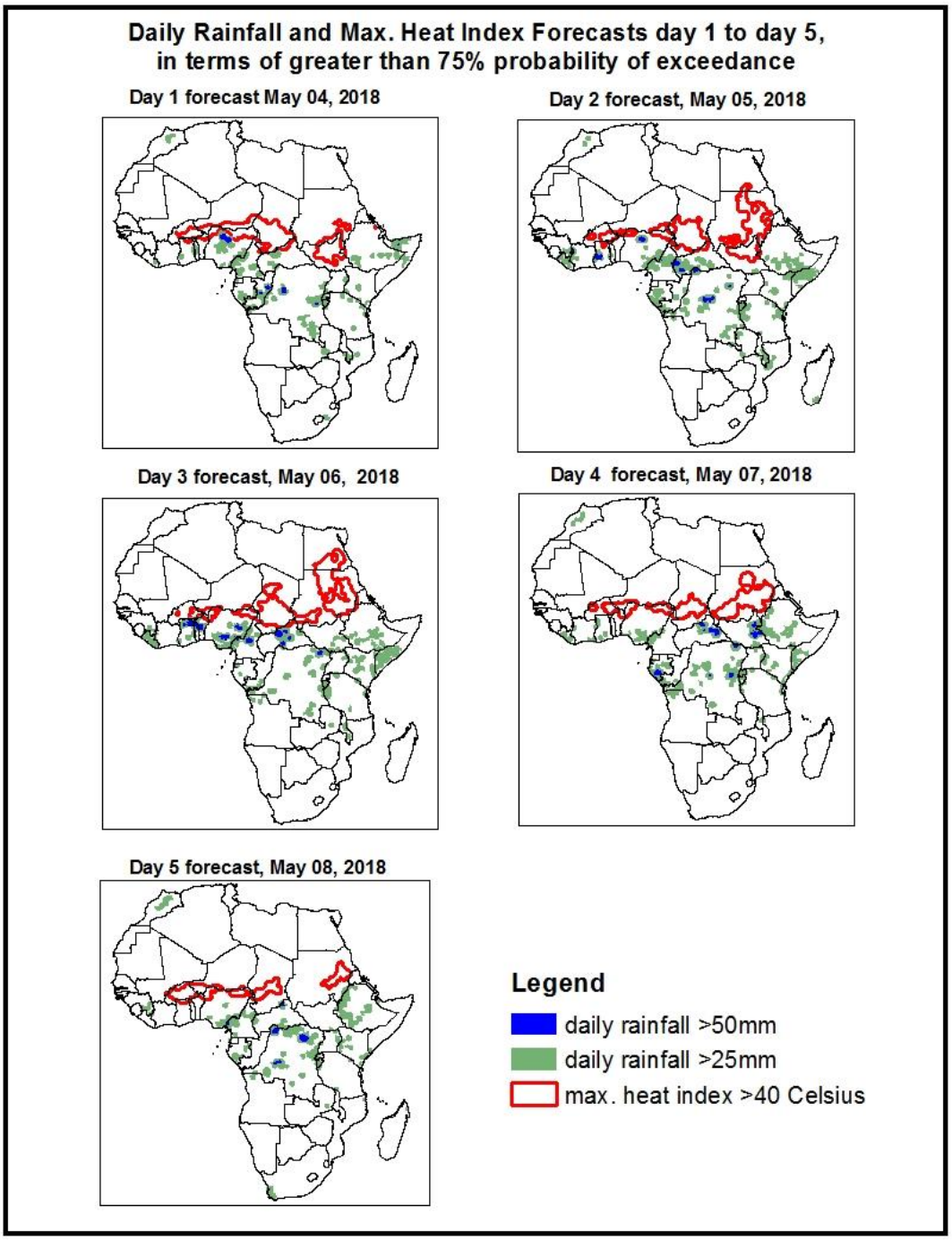
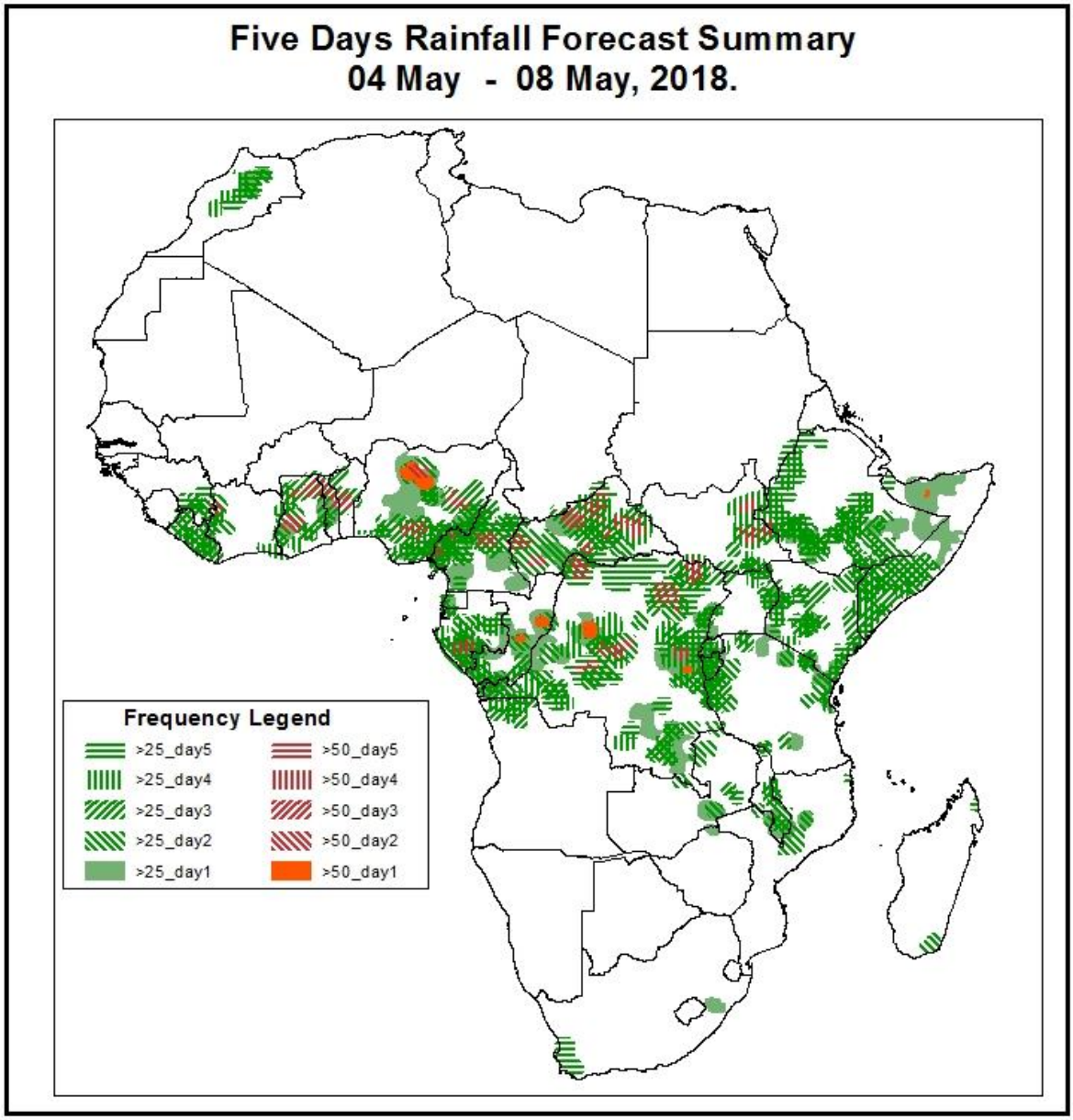
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on May 03, 2018)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: May 04, – May 08, 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.



