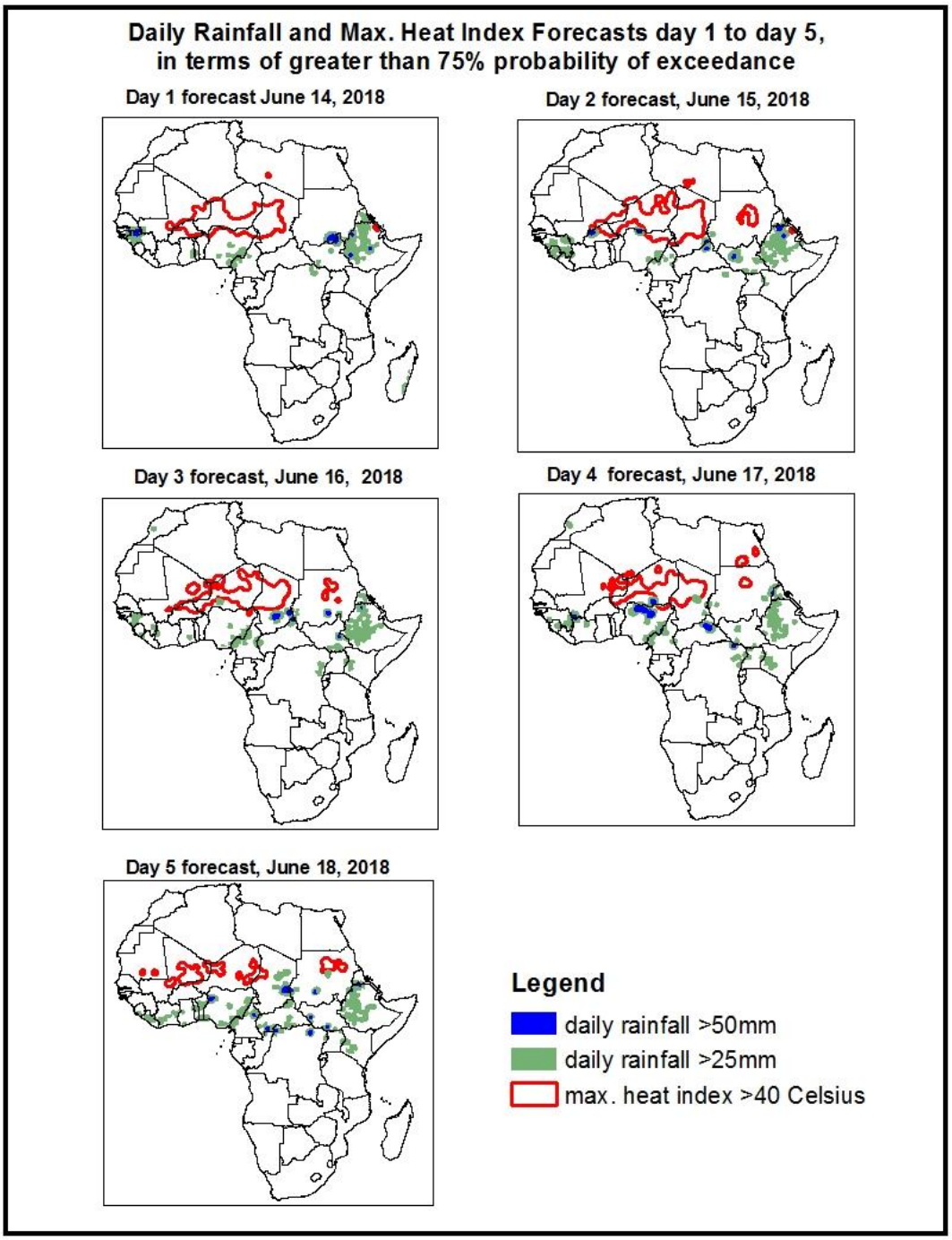
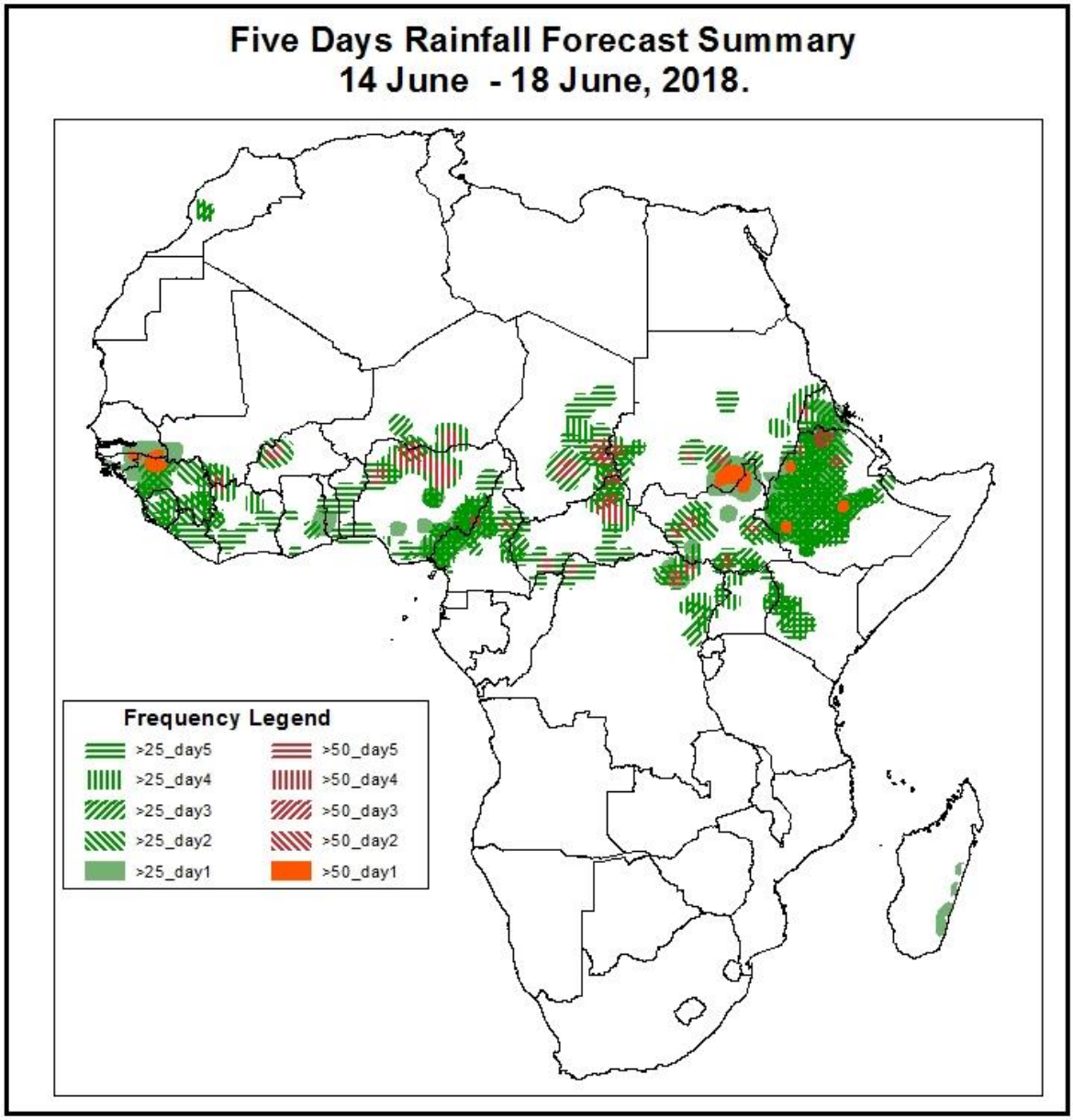
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on June 13, 2018)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: June 14, – June 18, 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.



