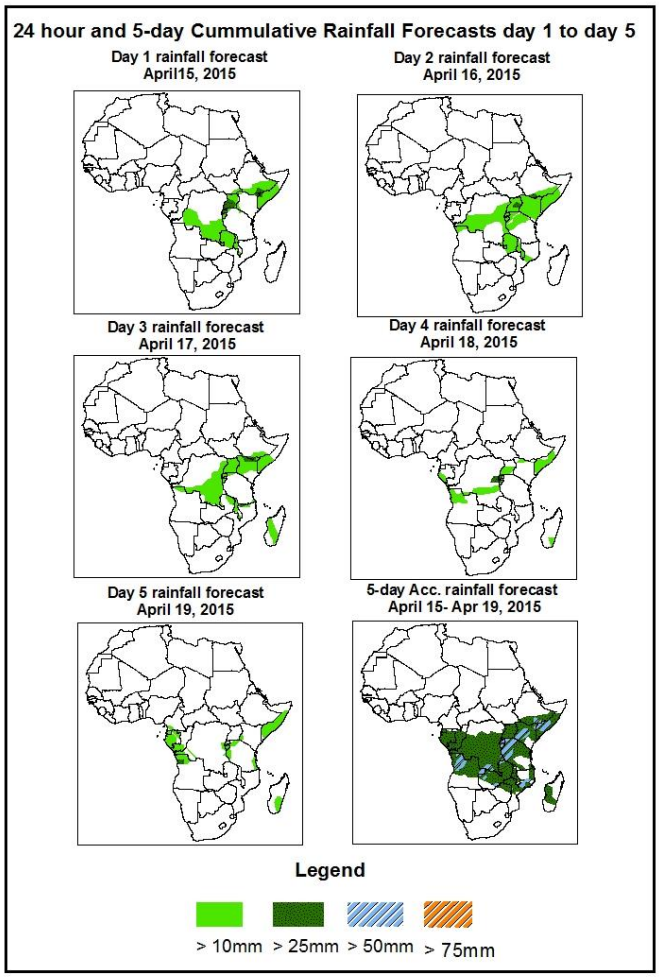
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall Forecast: Valid 06Z of April 15 – 06Z of April 19, 2015. (Issued at 1630Z of April 14, 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.



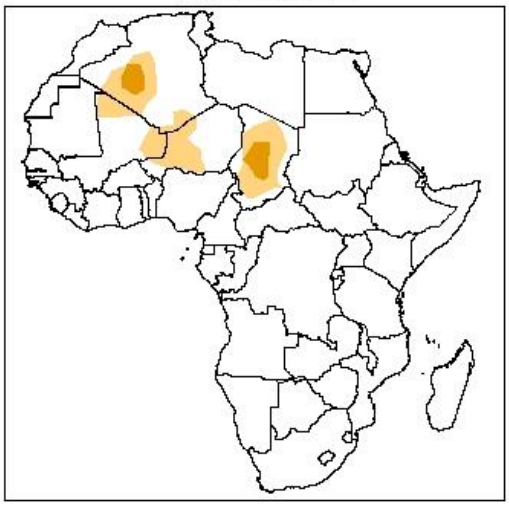
Summary

In the next five days, lower-level wind convergence in the region between Cameroon and Ethiopia is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over Tanzania, Kenya, Rwanda, Angola, Somalia, Southern Ethiopia and DRC.

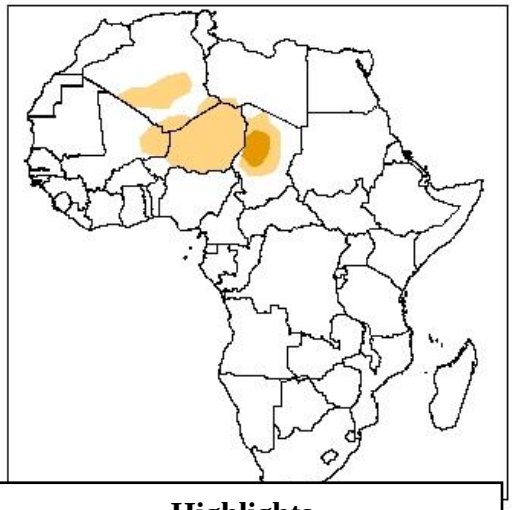
Atmospheric Dust Forecasts, day 1 to day 3,

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

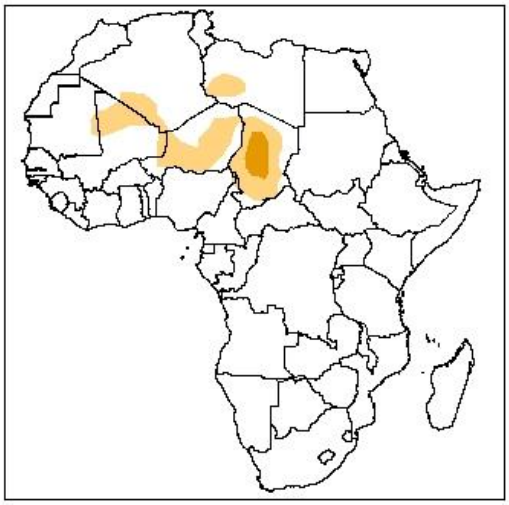
Day 1 Dust forecast
April 15, 2015



Day 2 Dust forecast
April 16 2015



Day 3 Dust forecast
April 17, 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 Algeria.