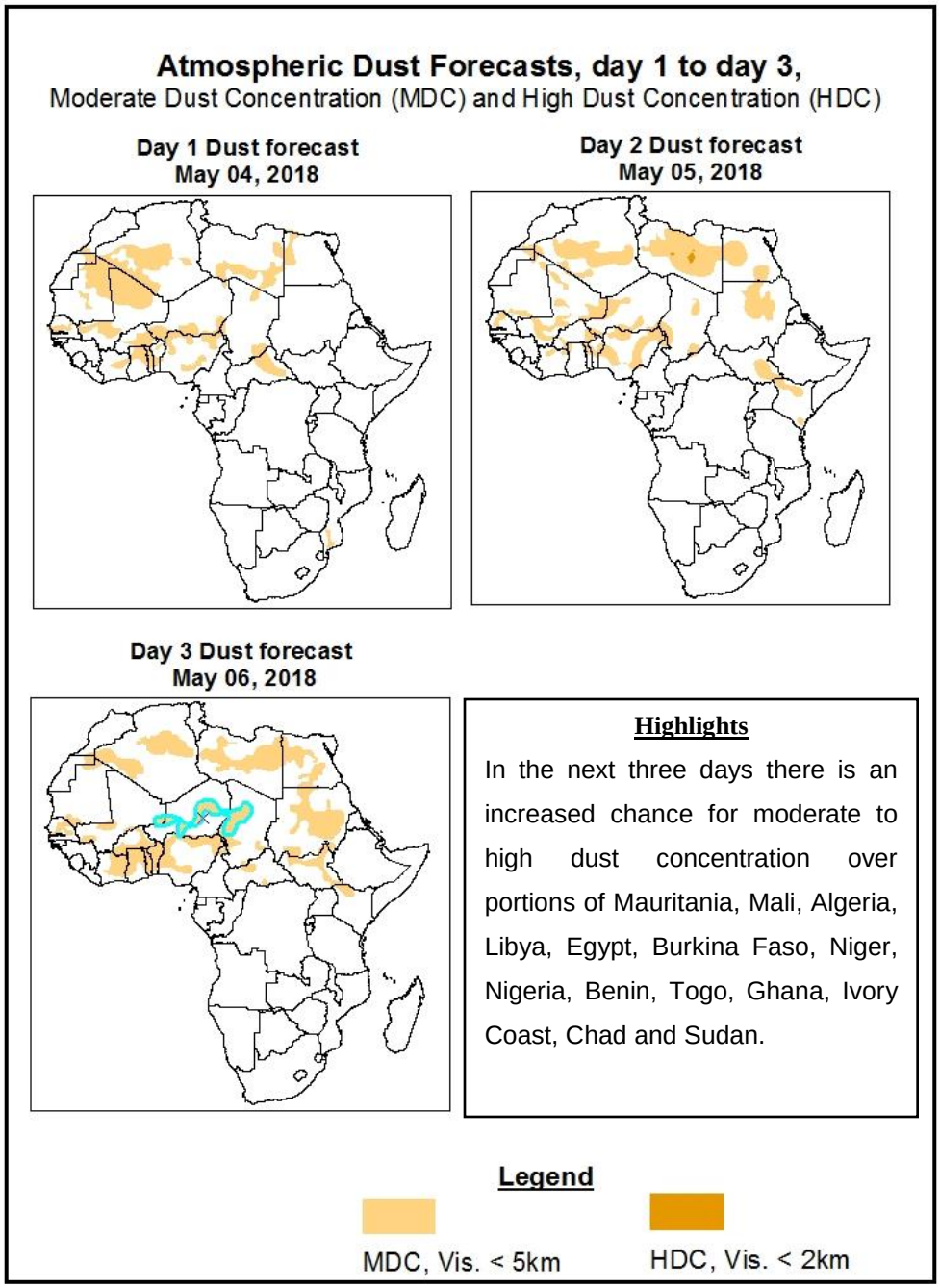


Highlights

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 Morocco, Guinea, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Gabon, Congo, DRC, CAR, Malawi, Burundi, Rwanda, Tanzania, Uganda, Kenya, South Sudan, Ethiopia, and Somalia.

