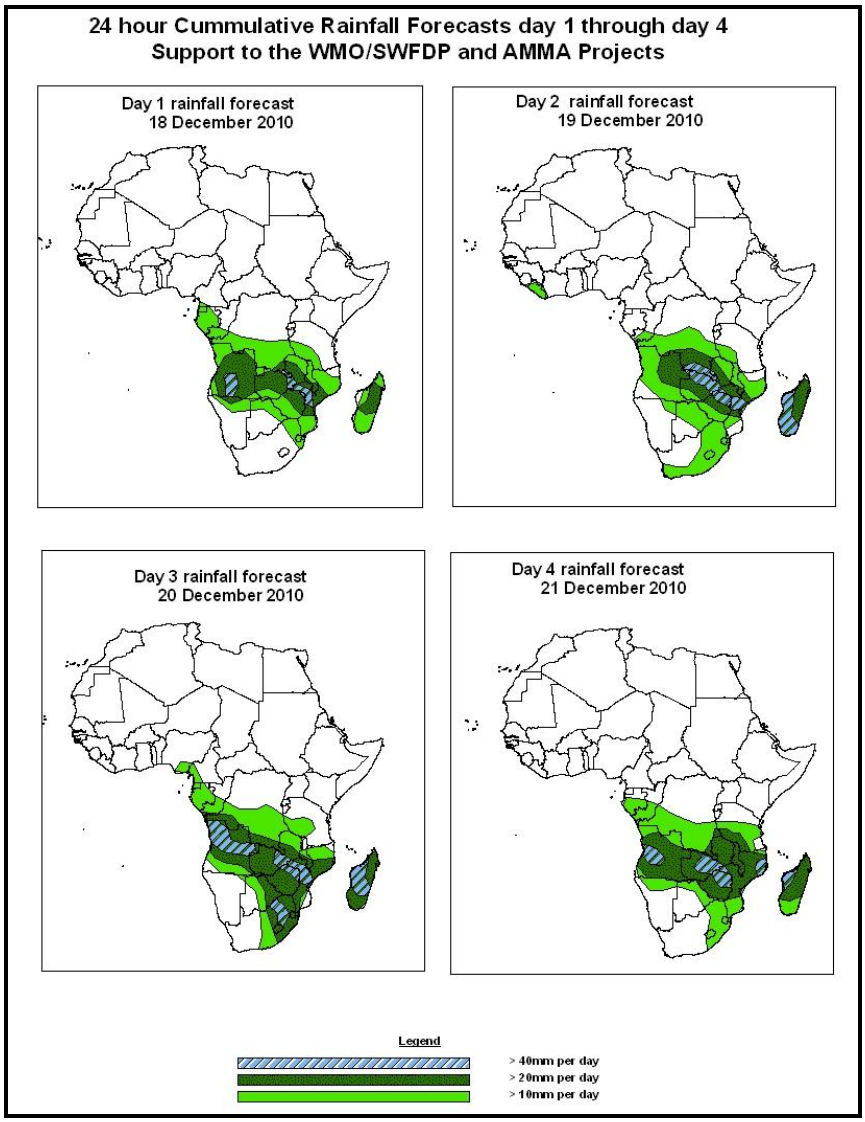
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 07Z of 18 DECEMBER – 06Z of 21 DECEMBER 2010, (Issued at 14:00Z of 17 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 with chances of locally heavy rainfall over Angola, Zambia, Zimbabwe, Mozambique, South Africa and Madagascar. Generally, decrease of rainfall over East Africa and a greater part of DRC. Rainfall is likely to resume over southern Tanzania.

1.2. Models Comparison and Discussion-Valid from 00Z of 17 DECEMBER 2010.

According to the GFS, ECMWF and UKMET models a cut off low along the coast of Mozambique and Madagascar is expected to extend to southern Tanzania in the next 72 hours and then extend to Namibia across Zambia and Botswana. A trough over Angola and DRC is expected to move to Zambia, eastern Namibia and northwest of Botswana in the next 72 to 96 hours. Another cut off low over Botswana and South Africa is expected to extend to Mozambique in the next 72 hours. Along the Gulf of Guinea a cut of low extends to Ghana in the next 24 hours and become weak. The UKMET model is indicating another trough over DRC and western Tanzania in the next 72to 96 hours.

