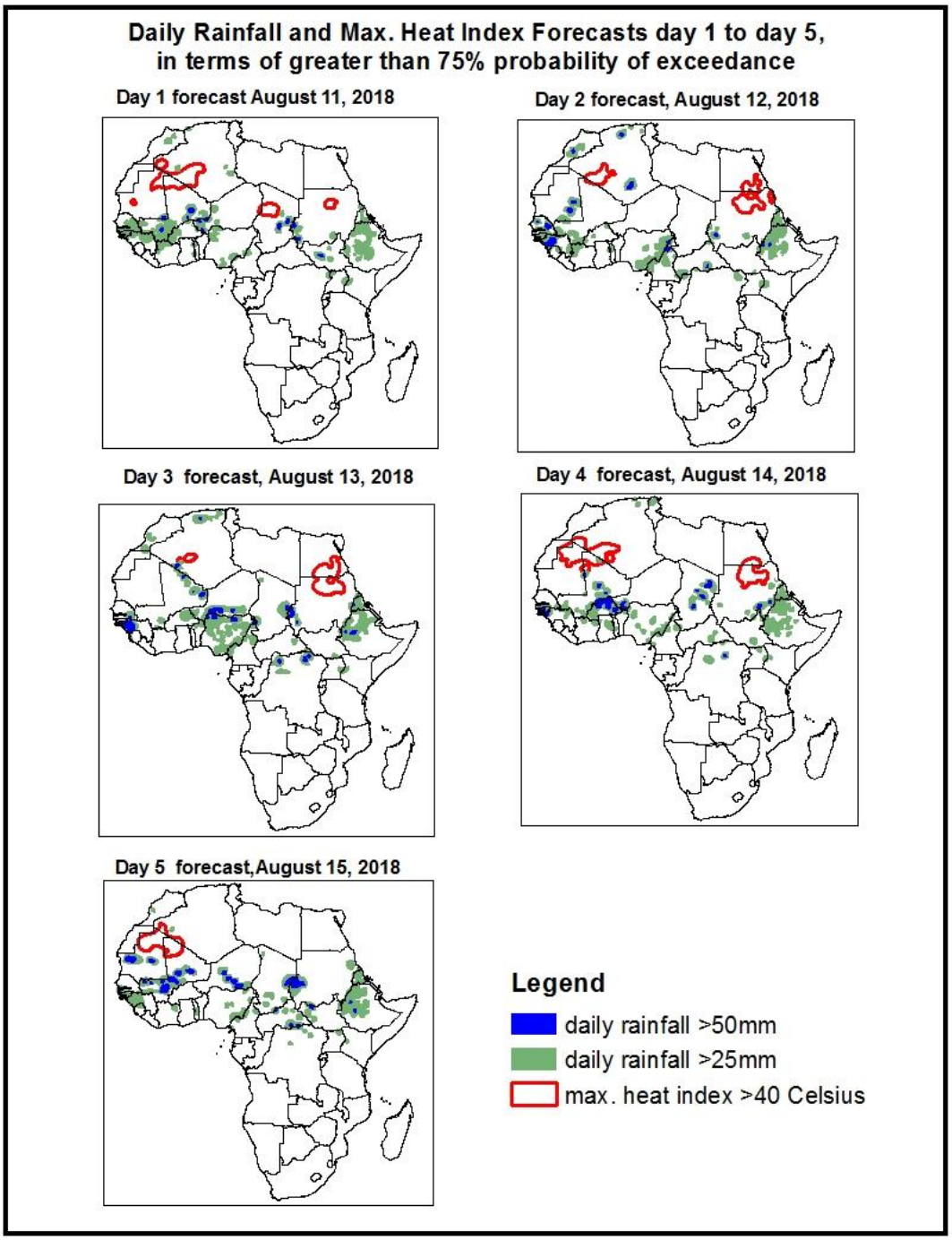
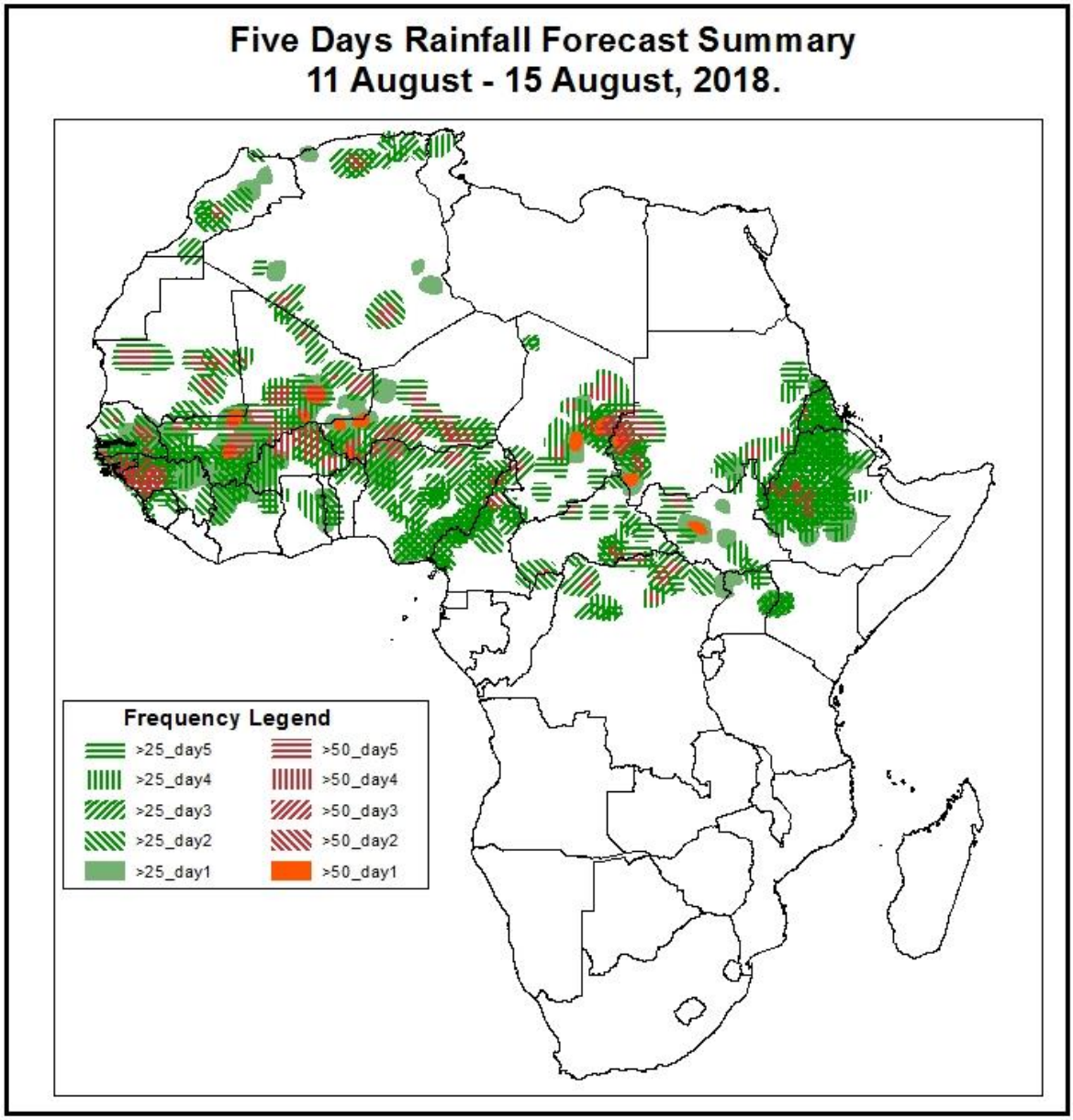
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on *August 10*, 2018)

