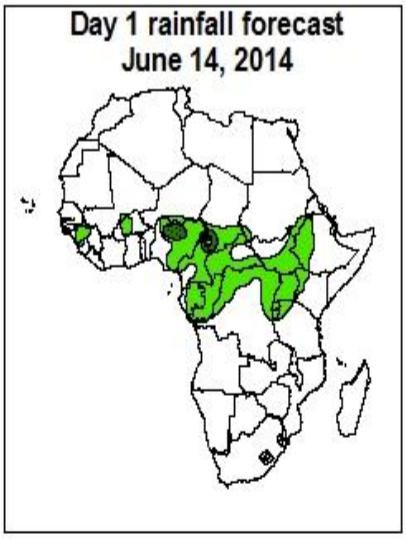
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

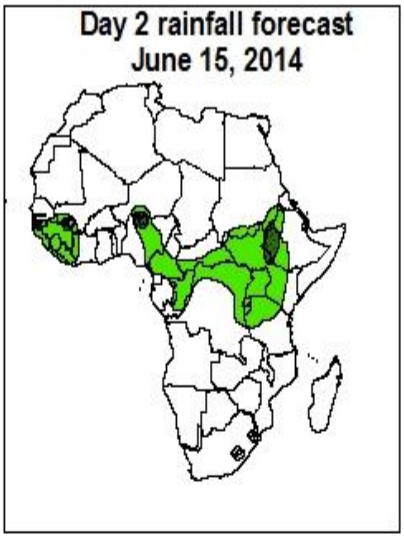
1.0. Rainfall Forecast: Valid 06Z of June 14 – 06Z of June 18, 2014. (Issued at 1600Z of June 13, 2014)

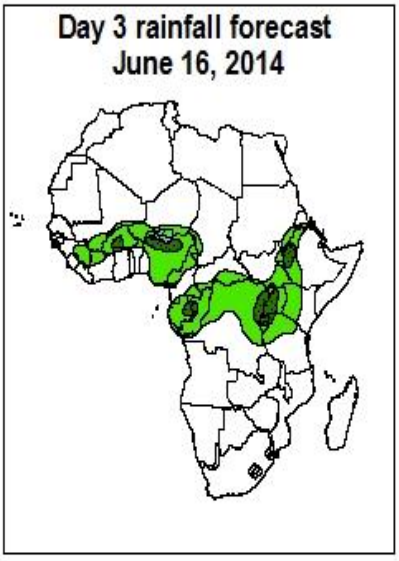
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

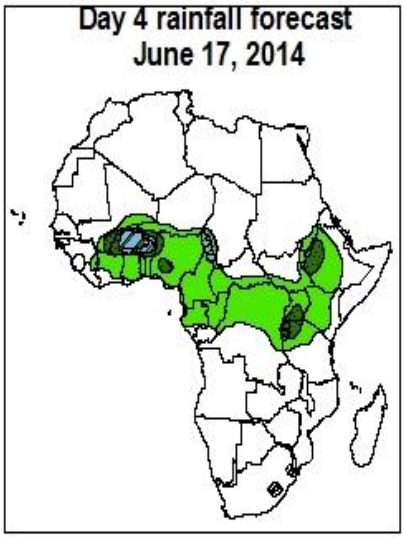
The forecasts are expressed in terms of 75% probability of precipitation (POP) exceeded, based on the NCEP/GFS and UK Met Office NWP outputs, and the NCEP global ensemble forecasts system (GEFS) and expert assessment.

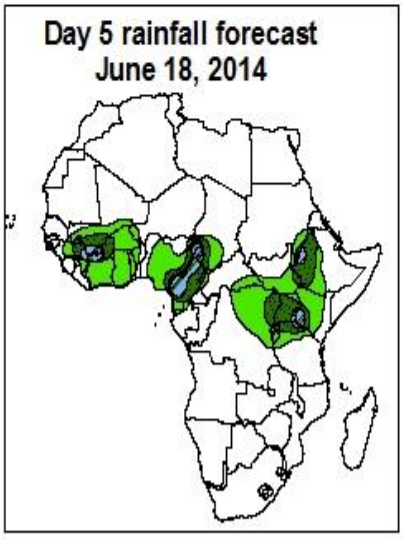
24 hour and 5-day Cummulative Rainfall Forecasts day 1 to day 5

