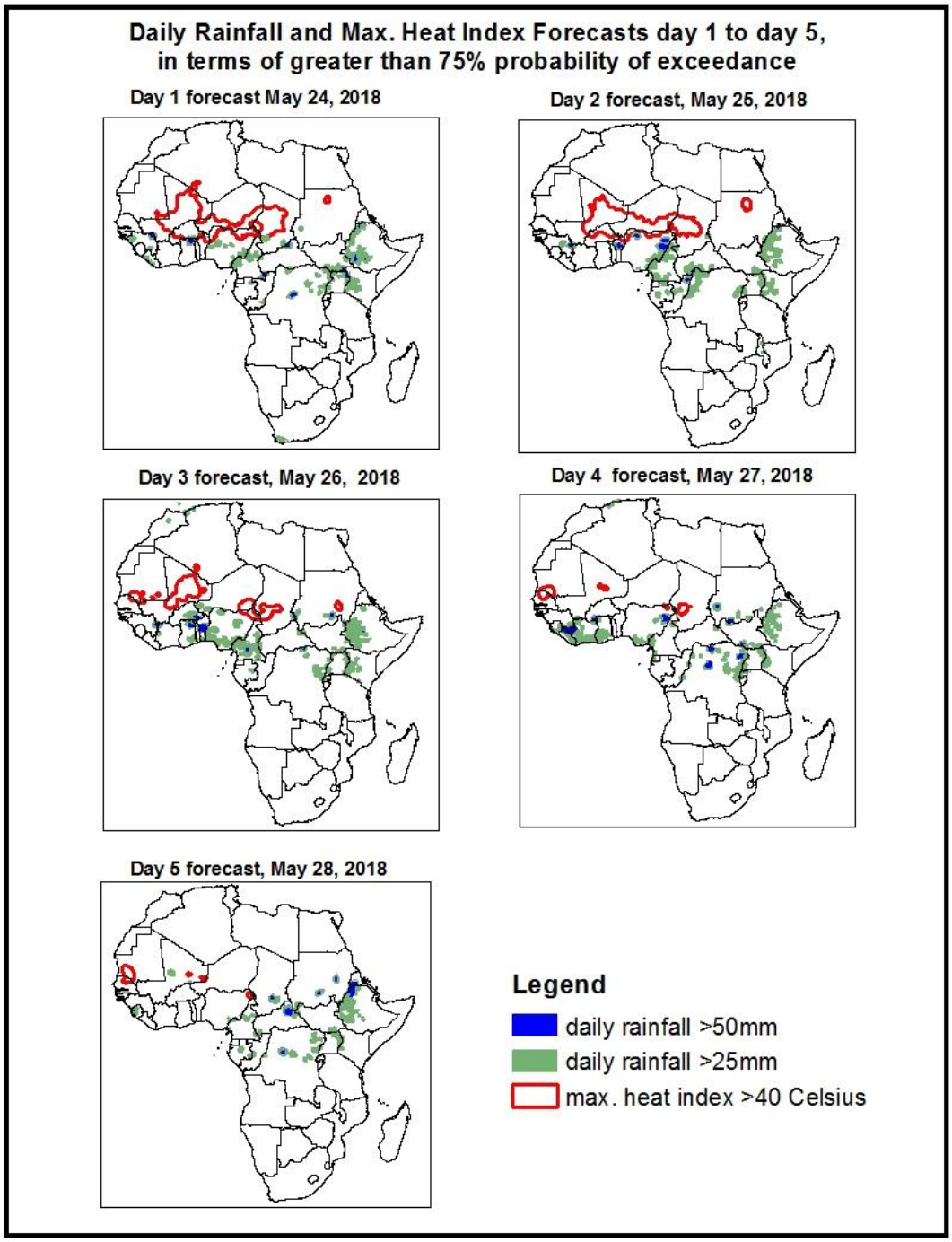
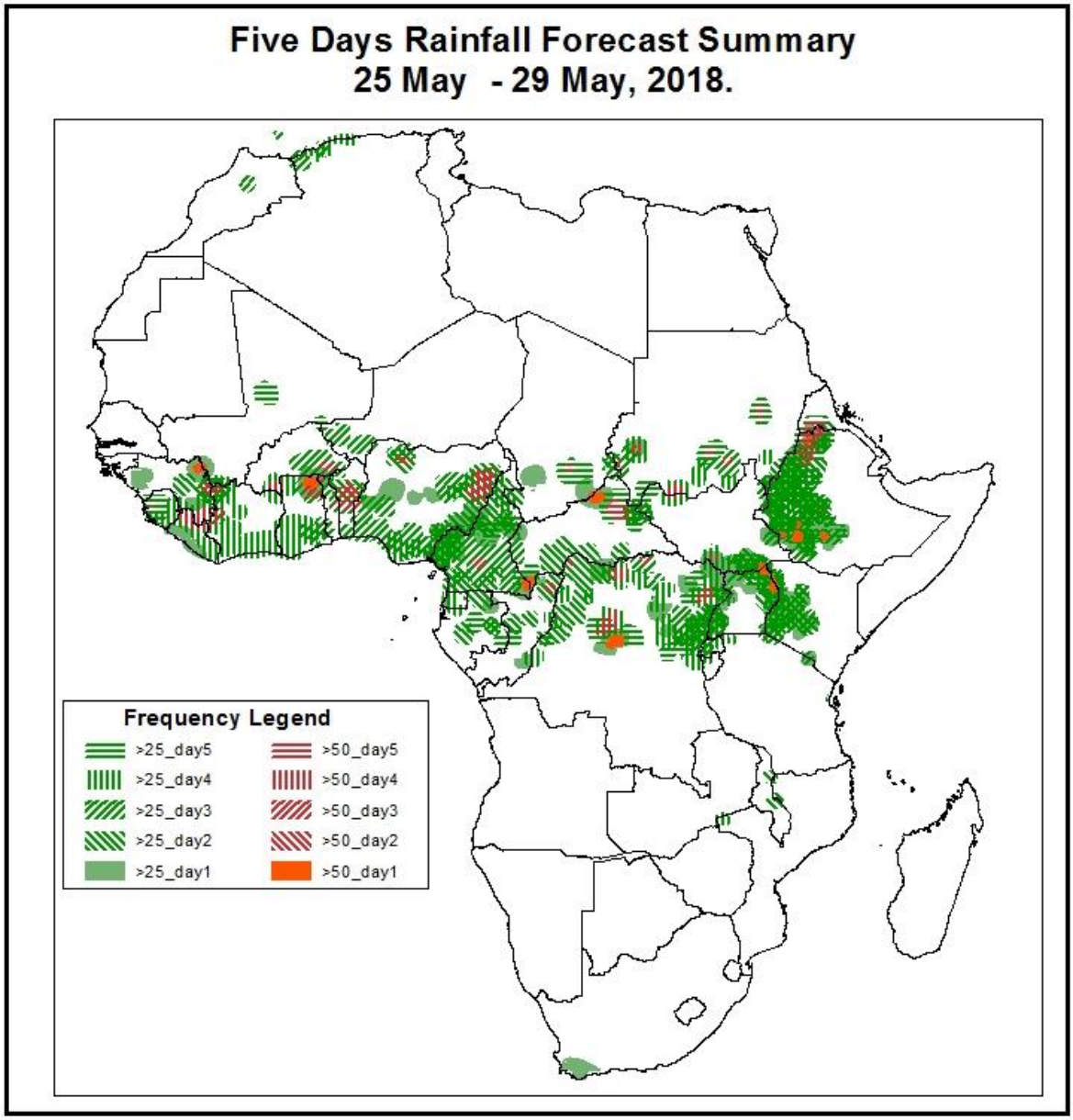
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on May 24, 2018)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: May 25, – May 29, 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.



