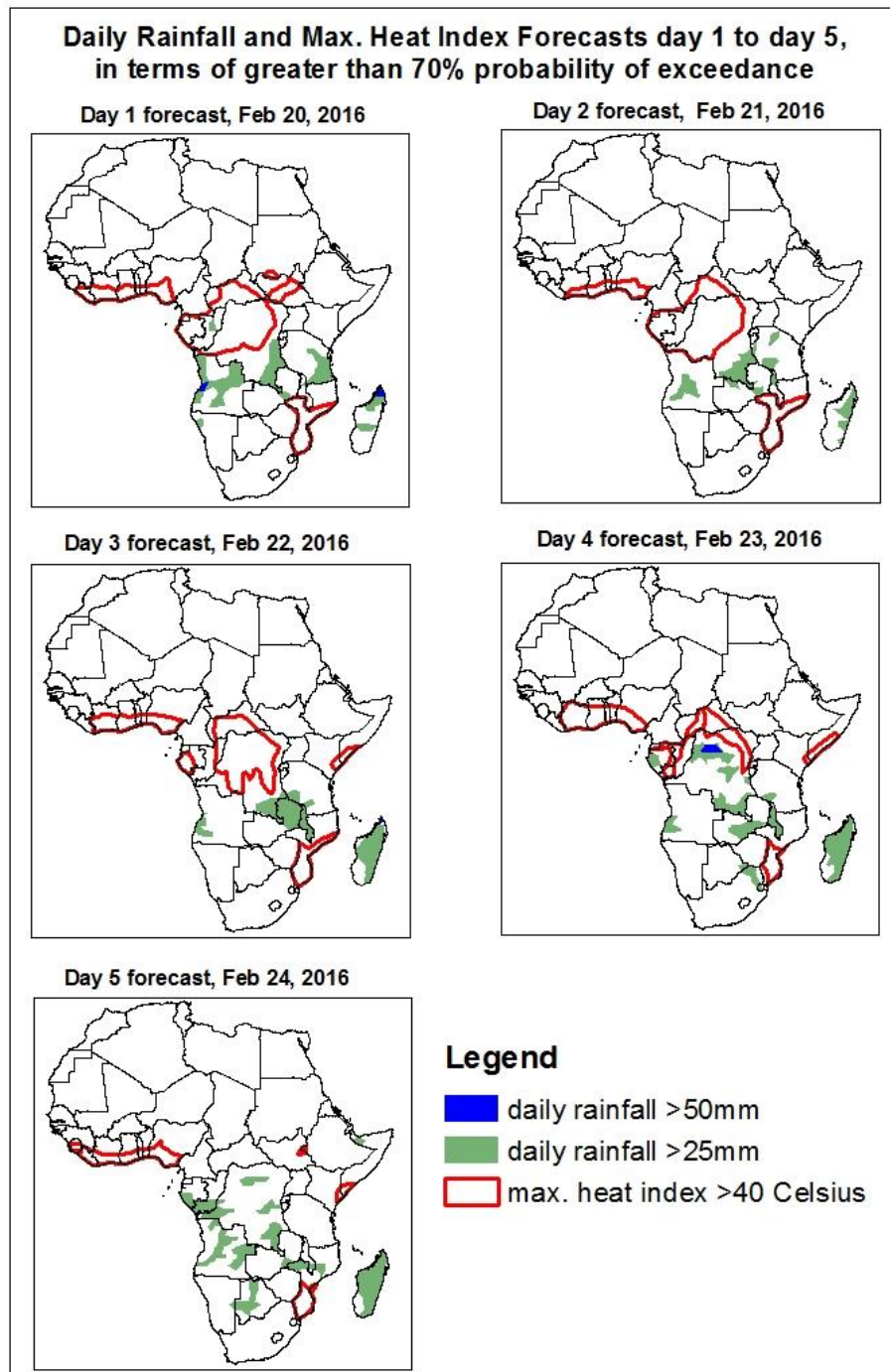


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

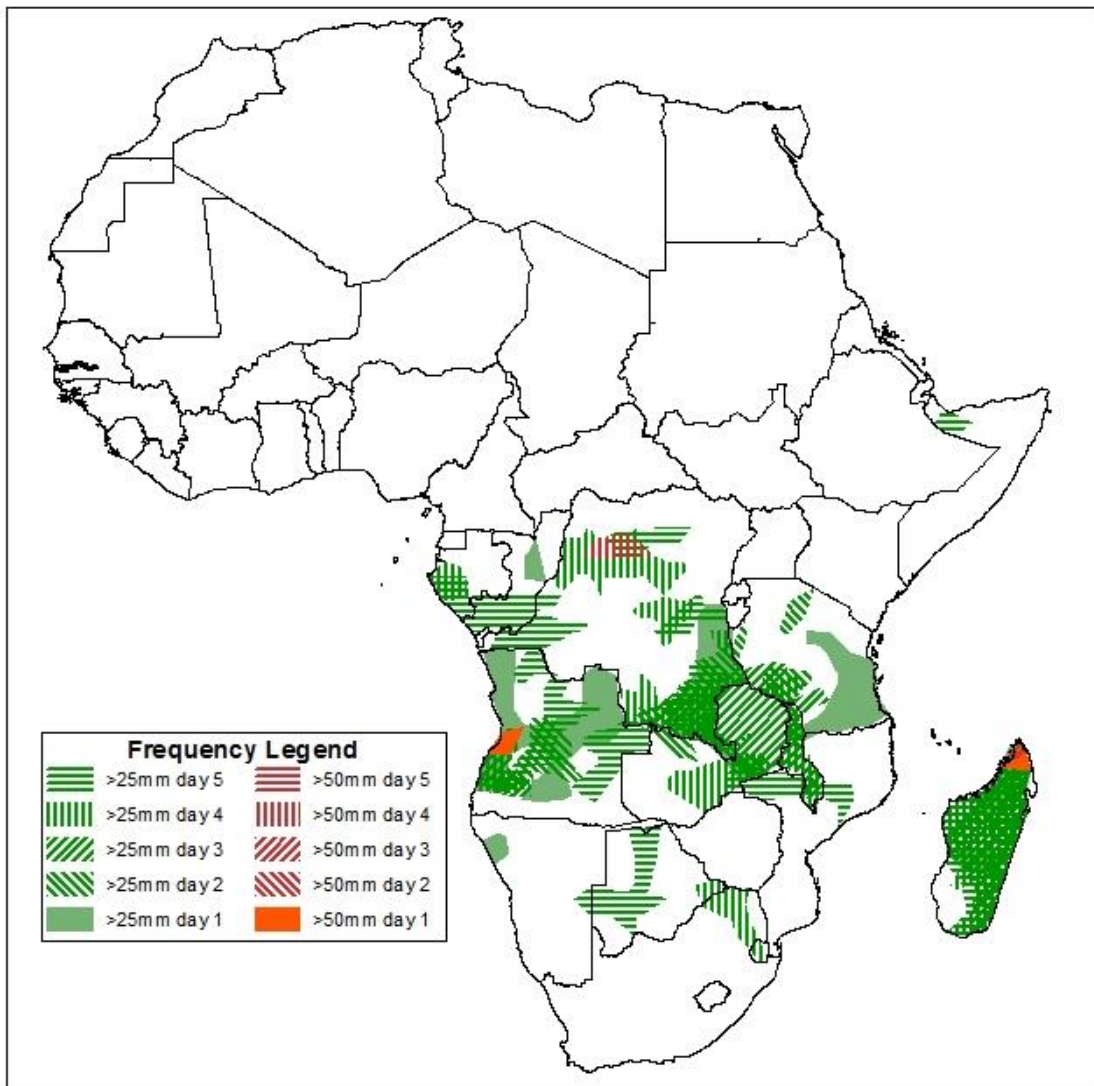
1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on February 19, 2016)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: Feb 20 – Feb 24, 2016)

The forecasts are expressed in terms of high probability of precipitation (POP) and high probability of maximum heat index, based on the NCEP/GFS, ECMWF and the NCEP Global Ensemble Forecasts System (GEFS) and expert assessment.



