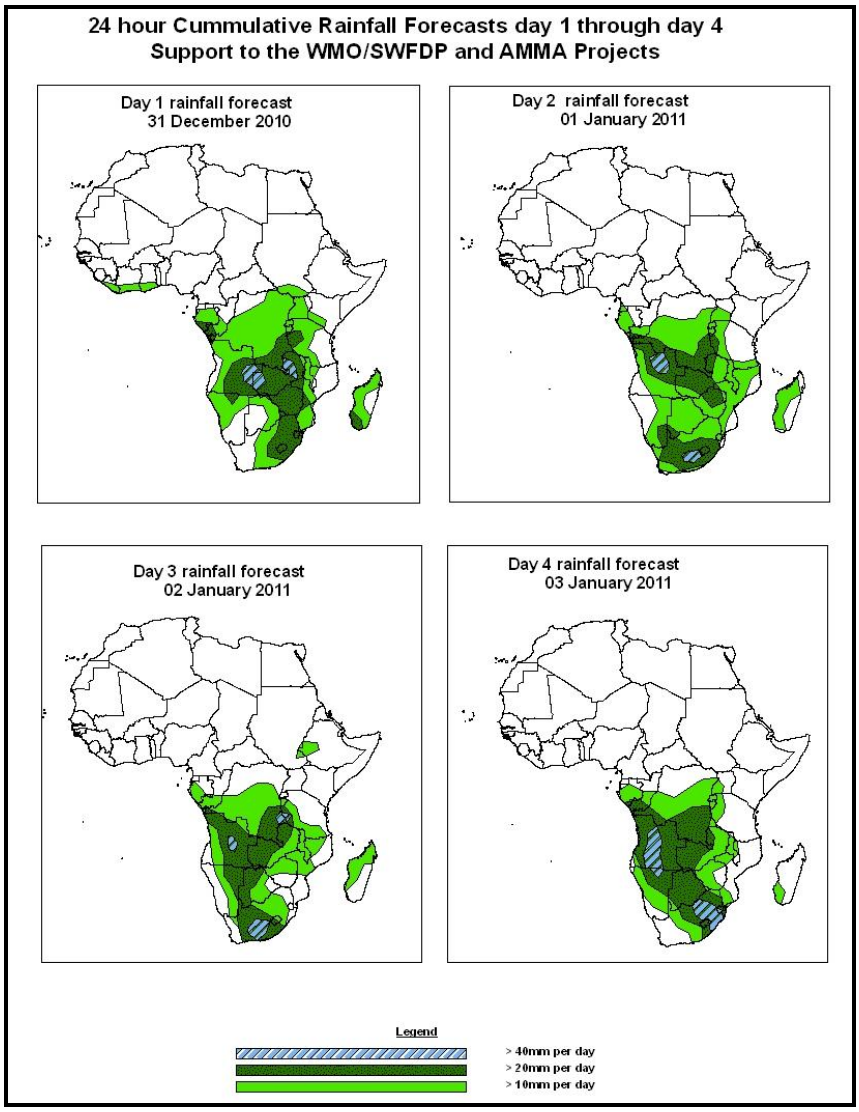
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 07Z of 31 DECEMBER – 06Z of 03January 2011, (Issued at 14:00Z of 30 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, Zambia, South Africa, Lesotho, Swaziland, Namibia, Tanzania and DRC.

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

According to the GFS, ECMWF and UKMET models a trough over Angola coast, Namibia and Botswana extending to South Africa is expected to persist in the next 24 hours and then move southeast to Botswana becoming a cut off low for the next 48 to 96 hours. A trough extending from DRC to South Africa across Angola and Botswana is expected to become strong in the next 48 hours. A trough from West Africa coast is expected to persist in the next 24 hours. The models are also indicating weak trough over southern Sudan to DRC for the next 24 to 48 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.

According to the GFS, ECMWF and UKMET models, St. Helena High pressure system over southern hemisphere is generally weak. However, during the next 24 hours St. Helena is expected to extend a ridge to the east coast of South Africa. Also Mascarene high pressure system is expected to remain generally weak.

