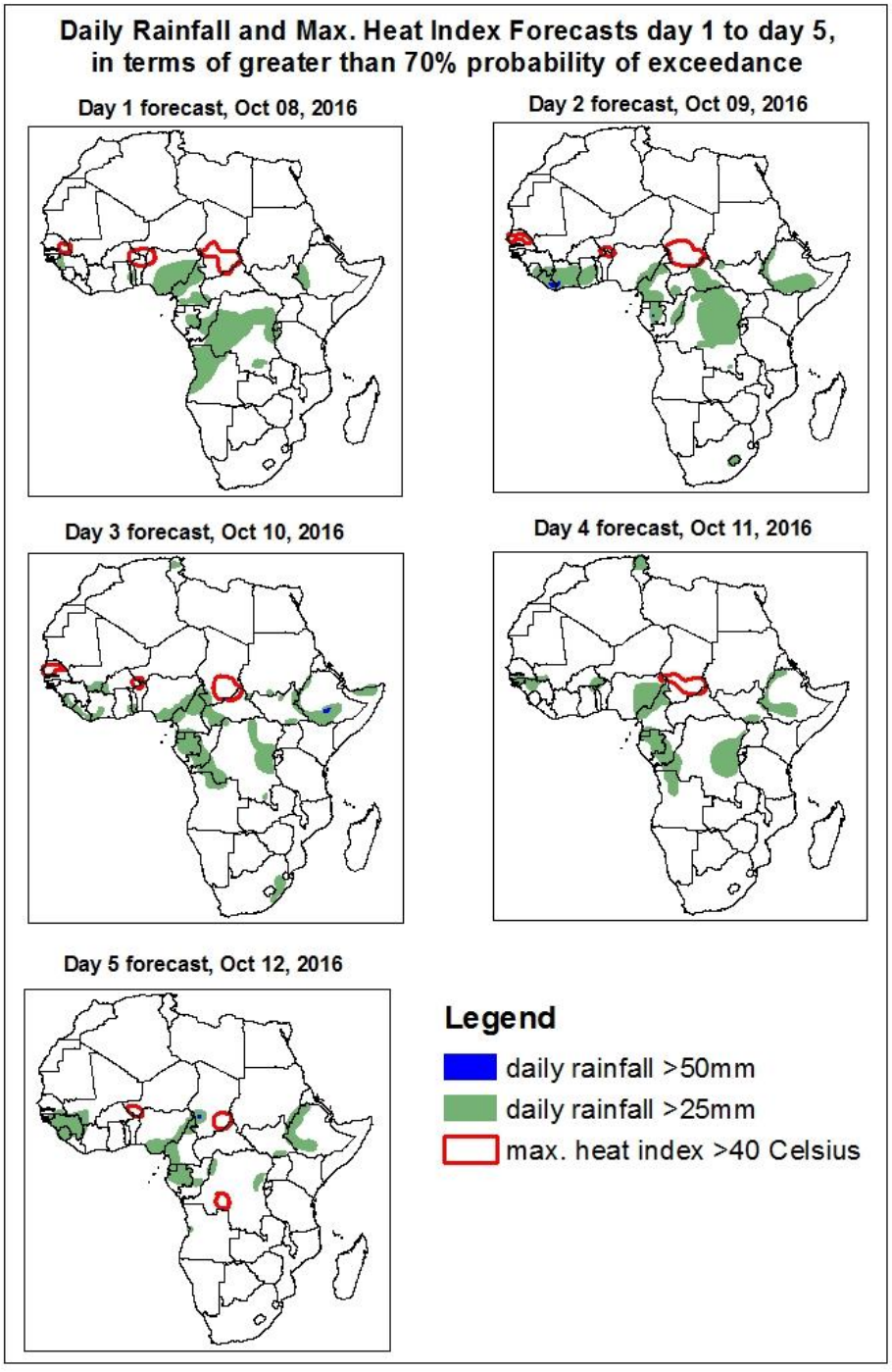
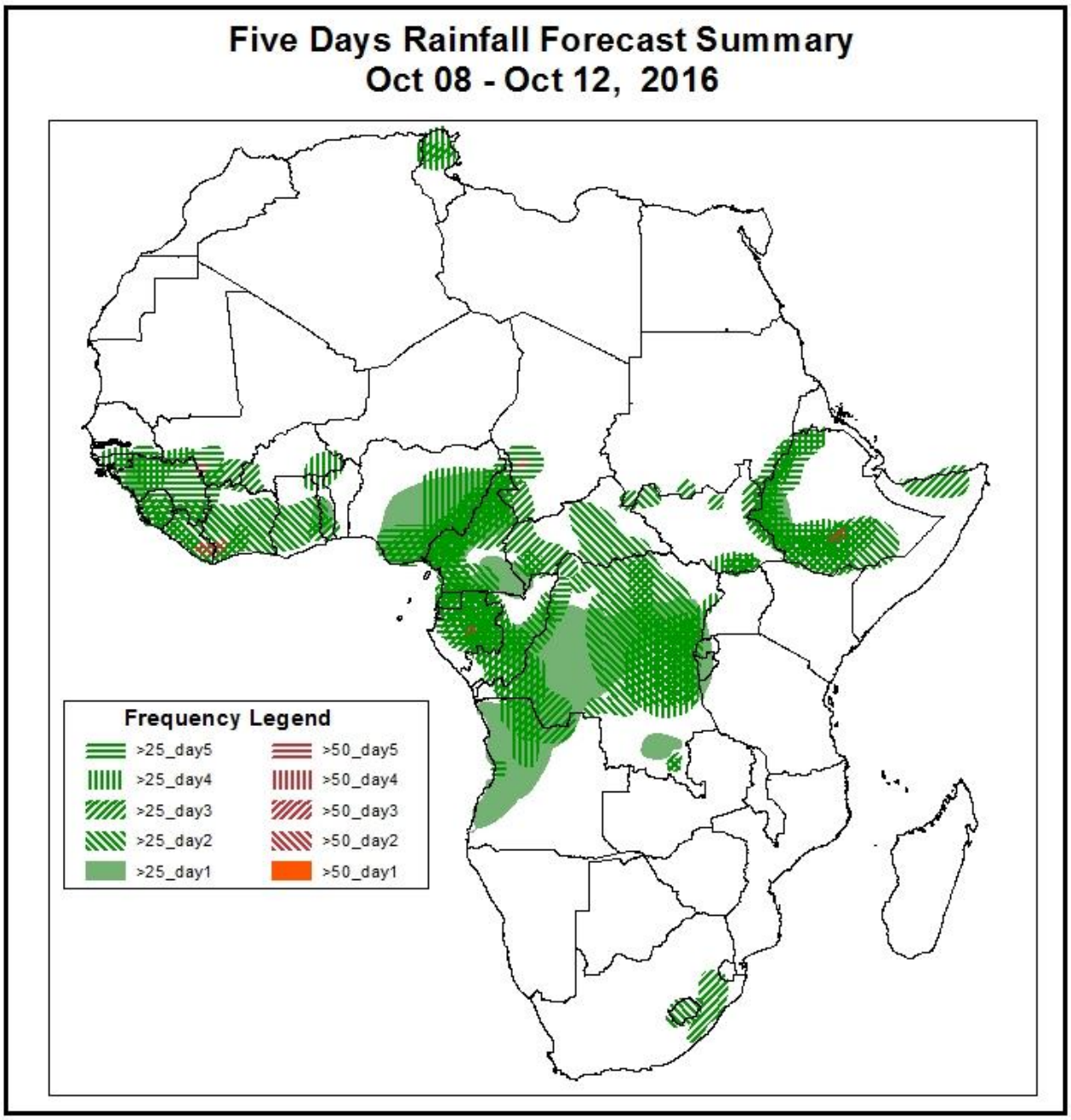
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on Oct 07, 2016)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: Oct 08– Oct 12 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.



