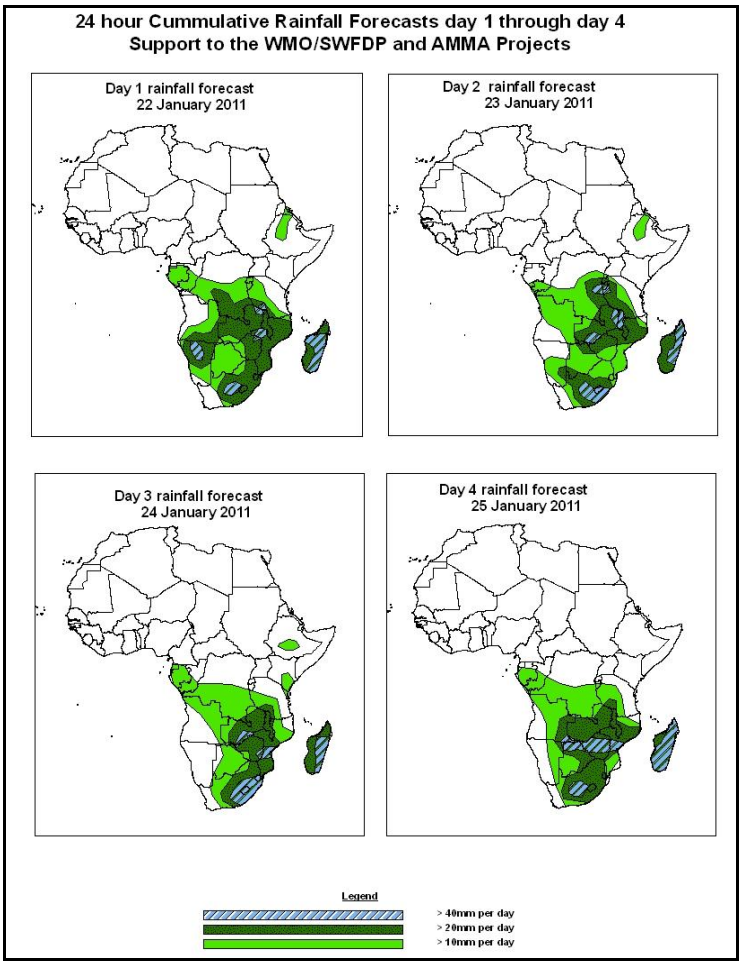
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 22 JANUARY – 06Z of 25 January 2011, (Issued at 14:00Z of 21 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, lower tropospheric weather systems are expected to deepen 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, Burundi, South Africa and Lesotho.

1.2. Models Comparison and Discussion-Valid from 00Z of 21 JANUARY 2011.

According to the GFS, ECMWF and UKMET models series of cut of lows are expected to persist across DRC, Zambia, Angola, western South Africa and eastern Namibia. On the other hand a trough over northern Madagascar and Mozambique is expected to persist during the next 72 hours and then become a cut off low in 96hours. Another low over DRC and Tanzania is expected to persist in the next 48 hours and then disappear.

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 maintain a central pressure of about 1024hPa during the next 24 to 48hours and then weaken slightly to 1020hPa. On the other hand the Mascarene high pressure system is expected to remain generally weak.

At 850hPa level, The GFS model indicates Convergence line over DRC and western Tanzania that is expected to move southeast to Zambia/Angola and then become deep through 72 to 96hours. On the other hand, a Convergence line over Zimbabwe, Botswana and Mozambique is expected weaken slightly towards the end of the forecast period. Another convergence over Namibia and South Africa is expected to persist.

At 700hPa level, a convergence line over western Zambia and southeast DRC and northern Angola is expected to persist through 24 to 48 hours and then move to eastern Angola. Another convergence over Zambia, Malawi and Mozambique is expected to persist and deepen during the next 24 to 96 hours. A convergence over Botswana and South Africa is expected to extend to Zimbabwe during the next 72 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 48 hours. The associated wind speed range between 90 and 110KT.

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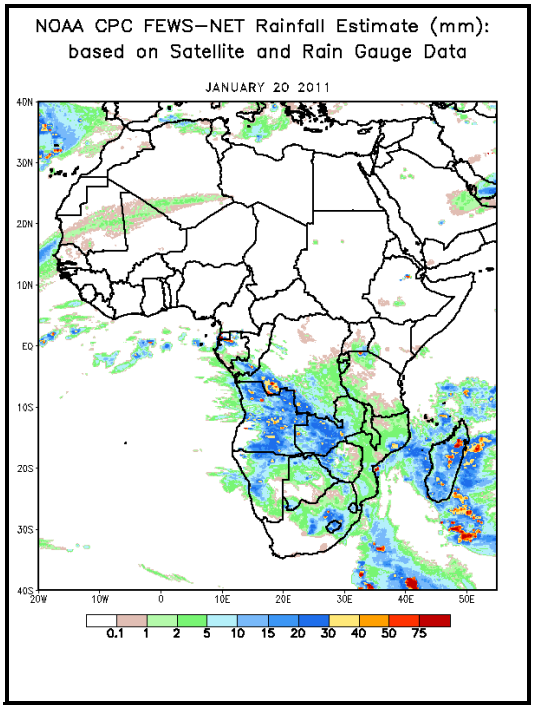
likely over Madagascar, Namibia, Mozambique, Zimbabwe, Malawi, Burundi, South Africa and Lesotho.

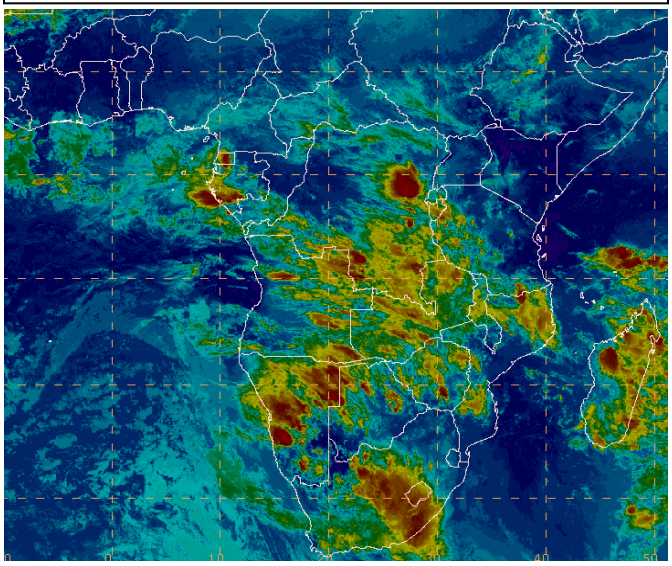
2.0. Previous and Current Day Weather Discussion over Africa (20 January 2011 – 21 January 2011)

2.1. Weather assessment for the previous day (20 January 2011):
During the previous day, moderate rainfall was observed over parts of Angola, Zambia, South Africa and Madagascar.

2.2. Weather assessment for the current day (21 January 2011): Intense clouds are observed over DRC, Namibia, Madagascar, Lesotho and South Africa.



IR Satellite Image, Valid 1852Z, January 21, 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

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