



Forecast Guidance for Africa

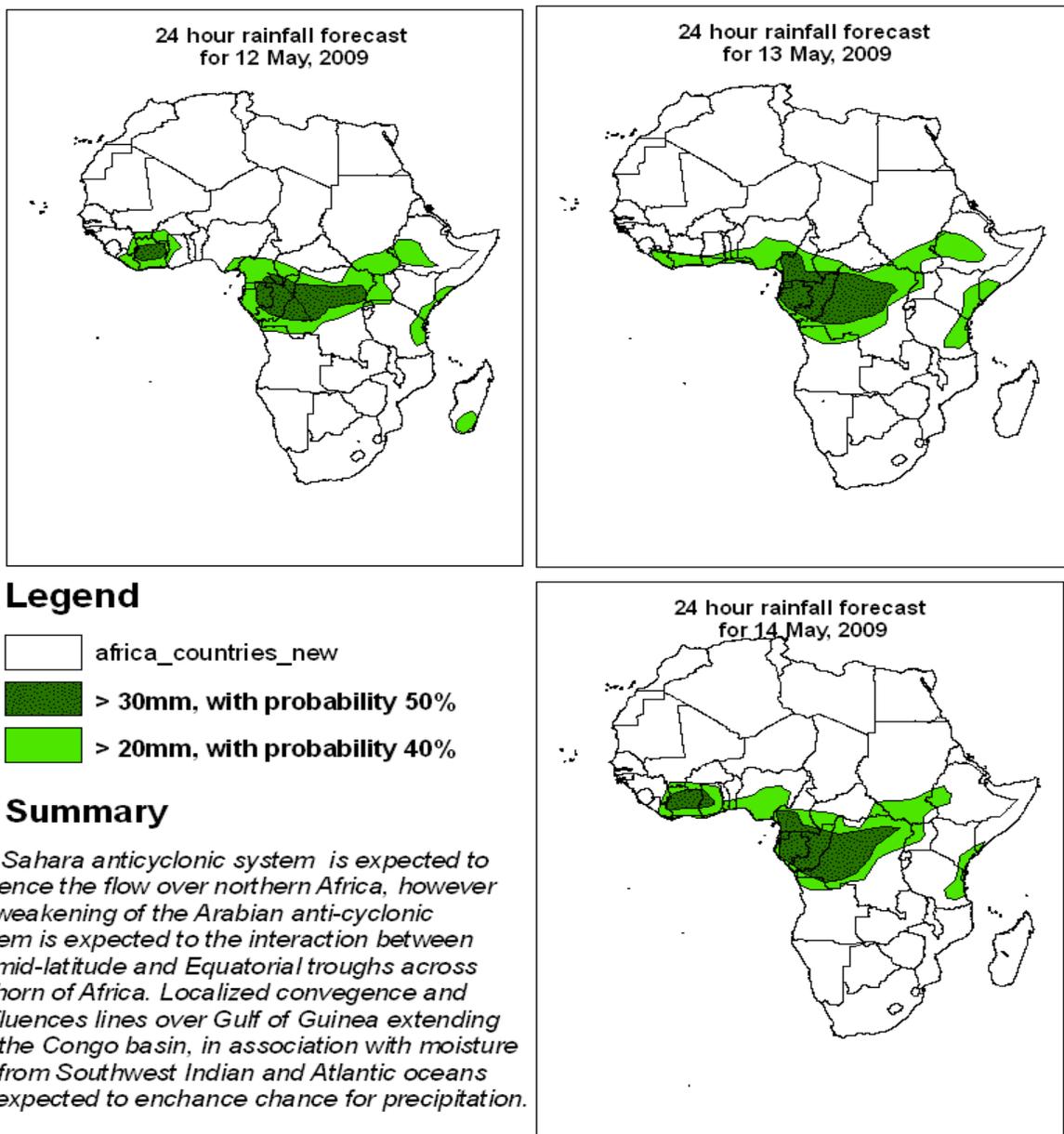
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative.

