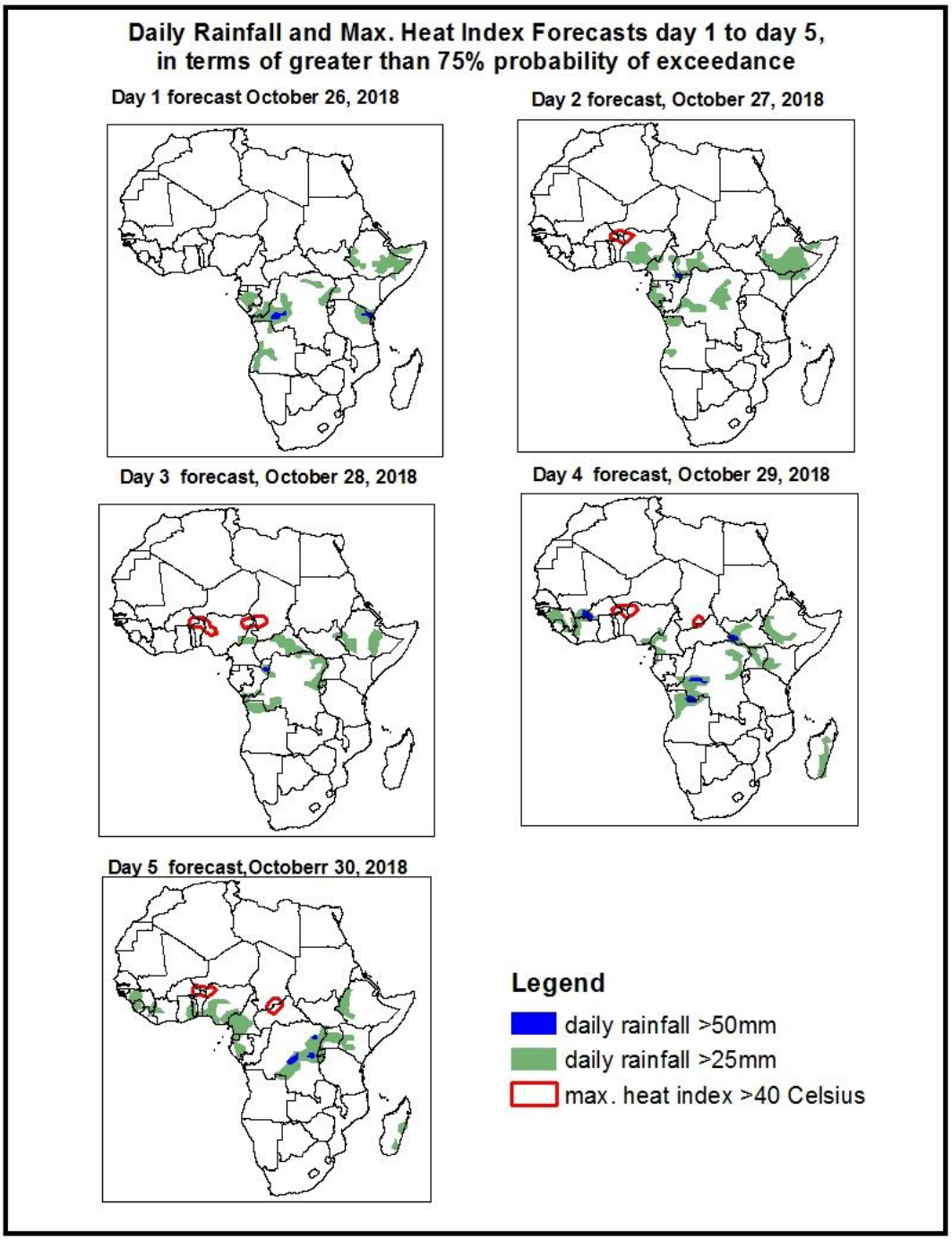
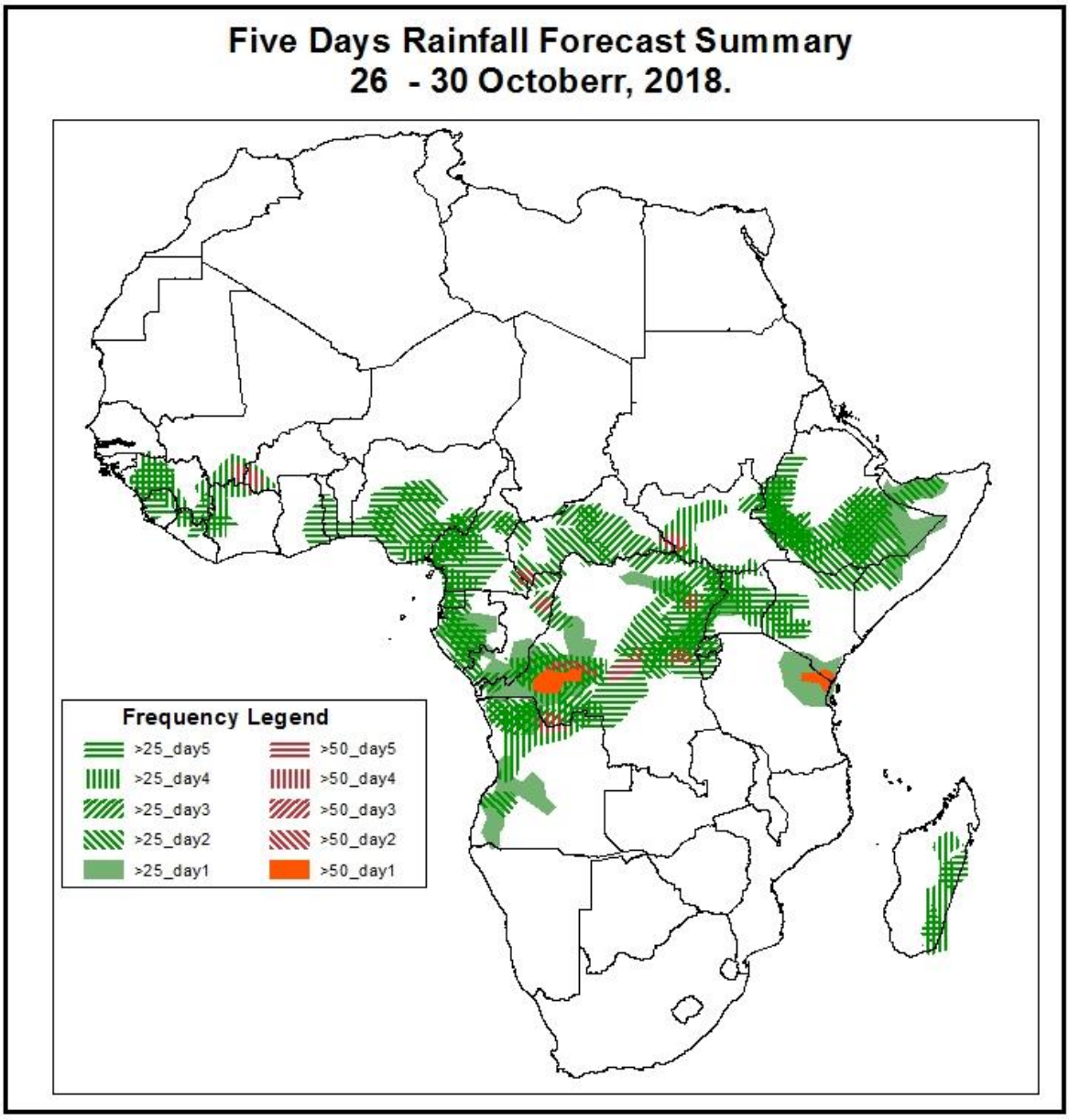
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on *October 25*, 2018)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: Oct 26, –Oct 30, 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^{o}C), based on the NCEP/GFS and the NCEP Global Ensemble Forecasts System (GEFS) and expert assessment.



