

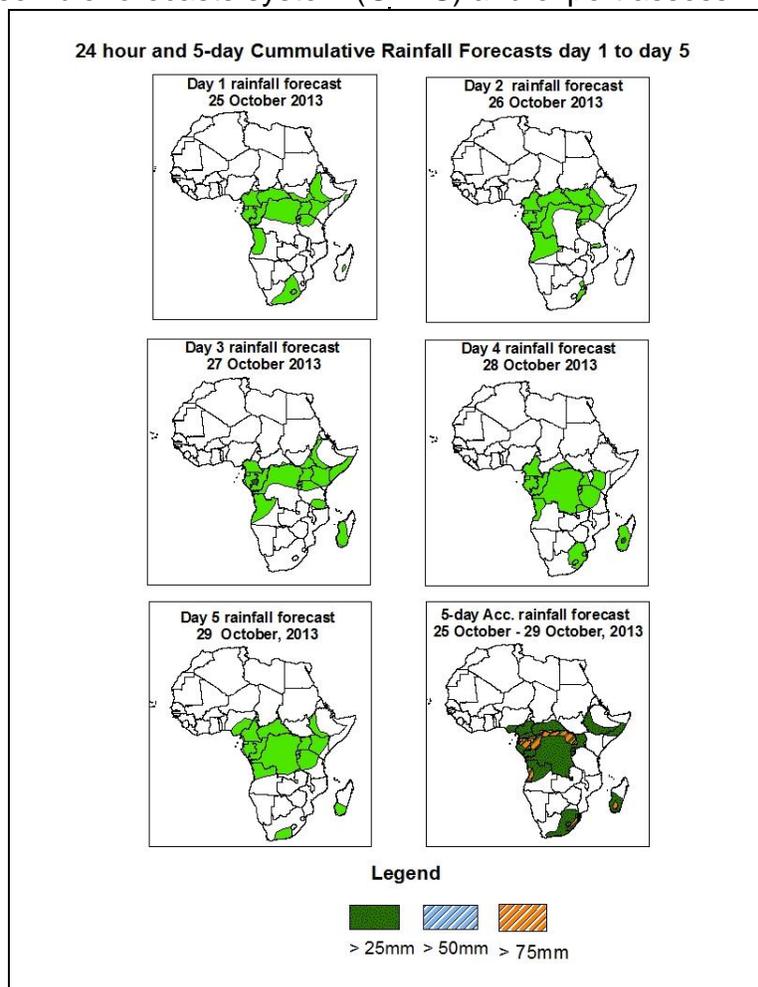


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1.0. Rainfall Forecast: Valid 06Z of 25 October – 06Z of 29 October, 2013. (Issued at 1700Z of 25 October 2013)

