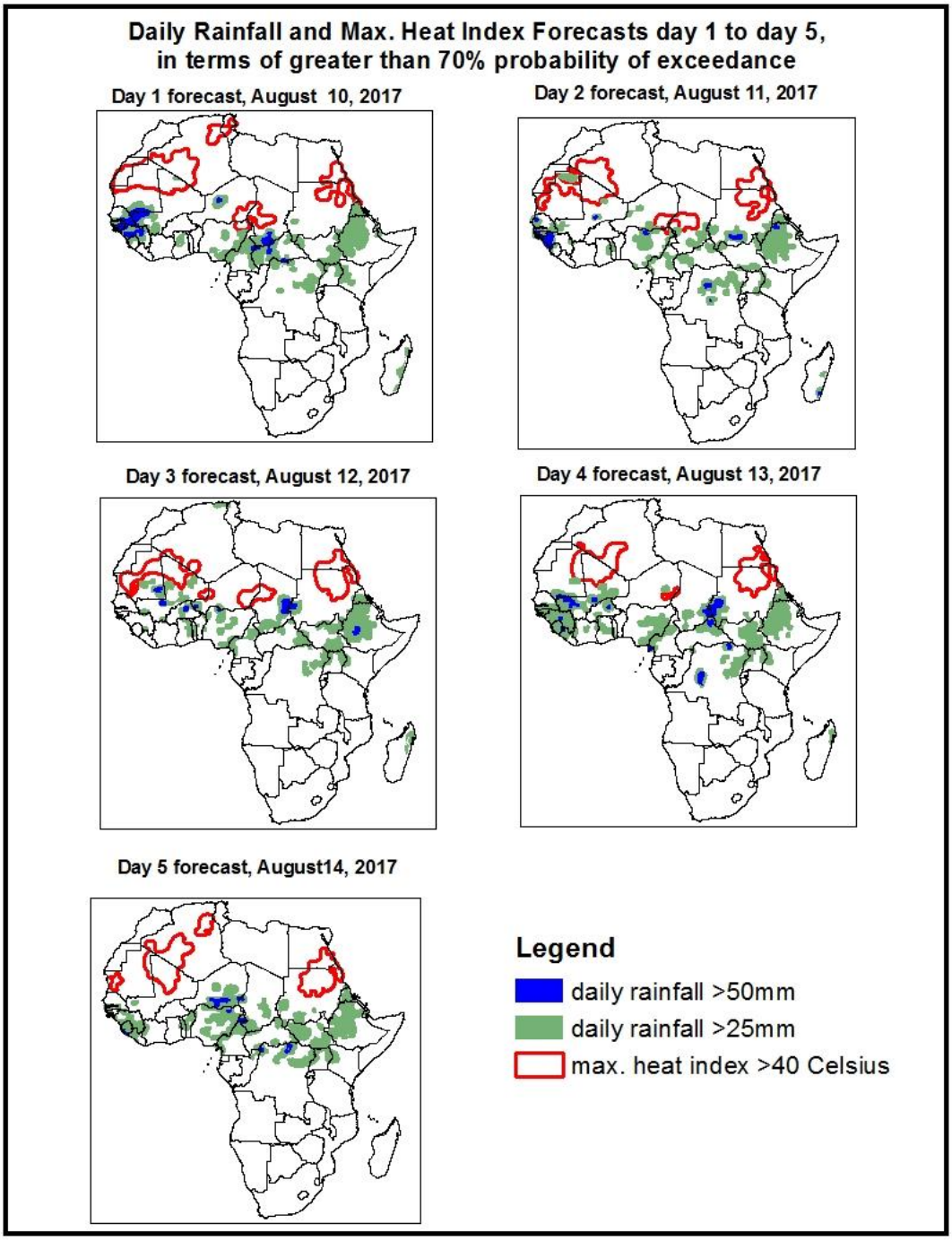
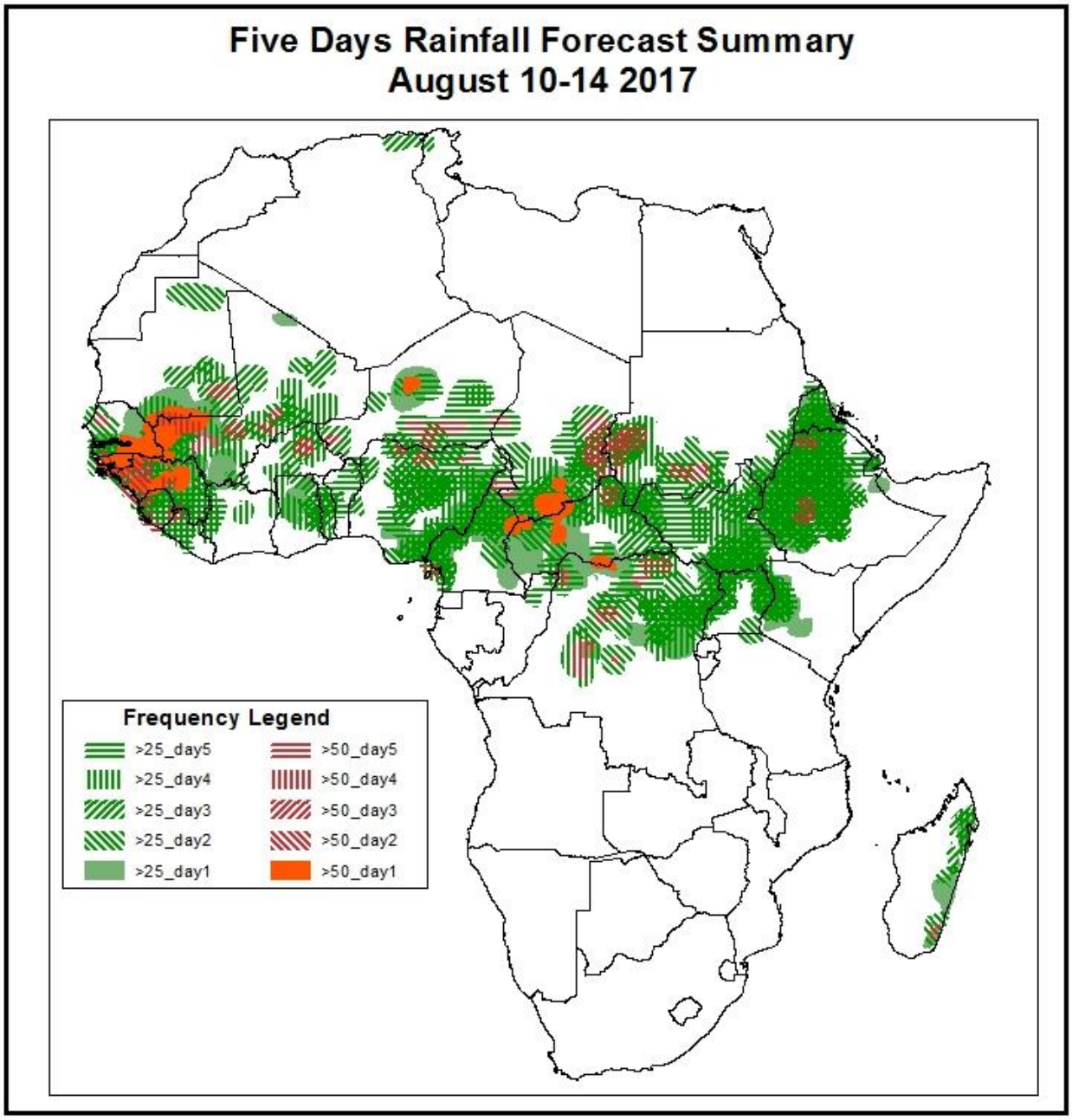
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on August 09, 2017)

