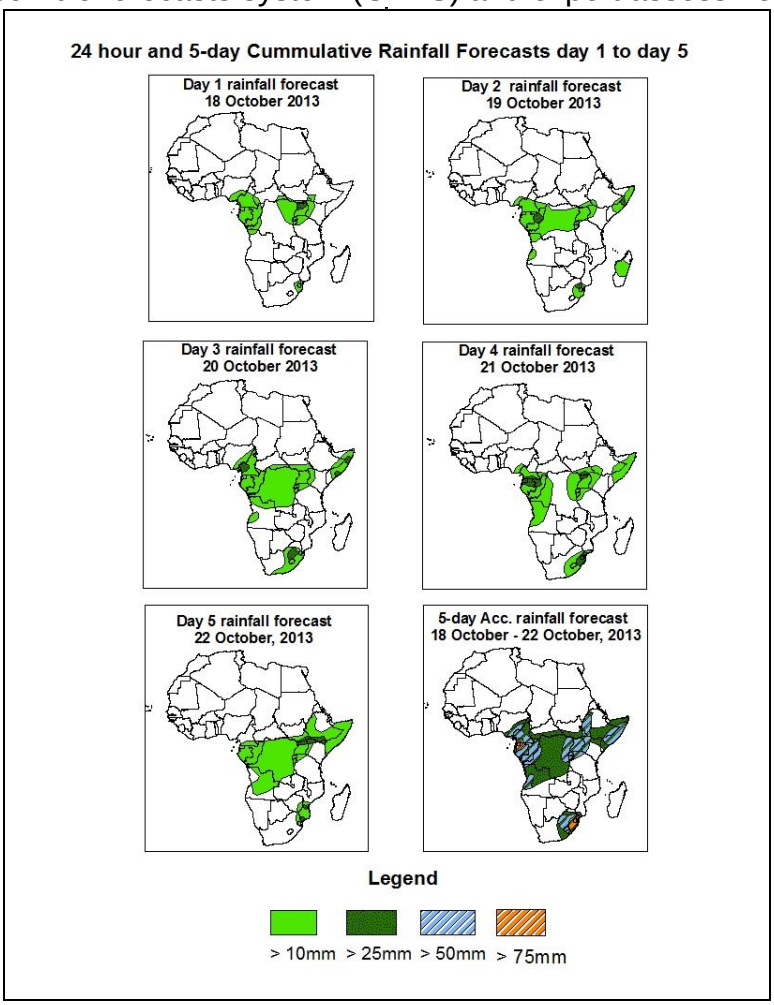
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 18 October – 06Z of 22 October, 2013. (Issued at 1630Z of 17 October 2013)

