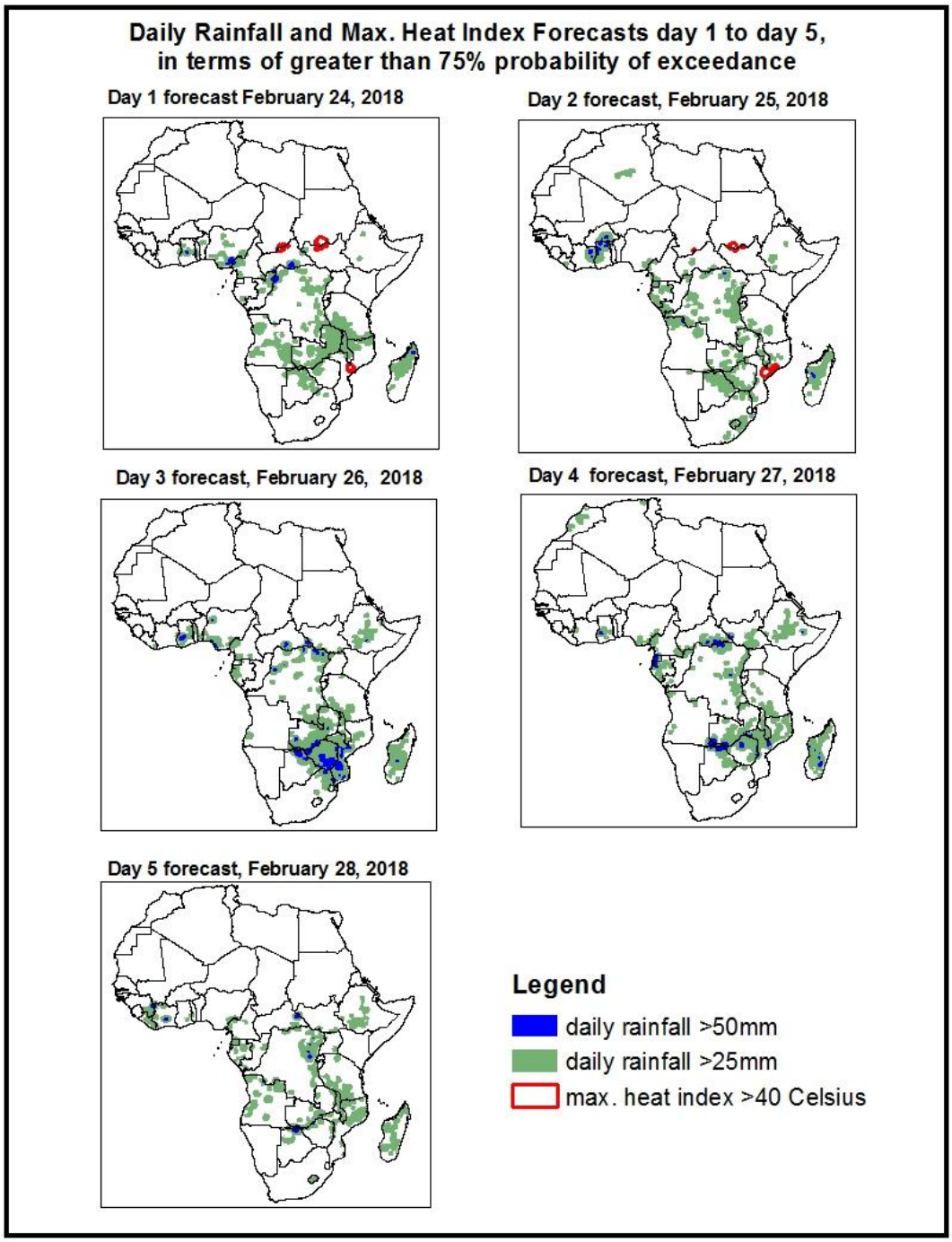
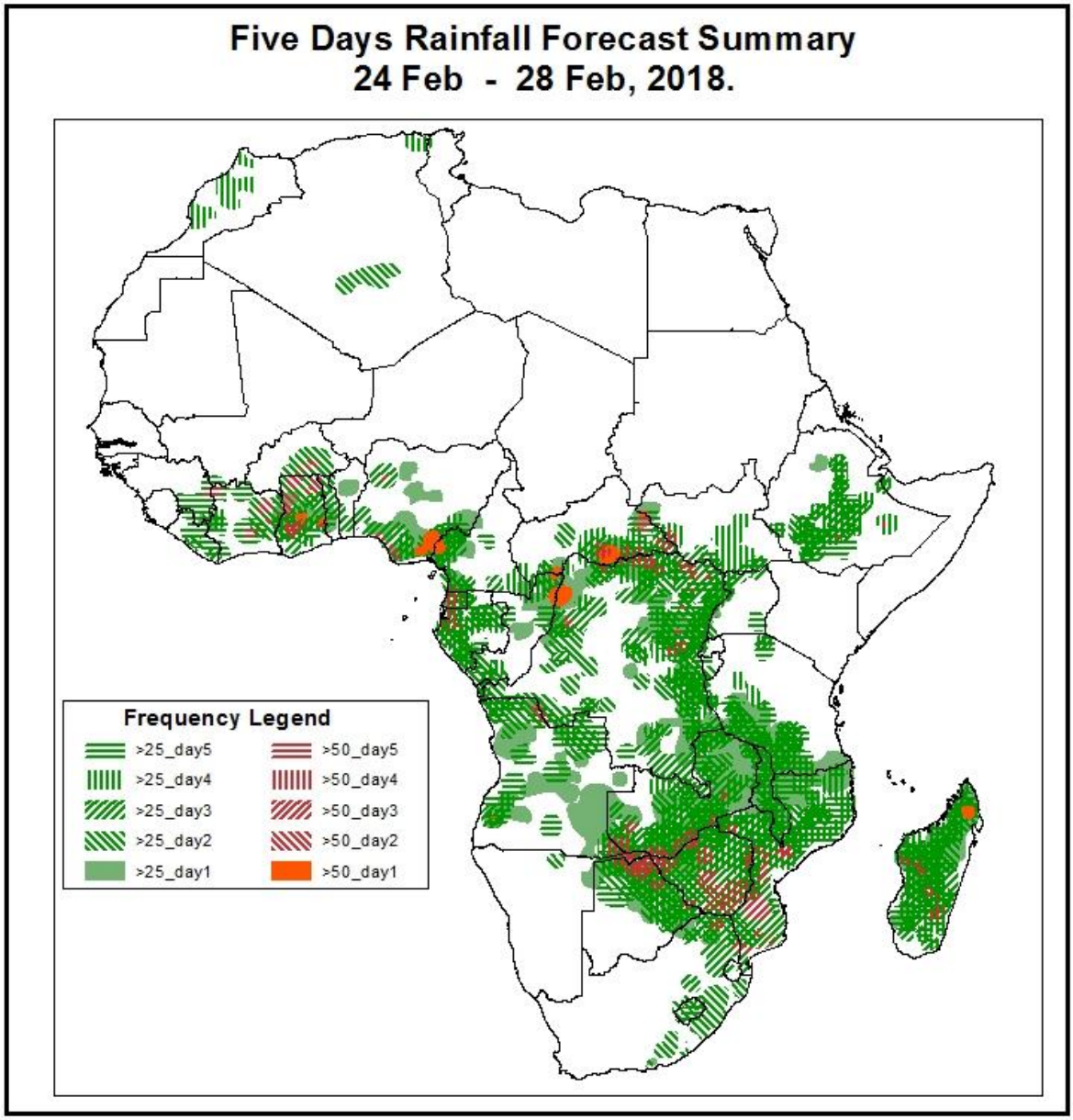
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on February23, 2018)

