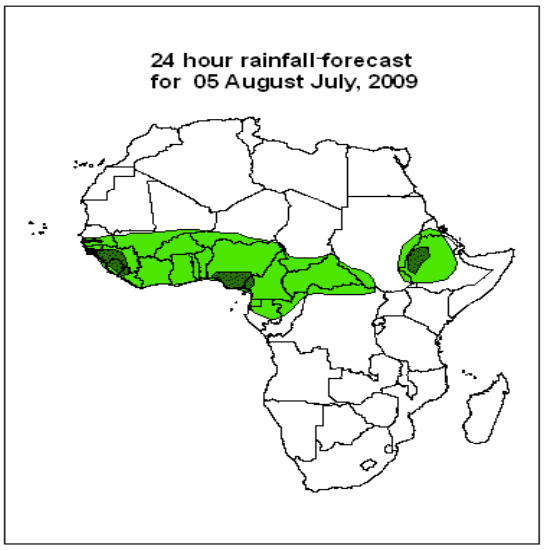
Forecast Guidance for Africa

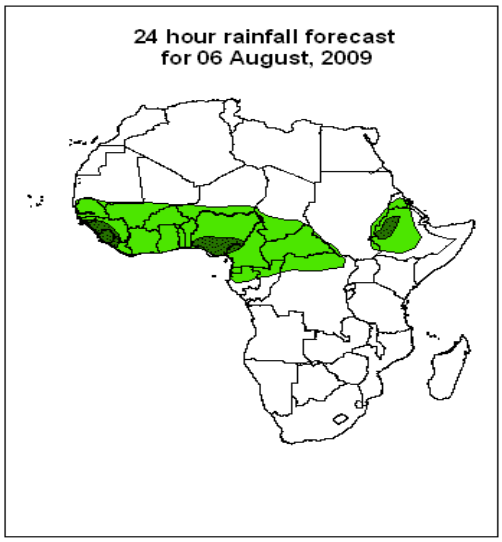
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative.

FORECAST DISCUSSION 14H00 EST, 04 AUGUST, 2009
Valid: 00Z 05 AUGUST – 07 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.



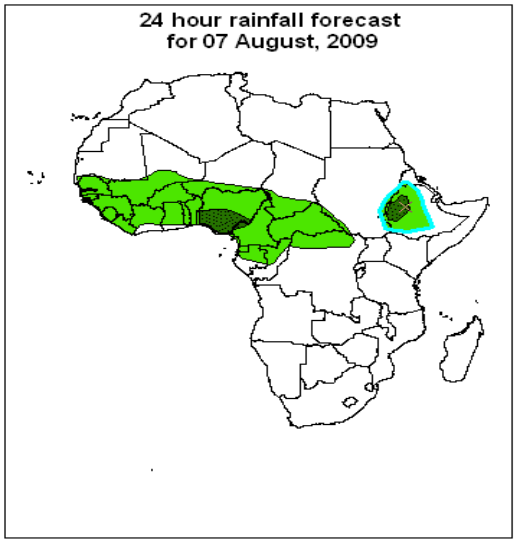


Legend

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

Summary

The ridge associated with Mascarene anticyclone is expected to extend westward Botswana, South Africa and eastern portions of Namibia, while the St Helena anticyclone is confined over southeast Atlantic Ocean. Convergence line is expected over Congo between winds that emanate these two subtropical anticyclones. In the northern hemisphere, localized convergence and confluent lines are expected over Mali, Niger, Chad, Sudan, northeast Ethiopia and Gulf of Eden.



2. Model discussion

Model comparison (Valid from 00Z; 04 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 ridge associated with Mascarene anticyclone is expected to extend westward Botswana, South Africa and eastern portions of Namibia, while the St Helena anticyclone is confined over southeast Atlantic Ocean. Convergence line is expected over Congo between winds that emanate these two subtropical anticyclones. In the northern hemisphere, localized convergence and confluent lines are expected over Mali, Niger, Chad, Sudan, northeast Ethiopia and Gulf of Eden.

T+48h: In the southern hemisphere, the subtropical anticyclones are expected to have zonal orientation while weakening. As a result of this, the peripheral winds are expected to be more of easterlies. In the northern hemisphere, the confluence lines are expected to maintain their previous day position with slight expansion towards Mauritania.

T+72h: In the southern hemisphere**,** the subtropical Anticyclones are expected to weaken further. In the northern hemisphere, no significant change is expected in the main flow pattern.

2.2. Flow at 500hPa

T+24h: Westerly winds are expected to dominate the flow over southern African countries and portions of Madagascar.

T+48h: In the southern hemisphere, the trough associated with the westerly flow over Madagascar is expected to deepen slightly, while it is expected to weaken over the rest of the southern Africa countries.

T+72h: In the northern hemisphere a flow associated with monsoon trough is expected to extend towards the Horn of Africa, while westerly flow over southern Africa countries is expected to persist.

2.3. Flow at 200hPa

T+24h: Upper level easterly flow is expected over eastern and central African countries.

T+48h: The upper level easterly flow is expected to expand towards West African countries.

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

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