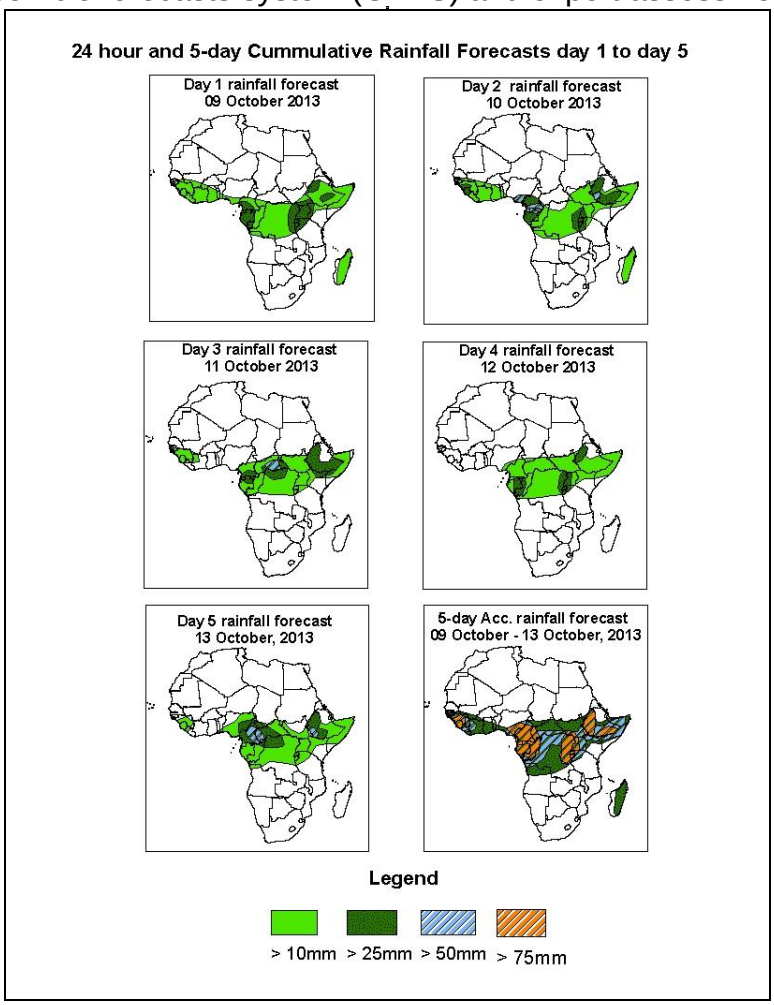
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 09 October – 06Z of 13 October, 2013. (Issued at 1730Z of 08 October 2013)

1.1. Twenty Four Hour Cumulative Rainfall Forecasts

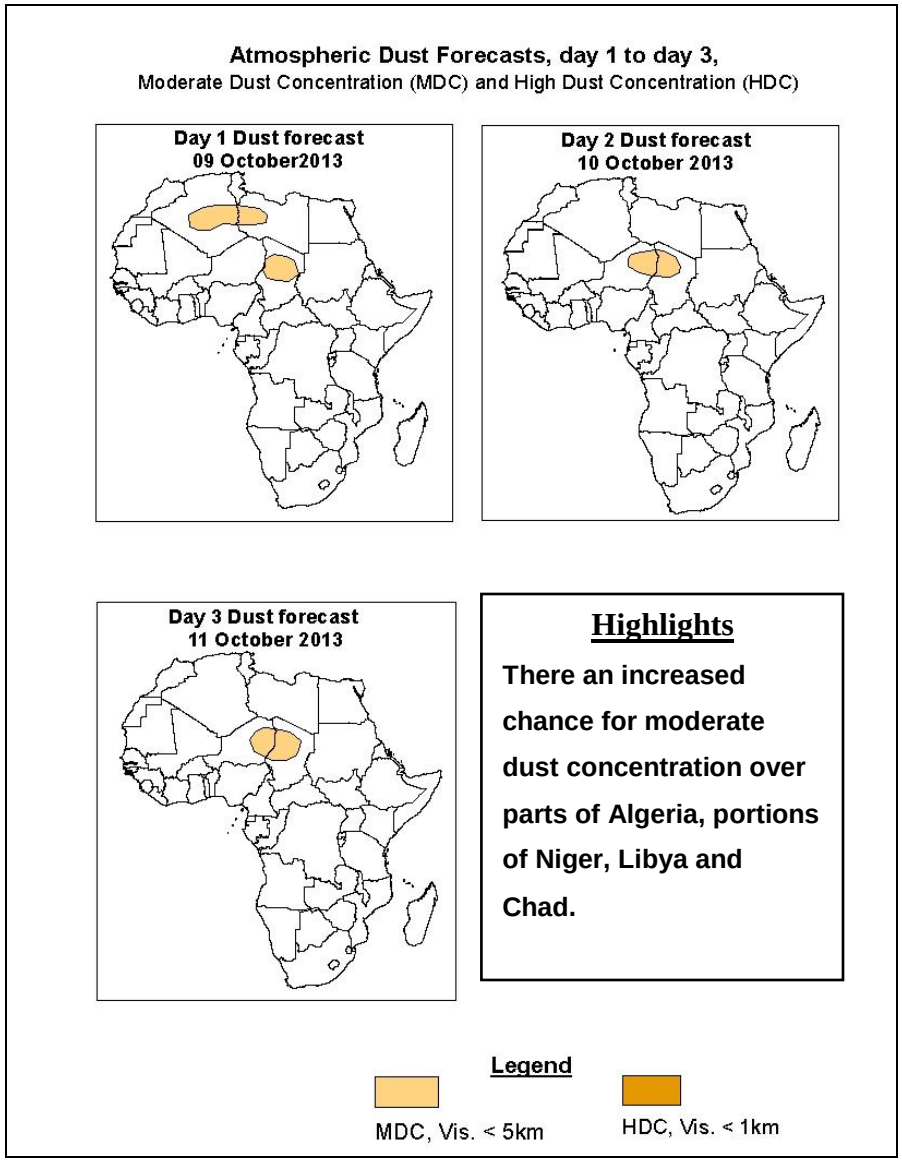
The forecasts are expressed in terms of 75% probability of precipitation (POP) exceeded, based on the NCEP, UK Met Office and the ECMWF NWP outputs, the NCEP global ensemble forecasts system (GEFS) and expert assessment.



