



## Forecast Guidance for Africa

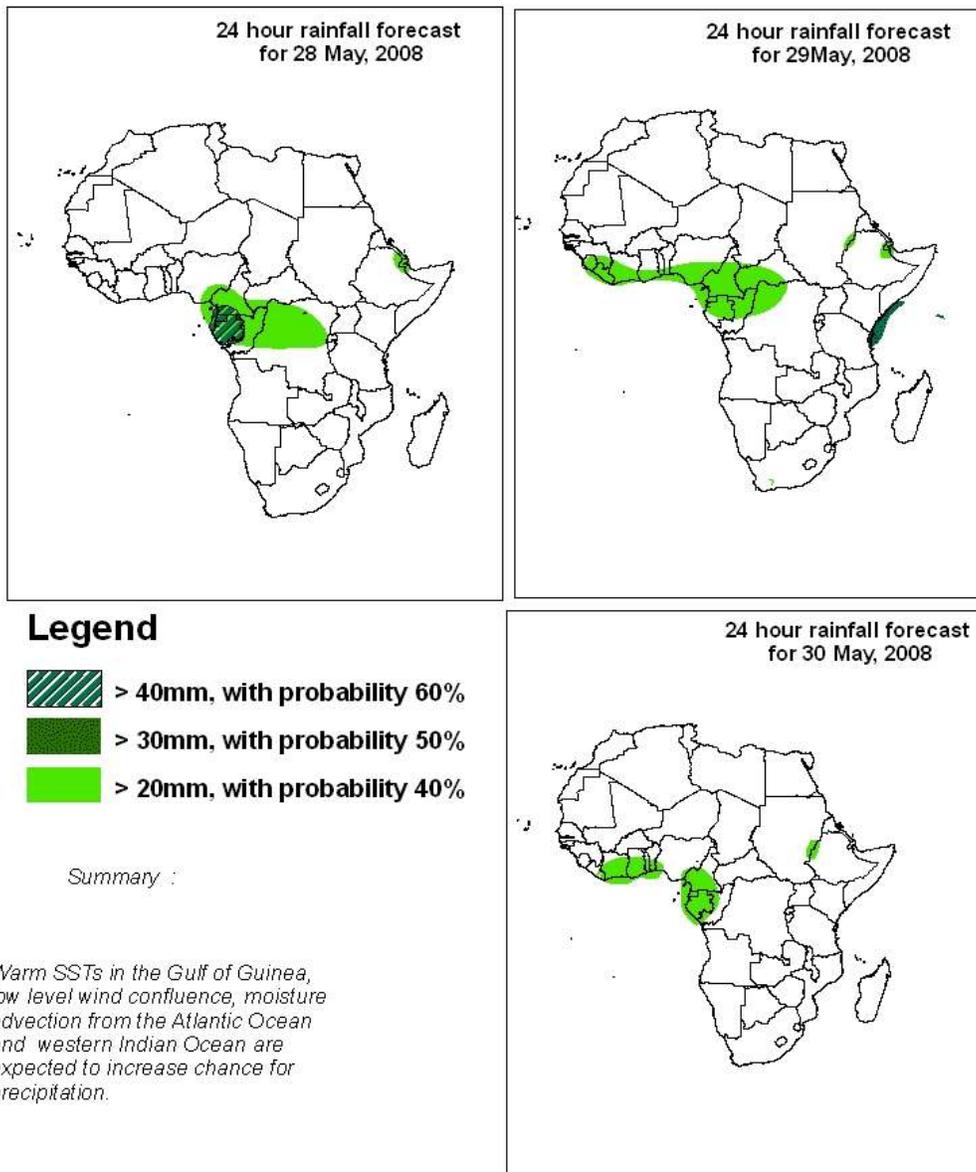
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

**FORECAST DISCUSSION 14H00 EST, 27 MAY 2008**

**Valid: 00Z, 28-30 MAY, 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; 27 May 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 Tropical(10°N and 10°S) Continental Africa.*

### **2.1. Flow at 850hPa**

T+24h, an anticyclonic flow pattern is expected to dominate over Libya and Egypt and over western Sahel (over southern Mauritania, Senegal, Guinea-Bissau and Guinea) with a trough over Morocco, Algeria, Tunisia and northern Mali while a general low pressure area is expected to dominate over the remaining part of the Sahel including Central Africa. An anticyclonic circulation is expected to dominate over the Equatorial western Indian Ocean causing southeasterlies over the coasts of Kenya and Tanzania and southwesterlies along the coast of Somalia. A cyclonic circulation system is expected to dominate along the coast of Angola, Namibia and South Africa into the ocean while an anticyclonic flow pattern is expected to dominate over the remaining part of Southern Africa.

