

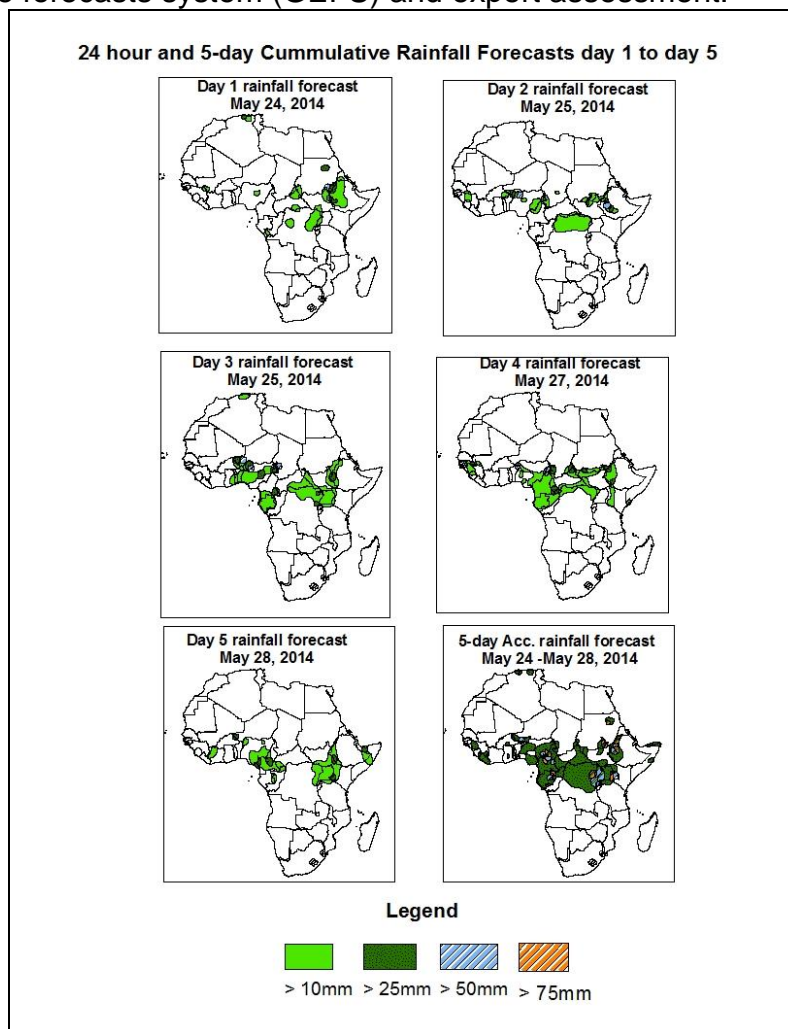


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of May 24 – 06Z of May 28, 2014. (Issued at 1600Z of May 23, 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

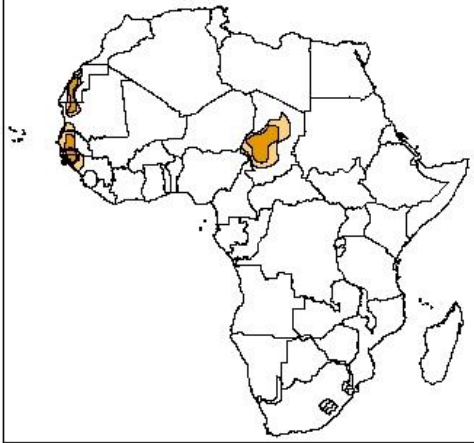
In the next five days, westward propagating easterly waves across the Gulf of Guinea, seasonal wind convergences in East Africa region are expected to enhance rainfall in their respective regions.

Generally there is an increased chance for moderate to heavy rainfall over portions of Guinea Bissau, Guinea Conakry, Sierra Leone, Liberia, Ghana, Togo, Benin, Nigeria, Democratic Republic of Congo, Cameroun, Equatorial Guinea, Eritrea, Djibouti, Gabon, Congo Brazzaville, Uganda, Ethiopia, Somalia, Burundi, Rwanda and Kenya

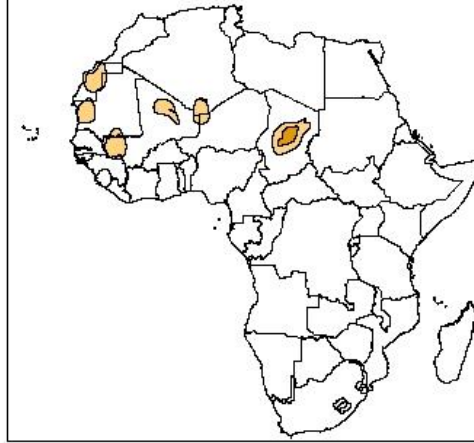
1.2. Atmospheric Dust Forecasts: Valid May 24 – May 26 2014

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

Day 1 Dust forecast
May 24, 2014



Day 2 Dust forecast
May 25, 2014



Day 3 Dust forecast
May 26, 2014



Highlights

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

Legend



MDC, Vis. < 5km



HDC, Vis. < 1km

1.3. Model Discussion: Valid from 00Z of May 24, 2014

Model comparison (GFS and UKMET Valid from 00Z: May 22, 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.

