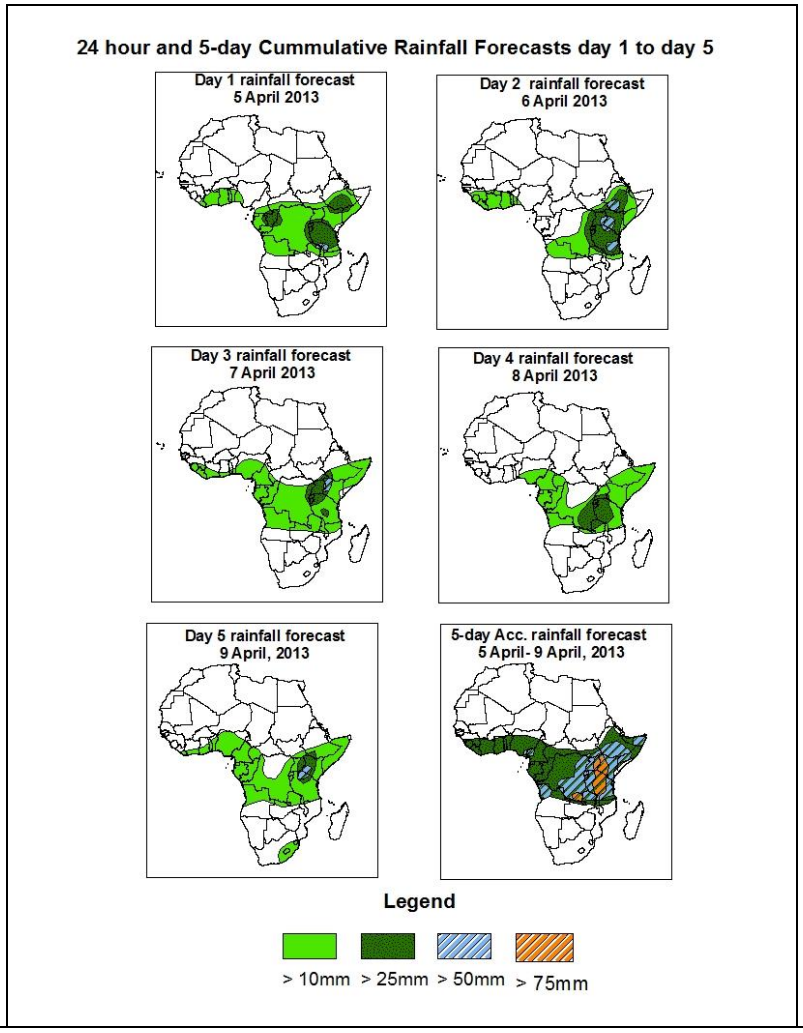
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 5 April – 06Z of 9 April, 2013. (Issued at 17:30Z of 4 April 2013)

