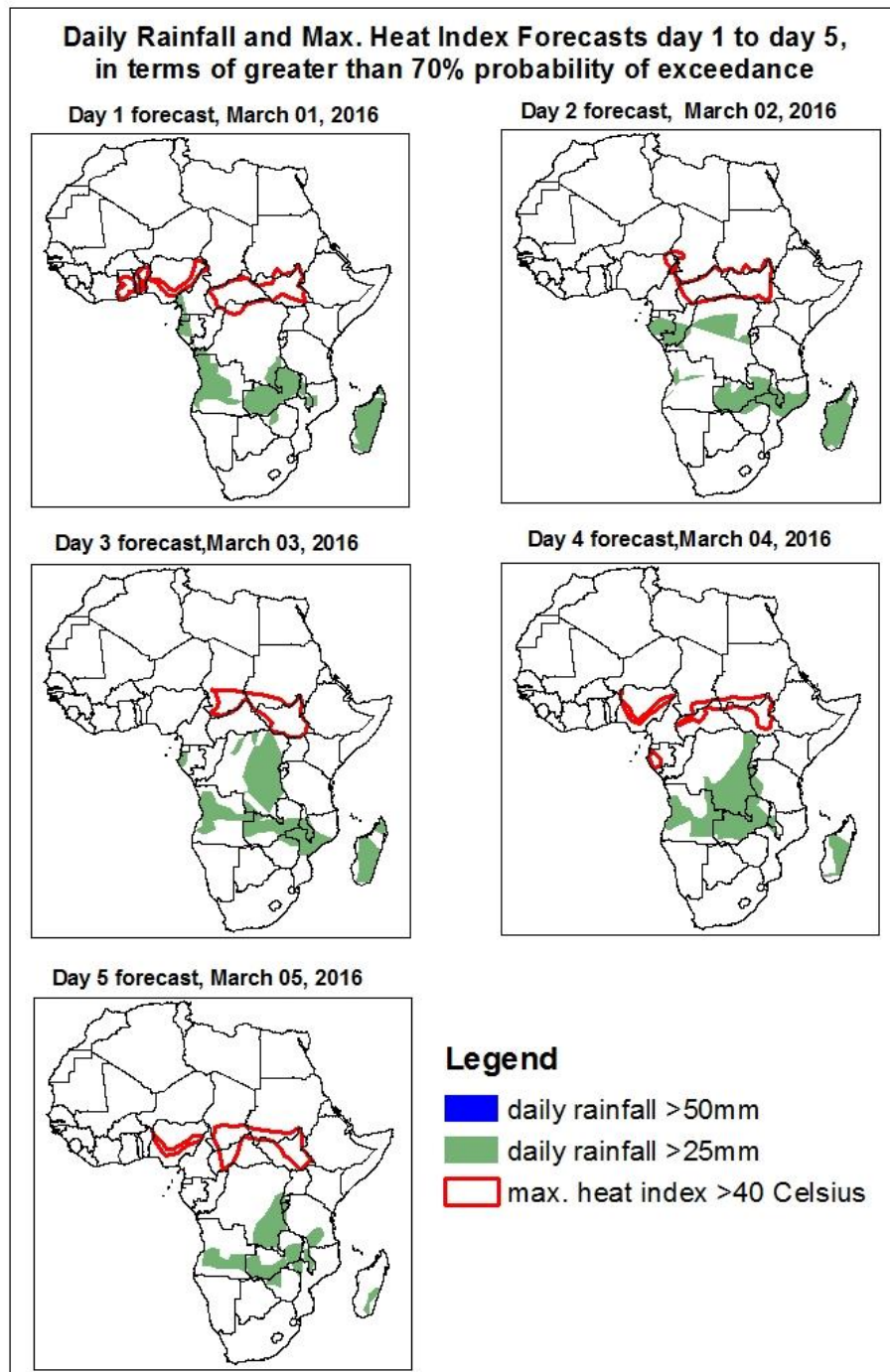


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

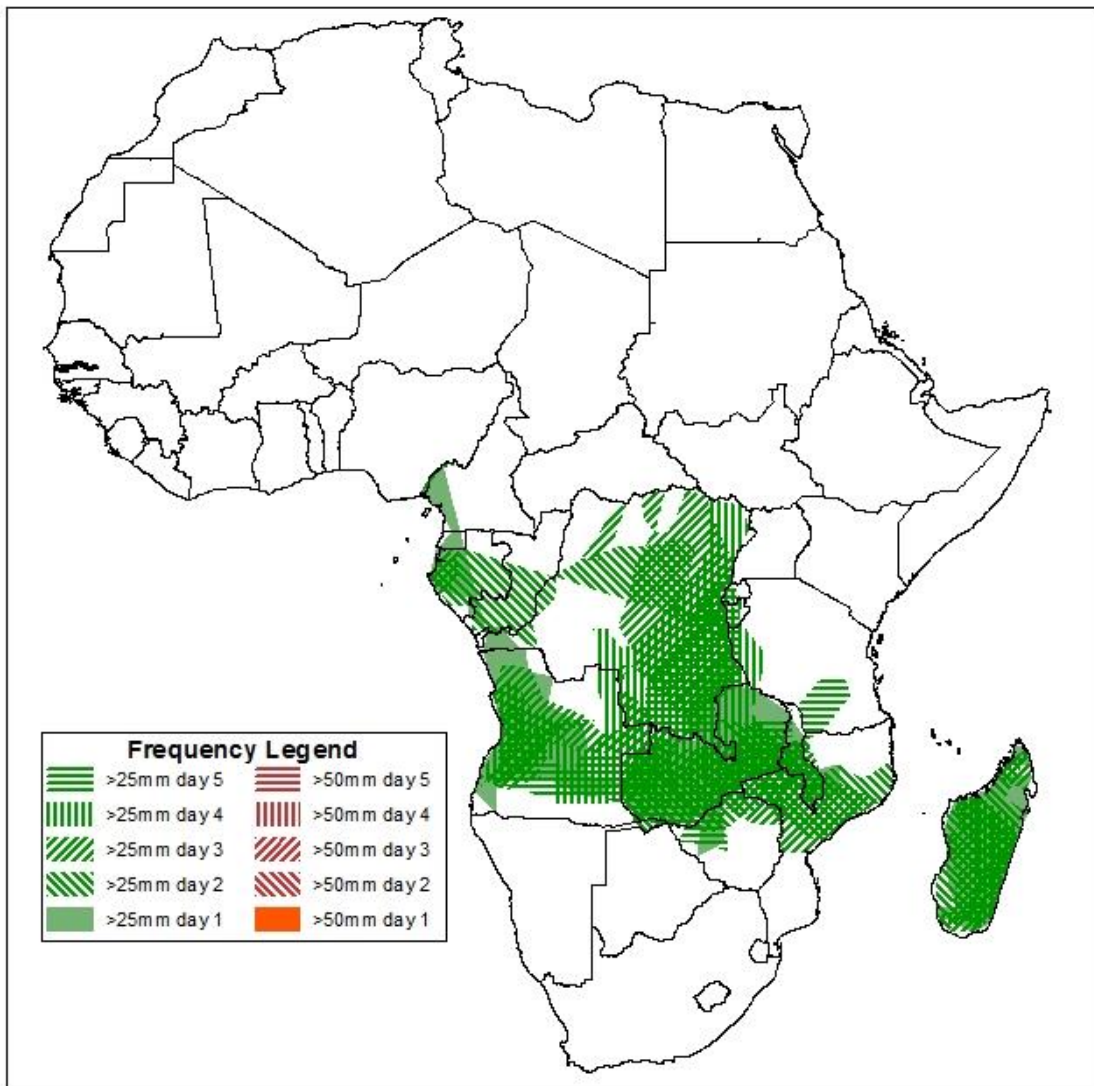
## 1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on February 29, 2016)

### 1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: March 01 – March 05, 2016)

The forecasts are expressed in terms of high probability of precipitation (POP) and high probability of maximum heat index, based on the NCEP/GFS, ECMWF and the NCEP Global Ensemble Forecasts System (GEFS) and expert assessment.