1.1. Daily Rainfall and Maximum Heat Index Forecasts *(valid: August 11, – August 15, 2018)*

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



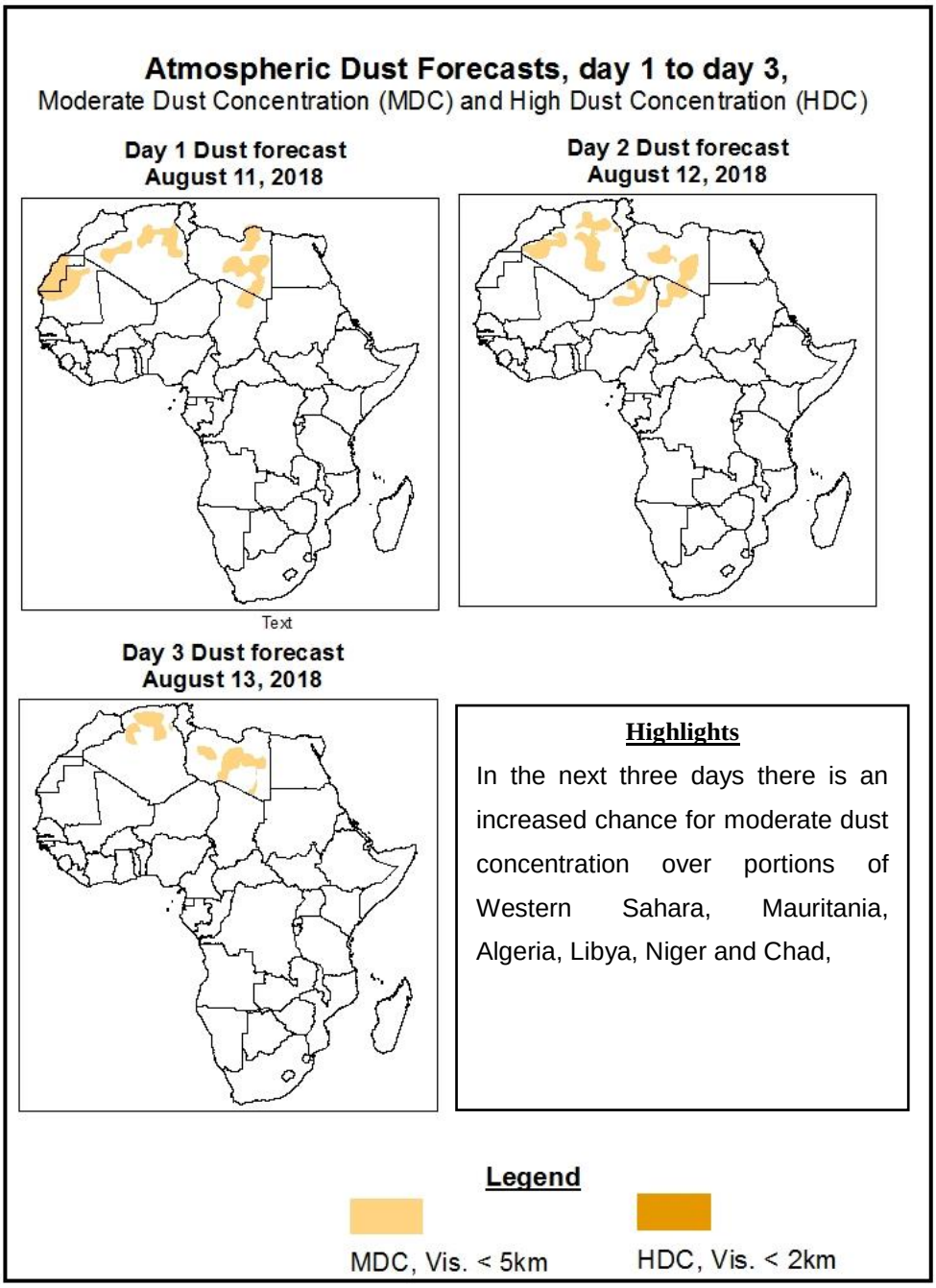


Highlights

In the next five days, areas of anomalous lower-level convergence and upper level divergence over parts of East Africa, Central Africa and Gulf of Guinea Countries are expected to enhance rainfall, while areas of anomalous lower-level divergence and upper-level convergence is expected to suppress rainfall during the forecast period. As a result, there is an increased chance for two or more days of moderate to heavy rainfall over portions of Morocco, Algeria, Mauritania, Mali, Senegal, Gambia, Guinea Bissau, Guinea, Sierra Leone, Burkina Faso, Cote d'Ivoire, Benin, Niger, Nigeria, Cameroon, Chad, CAR, DRC, Uganda, Kenya, Sudan, South Sudan, Eritrea and Ethiopia.

1.2. Atmospheric Dust Concentration Forecasts *(valid:August11 – August 13, 2018)*

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 11 – August 15, 2018*

The Azores High Pressure system over the North Atlantic Ocean is expected to weaken in the first three days and then intensify subsequently during the forecast period. The central pressure value decreased from 1029hPa to 1023hPa and then increased to 1025hPa in the forecast period.

The St. Helena High Pressure system over the Southeast Atlantic Ocean is expected to weaken during the forecast period. The central pressure values decreased from 1041hPa to 1031hPa in the forecast period.

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The Mascarene High Pressure system over the Southwest Indian Ocean is expected to be quasi stationary in the first two days and then weaken subsequently during the forecast period. The central pressure value decreased from 1037hPa to 1033hPa in the forecast period.

At 925hPa, dry strong northeasterly to easterly wind is expected to prevail across northern Africa and portions of the Sahel region.

