

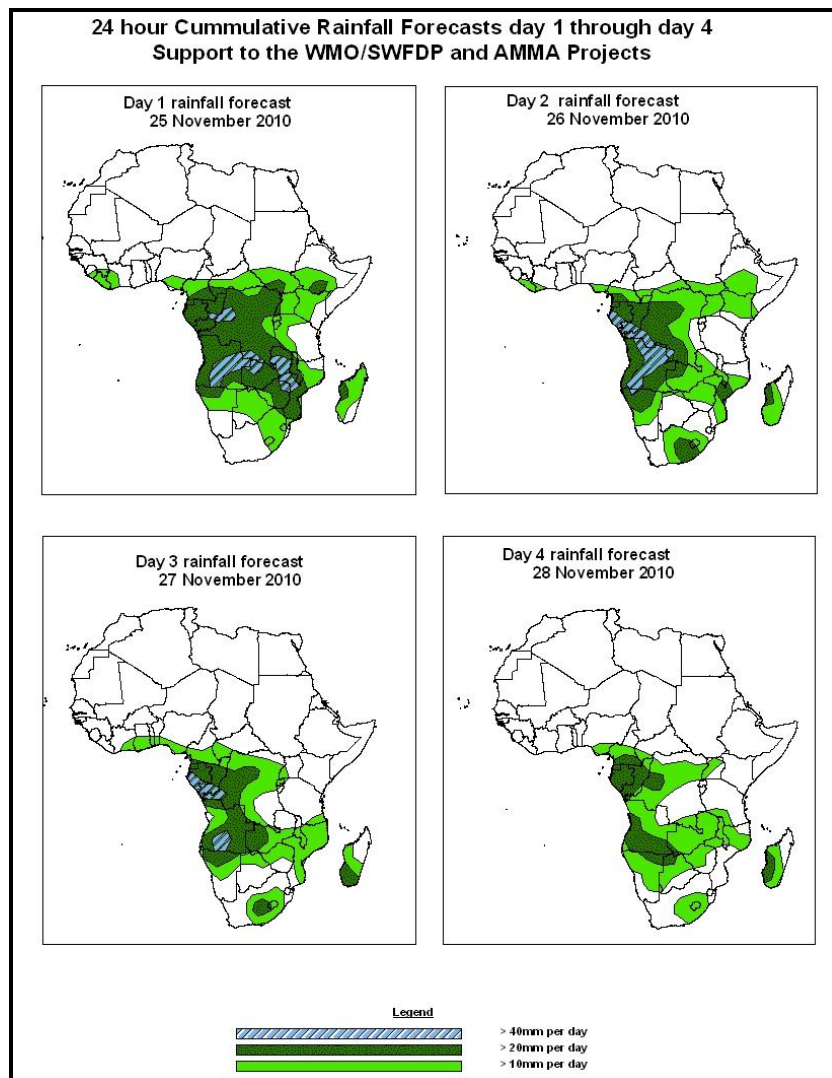


## NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

### 1.0. Rainfall Forecast: Valid, 06Z of 25 NOVEMBER – 06Z of 28 NOVEMBER 2010, (Issued at 14:00Z of 24 NOVEMBER 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 DRC, Southern Africa, Gabon, Congo and Angola with chances of locally heavy rainfall over Zambia, DRC, Angola, Namibia, Congo, Gabon, Mozambique and Zimbabwe.

## **1.2. Models Comparison and Discussion-Valid from 00Z of 24 NOVEMBER 2010.**

The GFS, ECMWF and UKMET models indicates a cut off low from Chad to Sudan across Central Africa Republic in the next 24 to 48 hours. During the next 72 to 96 hours the cut off low is expected to extend to Mali and Burkina Faso. A trough over Congo across Angola to Namibia is expected to move to DRC during the next 72hours. ECMWF and GFS models are indicating another trough from DRC to western parts of South Africa across Angola and Namibia in the next 24 to 48 hours72. The UKMET model is indicating a cut off low over Angola and Botswana in the next 24 to 72 hours.

The seasonal low pressure system (Meridional component of the ITCZ) is limited over DRC as a cut off low and likely to persist during the next 24 to 96 hours.

According to the GFS, ECMWF and UKMET models, the southern hemisphere High pressure system (St. Helena) is extending weak ridge to the eastern parts of South Africa. During the in the next 24 hours all the three model are indicating a likelihood of retreating of the St. Helena high pressure. The Mascarene high pressure is expected to remain generally weak.

