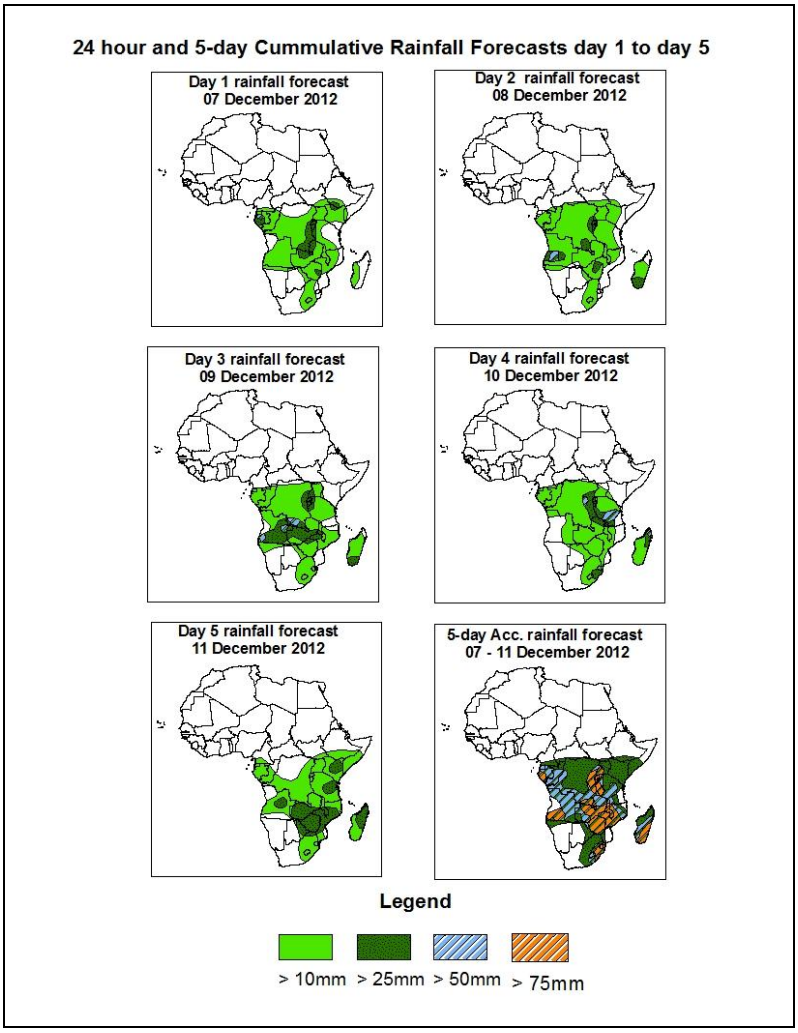
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 07 December – 06Z of 11 December 2012. (Issued at 17:00Z of 06 December 2012)

