

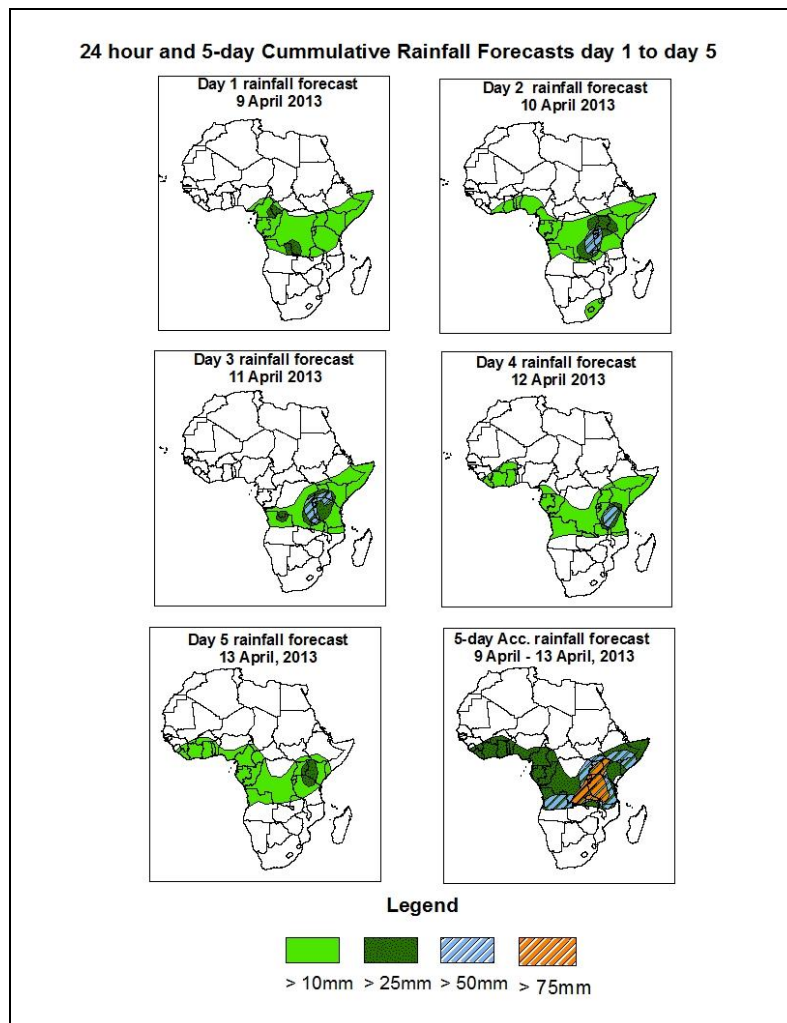


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1.0. Rainfall Forecast: Valid 06Z of 9 April – 06Z of 13 April, 2013. (Issued at 18:30Z of 8 April 2013)

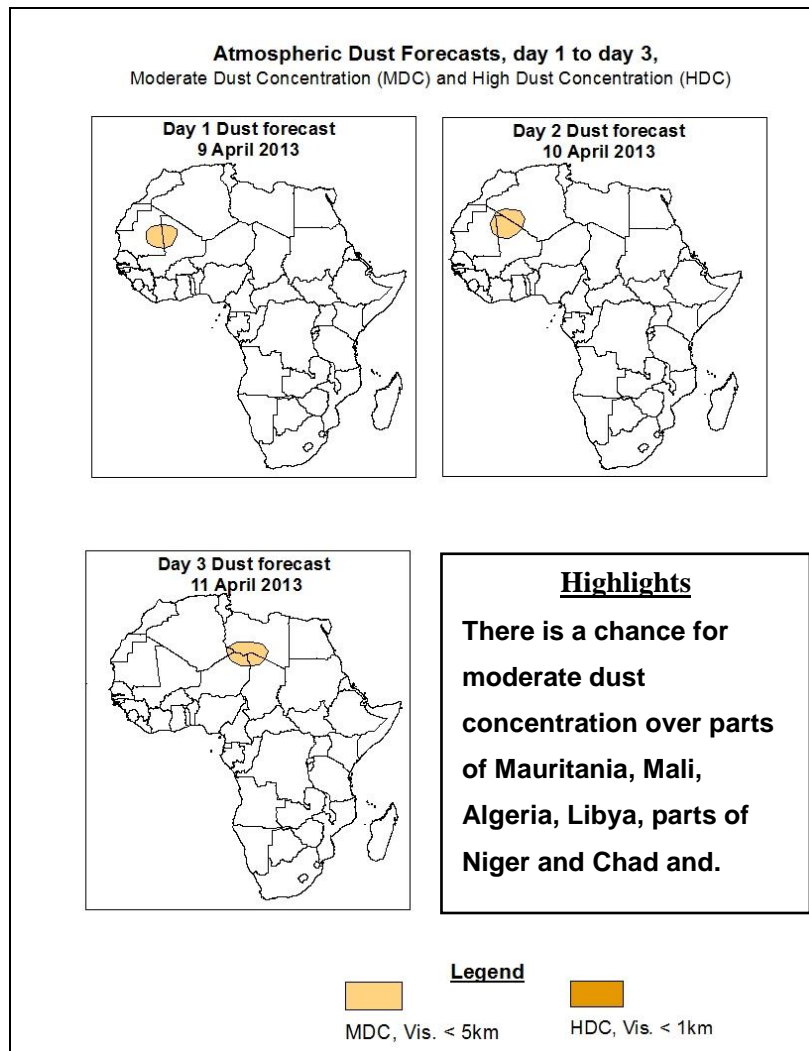
### 1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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, active seasonal convergence near the Congo Air Boundary (CAB) region and localized wind convergences over parts of the Greater Horn of Africa are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for heavy rainfall over parts of DRC, much of Kenya, Uganda, Rwanda, Burundi, Tanzania, southern Ethiopia and Somalia.*



