



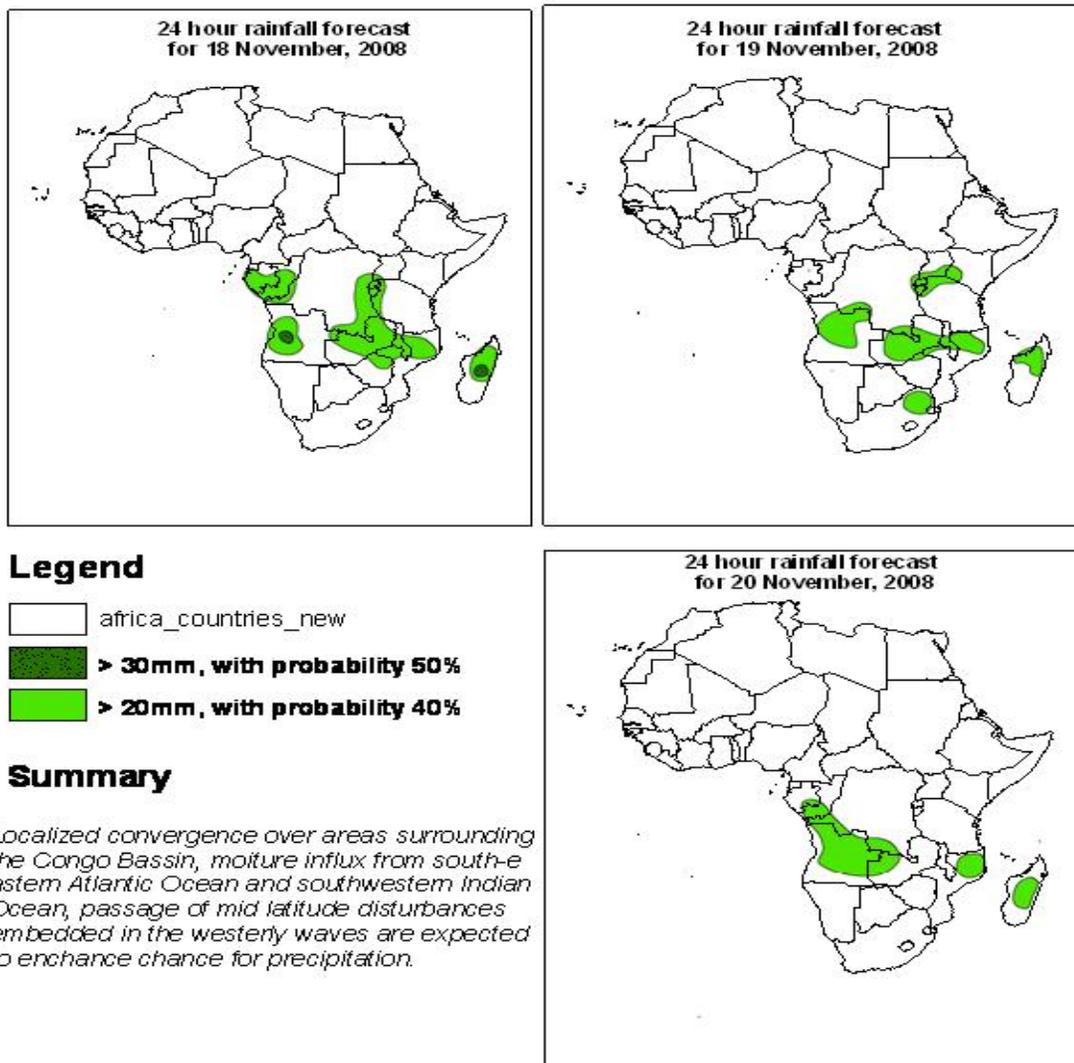
## Forecast Guidance for Africa

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

**FORECAST DISCUSSION 14H00 EST, 17<sup>th</sup> NOVEMBER, 2008**  
**Valid: 00Z 18<sup>th</sup> NOVEMBER – 20<sup>th</sup> NOVEMBER, 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; 18<sup>th</sup> November, 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 flow over much of North and West Africa is expected to be dominated by the Saharan anticyclonic circulation system. A trough from the Mediterranean Sea will affect northern Libya. Localized convergence is likely to occur over northern Angola, northwestern Zambia, eastern Namibia, northeastern South Africa and over northern Madagascar. Confluent flows are expected to occur over western Sudan, western Ethiopia, central Cameroon, northwestern CAR, central Congo, eastern DRC, western Tanzania, southeastern DRC, southern Angola, southwestern Zambia and over northeastern South Africa. On the other hand, localized divergence is expected to occur over northeastern Namibia. Diffluent flows will be featured over northeastern Sudan, northeastern DRC and over southern Somalia. Much of Southern Africa will be under the influence of the St. Helena anticyclonic circulation systems with a trough in the westerly wave over the southern Madagascar.

