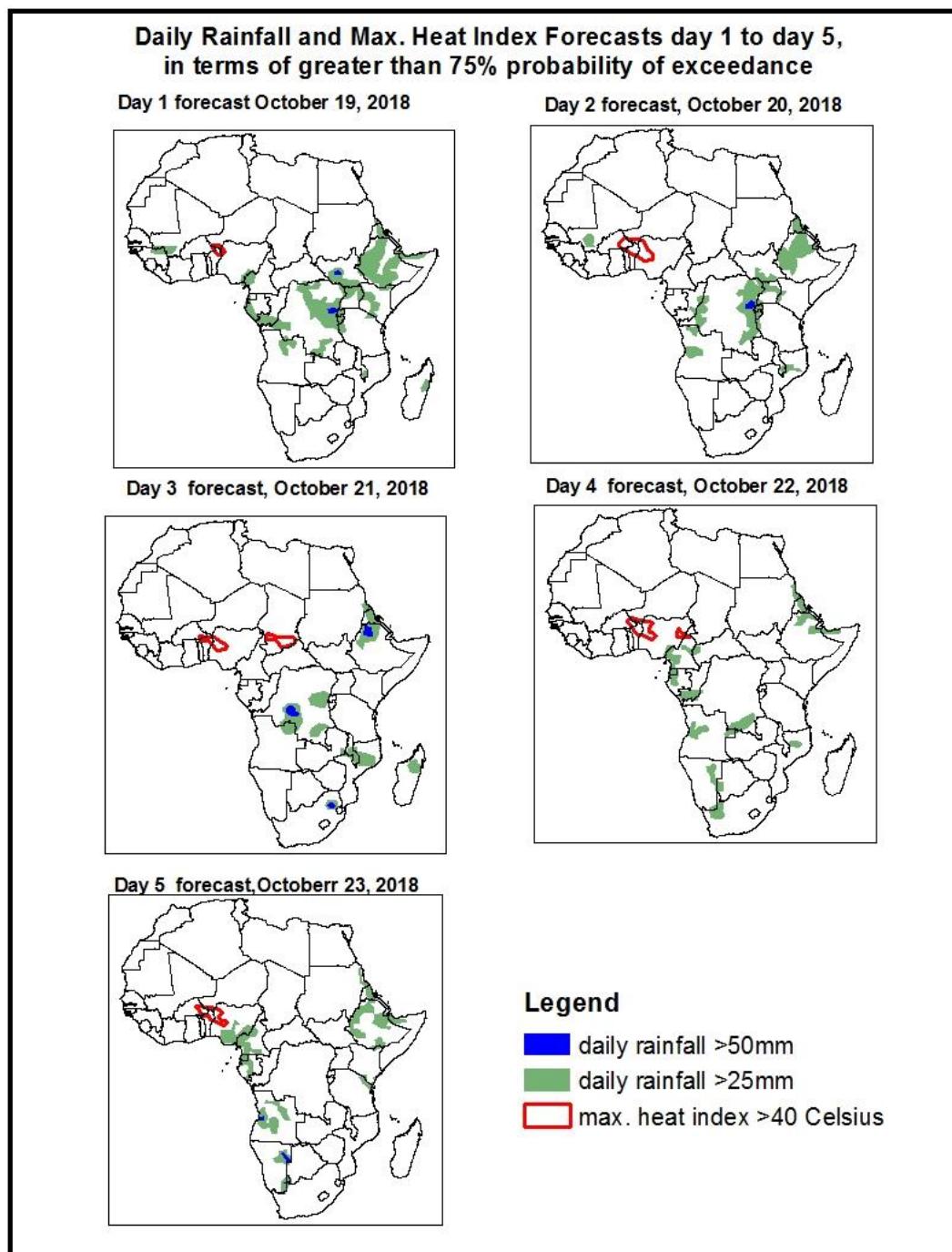


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

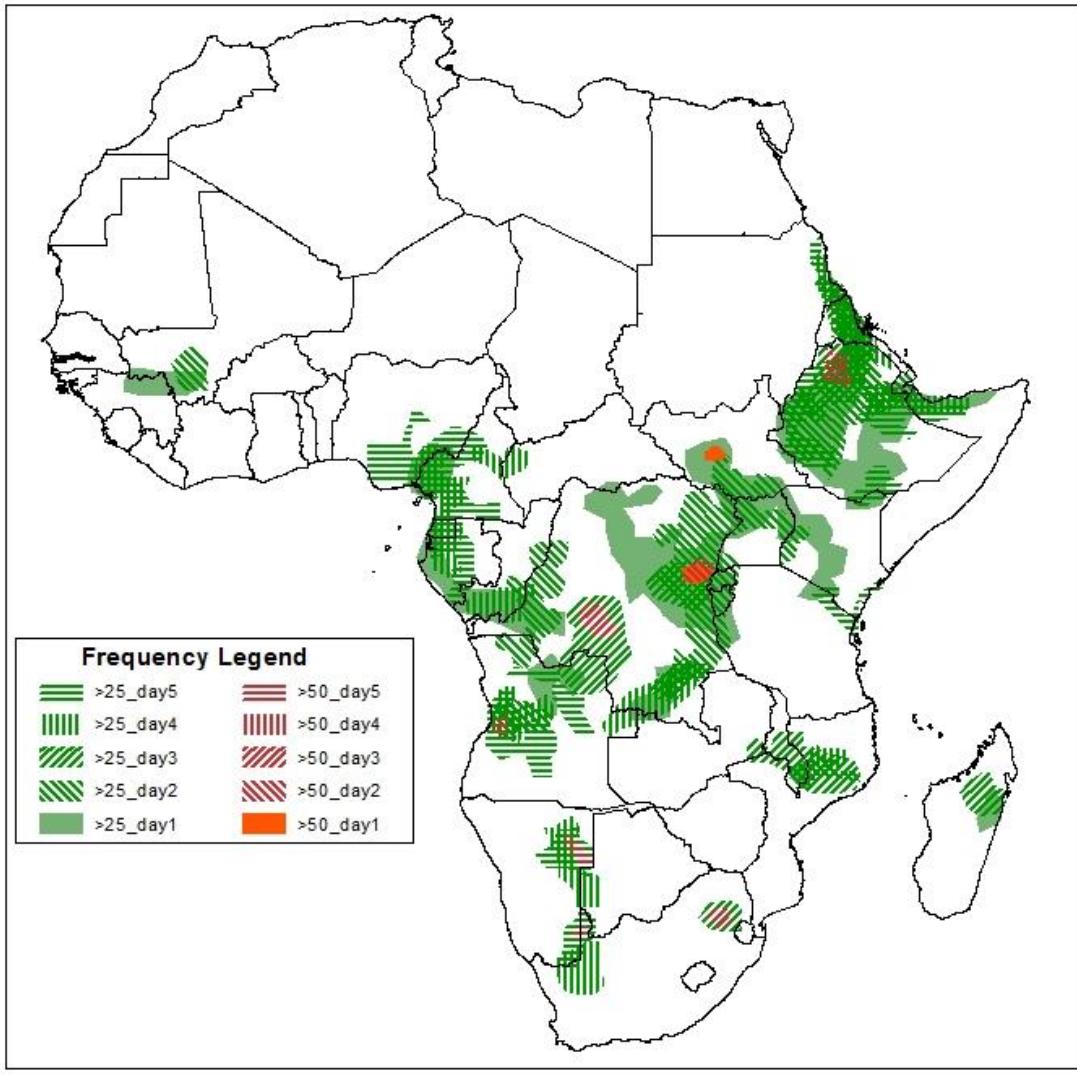
1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on October 18, 2018)

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



Five Days Rainfall Forecast Summary 19 - 23 October, 2018.