1.2. Atmospheric Dust Concentration Forecasts (valid: May 04 – May 06, 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 04 – May 08, 2018*

The Azores High Pressure system over the North 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 1027 hPa to 1024 hPa and increases 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 1029 hPa to 1027 hPa and increases to 1030 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 1026 hPa to 1024 hPa and increases to 1029 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 southeastern flow with its associated lower-level divergence is expected to prevail across the northern portions of the Mozambique Channel and northern Madagascar.

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 Morocco, Guinea, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Gabon, Congo, DRC, CAR, Malawi, Burundi, Rwanda, Tanzania, Uganda, Kenya, South Sudan, Ethiopia, and Somalia.

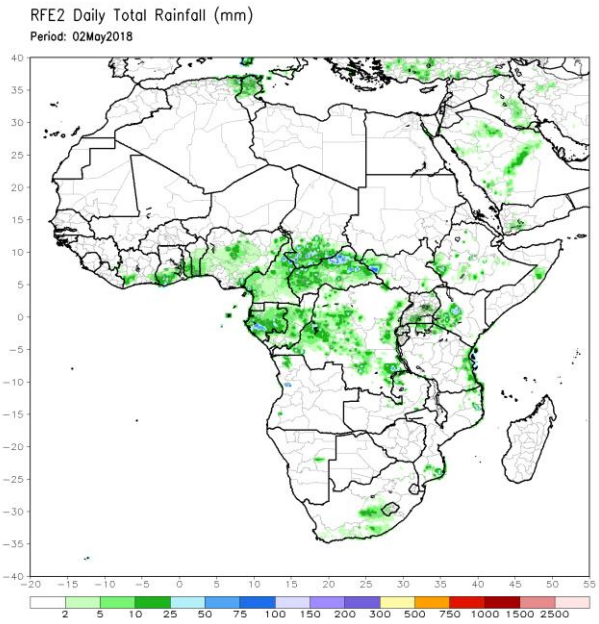
2.0. Previous and Current Day Weather over Africa

2.1. Weather assessment for the previous day (May 02, 2018)

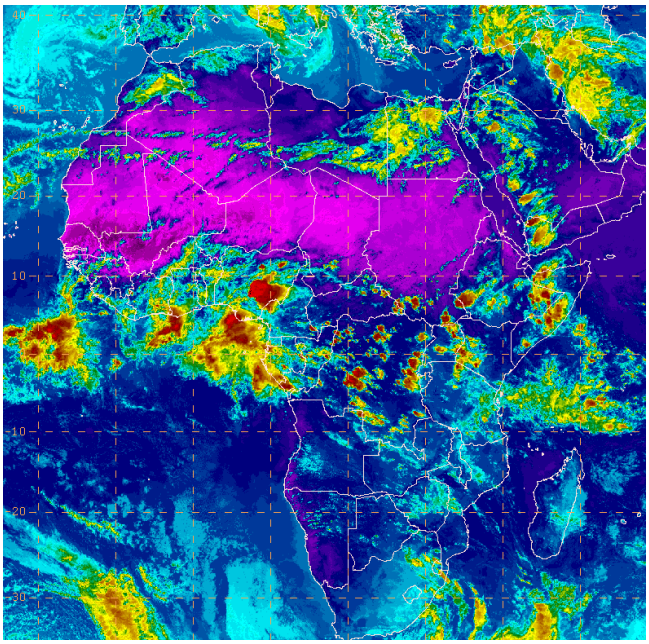
Moderate to locally heavy rainfall was observed over parts of Algeria, Tunisia, Ivory coast, Ghana, Togo, Benin, Nigeria, Cameroon, chad, Gabon, Congo, Angola, CAR, DRC, Zambia, Tanzania, Uganda, South Sudan, Kenya, Ethiopia and Mozambique.

2.2. Weather assessment for the current day (May 03, 2018)

Intense convective clouds are observed over across most parts of Golf of Guinea region.



IR Satellite Image (valid 1552Z May 03, 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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