

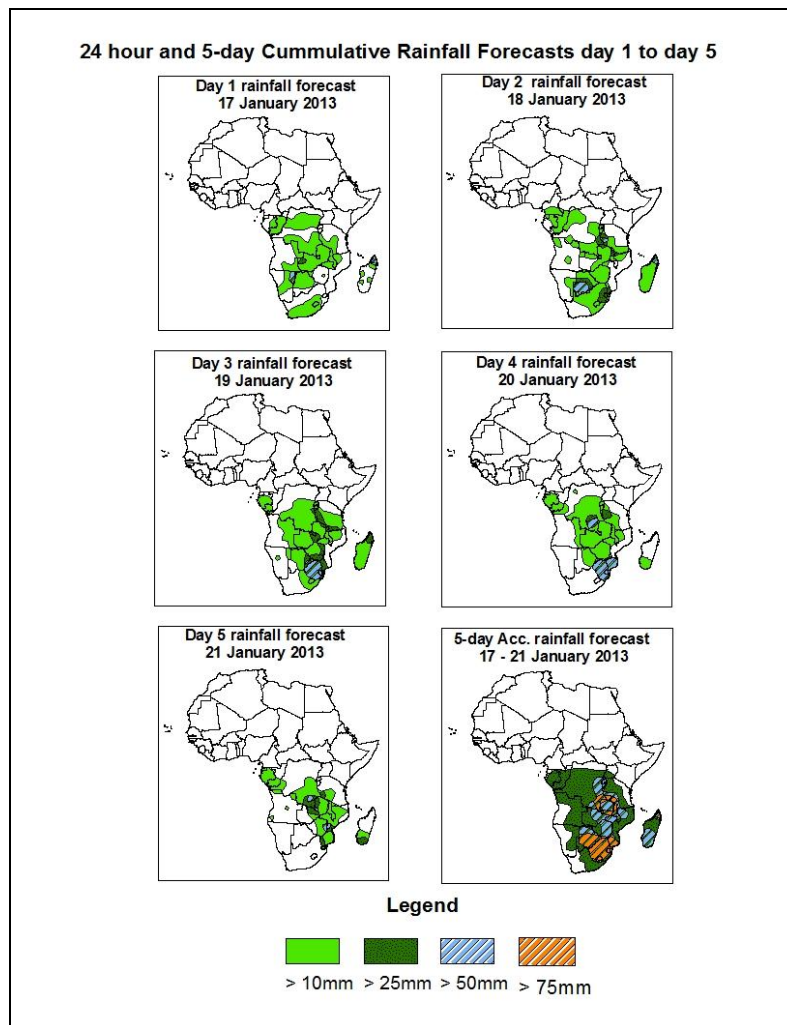


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 17 January – 06Z of 21 January 2013. (Issued at 17:00Z of 16 January 2013)

