



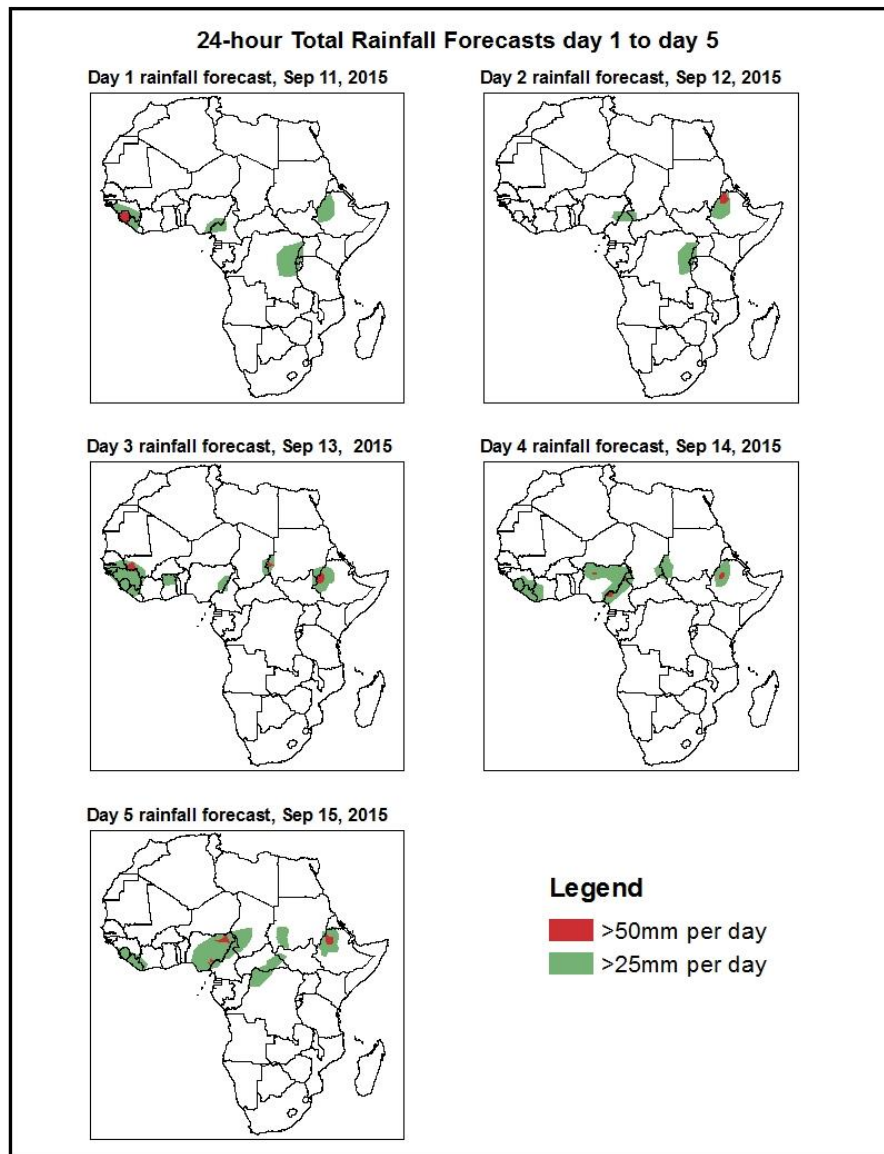
# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1. Rainfall and Dust Concentration Forecasts

