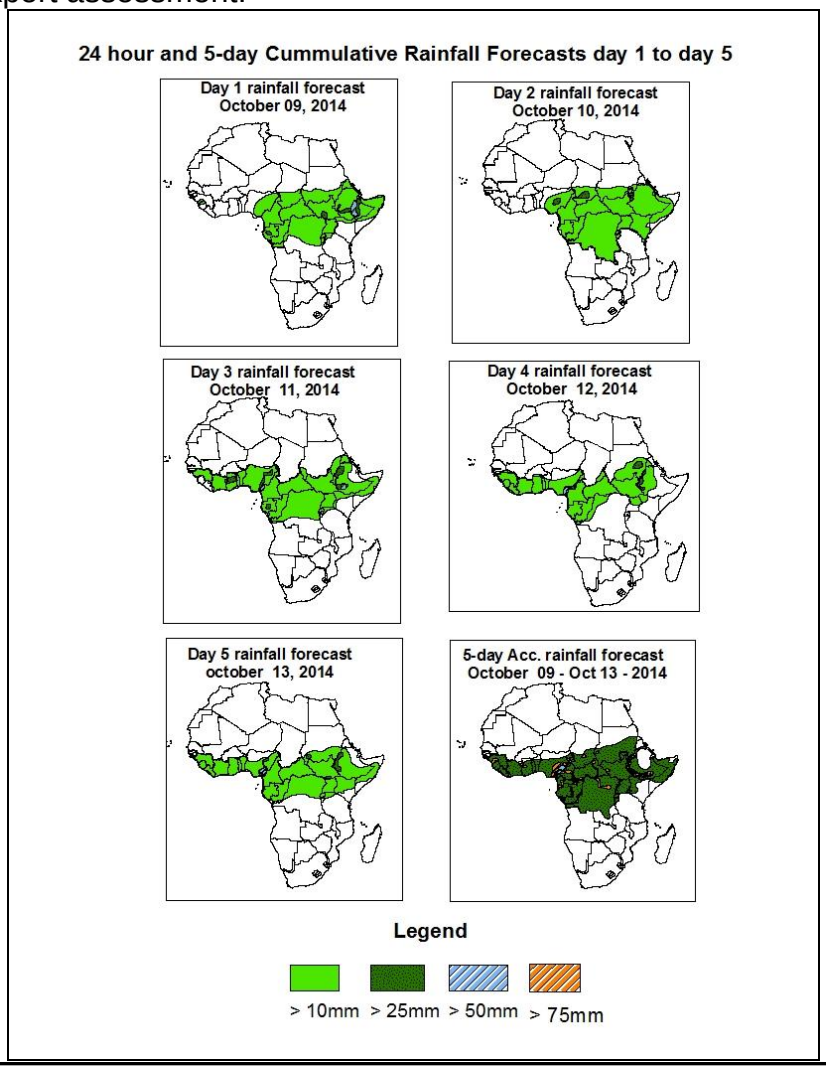
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall Forecast: Valid 06Z of October 09 – 06Z of October 13, 2014. (Issued at 1800Z of October 08, 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.

