

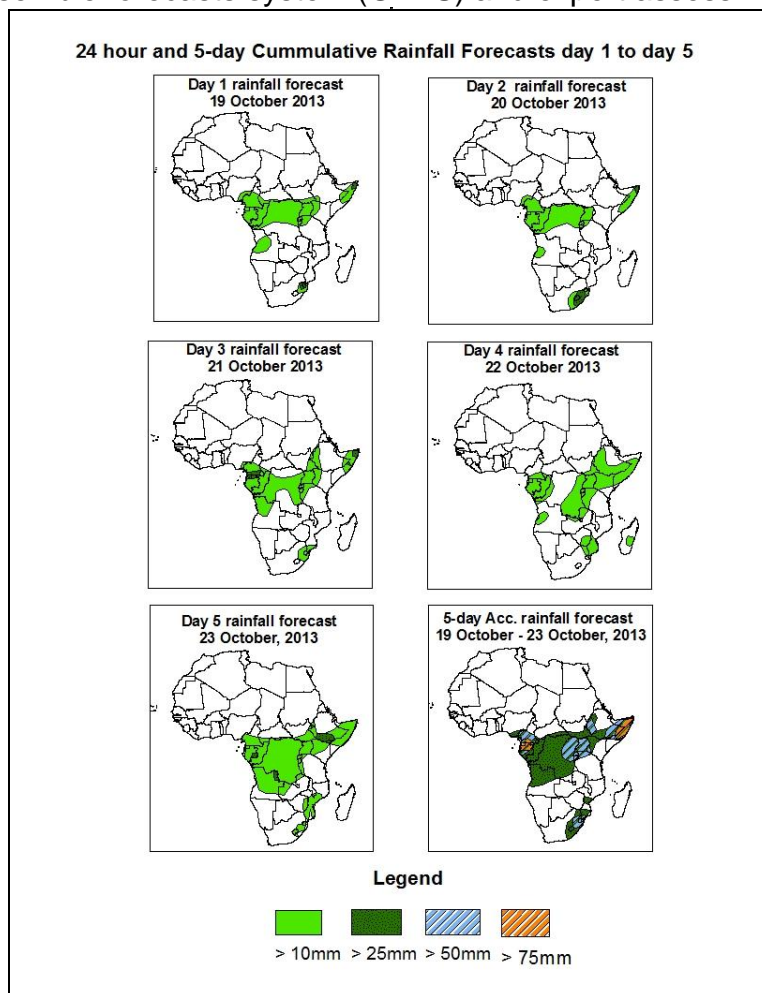


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 19 October – 06Z of 23 October, 2013. (Issued at 1600Z of 18 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.

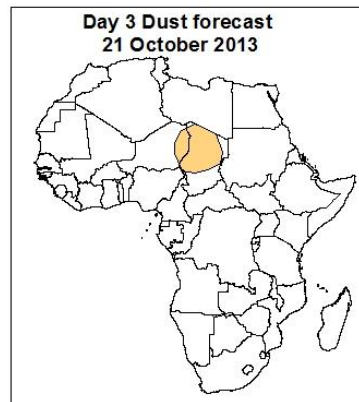
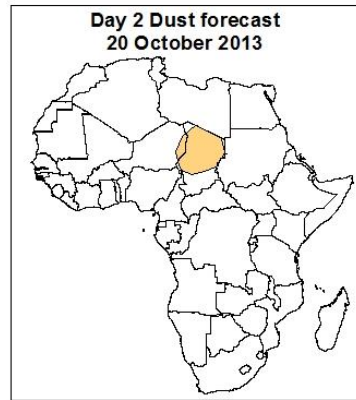
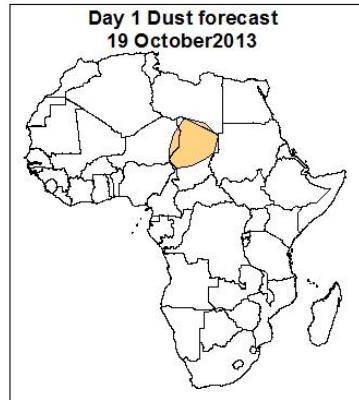


Summary

In the next five days, a low level-wind convergence over northern DRC and Gabon, Cameroon, seasonal wind convergence near the Lake Victoria region and Angola, cyclonic circulation off the coast 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 Nigeria, Cameroon, Equatorial Guinea, Gabon, Congo, portions of DRC, the Lake Victoria region, Ethiopia and Somalia, and southeastern South Africa.

1.2. Atmospheric Dust Forecasts: Valid 18 - 20 October 2013

Atmospheric Dust Forecasts, day 1 to day 3,
Moderate Dust Concentration (MDC) and High Dust Concentration (HDC)



Highlights

There an increased chance for moderate dust concentration over portions of Chad and the neighboring areas of Niger.



1.2. Model Discussion: Valid from 00Z of 18 October 2013

Model comparison (Valid from 00Z;18 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 during the forecast period. Its central pressure value is expected to decrease from about 1035hpa to 1033hpa according to the ECMWF model, from 1035hpa to 1032hpa according to GFS model and from 1036hpa to 1033hpa according to the UKMET model.

The Mascarene high pressure system over southwestern Indian Ocean is expected to weaken through 24 to 72h hours. The central pressure value of this high pressure system is expected to decrease from 1026hpa to 1019hpa according to the ECMWF model, from 1027hpa to 1020hpa according to the GFS and the UKMET modes.

