



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

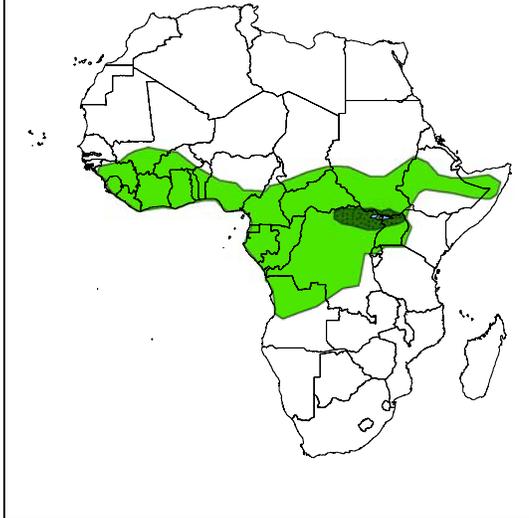
**FORECAST DISCUSSION 14H00 EST, 07 OCTOBER, 2009**

**Valid: 00Z 09 October – 11 October, 2009**

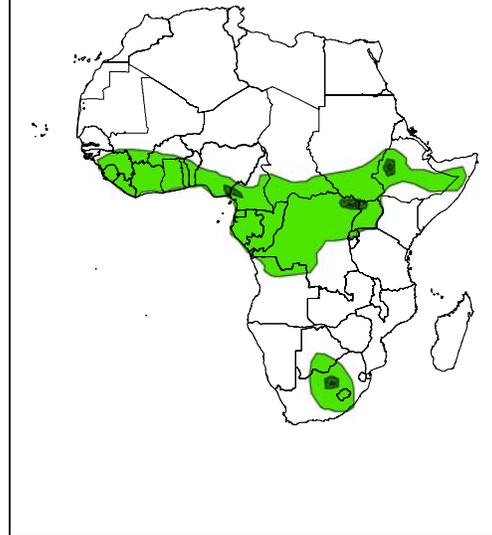
**1. Twenty Four Hour Cumulative Rainfall Forecasts**

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.

24 hour rainfall forecast  
for 09 October, 2009



24 hour rainfall forecast  
for 10 October, 2009



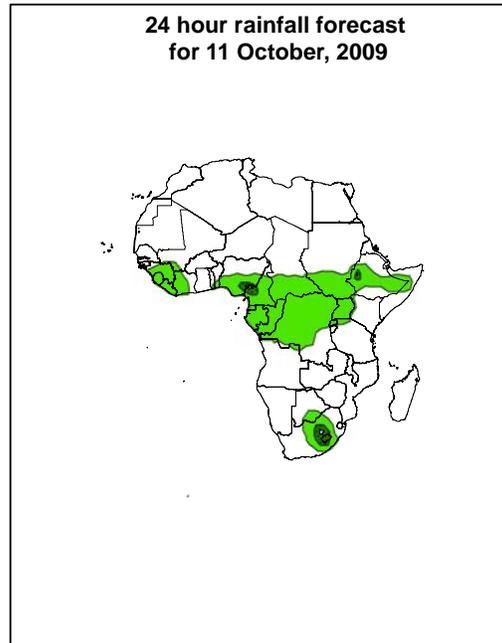
### Legend

-  > 40mm, with probability 70%
-  > 20mm, with probability 70%
-  > 10mm, with probability 70%

### Summary

*The cyclonic circulation near the Gulf of Guinea, the persistent convergence line over Congo air boundary region and southern African countries are expected to enhance precipitations in the regions within coming three days.*

24 hour rainfall forecast  
for 11 October, 2009



## 2. Model discussion

*Model comparison (Valid from 00Z; 07, 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).*

**2.1. Weather assessment for the previous day (07 October 2009):** During the previous day, moderate to heavy rainfall events were observed over Southwestern Mali, Eastern Gabon, parts of Congo, Nigeria, Eastern parts of Central Africa, Eastern and Southern DR Congo, Northern Angola, Parts of Central and Southwestern Ethiopia, Southern Sudan and Lake Victoria basin.

**2.2. Weather assessment for the current day (08 October 2009):** Intense clouds are observed over southern Burkina Faso, northern Ghana, portions of the Gulf of Guinea countries, southern Sudan and southwest Ethiopia.

### 2.3. Flow at 850hPa

**T+24h:** The convergence lines associated with equatorial trough and Congo air mass extending from Mali to Chad and then from Congo DR, Angola, Namibia and South Africa respectively, are expected to dominate the flow over the regions. Another convergence associated with Congo air mass is expected to persist over Uganda, Rwanda, Burundi and western Tanzania. The cyclonic flow between the border of the Central African Republic and Cameroon is expected to persist.

**T+48h:** The convergence and confluence lines associated with equatorial trough are expected to persist extending from Mali to Eritrea. On the other hand, a ridge associated with the Mascarene anticyclone is extending towards southern Africa. The cyclonic circulation over Cameroon and southern Nigeria is expected to weaken while drifting towards south of the Gulf of Guinea. The convergence lines over Congo air boundary area and southwestern Africa are expected to persist.

**T+72h:** The convergence and confluence lines associated with the equatorial trough are expected to persist over Central, western and Eastern Africa. The cyclonic circulation over southern Nigeria is expected to weaken, while moving towards the Gulf of Guinea. A closed cyclonic system is expected to develop over Southern Botswana and Namibia as well much of South Africa.

#### 2.3.2 Flow at 700hPa

**T+24h:** Zonal easterly flow is expected to dominate the flow over the tropical African region with a weak trough axis extending towards southern Nigeria.

**T+48h:** A trough associated with the weak easterly wave is expected to move westward, while weakening.

**T+72h:** The zonal easterly flow is expected to persist over tropical African region.

### **2.3.3 Flow at 500hPa**

**T+24h:** A feeble trough in the mid-tropospheric easterlies is expected over Cote D'ivoire.

**T+48h:** The trough over Cote D'ivoire is expected to fill up. On the other hand, a mid tropospheric cyclonic circulation is expected to develop over an area bordering Nigeria and Cameroon.

**T+72h:** The cyclonic circulation over the Gulf of Guinea is expected to weaken..

### **2.3.4 Flow at 200hPa**

**T+24h:** A ridge associated with upper tropospheric anticyclone is expected to persist dominating the flow over much of the tropical African region..

**T+48h:** The upper tropospheric ridge is expected to weaken over western portions of Africa leading to an easterly flow to dominate the region.

**T+72h:** The upper tropospheric ridge system is expected to weaken over central and eastern portions of Tropical Africa.

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**Disclaimer:** **This bulletin is for training purposes only and should be used as guidance. NOAA does not make forecasts for areas outside of the United State.**