

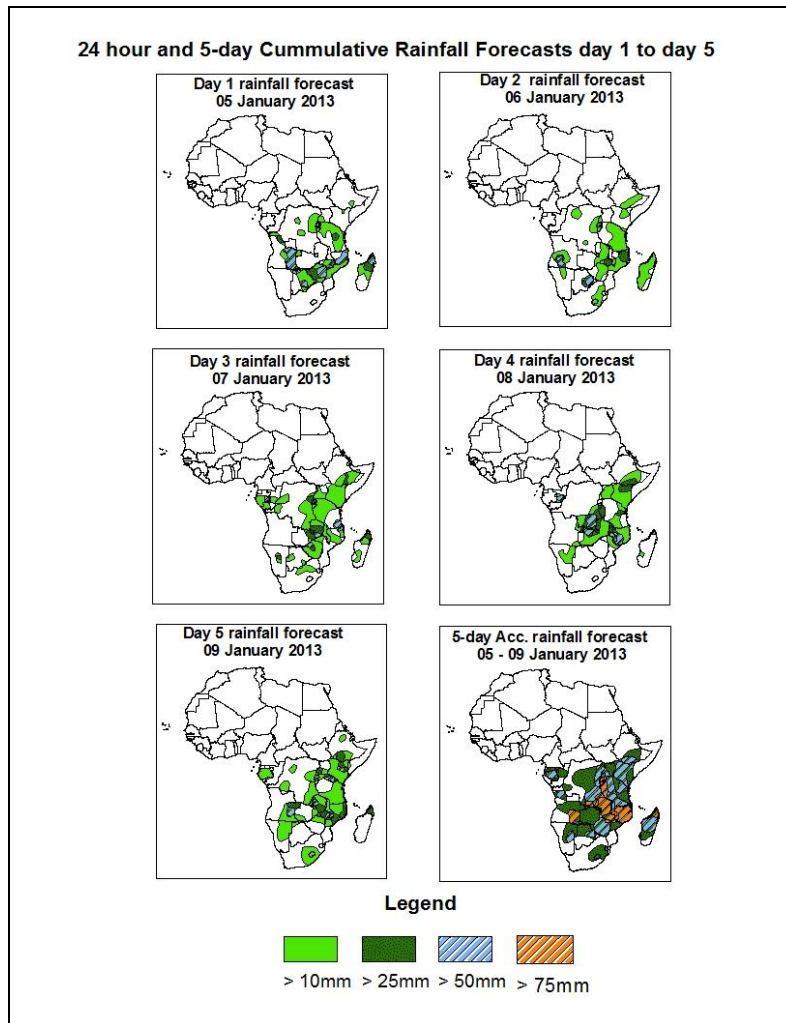


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 05 January – 06Z of 09 January 2013. (Issued at 16:30Z of 04 January 2013)

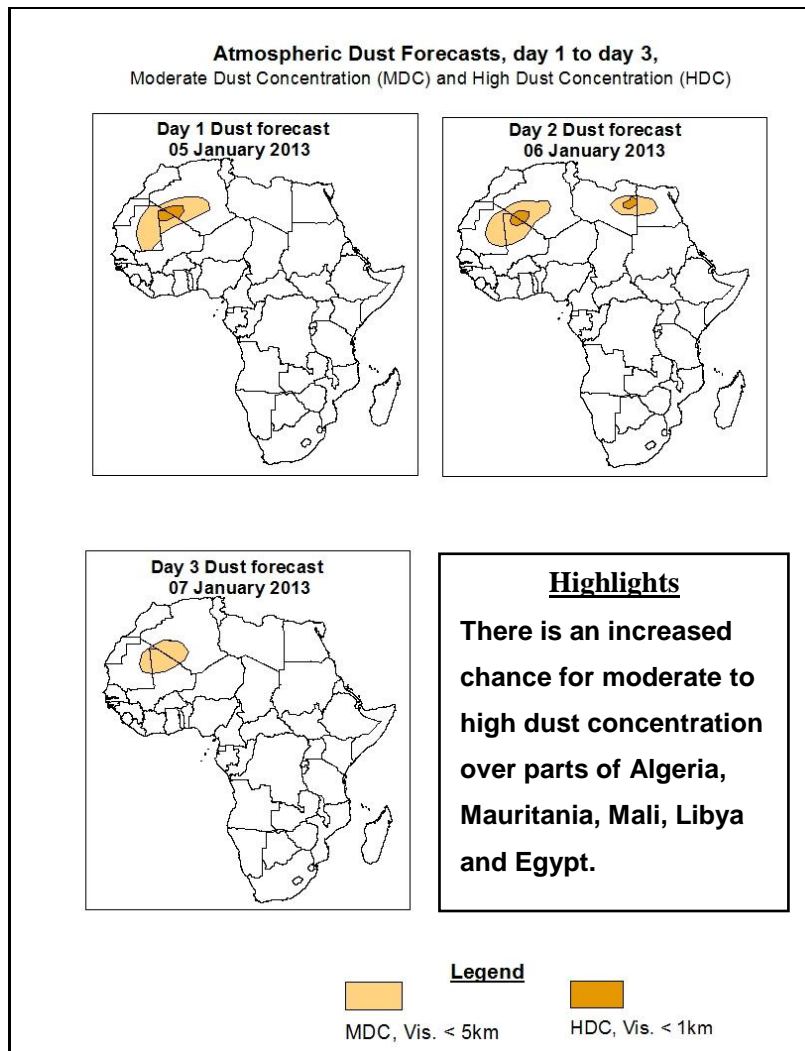
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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, wind convergence lines in the region between Angola and central Mozambique, Angola and Botswana; localized wind convergences over parts of Kenya, Uganda and Tanzania, a low system over Mozambique Channel are expected to enhance rainfall in their respective regions. Thus, there is an increased chance for moderate to heavy rainfall over local areas in Angola, Botswana, Zambia, Zimbabwe and Malawi, central and northern region of Mozambique.



