



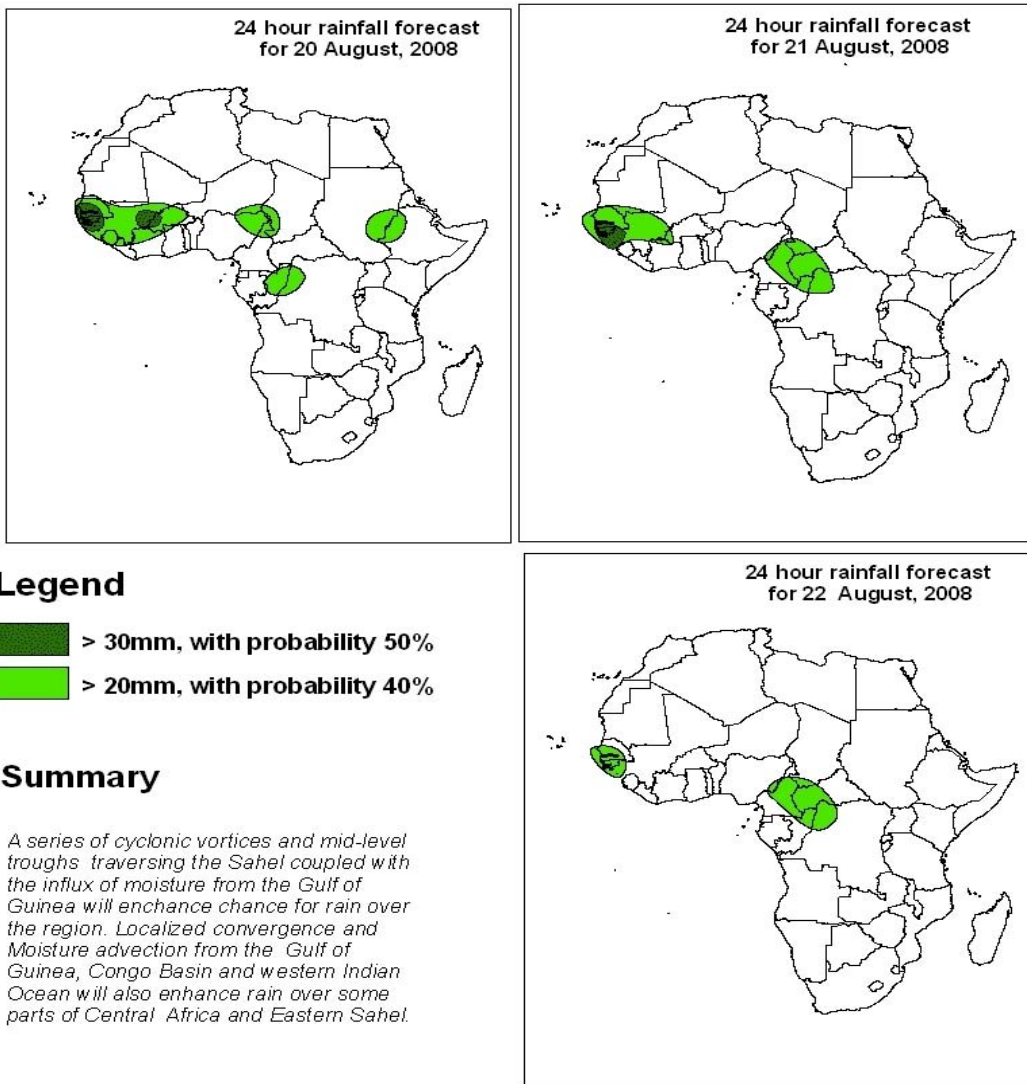
Forecast Guidance for Africa

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

FORECAST DISCUSSION 14H00 EST, 19th AUGUST 2008
Valid: 00Z 20th August – 22nd 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; 20th 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, the Saharan anticyclonic circulation is expected to be centered over northern Algeria hence, generating the flow over the Maghreb region. Northerly component airstreams will prevail over Egypt. A series of cyclonic vortices are featured over southern Mali, central Niger, northern border between Chad and Sudan, and northern Nigeria. Localized convergence will occur over Guinea Conakry, western sectors of Ethiopia, Congo, northwestern and southern DRC, northern and western Angola. On the contrary localized divergence will occur over southern Sudan and central DRC. A cut-off cyclonic circulation will be featured off western coast of South Africa while southern coast of Madagascar will be affected by the passage of a trough. The rest of the Southern African region will be under the influence of the Mascarene anticyclonic circulation system.

