

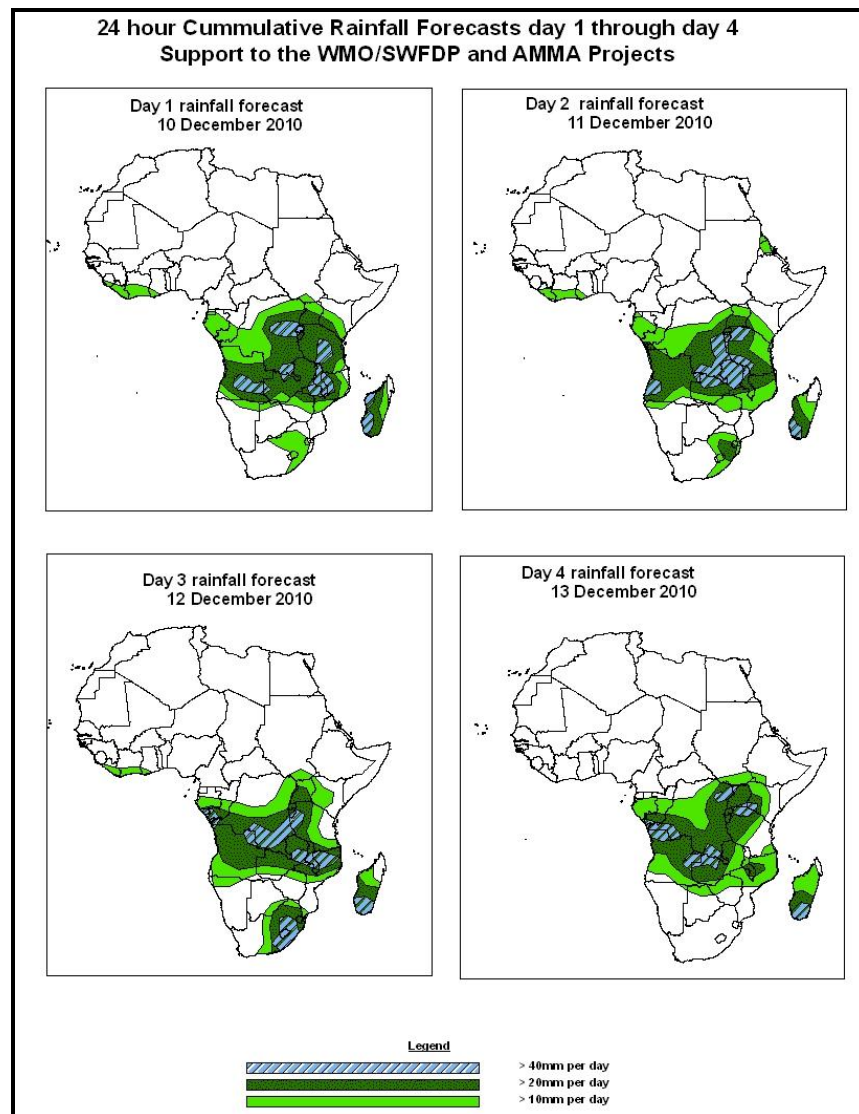


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1.0. Rainfall Forecast: Valid, 07Z of 10 DECEMBER – 06Z of 13 DECEMBER 2010, (Issued at 14:00Z of 09 DECEMBER 2010)

### 1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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



### Summary

In the coming four days, there is an increased chance for rainfall to exceed 20mm per day over Southern Africa, East Africa and over southern DRC with chances of locally heavy rainfall over Tanzania, Kenya, Zambia, Angola, Mozambique, Malawi, DRC, Burundi, Rwanda, Madagascar, Lesotho and South Africa

## **1.2. Models Comparison and Discussion-Valid from 00Z of 09 DECEMBER 2010.**

According to the GFS, ECMWF and UKMET models a cut off low over south Sudan is expected to deepen during the next 48 to 72 hours. Another cut off low over east coast of Tanzania is expected to deepen in the next 48 to 72hours. Another cut off low southwest of Madagascar is expected to extend to Mozambique in the next 48 hours. The models are also indicating a cut off low over DRC and Tanzania and it is expected to extend to southeast DRC and Zambia in the next 72hours.

The seasonal low pressure system (Meridional component of the ITCZ) is still more active over the southern parts of the Continent.

According to the GFS, ECMWF and UKMET models, the southern hemisphere High pressure system (St. Helena) is expected to extend a ridge to the east coast of South Africa in 72 hours and then retreat westwards during the next 96 hours. Also the Mascarene high pressure is expected to remain generally weak.

At 850hPa level, The GFS model is indicating convergence over Lake Victoria basin from the next 24 to 72 hours. Also a convergence line over DRC is expected to become strong and move to the southwest of DRC and northeast Angola in 72 to 96 hours. A cyclonic convergence over Angola is expected to move to Mozambique in the next 48 hours and extend to the eastern part of South Africa.

