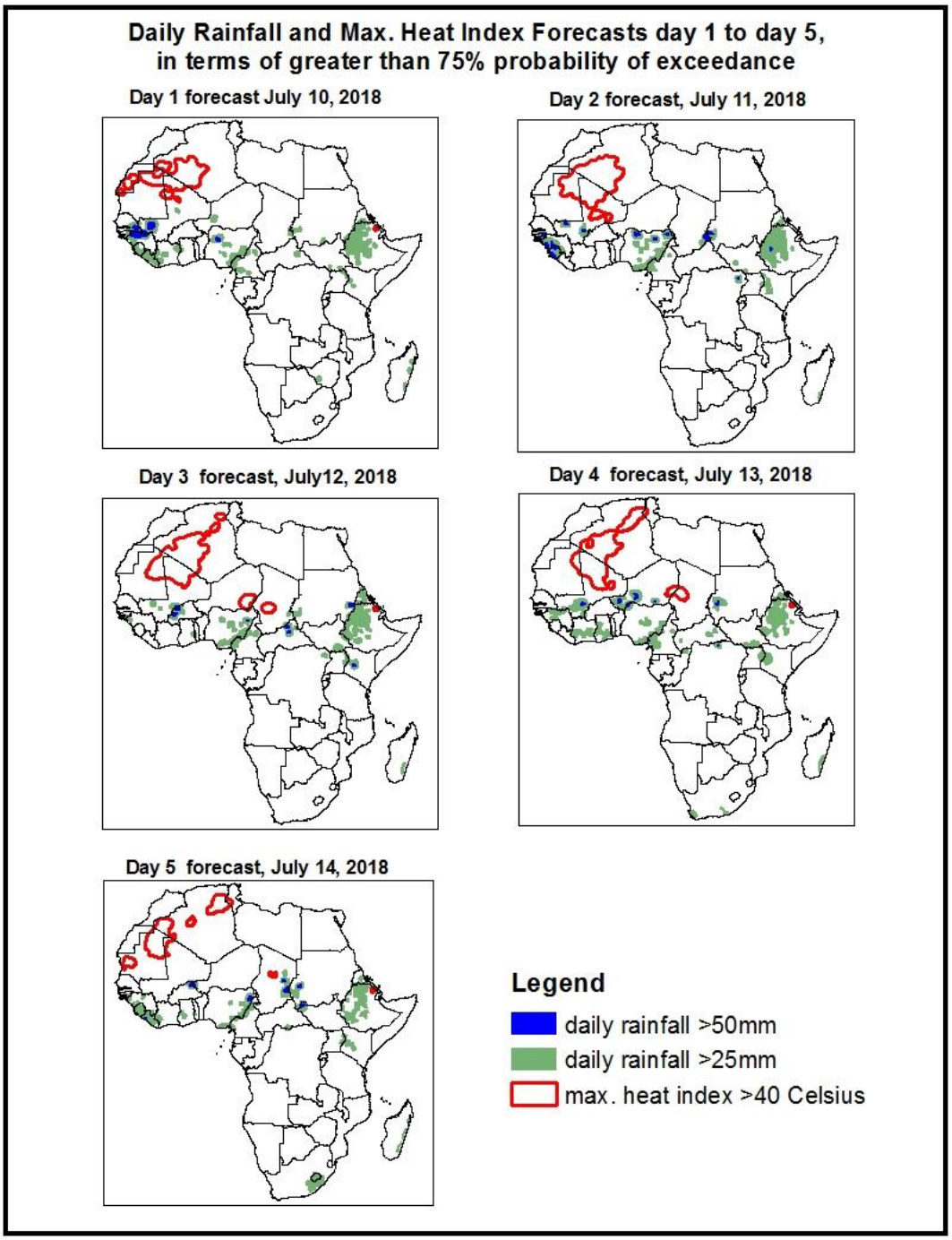
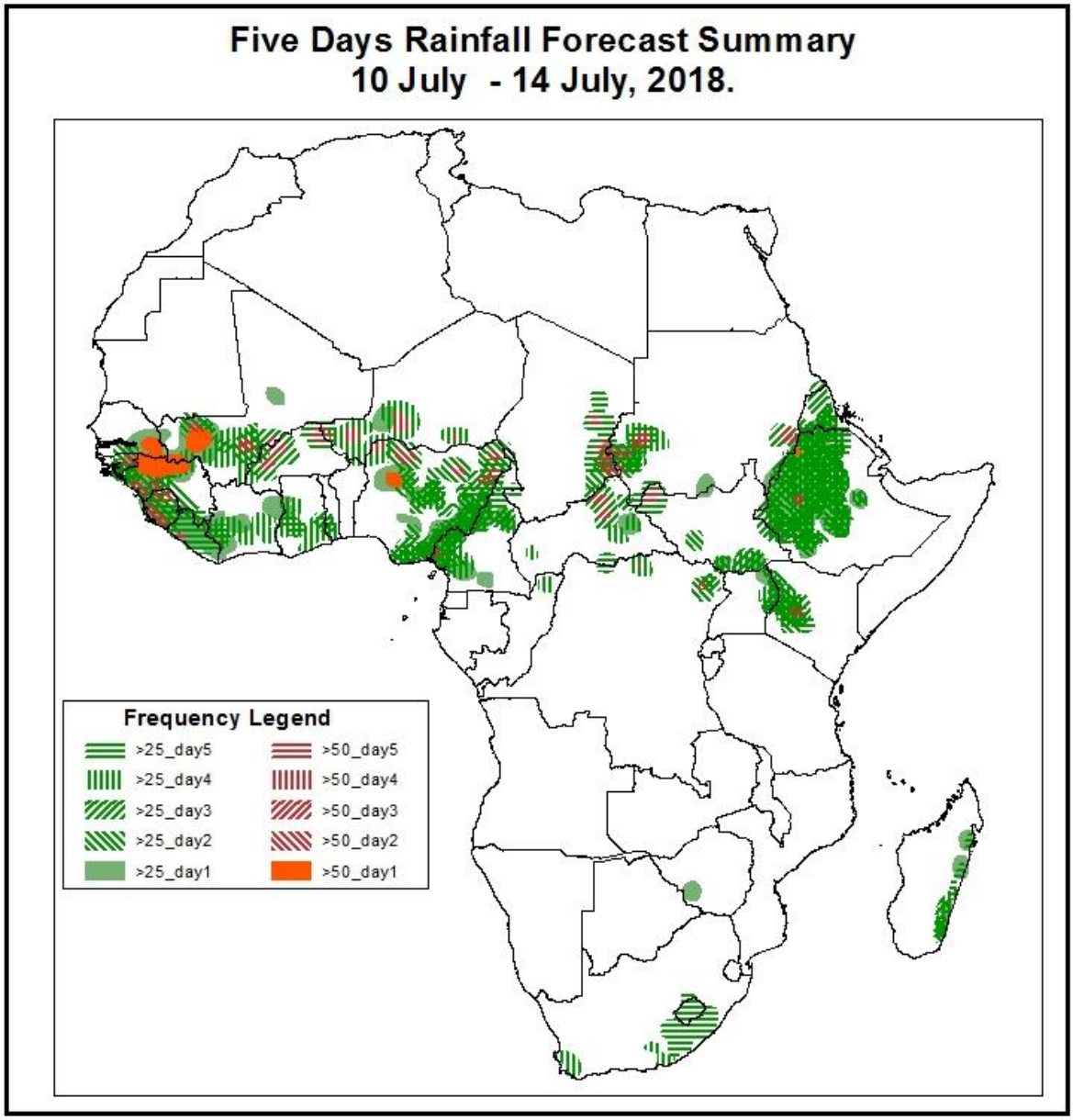
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on July 9, 2018)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: July10, – July 14, 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.