T+48, a cyclonic circulation is expected to develop over northern Algeria. Although it's expected to weakening the Saharan anticyclonic system over this area, the anticyclonic circulation will strengthen further to the east due to the development of a divergence over the northern border between Libya and Egypt. The cyclonic vortices featured over the Sahel during the previous day will propagate westwards except for the one over northern Chad/Sudan which is expected to be quasi-stationary. The one over northern Nigeria will decay; whereas new ones will evolve over western Mauritania, The Gambia and northern Cameroon. Localized convergence will be featured between the borders of Niger and Burkina, eastern Sudan, eastern Ethiopia, Rwanda, southern DRC, and northern/western Angola; whereas localized divergence will prevail over southern Sudan and central DRC. The western sectors of Southern Africa will be under the influence of a back hanging mid-latitude trough while, the rest of the region will be dominated by the Mascarene anticyclonic system.

T+72, the flow over much of North Africa is expected to be dominated by the Saharan anticyclonic system. However, a cyclonic circulation is expected to develop over the Mediterranean coast of Egypt. Cyclonic vortices will persist over Senegal/The Gambia, northern Chad/Sudan and northern Cameroon, with new ones developing over Burkina/Benin, northeastern Sudan and eastern DRC. Localized divergence is expected to prevail over the stretch between western Mauritania onto central Chad, Nigeria, central Cameroon southern Sudan, southern Congo and central DRC; whereas localized convergence will persist over northwest DRC and over northern Angola. A mid-latitude trough is expected to affect the western coastal sectors of Southern Africa while the Mascarene anticyclonic system will dominate the flow over the rest of the region.

2.2. Flow at 500hPa:

T+24, the flow over Northern Africa is expected to be dominated by a Sub-Tropical anticyclonic system with center over Algeria. However, a trough will be featured over eastern Egypt. South of the anticyclonic systems lies the easterlies with a shortwave centered off the coast of Senegal, northern Nigeria/southern Niger and southwestern Chad. Cyclonic circulation is expected over southeastern Nigeria. An anticyclonic circulation will dominate the flow over the northern sectors of Southern Africa; whereas, a westerly wave will characterize the flow to the south.

T+48, an omega block pattern is highly expected, with the Sub-Tropical anticyclonic system over the Maghreb flanked by two troughs centered over northeastern Atlantic and eastern Egypt respectively. A shortwave will be featured over western Mali while the cyclonic circulation over southern Nigeria is expected to persist. Confluent flows are likely over Guinea Conakry/Sierra Leone Gabon and eastern Ethiopia. The flow over Southern Africa will be similar to that of the previous day except for the back hanging mid-latitude trough featured off the western coast.

T+72, not much changes are expected on the flow as compared to that of the previous day except for the pronouncement of the trough over Libya/Egypt. The shortwave over Mali will propagate steadily westwards and will be centered over western Senegal. The cyclonic circulation over southern Nigeria will decay while the back hanging trough over the southeast Atlantic will weaken.

2.3. Flow at 200hPa:

T+24h, an extensive upper level anticyclonic flow pattern will prevail over northern Africa. A short wave trough is expected to develop over central Mali. 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 wind flow pattern is expected to remain as that of the previous day, but a short wave trough over central Mali is expected to move to the northwestern.

T+72h, the flow pattern will similar to the previous day, but the short wave trough over northwestern Mali is expected to move to the northeastern.

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