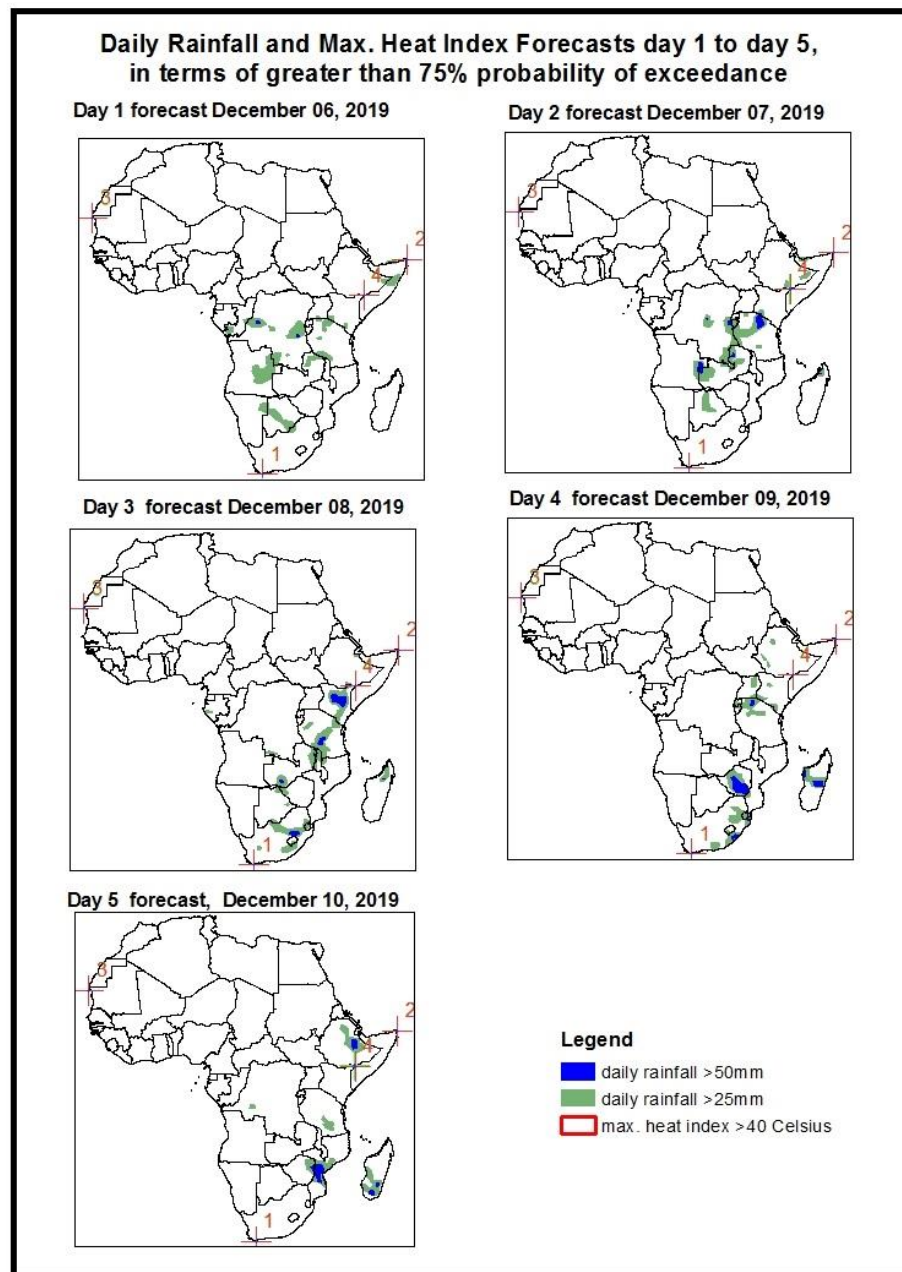


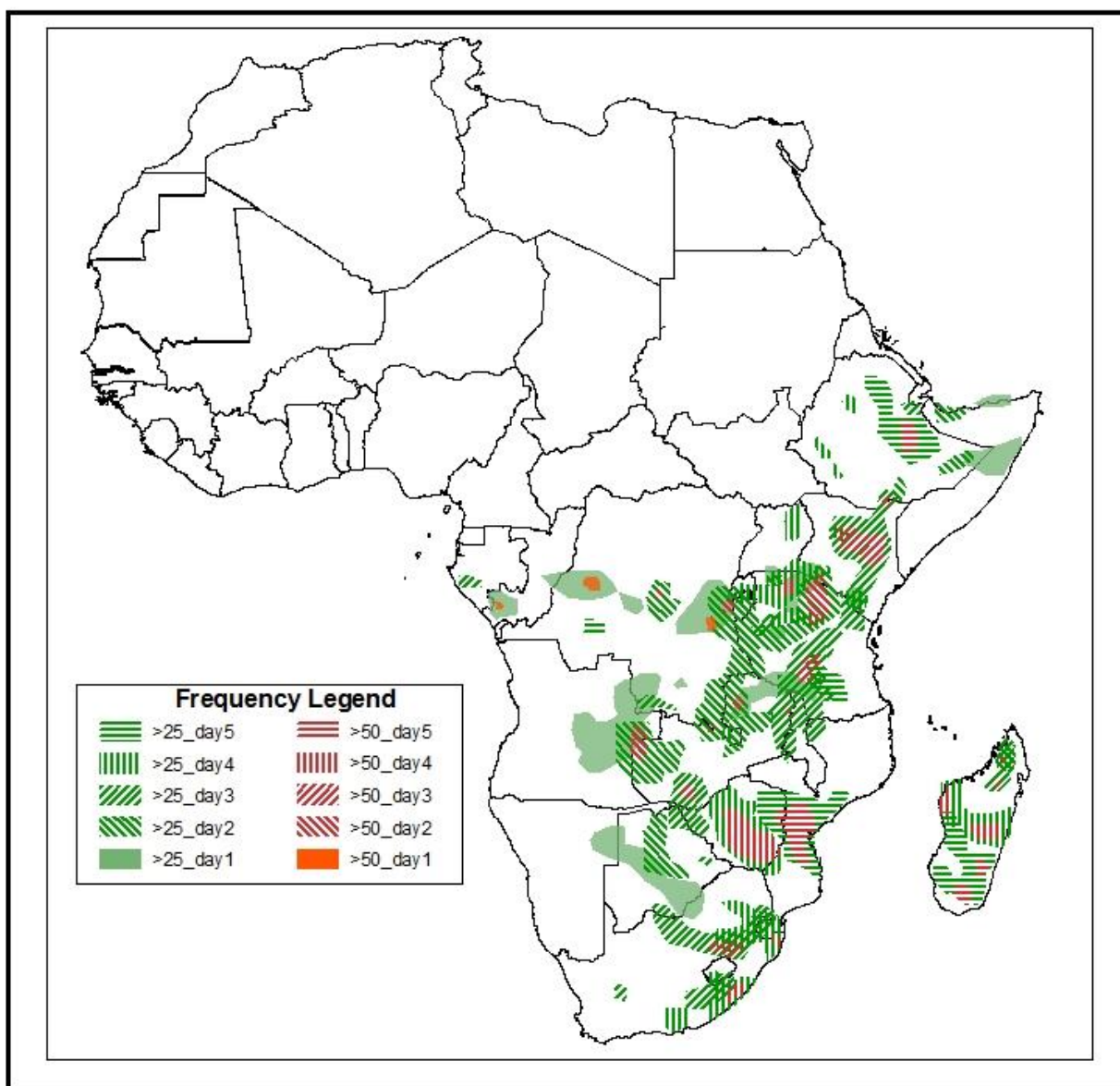
## 1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on December 05, 2019)

