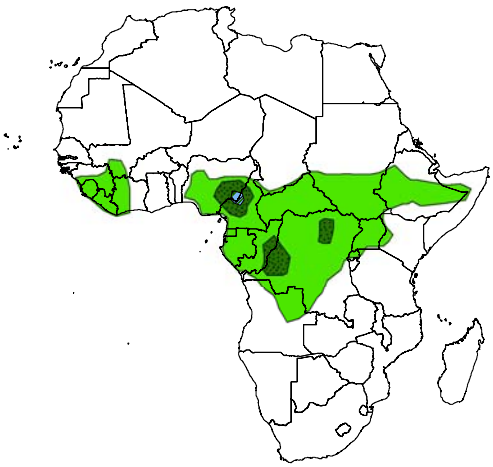
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative.

FORECAST DISCUSSION 14H00 EST, 07 OCTOBER, 2009
Valid: 00Z 08October – 10 October, 2009

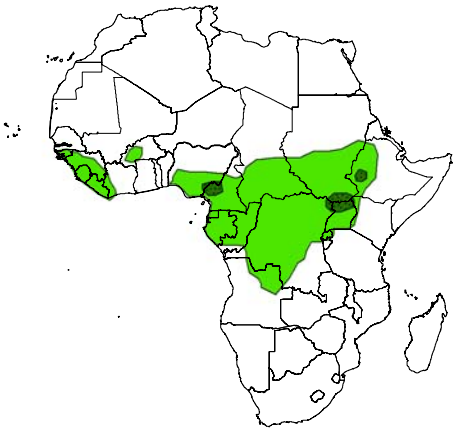
1. Twenty Four Hour Cumulative Rainfall Forecasts

The forecasts are expressed in terms of probability of precipitation (POP) exceedence based on the NCEP, UK Met Office and the ECMWF NWP outputs, the NCEP global ensemble forecasts system (GEFS), and expert assessment.

24 hour rainfall forecast for 08 October, 2009



24 hour rainfall forecast for 09 October, 2009



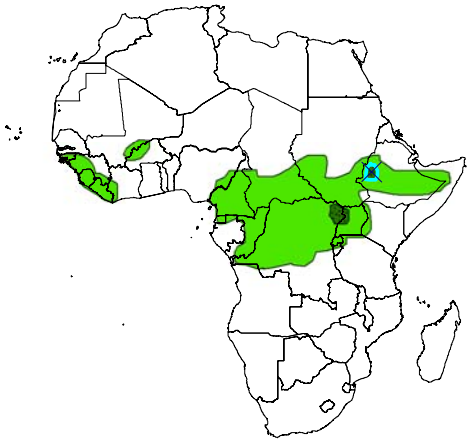
Legend

> 40mm, with probability 70%

> 20mm, with probability 70%

> 10mm, with probability 70%

24 hour rainfall forecast for 10 October, 2009



Summary

The convergence lines associated with equatorial trough and Congo air mass extending from Mali to Eritrea and Congo through Angola and Namibia, respectively, are expected to dominate the flow over the regions. Another convergence associated with Congo air mass is expected persist over Uganda, Rwanda, Burundi and western Tanzania. The cyclonic flow between the boarder of the Central African Republic and Cameroon is expected to persist. On the other hand, the mid latitude frontal system is expected to have its northern tip reaching an area close to 22 deg. S latitude and 3 deg.E longitude

2. Model discussion

Model comparison (Valid from 00Z; 07, OCTOBER, 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. Weather assessment for the previous day (06 October 2009): During the previous day, moderate to heavy rainfall events were observed over Southwestern Mali, Eastern Gabon, parts of Congo, Eastern parts of Central Africa, Eastern and Southern DR Congo, Central Angola, Parts of Central and Southern Ethiopia and parts of Tanganyika in Tanzania.

2.2. Weather assessment for the current day (07 October 2009): Intense clouds are observed over southeastern Sudan, Northern Uganda, Eastern and northwestern DR Congo.

2.3. Flow at 850hPa

T+24h: The convergence lines associated with equatorial trough and Congo air mass extending from Mali to Eritrea and Congo through Angola and Namibia, respectively, are expected to dominate the flow over the regions. Another convergence associated with Congo air mass is expected persist over Uganda, Rwanda, Burundi and western Tanzania. The cyclonic flow between the boarder of the Central African Republic and Cameroon is expected to persist. On the other hand, the mid latitude frontal system is expected to have its northern tip reaching an area close to 22^o S latitude and 3^oE longitude

T+48h: The convergence and confluence lines associated with equatorial trough are expected to weaken over West Africa while they are expected to persist over Central and northeastern Africa. On the other hand, the trough associated with southern hemisphere frontal system is drifting eastwards with its axis extending towards southern Africa. The cyclonic circulation over Cameroon and southern Nigeria is expected to weaken. The convergence lines over Congo air boundary area and southwestern Africa are expected to persist.

T+72h: The localized convergence and confluence lines are expected to persist over Central and Eastern Africa, while they are expected to get enhanced over western Africa. The cyclonic circulation over southern Nigeria is expected to weaken, while moving towards the Gulf of Guinea. The mid latitude frontal system is expected to extend towards Southern Botswana and much of South Africa.

2.3.2 Flow at 700hPa

T+24h: Zonal easterly flow is expected to dominate the flow over the tropical African region with a weak trough axis extending towards southern Nigeria.

T+48h: A trough associated with the weak easterly wave is expected to move westward, while weakening.

T+72h: The zonal easterly flow is expected to persist over tropical African region.

2.3.3 Flow at 500hPa

T+24h: Mid tropospheric easterlies are expected to persist dominating the flow over tropical African countries, with an axis of a weak trough stretching over Eastern and Central African Countries.

T+48h: The Mid tropospheric easterly trough is expected to move eastward over southern Africa and another weak trough axis is expected to form over Nigeria and Chad.

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

2.3.4 Flow at 200hPa

T+24h: A ridge associated with upper tropospheric anticyclone is expected to persist dominating the flow over north eastern and north western regions of Africa.

T+48h: The upper tropospheric easterly flow is expected to persist over Horn of Africa and Gulf of Guinea.

T+72h: No significant change is expected in the upper tropospheric flow.

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