

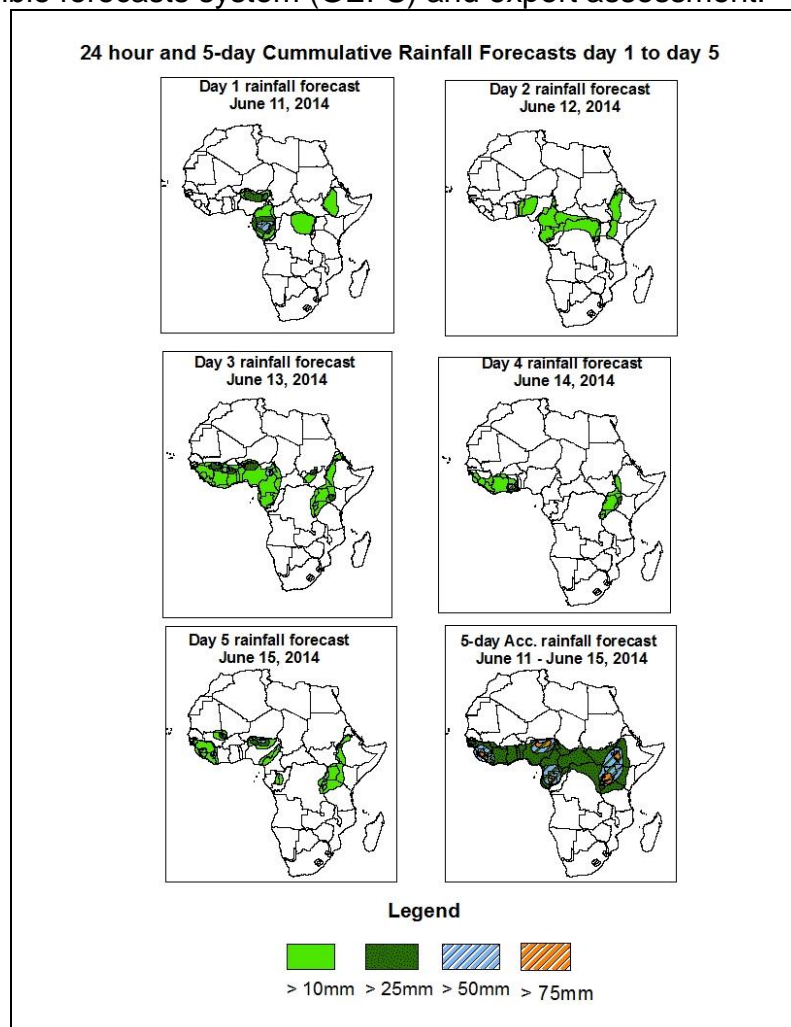


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of June 11 – 06Z of June 15, 2014. (Issued at 1600Z of June 10, 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

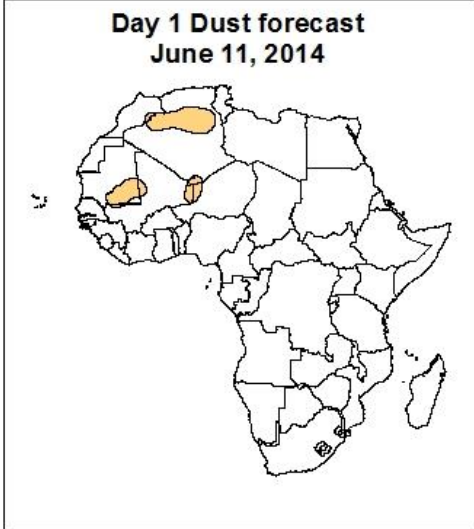
In the next five days, the monsoon flow from the Atlantic Ocean with its associated convergence across the Sahel region, localized wind convergences over East Africa and the neighboring areas, and westward propagating convective systems across West Africa are expected to enhance rainfall in their respective regions.

