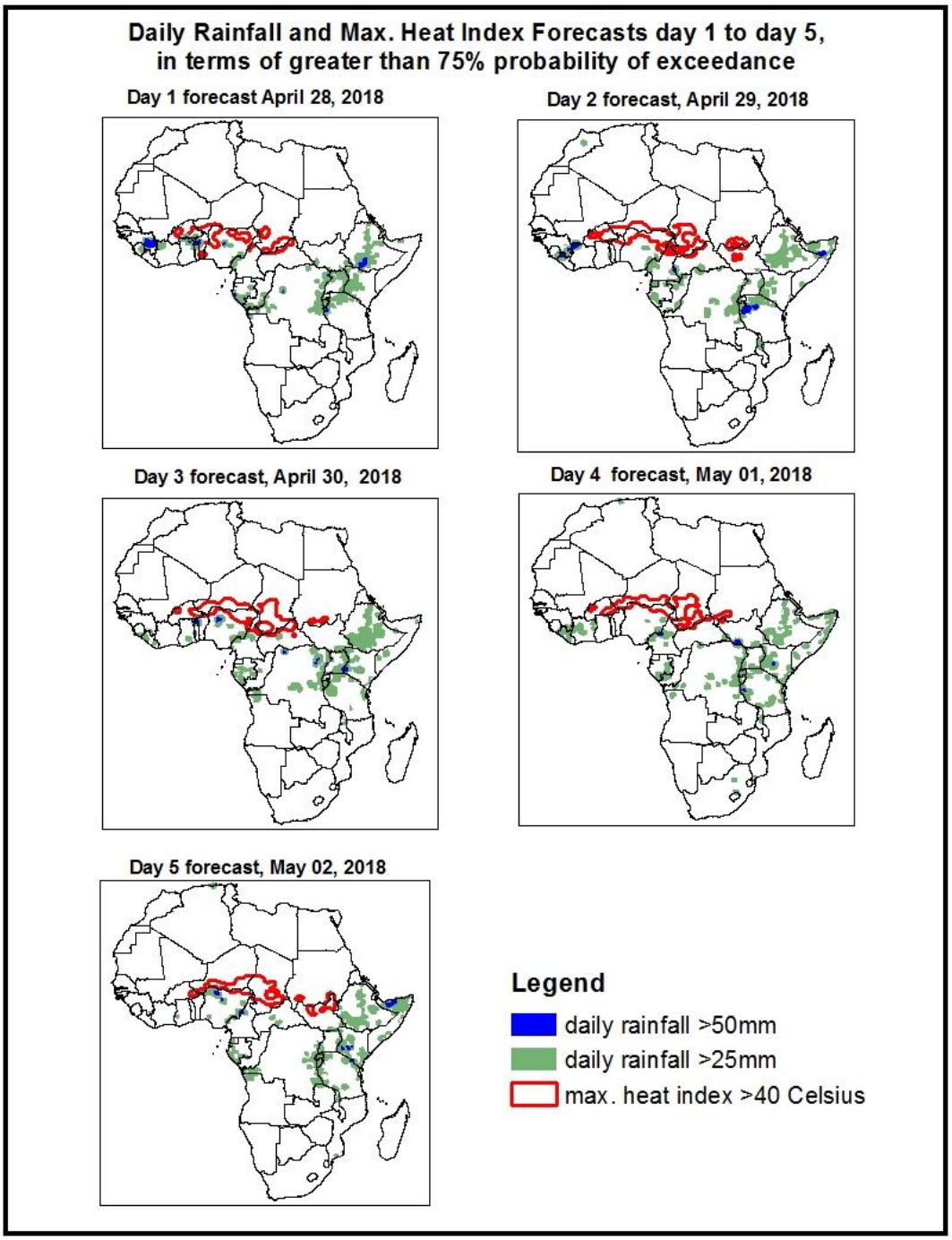
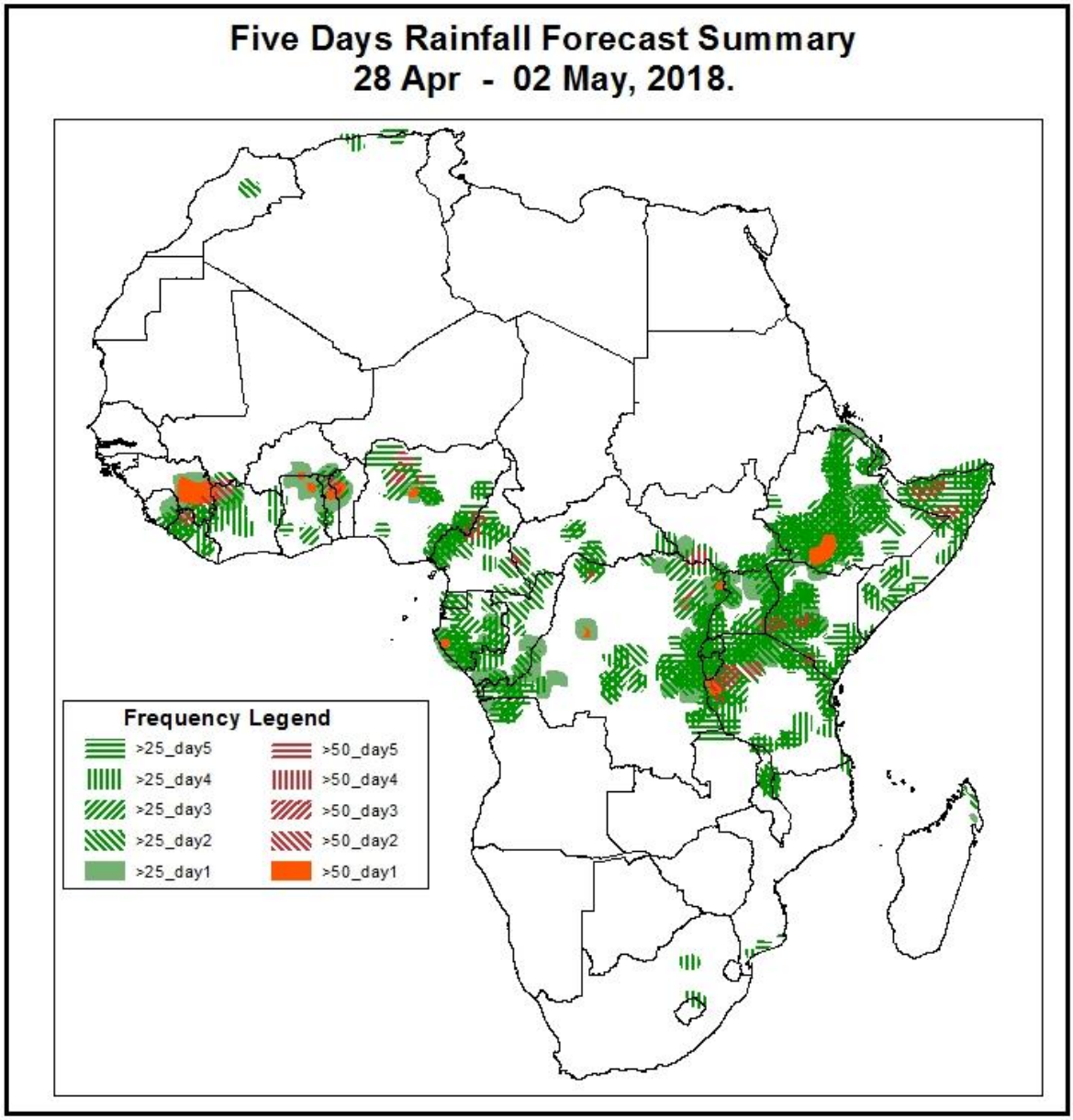
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on April 27, 2018)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: Apr 28, – May 02, 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.



