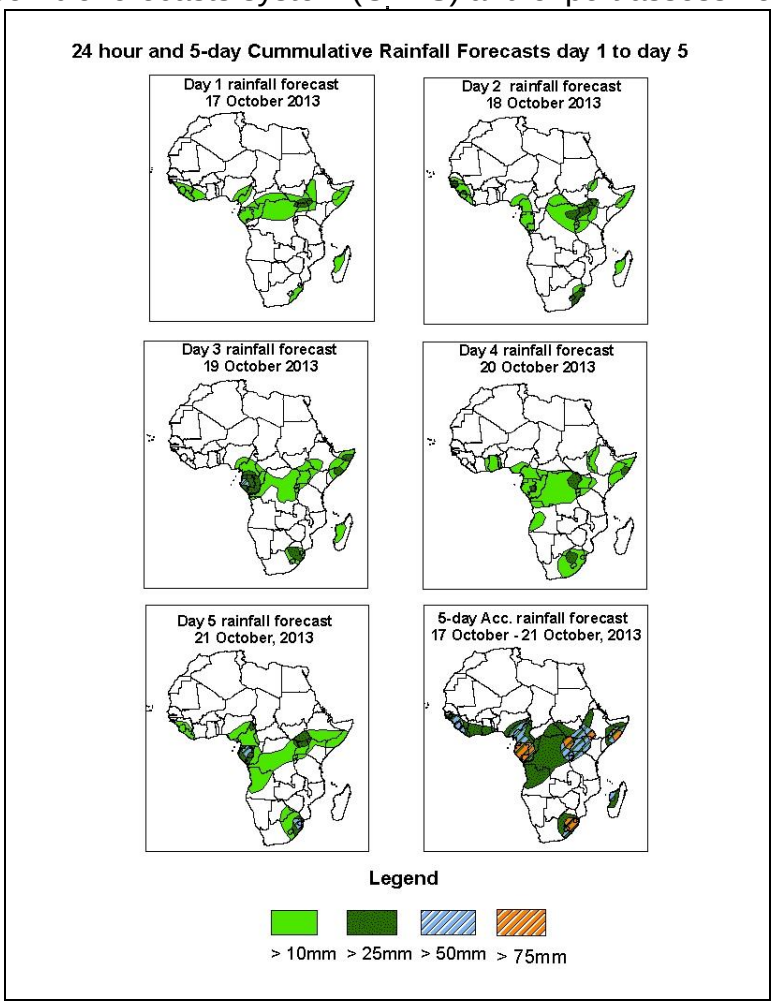
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 17 October – 06Z of 21 October, 2013. (Issued at 1630Z of 17 October 2013)

1.1. Twenty Four Hour Cumulative Rainfall Forecasts

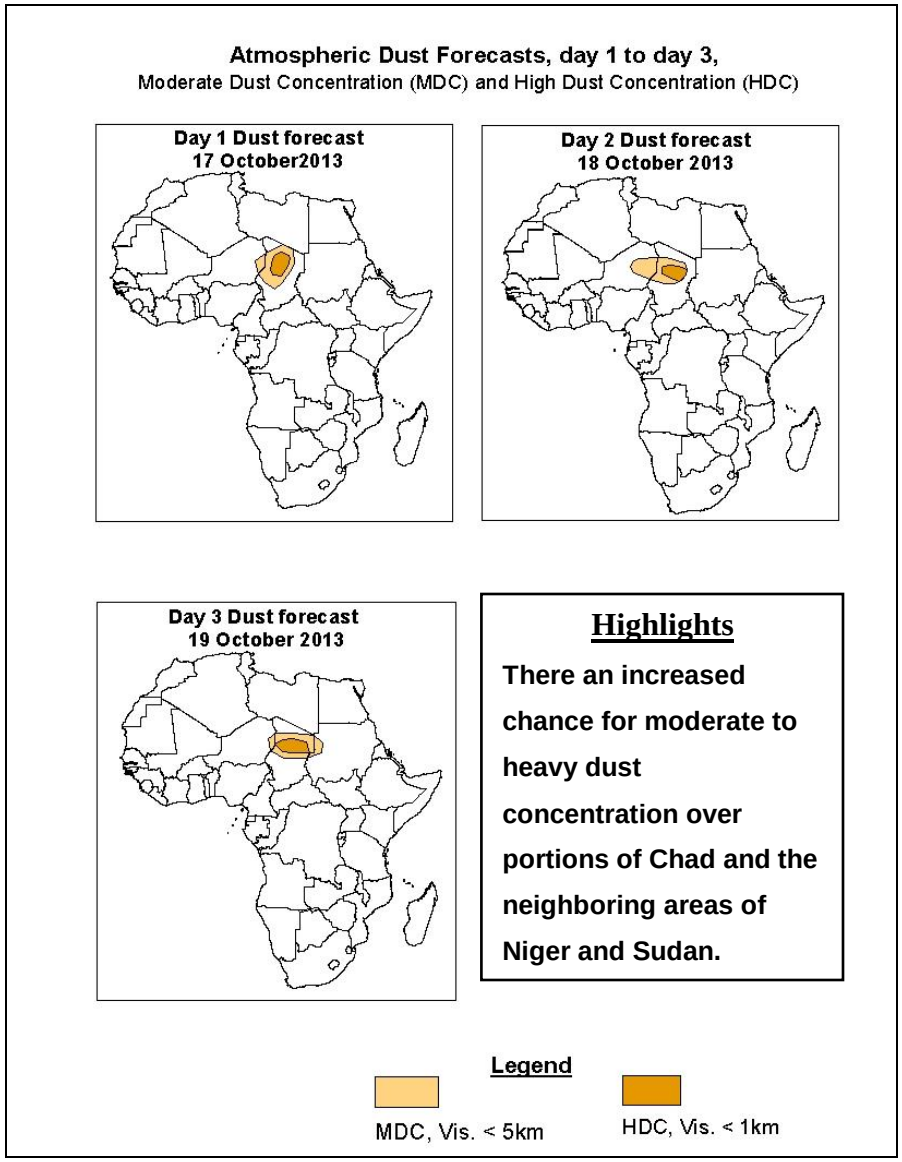
The forecasts are expressed in terms of 75% probability of precipitation (POP) exceeded, based on the NCEP, UK Met Office and the ECMWF NWP outputs, the NCEP global ensemble forecasts system (GEFS) and expert assessment.



