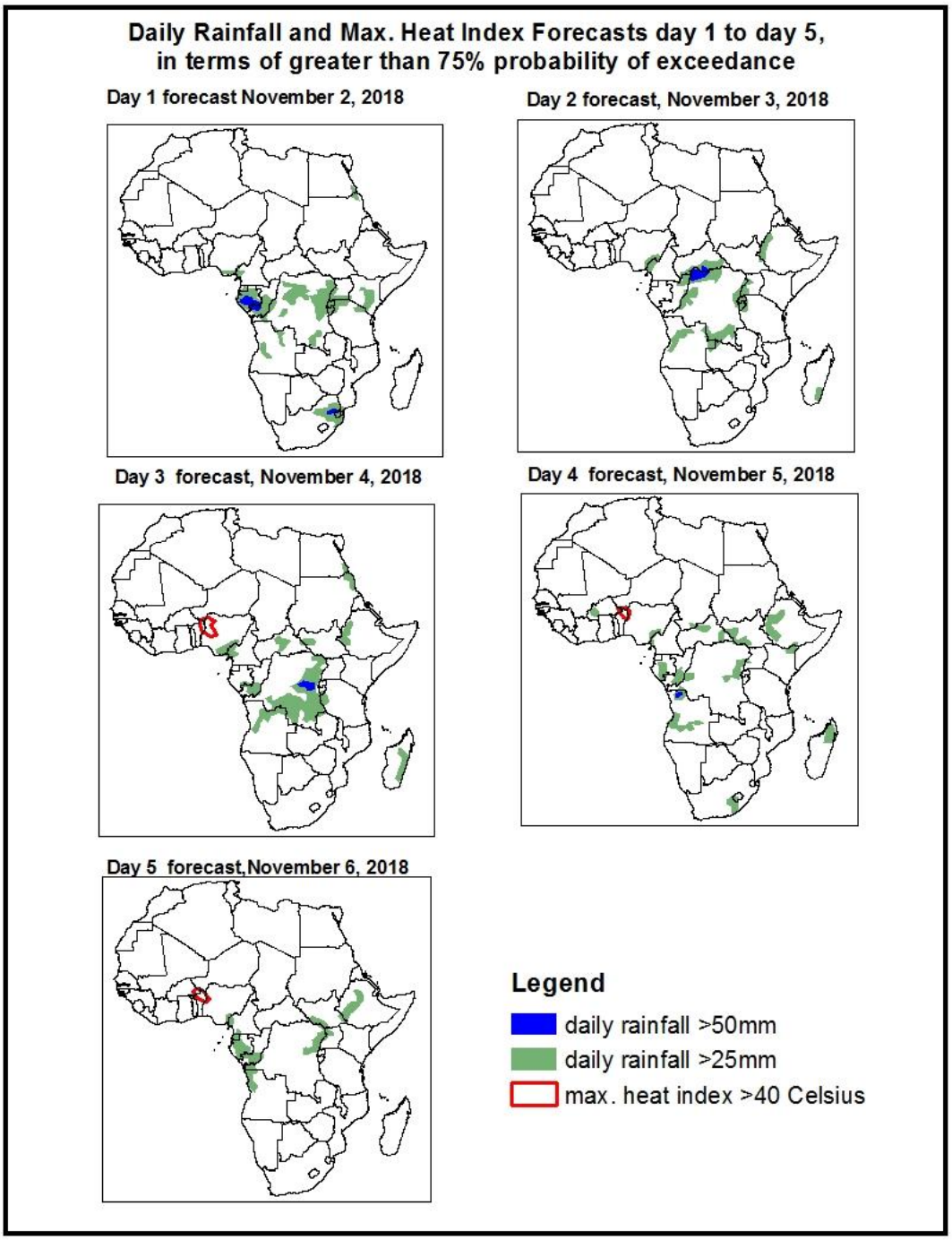
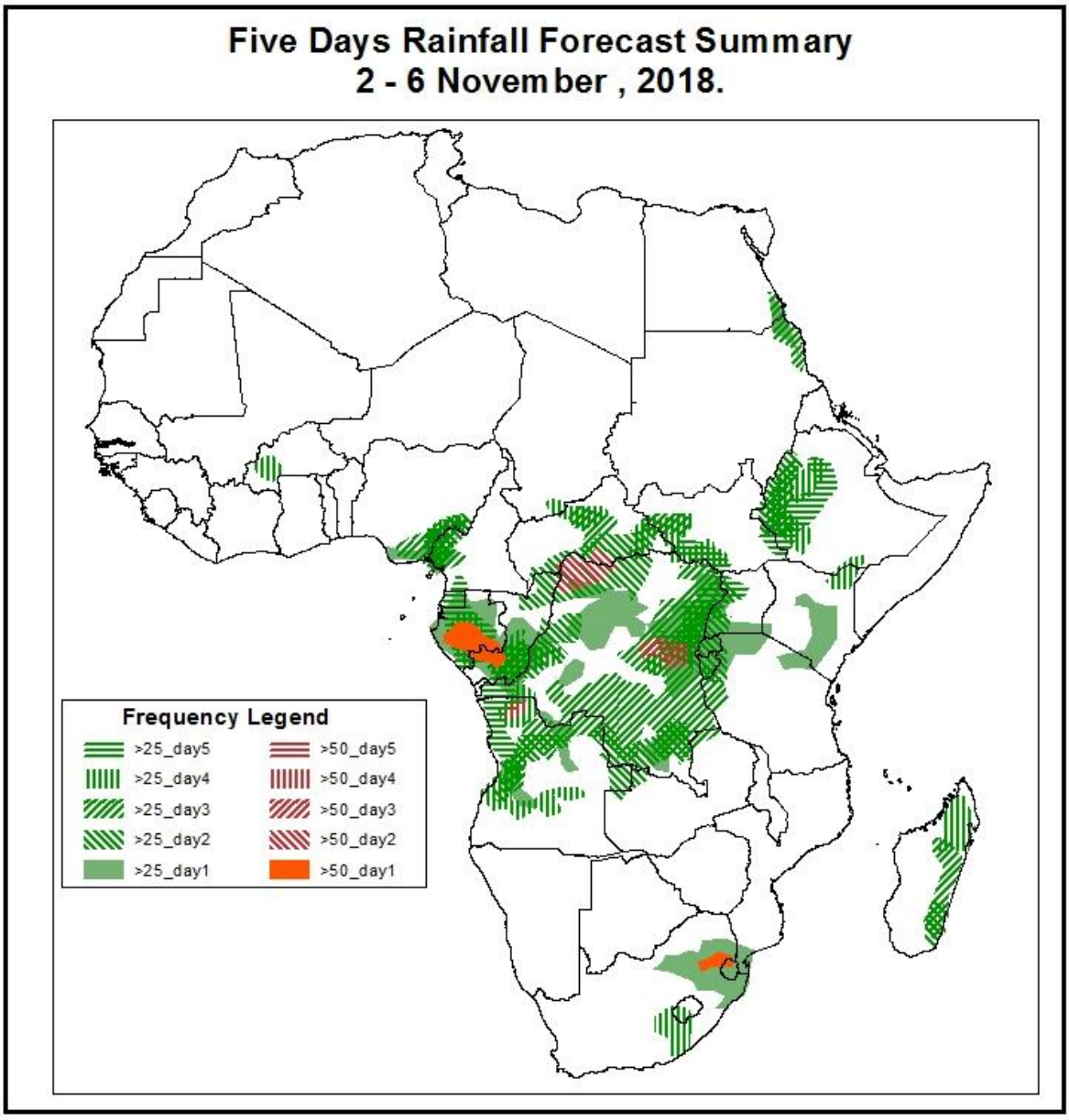
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on *November 1*, 2018)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: Nov 2 - 6, 2018)

