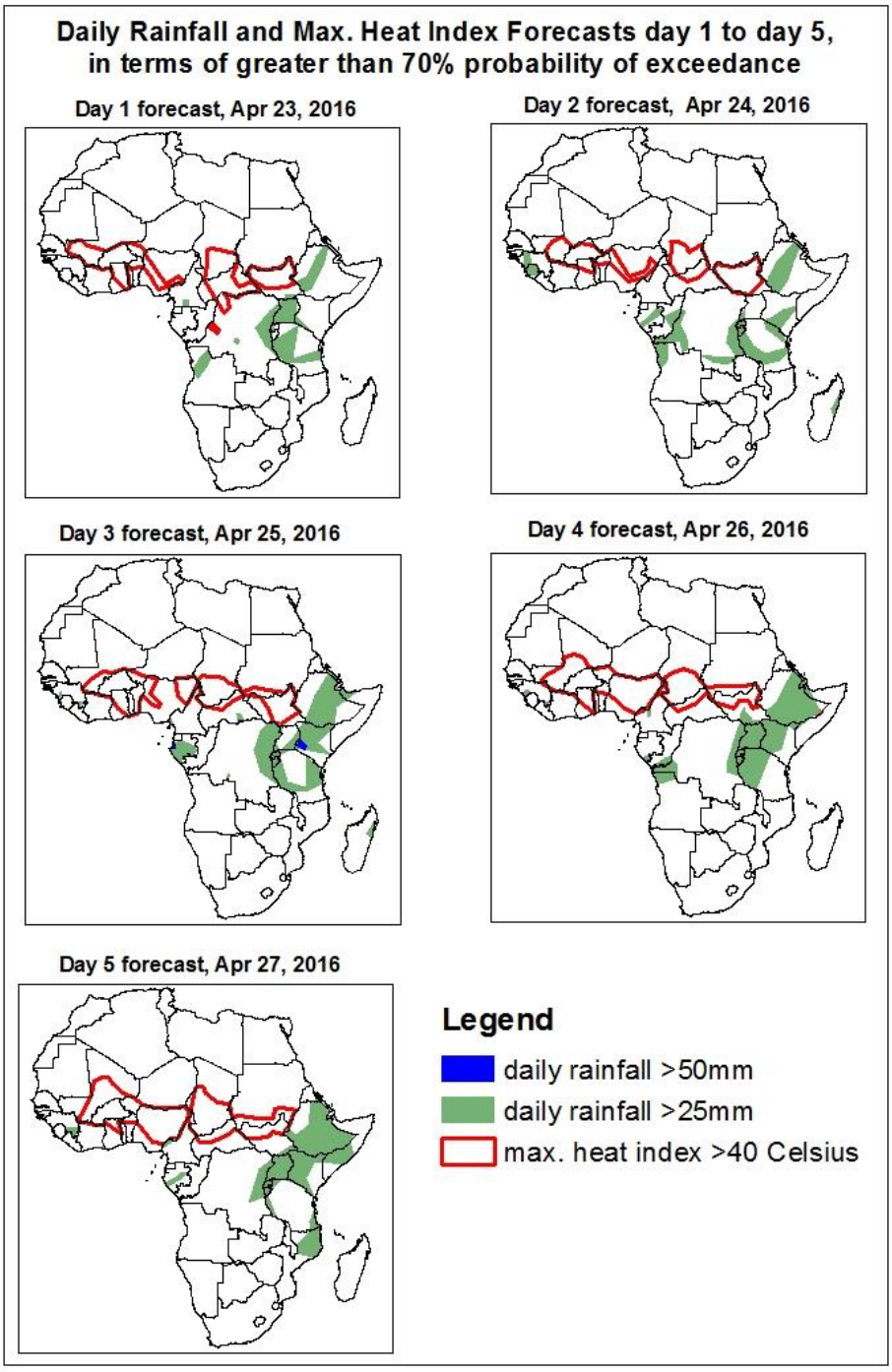
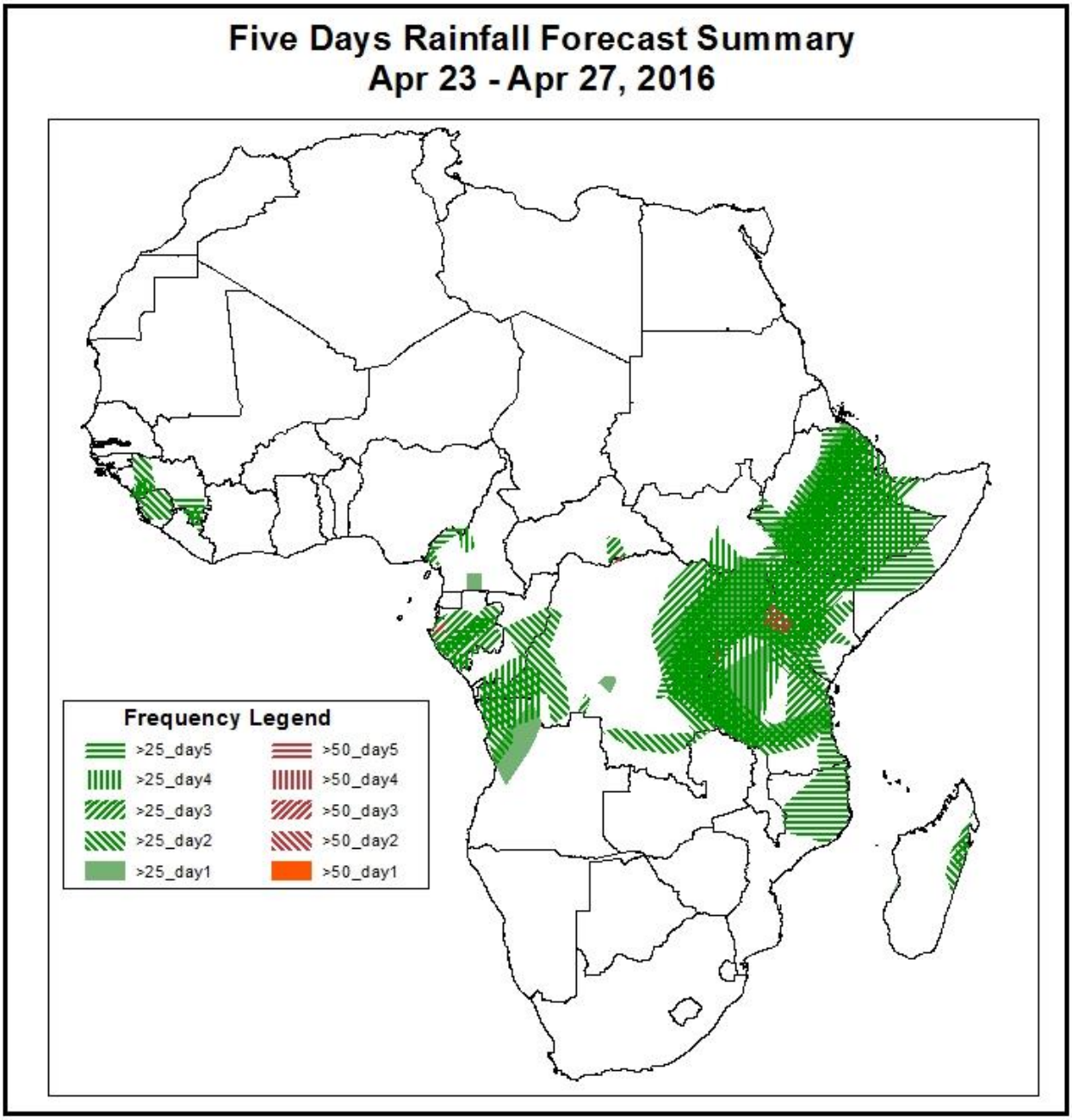
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on April 22, 2016)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (*valid: April 23– April 27, 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.



