



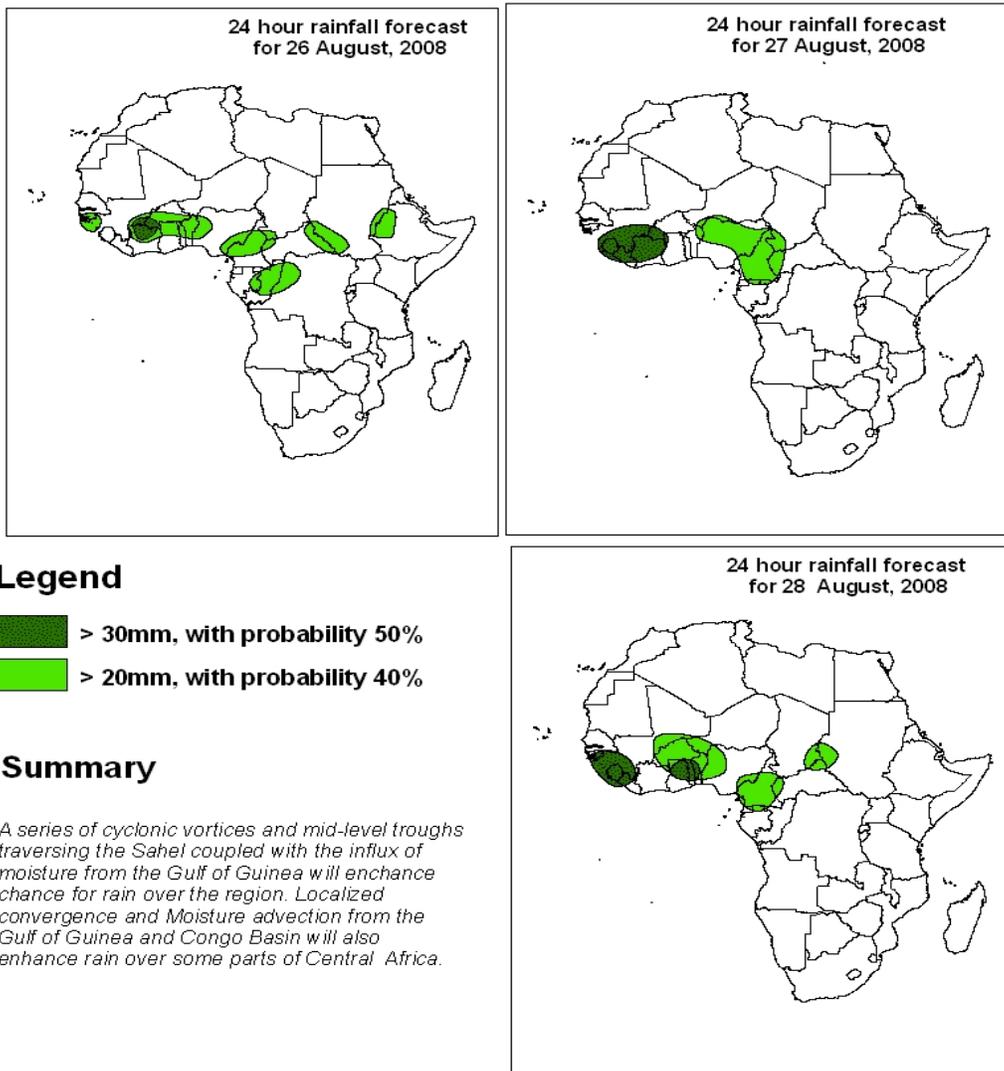
Forecast Guidance for Africa

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

FORECAST DISCUSSION 14H00 EST, 25th AUGUST 2008
Valid: 00Z 26th August – 28th 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; 26th 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 Tunisia thus influencing the flow over much of North Africa except Morocco and Western Sahara wherein a cyclonic circulation is expected to dominate the flow. Cyclonic vortices are featured off-shore between the northern coast of Senegal and Mauritania, and over eastern Mali, northeastern Chad and southwestern Nigeria. Localized convergence is likely over Guinea Bissau, central Niger, southeastern Nigeria, central Chad, eastern Sudan, western Ethiopia, eastern Cameroon, southern CAR, Congo, much of DRC and central Angola. Localized divergence is likely over western Chad, southern Sudan and central DRC. The eastern sector of Southern Africa will be under the influence of the Mascarene anticyclonic system. However, the western and southern sectors will be dominated by cyclonic circulations.