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 many places in the Gulf of Guinea and Central Africa countries, the Lake Victoria region and the Greater Horn of Africa.

1.2. Atmospheric Dust Forecasts: Valid 09 - 11 October 2013



1.2. Model Discussion: Valid from 00Z of 08 October 2013

Model comparison (Valid from 00Z;08 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 strengthen through 48 to 96 hours while shifting eastwards. Its central pressure value is expected to increase from about 1033hpa to 1036pa according to the ECMWF model, from about 1033hpa to 1035hpa according to the GFS model and from about 1034hpa to 1036hpa according to the UKMET model.

The Mascarene high pressure system over southwestern Indian Ocean is expected to weaken during the first half of the forecast period, with a frontal low pressure system taking its position over the Southwest Indian Ocean in the second half of the forecast period. Its central pressure value is expected to decrease from about 1020hpa to 1019hpa according to the ECMWF model, and becomes below 19hpa 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 remain over southwest Indian Ocean according to the ECMWF, 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 dominate the flow over the southwestern parts of West Africa. A lower-lever cyclonic circulation is expected to propagate westwards between northern DRC and Gabon though 24 to 96 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 western part of 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 westerlies over eastern Mediterranean sea is expected to weaken, with strengthening of the subtropical ridge in the region. On the other hand, interaction between mid-latitude and tropical systems is expected to dominate the flow over Southeast Africa.

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 many places in the Gulf of Guinea and Central Africa countries, the Lake Victoria region and the Greater Horn of Africa.

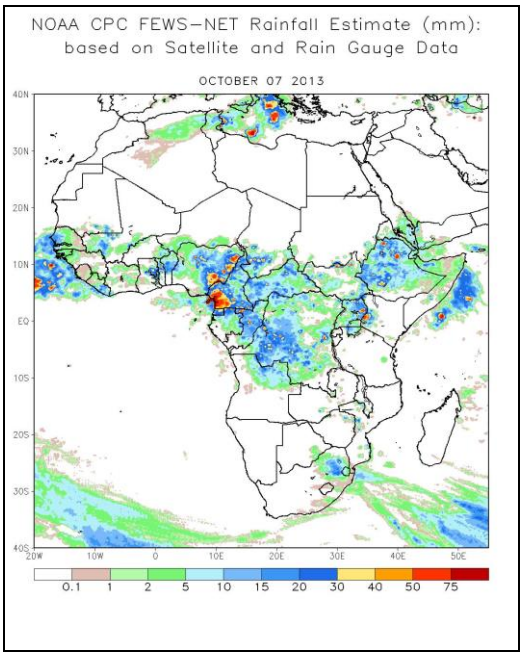
2.0. Previous and Current Day Weather Discussion over Africa
(07 October 2013 – 08 October 2013)

2.1. Weather assessment for the previous day (07 October 2013)

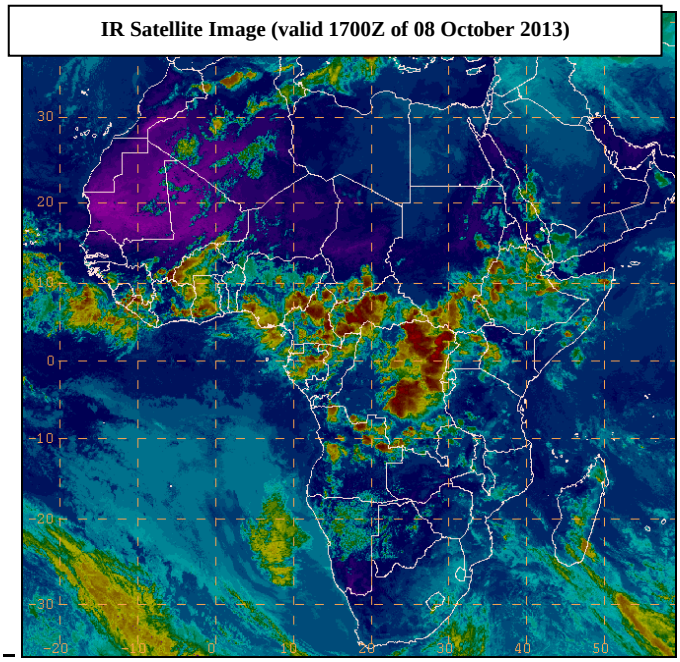
During the previous day, moderate to locally heavy rainfall was observed over portions of Senegal, Guinea-Bissau, Mali, southern Mauritania, southern Ghana, Benin, Togo, Nigeria, Cameroon, southern Chad, northern Gabon, Congo, CAR, DRC, South Sudan, Uganda, western Kenya, Ethiopia, parts of Somalia and South Africa.

2.2. Weather assessment for the current day (08 October 2013)

Intense clouds were observed over many places in the Gulf of Guinea, Central Africa and the Horn of African countries.



IR Satellite Image (valid 1700Z of 08 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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