

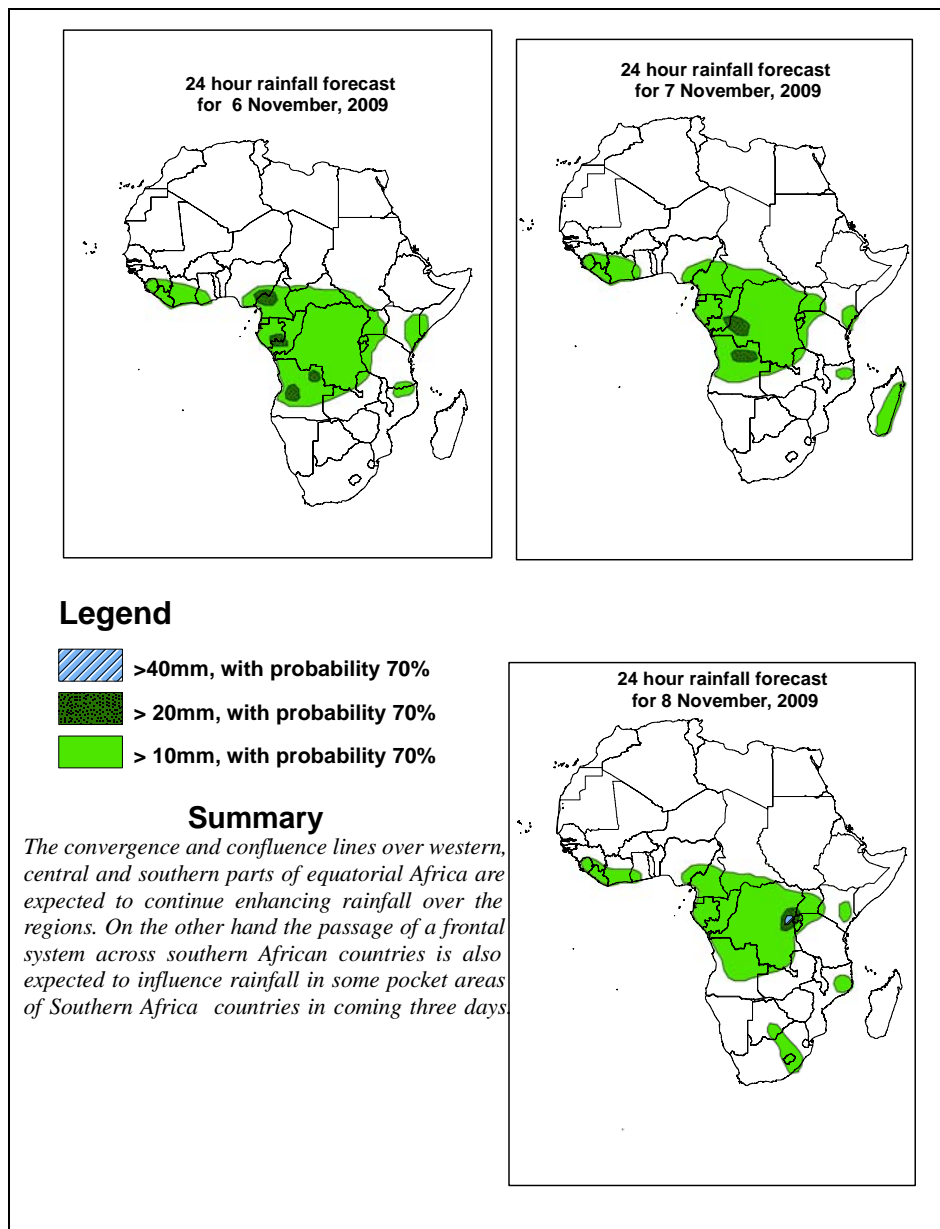


## NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

### 1. Forecast Discussion: Valid, 06Z of 06 November – 06Z of 08 November 2009, (Issued at 14:00EST of 05 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; 06, 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:** Convergence and confluence lines are expected to get enhanced over northern Gabon, central Nigeria, southern Chad, Lake Victoria basin, DRC Congo, Zambia and South Africa. Besides the moist easterlies over East African countries are expected to continue dominating the flow in the region. On the other hand, a westerly trough associated with mid-latitude frontal system are expected to extend towards Namibia across western portions of South Africa.

**T+48h:** The convergence and confluence lines over equatorial and southern African countries are expected to persist, while the westerly troughs in the southern hemisphere are expected to dominate the flow over Namibia, South Africa and Madagascar.

**T+72h:** The seasonal convergence and confluence lines are expected to get enhanced over western and central parts of equatorial Africa. On the other hand, a deep trough in the westerlies is expected to dominate the flow over southeast Atlantic Ocean and the adjacent areas of southwestern parts of Africa, while the trough over Madagascar is expected to maintain its previous day position.

