



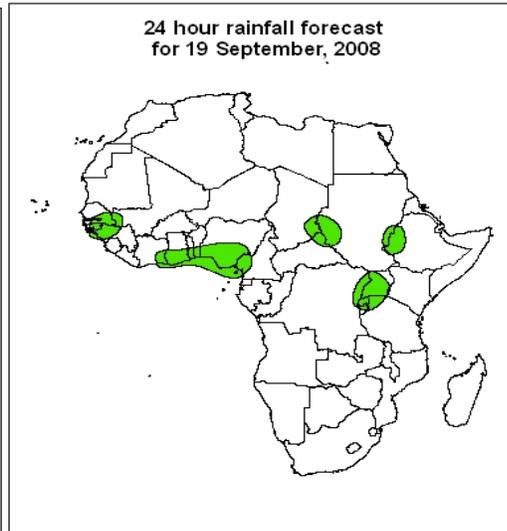
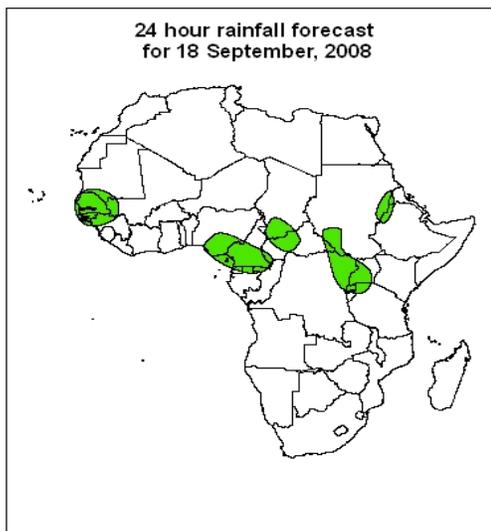
Forecast Guidance for Africa

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

FORECAST DISCUSSION 14H00 EST, 17th SEPTEMBER, 2008
Valid: 00Z 18th September – 20th 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.

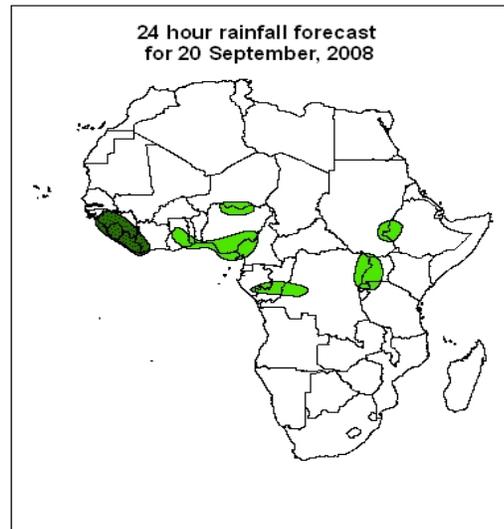


Legend

-  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 and central 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; 18th 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 influence the flow over much of Northern Africa except over northwestern Maghreb and the western bulge of West Africa which will be affected by cyclonic vortices with centers over northwestern Algeria and western Mauritania respectively. Other cyclonic vortices will be featured over western, central and northeastern Sudan and over the eastern Gulf of Guinea “southeast coast of Nigeria”. Localized convergence is likely over the border between southeastern Cameroon/CAR, CAR/ Sudan, western Lake Victoria, southeastern DRC and Angola. Conversely, localized divergence is likely to occur over the western Gulf of Guinea countries, much of the Congo Basin stretching northeastwards from Gabon/Congo to southeastern Sahel and over East Africa. The Southern African region is expected to be dominated by the merger between the St. Helena’s and Mascarene Ridge; except, over western South Africa which will be affected by a mid-latitude trough.

T+48, the entire North and the western bulge of Africa is expected to be dominated by the Saharan anticyclonic circulation system. Both the cyclonic vortex featured during the previous day over northwestern Algeria and western Mauritania will decay. However, the cyclonic vortices featured over Sudan will remain quasi-stationary, except for the one over the central sector which is likely to degenerate. The one over the eastern Gulf of Guinea will propagate westwards to the Ghanaian coast. Localized convergence will occur over central Mali stretching onto Liberia, central Niger, Sudan, western Nigeria, Rwanda, western Ethiopia, western DRC, Lake Victoria region stretching to southern DRC and over Angola. Conversely, localized divergence will prevail over most of the western Gulf of Guinea Countries, northern DRC and East Africa. The merger of St. Helena and Mascarene ridges over Southern Africa is expected to prevail with the mid-latitude trough expected to traverse over the southern sector.

T+72, the Saharan anticyclonic circulation system will remain quasi-stationary over North Africa and the western bulge of West Africa; flanked by a well pronounced cyclonic circulation over the northeast Atlantic and a mid-level trough protruding onto northwestern Libya. The cyclonic vortex over western and northeastern Sudan will degenerate while another will evolve over central Mali. The cyclonic vortex featured off the coast of Ghana will continue its westward propagation and will be centered off the Liberian coast. Localized convergence will likely occur over southern Niger, eastern Nigeria, southern Congo/southern DRC and over western Lake Victoria. Much of Southern Africa will be dominated by the merger of St. Helena and Mascarene ridges.

2.2. Flow at 500hPa:

T+24, an extensive Sub-Tropical anticyclonic circulation system is expected to prevail over Sahel/Sahara, with a westerly wave pole-wards and easterlies equator-wards. Embedded in the westerly wave is a deep cyclonic circulation featured over the northeast Atlantic Ocean; whereas on the easterlies, are cyclonic circulations with centers over eastern Senegal, southern Nigeria, eastern and southern Ethiopia. Confluent flow-lines are likely to occur between the borders of Senegal/Mali, eastern Nigeria/Cameroon, over northern DRC and the Great Lakes regions. The flow over the northern sectors of Southern Africa will be dominated by a Sub-Tropical anticyclonic system while, the southern sectors will be under the influence of a westerly wave.

T+48, a similar flow pattern is expected over Northern and Southern Africa. However an anticyclonic circulation will evolve over Cape Verde Islands and is expected to merge with the main system over Sahel/Sahara. A weak shortwave trough will be featured over Cote d'Ivoire stretching into northern Guinea Conakry. Confluent flows will prevail over Cameroon, CAR, Lake Victoria region and northwestern Zambia.

T+72, the main changes expected will be the degeneration of the shortwave trough over Cote d'Ivoire and confluent flows featured over Cameroon/CAR during the previous day, and the likelihood of the evolution of other shortwave troughs over southern Nigeria and central Mozambique.

2.3. Flow at 200hPa:

T+24h, an extensive upper-level anticyclonic flow pattern will prevail over much of Northern Africa extending from the tropical Atlantic to Arabia with westerly wave pole-wards and easterlies equator-wards. Embedded within the westerly wave are upper-level troughs with their axis centered over northeast Atlantic and towards central Libya; whereas on the easterlies, a shortwave trough is likely to develop over central Chad. The northern sectors of Southern Africa will be dominated by an anticyclonic flow while the southern sectors will be under the influence of a westerly wave.

T+48h, the flow over Northern and Southern Africa is expected to be similar to that of the previous day; although, the westerly wave is likely to intensify extending its associated troughs slightly southwards. The shortwave trough featured over Chad is likely to move over to northern Nigeria stretching onto eastern Niger.

T+72h, main changes that are likely to affect the general flow will be the deepening of the upper-level trough over Libya/Egypt and the decay of portion of the shortwave trough featured over Niger. Another shortwave trough will likely develop over the border between Mali and Niger.

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