

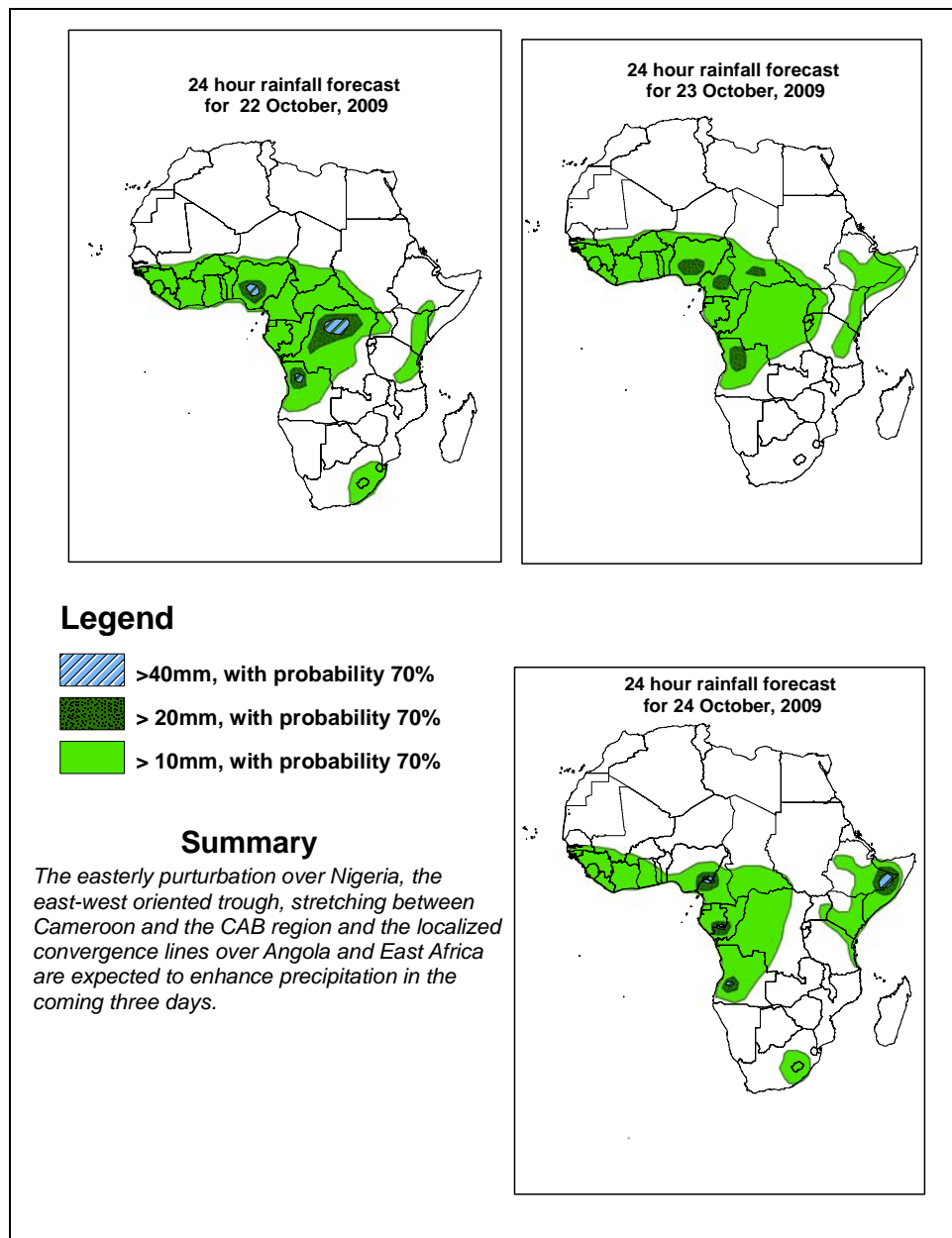


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Forecast Discussion: Valid, 06Z of 22 October – 06Z of 24 October 2009, (Issued at 14:00EST of 21 October 2009)

1.1. Twenty Four Hour Cumulative Rainfall Forecasts

The forecasts are expressed in terms of probability of precipitation (POP) exceedence based on the NCEP, UK Met Office and the ECMWF NWP outputs, the NCEP global ensemble forecasts system (GEFS), and expert assessment.



1.2. Model discussion

Model comparison (Valid from 00Z; 20, OCTOBER, 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).

1.3. Flow at 850hPa

T+24h: A trough in the low tropospheric easterlies is expected to dominate the flow over Nigeria, while an east-west oriented trough dominates the flow between eastern Cameroon and western Uganda. On the other hand, the convergence associated with the Congo Air mass is expected persist over CAB region, aligning itself with another convergence line over Angola. Localized wind convergences are also expected over southeast Chad and parts of South Africa,

T+48h: The easterly trough is expected to move towards the west, with its axis extending between southern Ghana and southern Mali. The east-west oriented trough is expected to split into two systems, with one of the systems dominating the flow over Congo, Gabon and Cameroon, while the other system dominates the flow over eastern portions of the CAB region. The localized convergence lines over Chad and South Africa are expected to persist with little or no change.

