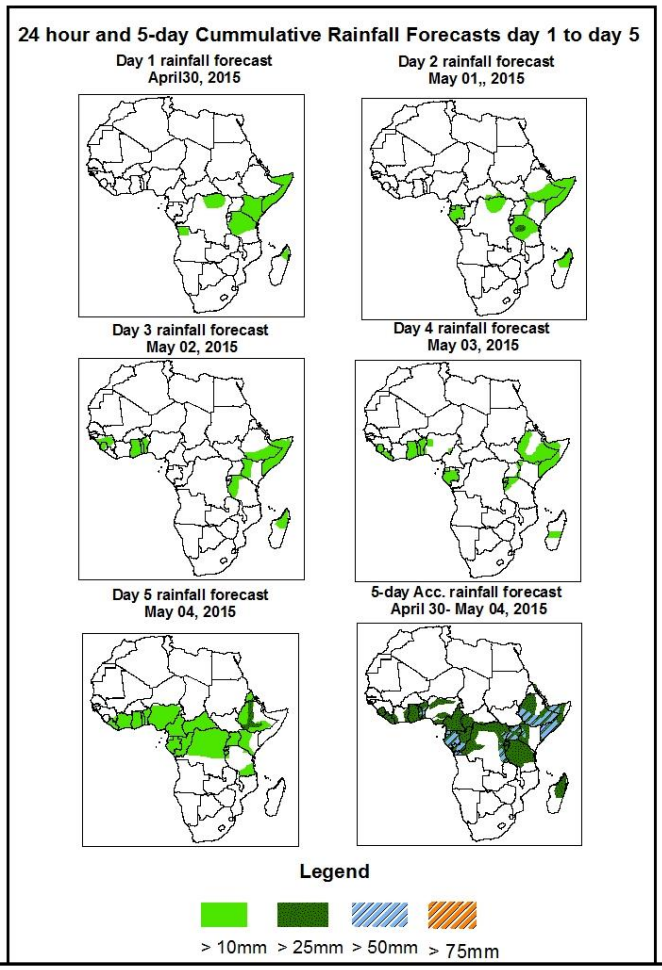
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall Forecast: Valid 06Z of April 30 – 06Z of May 03, 2015. (Issued at 1530Z of April 29, 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.



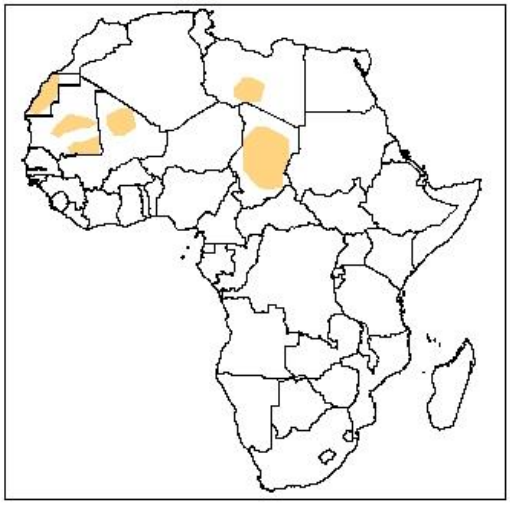
Summary

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, Equatorial Guinea, Uganda, Tanzania, Gabon, Rwanda, Burundi, Somalia and Ethiopia.

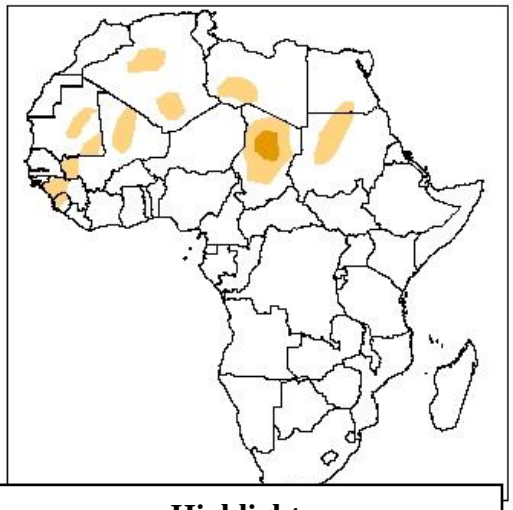
Atmospheric Dust Forecasts, day 1 to day 3,