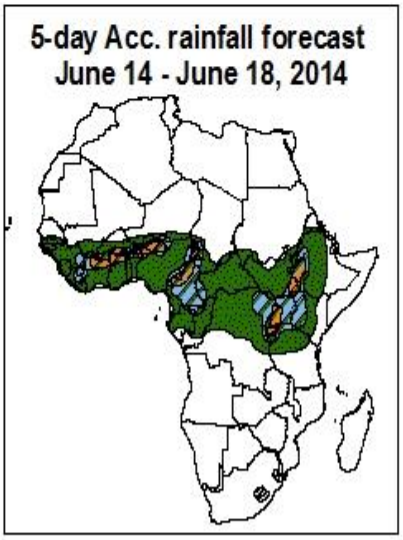












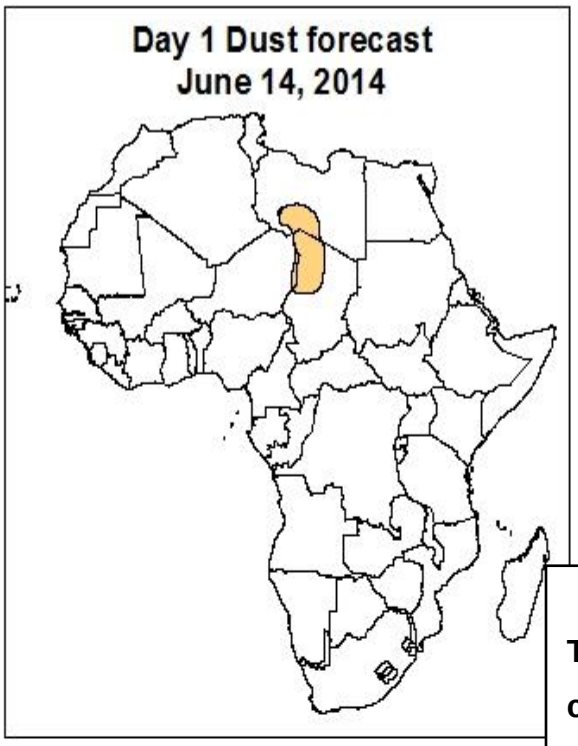
Legend

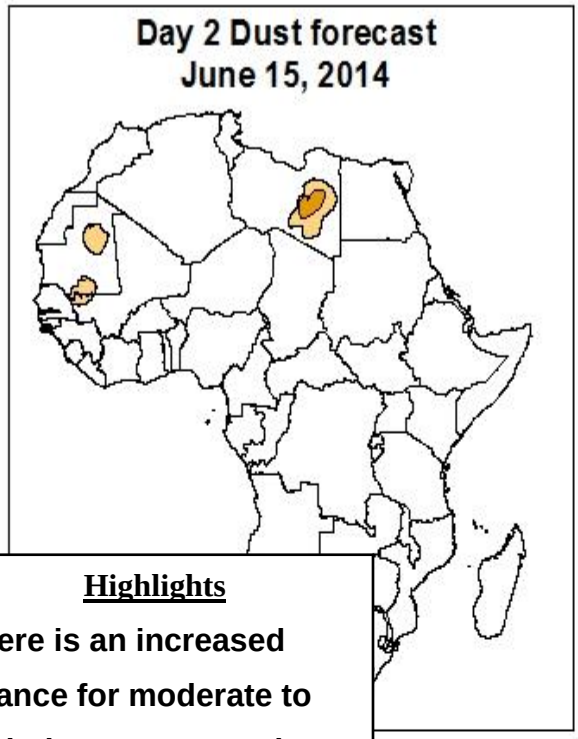
Summary

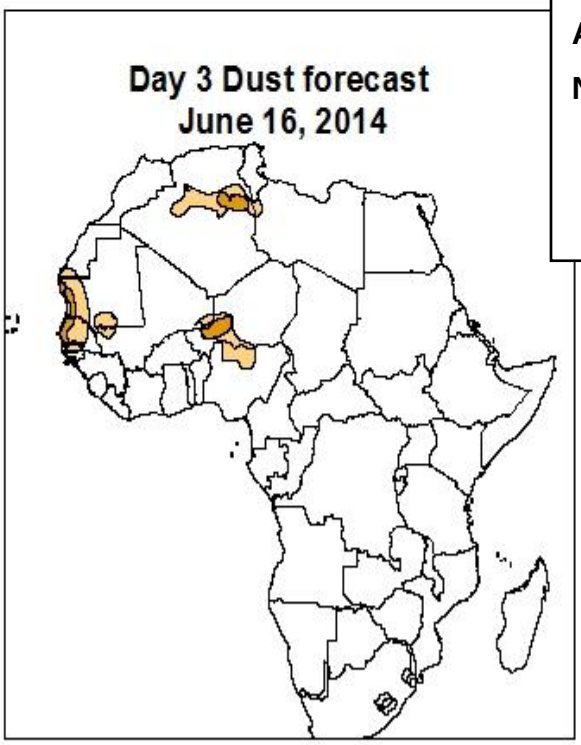
In the next five days, the monsoon flow from the Atlantic Ocean with its associated convergence across the Sahel region, localized wind convergences over Uganda and the neighboring areas, and westward propagating convective systems across West Africa are expected to enhance rainfall in their respective regions. Thus, there is an increased chance for moderate to heavy rainfall over portions of Guinea Conakry, Sierra Leone, parts of Cote d'Ivoire, Burkina Faso, , northern Nigeria, Cameroun, western Kenya, Uganda, 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 Sahara, Mauritania, Algeria, Mali, Libya and Niger

