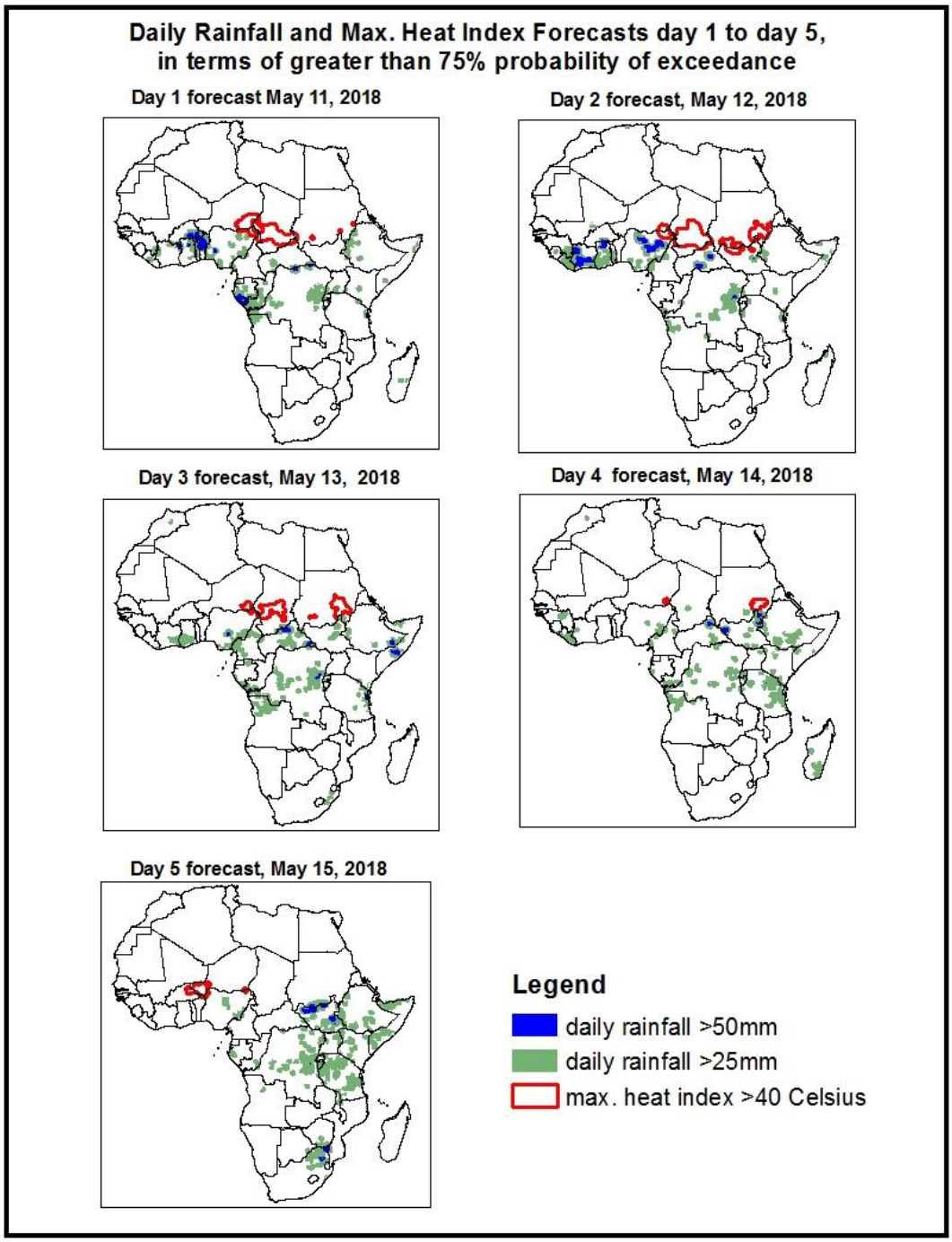
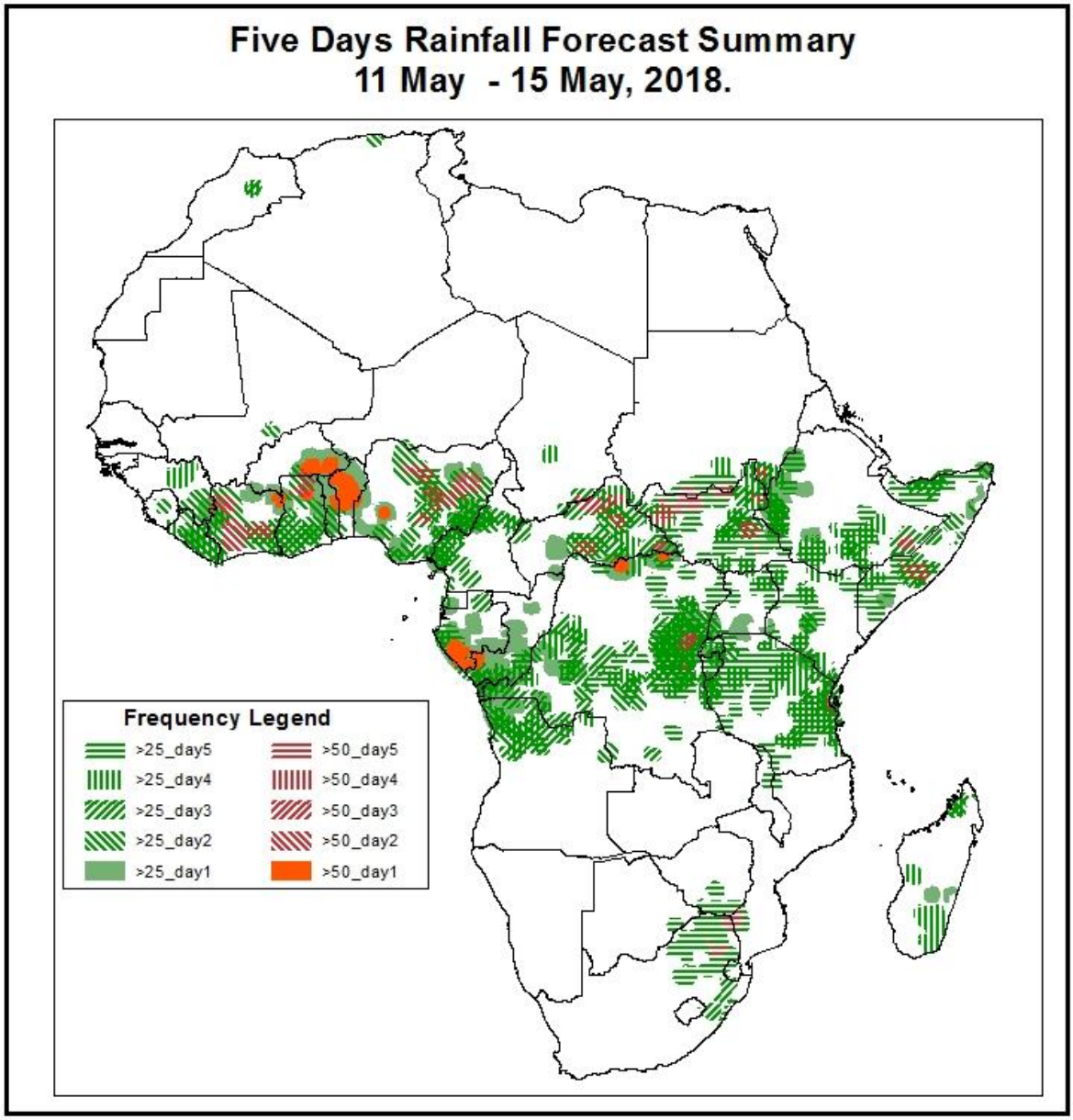
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

