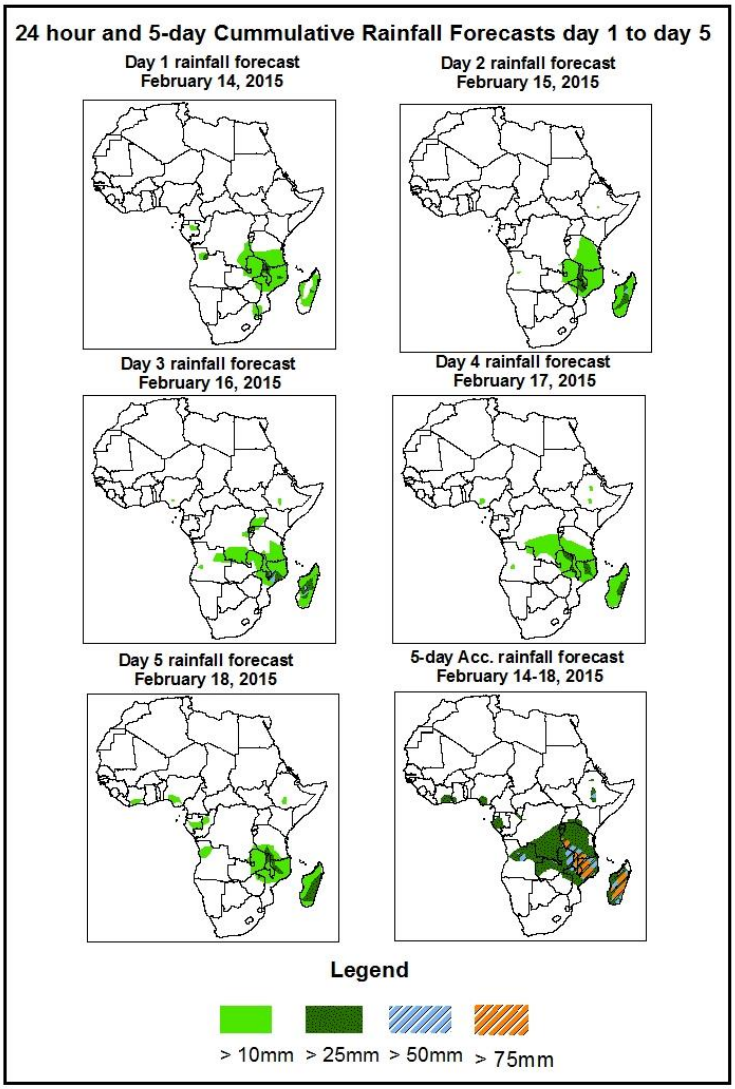
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall Forecast: Valid 06Z of February 14 – 06Z of February 18, 2015. (Issued at 1730Z of February 13, 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.



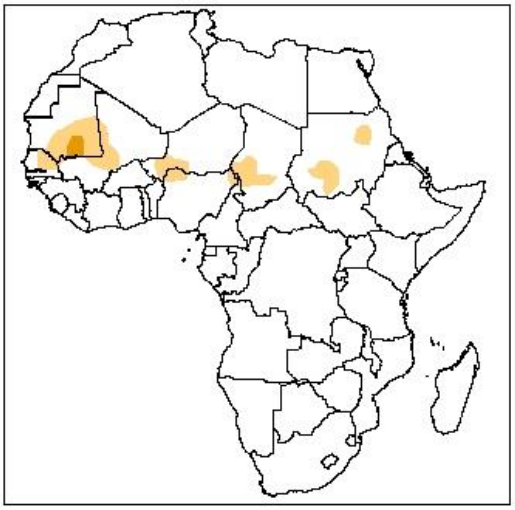
Summary

In the next five days, lower-level wind convergence in the region between Angola and Mozambique is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over C.A.R, DRC, Southern Tanzania, Zambia, Burundi, Rwanda, Mozambique, Angola and Madagascar.

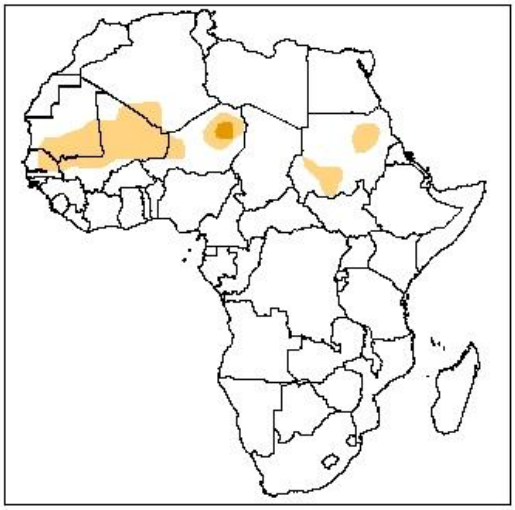
Atmospheric Dust Forecasts, day 1 to day 3,

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

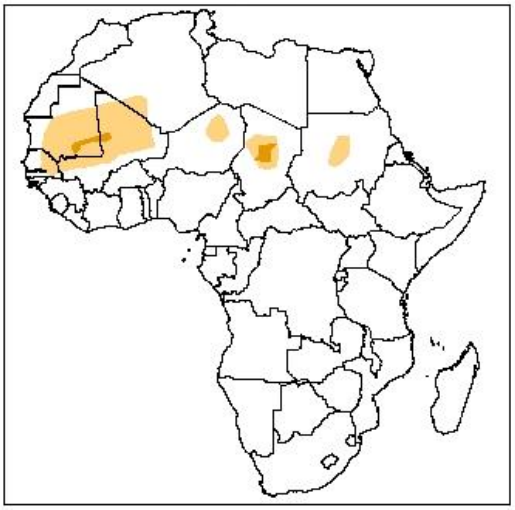
Day 1 Dust forecast
February 14, 2015



Day 2 Dust forecast
February 15, 2015



Day 3 Dust forecast
February 16, 2014



Highlights

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

Legend

MDC, Vis. < 5km

HDC, Vis. < 1km

1.2. Model Discussion: Valid from 00Z of February 14, 2015

The Azores high pressure system over the Northeast Atlantic Ocean is expected to intensify from a central pressure value of 1029hpa to a central pressure value of 1044hpa during the forecast period, according to the GFS model.

