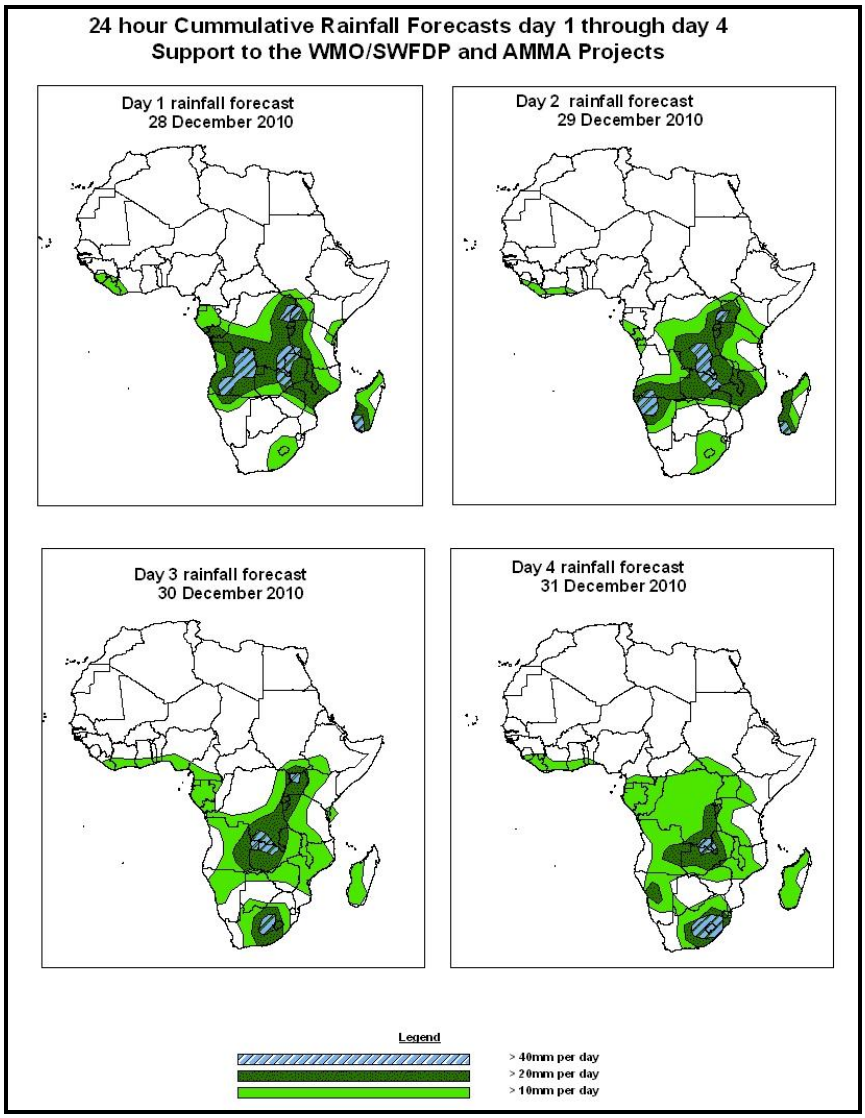
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 07Z of 28 DECEMBER – 06Z of 31 DECEMBER 2010, (Issued at 14:00Z of 27 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 DRC with chances of locally heavy rainfall over Angola, Namibia, Zambia, DRC, Uganda, Madagascar, South Africa and Lesotho.

1.2. Models Comparison and Discussion-Valid from 00Z of 27 DECEMBER 2010.

According to the GFS, ECMWF and UKMET models a trough from Angola to Madagascar across Zambia and Mozambique in the next 24 to 72 hours. The trough is expected move over Mozambique coast and along the East Africa Coast. A cut off low over southern Namibia and northwestern parts of South Africa is expected to move to eastern Namibia and Botswana during the next 72 hours. Another trough across the southern coast of West Africa is expected to persist and likely become a cut off low towards the end of the forecast period. The UKMET model is indicating a weak cut off low over Ghana to southern Nigeria across Togo for the next 48 to 96 hours.

The seasonal low pressure system (Meridional component of the ITCZ) is expected to be active over the southern parts of the Continent and DRC. Slightly weakening is expected towards the end of the forecast period.

According to the GFS, ECMWF and UKMET models, St. Helena High pressure system over southern hemisphere is expected to be weak (central pressure 1020hPa) over southwest of the continent. Also Mascarene high pressure system is expected to remain generally weak.

