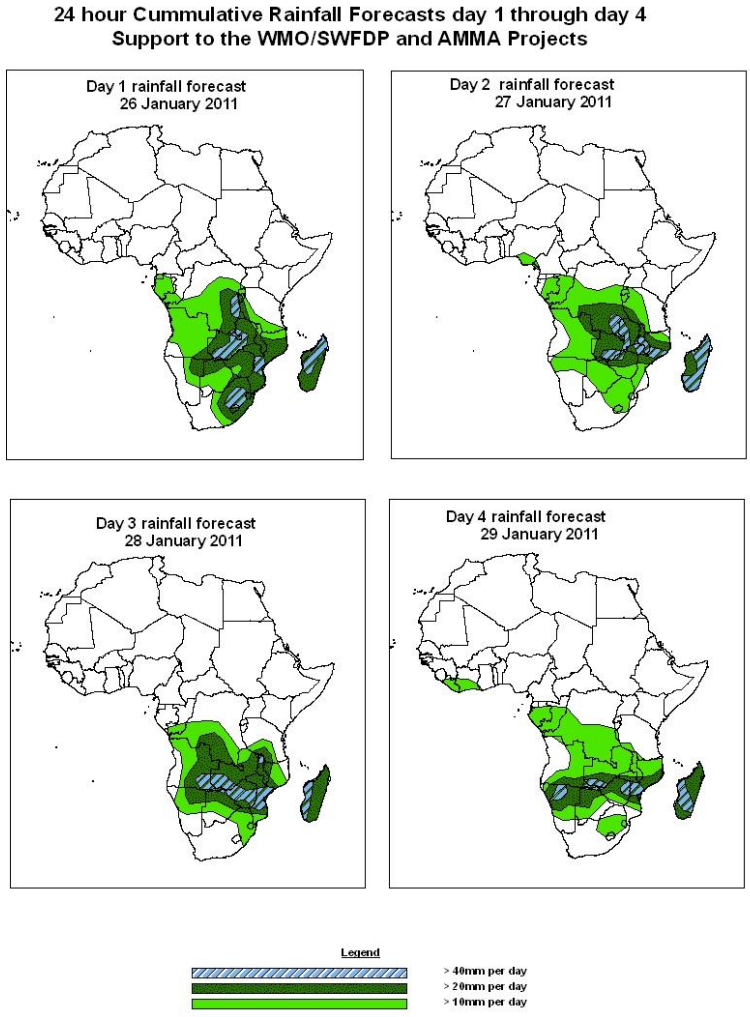
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 26 JANUARY – 06Z of 29 January 2011, (Issued at 14:00Z of 25 January 2011)

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, favorable weather systems are expected to develop across central and eastern parts of the Southern African countries resulting in increased rainfall activity in the region. There is an increased chance for rainfall to exceed 20mm per day over places across southern Africa countries, with locally heavier rainfall events likely over Madagascar, Namibia, Mozambique, Zimbabwe, Malawi, South Africa and DRC.

1.2. Models Comparison and Discussion-Valid from 00Z of 25 JANUARY 2011.

According to the GFS, ECMWF and UKMET models deep cut off lows over Madagascar and Mozambique are likely to persist over the region. Troughs over the northern portion of DRC and southern parts of Central African Republic are expected to weaken slightly during the next 48 to 96 hours. The trough across Botswana and eastern Namibia into South Africa is expected to deepen into a cut off low and extend eastwards to Zimbabwe during the next 48 to 72 hours.

The seasonal trough (Meridional component of the ITCZ) is expected to be active over Southern African countries.

According to the GFS, ECMWF and UKMET models, St. Helena High pressure system over southern hemisphere is expected to remain generally weak during the next 24 to 96 hours. Also the Mascarene high pressure system is expected to remain generally weak.

At 850hPa level, The GFS model indicates Convergence line over northern DRC extending to the west coast across Congo and Gabon during the next 24 to72 hours. Another convergence line over western Tanzania is expected to move to Malawi and northern Mozambique during the next 72 hours. A cyclonic convergence over southern Zambia and Botswana is expected to expand both westwards and eastwards to include Angola and Zimbabwe in the next 48 to 72 hours.

