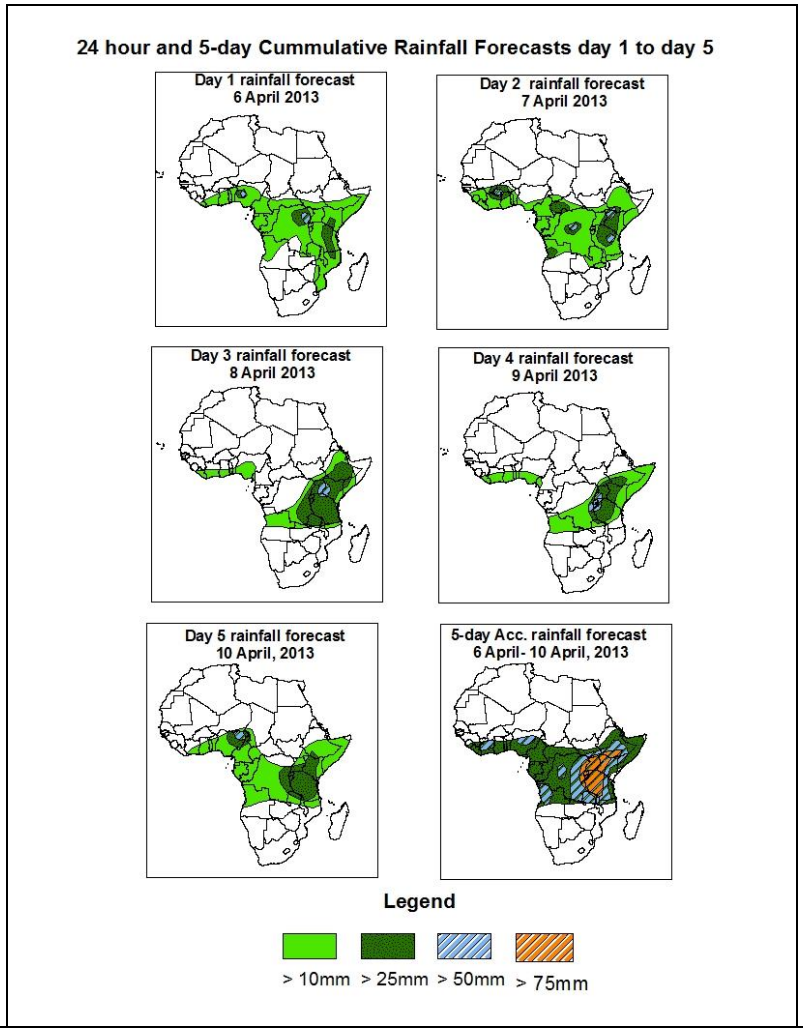
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 6 April – 06Z of 10 April, 2013. (Issued at 17:30Z of 5 April 2013)

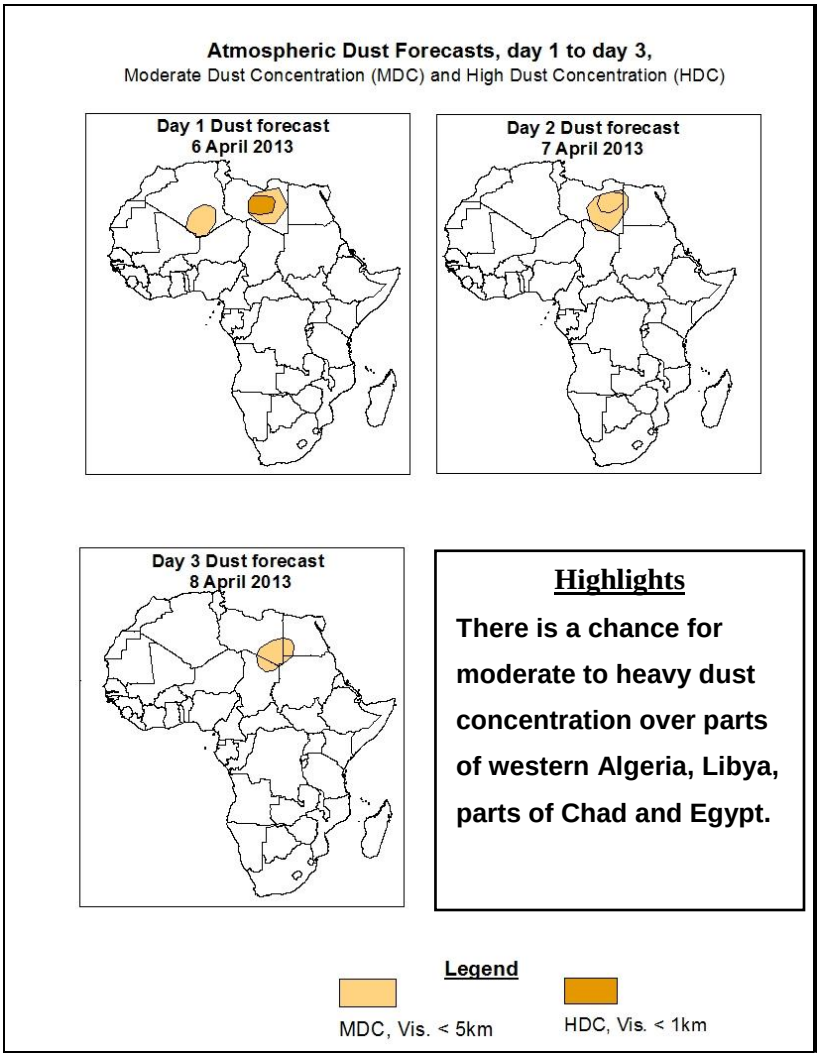
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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, parts of DRC, much of Kenya, Uganda, Rwanda, Burundi, eastern DRC, Tanzania, southern Ethiopia and Somalia.



