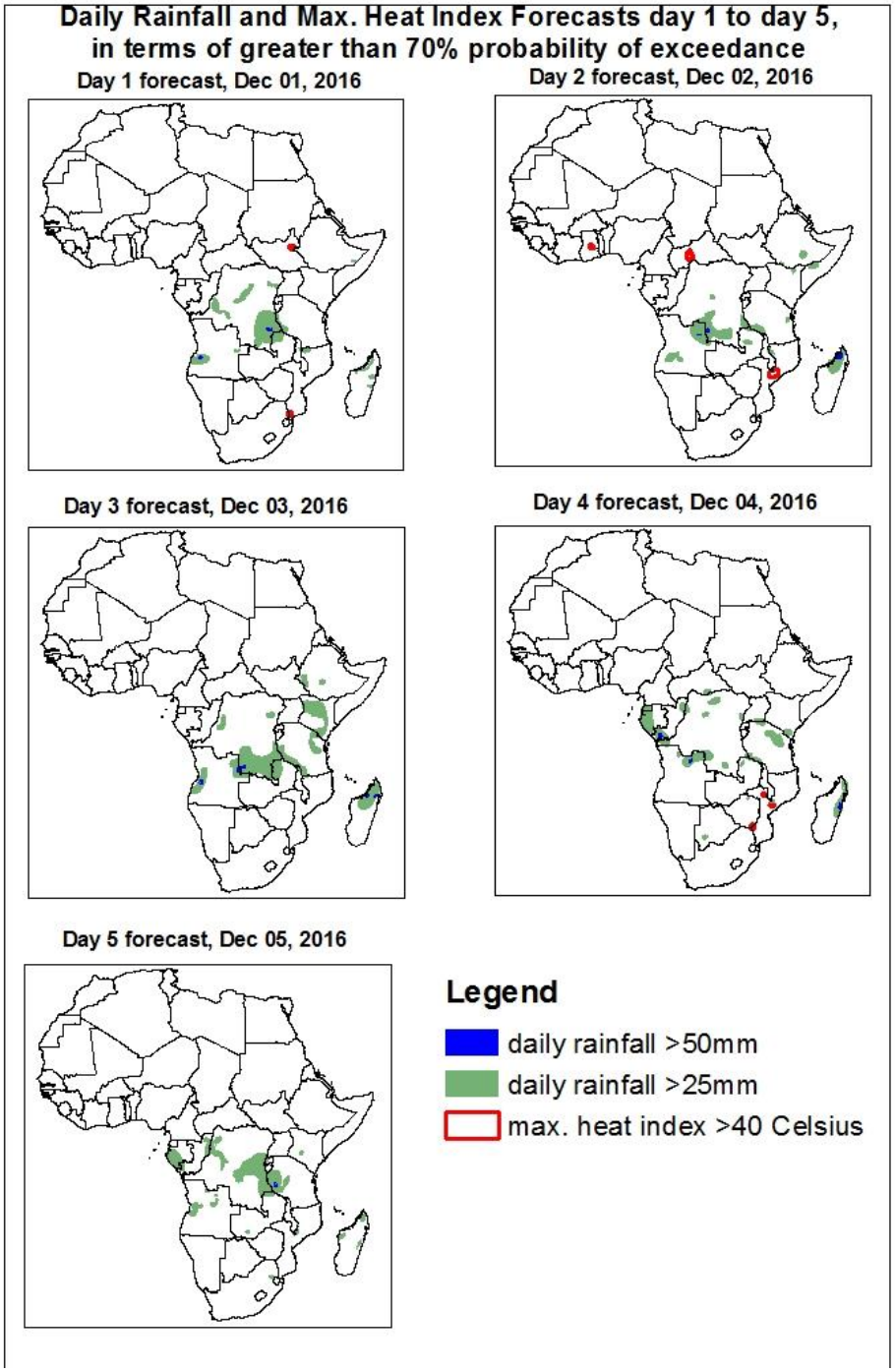
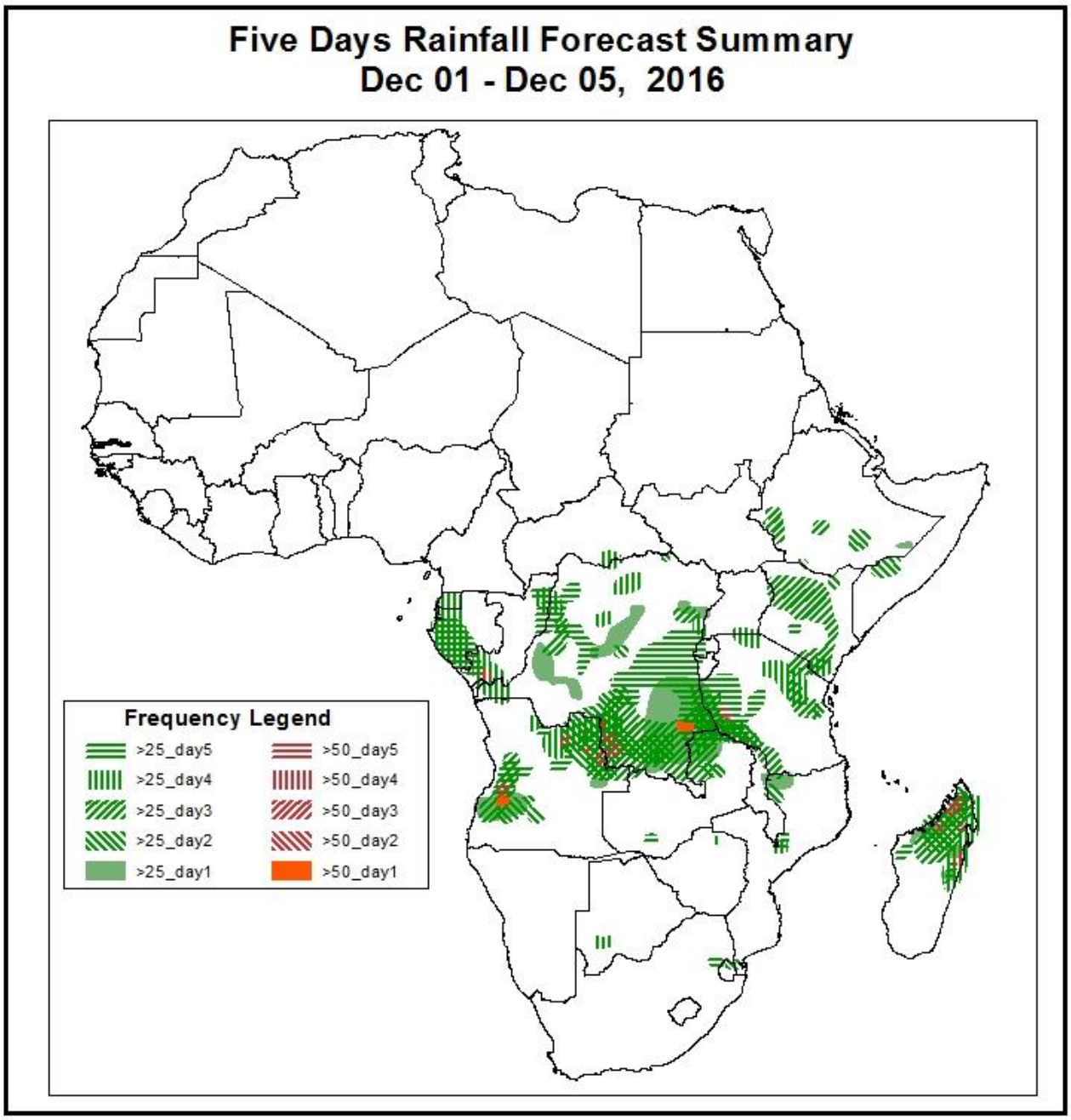
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on Nov 30, 2016)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: Dec 01– Dec 05, 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.