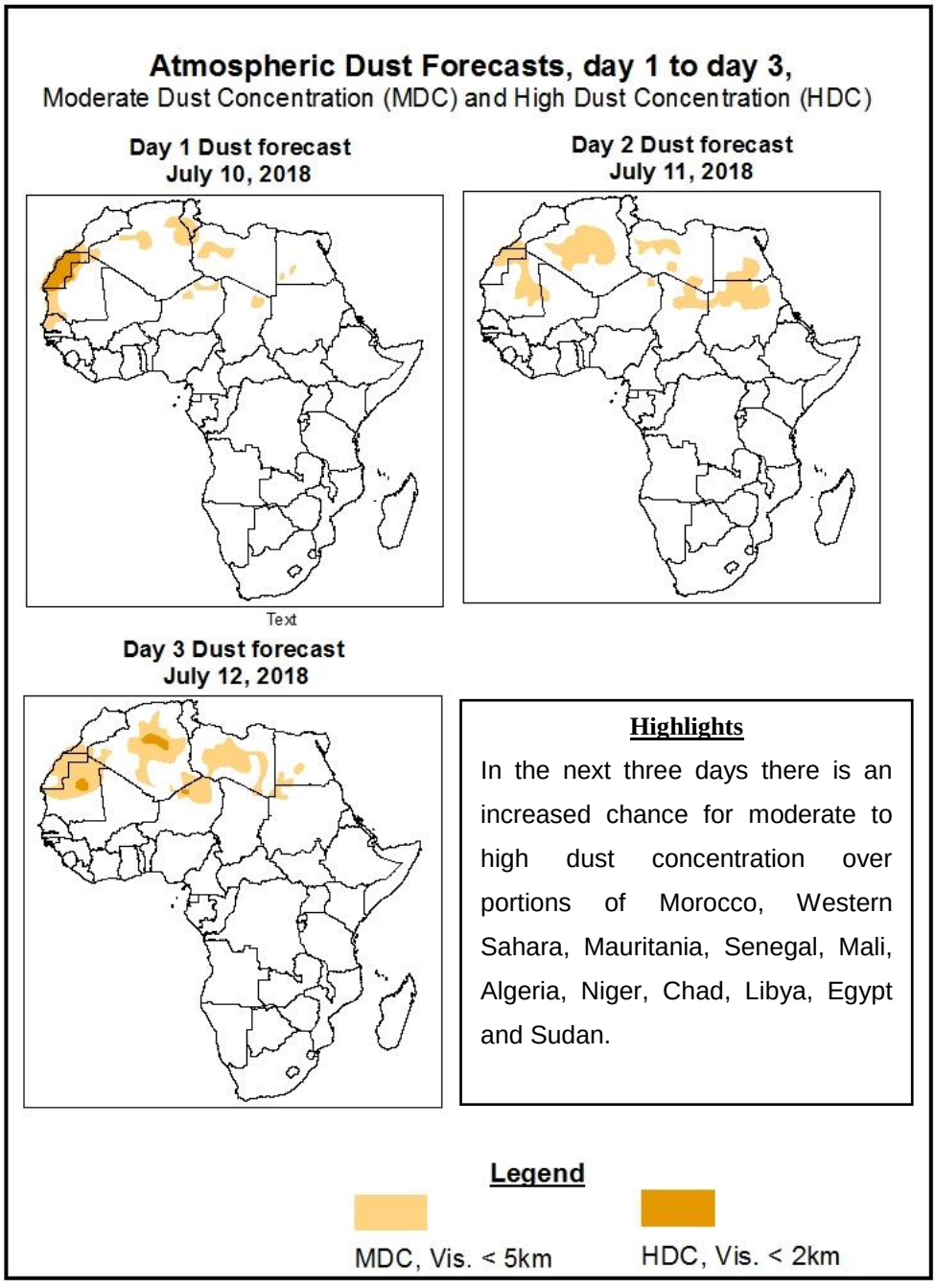


Highlights

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 in these regions 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 Senegal, Mali, Guinea, Sierra Leone, Liberia, Cote d'Ivoire, Burkina Faso, Ghana, Togo, Niger, Nigeria, Cameroon, Chad, CAR, DRC, Sudan, South Sudan, Kenya, Eritrea, Ethiopia, and Madagascar.

1.2. Atmospheric Dust Concentration Forecasts (valid: July 10 – July 12, 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: July 10 – July 14, 2018*

The Azores High Pressure system over the North Atlantic Ocean is expected to intensify during the first three days and then weakens during the forecast period. The central pressure increased from 1029hPa to 1035hPa and decreased to 1032hPa in the forecast period.