Legend

MDC, Vis. < 5km

HDC, Vis. < 1km

1.2. Model Discussion: Valid from 06Z of April 15, 2015

The Azores high pressure system over the Northeast Atlantic Ocean is expected to intensify from a central pressure value of 1023hpa in 24 hours to 1026hpa in 120hours, according to the GFS model.

The Arabian High Pressure system is expected to slightly weaken from central pressure value of 1020hpa in 24 hours to 1019hpa in 72hours 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 1020hpa in 48 hours to a value of 1029hpa 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 1033hpa in 24 hours to 1030hpa in 120 hours, according to the GFS model.

At 925Hpa level, easterly wind (>25kts) 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 wind is expected to prevail across much of African countries while wind convergence is expected to remain active in Chad, CAR and DRC during the forecast period.

At 700hpa level, a trough associated with mid-latitude frontal system is expected to prevail across North and Northeast Africa. Wind convergence over DRC and Zambia. Easterly wind flow over much of African countries is expected to prevail during the forecast period, according to the GFS model.

At 500Hpa, a trough associated with a mid-latitude frontal system is expected to prevail across North east and East Africa. Wind divergence over West and Southern African countries, easterly wind over east and central Africa, Wind Convergence over Angola and Zambia will prevail in the region during the forecast period, according to the GFS model.

In the next five days, lower-level wind convergence in the region between Cameroon and Ethiopia is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over Tanzania, Kenya, Rwanda, Angola, Somalia, Southern Ethiopia and DRC.

2.0. Previous and Current Day Weather Discussion over Africa

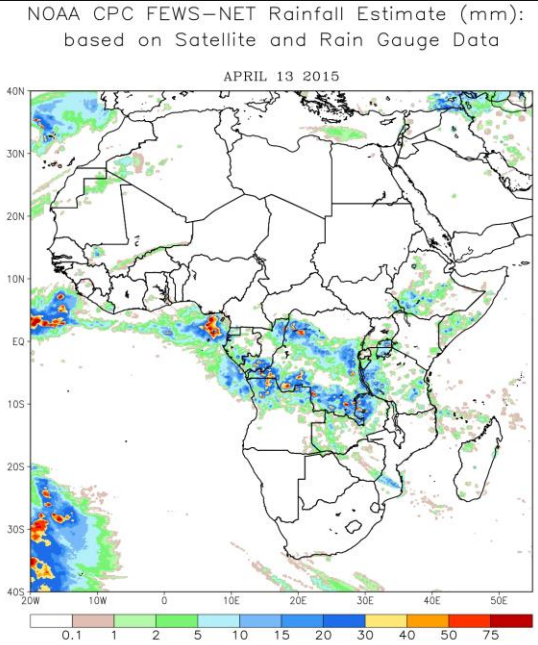
(April 13, 2015 – April 14, 2015)

2.1. Weather assessment for the previous day (April 13, 2015)

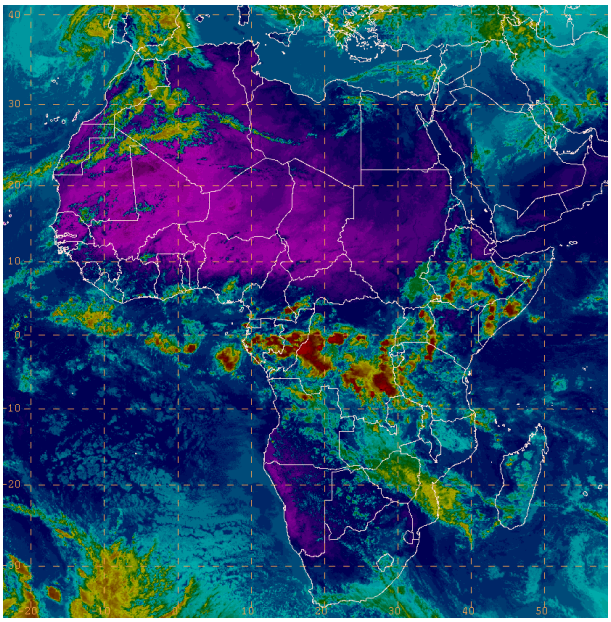
Moderate to heavy rainfall were observed across DRC, Congo Brazzaville, Angola, Tanzania, Northern Zambia, Southern Ethiopia and Gabon.

2.2. Weather assessment for the current day (April 14, 2015)

Intense convective deep clouds are observed over DRC, Congo Brazzaville, Rwanda, Burundi, Somalia, Ethiopia and Gabon



IR Satellite Image (valid 1530Z of April 14, 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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