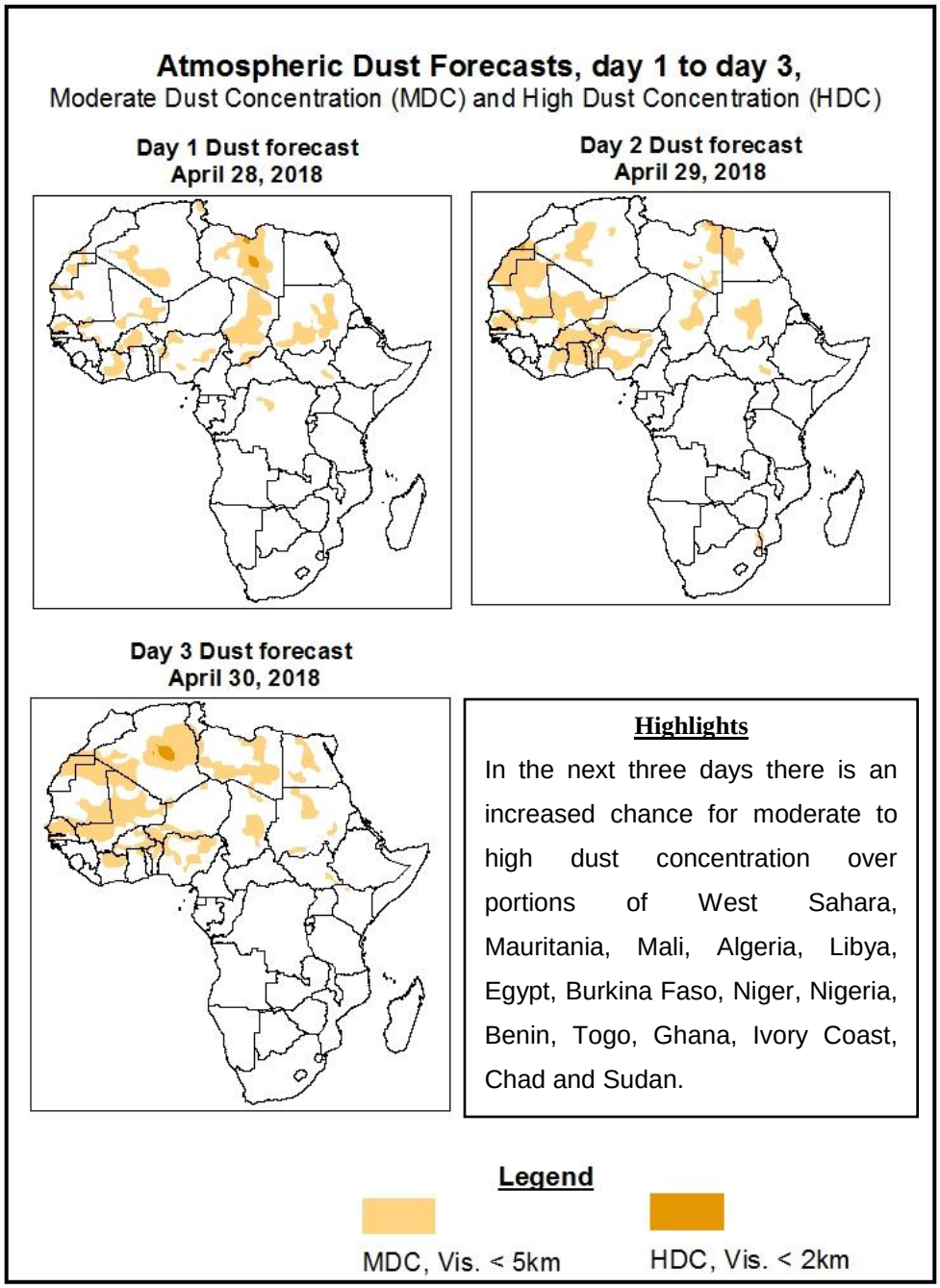


Highlights

In the next five days, lower-level convergence across Uganda and South Sudan, lower-level wind divergence near Madagascar, and a low monsoon entrance in West Africa are expected to enhance rainfall in the in eastern part of Africa then a reduction of rainfall in the southern and western part. As a result, there is an increased chance for two or more days of moderate to heavy rainfall over portions of Guinea, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Gabon, Congo, DRC, CAR, Malawi, Burundi, Rwanda, Tanzania, Uganda, Kenya, South Sudan, Ethiopia, Somalia, Djibouti and Eritrea.