The East Africa ridge associated with the Mascarene high pressure system is expected to extend northwards up to central Kenya through 24 to 48 hours, and it tends to weaken towards end of the forecast period.

At 850hpa, 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 24 to 72 hours.. Seasonal wind convergence near the Lake Victoria, DRC, Cameroon, Congo, Angola, Zambia, South Sudan is expected remain active during the forecast period. A cyclonic flow near Zambia and Mozambique is expected to enhance rainfall through 48 to 96 hours.

At 500hpa, a trough associated with mid-latitude frontal systems is expected to deepen over northern Africa though 72 to 120 hours. A mid-latitude trough is expected to propagate between the Atlantic Ocean and southern Africa countries, including Namibia, South Africa and Botswana.

At 200hpa level, a strong wind associated with the southern hemisphere sub-tropical westerly jet is expected to dominate the flow over southern Africa and the neighboring areas. The maximum wind speed (>90kts), associated with the core of the jet is expected to propagate between the Southeast Atlantic Ocean and Southwest Indian Ocean across South Africa.

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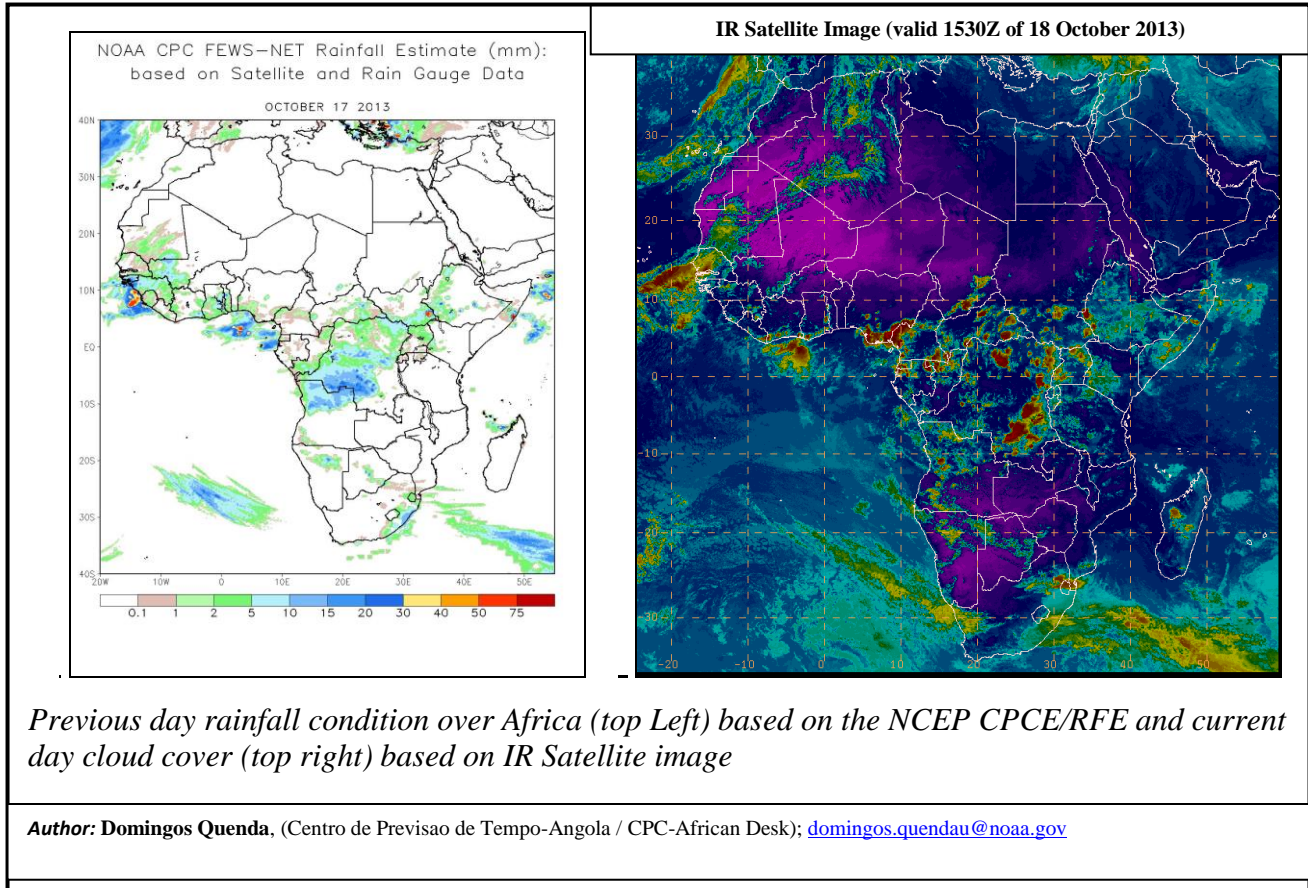
2.0. Previous and Current Day Weather Discussion over Africa (17 October 2013 – 18 October 2013)

2.1. Weather assessment for the previous day (17 October 2013)

During the previous day, moderate to locally heavy rainfall was observed over southern DRC, and local areas in South Sudan, Ethiopia and Angola.

2.2. Weather assessment for the current day (18 October 2013)

Intense clouds were observed over local areas in the Gulf of Guinea, portions of Central African and the Lake Victoria regions.



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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