

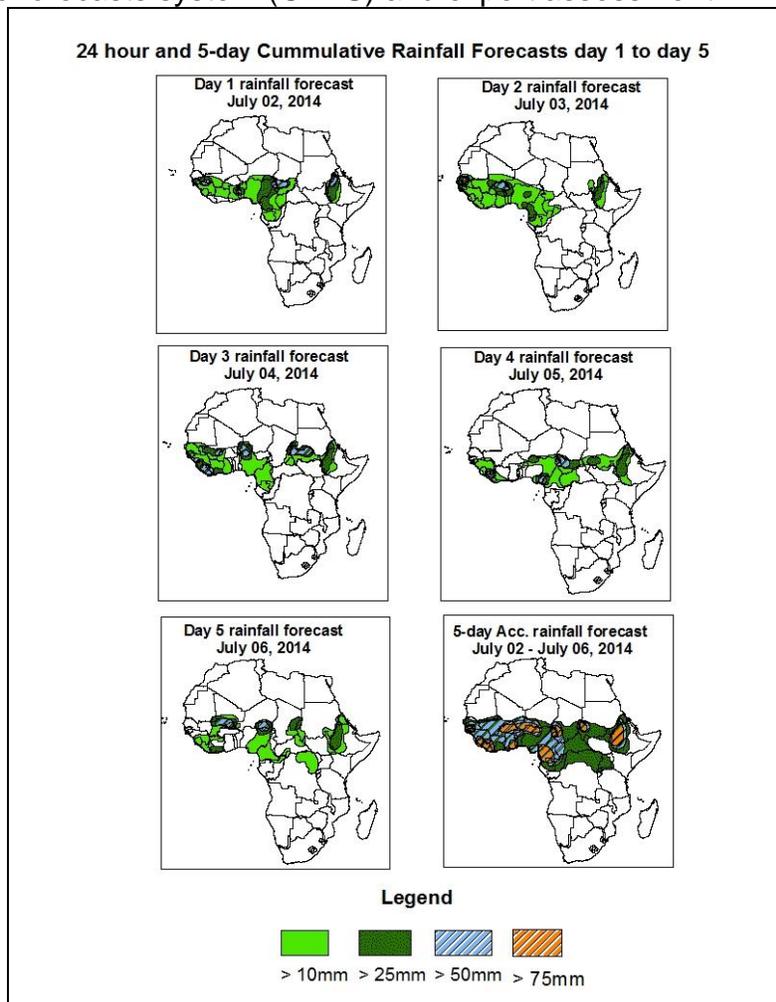


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of July 02 – 06Z of July 06, 2014. (Issued at 1600Z of July 01, 2014)

1.1. Twenty Four Hour Cumulative Rainfall Forecasts

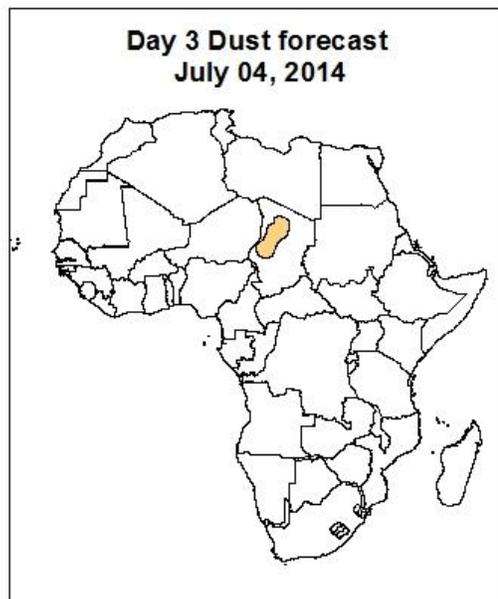
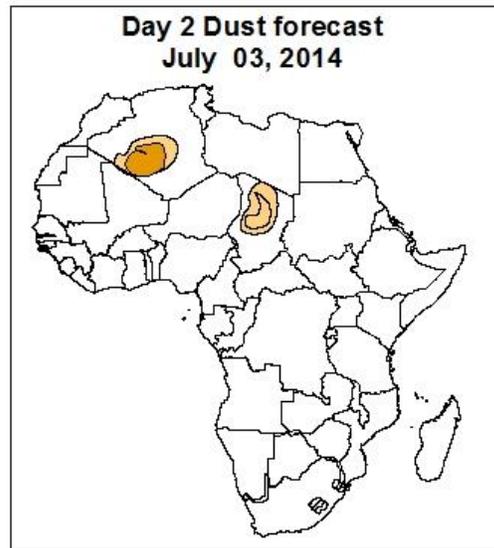
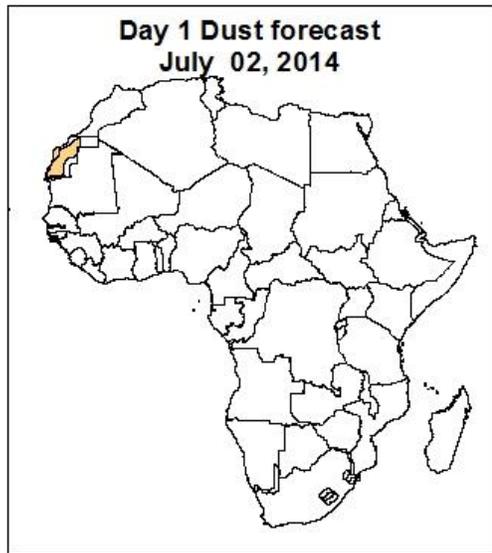
The forecasts are expressed in terms of 75% probability of precipitation (POP) exceeded, based on the NCEP/GFS and UK Met Office NWP outputs, and the NCEP global ensemble forecasts system (GEFS) and expert assessment.