T+48, the Saharan anticyclonic circulation will intensify while the cyclonic circulation over Morocco will fill-up and move northwards to be centered along the coastline. The cyclonic vortex featured over Mali will decay; the one over Nigeria is expected to propagate northwestwards to northwestern Cote d'Ivoire while that over northeastern Chad will remain stationary. An anticyclonic vortex is expected to develop over southern Sudan. Localized convergence is likely to occur over southern Niger, eastern Sudan, Central Ethiopia western CAR, Gabon, southern DRC and central Angola; whereas localized divergence will prevail over western Mauritania, southern Ethiopia and the northern sectors of DRC. The wind flow pattern over much of Southern Africa will be under the influence of the Mascarene anticyclone system except for the northwestern sector which is likely to have some effects from the St. Helena's ridge and the southwestern by a mid-trough.

T+72, a similar flow to that of the previous day will prevail over North and Southern Africa although the Saharan anticyclonic system will continue to intensify and is likely to merge with the Azores anticyclonic circulation over the North Atlantic Ocean. The cyclonic vortex over Cote d'Ivoire will propagate further westwards to Guinea/Sierra Leone and that which was stationary over northeastern Chad is expected to decay. Others will evolve over central Mauritania, northern Benin and northeastern Sudan. The anticyclonic vortex over southern Sudan will decay but the entire surroundings including southern Ethiopia CAR and DRC will experience localized divergent flows. Conversely, Localized convergence will prevail over southern Mauritania, central Sudan, Cameroon and western/southern DRC. A similarly flow pattern will prevail over southern Africa as compared to that of the previous day. Although the mid-latitude trough is expected to extend further inland.

2.2. Flow at 500hPa:

T+24, an extensive Sub-Tropical anticyclonic circulation system stretching from the north Atlantic into Arabia is expected to prevail over Northern African. However, it is expected to be split by a cyclonic circulation centered over northern Egypt. South of the anticyclonic system laid the easterlies, in which shortwave troughs are embedded with their axes centered over southwestern Ghana onto northern Benin, southern Chad, southern Sudan, and central CAR. Confluent flows are likely to occur over southern Nigeria, Cameroon and eastern CAR while diffluent flows will occur over northeastern DRC. Apart from the cyclonic circulation featured over the northern Mozambique Channel, much of the northern sectors of Southern Africa will be under the influence of a Sub-Tropical anticyclonic system while the southern sectors will be dominated by a westerly wave.

T+48, similar flow patterns to that of the previous day are expected over Northern and Southern Africa. However, the cyclonic circulation featured over Egypt will further split the Arabian anticyclonic system. The shortwave troughs that were over Ghana, Chad and CAR are expected to persist and propagate westwards. The former will be featured between the border of Guinea/Cote d'Ivoire and the latter two will merge over eastern Nigeria. The cyclonic vortex over the Channel is expected to shift slightly north to the southern coast of Tanzania.

T+72, not much changes are expected on the general flow as compared to that of the previous day. However, the shortwave troughs will continue their westward propagation while cyclonic circulations will develop over Benin and northern Sudan.

2.3. Flow at 200hPa:

T+24h, two massive upper level anticyclonic flow pattern are expected to prevail over Northern Africa with centers off the coast of Western Sahara and Libya/Egypt. These two systems are being separated by an upper- level trough with its axis centered meridionally across Algeria. Conversely, the northern parts of southern Africa will be under the influenced of a Sub-Tropical anticyclonic system, while a westerly wave will dominate to the south.

T+48h, the flow pattern will be similar to that of the previous day, although the upper-level trough over Algeria is expected to steepened and slant eastwards. Diffluent flow patterns will be likely over the western Gulf of Guinea Countries and over western Niger and environs. A shortwave trough will be featured over southern Sudan/ Ethiopia.

T+72h, the upper-level trough axis will lean further eastwards hence deepening and influencing the flow over much of the Maghreb region. Diffluent flows are likely to occur over much of the western and central Sahel. A deep trough is expected over the east African coast generated by the westerly wave as a result of a weakening of the Sub-Tropical anticyclonic system over the region.

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