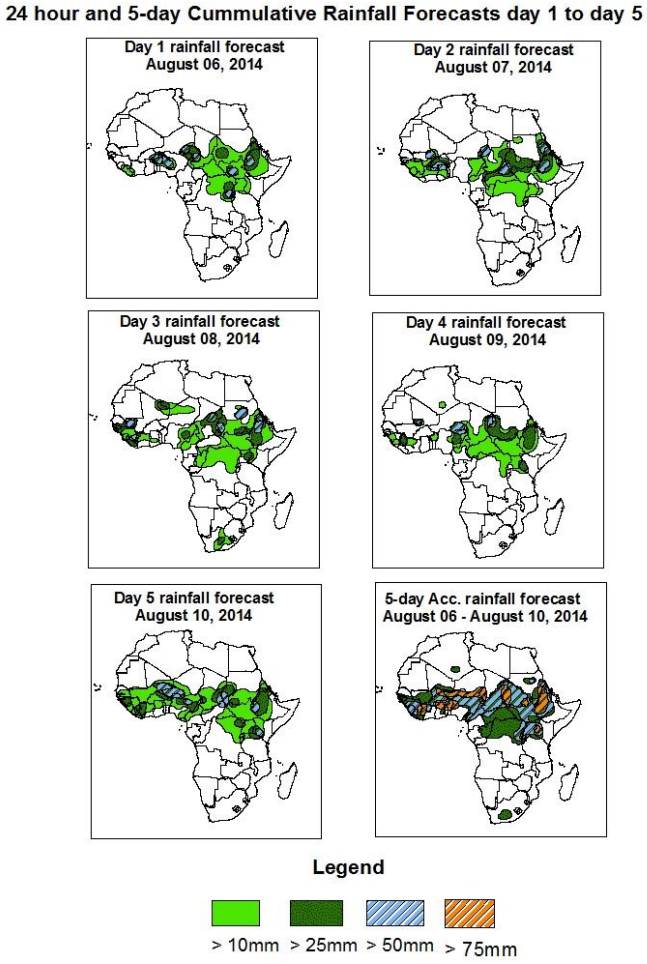
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall Forecast: Valid 06Z of August 06 – 06Z of August 10, 2014. (Issued at 1800Z of August 05, 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 UK Met Office NWP outputs, and the NCEP global ensemble forecasts system (GEFS) and expert assessment.

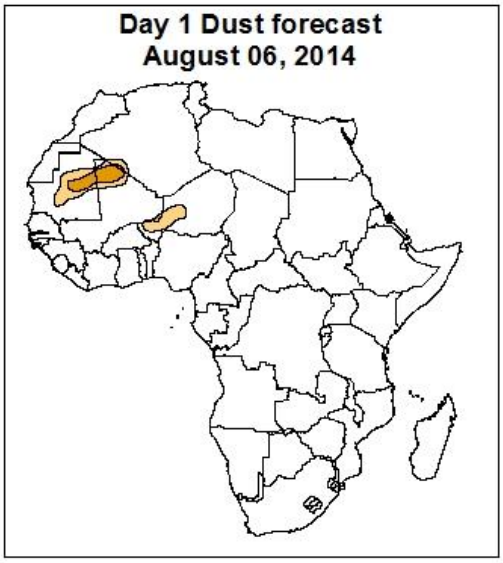


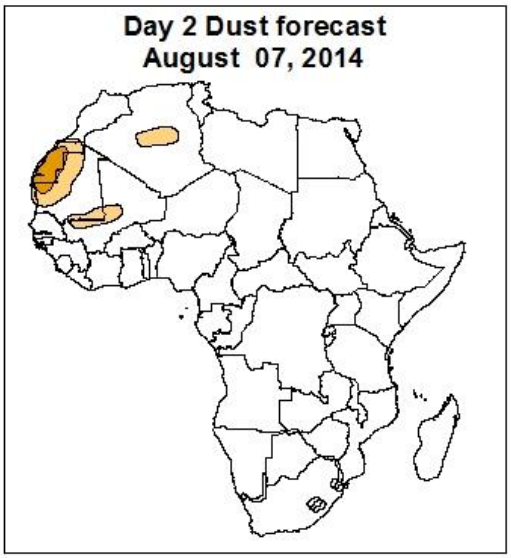
Summary

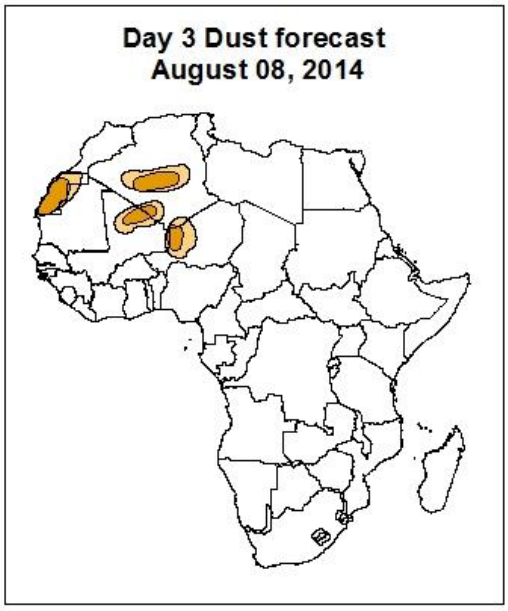
In the next five days, the monsoon flow from the Atlantic Ocean with its associated convergence across the Sahel region, localized wind convergences over Ethiopia, DRC, Uganda, and the neighboring areas, and westward propagating convective systems across West Africa are expected to enhance rainfall in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

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 Western Sahara, Mauritania, Algeria, Mali and Niger.

