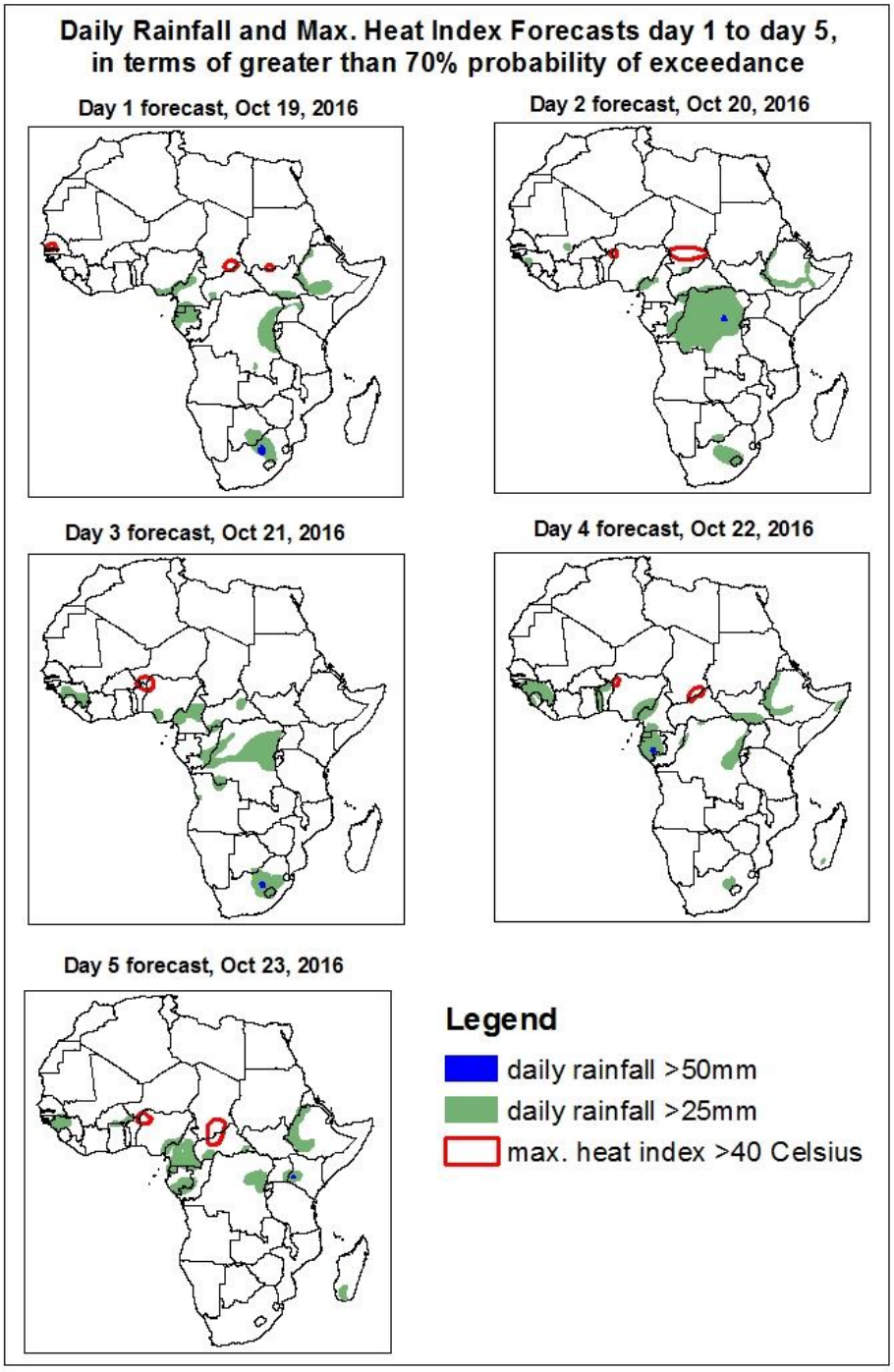
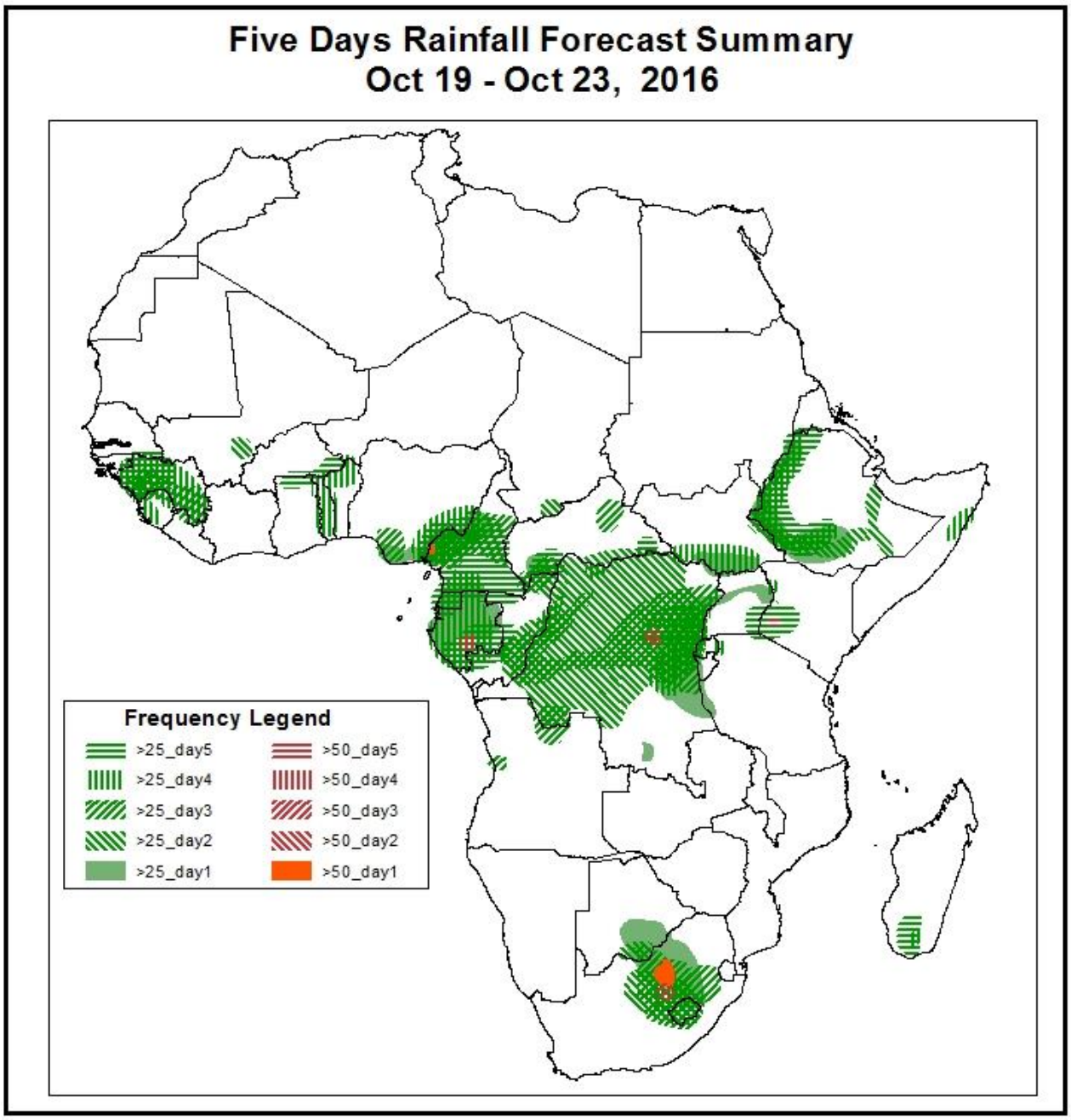
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on Oct 18, 2016)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: Oct 19– Oct 23 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.



