

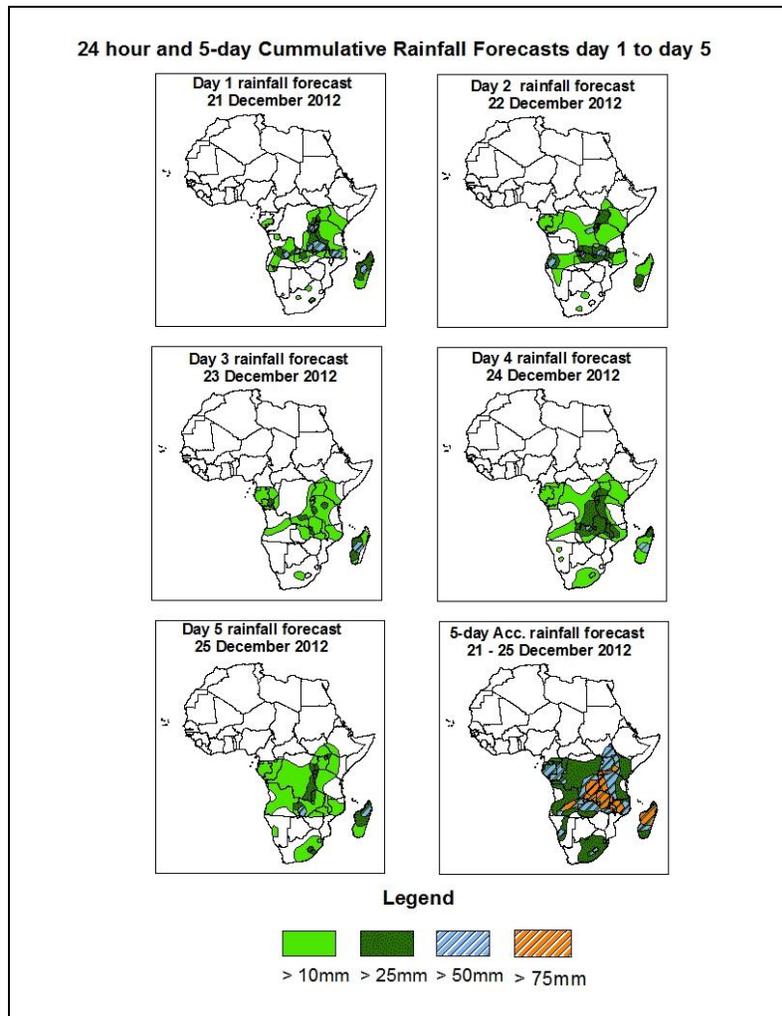


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 21 December – 06Z of 25 December 2012. (Issued at 17:00Z of 20 December 2012)