Summary

In the next five days, lower-level wind convergence over the southwestern corner of West Africa, a feeble trough propagating between northern DRC and Gabon, seasonal wind convergence near the Lake Victoria region, 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 of Guinea, Sierra Leone, Liberia, parts Nigeria, Cameroon, Equatorial Guinea, Gabon, Congo, portions of DRC, the Lake Victoria region, Ethiopia and Somalia, southeastern South Africa, and portions of Madagascar.

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



1.2. Model Discussion: Valid from 00Z of 15 October 2013

Model comparison (Valid from 00Z;16 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 gradually while shifting eastwards. Its central pressure value is expected to decrease from about 1038hpa in 24 hours to 1034hpa in 120hours according to the ECMWF and GFS models, and expected to decrease from 1039hpa to 1036hpa according to the UKMET model.

The Mascarene high pressure system over southwestern Indian Ocean is expected to weaken through 24 to 96 hours. The central pressure value of this high pressure system is expected to decrease from 1029hpa to 1022hpa according to the ECMWF model, from 1029hpa to 1023hpa according to the GFS model, and from 1030 to 1022 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 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.

At the 850hPa level, a weak lower-level cyclonic circulation is expected to dominate the flow over the southwestern corner of West Africa. 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 is expected to remain weak, while mid-latitude frontal systems are expected to enhance rainfall over southern Africa.

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 the Gabon during the forecast period.

At 500hpa, a trough associated with mid-latitude frontal systems is expected to deepen over eastern Mediterranean Sea and the neighboring areas of Northeast Africa.

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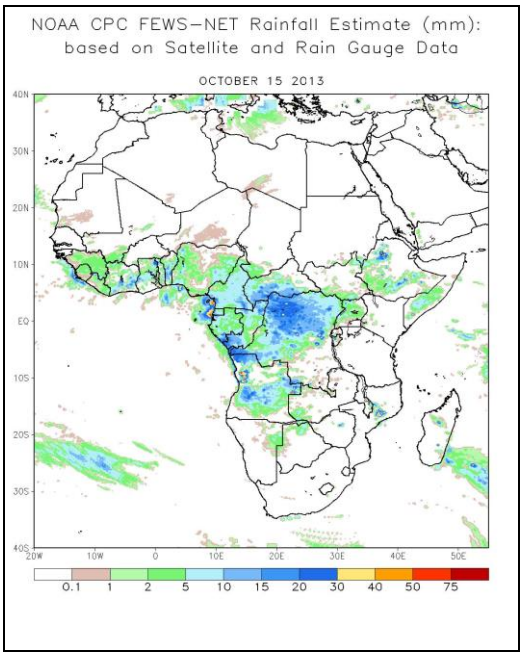
2.0. Previous and Current Day Weather Discussion over Africa
(15 October 2013 – 16 October 2013)

2.1. Weather assessment for the previous day (15 October 2013)

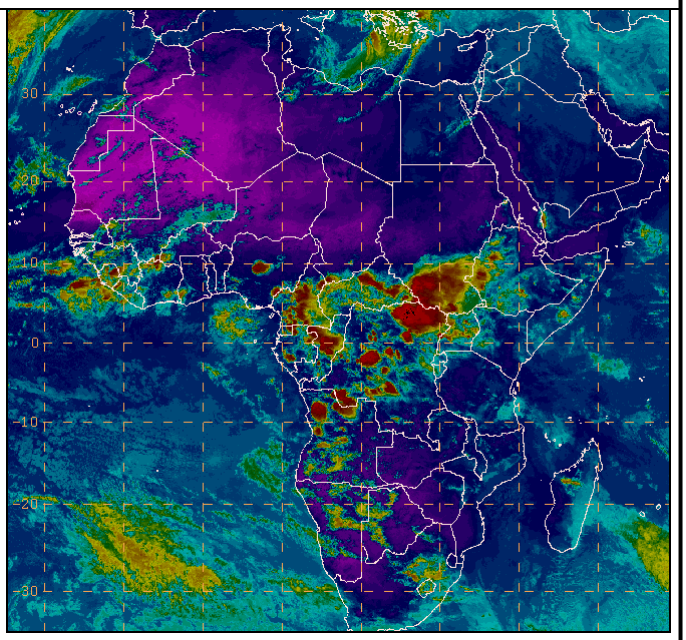
During the previous day, moderate to locally heavy rainfall was observed over southern CAR, northern Congo, northern DRC, portions of Angola, local areas in Ethiopia and Mozambique.

2.2. Weather assessment for the current day (16 October 2013)

Intense clouds were observed over local areas in the Gulf of Guinea, many places in Central Africa, portions of the Horn of African countries including South Sudan, northern Angola, and portions of Namibia.



IR Satellite Image (valid 1552Z of 16 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

Author: **Kassimou Abdou**, (ACMAD / CPC-African Desk); kassimou.abdou@noaa.gov