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, Gabon, Cameroon, CAR, and Congo-Brazzaville 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 Senegal, Sierra Leone, Liberia, Guinea-Conakry, Ivory Coast, Ghana, Togo, Benin, portion of Burkina-Faso, Mali and Niger, Nigeria, Southern Chad and Sudan, Cameroon, Gabon, northern Congo-Brazzaville and DRC, Djibouti and western 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 **Algeria, Niger, Chad and Western Sahara.**



1.3. Model Discussion: Valid from 00Z of July 01, 2014

The Azores high pressure system over the Northeast Atlantic Ocean is expected to intensify through 24 to 48 hours with its central value increasing from about 1034hpa in 24hours to 1036hpa in 48hours, and then it tends to weaken through 72 to 120hours with its central value decreasing from about 1034hpa 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 intensify through 24 to 72 hours with its central pressure value increasing from about 1026hpa in 24 hours to 1044hpa in 72 hours, then it is expected to weaken from 96 to 120hours with its central pressure value decreasing through about 1042hpa in 96 to 1038 in 120hours, according to the GFS model.

The Mascarene high pressure system over the southwestern Indian Ocean is expected to weaken through 24 to 120 hours with its central pressure value decreasing from about 1027hpa in 24 hours to 1018hpa 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 1009hpa during the forecast period. The heat low over Sudan is expected to deepen from 24 to 96 hours with its central pressure decreasing about 1005hpa in 24 hours to 1003hpa in 96 hours, and then it is expected to intensify from 96 to 120 hours with its central pressure increasing about 1003hpa in 96 hours to 1005hpa in 120 hours . The heat low across central Sahel is expected to weaken from 48 to 120 hours with its central pressure value decreasing about 1011hpa from 48 to 1009hpa 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, Mali, Algeria, Chad, Libya and north of Sudan. Local wind convergences are also expected over DRC, Congo-Brazzaville and Ethiopia during the period of forecast.

At 850Hpa level, seasonal wind convergences are expected to remain active in the region between Mauritania and Sudan through 24 to 120 hours. Local wind convergences are also expected to remain active over Cameroon, Gabon, DRC, Djibouti and Ethiopia during the forecast period.

At 700hpa level, easterly flow with wind speed about 30kts is expected to propagate across the western and central Sahel during the forecast period, whereas southern winds are expected to flows in central Sahel from 96 to 120 hours.

At 500Hpa level, a zone of moderate easterly wind (30kts), associated with African easterly jet is expected prevail over Mali, Mauritania, Senegal, Guinea-Conakry, Ghana, Togo, Benin, Burkina-Faso, Nigeria, Cameroon, Chad and CAR, 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) is expected to prevail over west and central Sahel through 24hours to 120 hours, and strong wind (>50kts) associated with the Tropical Easterly Jet (TEJ) is expected to prevail over Sudan, Ethiopia, Djibouti and Somalia through 24hours 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, Gabon, Cameroon, CAR, and Congo-Brazzaville 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 Senegal, Sierra Leone, Liberia, Guinea-Conakry, Ivory-Coast, Ghana, Togo, Benin, portion of Burkina-Faso, Mali and Niger, Nigeria, Southern Chad and Sudan, Cameroon, Gabon, northern Congo-Brazzaville and DRC, Djibouti and western Ethiopia.

2.0. Previous and Current Day Weather Discussion over Africa

(June 30 2014 – July 01, 2014)

2.1. Weather assessment for the previous day (June 30, 2014)

During the previous day, moderate to heavy rainfall was observed over Senegal, Guinea-Conakry, Sierra-Leone, Liberia, portion of Ivory-Coast, Mali, Ghana, Benin and Burkina-Faso, Nigeria, local part of Cameroon and CAR, southern Sudan, northern Congo-Brazzaville, DRC, and western Ethiopia.

2.2. Weather assessment for the current day (July 01, 2014)

Intense clouds are observed over portion of Senegal, Guinea-Conakry, Liberia, local part Ivory-Coast, Ghana, Mali, Burkina-Faso, Benin, and Chad, portion of Nigeria, Cameroon, and local part of Sudan, northern DRC, western Ethiopia and Djibouti.

