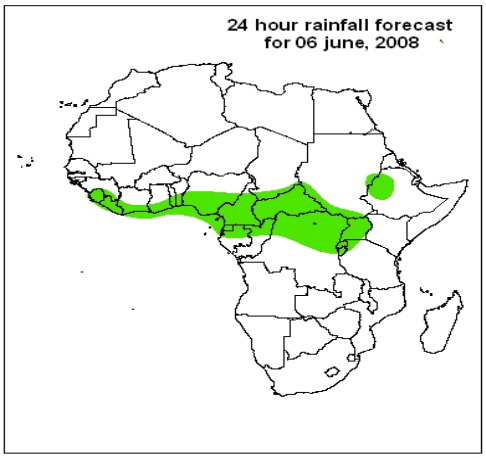
# Forecast Guidance for Africa

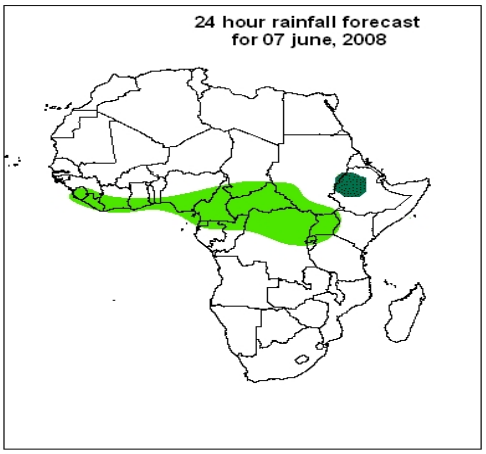
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

**FORECAST DISCUSSION 14H00 EST, 05 JUNE 2008**
**Valid: 00Z, 06 - 08 JUNE, 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.




**Legend**

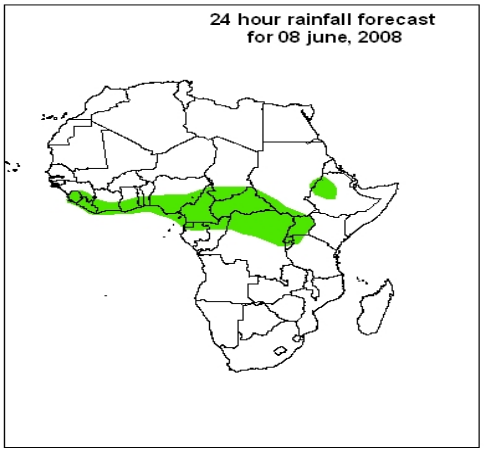
> 40mm, with probability 60%

> 30mm, with probability 50%

> 20mm, with probability 40%

*Summary :*

*Warm SSTs in the Gulf of Guinea, general low pressure over Sahel and central Africa, low level moisture advection from the Gulf of Guinea and westen Indian Ocean are expected to increase chance for precipitation in the Sahel, central Africa and western Ethiopia .*



## 2. Model discussion

*Model comparison (Valid from 00Z; 05 June 2008): all the three models are in agreement especially with respect to the positioning of large scale features, although UK model gives lower values as always in the Equatorial ($10^oN$ and $10^oS$) Continental Africa.*

### 2.1. Flow at 850hPa

T+24h, an anticyclonic flow pattern is expected to dominate over the eastern part of North Africa (Tunisia, Libya and Egypt) with a low pressure to the west over Morocco and Algeria, while a general low pressure area is expected to dominate over the Sahel and DRC. A southerly flow pattern is expected to dominate over the coasts of Tanzania and Kenya while a southwesterly flow pattern is expected to dominate along the coast of Somalia. An anticyclonic flow pattern is expected to dominate over a large part of Southern Africa with a trough surrounding South Africa from the Atlantic Ocean to western Indian Ocean over the Mozambique Channel.

T+48h, an anticyclonic flow pattern is expected to prevail over the eastern part of North Africa with a low pressure to the west while a general low pressure area is expected to prevail over the Sahel and northeastern DRC including the lake Victoria basin. Southerlies are expected to prevail over the coast of Kenya and Tanzania while southwesterlies are expected to prevail along the coast of Somalia. An anticyclonic flow pattern is expected to prevail over a large part of Southern Africa with a trough over southern Namibia and southwestern South Africa extending into western Indian Ocean over southwestern coast of Madagascar.

T+72h, an anticyclonic flow pattern is expected to prevail over Tunisia, northern Libya and Egypt while a low pressure is expected to dominate over the remaining part of North Africa. A general low pressure area is expected to continue dominating over the Sahel and the Lake Victoria basin, while an anticyclonic flow pattern is expected to prevail over a large part of Southern Africa.

And Sudan in the Sahel. A general low pressure area is expected to dominate over the remaining Sahelian countries including northeastern DRC. An anticyclonic flow pattern is expected to prevail over a large part of Southern Africa with a trough over southern Namibia and Southwestern South Africa and another one in the Mozambique Channel.

### 2.2. Flow at 500hPa

T+24h, an extensive anticyclonic flow pattern is expected to dominate over a large part of Africa from North Africa with the exception of the eastern coastline from Somalia,Tanzania,Mozambique,Madagascar to South Africa which will be dominated by a cyclonic flow pattern trough the Subtropical region to southern Africa.

T+48h, an extensive anticyclonic flow pattern is expected to prevail over the Africa continent with troughs off the coast of Morocco ,over northern Mozambique and over Malawi , along the northwestern coast of Somalia. A low pressure system is expected to dominate over the extremum part of South Africa, northern Mozambique, Malawi and over Madagascar.

T+72h, an anticyclonic flow pattern is expected to prevail over a large part of Africa with troughs along the northwestern coast of Morocco and along the coast of Somalia. A low pressure system is expected to dominate over the extremum part of South Africa and over Madagascar.

### 2.3. Flow at 200hPa

T+24h, Westerlies are expected to dominate over Morocco, Algeria, Tunisia and western Libya while an upper level anticyclonic flow pattern is expected to dominate over eastern Libya, Egypt and the Sahelian countries with an upper level low pressure over Kenya. Upper level high pressure centers are expected to dominate over Angola expanding to the Gulf of Guinea, and over northern Madagascar. A shallow upper level trough is expected to dominate over Zimbabwe and southern Mozambique embedded in westerly regime that is expected to dominate over a large part of Southern Africa.

T+48h, a westerly flow pattern is expected to dominate over a large part of North Africa while an extensive anticyclonic flow pattern is expected to prevail over the Sahel including Central Africa and Angola, with a strong divergent flow pattern over northern Central African Republic (CAR) where heavy rain is expected to occur. An upper level low pressure center is expected to prevail over Uganda, Rwanda, Burundi and Kenya while a westerly flow pattern is expected to prevail over a large part of Southern Africa with an embedded upper level trough over the Mozambique Channel and an anticyclonic flow pattern over northern Madagascar.

T+72h, a westerly flow pattern is expected to dominate over a large part of North Africa with an extensive anticyclonic flow pattern over the Sahel and an upper level low pressure over northern Kenya and surroundings. An upper level high pressure center is expected to dominate over eastern Angola and western Zambia while westerlies over the remaining part of Southern Africa and an anticyclonic flow circulation over northern Madagascar.

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