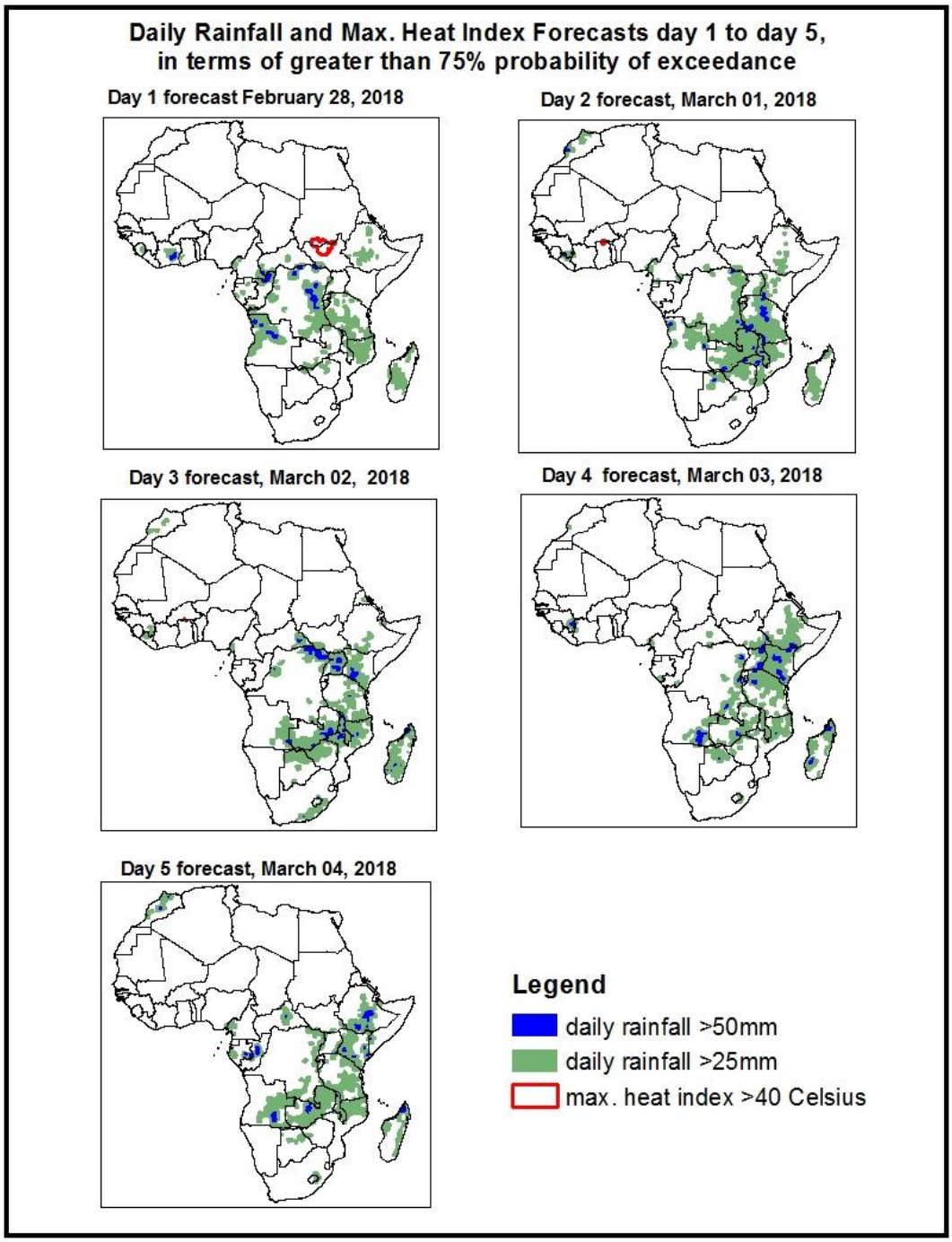
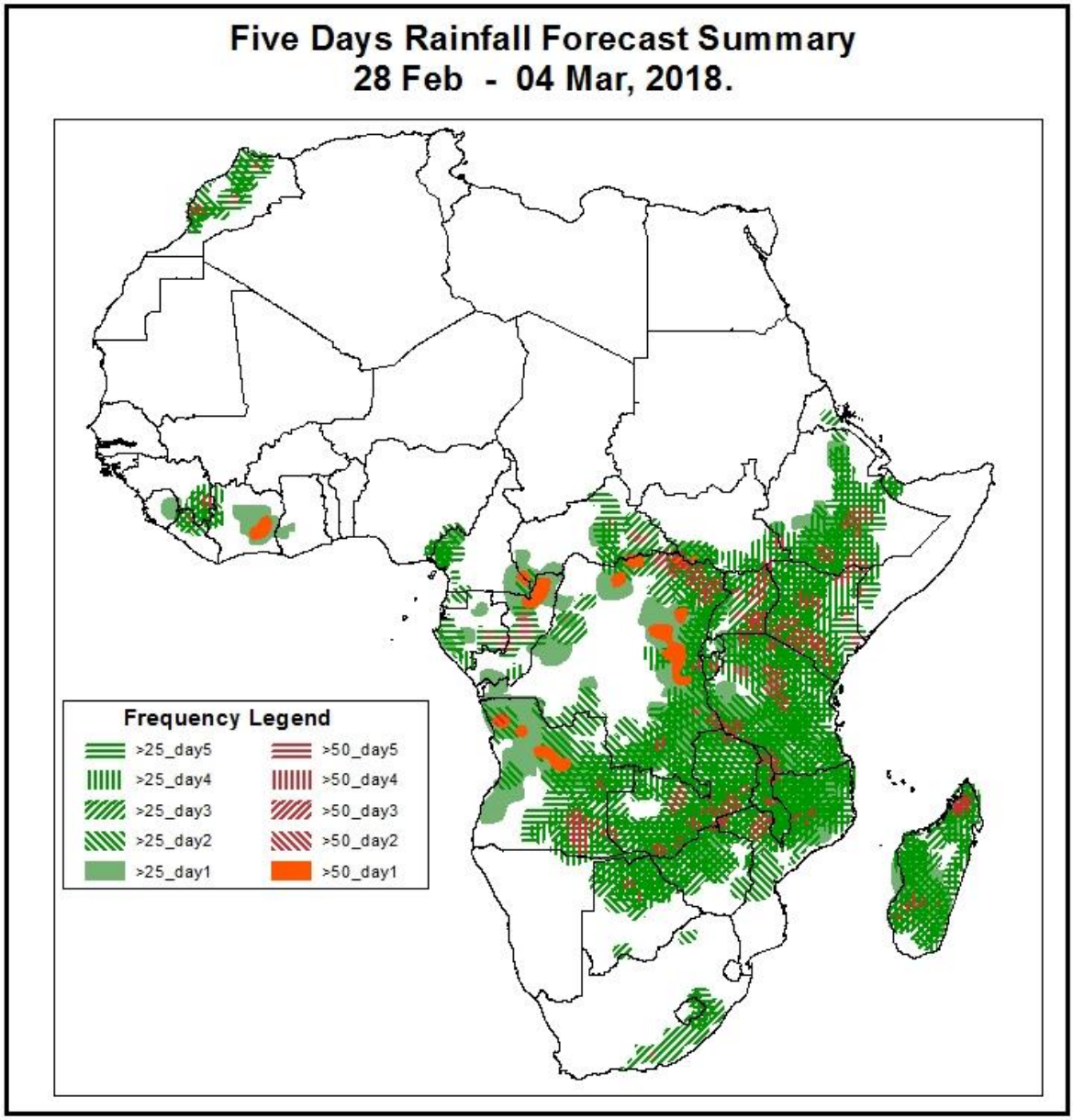
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on February27, 2018)

