

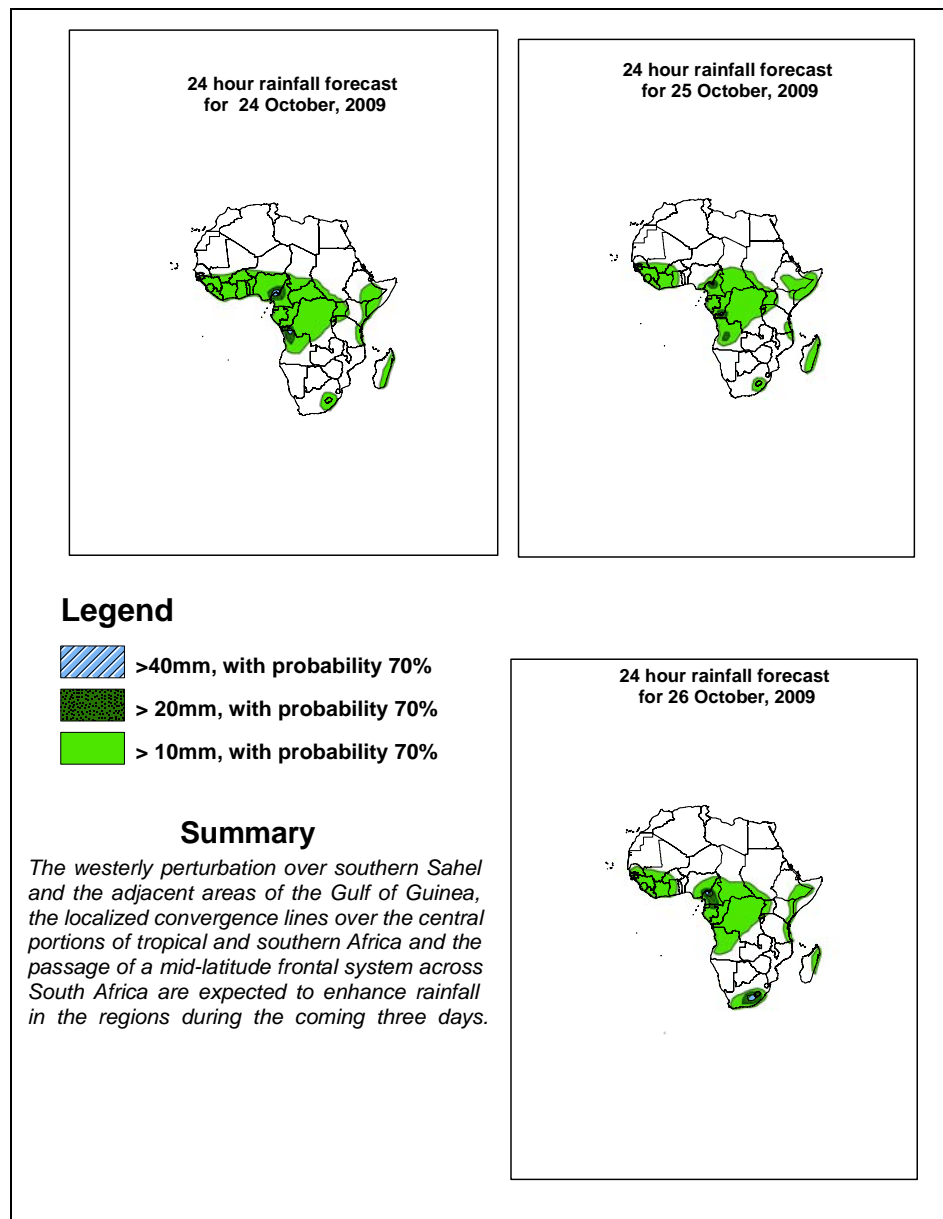


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Forecast Discussion: Valid, 06Z of 24 October – 06Z of 26 October 2009, (Issued at 14:00EST of 22 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; 22, 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 tropospheric easterly is expected to dominate the flow over the Horn of Africa. On the other hand, localized convergences are expected over Chad, Cameroon, eastern DR Congo, and Lake Victoria region, Ethiopia, Angola and Namibia. A trough associated with frontal system is expected across western coast and southern tip of South Africa.

T+48h: The easterly trough is expected to weaken slightly moving towards the west, while maintaining its previous day position. The localized convergence lines over Mali, Chad, Cameroon, eastern DR Congo, Lake Victoria region, Ethiopia, northern Somali, Angola and central parts of South Africa are expected to persist. The trough associated with frontal system is expected to extend over southern Namibia and Botswana through South Africa.

T+72h: The localized convergence lines are expected over Chad, CAB region, southern Sudan, Ethiopia, eastern parts of South Africa with enhanced precipitation in the regions. The trough associated with frontal system is expected to move eastwards off the eastern coast of South Africa.