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

**T+24h:** An east-west oriented ridge is expected to dominate the flow above north of 10°N, while easterly flow dominates the flow over tropical Africa regions, south of the 10°N latitude. On the other hand, a westerly flow associated with mid-latitude frontal system dominates the flow over eastern Namibia, South Africa, western Zambia, eastern Mozambique and Madagascar.

**T+48h:** A trough in the westerlies is expected to break the ridge system over northeast Africa, while the westerly flow over southern African countries is expected to attain a wavy pattern with trough axes dominating the flow over southeast Atlantic Ocean and Madagascar.

**T+72h:** A ridge system over northern African countries is expected to intensify, while the westerly wave over southern African countries is expected to persist.

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

**T+24h:** A trough in the westerlies is expected to extend southwards along 35°E longitude over Northeast Africa. On the other hand, a westerly trough is expected to extend northwards over southwestern Indian Ocean, across Madagascar.

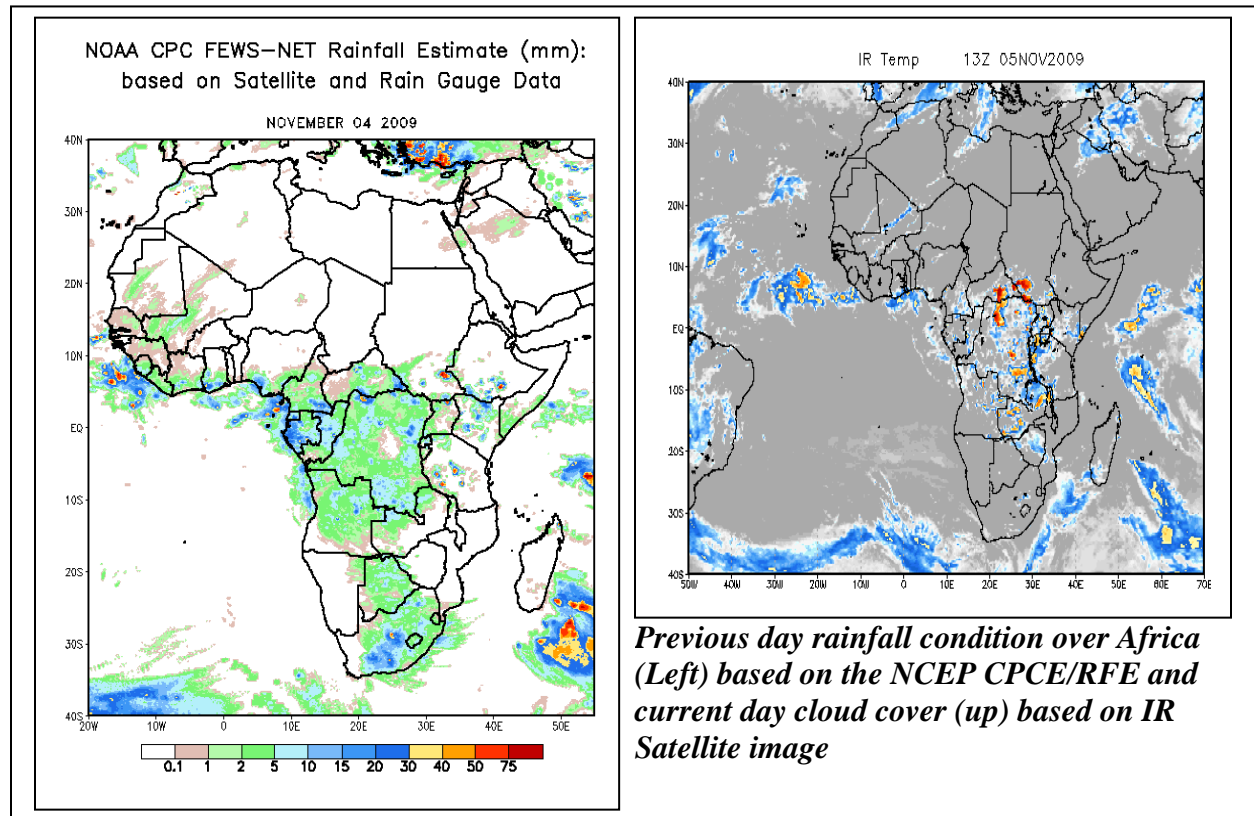
**T+48h:** The trough in the northern hemisphere is expected to persist over Northeast Africa, while the trough over southwestern Indian Ocean is expected to move slightly to the east.

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

## 2. Previous and Current Day Weather Discussion over Africa (04-05 November 2009)

**2.1. Weather assessment for the previous day (04 November 2009):** During the previous day, moderate to heavy rainfall events were observed over parts of Guinea, Liberia, Gulf of Guinea, southern Nigeria, eastern Gabon, southern Cameroon, northern Angola, Lake Victoria region, northern and central Kenya, and South Africa..

**2.2. Weather assessment for the current day (05 November 2009):** Intense clouds are observed over parts of Gulf of Guinea, Central Africa Rep., southwestern Sudan, DR Congo, Rwanda, Burundi, Uganda, northwestern Tanzania, Zambia and eastern Kenya.



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