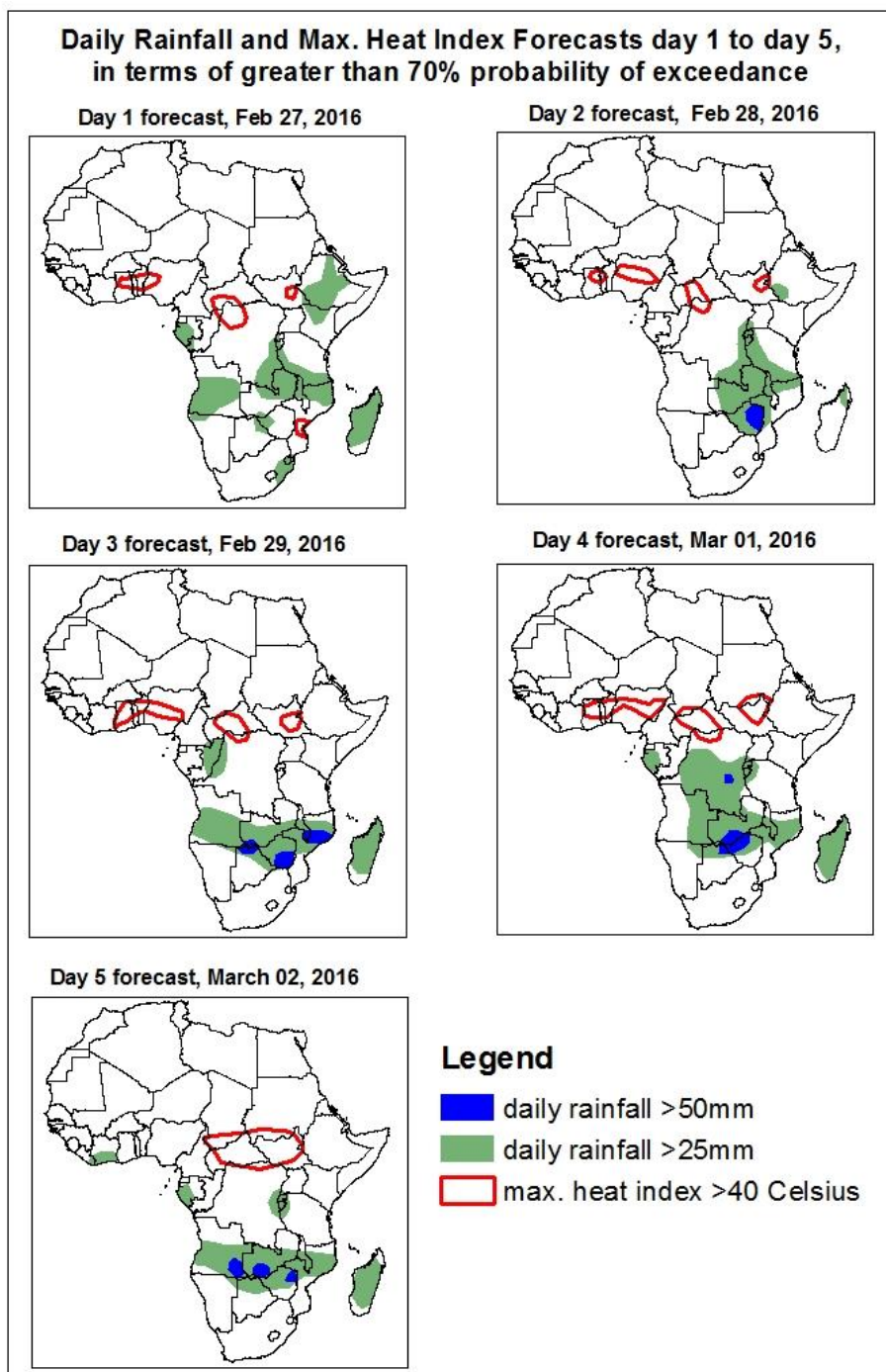


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

