

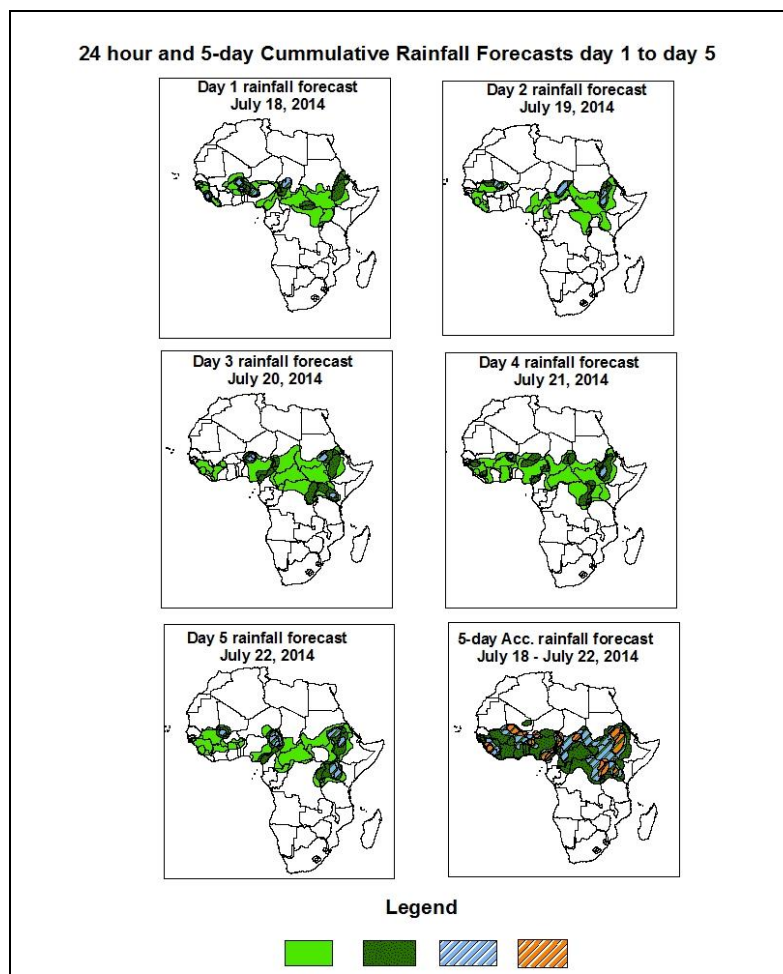


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of July 18 – 06Z of July 22, 2014. (Issued at 1600Z of July 17, 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.