1.1. Daily Rainfall and Maximum Heat Index Forecasts *(valid: August 10–14 August, 2017)*

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



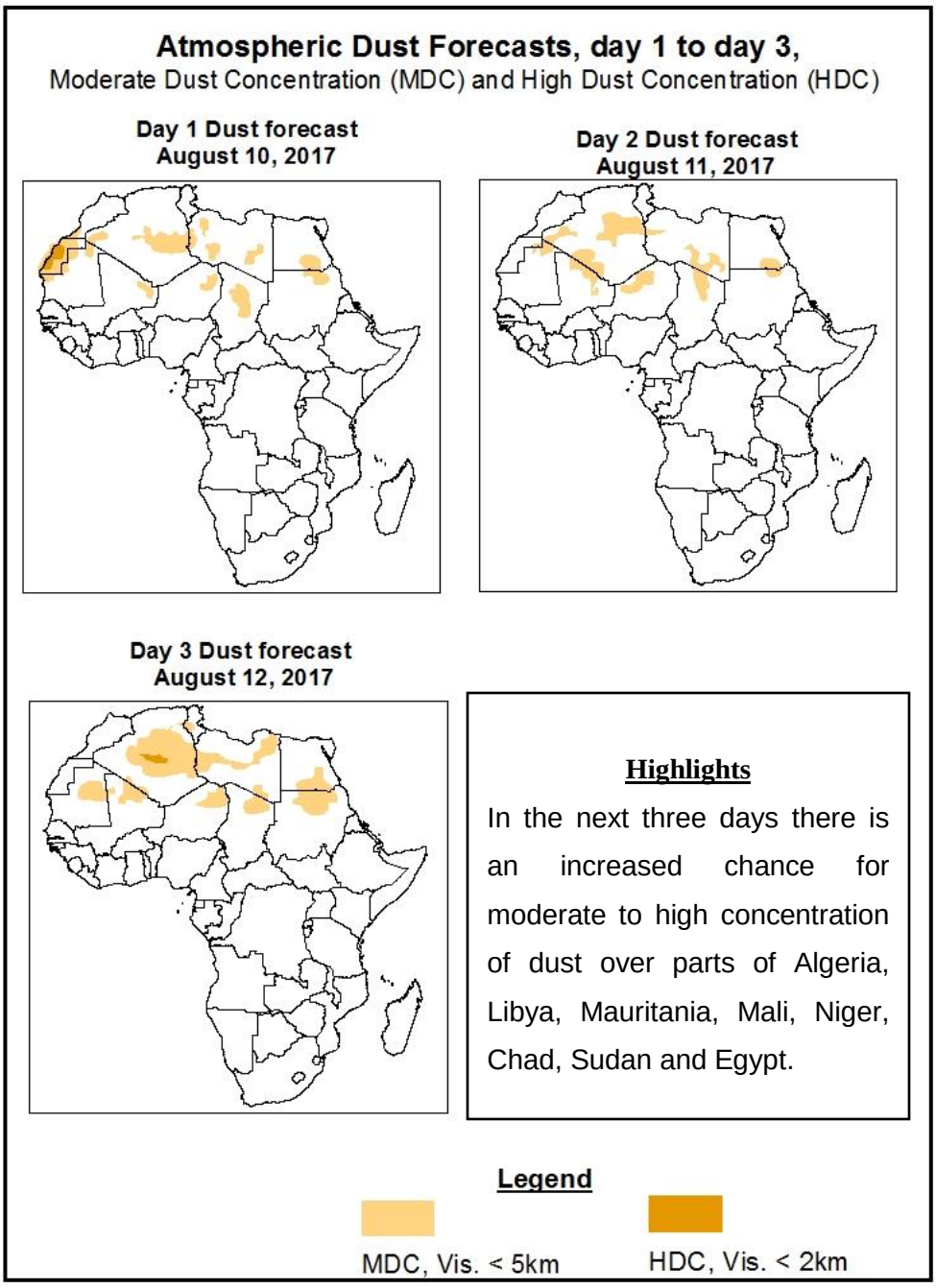


Highlights

In the next five days, a strong monsoon flow from the Atlantic Ocean across West and Central Africa combined with a lower-level cyclonic circulation propagating across the Sahel and Gulf of Guinea countries is expected to enhance rainfall over many places in West and Central Africa. Lower level wind convergence is expected to enhance rainfall over Sudan and Ethiopia. As a result, there is an increased chance for two or more days of moderate to heavy rainfall over many places in the parts of the Sahel countries, and portions of South Sudan, Sudan, northeastern DRC, western Kenya, northern Uganda and Ethiopia.

1.2. Atmospheric Dust Concentration Forecasts (valid: August 10-12, 2017)

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: August 10–14, 2017*

The Azores High Pressure system over the North Atlantic Ocean is expected to weaken from the next 48hours from a central pressure value of 1028hPa to 1020hpa during the forecast period.

The St. Helena High Pressure system over the Southeast Atlantic Ocean is expected to intensify with its central pressure value increasing from about 1023hPa to 1033hPa over the forecast period.

The Mascarene High Pressure system over the Southwest Indian Ocean is expected to maintain its central pressure value of 1040hpa in the next 72hours and later weakens to 1034hpa towards end of the forecast period.

The heat low over western Sahel is expected to maintain its central pressure value of 1006hpa and later on deepens to 1003hpa towards end of the forecast period.