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

1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: May 11, – May 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.



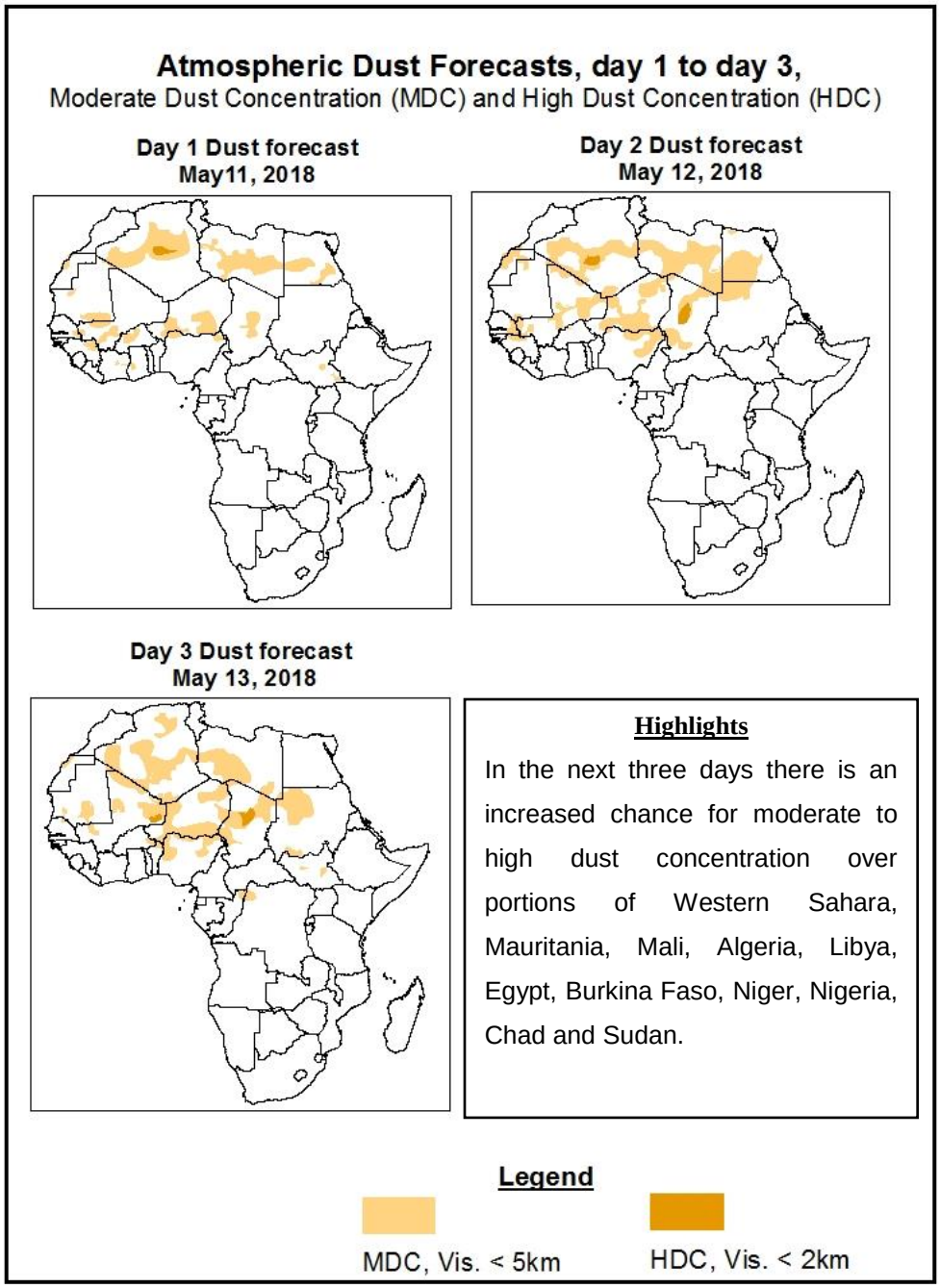


Highlights

In the next five days, lower-level convergence across part of Gulf of Guinea countries, central Africa, eastern DRC and South Sudan and lower-level wind divergence over part of Guinea, Sierra Leone and southern Mali, are expected to enhance rainfall in the Central and the western part of Africa then a reduction of rainfall over Guinea, Sierra Leone and Mali. 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, Burkina Faso, Ghana, Togo, Benin, Nigeria, Cameroon, Congo, Angola, DRC, CAR, Sudan, South Sudan, Uganda, Burundi, Rwanda, Tanzania, Kenya, Ethiopia, Somalia, South Africa and Madagascar.

1.2. Atmospheric Dust Concentration Forecasts (valid: May 11 – May 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: May 11– May 15, 2018*

The Azores High Pressure system over the North Atlantic Ocean is expected to intensify in the first two days and then weaken in the last three days of the forecast period. The central pressure values increases from about 1030 hPa to 1033 hPa and decreases to 1031 hPa during the forecast period.