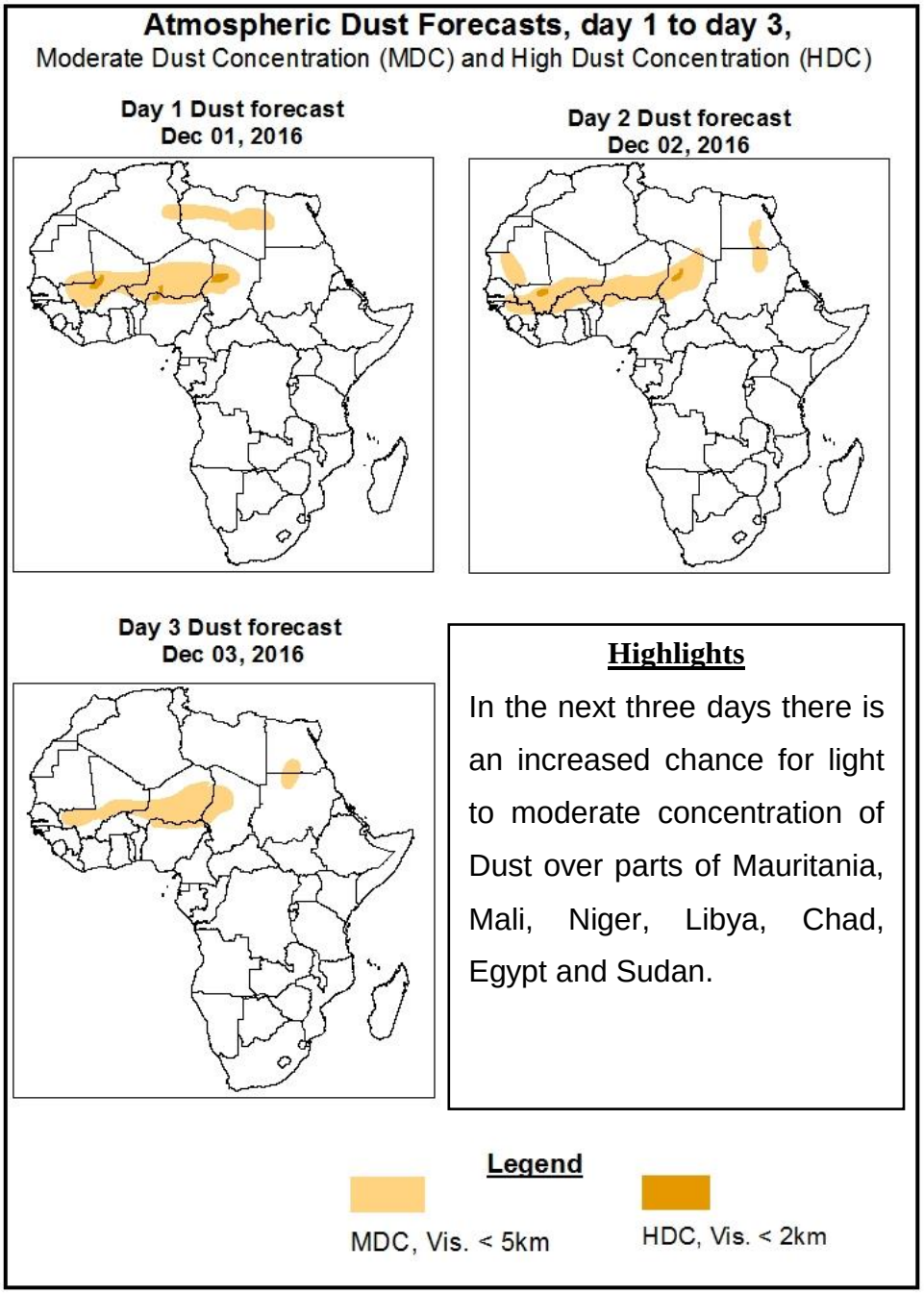


Highlights

In the next five days, lower level wind convergences in Congo-Brazzaville, Eastern DRC, Gabon and Angola are expected to enhance rainfall in their respective regions. Therefore, there is an increased chance for two or more days of light to moderate rainfall over portions of DRC, local area in Gabon, Congo, Angola, Tanzania and Madagascar.

1.2. Atmospheric Dust Concentration Forecasts (valid: Dec 01– Dec 03, 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: Dec 01–Dec 05, 2016*

The Azores High Pressure system over the North Atlantic Ocean is expected to weaken, with its value of the central pressure decreasing from 1032hPa to 1027hPa in the next 72 hours, intensify to 1039hPa during remaining forecast period.

The St. Helena High Pressure system over the Southeast of the Atlantic Ocean is expected to weaken, with its value of the central pressure decreasing from 1024hPa to 1021hPa in the next 48 hours, intensify to 1024hPa during the remaining forecast period.

