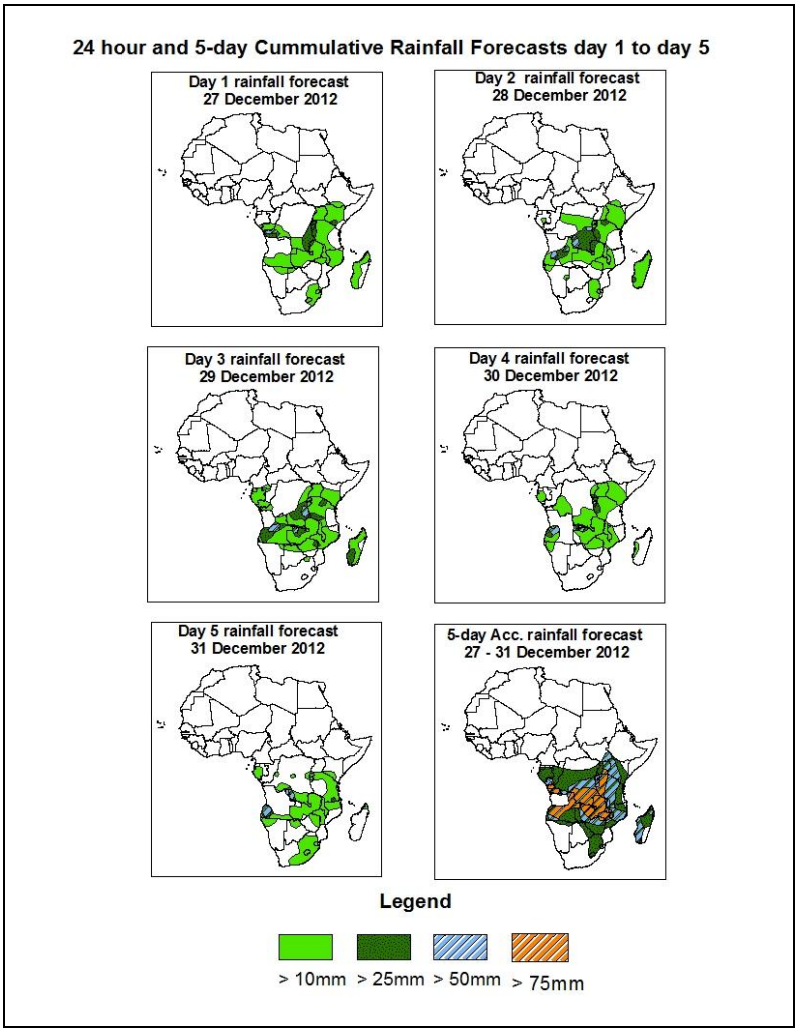
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 27 December – 06Z of 31 December 2012. (Issued at 17:30Z of 26 December 2012)

