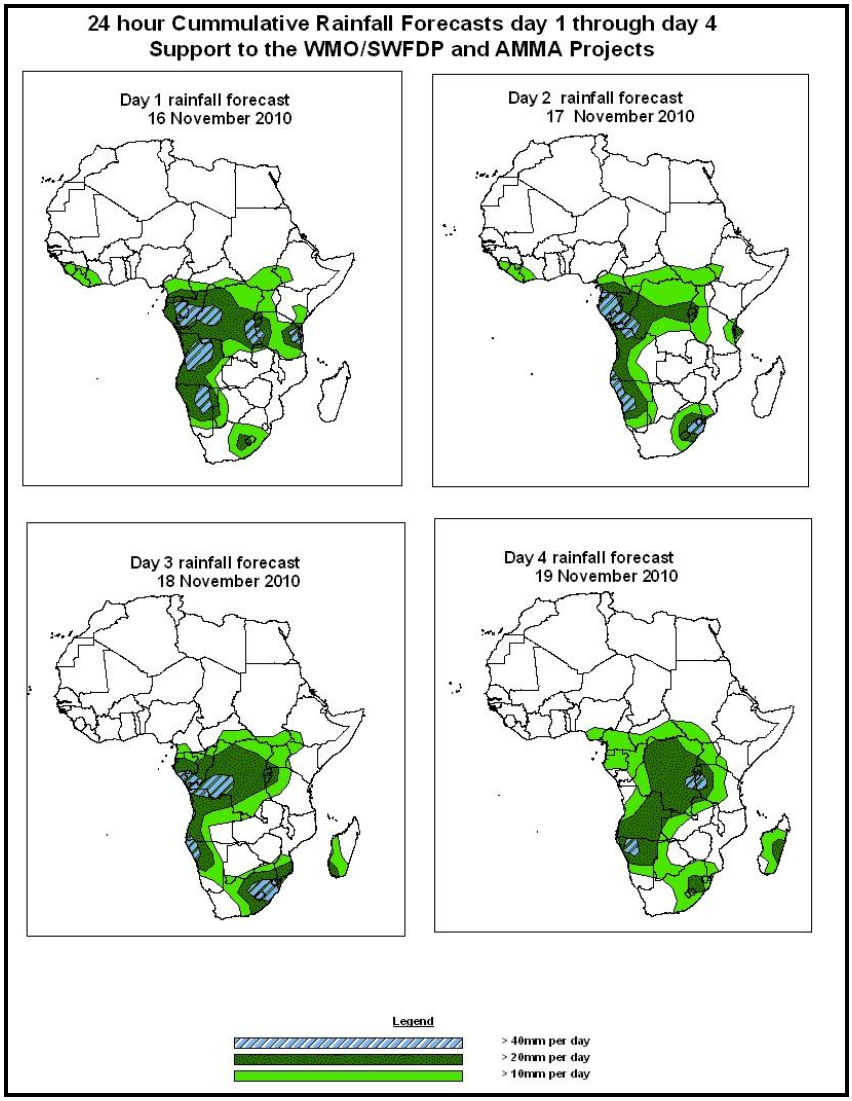
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 16 NOVEMBER – 06Z of 19 NOVEMBER 2010, (Issued at 14:00Z of 15 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 along the west coast of Gabon, Angola and Namibia, DRC, East Africa and Southern Africa with chances of locally heavy rainfall over Angola, Gabon, Congo, DRC, Burundi, and Tanzania. Also locally moderate to heavy rains are expected over Lesotho, Swaziland and eastern parts of South Africa.

1.2. Models Comparison and Discussion-Valid from 00Z of 15 NOVEMBER 2010

A trough over Ghana to Sudan across Nigeria and Central Africa Republic is expected to be limited over Chad and Sudan and deepen to become a cut off low in the next 48 to 96 hours. The broad cut off low pressure system is expected to split into two cells one at Burkina Faso and another over Chad and Sudan according to GFS and UKMET models. Another trough over DRC is expected to move over western Tanzania during the next 72 to 96 hours. Also a trough extending along the coast of Gabon to Namibia is expected to deepen and extends further to west coast of South Africa in the next 24 to 48hours. The trough is also likely to influence the weather over western parts of Botswana and Zambia towards the end of the forecast period. There is consistent agreement on synoptic evolution of systems between GFS and UKMET models during the entire forecast period while the ECMWF agrees with the two models only during the next 24 to 48 hours forecast circles.

The seasonal low pressure system (Meridional component of the ITCZ) over DRC is expected to deepen in the next 48 hours.

The southern hemisphere High pressure system (St. Helena) is at central pressure 1024hPa and the models are predicting a likelihood of slightly weakening in the next 48 hours. According to GFS, ECMWF and UKMET models the St. Helena high pressure system is expected to extend a ridge over the east coast of South Africa in the next 48 hours. On the other hand, Mascarene high pressure is expected to remain weak with central pressure occasionally falling below 1020 hPa.