1.2. Atmospheric Dust Concentration Forecasts (valid: Apr 28 – Apr 30, 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: Apr 28 – May 02, 2018*

The Azores High Pressure system over the North Atlantic Ocean is expected to weaken during the forecast period. The central pressure values ranges from about 1035 hPa to 1029 hPa during 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 ranges from about 1025 hPa to 1020 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 1024 hPa to 1031 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 in the extreme northern part of the Gulf of Guinea countries and a low monsoon entrance while the area of wind convergence remain active the northern portions of Tanzania during the forecast period. A southeastern flow with its associated lower-level divergence is expected to prevail across the northern portions of the Mozambique Channel and northern Madagascar.

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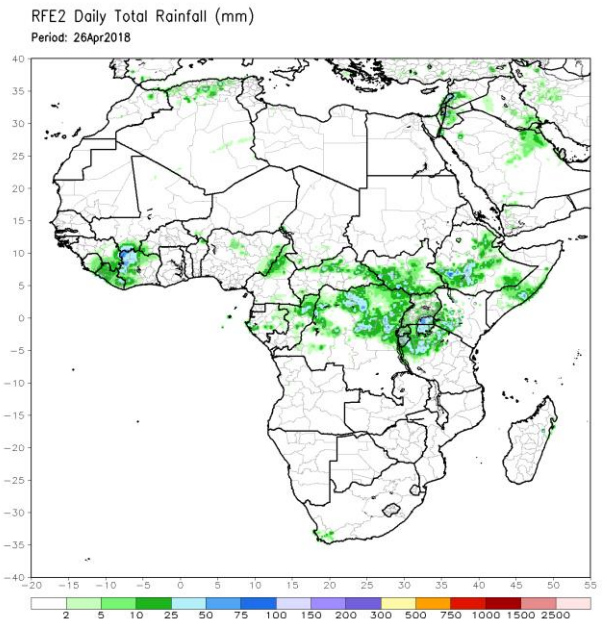
2.0. Previous and Current Day Weather over Africa

2.1. Weather assessment for the previous day (April 26, 2018)

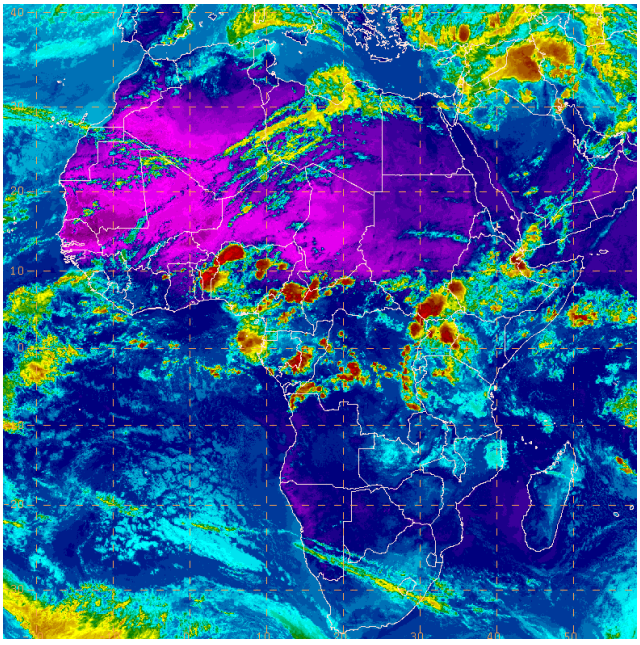
Moderate to locally heavy rainfall was observed over parts of Algeria, Guinea, Liberia, Mali, Ivory Coast, Cameroon, Gabon, Congo, CAR, DRC, Rwanda, Burundi, Tanzania, Uganda, South Sudan, Kenya, Ethiopia, and Somalia.

2.2. Weather assessment for the current day (April 27, 2018)

Intense convective clouds are observed over across most parts of East Africa and the coastal countries of Central Africa.



IR Satellite Image (valid 1552Z April 27, 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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