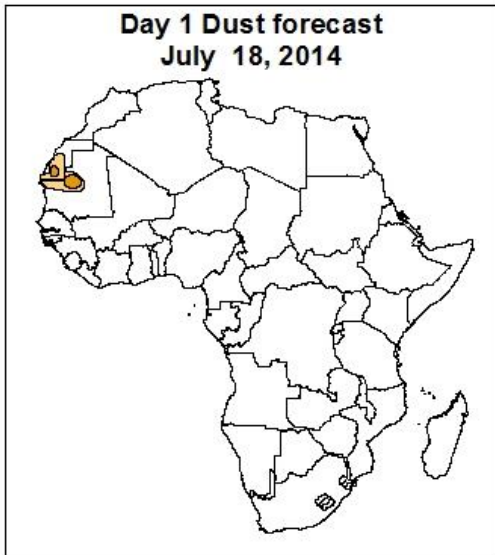


Summary

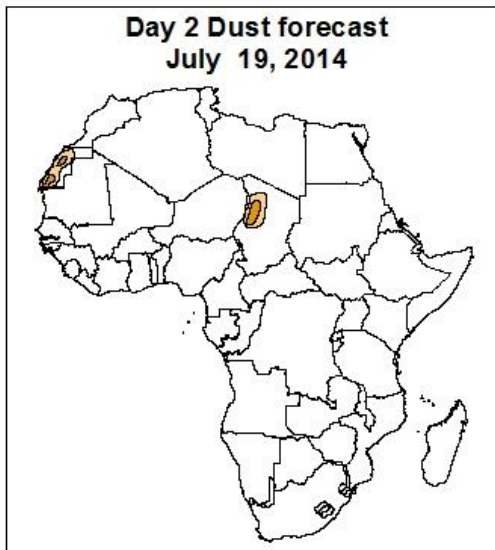
In the next five days, the monsoon flow from the Atlantic Ocean with its associated convergence across the Sahel region, localized wind convergences over Ethiopia, DRC, Uganda, and the neighboring areas, and westward propagating convective systems across West Africa are expected to enhance rainfall in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

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

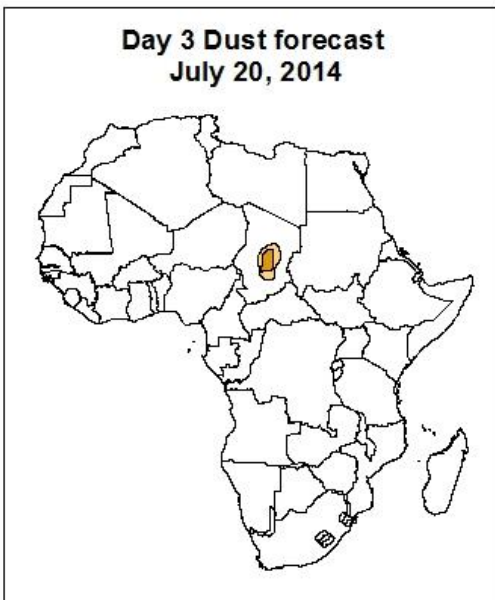
Day 1 Dust forecast
July 18, 2014



Day 2 Dust forecast
July 19, 2014



Day 3 Dust forecast
July 20, 2014



Highlights

There is an increased chance for moderate to high dust concentration over Western Sahara, Mauritania and Chad.

Legend



MDC, Vis. < 5km



HDC, Vis. < 1km

1.3. Model Discussion: Valid from 00Z of July 17, 2014

The Azores high pressure system over the Northeast Atlantic Ocean is expected to weaken through 24 to 72 hours with its central value decreasing from about 1031hpa in 24hours to 1028hpa in 72hours, and then it is expected to intensify from 72 to 120 hours with its central value increasing from about 1028hpa in 72hours to 1030hpa in 120hours, according to the GFS model.

The St Helena high pressure system over the Southeast Atlantic Ocean is expected to weaken through 24 to 96 hours with its central pressure value decreasing from about 1034hpa in 24 hours to 1029hpa in 96 hours, and then it is expected to intensify from 96 to 120 hours with its central value increasing from about 1029hpa in 96hours to 1031hpa in 120hours, according to the GFS model.

The Mascarene high pressure system over the southwestern Indian Ocean is expected to intensify through 24 to 72 hours with its central pressure value increasing from about 1021hpa in 24 hours to 1027hpa in 72 hours and then it is expected to weaken from 96 to 120 hours with its central pressure value decreasing from about 1026hpa in 96 hours to 1023hpa in 120 hours, according to the GFS model.

The central pressure associated with the heat low in the region between western Sahel and Chad is expected to vary in the range between 1004hpa to 1007hpa from 24 to 120 hours. The heat low over Sudan is expected to deepen with its central pressure value decreasing from about 1006hpa in 24 hours to 1003hpa in 120 hours. The heat low across central Sahel is expected to maintain its central pressure value of about 1010hpa from 72 to 120 hours, 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, Mali, Algeria, Chad, Libya and northern Sudan. Local wind convergences are also expected over DRC, Uganda and Ethiopia during the period of forecast.

At 850Hpa level, seasonal wind convergences are expected to remain active in the region between Mali and Sudan through 24 to 120 hours. Local wind convergences are

also expected to remain active over DRC, Uganda, and Ethiopia during the forecast period.

