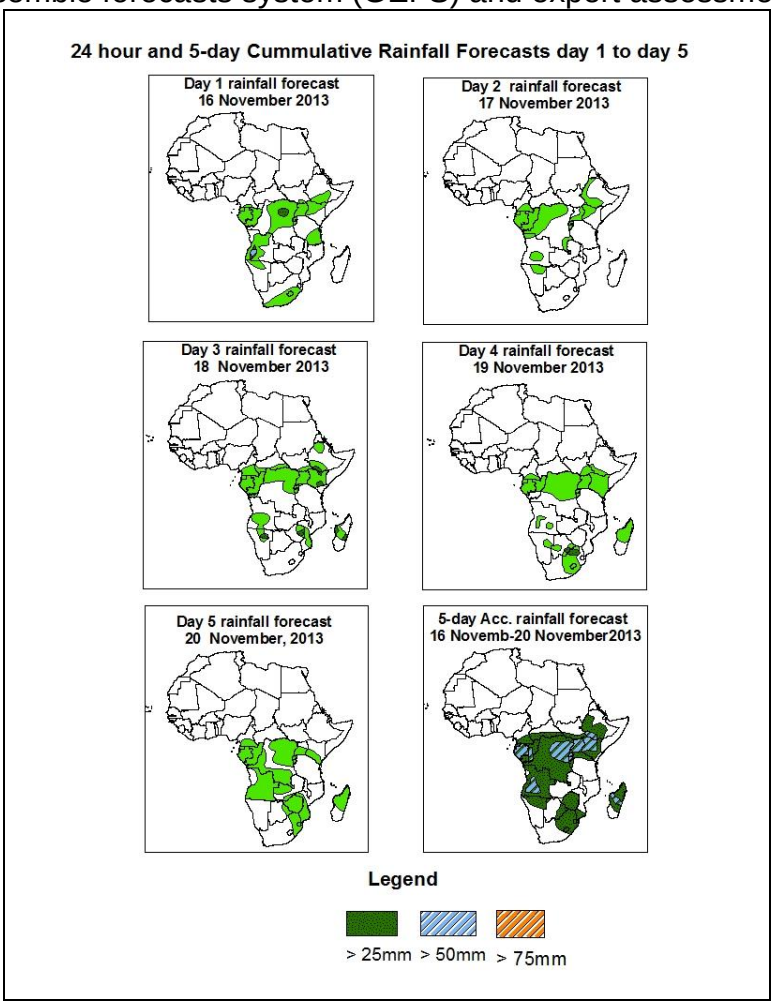
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 16 November – 06Z of 20 November, 2013. (Issued at 1800Z of 15 November 2013)

