

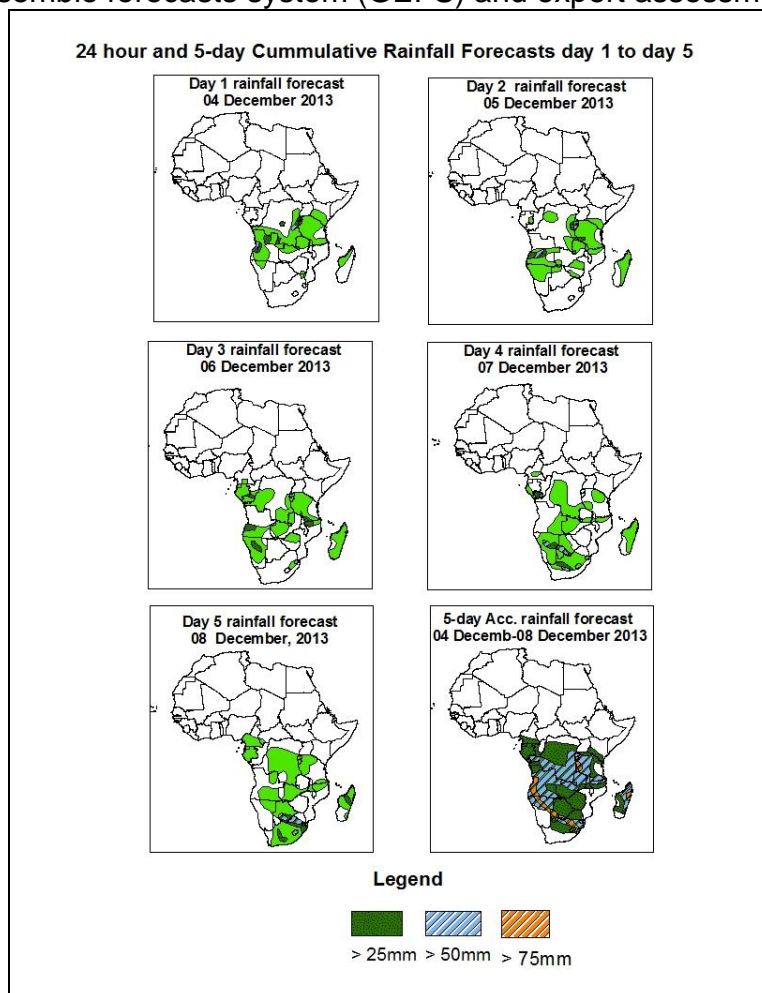


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 04 December – 06Z of 08 December, 2013. (Issued at 1800Z of 03 December 2013)

