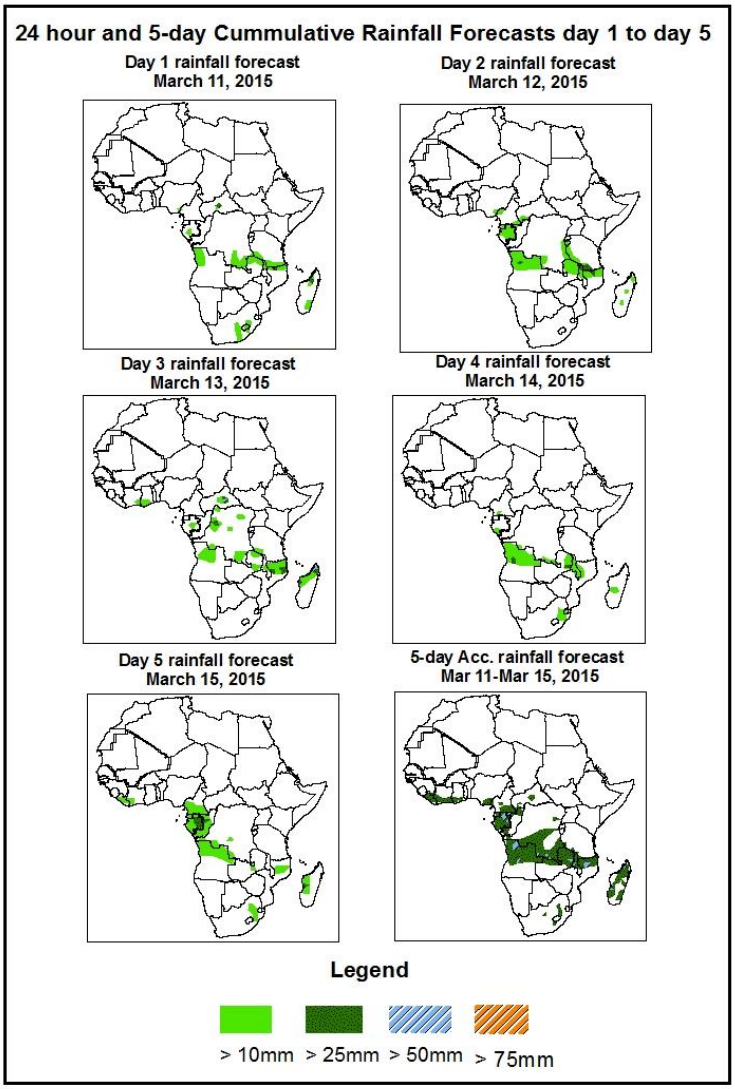
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall Forecast: Valid 06Z of March 11 – 06Z of March 15, 2015. (Issued at 1700Z of March 10, 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.



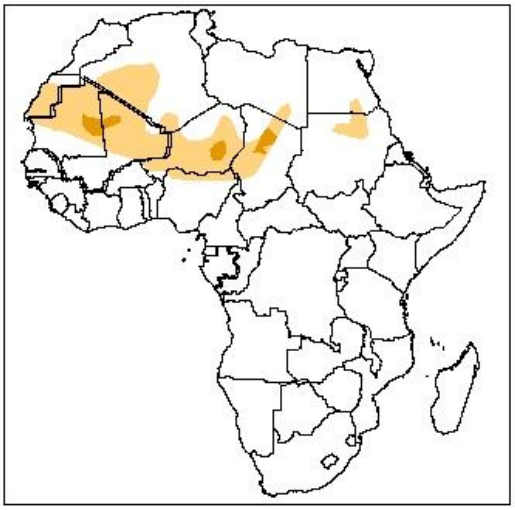
Summary

In the next five days, lower-level wind convergence in the region between Cameroon and Mozambique is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over Gabon, DRC, Northern Mozambique and Angola.

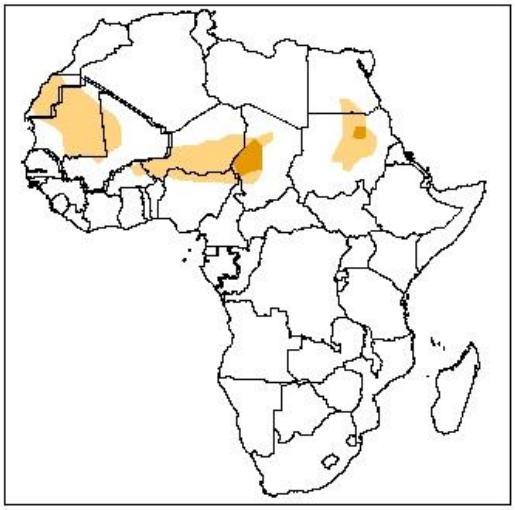
Atmospheric Dust Forecasts, day 1 to day 3,

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

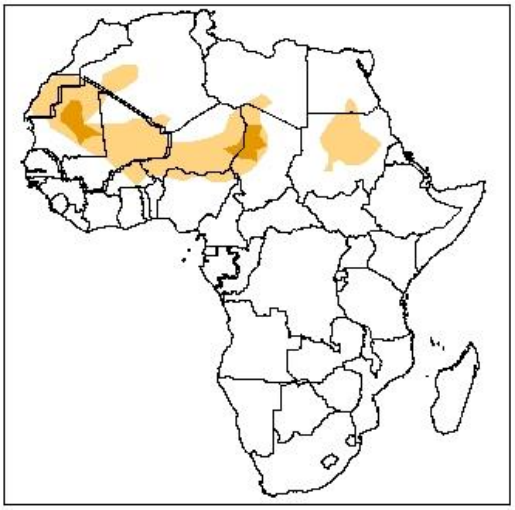
Day 1 Dust forecast
March 11, 2015



Day 2 Dust forecast
March 12, 2015



Day 3 Dust forecast
March 13, 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 Sudan, Western Sahara, Chad, Mauritania, Algeria, Mali and Niger.

