

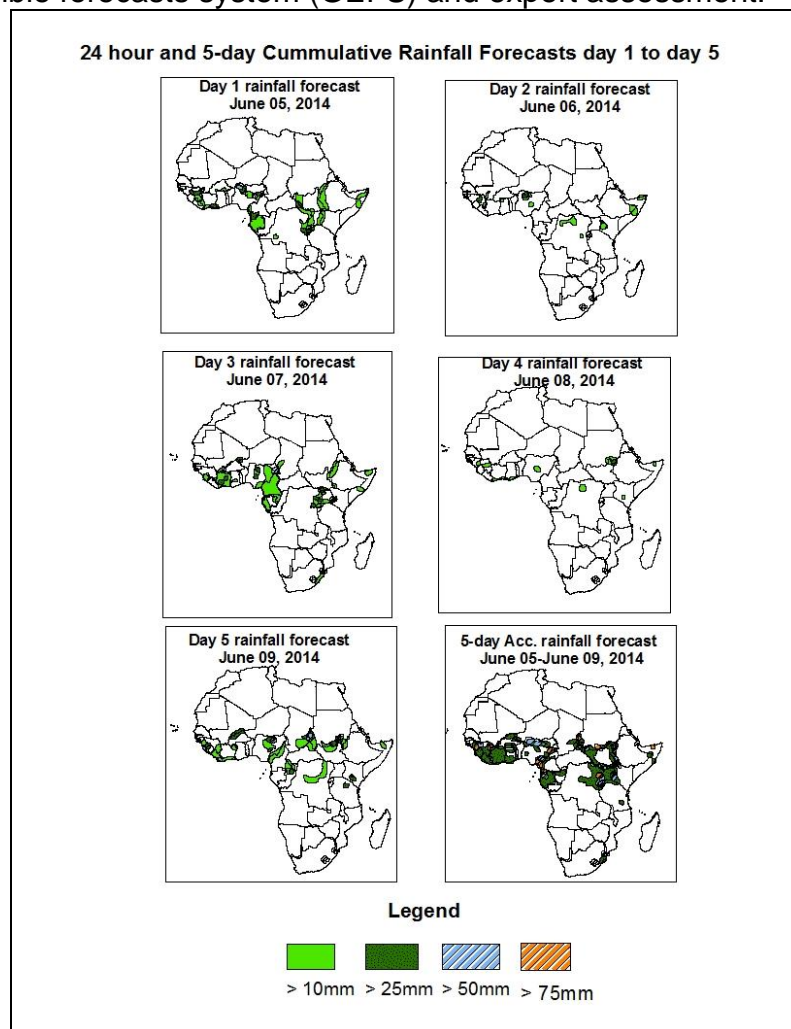


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of June 05 – 06Z of June 09, 2014. (Issued at 1600Z of June 04, 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.



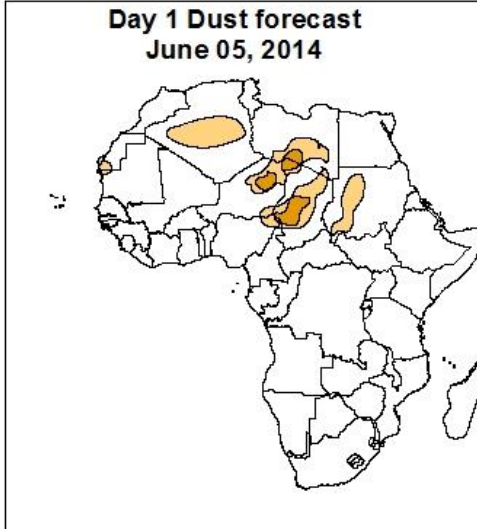
Summary

In the next five days, the monsoon flow from the Atlantic ocean with its associated convergence across parts of the Sahel region, localized wind convergences over Northeast DRC and the neighboring areas of Uganda, Rwanda and Burundi, and westward propagating convective systems across central and West Africa are expected to enhance rainfall in their respective regions. Generally there is an increased chance for moderate to heavy rainfall over portions of Sierra Leone, southeastern Mali, northern Ghana, eastern Nigeria, southwestern Cameroun, southern Sudan, northeast DRC, Rwanda Burundi, western Kenya, and northern Somalia.

