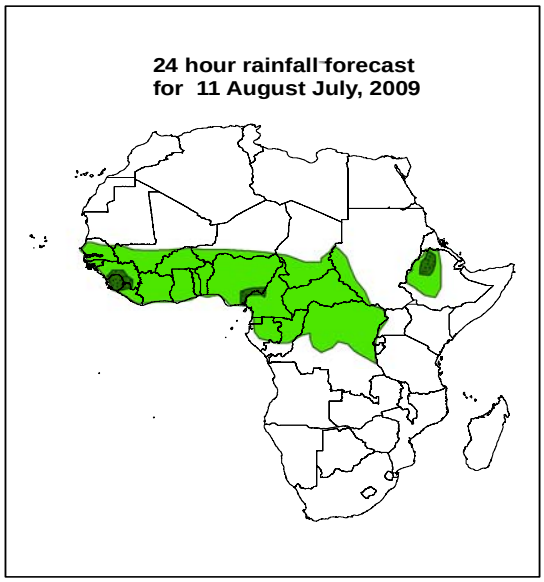
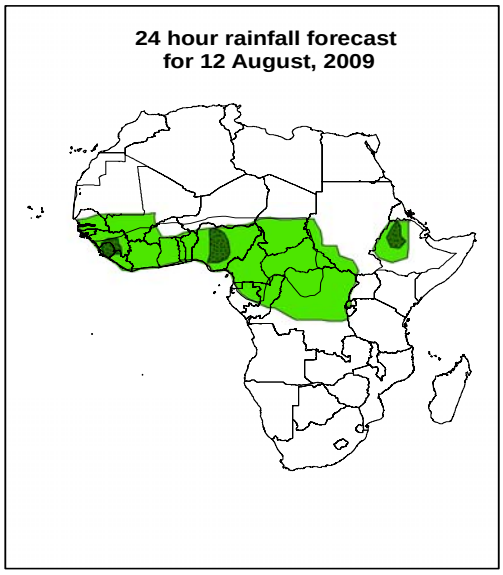
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative.

FORECAST DISCUSSION 14H00 EST, 10 AUGUST, 2009
Valid: 00Z 08 AUGUST – 13 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.



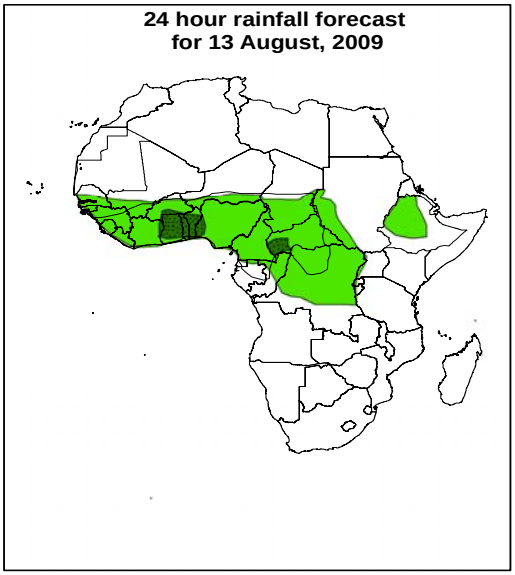


Legend

africa_countries_new

> 20mm, with probability 70%

> 10mm, with probability 70%



Summary

The Mascarene and St. Helena ridge axis are expected to more of zonal direction. As a result, the peripheral wind expected to be across equatorial Africans country. In the northern hemisphere, localized convergent and confluent lines are expected over Mali, Niger, Congo, Uganda, Chad, Sudan and Ethiopia.

2. Model discussion

Model comparison (Valid from 00Z; 06 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 the Mascarene anticyclone is expected to have a zonal orientation. Over southwestern Indian Ocean, while the St. Helena Anti Cyclone is expected to expand over southeastern Atlantic Ocean. As a result, the local convergent and confluence lines are expected to extend toward the southern latitudes over eastern Africa, while they are expected to persist over many places of central and western parts of Africa.

T+48h: The Mascarene Anticyclone is expected to expand over southwest Indian Ocean, with its peripheral winds attaining more southerly component. The eastward moving frontal systems are expected to weaken the St. Helena Anticyclone. The local confluence and convergent lines are expected to maintain their previous day positions, while a cyclonic circulation is expected to develop off the cost of West Africa.

T+72h: The westerly trough associated with southern hemisphere frontal system is expected to deepen while moving eastward. As a result, the subtropical anticyclones of the southern hemisphere are expected to weaken slightly. The cyclonic circulation off the western coast of West Africa is expected to deepen further.

2.2. Flow at 500hPa

T+24h: Westerly winds are expected to dominate the flow over portions of South Africa and Namibia.

T+48h: No significant change in the main flow pattern.

T+72h: The westerly flow over southern hemisphere is expected to expand slightly towards northern latitudes. On the other hand, the flow associated with the Indian Monsoon trough is expected to extend towards northern portions of the Horn of Africa.

2.3. Flow at 200hPa

T+24h: Upper level easterly flow is expected across tropical Africa between 10 and 20^oN latitudes.

T+48h: No significant change in the main flow pattern

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

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