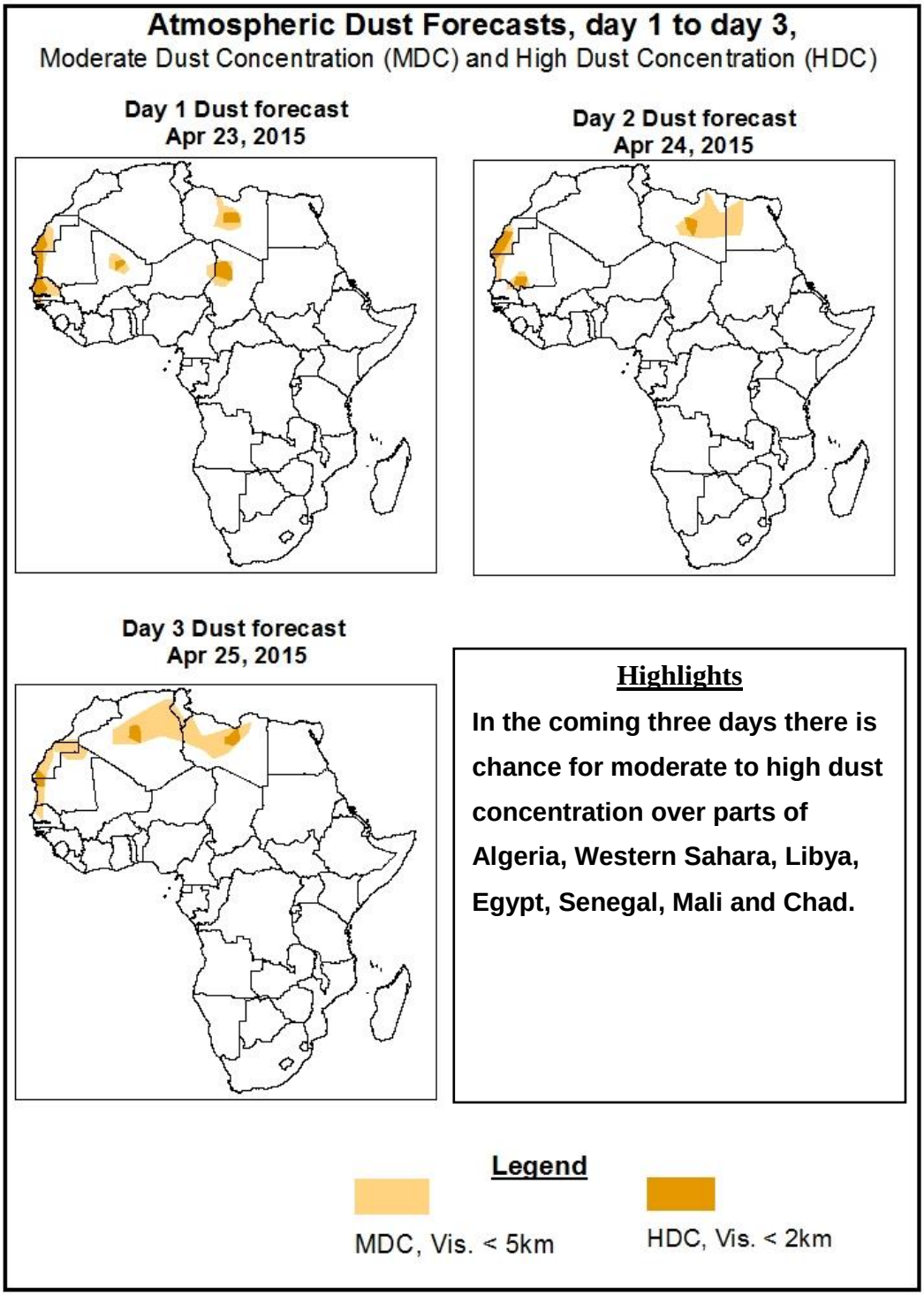


Highlights

In the coming five days, there is an increased chance for two or more days of moderate to heavy rainfall over Guinea, Sierra Leone, Gabon, Congo, Eastern DRC, Uganda, Rwanda, Burundi, Kenya, Ethiopia, NE Angola and Tanzania.

1.2. Atmospheric Dust Concentration Forecasts *(valid: April 23 – April 25, 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: April 23 – April 27, 2016

The central pressure value associated with the Azores high pressure system over Northeast Atlantic with an initial central pressure value of about 1022Hpa is expected to weaken to about 1020Hpa in the next 48Hrs. It is expected to intensify to about 1024Hpa in the next 72Hrs and weaken to 1020Hpa during the forecast period.

The St. Helena High pressure system over the Southeast Atlantic Ocean with an initial central pressure value of 1020Hpa is expected to intensify to about 1028Hpa during the forecast period.