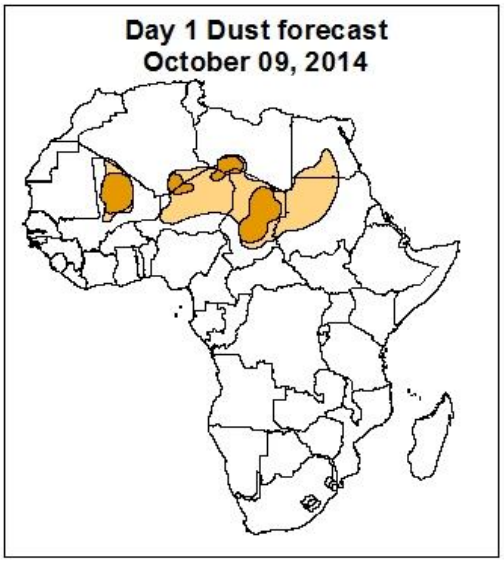


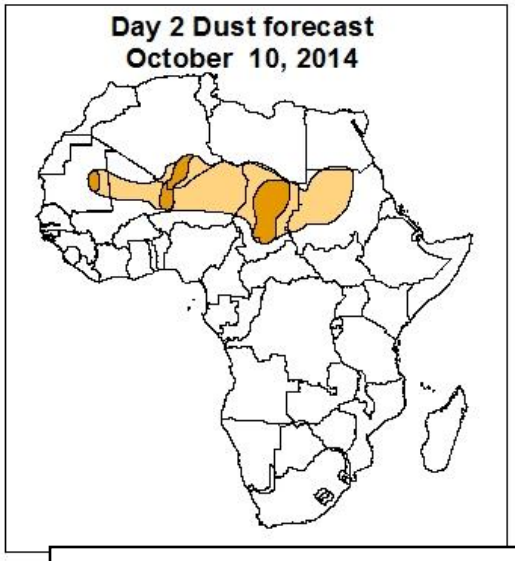
Summary

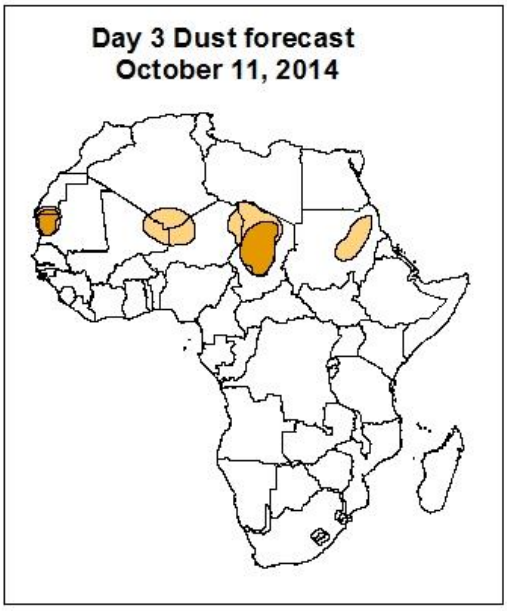
In the next five days, the monsoon flow from the Atlantic Ocean with its associated convergence across the southern Sahel, localized wind convergences over Ethiopia, DRC and Uganda and the neighboring areas, and eastward propagating trough across the Gulf of Guinea region are expected to enhance rainfall in their respective regions. Thus, there is an increased chance for moderate to heavy rainfall over Liberia, Sierra Leone, Cameroon, CAR, Congo Brazzaville, Gabon, portions of Ethiopia, Sudan, Nigeria, Ivory Coast and DRC, Guinea-Conakry, Benin, Ghana, Togo, local areas in Uganda, southern Chad, and western Kenya.

Atmospheric Dust Forecasts, day 1 to day 3,

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







Highlights

There is an increased chance for moderate to high dust concentration over Algeria, Libya, Mali, Niger, Soudan and Chad.

Legend

MDC, Vis. < 5km

HDC, Vis. < 1km

1.2. Model Discussion: Valid from 00Z of October 08, 2014

The Azores high pressure system over the Northeast Atlantic Ocean is expected to maintain from 24 to 96 hours, with its central pressure value of about 1025hpa, and then it is expected to weaken from 96 to 120hours, with its central pressure value decreasing from about 1025hpa in 96 hours to 1023hpa in 120hours, according to the GFS model.

The St Helena high pressure system over the Southeast Atlantic Ocean is expected to weaken from 24 to 48hours, with its central pressure value decreasing from about 1037hpa in 24 hours to 1034hpa in 48hours, and it intensifies from 48 to 72hours, with its central pressure value increasing from about 1034hpa in 48 hours to 1036hpa in 72hours, and then it is expected to weaken from 72 to 120hours, with its central pressure value decreasing from about 1036hpa in 72 hours to 1027hpa in 120hours, according to the GFS model.

The Mascarene high pressure system over the southwestern Indian Ocean is expected to maintain from 24 to 72 hours, with its central pressure value of about 1029hpa, and then it is expected to weaken from 72 to 120hours, with its central pressure value decreasing from about 1029hpa in 72 hours to 1026hpa in 120hours, according to the GFS model.

The central pressure value associated with the heat low in the region between western and central Sahel is expected to vary in the range between 1007hpa and 1008hpa during the forecast period. The heat low over Sudan is expected to vary also in the range between 1006hpa and 1009hpa from 24 to 120 hours. The heat low across DRC is expected to vary in the range between 1008hpa and 1009hpa during the forecast period, according to the GFS model.

