



Forecast Guidance for Africa

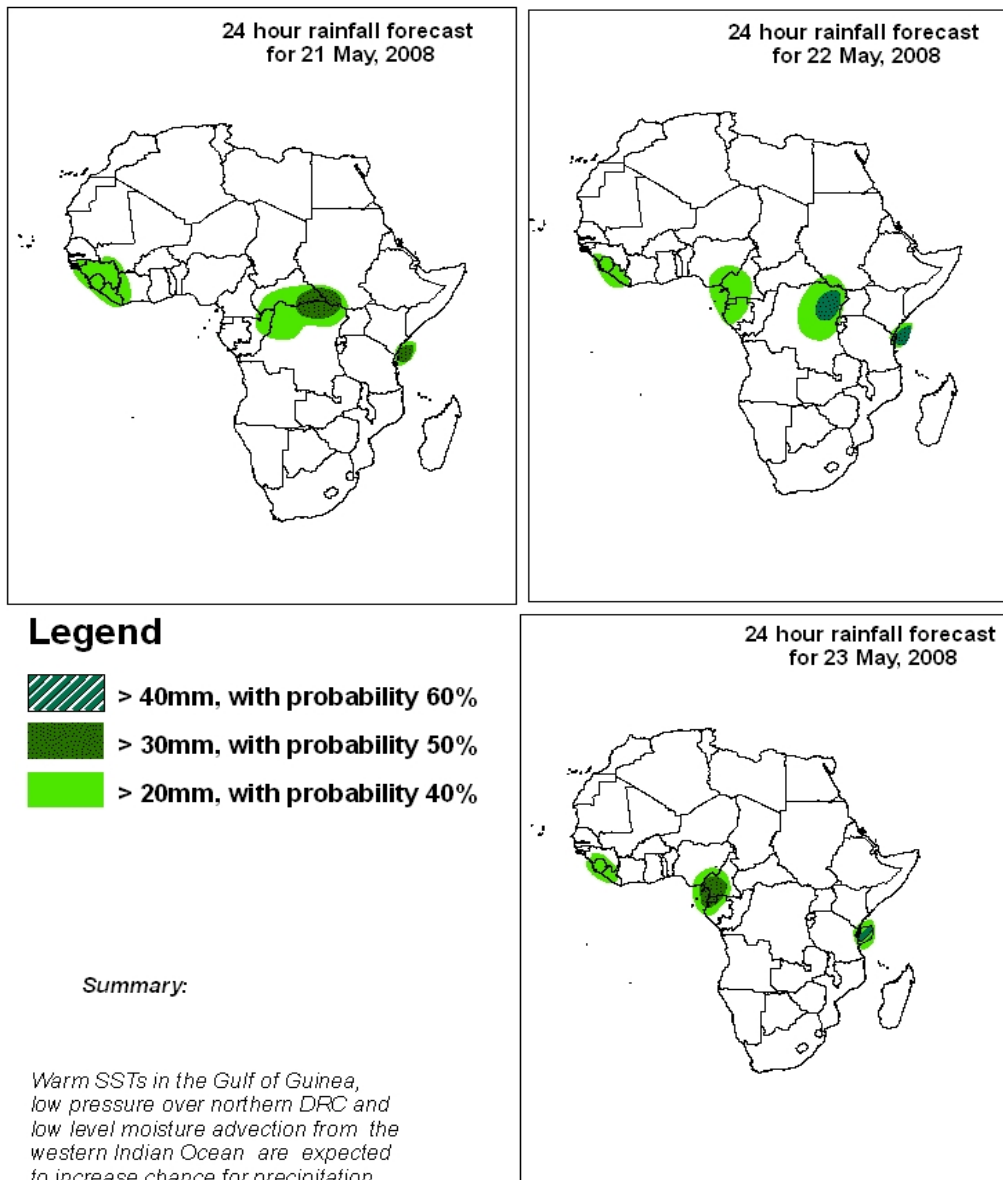
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

FORECAST DISCUSSION 14H00 EST, 20 MAY 2008

Valid: 00Z, 21-23 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; 20 May 2008): all the three models (GFS, ECMWF and UK) are in general agreement with respect to positioning of large scale features, although the ECMWF gives slightly lower values than the GFS, and the UK model gives the lowest values as compared to both ECMWF and GFS over land in the Tropics (10°N and 10°S).