1.4. Flow at 500hPa

T+24h: Zonal easterlies are expected to dominate the flow over much of tropical Africa, while a weak 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 dominate the flow over southern tip of South Africa, Mozambique Channel and central and southern Madagascar.

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 weaken moving towards the east.

T+72h: Two short wave trough axes of the mid-latitude westerlies flow over South Africa and Madagascar are expected to further weaken, while drifting to the east respectively. However a back hanging trough associated with mid-latitude frontal system is expected over southwestern tip of South Africa.

1.5. Flow at 200hPa

T+24h: A ridge associated with anticyclonic system is expected to dominate the flow over eastern and central parts of the Greater Horn of Africa.

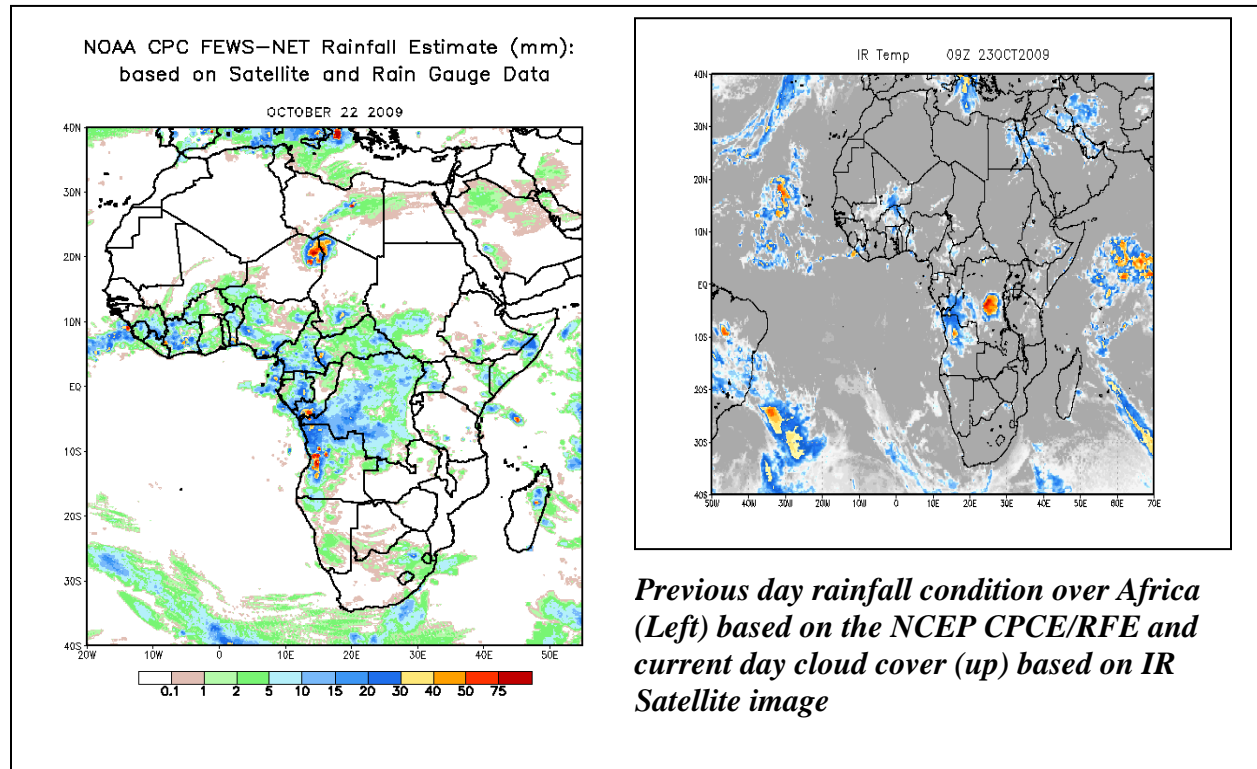
T+48h: There is no significant change in the main flow pattern.

T+72h: The upper tropospheric ridge is expected to retreat northward while eastern coast of Africa under the influence of a trough.

2. Previous and Current Day Weather Discussion over Africa (22-23 October 2009)

2.1. Weather assessment for the previous day (22 October 2009): During the previous day, moderate to heavy rainfall events were observed over parts of Cote D'Ivoire, southern Niger, central Nigeria, southern Chad, central Cameroon, western DR Congo, southwestern Sudan, Lake Victoria region, northeastern Kenya, northern Angola, Gulf of Guinea, southwestern Sudan and northern South Africa.

2.2. Weather assessment for the current day (23 October 2009): Thick to moderate clouds were observed over parts of the Gulf of Guinea region and Central African Republic, southern Niger, southern Chad, Nigeria, Cameroon, southeastern Sudan, western DR Congo, and Angola.



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

Authors: Anthony Twahirwa (Rwanda Meteorological Services)
Chali Debele (National Meteorological Agency of Ethiopia and African desk)

Disclaimer: This bulletin is for training purposes only and should be used as guidance. NOAA does not make forecasts for areas outside of the United State.