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

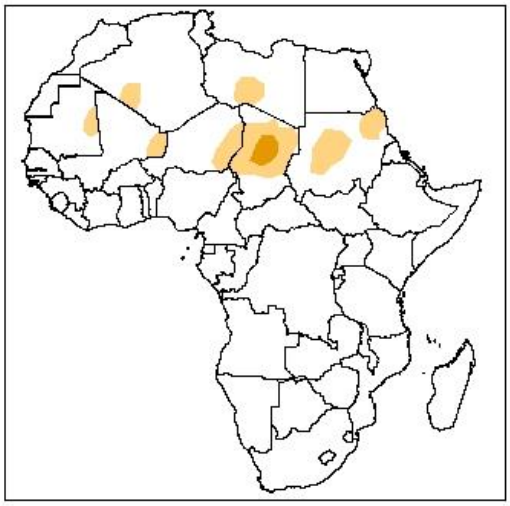
Day 1 Dust forecast
April 30, 2015



Day 2 Dust forecast
May01, 2015



Day 3 Dust forecast
May 02, 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 30, 2015

The Azores high pressure system over the Northeast Atlantic Ocean is expected to slightly weaken from central pressure value of 1023hpa in 24 hours to 1022hpa in 120hours, 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 1035hpa 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 1027hpa in 120hours, according to the GFS model.

At 925Hpa level, easterly and north-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, according to the GFS model.

At 850Hpa level, Easterly and North-Easterly wind over west, North African countries and Southeasterly winds over Southern 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, a trough associated with mid-latitude frontal system is expected to prevail across north east African countries. North-Easterly and Easterly wind over west, East, Central African countries and Southeasterly winds over Southern African countries, is expected to prevail across these countries during the forecast period, according to the GFS model.

At 500Hpa level, a trough associated with mid-latitude frontal system is expected to pre vail across North East African countries. Northeasterly and Easterly wind is expected to prevail across West, Central and East African countries. While Westerly wind over North

and Southern African countries, is expected to prevail in these regions, 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, Equatorial Guinea, Uganda, Tanzania, Gabon, Rwanda, Burundi, Somalia and Ethiopia.

2.0. Previous and Current Day Weather Discussion over Africa

(April 28, 2015 – April 29, 2015)

2.1. Weather assessment for the previous day (April 28, 2015)

Moderate to heavy rainfall were observed across Ivory Coast, Togo, Nigeria, Cameroon, CAR, Rwanda, few places of Tanzania and Kenya

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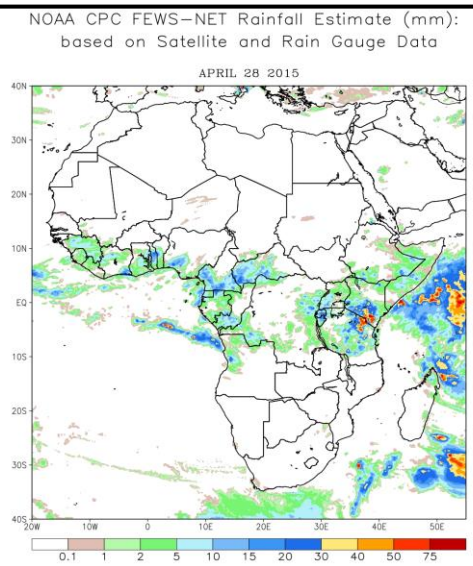
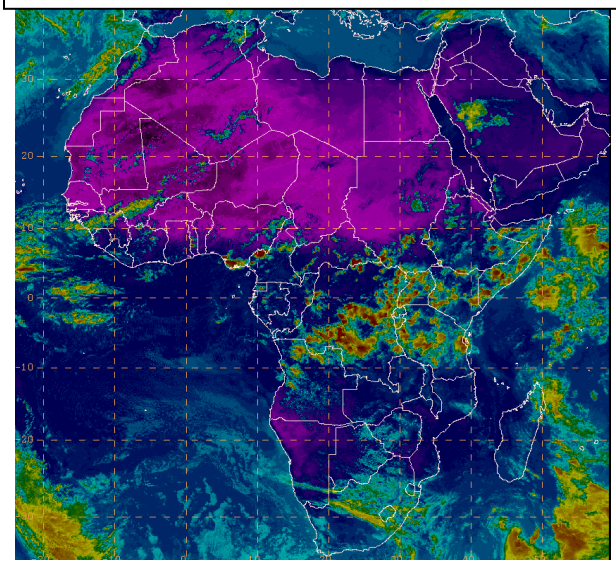
2.2. Weather assessment for the current day (April 29, 2015)

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



IR Satellite Image (valid 1430Z of April 29, 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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