

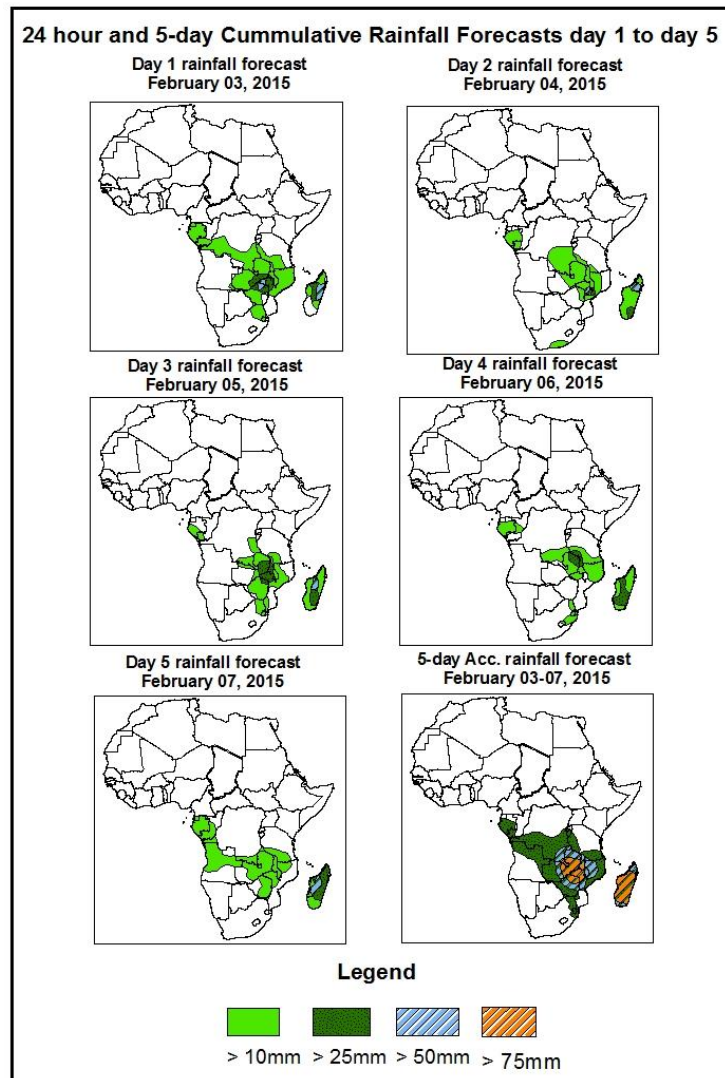


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1. Rainfall Forecast: Valid 06Z of February 03 – 06Z of February 07, 2015. (Issued at 1600Z of February 02, 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.

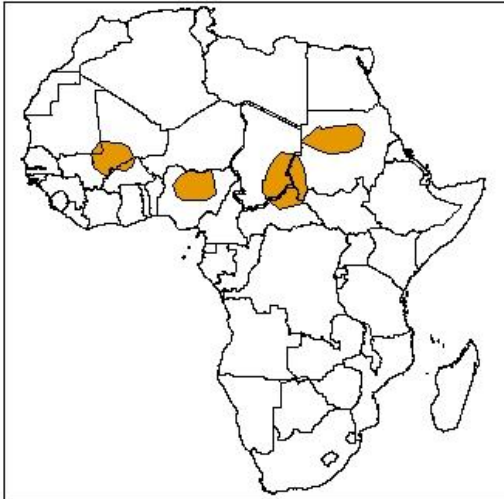


### Summary

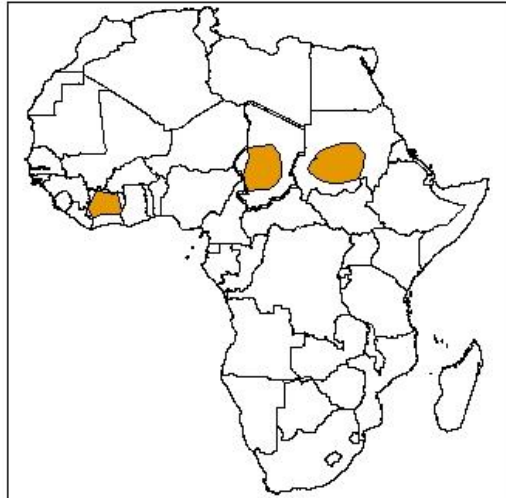
In the next five days, lower-level wind convergence in the region between Angola and Mozambique is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over Zambia, Tanzania, Malawi, Angola, Botswana, Mozambique, Congo Brazzaville, Gabon, Zimbabwe, DRC and Madagascar.

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

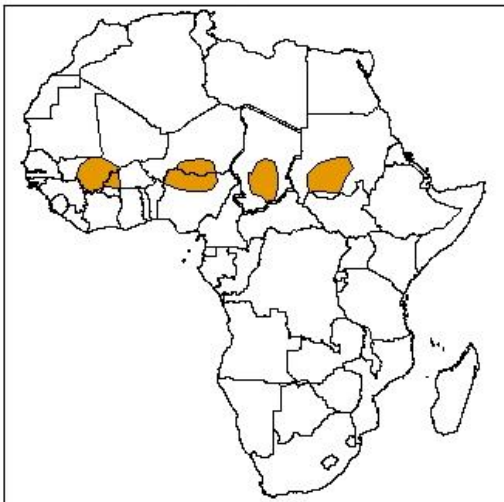
**Day 1 Dust forecast**  
February 03, 2015



**Day 2 Dust forecast**  
February 04, 2015



**Day 3 Dust forecast**  
February 05, 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 Mali, Niger, Chad, Ivory Coast, Nigeria, and Sudan.

**Legend**



MDC, Vis. < 5km



HDC, Vis. < 1km

## **1.2. Model Discussion: Valid from 00Z of January 30, 2015**

The Azores high pressure system over the Northeast Atlantic Ocean is expected to strengthen from a central pressure value of 1028hpa to a central pressure value of 1039hpa during the forecast period, according to the GFS model.

The Arabian High Pressure system is expected to strengthen from a central pressure value of 1021hpa in 24 hours to 1024 in 96 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 strengthen from 1025hpa in 24 hours to 1028hpa during the forecast period, 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 to 1026hpa 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 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 Zambia, southern Tanzania, Malawi, Angola, Burundi, Zimbabwe, Mozambique, DRC and Madagascar, during the forecast period. Zonally oriented wind convergence is expected to prevail in the region.

At 700hpa level, a zonal trough is expected between Angola and Malagasy with a low pressure region 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 and convergence off eastern Southern African coast 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 Zambia, Tanzania, Malawi, Angola, Botswana, Mozambique, Congo Brazzaville, Gabon, Zimbabwe, DRC and Madagascar.

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

(February 02 , 2015 – February 03 , 2015)

### 2.1. Weather assessment for the previous day (February 01 , 2015)

Intense convective deep clouds were observed across Angola, southern Tanzania, Zambia, northern Malawi, DRC, northern Mozambique, Gabon, Zimbabwe, Congo Brazzaville and Madagascar.

### 2.2. Weather assessment for the current day (February 02 , 2015)

Intense convective deep clouds are over across Angola, southern Tanzania, Zambia, Malawi, Congo Brazzaville, DRC, Mozambique, Zimbabwe, Gabon and some parts of Madagascar.