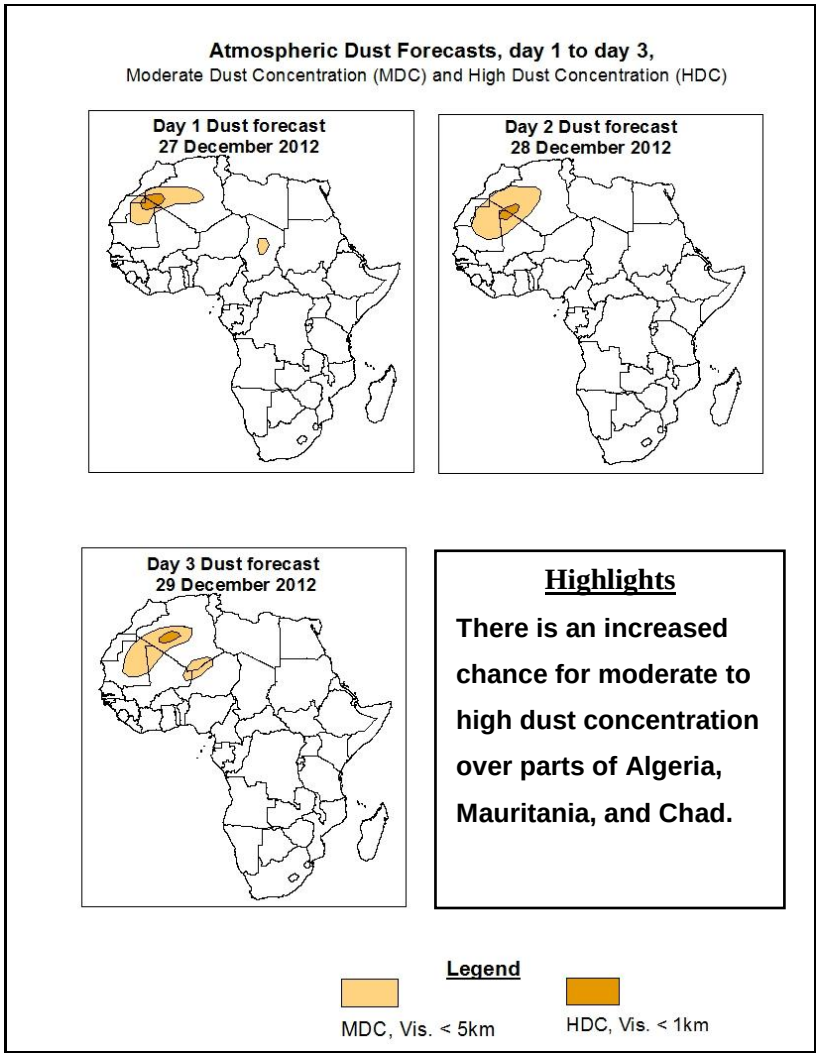
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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, seasonal wind convergences over portions over southern region of Congo, lower-level wind convergences over parts of eastern region of Angola, southern region of DRC, and Zambia, localized winds over parts of Kenya, Uganda, Tanzania and the central region of Mozambique, are expected to enhance rainfall in their respective regions. Thus, there is an increased chance for heavy rainfall over local areas in Congo, central Angola, Zambia and parts of DRC.



1.2. Model Discussion: Valid from 00Z of 26 December 2012

Model comparison (Valid from 00Z; 26 December 2012) 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 increase its central pressure value through 48 to 120 hours from about 1021hpa to1031hpa according to the GFS model, from about 1012hpa to 1029hpa according to the ECMWF model and from about 1021hpa to 1028hpa according to the UKMET model.

The Mascarene high pressure system over southwestern Indian Ocean is also expected to increase its central pressure value through 48 to 120 hours from about 1022hpa to 126hpa according to the GFS model, from about 1020 to 1025hpa according to the ECMWF model and from about 1022 to 1026hpa according to the UKMET model.

The seasonal lows across DRC, South Sudan and the neighboring areas is expected to maintain central pressure value of about 1008hpa according to the GFS and UKMET models, tending to deepening slightly from about 1006hpa to 1005hpa according to the ECMWF model. A low system is expected to form over Mozambique Channel towards end of the forecast period with its central pressure value of about 1008hpa in agreement with the three models (GFS, ECMWF and UKMET).

At the 850hpa level, the seasonal lower level wind convergence near the CAB region is expected to remain with poor convergence conditions throughout the forecast period. In contrast to the CAB situation, lower level wind convergences are expected to remain active across portions of eastern region of Angola, southern region of DRC, and Zambia, while localized wind convergences are expected to dominate the flow over parts of Kenya, Uganda, Tanzania and the central region of Mozambique. An eastward propagating trough is expected to dominate the flow across South Africa towards end of the forecast period.

At 500hpa, a trough in the mid-latitude westerlies is expected dominate the flow over northern countries of Africa and Mediterranean Sea throughout the forecast period. A cut- of- cyclonic circulation is expected to form over central region of South Africa towards end of the forecast.

