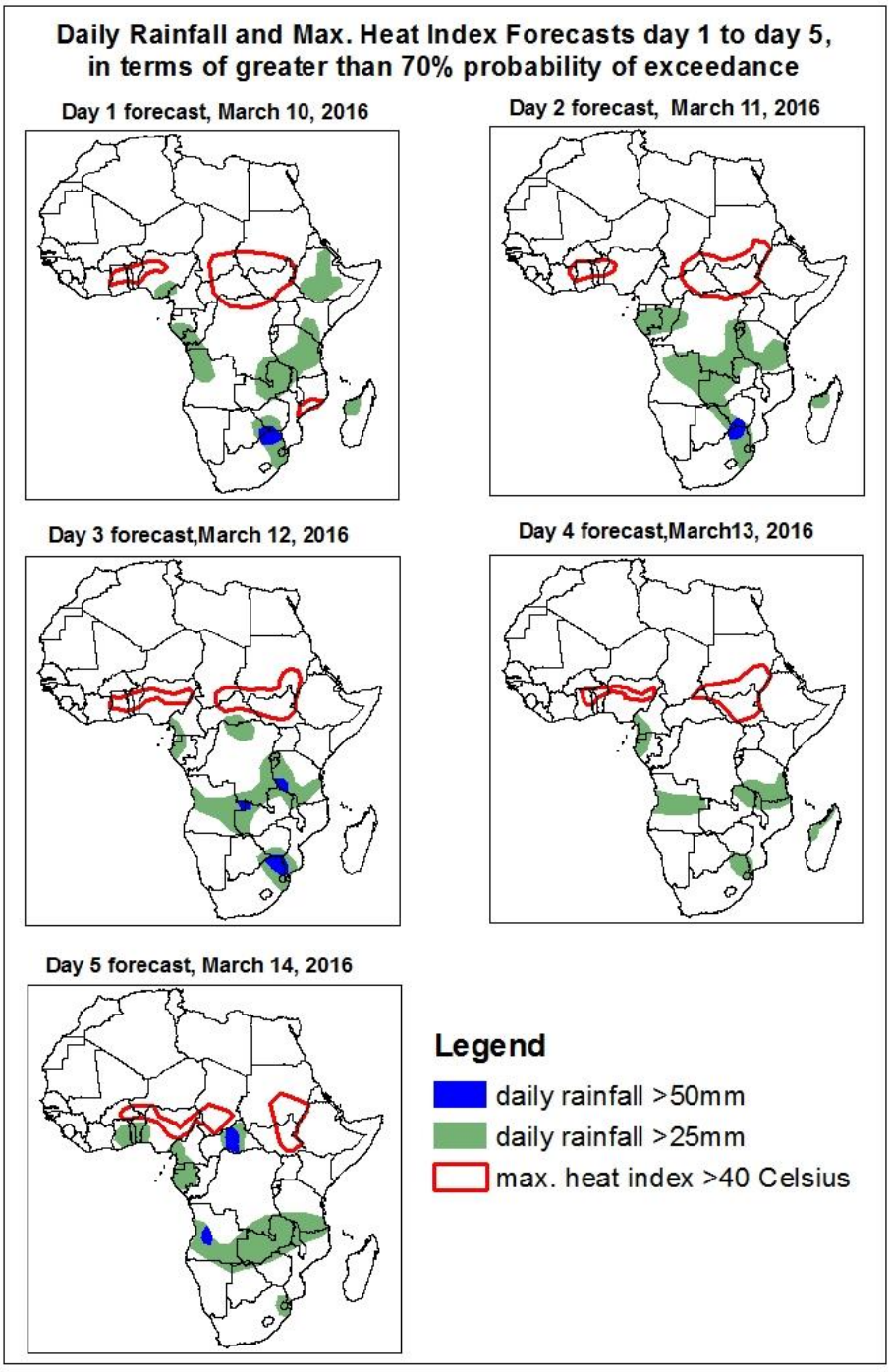
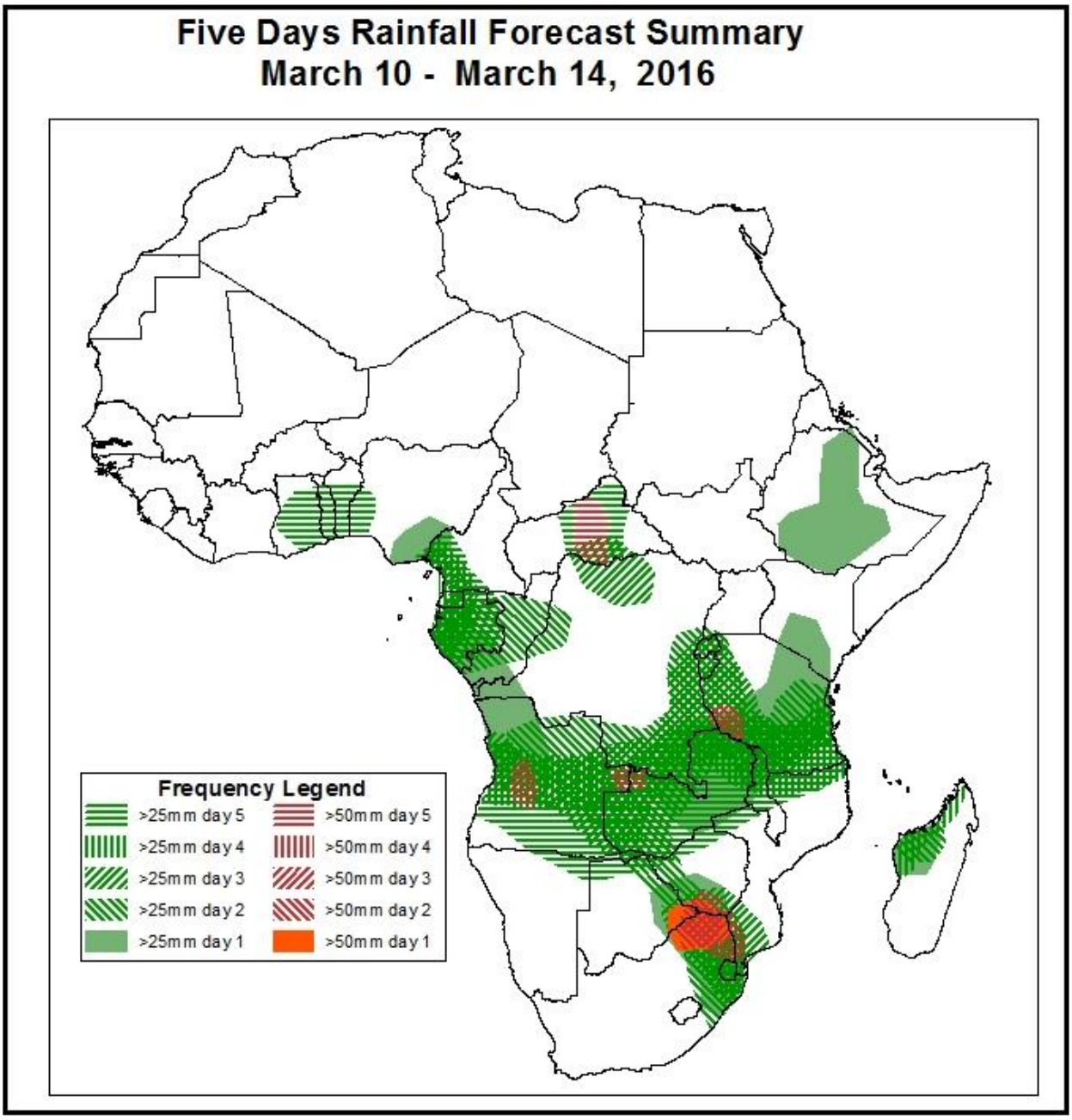
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on March 09, 2016)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (*valid: March 10 – March 14, 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.