At 700hpa level, a trough in the easterly wind flow is expected to propagate across the western and central Sahel from 24 to 120 hours. A cyclonic circulation and its associated trough is expected to propagate across the southwestern corner of West Africa towards end of the forecast period.

At 500Hpa level, a zone of moderate easterly wind (30kts), associated with African easterly jet is expected to prevail over western Sahel and Chad 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 western and central Sahel through 24hours to 120 hours, and strong wind (>50kts) associated with the Tropical Easterly Jet (TEJ) is expected to prevail over, Niger, Chad, Sudan, Ethiopia, Djibouti, and Somalia 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 I, Guinea-Conakry, Sierra Leone, Liberia, portion of Mali, western Cote d'Ivoire, portion of Ghana, Togo, Benin, local part of Niger, Cameroon, southern Chad, CAR, portion of Sudan, northern DRC, and portion of Uganda, Eritrea, western Kenya and Ethiopia.

2.0. Previous and Current Day Weather Discussion over Africa

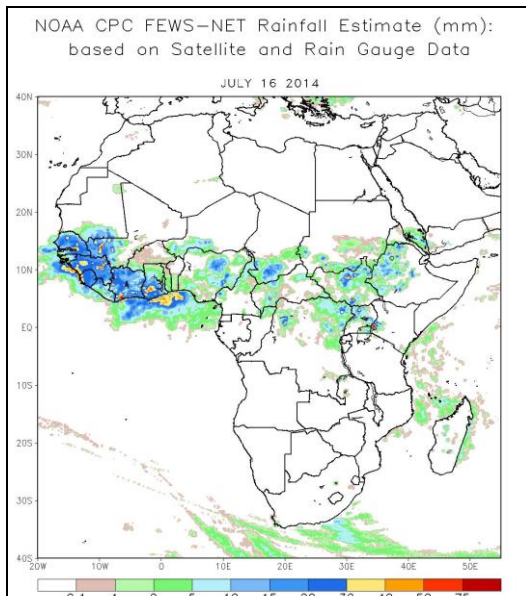
(July 16 2014 – July 17, 2014)

2.1. Weather assessment for the previous day (July 16, 2014)

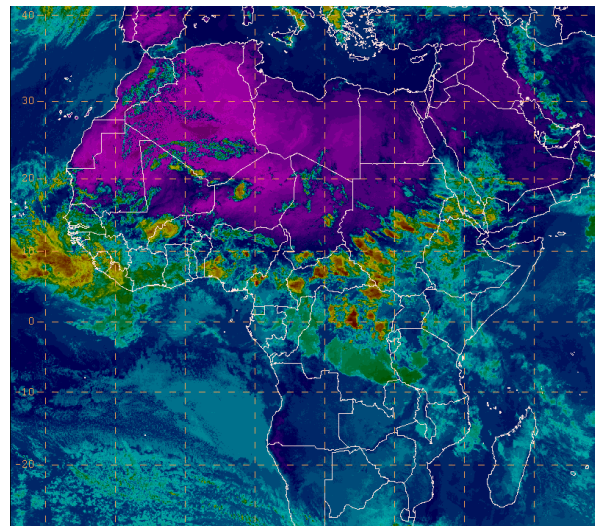
During the previous day, moderate to heavy rainfall was observed over Senegal. Guinea-Conakry, Liberia, Sierra Leone, Ivory-Coast, portion of Ghana,, western Mali, local part of Niger, Nigeria, CAR, southern Chad and Sudan, northern DRC, local part of Uganda and Western Ethiopia.

2.2. Weather assessment for the current day (July 17, 2014)

Intense clouds are observed over local part of Mali, Liberia, Niger, Nigeria and Chad, southern Cameroon, portion of CAR, DRC and Sudan, western Ethiopia and Eritrea.



IR Satellite Image (valid 1622 Z of July 17, 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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