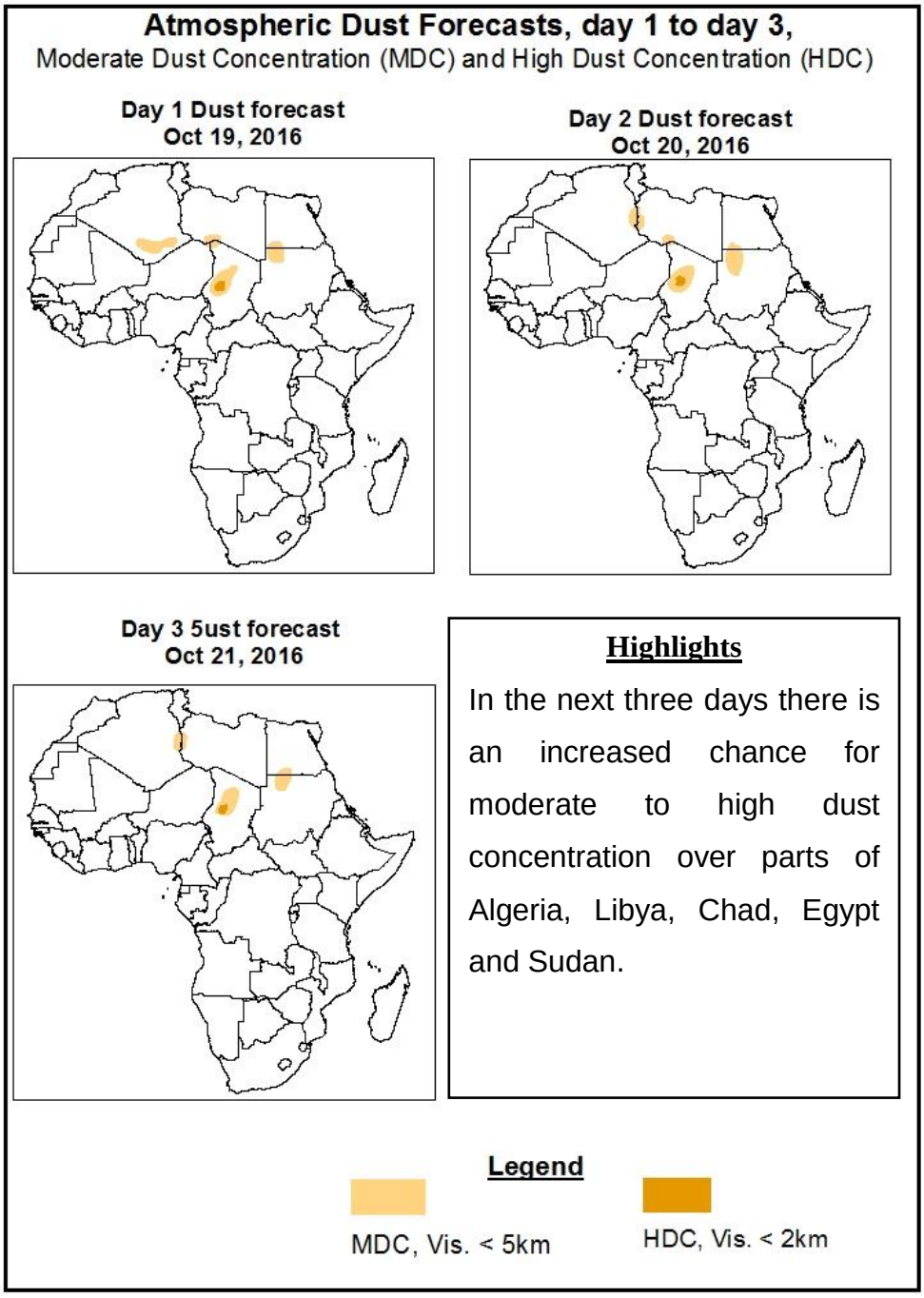


Highlights

In the next five days, less monsoon flow from the Atlantic Ocean across Gulf of Guinea region, lower level wind convergences across the Central, South Africa and the Greater Horn of Africa are expected to enhance rainfall in their respective regions. Therefore, there is an increased chance for two or more days of moderate to heavy rainfall over portions of Guinea, Sierra Leone, Nigeria and Cameroon, much of Guinea Equatorial, portions of Gabon, Congo, DRC, and local areas in CAR, portions of South Sudan and Ethiopia, local area in Kenya and portion South Africa.

