

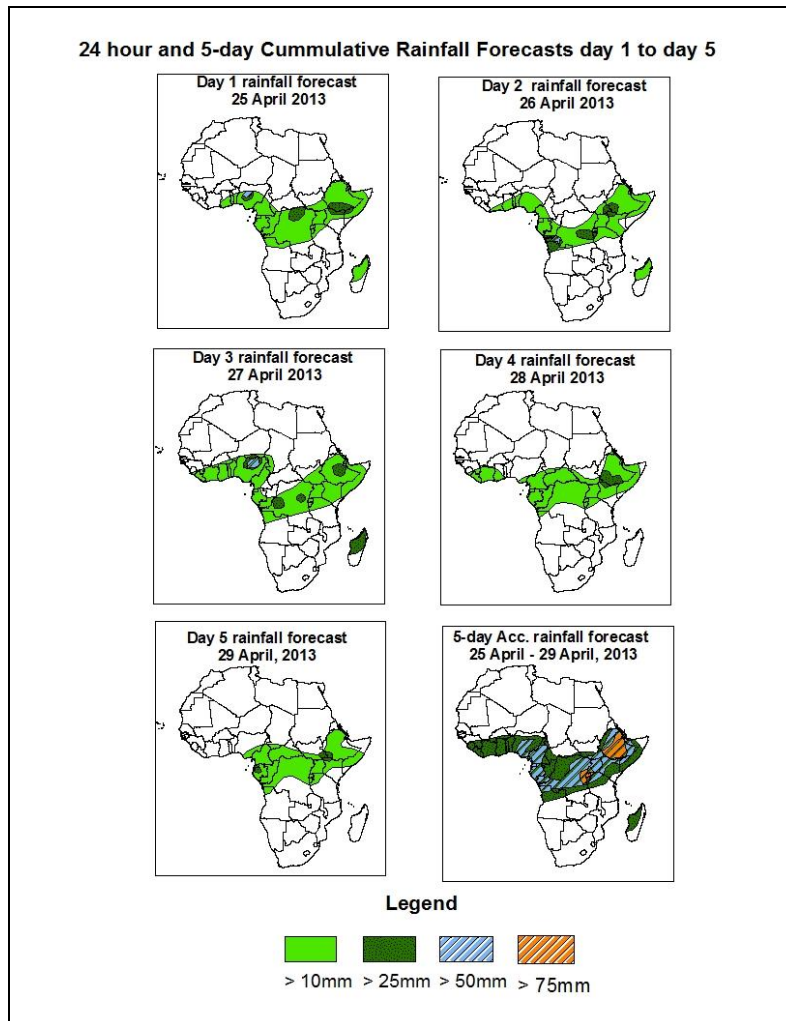


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1.0. Rainfall Forecast: Valid 06Z of 25 April – 06Z of 29 April, 2013. (Issued at 1700Z of 24 April 2013)

