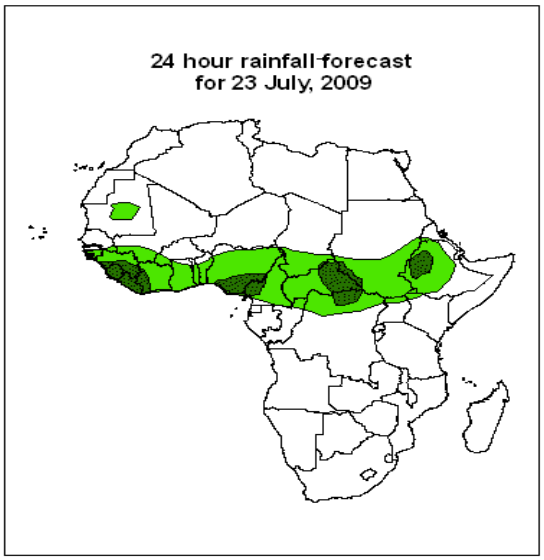
Forecast Guidance for Africa

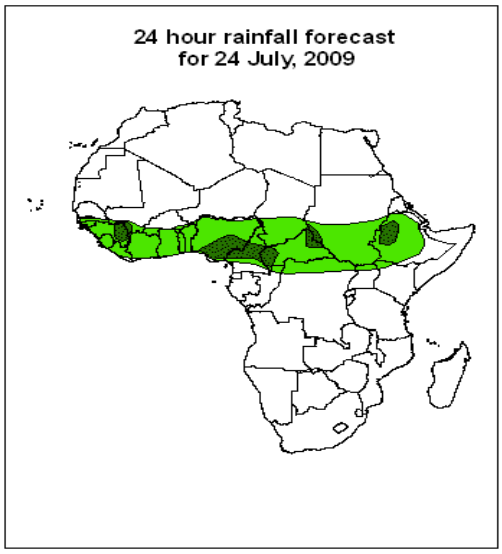
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative.

FORECAST DISCUSSION 14H00 EST, 23 JULY, 2009
Valid: 00Z 24 JULY – 26 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.



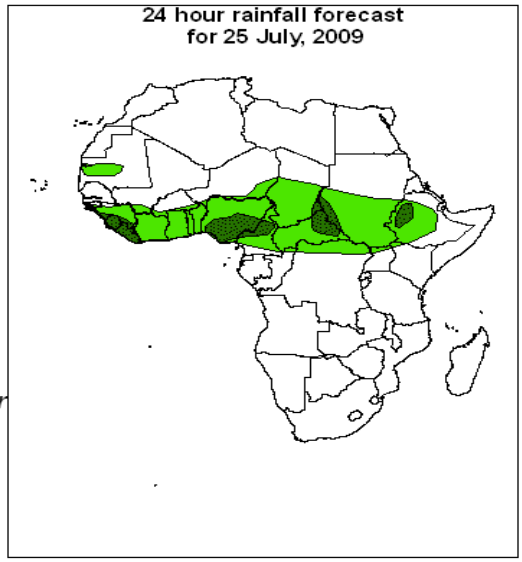


Legend

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

Summary

The St. Helena Anticyclone is expected to have its center over southeastern Atlantic Ocean with its peripheral winds dominating the flow over southern Africa countries. Ahead of this anticyclone, a deep trough in the westerlies is expected to extend towards Mozambique Chan nel. In the northern hemisphere, localized conver gence and confluent lines are expected over Mali, Mauritania, Niger, Chad, Sudan, and Gulf of Eden.



2. Model discussion

Model comparison (Valid from 00Z; 23 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 St. Helena Anticyclone is expected to have its center over southeastern Atlantic Ocean with its peripheral winds dominating the flow over southern Africa countries. Ahead of this anticyclone, a deep trough in the westerlies is expected to extend towards Mozambique Channel. In the northern hemisphere, localized convergence and confluent lines are expected over Mali, Mauritania, Niger, Chad, Sudan, and Gulf of Eden.

T+48h: In the southern hemisphere, with eastward expansion of the St Helena anticyclonic system, the trough in the westerly is expected to move slightly to the east. 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 is expected to move further to the east. In the northern hemisphere, confluent lines are expected to extend towards northern Nigeria.

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 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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