

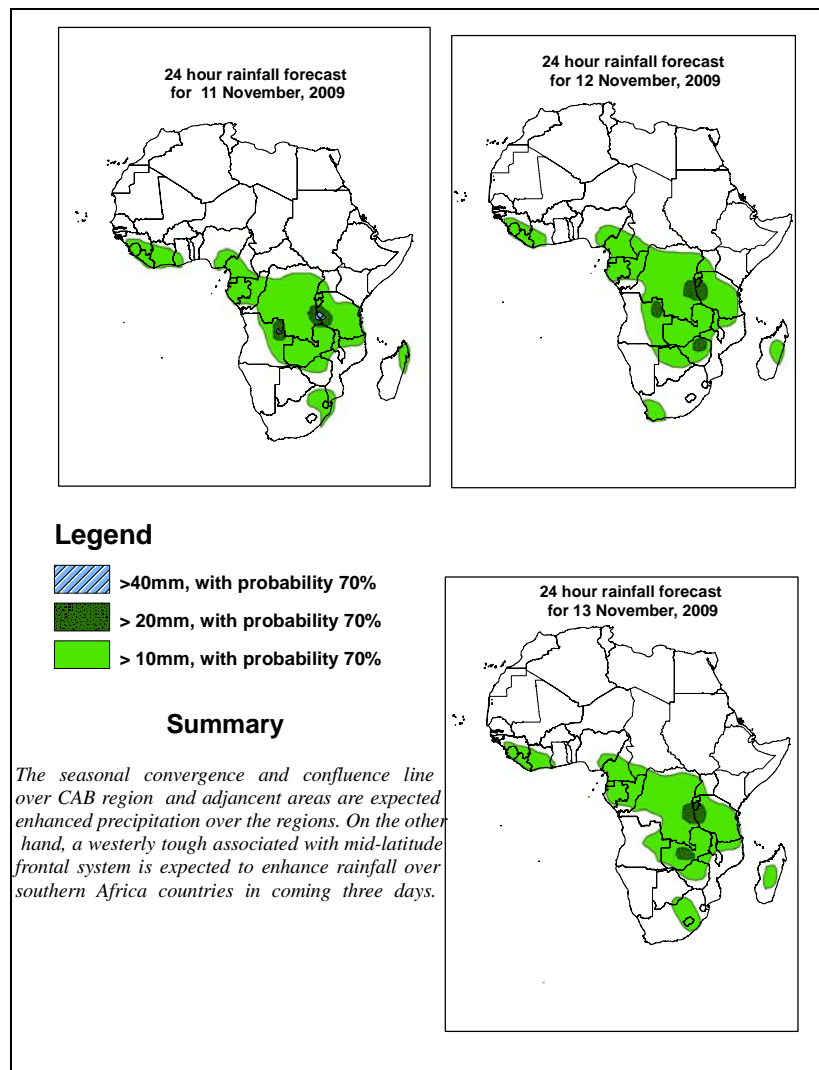


## NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

### 1. Forecast Discussion: Valid, 06Z of 11 November – 06Z of 13 November 2009, (Issued at 14:00EST Of 10 November 2009)

#### 1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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



## **1.2. Model discussion**

*Model comparison (Valid from 00Z; 11, NOVEMBER, 2009): all the three models are in general agreement especially with respect to the positioning of large scale features, however, the UK model tends to give lower values than both the GFS and ECMWF models especially in the Equatorial region (10°S and 10°N).*

## **1.3. Flow at 850hPa**

**T+24h:** The seasonal convergence and confluence line over CAB region is expected to get enhanced over the border of eastern DRC and western Tanzania. The zone of convergence between northerlies and southerlies over southeastern Atlantic Ocean is expected to extend inland up to the region bordering northeast Angola and western DRC. On the other hand, a westerly trough associated with mid-latitude frontal system is expected to extend towards eastern parts of South Africa.

**T+48h:** The convergence over the border of eastern DRC and western Tanzania is expected to continue influencing rainfall activity in the region. Moreover, the mid-latitude westerly trough is expected to expand and dominate the flow over much of the South African countries. As a result of this, a confluence line is expected to develop in the region extending between Malawi and Zimbabwe.

**T+72h:** The flow associated with the mid-latitude westerlies is expected to persist dominating much of the southern African countries, while the confluence line in the region between Malawi and Zimbabwe is expected to get enhanced further.

## **1.4. Flow at 500hPa**

**T+24h:** A northeast-southwest oriented trough in the westerlies is expected to extend towards costal areas of the horn of Africa, while the westerly flow over southern African countries is expected to remain zonal.

**T+48h:** The westerly trough over the Horn of Africa is expected to move slightly to the east, while the zonal westerly flow in the southern hemisphere is expected to attain a wavy pattern with trough axes over Atlantic and Indian Oceans..