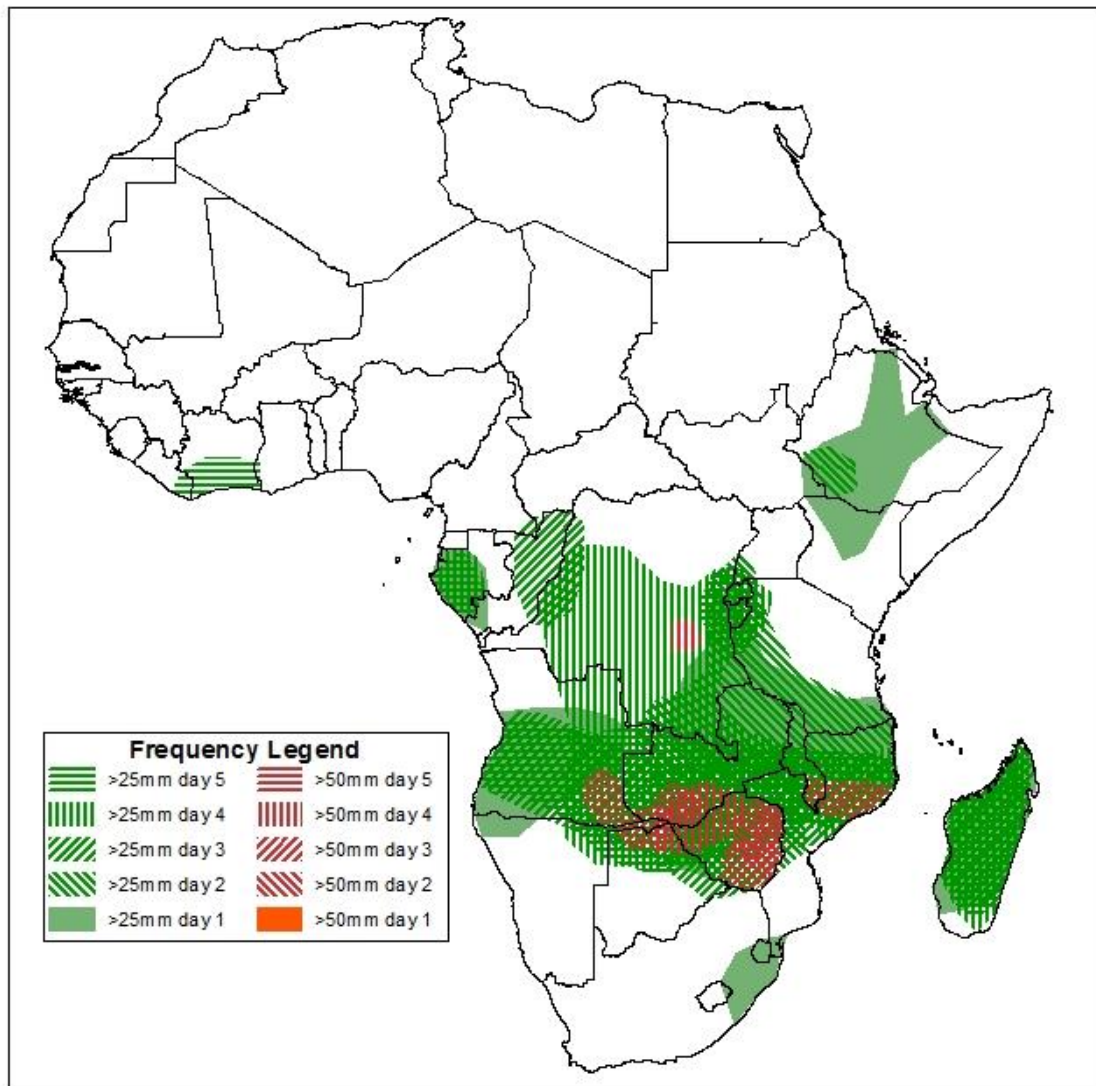
## 1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on February 26, 2016)

