

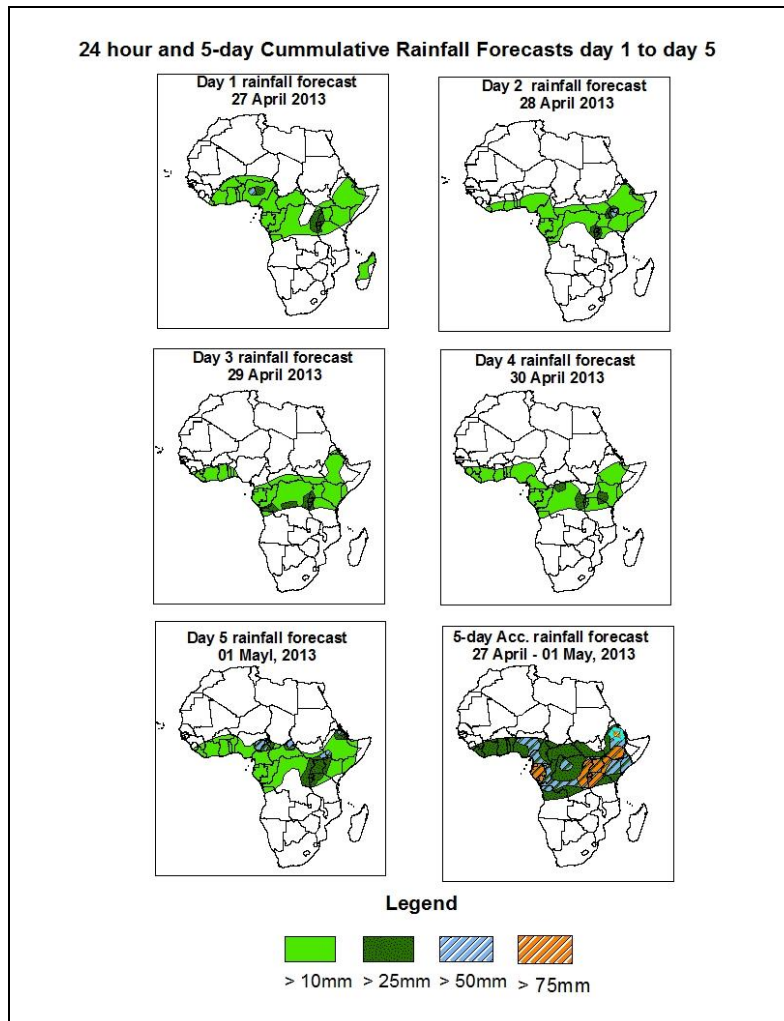


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1.0. Rainfall Forecast: Valid 06Z of 27 April – 06Z of 01 May, 2013. (Issued at 1530Z of 26 April 2013)