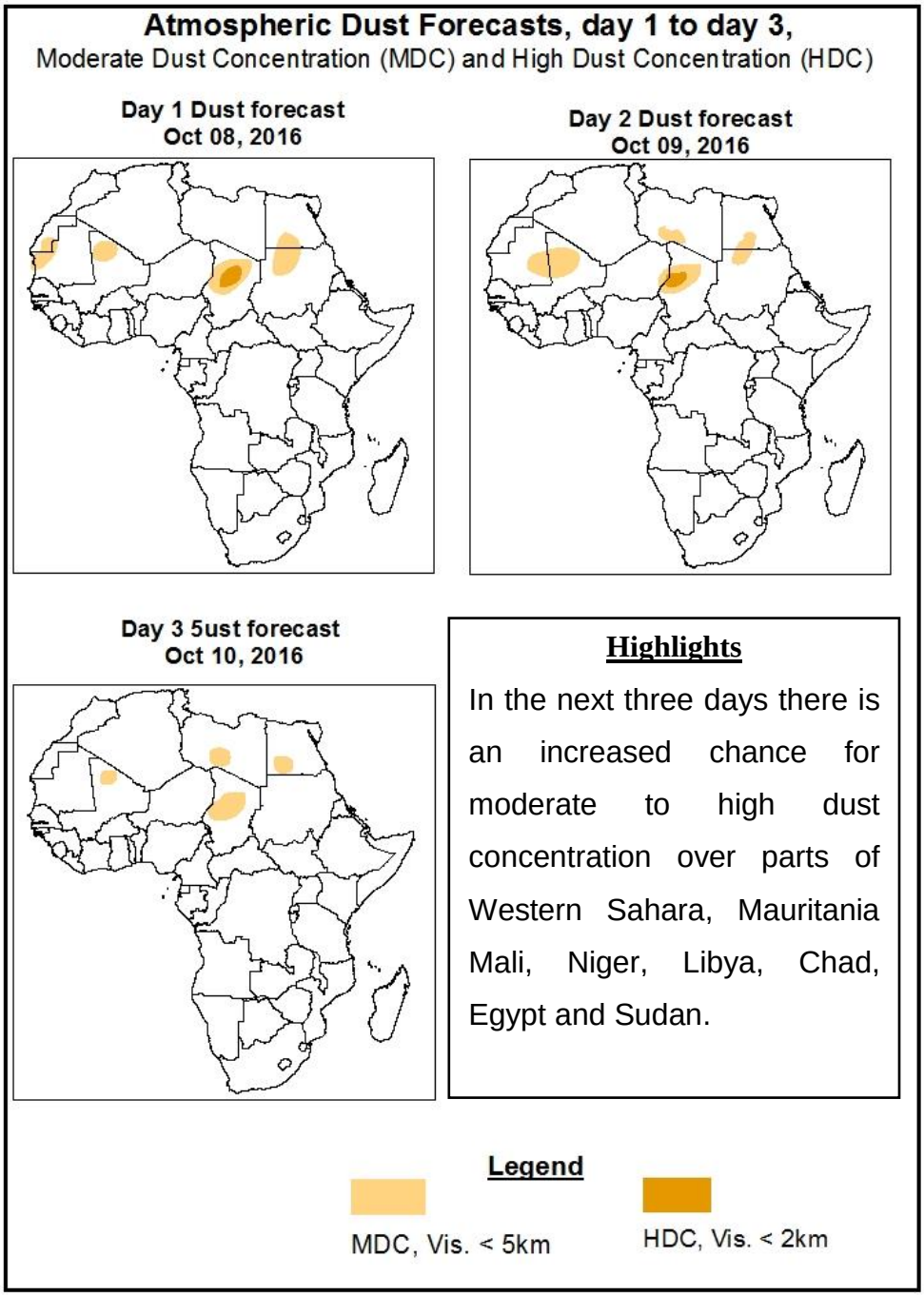


Highlights

In the next five days, monsoon flow from the Atlantic Ocean across the Gulf of Guinea region, and lower level wind convergences across Central 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, Sera Leone, Liberia and Cote d'Ivoire, local areas in Mali, Burkina Faso and Ghana, portions of Togo, Nigeria, Cameroon and Gabon, local areas in Chad and CAR, portions of Congo, DRC, Angola and Burundi, local areas in Sudan, portions of Ethiopia.

