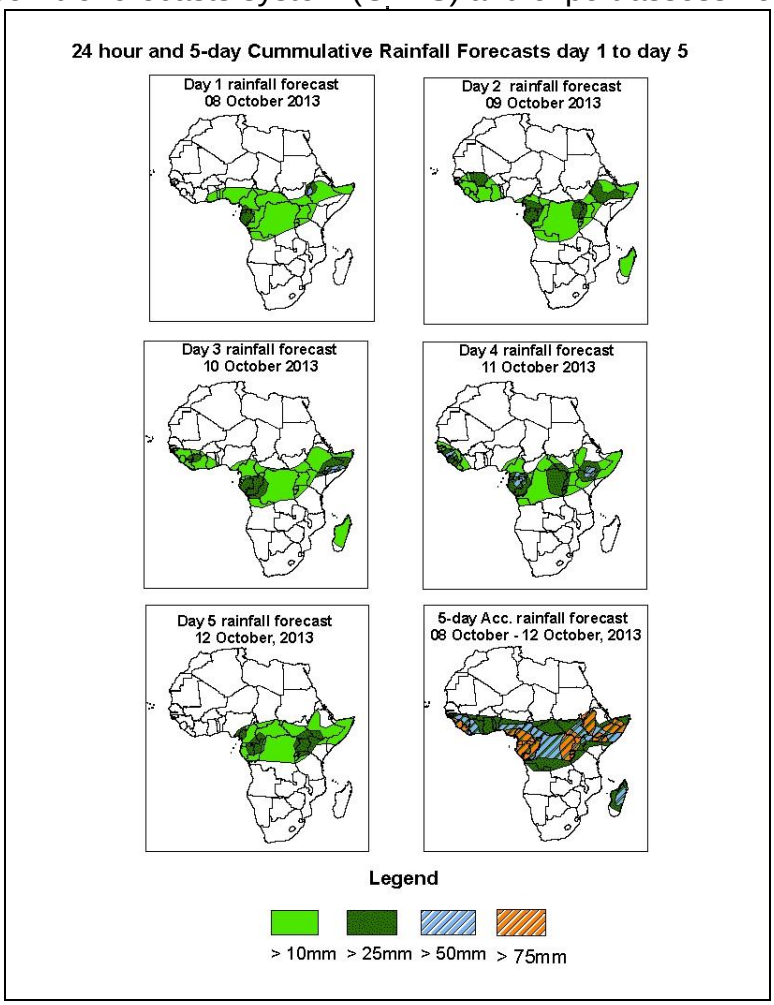
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 08 October – 06Z of 12 October, 2013. (Issued at 1700Z of 07 October 2013)

1.1. Twenty Four Hour Cumulative Rainfall Forecasts

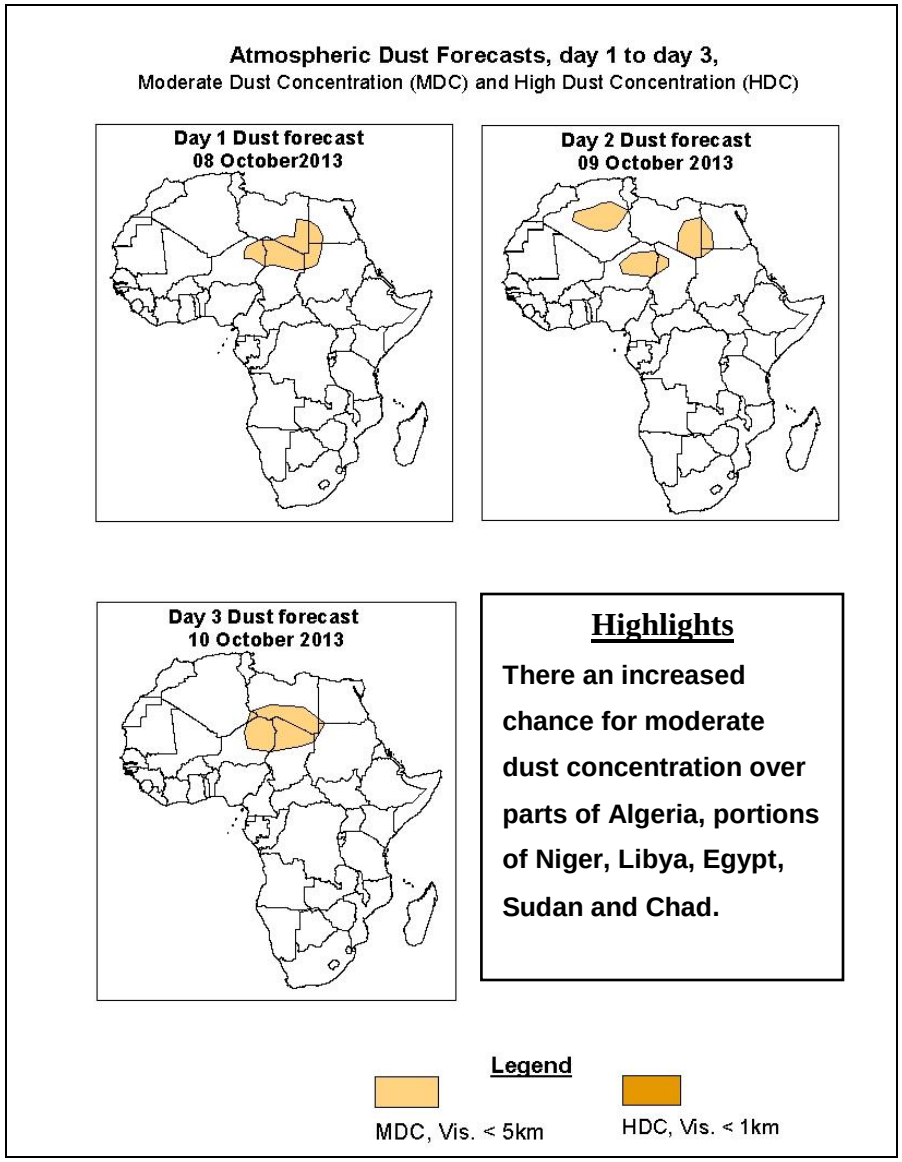
The forecasts are expressed in terms of 75% probability of precipitation (POP) exceeded, based on the NCEP, UK Met Office and the ECMWF NWP outputs, the NCEP global ensemble forecasts system (GEFS) and expert assessment.