### 1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: Feb 27 – March 02, 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 February 27 - March 02, 2016

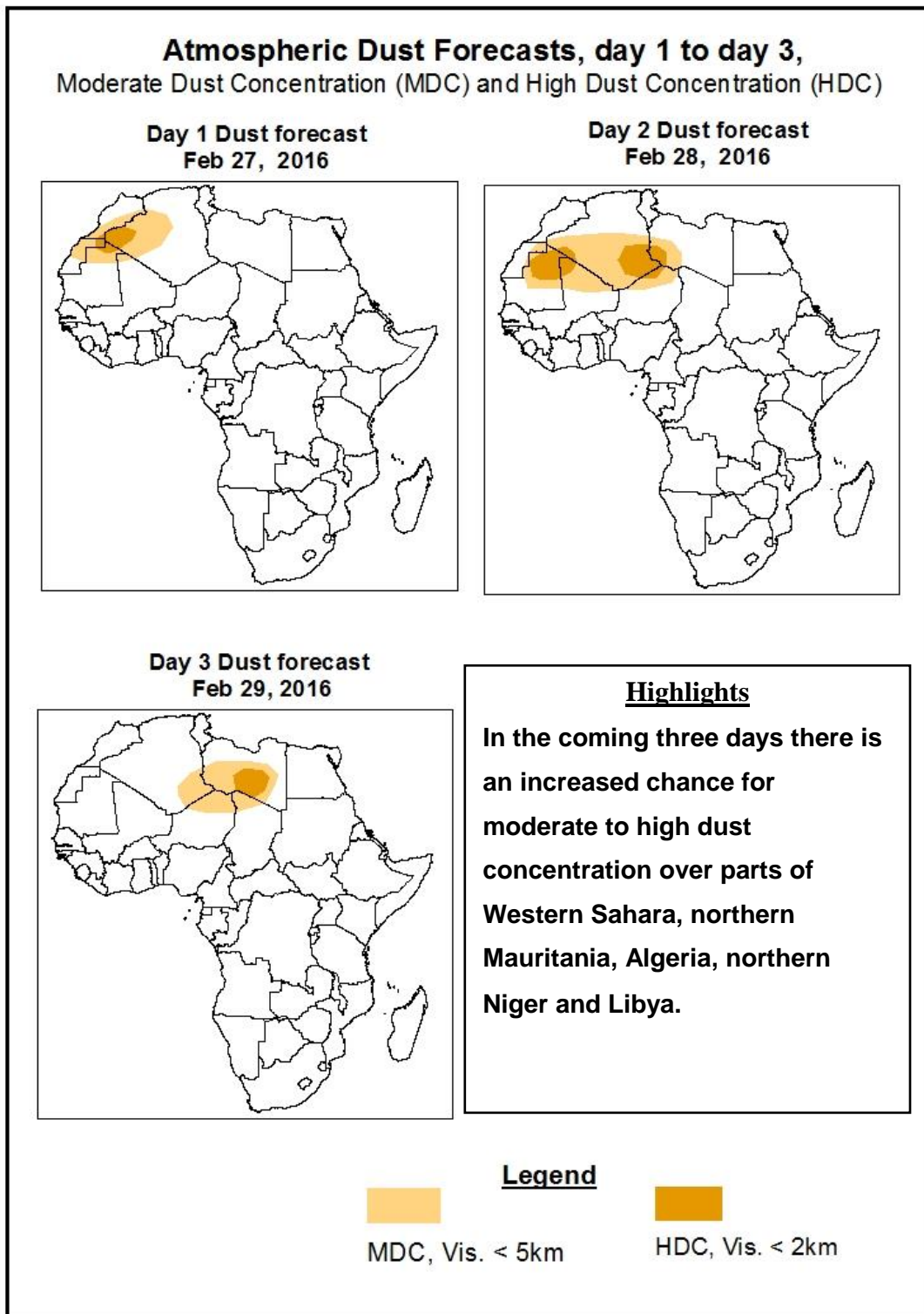


### Highlights

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

## 1.2. Atmospheric Dust Concentration Forecasts (valid: Feb 27 – Feb 29, 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: Feb 27 – March 02, 2016***

The central pressure value associated with the Azores high pressure system over Northeast Atlantic is expected to decrease from about 1035 hPa in 24 hours to 1032 hPa in 72 hours, and it tends to increase back to a central pressure value of 1035 hPa towards end of the forecast period.

