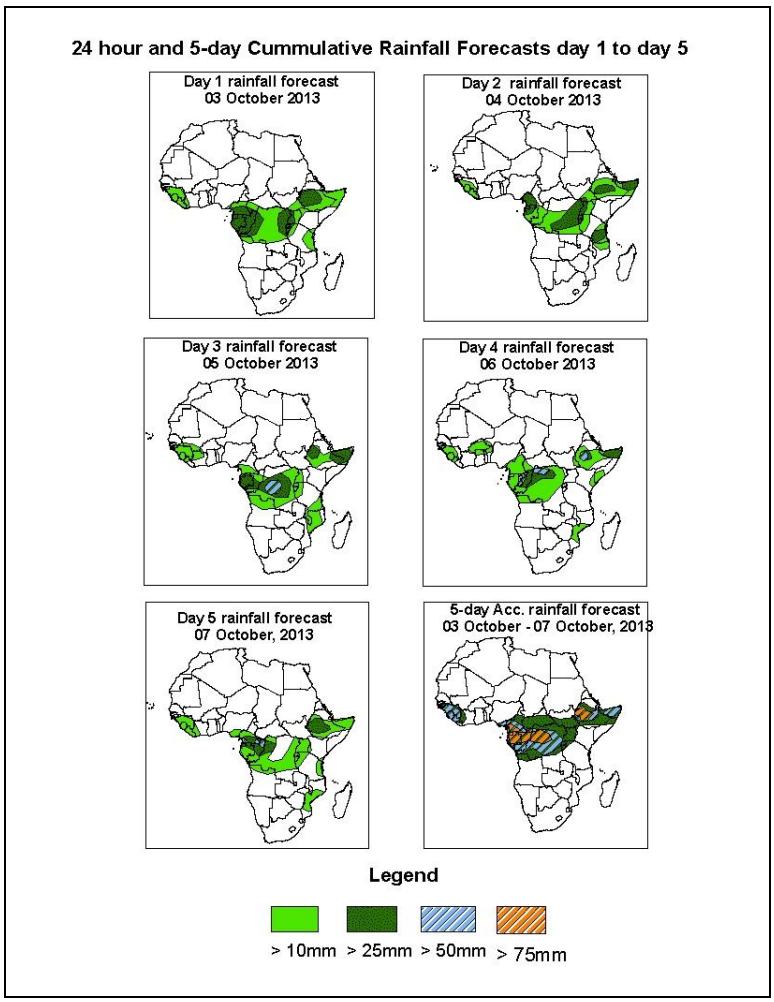
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 03 October – 06Z of 07 October, 2013. (Issued at 1530Z of 02 October 2013)