The Mascarene High Pressure system over the Southwest Indian Ocean is expected to intensify, with its value of the central pressure increasing from 1021hPa to 1024hPa in the next 96 hours, weaken to 1022hPa during the remaining forecast period.

At 925hPa, strong dry Northerly to Easterly winds may lead from light to moderate dust concentration over parts of Mauritania, Mali, Burkina-Faso, Niger, Chad, Northern Nigeria, Libya and Sudan.

At 850hPa level, lower level wind convergences are expected to prevail over CAR, DRC, Angola, Zambia, Botswana, Tanzania and South Sudan.

In the next five days, lower level wind convergences in Congo-Brazzaville, Eastern DRC, Gabon and Angola are expected to enhance rainfall in their respective regions. Therefore, there is an increased chance for two or more days of light to moderate rainfall over portions of DRC, local area in Gabon, Congo, Angola, Tanzania and Madagascar.

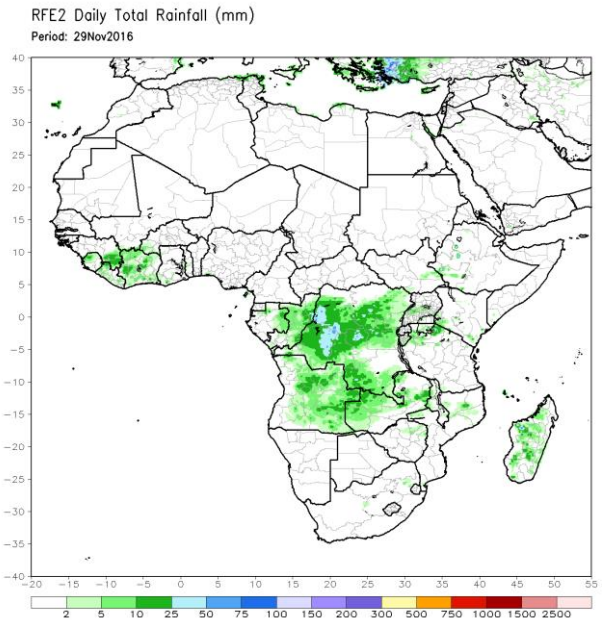
2.0. Previous and Current Day Weather over Africa

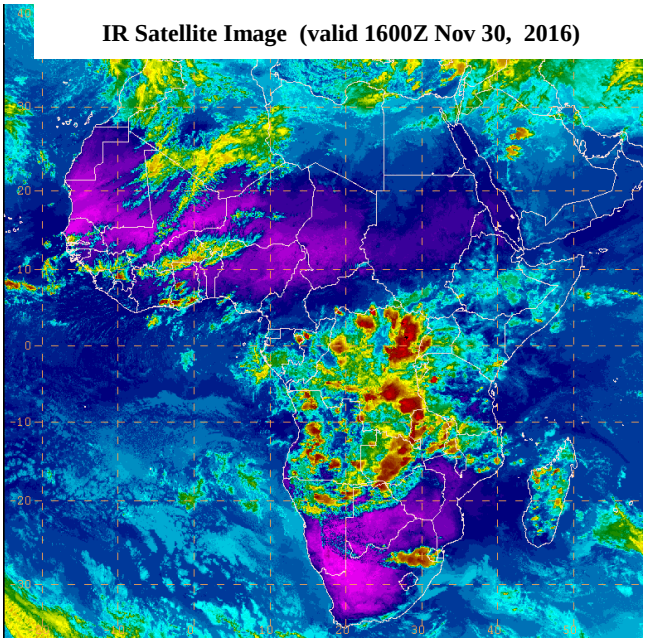
2.1. Weather assessment for the previous day (Nov 29, 2016)

Light to moderate rainfall was observed over portion of DRC.

2.2. Weather assessment for the current day (Nov 30, 2016**)**

Intense convective clouds are observed over portions of Congo, DRC, Angola, Zambia, South Africa, local area in Guinea and Ghana.





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

Authors: Wasiu Ibrahim & Edward Andrew (Nigeria/S.Sudan-Meteo) / CPC-African Desk);
wasiu.ibrahim@noaa.gov edward.okeiyg@noaa.gov