1.1. Twenty Four Hour Cumulative Rainfall Forecasts

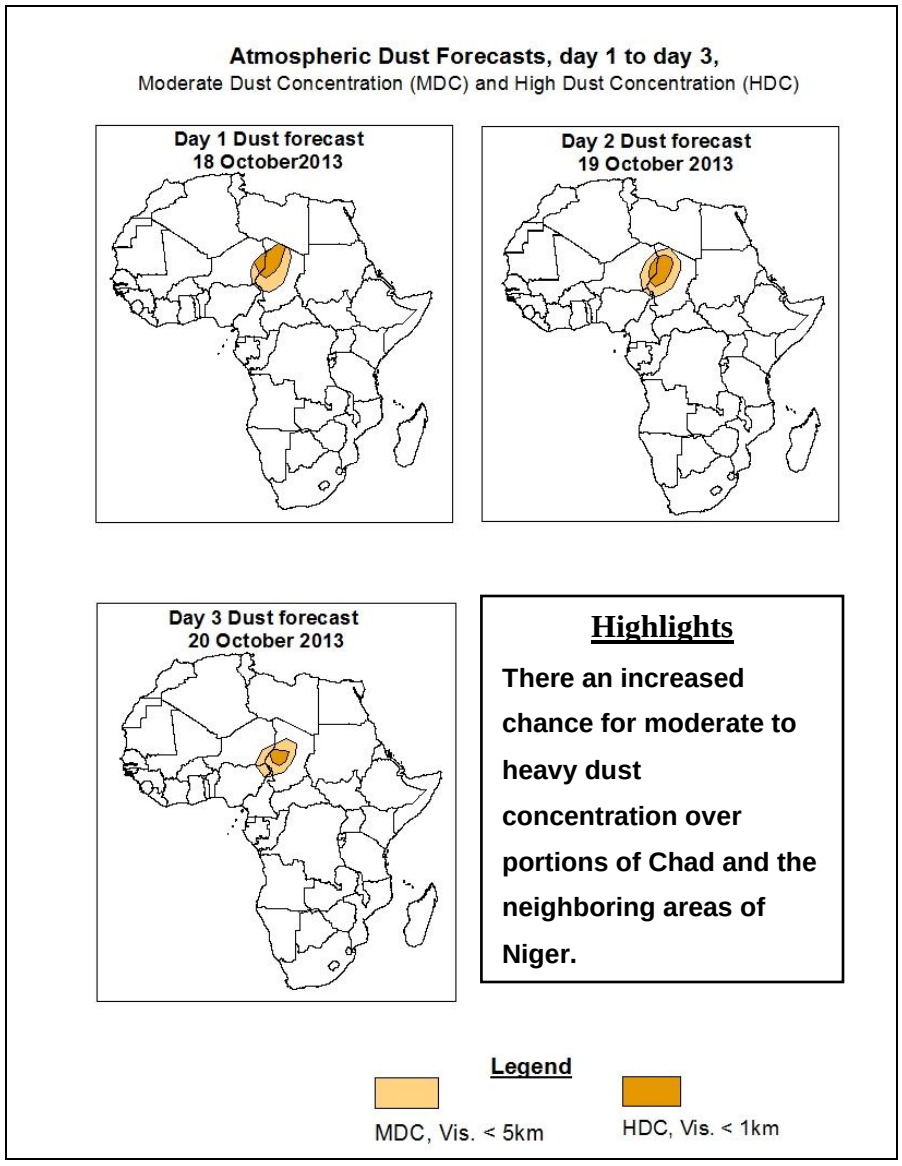
The forecasts are expressed in terms of 75% probability of precipitation (POP) exceeded, based on the NCEP, UK Met Office and the ECMWF NWP outputs, the NCEP global ensemble forecasts system (GEFS) and expert assessment.



Summary

In the next five days, a feeble trough propagating between northern DRC and Gabon, seasonal wind convergence near the Lake Victoria region and Angola, cyclonic circulation off the cost of the Horn of Africa, and mid-latitude frontal systems across southern Africa are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for heavy rainfall over parts Nigeria, Cameroon, Equatorial Guinea, Gabon, Congo, portions of DRC, the Lake Victoria region, Ethiopia and Somalia, and southeastern South Africa.

1.2. Atmospheric Dust Forecasts: Valid 17 - 19 October 2013



1.2. Model Discussion: Valid from 00Z of 17 October 2013

Model comparison (Valid from 00Z;17 October 2013) shows all the three models are in general agreement in terms of depicting positions of the northern and 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 maintain its intensity during the forecast period. Its central pressure value is expected to remain about 1035hpa according to the ECMWF, GFS and UKMET models

The Mascarene high pressure system over southwestern Indian Ocean is expected to weaken through 24 to 120 hours. The central pressure value of this high pressure system is expected to decrease from 1028hpa to 1020hpa according to the ECMWF model, from 1027hpa to 1020hpa according to the GFS model, and from 1029 to 1021 according to the UKMET model.

The East Africa ridge associated with the Mascarene high pressure system is expected to weaken along with the weakening of the Mascarene high pressure system according to the ECMWF, GFS and UKMET models. The 1016hpa associated with this ridge is expected to remain south of Central Mozambique during the forecast period.

A lower-lever trough is expected to propagate westwards between northern DRC and Gabon though 24 to 96 hours. A lower level cyclonic circulation off the coast of the Horn of Africa and its associated trough across the Horn is expected to dominate the flow during the forecast period. Seasonal wind convergence near the Lake Victoria, DRC and Angola is expected to remain weak, while mid-latitude frontal systems are expected to enhance rainfall over southern Africa.