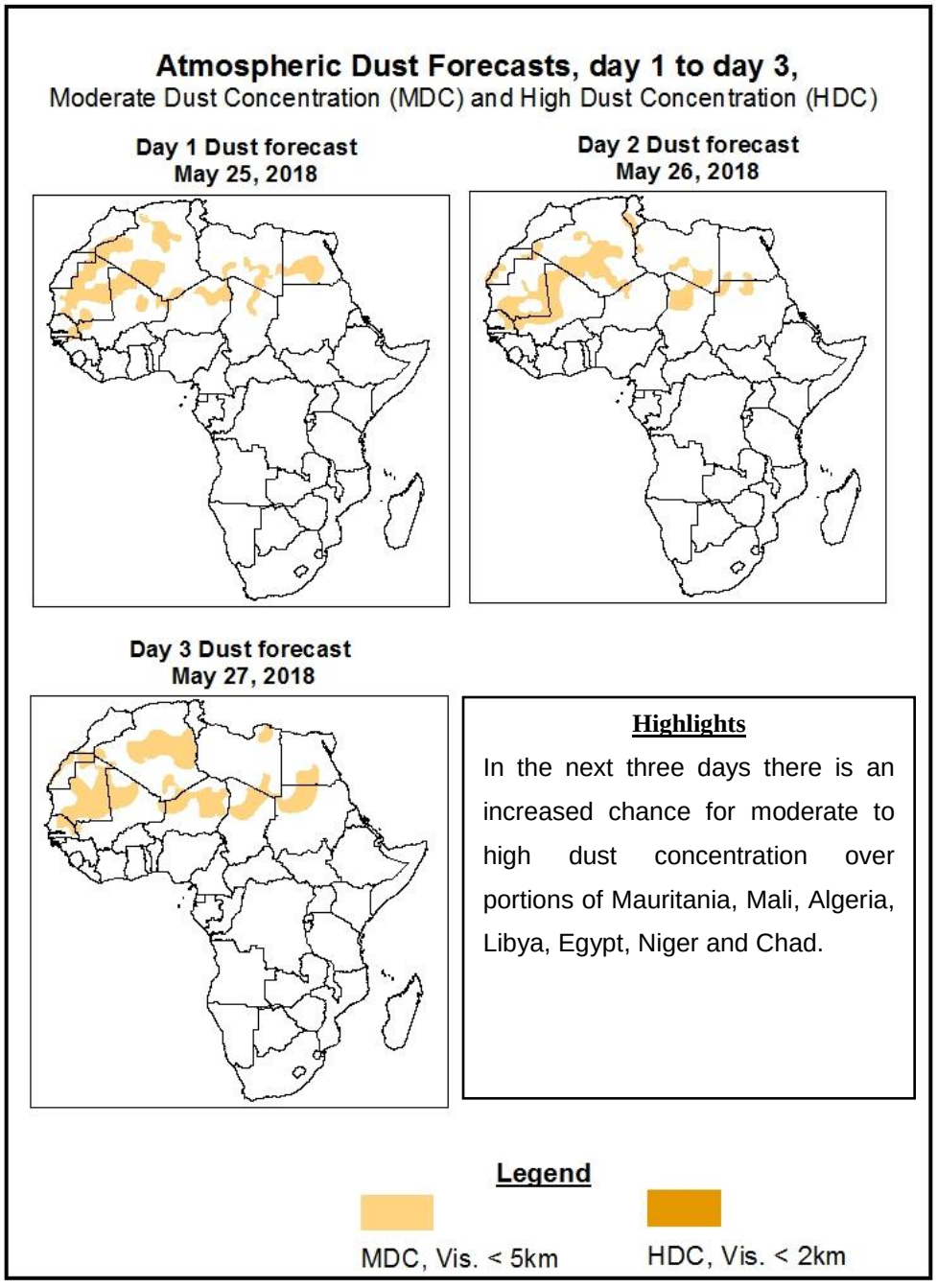


Highlights

In the next five days, lower-level wind divergence across part of Gulf of Guinea countries and lower-level convergence over part of Nigeria, Cameroon and the eastern Africa are expected to enhance rainfall in Nigeria, Cameroon and part of the eastern Africa then a reduction of rainfall over the western Africa. As a result, there is an increased chance for two or more days of moderate to heavy rainfall over portions of Guinea, Sierra Leone, Liberia, Ivory Coast, Burkina Faso, Ghana, Togo, Benin, Nigeria, Cameroon, Gabon, Equatorial Guinea, Congo, Chad, CAR, DRC, Sudan, South Sudan, Uganda, Rwanda, Kenya, Ethiopia and Eritrea.

1.2. Atmospheric Dust Concentration Forecasts (valid: May 25 – May 27, 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: May 25– May 29, 2018*

The Azores High Pressure system over the North Atlantic Ocean is expected to intensify during the forecast period. The central pressure values ranges from about 1024 hPa to 1027 hPa during the forecast period.

