

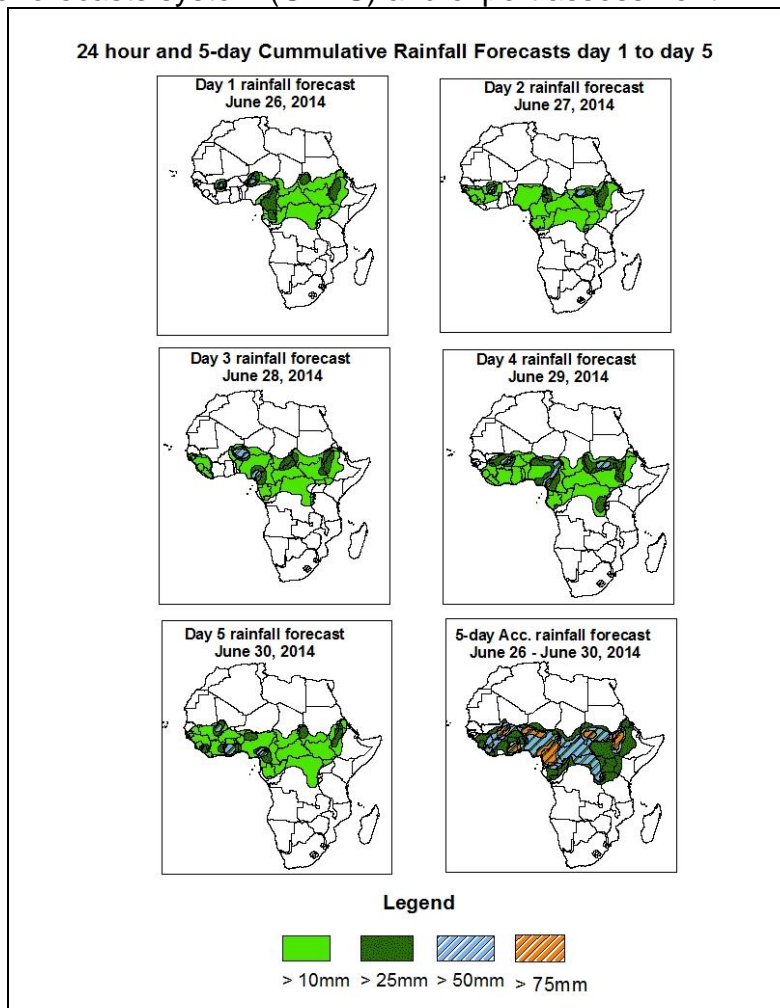


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of June 26 – 06Z of June 30, 2014. (Issued at 1600Z of June 25, 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 Mali, Sierra Leone, Liberia, portion of Guinea-Conakry and Ivory-Coast, northern Burkina-Faso, southern Ghana, Togo and Benin, Nigeria, Cameroon, portion of Gabon and Congo-Brazzaville, northern DRC, western Kenya Southern Sudan, and western Ethiopia.

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

Day 1 Dust forecast
June 26, 2014



Day 2 Dust forecast
June 27, 2014



Day 3 Dust forecast
June 28, 2014



Highlights

There is an increased chance for moderate to high dust concentration over Mauritania, Algeria and Mali.

Legend



MDC, Vis. < 5km



HDC, Vis. < 1km

1.3. Model Discussion: Valid from 00Z of June 25, 2014

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

The St Helena high pressure system over the Southeast Atlantic Ocean is expected to slightly intensify through 24 to 48 hours with its central pressure value increasing from about 1030hpa in 24 hours to 1031hpa in 48 hours, it is expected to weaken from 48 to 96 hours with its central pressure value decreasing through 1031hpa in 48 hours to 1024hpa in 96 hours, then it is expected to intensify from 96 to 120 hours with its central pressure value increasing through 1024hpa in 96 hours to 1028hpa 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 96 hours with its central pressure value increasing from about 1022hpa in 24 hours to 1031hpa in 96 hours, and then it tends to weaken from about 96 to 120 hours with its central pressure value decreasing about 1031hpa in 96 hours to 1026hpa 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 during the forecast period. Central pressure associated with the heat low over Sudan is expected to be as low as 1009hpa through 72hrs and 120hrs. The heat low across central Sahel is expected to maintain its central pressure value about 1011hpa from 24 to 72hours, and then it tends to deepen through 96 to 120 hours with its central pressure value decreasing through 1010hpa in 96 hours to 1009hpa in 120hours 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, Burundi 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 CAR, DRC Gabon, Cameroon, Congo-Brazzaville, 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 Sahel.

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

2.0. Previous and Current Day Weather Discussion over Africa

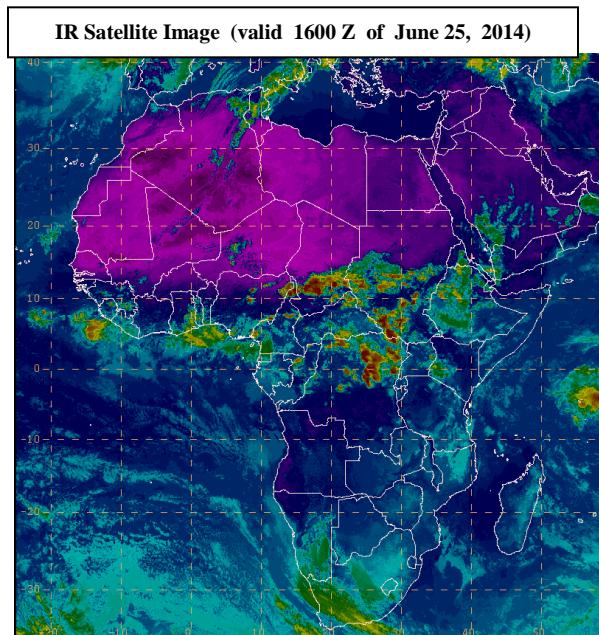
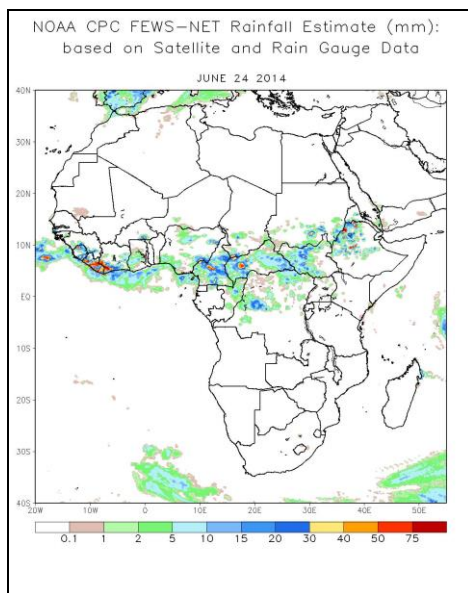
(June 24 2014 – June 25, 2014)

2.1. Weather assessment for the previous day (June 24, 2014)

During the previous day, moderate to heavy rainfall was observed over Liberia, Sierra-Leone, portion of Ivory-Coast and Ghana, southeastern Burkina-Faso, local part of Nigeria, Cameroon, and local areas in DRC, CAR, southern Sudan, and western Ethiopia.

2.2. Weather assessment for the current day (June 25, 2014)

Intense clouds are observed over local part of Nigeria and Cameroon, southern Chad and Sudan, local areas in CAR, northern DRC and local areas in Ethiopia.



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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