



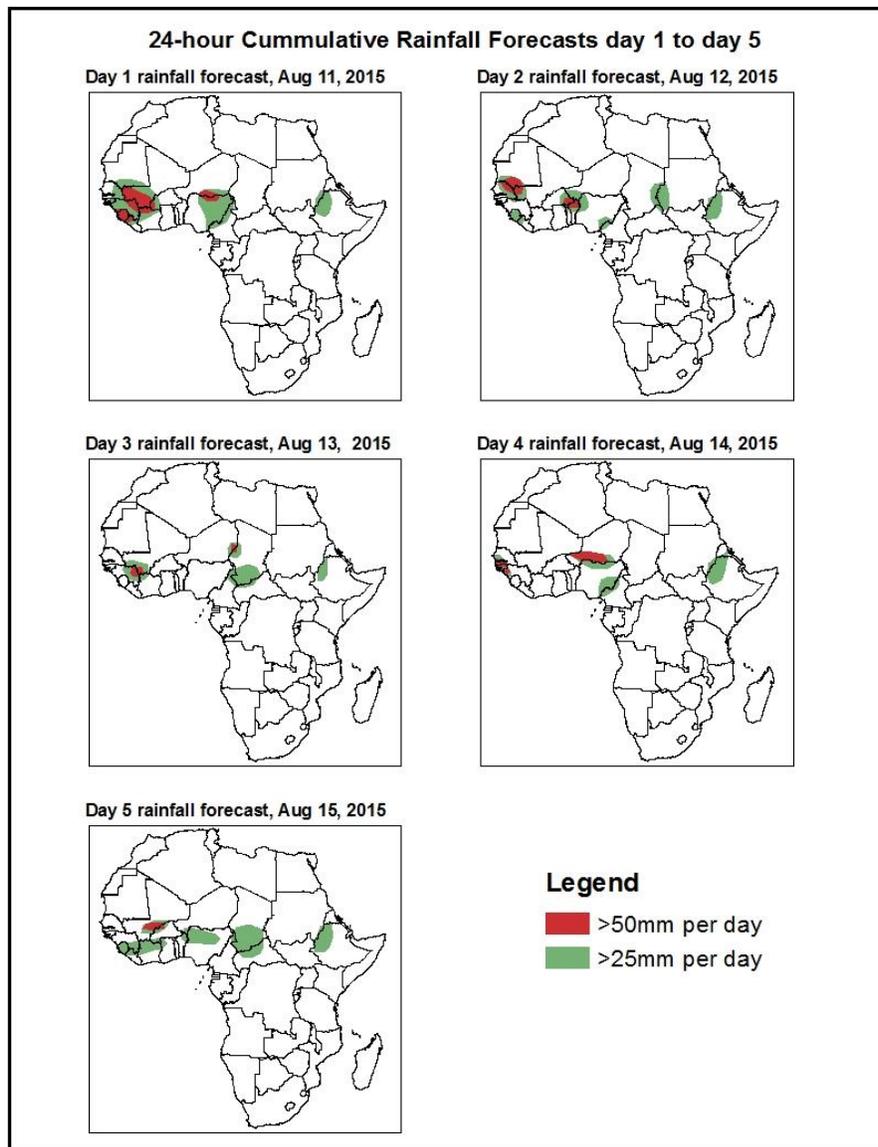
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall and Dust Concentration Forecasts

