

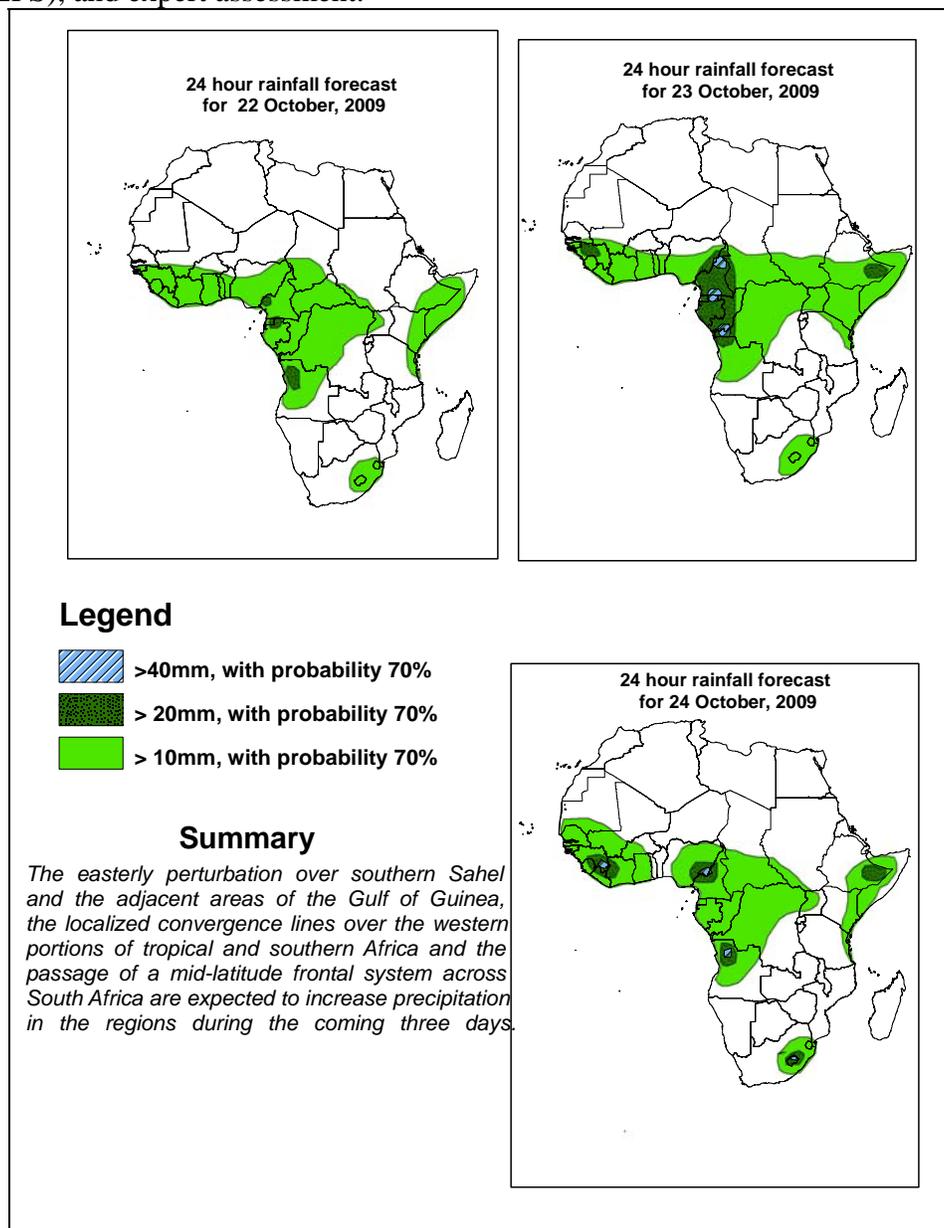


## NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

### 1. Forecast Discussion: Valid, 06Z of 23 October – 06Z of 25 October 2009, (Issued at 14:00EST of 22 October 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; 21, OCTOBER, 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:** A trough in the low tropospheric easterlies is expected to extend between Cote D'Ivoire and Burkina Faso. On the other hand, localized convergence lines are expected over Chad, Cameroon, eastern DR Congo, and Lake Victoria region, Ethiopia, Angola and Botswana. A trough associated with frontal system is expected to extend towards the southwestern coast of South Africa.

**T+48h:** The easterly trough is expected to weaken while moving towards the west. The localized convergence lines over Chad, Cameroon, eastern DR Congo, Lake Victoria region, Ethiopia, Angola and southeastern coast of South Africa are expected to persist. The trough associated with frontal system over southwestern cost of South Africa is expected to move towards the eastern coast of South Africa.

**T+72h:** The easterly trough over the Gulf of Guinea region is expected to move further to the west towards the coastal regions. The localized convergence lines over the Chad, CAB region, southern Sudan, Ethiopia, eastern parts of South Africa are expected enhance precipitation in the regions.

