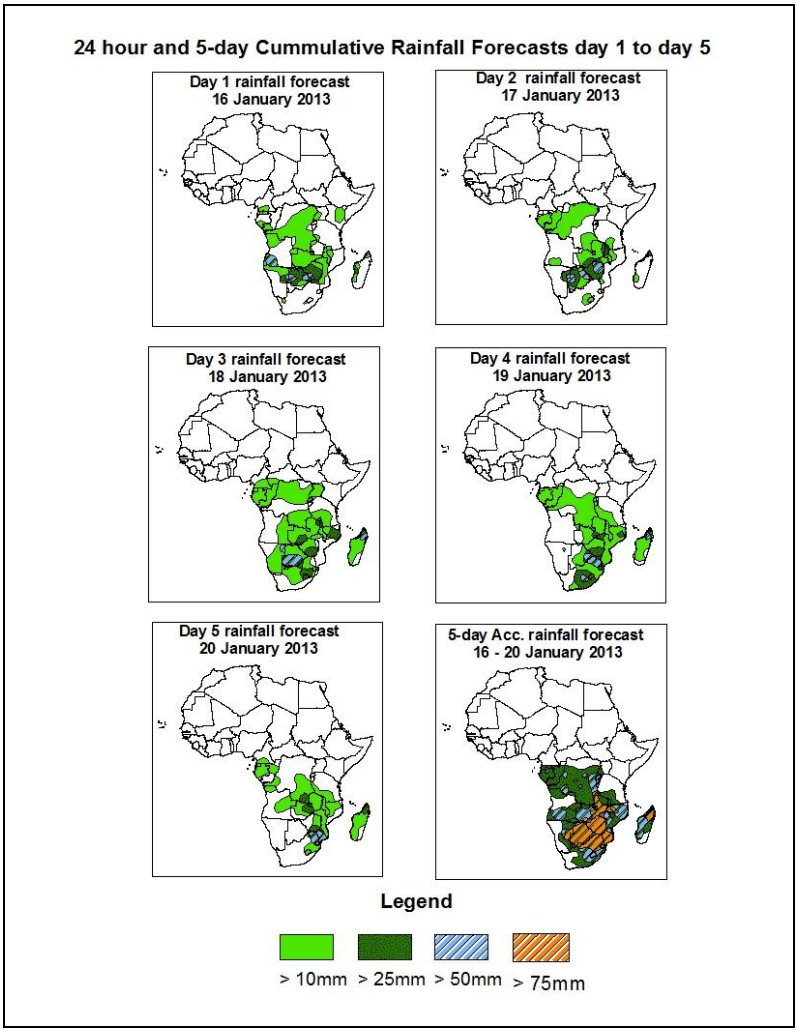
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 16 January – 06Z of 20 January 2013. (Issued at 16:00Z of 15 January 2013)

