



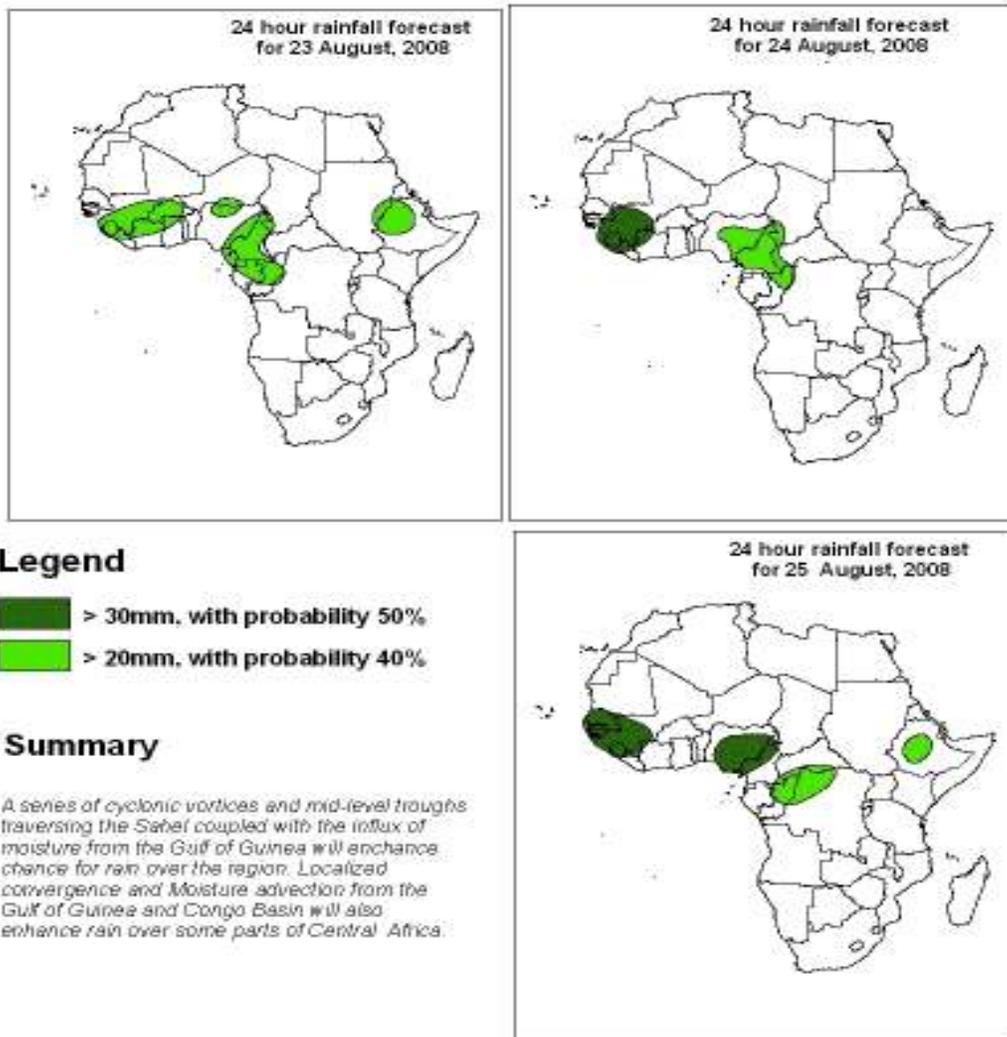
## Forecast Guidance for Africa

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

**FORECAST DISCUSSION 14H00 EST, 22<sup>nd</sup> AUGUST 2008**  
**Valid: 00Z 23<sup>rd</sup> August – 25<sup>th</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; 23<sup>rd</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, the Saharan anticyclonic circulation is expected to be centered over northern Algeria thus influencing the flow over the area. Northerly component airstreams will prevail over southern parts of Morocco, eastern Libya and Egypt. Cyclonic vortices are featured off the coast of Senegal, central Mauritania, southern Mali, including northwestern and northeastern Sudan. Localized convergence is likely over eastern Chad, eastern Ethiopia, Cameroon and Congo, whereas localized divergence is likely over eastern Senegal, western CAR, southern Sudan and central DRC. Much of Southern Africa will be under the influence of the Mascarene anticyclonic system centered over southwestern Indian Ocean. However, the northwestern coast will be influenced by the St. Helena's ridge and the southwest by a mid-latitude trough.