The Arabian High Pressure system is expected to intensify from a central pressure value of 1020hpa in 24 hours to 1022hpa in120 hours 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 slightly from 1023hpa in 24 hours to 1024hpa during the forecast period, according to the GFS model.

The St Helena high pressure system over the Southeast Atlantic Ocean is expected to intensify from a central pressure value of 1026hpa in 24 hours to a central pressure value of 1031hpa in 120 hours, according to the GFS model.

At 925Hpa level, dry northeasterly to easterly wind (>20kts) is expected to prevail across much of the Sahel countries through 24 to 72 hours, and the intensity of the wind tends to weaken across the Northcentral and Northeastern regions of Africa, while remaining moderately strong across Northwestern Africa towards end of the forecast period.

At 850Hpa level, northeasterly wind is expected to prevail across Central and East African countries during the forecast period. Wind convergences are expected to remain active in Botswana, Zimbabwe, Northern Namibia, Zambia, Namibia, CAR, Uganda, Mozambique, Burundi, Rwanda and Angola during the forecast period. Zonally oriented wind convergence is expected to prevail in the region.

At 700hpa level, a trough is expected within the Mozambique Chanel, a ridge over the Greater Horn of Africa 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 eastern Mediterranean Sea. Divergence over West 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 in the region between Angola and Mozambique is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over C.A.R, DRC, Southern Tanzania, Zambia, Burundi, Rwanda, Mozambique, Angola and Madagascar.

2.0. Previous and Current Day Weather Discussion over Africa

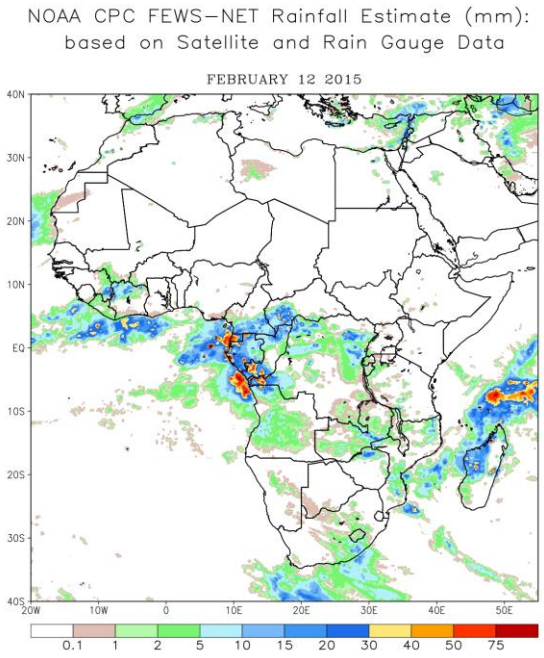
(February 12, 2015 – February 13, 2015)

2.1. Weather assessment for the previous day (February 12, 2015)

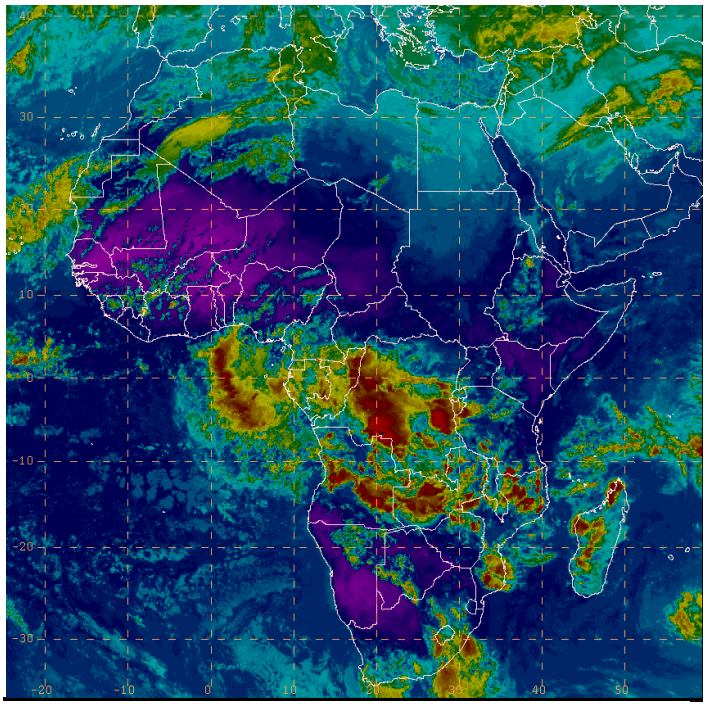
Moderate to heavy rains were observed across Cameroon, Gabon, DRC, Angola, Zambia, South Africa and Madagascar.

2.2. Weather assessment for the current day (February 13, 2015)

Intense convective deep clouds are over Congo Brazzaville, DRC, Angola, Zambia, South Africa, Malawi, Mozambique , Zimbabwe, Rwanda, Burundi and some parts of Madagascar.



IR Satellite Image (valid 1652Z of February 13, 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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