Thus, there is an increased chance for moderate to heavy rainfall over portions of Guinea Conakry, Sierra Leone, south Mali, northern Burkina Faso, south Niger, central Cote D'Ivoire, northern Nigeria, Cameroun, Gabon, western Kenya, Uganda, and western Ethiopia.

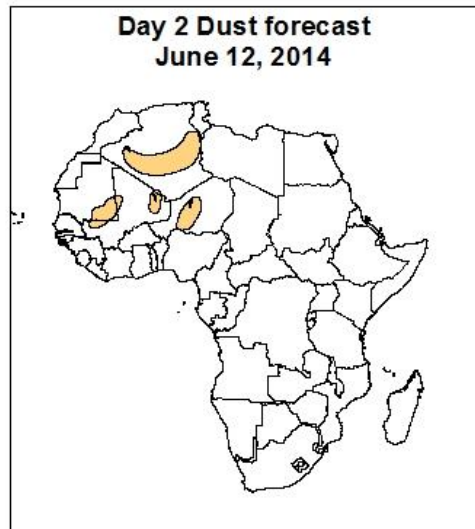
1.2. Atmospheric Dust Forecasts: Valid June 11 – June 13, 2014

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

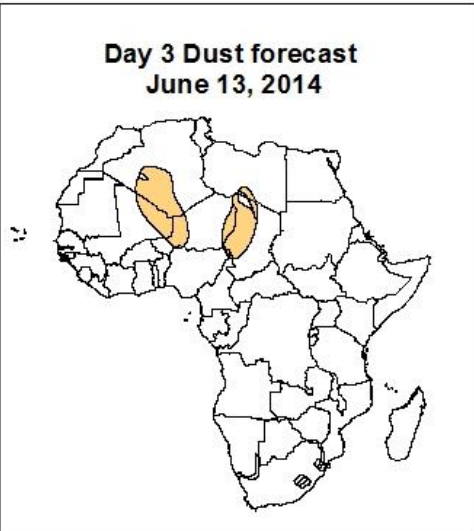
**Day 1 Dust forecast
June 11, 2014**



**Day 2 Dust forecast
June 12, 2014**



**Day 3 Dust forecast
June 13, 2014**



Highlights

There is an increased chance for moderate to high dust concentration over Western Sahara, Senegal, Mauritania, Algeria, Mali, Libya, Niger and Chad

Legend



MDC, Vis. < 5km



HDC, Vis. < 1km

1.3. Model Discussion: Valid from 00Z of June 10, 2014

The Azores high pressure system over the Northeast Atlantic Ocean is expected to intensify gradually through 24 to 72 hours, and tends to weaken through 96 to 120 hours, with its central pressure value increasing from about 1024hpa in 24 hours to 1026hpa in 72hours and then decreasing to 1022hpa through 120hours according to the GFS model.

The St Helena high pressure system over the Southeast Atlantic Ocean is expected to weaken through 24 to 72 hours with its central pressure value decreasing from about 1029hpa in 24 and 72 hours to 1020hpa according to the GFS model.

The Mascarene high pressure system over the southwestern Indian Ocean is expected to weaken through 24 to 72 hours with its central pressure value decreasing from about 1033hpa in 24 and 72 hours to 1026hpa according to the GFS model.

The heat low across the western Sahel region is expected to fill up through 24 to 48hours with its central pressure value increasing from about 1004hpa to 1007hpa, and it tends to maintain central pressure values of 1006hpa through 72 to 120 hours. The heat low across Central Sahel is expected to maintain an average central pressure value of 1006hpa during the forecast period, whereas the heat low over Sudan is expected to deepen slightly, with its central pressure value decreasing from about 1006hpa to 1004hpa during the forecast period.

At 925Hpa level, a zonal wind convergence is expected to prevail in the region between Senegal and Sudan through 24 to 120 hours. Strong dry northeasterly winds are expected to prevail over parts of Mauritania, Algeria, Chad, Libya, Sudan and Egypt, with wind speeds exceeding 35knts over northern Chad and northern Sudan occasionally.