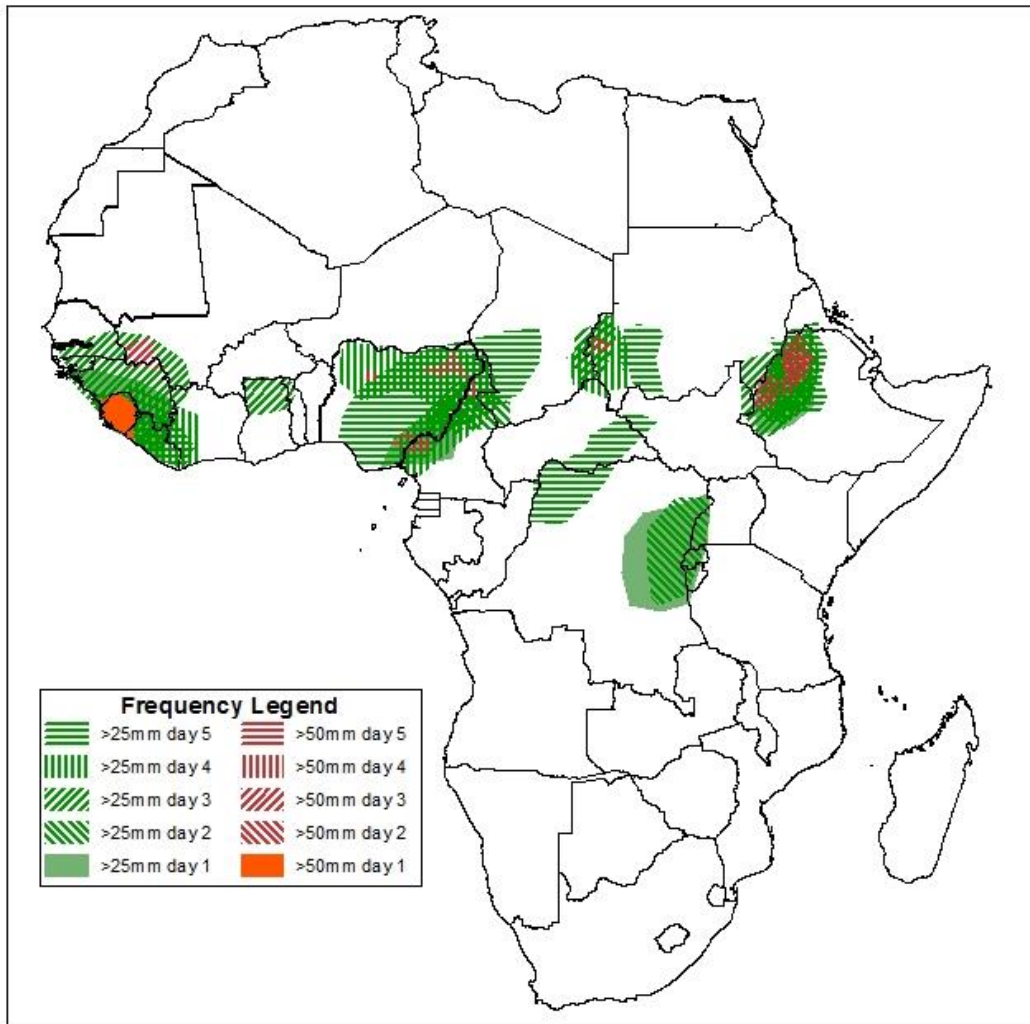
Valid: 06Z of Sep 12 – 06Z of Sep 16 2015. (Issued on September 11, 2015)

