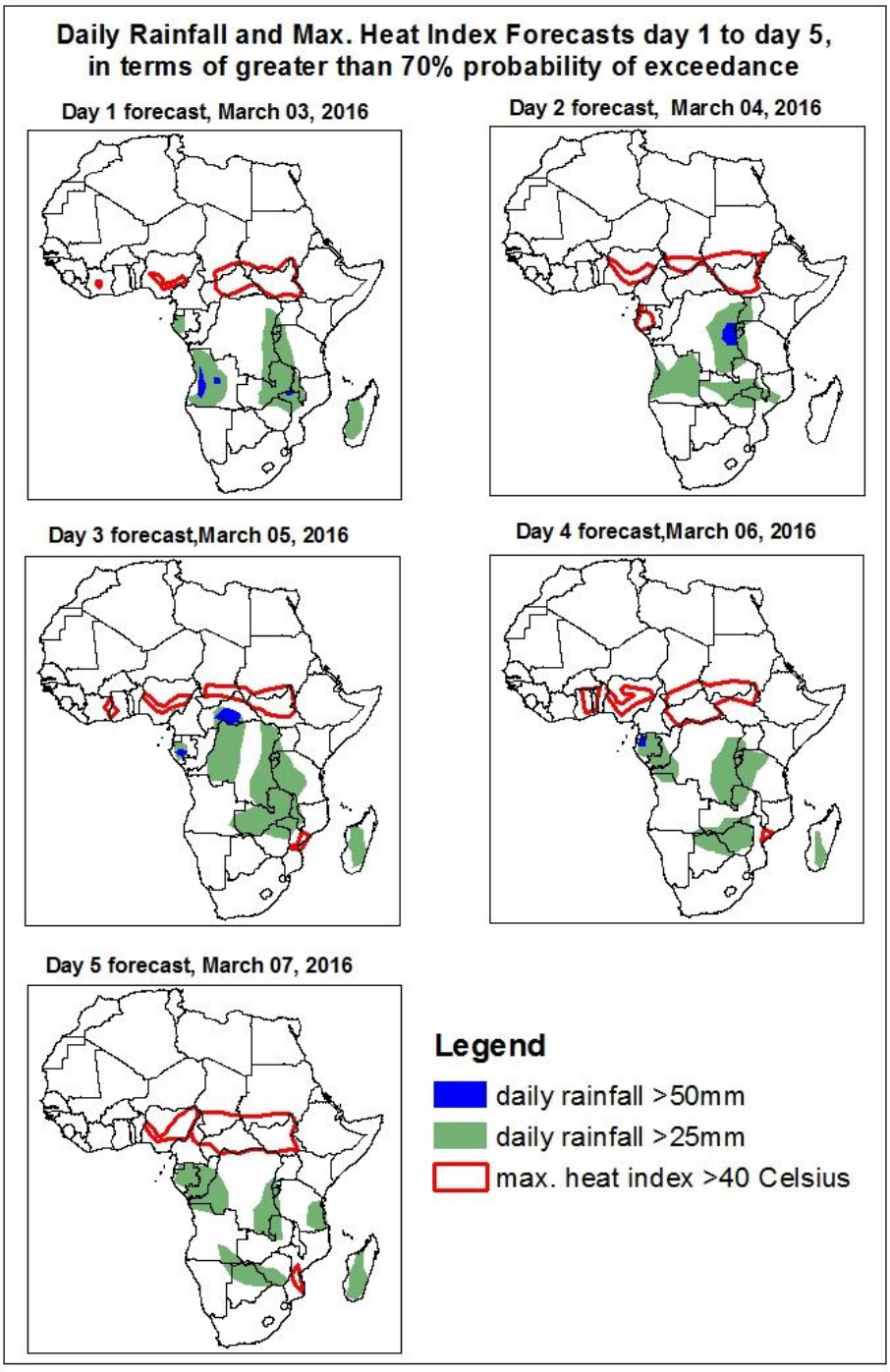
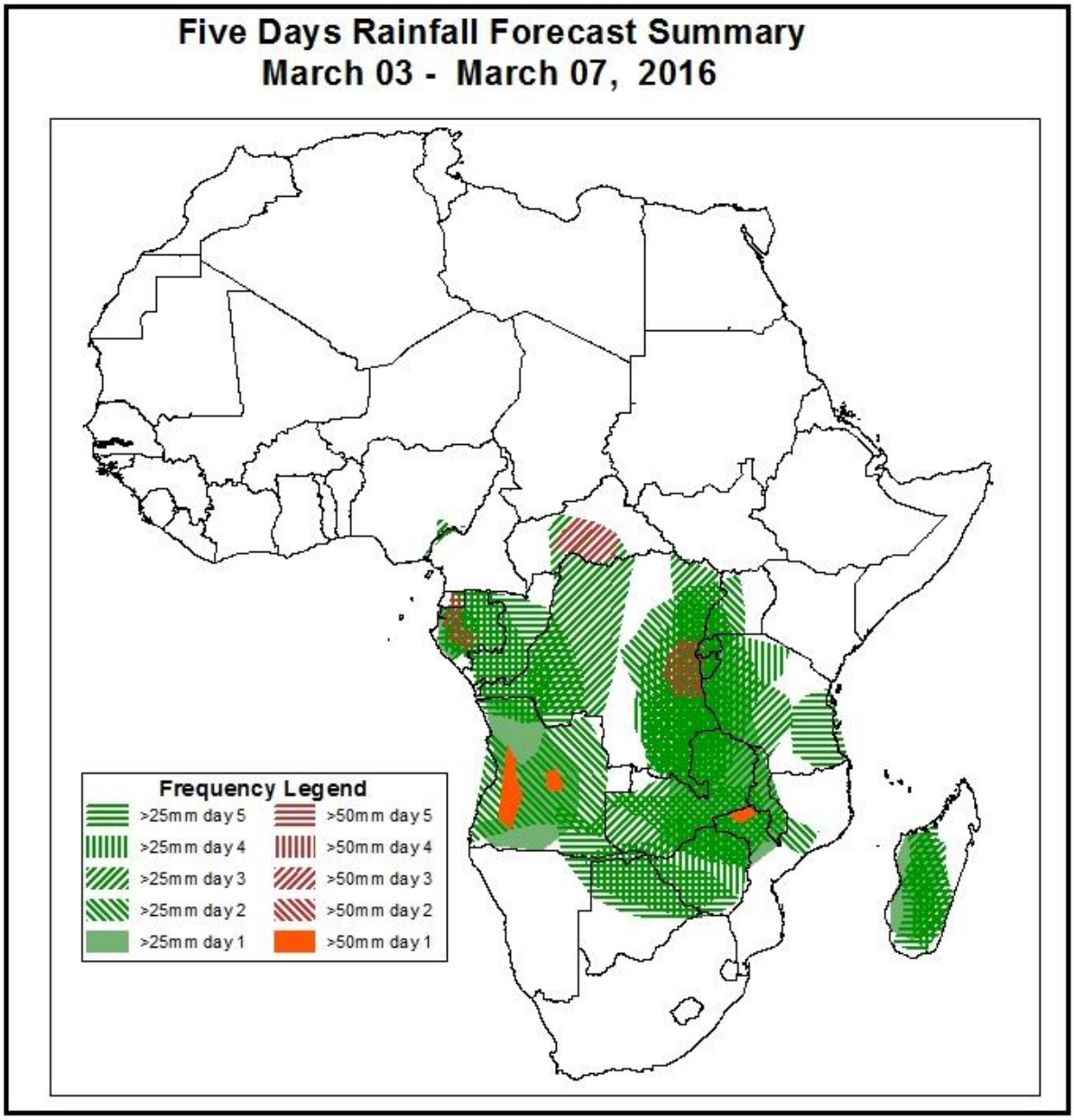
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on March 02, 2016)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (*valid: March 03 – March 07, 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.