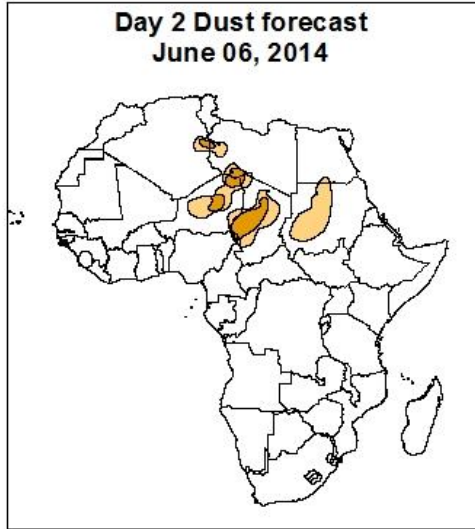
1.2. Atmospheric Dust Forecasts: Valid June 05 – June 07, 2014

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

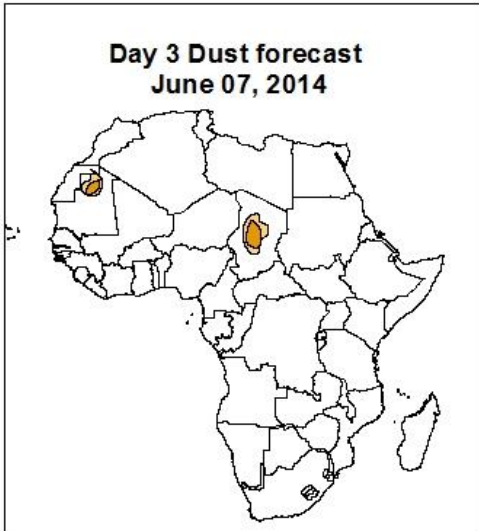
Day 1 Dust forecast
June 05, 2014



Day 2 Dust forecast
June 06, 2014



Day 3 Dust forecast
June 07, 2014



Highlights

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

Legend



MDC, Vis. < 5km



HDC, Vis. < 1km

1.3. Model Discussion: Valid from 00Z of June 04, 2014

Model comparison (GFS and UKMET Valid from 00Z: June 04, 2014) shows general agreement in terms of depicting positions of the northern and southern hemisphere subtropical highs, while they showed slight differences in depicting their intensity.

The Azores high pressure system over the Northeast Atlantic Ocean is expected to weaken gradually through 24 to 120 hours, with its central pressure value decreasing from about 1030hpa in 24 hours to 1025hpa in 120hours according to the GFS model, and its central pressure is expected to decrease from 1031hpa to 1025hpa through 24 to 120 hours according to the UKMET model.

The St Helena high pressure system over the Southeast Atlantic Ocean is expected to intensify gradually through 24 to 120 hours, with its central pressure value increasing from about 1027hpa in 24 hours to 1034hpa in 120hours according to the GFS model, and, from about 1028hpa to 1033hpa through 24 to 120 hours according to the UKMET model.

The Mascarene high pressure system over the southwestern Indian Ocean is expected to intensify gradually through 24 to 120 hours. Its central pressure value is expected to increase from 1024hpa in 24hours to 1036hpa in 120hours according to the GFS model, where as its central pressure value is expected to increase from 1025hpa to 1034hpa according to the UKMET model.

The heat low across the central Sahel region is expected to maintain an average central pressure value of 1002hpa according to the GFS and UKMET models. The heat low across Sudan is expected to maintain central pressure value of about 1001hpa according to the GFS and the UKMET models.

At 925Hpa level, a zonal wind convergence is expected to prevail in the region between eastern Senegal and Sudan through 24 to 120 hours. Strong dry northeasterly winds are expected to prevail over parts of Mauritania, Algeria, Chad, Libya and Egypt, with wind speeds exceeding 50knts occasionally.

At 850Hpa level, a lower tropospheric wind convergence is expected to remain active near the Cameroon/Gabon border through 24 to 120 hours. Localized wind convergences are also expected to remain active over northern Nigeria, Sudan, northeast DRC and the neighboring areas of Uganda, Rwanda and Burundi.