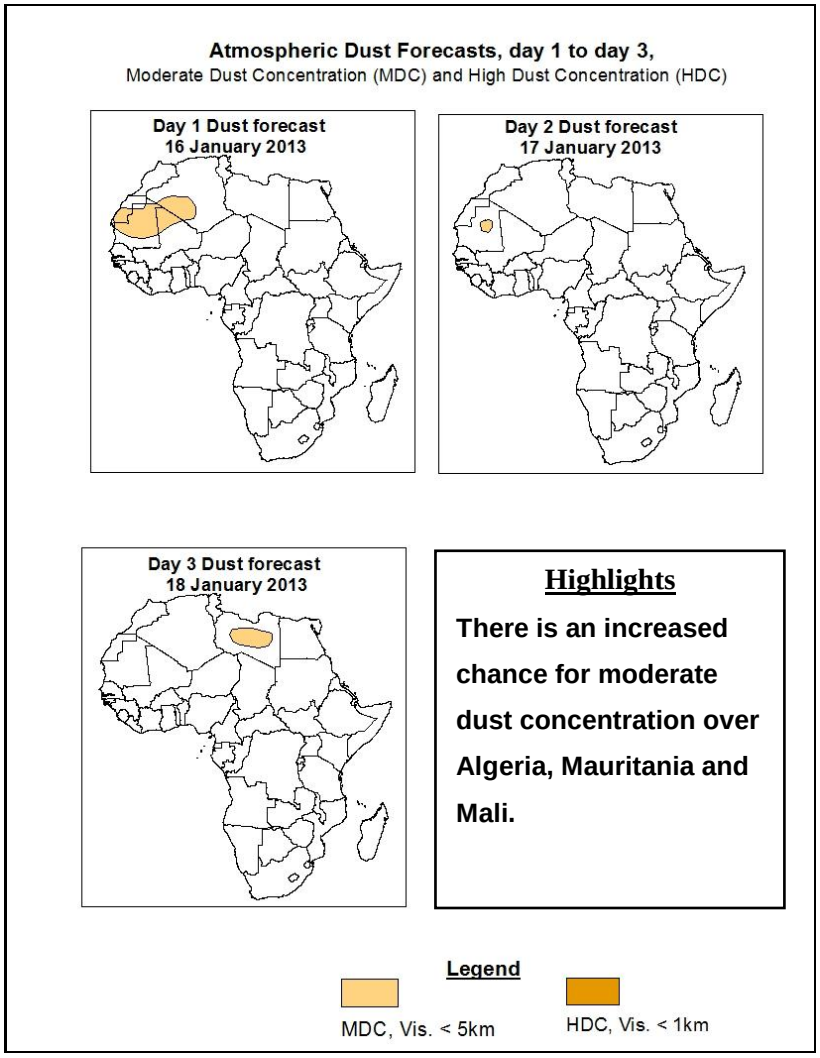
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

The forecasts are expressed in terms of 75% 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 next five days, an active easterly low over parts of Botswana and moderate low level convergence over Angola, Zambia and Zimbabwe are expected to enhance rainfall in their respective regions. Thus, there is an increased chance for moderate to heavy rainfall over local areas over parts of Angola, Botswana, Zambia, Zimbabwe, Namibia, southern region of Mozambique and eastern region of South Africa.



1.2. Model Discussion: Valid from 00Z of 15 January 2013

Model comparison (Valid from 00Z; 15 January 2013) shows all the three models are in general agreement in terms of depicting eastward movement of the Mascarene and St Helena high pressure systems during the forecast period. However, the models show slight differences in terms of central pressure values.

The St. Helena High pressure system over southeast Atlantic Ocean is expected to swing slightly throughout forecast period; the central pressure value is expected to vary from about 1024hpa to 1025hpa, according to the GFS model, from about 1022hpa to 1025hpa according to the ECMWF model, and from about 1024hpa to 1026hpa according to the according to the UKMET model.

The Mascarene high pressure system over southwestern Indian Ocean is also expected to remain high through 24 hours while shifting eastwards. During this period, the central pressure value will be about 1029hpa according to the GFS and the UKMET models and about 1028 according to the ECMWF model. A new Mascarene high pressure system is expected to form over Southwest Indian Ocean, after cutting itself from the St. Helena High pressure system through 24 to 48 hours. The central pressure value of the newly formed high is expected to re-strengthen progressively, with its central pressure increasing from about 1023hpa to 1026hpa according to the GFS model, and from about 1023hpa to 1025hpa, according to the ECMWF and the UKMET models.

The seasonal lows across DRC, South Sudan and the neighboring areas are expected to remain constant throughout the forecasting period according to the GFS and the ECMWF models. The central pressure value, according to the two previously mentioned models, will be about 1008hpa and 1007hpa respectively. However, according to the UKMET model, the central pressure value is expected to deepen slightly from about 1008hpa to 1005hpa. An active easterly low over parts of Botswana is expected to form and dominate weather conditions in the neighboring countries, through 48. The central pressure is expected to deepen from about 1008 to 999hpa according to the GFS model, from about 1008hpa to 1004hpa according to the ECMWF model and from about 100hpa to 1001hpa according to the UKMET model.

At the 850hpa level, the seasonal lower level wind convergence near the CAB region is expected to remain poor to moderate through 24 to 120 hours. Moderate low level convergence is expected to prevail active over Angola, Zambia and Zimbabwe through 24 to 72 hours.