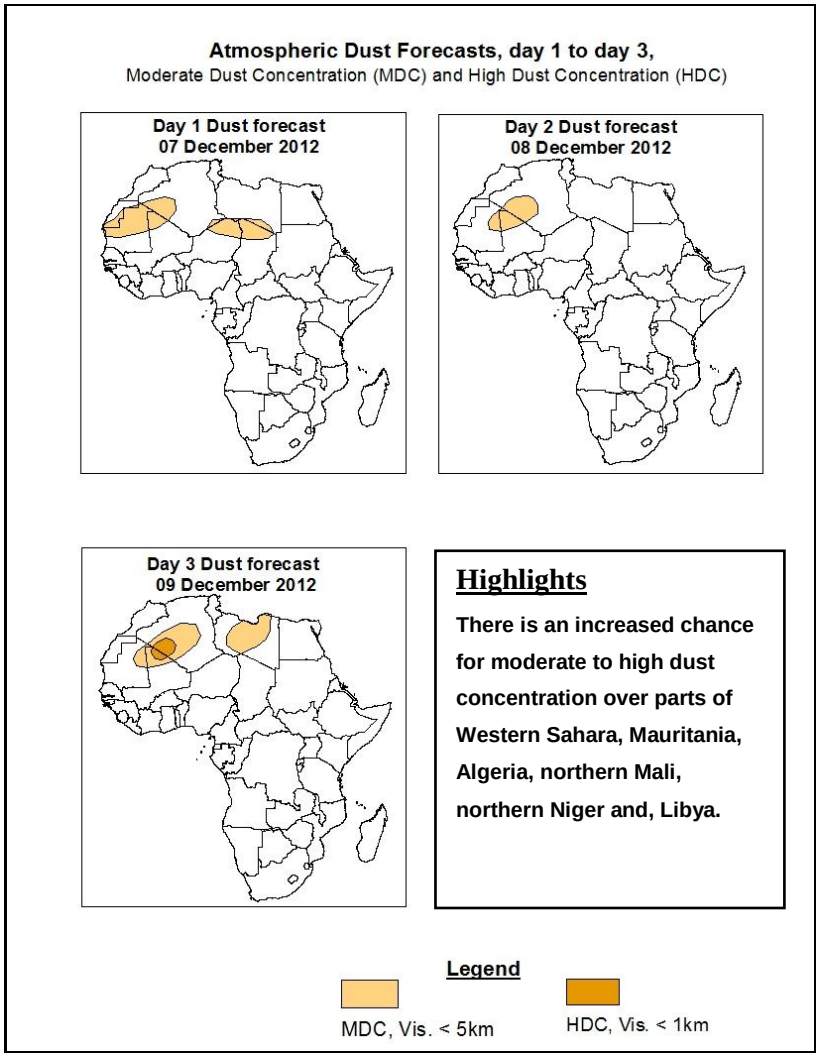
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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 across western Equatorial and East Africa, lower-level wind convergences over parts of South African countries, and eastward propagating trough across South Africa are expected to enhance rainfall in their respective regions. Thus, there is an increased chance for heavy rainfall over local areas in Gabon and Congo, parts of Angola, Zambia, Zimbabwe, Mozambique, Malawi, parts of Tanzania and Kenya, eastern South Africa and Madagascar.



1.2. Model Discussion: Valid from 00Z of 06 December 2012

Model comparison (Valid from 00Z; 06 December 2012) shows all the three models are in general agreement in terms of depicting weak Mascarene high pressure system during the forecast period. However, the models show differences in terms of central pressure values.

The St. Helena High pressure system over southeast Atlantic Ocean is expected to weaken through 24 to 120 hours, with its central pressure value decreasing from about 1023hpa to 1021hpa, according to the ECMWF and UKMET models, from 1024hpa to 1031hpa, according to the GFS model.

The Mascarene high pressure system over southwestern Indian Ocean is expected to remain weak through 72 to 120 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 1007hpa according to the ECMWF model, about 1006hpa, according to the UKMET model and, about 1005hpa according to the GFS model. A low pressure system across southern Africa is expected to deepen gradually, with its central pressure value decreasing from about 1008hpa to 1006hpa, according to the ECMWF model, from about 1010hpa to 1007hpa, according to the UKMET model, and from about 1009hpa to 1002hpa according to the GFS model.

At the 850hpa level, the seasonal lower level wind convergence near the CAB region is expected to remain weak through 24 to 48 hours, and expected to re-strengthen towards end of the forecast period. In contrast, lower level wind convergences are expected to remain active across parts of Angola, Zambia, Zimbabwe, Mozambique and neighboring areas. Localized wind convergences are also expected to dominate the flow over Gabon, parts of Kenya and Tanzania.

At 500hpa, a trough in the mid-latitude westerlies is expected dominate the flow over Northeast Africa towards end of the forecast period. A mid-latitude trough is also expected to propagate across South Africa during the second half of the forecast period.

At 200hpa, the northern hemisphere sub-tropical westerly jet is expected to remain strong across Northeast Africa, with the core wind speed occasionally exceeding 130kts during the first half of the forecast period, and tends to weaken towards end of the forecast period.

