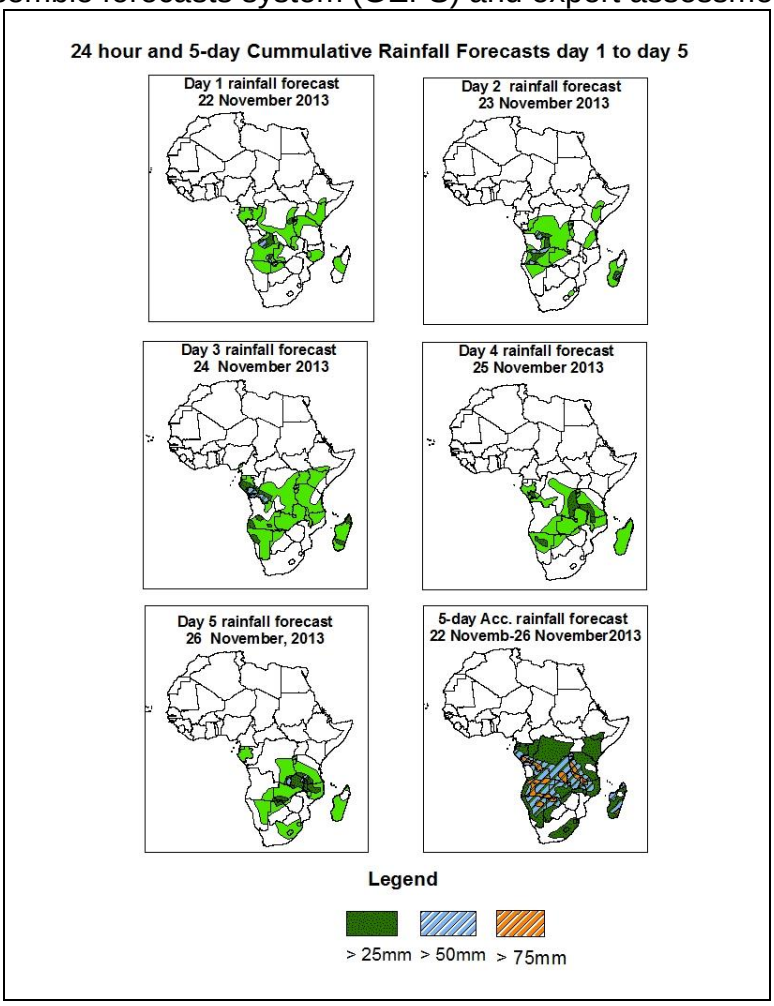
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 22 November – 06Z of 26 November, 2013. (Issued at 1800Z of 21 November 2013)

1.1. Twenty Four Hour Cumulative Rainfall Forecasts

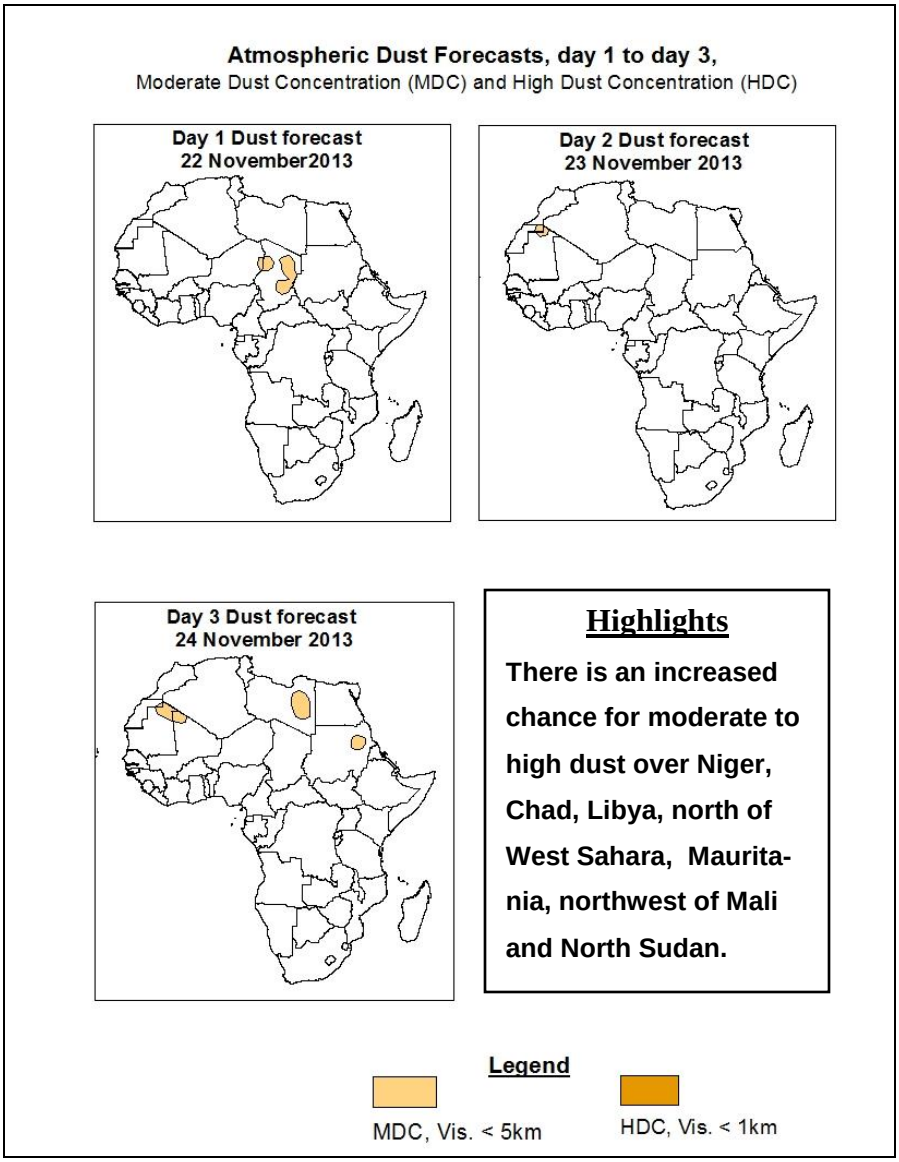
The forecasts are expressed in terms of 75% probability of precipitation (POP) exceeded, based on the NCEP, UK Met Office and the ECMWF NWP outputs, the NCEP global ensemble forecasts system (GEFS) and expert assessment.



