



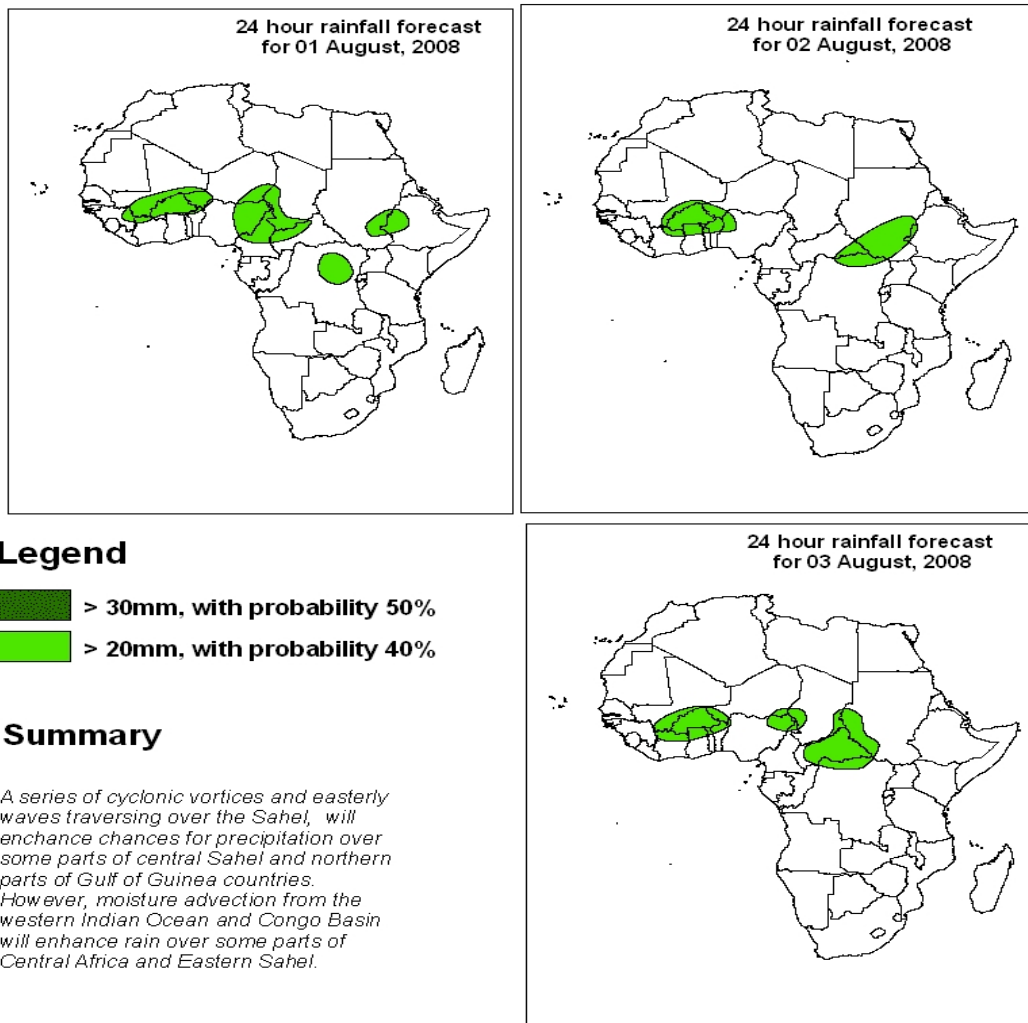
## Forecast Guidance for Africa

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

**FORECAST DISCUSSION 14H00 EST, 31<sup>st</sup> JULY 2008**  
**Valid: 00Z 01<sup>st</sup> August – 03<sup>rd</sup> 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; 01<sup>st</sup> 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 with northerlies to the east over Algeria, Libya and Egypt. An anticyclonic circulation is expected to develop off the coast of Guinea. 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 which will merge, while a westerly wave is expected to dominate the southern part.

T+48h, the flow pattern is expected to be similar to that of the previous day. However, St Helene anticyclone is expected to move eastwards causing the westerly wave trough to also move eastwards to become south westerlies.

T+72h, the flow pattern is expected to remain as that of the previous day, but, St Helene anticyclone is expected to continue moving eastward over southern Africa.

### 2.2. Flow at 500hPa:

T+24h, an anticyclonic circulation system is expected to dominate the general flow pattern of North Africa with a short wave penetrating through Libya from the Mediterranean Sea. A cyclonic vortex is expected to develop on the southeastern side of Egypt and northeastern Sudan borders. Kenya and Somalia are expected to be under the influence of a trough. While the St Helene and Mascarene anticyclones are expected to influence a large part of southern Africa, a westerly flow pattern will prevail to the south with a narrow trough from Madagascar through the channel to northern Mozambique where a cyclonic vortex will develop and influence southern Tanzania.

T+48h, the flow pattern is expected to be similar to that of the previous day, but the trough over the Mediterranean Sea is expected to retreat northwards a little.

T+72h, no much change is expected from the flow of the previous day, except the trough over northeastern Libya is expected to retreat into the Mediterranean Sea and the trough over Kenya and Somalia will decay.

### **2.3. Flow at 200hPa:**

T+24h, an extensive upper level anticyclonic flow pattern will prevail over much of northern Africa, except over Tunisia, northern Algeria and Morocco which are expected to be influenced by a trough. Another trough is expected to influence over Mali and eastern Mauritania. Easterlies will dominate equator-ward of the subtropical anticyclones, and a westerly wave is expected to prevail over southern Africa with a trough over southern Mozambique.

T+48h, the flow pattern will remain quasi-stationary, i.e. similar to the previous day. But the trough over Mali will move westwards to eastern Sahara, Mauritania and Senegal.

T+72h, the wind flow pattern is expected to remain as that of the previous day. The trough over eastern Sahara, Mauritania and Senegal is expected to fill up.

#### *Authors:*

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