2.1. Flow at 850hPa

T+24h, a general low pressure area is expected to dominate over a large part of Africa north of the Equator except over eastern Libya and western Egypt where an anticyclonic flow pattern is expected to dominate. A low pressure area is expected to dominate over the Equatorial western Indian Ocean off the coast of Somalia with a confluence flow pattern over the coast of Kenya and northern coast of Tanzania. An anticyclonic flow pattern is expected to dominate over a large part of southern Africa, with a trough to the west over western Namibia and South Africa and another one to the east off the southeastern coast of Madagascar.

T+48h, a general low pressure area is expected to prevail over a large part of Africa north of the Equator except over northern Algeria, Tunisia, northeastern Libya and western Egypt where an anticyclonic flow pattern is expected to dominate. A confluence flow pattern is expected to prevail over southern coast of Kenya and northeastern coast of Tanzania. An anticyclonic flow pattern is expected to prevail over a large part of Southern Africa with a trough to the west along the coast of southern Angola, Namibia and South Africa and another one to the east off the southeastern coast of Madagascar.

T+72h, an anticyclonic flow pattern is expected to dominate over Western Sahara, Mauritania, western Mali, Tunisia, Libya and western Egypt while a general low pressure is expected to dominate over the remaining North Africa including the Sahel and Eastern Africa. A confluence flow pattern is expected to prevail over southern coast of Kenya and northeastern coast of Tanzania. An anticyclonic flow pattern is expected to prevail over a large part of Southern Africa due to the Mascarene high pressure center with a low pressure area to the west along the coast of southern Angola, Namibia and South Africa.

2.2. Flow at 500hPa

T+24h, a westerly flow pattern is expected to dominate over a large part of North Africa with a trough over Tunisia and Libya while an anticyclonic flow pattern is expected to dominate over the Sahel and Eastern Africa with localized convergence over western Cameroon, Eastern Central Africa Republic and over Sudan. Two trough systems are expected to dominate over a large part of Southern Africa with a ridge in between from Central Mozambique to eastern coast of South Africa into the western Indian Ocean. Northwesterlies from the East African ridge are expected to converge over northern Madagascar with westerlies from the trough over southern Madagascar.

T+48h, a westerly flow pattern is expected to prevail over a large part of North Africa, while, an anticyclonic flow pattern is expected to prevail over the Sahel and Eastern Africa with localized convergence over Chad and DRC. Two trough systems are expected

to prevail over a large part of Southern Africa with a ridge in between in the Mozambique Channel

T+72h, an extensive anticyclonic flow pattern is expected to dominate from North Africa to latitude 10°S with a shallow trough over northwestern Libya and localized confluence lines. An extensive trough from the Atlantic Ocean is expected to dominate over a large part of Southern Africa (Angola, Zambia, Namibia, Botswana, Zimbabwe, South Africa and southern Mozambique) while the remaining part of the region is expected to be under the influence of an anticyclonic circulation.

2.3. Flow at 200hPa

T+24h, upper level westerlies are expected to dominate over a large part of North Africa with an embedded trough over northern Libya and northern Sudan. An anticyclonic circulation system is expected to dominate over the Sahel and over the Horn of Africa with associated divergent flow pattern over western Nigeria, southwestern Sudan and northern DRC. Westerlies are expected to dominate over a large part of Southern Africa with embedded troughs over the tip of South Africa and the other over Madagascar, and an upper level high pressure center in between, over the oceanic part.

T+48h, upper level westerlies are expected to prevail over North Africa with an embedded deep trough from northern Libya to eastern Chad. Anticyclonic circulation systems are expected to prevail over West Africa, Ethiopia and Somalia and over northern Tanzania and surroundings. Westerlies are expected to prevail over a large part of Southern Africa with a trough over southwestern South Africa and over southeastern coast of Madagascar.

T+72h, a trough system is expected to dominate over a large part of North Africa while an anticyclonic flow pattern is expected to dominate from West Africa through Central to Eastern Africa with associated divergence flow pattern over Central African Republic. Westerlies are expected to prevail over a large part of Southern Africa with embedded side by side ridge/trough over southwestern part of the region.

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