1.1. Twenty Four Hour Cumulative Rainfall Forecasts

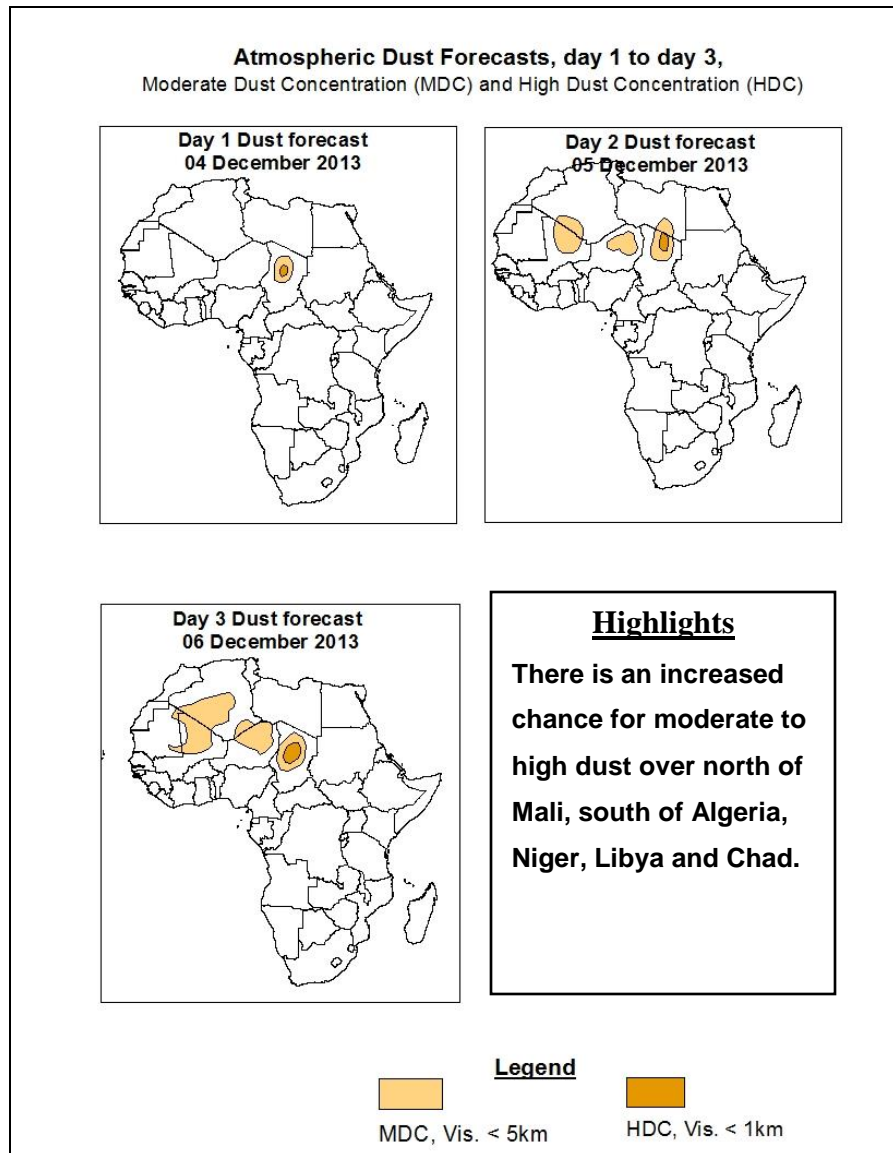
The forecasts are expressed in terms of 75% probability of precipitation (POP) exceeded, based on the NCEP, UK Met Office and the ECMWF NWP outputs, the NCEP global ensemble forecasts system (GEFS) and expert assessment.



Summary

In the next five days, a low level-wind convergence over Gabon, Congo, DRC, seasonal wind convergence over the Lake Victoria region and Angola, interaction between mid-latitude and tropical weather systems across southern Africa are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for moderate to heavy rainfall over Equatorial Guinea, Cameroon, Gabon, Congo, DRC, the Lake Victoria region, Kenya, Angola, Zambia, Zimbabwe, Namibia, Botswana, northwest of Mozambique, Lesotho, Swaziland, South Africa, and Madagascar.

1.2. Atmospheric Dust Forecasts: Valid 04 December- 06 December 2013



1.2. Model Discussion: Valid from 00Z of 03 December 2013

Model comparison (Valid from 00Z: 03 December 2013) shows all the two models are in general agreement in terms of depicting positions of the northern and southern hemisphere sub-tropical highs, while they showed slight differences in depicting their intensity.

The St. Helena High Pressure System over southeast Atlantic Ocean is expected to weaken gradually during the forecast period. Its central pressure value is expected to decrease from 1032hpa to 1027hpa according to GFS model and from 1033hpa to 1030hpa according to the UKMET model.

The Mascarene high pressure system over southwestern Indian Ocean is expected to weaken through 48 to 120 hours. The central pressure value of this high pressure system is expected to decrease from 1032hpa to 1027hpa according to the GFS model and from about 1033hpa to 1030hpa according to the UKMET model.

At 850hpa, moist cross-equatorial flow and its associated convergence is expected to dominate the flow over the Horn of Africa through 24 to 120 hours. Seasonal wind convergence over the Lake Victoria region, Horn of Africa, South Sudan, south of Chad, CAR, Nigeria, Cameroon, Congo, DRC, Angola, Zambia, Namibia, Botswana, Mozambique Channel, South Africa and Madagascar, is expected remain active during the forecast period. Interaction between mid-latitude and tropical weather systems is expected moderate to heavy rainfall over south of Cameroon, Equatorial Guinea, Gabon, Congo, DRC, the Lake Victoria region, west of Kenya, Angola, Zambia, Namibia, Botswana, Zimbabwe, north of Mozambique, Lesotho, Swaziland, South Africa and Madagascar.