## Five Days Rainfall Forecast Summary March 01 - March 05, 2016

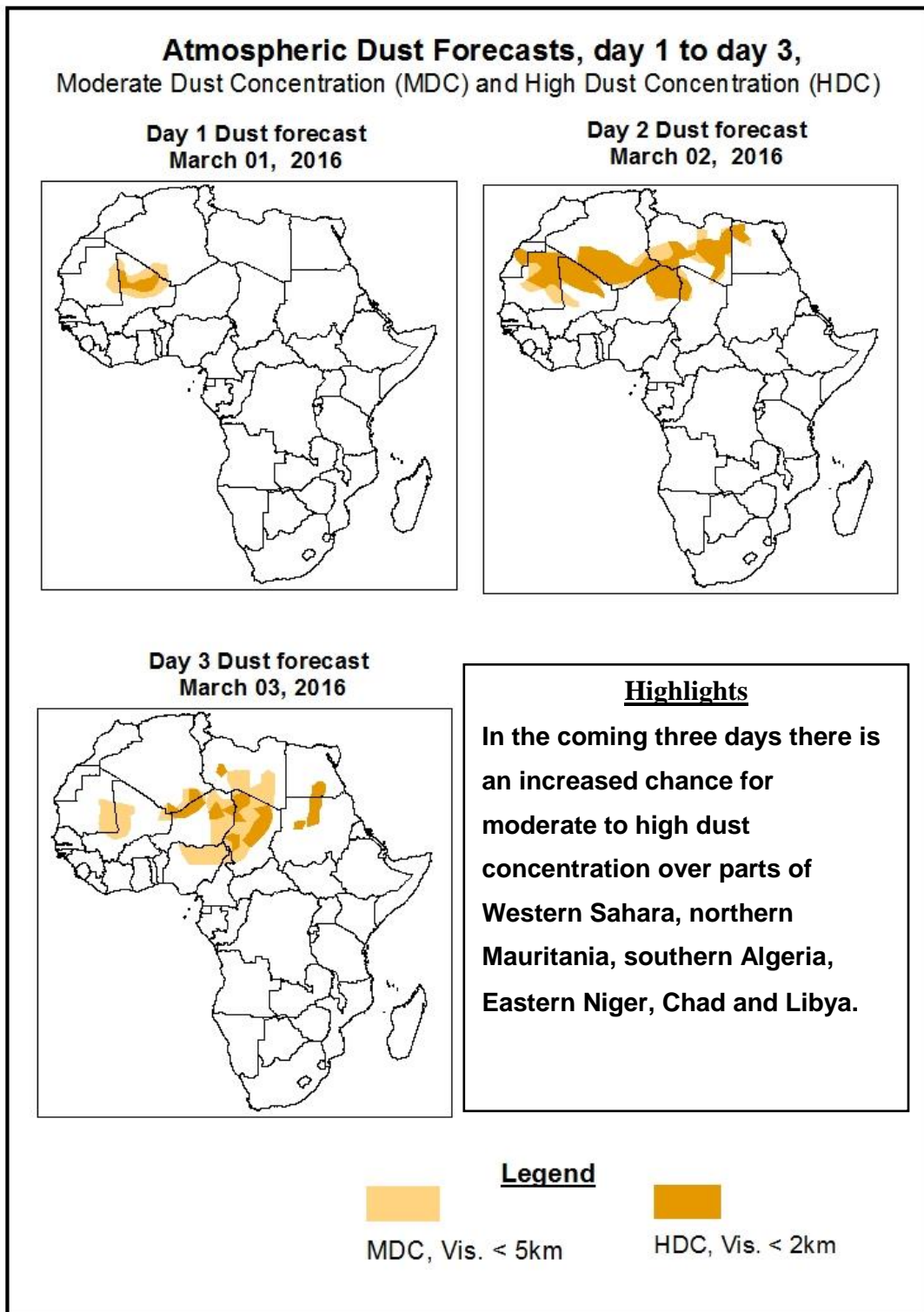


### Highlights

In the coming five days, there is an increased chance for two or more days of moderate to heavy rainfall over portions of Madagascar, southern DRC, western Angola, Zambia, northern Zimbabwe, Rwanda, Burundi, western Gabon and northern Mozambique.

## 1.2. Atmospheric Dust Concentration Forecasts (valid: Feb 29 – March 03, 2016)

The forecasts are expressed in terms of high probability of dust concentration, based on the Navy Aerosol Analysis and Prediction System, NCEP/GFS lower-level wind forecasts and expert assessment.



### **1.3. Model Discussion, Valid: March 01 – March 05, 2016**

The central pressure value associated with the Azores high pressure system over Northeast Atlantic is expected to decrease from about 1037 hPa in 24 hours to 1030 hPa in 72 hours, and attain this value up to the end of the forecast period.