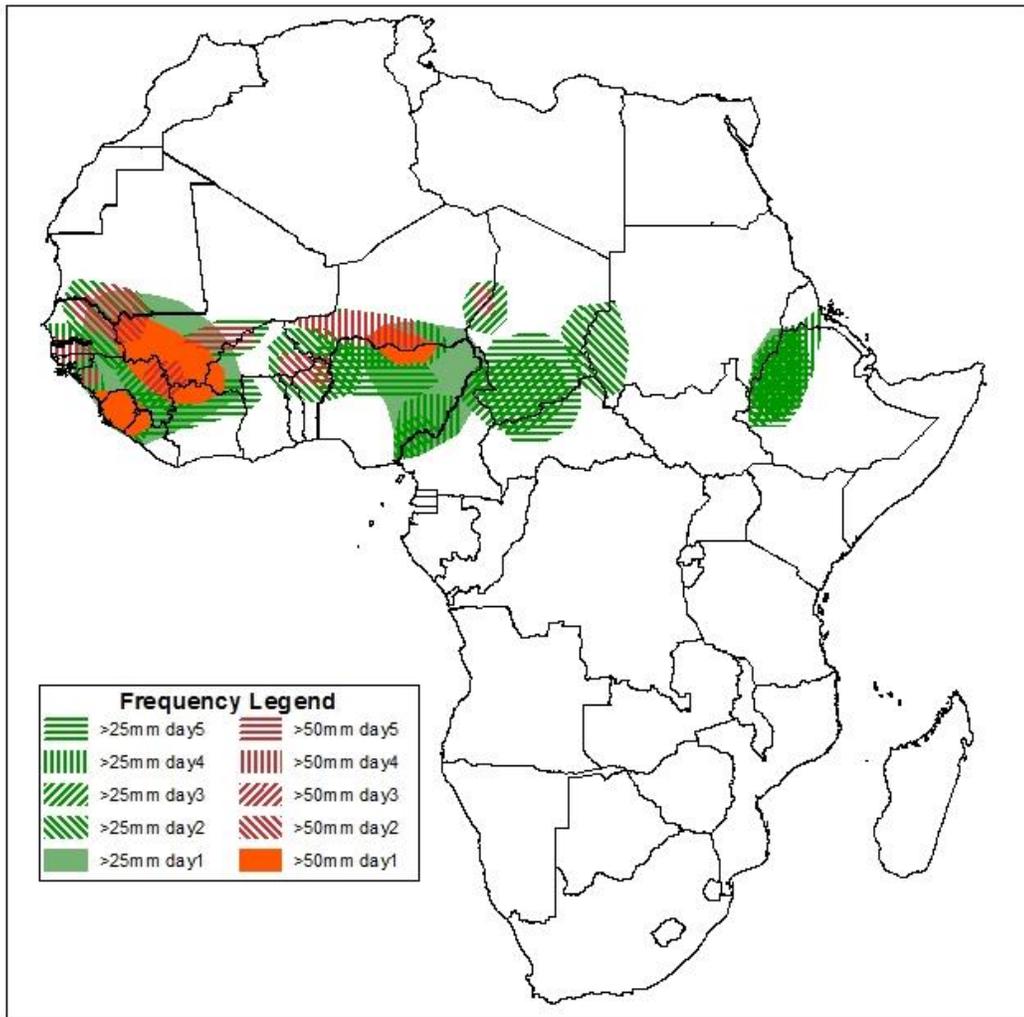
Valid: 06Z of Aug 11 – 06Z of Aug 15 2015. (Issued at 1600Z of August 10, 2015)