At 200hpa, the northern hemisphere sub-tropical westerly jet is expected to increase through 48 to 120 hours with the core wind speed occasionally exceeding 130kts during the forecast period over portions of Libya and Egypt.

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their respective regions. Thus, there is an increased chance for heavy rainfall over local areas in Congo, central Angola, Zambia and parts of DRC.

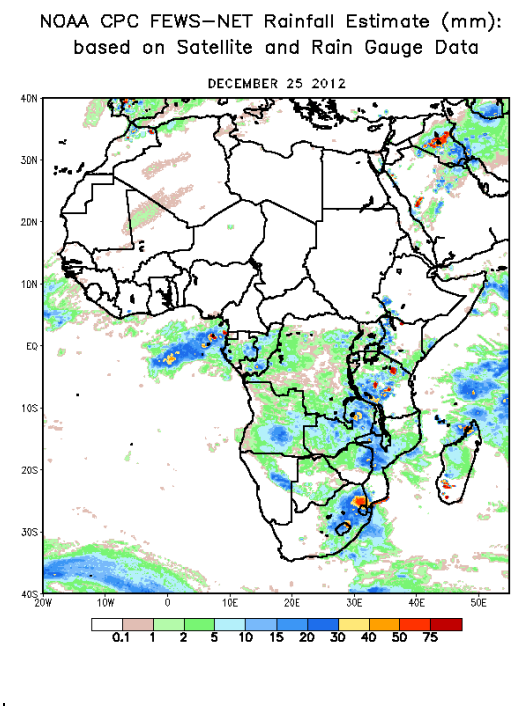
2.0. Previous and Current Day Weather Discussion over Africa (25 December 2012 – 26 December 2012)

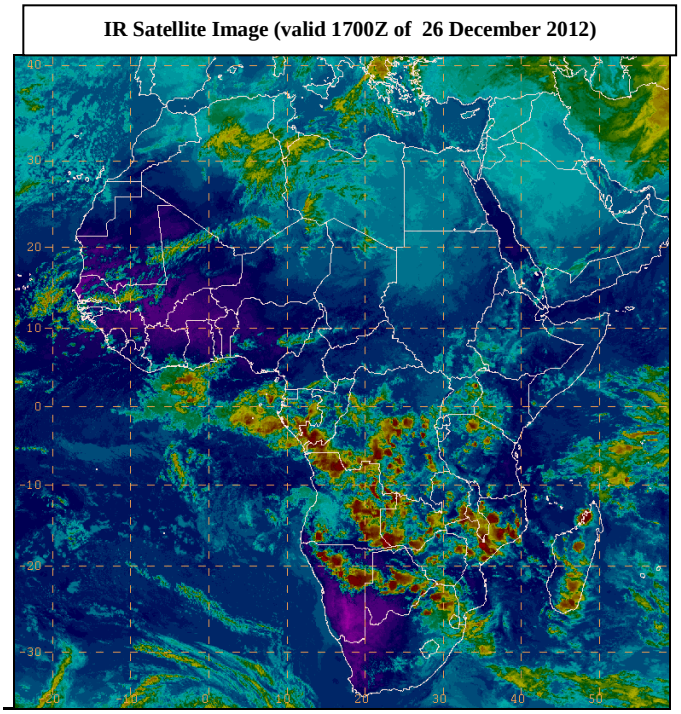
2.1. Weather assessment for the previous day (25 December 2012)

During the previous day, moderate to locally heavy rainfall was observed over eastern region of South Africa, parts of Tanzania, Zambia, Congo and central region of Angola, Namibia and Central region of Mozambique.

2.2. Weather assessment for the current day (26 December 2012)

Intense clouds are observed over Congo, Gabon, parts of DRC, Angola, Namibia, Zambia, northern region of Mozambique, Madagascar and eastern region of South Africa.





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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