T+48h, an anticyclonic flow pattern is expected to prevail over Libya and Egypt as well as over the western side of the Sahel with a trough over Algeria and Tunisia, while a general low pressure area is expected to dominate over the remaining part of the Sahel. An anticyclonic circulation is expected to prevail over the Equatorial western Indian Ocean causing moisture advection inland by southeasterlies over the coast of Kenya and Tanzania. An anticyclonic flow pattern is expected to prevail over a large part of Southern Africa with a trough to its west along the coasts of Angola, Namibia and South Africa.

T+72h, an anticyclonic flow pattern is expected to dominate over North Africa while a general low pressure area to dominate over the Sahel. An anticyclonic circulation is expected to prevail over the Equatorial western Indian Ocean. An anticyclonic flow pattern is expected to prevail over a large part of Southern Africa with a trough along the coasts of Angola, Namibia and over the tip of South Africa.

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

T +24h, Two troughs are expected to dominate over a large part of North Africa, one over Morocco, Algeria, Tunisia and northern Mali and the other over eastern Libya and Egypt; while an extensive anticyclonic flow pattern is expected to dominate over the Sahel including Central Africa with embedded isolated confluence lines over Gabon and western DRC and a trough over the tip of Somalia. A trough is expected to dominate over Namibia and South Africa and another one to dominate over Madagascar with a high pressure center in between over southeastern coast South Africa.

T+48h, a trough is expected to prevail over northern Morocco, northern Algeria, Tunisia and over Egypt while an anticyclonic flow pattern is expected to dominate over the Sahel including Central and Eastern Africa with localized convergence over Gabon and southern Congo due to southeasterlies from the high pressure center over the Gulf of Guinea and easterlies emanating from the Equatorial western Indian Ocean. A westerly flow pattern is

expected to dominate from the coast of Angola, through Zambia to northern Mozambique while a trough is expected to dominate over southern South Africa and another one over Madagascar with a high pressure center in between over southeastern coast of South Africa.

T+72h, a trough is expected to prevail over northern Morocco, northern Algeria, Tunisia and over Egypt while an anticyclonic flow pattern is expected to prevail over the Sahel including Central and Eastern Africa with localized confluence lines over western Niger and over eastern Liberia. A trough is expected to dominate over southwestern South Africa in the oceanic part causing northwesterly flow pattern over Namibia and South Africa. A trough is expected to develop over Mozambique while a low pressure is expected to dominate over southern Madagascar with a high pressure center to its south.

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

T+24h, a westerly flow pattern with an embedded wave is expected to dominate over northern Africa while an extensive anticyclonic flow pattern is expected to dominate over the remaining part of North Africa from latitude 10°S with a divergent flow pattern over northeast Gabon. A westerly flow pattern is expected to dominate over a large part of Southern Africa with an upper level trough over southeastern coast of Madagascar.

T+48h, a westerly flow pattern is expected to dominate over a large part of North Africa with a trough over Egypt while an extensive anticyclonic flow pattern is expected to prevail over the remaining part of North Africa to latitude 10°S with a divergent flow pattern over eastern Nigeria. A westerly flow pattern is expected to prevail over a large part of Southern Africa with an upper level trough over southwestern South Africa in the Atlantic Ocean.

T+72h, a westerly flow pattern is expected to prevail over a large part of North Africa while an extensive anticyclonic flow pattern is expected to prevail over the remaining part of North Africa including the Sahel, Central and Eastern Africa with a divergent flow pattern over southern Cote D'Ivoire. A westerly flow pattern is expected to prevail over a large part of Southern Africa with an upper level trough over southwestern South Africa and another one over northern the Mozambique Channel across Madagascar.

#### *Authors:*

*1. Arlindo Meque ("Instituto Nacional de Meteorologia" (INAM), Mozambique and African Desk).*

*2. Hilaire Elenga (Direction de la Meteorologie Nationale du Congo Brazzaville and African Desk)*