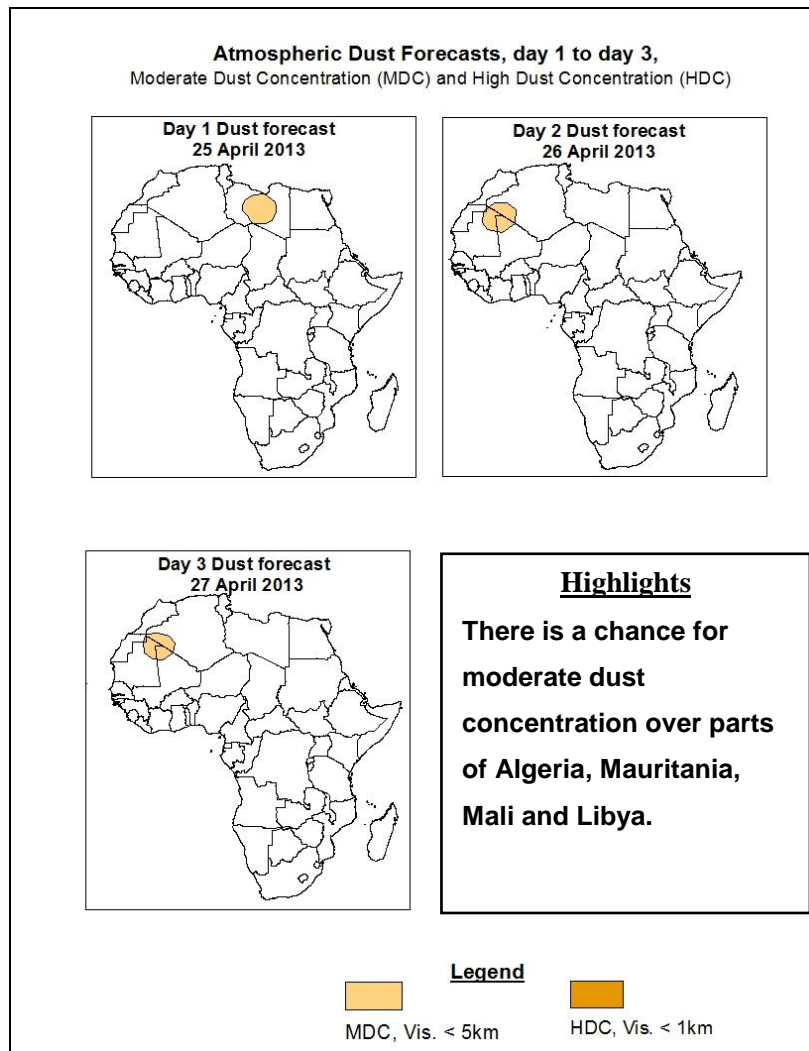
### 1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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, interactions between mid-latitude and tropical systems across the Red Sea region, seasonal convergence near the Congo Air Boundary (CAB), and onshore winds from the Atlantic Ocean and their associated convergence are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for moderate to heavy rainfall over eastern Gulf of Guinea, western Equatorial Africa, northern Angola, parts of DRC, Rwanda, Burundi, Uganda, Ethiopia, and local areas in Tanzania, Kenya and Somalia.*



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

*Model comparison (Valid from 00Z; 24 April, 2013) shows all the three models are in general agreement in terms of depicting positions of the southern hemisphere subtropical highs, while they showed slight differences in depicting their intensity.*

The St. Helena High Pressure System over southeast Atlantic Ocean is expected to remain weak during the forecast period. Its central pressure value is expected to remain below 1020hpa according to the GFS and UKMET models and below 1019hpa according to the ECMWF model.

The Mascarene high pressure system over southwestern Indian Ocean is also expected to maintain moderate intensity through 24 to 120 hours. Its central pressure value is

expected to remain in the range between 1021hpa to 1026hpa according to the GFS model, from about 1024hpa to 1026hpa according to the ECMWF and UKMET models.

The seasonal lows across South Sudan and the neighboring areas are expected to remain moderate during the forecast period, with their central pressure values varying from 1003hpa to 1005hpa according to the GFS model, from about 1005hpa to 1006hpa according to the ECMWF model and from about 1003hpa to 1008hpa according to the UKMET model.

At the 850hpa level, lower level wind convergences near the Congo boundary region is expected to remain more or less weak during the forecast period. The southerly flow across East Africa and its associated convergence over the Horn of Africa is expected to enhance rainfall in the region during the forecast period. The seasonal monsoon flow from the Atlantic Ocean and its associated convergence is expected to enhance rainfall occasionally over portions of the Gulf of Guinea and the neighboring areas of the Sahel regions through 24 to 120 hours.

At 500hpa, a deep trough in mid-latitude westerly flow is expected to prevail across the Mozambique Channel and neighboring areas during the forecast period. A trough in the mid-latitude westerlies is expected to dominate the flow across Red Sea and the neighboring areas towards end of the forecast period.

At 200hpa, wind speed associated with the northern hemisphere sub-tropical westerly jet is expected to remain relatively weak across the subtropical latitudes during the forecast period.

In the next five days, interactions between mid-latitude and tropical systems across the Red Sea region, seasonal convergence near the Congo Air Boundary (CAB), and onshore winds from the Atlantic Ocean and their associated convergence are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for moderate to heavy rainfall over eastern Gulf of Guinea, western Equatorial Africa, northern Angola, parts of DRC, Rwanda, Burundi, Uganda, Ethiopia, and local areas in Tanzania, Kenya and Somalia.