Legend

MDC, Vis. < 5km

HDC, Vis. < 1km

1.2. Model Discussion: Valid from 00Z of August 05, 2014

The Azores high pressure system over the Northeast Atlantic Ocean is expected to intensify slightly through 24 to 96 hours with its central pressure value increasing from about 1027hpa in 24hours to 1028hpa in 96 hours, and then it is expected to weaken from 96 to 120 hours with its central pressure value decreasing from about 1028hpa in 96hours to 1027hpa in 120 hours, according to the GFS model.

The St Helena high pressure system over the Southeast Atlantic Ocean is expected to maintain it central pressure value about 1029hpa from 24 to 48 hours, and then it is expected to weaken from 72 to 120 hours with its central pressure value decreasing from about 1026hpa in 72 hours to 1023hpa in 120 hours, according to the GFS model.

The Mascarene high pressure system over the southwestern Indian Ocean is expected to maintain its central pressure value about 1029hpa from 24 to 72 hours, and then it is expected to weaken slightly from 72 to 120 hours with it central pressure value about 1029hpa in 72 hours to 1028hpa in 120 hours, 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 1003hpa in 24 hours to about 1006hpa in 120hours. The heat low over Sudan is also expected vary in the range between 1004hpa in 24 hours to about 1006hpa in 120 hours during the forecast period. The heat low across DRC is expected to vary in the range between 1011hpa in 24 hours to about 1010hpa in 120hours, 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 Mauritania, Libya Egypt and northern Sudan. Local wind convergences are also expected over DRC, Tanzania, Uganda and Ethiopia during the forecast period**.**

At 850Hpa level, seasonal wind convergences are expected to remain active in the region between western Sahel and Sudan through 24 to 120 hours. Local wind convergences are also expected to remain active over DRC, Uganda, Burundi, Rwanda and Ethiopia during the forecast period.

At 700hpa level, northeasterly to easterly flow with its associated trough is expected to propagate between eastern and western Africa, during the forecast period.

At 500Hpa level, a zone of moderate easterly wind (30kts), associated with African easterly jet is expected to prevail over Mauritania, Senegal, Mali, Niger, Guinea-Conakry and Nigeria, with the core of the jet propagating westward between central Sahel and western Sahel, through 24hours to 120 hours.

At 150hpa level, moderate wind (>30kts) is expected to prevail over northern part of western and central Sahel through 24hours to 120 hours**,** whereas strong wind (>50kts) associated with the Tropical Easterly Jet (TEJ) is expected to prevail over southern parts of West Africa, and central and eastern Africa, through 24 hours to 120 hours.

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

2.0. Previous and Current Day Weather Discussion over Africa

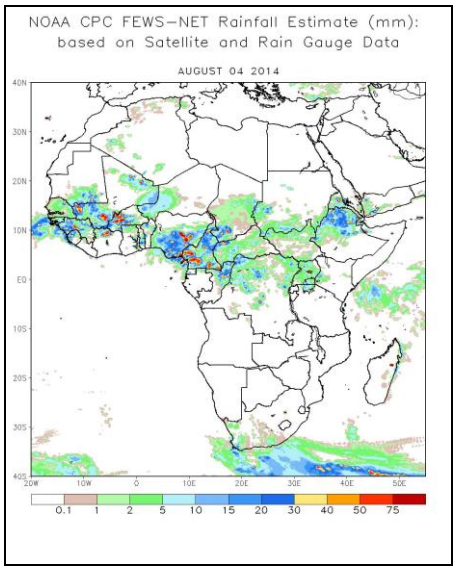
(August 04, 2014 – August 05, 2014)

2.1. Weather assessment for the previous day (August 04, 2014)

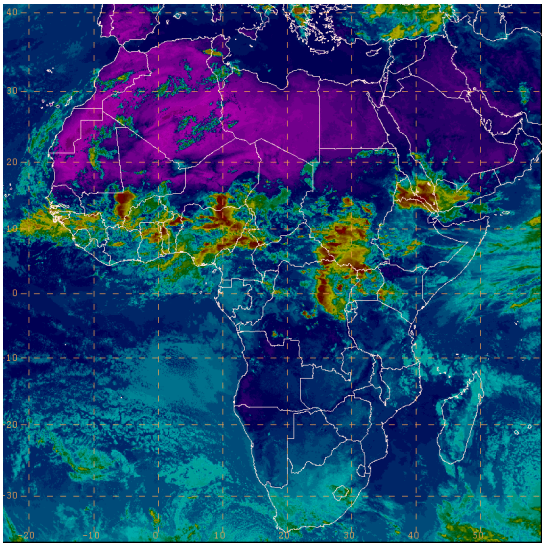
During the previous day, moderate to heavy rainfall was observed over portion of Guinea-Conakry, southern Mauritania, local areas in Senegal, Togo and Benin, local part of Mali, northern Ivory-Coast, portion of Burkina-Faso, local areas in Niger, portion of Nigeria and Cameroon, local areas in Chad and Sudan, northern Congo-Brazzaville and DRC, local areas in CAR and Uganda, northern Tanzania, local part of Eritrea and portion of Ethiopia.

2.2. Weather assessment for the current day (August 05, 2014)

Intense clouds are observed over local areas in West Africa and many places of central Africa region, and northern Ethiopia.



IR Satellite Image (valid 1630 Z of August 05,



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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