FORECAST DISCUSSION 14H00 EST, 11 MAY, 2009

Valid: 00Z 12 MAY – 14 MAY, 2009

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; 11 May, 2009): all the three models are in general agreement especially with respect to the positioning of large scale features, however, the UK model tends to give lower values than both the GFS and ECMWF models especially in the Equatorial region (10°S and 10°N).

2.1. Flow at 850hPa

T+24h: The Sahara anti-cyclonic system is expected to influence the flow over northern Africa; however the weakening of the Arabian anti-cyclonic system is expected to allow the interaction between the mid-latitude and Equatorial troughs across the horn of Africa, enhancing chances of precipitation over eastern Africa. A trough is expected over northeast Atlantic Ocean, and Western Sahara. Localized convergence and confluent lines are expected over the Gulf of Guinea region, Cameroun, Gabon, northern DR Congo, southern Sudan, northern Uganda and western Ethiopia. In southern Africa, the penetration of the troughs associated with the westerly wave northwards up to 30°S latitude are expected to create a three way anti-cyclonic circulation systems over southeast Atlantic Ocean, Southern Africa and southwest Indian Ocean.

T+48h: The Saharan anti-cyclonic system is expected to move slightly to the east and a further weakening of the Arabian anti-cyclonic system; otherwise the flow in the northern hemisphere is expected to be similar as the previous day. Localized convergence and confluent lines are expected to maintain their previous day positions. In southern Africa, the Mascarene and St. Helena anti-cyclonic systems are expected to intensify and expand, while the cyclonic systems associated with the westerly wave are expected to weaken and move slightly to the east.

T+72h: The Saharan anti-cyclonic system is expected weaken and move eastwards as a result of the expansion of the trough over northeast Atlantic Ocean, Morocco, Western Sahara, western Algeria and northern Mali. The localized convergence and confluent lines are expected to maintain their previous day positions. In southern Africa, the flow is expected to be similar to the previous day with further weakening of the cyclonic systems associated with the westerly wave.

2.2. Flow at 500hPa

T+24h: In the northern hemisphere, trough associated with the westerly wave is expected to extend up to 20°N latitude over North Africa across the Mediterranean sea, creating a disturbed flow pattern of the westerlies. In the southern hemisphere, the development of anti-cyclonic system and closed cyclonic systems over southeast Atlantic and southwest Indian Oceans are expected to create a disturbed flow pattern of the westerlies.

T+48h: In the northern hemisphere the flow is expected to be more similar to the previous day; however the troughs associated with the westerly waves is expected to move slightly eastwards and a closed cyclonic system to develop over the gulf of Aden region. In the southern hemisphere flow is expected to be more similar to the previous day; however the closed cyclonic systems associated with the westerly wave are expected to deepen.

T+72h: In the northern hemisphere the flow is more similar to the previous day; however the troughs associated with the westerly waves is expected to move slightly to the east. In the southern hemisphere, the flow is expected to be similar to the previous day; however

anti-cyclonic system is expected to expand, while the cyclonic systems are expected to move slightly eastwards.

2.3. Flow at 200hPa

T+24h: In the northern hemisphere, three-way troughs associated with the westerly wave are expected over northeast Atlantic Ocean and another over the Mediterranean Sea, with a small closed cyclonic system over Gulf of Aden. Moreover in the south, the flow is expected to take on more disturbed pattern with feeble trough over southwest Indian Ocean off the tip of South Africa and a closed cyclonic system over southeast Atlantic Ocean.

T+48h: The flow is similar to that of the previous day but the troughs associated with the westerly wave are expected to weaken and shift slightly to the east in the northern hemisphere. In the southern hemisphere the flow is expected to be similar to the previous day, but take on a more zonal pattern.

T+72h: The troughs associated with the westerly wave in the northern hemisphere are expected weaken further while moving to the east. In the southern hemisphere, the flow is expected to take a similar pattern as the previous day.

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