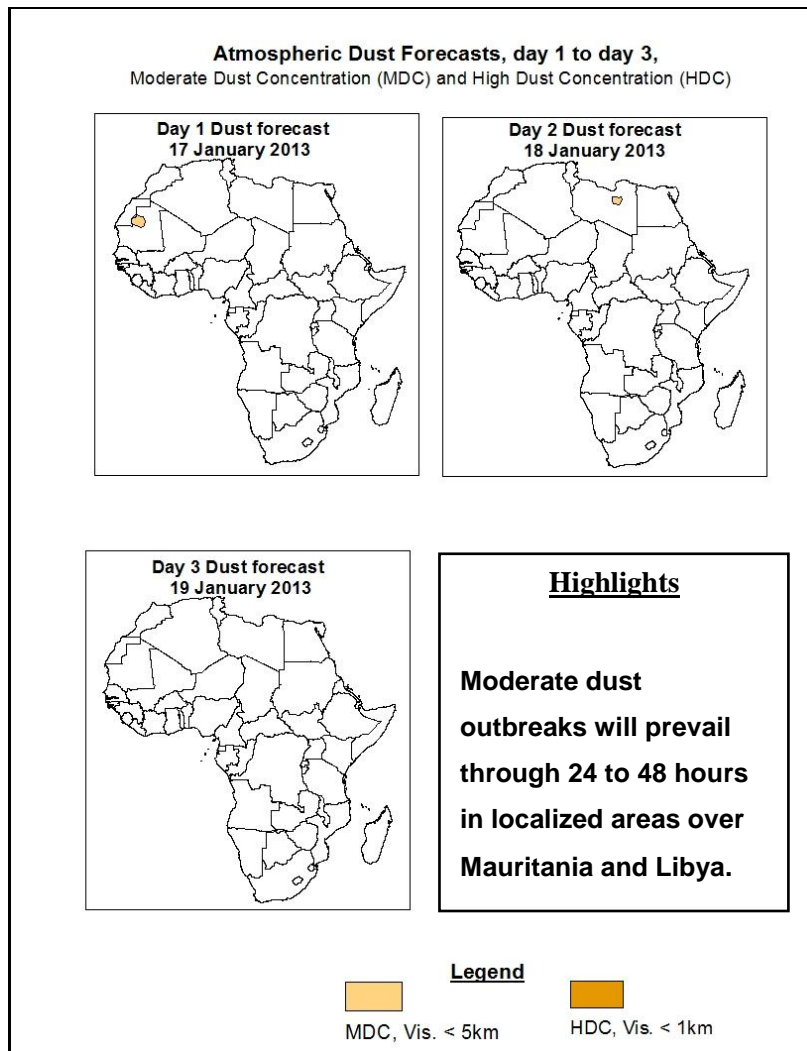
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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 to strong low level convergence over Zambia, Zimbabwe, Malawi and Tanzania 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 Botswana, Zimbabwe, southern region of Mozambique and eastern region of South Africa.



1.2. Model Discussion: Valid from 00Z of 16 January 2013

Model comparison (Valid from 00Z; 16 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.

In the coming five days 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 between 1024hpa to 1025hpa, according to the GFS and the UKMET models, and between 1022hpa to 1025hpa according to the according to the ECMWF model.

The Mascarene high pressure system over southwestern Indian Ocean is expected to heighten slightly through 24 to 72 hours while shifting eastwards. During this period, the central pressure value will increase from about 1020hpa to 1027hpa according to the GFS, from about 1023hpa to 1026 according to the ECMWF model and from about 1023hpa to 1025hpa according to the UKMET 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 72 to 96 hours. The central pressure value of the newly formed high is expected to re-strengthen progressively, with its central pressure increasing from about 1016hpa to 1019hpa according to the GFS model, from about 1018hpa to 1022hpa, according to the ECMWF model, and from about 1020hpa to 1023hpa according to the UKMET model.

The seasonal lows across DRC, South Sudan and the neighboring areas are expected to prevail with their central pressure value of about 1008hpa throughout the forecast period according to the GFS model, with 1007hpa according to the ECMWF model. According to the UKMET model the central pressure value will deepen gradually, from about 1008hpa to 1005hpa. An active easterly low over parts of Botswana is expected to deepen gradually throughout the forecasting period, from about 1008 to 997hpa according to the GFS model, from about 1009hpa to 1004hpa according to the ECMWF model and from about 1008hpa 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 to strong low level convergence is expected to prevail active over Zambia, Zimbabwe, Malawi and Tanzania through 24 to 96 hours.

At 500hpa, a trough in the mid-latitude westerly is expected dominate the flow over northern countries of Africa and Mediterranean Sea through 24 to 96 hours. An anti-cyclonic flow over South Africa region is expected to prevail active through 24 to 72 hours.

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 110kts over Mauritania, Algeria, Libya and Egypt.

In the next five days, an active easterly low over parts of Botswana and moderate to strong low level convergence over Zambia, Zimbabwe, Malawi and Tanzania 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 Botswana, Zimbabwe, southern region of Mozambique and eastern region of South Africa.

2.0. Previous and Current Day Weather Discussion over Africa (15 January 2013 – 16 January 2013)

2.1. Weather assessment for the previous day (15 January 2013)

During the previous day, moderate to locally heavy rainfall was observed over parts of Zimbabwe, southern region of Mozambique, northeastern region of South Africa, eastern region of Botswana and central region of Angola.

2.2. Weather assessment for the current day (16 January 2013)

Intense clouds are observed over Angola, DRC, and parts of Botswana and Zimbabwe.