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 11 - Aug 15, 2015



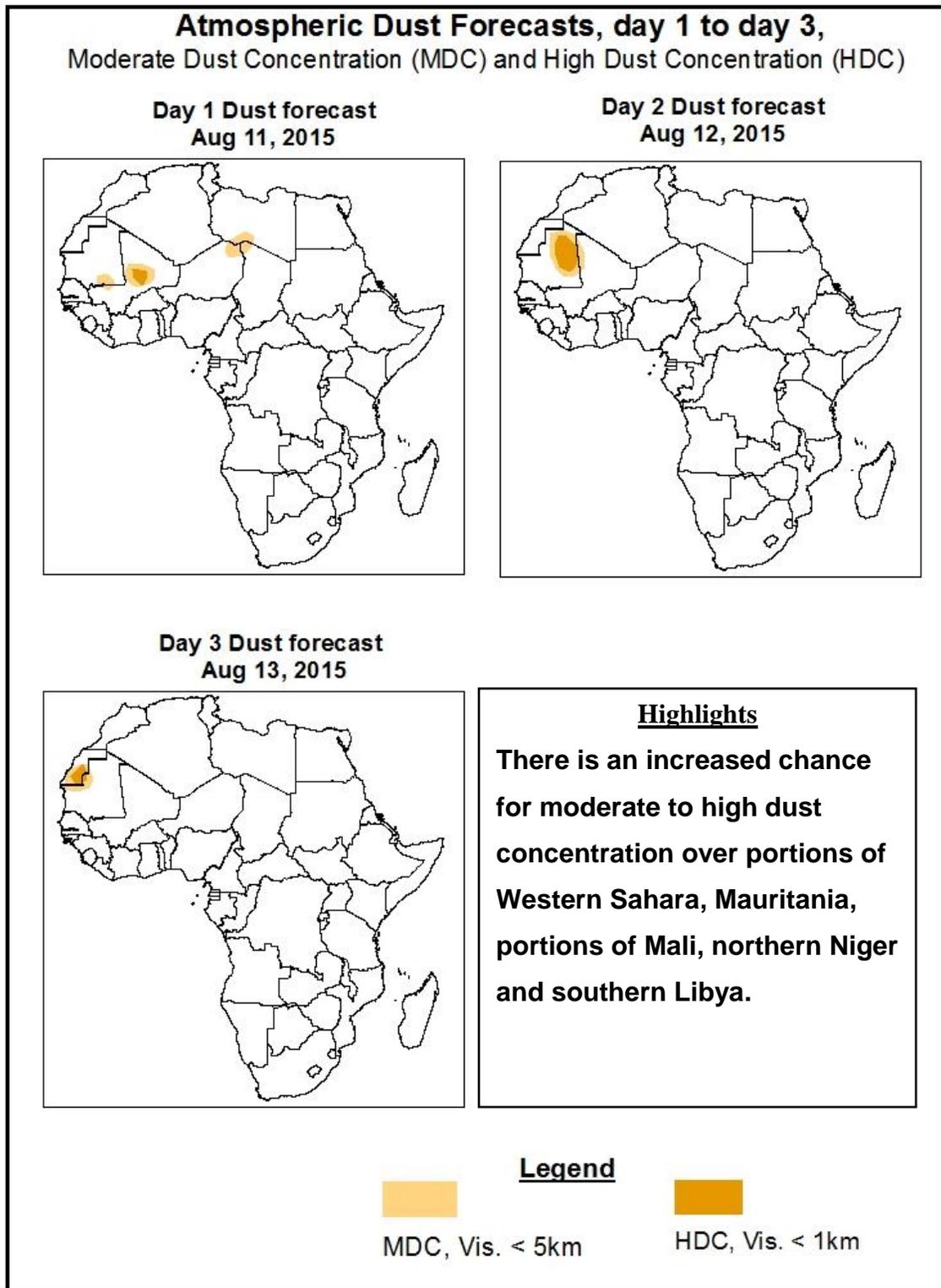
Summary

- *In the next five days, westward propagating cyclonic circulations across West and Central Africa, and lower-level wind convergences across parts of the Greater Horn of Africa are expected to enhance rainfall in their respective regions.*
- *There is an increased chance for frequent moderate to heavy rainfall across portions of West Africa, central Sahel and western Ethiopia.*

1.2. Atmospheric Dust Concentration Forecasts

Valid: 12Z of Aug 11– 12Z of Aug 13, 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 Discussions, Valid: Aug 11 – Aug 15, 2015

The Azores high pressure system over Northeast Atlantic Ocean is expected to intensify slightly, with its central pressure value increasing from about 1029hpa to 1031hpa during the forecast period, according to the GFS model.

The St Helena high pressure system over the Southeast Atlantic Ocean is expected to intensify slightly, with its central pressure value is increasing from about 1032hpa to 1034hpa 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 decreasing from 1035hpa to 1039 during the forecast period, according to the GFS model.

The low over northern Mauritania is expected to maintain an average central pressure value of 1006hpa while shifting westward into coastal Mauritania through 24 to 72hours. The low over northern Chad is expected to shift towards northern Mali through 24 to 120 hours, while deepening slightly, with its central pressure value decreasing from about 1006hpa to 1004hpa. Another low pressure system is expected to form near the Niger/Chad border, with an average central pressure value of 1006hpa. On the other hand, the heat low over northern Sudan is expected to maintain an average central pressure value of 1006hpa, while the low over the Red is expected to remain quasi-stationary, with an average central pressure value of 1003hpa, during the forecast period.

At 925Hpa level, two cyclonic circulations, over southern Mauritania and western Burkina Faso, are expected to merge through 24 to 48 hours, with the merged system expected to leave the West Africa coast by 96 hours. Another cyclonic circulation is expected to shift westwards between northern Chad and Mauritania during the forecast period. A meridional wind convergence is expected to prevail in the region between Sudan and Northeast DRC across South Sudan during the forecast period.

