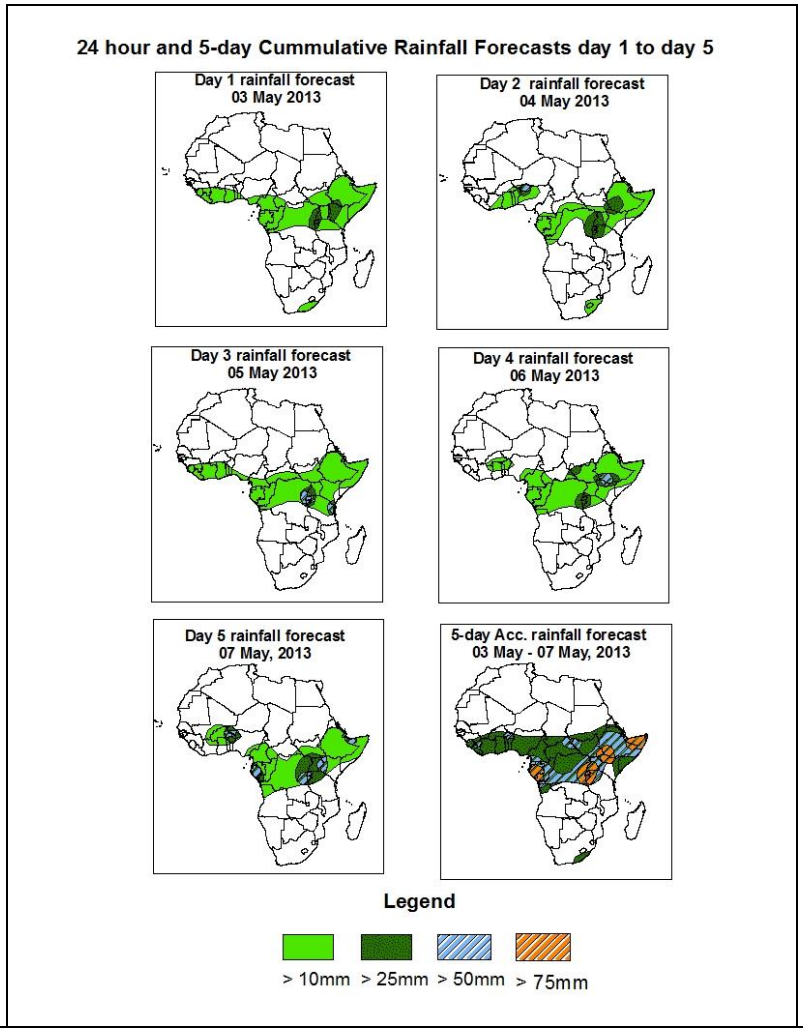
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 03 May – 06Z of 07 May, 2013. (Issued at 1730Z of 02 May 2013)

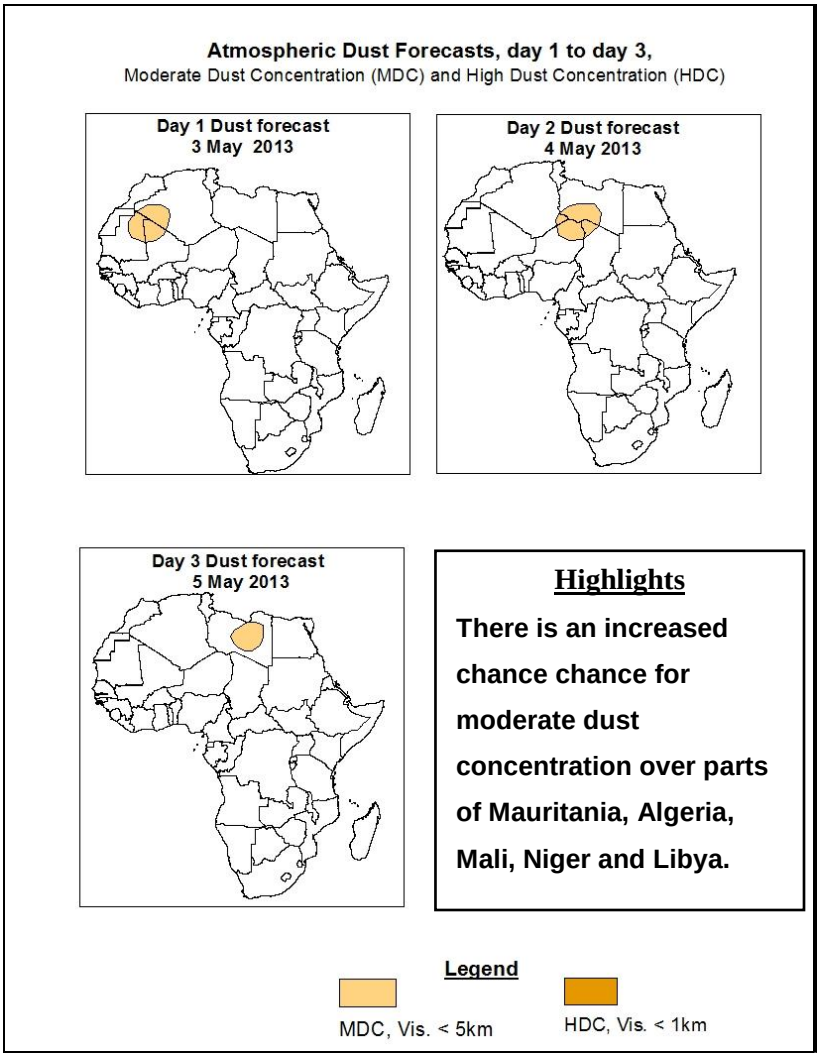
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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 Horn of Africa region, the moist cross equatorial flow across East Africa, seasonal convergence near the Congo Air Boundary (CAB), and the West African Monsoon flow from the Atlantic Ocean and its associated convergence are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for moderate to heavy rainfall over western Equatorial Africa, northern Angola, parts of DRC, Rwanda, Burundi, Uganda, Ethiopia, and local areas in Tanzania, western Kenya and northern Somalia.



