



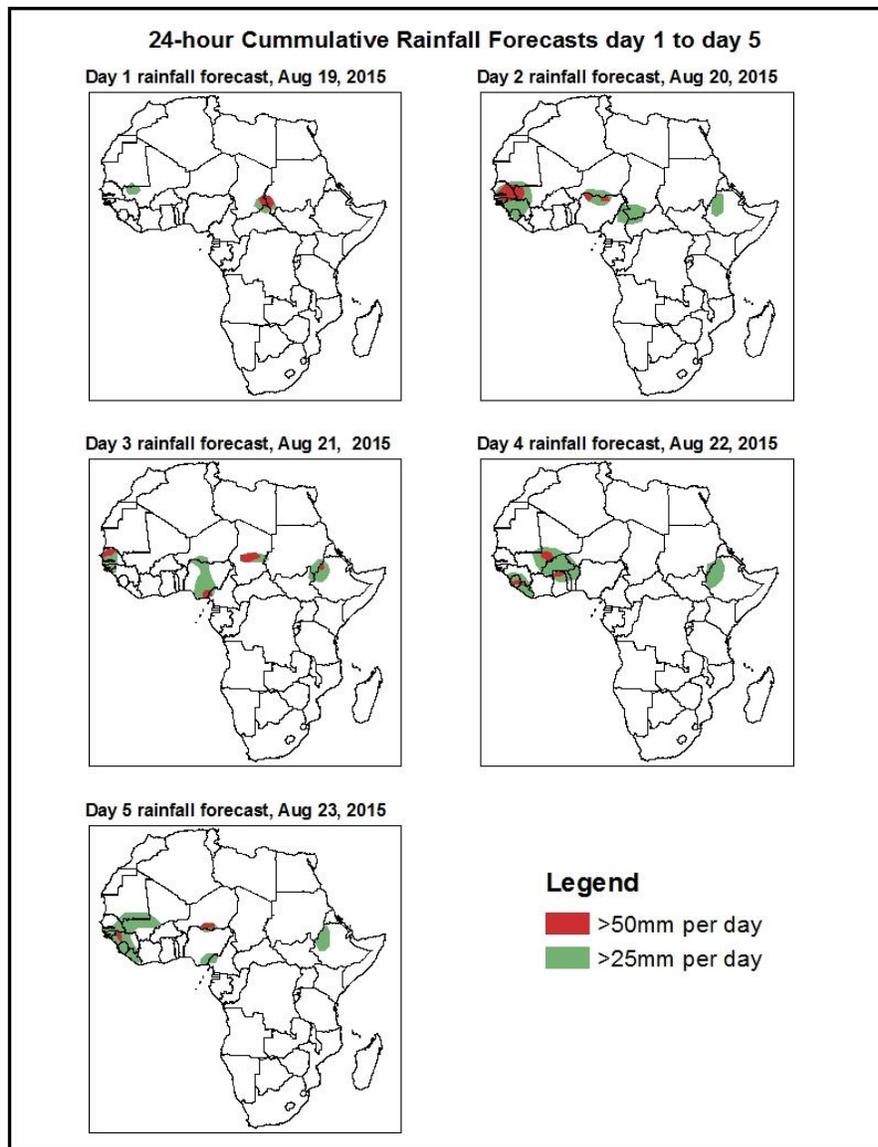
# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1. Rainfall and Dust Concentration Forecasts

