



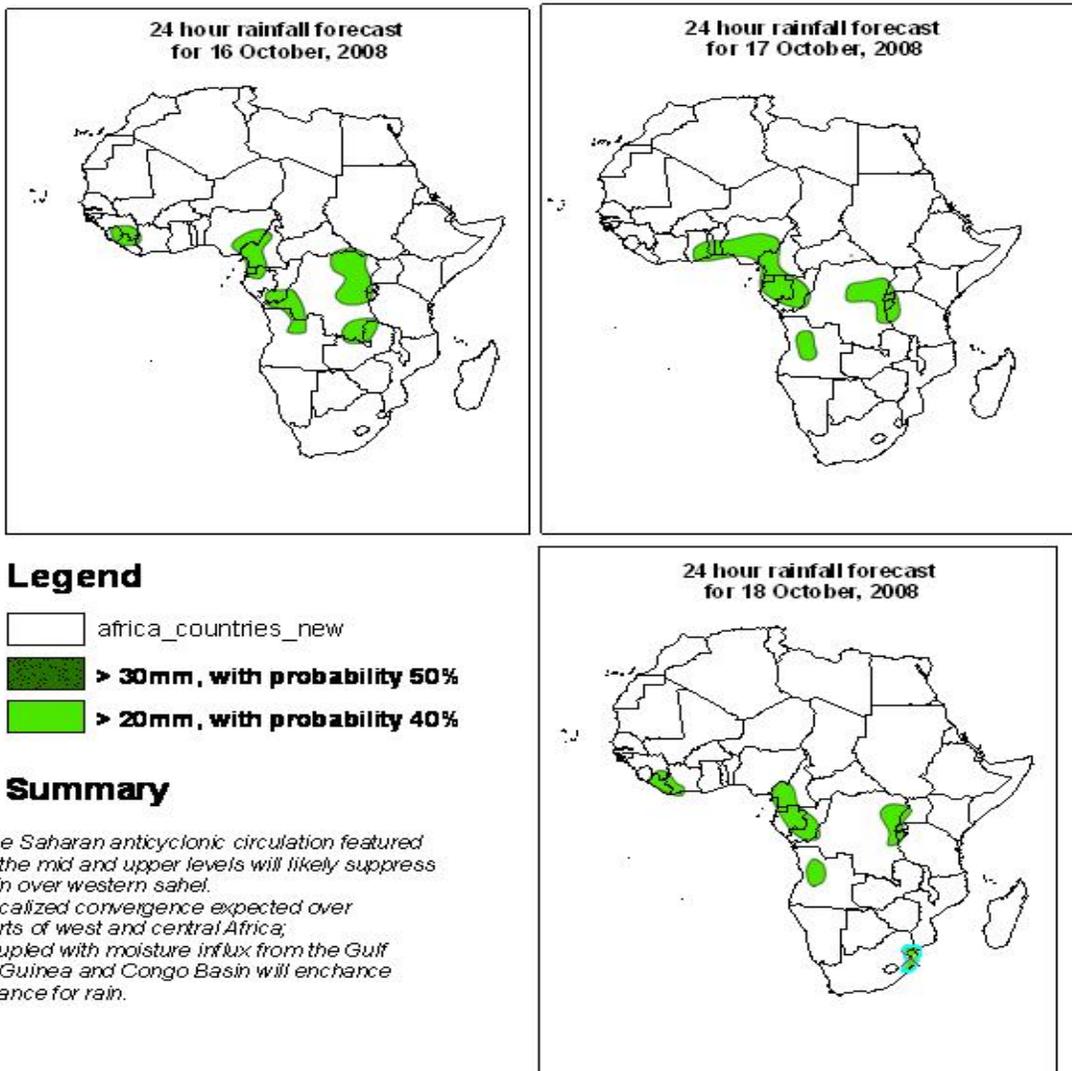
## Forecast Guidance for Africa

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

**FORECAST DISCUSSION 14H00 EST, 15<sup>th</sup> OCTOBER, 2008**  
**Valid: 00Z 16<sup>th</sup> OCTOBER – 18<sup>th</sup> OCTOBER, 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; 16<sup>th</sup> October, 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 Subtropical anticyclone is expected to dominate over much of northern Africa. To the South, the subtropical anticyclone easterlies are expected to prevail with localized convergences over the border between western Uganda and eastern Kenya, the Lake Victoria region and over southeastern and confluent flows over northern Sudan, western Ethiopia, southeastern DRC and over southeastern Namibia. Divergent flows are likely to occur over southwestern Mauritania and over central Chad. Southern Africa will be under the influence of the Santa Helena and Mascarene anticyclonic circulation systems with westerly wave to the South.

