



## Forecast Guidance for Africa

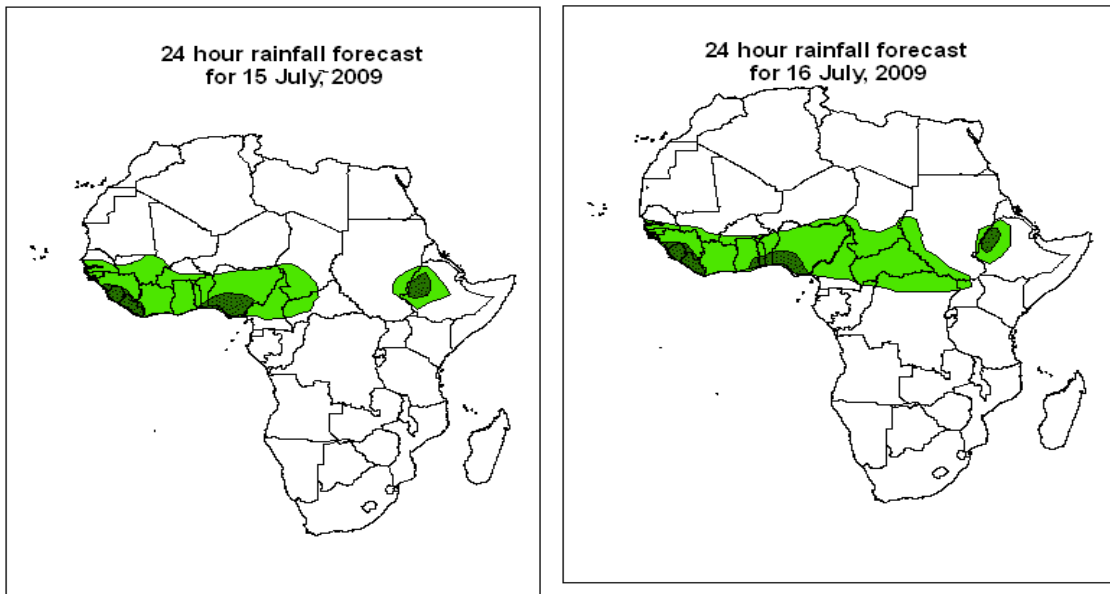
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative.

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




Valid: 00Z 15 JULY – 17 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.

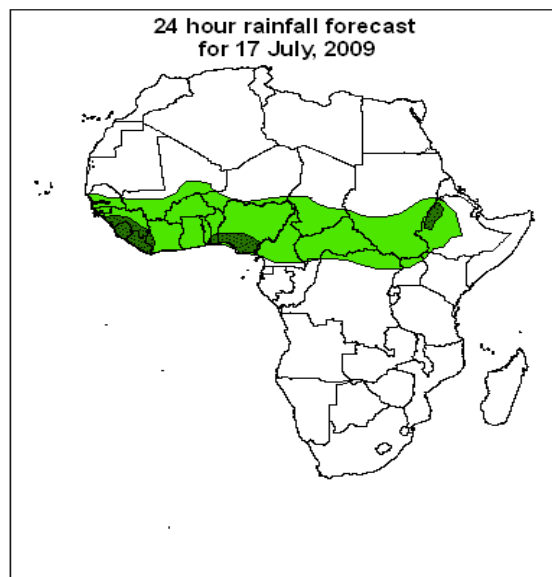


#### Legend

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

#### Summary

*The ridge associated with the Mascarene anticyclone is expected to extend westward up to Mozambique Channel across Madagascar; while the St. Helena anticyclone is expected to be centered over Southeast Atlantic Ocean. Because of the east-west orientation of the ridge, the peripheral winds are expected to be more of easterly over east African countries. In the northern hemisphere localized convergence and confluent lines are expected to be persistent over parts of Mali, Niger, Chad, Sudan, and Ethiopia.*



## **2. Model discussion**

*Model comparison (Valid from 00Z; 14 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 ridge associated with the Mascarene anticyclone is expected to extend westward up to Mozambique Channel across Madagascar, while the St. Helena anticyclone is expected to be centered over Southeast Atlantic Ocean. Because of the east-west orientation of the ridge, the peripheral winds are expected to be more of easterly over east African countries. In the northern hemisphere localized convergence and confluent lines are expected to be persistent over parts of Mali, Niger, Chad, Sudan, and Ethiopia.

**T+48h:** The ridge associated with the Mascarene Anticyclone is expected to weaken, while the St. Helena Anticyclone is expected to move eastward. In the northern hemisphere the confluence lines over northern Mali are expected to extend towards Mauritania, while they are expected to maintain their previous day position elsewhere.

**T+72h:** The St Helena anticyclone is expected to move further to the east merging with the ridge from the Mascarene Anticyclone over southern Africa countries. As a result of this, the peripheral winds are expected to have more northerly component for transporting moisture towards the monsoon areas of the Horn of Africa.

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

**T+24h:** The flow over the southern African countries is expected to be dominated by a trough in the westerly that extends northward up to southern Congo.

**T+48h:** The westerly trough is expected to move slightly to the east..

**T+72h:** The westerly trough is expected to move further to the east .

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

**T+24h:** The easterly flow over equatorial regions of Africa is expected to persist.

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

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

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