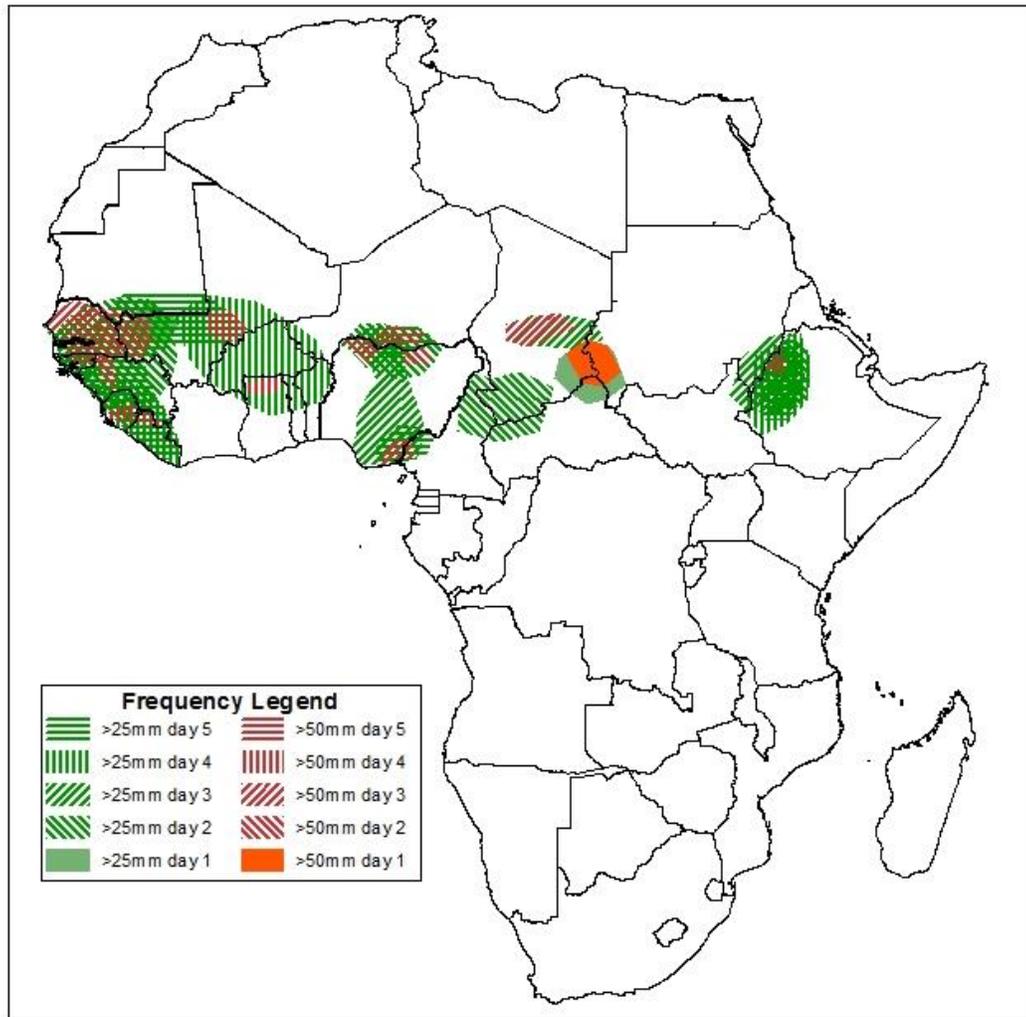
Valid: 06Z of Aug 19 – 06Z of Aug 23 2015. (Issued on August 18, 2015)

### 1.1. 24-hour Cumulative Rainfall Forecasts

The forecasts are expressed in terms of high probability of precipitation (POP), based on the NCEP/GFS, ECMWF and the NCEP Global Ensemble Forecasts System (GEFS) and expert assessment.



