

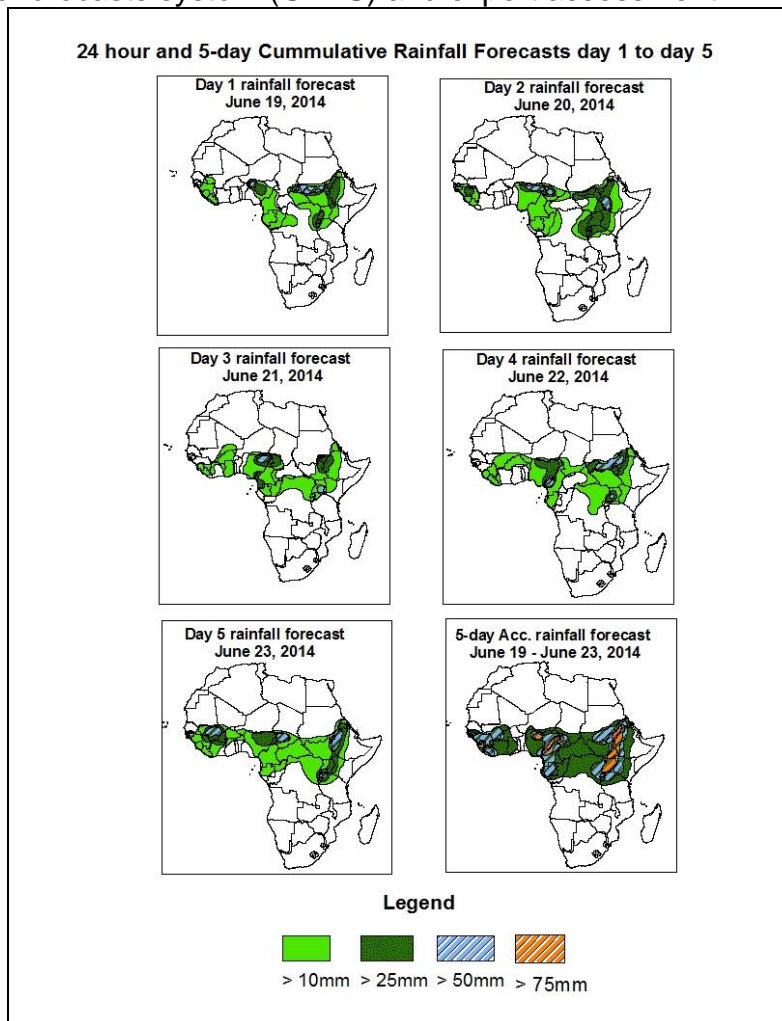


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of June 19 – 06Z of June 23, 2014. (Issued at 1600Z of June 18, 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.



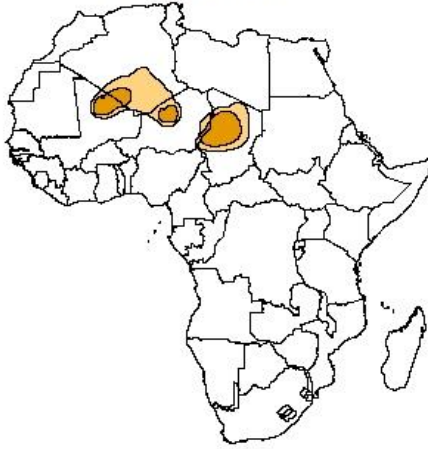
Summary

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, DCR, and Congo-Brazzaville 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 portions of Guinea Conakry, Sierra Leone, Liberia, Cote d'Ivoire, portions of Mali and Burkina Faso, central of Nigeria, southern Chad, Cameroon, Congo-Brazzaville, Gabon, northern DRC, Rwanda, Burundi, Uganda, Southern of Sudan, Djibouti, western Kenya and Ethiopia.

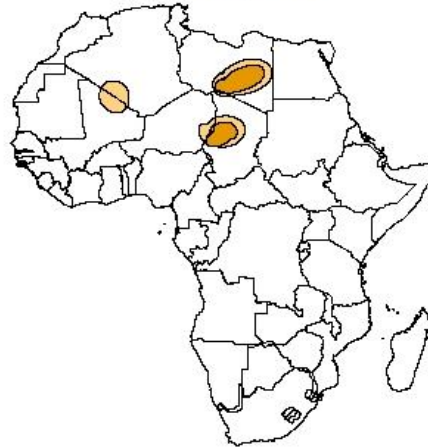
1.2. Atmospheric Dust Forecasts: Valid June 19 – June 21, 2014

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

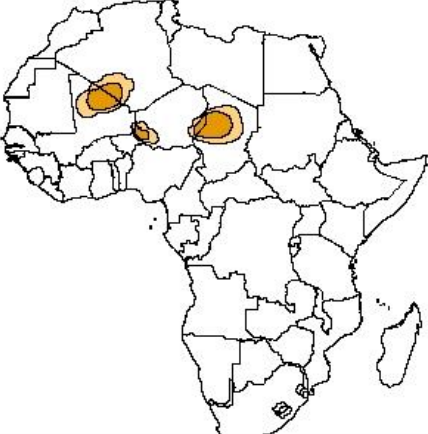
Day 1 Dust forecast
June 19, 2014



Day 2 Dust forecast
June 20, 2014



Day 3 Dust forecast
June 21, 2014



Highlights

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

Legend



MDC, Vis. < 5km



HDC, Vis. < 1km

1.3. Model Discussion: Valid from 00Z of June 18, 2014

The Azores high pressure system over the Northeast Atlantic Ocean is expected to weaken through 24 to 96 hours with its central value decreasing from about 1027hpa in 24hours to 1024hpa in 96hours, and then it is increasing from 96 to 120hours with its central value increasing from about 1024hpa in 96hours to 1027hpa 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 1037hpa in 24 hours to 1028hpa in 96 hours, and then expected to intensify from 96hours to 120hours with its central pressure value increasing from about 1028hpa in 96 hours to 1030hpa in 120 hours 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 1022hpa in 24 hours to 1037hpa in 72hours, and then it is expected to weaken through 96 hours to 120 hours with its central pressure value decreasing from 1033hpa in 96 hours to 1032hpa in 120 hours according to the GFS model.