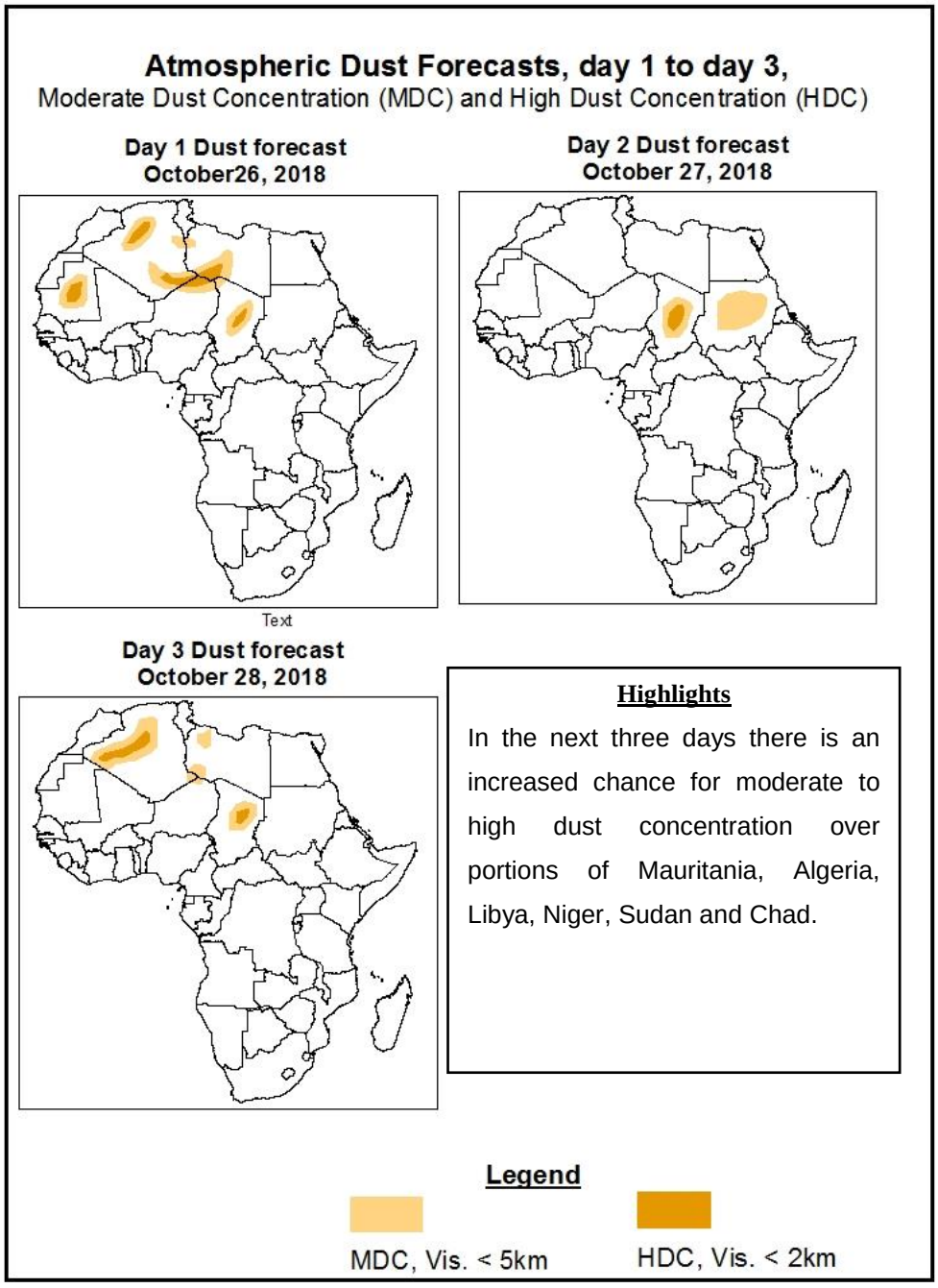


Highlights

- In the next five days stronger South easterlies to easterly flow from the Indian Ocean are likely to keep the Congo Air Boundary (CAB) over the west of its normal position through 96hrs. Lower level convergence in the Greater Horn of Africa is expected to maintain moderate rainfall in the region during the forecast period. There is an increased chance for 2 or more days of moderate to heavy rainfall over parts of Burkina Faso, Congo DR Tanzania and Angola.
- There is an increased chance for temperature heat index values to exceed 40^0C over local areas of Niger, Burkina Faso, Benin, Nigeria, Chad and Republic of Central Africa.

1.2. Atmospheric Dust Concentration Forecasts *(valid: Oct 26 – October 30, 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 26 –30 October, 2018*

The Azores High Pressure system over the North Atlantic Ocean is expected to strengthen within the 48hrs with its central pressure value expected to increase from 1034hPa to 1042hPa. It is therefore expected to reduce its strength towards the end of the forecast period. Its central pressure value is expected to decrease from 1039hPa to 1031hPa.

The St. Helena High Pressure system over the Southwest Atlantic Ocean is expected to strengthen as it progresses eastwards towards the southern sub-continent. Its central pressure value is expected to increase from 1026hPa to 1030hPa through 120hrs.

