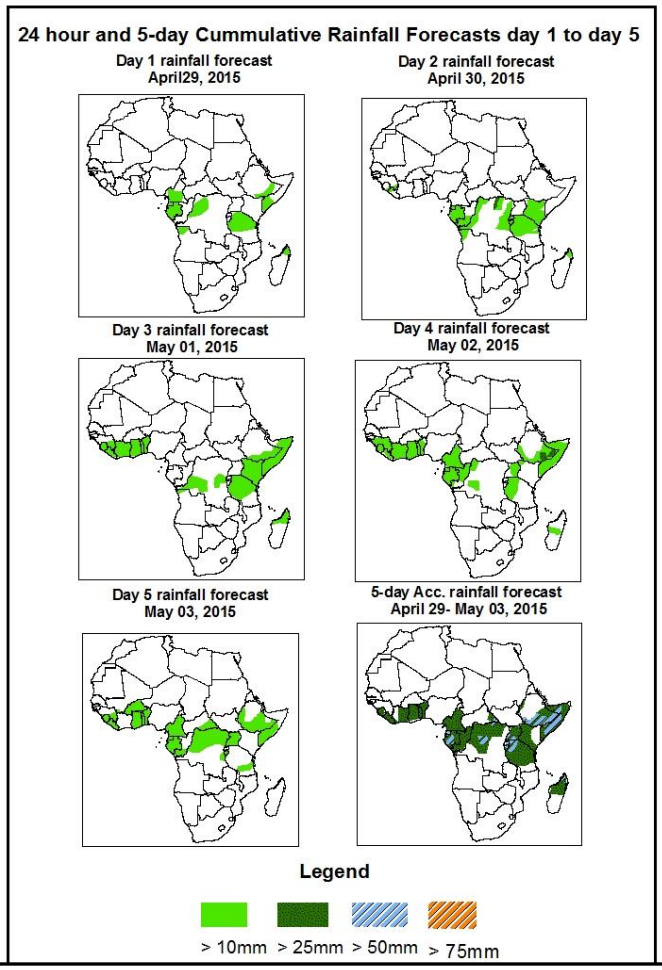
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall Forecast: Valid 06Z of April 29 – 06Z of May 03, 2015. (Issued at 1530Z of April 27, 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.



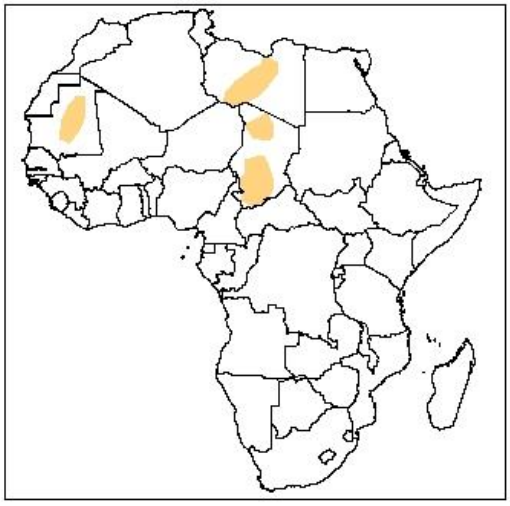
Summary

In the next five days, lower-level wind convergence over Mali, CAR, South Sudan, and Ethiopia is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over pocket areas of Kenya, Some parts of DRC, Tanzania, Gabon, Rwanda, Burundi, Somalia and Southern Ethiopia.

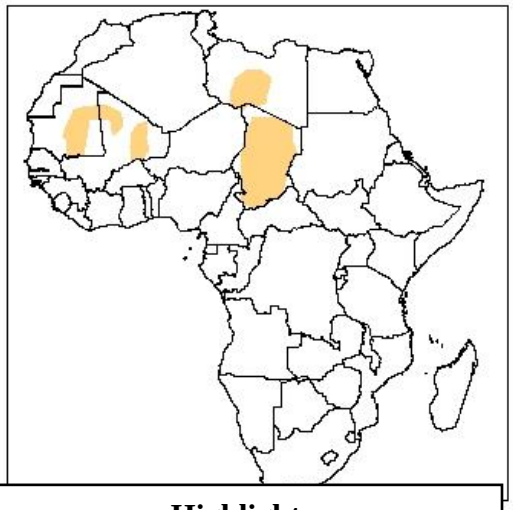
Atmospheric Dust Forecasts, day 1 to day 3,

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

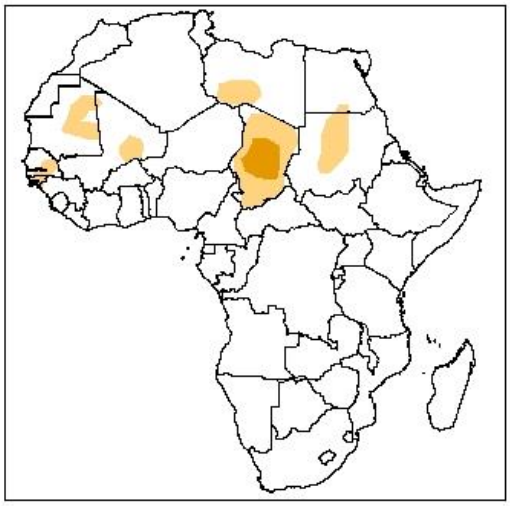
Day 1 Dust forecast
April 29 2015



Day 2 Dust forecast
April 30, 2015



Day 3 Dust forecast
May 01, 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.

