



## Forecast Guidance for Africa

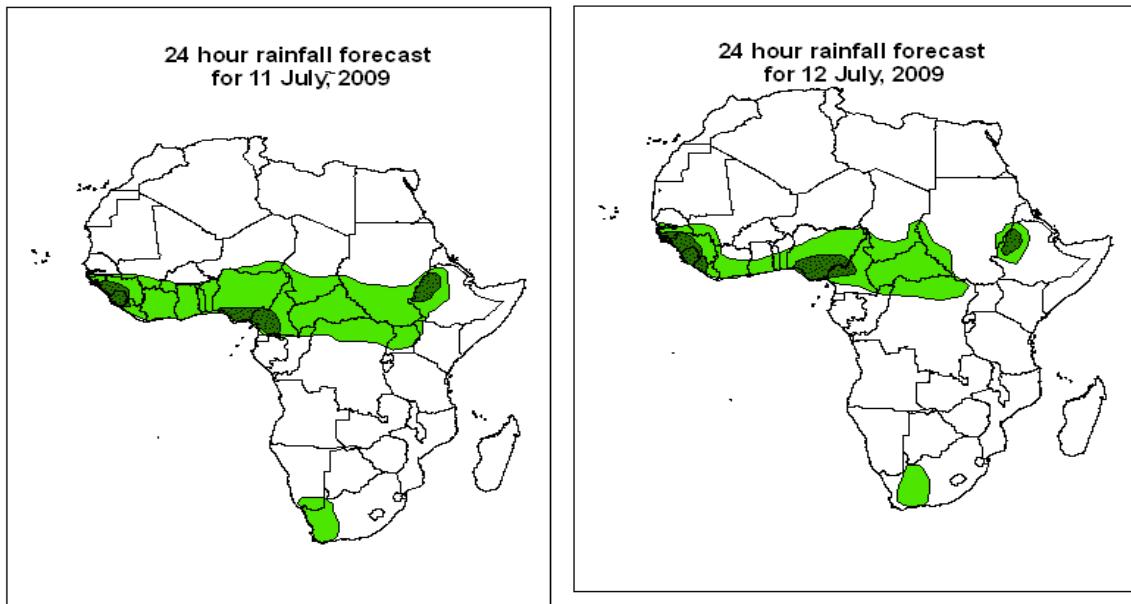
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative.

### FORECAST DISCUSSION 14H00 EST, 10 JULY, 2009

Valid: 00Z 11 JULY – 13 JULY, 2009

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

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

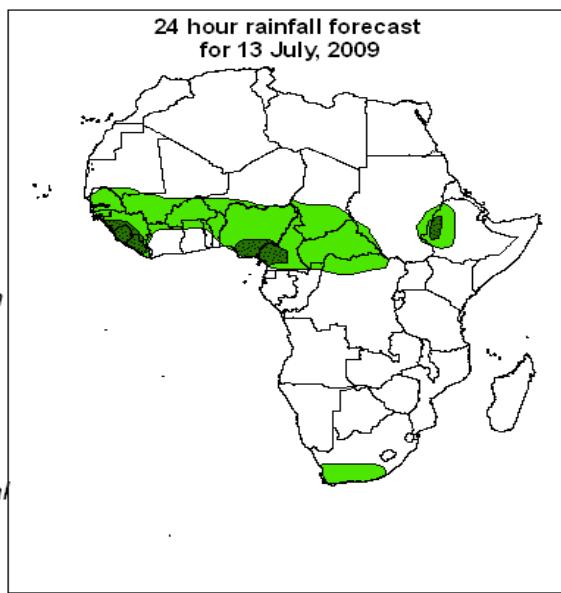


#### Legend

- africa\_countries\_new
- > 20mm, with probability 70%
- > 10mm, with probability 70%

#### Summary

*In the northern hemisphere localized convergence and confluent lines are expected over the eastern Guinea Conakry, southwestern Mali, Niger, Chad, DR Congo, Sudan, Uganda and Ethiopia. In the southern hemisphere, the ridge associated with Mascarene Anticyclone is expected to have southwest-northeast orientation south of Madagascar. Hence, the peripheral winds from this anticyclonic system are expected to be more of easterlies. A trough in the westerly is expected northwards along the western coastal area of southern African*



## **2. Model discussion**

*Model comparison (Valid from 00Z; 10 July, 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 ( $10^{\circ}\text{S}$  and  $10^{\circ}\text{N}$ ).*

### **2.1. Flow at 850hPa**

**T+24h:** In the northern hemisphere localized convergence and confluent lines are expected over the eastern Guinea Conakry, southwestern Mali, Niger, Chad, DR Congo, Sudan, Uganda and Ethiopia. In the southern hemisphere, the ridge associated with Mascarene Anticyclone is expected to have southwest-northeast orientation south of Madagascar. Hence, the peripheral winds from this anticyclonic system are expected to be more of easterlies. A trough in the westerly is expected northwards along the western coastal area of southern African countries.

**T+48h:** In the northern hemisphere the confluent and localized convergent lines are expected to maintain their previous position over central and eastern Africa. Over western Africa confluence lines are expected to extend towards Mauritania. In the southern hemisphere, the anticyclonic system south of Madagascar is expected to intensify, with its peripheral winds contributing much to monsoon flow over the Horn of African countries.. The trough in the westerly is expected to move eastwards over the southern African countries.

**T+72h:** The center of the Mascarene anticyclone is expected to shift east wards over the India Ocean and its peripheral winds are expected to have more easterly component, reducing the contribution of moisture over eastern and central African countries. In the northern hemisphere, the convergent lines are expected to extend to many places over Western Africa.

### **2.2. Flow at 500hPa**

**T+24h:** The monsoon trough over the Horn of Africa is expected to weaken slightly. Easterly flow is expected to be dominant over much of the equatorial regions of Africa.

**T+48h:** No significant change is expected in the main flow pattern.

**T+72h:** No significant change in the main flow pattern.

### **2.3. Flow at 200hPa**

**T+24h:** A disturbed flow is expected over parts of central Africa, while the easterly flow over western, central and eastern parts of equatorial African countries is expected to persist.

**T+48h:** Easterly flow is expected to be dominant over much of the equatorial regions of Africa .

**T+72h:** No significant change is expected in the main flow pattern.

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