

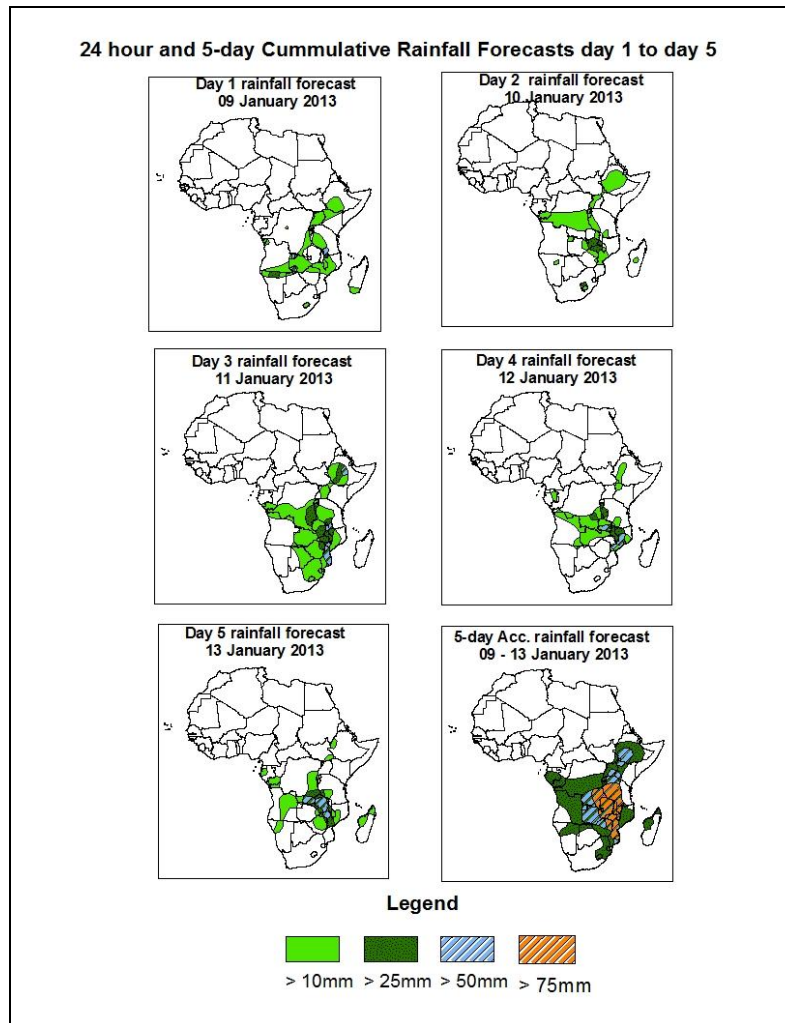


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 09 January – 06Z of 13 January 2013. (Issued at 16:30Z of 08 January 2013)

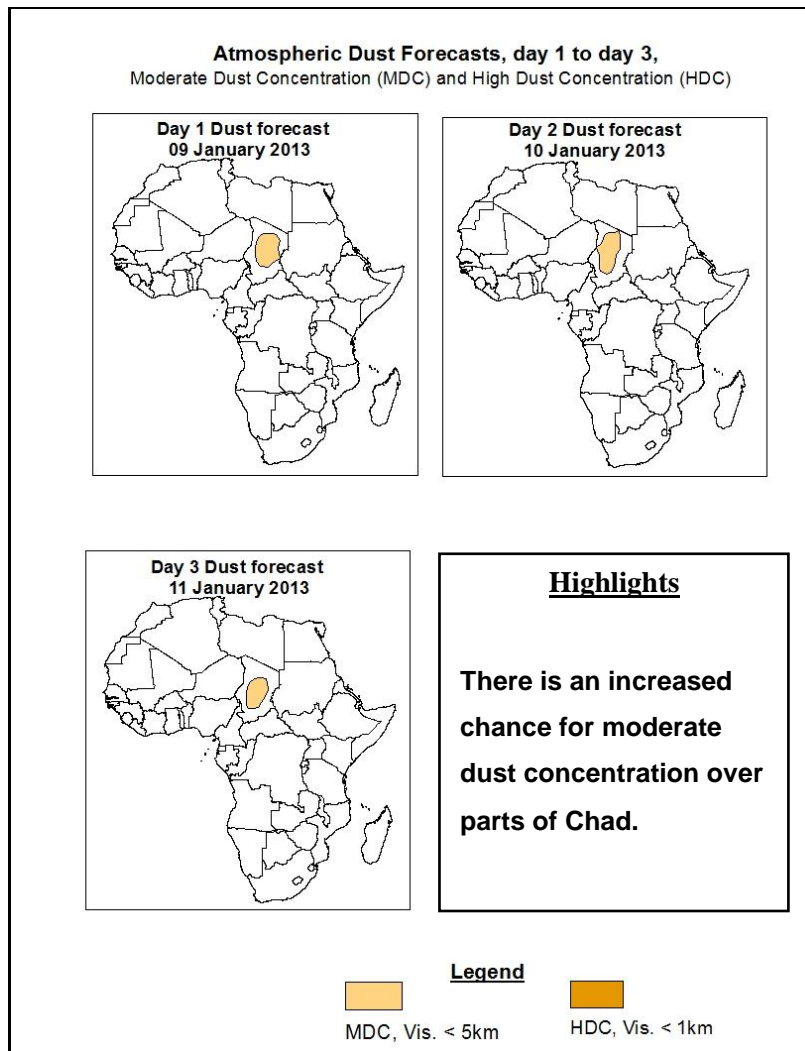
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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, a north-south oriented convergence line in the region between Ethiopia and southern region of Mozambique; localized wind convergences over southern region of Angola and DRC, 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 southern region of Zambia, most of Malawi, central and southern regions of Mozambique, western region of Tanzania, scattered regions of DRC, Uganda, Kenya and Somalia.



