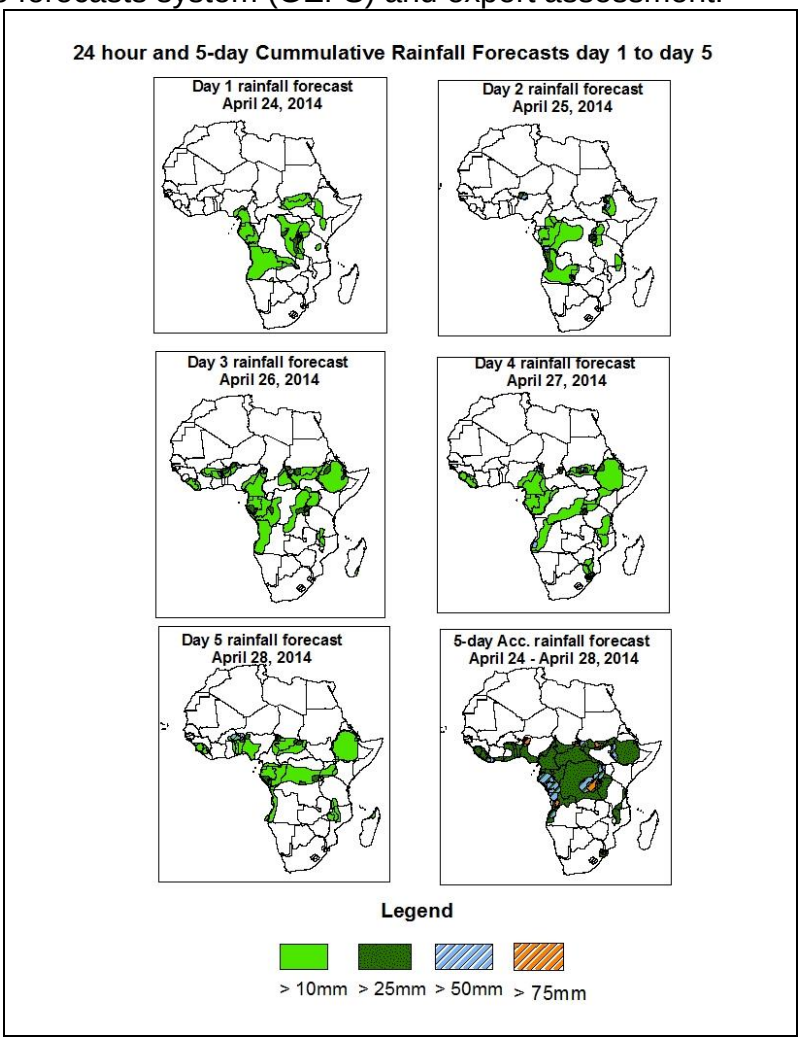
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