T+48, the Saharan anticyclonic circulations will continue to prevail over much of North and West Africa. The trough over northern Libya will expand eastwards to northwestern Egypt. An anticyclonic vortex is likely to develop over central DRC. Localized convergence is expected to occur over northeastern CAR, northwestern Congo, western Tanzania, northwestern Zambia and over southern Angola. Confluent flows are expected to occur over western Cameroon, western Ethiopia, northeastern DRC, southeastern Uganda, central Angola, western Zambia, northern Mozambique and over western Namibia. Diffluent flows will be featured over northeastern Sudan, southwestern Zambia and over northeastern Namibia. The flow over much of Southern Africa will be dominated by the St. Helena except for Madagascar which will be affected by a trough in the westerly wave.

T+72, the Saharan anticyclonic circulation system is expected to intensify. The trough over northern Libya will weaken and retreat northeastwards to Tunisia and northeastern Algeria. A closed cyclonic circulation will be featured over southern Algeria and northeastern Mali. A cyclonic vortex is likely to develop over the southern coast of Western Sahara, while anticyclonic vortices will be featured over northeastern and southwestern DRC. Convergence is expected to occur over central Angola, southeastern DRC and over southwestern Namibia. Confluent flows are likely to occur over eastern Chad, southeastern Sudan, central CAR, southern Ethiopia, southwestern DRC, western Tanzania, southern Angola and northwestern Namibia. On the other hand, diffluent flows will be featured over northeastern Sudan, central Ethiopia, southeastern Nigeria, southern Somalia, northeastern Namibia and central Mozambique. Much of Southern Africa will be under the influence of the St. Helena and Mascarene anticyclonic circulations with a westerly wave to the South.

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

T+24, a westerly wave in which a trough is embedded over western Maghreb will dominate the flow over much of North Africa. To the South, a sub-tropical anticyclonic circulation system will prevail. A closed cyclonic circulation will affect southeastern Sudan, northern Uganda and northwestern Kenya. An anticyclonic vortex is likely to develop over northern DRC. Confluent flows will be featured over eastern Nigeria, southern Ethiopia, northeastern and southeastern DRC, southern Kenya southeastern Tanzania and over

northern Madagascar. Diffluent flows will be featured over southwestern CAR, central Somalia and over the southern sector of DRC. Much of Southern Africa will be dominated by the St. Helena anticyclonic circulation system, while a westerly wave is expected to dominate the southern sectors.

T+48, a westerly wave will dominate the flow over much of North Africa. The trough over western Maghreb will move eastwards to northwestern Libya. To the South, a sub-tropical anticyclonic circulation will prevail. A cyclonic vortex is likely to develop over southern Sudan. Convergence will be featured over southern Angola and over the northern sector of Namibia. Confluent flows are likely to occur over southeastern Nigeria, northeastern Congo, southern Ethiopia, southwestern Tanzania, eastern Namibia and over eastern Ethiopia. Diffluent flows are expected to occur over northeastern DRC and over northern Angola. Much of Southern Africa will be under the influence of the St. Helena and Mascarene anticyclonic circulation with a westerly wave to the South.

T+72, the trough in the westerly wave over western Maghreb is expected to strengthen and expand westwards. A Sub-tropical anticyclonic circulation system will dominate the flow over the rest of North Africa. Convergence will be featured over the Lake Victoria region and over western Angola. Confluent flows are expected to occur over northwestern Congo, western Tanzania, northwestern Angola, southeastern DRC and over the northern Mozambique Channel. Diffluent flows are likely to occur over southern Sudan, central DRC and over southwestern Zambia. The flow over much of Southern Africa will be dominated by the St. Helena and Mascarene anticyclonic circulation systems. To the South, a westerly wave will prevail

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

T+24h, a westerly wave with an embedded trough over northeastern Algeria and Tunisia will dominate the flow over much of North Africa. To the south, an anticyclonic circulation system will prevail. A cyclonic vortex will be featured over western DRC. Confluent flows will be featured over southern DRC and over northwestern Zambia. Divergence is likely to occur over western Angola. The flow over much of Southern Africa will be dominated by an anticyclonic circulation, while a westerly wave will affect the southern sector.

T+48h, the trough in the westerly wave over northeastern Algeria will expand westwards to northern Morocco. To the South, an anticyclonic circulation system will prevail. Confluent flows are expected to occur over northeastern DRC onto northwestern Uganda, southern Congo, northern Tanzania and over southeastern DRC. Divergence is likely to occur over northeastern central DRC, and over southwestern Zambia. Much of Southern Africa will be under the influence of an anticyclonic circulation, while the southern sector is likely to be dominated by a westerly wave.

T+72h, a westerly wave will prevail over North Africa and the trough over western Maghreb will expand westwards, while another one will be featured over eastern Ethiopia and northern Somalia. An anticyclonic circulation is expected to dominate the flow to the South. Confluent flows are expected to occur over southern northern CAR, southeastern DRC and over eastern Tanzania. Divergence is likely to occur over central DRC and northern Angola. The flow over much of Southern Africa is expected to be dominated by an anticyclonic circulation except for the southern sector which will be under the influence of a westerly wave over northern Mozambique and southern Tanzania.

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