Five Days Rainfall Forecast Summary February 20 - 24 , 2016

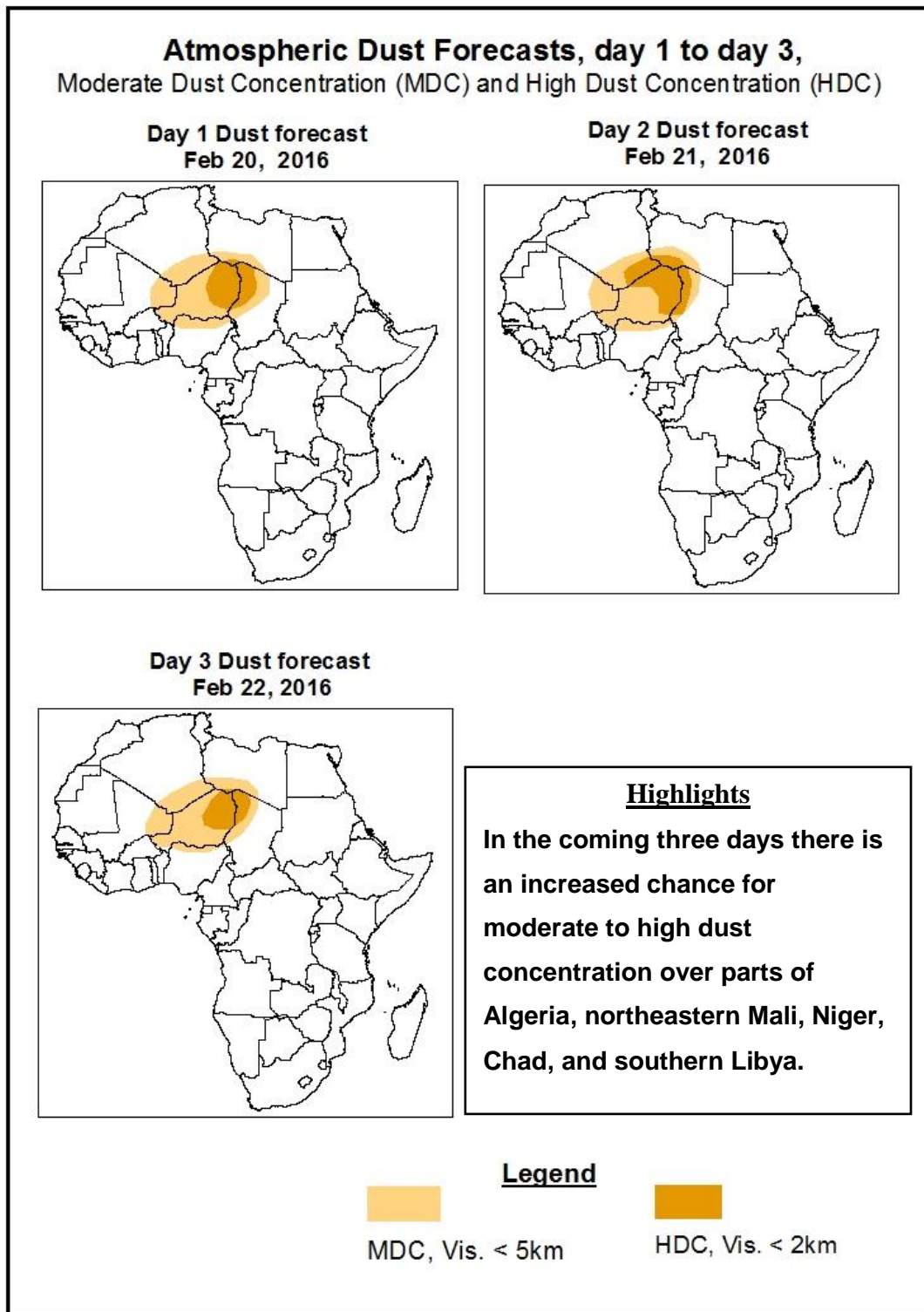


Highlights

In the coming five days, there is an increased chance for two or more days of moderate to heavy rainfall over portions of Angola and DRC, southern Tanzania, portions of Zambia, Malawi, and Madagascar.

1.2. Atmospheric Dust Concentration Forecasts (valid: Feb 20 – Feb 22, 2016)

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 20 – Feb 24, 2016

The Azores high pressure system over Northeast Atlantic is expected to weaken during the first half of the forecast period, and re-strengthen towards end of the forecast period. Its central pressure value is expected to increase from 1038 hPa to 1032 hPa through 24 to 72 hours, and is expected to increase to 1039 hPa by 120 hours.