The St. Helena High Pressure system over the Southeast Atlantic Ocean is expected to intensify in the first three days and then weaken in the last two days of the forecast period. The central pressure values increases from about 1023 hPa to 1030 hPa and decreases to 1028 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 values ranges from about 1028 hPa to 1030 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 South Sudan during the forecast period.

In the next five days, lower-level wind divergence across part of Gulf of Guinea countries and lower-level convergence over part of Nigeria, Cameroon and the eastern Africa are expected to enhance rainfall in Nigeria, Cameroon and part of the eastern Africa then a reduction of rainfall over the western Africa. As a result, there is an increased chance for two or more days of moderate to heavy rainfall over portions of Guinea, Sierra Leone, Liberia, Ivory Coast, Burkina Faso, Ghana, Togo, Benin, Nigeria, Cameroon, Gabon, Equatorial Guinea, Congo, Chad, CAR, DRC, Sudan, South Sudan, Uganda, Rwanda, Kenya, Ethiopia and Eritrea.

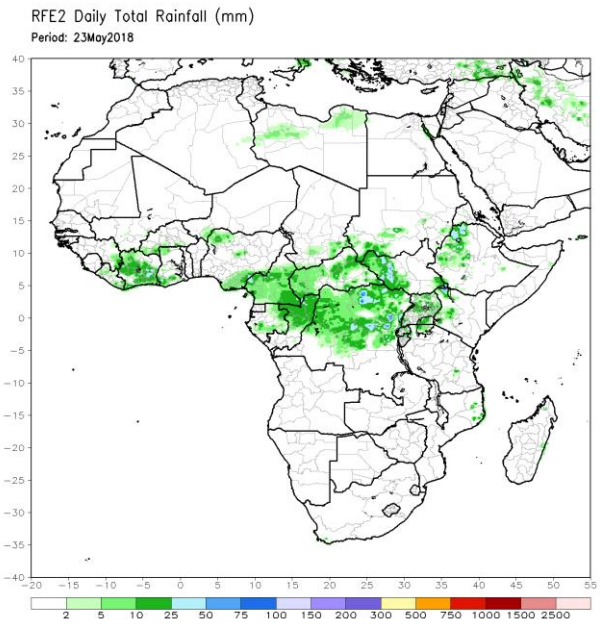
2.0. Previous and Current Day Weather over Africa

2.1. Weather assessment for the previous day (May 23, 2018)

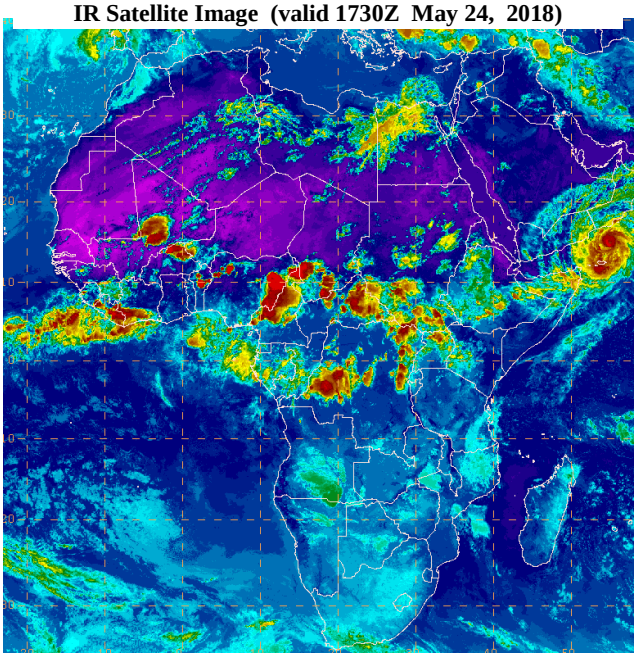
Moderate to locally heavy rainfall was observed over parts of Ivory Coast, Ghana, Nigeria, Cameroon, Gabon, Congo, CAR, DRC, Sudan, South Sudan, Uganda, Kenya and Ethiopia.

2.2. Weather assessment for the current day (May 24, 2018)

Intense convective clouds are observed over across most parts of Central Africa.



IR Satellite Image (valid 1730Z May 24, 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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