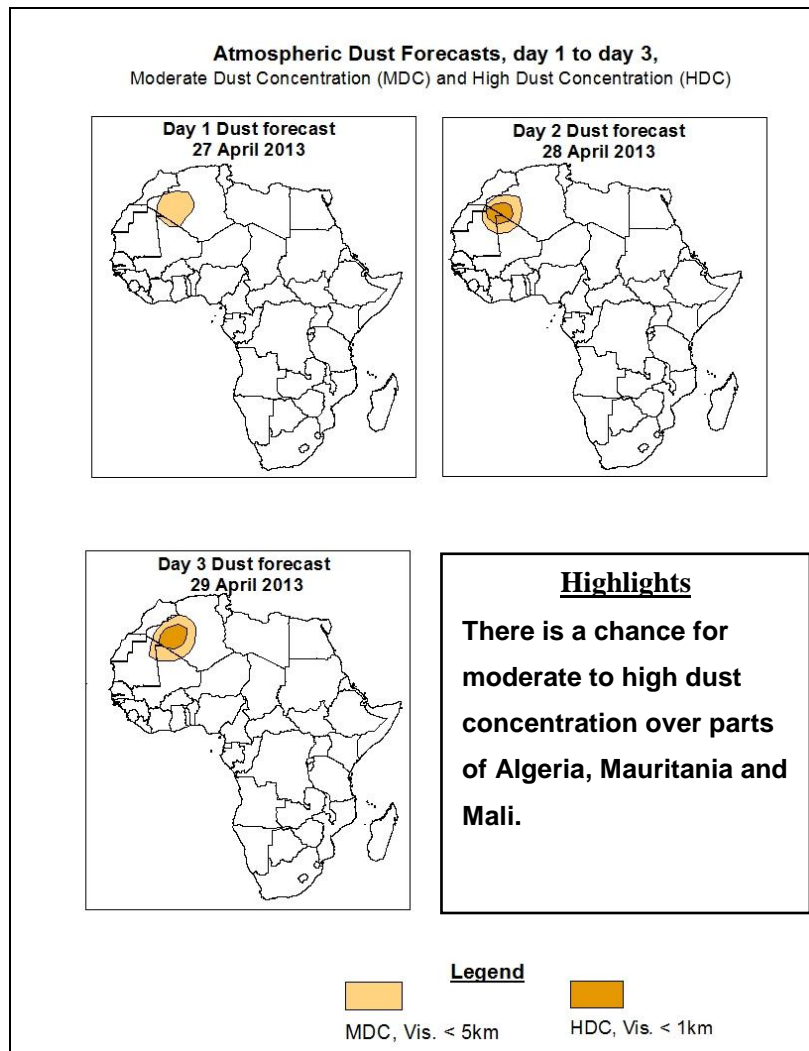
### 1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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, the moist cross equatorial flow across East Africa and the Horn of Africa regions, 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 and central 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 26 April 2013

*Model comparison (Valid from 00Z; 26 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 intensify gradually during the forecast period. Its central pressure value is expected to increase from about 1019hpa to 1026hpa according to the GFS model, from about 1019hpa to 1025hpa according to the ECMWF model and from about 1020hpa to about 1026hpa according to the UKMET model.

The Mascarene high pressure system over southwestern Indian Ocean is also expected to maintain moderate intensity while slightly moving eastwards through 24 to 120 hours.

Its central pressure value is expected to remain in the range between 1024hpa to 1026hpa according to the GFS, ECMWF and UKMET models.

The central pressure values associated with the heat lows across western end of West Africa is expected to decrease from about 1008hpa to 1005hpa according to the GFS model and from about 1006 to about 1004hpa according to the UKMET model. The heat lows over central Sahel and neighboring areas are expected to maintain moderate central values, ranging from about 1003hpa to 1004hpa according to the GFS model, from about 1005hpa to 1006hpa according to the ECMWF model, and from about 1003hpa to 1005hpa according to the UKMET model. Similarly, 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 1004hpa according to the GFS model, from about 1005hpa to 1006hpa according to the ECMWF model and from about 1003hpa to 1004hpa according to the UKMET model.

At the 850hpa level, dry northeasterly flow is expected to prevail across the western end of West Africa, while the wind convergence associated with the West African monsoon flow is expected to remain active over central and eastern Gulf of Guinea and the neighboring areas of the Sahel region. The lower level-wind convergence associated with the moist cross equatorial from the Indian Ocean is expected to remain active in the region between eastern Chad and Ethiopia. The lower level wind convergences near the Congo boundary region are expected to remain more or less active during the forecast period.

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, the moist cross equatorial flow across East Africa and the Horn of Africa regions, 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 and central 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

**(25 April 2013 – 26 April 2013)**

### 2.1. Weather assessment for the previous day (25 April 2013)

During the previous day, moderate to localized heavy rainfall was observed over parts of Algeria, Libya, Benin, Togo Niger, Nigeria, Cameroon, CAR, DRC, Tanzania, Rwanda, Uganda, Ethiopia, Somalia and Madagascar.

### 2.2. Weather assessment for the current day (26 April, 2013)

Intense patches of clouds are observed over parts of Libya, Burkina Faso, Cote d'Ivoire, Ghana, and the Gulf of Guainia region, CAR, DRC, Uganda, Southern Sudan, Ethiopia and Somalia.