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

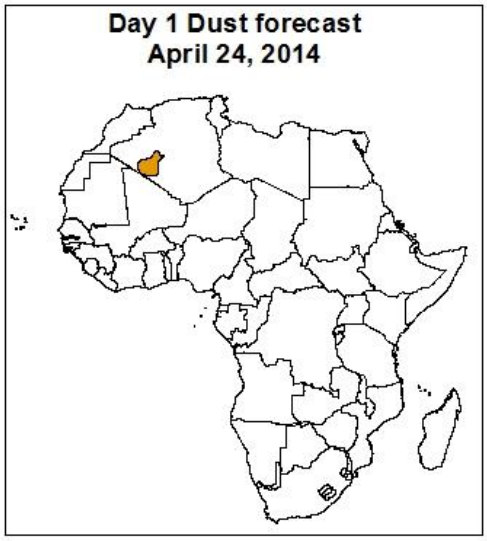


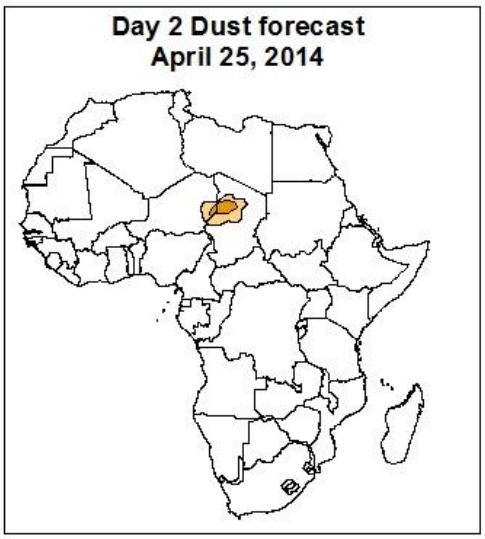
Summary

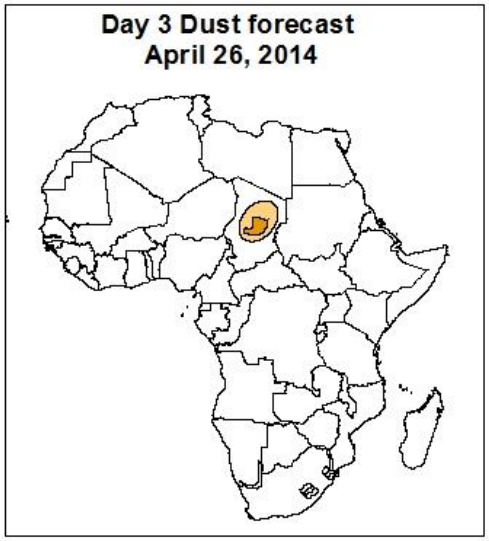
In the coming five days, lower tropospheric wind convergences across the Gulf of Guinea, the Congo coast, East and Central Africa are expected to persist and hence continued moderate rains are expected over Sierra Leone, Liberia, Parts of Burkina Faso, Ghana ,Togo, Benin, Nigeria, Cameroun Central African Republic, South Sudan and then Ethiopia. Congo Brazzaville, Angola and Democratic Republic of Africa will however experience above moderate rains

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

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 heavy dust concentration over Algeria, Niger and Chad

Legend

MDC, Vis. < 5km

HDC, Vis. < 1km

1.3. Model Discussion: Valid from 00Z of April 23, 2014

Model comparison (GFS and UKMET Valid from 00Z: April 24, 2014*) shows general agreement in terms of depicting positions of the northern and southern hemisphere sub-tropical highs, while they showed slight differences in depicting their intensity.*

The St. Helena High Pressure System, in southern Atlantic Ocean is expected to weaken through 24 to 48 hours and intensify through 48 to 120 hours while shifting eastwards. Its central pressure value is expected to decrease from about 1025hpa to 1022hpa and then increase to 1028hpa according to the GFS model, and from about 1025hpa to 1022hpa and then increase to 1027hpa according to the UKMET model.

The Mascarene high pressure system in southwestern Indian Ocean is expected to Intensify through 24 to 120 hours. Its central pressure value is expected to increase from about 1025hpa to 1034hpa through the forecast period according to the GFS and its value is about 1025 to 1034hpa according to the UKMET models.

The Azores high pressure system in Northeastern Atlantic Ocean is expected to intensify while shifting eastwards through 24 to 48 hours and then weaken through 48 to the rest of the forecast period for both GFS model and UKMET model. Its central pressure value is expected to increase from about 1029hpa to 1025hpa according to the GFS and 1029 to 1025hpa according to the UKMET models.

At 925Hpa level, Moderate to strong convergence is expected to persist throughout the forecast period over the Sahel region, the Horn of Africa and the Central African region. Along the Coast of Guinea Conakry, there exist prevailing northeasterly winds

At 850Hpa level, Moderate to strong convergence is expected to persist throughout the forecast period over Sahel region, central Africa region, Horn of Africa, Easter Africa Region and South Eastern Africa

At 500Hpa level, troughs associated with mid-latitude frontal system persist and these interactions between the mid latitude and tropical systems across north eastern Africa is

expected to enhance rainfall over the northern part of the Greater Horn of Africa, Sudan and Chad for most part of the forecast period.

