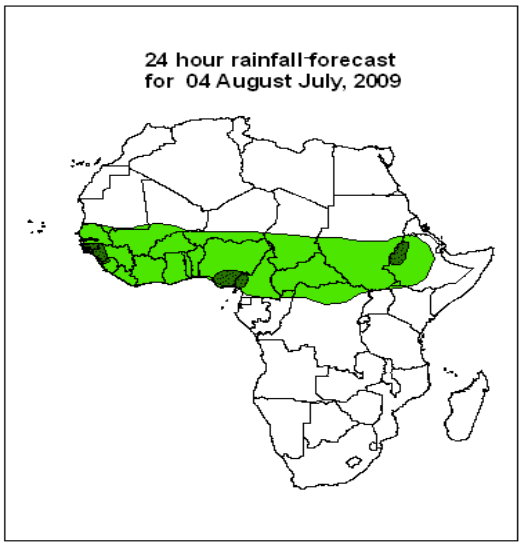
Forecast Guidance for Africa

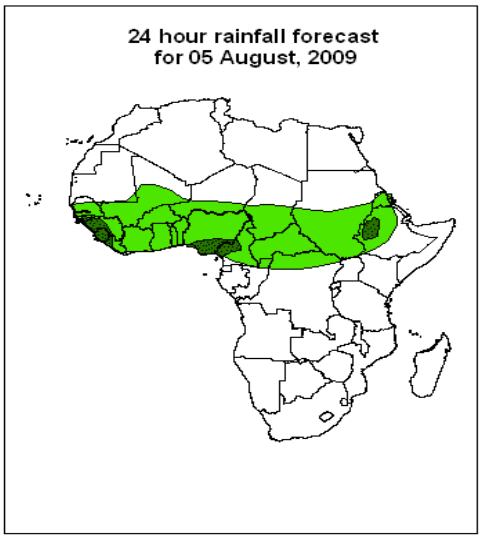
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative.

FORECAST DISCUSSION 14H00 EST, 03 AUGUST, 2009
Valid: 00Z 03 AUGUST – 05 AUGUST, 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.



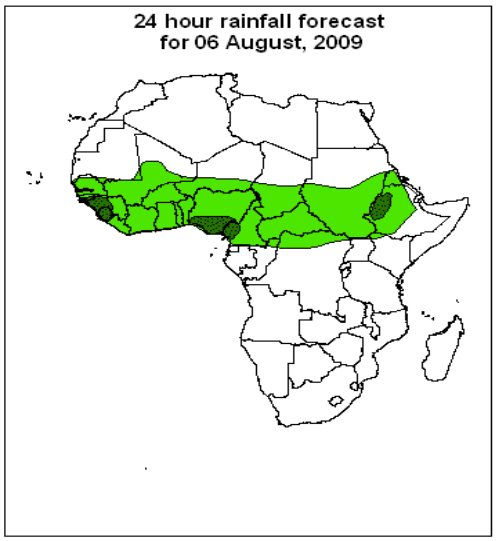


Legend

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

Summary

The Mascarene anticyclonic system is expected to have a north-south orienta tion over western Indian Ocean, while the St. Helena anticyclonic system is expected to have an east-west orientation over southeast Atlantic Ocean. Between these two subtropical anticyclones, westerly trough is expected to extend northwards up to Botswana. In the northern hemisphere, localized convergence and confluent lines are expected over Mali, Niger, Burkina Faso, Chad, Sudan, and Gulf of Eden.



2. Model discussion

Model comparison (Valid from 00Z; 03 August, 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 Mascarene anticyclonic system is expected to have zonal orientation over southwestern Indian Ocean, extending toward up to Namibia across Botswana and South Africa. A trough in the westerlies is expected west of this anticyclonic system, extending northward over southeast Atlantic Ocean. In the northern hemisphere, localized convergence and confluent lines are expected over Mali, Niger, Chad, Sudan, Uganda and Gulf of Eden.

T+48h: In the northern hemisphere, the confluent lines are expected to maintain their previous day position. In the southern hemisphere the trough in the westerlies is expected to move slightly to the east, with eastward expansion of the St. Helena anticyclone.

T+72h: In the southern hemisphere**,** the trough in the westerlies is expected to move slightly to the east while weakening. In the northern hemisphere, convergence lines are expected to expand towards Mauritania.

2.2. Flow at 500hPa

T+24h: Westerly wave is expected to dominate the flow over southern African countries and Madagascar.

T+48h: In the southern hemisphere, the troughs associated with the westerly flow are expected to deepen slightly.

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

2.3. Flow at 200hPa

T+24h: Upper level easterly flow is expected over eastern and central African countries, with a lightly disturbed flow over coastal area of Cameroun.

T+48h: Easterly flow is expected to be persistent over eastern and central African countries.

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

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