According to the GFS and UKMET models, the monsoon trough and its associated heat lows across the Sahel region are expected to maintain its east-west orientation during the forecast period. The models also indicate series of heat lows and their associated troughs across Central African countries extending partly to East African countries

A heat low over eastern Algeria is expected to fill up from its mean sea level pressure of 1005hpa to 1001011hpa through 24 to 96hours, and then expected to deepen to 1007hpa through 96 to 120 hours. A heat low over the Mali, Senegal at 1008hpa is expected to deepen through 24 to 48 hours to 1006hpa. Another low over Niger, Mali is expected to deepen slightly from 1006hpa to 1004hpa through 24 to 120hours. A low over DRC is expected to maintain its pressure value of 1011hpa through 24 to 72 hours and then deepen through 96 to 120 hours to the value of 1010hpa.

The Azores high pressure system over the North Atlantic Ocean with its central pressure value of 1030hpa is expected to relax through 24 to 48hours to 1029hpa and then intensify through 48 to 96 hours to 1032hpa and is expected to relax again to 1031hpa for both GFS model. For the UKMET model, the central pressure value of 1030hpa is expected to relax its central pressure value through 24 to 48 hours, expected to intensify its value to 1033hpa through 48 to 120 hours.

Due to the mid latitude frontal system over the southeastern Atlantic ocean, the St. Helena high pressure system will remain weak.

The East African ridge associated with the Mascarene high pressure system over the southwestern Indian Ocean is expected to intensify slightly its position at 1027hpa to 1028hpa through 24 hours to 48hours and then relax to 1021hpa from 48 to 72 hours and then intensify to 1022hpa through 72hours to the end of the forecast period for GFS

model. For the UKMET model, the pressure value is expected to relax its position at 1032hpa to 1020hpa from 24 hours to 96hours and then expected to intensify to 1024hpa through 96 to 120 hours

At 925Hpa level, a zone of moderate and dry northerly and easterly winds are expected to prevail over northwestern part of Gulf of Guinea countries, western Sahel, eastern Sahel, central Africa region through 24 to 120hours.

At 850Hpa level, zonal monsoon wind convergence is expected to dominate the flow across northwestern Gulf of Guinea coast, central Sahel region and central African region through 24hours to 120 hours.

At 500Hpa level, a mid-latitude trough across Northern Africa and neighboring areas is expected to deepen gradually with its axis over Egypt, Arabian Peninsula and Sudan through 24 to 120hours.

At 200hpa level, winds with strong speed (>70kts and >90kts) associated with the Northern hemisphere sub-tropical Westerly Jet mainly is expected to propagate across the North Africa during the forecast period across the subtropical latitudes during the forecast period while winds (>70kts and <130kts) is expected in the southern Hemisphere across South Africa, Atlantic Ocean and Madagascar

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2.0. Previous and Current Day Weather Discussion over Africa

(May 22, 2014 – May 23, 2014)

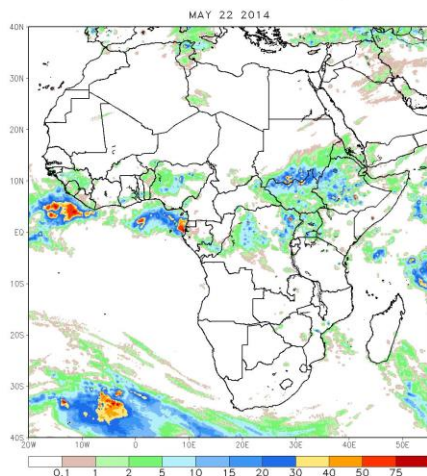
2.1. Weather assessment for the previous day (May 22, 2014)

During the previous day, moderate to heavy rainfall was observed over Gulf of Guinea Coast, South Sudan, DRC, Ghana, Togo, Cameroun, Congo, Uganda and Ethiopia

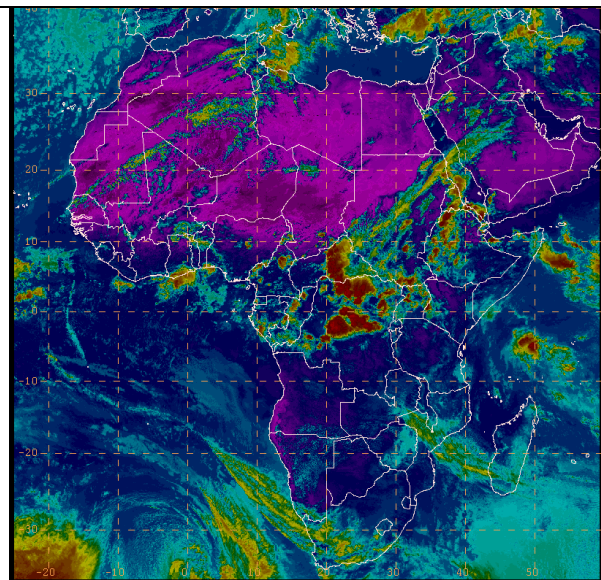
2.2. Weather assessment for the current day (May 23, 2014)

Intense clouds are observed over local areas in Gulf of Guinea coast, Ghana, Togo, Benin, Nigeria, Sudan, Democratic Republic of Congo, South Sudan, Central African Republic, Ethiopia, Djibouti, Eritrea Somalia and Uganda

NOAA CPC FEWS-NET Rainfall Estimate (mm):
based on Satellite and Rain Gauge Data



IR Satellite Image (valid 1200 Z of May 23, 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