The St. Helena High pressure system over the Southeast Atlantic Ocean is expected to intensify, with its central pressure value increasing from 1021HPa to 1023HPa, after 48hrs the pressure system is expected weaken to 1021Hpa.

The Mascarene high pressure system over the Southwest Indian Ocean with an initial central value of 1029Hpa is expected to intensify to 1031Hpa in the next 24hrs and maintain an average central pressure value of 1037HPa for the next 48Hrs after which it is expected to further weaken to 1024Hpa and 1023Hpa during the forecast period.

At 925 hPa level, strong dry northeasterly to easterly flow is expected to prevail across the portions of West and North Africa, leading to increased atmospheric dust concentration in some of these areas.

An area of cyclonic circulation is expected to enhance rainfall over parts of Angola. Easterly flow from the Indian Ocean and its associated convergence across Southeastern Africa is expected to enhance rainfall in the region. Seasonal wind convergences are also expected to maintain wet weather activity in the Lake Victoria region.

In the coming five days, there is an increased chance for two or more days of moderate to heavy rainfall over portions of Gabon, DRC, Angola, Zambia, Zimbabwe, northern Botswana, Rwanda, Burundi,, western and southern Tanzania, central and northern Mozambique, Malawi,, and Madagascar.

There is also an increased chance for maximum heat index values to exceed 40°C portions of portions of Ghana, Togo, Benin, parts of Nigeria, CAR, parts of northern DRC, eastern South Sudan and local areas in southwestern Ethiopia.

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

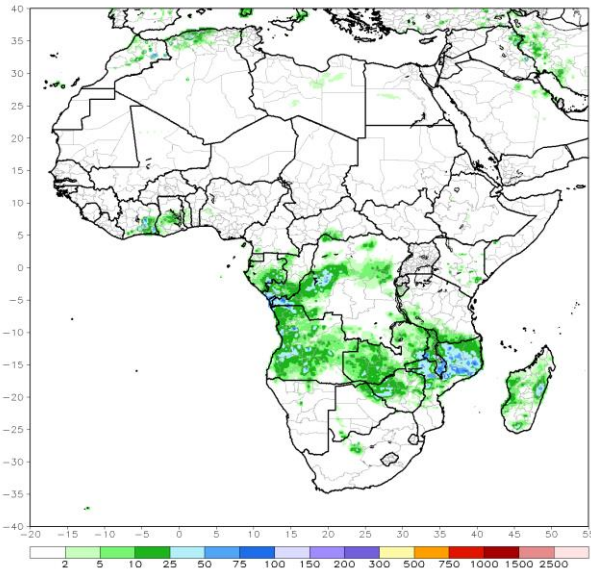
**2.1. Weather assessment for the previous day** (February 28, 2016)

Moderate to locally heavy rainfall was observed over portions of western DRC, eastern Madagascar, western Angola, northern Mozambique and eastern Zambia.

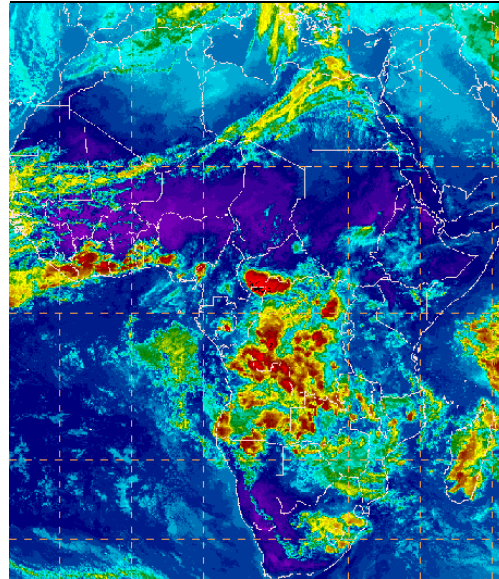
**2.2. Weather assessment for the current day** (February 29, 2016)

Intense convective clouds are observed across portions of south western DRC, western Zambia, southern, southern Madagascar and western CAR.

RFE2 Daily Total Rainfall (mm)  
Period: 28Feb2016



IR Satellite Image (valid 1530z February 29, 2016)



*Previous day rainfall condition over Africa (Left) based on the NCEP CPCE/RFE and current day cloud cover (right) based on IR Satellite image*

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