



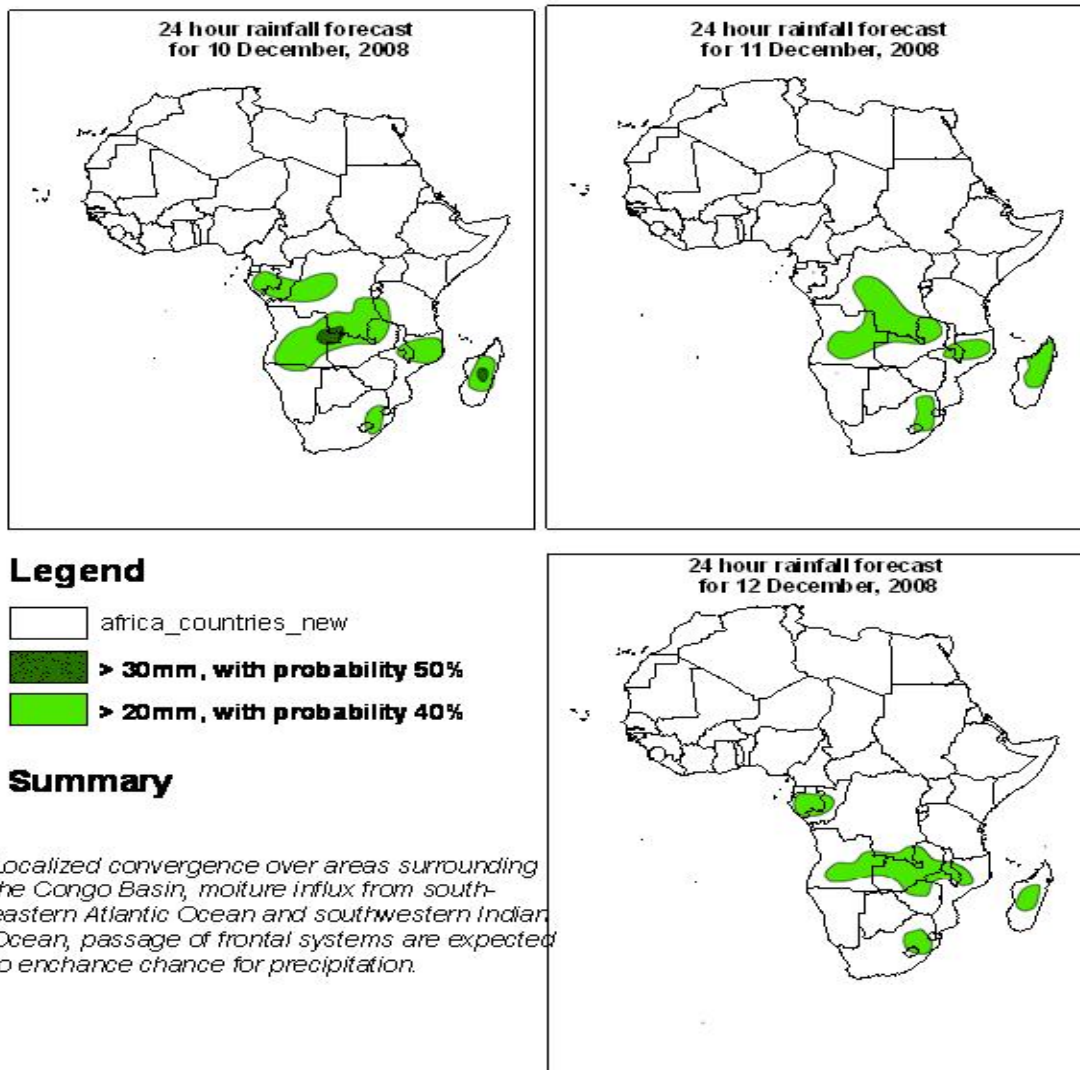
Forecast Guidance for Africa

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

FORECAST DISCUSSION 14H00 EST, 09th DECEMBER, 2008
Valid: 00Z 10th DECEMBER – 12th DECEMBER, 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; 10th December, 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+24, the flow over much of North Africa will be under the influence of the Saharan anticyclonic circulation system, while the Azores anticyclonic circulation will affect the bulge of Africa with a deep trough featuring over Morocco, parts of Algeria, northeastern Mauritania and northern Mali. A closed anticyclonic circulation centered over the Atlantic Ocean will affect the coast of Gabon. A cyclonic vortex is likely to develop over eastern Angola, while a small trough is expected to prevail over southwestern Angola. Localized convergence is expected to occur over southern CAR, northeastern DRC, southeastern Uganda, northern Ethiopia and northeastern South Africa. Confluent flows will be featured over western CAR, southwestern Ethiopia onto southeastern Sudan, northern Tanzania, northern Zambia and northwestern Botswana. Diffluent flows are likely to occur over northeastern Sudan, western Kenya and over southeastern DRC. The flow over much of Southern Africa will be dominated by the St. Helena and Mascarene anticyclonic circulation systems with a westerly wave to the south.

