

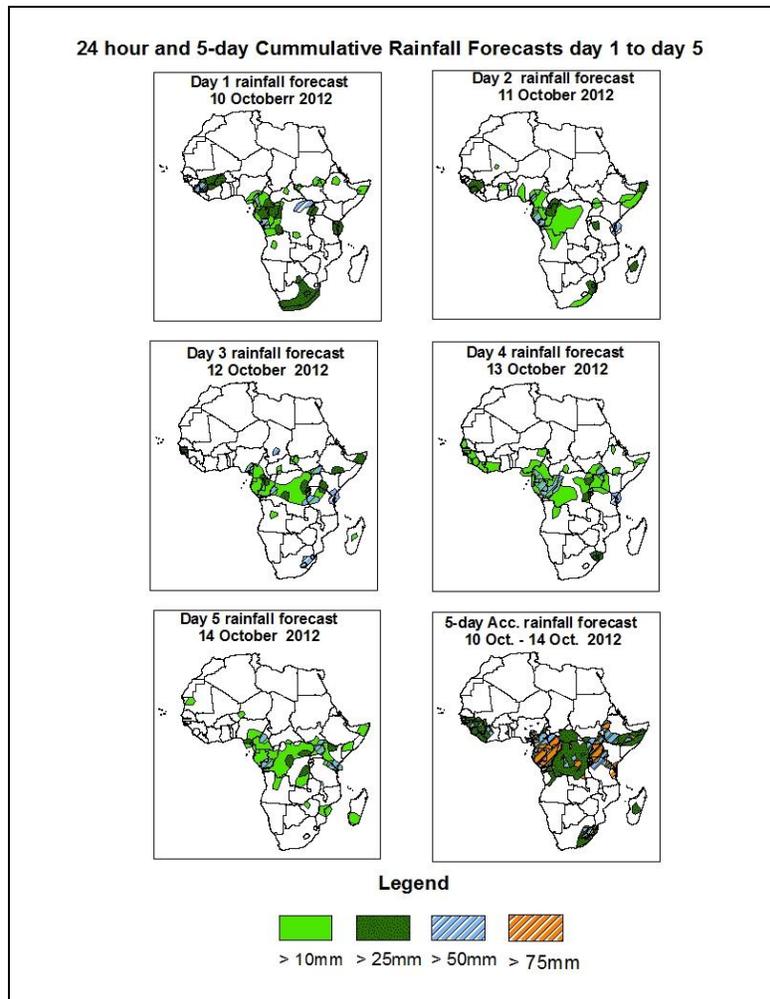


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1.0. Rainfall Forecast: Valid 06Z of October 10<sup>th</sup> – 06Z of October, 14<sup>th</sup> 2012. (Issued at 13:00Z of October, 09<sup>th</sup> 2012)

### 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, the seasonal convergence lines over the CAB region and the surrounding areas of East Africa are expected to enhance and maintain rainfall activities within the regions. Hence, there is an increased chance for moderate to heavy rainfall over parts of East Africa along with Cameroon, Madagascar and South Africa.

## **1.2. Model Discussion: Valid from 00Z of October, 09<sup>th</sup> 2012.**

*Model comparison (Valid from 00Z; October, 09<sup>th</sup> 2012) shows all the three models are in general agreement especially with respect to the positioning of large scale features, however, the ECMWF model tends to give somewhat slightly higher values than both the GFS and UK models especially in the Equatorial region (10°S and 10°N) with regards to the heat lows.*

At the 850hpa level, a cyclonic circulation is expected to dominate the flow over Cameroon, Democratic Republic of Congo and the Somalia coast in 24 hours with an extended trough line across coastal West Africa. Localized cyclonic circulations are also expected to dominate the flow across north Benin, south Niger, south-east Angola and south Burkina Faso through 48 to 120 hours. The convergence associated with the Congo Air mass is expected to persist over the Congo Air Boundary (CAB) region. Strong wind convergences are expected to prevail over southern Ethiopia, Democratic Republic of Congo, Uganda, Tanzania, Zambia and Angola and will continue to influence moderate to heavy rainfall in the region. Also the westerly trough associated with the mid-latitude frontal system is expected to dominate the flow over parts of South Africa.

At 500hpa, an eastward propagating trough in the westerly is expected to dominate the flow over the Mediterranean Sea and coastal North Africa during the forecast period. A mid latitude frontal system is expected to propagate eastwards across South Africa within 24 to 120 hours.

At 200hpa, strong winds associated with the northern Hemisphere sub-tropical westerly jet are expected to dominate the flow across Algeria, Egypt and Libya within 24 to 120 hours. An upper tropospheric cyclonic circulation is expected to develop over the Horn of Africa in 48 hours but weakens in 96 hours.

