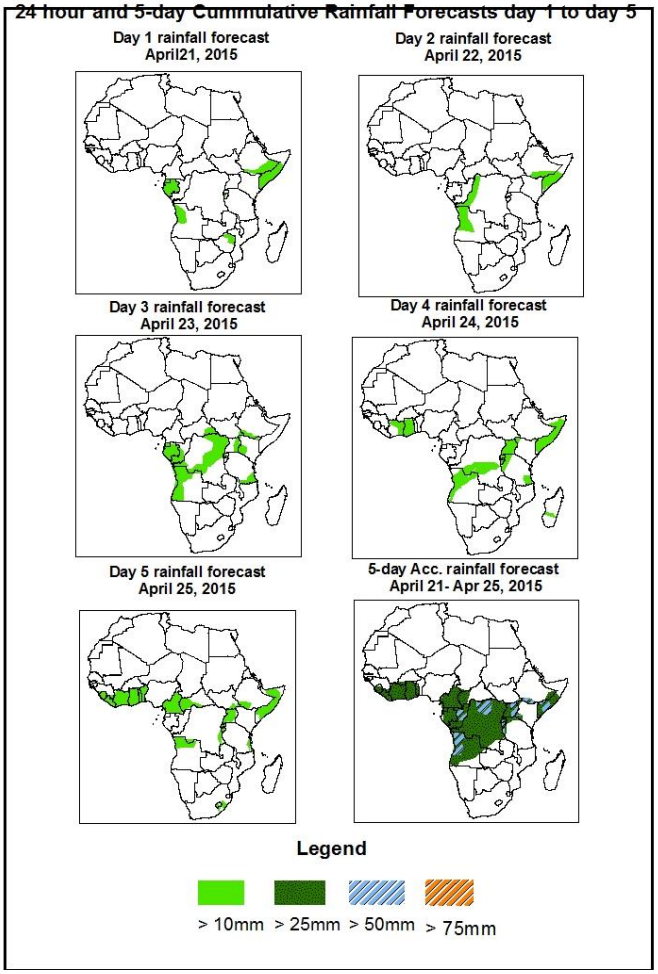
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall Forecast: Valid 06Z of April 20 – 06Z of April 25, 2015. (Issued at 1600Z of April 20, 2015)

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 the NCEP global ensemble forecasts system (GEFS) and expert assessment.



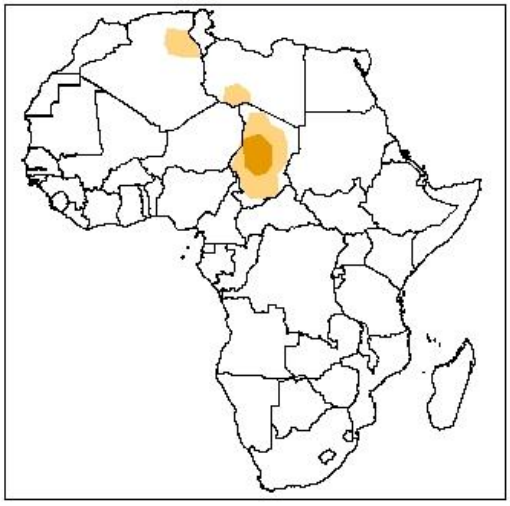
Summary

In the next five days, lower-level wind convergence over Nigeria, Cameroon, South Sudan, Ethiopia and CAR is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over Somalia, CAR Congo Brazzaville, Angola, and Southern Ethiopia.

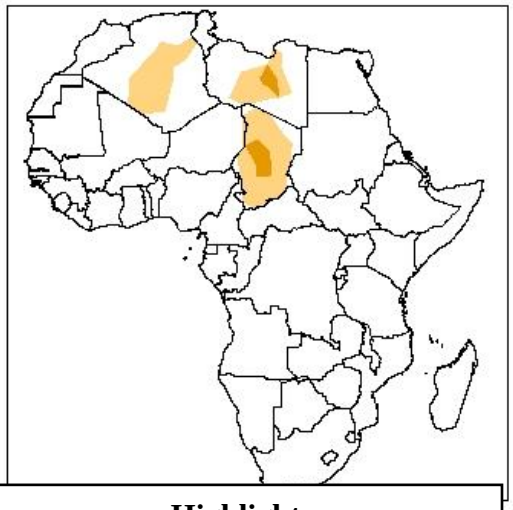
Atmospheric Dust Forecasts, day 1 to day 3,

Moderate Dust Concentration (MDC) and High Dust Concentration (HDC)

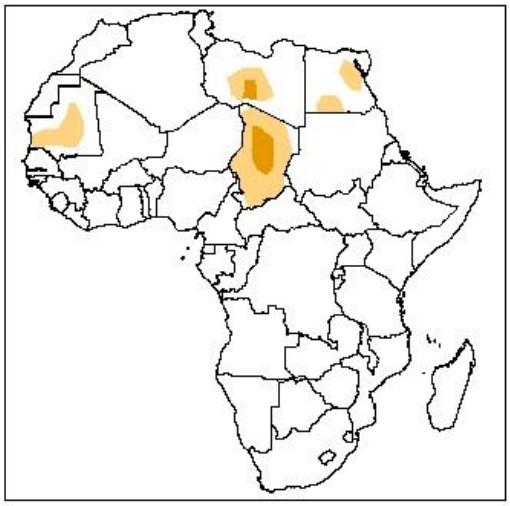
Day 1 Dust forecast
April 21, 2015



Day 2 Dust forecast
April 22 2015



Day 3 Dust forecast
April 23, 2015



Highlights

There is an increased chance for moderate to high dust concentration over some parts of the Sahel, and North Africa countries, with highest dust concentration expected over some parts of Chad and Libya.

