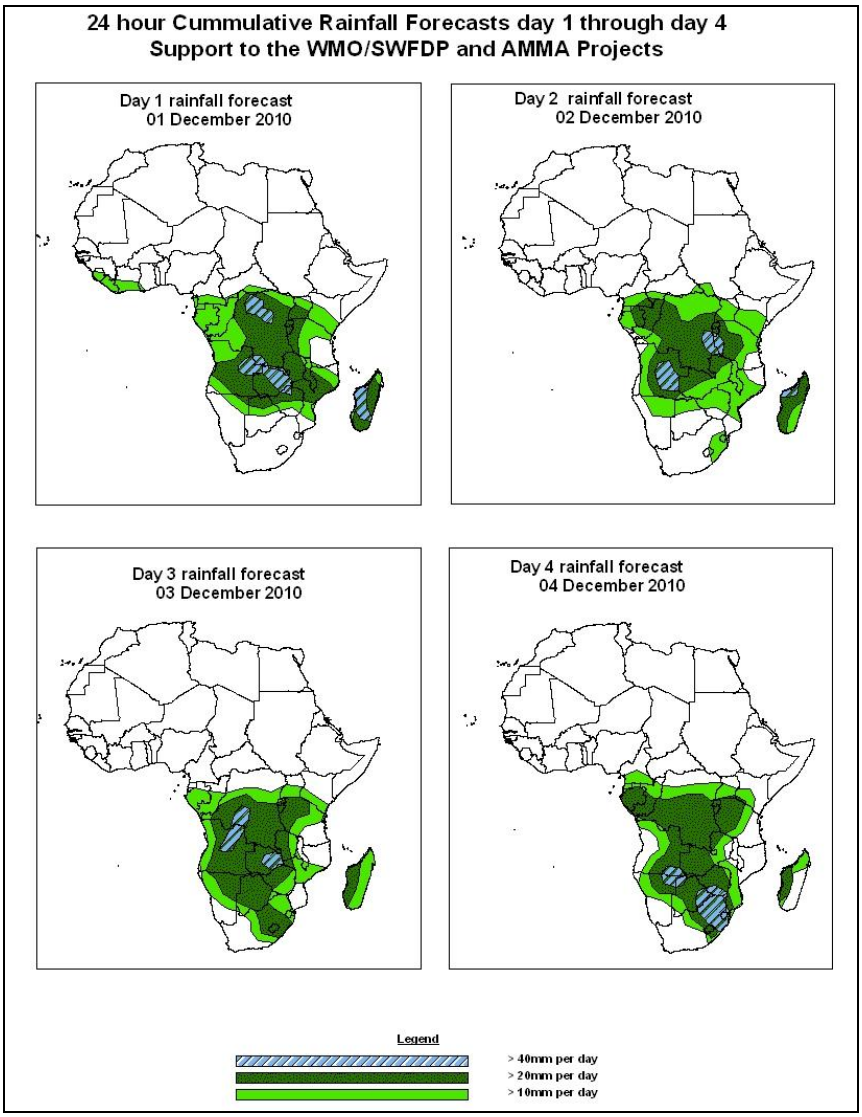
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 01 DECEMBER – 06Z of 04 DECEMBER 2010, (Issued at 14:00Z of 30 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, western parts of East Africa and Southern Africa with chances of locally heavy rainfall over DRC, Tanzania, Burundi, Angola, Zambia, Namibia, Botswana, Madagascar, Swaziland and South Africa.

1.2. Models Comparison and Discussion-Valid from 00Z of 30 NOVEMBER 2010.

The GFS and UKMET models indicate a trough from southern Sudan to western DRC across Central Africa Republic in the next 24 hours. The trough is expected to extend to southern Chad, Togo and Nigeria in the next 48 hours. A cut of low over Namibia and South Africa is expected to become broad extending to Angola, Zambia and west of South Africa in the next 24 hours. Another cut off low over Angola, Namibia, Botswana and Zambia is expected to persist and merge with the one over South Africa in the next 48 hours. Also the models are indicating weak trough system along the coast of Kenya that is expected to weaken in the next 48hours.

The seasonal low pressure system (Meridional component of the ITCZ) is not well defined and likely to remain as such during the next 24 to 72 hours.

According to the GFS, ECMWF and UKMET models, the southern hemisphere High pressure system (St. Helena) is gradually retreating westwards and expected to weaken during the forecast period. The Mascarene high pressure is expected to remain generally weak.