The Mascarene High Pressure system over the Southwest Indian Ocean is expected to strengthen through 48hrs its central pressure value is expected to increase from 1029hPa to 1030hPa. It will start weakening and retrieving from the sub-continent as it progresses southeast of the Indian Ocean 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 remain weak. Moist Southeasterly to easterly flow from the Indian Ocean is expected to prevail over most parts of Eastern and southern Africa through the 96hrs.

At 850hPa, lower-level wind convergence of northeasterly to easterly flow and Southeasterly to easterly flow is expected to remain active during the forecast period over the Greater Horn of Africa. Stronger easterlies from the Indian Ocean are likely to keep the Congo Air Boundary (CAB) over the west of its normal position through 96hrs.

In the next five days stronger South easterlies to easterly flow from the Indian Ocean are likely to keep the Congo Air Boundary (CAB) over the west of its normal position through 96hrs. Lower level convergence in the Greater Horn of Africa is expected to maintain moderate rainfall in the region during the forecast period. There is an increased chance for 2 or more days of moderate to heavy rainfall over parts of Burkina Faso, Congo DR Tanzania and Angola. There is an increased chance for temperature heat index values to exceed 40^0C over local areas of Niger, Burkina Faso, Benin, Nigeria, Chad and Republic of Central Africa.

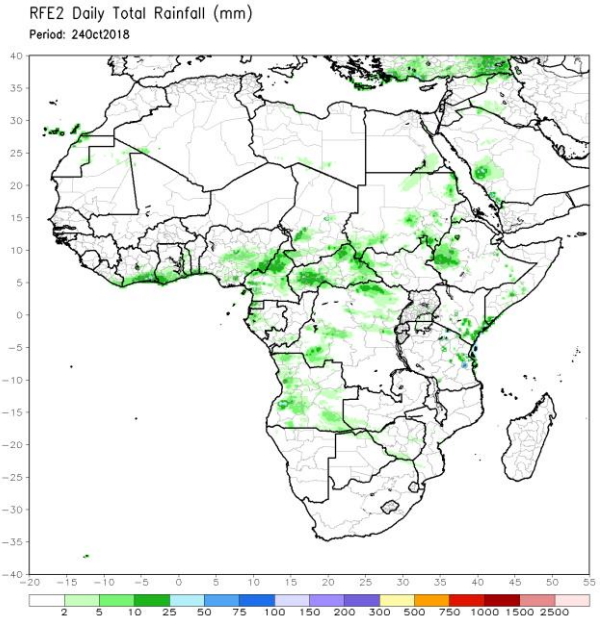
2.0. Previous and Current Day Weather over Africa

2.1. Weather assessment for the previous day (October 23, 2018)

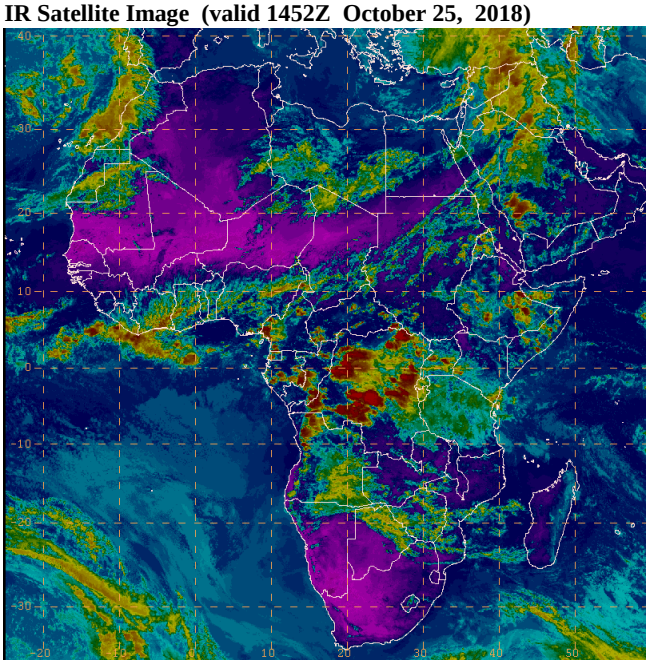
Moderate daily rainfall was observed over portion of Gulf of Guinea Coastal Areas, western countries of central Africa and parts of Sudan and Ethiopia.

2.2. Weather assessment for the current day (*October 24*, 2018)

Intense convective clouds are observed over localized areas Gulf of Guinea Coastal Areas, Greater Horn of Africa and parts of Central African countries.



IR Satellite Image (valid 1452Z October 25, 2018)



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