At 850Hpa level, two cyclonic circulations, over southern Mauritania and western Burkina Faso, are expected to merge through 24 to 48 hours, with the merged system

expected to leave the West Africa coast by 96 hours. Another cyclonic circulation is expected to shift westwards between northern Chad and Mauritania during the forecast period. On the other hand, strong lower level wind associated with the Somali Jet is expected to remain along the East Africa coast and the neighboring areas of northwestern Indian Ocean and the Arabian Sea.

At 700hpa level, an easterly wave axis near Burkina Faso/Ghana is expected to propagate westwards, leaving the West Africa coast in 96 hours.

In the next five days, westward propagating cyclonic circulations across West and Central Africa, and lower-level wind convergences across parts of the Greater Horn of Africa are expected to enhance rainfall in their respective regions. There is an increased chance for frequent moderate to heavy rainfall across portions of West Africa, central Sahel and western Ethiopia.

2.0. Previous and Current Day Weather over Africa

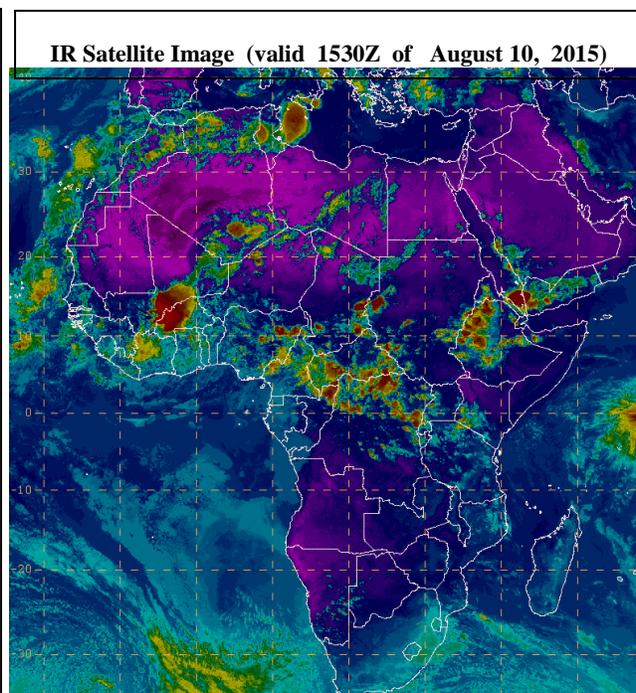
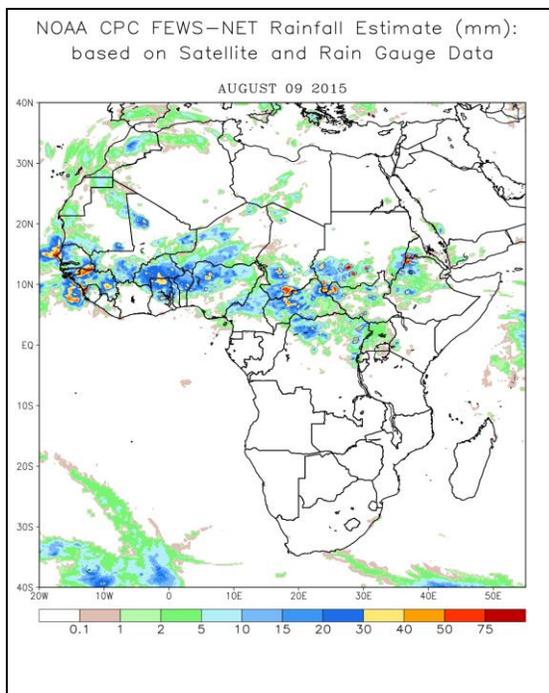
(Valid: 9 – 10 August, 2015)

2.1. Weather assessment for the previous day (August 9, 2015)

Moderate to locally heavy rainfall was observed over local areas in Mauritania, Senegal, Guinea, Guinea-Bissau, portions of Mali, Burkina Faso, Ghana, northern Benin, northern Togo, Niger, northern Nigeria, northern Cameroon, southern Chad, CAR, southern Sudan, local areas in South Sudan and DRC, northwestern Ethiopia and southern Eritrea.

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

Intense clouds were observed over local areas in West Africa, portions of central Africa countries, and Ethiopia.



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