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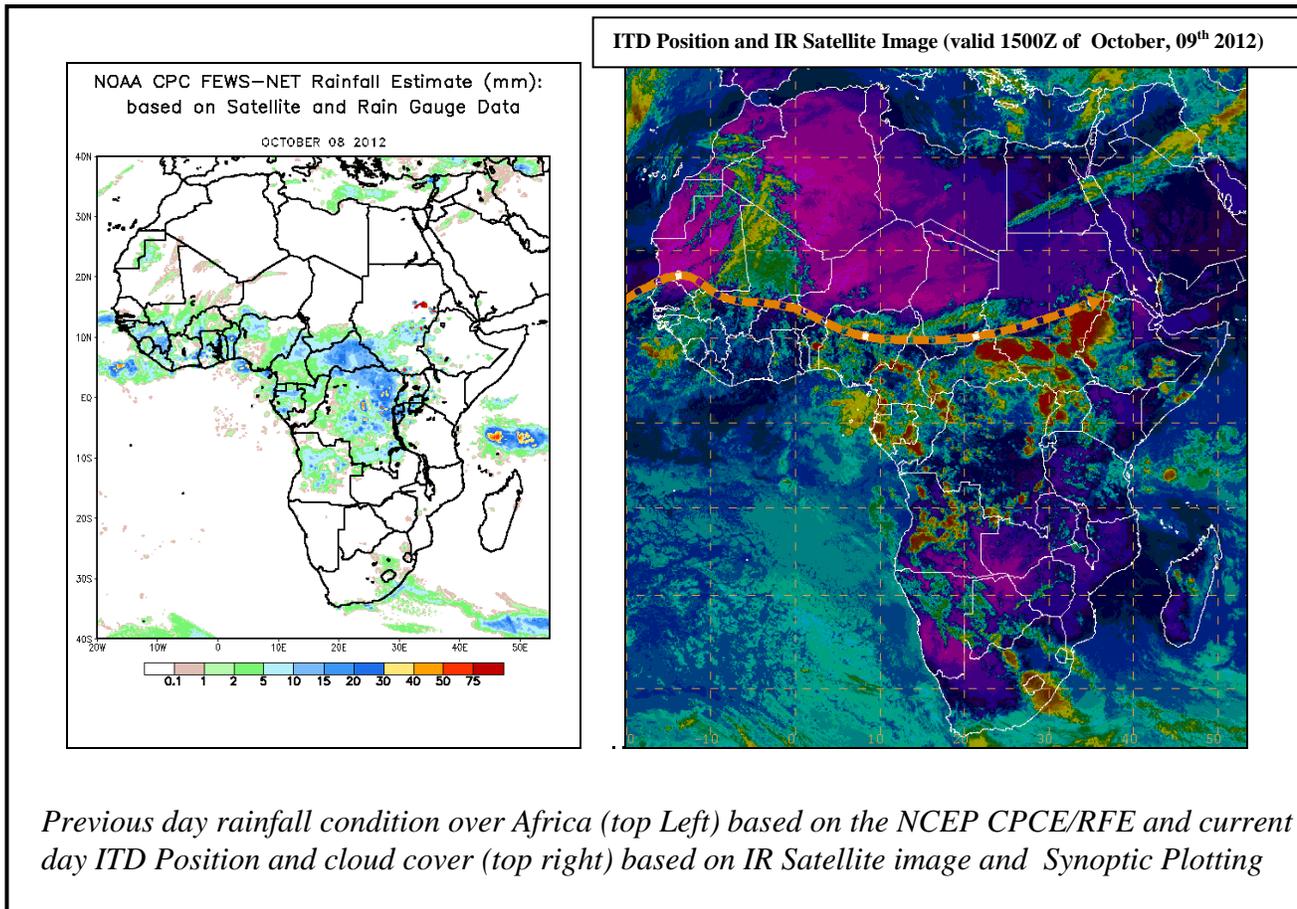
## 2.0. Previous and Current Day Weather Discussion over Africa (October, 08<sup>th</sup> 2012 – October, 09<sup>th</sup> 2012)

### 2.1. Weather assessment for the previous day (October, 08<sup>th</sup> 2012)

During the previous day, light rains were observed over parts of Mauritania; Mali; Niger; Chad; Congo Brazzaville and South Africa with moderate to heavy rainfall over parts of Togo; Guinea Conakry; Cote d'Ivoire; Gabon; Cameroon; Democratic Republic of Congo; Central African Republic; South Sudan Republic; Ethiopia; Angola; Ghana and Angola.

### 2.2. Weather assessment for the current day (October, 09<sup>th</sup> 2012)

Convective clouds are observed across parts of Mali; Nigeria; Chad; Democratic Republic of Congo; Cameroon; Congo; South Sudan Republic; Ethiopia; Uganda; Somalia; South Africa; Senegal; Guinea-Conakry; Sierra Leone; Ghana; Togo; Kenya; Gabon; Angola and Central African Republic.



**Author:** Izuchukwu Ebenebe, (Nigeria Meteorological Agency / CPC-African Desk); [izu.ebenebe@noaa.gov](mailto:izu.ebenebe@noaa.gov)