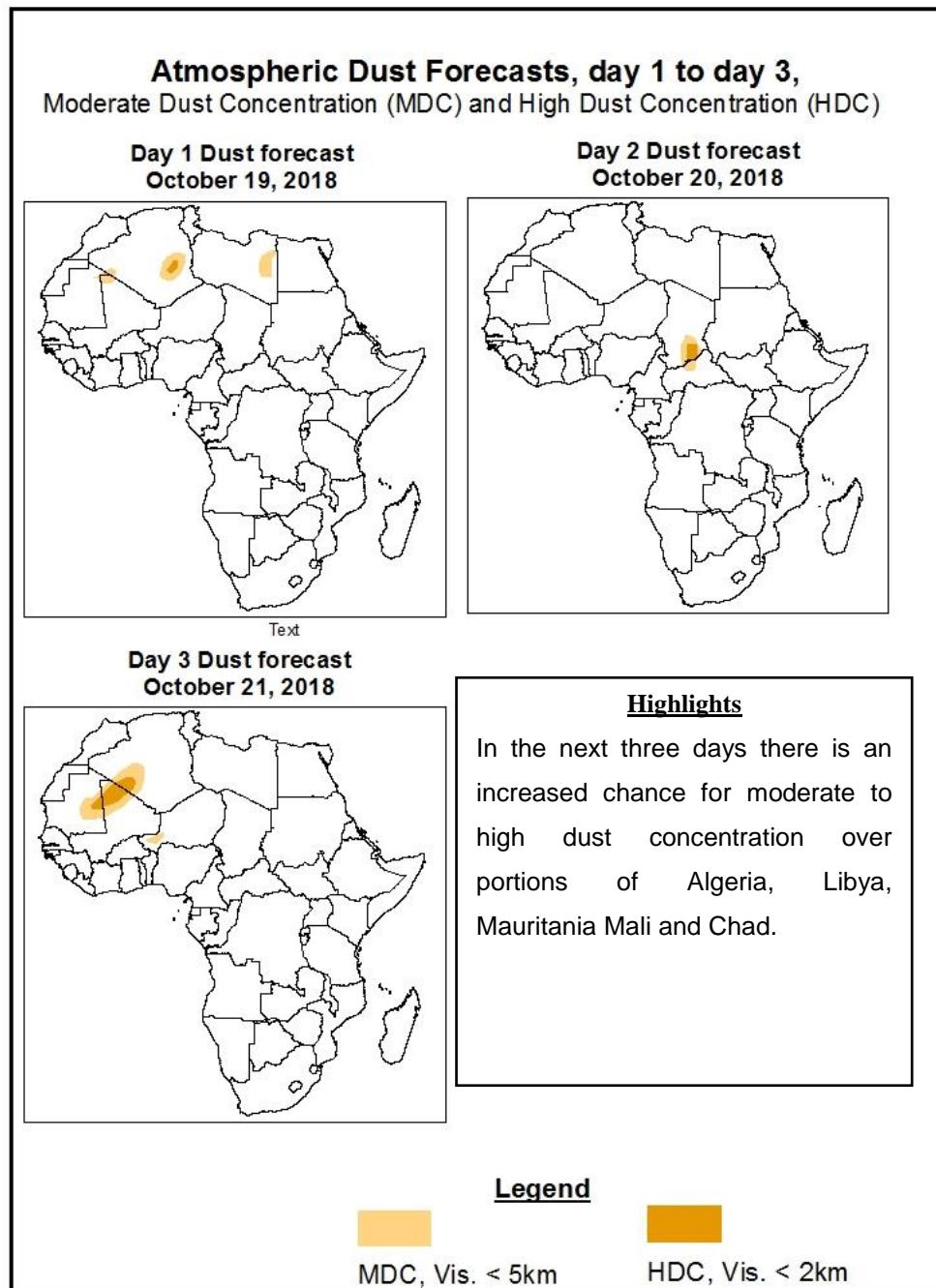


Highlights

- In the next two days, localized lower-level wind convergences active Congo air boundary, cross equatorial flow associated converges Greater Horn of Africa and the frontal system across southern Africa is expected to remain enhance rainfall activities. The last three days of the forecast period Moist but stable southeasterly to easterly flow is expected to influence much of the continent resulting into a reduction of rainfall activities. There is an increased chance for 2 or more days of moderate to heavy rainfall over parts of Central African, the Greater Horn of Africa countries and southern Africa countries.
- There is an increased chance for temperature heat index values to exceed 40°C over local areas of Niger, Burkina Faso, Benin Nigeria and Chad.

1.2. Atmospheric Dust Concentration Forecasts (valid: Oct 19 – October 23, 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: October 19 –23 October, 2018

The Azores High Pressure system over the North Atlantic Ocean is expected to strengthen through 120hrs. Its central pressure value is expected to increase from 1027hPa to 1044hPa.

The St. Helena High Pressure system over the Southeast Atlantic Ocean is moving towards the southern sub-continent. Its central pressure value is expected to increase from 1023hPa to 1037hPa within 48hrs. Developing St Helena over the southwest of the Atlantic Ocean progressing eastwards is expected to maintain its central pressure value of 1023hPa through the 120hrs.

The Mascarene High Pressure system over the Southwest Indian Ocean is expected to withdraw and gradually weaken as it progresses southeast. Its central pressure value is expected to decrease from 1030hPa to 1028hPa through 96hrs. Developed Mascarene High Pressure over the south Indian Ocean is expected to strengthen and move southeast. Its central pressure value is expected to decrease from 1033hPa to 1031hPa towards the end of the forecast period.

A low system over southern Africa is expected to maintain its position through the 48hrs later start moving northwest towards the end of the forecast period.

At 925hPa, dry strong northeasterly to easterly flow is expected to prevail over most parts of northern Africa and some areas of the Sahel region. Moist southwesterly to westerly monsoon flow from the Atlantic Ocean is expected to continue weakening reducing rainfall activities along the Gulf of Guinea region. A broad area of cross equatorial flow from the Indian Ocean is expected to prevail across the Greater Horn of Africa. Moist and unstable northeasterly is expected to prevail over some parts of southeast and southern Africa through 48hrs.

At 850hPa, lower-level wind convergence associated with the Congo air boundary (CAB) and lower level wind convergence associated with the southern costal low is expected to remain active during the next 48hrs of the forecast period.

In the next two days, localized lower-level wind convergences active Congo air boundary, cross equatorial flow associated converges Greater Horn of Africa and the frontal system across southern Africa is expected to remain enhance rainfall activities. The last three days of the forecast period Moist but stable southeasterly to easterly flow is expected to influence much of the continent resulting into a reduction of rainfall activities. There is an increased chance for 2 or more days of moderate to heavy rainfall over parts of Central African, the Greater Horn of Africa countries and southern Africa countries. There is an increased chance for temperature heat index values to exceed 40⁰C over local areas of Niger, Burkina Faso, Benin Nigeria and Chad.

2.0. Previous and Current Day Weather over Africa

2.1. Weather assessment for the previous day (October 17, 2018)

Daily rainfall of above 25mm was observed over parts of Guinea, Sierra Leone, Somali, Ethiopia, South Sudan and parts of Central African countries.

2.2. Weather assessment for the current day (October 18, 2018)

Intense convective clouds are observed over most parts of Central African countries and parts of Southern Africa.

