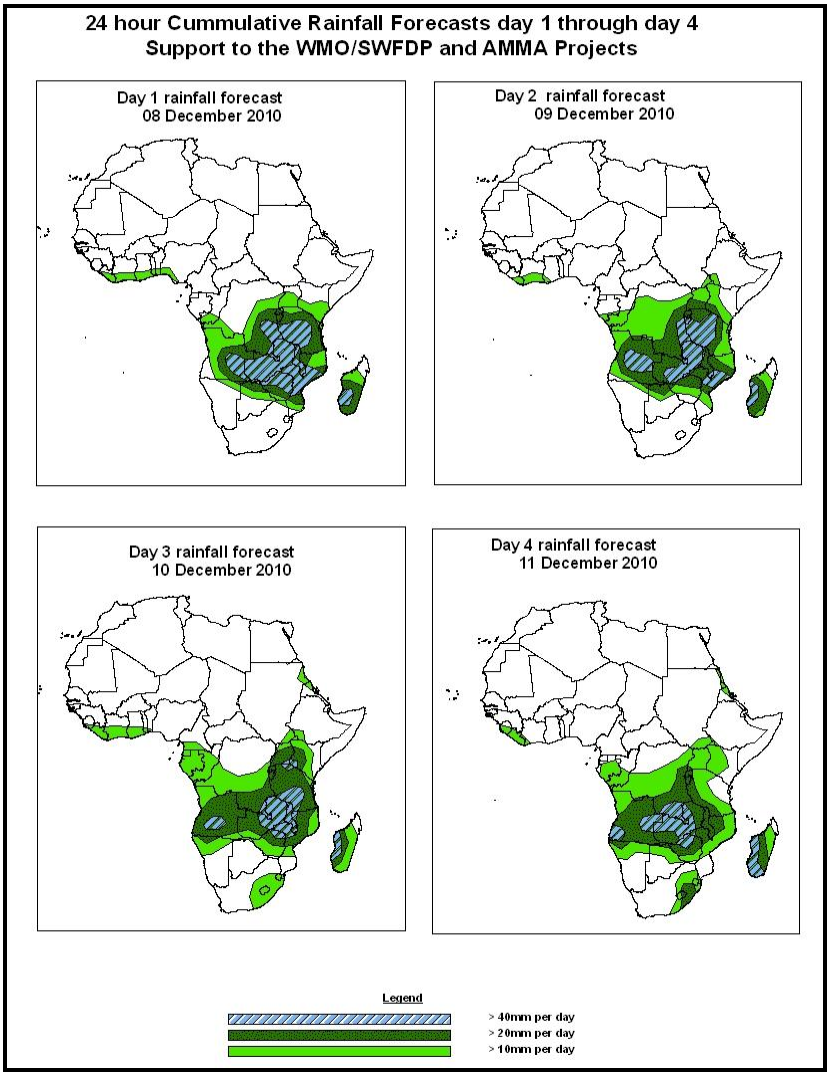
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 07Z of 08 DECEMBER – 06Z of 11 DECEMBER 2010, (Issued at 14:00Z of 07 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, Zambia, Mozambique, Angola, Malawi, Zimbabwe, southeast DRC, Burundi, southwestern Kenya and Madagascar

1.2. Models Comparison and Discussion-Valid from 00Z of 07 DECEMBER 2010.

The GFS, ECMWF and UKMET models indicate a cut off low from Sudan to Central Africa Republic during the next 72 hours extending to DRC towards the end of the forecast period. A trough along the coast of Somalia and Tanzania is expected to become a cut off low over the coastal of Tanzania and Kenya in the next 48 to 96hours. Another cut off low over east Angola and Zambia is expected to extend to southwest Botswana and northern parts of South Africa in 96 hours. The UKMET model is indicating a cut off low from east Tanzania to western Zambia and it is expected to extend to DRC in the next 72hours. Also the UKMET model is indicating a cut off low along the border of Namibia and South Africa that is expected to move northeastwards to Botswana in the next 72 to 96 hours.

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 24 hours and then retreat westwards during the next 72 hours. Also the Mascarene high pressure is expected to remain generally weak.

