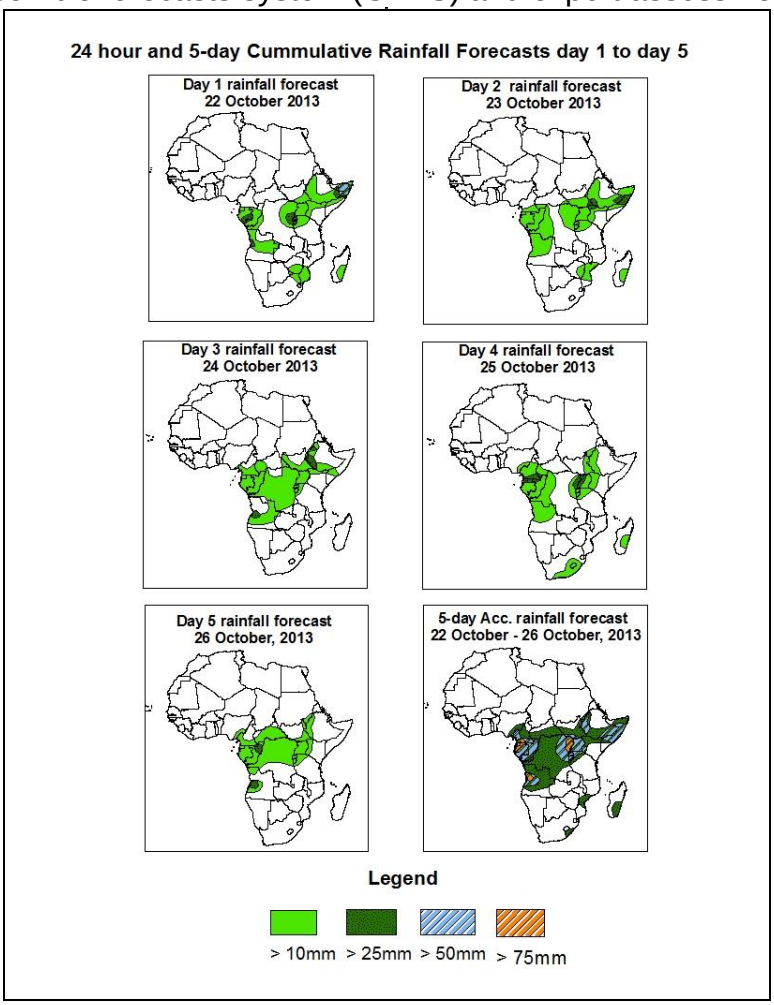
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 22 October – 06Z of 26 October, 2013. (Issued at 1700Z of 21 October 2013)