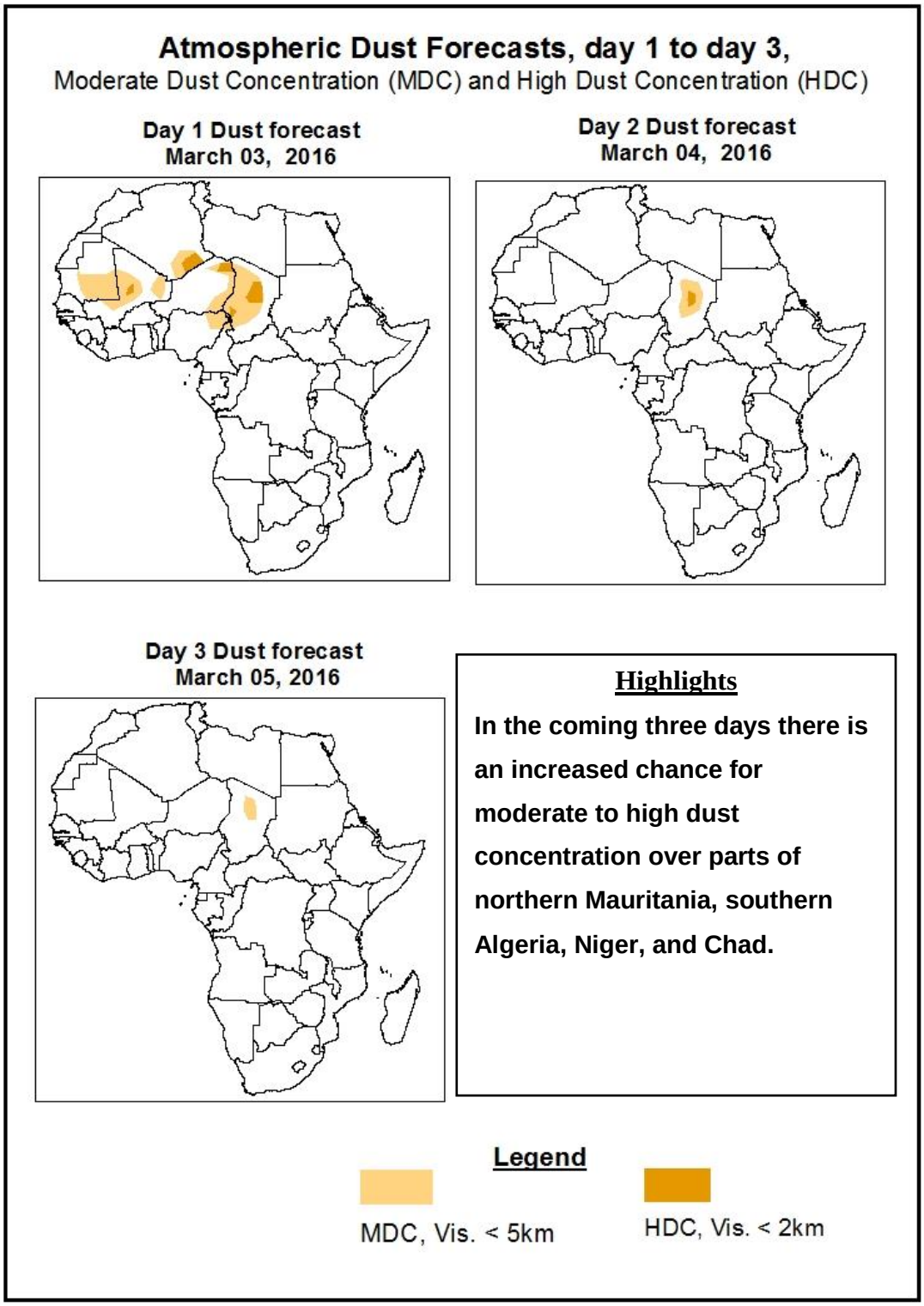


Highlights

In the coming five days, there is an increased chance for two or more days of moderate to heavy rainfall over portions of Western and Eastern DRC, Gabon, Angola western and Eastern Tanzania, Zambia, northern Botswana, Zimbabwe, western Mozambique, and southern Madagascar.

