

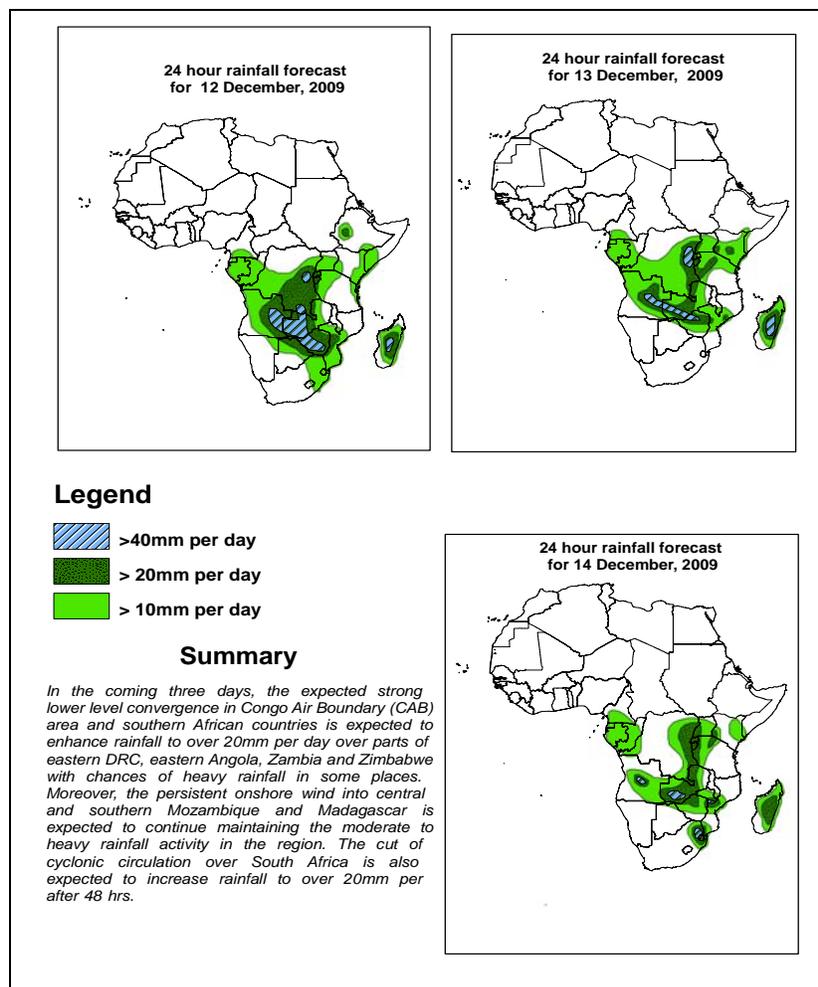


## NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

### 1.0. Rainfall Forecast: Valid, 06Z of 15 December – 06Z of 17 December 2009, (Issued at 14:00EST of 14 December 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. Models Comparison and Discussion - Valid from 00Z of 15 December 2009***

All the GFS, UK Met Office and the ECMWF models indicate a gradual strengthening of a lower tropospheric circulation off the coast off Tanzania through 24 to 72 hrs. As a result of this, the persistent easterly flow across the Horn of Africa is expected to weaken and be replaced by a northwesterly flow. On the other hand, the lower level convergence over the CAB region is expected to remain active during 24 to 48 hrs, while it is expected to weaken after 48hrs. A mid-latitude frontal system is expected to affect the flow over southern African countries during 24 to 72 hrs.