1.2. Model Discussion: Valid from 00Z of 08 January 2013

Model comparison (Valid from 00Z; 08 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 next five days, the St. Helena high pressure system over southeast Atlantic Ocean is expected to persist with high pressure values. However, the pressure values will tend to decrease gradually throughout the forecast period. According to the GFS and the ECMWF models, the central pressure values will decrease from about 1032hpa to 1027hpa, and from about 1032hpa to 1028hpa according to the UKMET model.

The Mascarene high pressure system over southwestern Indian Ocean is expected to strengthen slightly through 24 to 96 hours, while shifting eastwards with its central pressure value increasing from 1027hpa to 1029hpa, according to the GFS, from about 1027hpa to 1028hpa according to the ECMWF model, and from about 1028hpa to 1029hpa 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 96 to 120 hours. The central pressure value of the newly formed high is expected to decrease from about 1028hpa to 1025hpa according to the GFS model, from about 1027hpa to 1024hpa, according to the ECMWF model, and from about 1027hpa to 1025hpa according to the UKMET model.

The seasonal lows across Equatorial and Central Africa countries are expected to reveal less activity through 24 to 72 hours. The pressure of the previously mentioned lows will remain higher than 1010hpa in total accordance with the three models (GFS, ECMWF and the UKMET models), this situation will tend, however, to decrease during the last quarter of the forecast period. A coastal low system is expected to dominate local circulation over eastern region of South Africa throughout the forecast period. The minimum central pressure value will remain between 1005hpa to 1008hpa according to the GFS model, from about 1006hpa to 1008 according to the ECMWF model and from about 1003hpa to 1005hpa according to the UKMET model.

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, a north-south oriented convergence line in the region between Ethiopia and southern region of Mozambique is expected to dominate the weather conditions over parts of Ethiopia, Uganda Kenya, Tanzania, Malawi, and Zambia, central and southern regions of Mozambique through 48 to 120 hours. Localized wind convergences are also expected to dominate the flow over western region of Angola and parts of DRC 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 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, the northern hemisphere sub-tropical westerly jet is expected to remain strong across northeast Africa region, with the core wind speed occasionally exceeding 130kts through 24 to 72 hours, and will tend to weaken towards end of the forecast period.

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2.0. Previous and Current Day Weather Discussion over Africa (07 January 2013 – 08 January 2013)

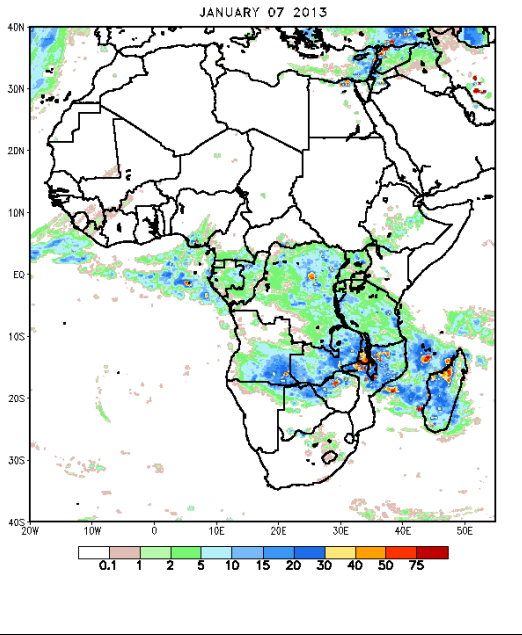
2.1. Weather assessment for the previous day (07 January 2013)

During the previous day, moderate to locally heavy rainfall was observed over central and northern regions of Mozambique, parts of DRC, Zambia, Malawi, Zimbabwe, Angola and Madagascar.

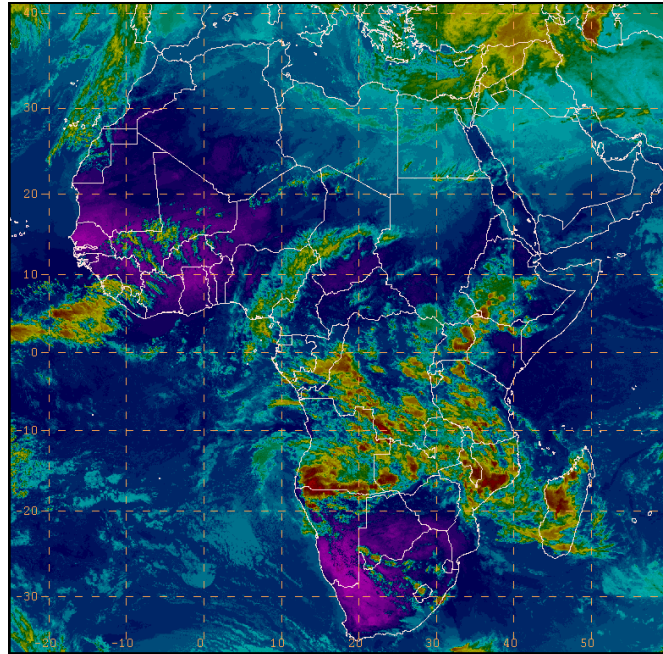
2.2. Weather assessment for the current day (08 January 2013)

Intense clouds are observed over parts of Angola, Zambia, Malawi, Mozambique, Tanzania, Uganda, Congo, DRC and Madagascar.

NOAA CPC FEWS—NET Rainfall Estimate (mm):
based on Satellite and Rain Gauge Data



IR Satellite Image (valid 1600Z of 08 January 2013)



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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