

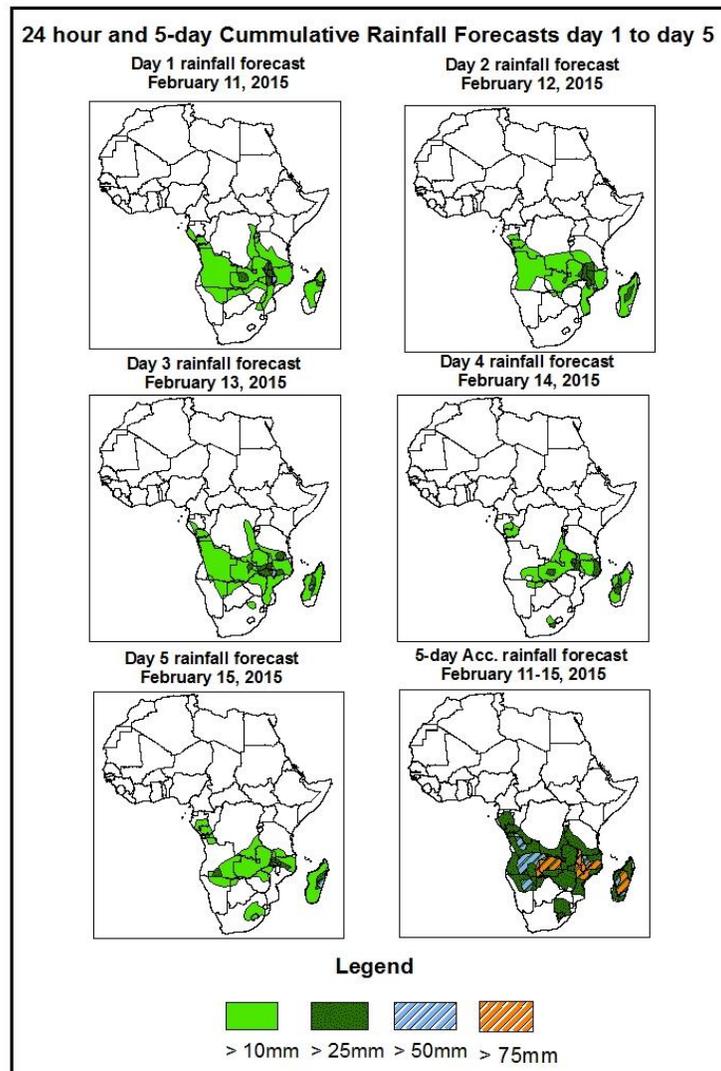


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1. Rainfall Forecast: Valid 06Z of February 11 – 06Z of February 15, 2015. (Issued at 1800Z of February 10, 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.

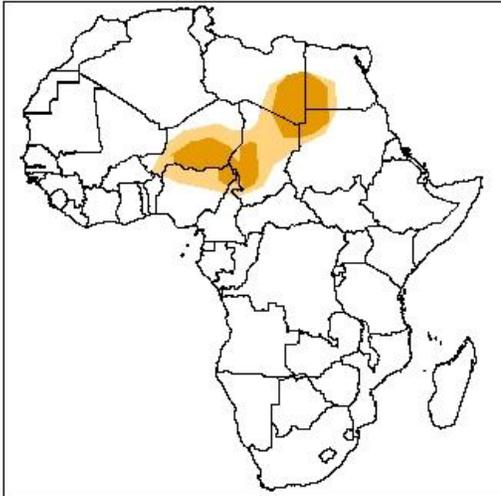


### Summary

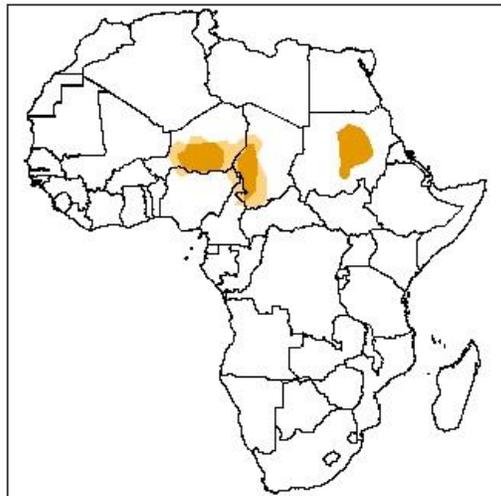
In the next five days, lower-level wind convergence in the region between Angola and Mozambique is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over C.A.R, Uganda, Angola, Zambia, Burundi, Rwanda, Mozambique, Zimbabwe, DRC and Madagascar.

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

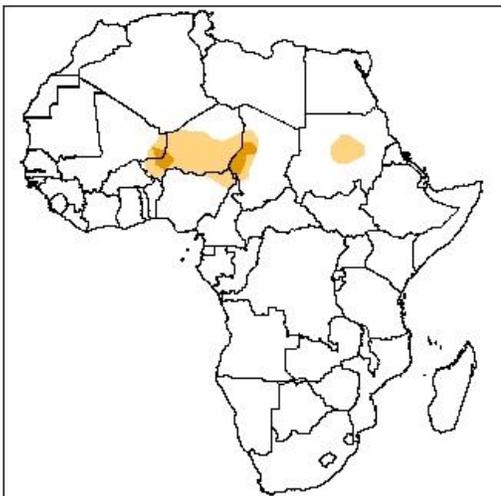
**Day 1 Dust forecast**  
February 11, 2015



**Day 2 Dust forecast**  
February 12, 2015



**Day 3 Dust forecast**  
February 13, 2014



**Highlights**

There is an increased chance for moderate to high dust concentration over several parts of the Sahel, and North Africa countries, with highest dust concentration expected over some parts of Chad, Northeast Nigeria, Niger and Sudan.

**Legend**



MDC, Vis. < 5km



HDC, Vis. < 1km

## **1.2. Model Discussion: Valid from 00Z of February 11, 2015**

The Azores high pressure system over the Northeast Atlantic Ocean is expected to intensify from a central pressure value of 1030hpa 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 from a central pressure value of 1027hpa in 24 hours to 1022hpa in 120 hours 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 1031hpa in 24 hours to 1023hpa 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 1025hpa 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 Angola, Northern Tanzania, Zambia, Botswana, CAR, Burundi, Uganda, Mozambique, DRC, South-Africa and Madagascar, during the forecast period. Zonally oriented wind convergence is expected to prevail in the region.

At 700hpa level, a trough is expected within the Mozambique Channel, a ridge over the Greater Horn of 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 the greater Horn of Africa countries will prevail in the region. Westerly wind flow over southern Africa will prevail towards the end of 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 C.A.R, Uganda, Angola, Zambia, Burundi, Rwanda, Mozambique, Zimbabwe, DRC and Madagascar.

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

(February 09, 2015 – February 10, 2015)

### 2.1. Weather assessment for the previous day (February 09, 2015)

Moderate to heavy rains were observed across, Zambia, Gabon, Cameroon, Congo Brazzaville, Malawi, Botswana, DRC, Botswana, northern Mozambique, Gabon, Congo Brazzaville and Madagascar.

### 2.2. Weather assessment for the current day (February 10, 2015)

Intense convective deep clouds are over Angola, southern Tanzania, Zambia, Northern Malawi, Eastern DRC, Mozambique, Rwanda, Burundi and some parts of Madagascar.