The Mascarene high pressure system over Southwest Indian Ocean is expected to weaken, with its central pressure value decreasing from 1030 hPa in 24 hours to 1034hPa in 120 hours.

The St Helena high pressure system over Southwest Indian Ocean is expected to weaken through the first half of the forecast period, while shifting eastwards and giving way to a mid-latitude frontal system to prevail across in the region..

At 925 hPa level, strong dry northeasterly to easterly flow is expected to prevail across Northern Africa and Central Sahel, leading to increased chance for moderate to high dust concentration in the region.

At 850 hPa level, southeasterly to easterly flow from the Indian Ocean, with its associated convergence across the northern portions of Southeastern Africa is expected to enhance rainfall in the region. Seasonal wind convergences are expected to remain active across DRC during the forecast period, whereas a cyclonic circulation over Angola is expected to enhance rainfall in the region.

At 500 hPa level, a mid-latitude westerly trough is expected to propagate between central Mediterranean Sea and northern Red Sea. This may lead to increase in cloudiness and rainfall across Ethiopia towards end of the forecast period.

In the coming five days, there is an increased chance for two or more days of moderate to heavy rainfall over portions of Angola and DRC, southern Tanzania, portions of Zambia, Malawi, and Madagascar.

There is also an increased chance for maximum heat index values to exceed 40°C along the Gulf of Guinea coast, parts of central DRC, southern CAR, southern Mozambique portions of South Sudan Republic and portions of coastal East Africa.

2.0. Previous and Current Day Weather over Africa

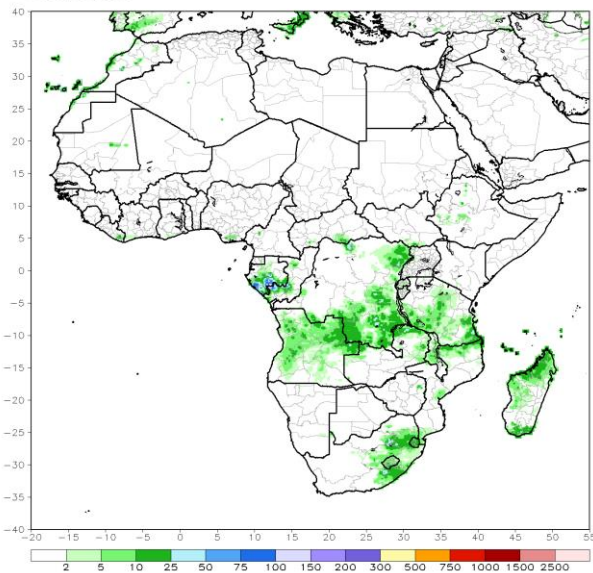
2.1. *Weather assessment for the previous day* (February 18, 2016)

Moderate to locally heavy rainfall was observed over portions of Gabon and Angola, southern and eastern DRC, portions of Tanzania, eastern South Africa and Madagascar.

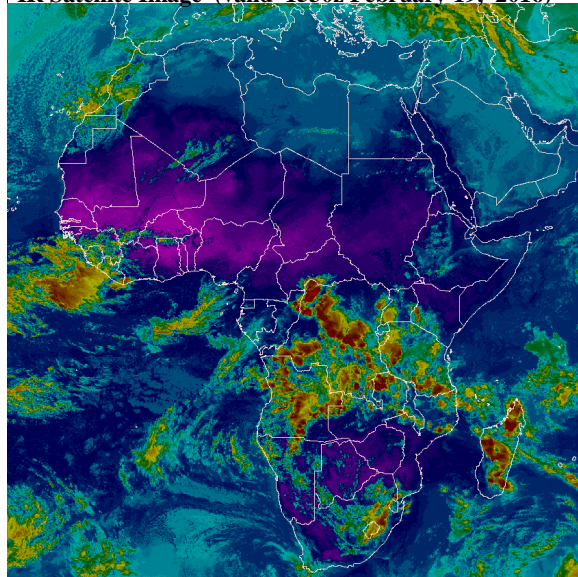
2.2. *Weather assessment for the current day* (February 19, 2016)

Intense convective clouds are observed across Southern CAR, DRC, Angola, Tanzania, northern Zambia, and Madagascar.

RFE2 Daily Total Rainfall (mm)
Period: 18Feb2016



IR Satellite Image (valid 1530z February 19, 2016)



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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