At 700HPA level, a core strong easterlies (>30kts) is expected to propagate between Nigeria and Sierra Leone across the Gulf of Guinea countries through 24 to 72 hours.

At 500Hpa level, a zone of strong easterlies (>30kts), associated with African easterly jet is expected to remain active near Burkina Faso, Ghana and Cote d'Ivoire, gradually expanding towards Nigeria through 96 hours.

At 200hpa level, strong wind associated with the northern hemisphere sub-tropical jet is expected to weaken gradually, with the core of the jet propagating between Egypt and Jordan during the forecast period.

In the next five days, the monsoon flow from the Atlantic ocean with its associated convergence across parts of the Sahel region, localized wind convergences over Northeast DRC and the neighboring areas of Uganda, Rwanda and Burundi, and westward propagating convective systems across central and West Africa are expected to enhance rainfall in their respective regions.

Generally there is an increased chance for moderate to heavy rainfall over portions of Sierra Leone, southeastern Mali, northern Ghana, eastern Nigeria, southwestern Cameroun, southern Sudan, northeast DRC, Rwanda Burundi, western Kenya, and northern Somalia.

2.0. Previous and Current Day Weather Discussion over Africa

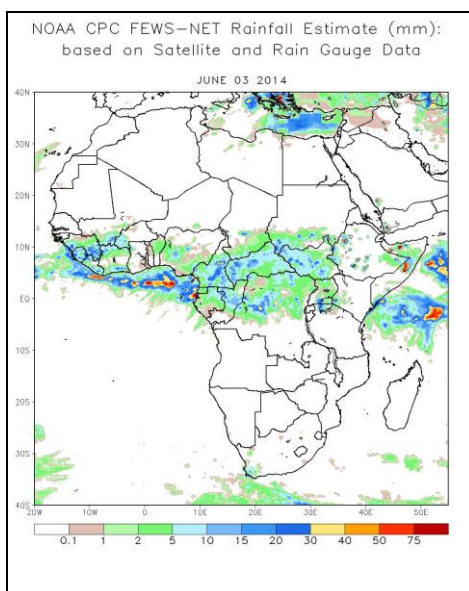
(June 3, 2014 – June 4, 2014)

2.1. Weather assessment for the previous day (June 03, 2014)

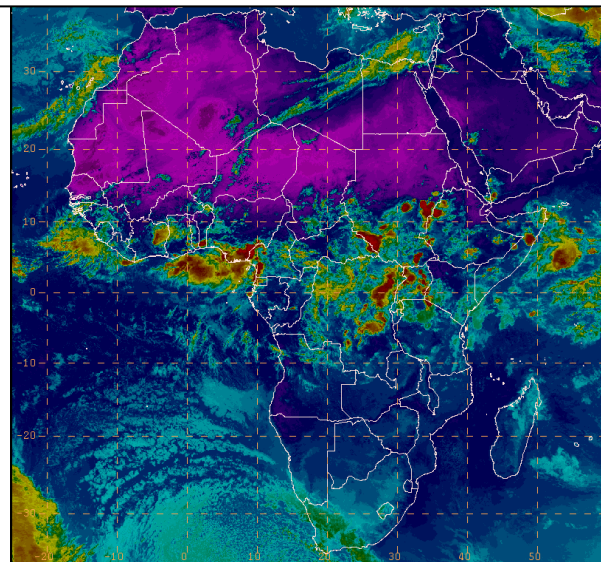
During the previous day, moderate to heavy rainfall was observed over southeastern part of Guinea Conakry, local areas in Nigeria, Cameroon, CAR, Congo-Brazzaville, South Sudan, local areas of Ethiopia, northern Somalia and northern DRC.

2.2. Weather assessment for the current day (June 04, 2014)

Intense clouds are observed over local areas in Gulf of Guinea coast, north eastern Cote D'Ivoire, South Sudan Republic, eastern Sudan, northeast DRC, Uganda and local areas of Ethiopia



IR Satellite Image (valid 1200 Z of June 04, 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: **Francisca Martey**

(Ghana Meteorological Agency / CPC-African Desk); francisca.martey@noaa.gov