The St. Helena High Pressure system over the Southeast Atlantic Ocean is expected to intensify during the first two days and then weakens during the forecast period. The central pressure value increased from 1028hPa to 1037hPa and decreased to 1035hPa in the forecast period.

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The Mascarene High Pressure system over the Southwest Indian Ocean is expected to intensify during the forecast period. The central pressure increased from 1033hPa to 1043hPa 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 Mali, Niger, Uganda 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 in these regions 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 Senegal, Mali, Guinea, Sierra Leone, Liberia, Cote d'Ivoire, Burkina Faso, Ghana, Togo, Niger, Nigeria, Cameroon, Chad, CAR, DRC, Sudan, South Sudan, Kenya, Eritrea, Ethiopia, and Madagascar.

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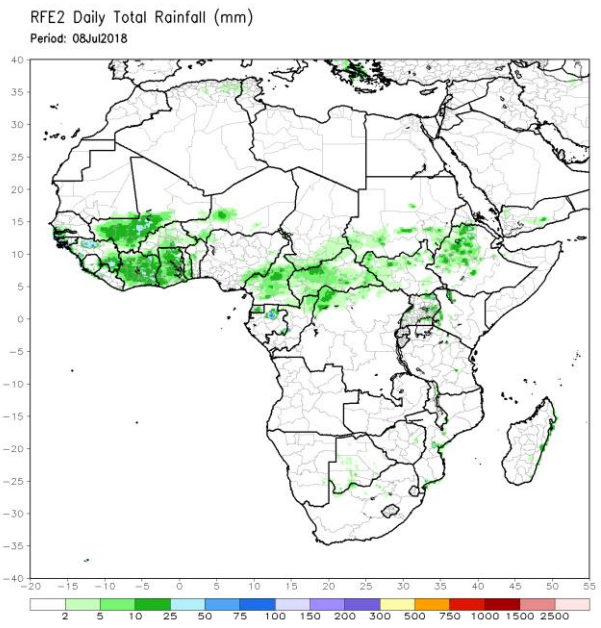
2.0. Previous and Current Day Weather over Africa

2.1. Weather assessment for the previous day (July 8, 2018)

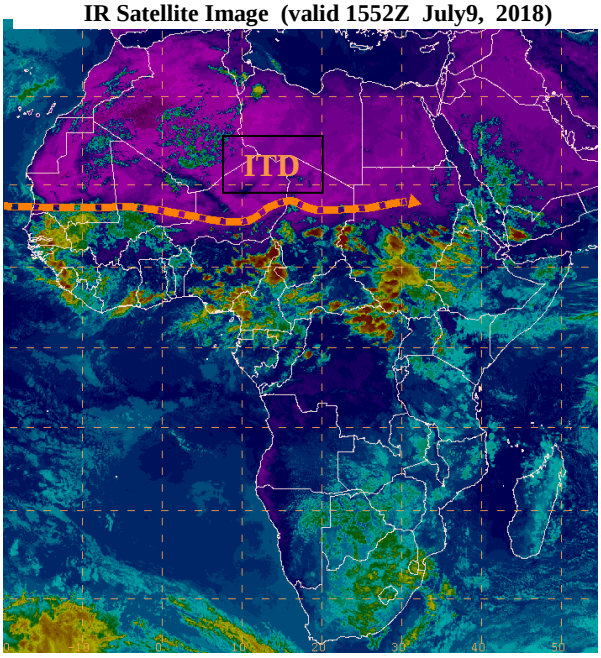
Moderate to locally heavy rainfall was observed over parts of Gambia, Guinea Bissau, Guinea, Cote d'Ivoire, Ghana, Burkina Faso, Gabon, Uganda, and Ethiopia.

2.2. Weather assessment for the current day (July 9, 2018)

Intense convective clouds are observed over parts of Senegal, Guinea, Sierra Leone, Cote d'Ivoire, Ghana, Niger, Nigeria, Cameroon, Chad, CAR, DRC, Sudan, South Sudan and Ethiopia.



IR Satellite Image (valid 1552Z July9, 2018)



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.

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