### 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 Rainfall Forecast Summary 11 - 15 September, 2015



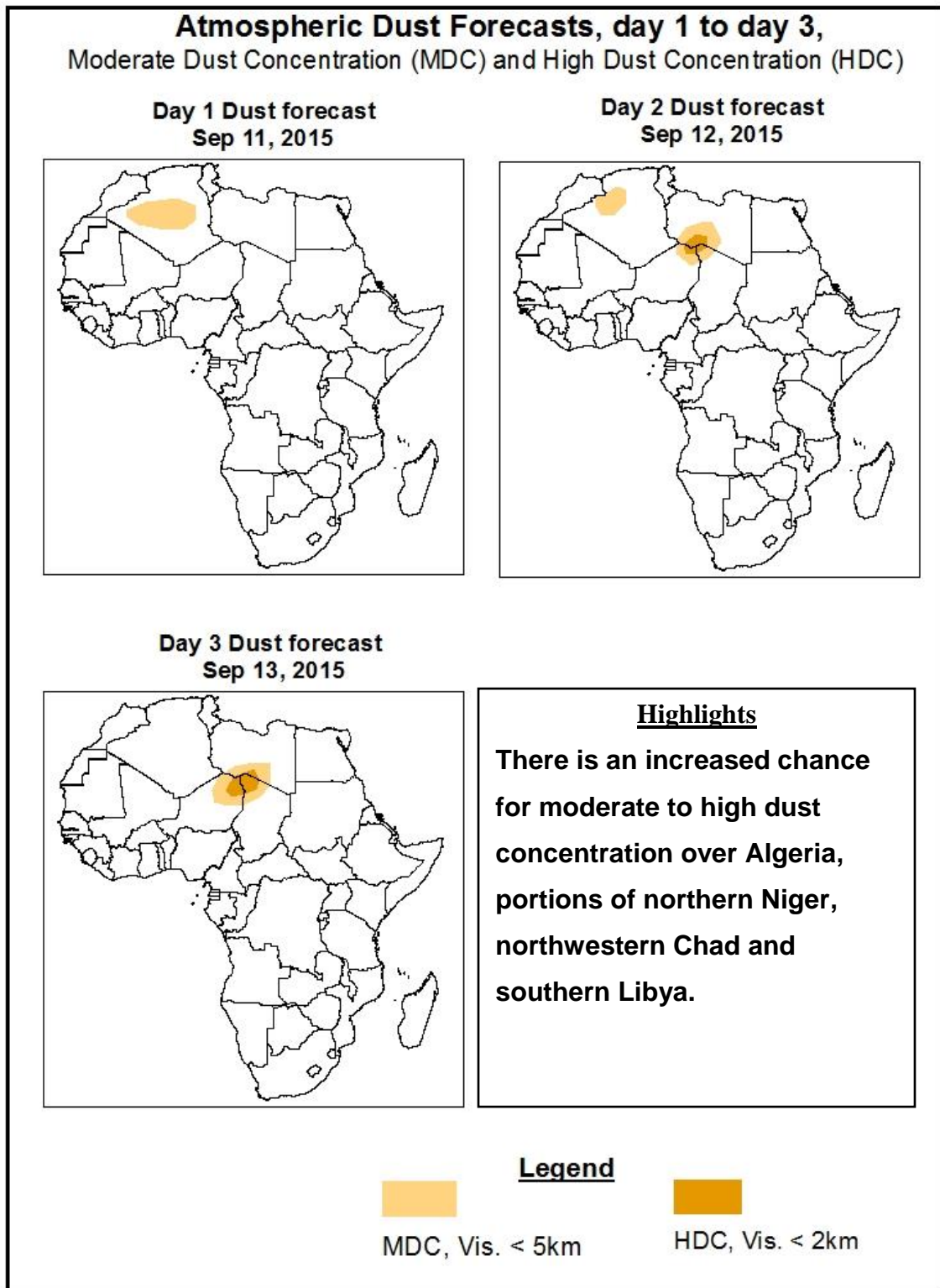
### Summary

*In the coming five days, monsoon flow from the Atlantic Ocean with its associated convergence across West and Central Africa will continue enhancing rainfall over southern Senegal, Guinea-Bissau, Guinea-Conakry, Sierra Leone, Liberia, southwestern Mali, western Cote d'Ivoire, northern Ghana, Nigeria, western Cameroon, portions of Chad and western Sudan. Seasonally moderate to heavy rainfall is also expected to continue across western Ethiopia, eastern DRC, and parts of the Lake Victoria region.*

## 1.2. Atmospheric Dust Concentration Forecasts

Valid: 12Z of Sep 12– 12Z of Sep 14, 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: 12 – 16 September, 2015**

The Azores high pressure system over Northeast Atlantic Ocean is expected to weaken gradually, with its central pressure value decreasing from about 1024hpa to 1021hpa during the forecast period, according to the GFS model.

The ridge associated with the St Helena high pressure system over the Southeast Atlantic Ocean is expected to extend into southwestern Indian Ocean, while breaking into two high pressure systems in 48 hours. The first pressure cell associated with St Helena high pressure system is expected to relax, with its central pressure value decreasing from about 1040hpa to 1032hpa, during the forecast period.

The second high pressure cell takes position the Mascarene high pressure system while relaxing gradually. Its central pressure value is expected to decrease from 1040hpa to 1030hpa during the forecast period.

A thermal low over Niger is expected to propagate towards coastal Mauritania Mali through 24 to 120 hours, while slightly deepening. Its central pressure value is expected to decrease from 1007hpa in 24 hours to 1006hpa through 24 to 72 hours, and it tends to fill up towards end of the forecast period.

At 925Hpa, a cyclonic circulation over Niger is expected to propagate towards coastal Mauritania across Mali through 24 to 120 hours. Zonal wind convergence is expected to prevail in the region between Chad and Sudan during the forecast period. Meridional wind convergence is expected to remain active in the region between southern Sudan and the Lake Victoria region during the first half of the forecast period.

At 850Hpa level, a cyclonic circulation over Niger is expected to propagate towards Mauritania during the forecast period.

At 700hpa level, a zone strong easterly wind (>30kts) is expected to propagate westward in the region between Nigeria and Guinea across the Gulf of Guinea countries during the forecast period.

In the coming five days, monsoon flow from the Atlantic Ocean with its associated convergence across West and Central Africa will continue enhancing rainfall over southern Senegal, Guinea-Bissau, Guinea-Conakry, Sierra Leone, Liberia, southwestern Mali, western Cote d'Ivoire, northern Ghana, Nigeria, western Cameroon, portions of Chad and western Sudan. Seasonally moderate to heavy rainfall is also expected to continue across western Ethiopia, eastern DRC, and parts of the Lake Victoria region.

## 2.0. Previous and Current Day Weather over Africa

(Valid: 10 – 11 September, 2015)

### 2.1. Weather assessment for the previous day (September 10, 2015)

Moderate to locally heavy rainfall was observed over Nigeria, southern Chad, portions of northern CAR, many parts of DRC and local areas in South Sudan.

### 2.2. Weather assessment for the current day (September 11, 2015)

Intense clouds are observed over eastern portions of the Gulf of Guinea countries, Congo-Brazzaville, South Sudan, eastern DRC and Ethiopia.

