



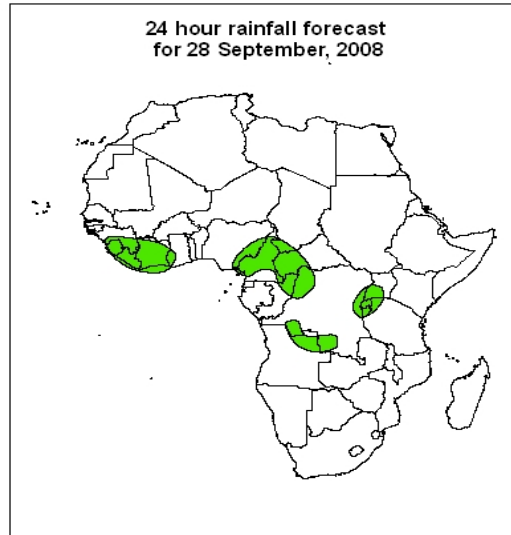
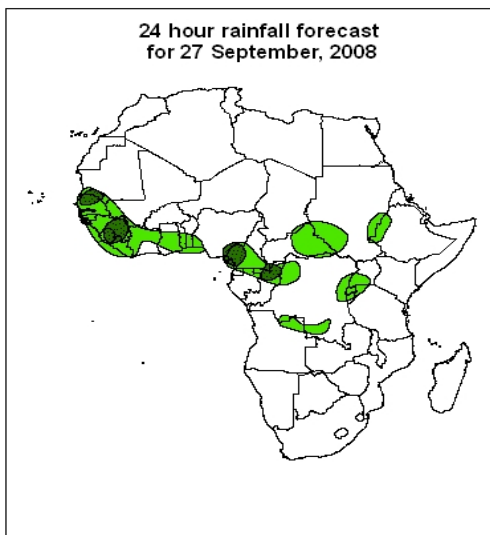
Forecast Guidance for Africa

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




FORECAST DISCUSSION 14H00 EST, 26th SEPTEMBER, 2008
Valid: 00Z 27th September – 29th SEPTEMBER, 2008

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.

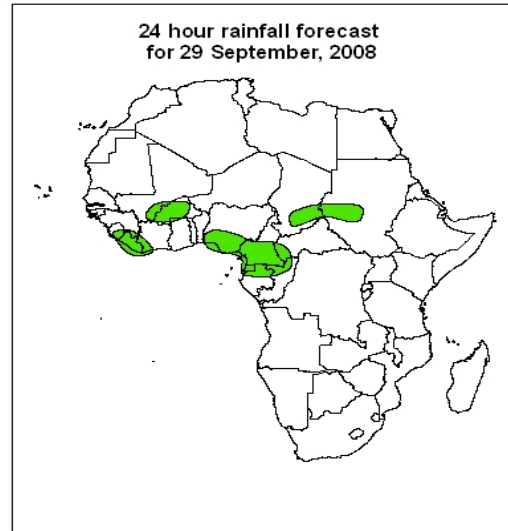


Legend

-  africa_countries_new
-  > 30mm, with probability 50%
-  > 20mm, with probability 40%

Summary

Cyclonic vortices, mid-level troughs and localized convergence expected over parts of west, central and East Africa; coupled with moisture influx from the Gulf of Guinea and Congo Basin will enhance chance for rain.



2. Model discussion

Model comparison (Valid from 00Z; 27th September 2008): all the three models are in general agreement especially with respect to the positioning of large scale features, however, the UK model has a tendency to give lower values than the GFS and ECMWF models in the Equatorial (10°S and 10°N) Continental Africa.

2.1. Flow at 850hPa:

T+24h, the Saharan anticyclonic circulation is expected to dominate the flow over much of North Africa except over Morocco, which will be affected by both on- and off-shore cyclonic circulation systems. Other cyclonic circulations will be featured over the border between the southeastern tip of Mauritania and Mali, the western Gulf of Guinea coast and over western Sudan. Localized convergence will occur over northern Cote d'Ivoire, southern Ghana, western Congo Basin, Rwanda, eastern and southern DRC, and over Angola. Conversely, localized divergence will occur over northern and central DRC including much of East Africa. The Southern African region is expected to be dominated by the merger between the St. Helena and Mascarene Ridges; with a trough likely off the eastern coast of South Africa.

