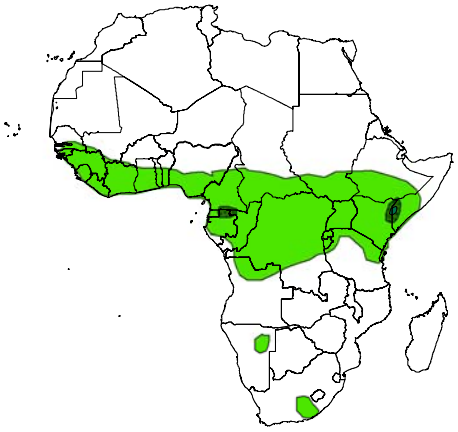
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative.

FORECAST DISCUSSION 14H00 EST, 14 OCTOBER, 2009
Valid: 00Z 15 October – 20 October, 2009

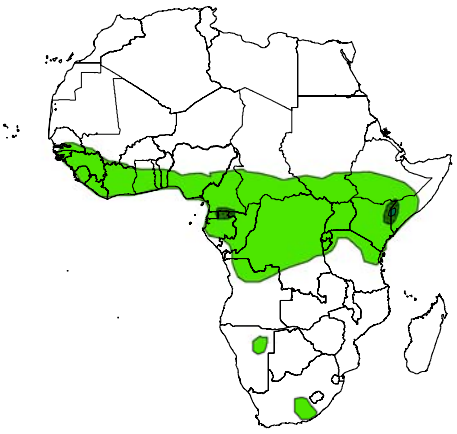
1. Twenty Four Hour Cumulative Rainfall Forecasts

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 15 August July, 2009



24 hour rainfall forecast for 16 October, 2009



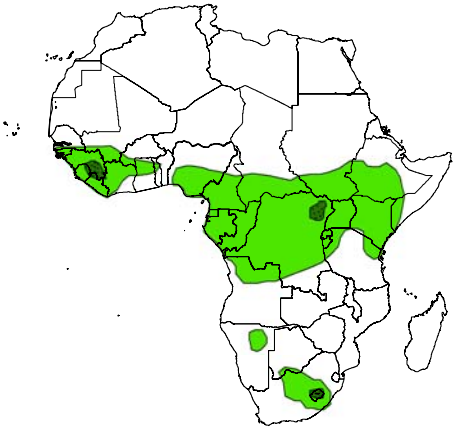
Legend

> 40mm, with probability 70%

> 20mm, with probability 70%

> 10mm, with probability 70%

24 hour rainfall forecast for 17 October, 2009



Summary

The convergence associated with Congo air mass is expected to persist over Uganda, Rwanda, Burundi, western Tanzania and DR Congo. Another convergence is expected over Angola and Namibia, while the passage of mid-latitude frontal system system is expected to influence the weather pattern over South Africa. Easterlies are expected to dominate the flow over the Horn of Africa.

2. Model discussion

Model comparison (Valid from 00Z; 13, 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 (13 October 2009): During the previous day, moderate to heavy rainfall events were observed over northwestern Cameroon. Southeastern Nigeria, Eastern Guinea, southeastern portions of Central African Republic, central Angola, northern Sierra Leone, northern Liberia, central Somalia, Eastern and southern DR Congo.

2.2. Weather assessment for the current day (14 October 2009): Intense clouds are observed over eastern Nigeria, southern portions of Central African Republic, central and southern parts of DR Congo, southeastern Ethiopia and northern Angola.

2.3. Flow at 850hPa

T+24h: The convergence associated with Congo Air Mass is expected persist over Uganda, Rwanda, Burundi and western Tanzania and DR Congo. Another convergence is expected over Angola and Namibia, while the weather pattern over South Africa is expected to be influenced by a frontal system expected to approach its western coastal areas. On the other hand, the moist easterlies are expected to dominate the flow over the Horn of Africa countries.

T+48h: The convergence lines over Uganda, Rwanda, Burundi and western Tanzania, DR Congo, Namibia and Angola are expected to persist. The frontal system is expected to move further to the east with its peripheral winds affecting South Africa.

T+72h: The convergence lines over the CAB and southwestern region of Africa are expected to persist. Besides, the moist easterlies over the Horn of Africa are expected to persist dominating the flow over the region.

2.4. Flow at 500hPa

T+24h: A trough associated with the mid-latitude frontal system is expected to have a back hanged orientation over the western coast of South Africa.

T+48h: The trough associated with mid-latitude frontal system is expected to drift towards the tip of South Africa, with its strong peripheral wind adverting mid-tropospheric cold air to the region.

T+72h: The trough associated with mid latitude frontal system is expected to move further to the east, while weakening.

2.5. Flow at 200hPa

T+24h: The upper tropospheric ridge is expected to continue dominating the flow over much of Tropical Africa, while upper tropospheric trough in the westerlies is expected to dominate the flow over the Western cost of Africa.

T+48h: The upper tropospheric westerly trough is expected to move to the east, with its axis extending towards South Africa. On the other hand, upper tropospheric cyclonic circulation is expected to develop over the Horn of Africa.

T+72h: The upper tropospheric westerly trough is expected to move further to he east while filling up**.** Moreover, the cyclonic circulation over the Horn of Africa is also expected fill up.

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