



## Forecast Guidance for Africa

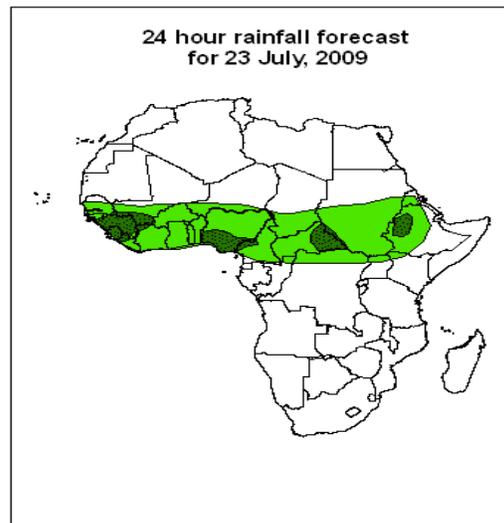
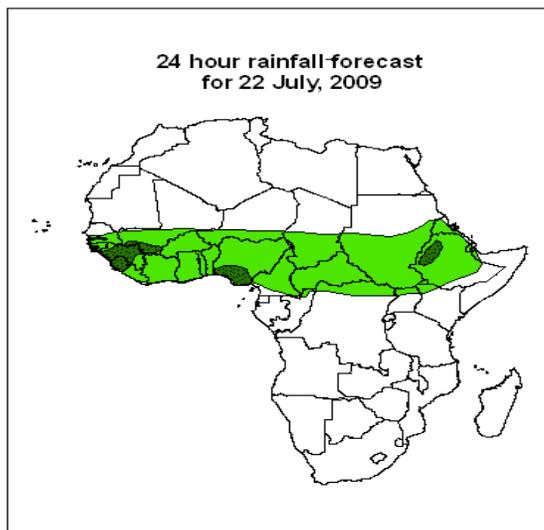
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative.

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

**Valid: 00Z 22 JULY – 24 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.

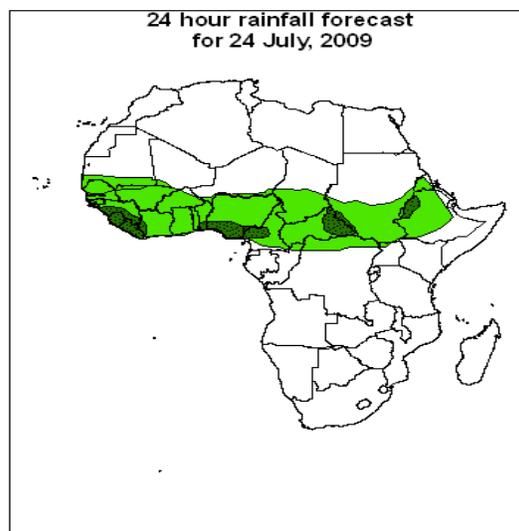


### Legend

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

### Summary

*The center of the Mascarene anticyclone is expected to be over southwest Indian Ocean, southeast of Madagascar, while the St. Helena Anticyclone is expected to have its center over southeastern Atlantic Ocean. Between these two anticyclones, a trough in the westerlies is expected to extend towards western portions of South Africa. In the northern hemisphere, localized convergence and confluent lines are expected to be persistent over Mali, Burkina Faso, Nigeria, Niger, Chad, Sudan, and Gulf of Eden.*



## **2. Model discussion**

*Model comparison (Valid from 00Z; 21 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°S and 10°N).*

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

**T+24h:** The center of the Mascarene anticyclone is expected to be over southwest Indian Ocean, southeast of Madagascar, while the St. Helena Anticyclone is expected to have its center over southeastern Atlantic Ocean. Between these two anticyclones, a trough in the westerlies is expected to extend towards western portions of South Africa. In the northern hemisphere, localized convergence and confluent lines are expected to be persistent over Mali, Burkina Faso, Nigeria, Niger, Chad, Sudan, and Gulf of Eden.

**T+48h:** In the southern hemisphere, the St. Helena Anticyclone is expected to expand eastwards with eastward movement of the trough in the westerlies. As a result of this, the Mascarene Anticyclone is expected to move eastwards. Hence, the peripheral winds of the Mascarene anticyclone are expected to be more of easterlies. In the northern hemisphere, the confluent lines are expected to maintain their previous day position.

**T+72h:** The St Helena anticyclone is expected to expand further to the east. Hence, the trough in the westerlies and the Mascarene anticyclone are expected to move further to the east. In the northern hemisphere, confluent lines are expected over Mauritania, while elsewhere their expected to maintain their previous day position..

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

**T+24h:** Westerly flow is expected to be dominant over Southern African countries; while the flow associated with the monsoon trough is expected to be persistent over eastern portions of the Horn of Africa and the adjoining areas of Arabian Sea.

**T+48h:** The westerly flow over southern Africa countries is expected to attain a wavy pattern.

**T+72h:** No significant change is expected.

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

**T+24h:** The upper level easterly flow is expected to be persistent over much of the equatorial African countries.

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

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

*Authors:*

- 1. Khalid Muwembe (UGANDA MET / Uganda and African Desk).*

2. *Mamadou Savadogo (Direction de la MET Burkina and African Desk)*