



Forecast Guidance for Africa

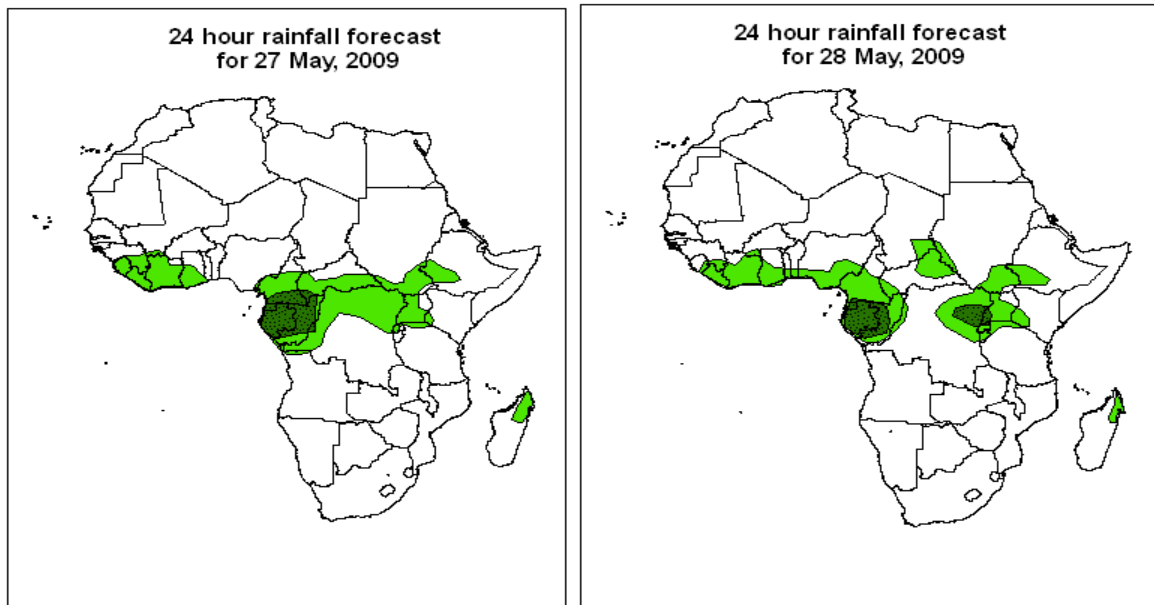
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative.

FORECAST DISCUSSION 14H00 EST, 26 MAY, 2009

Valid: 00Z 27 MAY – 29 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.

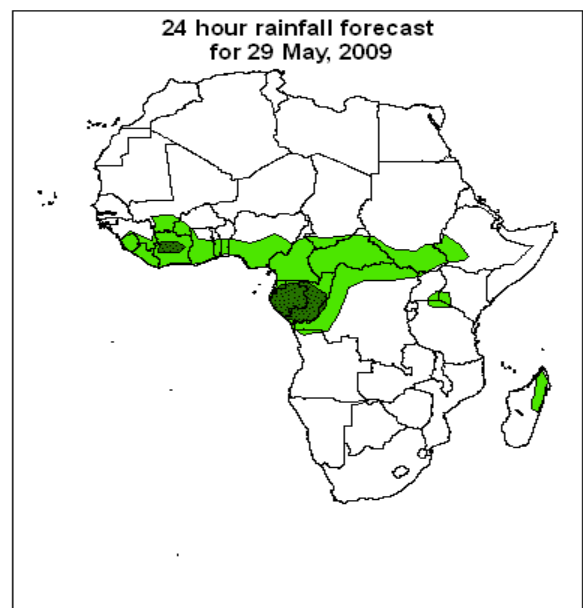


Legend

- africa_countries_new
- > 30mm, with probability 50%
- > 20mm, with probability 40%

Summary

The Saharan anti-cyclonic system with mainly dry winds is expected to continue influencing the flow over Northern and Northwestern Africa, while the persistent monsoonal cross equatorial flow is expected to influence eastern Africa and the horn of Africa region. Localized convection and confluences lines over Gulf of Guinea extending into the Congo basin, in association with moisture flux from southwest Indian and Southeast Atlantic oceans are expected to enhance chance for precipitation.



2. Model discussion

Model comparison (Valid from 00Z; 26 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: In the northern hemisphere, the Saharan anti-cyclonic system with its characteristic dry winds is expected continue influencing the flow over Northern Africa; while the persistent monsoonal cross equatorial flow is expected to influence eastern Africa and the horn of Africa region. A mid-latitude trough is expected over Morocco, Western Sahara and western Algeria. Localized convergence and confluent lines are expected over the Gulf of Guinea region, Cameroun, Central African Republic, northern DR Congo and southern Sudan. In the southern hemisphere, St. Helena anti-cyclonic system is expected to intensify and expand over much of southern Africa; while troughs associated with the westerly wave are expected to separate the anti-cyclonic systems, with the mid-latitude trough interacting with the equatorial trough across Madagascar.

T+48h: In the northern hemisphere, the significant features are expected to maintain their previous day position; however the trough over northwest Africa is expected to contract and form a closed cyclonic system. Localized convergence and confluent lines are expected to maintain their previous day positions. In the southern hemisphere, the significant features are expected to maintain their previous day positions; however the troughs associated with the westerly wave over southeast Atlantic and southwest Indian oceans are expected to move eastwards.

T+72h: In the northern hemisphere, no significant changes are expected in the main features affecting the flow over Northern Africa. The localized convergence and confluent lines are expected to maintain their previous day positions. In southern Africa, the Mascarene anti-cyclonic system is expected to intensify and expand over southern Indian Ocean; while a trough over southwest Atlantic Ocean is expected to extend northwards up to 20°S latitude.

2.2. Flow at 500hPa

T+24h: In the northern hemisphere, a trough system associated with the westerly wave is expected to persist over North Africa across eastern Mediterranean Sea; while another trough is expected to persist over the Gulf of Aden region. In the southern hemisphere, the development of feeble troughs over southwest Atlantic and southeast 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 trough over northwest Atlantic is expected expand and create a wave flow pattern over North Africa. In the southern hemisphere, the mid latitude cyclonic systems are expected to intensify, creating more disturbances in the flow of the westerlies

T+72h: In the northern hemisphere the flow is expected to be more similar to the previous day; however the troughs associated with the westerly wave are expected to be a little suppressed. In the southern hemisphere, more disturbances are expected in the westerly flow as anti-cyclonic systems are expected to develop along with the persistent troughs.

2.3. Flow at 200hPa

T+24h: In the northern hemisphere, feeble troughs associated with the westerly wave are expected to persist over the Mediterranean Sea and northeast Atlantic Ocean, but a zonal flow pattern of the westerlies is expected over North Africa. In the southern hemisphere, some feeble troughs are expected, creating a disturbed flow pattern of the westerlies.

T+48h: The flow is expected to be similar to that of the previous day in both the northern and the southern hemispheres.

T+72h: The trough associated with the westerly wave in the northern hemisphere is expected to extend up to 10⁰N latitude; however a more zonal flow pattern of the westerlies is expected over northern Africa. In the southern hemisphere, the flow is expected to be similar to that of the previous day.

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