The heat low across between the west Sahel region and Chad is expected to deepen from 24 to 72hours with its central pressure value decreasing from about 1008hpa in 24 hours to 1004hpa in 72hours, and then it is expected to fill up through 96 to 120 hours with its central pressure value increasing from 1004hpa in 96hours to 1008hpa in 120 hours. The heat low across Sudan is expected to fill up through 24 to 120hours with its central pressure value about 1003hpa in 24 hours to 1006hpa in 120 hours according to the GFS model.

At 925Hpa level, a zonal wind convergence is expected to prevail in the region between Senegal and Sudan through 24 to 120 hours. Dry northeasterly winds are expected to prevail over parts of Mauritania, Mali, Algeria, Chad, Libya, north of Sudan and Egypt.

Local wind convergences are also expected over DRC, Uganda, Rwanda 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, Uganda, Tanzania and DRC and Ethiopia during the forecast period.

At 700hpa level, easterly flow with wind speed about 30kts is expected to propagate across the western part of the Gulf of Guinea countries, whereas northeasterly flow is expected to prevail over eastern and central Sahel.

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

At 150hpa level, moderate wind (>30kts) associated with the Tropical Easterly Jet (TEJ) is expected to prevail over Nigeria Guinea-Conakry, Sierra Leone, Mali and Cameroon through 24hours to 120 hours, and then, and then strong wind (>50kts) associated with the Tropical Easterly Jet (TEJ) is expected to prevail over Somalia, Ethiopia, Djibouti and northern Cameroon through 72hours 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, DCR, and Congo-Brazzaville 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 portions of Guinea Conakry, Sierra Leone, Liberia, Cote d'Ivoire, portions of Mali and Burkina Faso, central of Nigeria, southern Chad, Cameroon, Congo-Brazzaville, Gabon, northern DRC, Rwanda, Burundi, Uganda, Southern of Sudan, Djibouti, western Kenya and Ethiopia.

2.0. Previous and Current Day Weather Discussion over Africa

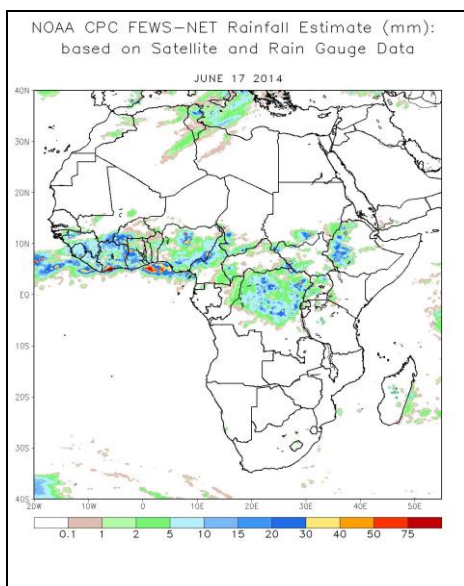
(June 17, 2014 – June 18, 2014)

2.1. Weather assessment for the previous day (June 17, 2014)

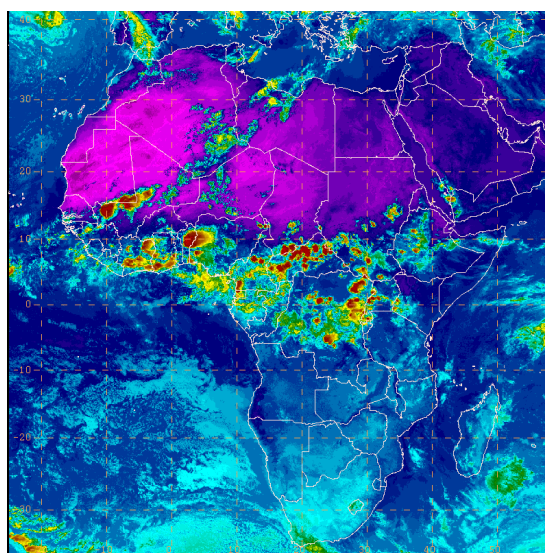
During the previous day, moderate to heavy rainfall was observed over southern Ivory-Coast, Eastern Benin, Nigeria, South Sudan, western Ethiopia, and eastern DRC.

2.2. Weather assessment for the current day (June 18, 2014)

Intense clouds are observed over northwestern Mali, southern Mauritania, portion of Ivory-Coast and Ghana, eastern Benin, western Nigeria, local part of Cameroon, CAR, southern n Sudan, local part of DRC, western Rwanda, Uganda and Kenya, local part of Ethiopia.



IR Satellite Image (valid 1652 Z of June 18, 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: Brahima TIMBO

(Mali, Centre de Prevision Meteorologique / CPC-African Desk); brahima.tambo@noaa.gov