



Forecast Guidance for Africa

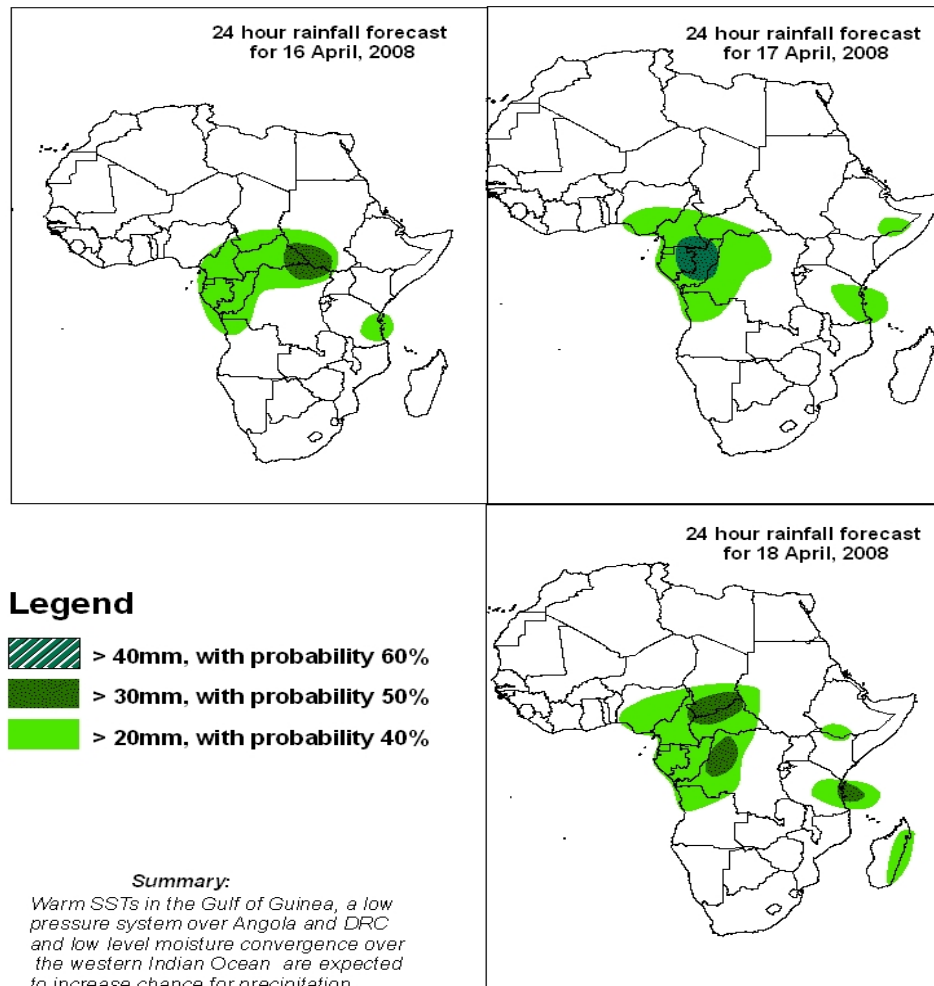
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

FORECAST DISCUSSION 14H00 EST, 15 APRIL 2008

Valid: 00Z, 16-18 APRIL, 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; 15 April 2008): There is a general agreement between the UKMET, ECMWF, and GFS models with respect to positioning of large scale features.

2.1. Flow at 850hPa

T+24, an anticyclonic flow pattern is expected to dominate over a great part of North Africa with a trough on either side (off the coast of Morocco to the west and over Sudan and Ethiopia to the east). Northeasterlies associated with the anticyclonic flow are expected to converge over western Africa with the southeasterlies from the Gulf of Guinea. A general low pressure weakness is expected to dominate over DRC and northern Angola, while a southeasterly flow is expected to dominate along the coast of Somalia, Kenya, Tanzania and northern Mozambique. An anticyclonic flow pattern is expected to dominate over a large part of Southern Africa with a trough over southeast South Africa and over south of the Mozambique Channel across southern Madagascar.

T+48, an anticyclonic flow pattern is expected to prevail over central and northern Africa with a trough system on either side (over northwest Algeria to the west and over Sudan and Ethiopia to the east). A general low pressure weakness is expected to prevail over northern Angola and DRC including the surrounding areas from West Africa to Uganda. An anticyclonic flow pattern is expected to dominate over southern Africa due to St. Helena high pressure ridge. A trough is expected to dominate over southern Madagascar with a low pressure to its North and the Mascarine high pressure ridge in between (eastern Madagascar).

T+72, the trough over Algeria is expected to expand to Tunisia and Morocco with an anticyclonic circulation over the Sahara desert. A low pressure weakness is expected to prevail from western Africa trough Gabon, Congo, northern Angola to Sudan and Ethiopia. An anticyclonic flow pattern is expected to prevail over southern Africa due to St. Helena high pressure ridge. The trough over southern Madagascar and the low pressure over northern Madagascar are expected to prevail while the Mascarine high pressure center is expected to move further to the east.

2.2. Flow at 500hPa

T+24h, an expansive anticyclonic circulation system is expected to dominate over northern and western Africa with convergent easterlies over western Africa. Eastern Africa and central Africa will be dominated by an anticyclonic flow system. These systems will cause a middle level convergence over western Chad, eastern Nigeria, Cameroon, Central African Republic, and western DRC. A weak cyclonic circulation associated with a frontal system is expected to dominate over southeastern Africa including the Mozambique Channel.

T+48h, an anticyclonic circulation system is expected to prevail over north, east and central Africa, and maintain a middle level convergent flow pattern over Cameroon, Central African Republic, Congo, and Gabon. A localized cyclonic circulation is expected to be enhanced over western Namibia due to a convergent flow originating from Angola and the

Atlantic Ocean while the cyclonic circulation associated with a frontal system to the south of South Africa is expected to prevail over southeastern Africa, the Mozambique Channel and Madagascar.

T+72h, the anticyclonic circulation over western Africa is expected to weaken causing a localized cyclonic circulation to develop over southern Sahel, while an easterly flow is expected to prevail over the rest of the African continent with a weak trough over western Namibia and Madagascar.

2.3. Flow at 200hPa

T+24h, a divergent upper level westerly jet is expected to dominate over northern and western Africa, with upper level convergent flow pattern over Guinea, Ghana and Benin. A localized upper level divergence is expected to dominate over southern Sudan, Central African Republic, Cameroon and northern DRC while an upper level westerly jet is expected to dominate over southern Africa including Madagascar. An upper level disturbance leading a frontal system is expected to dominate over the southwestern Indian Ocean.

T+48h, the upper level jet over northern Africa is expected to prevail with an upper level convergence pattern over southern Mali, Burkina, Niger and northern Nigeria. A divergent flow pattern is expected to dominate over central Sudan, Central African Republic, northwestern DRC and Gabon, with convergent flow pattern over southern Sudan, southern Ethiopia and southern DRC. A westerly flow pattern is expected to prevail over southern Africa while the upper level disturbance over the southwestern Indian Ocean is expected to move eastward.

T+72h, the upper level jet over northern Africa is expected to move slightly to the north causing a localized upper level divergent flow pattern to develop over western and southern Nigeria. A localized divergent flow pattern is also expected to prevail over Central African Republic, central and western DRC with an upper level convergence over southern Sudan, the Lake Victoria Basin, Kenya and the Horn of Africa. An upper level disturbance is expected to move across South Africa from the Western Cape in the Atlantic Ocean to the Eastern Cape along the Indian Ocean coast.

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