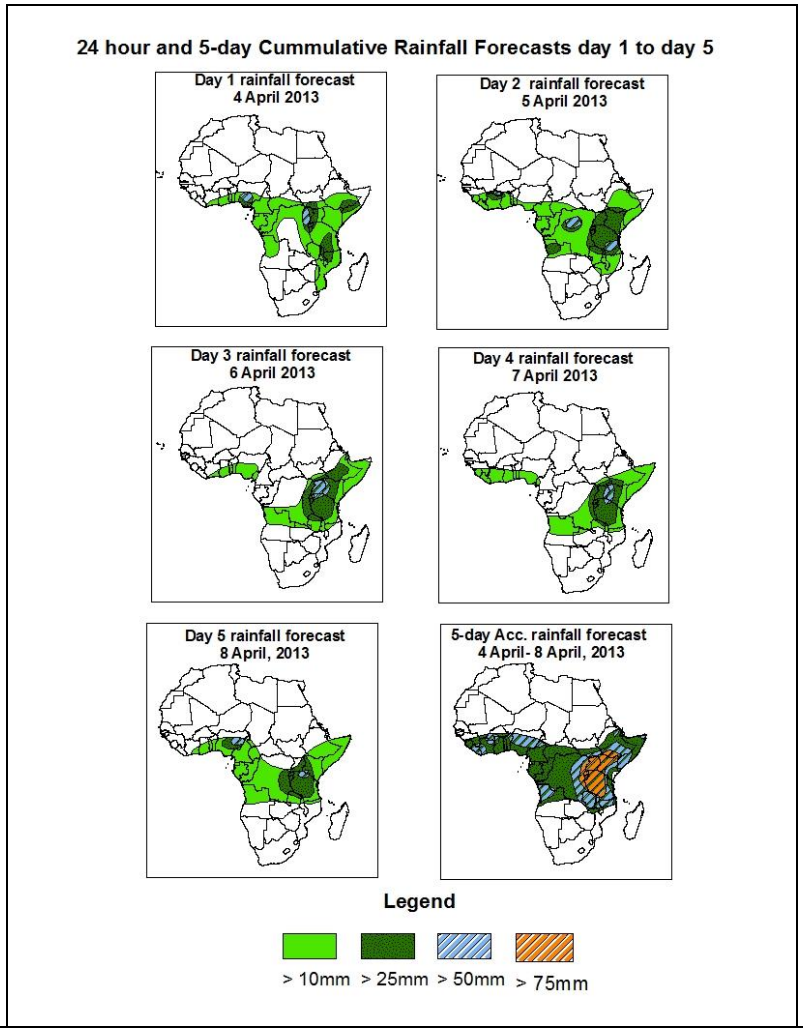
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 4 April – 06Z of 8 April, 2013. (Issued at 17:00Z of 3 April 2013)

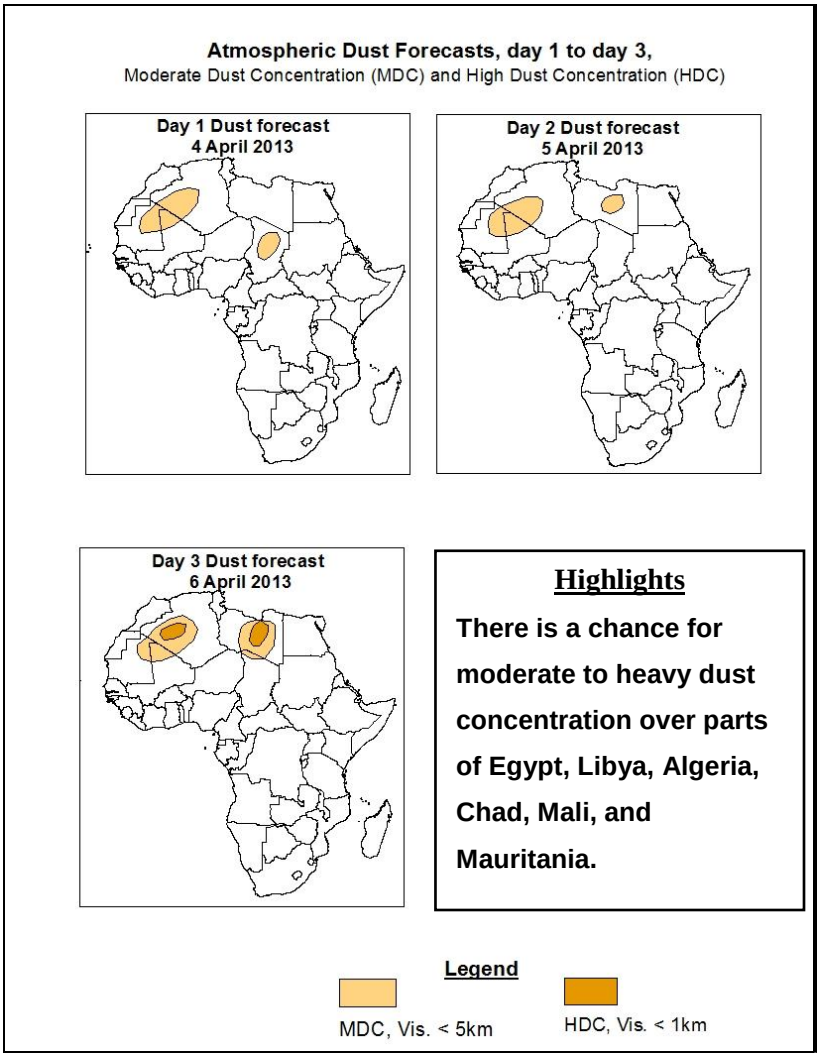
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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 Kenya, Uganda, Rwanda, Burundi, eastern DRC, Tanzania and parts of northern Mozambique.



