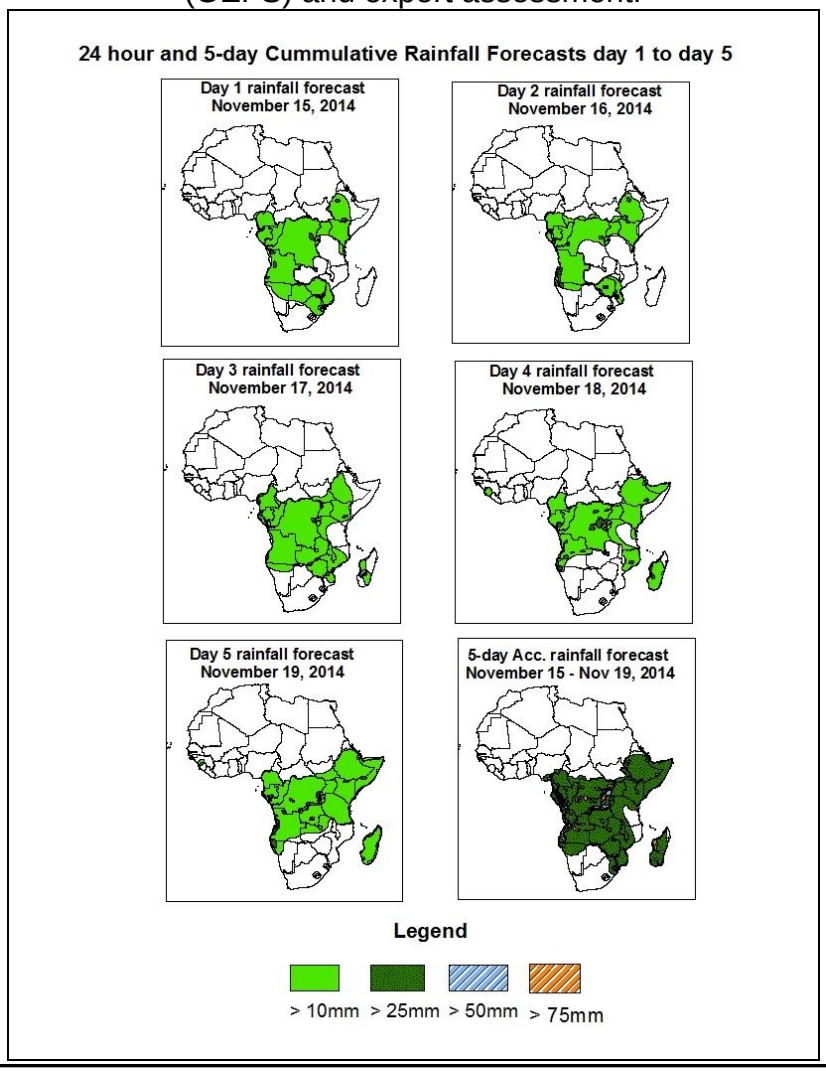
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall Forecast: Valid 06Z of November 15 – 06Z of November 19, 2014. (Issued at 1800Z of November 14, 2014)

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/GFS and the NCEP global ensemble forecasts system (GEFS) and expert assessment.



Summary

In the next five days, lower-level wind convergence over Gabon, Cameroon and the neighboring areas, seasonal wind convergences over the Lake Victoria region, southern Ethiopia and Angola, and eastward propagating frontal system across Southern Africa are expected to enhance rainfall in their respective regions. Thus, there is an increased chance for moderate to heavy rainfall over southeastern Nigeria, southwestern Cameroon, Gabon, Congo-Brazzaville, Equatorial Guinea, Angola, DRC, Zimbabwe, the Lake Victoria region, and local areas in southern Ethiopia and central Kenya.

Atmospheric Dust Forecasts, day 1 to day 3,

Moderate Dust Concentration (MDC) and High Dust Concentration (HDC)

Day 1 Dust forecast
November 15, 2014

Day 2 Dust forecast
November 16, 2014

Day 3 Dust forecast
November 17, 2014

Highlights

There is an increased chance for moderate to high dust concentration over Sudan, Niger and Chad.

Legend

MDC, Vis. < 5km

HDC, Vis. < 1km

1.2. Model Discussion: Valid from 00Z of November 14, 2014

The Azores high pressure system over the Northeast Atlantic Ocean is expected to strengthen with its central pressure value increasing from 1022hpa to 1029hpa, through 24 to 120 hours, according to the GFS model.

The St Helena high pressure system over the Southeast Atlantic Ocean is expected to weaken gradually with its central pressure value decreasing from 1038hpa to 1030hpa, through 48 to 120 hours, according to the GFS model.