1.2. Atmospheric Dust Concentration Forecasts (valid: Oct 19– Oct 21 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: Oct 19–Oct 23, 2016*

The Azores high pressure system over the North Atlantic is expected to weaken, with its value of the central pressure decreasing from 1028 hPa to 1020 from 24 hours from 24 hours to 72 hours and tends to intensify, with its value of central pressure increasing from 1001 hPa to 1028 hPa between 72 hours to 120 hours.

The St. Helena high pressure system on the southeast of the Atlantic Ocean is expected to weaken, with its value of the central pressure decreasing from 1025 hPa to 1020 hPa from 24 hours to 48 hours and tends to intensify, with its value of central pressure increasing from 1020 hPa to 1026 hPa between 48 hours to 120 hours.

The Mascarene High pressure system over the Southeast Atlantic Ocean is expected to intensify, with its value of the central pressure increasing from 1030 hPa to 1038 hPa during the forecast period.

At 925hPa, strong dry to northerly easterly winds may lead to moderate to high dust concentration over parts of Algeria, Libya, Chad, Egypt and Sudan.

At 850hPa level, lower level wind convergences are expected to prevail in central and the Greater Horn of Africa.

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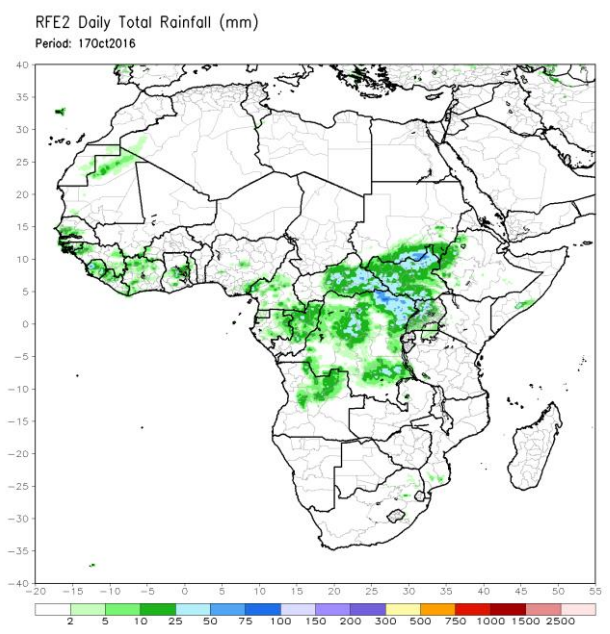
2.0. Previous and Current Day Weather over Africa

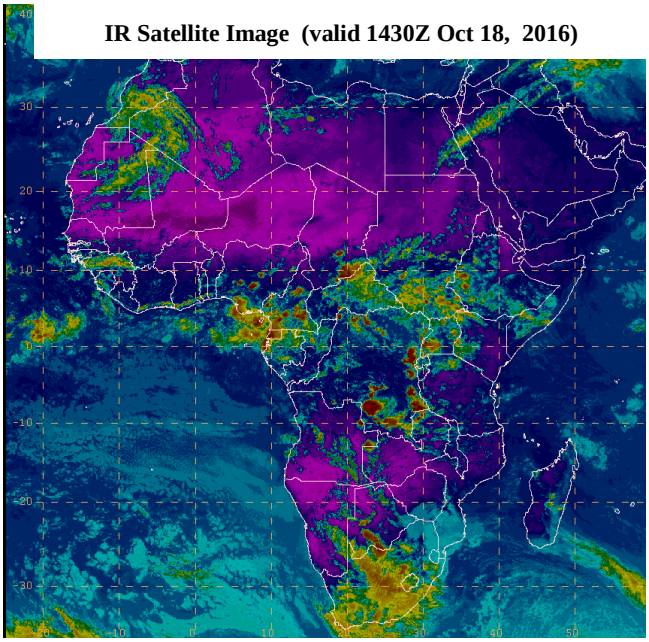
2.1. Weather assessment for the previous day (Oct 17, 2016)

Moderate to locally heavy rainfall was observed over local areas in Sierra Leone, portion or CAR, DRC, South Sudan and Uganda and local areas in Congo.

2.2. Weather assessment for the current day (Oct 18, 2016**)**

Intense convective clouds are observed over local areas in Nigeria, Cameroon, Chad, Sudan, Ethiopia, DRC and portion of South Africa.





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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