**T+72h:** The westerly troughs in both hemispheres are expected to shift towards the east.

## **1.5. Flow at 200hPa**

**T+24h:** A trough in the westerlies is expected to extend southwestward over the northern parts of the Horn of Africa. The westerly flow in the southern hemisphere is expected to remain zonal.

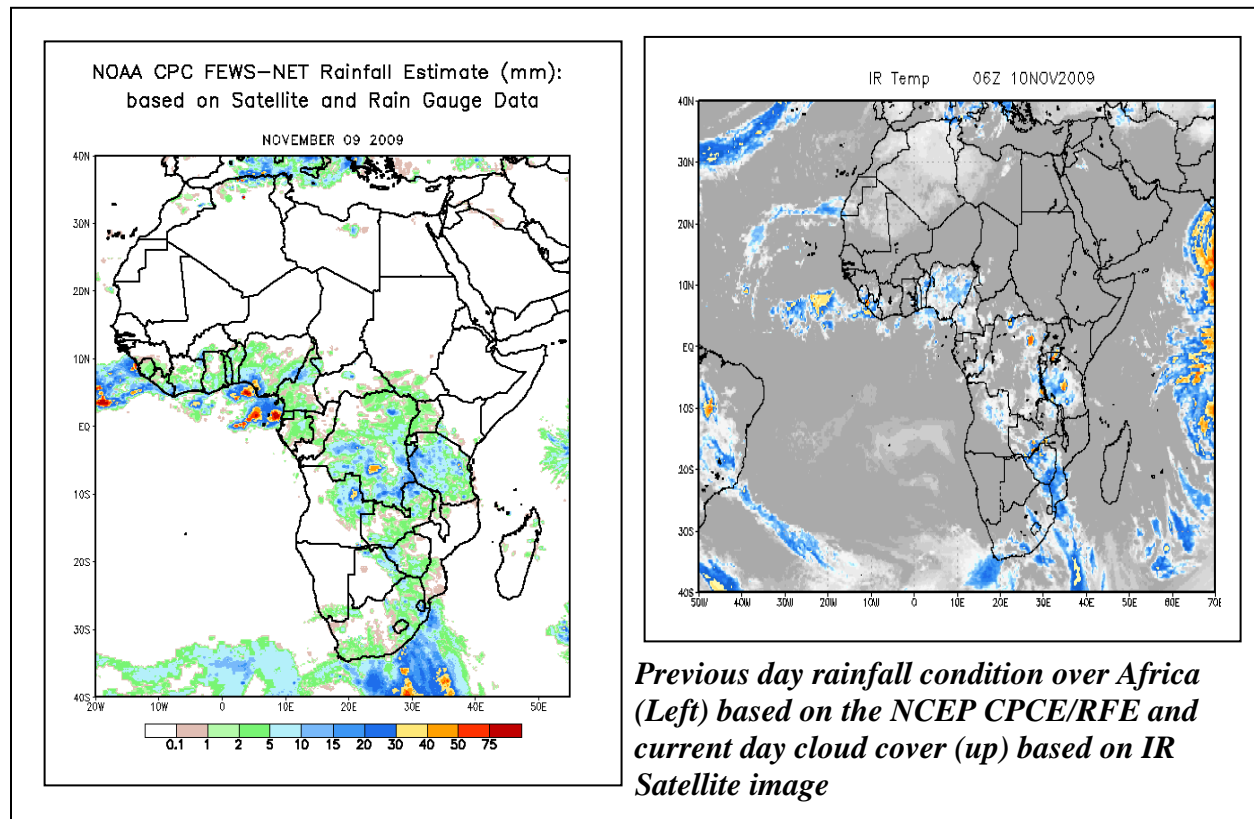
**T+48h:** The westerly trough over the Horn of Africa is expected to shift slightly to the east, while the westerly wave flow in the southern hemisphere is expected to attain a wavy pattern with a trough axis over Indian Ocean.

**T+72h:** The westerly trough axes in both hemispheres are expected to shift to the east.

## 2. Previous and Current Day Weather Discussion over Africa (09-10 November 2009)

**2.1. Weather assessment for the previous day (09 November 2009):** During the previous day, moderate to heavy rainfall events were observed over parts of Gulf of Guinea, Cameroon, northern Gabon, DR Congo, central Tanzania, eastern Botswana, Zimbabwe, Zambia and South Africa.

**2.2. Weather assessment for the current day (10 November 2009):** Intense clouds are observed over parts of Liberia, Nigeria, eastern DR Congo, Lake Victoria region, eastern Tanzania, southern Zambia, Zimbabwe, southern Mozambique and South Africa.



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