T+72h: The easterly flow over Ghana is expected to move further to the west towards the coastal regions, while the weak cyclonic flows over eastern parts of the Gulf of Guinea and CAB region are expected to continue influencing the rainfall pattern.

1.4. Flow at 500hPa

T+24h: Zonal easterlies are expected to dominate the flow over much of tropical Africa, while mid-tropospheric perturbations in the easterlies are expected over the Gulf of Guinea region. On the other hand, a trough associated with mid-latitude frontal system is expected to extend northwards across Mozambique Channel influencing the flow over the Channel and Adjacent areas.

T+48h: The easterly perturbation over the Gulf of Guinea is expected to move slightly to the west, while weakening. On the other hand, the westerly trough over Mozambique Channel is expected to fill up slightly.

T+72h: The easterly perturbation over the Gulf of Guinea region is expected to weaken further, while the westerly trough over Mozambique Channel is expected to deepen.

1.5. Flow at 200hPa

T+24h: A deep trough in the westerlies is expected to dominate the flow over the Horn of Africa, with its peripheral winds advecting cold air into the region`.

T+48h: The westerly trough over the Horn of Africa is expected to fill up

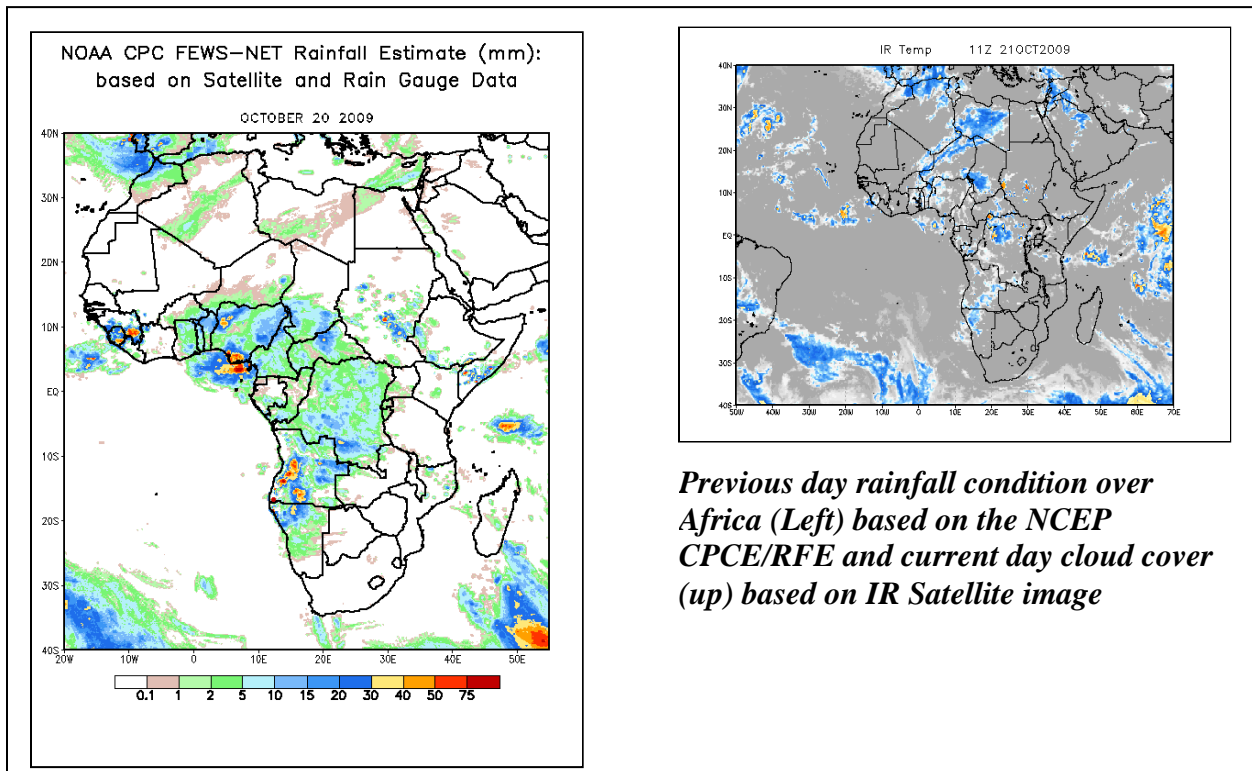
T+72h: The upper tropospheric trough is expected to fill up further.

2. Previous and Current Day Weather Discussion over Africa (20-21 October 2009)

2.1. Weather assessment for the previous day (20 October 2009): During the previous day, moderate to heavy rainfall events were observed over parts of Gulf of Guinea, Burkina Faso, Benin, Togo, southern Niger, Nigeria, Cameroon, southern Chad, Central Africa Rep., DR Congo, southern Angola, northern Namibia, southeastern Sudan and northeastern Kenya.

2.2. Weather assessment for the current day (21 October 2009): Intense clouds are observed over Benin, southwestern Niger, Nigeria, southern Chad, Cameroon, Congo, DR Congo, Central Africa Rep., northwestern Angola and northern Namibia.

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Previous day rainfall condition over Africa (Left) based on the NCEP CPCE/RFE and current day cloud cover (up) based on IR Satellite image

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