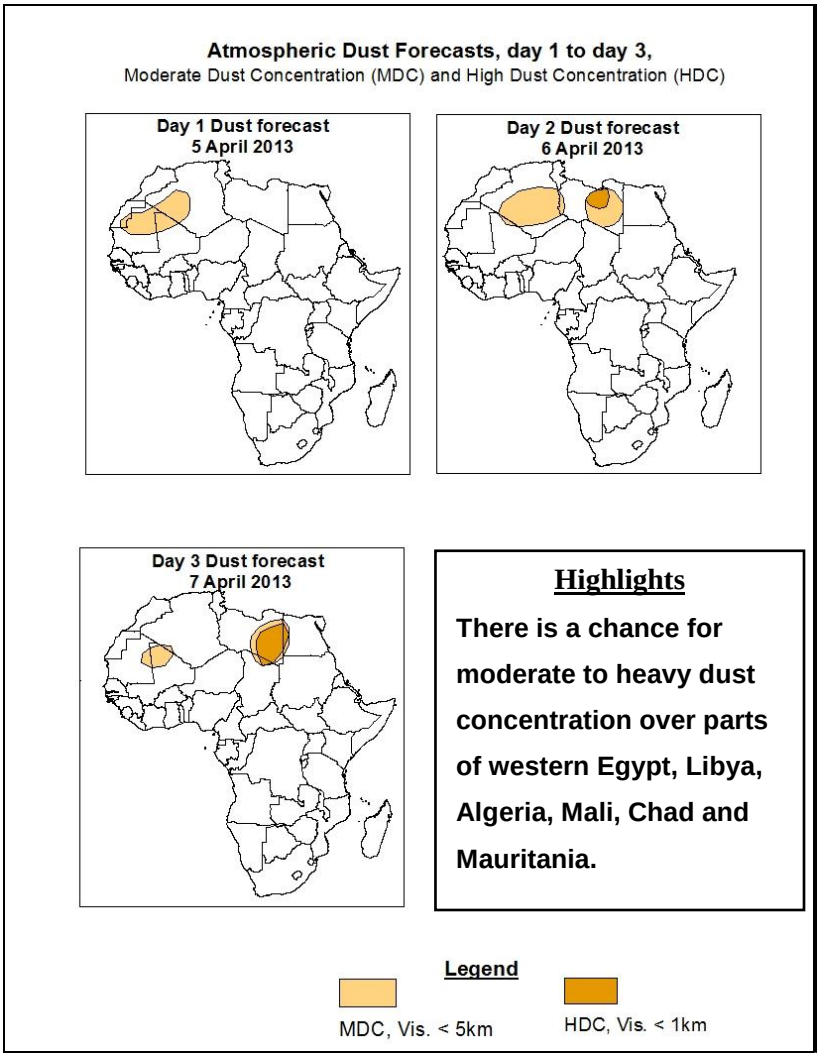
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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 in the Congo Air Boundary (CAB) region and interaction between mid-latitude and tropical system across the Greater Horn of Africa, and the seasonal monsoon flow across the Gulf of Guinea are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for heavy rainfall over local areas in the Gulf of Guinea, much of Kenya, Uganda, Rwanda, Burundi, eastern DRC, and Tanzania.



1.2. Model Discussion: Valid from 00Z of 4 April 2013

Model comparison (Valid from 00Z; 4 April, 2013) shows all the three models are in general agreement in terms of depicting eastward movement of the Mascarene and St Helena high pressure systems during the forecast period. However, the models show slight differences in terms of central pressure values.

The St. Helena High Pressure System over southeast Atlantic Ocean is expected to intensify gradually, while shifting eastwards. Its central pressure value is expected to increase from about 1026hpa in 24 hours to 1032hpa in 120 hours according to the GFS model, is expected to change from 1026hpa to 1028hpa according to the ECMWF model and from 1027hpa to 1030hpa according to the UKMET model.

The Mascarene high pressure system over southwestern Indian Ocean is expected to intensify gradually through 24 to 120 hours, while shifting eastwards across southern Indian Ocean. Its central pressure value is expected to increase from about 1025hpa in 24 hours to about 1035hpa in 120 hours according to the GFS model, from 1023hpa to 1034hpa according to the ECMWF model and from 1023hpa to 1035hpa 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 1004hpa according to the GFS, about 1005hpa according to the ECMWF and about 1004hpa according to the UKMET model.

At the 850hpa level, the seasonal wind convergence associated with the West African Monsoon flow is expected to remain active across the central and eastern parts of the Gulf of Guinea countries and the neighboring areas of central African region during the forecast period. The meridional wind convergence near the CAB region is expected to remain active near the Congo boundary region, to include South Sudan, parts of Ethiopia, eastern DRC, Uganda, Tanzania and Kenya through 24 to 96 hours. Localized wind convergences are also expected to enhance rainfall occasionally over Angola.

At 500hpa, a trough in mid-latitude westerly flow is expected to prevail over Northeast Africa. With eastward propagation of the trough, the flow over part of this region is expected to be replaced by an anti-cyclonic flow and its associated ridge, while the axis of the tough will continue to be in favor of enhanced rainfall over southeastern Ethiopia and Somalia through 24 to 96 hours. A deep mid-latitude trough is expected to propagate across southern African countries through 24 to 72 hours, and is expected to weaken towards end of the forecast period.

At 200hpa, the northern hemisphere sub-tropical westerly jet is expected to remain active through 24 hours with the core wind speed exceeding 150kts over Northwest Africa. The jet is expected to weaken gradually through 48 to 120 hours.