1.2. Atmospheric Dust Concentration Forecasts (valid: Oct 08– Oct 10 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 08–Oct 12, 2016*

The Azores high pressure system over the North Atlantic is expected to intensify, with its value of the central pressure increasing from 1024 hPa to 1028 hPa from 24 hours to 48 hours and tends to weaken, with its value of central pressure decreasing from 1028 hPa to 1018 hPa between 48 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 1027 hPa to 1026 hPa from 24 hours to 72 hours and tends to intensify, with its value of central pressure increasing from 1026 hPa to 1035 hPa between 72 hours to 120 hours.

The Mascarene High pressure system over the Southeast Atlantic Ocean is to weaken, with its value of the central pressure decreasing from 1031 hPa to 1028 hPa from 24 hours to 96 hours and tends to intensify, with its value of central pressure increasing from 1028 hPa to 1030 hPa between 96 hours to 120 hours.

At 925hPa, strong dry to northerly easterly winds may lead to moderate to high dust concentration over parts of Western Sahara, Mauritania Mali, Niger, 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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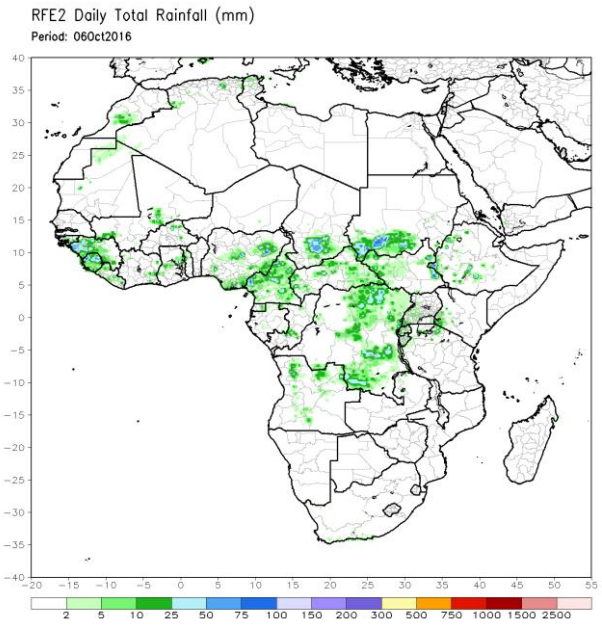
2.0. Previous and Current Day Weather over Africa

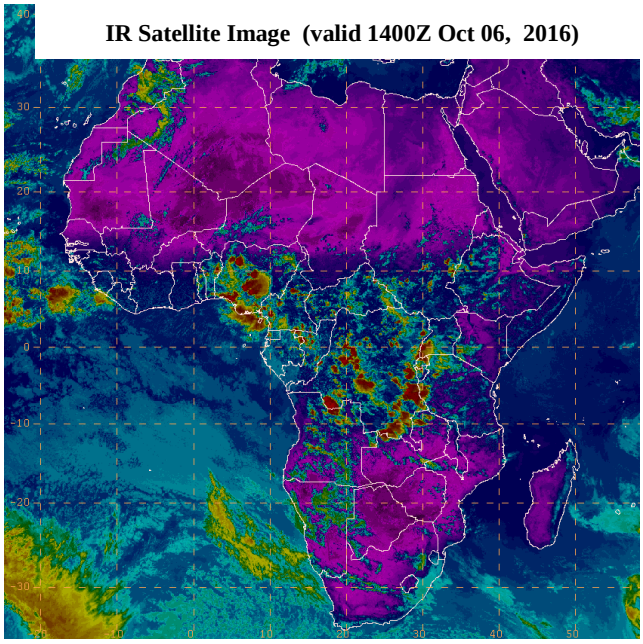
2.1. Weather assessment for the previous day (Oct 06, 2016)

Moderate to locally heavy rainfall was observed over portion of Guinea and Sera Leone, local areas in Nigeria, Cameroon, Chad, Sudan, Ethiopia and DRC.

2.2. Weather assessment for the current day (Oct 07, 2016**)**

Intense convective clouds are observed over local areas in Benin, portion of Nigeria, local areas in Cameroon, CAR and Sudan, portion of DRC, Uganda, local areas in Tanzania and Angola.





Previous day rainfall condition over Africa (Left) based on the NCEP CPCE/RFE and current day cloud cover (right) based on IR Satellite image.

Author: Alfred DANGO, (Burkina-Meteo) / CPC-African Desk); Alfred.Dango@noaa.gov