1.1. Daily Rainfall and Maximum Heat Index Forecasts *(valid: Feb 24, – Feb 28, 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.



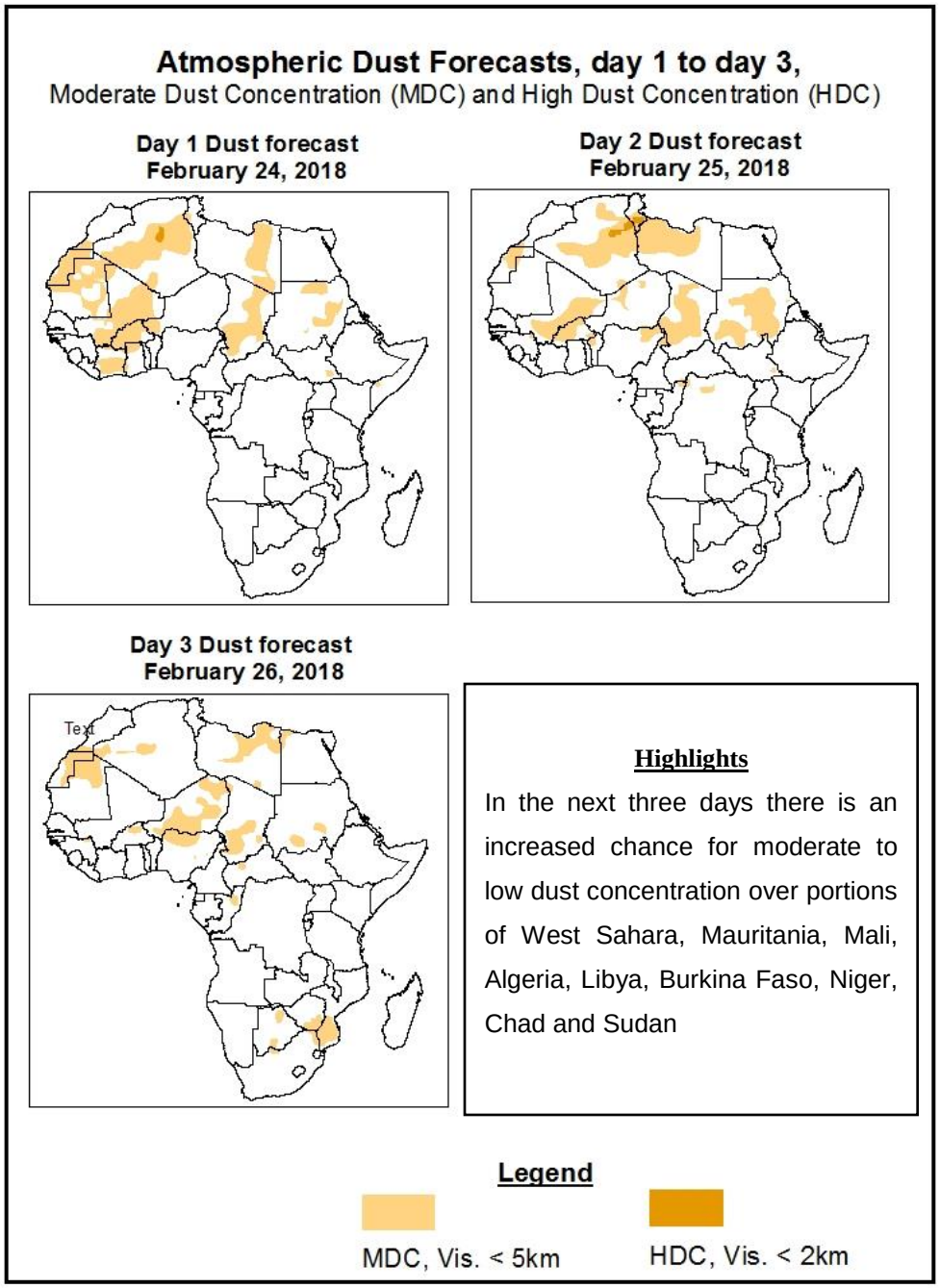


Highlights

In the next five days, lower-level convergence across the northern parts of southern Africa including Tanzania, and lower-level wind convergence near Madagascar, and local wind convergence across parts of South Africa 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 Cote d'ivore, Ghana, Togo, Benin, Nigeria, Cameroon, Gabon, Congo, Angola, DRC, CAR, Zambia, Zimbabwe, Botswana, Burundi, Lesotho, Swaziland, South Africa, Malawi, Tanzania, Uganda, Ethiopia, Mozambique and Madagascar.

