

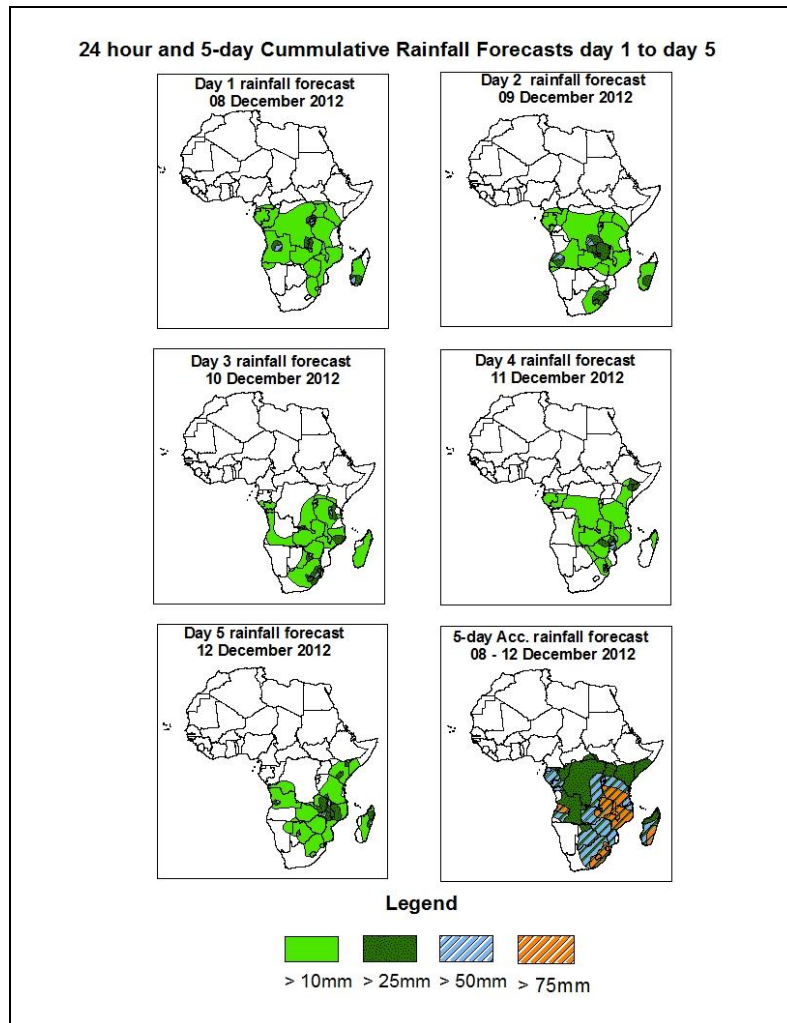


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 08 December – 06Z of 12 December 2012. (Issued at 17:00Z of 07 December 2012)

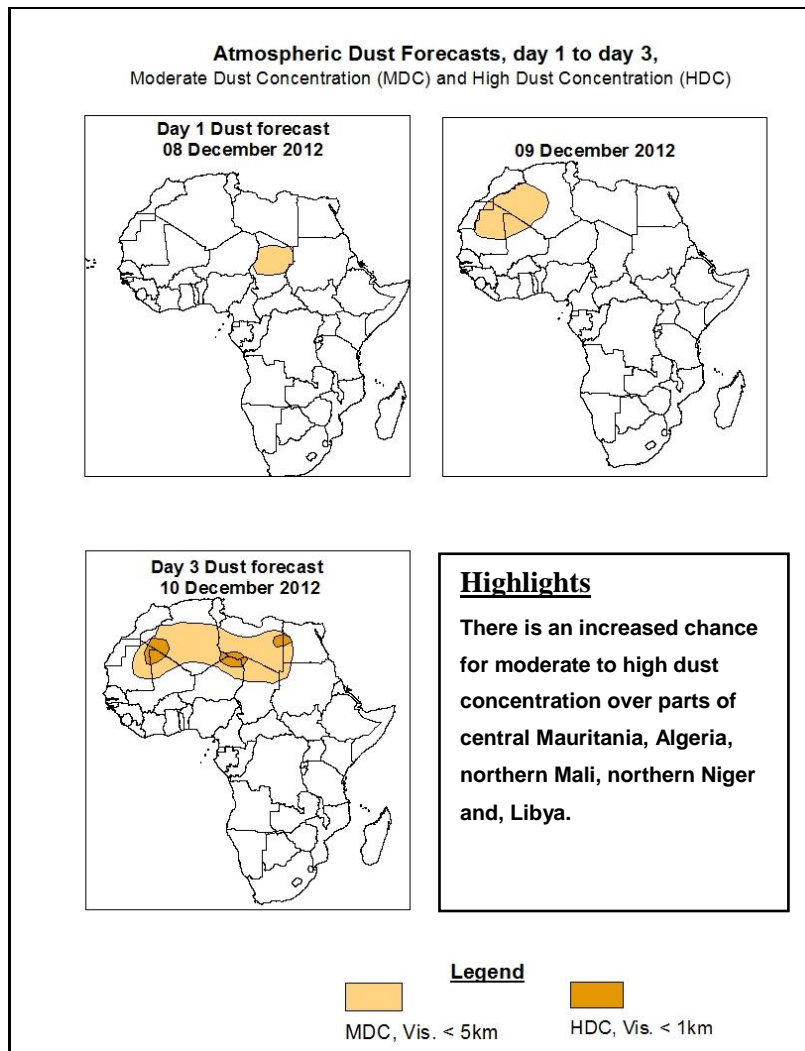
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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 Southern Africa 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 Madaqascar.



