

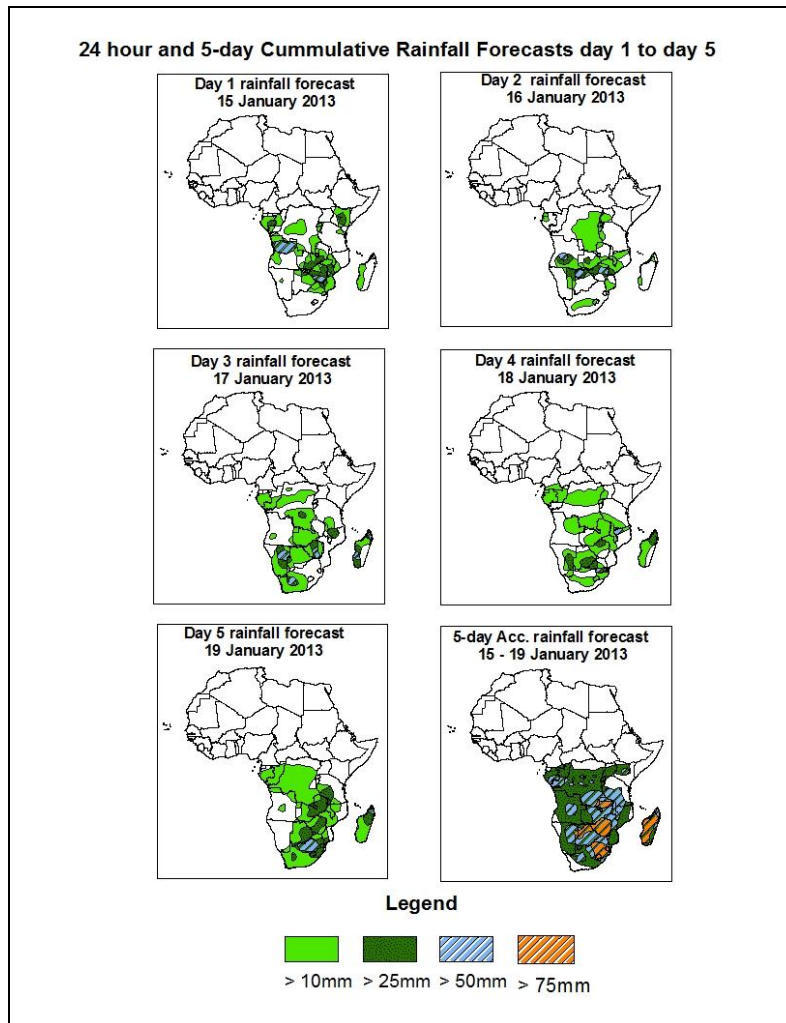


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 15 January – 06Z of 19 January 2013. (Issued at 17:30Z of 14 January 2013)

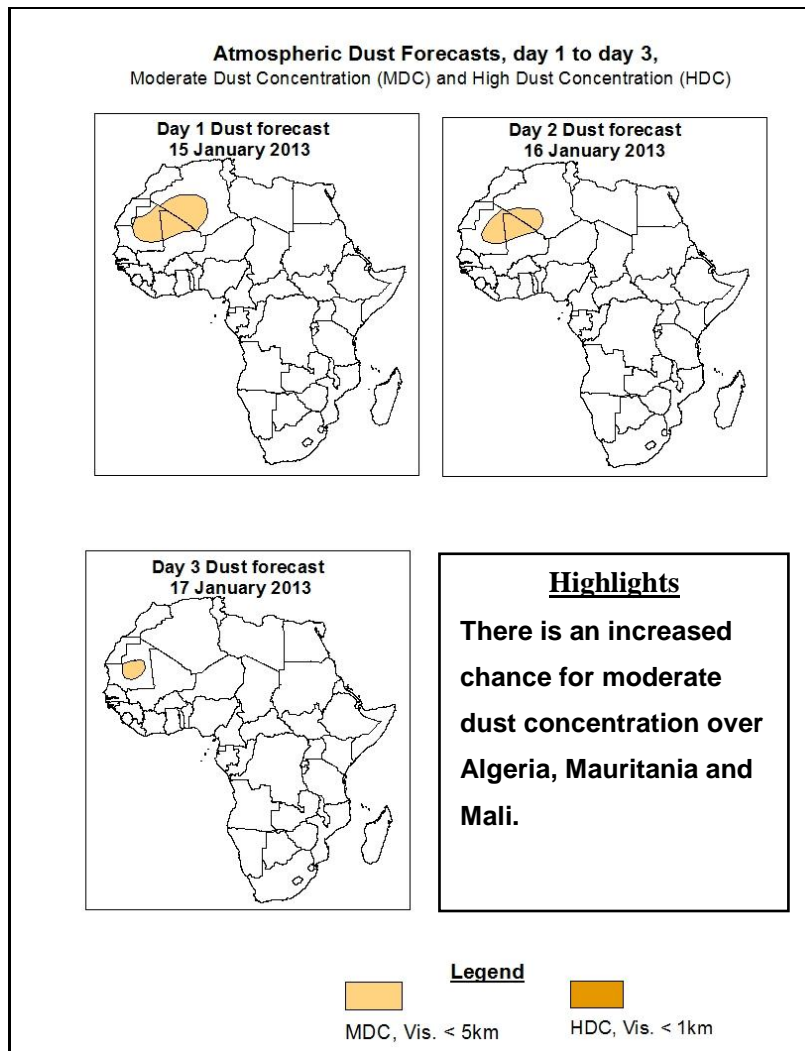
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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, moderate to strong low level convergence is expected to prevail active over Angola, Botswana, Zambia, Zimbabwe, Malawi and Mozambique; localized wind convergences over Uganda and Tanzania, a tropical low over Namibia and a coastal low over eastern region of South Africa 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, Malawi, Namibia northern region of Mozambique, eastern region of South Africa and Madagascar.



