. South Easterly wind is expected to prevail across Central and Eastern 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 Nigeria, Southern Chad, Cameroon, Sudan, and Ethiopia, is expected to enhance rainfall in these regions. There is an increased a chance for heavy rainfall over Sierra Leon, Liberia, Uganda, Rwanda, Gabon, Burundi and Ethiopia.

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

(May 21, 2015 – May 22, 2015)

### 2.1. Weather assessment for the previous day (May 21, 2015)

Moderate to heavy rainfall were observed across Guinea, Nigeria, Cameroon, Sierra Leon, Liberia, Equatorial Guinea, Burkina Faso, Mali, Senegal, Few places of Ethiopia and Kenya.

### 2.2. Weather assessment for the current day (May 22, 2015)

Intense convective deep clouds are observed over Guinea, Nigeria, Morocco, Southern Chad, CAR, South Sudan and Ethiopia.