At 850Hpa level, seasonal wind convergences are expected to remain active over in the region between Senegal and Sudan across the Sahel region through 24 to 48 hours. The convergence over western Africa is expected to weaken through 72 to 120 hours due to formation of broad anti-cyclonic circulation in the region. Wind convergences are

also expected to remain active across Uganda and South Sudan during the forecast period.

At 700hpa level, northeasterly flow is expected to prevail across the Sahel region, whereas feeble trough in the easterlies is expected to propagate westwards across the Gulf of Guinea region during the forecast period.

At 500Hpa level, a zone of easterlies (25kts), associated with African easterly jet is expected prevail over Niger, Mali and Burkina Faso through 24hours to 72 hours.

At 150hpa level, strong wind (>60kts) associated with the Tropical Easterly Jet (TEJ) is expected to emerge over northern Indian Ocean gradually expanding towards Somalia, northern Kenya, southern Ethiopia towards end of the forecast period.

In the next five days, the monsoon flow from the Atlantic Ocean with its associated convergence across the Sahel region, localized wind convergences over 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 portions of Guinea Conakry, Sierra Leone, south Mali, northern Burkina Faso, south Niger, central Cote D'Ivoire, northern Nigeria, Cameroun, Gabon, western Kenya, Uganda, and western Ethiopia.

2.0. Previous and Current Day Weather Discussion over Africa

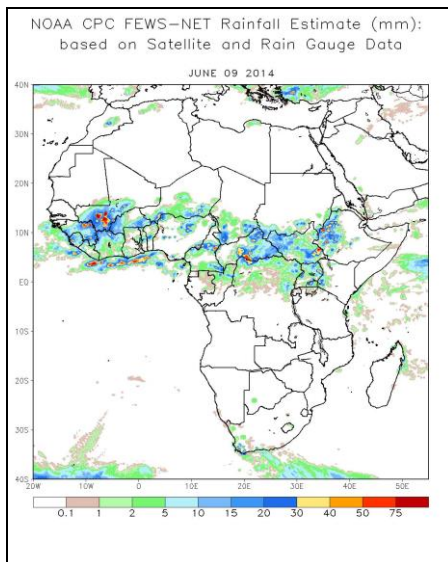
(June 9, 2014 – June 10, 2014)

2.1. Weather assessment for the previous day (June 09, 2014)

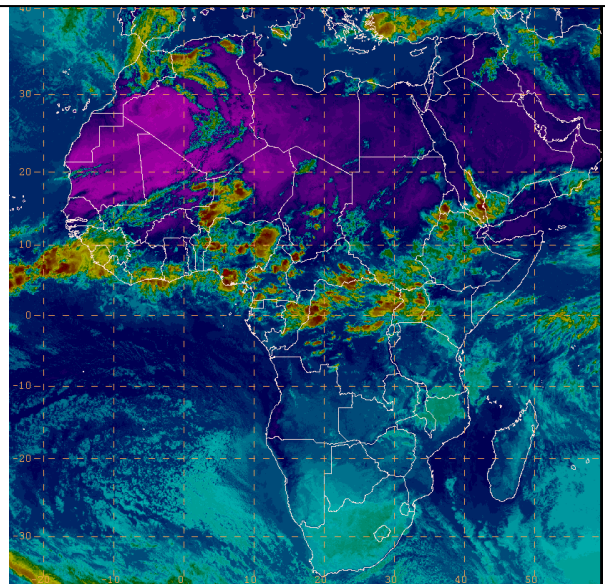
During the previous day, moderate to heavy rainfall was observed over central and southern Mali, Guinea-Conakry, Sierra Leone, local areas in Nigeria, southern Niger, and southern Chad, parts of Cameroon, South Sudan, western Ethiopia and Uganda.

2.2. Weather assessment for the current day (June 10, 2014)

Intense clouds are observed coastal Gulf of Guinea, central Sahel, northern DRC and the Horn of Africa region.



IR Satellite Image (valid 1652 Z of June 10, 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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