### 1.1. Twenty Four Hour Cumulative Rainfall Forecasts

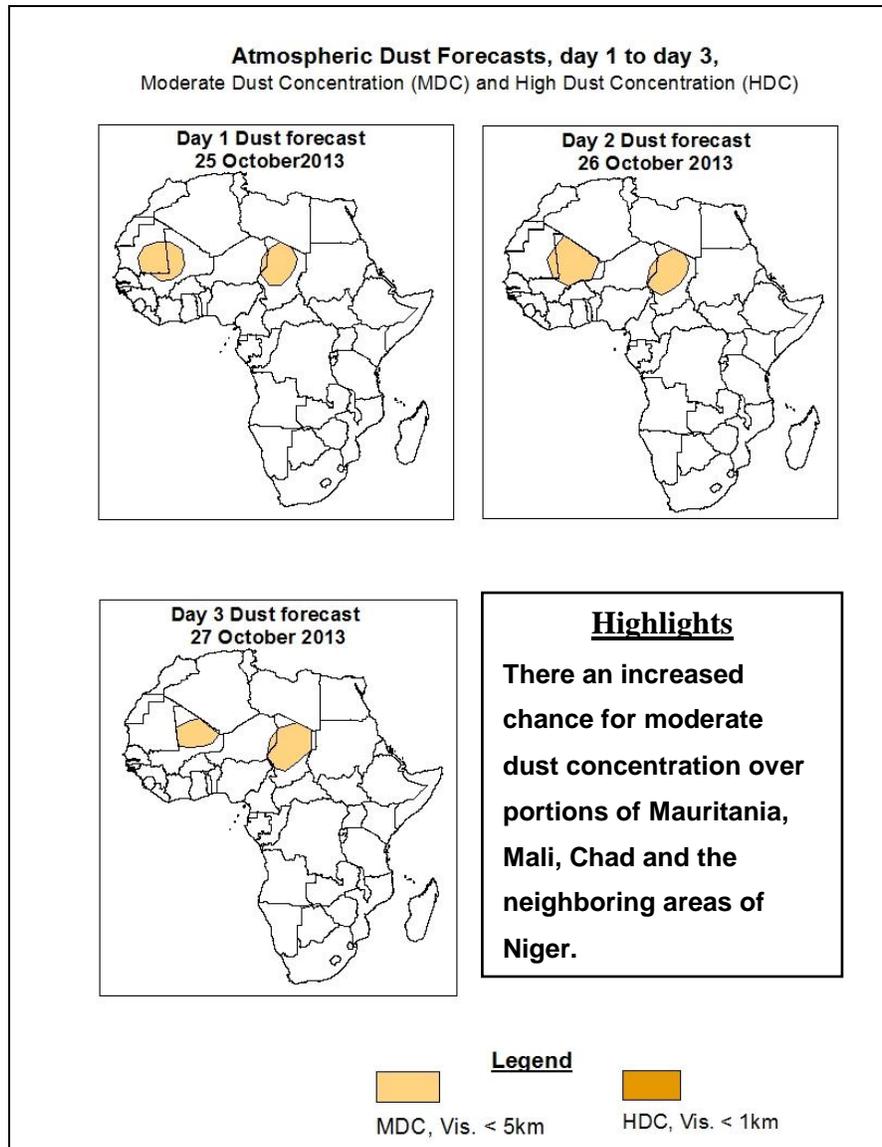
The forecasts are expressed in terms of 75% probability of precipitation (POP) exceeded, based on the NCEP, UK Met Office and the ECMWF NWP outputs, the NCEP global ensemble forecasts system (GEFS) and expert assessment.



### Summary

In the next five days, a low level-wind convergence over Gabon, Congo, DRC, seasonal wind convergence over the Lake Victoria region and Angola, moist cross-equatorial flow and its associated convergence over Horn of Africa, and interaction between mid-latitude and tropical weather systems across Southeast Africa are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for heavy rainfall over parts southern Cameroon, Equatorial Guinea, Gabon, Congo, Angola, portions of DRC, the Lake Victoria region, Ethiopia and Somalia, and local areas in Southeast Africa.

## 1.2. Atmospheric Dust Forecasts: Valid 25 - 27 October 2013



## **1.2. Model Discussion: Valid from 00Z of 24 October 2013**

*Model comparison (Valid from 00Z:24 October 2013) shows all the three models are in general agreement in terms of depicting positions of the northern and southern hemisphere sub-tropical highs, while they showed slight differences in depicting their intensity.*

The St. Helena High Pressure System over southeast Atlantic Ocean is expected to weaken gradually during the forecast period. Its central pressure value is expected to decrease from about 1028hpa to 1019hpa according to the ECMWF model, from 1027hpa to 1021hpa according to GFS model and from 1028hpa to 1022hpa according to the UKMET model.

The Mascarene high pressure system over southwestern Indian Ocean is expected to intensify through 24 to 96 hours. The central pressure value of this high pressure system is expected to increase from 1024hpa to 1035hpa according to the ECMWF model, from 1025hpa to 1034hpa according to the GFS model and from about 1025hpa to 1035hpa according to the UKMET modes.