1.2. Model Discussion: Valid from 00Z of 2 May 2013

Model comparison (Valid from 00Z; 2 May, 2013) shows all the three models are in general agreement in terms of depicting positions of the southern hemisphere sub-tropical highs, while they showed slight differences in depicting their intensity.

The St. Helena High Pressure System over southeast Atlantic Ocean is expected to weaken slightly while shifting eastwards during the forecast period. Its central pressure value is expected to decrease from about 1033hpa to 1030hpa according to the GFS model, from about 1033hpa to 1031hpa according to the ECMWF model and from about 1034hpa to about 1031hpa according to the UKMET model.

The Mascarene high pressure system over southwestern Indian Ocean is also expected to weaken slightly while shifting eastwards through 24 to 120 hours. Its central pressure

value is expected to decrease from about 1030hpa to 1027hpa, according to the GFS and ECMWF models, and from about 1030hpa to 1026hpa according to the UKMET model.

The heat lows over central Sahel and neighboring areas are expected to maintain moderate central values, ranging from about 1004hpa to 1005hpa according to the GFS model, from about 1005hpa to 1007hpa according to the ECMWF and UKMET models. 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 1005hpa according to the GFS model, from about 1005hpa to 1007hpa according to the ECMWF model from about 1004hpa to 1005hpa 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 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 across central African region, Sudan, Ethiopia and Somalia. The lower level wind convergences near the Congo boundary region are expected to become more active towards end of the forecast period.

At 500hpa, a deep trough in mid-latitude westerly flow is expected to prevail across the Northeast Africa, leading to interactions between extra-tropical and tropical weather systems. Two mid-latitude troughs are also expected to dominate the flow over southern African countries during 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 Horn of Africa region, the moist cross equatorial flow across East Africa, seasonal convergence near the Congo Air Boundary (CAB), and the West African Monsoon flow from the Atlantic Ocean and its associated convergence are expected to enhance

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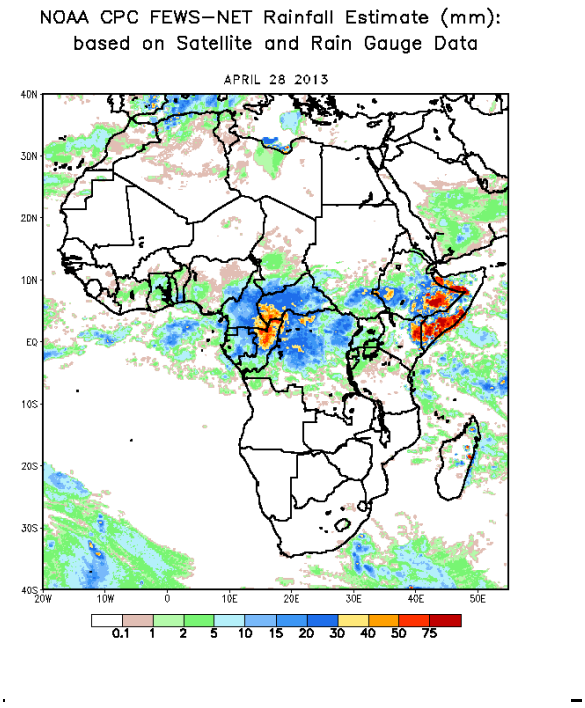
2.0. Previous and Current Day Weather Discussion over Africa (01 May 2013 – 02 May 2013)

2.1. Weather assessment for the previous day (01 May 2013)

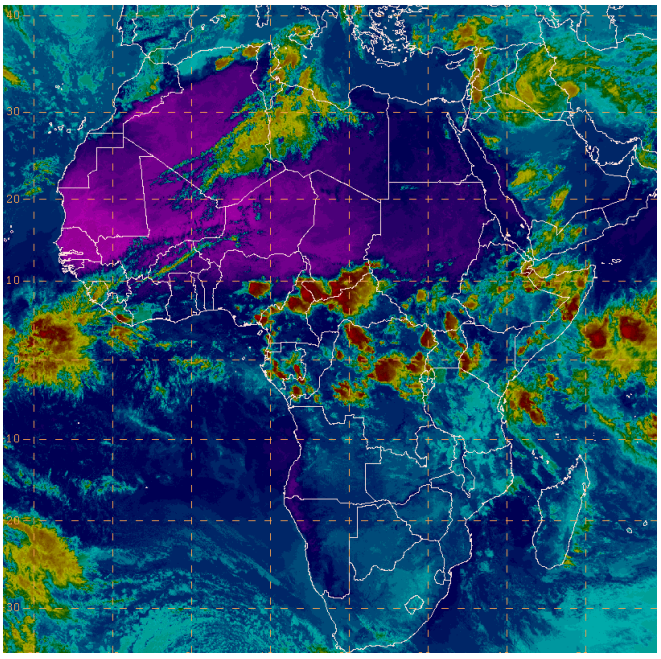
During the previous day, moderate to localized heavy rainfall was observed over parts of Benin, Cameroon, Gabon, CAR, DRC, southern Chad, Uganda, Kenya, South Sudan, Somalia and Ethiopia.

2.2. Weather assessment for the current day (02 May, 2013)

Intense patches of clouds are observed over parts of Nigeria, Cameroon, Gabon, Southern Chad, CAR, DRC, Uganda, Southern Sudan, Uganda, Kenya, Somalia and Ethiopia.



IR Satellite Image (valid 1700Z of 02 May 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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