1.1. Twenty Four Hour Cumulative Rainfall Forecasts

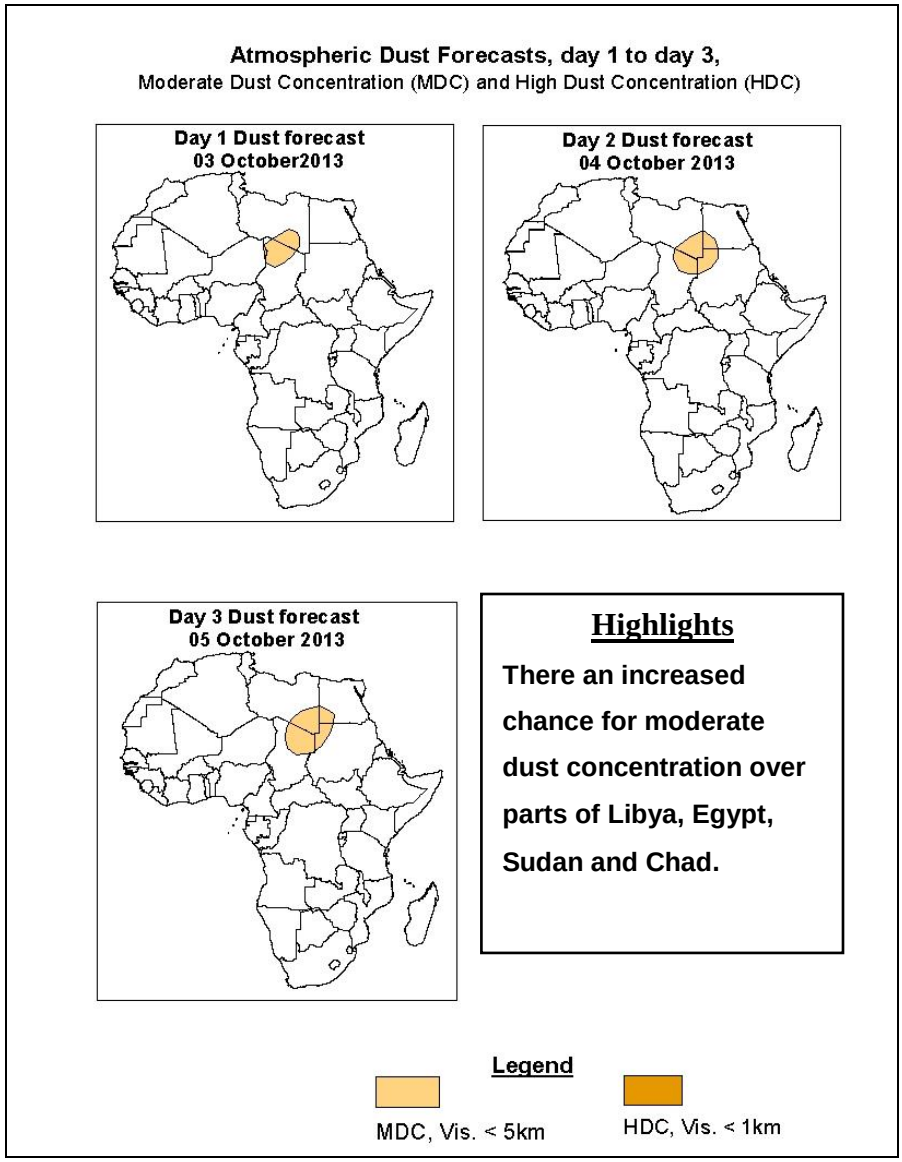
The forecasts are expressed in terms of 75% probability of precipitation (POP) exceeded, based on the NCEP, UK Met Office and the ECMWF NWP outputs, the NCEP global ensemble forecasts system (GEFS) and expert assessment.



Summary

In the next five days, the seasonally active monsoon systems across the Gulf of Guinea region, westward propagating systems across equatorial Africa, active CAB, and moist equatorial flow near the Horn of Africa are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for heavy rainfall over parts of Guinea, Sierra Leone, Liberia, southern Cameroon, Gabon, Equatorial Guinea, portions of DRC, Ethiopia and northern Somalia.

1.2. Atmospheric Dust Forecasts: Valid 03 - 05 October 2013



1.2. Model Discussion: Valid from 00Z of 01 October 2013

Model comparison (Valid from 00Z;02 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 weaken slightly while shifting eastward during 24 to 96 hours. Its central pressure value is expected to decrease from about 1034hpa to 1032hpa according to the ECMWF model, from about 1035hpa to 1031hpa according to the GFS and UKMET models.

The Mascarene high pressure system over southwestern Indian Ocean is expected to intensify through 24 to 72 hours, and expected to weaken gradually towards end of the forecast period, with its center shifting eastwards. Its central pressure value is expected to increase from about 1028hpa to 1031hpa and then decreasing to 1028hpa according to the ECMWF model, increasing from about 1029hpa to 1031hpa, and then decreasing to 1028hpa according to the GFS and the UKMET models.

The East Africa ridge associated with the Mascarene high pressure system is expected to extend across Southeast and East Africa reaching up to central Ethiopia according to the ECMWF model, extending up to Kenya according to the GFS model and extending up to southern Somalia according to the UKMET model.

At the 850hPa level, the seasonal monsoon flow and its associated convergence is expected to prevail over parts of the Gulf of Guinea and the neighboring areas of the Sahel regions. The meriodonal convergence associated with the Congo Air boundary is expected to remain active over DRC and the neighboring areas of the Lake Victoria region. Moist cross-equatorial flow and its associated convergence will continue to enhance rainfall over parts of Ethiopia and northern Somalia.