At 850hpa, moist cross-equatorial flow and its associated convergence is expected to dominate the flow over the Horn of Africa through 24 to 120 hours. Seasonal wind convergence near the Lake Victoria, DRC, Cameroon, Gabon, Mozambique, Congo and Angola is expected remain active during the forecast period. Interaction between mid-latitude and tropical weather systems is expected to enhance rainfall over Southeast Africa.

At 500hpa, a trough associated with mid-latitude frontal system is expected to weaken while shifting between North and Northeast Africa through 24 to 120 hours. A mid-latitude low is expected to propagate across southern Africa countries during the forecast period.

At 200hpa level, the sub-tropical Westerly Jet across Southeastern Atlantic Ocean, Southern Africa and southwestern Indian Ocean is expected to remain weak during the forecast period.

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

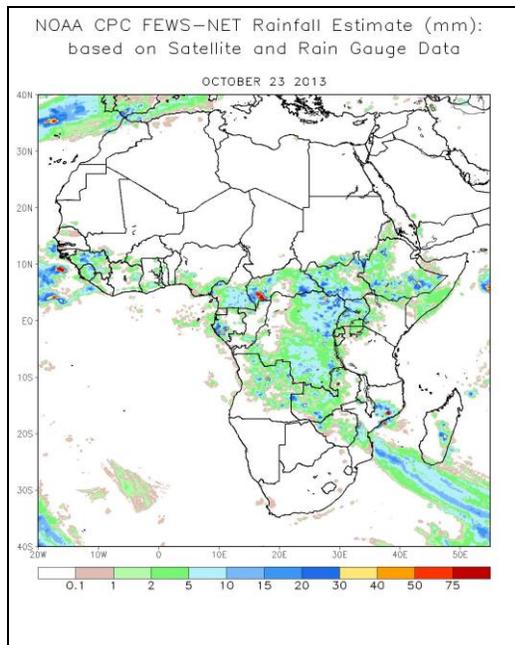
(23 October 2013 – 24 October 2013)

### 2.1. Weather assessment for the previous day (23 October 2013)

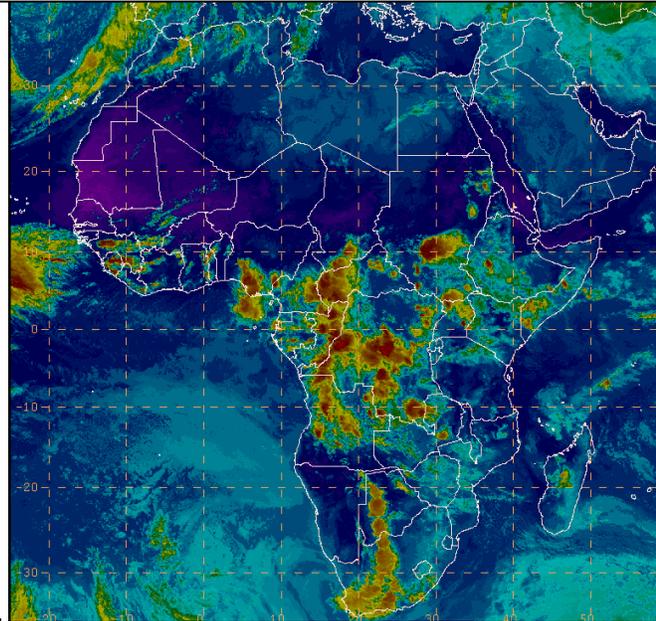
During the previous day, moderate to locally heavy rainfall was observed over portions of Guinea, Sierra Leone, southern Cameroon, Gabon, South Sudan, Uganda, Ethiopia, Somalia, Angola, Zambia, Zambia, and southern Mozambique.

### 2.2. Weather assessment for the current day (24 October 2013)

Intense clouds were observed over portions of Central African and the Lake Victoria regions and Southern Africa countries.



IR Satellite Image (valid 16220Z of 24 October 2013)



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

**Author:** Domingos Quenda, (Centro de Previsao de Tempo-Angola / CPC-African Desk); [domingos.quendau@noaa.gov](mailto:domingos.quendau@noaa.gov)