Summary

In the next five days, seasonal monsoon flow and associated convergence in the Gulf of Guinea region, lower level wind convergence near Gabon and 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 much of the Gulf of Guinea and Central Africa countries, the Lake Victoria region and the Greater Horn of Africa.

1.2. Atmospheric Dust Forecasts: Valid 08 - 10 October 2013



1.2. Model Discussion: Valid from 00Z of 04 October 2013

Model comparison (Valid from 00Z;07 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 72 hours. Its central pressure value is expected to decrease from about 1024hpa to 10319pa according to the ECMWF model and from about 1025hpa to 1021hpa 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 1027hpa to 1019hpa according to the ECMWF model, and from about 1027hpa to 1020hpa according to the GFS and UKMET models.

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 isobar is expected to retreat southward from the Tanzania/Kenya border to southern Mozambique according to the ECMWF model, while it retreats southwards from southern northern Mozambique to southern Mozambique according to the GFS and UKMET models.

At the 850hPa level, a lower-level cyclonic circulation is expected to propagate westwards between Burkina Faso and Senegal during the forecast period. 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. A lower-lever cyclonic circulation is expected to propagate westwards between northern DRC and Gabon though 24 to 6 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 West Africa, with a core of stronger wind propagating across the Gulf of Guinea region. A trough in the easterlies is expected to propagate in the region between northern DRC 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 45E 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 tough is expected to dominate the flow over Southeast Africa though 24 to 72 hours.

In the next five days, seasonal monsoon flow and associated convergence in the Gulf of Guinea region, lower level wind convergence near Gabon and 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 much of the Gulf of Guinea and Central Africa countries, the Lake Victoria region and the Greater Horn of Africa.

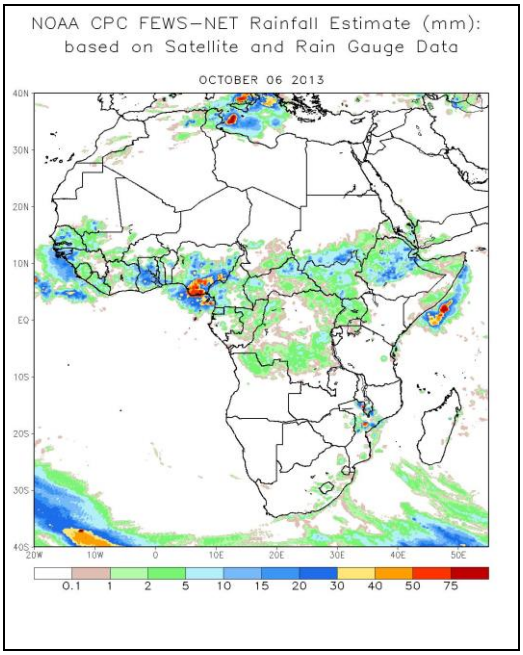
2.0. Previous and Current Day Weather Discussion over Africa
(06 October 2013 – 07 October 2013)

2.1. Weather assessment for the previous day (06 October 2013)

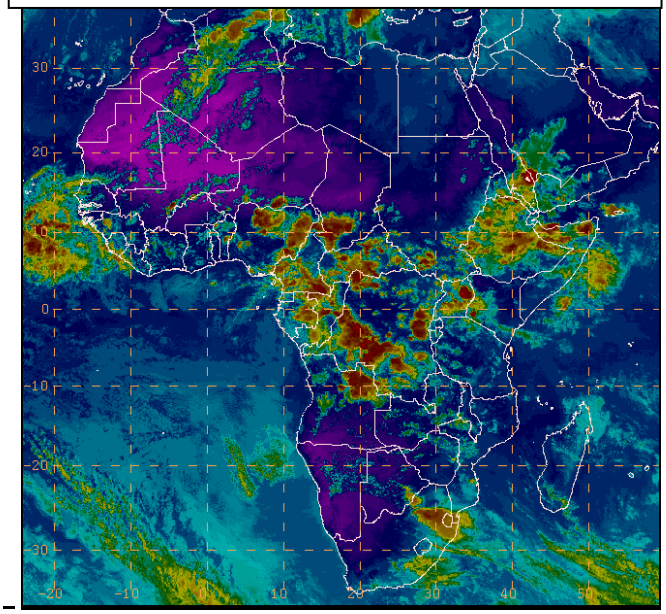
During the previous day, moderate to locally heavy rainfall was observed over portions of Mali, Senegal, southern Mauritania, southern Ghana, Nigeria, portions of CAR, South Sudan, Ethiopia, and local areas in central Mozambique.

2.2. Weather assessment for the current day (07 October 2013)

Intense clouds were observed over much of the Central Africa and the Horn of African countries, and portions of Southeast Africa.



IR Satellite Image (valid 1622Z of 07 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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