1.1. Daily Rainfall and Maximum Heat Index Forecasts *(valid: Feb 28, – Mar 04, 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.



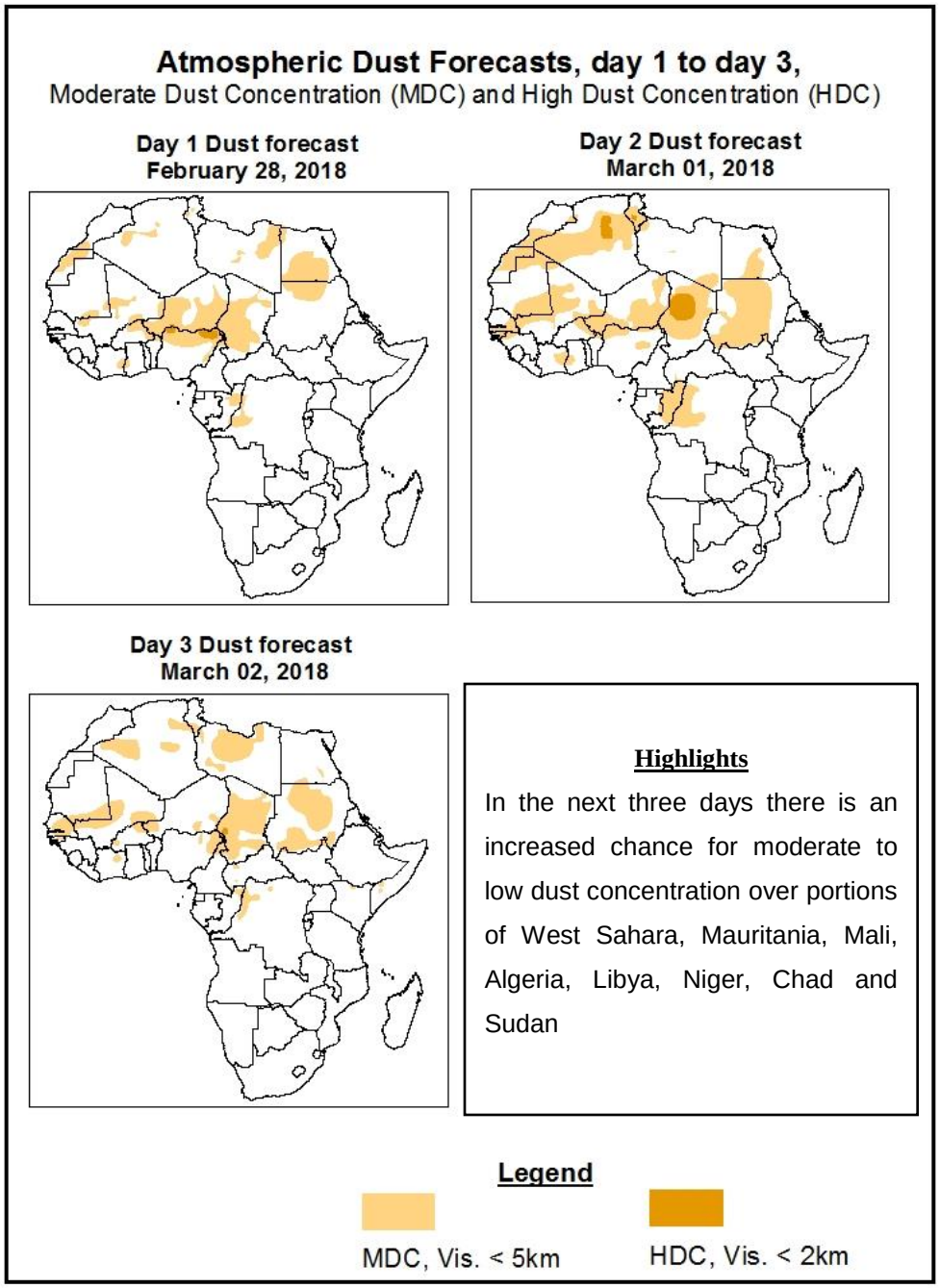


Highlights

In the next five days, lower-level convergence across Zambia and Tanzania, and lower-level wind convergence near Madagascar, and local wind convergence across parts of southern Tanzania are expected to enhance rainfall in their respective regions. As a result, there is an increased chance for two or more days of moderate to heavy rainfall over portions of Gabon, Congo, Angola, DRC, CAR, Zambia, Zimbabwe, Botswana, Burundi, Rwanda, Lesotho, South Africa, Mozambique, Malawi, Tanzania, Uganda, Kenya, Ethiopia, South Sudan and Madagascar.