At 700mb, northeasterly to easterly flow is expected to prevail across the Gulf of Guinea region. A trough in the easterlies is expected to propagate in the region between South Sudan and Gabon during the forecast period.

At 500hpa, a feeble trough in the mid-latitude westerlies is expected to propagate across the Mediterranean Sea between 35E and 40E longitudes while weakening gradually. On the other hand, a mid-latitude frontal system over South Atlantic Ocean is expected to propagate towards South Africa during the forecast period. A mid tropospheric low is expected to dominate the flow over Mozambique during the forecast period.

In the next five days, the seasonally active monsoon systems across the Gulf of Guinea region, westward propagating systems across equatorial Africa, active CAB, and moist equatorial flow near the Horn of Africa are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for heavy rainfall over parts of Guinea, Sierra Leone, Liberia, southern Cameroon, Gabon, Equatorial Guinea, portions of DRC, Ethiopia and northern Somalia.

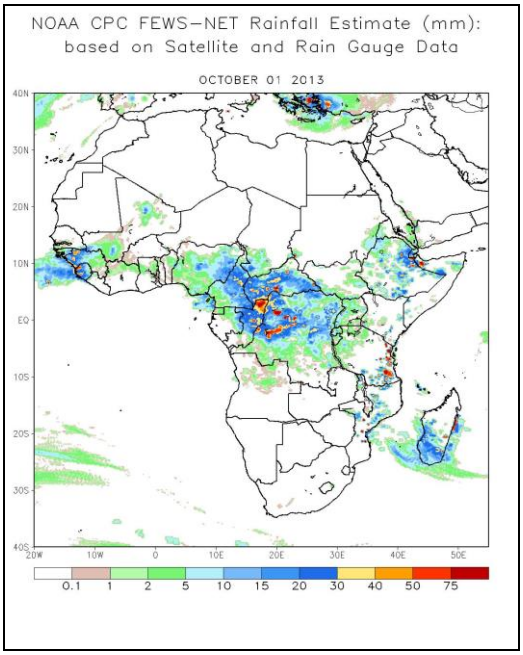
2.0. Previous and Current Day Weather Discussion over Africa
(01 October 2013 – 02 October 2013)

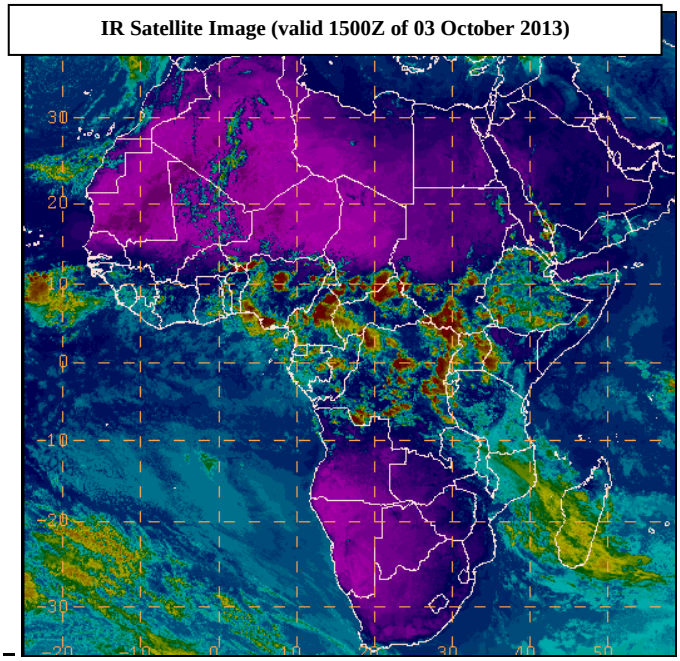
2.1. Weather assessment for the previous day (01 October 2013)

During the previous day, moderate to locally heavy rainfall was observed over portions of Guinea, Sierra Leone, local areas in Nigeria, Cameroon, CAR, portions of DRC, local areas in Somalia, parts of Ethiopia and eastern Tanzania.

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

Intense clouds were observed over parts of Nigeria, Cameroon, southern Chad, Gabon, Congo, DRC, South Sudan, Uganda, western Kenya, 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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