At 850hPa level, The GFS model indicates convergence line along the border of DRC and Central Africa Republic that is expected to move slightly northwards to southern Sudan. Another Convergence line over the Lake Victoria is expected to extend to DRC and the Gulf of Guinea in the next 48 to 72 hours. A convergence line over Zambia is expected to extend to South Africa across Botswana in the next 48 hours. A cyclonic convergence over Angola is expected to move southwards to the border of Angola and Namibia during the next 48 to 72 hours.

At 700hPa level, Convergence line over Lake Victoria is expected to extend to eastern DRC in the next 48 hours and then move over southern parts of DRC in 72 hours. A cyclonic convergence over Angola is expected to persist during the next 48 to 72 hours. Another convergence line over Zambia and Botswana is expected to move to South Africa in the next 48 to 72 hours and later to Namibia nd western parts and South Africa.

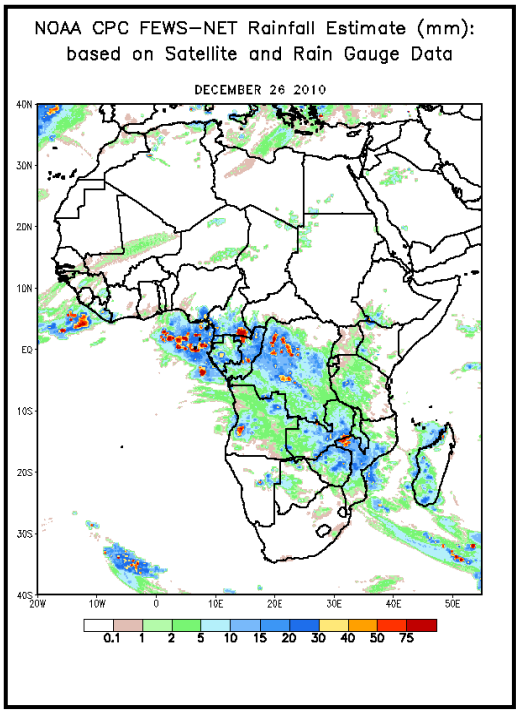
At 200hPa, zone of strong wind (>50Kts) associated with the Sub Tropical westerly Jet in the southern Hemisphere is expected to across the southern tip South Africa in the next 48 to 72 hours. Wind speed is expected to be in the range of 90 to 110 kts.

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

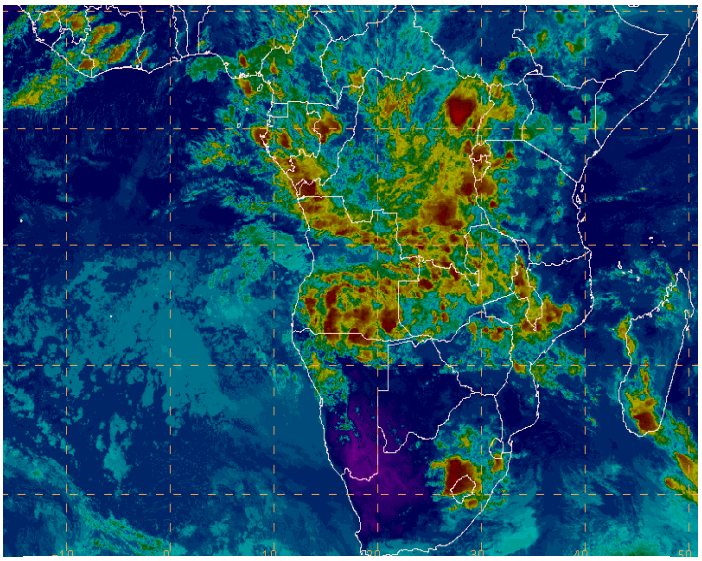
2.0. Previous and Current Day Weather Discussion over Africa (26 December 2010 – 27 December 2010)

2.1. Weather assessment for the previous day (26 December 2010):
During the previous day, moderate to heavy rainfall was observed over DRC, Mozambique and Congo/Cameroon border.

2.2. Weather assessment for the current day (27 December 2010): Intense clouds are observed over DRC, Angola, Zambia, Tanzania, Mozambique, Congo, Madagascar, Lesotho and South Africa.



IR Satellite Image, Valid 1800, December 27, 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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