At 850hPa level, The GFS model is indicating convergence along the Tanzania coast during the next 24 hours. The convergence is expected to extend to Lake Victoria basin in the next 48 hours. Another convergence line from Mozambique to south Zambia across Malawi and Zimbabwe is expected to persist for the next 24 to 72 hours. Also a convergence line from Congo to northern Zambia across DRC is expected to persist for the next 48 to 72hours.

At 700hPa level, cyclonic convergence along over Zambia and Angola is expected to persist for the next 24 to 72hours. A convergence line over east Tanzania is expected to move westwards in the next 48 to 72 hours. Another convergence line over Mozambique and Malawi extending to Zimbabwe is expected to weaken slightly beyond 72 hours and move to the Mozambique coast. Another convergence line over DRC is expected to move southwards and extend to northern parts of Zambia in the next 96hours.

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 72 hours.

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, Zambia, Mozambique, Angola, Malawi, Zimbabwe, southeast DRC, Burundi, southwestern Kenya and Madagascar.

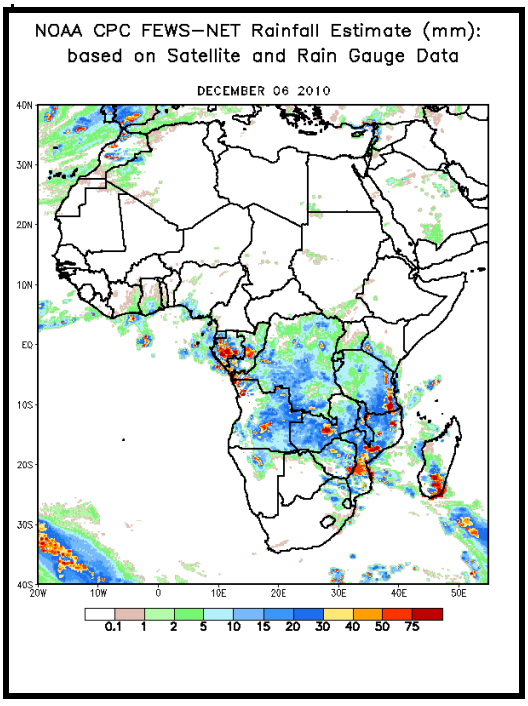
2.0. Previous and Current Day Weather Discussion over Africa (06 December 2010 – 07 December 2010)

2.1. Weather assessment for the previous day (06 December 2010):

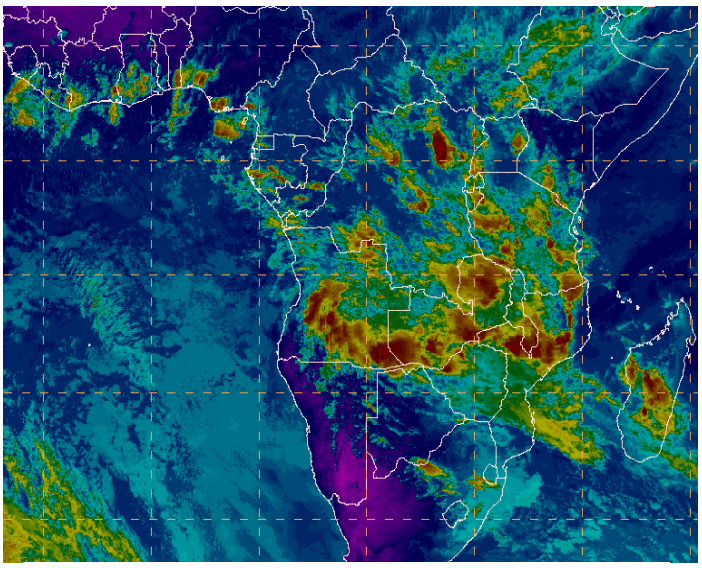
During the previous day, locally heavy rainfall was observed over Tanzania, Mozambique, Congo, Gabon, Zambia and Madagascar.

2.2. Weather assessment for the current day (07 December 2010):

Intense clouds are observed over Zambia, Angola, Tanzania, Mozambique, Malawi and Madagascar.



IR Satellite Image, Valid1800, December 07, 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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