At 700hPa level, cyclonic convergence along the western parts of Angola is expected to disappear in the next 72hours. Another cyclonic Convergence along the coast of Mozambique is expected to move to central Madagascar in 24 to 48 hours. A convergence line over western Tanzania's boarder to DRC is expected to become cyclonic convergence in the next 72 hours and move to the Angola/DRC border area. Another weak and short lived cyclonic convergence over Zambia is expected to weaken and disappear beyond 48 hours.

At 200hPa, zone of strong wind (>50Kts) associated with the Sub Tropical westerly Jet in the southern Hemisphere is expected to move off the east coast of South Africa with the wind speed in the range of 90 to 110 Kts in the next 24 hours.

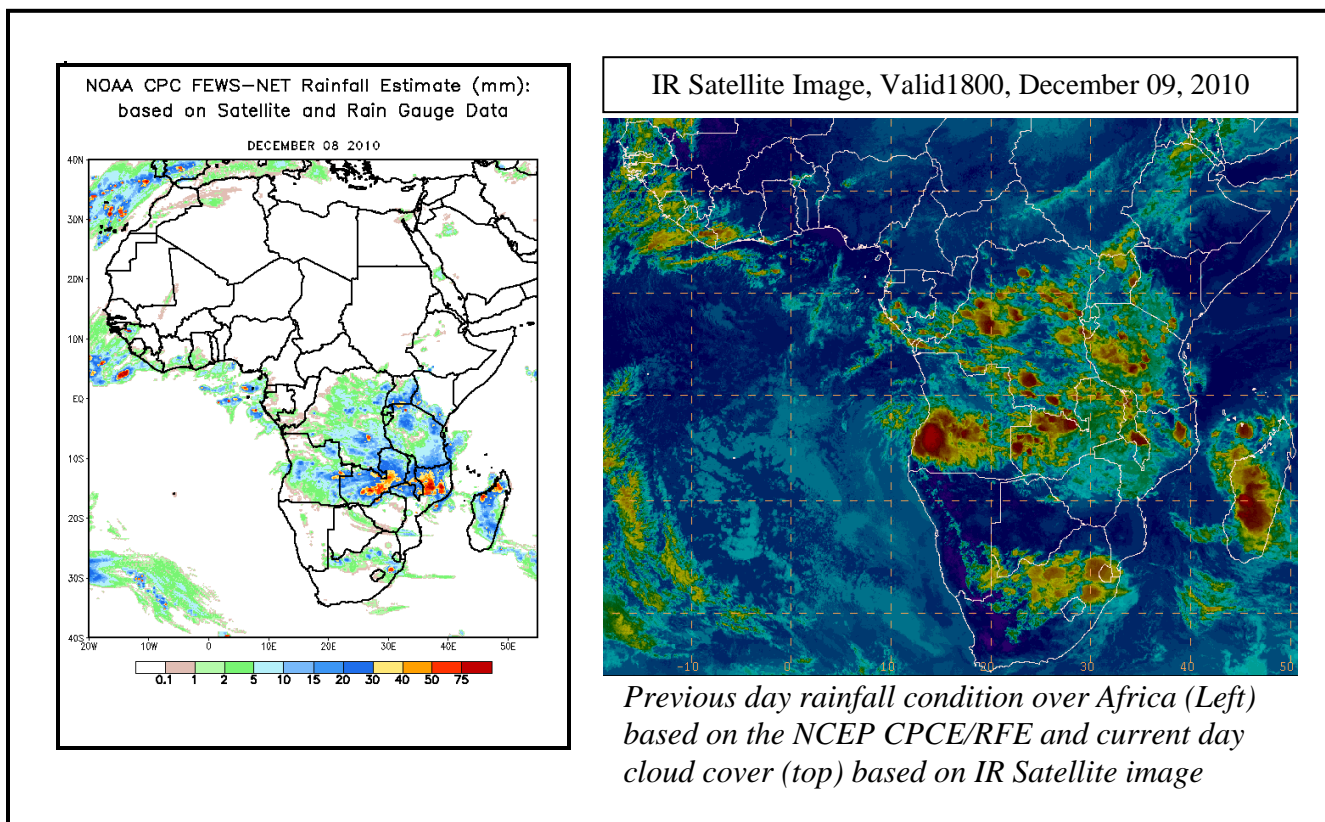
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## ***2.0. Previous and Current Day Weather Discussion over Africa (08 December 2010 – 09 December 2010)***

### **2.1. Weather assessment for the previous day (08 December 2010):**

During the previous day, locally heavy rainfall was observed over Zambia, Mozambique and Madagascar.

### **2.2. Weather assessment for the current day (09 December 2010):** Intense clouds are observed over Angola, Zambia, Madagascar, Mozambique, DRC, Tanzania Malawi and South Africa.



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