In the next five days, active seasonal convergence in the Congo Air Boundary (CAB) region and interaction between mid-latitude and tropical system across the Greater Horn of Africa, and the seasonal monsoon flow across the Gulf of Guinea are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for heavy rainfall over local areas in the Gulf of Guinea, much of Kenya, Uganda, Rwanda, Burundi, eastern DRC, and Tanzania.

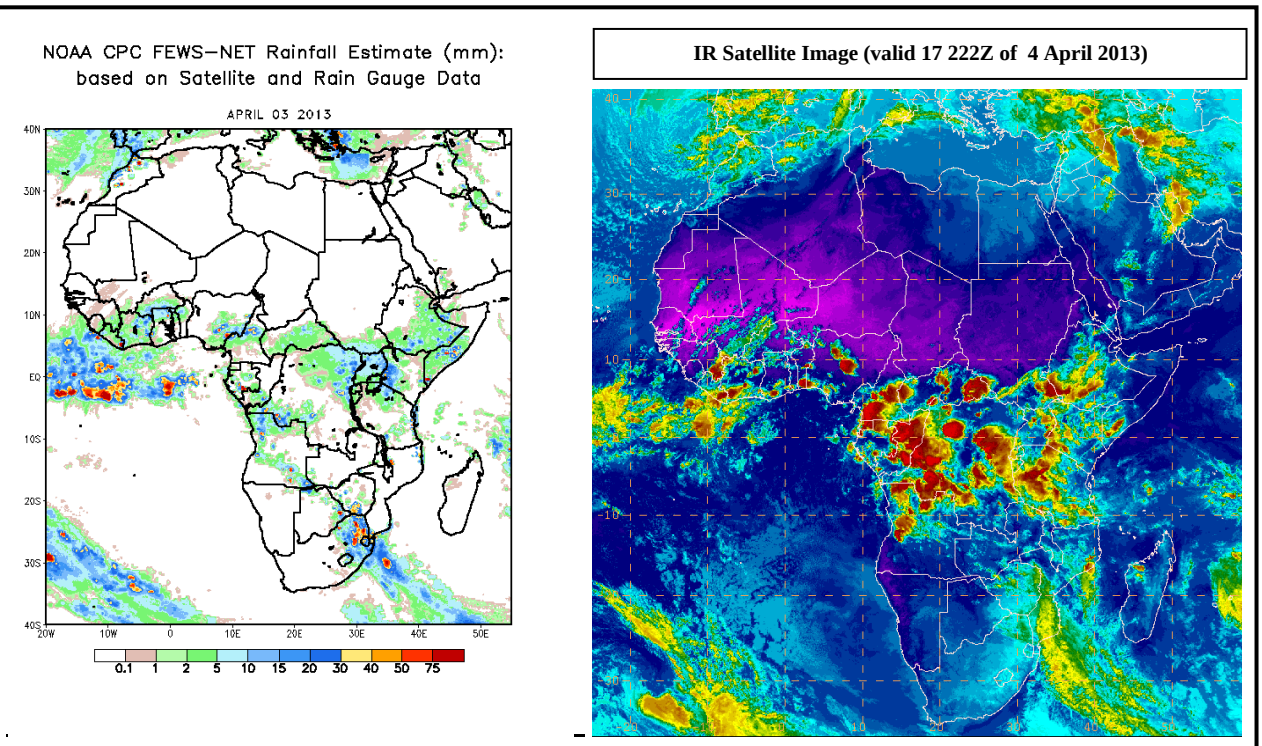
2.0. Previous and Current Day Weather Discussion over Africa (3 April 2013 – 4 April 2013)

2.1. Weather assessment for the previous day (3 April 2013)

During the previous day, moderate to localized heavy rainfall was observed over parts of Gulf of Guinea, Cameroon, Angola, Uganda, Tanzania, Kenya, Ethiopia , Somali and South Africa.

2.2. Weather assessment for the current day (4 April, 2013)

Intense patches of clouds are observed over parts of Gulf of Guinea, Cameroon, Congo, CAR, Southern Sudan, DRC, Angola, East African region, Somali and Ethiopia.



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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