1.1. Twenty Four Hour Cumulative Rainfall Forecasts

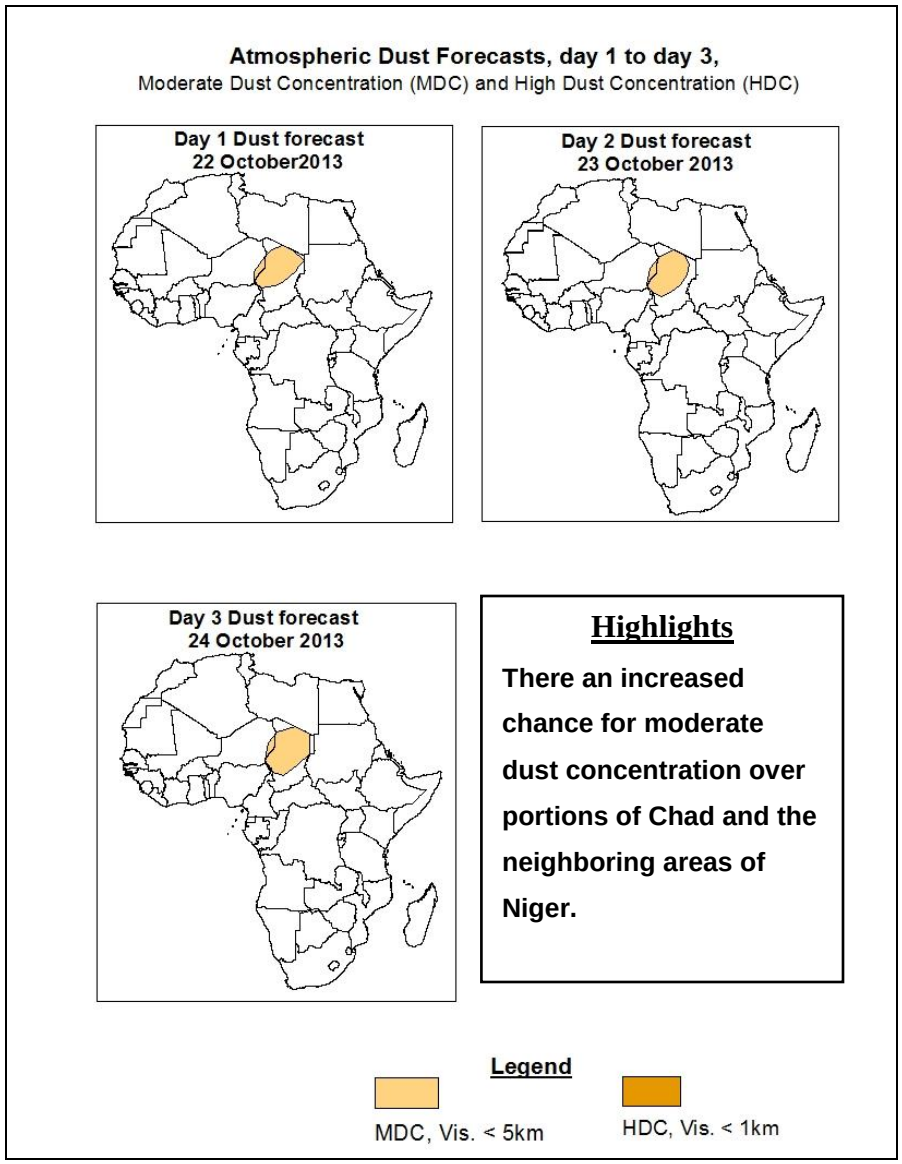
The forecasts are expressed in terms of 75% probability of precipitation (POP) exceeded, based on the NCEP, UK Met Office and the ECMWF NWP outputs, the NCEP global ensemble forecasts system (GEFS) and expert assessment.



Summary

In the next five days, a low level-wind convergence near Gabon and Congo, seasonal wind convergence over the Lake Victoria region and Angola, moist cross-equatorial flow and its associated convergence over Horn of Africa, and interaction between mid-latitude and tropical weather systems across Southeast Africa are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for heavy rainfall over parts southern Cameroon, Equatorial Guinea, Gabon, Congo, portions of DRC, the Lake Victoria region, Ethiopia and Somalia, and local areas in Southeast Africa.

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



1.2. Model Discussion: Valid from 00Z of 21 October 2013

Model comparison (Valid from 00Z:21 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 during the forecast period. Its central pressure value is expected to decrease from about 1034hpa to 1025hpa according to the ECMWF model, from 1035hpa to 1026hpa according to GFS model and from 1035hpa to 1023hpa according to the UKMET model.

The Mascarene high pressure system over southwestern Indian Ocean is expected to weaken slightly through 72 to 120 hours. The central pressure value of this high pressure system is expected to decrease from 1026hpa to 1025hpa according to the ECMWF model, from 1028hpa to 1024hpa according to the GFS model and from about 1028hpa to 1023hpa according to the UKMET modes.

The East Africa ridge associated with the Mascarene high pressure system is expected to extend northwards up to central Mozambique through 24 to 72 hours, and it tends to weaken towards end of the forecast period.