The St. Helena High pressure system over the Southeast Atlantic Ocean is expected to weaken, with its central pressure value increasing from about 1023 hPa to 1020 hPa during the forecast period.

The Mascarene high pressure system over the Southwest Indian Ocean is expected to maintain an average central pressure value of 1026 hPa, while shifting eastwards 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.

At 850 hPa level, a mid-latitude cyclonic circulation and its associated trough across the Middle-East and the neighboring areas of the Greater Horn of Africa is expected to weaken while shifting eastwards during the forecast period. 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

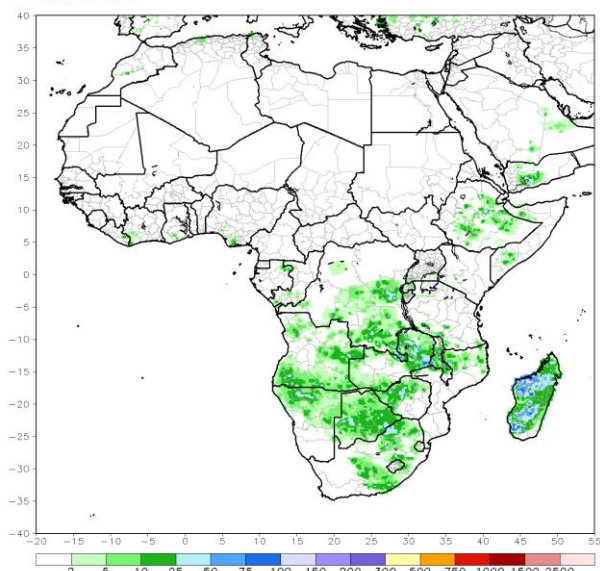
### 2.1. *Weather assessment for the previous day* (February 25, 2016)

Moderate to locally heavy rainfall was observed over portions of southern DRC, western Madagascar, central and eastern Ethiopia, southern Angola, western Zimbabwe, Botswana and eastern Zambia.

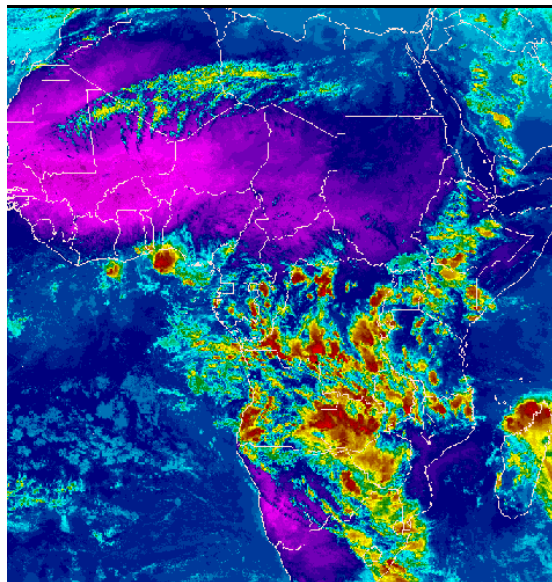
### 2.2. *Weather assessment for the current day* (February 26, 2016)

Intense convective clouds are observed across portions of southern DRC, Ethiopia, Zambia, Botswana, Zimbabwe, south western Angola, northern Madagascar, Lesotho and Swaziland.

RFE2 Daily Total Rainfall (mm)  
Period: 25Feb2016



IR Satellite Image (valid 1530z February 26, 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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