T+48h, the Azores anticyclonic circulation is expected to weaken and retreat westwards, while the Saharan anticyclonic circulation system is likely to intensify. The trough over western Maghreb will remain in the same position. A closed cyclonic circulation centered over the Atlantic Ocean will affect the coast of Angola. Localized convergence is expected to occur over eastern Cameroon, eastern CAR, the Lake Victoria region, southeastern DRC, central Angola, eastern Namibia and central South Africa. Confluent flows are expected to occur over western and southeastern Ethiopia, northeastern DRC, northern Namibia and northern Botswana. On the other hand, diffluent flows are expected to occur over northeastern Sudan, eastern Kenya and southern DRC. Much of oceanic Southern Africa will be under the influence of the St. Helena and Mascarene anticyclonic circulation systems. To the South, a westerly wave will prevail.

T+72, the Saharan anticyclonic circulation will continue to prevail over much of North Africa. The trough over western Maghreb will weaken and expand northeastwards to northwestern Libya. A closed anticyclonic circulation will affect the western sector of DRC, while the cyclonic circulation over the coast of Angola is expected to retreat westwards. Convergence is expected to occur over southeastern CAR, the Lake Victoria region, central Tanzania, northern Zambia, eastern Namibia and central South Africa. Confluent flows are likely to occur over northeastern DRC, southern Angola and over the southern Mozambique Channel. On the other hand, Divergence will occur over southern South Africa. Diffluent flows will be featured over northern DRC, northwestern Angola and northwestern Zambia. Much of Southern Africa will be under the influence of the St. Helena and Mascarene anticyclonic circulation systems that will be confined in the Atlantic Ocean and the southwest Indian Ocean respectively.

2.2. Flow at 500hPa:

T+24, a westerly wave will dominate the flow over much of North Africa with an embedded trough over northern Morocco and northwestern Algeria. To the South, the Saharan anticyclonic circulation system will prevail. Convergence is expected to occur over southwestern Sudan and southern DRC. Confluent flows will be featured over

southern CAR, southern Congo, northwestern Angola and western Zambia. Diffluent flows will be featured over northwestern Tanzania and southeastern DRC. Much of Southern Africa will be dominated by an anticyclonic circulation system. To the South, a westerly wave will affect the southern sector of South Africa and Madagascar.

T+48, the trough over the Morocco is expected to move northeastwards to northern Algeria. A Sub-tropical anticyclonic circulation will dominate the flow over much of North Africa. A cyclonic vortex is likely to develop over the southern coast of Angola. Convergence will be featured over western Zambia. Confluent flows are expected to occur over southeastern Uganda and northern Angola. Diffluent flows are expected to occur over western DRC, western Tanzania and southern Zambia. The flow over much of Southern Africa will be dominated by an anticyclonic circulation system. A westerly wave will affect the southern sector of South Africa.

T+72, a westerly wave will continue to prevail over much of North Africa. The trough over northern Algeria is expected to weaken and retreat northeastwards but still affect northern Tunisia. To the South, a sub-tropical anticyclonic circulation will prevail. Confluent flows are likely to occur over southern Somalia onto eastern Kenya, northeastern Angola and western Zambia. Diffluent flows are expected to occur over southern Gabon, northwestern Angola and over southeastern DRC. The flow over much of Southern Africa will be dominated by the St. Helena and Mascarene anticyclonic circulation systems to the south of which a westerly wave will prevail.

2.3. Flow at 200hPa:

T+24h, a westerly wave will dominate the flow over much of North Africa. To the south, an anticyclonic circulation system will prevail. Confluent flows are expected to occur over eastern Kenya, southeastern DRC, northern Zambia and eastern Botswana. Divergence is likely to occur over eastern Angola and southern Tanzania. The flow over the northern sector of Southern Africa will be dominated by an anticyclonic circulation, while the southern sector will be affected by a westerly wave.

T+48h, the flow over much of North Africa will be similar to that of the previous day. A weak trough will be featured over northern Algeria. To the South, an anticyclonic circulation system will prevail. Confluent flows are expected to occur over southwestern Sudan, northern DRC, southeastern Tanzania and southern Zambia. Divergence is likely to occur over central Angola and northwestern Zambia. The northern sector of Southern Africa will be under the influence of an anticyclonic circulation, while the southern sector will be dominated by a westerly wave.

T+72h, a westerly wave will continue to prevail over North Africa and the trough over northern Algeria is expected to weaken and retreat northeastwards. Confluent flows are expected to occur over southeastern Tanzania, southwestern Zambia and northern Zimbabwe. Divergence is likely to occur over eastern Angola and northern Zambia. The flow over much of Southern Africa is expected to be dominated by an anticyclonic circulation with a westerly wave to the south.

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