



Forecast Guidance for Africa

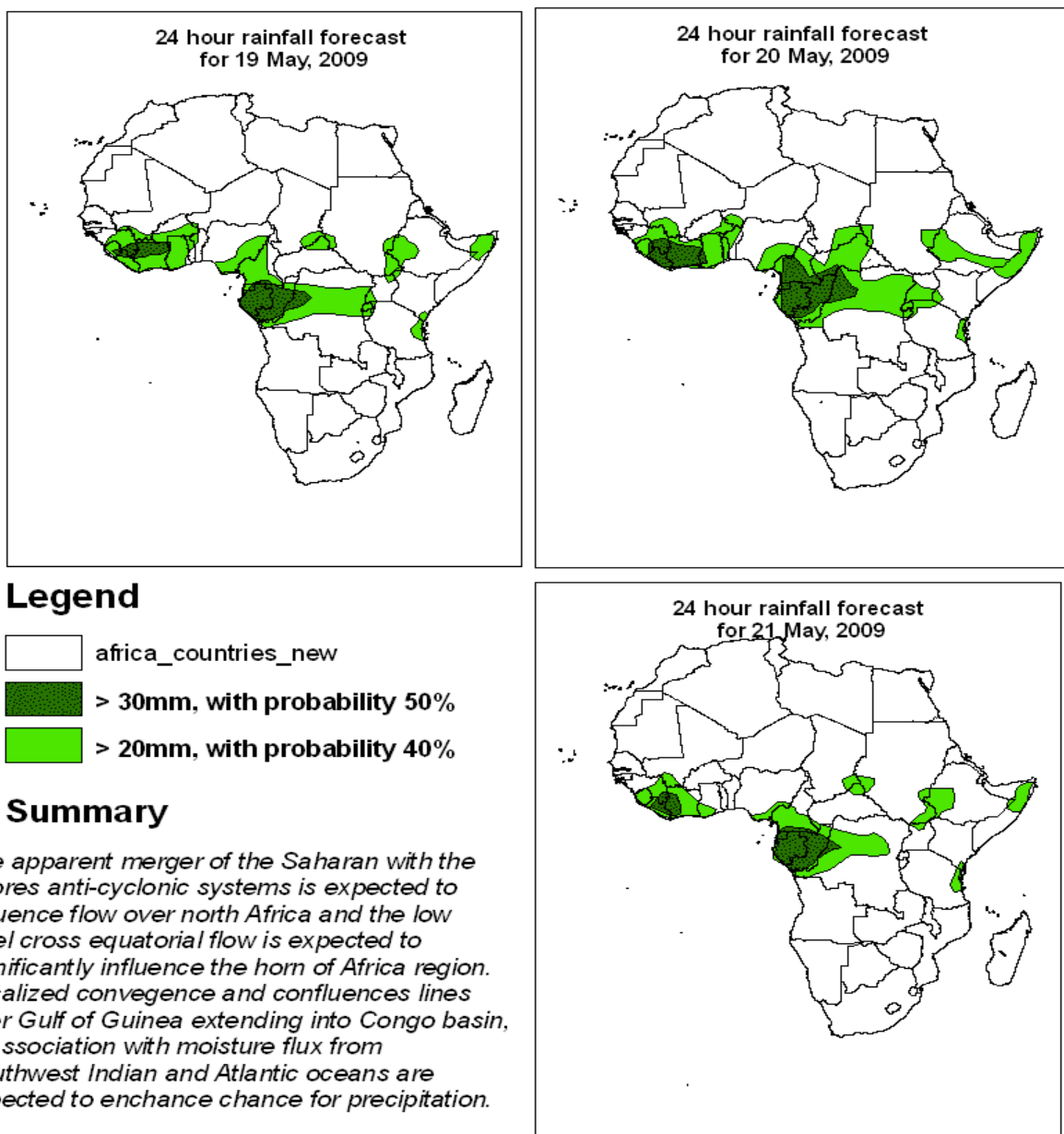
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative.

FORECAST DISCUSSION 14H00 EST, 18 MAY, 2009

Valid: 00Z 19 MAY – 21 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; 18 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 apparent merger of the Saharan with the Azores anti-cyclonic systems is expected to influence flow over North Africa and the low level cross equatorial flow is expected to significantly influence the flow over the horn of Africa region.. A closed cyclonic circulation system is expected to develop over eastern Mediterranean Sea as part of the mid latitude cyclonic circulation system. Localized convergence and confluent lines are expected over the Gulf of Guinea region, Cameroun, Central African Republic, northern DR Congo, southern Sudan and southern Ethiopia. In the southern hemisphere, St. Helena anti-cyclonic system is expected to intensify and expand over much of southern Africa and the Mascarene anti-cyclonic system is expected further to the east over southern Indian Ocean. A closed cyclonic system associated with the westerly wave over southeast Atlantic Ocean is expected to extend northwards up to 20°S latitude; while a trough associated with the westerly wave over southeastern Indian Ocean is expected to separate the anti-cyclonic systems.

T+48h: In the northern hemisphere, the Saharan anti-cyclonic system is expected to move westwards. A mid-latitude trough is expected to extend southwards to 20°N latitude over northeast Atlantic and Morocco. 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 a closed cyclonic system over southeastern Atlantic Ocean is expected to expand eastwards.

T+72h: In the northern hemisphere, the significant features are expected to maintain their previous day position; however, the Saharan anti-cyclonic system is expected to move westwards, while the trough over northeast Atlantic Ocean is expected to develop into a closed cyclonic system. The localized convergence and confluent lines are expected to maintain their previous day positions. In southern Africa, the flow is expected to be similar as the previous day; however another trough associated with the westerly wave is expected to develop over southern Atlantic Ocean.

2.2. Flow at 500hPa

T+24h: In the northern hemisphere, a feeble trough associated with the westerly wave is expected over North Africa across the Mediterranean Sea, creating a disturbed flow pattern of the westerlies over northern Africa. A closed cyclonic system is expected to persist over the Gulf of Aden region. In the southern hemisphere, the development of feeble troughs over southeast Atlantic Ocean is expected to create a disturbed flow pattern of the westerlies, but generally the flow is expected to take a more zonal pattern.

T+48h: In the northern hemisphere the flow is expected to be more similar to the previous day; however the trough associated with the westerly wave is expected to extend its southern extent to 20°N latitude over North Africa, while the cyclonic system over the gulf

of Aden is expected to contract. In the southern hemisphere the flow is expected to be similar to the previous day.

T+72h: In the northern hemisphere, two-way troughs are expected to be significant features of the flow; one over North Africa across the eastern Mediterranean Sea and the other over northeast Atlantic Ocean. In the southern hemisphere, the cyclonic systems associated with the westerly wave are expected to be suppressed and the flow is expected to take a more zonal pattern.

2.3. Flow at 200hPa

T+24h: In the northern hemisphere, a feeble trough associated with the westerly wave are expected over the Mediterranean Sea, creating a disturbed flow pattern of the westerlies over North Africa, otherwise the flow is expected to take a more zonal pattern. In the southern hemisphere, the flow is expected to take a generally zonal pattern.

T+48h: The flow is similar to that of the previous day but a send trough associated with the westerly wave is expected to develop over northeast Atlantic Ocean in the northern hemisphere. In the southern hemisphere, the flow is expected to be similar to the previous day.

T+72h: The feeble troughs associated with the westerly wave in the northern hemisphere are expected to cause some disturbances of the westerlies; however the flow is expected to take a more zonal pattern. In the southern hemisphere, a generally zonal flow pattern of the westerlies is expected.

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