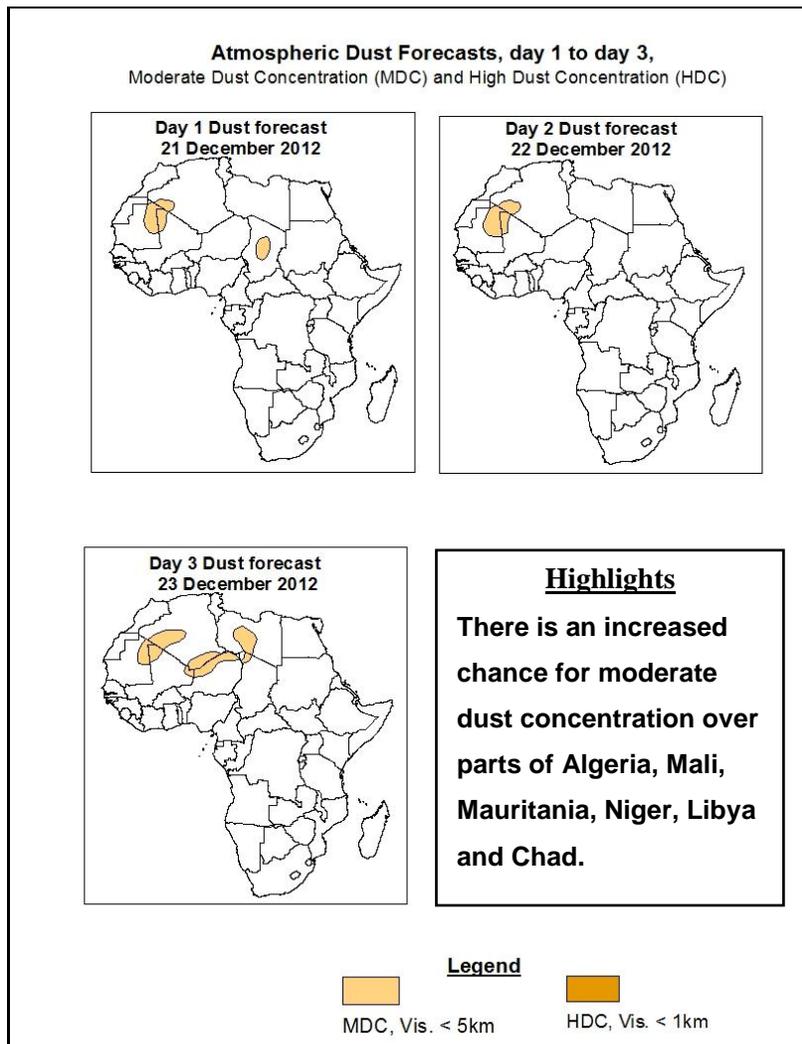
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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, localized wind convergences over Gabon and Congo, lower-level wind convergences over parts of Southern Africa countries and a low pressure system across Mozambique Channel are expected to enhance rainfall in their respective regions. Thus, there is an increased chance for heavy rainfall over local areas in Gabon, Congo, central region of Angola, Zambia, Malawi and Madagascar and parts of northern region of Mozambique.



1.2. Model Discussion: Valid from 00Z of 20 December 2012

Model comparison (Valid from 00Z; 20 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 weaken slightly through 24 to 96 hours, with its central pressure value decreasing from about 1022hpa to 1016hpa according to the GFS model, from 1022hpa to 2019 according to the ECMWF model and from 1023hpa to 1020hpa according to the UKMET model.

The Mascarene high pressure system over southwestern Indian Ocean is expected to remain weak through 24 to 72 hours, according to the ECMWF, the UKMET, and the GFS models.

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 the UKMET models, and about 1009hpa according to the ECMWF model. A low pressure system across Namibia and South Africa, and a low pressure system across Mozambique Channel are expected to maintain their central pressure value of about 1008hpa through 24 to 72 hours according to the ECMWF, the UKMET, and the GFS models.

At the 850hpa level, the seasonal lower level wind convergence near the CAB region is expected to remain weak through 24 to 72 hours, and expected to re-strengthen towards end of the forecast period. In contrast to the CAB situation, lower level wind convergences are expected to remain active across Angola, Zambia and Malawi, while localized wind convergences are expected to dominate the flow over parts of Kenya, Tanzania and northern Mozambique. An eastward propagating trough across South Africa is expected to remain active through 72 hours while a cut-of-low is expected to form in the end of forecast period.

At 500hpa, a trough in the mid-latitude westerlies is expected to dominate the flow over Northeast Africa through 24 to 72 hours. 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 remain active with the core wind speed occasionally exceeding 130kts during the forecast period over Libya and Egypt.

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Congo, central region of Angola, Zambia, Malawi and Madagascar and parts of northern region of Mozambique.