The forecasts are expressed in terms of high probability of precipitation (POP), valid 06Z to 06Z, and exceedance probability of maximum heat index (>40°C), based on the NCEP/GFS and the NCEP Global Ensemble Forecasts System (GEFS) and expert assessment.



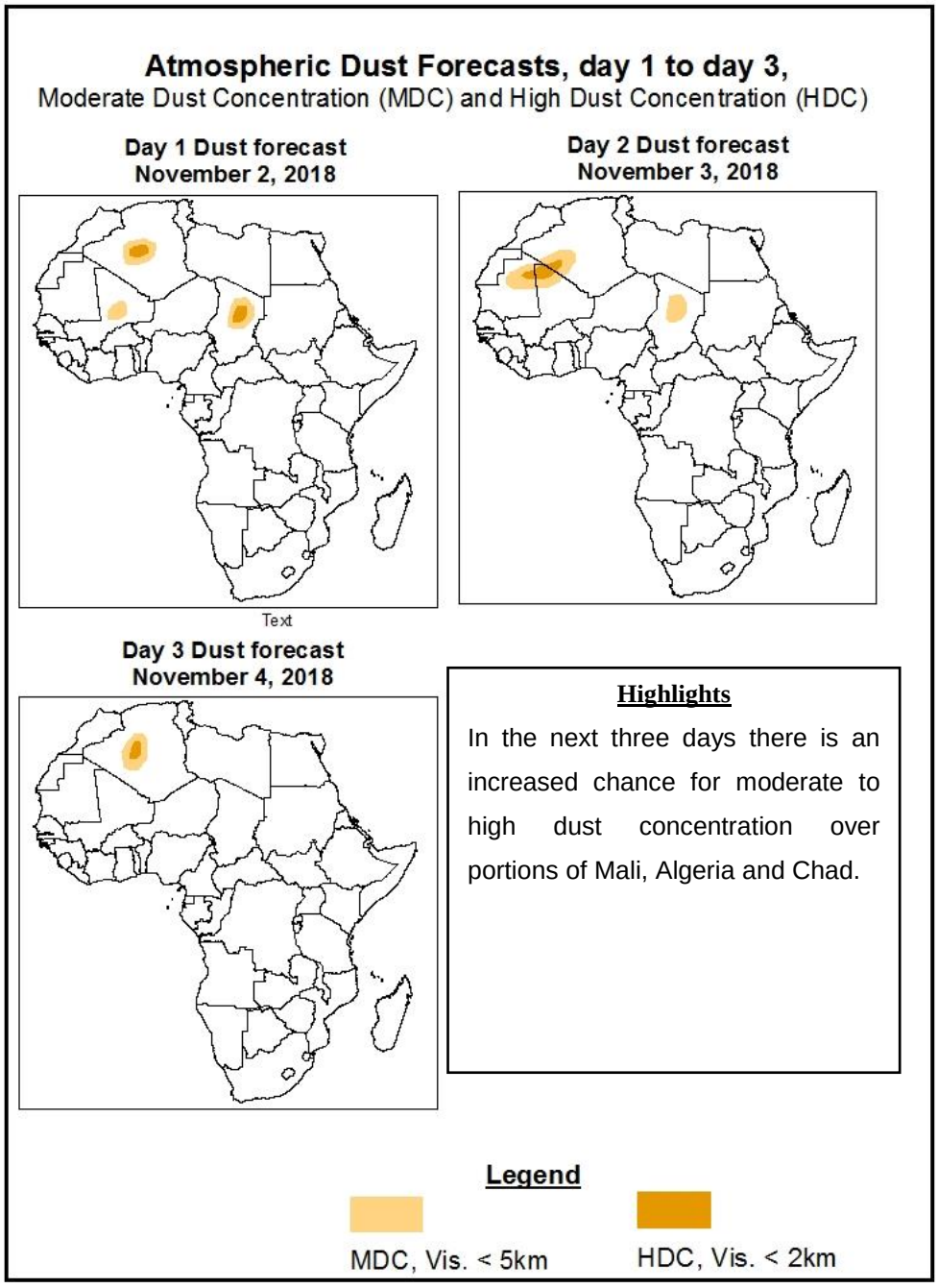


Highlights

- In the next five days the Congo Air Boundary (CAB) is expected to keep oscillating over the Central and north of Southern Africa. Southwesterly to westerly monsoon flow from the Atlantic Ocean is expected to continue weakening and reduce rainfall activities over Gulf of Guinea coast. There is an increased chance for moderate to heavy rainfall in the next 5 days over localized areas of Gabon, Congo DR, Angola and South Africa.
- There is an increased chance for temperature heat index values to exceed 40^0C over local areas of Togo, Benin and Nigeria.

1.2. Atmospheric Dust Concentration Forecasts *(valid: November 2 – 6, 2018)*

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: November 2 – 6, 2018*

The Azores High Pressure system over the North Atlantic Ocean is expected to strengthen through the 72hrs of the forecast period, its central pressure value expected to increase from 1028hPa to 1033hPa.

The St. Helena High Pressure system over the Southwest Atlantic Ocean is expected to progress eastwards towards the southern sub-continent. Its central pressure value is expected to decrease from 1029hPa to 1027hPa through 24hrs. Developing St. Helena High Pressure system down southwest Atlantic Ocean is expected to strengthen as it moves eastwards with its Central pressure value expected to increase from 1024hPa to 1030hPa.

