



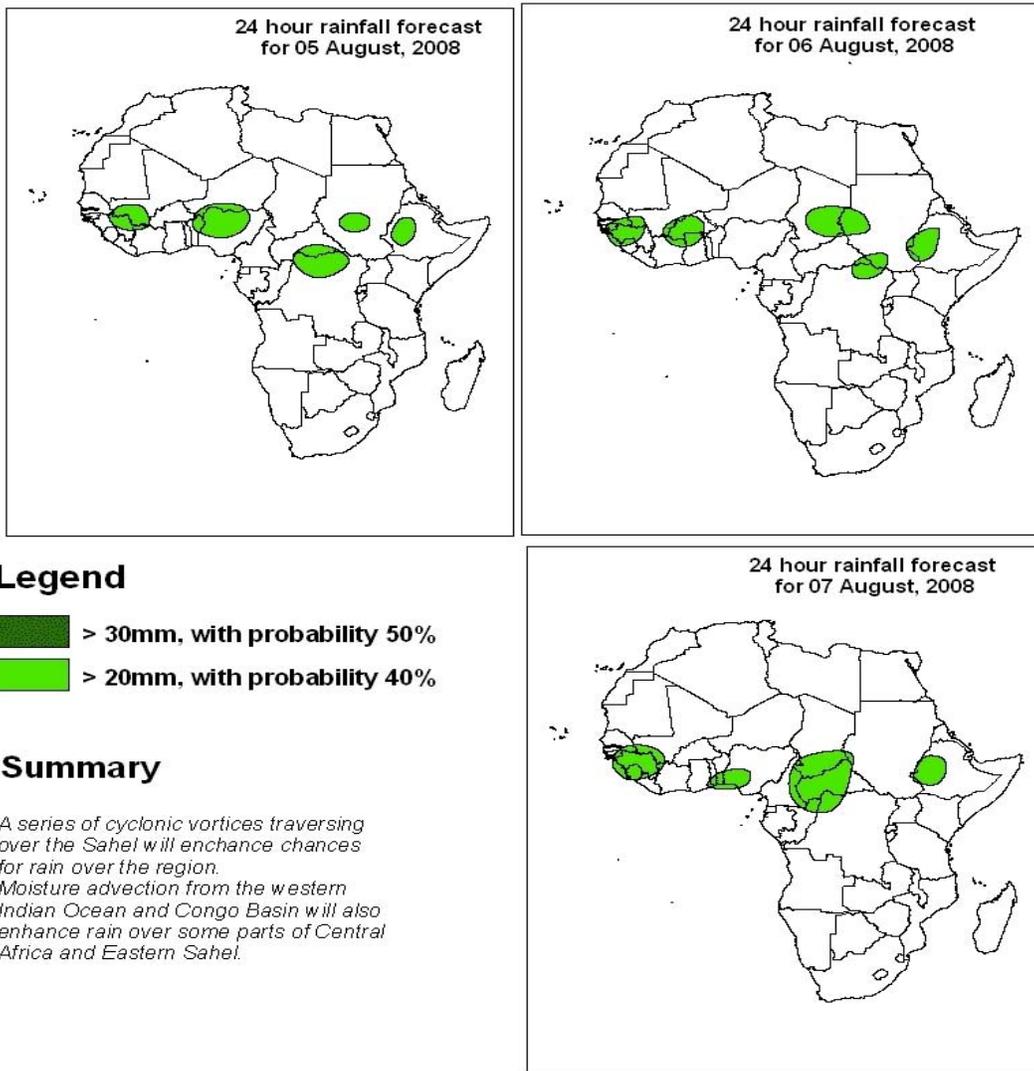
Forecast Guidance for Africa

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

FORECAST DISCUSSION 14H00 EST, 04th AUGUST 2008
Valid: 00Z 05th August – 07th AUGUST, 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; 05th August 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, northwestern Africa is expected to be under the influence of an anticyclonic circulation centered over eastern Algeria/western Tunisia with northerlies to the east over Libya and Egypt. Diffluent flow lines are expected to develop along the coast of Gulf of Guinea from Liberia to Nigeria. The Sahel region up to Ethiopia and including DRC are expected to experience cyclonic vortices and isolated convergence lines. Southern Africa is expected to be influenced by the Mascarene and St Helene Subtropical anticyclones, with a trough over the tip of southern Africa.

T+48h, the flow pattern is expected to be similar to that of the previous day. But westerlies and northerlies are expected to replace the diffuence along the coast of Gulf of Guinea, and an anticyclonic vortex is expected to develop off the coast of Guinea. Southern Africa is expected to continue being influenced by the Mascarene and St. Helene Subtropical anticyclone; and while a cyclonic vortex is expected to develop off the coast of Namibia and another one over southwestern Madagascar.

T+72h, the flow pattern is expected to remain as that of the previous day, but the anticyclonic vortex along the coast of Gulf of Guinea is expected to decay and move to the east and the trough over the western parts will continue to influence the area.

2.2. Flow at 500hPa:

T+24h, an anticyclonic circulation system is expected to dominate the general flow pattern of North western Africa including the western Sahel countries; while the eastern part (i.e. eastern Libya and northern Egypt) will be influenced by a trough penetrating from the Mediterranean Sea. South eastern Egypt, north eastern Niger, central Sudan, southern Nigeria, northern Gabon, southeastern Congo and north eastern Kenya are expected to be under the influence of isolated convergence lines. However, Southern Africa is expected to be influenced by the Mascarene and St. Helene Subtropical anticyclones, but a cyclonic vortex will develop over northern Zambia and influence the central and eastern parts of the sub-continent. A westerly wave is expected to prevail over South Africa.

T+48h, the flow pattern is expected to be similar to that of the previous day. But the trough from the Mediterranean Sea will penetrate deeper into Libya and northwestern Egypt. While, a cyclonic vortex is expected to develop over Gabon.

T+72h, not much change is expected from the flow of the previous day, except the cyclonic vortex over Gabon will decay and the westerly wave over South Africa is expected to prevail.

2.3. Flow at 200hPa:

T+24h, an extensive upper level anticyclonic flow pattern will prevail over northern Africa. However, western Sahel is expected to be under the influence of a trough especially over Mali, while easterlies will dominate equator-ward. Likewise, a large part of southern Africa is expected to be influenced by a subtropical anticyclone to the south of which, a westerly wave is expected to prevail.

T+48h, the flow pattern will remain quasi-stationary, i.e. similar to the previous day. But the trough over Mali is expected to move slightly to the west.

T+72h, the wind flow pattern is expected to remain as that of the previous day, but the trough over Mali is expected to fill up.

Authors:

- 1- Hilaire Elenga (Direction de la Meteorologie Nationale du Congo Brazzaville and African Desk).*
- 2- George Stafford (Department of Water Resources, The Gambia and African Desk).*