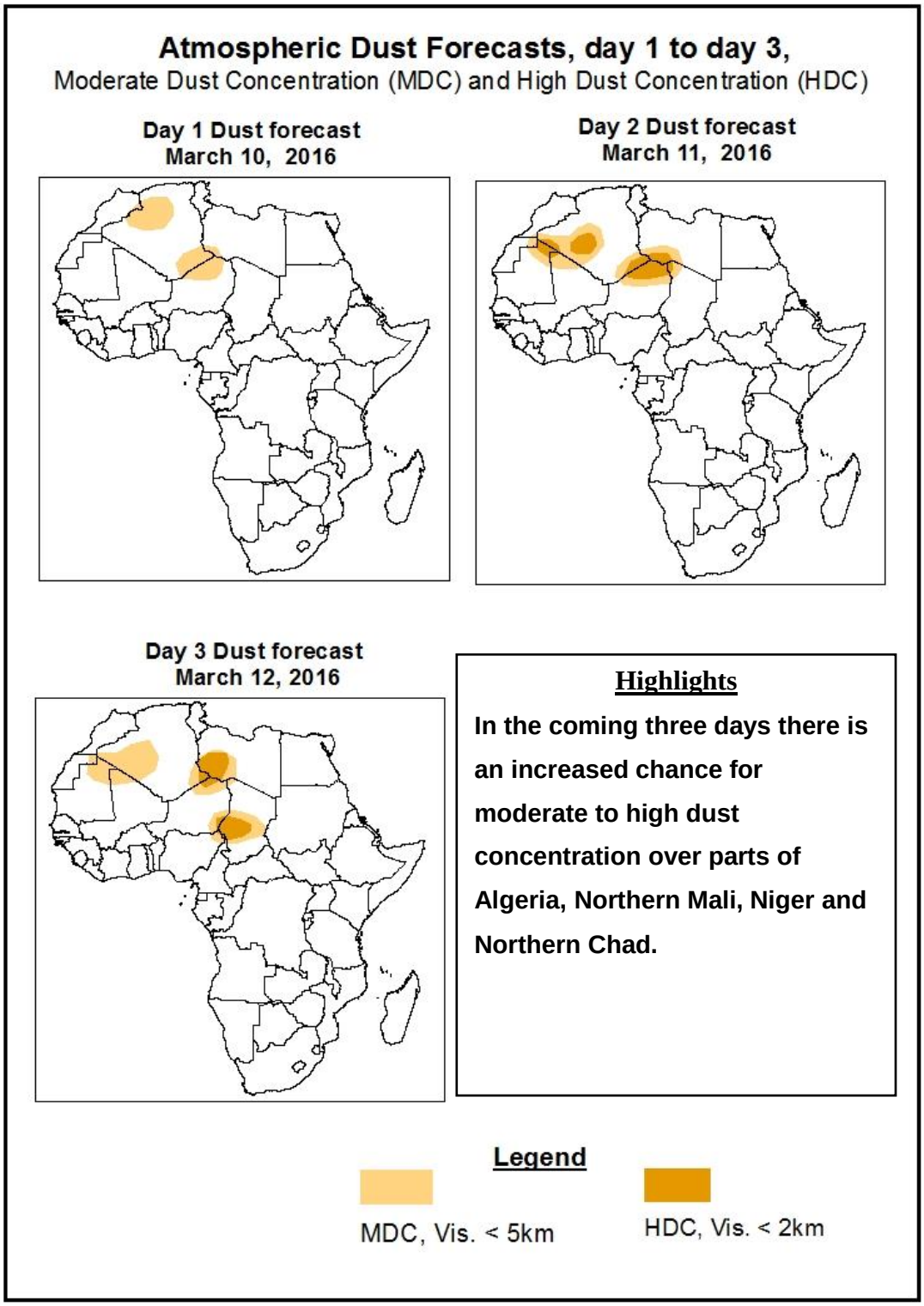


Highlights

In the coming five days, there is an increased chance for two or more days of moderate to heavy rainfall over portions of Southern Togo, Benin, Nigeria, Cameron and Nigeria, Gabon, southern DRC, Angola, Zambia, Botswana, Zimbabwe, Swaziland, north eastern South Africa and north western Madagascar.

1.2. Atmospheric Dust Concentration Forecasts *(valid: Mar 10– March 12, 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: March 10– March 14, 2016

The central pressure value associated with the Azores high pressure system over Northeast Atlantic is expected to weaken from about 1031hPa in 72 hours to 1022HPa further weakening is expected from 1031Hpa to 1019Hpa during the forecast period.