At 200hpa level, the sub-tropical Westerly Jet mainly (with wind speed >70 knots and <90 knots), extending between Western Sahara, Algeria, Morocco, Egypt and Libya, persist during the forecast period. In the south, the sub-tropical westerly Jet (with speed >70 knots and <90 knots) is expected over South Africa, Namibia, Botswana, Zimbabwe, Zambia, Mozambique, Indian and Southern Atlantic Ocean.

In the coming five days, lower tropospheric wind convergences across the Gulf of Guinea, the Congo coast, East and Central Africa are expected to persist and hence continued moderate rains are expected over Sierra Leone, Liberia, Parts of Burkina Faso, Ghana ,Togo, Benin, Nigeria, Cameroun Central African Republic, South Sudan and then Ethiopia. Congo Brazzaville, Angola and Democratic Republic of Africa will however experience above moderate rains

2.0. Previous and Current Day Weather Discussion over Africa

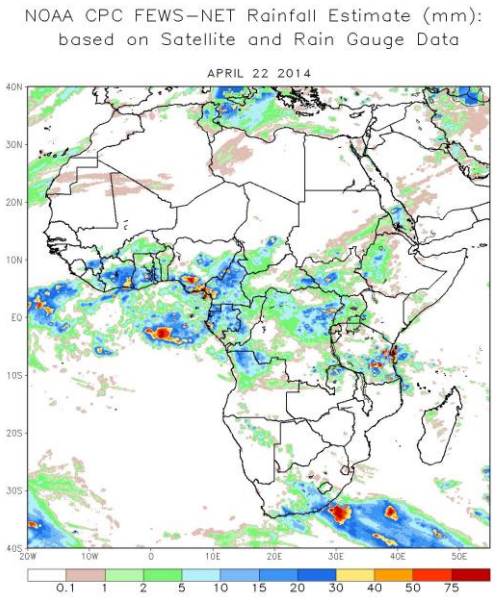
(April 22, 2014 – April 23, 2014)

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

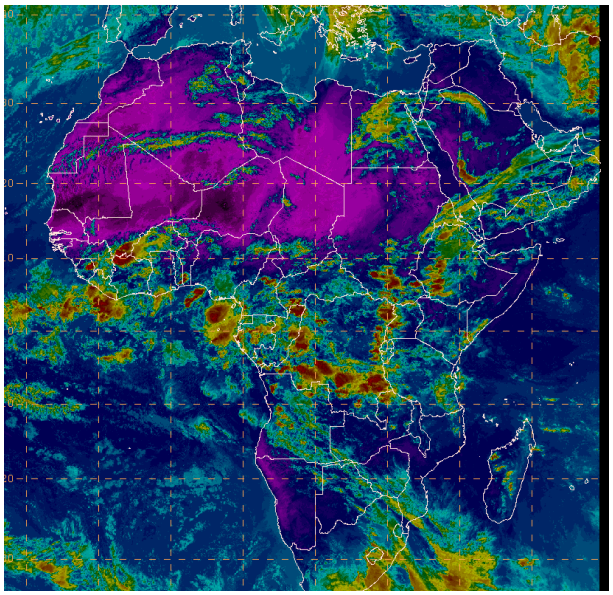
During the previous day, moderate to heavy rainfall was observed over parts of Cote D'Ivoire, Ghana, Nigeria Congo Coast, Cameroun, DRC, Northern part of the Greater Horn of Africa, South Sudan, Central African Republic and The Coast of Tanzania

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

Intense clouds are observed over local areas in the Liberia, Guinea Bissau, North of Cote D'Ivoire, Burkina Faso, Mali, South of Benin, South of Nigeria, Cameroun, Southern Chad, Congo Brazzaville, Northern Part of Angola, Democratic Republic of Congo, South Sudan, Ethiopia, Tanzania and Southeast of South Africa



IR Satellite Image (valid 1200 Z of April 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

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