



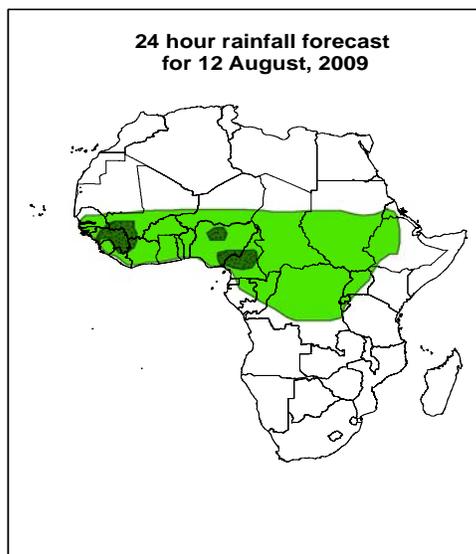
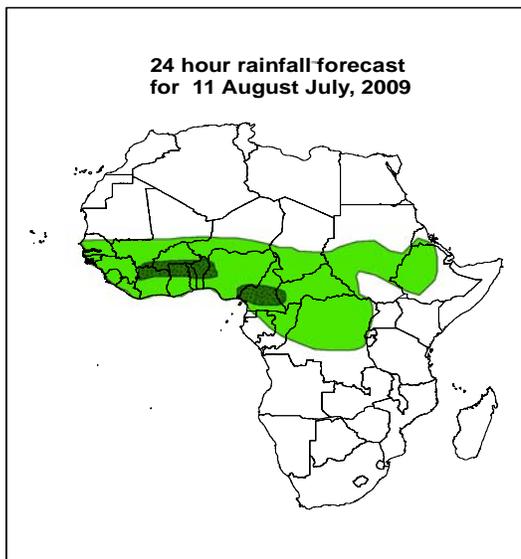
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative.

FORECAST DISCUSSION 14H00 EST, 13 AUGUST, 2009

Valid: 00Z 14 AUGUST – 16 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.

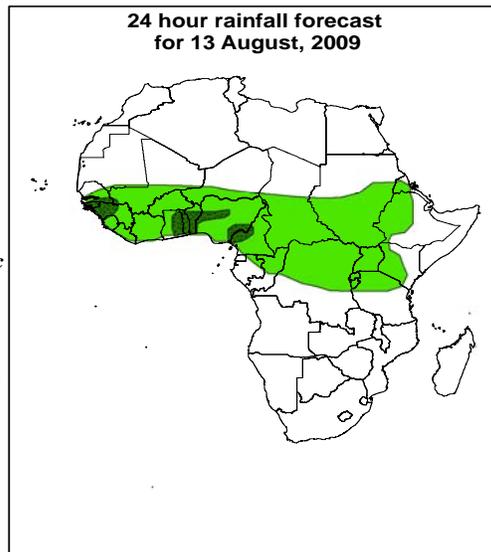


Legend

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

Summary

In the southern hemisphere, the subtropical anticyclone is expected to be limited over South Africa and neighboring areas, while weakening. Two troughs in westerlies are anticipated east and west of the anticyclonic system, over southeast Atlantic and southwestern Indian Oceans. Winds from southern Atlantic Ocean are expected to converge into the cyclonic depression off the west coast of Africa. A northeast-southwest oriented convergence line is anticipated to extend between Uganda and Angola. In the northern hemisphere, the local convergence and confluence lines are expected across Mali, Niger, Chad, Ethiopia and Sudan. However, a day to day reorganizing of Mascarine anticyclon is expected.



2. Model discussion

Model comparison (Valid from 00Z; 13 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°S and 10°N).

2.1. Flow at 850hPa

T+24h: In the southern hemisphere, the subtropical anticyclone is expected to be limited over South Africa and neighboring areas, while weakening. Two troughs in westerlies are anticipated east and west of the anticyclonic system, over southeast Atlantic and southwestern Indian Oceans. Winds from southern Atlantic Ocean are expected to converge into the cyclonic depression off the west coast of Africa. A northeast-southwest oriented convergence line is anticipated to extend between Uganda and Angola. In the northern hemisphere, the local convergence and confluence lines are expected across Mali, Niger, Chad, Ethiopia and Sudan.

T+48h: In the southern hemisphere, the westerly trough over southwest Indian Ocean and the subtropical anticyclone ahead of it are expected to move eastwards. The peripheral wind from the Mascarene anticyclone is expected to strengthen the cross equatorial flow towards the Horn of Africa. The convergent line over southern hemisphere is expected to maintain its previous day position, while the convergence and confluence lines over northern hemisphere are expected to expand towards Nigeria and Cote D'Ivoire.

T+72h: The Mascarene Anticyclone is expected to relax across southwest Indian Ocean with its peripheral wind enhancing the cross equatorial flow over eastern Africa. On the other hand, the westerly trough over southwest Atlantic Ocean is expected to deepen, with its northern extent reaching 5°S latitude.

2.2. Flow at 500hPa

T+24h: In the southern hemisphere, the axes of the westerly troughs are expected to be over southern Atlantic and Indian Oceans, leaving the axis of a ridge to dominate the flow over southern African countries.

T+48h: The trough-ridge system is expected to move eastwards.

T+72h: The system is expected to move further to the east.

2.3. Flow at 200hPa

T+24h: The flow associated with the subtropical ridge is expected to dominate the flow south of the 5°N latitude, while upper level easterly flow is expected to be persistent to the north, over central, east and portions of western African countries.

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

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

Authors:

Chali Debele (National Meteorological Agency of Ethiopia and African desk)
Mamadou Savadogo (Direction de la MET Burkina and African Desk)