The St. Helena High pressure system over the Southeast Atlantic Ocean with an initial central pressure value of 1027Hpa is expected to intensify to 1030Hpa in the next 48Hrs. It is expected to weaken to 1025Hpa in 72Hrs

The Mascarene high pressure system over the Southwest Indian Ocean with an initial central value of 1030hPa is expected to weaken to 1029hPa during the forecast period.

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

At 850HPa level, moist westerly flow from the Atlantic Ocean and its associated lower-level convergence is expected to prevail across Gabon, Congo and Angola, resulting in enhanced rainfall activity in the area. A strong lower level convergence across eastern DRC and Zambia 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 will remain active 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 portions of Southern Togo, Benin, Nigeria, Cameron and Nigeria, Gabon, southern DRC, Angola, Zambia, Botswana, Zimbabwe, Swaziland, north eastern South Africa and north western Madagascar.

There is also an increased chance for maximum heat index values to exceed 40^{o}C portions of portions of Ghana, Togo, Benin, parts of Nigeria, CAR, parts of South Sudan.

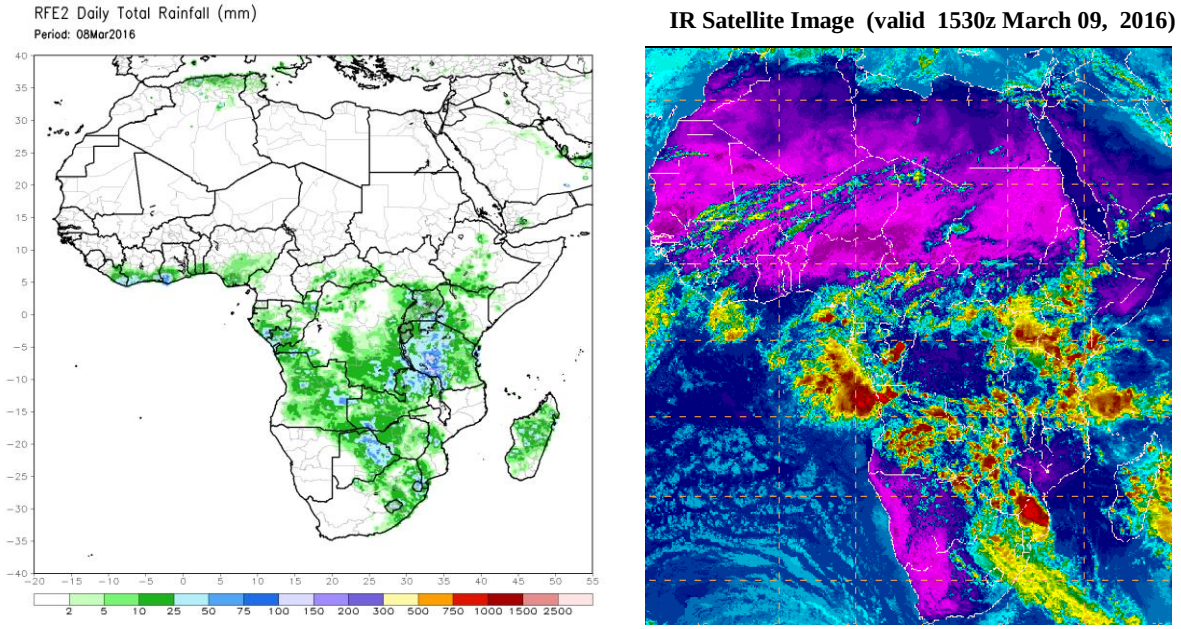
2.0. Previous and Current Day Weather over Africa

2.1. Weather assessment for the previous day (March 08, 2016)

Moderate to locally heavy rainfall was observed over portions of southern DRC, eastern Botswana, western Tanzania, eastern Zambia, and central Madagascar.

2.2. Weather assessment for the current day (March 09, 2016**)**

Intense convective clouds are observed across most parts of northern Mozambique, central Angola, south western Ethiopia, western Kenya, central DRC and Zambia.



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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