1.2. Atmospheric Dust Concentration Forecasts (valid: Feb 28, – Mar 02, 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: Feb 28 – Mar 04, 2018*

The Azores High Pressure system over the North Atlantic Ocean is expected to weaken, with its central pressure value remaining at 1016 hPa during the forecast period.
The St. Helena High Pressure system over the Southeast Atlantic Ocean is expected to weaken during the forecast period as it moves eastwards. The central pressure values ranges from about 1023 hPa to 1018 hPa during the forecast period.
The Mascarene High Pressure system over the Southwest Indian Ocean is expected to intensify, with its central pressure value increasing from about 1019 hPa to 1032 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, a broad area of wind convergence is expected to remain active across the northern portions of Zambia during the forecast period. A strong westerly flow with its associated lower-level convergence is expected to prevail across the northern portions of the Mozambique Channel and northern Madagascar.

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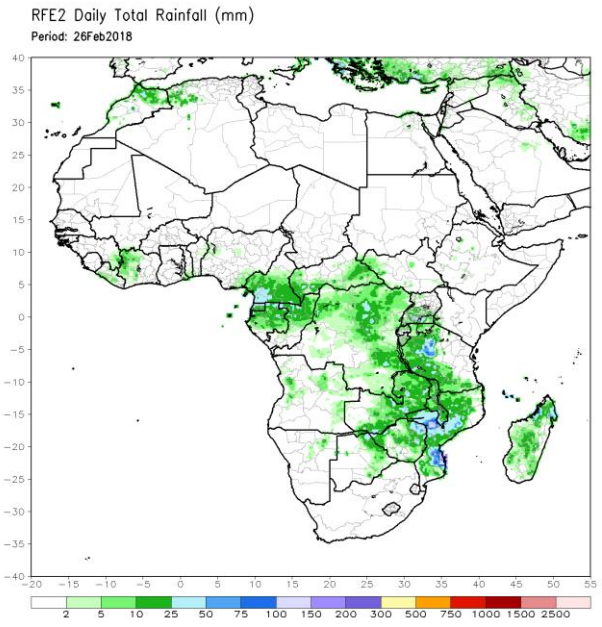
2.0. Previous and Current Day Weather over Africa

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

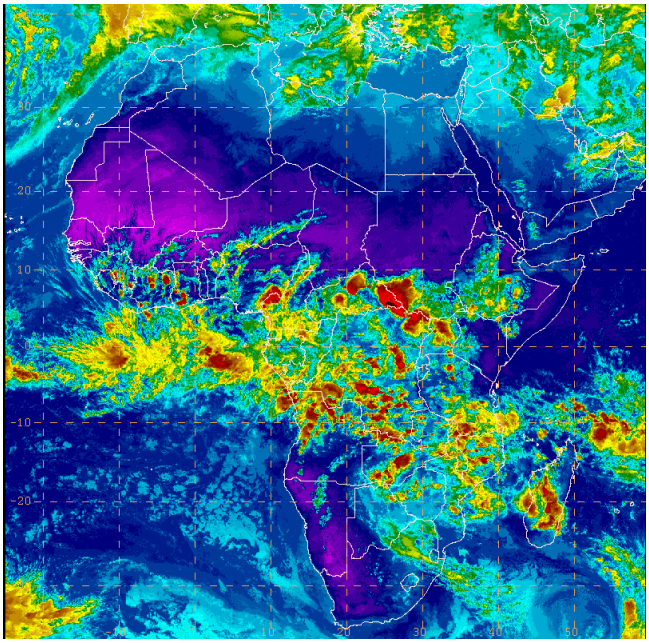
Moderate to locally heavy rainfall was observed over parts of Cote D'ivore, Cameroon, Gabon, Congo, DRC, CAR, Tanzania, Uganda, Zambia, Zimbabwe, Botswana, Malawi, Mozambique, and Madagascar.

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

Intense convective clouds are observed over across the northern parts of Southern Africa. Intense clouds.



IR Satellite Image (valid 1652Z february 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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