



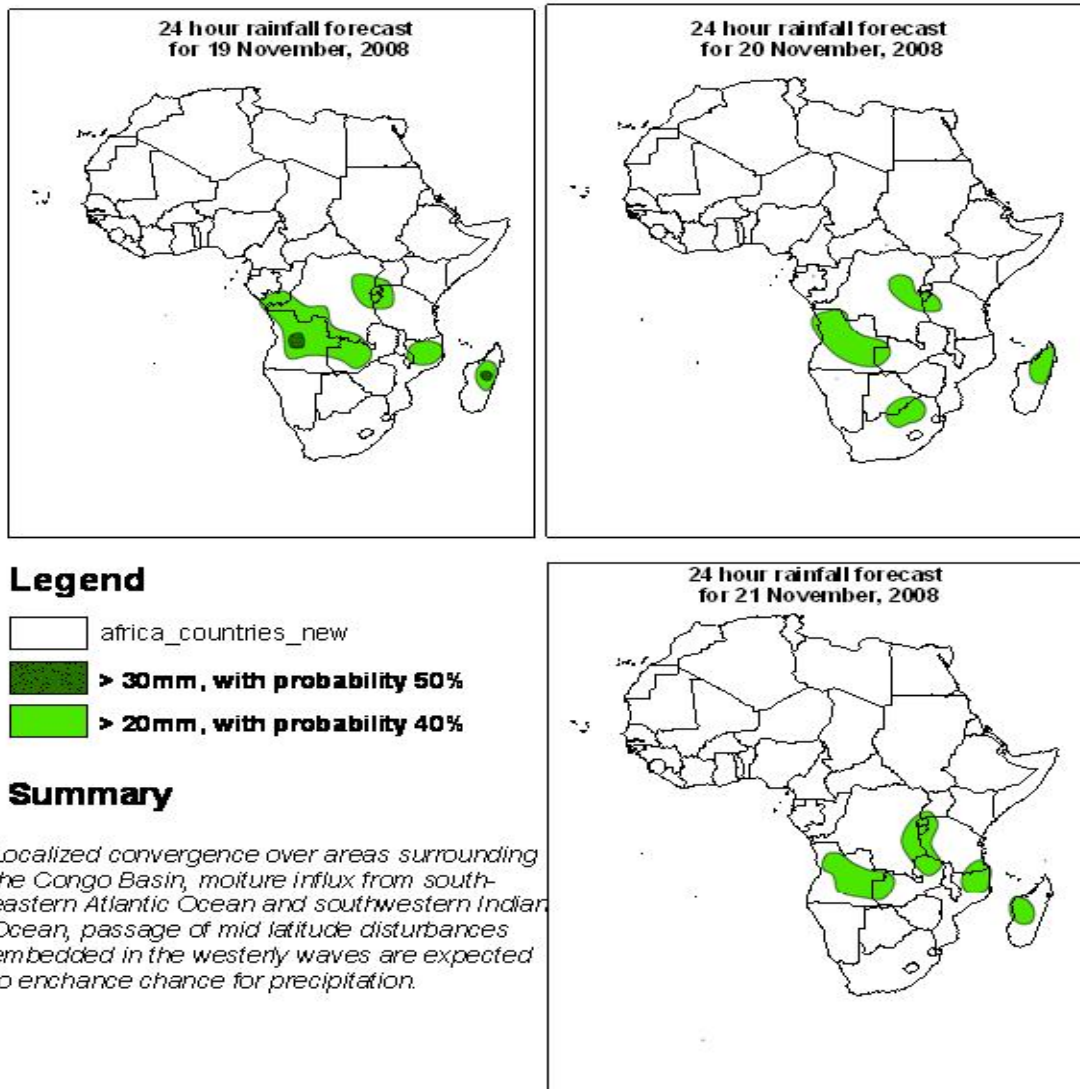
Forecast Guidance for Africa

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

FORECAST DISCUSSION 14H00 EST, 18th NOVEMBER, 2008
Valid: 00Z 19th NOVEMBER – 21st NOVEMBER, 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; 19th November, 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 flow over much of North Africa is expected to be dominated by the Saharan anticyclonic circulation system. A trough from the Mediterranean Sea will affect northern Libya and northwestern Egypt. Cyclonic vortices will be featured over southern Western Sahara and southern Algeria, while anticyclonic vortex is likely to develop over eastern DRC. Localized convergence is likely to occur over western Sudan, western Tanzania, northern and southwestern Angola and over northern Zambia. Confluent flows are expected to occur over western Ethiopia, eastern Cameroon, the western sector of DRC, northern Tanzania, western Zambia and over western South Africa onto southeastern Namibia. On the other hand, localized divergence is expected to occur over southeastern Nigeria and southern Zambia. Diffluent flows will be featured over northwestern Kenya. Much of Southern Africa will be under the influence of the St. Helena anticyclonic circulation system except for northern Madagascar which will be affected by a trough from equatorial Indian Ocean.