1.2. Model Discussion: Valid from 00Z of 07 December 2012

Model comparison (Valid from 00Z; 07 December 2012) shows all the three models are in general agreement in terms of depicting eastward movement of the Mascarene high pressure system 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 through 24 to 120 hours, with its central pressure value decreasing from about 1022hpa to 1021hpa, according to the ECMWF, from about 1023hpa to 1022hpa according to the UKMET models, and from 1023hpa to 1021hpa, according to the GFS model.

The Mascarene high pressure system over southwestern Indian Ocean is expected to weaken slightly, while shifting eastwards with its central pressure value decreasing from 1023hpa to 1021hpa, according to the GFS and ECMWF models, and from about 1024hpa to 1020hpa 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 72 to 120 hours. The central pressure value of the newly formed high is expected to increase from about 1021hpa to 1023hpa according to the GFS model, from about 1015hpa to 1018hpa, according to the ECMWF model, and from about 1020hpa to 1024hpa according to the UKMET model.

The seasonal lows across DRC, South Sudan and the neighboring areas is expected to deepen slightly through 24 to 72 hours, with its central pressure decreasing from 1006hpa to 1004hpa, according to GFS model, and through 1008hpa to 1007hpa according to ECMWF model and through 1007hpa to 1006hpa according to UKMET model. A low pressure system across Mozambique Channel is expected to deepen gradually, with its central pressure value decreasing from about 1008hpa to 1002hpa, according to the GFS model, from about 1010hpa to 1006hpa, according to the ECMWF model, and from about 1010hpa to 1007hpa according to the UKMET model.

At the 850hpa level, the seasonal lower level wind convergence near the CAB region is expected to remain active through 24 to 120 hours. In other hand a strong convergence is expected to prevail over Angola, Zambia, central region of South Africa and western region of Mozambique. 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 to dominate the flow over Northeast Africa through 48 to 72 hours. A mid-latitude trough is also expected to propagate across South Africa through 48 to 96 hours, and a cut of cyclonic circulation is expected to form over central region of South Africa towards end 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 through 24 to 72 hours, 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 Southern Africa 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

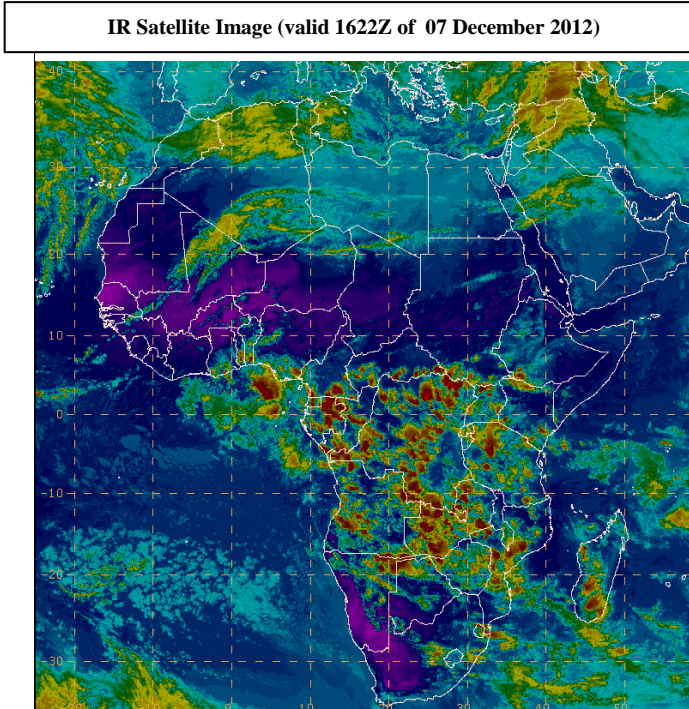
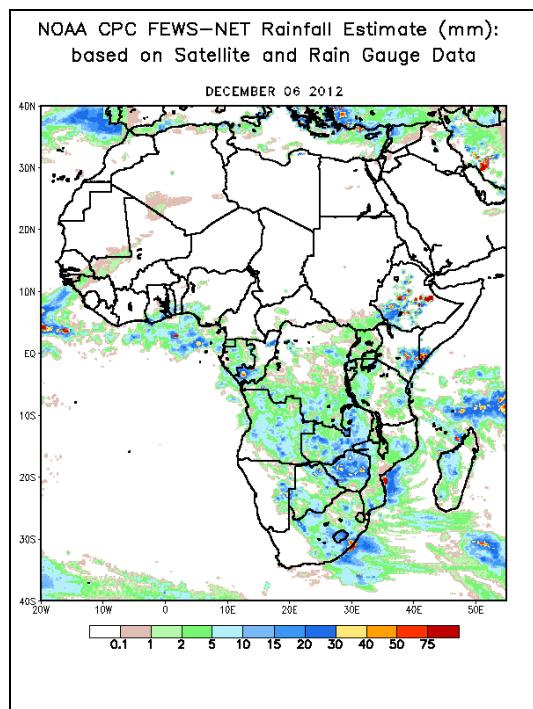
(06 December 2012 – 07 December 2012)

2.1. Weather assessment for the previous day (06 December 2012)

During the previous day, moderate to locally heavy rainfall was observed over parts of Congo, local areas in Angola, parts of Ethiopia, southeastern Kenya, Zambia Zimbabwe and parts of Mozambique and South Africa.

2.2. Weather assessment for the current day (07 December 2012)

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