## Five Days Forecast Summary Aug 19 - Aug 23, 2015



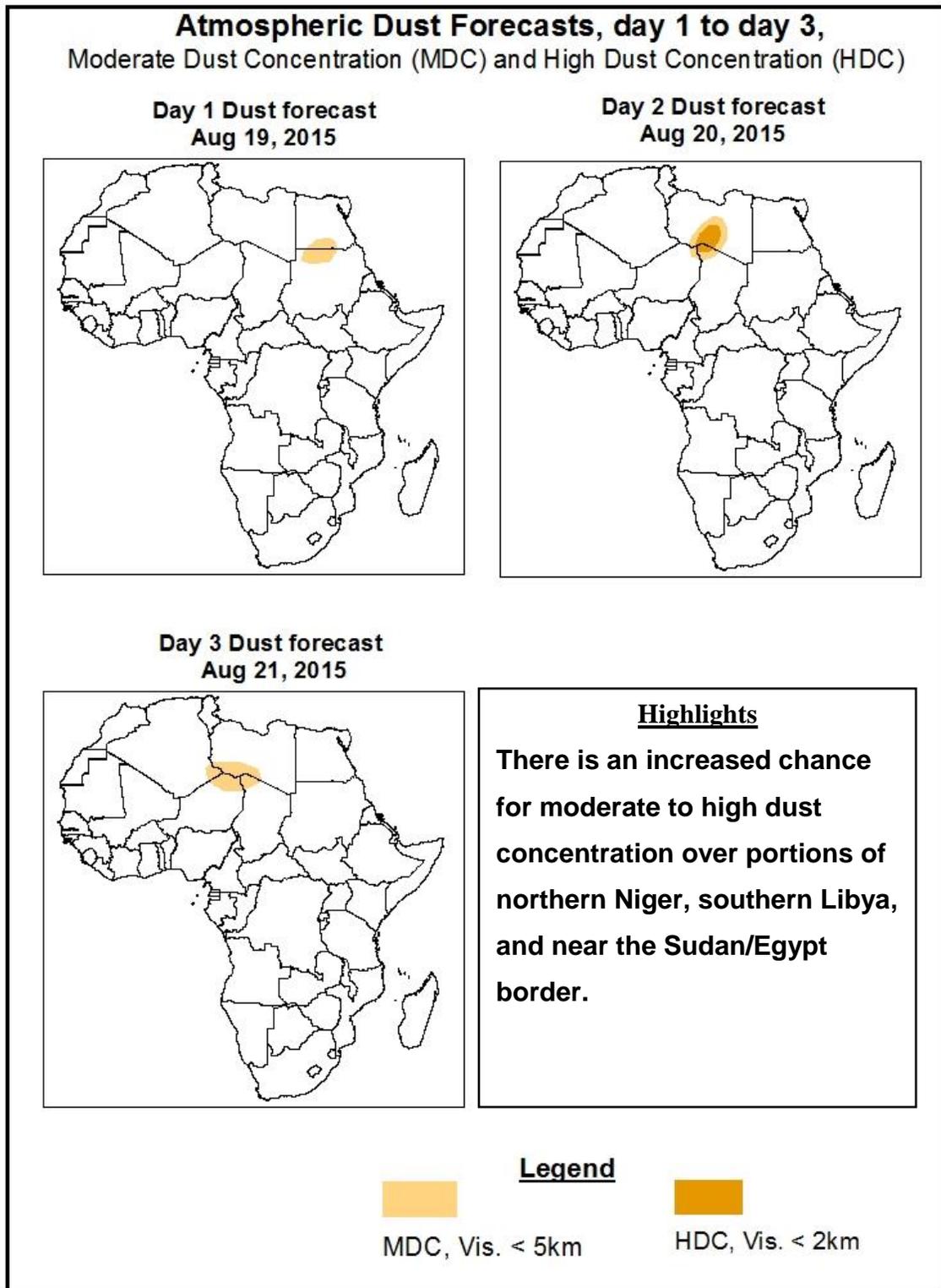
### Summary

- *In the next five days, the West Africa monsoon flow with its associated convergence across the Sahel region, and westward propagating low-level trough across the Gulf of Guinea countries and seasonal wind convergence across western Ethiopia and Eritrea are expected to enhance rainfall in their respective regions.*
- *There is an increased chance for two or more days of moderate to heavy rainfall across portions of the Sahel region and western Ethiopia.*

## 1.2. Atmospheric Dust Concentration Forecasts

Valid: 12Z of Aug 19– 12Z of Aug 21, 2015

The forecasts are expressed in terms of high probability of dust concentration, based on the Navy Aerosol Analysis and Prediction System, NCEP/GFS lower-level wind forecasts and expert assessment.



### **1.3. Model Discussion, Valid: Aug 19 – Aug 23, 2015**

The Azores high pressure system over Northeast Atlantic Ocean is expected to intensify, with its central pressure value increasing from about 1024hpa to 1032hpa through 24 to 72 hours, and it is expected to relax towards end of the forecast period, with its central pressure value decreasing to 1025hpa by 120 hours, according to the GFS model.

The St Helena high pressure system over the Southeast Atlantic Ocean is expected to relax, with its central pressure value is decreasing from about 1030hpa to 1025hpa through 24 to 120hours, according to the GFS model.

The Mascarene high pressure system over Southwest Indian Ocean is expected to intensify, with its central pressure value increasing from 1027hpa to 1031 during the forecast period, according to the GFS model.

A thermal low over northern Mali is expected to deepen slightly, with its central value decreasing from about 1007hpa to 1005hpa during the forecast period. The low over Chad is also expected to deepen slightly, with its central pressure value decreasing from about 1007hpa to 1004hpa during the forecast period. Thermal low over Sudan is expected to deepen slightly with central pressure value decreasing from about 1005hpa to 1003hpa through 24 to 72 hours, while the low over the Red is expected to remain quasi-stationary, with an average central pressure value of 1005hpa, during the forecast period.

At 925Hpa, a cyclonic circulation over northern Mali is expected to shift westward, leaving the West Africa coast by 48 hours. Another cyclonic circulation over Niger is expected to shift towards northern Mali during the forecast period. Zonal wind convergence is expected to prevail near the 18°N latitude, in the region between Niger and Sudan. Meridional wind convergence is expected to remain active across South Sudan and eastern DRC during the forecast period.

At 850Hpa level, a cyclonic circulation near the Cote d'Ivoire/Burkina Faso border is expected to shift westward, leaving the West Africa coast through 24 to 72hours.

Seasonal lower-level wind convergences are expected to remain active across the Sahel region, Sudan, portions of Ethiopia, South Sudan and northeastern DRC.

At 700hpa level, a trough in the easterlies near Ghana/Burkina Faso is expected to propagate westward, leaving the West Africa coast by 72 hours.

In the next five days, the West Africa monsoon flow with its associated convergence across the Sahel region, and westward propagating low-level trough across the Gulf of Guinea countries and seasonal wind convergence across western Ethiopia and Eritrea are expected to enhance rainfall in their respective regions.

There is an increased chance for two or more days of moderate to heavy rainfall across portions of the Sahel region and western Ethiopia.

## 2.0. Previous and Current Day Weather over Africa

(Valid: 17 – 18 August, 2015)

### 2.1. Weather assessment for the previous day (August 17, 2015)

Moderate to heavy rainfall was observed over local areas in Mauritania, western Senegal, portions of Mali, Burkina Faso, local areas in Nigeria, Cameroon and CAR, western Sudan, and portions of South Sudan Republic.

### 2.2. Weather assessment for the current day (August 18, 2015)

Intense clouds were observed over local areas in Mali and Niger, western Chad, northern Cameroon, western CAR, and local areas in Uganda and Ethiopia.

