



Forecast Guidance for Africa

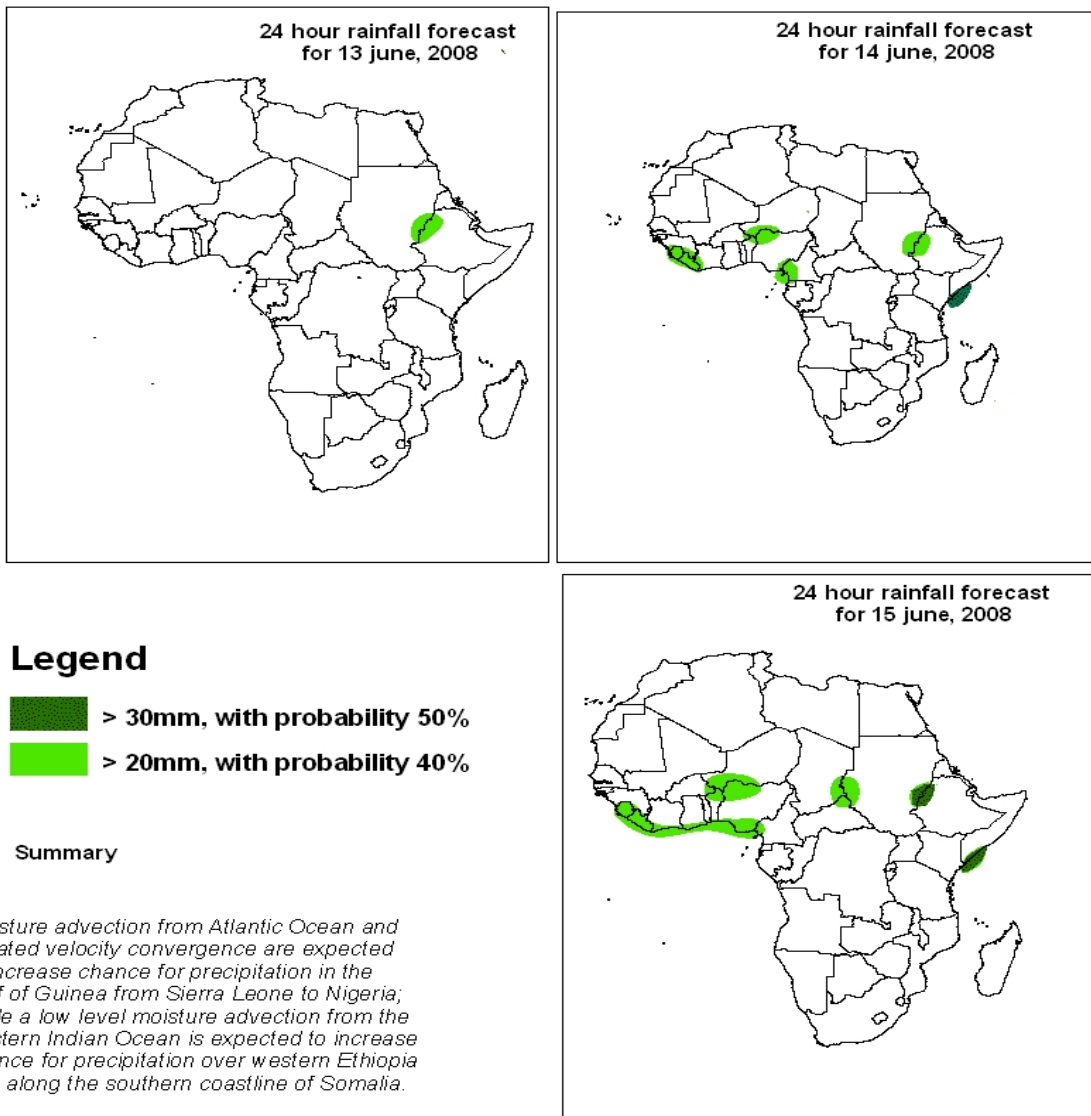
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

FORECAST DISCUSSION 14H00 EST, 12 JUNE 2008

Valid: 00Z 13- 15JUNE, 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; 12 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°N and 10°S) Continental Africa.