1.1. Twenty Four Hour Cumulative Rainfall Forecasts

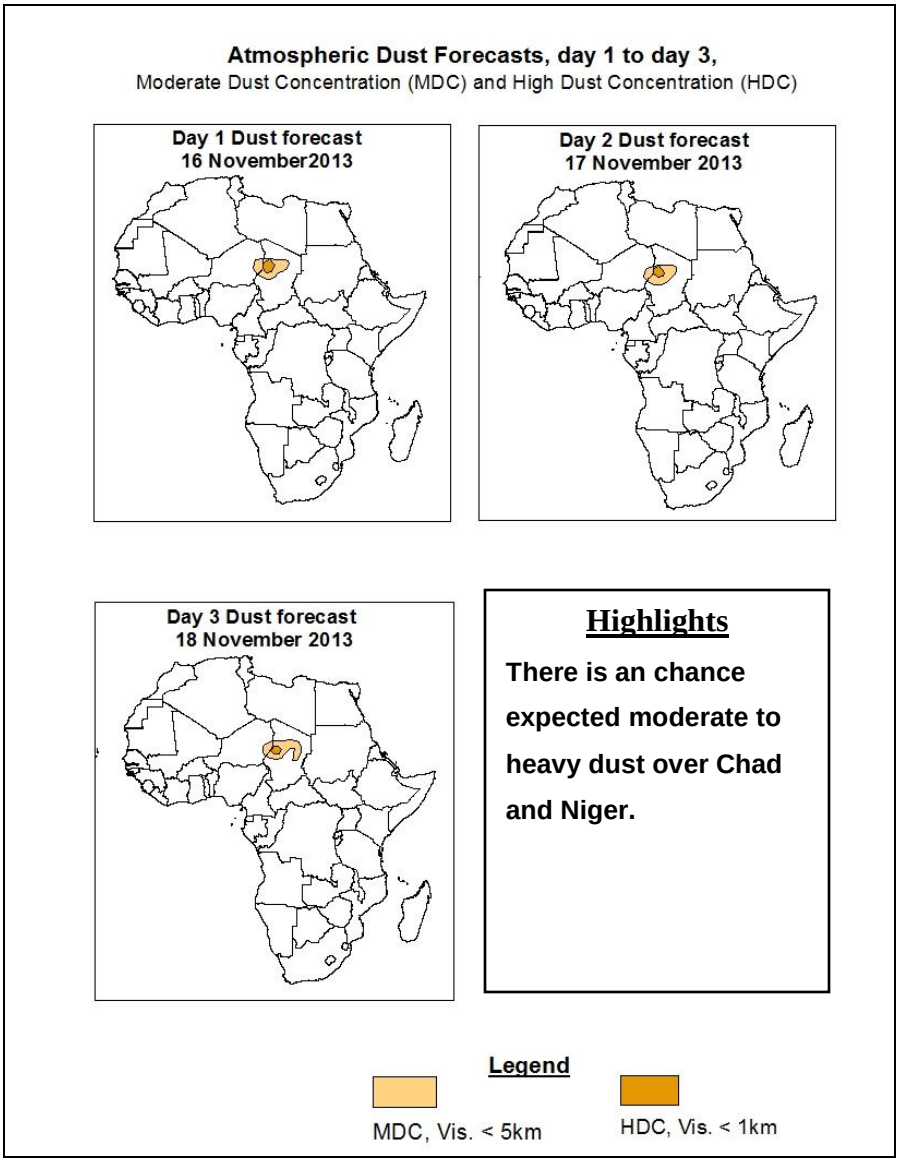
The forecasts are expressed in terms of 75% probability of precipitation (POP) exceeded, based on the NCEP, UK Met Office and the ECMWF NWP outputs, the NCEP global ensemble forecasts system (GEFS) and expert assessment.



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, moist easterly flow from the North Indian Ocean and its associated convergence over the Horn of Africa, 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 southern Cameroon, Equatorial Guinea, Gabon, Congo, Angola, Namibia, Zimbabwe, Botswana, DRC, the Lake Victoria region, Ethiopia, Kenya, Lesotho, South Africa, and Madagascar.

1.2. Atmospheric Dust Forecasts: Valid 16 November- 18 November 2013



1.2. Model Discussion: Valid from 00Z of 15 November 2013

Model comparison (Valid from 00Z: 15 November 2013) shows all the three 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 1029pa to 1025hpa according to GFS model and from 1030hpa to 1025hpa 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 1022hpa to 1019hpa according to the GFS model and from about 1028hpa to 1021hpa 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 area, South Sudan, Horn of Africa, Gabon, Nigeria, Cameroon, DRC, south of Chad, Angola, Botswana, Zambia, Mozambique Channel, South Africa is expected remain active during the forecast period. Interaction between mid-latitude and tropical weather systems is expected moderate to heavy rainfall over Horn of Africa, Lake Vitoria region, Cameroon, Gabon, Congo, DRC, Angola, Lesotho, parts of South Africa, Namibia, Zambia Botswana, Zimbabwe, and Madagascar.

At 500hpa, a trough associated with mid-latitude frontal system extending over South Africa and Namibia, across between 24 to 48 hours and weakens from 72 to 96 hours.