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 Gabon, Congo, RDC, the Lake Victoria region, Ethiopia, Angola, Zambia, Namibia, Botswana, Mozambique, Lesotho, Swaziland, South Africa, and Madagascar.

1.2. Atmospheric Dust Forecasts: Valid 22 November- 24 November 2013



1.2. Model Discussion: Valid from 00Z of 21 November 2013

Model comparison (Valid from 00Z: 21 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 intensify gradually during the forecast period. Its central pressure value is expected to increase from 1019pa to 1033hpa according to GFS model and from 1019hpa to 1033hpa according to the UKMET model.

The Mascarene high pressure system over southwestern Indian Ocean is expected to weaken through 24 to 96 hours. The central pressure value of this high pressure system is expected to decrease from 1024hpa to 1022hpa according to the GFS model and from about 1024hpa to 1023hpa 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, Horn of Africa, Cameroon, DRC, Congo, Angola, Zambia, Namibia, Malawi, Mozambique and its 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 Lake Vitoria region, Ethiopia, Equatorial Guinea, Gabon, Congo, DRC, Ethiopia, Kenya, Angola, Zambia, Botswana, Zimbabwe, Malawi, Mozambique, Namibia, Lesotho, Swaziland, South Africa, and Madagascar.

At 200hpa level, the sub-tropical Westerly Jet (with 70 - 130kts wind speed), extending between Mauritania and Egypt, across north Mali, Algeria, Libya and tends to remain 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, Lesotho, Swaziland, south of Mozambique tends to weaken through 72 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 Gabon, Congo, RDC, the Lake Victoria region, Ethiopia, Angola, Zambia, Namibia, Botswana, Mozambique, Lesotho, Swaziland, South Africa, and Madagascar.

2.0. Previous and Current Day Weather Discussion over Africa

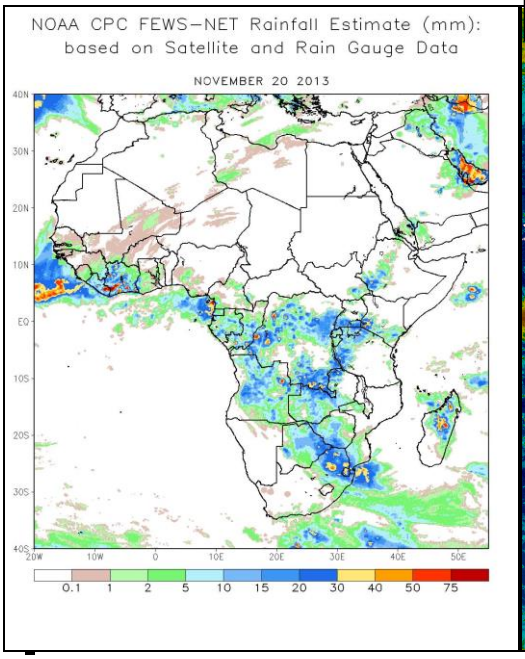
(20 November 2013 – 21 November 2013)

2.1. Weather assessment for the previous day (20 November 2013)

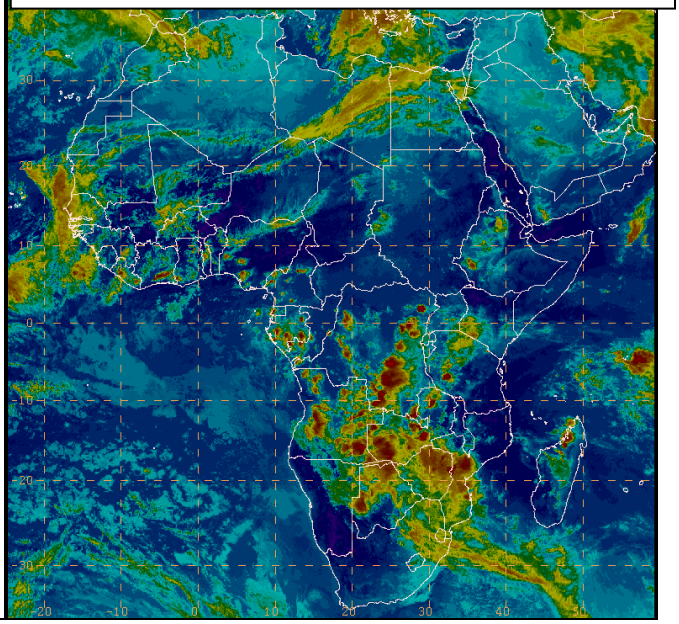
During the previous day, moderate to locally heavy rainfall was observed over Liberia, Cote D'Ivoir, Gabon, Congo, DRC, South Sudan, the Lake Victoria area, Angola, Zambia, Botswana, Zimbabwe, South Africa and Madagascar.

2.2. Weather assessment for the current day (21 November 2013)

Intense clouds were observed over Liberia, Cote D'Ivoir, Nigeria, Cameroon, Gabon, DRC, Ethiopia, Tanzania, Kenya, Angola, Zambia, Botswana, Zimbabwe, Mozambique and South Africa.



IR Satellite Image (valid 18.00Z of 21 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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