

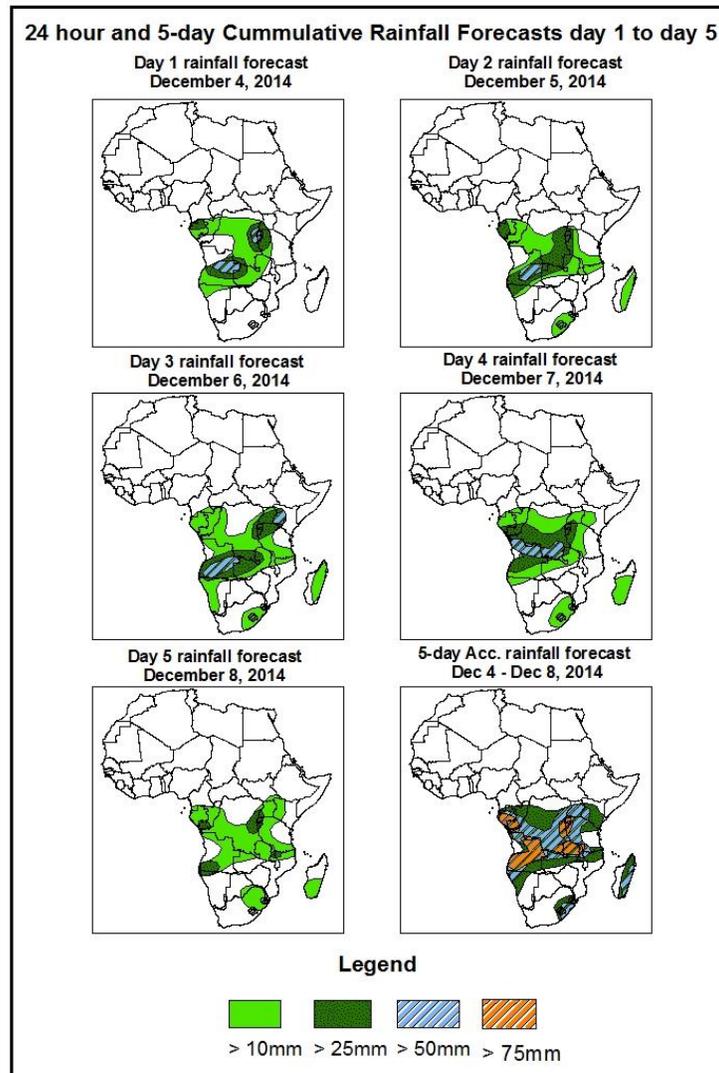


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall Forecast: Valid 06Z of December 04 – 06Z of December 08, 2014. (Issued at 1600Z of December 03, 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.

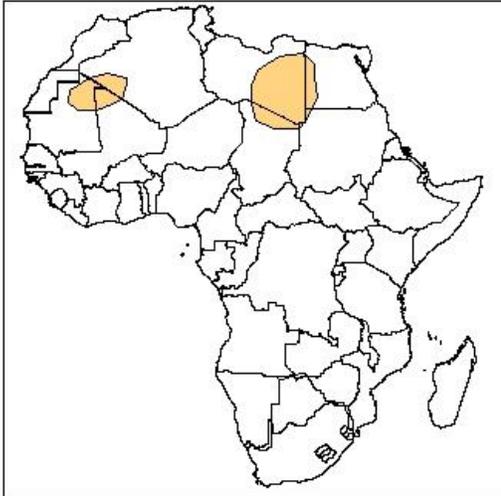


Summary

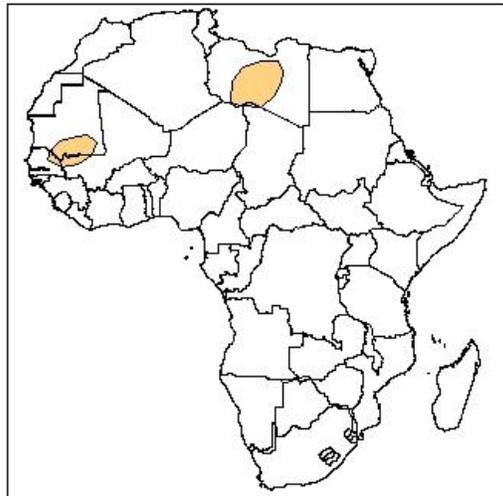
In the next five days, lower-level wind convergence over Gabon, Congo-Brazzaville and the neighboring areas, seasonal wind convergences over the Lake Victoria region, lower-level cyclonic circulation across Angola and Zambia, and wind convergence across South Africa are expected to enhance rainfall in their respective regions. Thus, there is an increased chance for moderate to heavy rainfall over parts of Gabon, Congo-Brazzaville, Equatorial Guinea, Angola, northern Namibia, eastern and southern DRC, Rwanda, Burundi, western Tanzania, portions of Kenya, northern Zambia, portions of Malawi, eastern South Africa and parts of Madagascar.