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

**T+24h:** Zonal easterlies are expected to dominate the flow over much of tropical Africa, while a weak mid-tropospheric perturbations in the easterlies are expected over the Gulf of Guinea region. On the other hand, a trough associated with mid-latitude frontal system is expected to dominate the flow over Mozambique Channel and Madagascar.

**T+48h:** The easterly perturbation over the Gulf of Guinea is expected to move slightly to the west, while weakening. On the other hand, the westerly trough over Mozambique Channel is expected to move slightly towards the east..

**T+72h:** Two short wave trough axes of the mid-latitude westerlies are expected to dominate the flow over South Africa and Madagascar, respectively.

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

**T+24h:** A trough in the westerlies is expected to dominate the flow over eastern parts of the Horn of Africa.

**T+48h:** The axis of westerly trough over the Horn of Africa is expected to shift to the west.

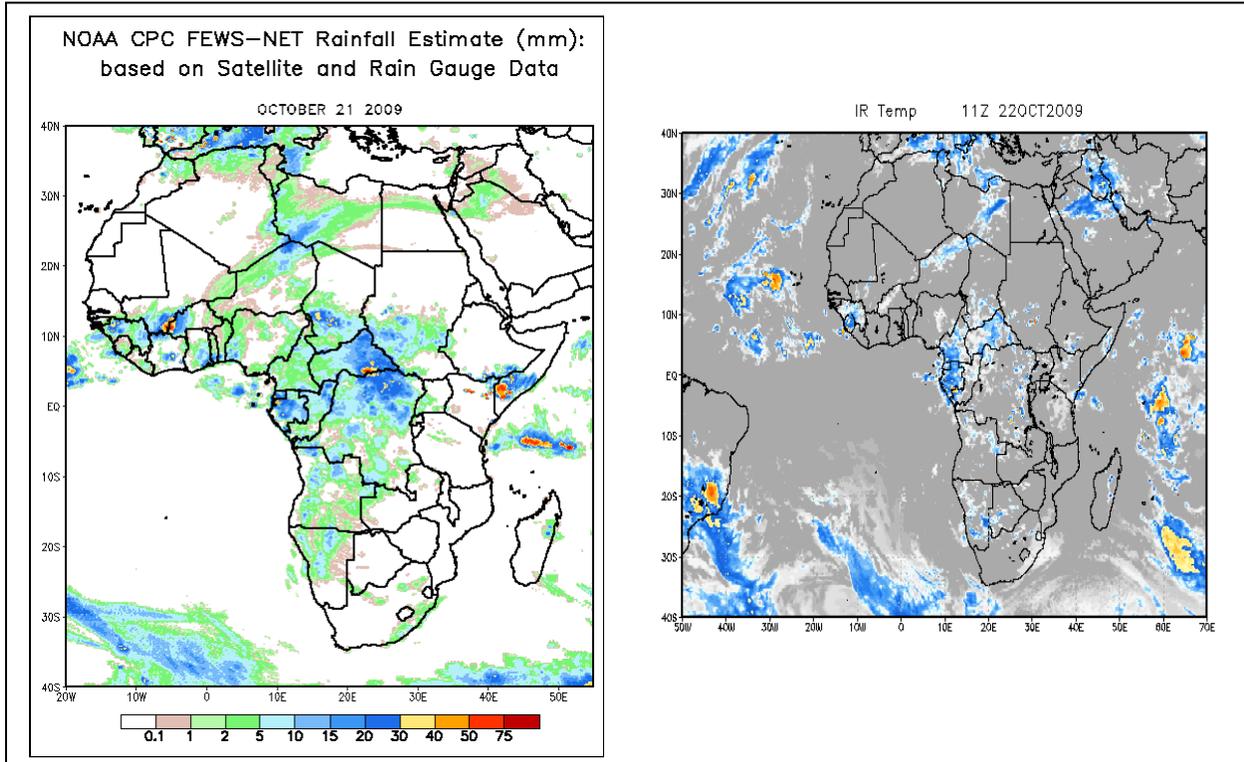
**T+72h:** The upper tropospheric trough is expected to fill up giving a way to an upper tropospheric anticyclonic flow.

## 2. Previous and Current Day Weather Discussion over Africa (21-22 October 2009)

**2.1. Weather assessment for the previous day (21 October 2009):** During the previous day, moderate to heavy rainfall events were observed over parts of Guinea, western Burkina Faso, Ghana, western Nigeria, southern Chad, Central Africa Rep., DR Congo, northern Congo, Angola, Namibia, southern Sudan, southern Somalia and northeastern coast of Kenya.

**2.2. Weather assessment for the current day (22 October 2009):** Thick cloud cover is observed over parts of the Gulf of Guinea region and Central African Republic..

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**Authors:** Anthony Twahirwa (Rwanda Meteorological Services)  
Chali Debele (National Meteorological Agency of Ethiopia and African desk)

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