At 850hPa level, The GFS model is indicating a convergence line from south Sudan to Cameron across Central Africa Republic during the next 24 to 48 hours. The convergence line is expected to be limited over south Sudan in 72hours. Another area of convergence is indicated along the coast of Angola extending to Namibia in the next 24 to 48 hours. Another convergence line over Gabon and Congo is expected to move to Central African Republic in the next 48 hours and later to DRC then disappear. Another convergence line is expected to develop from the Lake Victoria region to Botswana across Zambia and Southeast DRC in the next 72 to 96 hours.

At 700hPa level, a cyclonic convergence over west coast of Angola is expected to move south along the coast in the next 48 hours. Another convergence line along the coast of Gabon and Congo is likely to persist during the forecast period. A convergence line along the coast of Namibia is expected to move to northern parts of South Africa in the next 24 to 48 hours and later to the east coast across Botswana.

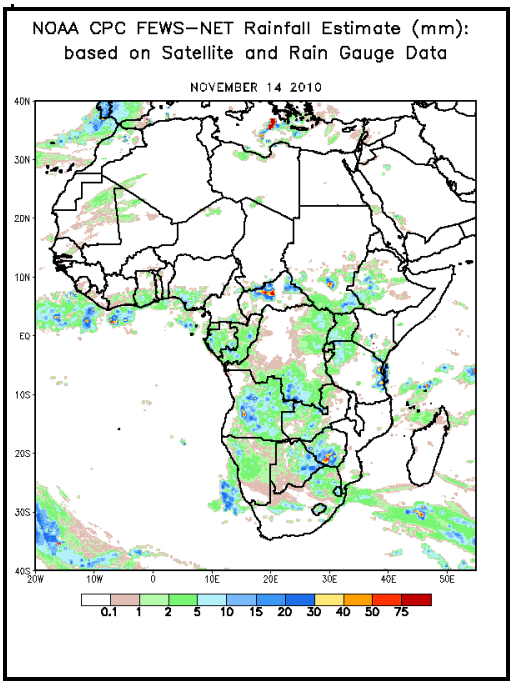
At 200hPa, zone of strong wind (>50Kts) associated with the Sub Tropical westerly Jet in the southern Hemisphere is expected to move to the east across the southern tip of South Africa in the next 96 hours. The wind speed associated with it is in the range of 70 to 90 Kts.

In the coming four days, there is an increased chance for rainfall to exceed 20mm per day along the west coast of Gabon, Angola and Namibia, DRC, East Africa and Southern Africa with chances of locally heavy rainfall over Angola, Gabon, Congo, DRC, Burundi, and Tanzania. Also locally moderate to heavy rains are expected over Lesotho, Swaziland and eastern parts of South Africa.

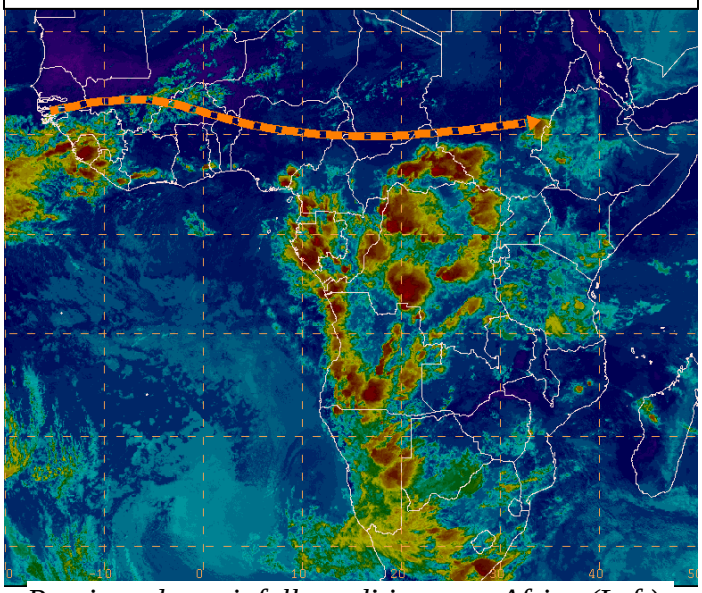
2.0. Previous and Current Day Weather Discussion over Africa (14 November 2010 – 15 November 2010)

2.1. Weather assessment for the previous day (14 November 2010):
During the previous day, locally moderate rainfall was observed over Central Africa Republic, Angola Zimbabwe and Tanzania.

2.2. Weather assessment for the current day (15 November 2010): Intense clouds are observed over DRC, Gabon, Angola, Sierra Leone, Namibia, Botswana and South Africa.



IR Satellite Image, Valid 1800Z, November 15, 2010
and position of ITD (based on 1200Z Surface Analysis)



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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