Atmospheric Dust Forecasts, day 1 to day 3,
Moderate Dust Concentration (MDC) and High Dust Concentration (HDC)

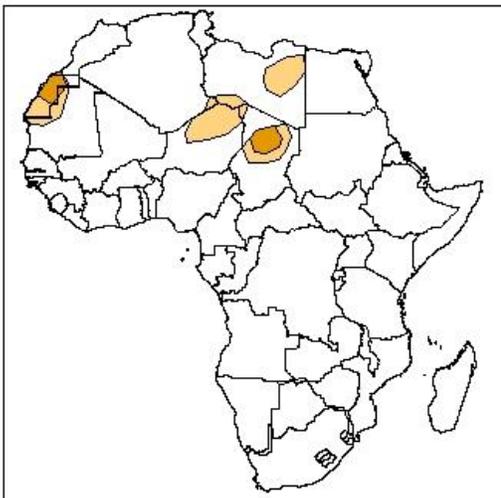
Day 1 Dust forecast
December 4, 2014



Day 2 Dust forecast
December 5, 2014



Day 3 Dust forecast
December 6, 2014



Highlights

There is an increased chance for moderate to high dust concentration over portions of Western Sahara, Mauritania, Algeria, Mali, eastern Senegal, Libya and northern Chad.

Legend



MDC, Vis. < 5km



HDC, Vis. < 1km

1.2. Model Discussion: Valid from 00Z of December 3, 2014

The Azores high pressure system over the Northeast Atlantic Ocean is expected to intensify with its central pressure value increasing from about 1042hpa in 24 hours to 1045hpa in 96hours, according to the GFS model.

The central pressure value of the St Helena high pressure system, over the Southeast Atlantic Ocean, is expected to decrease from about 1026hpa to 1023hpa through 24 to 120hours, according to the GFS model.

The Mascarene high pressure system over the southwestern Indian Ocean is expected to intensify while shifting eastwards, with its central pressure expected to increase from 1024hpa to 1028hpa through 48 to 120hours, according to the GFS model.

The East African ridge is expected to weaken gradually with eastward shift of the Mascarenes high pressure system.

At 925Hpa level, dry northeasterly wind (>25kts) is expected to prevail across portions of Mali, Niger, Chad and Sudan through 48 to 120 hours.

At 850Hpa level, seasonal wind convergences are expected to remain active in the vicinity of Lake Victoria. Wind convergences across Gabon, Angola, Namibia and South Africa are also expected to remain active during the forecast period. A lower level cyclonic circulation in the Mozambique Channel is expected to shift eastwards across Madagascar while weakening gradually through 24 to 72 hours, according to the GFS model.

In the next five days, lower-level wind convergence over Gabon, Congo-Brazzaville and the neighboring areas, seasonal wind convergences over the Lake Victoria region, lower-level cyclonic circulation across Angola and Zambia, and wind convergence across South Africa are expected to enhance rainfall in their respective regions. Thus, there is an increased chance for moderate to heavy rainfall over parts of Gabon, Congo-Brazzaville, Equatorial Guinea, Angola, eastern and southern DRC, Rwanda, Burundi, western Tanzania, northern Zambia, eastern South Africa and parts of Madagascar.

2.0. Previous and Current Day Weather Discussion over Africa

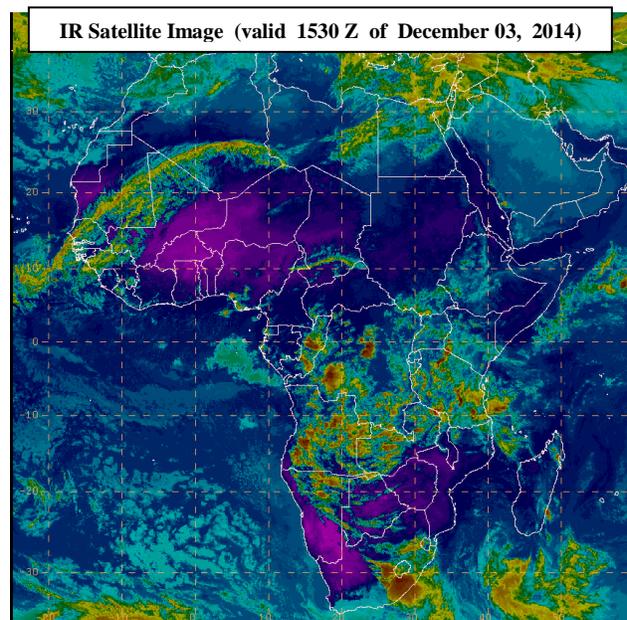
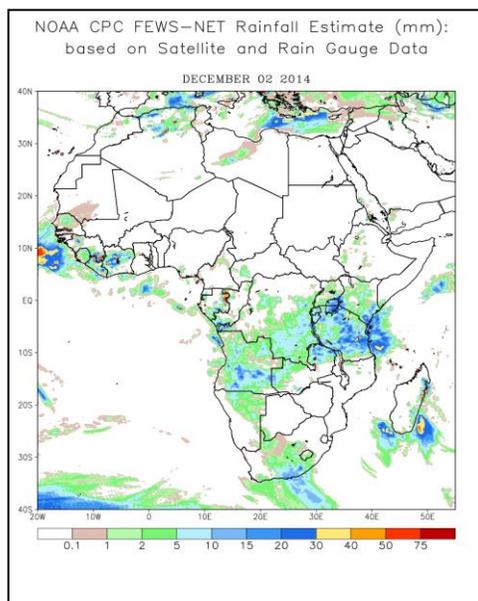
(December 02, 2014 – December 03, 2014)

2.1. Weather assessment for the previous day (December 02, 2014)

During the previous day, moderate to locally heavy rainfall was observed over portions of Cote d'Ivoire, Guinea, Gabon, Angola, DRC, Tanzania and southern Kenya.

2.2. Weather assessment for the current day (December 03, 2014)

Intense clouds are observed across portions of the Equatorial Africa region extending into the northern part of Southern Africa countries.



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: Abraham Changara (Kenya Meteorological Department / CPC-African Desk); abraham.changa@noaa.gov