At 500hpa level, a trough associated with mid-latitude frontal system extending over and Libya, Tunisia and Algeria and tends to weaken gradually though 96 to 120 hours.

At 200hpa level, the sub-tropical Westerly Jet (with >90kts wind speed), extending between Mauritania and Egypt, across Western Sahara, north Mali, north Niger, north Chad, Algeria, Libya and tends to persist during the forecast period. Moreover, sub-

tropical westerly Jet (with 70 to 90kts wind speed) extending from south of Namibia to south Indian Ocean, across South Africa, Lesotho, Swaziland, south of Mozambique and tends to remain during the forecast period.

In the next five days, a low level-wind convergence over Gabon, Congo, DRC, seasonal wind convergence over the Lake Victoria region and Angola, interaction between mid-latitude and tropical weather systems across southern Africa are expected to enhance rainfall in their respective regions. Hence, there is an increased chance for moderate to heavy rainfall over Equatorial Guinea, Cameroon, Gabon, Congo, DRC, the Lake Victoria region, Kenya, Angola, Zambia, Zimbabwe, Namibia, Botswana, northwest of Mozambique, Lesotho, Swaziland, South Africa, and Madagascar.

2.0. Previous and Current Day Weather Discussion over Africa

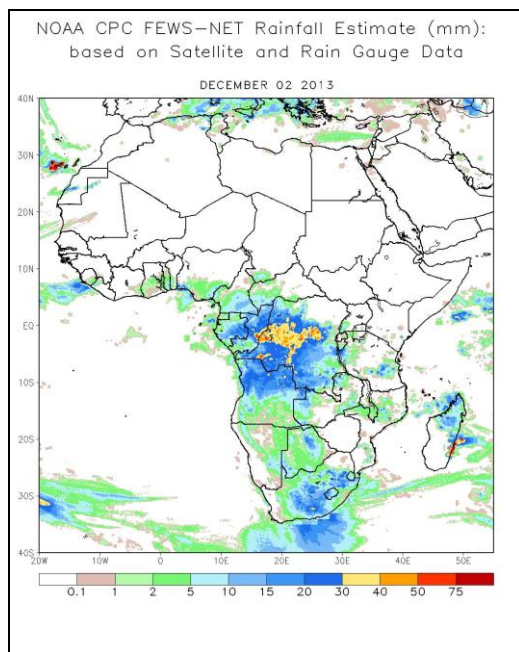
(02 December 2013 – 03 December 2013)

2.1. Weather assessment for the previous day (02 December 2013)

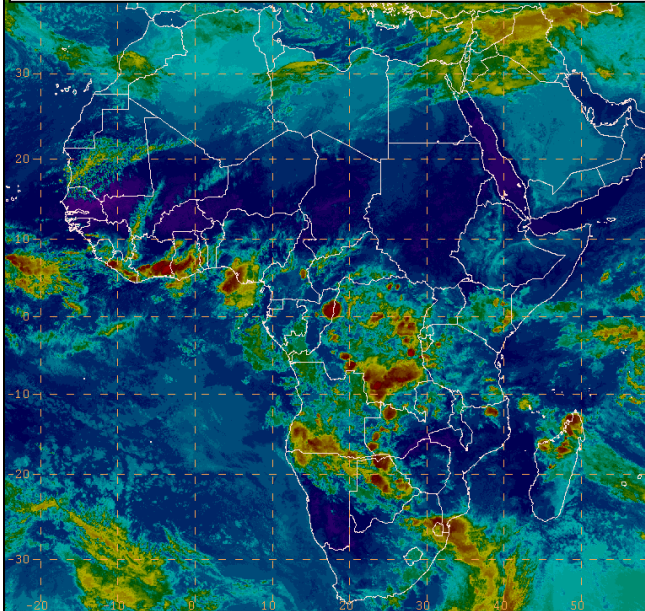
During the previous day, moderate to locally heavy rainfall was observed over West Sahara, Nigeria, Cameroon, Gabon, Congo, DRC, Tanzania, Angola, Botswana, Lesotho, South Africa, and Madagascar.

2.2. Weather assessment for the current day (03 December 2013)

Intense clouds were observed over Liberia, Cote D'Ivoire, Ghana, Nigeria, DRC, Angola, Zambia, Namibia, Botswana, Swaziland, South Africa and Madagascar.



IR Satellite Image (valid 18.00Z of 03 December 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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