At 700hPa level, a convergence line over Northern Angola and southern parts of DRC is expected to move slightly northwards extending to Zambia during the next 48 to 72 hours. A convergence over Malawi and Mozambique is expected to extend to Madagascar in the next 72 hours. A low over southern Zambia and Zimbabwe is expected to persist during the next 96 hours.

At 200hPa, zone of strong wind (>50Kts) associated with the Sub Tropical westerly Jet in the southern Hemisphere is expected to cross the southern tip of South Africa in the next 72 hours. The associated wind speed is expected to be between 90 and 110KT.

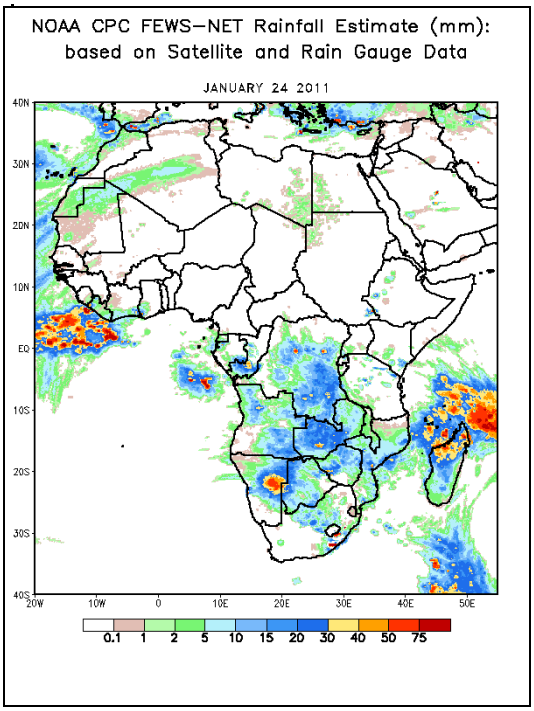
In the coming four days, favorable weather systems are expected to develop across central and eastern parts of the Southern African countries resulting in increased rainfall

activity in the region. There is an increased chance for rainfall to exceed 20mm per day over places across southern Africa countries, with locally heavier rainfall events likely over Madagascar, Namibia, Mozambique, Zimbabwe, Malawi, South Africa and DRC.

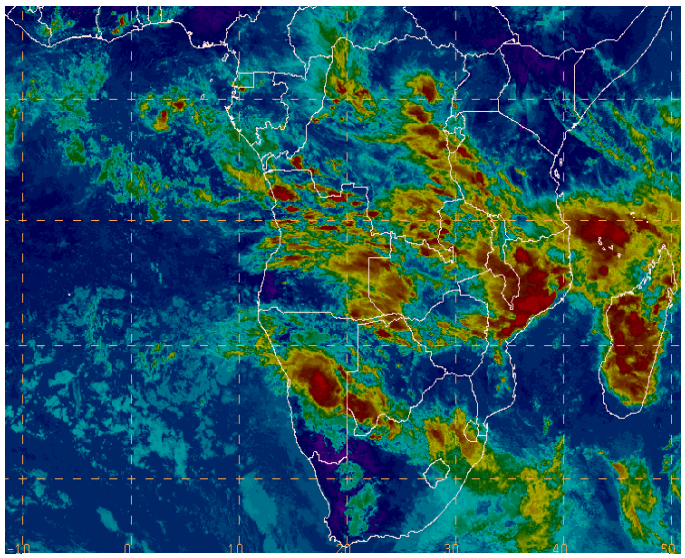
2.0. Previous and Current Day Weather Discussion over Africa (24 January 2011 – 25 January 2011)

2.1. Weather assessment for the previous day (24 January 2011):
During the previous day, moderate rainfall was observed over Madagascar, South Africa and Congo.

2.2. Weather assessment for the current day (25 January 2011): Intense clouds are observed over Namibia, Madagascar, Mozambique and eastern DRC.



IR Satellite Image, Valid 1852Z, January 25, 2011



Previous day rainfall condition over Africa (Left) based on the NCEP CPCE/RFE and current day cloud cover (top) based on IR Satellite image

Author(s): *Samwel Mbuya (Tanzania Meteorological Agency) / CPC-African Desk), samwel.mbuya@noaa.gov*

Omar Gouled Allaleh (Djibouti Meteorological Office / CPC-African Desk)), omar.allaleh@noaa.gov

---