1.2. Model Discussion: Valid from 00Z of 04 January 2013

Model comparison (Valid from 00Z; 04 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 persist with high pressure values oscillating between 1024hpa to 1034hpa according to the GFS, from 1024hpa to 1030hpa according to the ECMWF model and from 1024hpa to 1033hpa according to the UKMET model. The highest pressure values in the previous range will be observed in the end of the forecast period. The Mascarene high pressure system, over southwestern Indian Ocean, is expected to remain with its central pressure value through 24 hours, of about 1025hpa according to

the GFS and the UKMET models, and 1017hpa 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 increase progressively from about 1012hpa to 1025hpa according to the GFS and the UKMET models and from about 1015hpa to 1026hpa, according to the ECMWF model.

The seasonal lows across Equatorial and Central Africa countries are expected to reveal less significant changes in terms of their central pressure values. The pressure of the previously mentioned lows will remain with their central pressure value of 1008hpa in total accordance with the three models (GFS, ECMWF and the UKMET models). A low system is expected to prevail over Mozambique Channel throughout the forecast period. The central pressure value will swing from about 1003hpa to 1008hpa according to the GFS model, from about 1006hpa to 1008hpa according to the UKMET model. According to the ECMET, this low system across Mozambique Channel will remain with its central value of about 1009hpa throughout the forecast period.

At the 850hpa level, the seasonal lower level wind convergence near the Congo Air Boundary (CAB) region is expected to prevail with moderate to poor convergence conditions throughout the forecast period. In contrast to the previously mentioned region, two convergence lines, one northwest-southeast oriented in the region between Angola and central Mozambique, and north-south oriented in the region between Angola and Botswana are expected to prevail active throughout the forecasting period. Localized wind convergences are also expected to dominate the flow over parts of Kenya, Uganda and Tanzania.

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 cut- of- low is expected to form over central region of South Africa through 24 to 48 hours.

At 200hpa, strong winds associated with Sub-Tropical westerly Jet are expected to dominate the flow over northern Africa and the Mediterranean Sea, during the forecast period. The intensity of the jet is expected to exceed 130kts over Morocco, Algeria,

Libya and Egypt through 24 to 96 hours. The wind speed will tend to reduce in Morocco through 24 to 48 hours.

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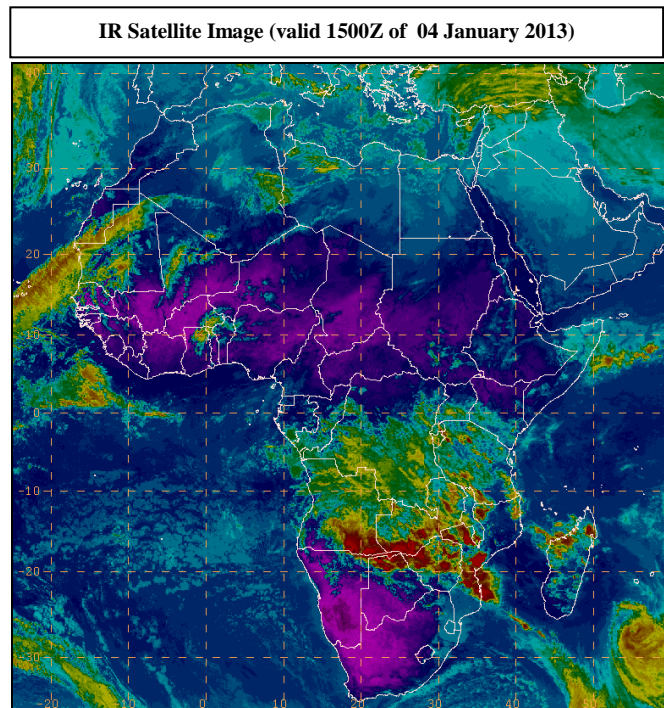
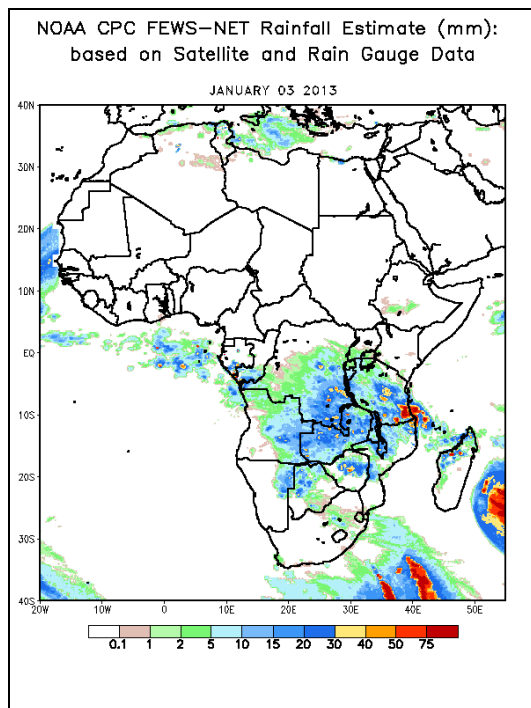
2.0. Previous and Current Day Weather Discussion over Africa (03 January 2013 – 04 January 2013)

2.1. Weather assessment for the previous day (03 January 2013)

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

2.2. Weather assessment for the current day (04 January 2013)

Intense clouds are observed over parts of Angola, Zambia, Mozambique, Botswana, Tanzania 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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