2.1. Flow at 850hPa

T+24h, a cyclonic flow pattern is expected to dominate over Morocco, northwestern Algeria and Tunisia while an anticyclonic flow pattern is expected to dominate over the remaining part of North Africa. Isolated convergence is expected over the Sahel including northeastern DRC. Southeasterlies are expected to dominate over the coasts of Tanzania and Kenya while southwesterlies are expected to dominate along the coast of Somalia. An anticyclonic flow pattern is expected to dominate over the continental Southern Africa causing southeasterlies to dominate from the eastern coast of Madagascar through northern Mozambique to the Gulf of Guinea.

T+48h, an anticyclonic flow pattern is expected to dominate over the eastern part of North Africa (Libya and Egypt) and western Sahel (Mauritania, Senegal and Guinea), while a cyclonic flow pattern is expected to dominate over the western part of North Africa with a convergence line in the remaining Sahelian countries. Southeasterlies are expected to prevail over the coasts of Kenya and Tanzania and southwesterlies along the coast of Somalia, while an anticyclonic flow pattern is expected to prevail over a large part of Southern Africa with a closed cyclonic circulation over southwestern South Africa in the Atlantic Ocean.

T+72h, a cyclonic flow pattern is expected to prevail over Morocco and northwestern Algeria, while an anticyclonic flow pattern is expected to prevail over the remaining part of North Africa with isolated convergence activity over the Sahel. An anticyclonic flow pattern is expected to prevail over a large part of Southern Africa with a trough off the coast of Namibia and over the tip of South Africa.

2.2. Flow at 500hPa

T+24h, a trough is expected to dominate over northern Morocco. An extensive anticyclonic flow pattern is expected to dominate over a large part of Africa from North Africa to southern Africa with an exception of the western Indian Ocean, coastline from Somalia, through Kenya, Tanzania, and Madagascar. A westerly flow regime is expected to dominate over, and to the South of South Africa.

T+48h, an extensive anticyclonic flow pattern is expected to prevail over a large part of the African continent with a cyclonic flow pattern over a large part of eastern Africa from Ethiopia through southern Sudan, Somalia, DRC, Uganda, to Tanzania; while a westerly flow pattern is expected to dominate over the extreme part of Southern Africa.

T+72h, an anticyclonic flow pattern is expected to prevail over a large part of Africa from North Africa to southern Africa; While a cyclonic flow pattern is expected to dominate over eastern Ethiopia, Somalia, Kenya, Uganda, eastern DRC, Rwanda, Burundi, Tanzania and westerlies are expected to dominate over the extreme part of South Africa.

2.3. Flow at 200hPa

T+24h, a southwesterly flow pattern is expected to dominate over Western Sahara, Morocco, northern Algeria and over Tunisia while an extensive upper level anticyclonic flow pattern is expected to dominate over the remaining part of North Africa as well as from the Equator to latitude 20°S, with an exception of Southern Somalia, Kenya and Tanzania where a easterly flow pattern is expected to dominate. A westerly flow pattern is expected to dominate south of 20°S latitude.

T+48h, an upper level anticyclonic flow pattern is expected to prevail over a large part of Africa north of the Equator with an upper level trough off the coast of Morocco and localized convergence over northwestern DRC. An upper level anticyclonic flow pattern is expected to also prevail from eastern Angola through Zambia to Madagascar into the western Indian Ocean. Northwesterlies/westerlies are expected to dominate over the remaining part of Southern Africa due to an upper level trough lying in the Atlantic Ocean.

T+72h, Westerlies are expected to dominate over Morocco, northern Algeria and Tunisia while an upper level anticyclonic flow pattern is expected to prevail over the remaining part of North Africa including the Sahel and eastern Africa with an upper level trough over Gabon and Congo. Northwesterlies are expected to prevail over Namibia, southern Botswana and over South Africa, while an upper level anticyclonic flow pattern with a center over northwestern Mozambique is expected to dominate over the remaining part of Southern Africa.

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)*