At 200hpa level, the sub-tropical Westerly Jet (with 70 - 130kts wind speed), extending between West Sahara and Egypt, across Morocco, Mauritania, north Mali, Algeria, Libya and tends to intensify from 24 to 120 hours during the forecast period. Moreover, sub-tropical westerly Jet (with >90kts wind speed) extending from south of Namibia to

south Indian Ocean, across South Africa and Lesotho tends to weaken through 24 to 72 hours, and it tends to re-strengthen through 96 to 120 hours.

In the next five days, a low level-wind convergence over Gabon, Congo, DRC, seasonal wind convergence over the Lake Victoria region and Angola, moist easterly flow from the North Indian Ocean and its associated convergence over the Horn of Africa, 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 southern Cameroon, Equatorial Guinea, Gabon, Congo, Angola, Namibia, Zimbabwe, Botswana, DRC, the Lake Victoria region, Ethiopia, Kenya, Lesotho, South Africa, and Madagascar

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2.0. Previous and Current Day Weather Discussion over Africa

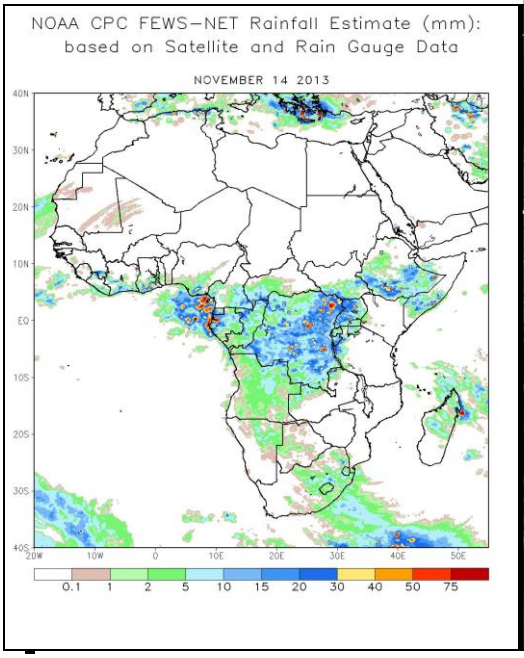
(14 November 2013 – 15 November 2013)

2.1. Weather assessment for the previous day (14 November 2013)

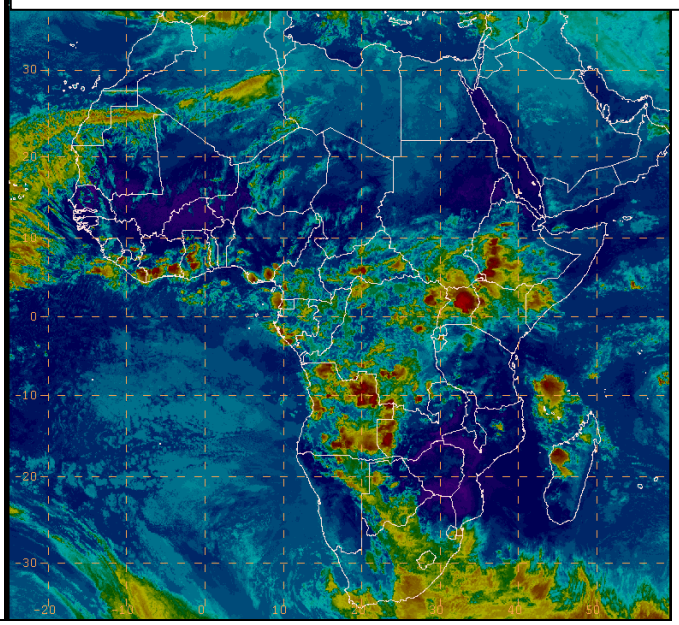
During the previous day, moderate to locally heavy rainfall was observed over Gabon, Equatorial Guinea, DRC, Ethiopia, Somalia, the Lake Victoria region and northeast of Madagascar, .

2.2. Weather assessment for the current day (15 November 2013)

Intense clouds were observed over south of Cote D'Ivoir, Angola, DRC, South Africa and Madagascar.



IR Satellite Image (valid 18.00.00Z of 15 November 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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