



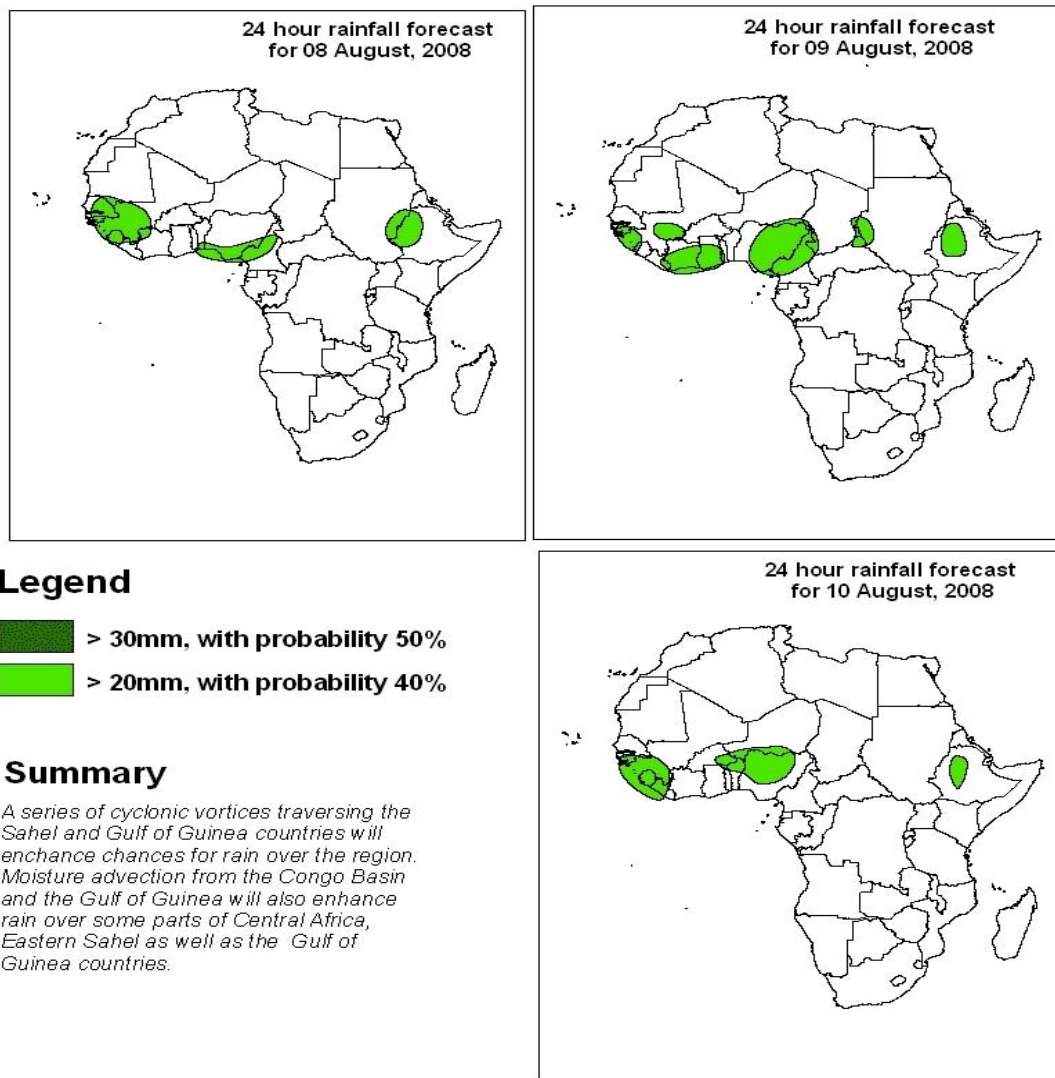
Forecast Guidance for Africa

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

FORECAST DISCUSSION 14H00 EST, 07th AUGUST 2008
Valid: 00Z 08th August – 10th 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; 08th 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 Azores and Saharan anticyclonic circulations are expected to be centered over north-eastern Atlantic and off the northern coastline of Tunisia respectively, separated in between by a mid-latitude trough over northern Morocco. Northerly component airstreams will dominate the flow over much of Libya and Egypt. A Series of cyclonic vortices and localized convergence will develop over the Sahel and Gulf of Guinea countries. Anticyclonic flow patterns will occur over western Mauritania, southern Burkina and northern DRC, while diffluent flow-lines will affect southern Sudan. Localize convergence is expected also over north western DRC, Lake Victoria and northern Angola. A cyclonic flow is expected off the northwest coast of South Africa and a trough touching the southern tip of Madagascar. The rest of Southern Africa will be under the influence of the Mascarene anticyclone with a westerly wave to the south.

T+48h, the Azores and Saharan anticyclonic systems will remain quasi- stationary over their respective positions. A cyclonic circulation will develop off the northwestern coast of Morocco. Cyclonic Vortices will develop over central Mauritania, eastern Niger, Guinea and over northern Ghana while, the anticyclonic vortex over DRC will move north to southeastern CAR. Localized convergence is expected over Mali, Niger, northern Sudan, Ethiopia, northern Congo and southeastern Uganda. On the contrary, diffluent flow will develop over central DRC and Mozambique. The Mascarene anticyclone over Southern Africa will shift slightly eastwards while weakening and giving way to a mid-latitude trough over the eastern part of South Africa. The St. Helena anticyclonic system will also move eastwards over the South Atlantic Ocean extending its ridge into western Southern Africa.

T+72h, the circulation systems over North Africa will be similar to that of the previous day. However, cyclonic vortices will develop over southwestern Algeria, central Niger and Sierra Leone. Localized convergence will be featured over Burkina, northern Sudan, Ethiopia and western DRC while the anticyclonic vortex over CAR and central DRC will prevail. The St. Helena anticyclonic system will move further eastwards into the continent dominating the entire flow over Southern Africa with the persistence of a westerly wave to the south.

2.2. Flow at 500hPa:

500 hPa:

T+24h, an anticyclonic circulation is expected to be located over Morocco with cyclonic vortices to the left and right over the Azores Islands and central Algeria respectively. A mid-latitude trough will be featured over eastern Libya and northern Egypt; while to its

southeast, an anticyclonic system is expected to dominate the flow over southern Egypt and northern Sudan. The easterly flow south of the Subtropical ridge systems will be characterized by short waves, with trough axis centered over Burkina Faso and eastern Chad. To the west of these axes will be diffluent flow-lines, which are also featured over Ethiopia and Uganda. Cyclonic circulations are expected over southwestern Nigeria central Sudan and southeastern Angola. An anticyclonic Circulation will dominate the flow over much of southern Africa with the exception of the southern sectors which will be under the influence of the westerly wave and a trough over the southeastern Atlantic.

T+48h, the anticyclonic circulation system over Morocco will merge with that over the north Atlantic. The rest of the major circulation features over North Africa will remain quasi-stationary. A series of shortwave troughs will develop over northern Senegal, Cote D'Ivoire eastern Nigeria stretching into northeastern Niger and western Sudan. The cyclonic system over southern Nigeria will prevail. The entire northern half of southern Africa will be under the influence of an anticyclonic system, while the southern part will be under the influence of a westerly wave and the troughing over the eastern Atlantic.

T+72h, the Trough over Libya/Egypt will propagate eastwards while another will develop off the Moroccan coast. To the south of these mid-latitude systems lies a belt of anticyclonic systems stretching eastwards from the north Atlantic onwards into Arabia. Shortwave troughs are expected within the easterly flow with their axes centered over northern Mali, Niger and southern/eastern Chad. Much of the Southern Africa will be under the influence of anticyclonic circulation systems with the exception of southern parts of Namibia stretching onwards to parts of southern Mozambique which will be under the influence of a trough axis.

2.3. Flow at 200hPa:

T+24h, an extensive upper level anticyclonic flow pattern will prevail over northern Africa with a trough over the northwestern Morocco; 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 northwestern Morocco is expected to decay.

T+72h, the wind flow pattern is expected to remain as that of the previous day, but a small trough is expected to develop over central Mauritania.

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