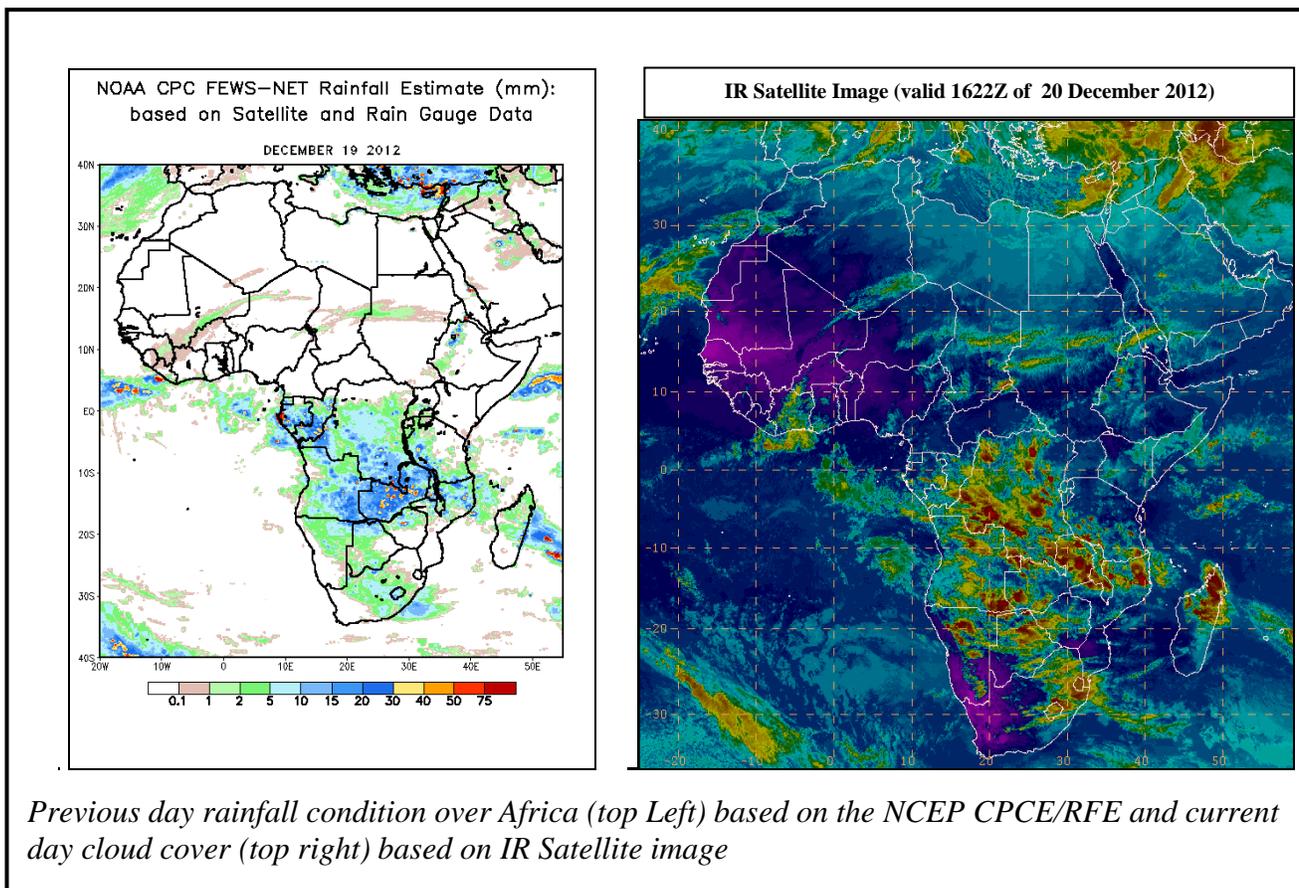
2.0. Previous and Current Day Weather Discussion over Africa (19 December 2012 – 20 December 2012)

2.1. Weather assessment for the previous day (19 December 2012)

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

2.2. Weather assessment for the current day (20 December 2012)

Intense clouds are observed over DRC, Angola and Zambia; parts of South Africa, Mozambique and Madagascar.



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