T+48, the Saharan anticyclonic system is expected to be weakened over its western sectors due to the eastward propagation of both the on/ off-shore cyclonic systems. The on-shore system will traverse from western Morocco onto southern Tunisia. The influence of the Azores ridge will be felt over the Western Sahara and environs. The cyclonic circulation featured over southeast of Mauritania and off the western Gulf of Guinea will propagate westwards and weaken while the one over western Sudan will fill-up. A series of cyclonic vortices are likely to develop over southern Niger, southeastern Nigeria/ western Cameroon, central Sudan and between the borders of Sudan, Eritrea and Ethiopia. Localized convergence will prevail over central Congo, western Lake Victoria region, southern DRC and Angola. On the other hand, a divergent flow pattern will prevail over CAR, southern Sudan and most parts of East Africa. Much of Southern Africa is expected to be under the influence of an anticyclonic system centered over the southeastern coastline of South Africa with the merger between the St. Helena and Mascarene Ridges still in place.

T+72, the Azores ridge is expected to merge with the Saharan anticyclonic circulation. However, the flow over Morocco will be dominated by a cyclonic system centered off the Moroccan Coast while the one over Tunisia will fill-up. The cyclonic vortices featured over Niger and Nigeria will propagate westward while the ones over Sudan will remain quasi-stationary. Localized convergence is likely to occur over southern Chad, eastern DRC and Angola. The merger between the St. Helena's and Mascarene ridges will continue to persist over much of Southern Africa with the passage of a mid-latitude trough over South Africa.

2.2. Flow at 500hPa:

T+24, an extensive Sub-Tropical anticyclonic circulation system is expected to prevail over Northern Africa. A westerly wave will dominate the flow pole-wards featuring a deep cyclonic circulation over the Northeast Atlantic Ocean. Easterlies will prevail equatorwards dominated by diffluent flows. However, confluent flow is likely to occur over northern DRC. The flow over much of the northern sectors of Southern Africa will be dominated by a Sub-Tropical anticyclonic system which is divided into two parts by a deep narrow trough that is oriented in a northwest/ southeast direction from southern Tanzania,

across northern Madagascar to Mauritius and Reunion Islands. A westerly wave will prevail over the southern sectors with a mid-level trough likely over Botswana and northern Madagascar.

T+48, a similar flow pattern to that of the previous day is expected over Northern and Southern Africa. However, in the easterlies along the equatorial region the diffluent flow is expected to subside; whereas, a well pronounced shortwave trough will evolve over Cameroon and stretch onto southeastern Niger. The mid-level troughs featured over Botswana and Madagascar are likely to fill-up.

T+72, the main difference expected on the general flow, compared to that of the previous day will be the splitting of the shortwave trough featured over Cameroon with the northern portion over eastern Burkina/ Mali and the southern portion trailing over Nigeria. The flow over much of the northern sectors of Southern Africa will be dominated by a Sub-Tropical anticyclonic system; whereas, a westerly wave will prevail over the southern sectors with a mid-level trough likely to occur over southern sectors of Madagascar.

2.3. Flow at 200hPa:

T+24h, an extensive upper-level anticyclonic flow pattern will prevail over much of Northern Africa extending from the equatorial Atlantic spreading right across to Arabia. Westerlies will dominate the flow pole-ward of the anticyclonic flow and over much of Northern Maghreb with a deep upper-level trough likely to be featured over the Northeast Atlantic; whereas, easterlies will prevail equator-ward with diffluent flows over much of southern Sahel and Central Africa. a cyclonic circulation is likely to occur over eastern Sudan and between the border of Ethiopia and Kenya. While, confluent flow is likely over Uganda. A cross equatorial flow pattern is expected to prevail over the western and eastern equatorial regions of the continent. Much of Southern Africa will be dominated by a westerly wave with a slanting trough featured over Angola and stretches onwards to southern Mozambique.

T+48h, the flow over Northern Africa is expected to be similar to that of the previous day. The cyclonic circulation featured over central Sudan will drift slightly to the west while its counterpart will move to the border between Kenya and Tanzania and transform to an anticyclonic system. Confluent flows are likely over central Sudan, southern Benin, Equatorial Guinea/ Gabon and over the coast of DRC. The entire Southern African region will be dominated by a westerly wave with the slanting trough becoming more pronounced over Zimbabwe and Mozambique.

T+72h, the westerly waves will persist over much of Northern and Southern Africa, with an intrusion of a weak trough over Niger. The cyclonic circulation system featured over Sudan is expected to fill-up; whereas a series of anticyclonic flows will likely develop over southern Chad and southern DRC with the one over the border between Kenya and Tanzania moving onto Rwanda/ Burundi.

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