1.2. Atmospheric Dust Concentration Forecasts *(valid: Mar 03 – March 07, 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 03– March 07, 2016

The central pressure value associated with the Azores high pressure system over Northeast Atlantic is expected to weaken from about 1036 hPa in 24 hours to 1028 hPa in 72 hours it tends to intensify towards the end of the forecast period.

The St. Helena High pressure system over the Southeast Atlantic Ocean is expected to intensify, with its central pressure value increasing from about 1022 hPa to 1031 hPa during the forecast period.

The Mascarene high pressure system over the Southwest Indian Ocean with an initial central value of 1025 hPa is expected to intensify to 1032 hPa towards end of the forecast period.

At 925 hPa 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 850 hPa 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 western and 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 Western and Eastern DRC, Gabon, Angola western and Eastern Tanzania, Zambia, northern Botswana, Zimbabwe, western Mozambique, and southern 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 northern DRC and eastern South Sudan.

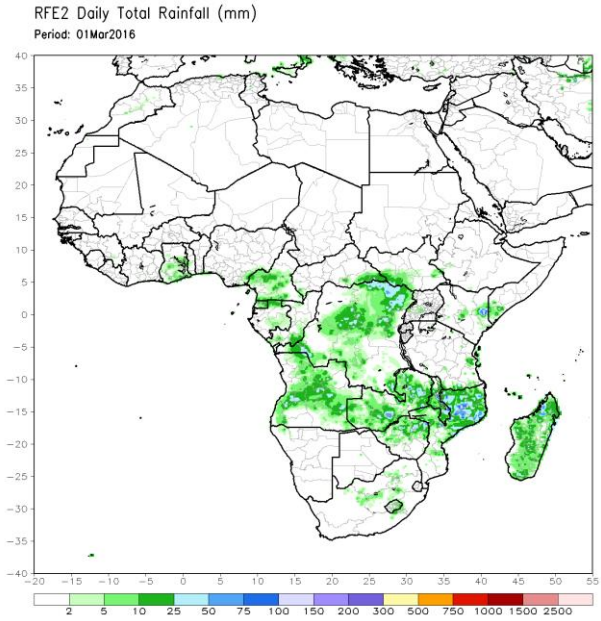
2.0. Previous and Current Day Weather over Africa

2.1. Weather assessment for the previous day (March 01, 2016)

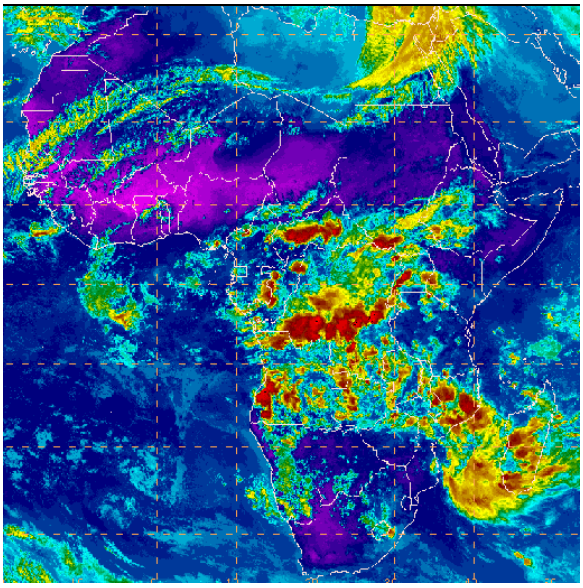
Moderate to locally heavy rainfall was observed over portions of western DRC, southern Madagascar, western Angola, northern Angola and Zambia

2.2. Weather assessment for the current day (March 02, 2016**)**

Intense convective clouds are observed across most parts of DRC, Angola,, portions of CAR, Zimbabwe and Madagascar .



IR Satellite Image (valid 1530z March 02, 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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