## 1.2. Model Discussion: Valid from 00Z of 8 April 2013

*Model comparison (Valid from 00Z; 8 April, 2013) shows all the three models are in general agreement in terms of depicting positions of the southern hemisphere subtropical highs. But, they showed significant differences in depicting formation tropical cyclone TC21S over southern Indian Ocean.*

The St. Helena High Pressure System over southeast Atlantic Ocean is expected to weaken gradually. Its central pressure value is expected to increase from about 1038hpa in 48 hours to 1028hpa in 120 hours according to the GFS model, is expected to change from 1038hpa to 1026hpa according to the ECMWF model and from 1039hpa to 1026hpa according to the UKMET model.

The Mascarene high pressure system over southwestern Indian Ocean is also expected to weaken gradually through 24 to 120 hours, while shifting eastwards across southern Indian Ocean. Its central pressure value is expected to increase from about 1034hpa in 24 hours to about 1028hpa in 120 hours according to the GFS model, from 1033hpa to 1027hpa according to the ECMWF model and from 1034hpa to 1026hpa according to the UKMET model.

The seasonal lows across South Sudan and the neighboring areas are expected to remain moderate throughout the forecast period, generally maintaining central pressure values of about 1003hpa to 1005hpa according to the GFS, about 1005hpa to 1007hpa according to the ECMWF and about 1004hpa to 1005hpa according to the UKMET model.

A very deep low pressure system associated with TC21S over southern Indian Ocean (east of Madagascar) is expected to move westwards. Its central pressure value is expected to decrease from 991hpa to 973 according to the GFS model. Its central pressure values is expected to decrease from about 1002hpa in 24 hours to 989hpa in 120 hours according to the ECMWF model, and from about 996hpa to 984hpa according to the UKMET model.

At the 850hpa level, lower level wind convergences near the Congo boundary region is expected to shift eastwards gradually, becoming more and more active over southern Kenya and Tanzania towards end of the forecast period. With westward movement of TC21S in the southern Indian Ocean, the flow over East Africa is expected to get diverted away from East Africa, and offshore winds will prevail across coastal regions. Localized wind convergences are expected to maintain moderate to local heavy rainfall over southeastern Ethiopia and Somalia. Onshore winds from the Atlantic Ocean and their associated convergences are expected to enhance rainfall occasionally over portions of the Gulf of Guinea region and Angola. Eastward propagating mid-latitude trough is expected to increase rainfall over parts of Mozambique through 24 hours.

At 500hpa, a trough in mid-latitude westerly flow is expected to deepen gradually over eastern Mediterranean Sea and the neighboring areas of Northeast Africa through 48 to 120 hours.

At 200hpa, the northern hemisphere sub-tropical westerly jet is expected to remain active through 24 hours with the core wind speed exceeding 130kts over between northern Algeria and northern Egypt. The jet is expected to weaken gradually through 48 to 120 hours.

In the next five days, active seasonal convergence near the Congo Air Boundary (CAB) region and localized wind convergences over parts of the Greater Horn of Africa are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for heavy rainfall over parts of DRC, much of Kenya, Uganda, Rwanda, Burundi, Tanzania, southern Ethiopia and Somalia.

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

(7 April 2013 – 8 April 2013)

### 2.1. Weather assessment for the previous day (7 April 2013)

During the previous day, moderate to localized heavy rainfall was observed over parts of Cameroon, Gabon, DRC, Tanzania, Kenya, Burundi, Rwanda, Uganda and Ethiopia,.

### 2.2. Weather assessment for the current day (8 April, 2013)

Intense patches of clouds are observed over parts of Gulf of Guinea, Nigeria, Gabon, DRC, Southern Sudan, Madagascar, the East and Horn of African regions.