In the next five days, localized wind convergences across western Equatorial and East Africa, lower-level wind convergences over parts of South African countries, and eastward propagating trough across South Africa are expected to enhance rainfall in their respective regions. Thus, there is an increased chance for heavy rainfall over local areas in Gabon and Congo, parts of Angola, Zambia, Zimbabwe, Mozambique, Malawi, parts of Tanzania and Kenya, eastern South Africa and Madagascar.

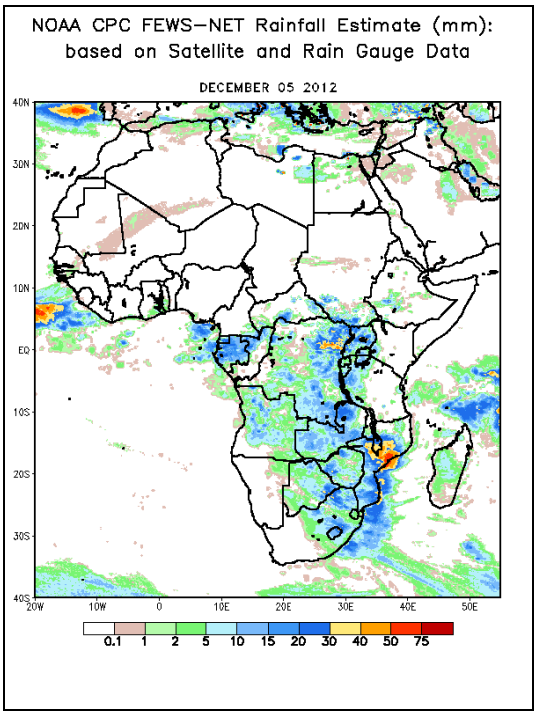
2.0. Previous and Current Day Weather Discussion over Africa (05 December 2012 – 06 December 2012)

2.1. Weather assessment for the previous day (05 December 2012)

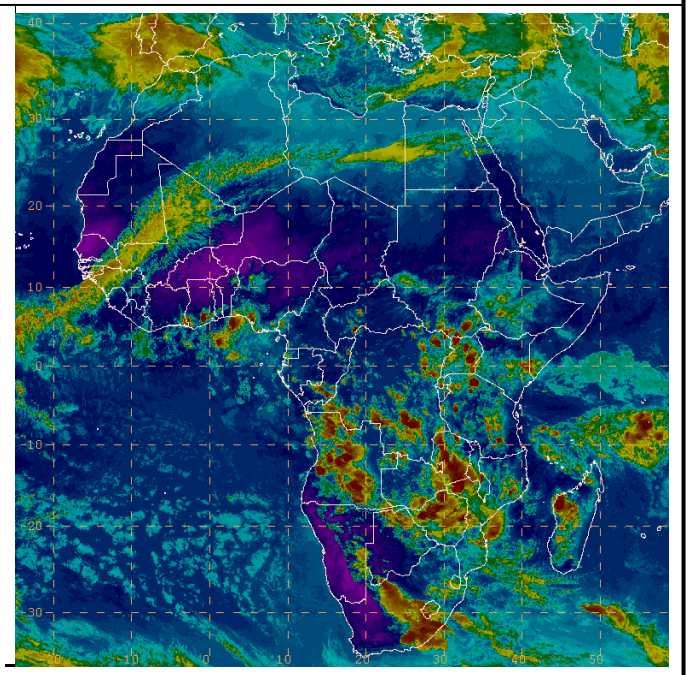
During the previous day, moderate to locally heavy rainfall was observed over parts of Gabon, DRC, Uganda, Angola, Zambia, Malawi, Mozambique, and South Africa.

2.2. Weather assessment for the current day (06 December 2012)

Intense clouds are observed across coastal Gulf of Guinea, the Lake Victoria region, many parts of Southern Africa countries, including Madagascar.



IR Satellite Image (valid 1622Z of 06 December 2012)



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