The Mascarene high pressure system over the southwestern Indian Ocean is expected to weaken with its central pressure value increasing from 1026hpa to 1021hpa, through 48 to 120 hours, according to the GFS model.

At 925Hpa level, dry northeasterly to easterly wind (>25kts) is expected to prevail across portions of Chad, Niger and parts of Sudan during the forecast period.

At 850Hpa level, seasonal wind convergences are expected to remain active across Lake Victoria region, southern Ethiopia, Gabon, Congo, DRC, Angola and portions of Zambia, Botswana and northern Namibia.

At 700hpa level, a lower level cyclonic circulation is expected to form and propagate westwards between Northwest DRC and Gabon across Congo Brazzaville through 24 to 48 hours.

At 500hpa level, a trough associated with mid-latitude frontal system is expected to propagate across southern Africa through 24 to 120 hours.

In the next five days, lower-level wind convergence over Gabon, Cameroon and the neighboring areas, seasonal wind convergences over the Lake Victoria region, southern Ethiopia and Angola, and eastward propagating frontal system across Southern Africa are expected to enhance rainfall in their respective regions. Thus, there is an increased chance for moderate to heavy rainfall over southeastern Nigeria, southwestern

Cameroon, Gabon, Congo-Brazzaville, Equatorial Guinea, Angola, DRC, Zimbabwe, the Lake Victoria region, and local areas in southern Ethiopia and central Kenya.

2.0. Previous and Current Day Weather Discussion over Africa

(November 13, 2014 – November 14, 2014)

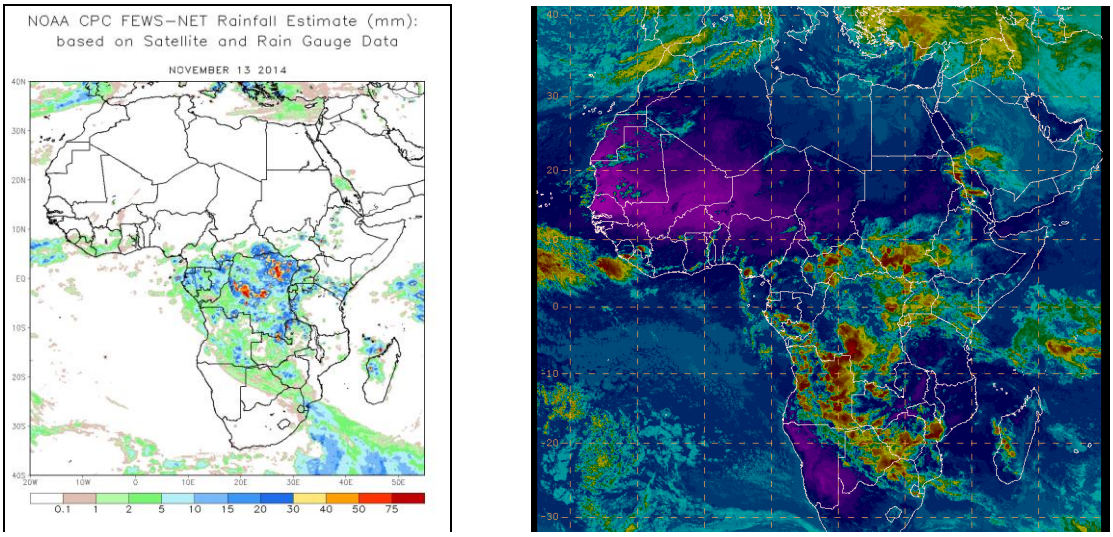
2.1. Weather assessment for the previous day (November 13, 2014)

During the previous day, moderate to heavy rainfall was observed over Gabon, Angola, DRC, Congo-Brazzaville, Zambia, Burundi, Rwanda and Liberia, portions of Botswana, Uganda, Cameroon, Zimbabwe, Sierra Leone, Ivory Coast, CAR, Ghana, and Zimbabwe, local areas in Tanzania, Ethiopia, Kenya, South Sudan, Madagascar and Mozambique, southern Nigeria.

2.2. Weather assessment for the current day (November 14, 2014)

Intense clouds are observed over portions of South Sudan, Angola, Botswana and Zimbabwe, local areas in DRC, Cameroon, CAR, Gabon, Uganda, Rwanda, Kenya, Zambia and Mozambique, southern Guinea-Conakry, Sierra Leone, Nigeria and Congo-Brazzaville, western Ethiopia and Madagascar, northern Tanzania and South Africa.

IR Satellite Image (valid 1622 Z of November 14, 2014)



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

Author: Kouakou YA (Cote d'Ivoire, Service National de la Meteorologique / CPC-African Desk); kouakou.ya@noaa.gov