1.2. Model Discussion: Valid from 00Z of 3 April 2013

Model comparison (Valid from 00Z; 3 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 shift eastwards across southern Africa through 24 to 48 hours. Its central pressure value is expected to decrease from about 1025hpa in 24 hours to 1023hpa in 48 hours according to the GFS model, is expected to change from 1024hpa to 1023hpa according to the ECMWF and UKMET models.

The Mascarene high pressure system over southwestern Indian Ocean is expected to intensify slightly through 48 to 120 hours, while shifting eastwards across southern Indian Ocean. Its central pressure value is expected to increase from about 1023hpa in 48 hours to about 1033hpa in 120 hours according to the GFS model, from 1024hpa to 1032hpa 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 1002hpa to 1004hpa according to the GFS, about 1005hpa according to the ECMWF and about 1004hpa according to the UKMET model, hence all the three models in general agreement.

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 wind from the Indian Ocean across East Africa is expected to gradually change from easterly to southeasterly flow, slightly pushing its associated convergence towards the Greater Horn region. 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 48 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. A deep mid-latitude trough is expected to propagate across southern African countries through 24 to 96 hours, and is expected to induce a closed cyclonic circulation off the coast of Mozambique 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, parts of Kenya, Uganda, Rwanda, Burundi, eastern DRC, Tanzania, and parts of northern Mozambique.

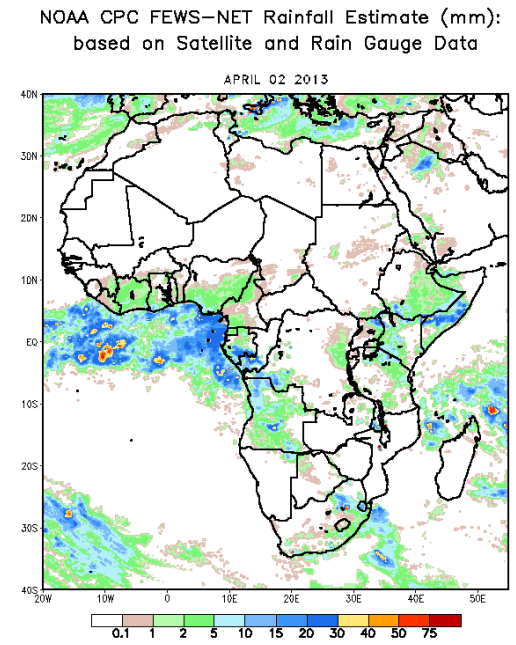
2.0. Previous and Current Day Weather Discussion over Africa (2 April 2013 – 3 April 2013)

2.1. Weather assessment for the previous day (2 April 2013)

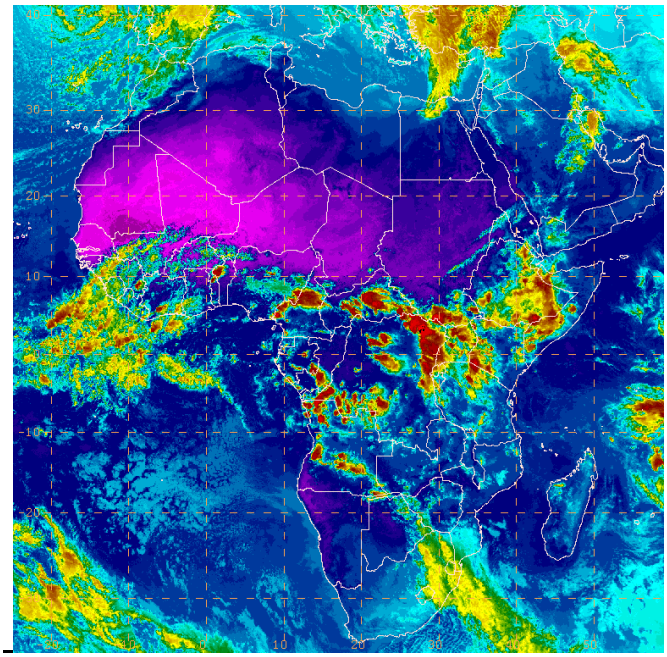
During the previous day, moderate to localized heavy rainfall was observed over parts of Gabon, Angola, Uganda, Tanzania, Kenya, Ethiopia , Somali and South Africa.

2.2. Weather assessment for the current day (3 April, 2013)

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



IR Satellite Image (valid 1652Z of 3 April 2013)



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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