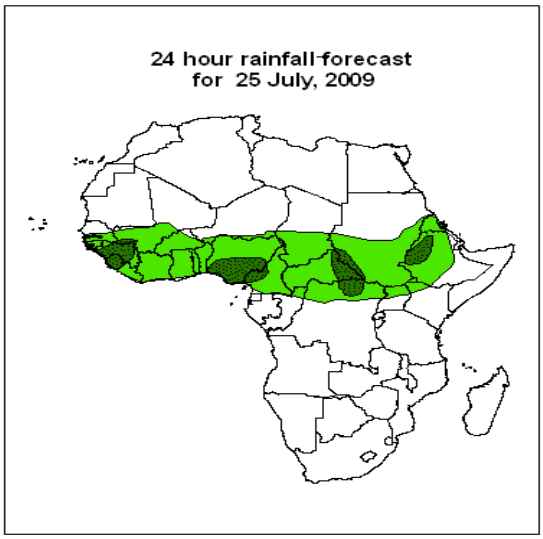
Forecast Guidance for Africa

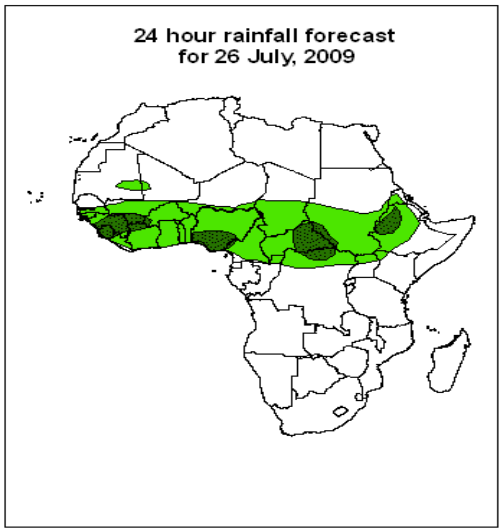
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative.

FORECAST DISCUSSION 14H00 EST, 24 JULY, 2009
Valid: 00Z 25 JULY – 27 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.



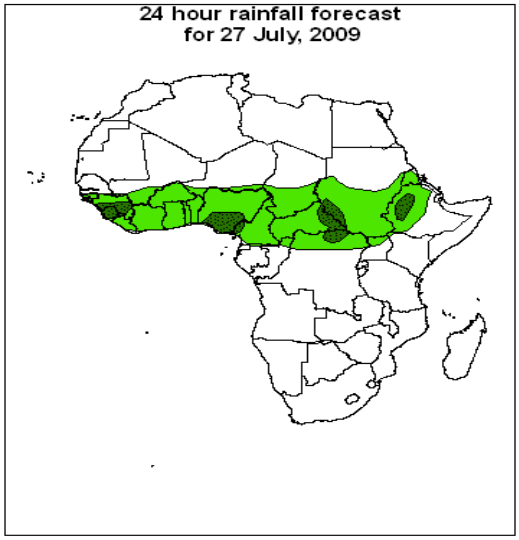


Legend

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

Summary

The center of the St. Helena Anticyclone is expected to be over southeastern Atlan tic Ocean with its peripheral winds domina ting the flow over southern Africa countries. East of this anticyclonic system a trough in the westerly is expected to extend towards Madagascar. In the northern hemisphere, localized convergence and confluent lines are expected over Mali, Burkina Faso, Chad, Sudan, and Gulf of Eden.



2. Model discussion

Model comparison (Valid from 00Z; 24 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: The center of the St. Helena Anticyclone is expected to be over southeastern Atlantic Ocean with its peripheral winds dominating the flow over southern Africa countries. East of this anticyclonic system a trough in the westerly is expected to extend towards Madagascar. In the northern hemisphere, localized convergence and confluent lines are expected over Mali, Burkina Faso, Chad, Sudan, and Gulf of Eden.

T+48h: in the northern hemisphere, the confluent lines are expected to extend towards Mauritania, while no significant change is expected else where.

T+72h: The subtropical anticyclone is expected to have its center over South Africa, while the trough in the westerly is expected to move slightly eastwards. In the northern hemisphere, confluent lines are expected to extend towards Cameroun and the Central African Republic.

2.2. Flow at 500hPa

T+24h: A deep trough in the westerlies is expected to dominate the flow over Southern African countries.

T+48h: The westerly flow over southern Africa countries is expected to be persistent.

T+72h: The westerly trough over southern hemisphere is expected to weaken slightly.

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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