Legend

MDC, Vis. < 5km

HDC, Vis. < 1km

1.2. Model Discussion: Valid from 06Z of April 29, 2015

The Azores high pressure system over the Northeast Atlantic Ocean is expected to weaken from central pressure value of 1025hpa in 24 hours to 1020hpa in 120hours, according to the GFS model.

The Arabian High Pressure system is expected to slightly weaken from central pressure value of 1019hpa in 24hours to 1018hpa in 120 hours, 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 central pressure value of 1029hpa in 24 hours to 1033hpa in 120hours, according to the GFS model.

The St Helena high pressure system over the Southeast Atlantic Ocean is expected to intensify from central pressure value of 1024hpa in 24 hours to 1029hpa in 120hours, 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, according to the GFS model.

At 850Hpa level, Easterly and North-Easterly wind over much African countries is expected to prevail in these regions, While wind convergence is expected to remain active in Mali, CAR, South Sudan and Ethiopia during the forecast period, according to the GFS model.

At 700hpa level, North-Easterly and Easterly wind is expected to prevail across much of African countries during the forecast period, according to the GFS model.

At 500Hpa level, Northeast and Easterly wind is expected to prevail across West, Central and East African countries. While Southeasterly wind over Southern African countries, is expected to prevail during the forecast period, according to the GFS model.

In the next five days, lower-level wind convergence over Mali, CAR, South Sudan, and Ethiopia is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over pocket areas of Kenya, Some parts of DRC, Tanzania, Gabon, Rwanda, Burundi, Somalia and Southern Ethiopia.

2.0. Previous and Current Day Weather Discussion over Africa

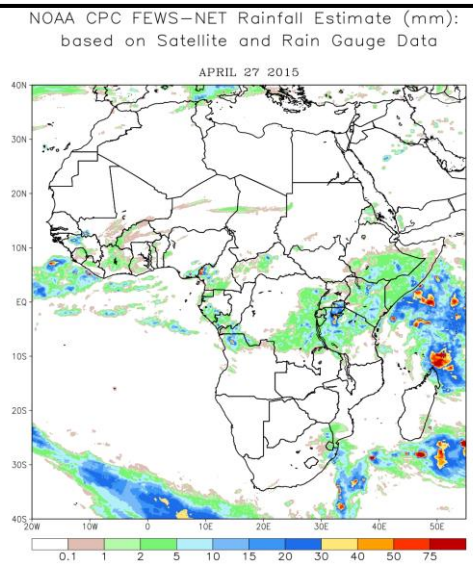
(April 27, 2015 – April 28, 2015)

2.1. Weather assessment for the previous day (April 27, 2015)

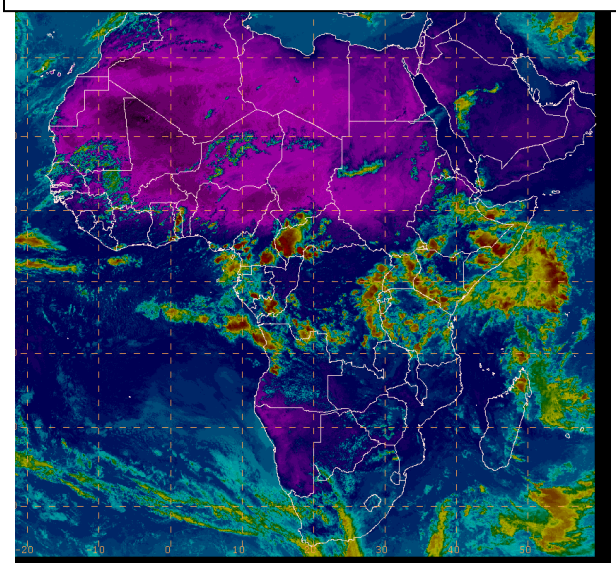
Moderate to heavy rainfall were observed across Somalia, few places of Tanzania and Some parts of Madagascar.

2.2. Weather assessment for the current day (April 28, 2015)

Intense convective deep clouds are observed over CAR, DRC, Kenya, Rwanda, Burundi, Somalia and Ethiopia.



IR Satellite Image (valid 1430Z of April 28, 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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