



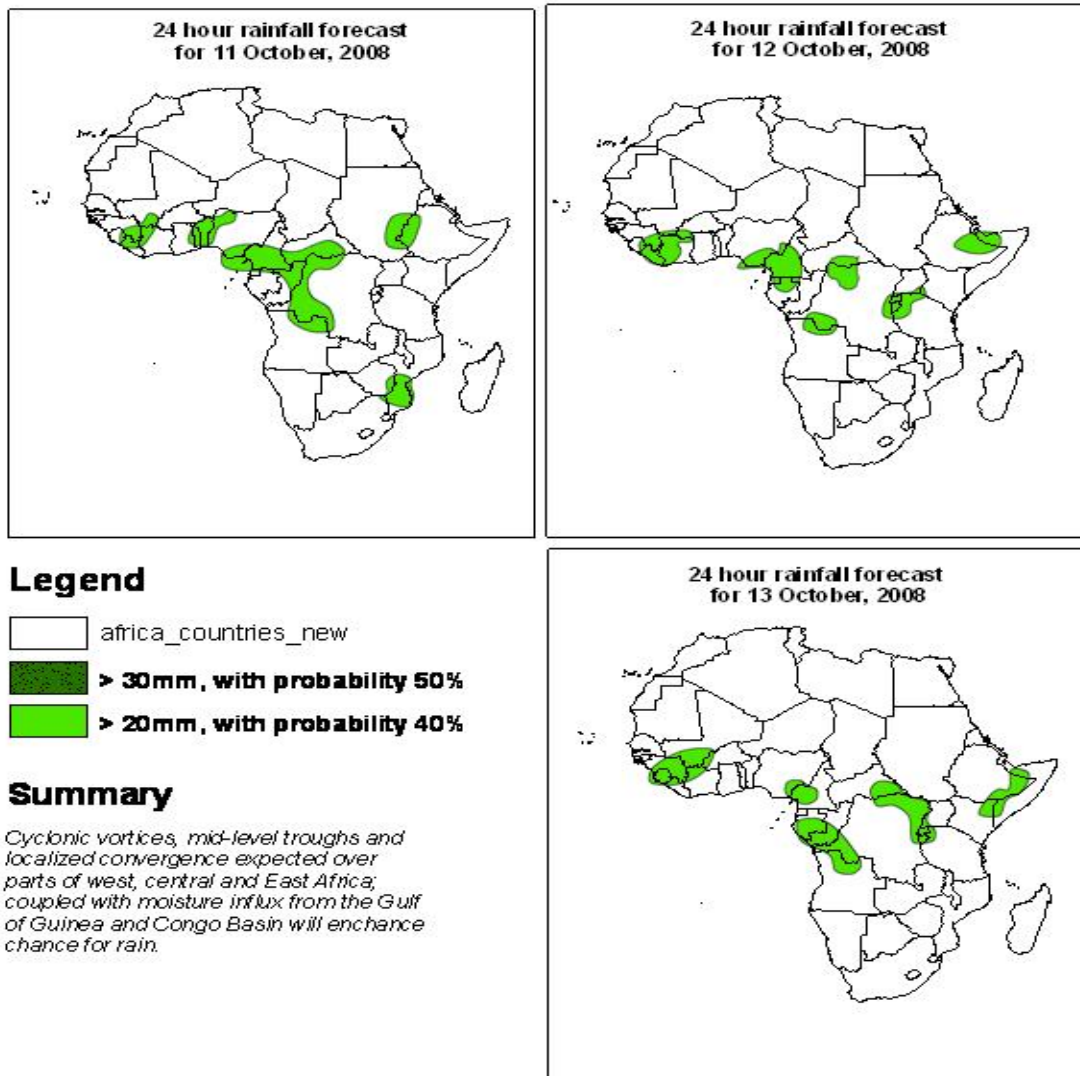
Forecast Guidance for Africa

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

FORECAST DISCUSSION 14H00 EST, 10th OCTOBER, 2008
Valid: 00Z 11th OCTOBER – 13th OCTOBER, 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.



2. Model discussion

Model comparison (Valid from 00Z; 11th October, 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, a closed cyclonic circulation will prevail over much of Morocco, Western Sahara, northern Mauritania, northwestern Mali and western Algeria. The rest of North Africa will be under the influence of the Saharan anticyclonic circulation. Another cyclonic circulation will affect southern Cote D'Ivoire, much of Ghana, Benin and Togo. Convergence will occur over southeastern Cameroon, western CAR and central Sudan, with confluent flows over central Mali, northern Somalia onto eastern Ethiopia, and over eastern DRC onto lake Victoria region, southwestern Angola, southwestern Zambia, northwestern Mozambique and central Malawi, while divergence will be featured over southern Senegal and The Gambia, and over eastern DRC. Southern Africa will be under the influence of a merger between the Santa Helena and Mascarene anticyclonic circulation systems.

