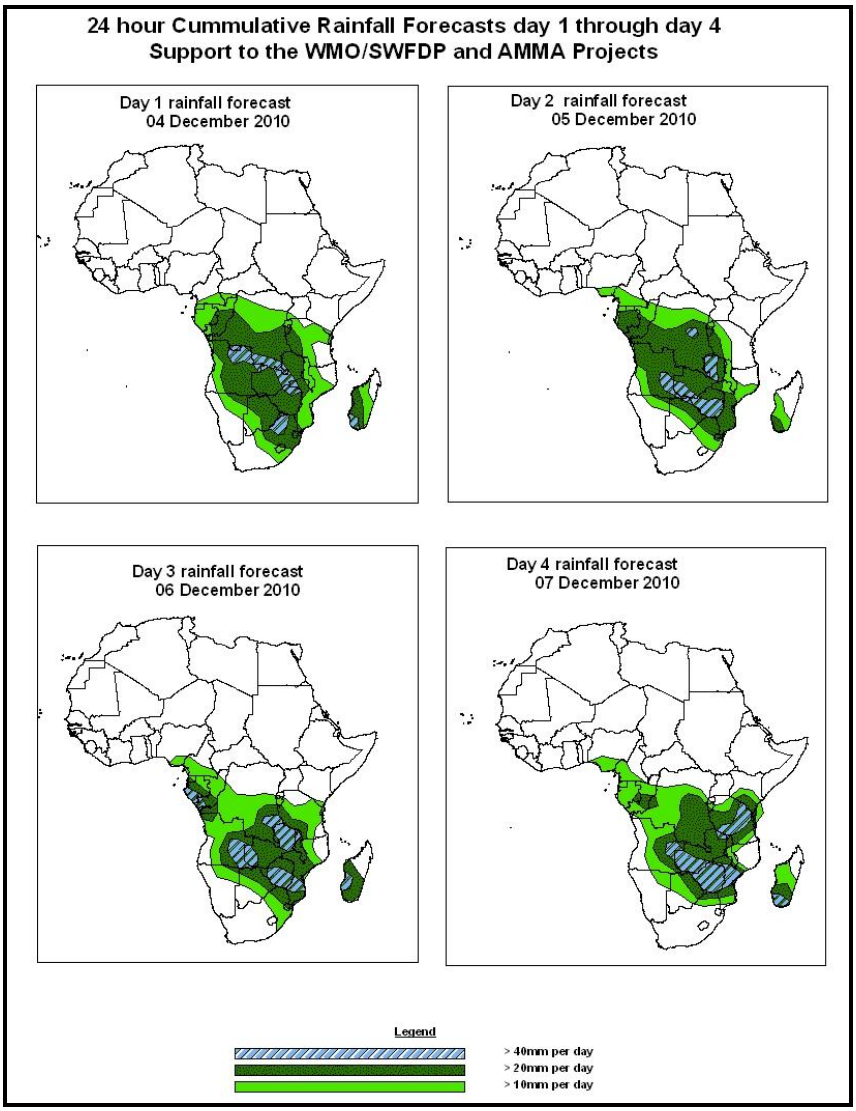
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 04 DECEMBER – 06Z of 07 DECEMBER 2010, (Issued at 14:00Z of 03 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 DRC, parts of East Africa, Southern Africa and Gabon with chances of locally heavy rainfall over Zambia, Mozambique, Zimbabwe, Tanzania, DRC, Angola, Madagascar and Gabon.

1.2. Models Comparison and Discussion-Valid from 00Z of 03 DECEMBER 2010.

The GFS, ECMWF and UKMET models indicate a cut off low from Sudan to Central Africa Republic during the forecast period. A broad trough over east of South Africa to southeast Angola across Botswana, Zimbabwe and Mozambique is expected to become a cut off low and extend to Zambia in the next 48 hours. The models are indicating that the cut off low will be more active over Zimbabwe, Mozambique and Zambia in 72 to 96 hours. Another cut off low over DRC and western Tanzania is expected to persist in the next 24 to 72 hours according to GFS and UKMET models. The ECMWF is indicating a trough over eastern Mozambique to South Africa during the next 24 to 48 hours. The trough is expected extend to Botswana and Angola in 96hours.

The seasonal low pressure system (Meridional component of the ITCZ) is diffused and occasionally expected to move to the eastern DRC.