T+48, the Saharan anticyclonic circulation will weaken slightly particularly over the western sectors where there will be the likelihood of a cyclonic circulation development over the coast of Morocco. The cyclonic vortex featured over Mauritania and Mali will propagate slightly westwards while that over northern sector will remain stationary. An anticyclonic vortex is expected to develop over central Sahel. Localized convergence is likely to occur over Sierra Leone, central Cameroon, and Congo, eastern Ethiopia and northern Angola; whereas localized divergence will prevail over eastern CAR and southern Sudan. The wind flow pattern over much of Southern Africa will be similar to that of the previous day.

T+72, a similar flow to that of the previous day will prevail over North and Southern Africa although the Saharan anticyclonic system will intensify and extends its ridge further eastwards to Egypt. The cyclonic vortex over western Mauritania will propagate westwards to the Atlantic Ocean, and that over western Mali will decay. The one over northwestern Sudan will move to eastern Chad while that to the northeast will remain stationary over the area. The evolution of more cyclonic vortices is expected over northern Mauritania, central Mali and eastern Nigeria. The anticyclonic vortex over central Sahel will decay. Localized convergence will prevail over Sierra Leone and environs stretching onto northern Cote d'Ivoire, central Ethiopia, Congo, northern DRC, Rwanda and central Angola. Localized divergence is expected to develop off the coast of Ghana, over northern Mali and Niger, while it's expected to persist over CAR, southern Sudan and central DRC.

### 2.2. Flow at 500hPa:

T+24, an extensive Sub-Tropical anticyclonic circulation system is expected to prevail over Northern African with centers over western Algeria and northern Sudan. Mid-latitude troughs will be featured centered over northeast Atlantic Ocean and northern sector of Libya/Egypt. South of the anticyclonic system lies the easterlies, accompanied by

shortwave troughs. Localized cyclonic circulations will be featured over northwestern Cote d'Ivoire, central Ghana and southeastern Nigeria. Confluent flows are likely to occur over Cameroon/CAR and southern Ethiopia while diffluent flows will occur over Chad and Sudan. Much of Southern Africa will be under the influence of a Sub-Tropical anticyclonic system except for a westerly wave which will affect the southwest and a trough over Madagascar.

T+48, similar flow patterns to that of the previous day are expected over Northern and Southern Africa with all troughs expected to deepen as a result of which the anticyclonic circulation over northern Sudan will be weakened. Only the cyclonic circulation featured over cote d'Ivoire is expected to persist and move northwestward to northern Guinea Conakry generating a shortwave trough with its axis extending to southern Mauritania. Diffluent wind flow is likely to occur over Nigeria, Sudan and Ethiopia.

T+72, the Sub-Tropical anticyclonic circulation over the Maghreb region will intensify and extend its ridge eastwards into the Atlantic. The cyclonic circulation over Guinea is expected to intensify and be centered along The Gambia/Senegal coastline. The northern sector of Southern Africa will continue to be under the influence of an anticyclonic System while a westerly wave will prevail to the south with a deep slanting trough dominating the flow over Madagascar.

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

T+24h, an extensive upper level anticyclonic flow pattern will prevail over northern Africa with a trough along the coast of northwest Africa. Easterlies will dominate equator-ward. Likewise, a large part of southern Africa is expected to be influenced by the St Helena and Mascarene a subtropical anticyclones, to the south of which; a westerly wave is expected to prevail.

T+48h, the wind flow pattern is expected to remain as that of the previous day, but a trough along the coast of northwestern Africa is expected to penetrate into the northwestern Algeria. A short wave trough is expected to develop over central Niger.

T+72h, the flow pattern will be similar to the pervious day, but a trough over northwestern Algeria is expected to penetrate deeper to the eastern Algeria. A short wave trough over central Niger is expected to decay.

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