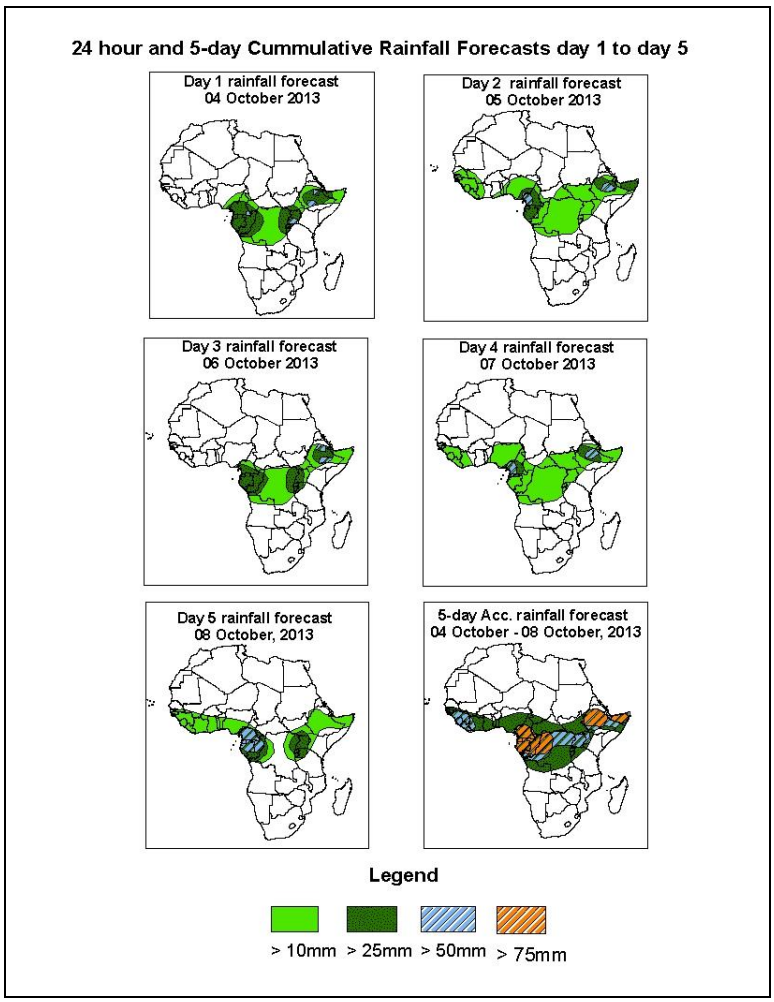
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 04 October – 06Z of 08 October, 2013. (Issued at 1500Z of 03 October 2013)

1.1. Twenty Four Hour Cumulative Rainfall Forecasts

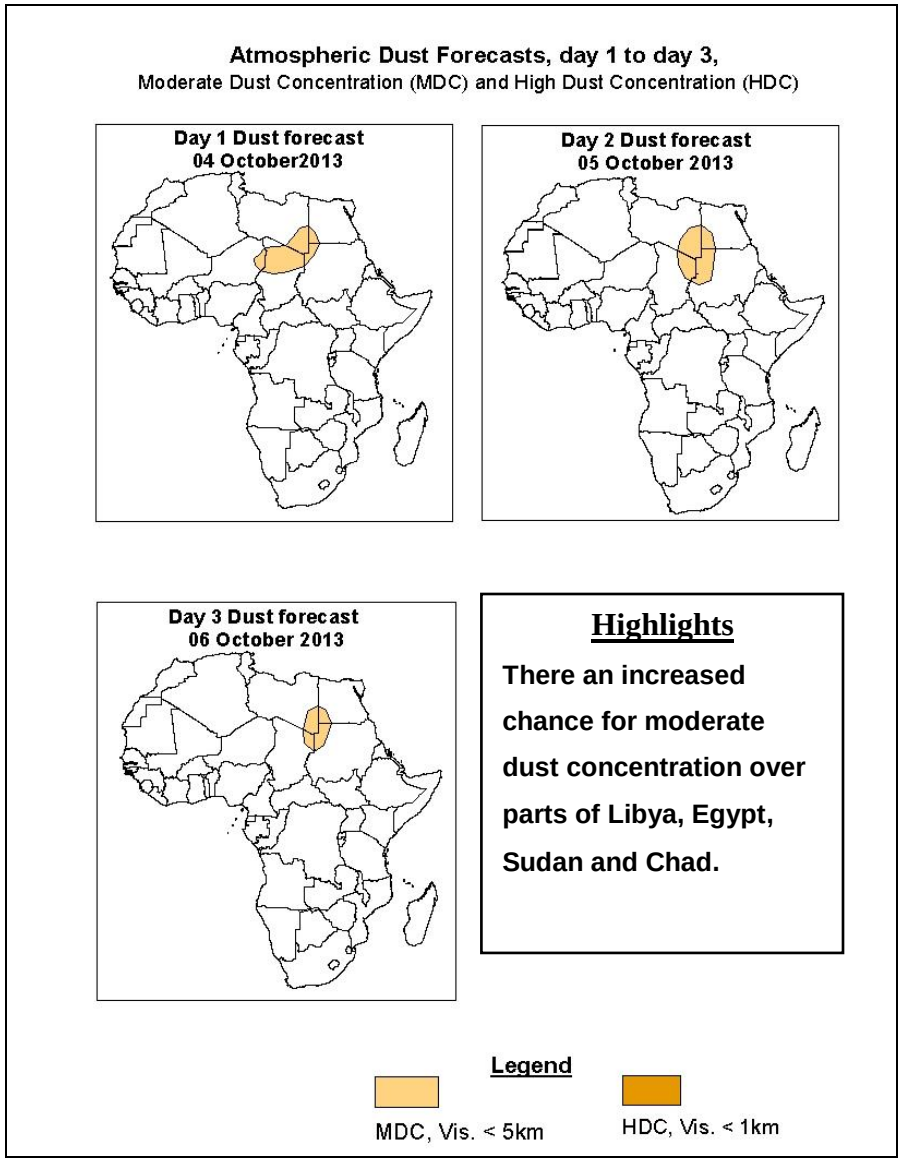
The forecasts are expressed in terms of 75% probability of precipitation (POP) exceeded, based on the NCEP, UK Met Office and the ECMWF NWP outputs, the NCEP global ensemble forecasts system (GEFS) and expert assessment.