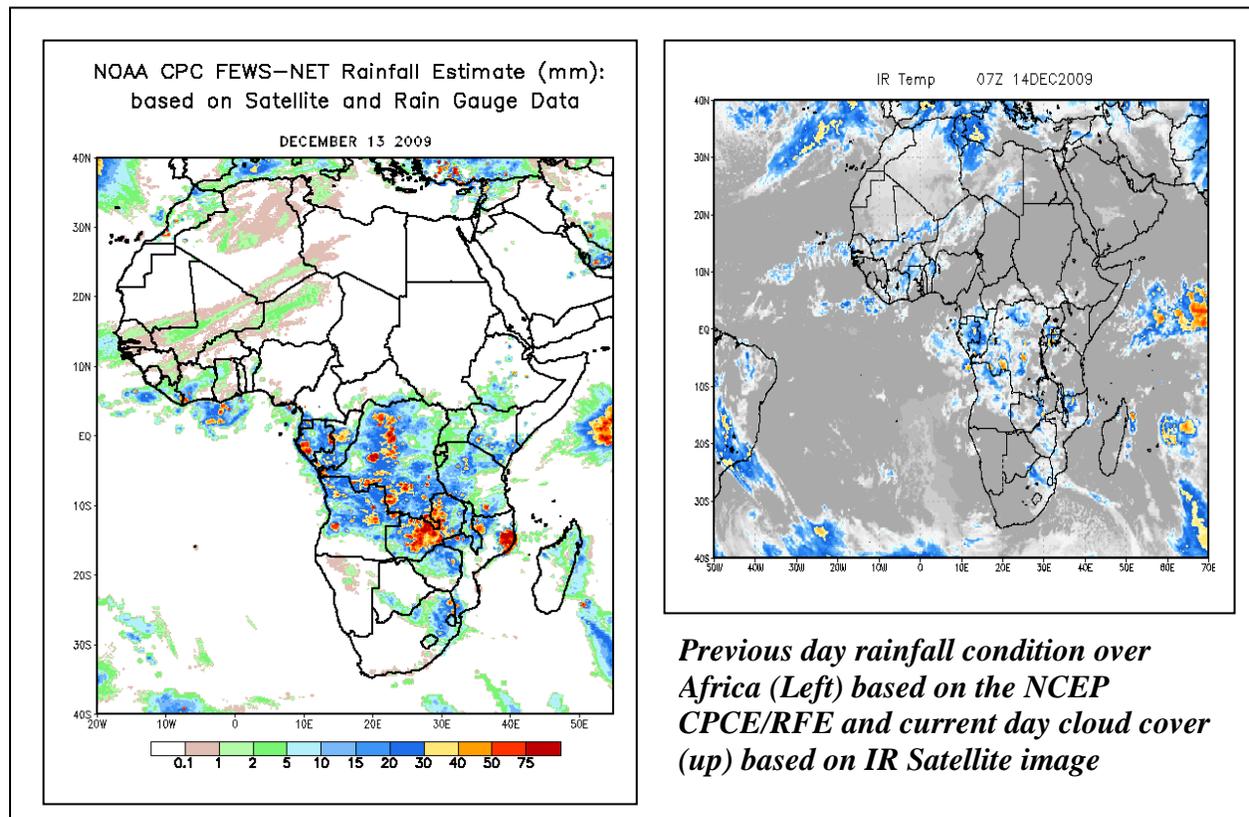
At the 500mb level, the flow over northern African countries is expected to remain more or less zonal through 24 to 72 hrs, while the flow over sub-tropical areas of the southern hemisphere is expected to have a wavy pattern, with trough axes extending northward across southeast Atlantic Ocean and Mozambique Channel. A wavy pattern in the westerly flow is expected to dominate the flow over the sub-tropical areas of the southern hemisphere, with a trough axis remaining over southern African countries during 24 to 72 hrs.

In the coming three days, the expected strong lower level convergence in Congo Air Boundary (CAB) area and the passage of a mid-latitude frontal system across southern African countries are expected to enhance precipitation to over 20mm per day over southern DRC, parts of eastern Angola and Zambia. Moreover, the persistent onshore wind into Madagascar is expected to continue maintaining the moderate to heavy rainfall activity in the region.

## 2. 0. Previous and Current Day Weather Discussion over Africa (13 – 14 December to 2009)

**2.1. Weather assessment for the previous day (13 December 2009):** During the previous day, moderate to heavy rainfall events were observed over parts of Gabon, Congo, DR Congo, northern Angola, southern Tanzania, Zambia, northeastern Zimbabwe and eastern South Africa.

**2.2. Weather assessment for the current day (14 December 2009):** Intense clouds are observed over parts of southern Congo, DR Congo, Lake Victoria basin, northern Angola, central Zambia, northern Mozambique and Madagascar.



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**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.