The Mascarene high pressure system over the Southwest Indian Ocean with an initial central value of 1020Hpa is expected to intensify to about 1028Hpa in the next 48Hrs. It is expected to weaken to 1024Hpa in the next 72Hrs and intensify to about 1028Hpa during the forecast period.

At 925HPa level, dry northeasterly to easterly flow is expected to prevail across parts of the Sahel region and Northwest Africa, leading to increased atmospheric dust concentration in some of these areas.

At 850hPa level, a low level divergence across parts of West Africa is expected to bring about rainfall suppression in the region; a strong moisture convergence across southern DRC is expected to enhance rainfall during the forecast period. Monsoon flow from the Indian Ocean across East Africa and the seasonal wind convergences across eastern DRC and the Lake Victoria region is expected to enhance rainfall in the area during the forecast period.

In the coming five days, there is an increased chance for two or more days of moderate to heavy rainfall over Guinea, Sierra Leone, Gabon, Congo, Eastern DRC, Uganda, Rwanda, Burundi, Kenya, Ethiopia, NE Angola and Tanzania.

There is also an increased chance for maximum heat index values to exceed 40^{o}C portions of Mali, Burkina Faso, Ghana, Togo, Nigeria, Niger, Chad, CAR, parts of South Sudan and DRC,

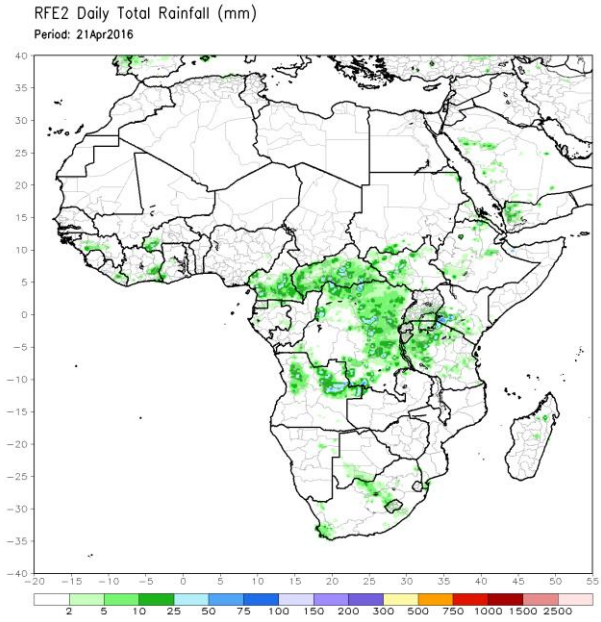
2.0. Previous and Current Day Weather over Africa

2.1. Weather assessment for the previous day (April 21, 2016)

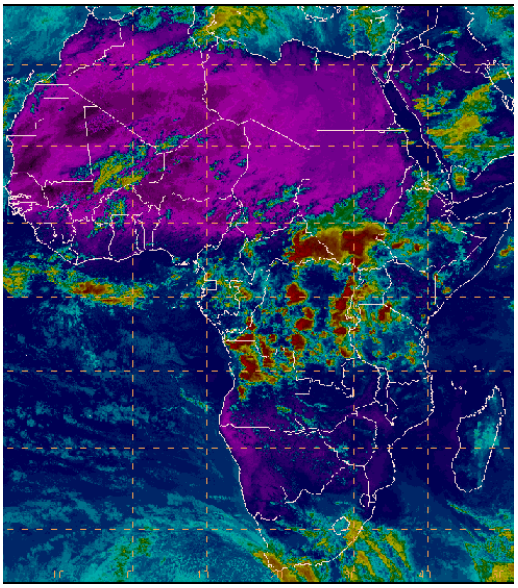
Moderate to locally heavy rainfall was observed over portions of Cameroon, CAR, DRC, Kenya, Ethiopia, Southern Somalia, NE Angola, Tanzania and South Africa.

2.2. Weather assessment for the current day (April 22, 2016**)**

Intense convective clouds are observed across parts of CAR, Congo, DRC, Uganda, South Sudan, Ethiopia, Angola and Tanzania.



IR Satellite Image (valid 1530z April 22, 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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