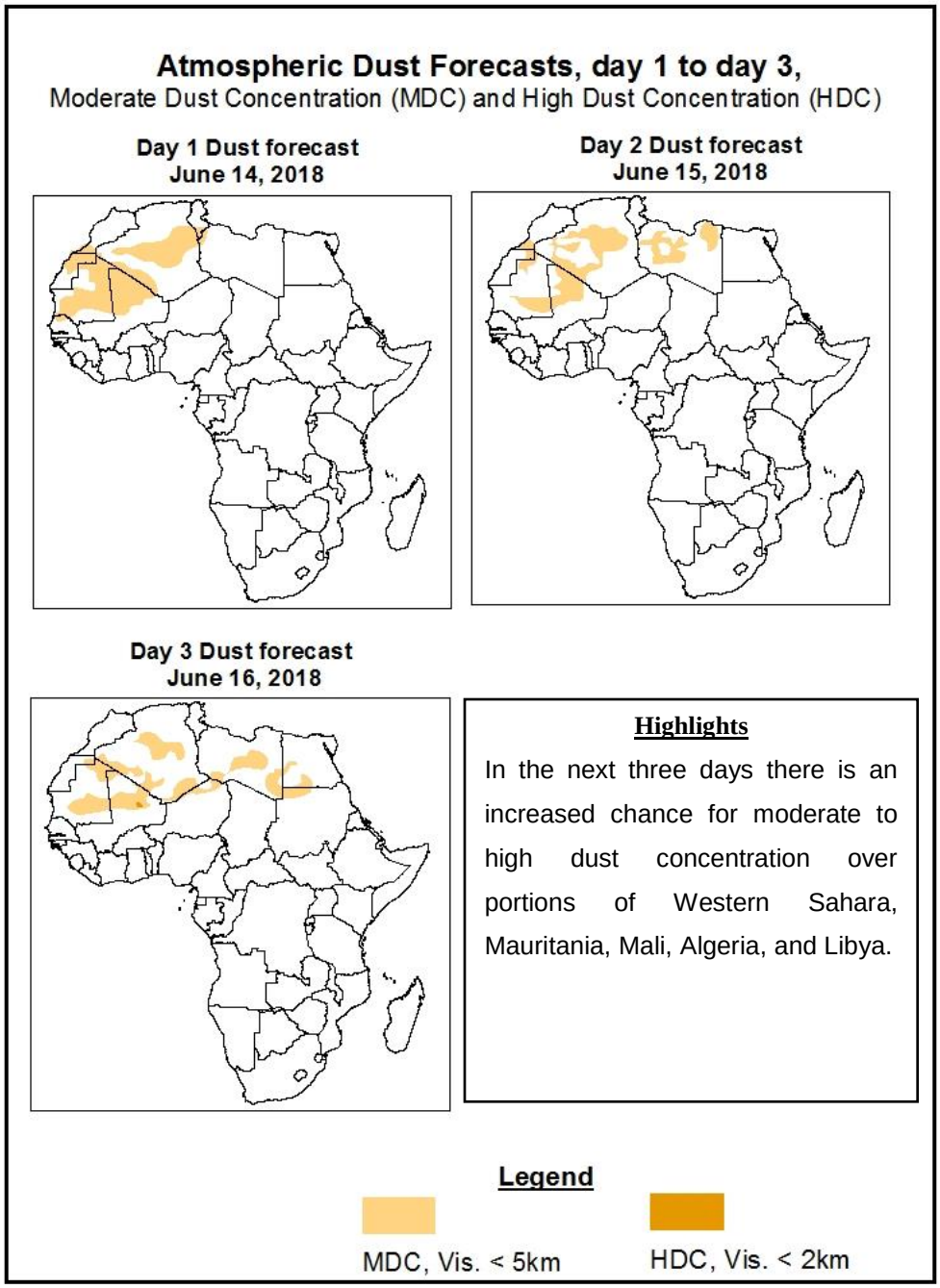


Highlights

In the next five days, areas of anomalous lower-level convergence in East Africa, Central Africa and Western part of Gulf of Guinea are expected to enhance rainfall in these regions. As a result, there is an increased chance for two or more days of moderate to heavy rainfall over portions of Senegal, Guinea, Sierra Leone, Mali, Liberia, Ivory Coast, Ghana, Togo, Niger, Nigeria, Cameroon, Chad, CAR, Sudan, South Sudan, Uganda, Kenya, Ethiopia, and Eritrea.

1.2. Atmospheric Dust Concentration Forecasts (valid: June 14 – June 16, 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: June 14– June 18, 2018*

The Azores High Pressure system over the North Atlantic Ocean is expected to be quasi stationary for the first two days and then intensify during the last three days. The central pressure value is about 1028 hPa and then increases to 1030 hPa during the forecast period.