According to the GFS, ECMWF and UKMET models, the southern hemisphere High pressure system (St. Helena) is expected to be intensifying slightly during the next 48 to 72 hours. Also the Mascarene high pressure is expected to remain generally weak.

At 850hPa level, The GFS model is indicating convergence from southern Congo to northern Zambia across DRC during the next 24 hours .The convergence is expected to move to Uganda and extend to east Zambia and Malawi across Tanzania in the next 72 to 96 hours. Another convergence line along the border of Angola, Botswana and Zambia is expected to persist and move to southeast Angola and Zambia in the next 96 hours. A Convergence line coast of Mozambique is expected to extend to east Zambia in the next 72 hours.

At 700hPa level, cyclonic convergence over southern Angola is expected to move to Zimbabwe across Zambia in the next 72 hours. A Convergence over north Angola is expected persist for the next 96hours. A Convergence line across Tanzania to Zambia is expected to extend to southeast DRC in the next 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 coming four days, there is an increased chance for rainfall to exceed 20mm per day over DRC, parts of East Africa, Southern Africa and Gabon with chances of locally heavy rainfall over Zambia, Mozambique, Zimbabwe, Tanzania, DRC, Angola, Madagascar and Gabon.

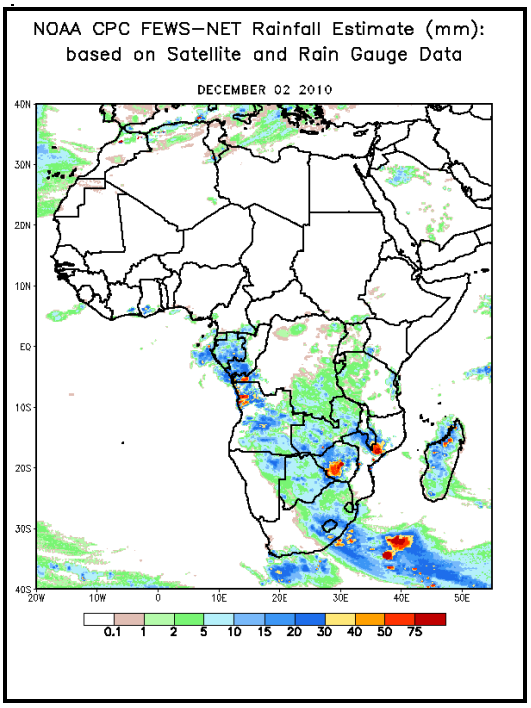
2.0. Previous and Current Day Weather Discussion over Africa (02 December 2010 – 03 December 2010)

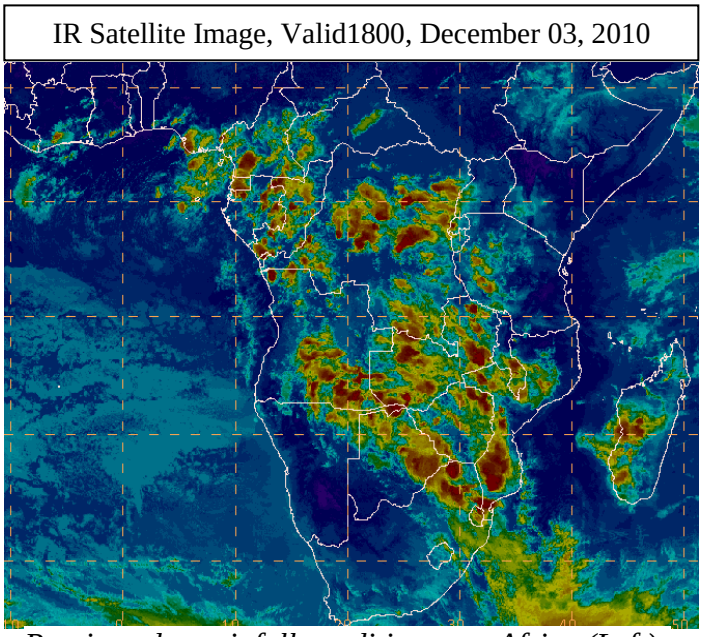
2.1. Weather assessment for the previous day (02 December 2010):

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

2.2. Weather assessment for the current day (03 December 2010):

Intense clouds are observed over Mozambique, Zambia, Botswana, DRC, South Africa and Madagascar.





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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