At 850hPa, in West Africa, it is expected that the Inter Tropical Convergence Zone will oscillate above the Gulf of Guinea countries while the area of wind convergence remain active over Mauritania, Niger, Chad and Sudan.

In the next five days, areas of anomalous lower-level convergence and upper level divergence over parts of East Africa, Central Africa and Gulf of Guinea Countries are expected to enhance rainfall, while areas of anomalous lower-level divergence and upper-level convergence is expected to suppress rainfall during the forecast period. As a result, there is an increased chance for two or more days of moderate to heavy rainfall over portions of Morocco, Algeria, Mauritania, Mali, Senegal, Gambia, Guinea Bissau, Guinea, Sierra Leone, Burkina Faso, Cote d'Ivoire, Benin, Niger, Nigeria, Cameroon, Chad, CAR, DRC, Uganda, Kenya, Sudan, South Sudan, Eritrea and Ethiopia.

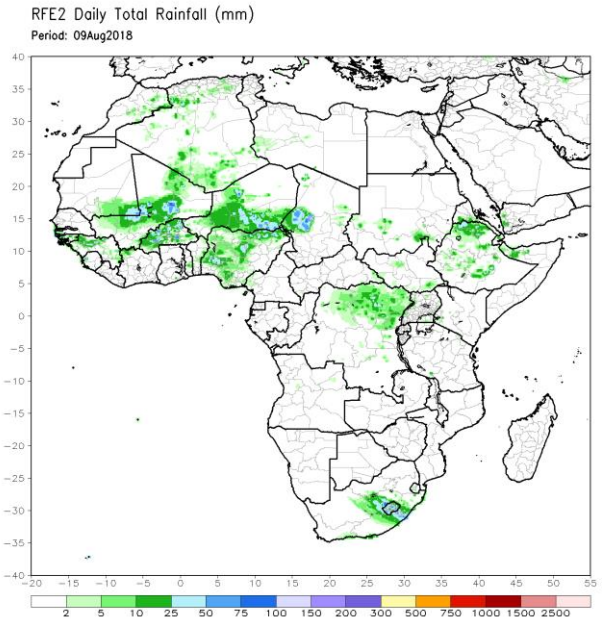
2.0. Previous and Current Day Weather over Africa

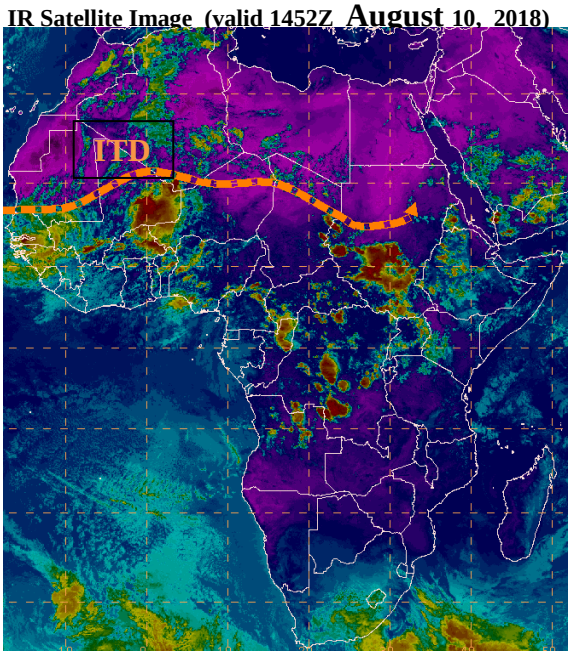
2.1. Weather assessment for the previous day (August 9, 2018)

Moderate to locally heavy rainfall was observed over parts of Mauritania, Algeria, Mali, Guinea, Burkina Faso, Niger, Nigeria, Chad, DRC, Ethiopia, Lesotho and South Africa.

2.2. Weather assessment for the current day (*August 10*, 2018)

Intense convective clouds are observed over parts of Senegal, Mali, Burkina Faso, Benin, Niger, Nigeria, Cameroon, Congo, CAR, DRC, Sudan, South Sudan, Eritrea, Ethiopia and Angola.





Previous day rainfall condition over Africa (Left) based on the NCEP CPCE/RFE and current day cloud cover and ITD (right) based on IR Satellite image and 925hPa wind.

Authors: ***Nicholas Jacob Eigege*** (Nigerian Meteorological Agency —NiMet) / CPC-African Desk;*Nicholas.jacob@noaa.gov*