At 850hpa, moist cross-equatorial flow and its associated convergence is expected to dominate the flow over the Horn of Africa through 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. Interaction between mid-latitude and tropical weather systems is expected to enhance rainfall over Southeast Africa.

At 500hpa, a trough associated with mid-latitude frontal system is expected to deepen while shifting between North and Northeast Africa through 24 to 120 hours. A mid-latitude trough is expected to the flow over southern Africa countries during the forecast period.

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 South Africa and and Southwest Indian Ocean across South Africa.

In the next five days, a low level-wind convergence near Gabon and Congo, seasonal wind convergence over the Lake Victoria region and Angola, moist cross-equatorial flow and its associated convergence over Horn of Africa, and interaction between mid-latitude and tropical weather systems across Southeast Africa are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for heavy rainfall over parts southern Cameroon, Equatorial Guinea, Gabon, Congo, portions of DRC, the Lake Victoria region, Ethiopia and Somalia, and local areas in Southeast Africa.

2.0. Previous and Current Day Weather Discussion over Africa

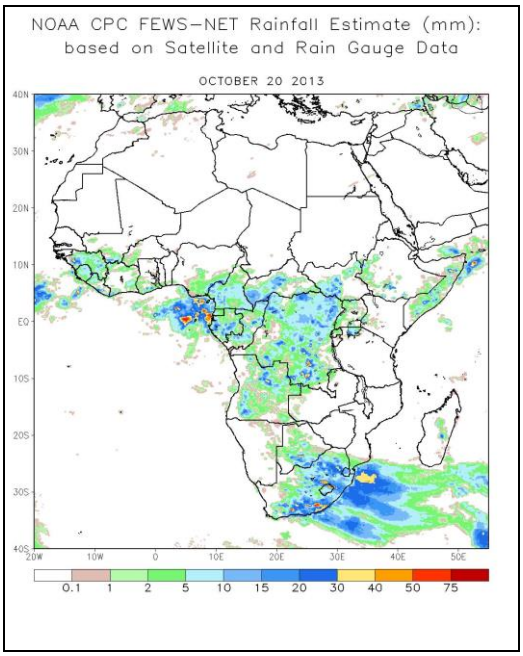
(20 October 2013 – 21 October 2013)

2.1. Weather assessment for the previous day (20 October 2013)

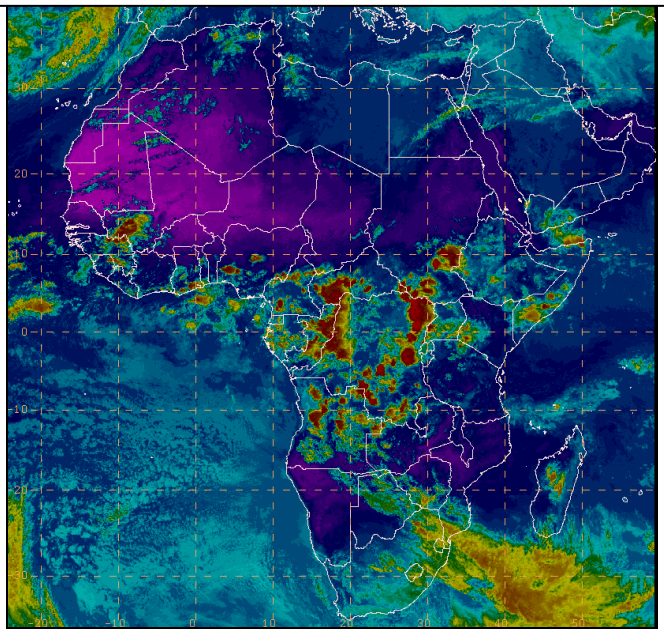
During the previous day, moderate to locally heavy rainfall was observed over Equatorial Guinea, CAR, DRC, Angola, South Sudan, Somalia, South Africa and Lesotho.

2.2. Weather assessment for the current day (21 October 2013)

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



IR Satellite Image (valid 16220Z of 21 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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