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

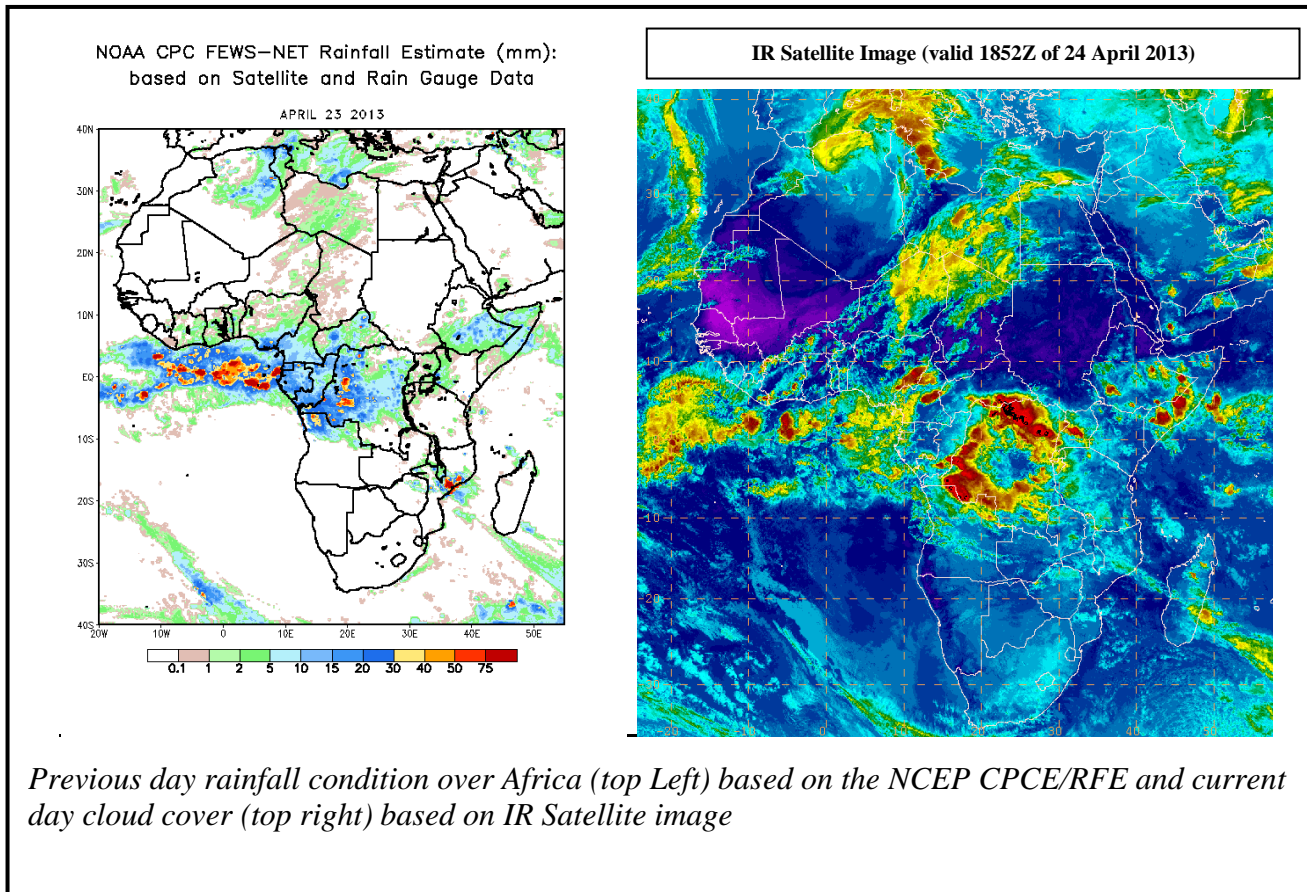
(23 April 2013 – 24 April 2013)

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

During the previous day, moderate to localized heavy rainfall was observed over parts of Nigeria, Cameroon, Gabon, CAR, DRC, central Mozambique, Ethiopia and Somalia.

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

Intense patches of clouds are observed over parts of the Gulf of Guinea region, Western Nigeria, Cameroon, Gabon, Congo, CAR, DRC, Ethiopia and Somalia.



*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*

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