



Forecast Guidance for Africa

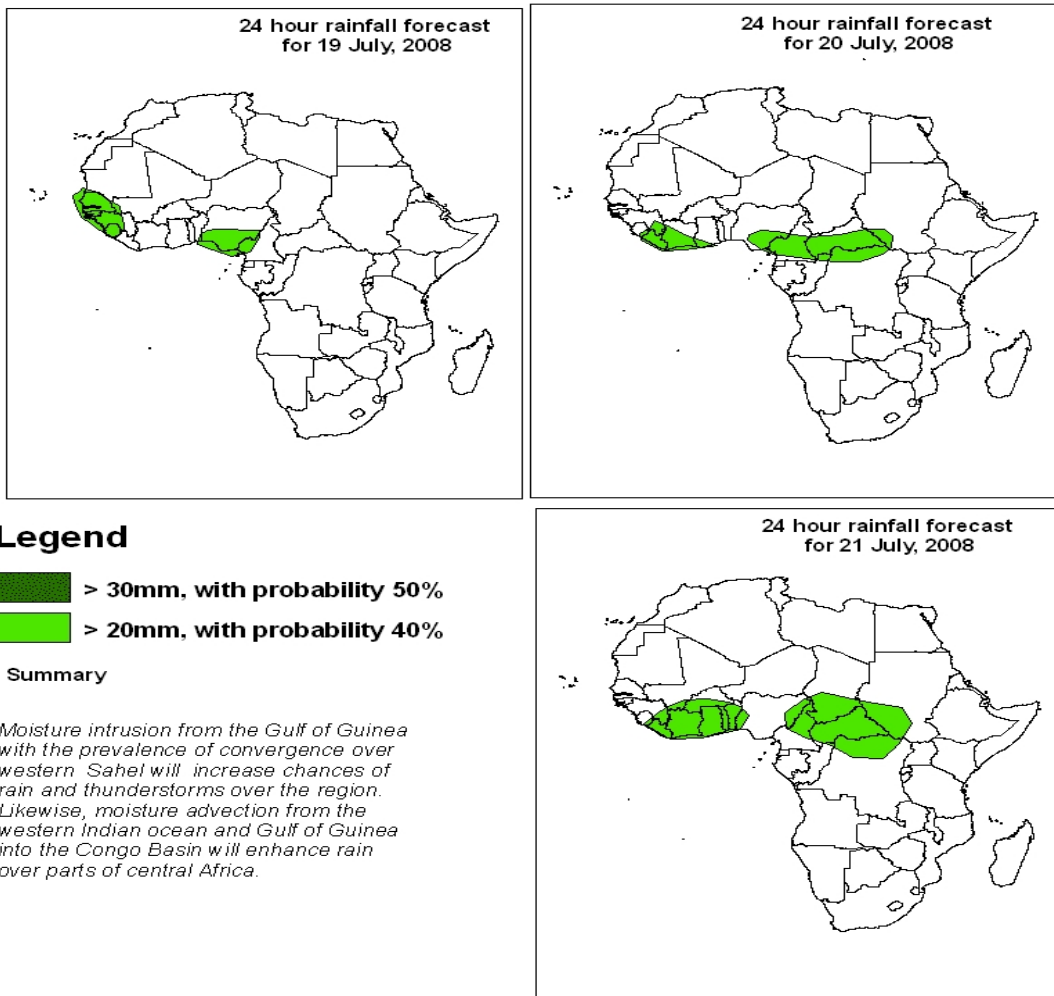
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

FORECAST DISCUSSION 14H00 EST, 21 JULY 2008

Valid: 00Z 22 – 24 JULY, 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; 22 July 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, while influencing the flow over the entire North African region. An anticyclonic circulation will be featured between the southern coast of Cote D'Ivoire and Ghana while another will be over the border of Sudan and DRC. A cyclonic circulation will be featured over Senegal, central Niger and northwestern Chad; whereas localized convergence is expected over eastern Ethiopia, southeastern Nigeria, Congo and Uganda. Diffluent flow is expected over western Mali and southern Egypt. The entire southern portions of Southern Africa will be under the influence of the Mascarene anticyclone.

T+48h, the Saharan anticyclonic circulation over Maghreb region will prevail while that over Cote D'Ivoire/Ghana will propagate westwards into the Atlantic. The cyclonic circulation systems over Sahel will deepen while propagating westwards. New cyclonic circulations will develop over southern Nigeria while localized convergences are expected over the Congo Basin, western Sudan and eastern Ethiopia. The Mascarene anticyclonic circulation will remain quasi-stationary over south of Southern Africa.

T+72h, the Saharan anticyclonic circulation over Maghreb will persist. However, a trough will affect the northern portions of Morocco. The cyclonic vortex over Mali will continue to propagate westwards and will be located over southeastern Mauritania, another one is expected to evolve over northeastern Sudan. Localized convergence will form over Benin and stretching into the borders of Burkina/Niger, western Sudan, eastern Ethiopia, eastern DRC and over the coastal sector of Angola. The influence of Mascarene anticyclonic system over Southern Africa will propagate eastwards hence giving way to a trough along the western coastline.

2.2. Flow at 500hPa

T+24h, much of northern Africa will be under the influence of an anticyclonic system, with a cyclonic circulation over southern Egypt and a short wave trough over Senegal/Gambia. Confluent flow is expected over Lake Victoria/ western Kenya and over Zambia. Central southern Africa will be under the influence of an anticyclonic circulation while a westerly wave will prevail to the south.

T+48h, the anticyclonic circulation system is expected to prevail over the Maghreb region while retreating northwards, except over Senegal where its ridge will still influence the flow. Diffluent flow will prevail over northern Chad, Sudan and DRC; whereas confluent flow is expected to prevail over the northern sector of southern Africa. The anticyclonic circulation over central South Africa will move slightly southeastwards and intensify, while northwesterlies will prevail over to the west of South Africa.

T+72h, the flow pattern will remain quasi-stationary over most parts of Africa. Confluent flow is expected to evolve over Ghana/Togo, while that over southern Ethiopia will persist. On the contrary, diffluent flow will persist over Sudan and DRC. An anticyclonic circulation will characterize the flow over central Southern Africa with cyclonic vortices dominating to its immediate north and northwesterlies to the south.

2.3. Flow at 200hPa

T+24h, an extensive upper level subtropical anticyclonic flow pattern is expected to prevail over the entire northern Africa with a mid-latitude trough featured off Morocco/Western Sahara coast. Easterlies will dominate equator-ward of the subtropical anticyclone with diffluent flow featured over western Chad and over Senegal. The entire Southern African region is expected to be under the influence of an anticyclonic system centered over Burundi with a westerly wave to the south.

T+48h, the subtropical anticyclonic systems over Africa will extend westward, pushing the trough off Morocco further into the Atlantic Ocean. Diffluent flow patterns will be featured over western Mali and Nigeria, while confluent flows are expected over northern sectors of Kenya, Uganda, DRC and northern Mozambique. A cyclonic circulation will evolve off the coast of Kenya; whereas, the westerly wave will dominate the flow over much of Southern Africa.

T+72h, the flow pattern will be similar to that of the previous day over North Africa.

The central regions of East Africa and southern Africa will be under the influence of cyclonic circulation systems whereas an anticyclonic circulation will dominate the flow off the Angolan coast and environs with the persistence of the westerly wave over south of southern Africa.

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