The St. Helena High Pressure system over the Southeast Atlantic Ocean is expected to weaken in the first two days and then intensify in the last three days of the forecast period. The central pressure values decreases from about 1023 hPa to 1022 hPa and increases to 1028 hPa during the forecast period.

The Mascarene High Pressure system over the Southwest Indian Ocean is expected to weaken in the first two days and then intensify in the last three days of the forecast period. The central pressure values decreases from about 1022 hPa to 1019 hPa and increases to 1024 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 in South Sudan during the forecast period. A northeastern flow with its associated lower-level divergence is expected to prevail across the southern portions of the Mozambique Channel.

In the next five days, lower-level convergence across part of Gulf of Guinea countries, central Africa, eastern DRC and South Sudan and lower-level wind divergence over part of Guinea, Sierra Leone and southern Mali, are expected to enhance rainfall in the Central and the western part of Africa then a reduction of rainfall over Guinea, Sierra Leone and Mali. 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, Burkina Faso, Ghana, Togo, Benin, Nigeria, Cameroon, Congo, Angola, DRC, CAR, Sudan, South Sudan, Uganda, Burundi, Rwanda, Tanzania, Kenya, Ethiopia, Somalia, South Africa and Madagascar.

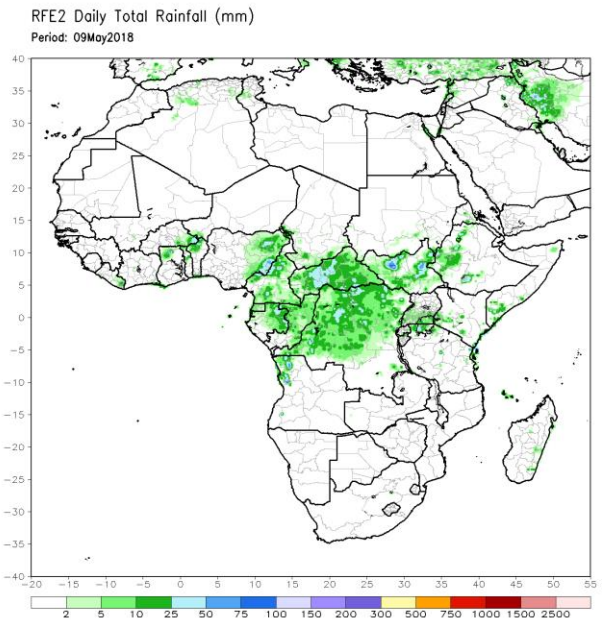
2.0. Previous and Current Day Weather over Africa

2.1. Weather assessment for the previous day (May 09, 2018)

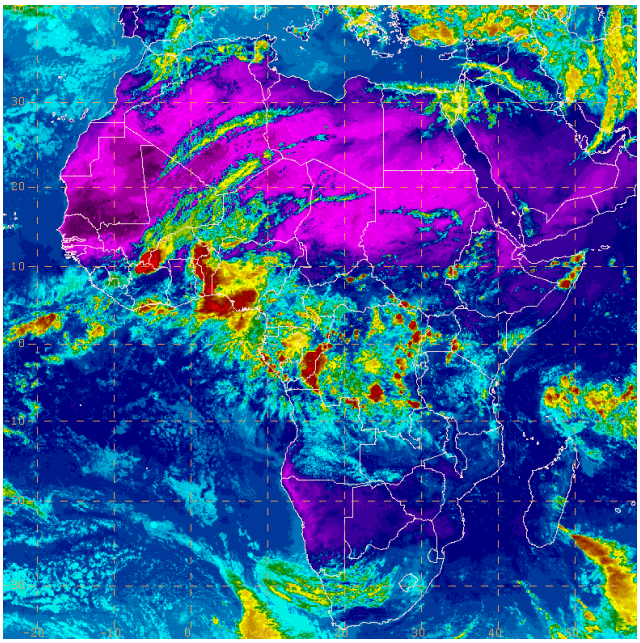
Moderate to locally heavy rainfall was observed over parts of Burkina Faso, Ghana, Benin, Nigeria, Cameroon, Gabon, Congo, Angola, CAR, DRC, South Sudan, Tanzania, Kenya, Ethiopia and Somalia.

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

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



IR Satellite Image (valid 1452Z May 10, 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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