At 500hpa, a trough associated with mid-latitude frontal systems is expected to weaken gradually over eastern Mediterranean Sea and the neighboring areas of Northeast Africa while shifting eastwards. In contrast, a mid-latitude trough is expected to deepen across southern African countries during the forecast period.

At 200hpa level, a strong wind associated with the southern hemisphere sub-tropical westerly jet is expected to dominate the flow over southern Africa and the neighboring areas. The maximum wind speed (>110kts), associated with the core of the jet is expected to propagate between the Southeast Atlantic Ocean and Southwest Indian Ocean across South Africa.

In the next five days, a feeble trough propagating between northern DRC and Gabon, seasonal wind convergence near the Lake Victoria region and Angola, cyclonic circulation off the cost of the Horn of Africa, and mid-latitude frontal systems across southern Africa are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for heavy rainfall over parts Nigeria, Cameroon, Equatorial Guinea, Gabon, Congo, portions of DRC, the Lake Victoria region, Ethiopia and Somalia, and southeastern South Africa.

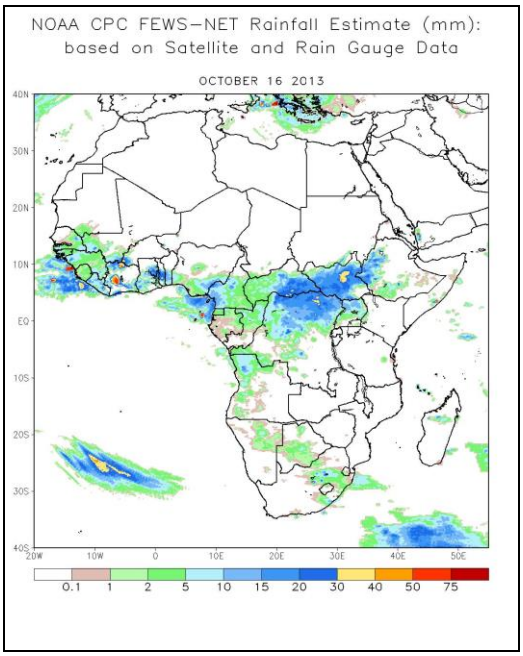
2.0. Previous and Current Day Weather Discussion over Africa
(16 October 2013 – 17 October 2013)

2.1. Weather assessment for the previous day (16 October 2013)

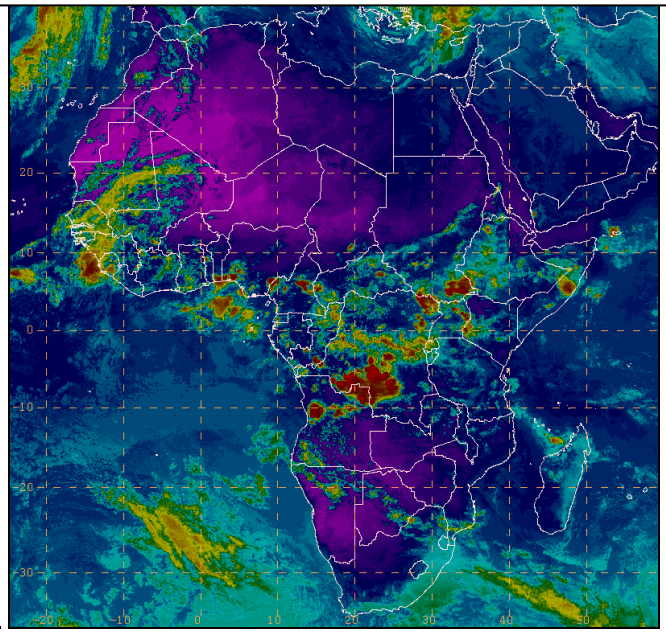
During the previous day, moderate to locally heavy rainfall was observed over local areas in the Gulf of Guinea, northern DRC, South Sudan and western Ethiopia.

2.2. Weather assessment for the current day (17 October 2013)

Intense clouds were observed over local areas in the Gulf of Guinea, portions of Central Africa, local areas in the Horn of African countries and northern Angola.



IR Satellite Image (valid 1552Z of 17 October 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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