T+48, the Saharan anticyclonic system is expected to dominate over much of North Africa. However, a cyclonic circulation will prevail over southern Western Sahara and eastern Mauritania. A cyclonic circulation will affect the flow over much of Cote D'Ivoire and Liberia. Localized convergence will be featured over southeastern Nigeria, southeastern Gabon and south Congo, southern Angola and over Lake Victoria region with confluent flows over southeastern Mauritania, central Sudan, southern DRC and southwestern Angola. Divergence is likely to occur over central Ethiopia and northern DRC. Southern African region is expected to be dominated by the St. Helena and Mascarene Ridges; with a mid-latitude trough likely to affect the southeastern coast of South Africa.

T+72, the Saharan anticyclonic system is expected to extend westwards but a trough from the Easterlies will dominate the flow over Egypt and Libya. Convergences will be featured over eastern Chad, western Congo and over the Lake Victoria region with confluent flows over eastern Sudan, eastern Ethiopia, northern Congo onto northwestern DRC, southern Angola and southeastern Namibia. Conversely, divergent flow pattern is likely to occur over central Mali, coast of southeastern Nigeria and over south Sudan. Southern Africa will be under the Santa Helena and Mascarene Ridges; with a mid-latitude trough likely to affect the southern coast of South Africa.

2.2. Flow at 500hPa:

T+24, a closed cyclonic circulation centered over central Morocco will extend to Western Sahara, northern Mauritania and western Algeria. The Saharan anticyclonic circulation is expected to prevail over the rest of North Africa. Convergence is likely to occur over western DRC with confluent flows over northeastern Senegal onto south Mauritania, southeastern Sudan and over northeastern Angola. On the other hand, divergent flow is likely to occur over southeastern Nigeria and over southwestern Sudan onto southeastern Chad. Southern Africa will be dominated by an anticyclonic circulation system and a trough in the mid latitude westerly wave will affect the flow over the Indian Ocean.

T+48, a trough will affect the flow over most of Morocco and Western Sahara, while a cyclonic circulation will affect northeastern Libya and much of Egypt. The rest of North Africa is likely to be under the influence of the Saharan anticyclonic circulation. Confluent flows patterns will be featured over northern Senegal onto south Mauritania, southern

Chad,, northeastern Sudan, northern Cameroon, southeastern DRC and northeastern Mozambique. Conversely, divergent flows will be featured over northwestern Sudan. Most of Southern Africa will be under the influence of an anticyclonic circulation system with a westerly wave to the South.

T+72, the cyclonic circulation over western Maghreb will weaken and retreat northwards but still prevail over Morocco and northern Western Sahel while a trough over Libya and Egypt will extend southwards to northern Chad and environs. The rest of North Africa is likely to be under the influence of the Saharan anticyclonic circulation system. Confluent flows will be featured over western Mauritania onto southeastern Western Sahara, northeastern Nigeria, central Sudan and southeastern Ghana. Localized divergence will be featured over northern DRC. Easterlies will prevail equator-wards with a trough over much of DRC, Zambia, Zimbabwe and central Mozambique, while the rest of Southern Africa will be dominated by the Santa Helena and Mascarene anticyclonic circulation systems with westerly wave to the South.

2.3. Flow at 200hPa:

T+24h, Most of North Africa will be under the influence of a westerly wave with an upper level cyclonic circulation over most of Morocco and Western Sahara. Upper-level anticyclone circulations will prevail over Central and Southern Africa. Confluent flows are likely to occur over western Mali, northeaster CAR onto southeastern Sudan, eastern Ethiopia onto western Somalia. Strong divergence will be featured over southwestern Cameroon and over northeastern Sudan. A trough from the mid-latitude westerly wave will dominate the flow over most of South Africa, Mozambique and Madagascar.

T+48h, the westerly wave will dominate the flow over North Africa. The cyclonic circulation over Morocco will weaken and another trough will affect the northeastern Libya and northern Egypt. A confluent flow will be featured over central Mali, northern Burkina onto western Mali, western Sudan, northeastern Congo and northeastern DRC. Conversely, strong localized divergence is expected over central Sudan and western Somalia.. The trough from the mid-latitude westerly wave will propagate northeastwards and cover most of Mozambique, Zimbabwe, Zambia and south of Madagascar.

T+72h, the trough over Morocco will remain in the same position, while the one over Libya and Egypt will strengthen and extend to north of Chad and northeastern Sudan. Confluent flows will be featured over western Mali, southern Sudan onto eastern DRC and over northeastern Uganda. On the other hand, divergence is likely to occur over western Guinea. The trough from the mid-latitude westerly wave will reinforce and move northeastwards and affect southeastern Angola, central and eastern Namibia and most of South Africa, Botswana, Zimbabwe, Zambia and Mozambique.

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