1.2. Atmospheric Dust Concentration Forecasts (valid: Feb 24, – Feb 26, 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 24 – Feb 28, 2018*

The Azores High Pressure system over the North Atlantic Ocean is expected to weaken, with its central pressure value decreasing from 1020 hPa to 1012 hPa and the centres located very far to the west 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 1025 hPa to 1020 hPa during the forecast period.

The Mascarene High Pressure system over the Southwest Indian Ocean is expected to weaken and moving farther eastward, with its central pressure value decreasing from about 1034 hPa to 1022 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 southern Africa 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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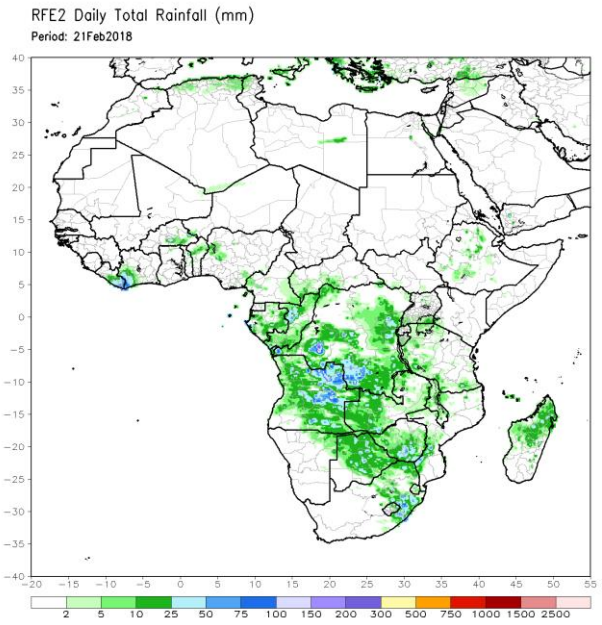
2.0. Previous and Current Day Weather over Africa

2.1. Weather assessment for the previous day (February 22, 2018)

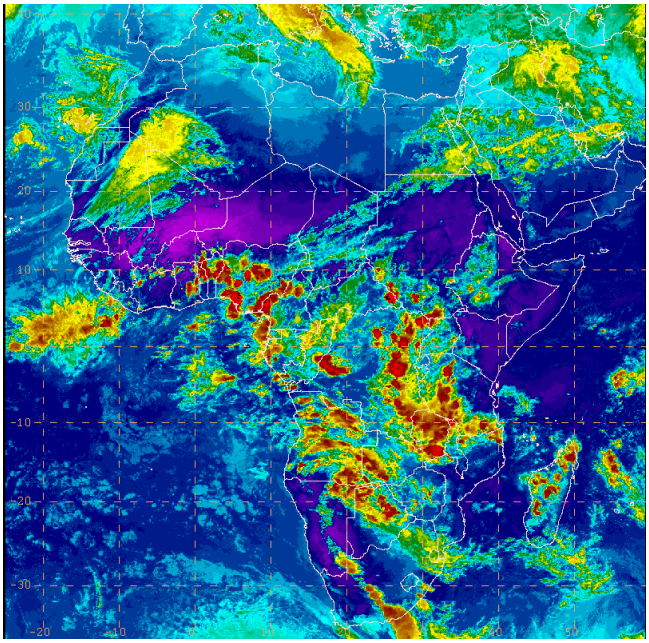
Moderate to locally heavy rainfall was observed over parts of Cameroon, CAR, Gabon, Congo, Angola, DRC, Tanzania, Uganda, Ethiopia, Zambia, Zimbabwe, Botswana, South Africa, Lesotho, and Madagascar.

2.2. Weather assessment for the current day (February 23, 2018)

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



IR Satellite Image (valid 1652Z february 23, 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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