The Mascarene High Pressure system over the Southwest Indian Ocean is expected to weaken as it progresses southeast of the Ocean through the48hrs. Its central pressure value is expected to decrease from 1031hPa to 1027hPa. Expected to develop is another Mascarene High Pressure system over Southwest Indian Ocean with its Central pressure average value of 1028hPa towards the end of the forecast period.

At 925hPa, strong northeasterly to easterly flow is expected to prevail over most parts of northern Africa, and some areas of the Sahel region. Southwesterly to westerly monsoon flow from the Atlantic Ocean is expected to gradually weaken over the Gulf of Guinea coast. Moist and unstable northeasterly to easterly winds are expected to prevail over East and southeast African countries.

At 850hPa, Lower-level wind convergence associated with the Congo air boundary (CAB) over parts of the Lake Victoria region and North of Southern Africa.

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chance for temperature heat index values to exceed 40^0C over local areas of Togo, Benin and Nigeria.

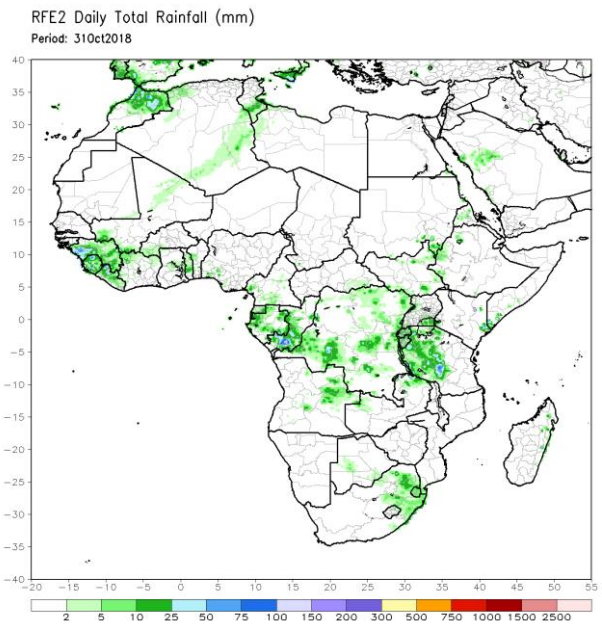
2.0. Previous and Current Day Weather over Africa

2.1. Weather assessment for the previous day (October 31, 2018)

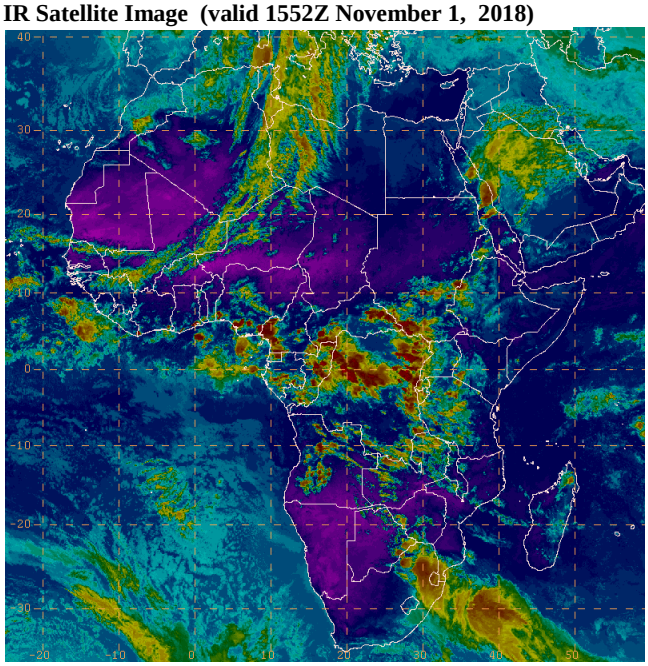
Above 25mm daily rainfall was observed over localized areas of Gulf of Guinea coast, western countries of Central African and Tanzania.

2.2. Weather assessment for the current day (*November 1*, 2018)

Intense convective clouds are observed over parts of southern and Central African countries.



IR Satellite Image (valid 1552Z November 1, 2018)



Authors: Bathsheba Musonda((Zambia Meteorological Department —ZMD / CPC-African Desk;*beshishi.c.musonda@noaa.gov*