At 850hPa level, The GFS model is indicating a convergence line over western DRC and western Tanzania .The convergence is expected to extend to central Tanzania in the next 48 hours and later become limited over central DRC. Another convergence line over Zambia and Angola is expected to extend to Botswana and South Africa in the next 48 to 72 hours. Another Convergence line along the Mozambique coast is expected to extend to the west cost of Madagascar in the next 24 hours and then become weak in 72hours.

At 700hPa level, a strong convergence over Rwanda and Burundi is expected to extend to DRC and western Tanzania during the next 24 to 48 hours. Beyond 72 hours the convergence is expected to weaken significantly. Another Convergence line over Angola and Zambia is expected to move over Central Angola in the next 48 hours and then extends to Botswana in 72 hours. Another Convergence line over Mozambique and parts of Zimbabwe is expected to persist during the next 24 hours and then disappear. A convergence line over southern coast of Kenya is expected to extend to Tanzania in the next 48 to 72 hours.

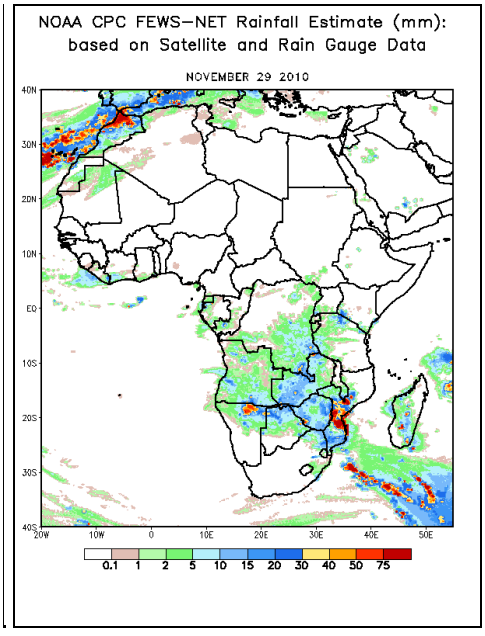
At 200hPa, zone of strong wind (>50Kts) associated with the Sub Tropical westerly Jet in the southern Hemisphere is expected to move off the east coast of South Africa with the wind speed in the range of 90 to 110 Kts.

In the coming four days, there is an increased chance for rainfall to exceed 20mm per day over DRC, western parts of East Africa and Southern Africa with chances of locally heavy rainfall over DRC, Tanzania, Burundi, Angola, Zambia, Namibia, Botswana, Madagascar, Swaziland and South Africa.

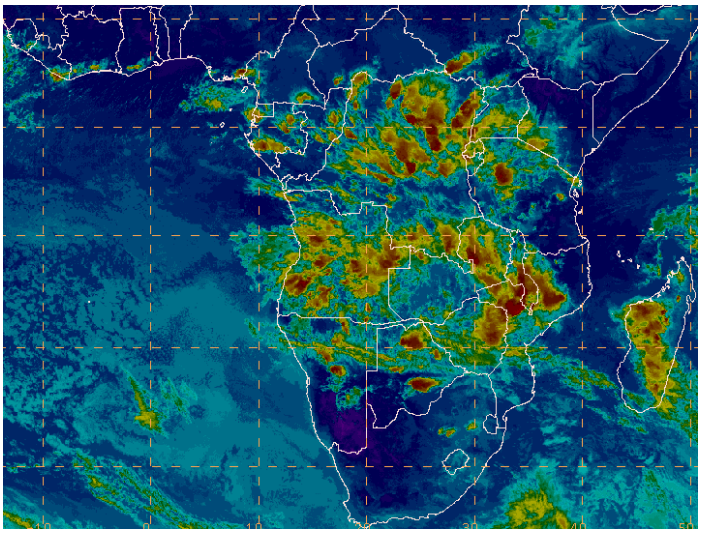
2.0. Previous and Current Day Weather Discussion over Africa (29 November 2010 – 30 November 2010)

2.1. Weather assessment for the previous day (29 November 2010):
During the previous day, locally heavy rainfall was observed over Mozambique, Namibia and Botswana/Zimbabwe border area.

2.2. Weather assessment for the current day (30 November 2010): Intense clouds are observed over DRC, Angola, Zambia, Malawi, Zimbabwe, Mozambique, Madagascar and Botswana.



IR Satellite Image, Valid1800, November 30, 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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