The seasonal low pressure system (Meridional component of the ITCZ) is still active over the southern parts of the Continent. During the next 48 hours slight relaxation is expected mainly over the northern parts of the region.

According to the GFS, ECMWF and UKMET models, St. Helena High pressure system over southern hemisphere is expected to remain to the west of the continent during the next 48hours and then extends a weak ridge to the southern tip of South Africa. Also Mascarene high pressure system is expected to remain generally weak.

At 850hPa level, The GFS model indicates convergence over Mozambique, Zambia and Zimbabwe is expected to extend to Angola in the next 48 hours. Another convergence line over DRC and Angola is expected to extend to western Tanzania in the next 48. A convergence line over Botswana and northern Namibia is expected to become weaken slightly in the next 48 to 72 hours.

At 700hPa level, convergence over Angola and western Zambia is expected to move southwards in the next 24 hours. Another weak convergence line over Malawi and Southern Tanzania is expected to extend to Mozambique and Zimbabwe during the next 48 to 72hours.

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 in the next 24 hours. Wind speed is expected to be in the range of 90 to 110 kts.

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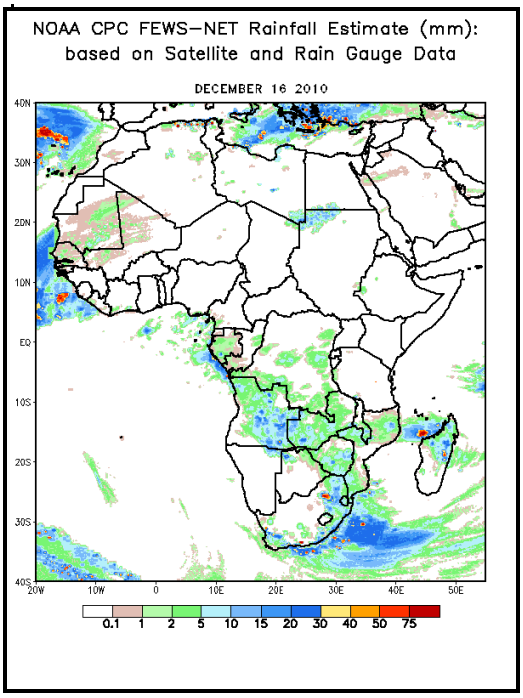
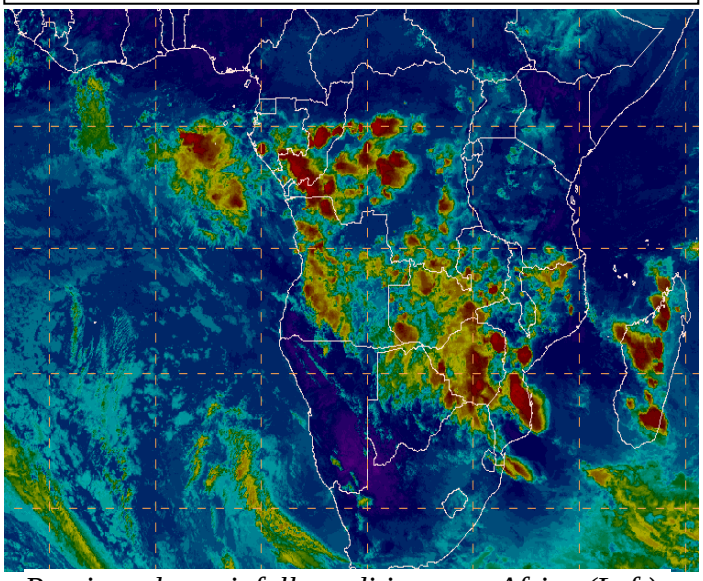
2.0. Previous and Current Day Weather Discussion over Africa (16 December 2010 – 17 December 2010)

2.1. Weather assessment for the previous day (16 December 2010):
During the previous day, only moderate rainfall was observed over Angola.

2.2. Weather assessment for the current day (17 December 2010): Intense clouds are observed over DRC, Congo, Mozambique, Zimbabwe, Zambia and Madagascar.



IR Satellite Image, Valid 1730, December 17, 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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