Summary

In the next five days, the seasonally active monsoon systems across the Gulf of Guinea region, westward propagating systems across equatorial Africa, lower-level wind convergence near the Lake Victoria region, 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, Uganda, Ethiopia and northern Somalia.

1.2. Atmospheric Dust Forecasts: Valid 04 - 06 October 2013



1.2. Model Discussion: Valid from 00Z of 03 October 2013

Model comparison (Valid from 00Z;03 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 120 hours. Its central pressure value is expected to decrease from about 1034hpa to 1032hpa according to the ECMWF model, from about 1034hpa to 1030hpa according to the GFS and UKMET models.

The Mascarene high pressure system over southwestern Indian Ocean is expected to weaken gradually during the forecast period, with its center shifting eastwards. Its central pressure value is expected to decrease from about 1031hpa to 1029hpa according to the ECMWF model, decreasing to from 1031hpa to 1028hpa according to the GFS model, and from 1031hpa to 1030hpa according to the UKMET model.

The East Africa ridge associated with the Mascarene high pressure system is expected to weaken gradually, with eastward shift of the Mascarene high pressure system. The northern extent of the 1016hpa retreats southward from southern Kenya to Mozambique according to the ECMWF model, while it retreats southwards from southern Tanzania to southern Mozambique according to the GFS and UKMET models.

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. A lower-level cyclonic circulation is expected to form over the southwestern parts of West Africa through 24 to 72 hours. The southeasterly flow from the Indian Ocean across East and Southeast Africa is expected to weaken gradually, with eastward shift of the Mascarene anticyclone.

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 Uganda 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 though 24 to 72 hours.

In the next five days, the seasonally active monsoon systems across the Gulf of Guinea region, westward propagating systems across equatorial Africa, lower-level wind convergence near the Lake Victoria region, 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, Uganda, Ethiopia and northern Somalia.

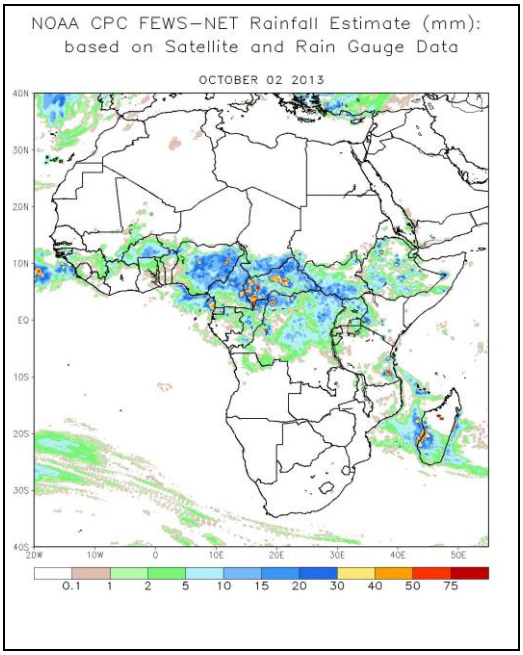
2.0. Previous and Current Day Weather Discussion over Africa
(02 October 2013 – 03 October 2013)

2.1. Weather assessment for the previous day (02 October 2013)

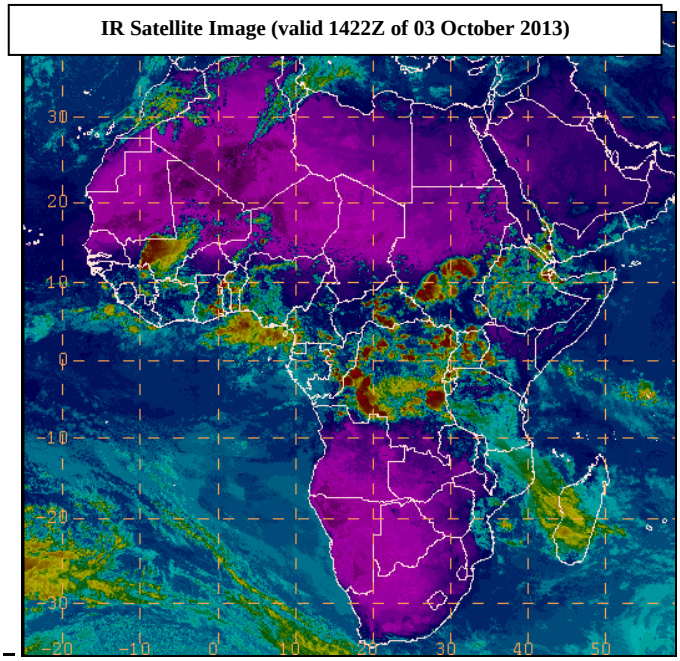
During the previous day, moderate to locally heavy rainfall was observed over portions of Burkina Faso, Nigeria, Cameroon, CAR, DRC, South Sudan, western Kenya, Ethiopia and western Madagascar.

2.2. Weather assessment for the current day (03 October 2013)

Intense clouds were observed over parts of Mali, CAR, South Sudan, DRC, Uganda, western Kenya and Ethiopia.



IR Satellite Image (valid 1422Z of 03 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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