At 500hpa, a trough in the mid-latitude westerly is expected dominate the flow over northern countries of Africa and Mediterranean Sea throughout the forecast period. A divergent flow over Southern Africa countries is expected to dominate the flow throughout the forecast period.

At 200hpa, the northern hemisphere sub-tropical westerly jet is expected to remain active through the forecast period; the core wind speed occasionally will exceed 130kts over Libya and Egypt and parts of Mauritania, Algeria and Mali.

In the next five days, an active easterly low over parts of Botswana and moderate low level convergence over Angola, Zambia and Zimbabwe are expected to enhance rainfall in their respective regions. Thus, there is an increased chance for moderate to heavy rainfall over local areas over parts of Angola, Botswana, Zambia, Zimbabwe, Namibia, southern region of Mozambique and eastern region of South Africa.

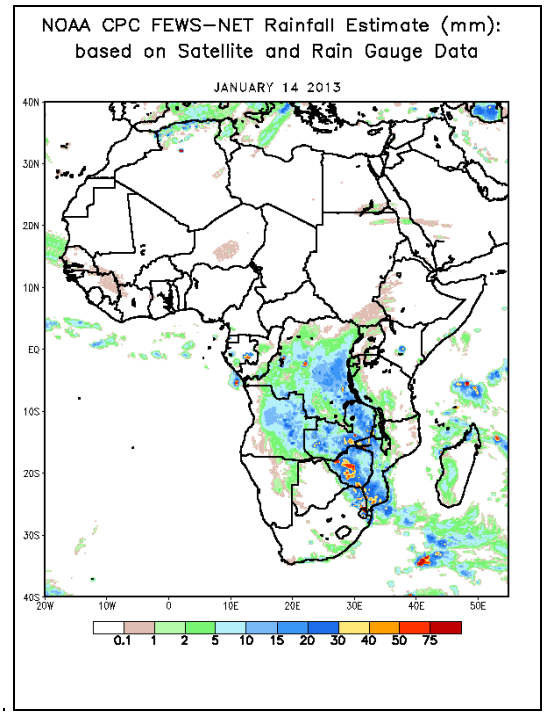
2.0. Previous and Current Day Weather Discussion over Africa (14 January 2013 – 15 January 2013)

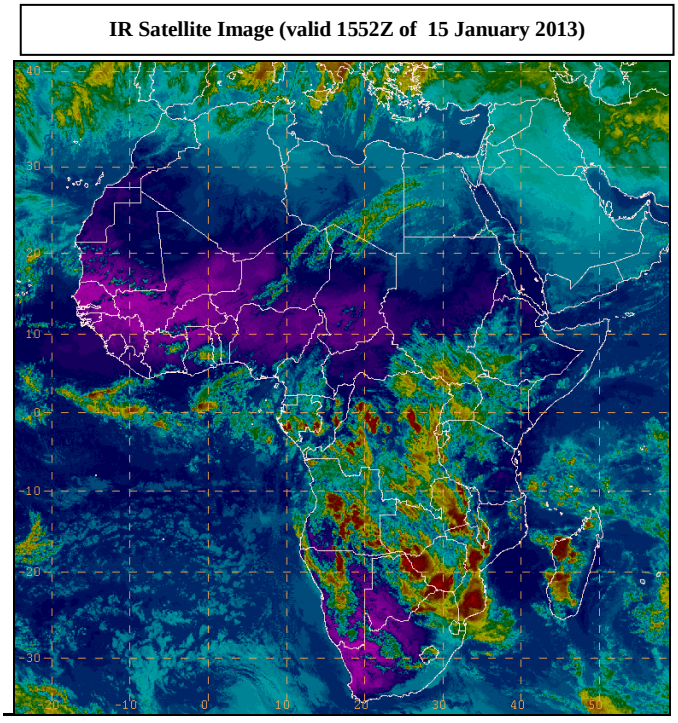
2.1. Weather assessment for the previous day (14 January 2013)

During the previous day, moderate to locally heavy rainfall was observed over much of Zimbabwe, parts of DRC, Angola, Zambia and southern region of Mozambique.

2.2. Weather assessment for the current day (15 January 2013)

Intense clouds are observed over Mozambique, Zimbabwe, Zambia, Angola, DRC and Madagascar.





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

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