1.2. Model Discussion: Valid from 00Z of 5 April 2013

Model comparison (Valid from 00Z; 5 April, 2013) shows all the three models are in general agreement in terms of depicting positions of the southern hemisphere sub-tropical highs. But, they showed significant difference in depicting formation tropical cyclone over southern Indian Ocean.

The St. Helena High Pressure System over southeast Atlantic Ocean is expected to intensify gradually. Its central pressure value is expected to increase from about 1026hpa in 24 hours to 1036hpa in 120 hours according to the GFS model, is expected to change from 1026hpa to 1025hpa according to the ECMWF model and from 1027hpa to 1038hpa according to the UKMET model.

The Mascarene high pressure system over southwestern Indian Ocean is also 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 1024hpa in 24 hours to about 1033hpa in 120 hours according to the GFS model, from 1024hpa to 1033hpa according to the ECMWF model and from 1023hpa to 1034hpa 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 to 1007hpa according to the ECMWF and about 1004hpa to 1005hpa according to the UKMET model.

A very deep low pressure system is expected to form over southern Indian Ocean, and is expected to move westwards. Its central pressure value is expected to decrease from 1001hpa (near 75E, 10S) to 985hpa (near 58E, 12S) according to the GFS model. Its central pressure values is expected to decrease from about 1005hpa in 24 hours to 1001hpa in 120 hours according to the ECMWF model, and from about 1002hpa to 989hpa according to the UKMET model.

At the 850hpa level, lower level wind convergences are expected to remain active over across eastern DRC, Uganda, Tanzania and parts of Kenya. Localized wind convergences also 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 prevail over across the Persian Gulf, with its southern tip extending towards Southeast Ethiopia and Somalia. On the other hand, a mid-latitude trough is expected to propagate across southeastern Africa through 24 to 48 hours.

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 near Tunisia and the neighboring areas. 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, parts of DRC, much of Kenya, Uganda, Rwanda, Burundi, eastern DRC, Tanzania, southern Ethiopia and Somalia.

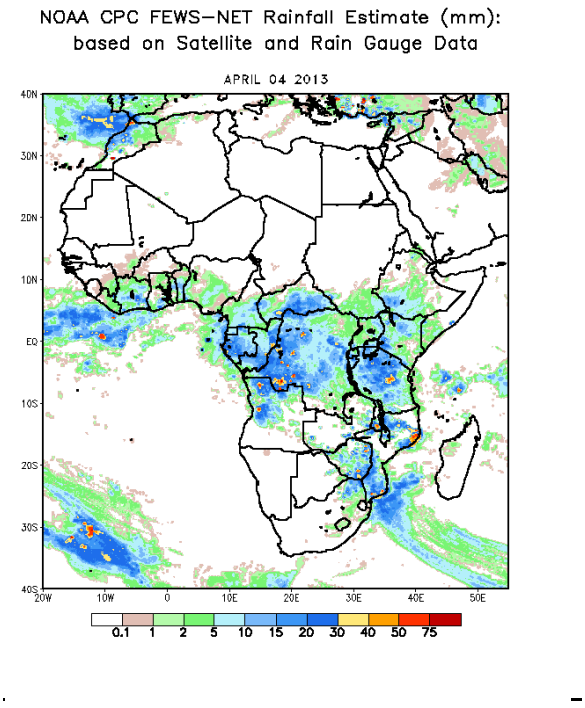
2.0. Previous and Current Day Weather Discussion over Africa (4 April 2013 – 5 April 2013)

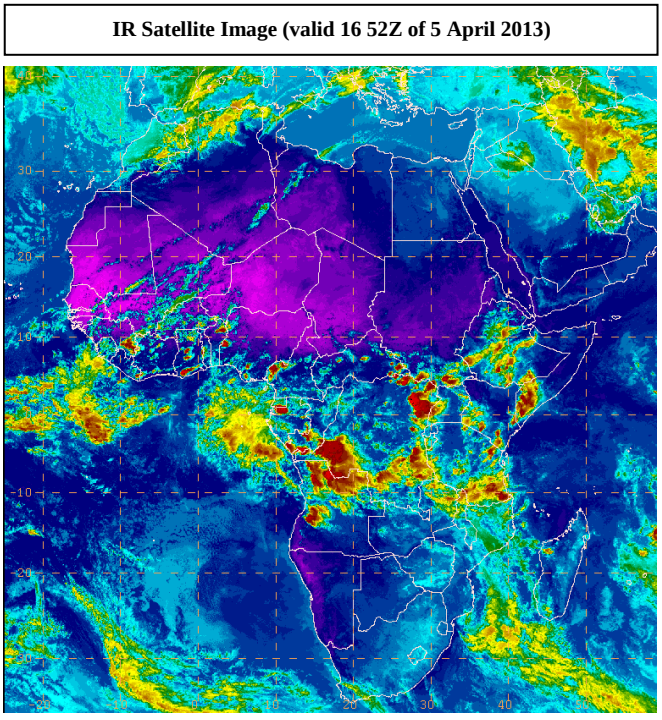
2.1. Weather assessment for the previous day (4 April 2013)

During the previous day, moderate to localized heavy rainfall was observed over parts of Gulf of Guinea, Gabon, DRC, Angola, Tanzania, Kenya, Ethiopia, Zimbabwe and Mozambique.

2.2. Weather assessment for the current day (5 April, 2013)

Intense patches of clouds are observed over parts of Gulf of Guinea, Gabon, DRC, Angola, northern Zambia, 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