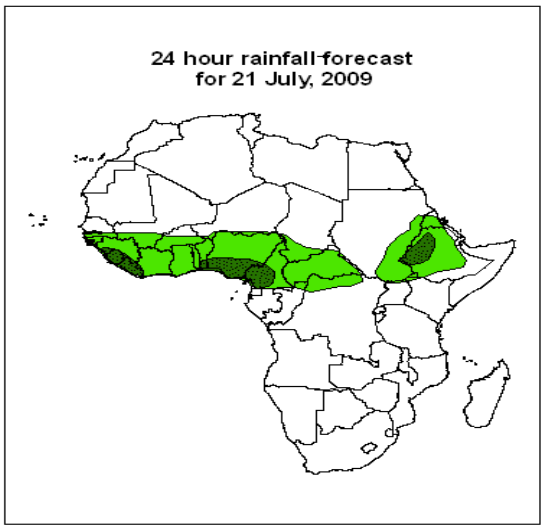
Forecast Guidance for Africa

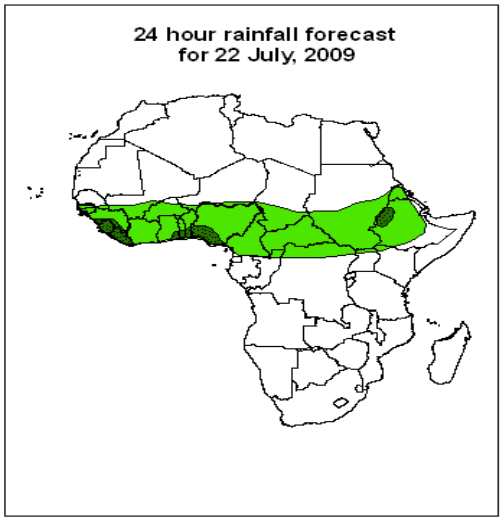
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative.

FORECAST DISCUSSION 14H00 EST, 20 JULY, 2009
Valid: 00Z 21 JULY – 23 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.



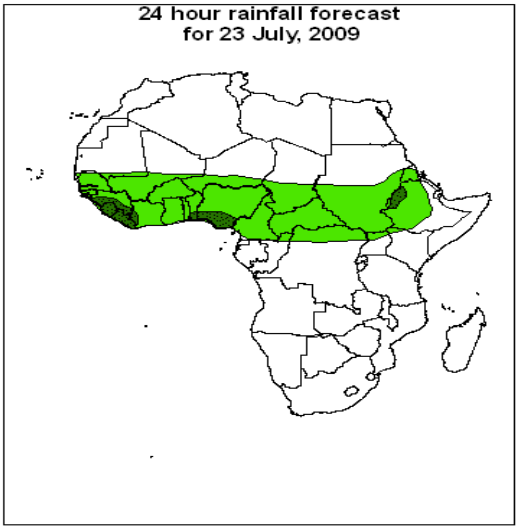


Legend

- africa_countries_new
- **> 20mm, with probability 70%**
- **> 10mm, with probability 70%**

Summary

A northwest-southeast oriented ridge associated with the Mascarene anticyclone is expected to extend northwestward up to eastern portion of South Africa, while St. Hela Anticyclone over southeastern Atlantic is expected to be weak. In the northern hemisphere, localized conver gence and confluent lines are expected to be over Burkina Faso, Niger, Chad, Sudan, and Gulf of Eden.



2. Model discussion

Model comparison (Valid from 00Z; 20 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^oS and 10^oN).

2.1. Flow at 850hPa

T+24h: A northwest-southeast oriented ridge associated with the Mascarene anticyclone is expected to extend northwestward up to eastern portion of South Africa, while St. Hela Anticyclone over southeastern Atlantic is expected to be weak. . In the northern hemisphere, localized convergence and confluent lines are expected to be over Burkina Faso, Niger, Chad, Sudan, and Gulf of Eden.

T+48h: In the southern hemisphere, the St. Helena Anti Cyclone is expected to strengthen with parts of its peripheral winds transporting moisture to the Gulf of Guinea countries. In the northern hemisphere, one of the confluent lines over Niger is expected to extend towards Mali, while the confluence lines are expected to maintain their previous day position elsewhere.

T+72h: The center of the Mascarena anticyclone is expected to move towards south east of Madagascar, followed by a tough in the westerly that extends northwards along the eastern coast of South Africa. In the northern hemisphere**,** the confluent lines over Mali are expected to extend towards Mauritania, while the convergent lines over Nigeria are expected to strengthen.

2.2. Flow at 500hPa

T+24h: Westerly flow is expected to be dominant over Southern African countries; wile a monsoon trough is expected to dominate the flow over eastern portions of the Horn of Africa and the adjoining areas of Arabian Sea.

T+48h: the flow over southern Africa countries is expected to be slightly disturbed.

T+72h: The flow over south African countries is expected to be influenced by a trough in the westerly..

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.

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