At 850hPa level, The GFS model indicates Convergence line over DRC is expected to extend to southern Sudan in the next 48 hours and then extends to Congo and Gabon in the next 72 hours. Another convergence over Angola is expected to persist during and extends to Zambia the next 24 to 72 hours. Another convergence line over Botswana and Namibia is expected to persist during the next 48 hours. Another cyclonic convergence over east coast of South Africa is expected to persist during the next 24 to 96 hours.

At 700hPa level, convergence over Zambia and Zimbabwe is expected to extend to Angola in the next 24 to 48 hours. A convergence line over Namibia is expected to become strong and move to Zambia and Angola in the next 48 hours. Another convergence line along the western part of South Africa is expected to move to Namibia and extend to Botswana then become slightly stronger in the next 72 hours. A convergence line over western Ethiopia and southern Sudan is expected to persist during the next 72 hours. Another area of convergence is indicated over Gambia and Senegal in the next 24 hours and likely to move to Mauritania in the next 48 hours.

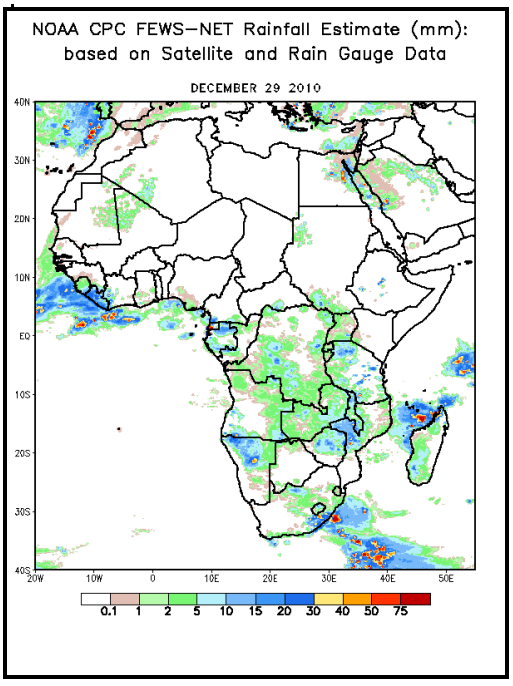
At 200hPa, zone of strong wind (>50Kts) associated with the Sub Tropical westerly Jet in the southern Hemisphere is expected to move off the east coast of South Africa in the next 24 hours. Wind speed is expected to be in the range of 90 to 110 kts.

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, Zambia, South Africa, Lesotho, Swaziland, Namibia, Tanzania and DRC.

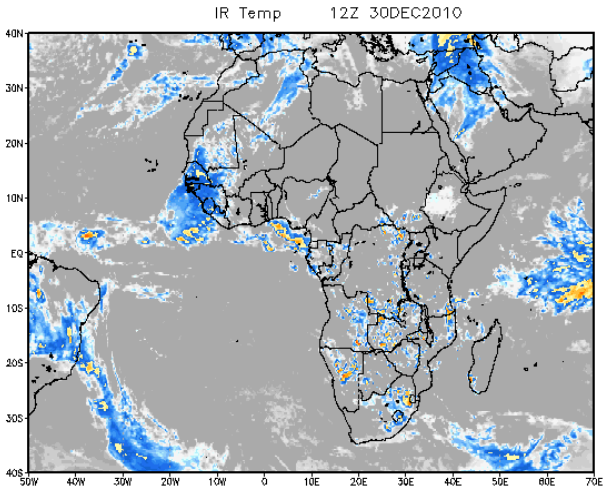
2.0. Previous and Current Day Weather Discussion over Africa (29 December 2010 – 30 December 2010)

2.1. Weather assessment for the previous day (29 December 2010):
During the previous day, moderate rainfall was observed over Mozambique, Angola and Liberia.

2.2. Weather assessment for the current day (30 December 2010): Intense clouds are observed over Angola, Namibia, Zambia, DRC and South Africa.



IR Satellite Image, Valid , December 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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