T+48, The Saharan subtropical anticyclone will prevail over much of northern Africa and a trough will affect the northern Algeria. Easterlies will prevail equator wards. Convergence is likely to occur over southern Morocco, western Sudan, northwestern DRC and over the Lake Victoria region with confluent flows over southwestern Algeria onto northern Mali, western Niger, southwestern Mali onto eastern Senegal, southeastern DRC and over eastern Namibia. Divergent flows will be featured over western Chad and over central coast of Angola. The southern African region is expected to be dominated by the merger of the Santa Helena and Mascarene anticyclones.

T+72, The Saharan subtropical anticyclone will prevail over much of North Africa and the trough over northern Algeria will strengthen and expand southwestwards and cover most of Morocco Western Sahara and western Algeria. Convergence is likely to occur over Lake Victoria region and over southeastern DRC with confluent flows over central Mali, western Sudan, northeastern Cameroon, northern DRC, eastern Angola and over western Namibia. On the other hand, divergence will be featured over central Algeria, central Sudan, southern Gabon and central coast of Angola. Southern Africa will be under the influence of the merger of the Santa Helena and Mascarene Anticyclones; with a mid-latitude trough likely to affect the flow over the Indian Ocean.

### **2.2. Flow at 500hPa:**

T+24, a closed cyclonic circulation will affect the flow over most of Morocco and western Algeria, while the rest of North Africa will be under the influence the Saharan anticyclonic circulation. Convergence is likely to occur over northern Senegal and over western Zambia with confluent flows over northwestern Mauritania, northeastern Mali onto southwestern Algeria, the tip of Somalia, northern DRC, northeastern Angola and over southeastern Namibia. Conversely, divergent flow will be featured over western Ethiopia and over central DRC. Southern Africa will be dominated by an anticyclonic circulation system and the mid latitude trough wave will affect the flow over southeastern South Africa.

T+48, a trough will affect the flow over most of Morocco, northwestern and central Algeria and over most of Tunisia, while the Saharan anticyclonic circulation will prevail over the rest of North Africa. Convergence will be featured over the channel of Mozambique with confluent flow patterns over eastern Western Sahara, central Mauritania, southeastern

Egypt, southwestern Chad, northeastern Gabon, northeastern DRC and over the Lake Victoria region. Conversely, divergent flow will be featured over western Sudan, northern Cameroon, and over southwestern Ethiopia.. Most of Southern Africa will be under the influence of an anticyclonic circulation system with a westerly wave affecting southern South Africa.

T+72, the cyclonic circulation over western Maghreb will weaken and retreat northwards but still prevail over part of Morocco and northern Algeria, while the rest of North Africa is likely to be under the influence of the Saharan anticyclonic circulation system.

Convergence will be featured over northeastern DRC and over western Madagascar with confluent flows over central Mauritania, western Sudan onto eastern Chad southeastern Kenya and over the Lake Victoria region. Uganda. Localized divergence will be featured over the border between southeastern Sudan and western Ethiopia and over north CAR. Southern Africa will be dominated by the Santa Helena and Mascarene anticyclonic circulation systems with westerly wave to the South.

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

T+24h, Most of North Africa will be under the influence of a westerly wave with an upper level trough over most of Morocco, northern Western Sahel, northern Algeria and over northern Tunisia. To the South an upper-level anticyclonic circulation will prevail. Confluent flows are likely to occur over northeastern Egypt, central Mali, central Niger, southwestern Sudan, southeastern DRC and over northeastern Mozambique. Divergence will be featured over western Gulf of Guinea and over western CAR. The mid-latitude westerly wave will dominate the flow over southern Namibia, most of South Africa and over southern Madagascar.

T+48h, the westerly wave will dominate the flow over North Africa and the cyclonic circulation over Morocco will remain in the same position. An upper-level anticyclonic circulation will prevail over Central Africa. Confluent flow will be featured over eastern Senegal onto southwestern Mauritania, northeastern Mali, northeastern western Ethiopia, central CAR, central Uganda and over central DRC. Conversely, localized divergence is expected over northeastern DRC and over northeastern Zambia. The mid-latitude westerly wave will propagate northwards and cover most of Southern Africa.

T+72h, the westerly wave will prevail over North Africa and the trough over Morocco will weaken and move eastwards covering northern Algeria. An anticyclonic circulation is expected to dominate the flow over Central and Southern Africa. Confluent flows will be featured over northeastern Mali, western Chad onto northeastern Nigeria, northwestern CAR, northeastern Uganda and over northeastern coast of Tanzania. On the other hand, divergence is likely to occur over western Chad and over Central Sudan. A mid-latitude trough will r affects the flow over the Indian Ocean.

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