At 925Hpa level, a zonal wind convergence is expected to prevail in the region between Mauritania and Sudan through 24 to 120 hours. Dry northeasterly winds are expected to prevail over parts of Algeria, Libya, Sudan, Mali, Niger and Chad. Local wind convergences are also expected over DRC, Tanzania, Uganda, Burundi, Rwanda and Ethiopia during the forecast period**.**

At 850Hpa level, seasonal wind convergences are expected to remain active over Nigeria, DRC, Uganda, Tanzania, Rwanda, Burundi and Ethiopia during the forecast period.

At 700hpa level, a feeble trough in the easterly flow is expected to propagate westwards between CAR and Cameroon through 24 to 120 hours.

In the next five days, the monsoon flow from the Atlantic Ocean with its associated convergence across the southern Sahel, localized wind convergences over Ethiopia, DRC and Uganda and the neighboring areas, and eastward propagating trough across the Gulf of Guinea region are expected to enhance rainfall in their respective regions. Thus, there is an increased chance for moderate to heavy rainfall over Liberia, Sierra Leone, Cameroon, CAR, Congo Brazzaville, Gabon, portions of Ethiopia, Sudan, Nigeria, Ivory Coast and DRC, Guinea-Conakry, Benin, Ghana, Togo, local areas in Uganda, southern Chad, and western Kenya.

2.0. Previous and Current Day Weather Discussion over Africa

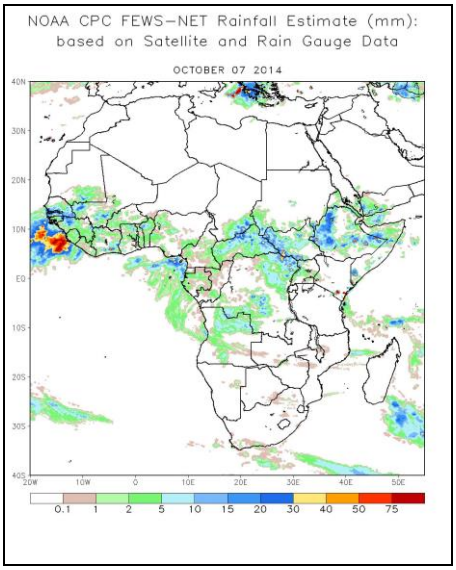
(October 07, 2014 – October 08, 2014)

2.1. Weather assessment for the previous day (October 07, 2014)

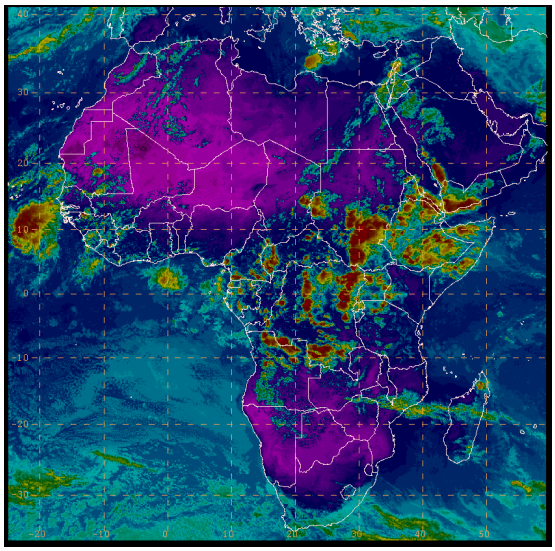
During the previous day, moderate to heavy rainfall was observed over Guinea-Conakry, Liberia, Ivory Coast, Sierra Leone, Gabon, Benin, Ghana, Congo Brazzaville, CAR and Gabon, portions of Burkina Faso, Cameroon, DRC, Mali, Senegal, Nigeria, Sudan, Uganda, Ethiopia and Eritrea, local areas in Kenya, southern Mauritania and Chad.

2.2. Weather assessment for the current day (October 08, 2014)

Intense clouds are observed over local areas in DRC, Uganda, Sudan, Gabon, Cameroon, CAR, Congo Brazzaville and Ethiopia, portions of Sudan and Eritrea, southern Chad and western Kenya.



IR Satellite Image (valid 1500 Z of October 08, 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

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