At 925 hPa, strong dry northerly to northeasterly flow is expected to prevail over many places northern Africa leading increased dust activity in the region.

At 850hPa, a cyclonic circulation over Southern Chad and Southern Niger is expected to propagate westwards into Mauritania through 48hours and another low pressure system is established over South Sudan in the next 72hours moving also westward towards the end of the forecast period.

At 700hPa, the subtropical high pressure system intensify with its ridges extending up to the coast of West and East Africa in the next 72hours, and starts to waken from 96hours towards the end of the forecast period.

In the next five days, a strong monsoon flow from the Atlantic Ocean across West and Central Africa combined with a lower-level cyclonic circulation propagating across the Sahel countries is expected to enhance rainfall over many places in West and Central Africa. Lower level wind convergence is expected to enhance rainfall over South Sudan, southern Chad

and northern Uganda. As a result, there is an increased chance for two or more days of moderate to heavy rainfall over many places in southern Niger, Northern Nigeria, Mali and other parts of the Sahel countries, and portions of South Sudan, northeastern DRC, western Kenya, northern Uganda and Ethiopia.

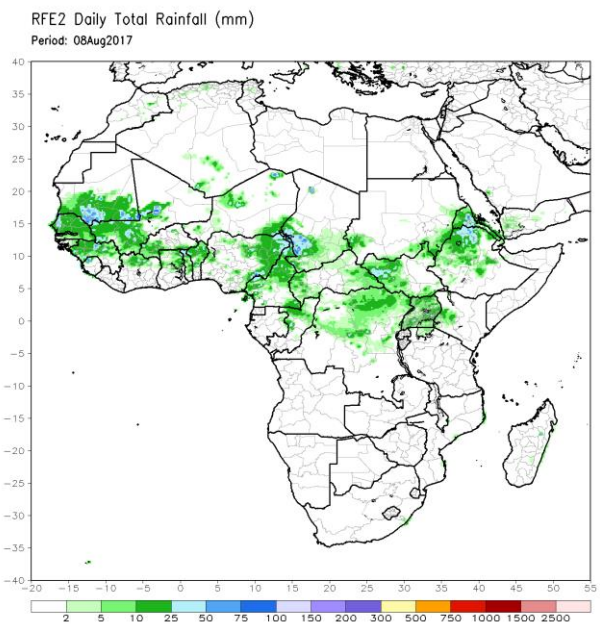
2.0. Previous and Current Day Weather over Africa

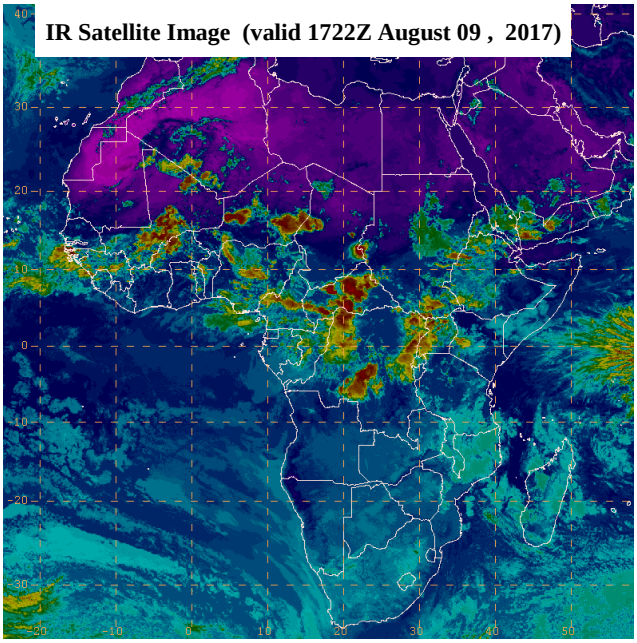
2.1. Weather assessment for the previous day (August 08, 2017)

Moderate to locally heavy rainfall was observed over parts of Mali, Mauritania, Senegal, north Togo, south Burkina Faso, locals areas of Niger, Northern Benin, Guinea, Northern Sierra Leone, Northern Nigeria, Eastern CAR, Southern Sudan and South Sudan, Uganda, northern DRC, Eritrea and Ethiopia.

2.2. Weather assessment for the current day (August 09, 2017)

Intense convective clouds are observed over portions of West, Central and East Africa.





Previous day rainfall condition over Africa (Left) based on the NCEP CPCE/RFE and current day cloud cover (right) based on IR Satellite image.

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