Legend

1.3. Model Discussion: Valid from 00Z of June 13, 2014

The Azores high pressure system over the Northeast Atlantic Ocean is expected to maintain its intensity through 24 to 48 hours with its central vue about 1024hpa; and tends to weaken through 72 to 120 hours, with its central pressure value decreasing from about 1024hpa in 24 hours to 1020hpa 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 1038hpa in 24 hours to 1026hpa in 96 hours, and expected to intensify from 96hours to 120hours with its central pressure value increasing from about 1026hpa 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 weaken through 24 to 48 hours with its central pressure value decreasing from about 1022hpa in 24 hours to 1018hpa in 48hours and then its expected to intensify through 72 hours to 96 hours and expected to weaken from 96 hours to 120 hours with its central pressure value decreasing from 1025hpa in 96 hours to 1024hpa in 120 hours according to the GFS model.

The heat low across the Sahel region is expected to maintain an average central pressure value of 1005hpa during the forecast period. The heat low across Central Africa is expected to slightly intensify through 24 to 48 hours with its central pressure value increasing from 1010hpa in 24 hours to 1011hpa in 48 hours, and tends to maintain an average central pressure value of 1011hpa during the period of forecast 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, to Rwanda all the period of forecast**.**

At 850Hpa level, seasonal wind convergences are expected to remain active over in the region between Mali and Sudan through 24 to 120 hours.. Wind convergences are also expected to remain active over DRC; CAR ; Cameroon and Uganda 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 across the Sudan during the forecast period.

At 500Hpa level, a zone of strong easterly wind (30kts), associated with African easterly jet is expected prevail over Guinea-Bissau, Southern of Mali, Niger, northern Nigeria, Chad and southern-west Sudan through 24hours to 120 hours.

At 150hpa level, strong wind (>60kts) associated with the Tropical Easterly Jet (TEJ) is expected to prevail over northern Indian Ocean and the neighboring areas of Somalia, , and Ethiopia through 24hours to 48 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 DCR 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, Mali, Sierra Leone, parts of Cote d'Ivoire, Burkina Faso, , northern Nigeria, Cameroun, western Kenya, Uganda, and western Ethiopia.

2.0. Previous and Current Day Weather Discussion over Africa

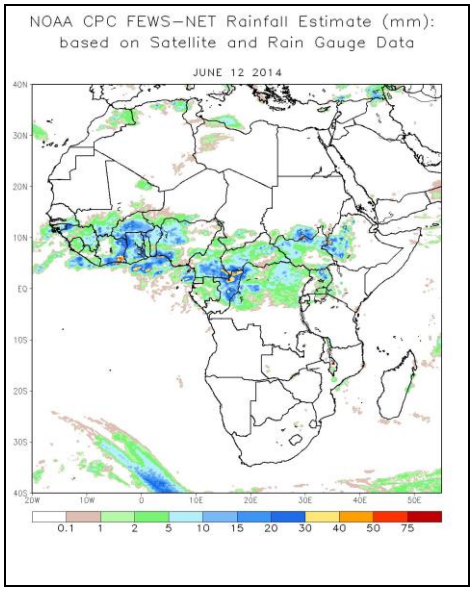
(June 10, 2014 – June 12, 2014)

2.1. Weather assessment for the previous day (June 12, 2014)

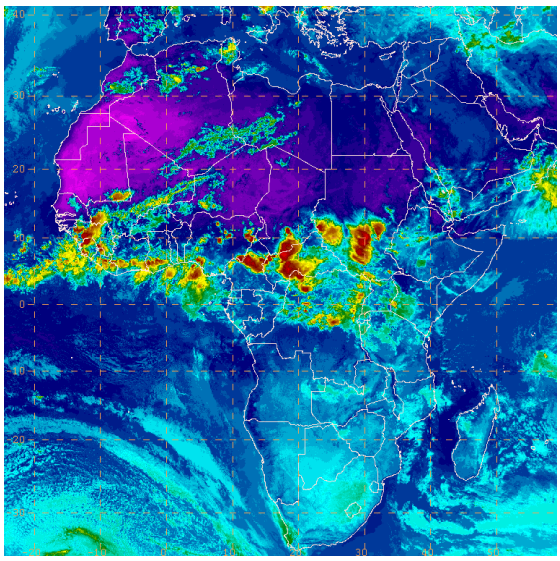
During the previous day, moderate to heavy rainfall was observed Guinea-Bissau, southern Mali, Burkina-Faso, Ghana, Ivory-Coast, Benin western Nigeria, Cameroon; Congo-Brazzaville, western DRC, local areas in Nigeria, Mali, South Sudan, western DRC, western Ethiopia and Uganda.

2.2. Weather assessment for the current day (June 13, 2014)

Intense clouds are observed west of Mali, Guinea-conakry, Gulf of Guinea, local part of Nigeria, Central Africa Republik, southern Sudan and southern Chad .



IR Satellite Image (valid 1652 Z of June 11, 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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