The St. Helena High Pressure system over the Southeast Atlantic Ocean is expected to be quasi stationary during the forecast period. The central pressure value is about 1022 hPa during the forecast period.

The Mascarene High Pressure system over the Southwest Indian Ocean is expected to intensify during the forecast period. The central pressure value ranges from about 1028 hPa to 1033 hPa during 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 the oscillation of the Inter Tropical Convergence Zone above the Gulf of Guinea countries while the area of wind convergence remain active in Uganda, Chad, CAR , South Sudan and Sudan during the forecast period.

In the next five days, areas of anomalous lower-level convergence in East Africa, Central Africa and Western part of Gulf of Guinea are expected to enhance rainfall in these regions. As a result, there is an increased chance for two or more days of moderate to heavy rainfall over portions of Senegal, Guinea, Sierra Leone, Mali, Liberia, Ivory Coast, Ghana, Togo, Niger, Nigeria, Cameroon, Chad, CAR, Sudan, South Sudan, Uganda, Kenya, Ethiopia, and Eritrea.

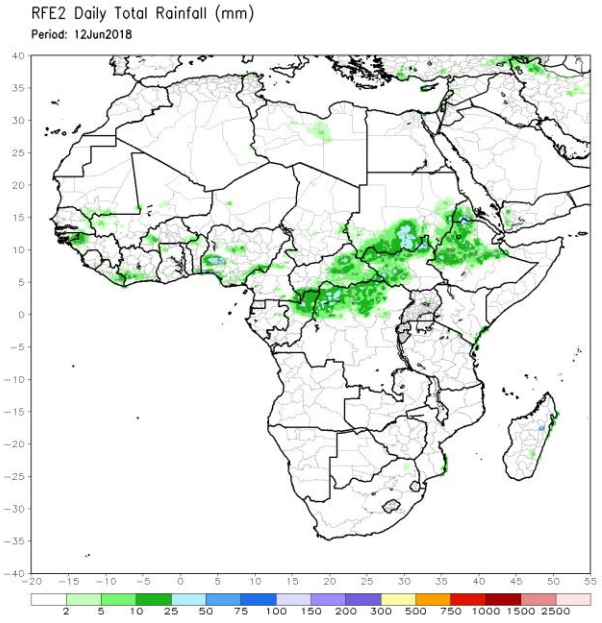
2.0. Previous and Current Day Weather over Africa

2.1. Weather assessment for the previous day (June 12, 2018)

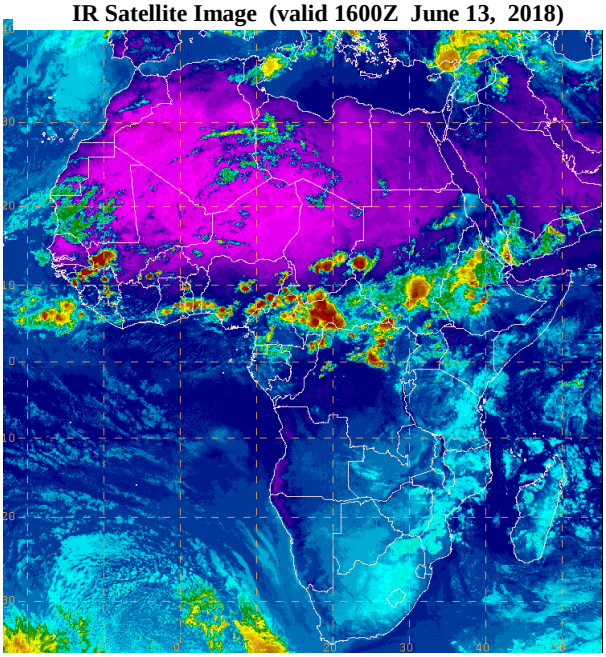
Moderate to locally heavy rainfall was observed over parts of Ethiopia, Sudan, South Sudan, DRC and Nigeria.

2.2. Weather assessment for the current day (June 13, 2018)

Intense convective clouds are observed over parts of Ethiopia, South Sudan, Chad, DRC, CAR, Cameroon, Nigeria, Benin, Togo, Chana, Burkina Faso, Guinea and Mali.



IR Satellite Image (valid 1600Z June 13, 2018)



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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