1.2. Model Discussion: Valid from 00Z of 14 January 2013

Model comparison (Valid from 00Z; 14 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 deepen slightly throughout forecast period; the central pressure value is expected to decrease from about 1025hpa to 1023hpa, according to the GFS and the ECMWF models, and from about 1025hpa to 1025hpa according to the according to the UKMET model.

The Mascarene high pressure system over southwestern Indian Ocean is also expected to heighten slightly through 24 to 48 hours while shifting eastwards. During this period,

the central pressure value will increase from about 1027hpa to 1029hpa according to the GFS and the UKMET models and from about 1027hpa to 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 48 to 72 hours. The central pressure value of the newly formed high is expected to re-strengthen progressively, with its central pressure increasing from about 1020hpa to 1026hpa according to the GFS model, from about 1022hpa to 1026hpa, according to the ECMWF model, and from about 1022hpa to 1025hpa according to the UKMET model.

The seasonal lows across DRC, South Sudan and the neighboring areas is expected to heighten gradually throughout the forecasting period, from about 1005hpa to 1008hpa according to the GFS model. According to the ECMWF model, the central value pressure will swing from about 1006hpa to 1008hpa, and from about 1005hpa to 1008hpa, according to the UKMET model. A tropical low over parts of Namibia and a coastal low system over eastern region of South Africa are expected to prevail and dominate local circulations over their respective regions throughout the forecast period.

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 to strong low level convergence is expected to prevail active over Angola, Botswana, Zambia, Zimbabwe, Malawi, Namibia and Mozambique while localized wind convergences are also expected to dominate the flow over southern, parts of Uganda and Tanzania. An eastward propagating trough across South Africa is expected to remain active through 96 hours while a southerly flow is expected to dominate the flow towards end of forecast period.

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. An eastward flow is expected to dominate the flow over South Africa region while a cyclonic flow is expected in the same region towards end of 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 150kts over Libya and Egypt.

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2.0. Previous and Current Day Weather Discussion over Africa

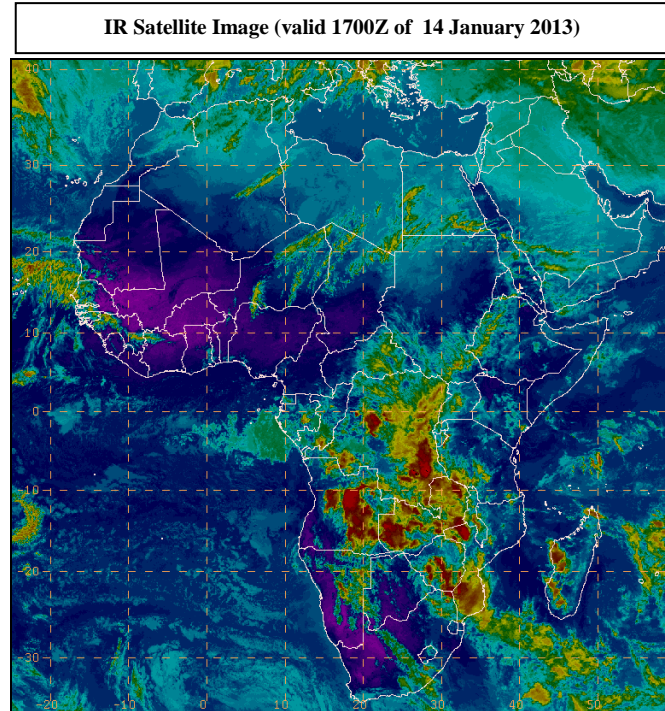
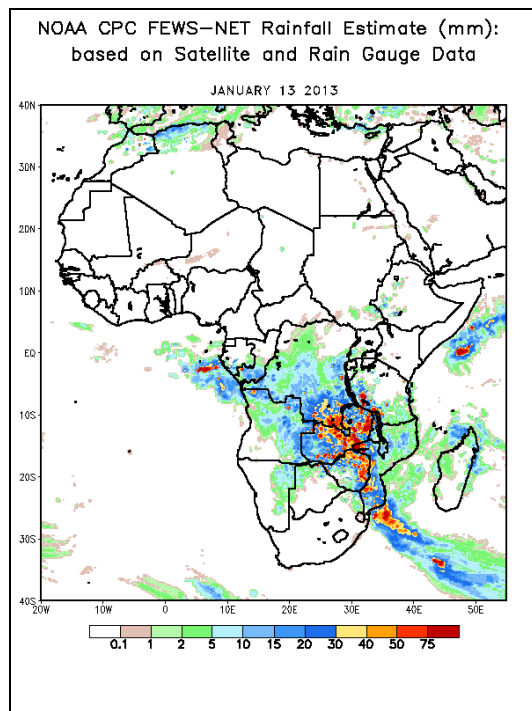
(13 January 2013 – 14 January 2013)

2.1. Weather assessment for the previous day (13 January 2013)

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

2.2. Weather assessment for the current day (14 January 2013)

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



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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