At 850hPa level, The GFS model is indicating a convergence line over south Sudan that is expected to extend to Gabon across Central Africa Republic in the next 24 hours. The convergence is expected to extend further to south Nigeria and become weak in the next 48 hours. A cyclonic convergence over eastern Angola and Zambia is expected to persist during the next 24 to 72 hours. Another convergence line over DRC is expected to move to western DRC and Congo in the next 72 hours. Another Convergence line over Mozambique, Zimbabwe and Zambia is expected to weaken slightly and extends to Malawi in the next 24 to 72 hours.

At 700hPa level, a cyclonic convergence over Angola is expected to persist for the next 72 hours and extends to northern Angola and southwestern DRC in the next 48hours. Another convergence line along the coast of Namibia and South Africa is expected to move to the south coast of South Africa in the next 72 hours. A weak convergence line extending from Sudan to Gabon across Congo and Central Africa Republic is expected to persist during the next 24 to 96 hours. Another weak convergence line over Zambia

and Botswana is expected to move to the Mozambique coast and parts of western Madagascar in the next 48 to 96 hours.

At 200hPa, zone of strong wind (>50Kts) associated with the Sub Tropical westerly Jet in the southern Hemisphere is expected to move to the east across the southern tip of South Africa in the next 48 hours. Wind speed is expected to be in the range of 90 to 110 Kts.

In the coming four days, there is an increased chance for rainfall to exceed 20mm per day over DRC, Southern Africa, Gabon, Congo and Angola with chances of locally heavy rainfall over Zambia, DRC, Angola, Namibia, Congo, Gabon, Mozambique and Zimbabwe.

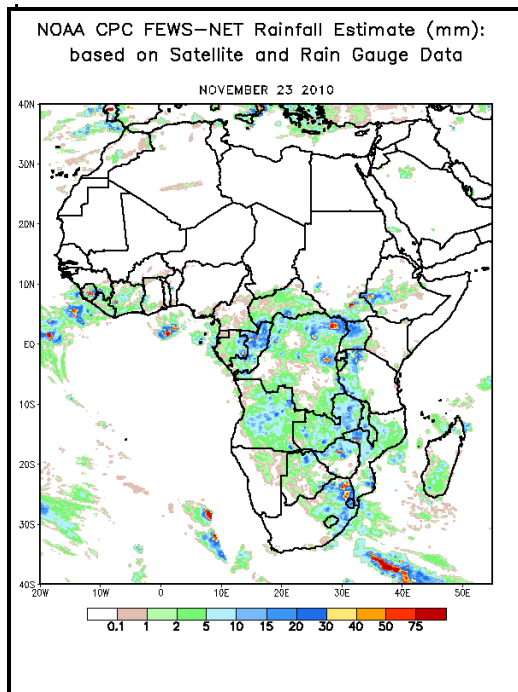
## 2.0. Previous and Current Day Weather Discussion over Africa (23 November 2010 – 24 November 2010)

### 2.1. Weather assessment for the previous day (23 November 2010):

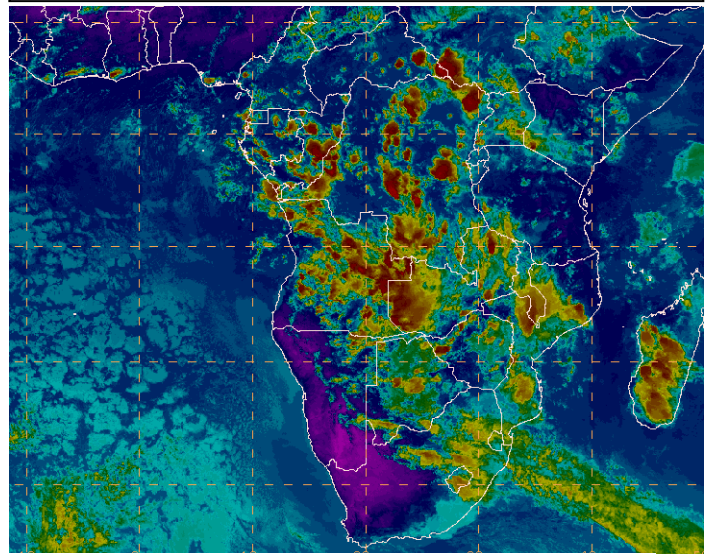
During the previous day, locally moderate rainfall was observed over Congo, DRC, South Africa, Lesotho and Angola.

### 2.2. Weather assessment for the current day (24 November 2010):

Intense clouds are observed over Angola, DRC, Congo, Zambia, Guinea, Mozambique and Madagascar.



IR Satellite Image, Valid 1722, November 24, 2010



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

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