Legend

MDC, Vis. < 5km

HDC, Vis. < 1km

1.2. Model Discussion: Valid from 00Z of March 11, 2015

The Azores high pressure system over the Northeast Atlantic Ocean is expected to intensify slightly from a central pressure value of 1031hpa in 24 hours to a central pressure value of 1032hpa during the forecast period, according to the GFS model.

The Arabian High Pressure system is expected to remain constant at a central pressure value of 1020hpa 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 also expected to remain constant at a value of 1027hpa 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 1024hpa in 24 hours to a central pressure value of 1026hpa 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 DRC, Mozambique, CAR, South Sudan, Rwanda, Cameroon, Southern Nigeria, Madagascar and Angola during the forecast period. Zonally oriented wind convergence is expected to prevail in the region.

At 700hpa level, a trough associated with mid-latitude frontal system is expected to prevail across North West Africa extending into the Sahel regions of West Africa. Divergence over Southern African countries, North-easterly wind flow over east and central Africa and a trough within the Mozambique channel 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 Africa, Greater Horn of Africa and Southern African Countries and Easterlies over east and central Africa 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 Mozambique is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over Gabon, DRC, Northern Mozambique and Angola.

2.0. Previous and Current Day Weather Discussion over Africa

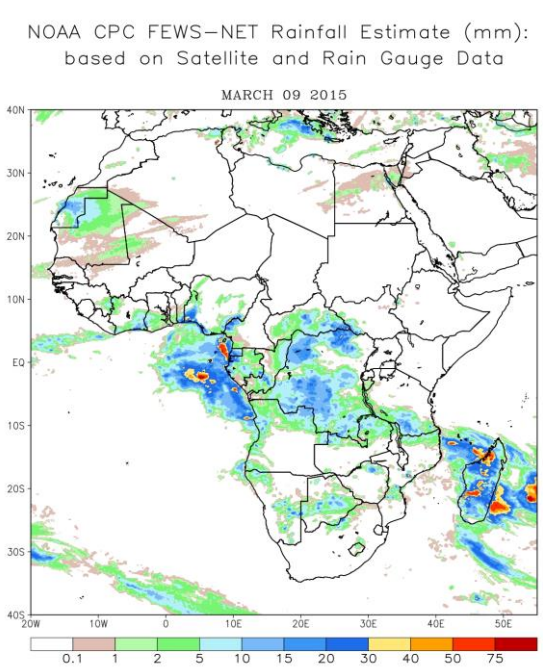
(March 09, 2015 – March 10, 2015)

2.1. Weather assessment for the previous day (March 09, 2015)

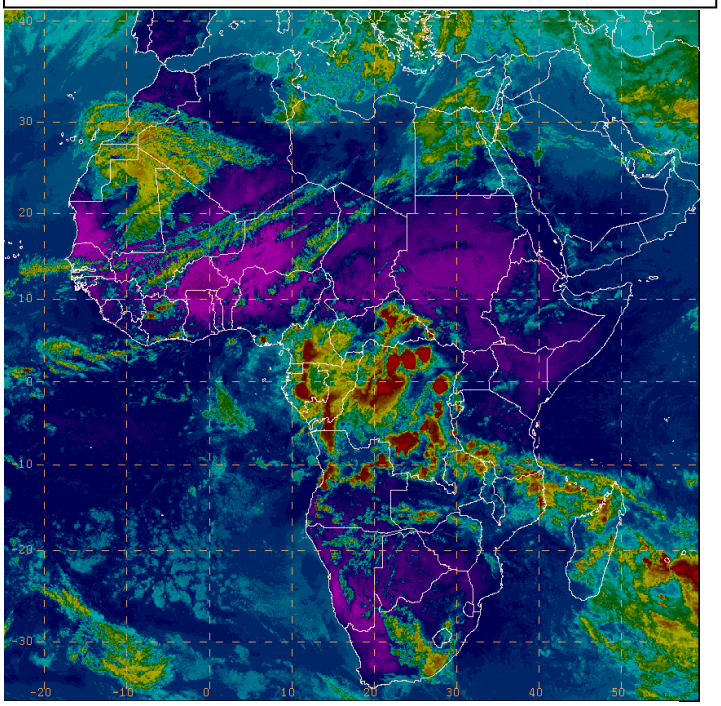
Moderate to heavy rainfall were observed across Southern Nigeria, Cameroon, Congo Brazzaville, Gabon, Equatorial Guinea, DRC, CAR, Southern Tanzania, Namibia, Botswana and Madagascar.

2.2. Weather assessment for the current day (March 10, 2015)

Intense convective deep clouds are observed over Rwanda, Burundi, DRC, CAR, Southern Nigeria, Angola, Zambia, Northern Mozambique, Tanzania and Madagascar.



IR Satellite Image (valid 1552Z of March 10, 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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