T+48, the flow over much of North Africa will be similar to that of the previous day. The trough over northern Libya will weaken and retreat northwards. The cyclonic vortex over Western Sahara will move northeastwards to southern Morocco, while the one over southern Algeria will also move northeastwards. The anticyclonic vortex over eastern DRC will remain in the same position. Localized convergence is expected to occur over western Tanzania, northern Zambia, northern Angola, southern DRC and over the border between southwestern Angola and northwestern Namibia. Confluent flows are expected to occur over northeastern CAR, central Uganda and over southern Angola. Divergence will be featured over central Ethiopia and over the central sector of DRC. The flow over much of Southern Africa will be dominated by the St. Helena except for northern Madagascar and the northern Mozambique Channel which will be affected by a trough from the equatorial Indian Ocean. A westerly wave will be featured to the South.

T+72, the Saharan anticyclonic circulation system will continue to prevail. The cyclonic vortex over Western Sahara will strengthen, while the one over southeastern Algeria will move to central Algeria. Convergence is expected to occur over eastern DRC, southwestern Tanzania, southwestern Angola and over southeastern Namibia. Confluent flows are likely to occur over southern Ethiopia, western Tanzania, the southern sector of DRC and over northeastern Angola. On the other hand, divergence will be featured over northern DRC and over northern Namibia. Much of Southern Africa will be under the influence of the St. Helena and Mascarene anticyclonic circulations. To the South, a westerly wave with two troughs embedded over the southwestern sector of South Africa and southern Madagascar will prevail, while a trough from the equatorial Indian Ocean will affect northern Madagascar and the northern Mozambique Channel.

2.2. Flow at 500hPa:

T+24, a westerly wave in which a trough is embedded over northern Morocco, northern Algeria, Tunisia and northwestern Libya will dominate the flow over much of North Africa. To the South, a sub-tropical anticyclonic circulation system will prevail. A closed cyclonic circulation will affect southern Sudan. Convergence is expected to occur over

southeastern DRC and over eastern Angola. Confluent flows will be featured over eastern Nigeria, northwestern DRC, central Uganda, southern Tanzania, northeastern Namibia and over western Zambia. Divergence is expected to occur over eastern DRC, northeastern Angola and over southwestern Namibia. Diffluent flows will be featured over central Cameroon. Much of Southern Africa will be dominated by the St. Helena and Mascarene anticyclonic circulations with a westerly wave to the South.

T+48, a westerly wave will dominate the flow over much of North Africa. The trough over Maghreb will strengthen and move westwards to Morocco. To the South, a sub-tropical anticyclonic circulation will prevail. A cyclonic vortex is likely to develop over southwestern Sudan. Convergence will be featured over the border between southwestern Angola and northwestern Namibia. Confluent flows are likely to occur over northern Gabon, northwestern DRC onto northeastern Congo, central Congo and over northwestern Tanzania. Diffluent flows are expected to occur over central DRC, eastern Angola and over southern Somalia. Much of Southern Africa will be under the influence of the St. Helena and Mascarene anticyclonic circulation with a westerly wave to the South.

T+72, the trough in the westerly wave over western Maghreb is expected to strengthen and expand southwestwards to northern Western Sahara. A Sub-tropical anticyclonic circulation system will dominate the flow over the rest of North Africa. A cyclonic vortex will develop over the southern coast of Somalia, while a closed cyclonic circulation will affect central Angola. Convergence will be featured over eastern DRC. Confluent flows are expected to occur over southern Congo. Divergence will occur over the southern sector of DRC. The flow over much of Southern Africa will be dominated by the St. Helena and Mascarene anticyclonic circulation systems. To the South, a westerly wave will prevail

2.3. Flow at 200hPa:

T+24h, a westerly wave with an embedded trough over northern Morocco, northern Algeria and Tunisia will dominate the flow over much of North Africa. To the south, an anticyclonic circulation system will prevail. Confluent flows will be featured over northern DRC and over western Kenya. Divergence is likely to occur over eastern and southern DRC and over southwestern Zambia. The flow over much of Southern Africa will be dominated by an anticyclonic circulation. To the South, a westerly wave will prevail.

T+48h, the trough in the westerly wave over northern Algeria will strengthen and expand westwards. Another trough will affect eastern Ethiopia and northern Somalia. To the South, an anticyclonic circulation system will prevail. Confluent flows are expected to occur over northern and western DRC. Divergence is likely to occur over eastern and southern DRC. Much of Southern Africa will be under the influence of an anticyclonic circulation, while the southern sector is likely to be dominated by a westerly wave.

T+72h, a westerly wave will prevail over North Africa and the trough over western Maghreb will expand westwards, while the one over eastern Ethiopia and northern Somalia will deepen to northern Kenya. An anticyclonic circulation is expected to dominate the flow to the South. Confluent flows are expected to occur over southern Sudan, northwestern DRC, northern and western Tanzania. Divergence is likely to occur over eastern DRC and eastern Angola. The flow over much of Southern Africa is expected to be dominated by an anticyclonic circulation except for the southern sector which will be under the influence of a westerly wave.

.Author: Lutumba Tima (Instituto Nacional de Meteorologia, Angola, and African Desk).