Legend

MDC, Vis. < 5km

HDC, Vis. < 1km

1.2. Model Discussion: Valid from 06Z of April 21, 2015

The Azores high pressure system over the Northeast Atlantic Ocean is expected to weaken from a central pressure value of 1036hpa in 24 hours to 1018hpa in 120hours, according to the GFS model.

The Arabian High Pressure system is expected to remain constant at a central pressure value of 1023hpa during the forecast period, according to the GFS model.

The central pressure value of the Mascarene high pressure system over the southwestern Indian Ocean is expected to intensify from a value of 1028hpa in 24 hours to a value of 1034hpa in 120 hours, according to the GFS model.

The St Helena high pressure system over the Southeast Atlantic Ocean is expected to weaken from a central pressure value of 1028hpa in 24 hours to 1022hpa in 120 hours, according to the GFS model.

At 925Hpa level, easterly and north-easterly wind (>20kts) is expected to prevail across much of the African countries through 24 to 120 hours while the intensity of the wind tends to weaken across the North central, Northeastern regions of Africa, while remaining moderately strong across Northwestern Africa towards end of the forecast period.

At 850Hpa level, easterly and north-easterly wind is expected to prevail across much of African countries while wind convergence is expected to remain active in Nigeria, Ca maroon, South Sudan, Ethiopia and CAR during the forecast period.

At 700hpa level, a trough associated with mid-latitude frontal system is expected to prevail across Northeast Africa. Divergence is expected over North Africa and Southern African countries. Easterly wind flow over Eastern and central Africa is expected to prevail during the forecast period, according to the GFS model.

At 500Hpa, wind divergence over east and Central Africa, westerly Wind over North and Southern African countries will prevail in the region during the forecast period, according to the GFS model.

In the next five days, lower-level wind convergence over Nigeria, Cameroon, South Sudan, Ethiopia and CAR is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over Somalia, CAR Congo Brazzaville, Angola, and Southern Ethiopia.

2.0. Previous and Current Day Weather Discussion over Africa

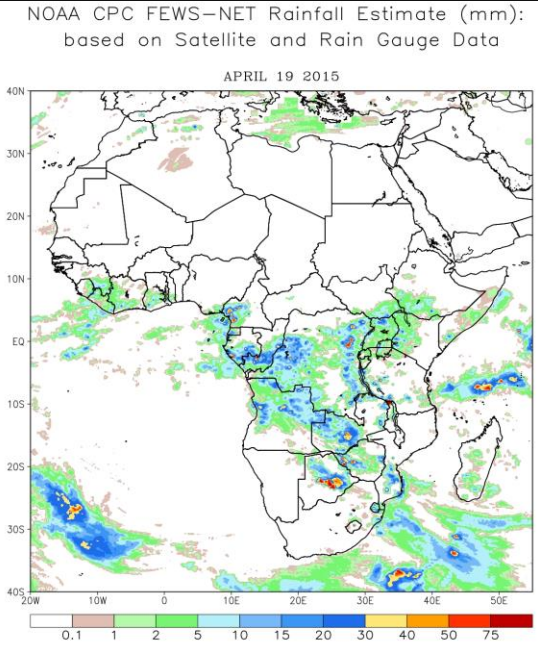
(April 19, 2015 – April 20, 2015)

2.1. Weather assessment for the previous day (April 19, 2015)

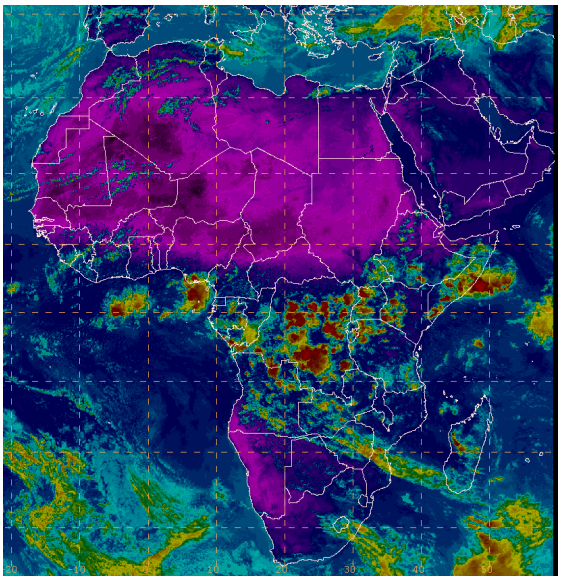
Moderate to heavy rainfall were observed across Gabon, Congo Brazzaville, DRC, Zambia, Botswana, Cameroon and Angola,

2.2. Weather assessment for the current day (April 20, 2015)

Intense convective deep clouds are observed over DRC, Somalia, Zimbabwe, Kenya and Rwanda.



IR Satellite Image (valid 14300Z of April 20, 2015)



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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