



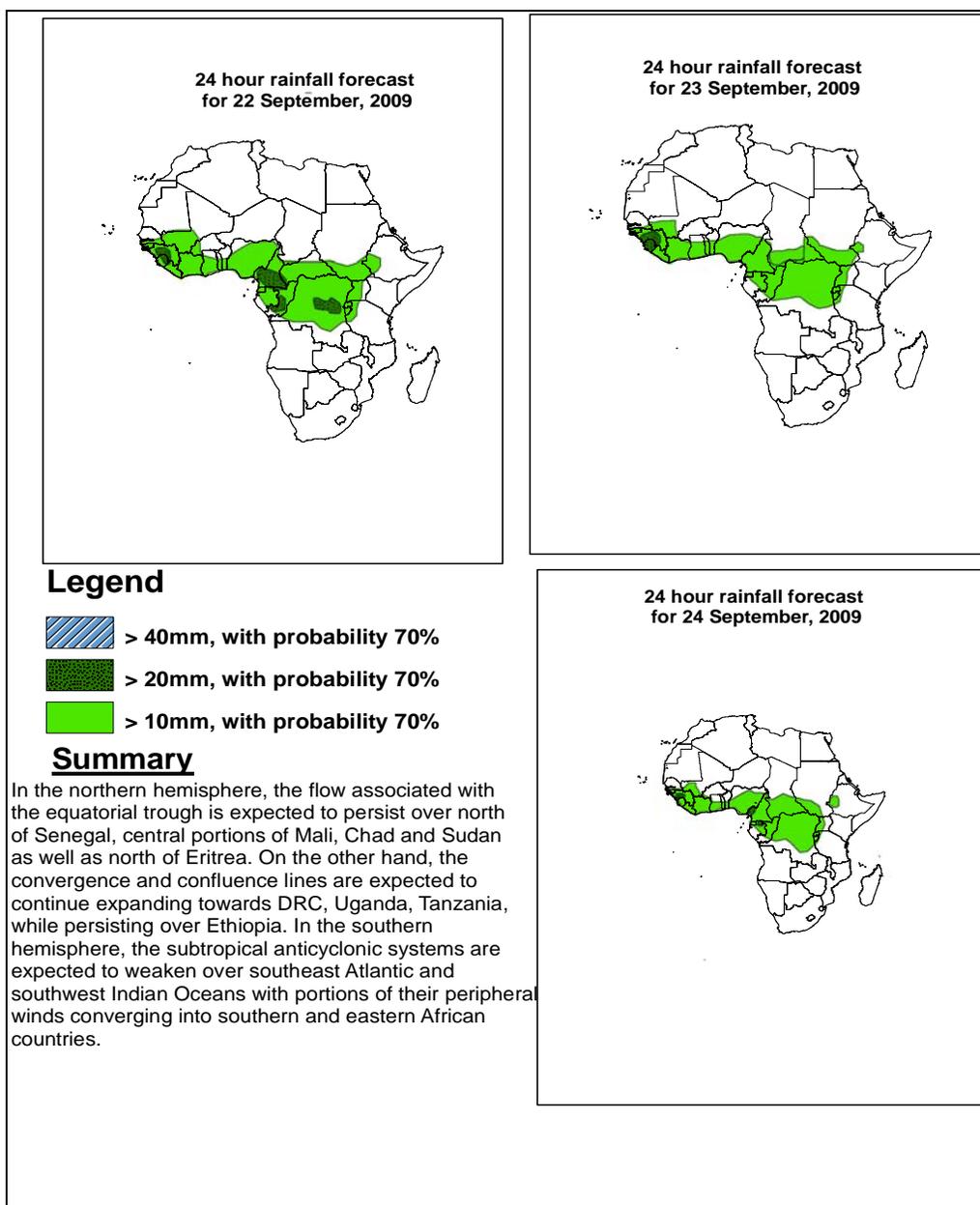
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative.

**FORECAST DISCUSSION 14H00 EST, 21 SEPTEMBER, 2009**

**Valid: 00Z 22 SEPTEMBER – 24 SEPTEMBER, 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.



## **2. Model discussion**

*Model comparison (Valid from 00Z; 21 SEPTEMBER, 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 (20 September 2009):** During the previous day, moderate to heavy rainfall events were observed over Burkina Faso, Nigeria, Uganda, Central Africa Rep. and Congo.

**2.1.1. Current day condition (18 September 2009):** Deep clouds are observed over Nigeria, Cameroon, Central Africa Rep., south Sudan and Dem. Rep. of Congo.

### **2.2.1 Flow at 850hPa**

**T+24h:** In the northern hemisphere, the flow associated with the equatorial trough is expected to persist over north of Senegal, central portions of Mali, Chad and Sudan as well as north of Eritrea. On the other hand, the convergence and confluence lines are expected to continue expanding towards DRC, Uganda, Tanzania, while persisting over Ethiopia. In the southern hemisphere, the subtropical anticyclonic systems are expected to weaken over southeast Atlantic and southwest Indian Oceans with portions of their peripheral winds converging into southern and eastern African countries.

**T+48h:** In the northern hemisphere, the localized convergence and confluence line are expected to persist over Tanzania, Uganda, Dem. Rep. of Congo and Ethiopia, while extending to Sudan and Chad. In the southern hemisphere, the sub-tropical anticyclones are expected to weaken further over southeast Atlantic and southwest Indian Ocean. Hence, the influence of their peripheral winds is expected to be limited over parts of central and southern African countries.

**T+72h:** In the northern hemisphere, the localized convergence and confluence lines are expected to persist over Sudan, DRC, Uganda, and Tanzania. In the southern hemisphere, the St. Helena anticyclone is expected to fill up further as a result which the cross equatorial flow will be suppressed. On the other hand, the Mascarene anticyclone and its associated ridge is expected to attain a meridonal orientation resulting in enhanced southerly flow towards eastern African countries.

### **2.2.2 Flow at 700hPa**

**T+24h:** A trough associated with an easterly wave is expected to have its axis extending between southern Mali and Cote D'ivoire.

**T+48h:** The easterly wave is expected to move towards the coastal West African region.

**T+72h:** The trough axis is expected to move further towards eastern Atlantic Ocean.

### **2.2.3 Flow at 500hPa**

**T+24h:** A mid tropospheric easterlies flow is expected to persist dominating the flow over tropical African countries, with an axis of an easterly wave located over Cote D'ivoire and Guinea, and another other weak trough with its axis located over Nigeria.

**T+48h:** The axis of the trough is expected to move towards Senegal and Guinea, while weakening.

**T+72h:** The axis of the trough is expected to move off the west coast of Africa.

#### **2.2.4 Flow at 200hPa**

**T+24h:** Upper tropospheric anticyclone is expected to dominate the flow over Northeast Africa, central and southern Africa and portions of West Africa, while the upper level easterly flow is expected to persist over the Horn of Africa.

**T+48h:** The flow associated with the upper tropospheric anticyclonic flow is expected to continue dominating the flow over much of the tropical African regions, while, the easterly flow is expected to continue over the Horn of Africa

**T+72h:** No significant change of main flow pattern with the previous day.

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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.**