### 1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: 06 December – 10 December, 2019)

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



## Five Days Rainfall Forecast Summary December 06 - December 10, 2019

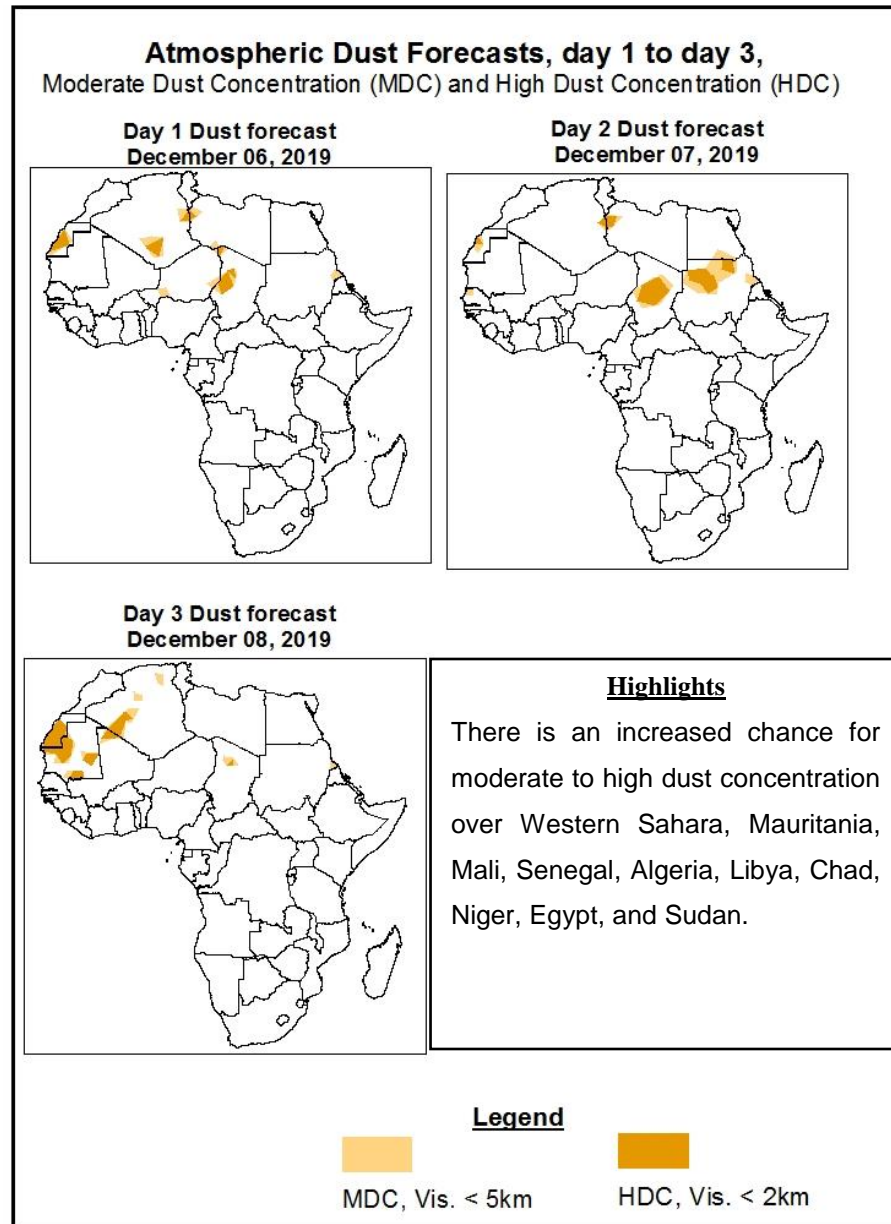


### Highlights

- Strong lower-level convergence in the Lake Victoria region and onshore flow from the Indian Ocean with its associated lower-level convergence is expected to enhance rainfall over Central and eastern Africa. Tropical cyclone activities in the Indian Ocean are likely to enhance rainfall over portions of the Greater Horn of Africa and Southeast Africa.
- At least 25mm for two or more days is likely over portions of Gabon, DRC, Angola, Botswana, South Africa, Lesotho, Eswatini, Zimbabwe, Mozambique, Madagascar, Zambia, Malawi, Tanzania, Burundi, Rwanda, Uganda, Kenya, Ethiopia and Somalia.
- There is an increased likelihood for daily rainfall to exceed 50mm over local areas in Republic of Congo, DRC, Angola, South Africa, Zimbabwe, Zambia, Mozambique, Madagascar, Tanzania, Kenya and Ethiopia.

## 1.2. Atmospheric Dust Concentration Forecasts (valid: 06 Dec – 08 Dec 2019)

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: 06 December – 10 December 2019**

The Azores High Pressure system over the Northeast Atlantic is generally expected to remain strong with its central pressure value in the range of 1029hPa to 1034hPa during the forecast period. It is expected to slightly weaken from 1031hPa to 1029hPa during the first two days and then intensify from 1029hPa to 1031hPa during the remainder of the forecast period.

The St. Helena High Pressure system over the Southeast Atlantic Ocean is expected to strengthen while shifting eastwards with its central pressure value increasing from 1020hPa to 1024hPa during the forecast.

The Mascarene High Pressure system over Southwest of Indian Ocean is partly continental during the first two days of the forecast period. It is expected to weaken while shifting eastwards with its central pressure value decreasing from 1027hPa to 1016hPa during the first two days of the forecast period and then it will strengthen to 1025hPa during the remainder of the forecast period.

The relatively strong Arabian Ridge is expected to remain active during the forecast period and hence, it will have a significant impact on the weather across most parts of northeastern Africa and Great Horn of Africa.

At 925-hPa level, moist southwesterly flow from the Atlantic Ocean with its low-level convergence is expected to prevail across the Gulf of Guinea, southern Sahel regions and most neighboring areas of Central, western equatorial and southwestern Africa. On the other hand, the tropical cyclone (near the tip of Somalia) and the tropical disturbance (above the tip of Madagascar) are greatly depriving the Greater Horn of Africa with less moisture convergence. Otherwise, the combination of southeasterly and northeasterly flow from the Indian Ocean with their low-level convergences is expected to prevail across the Greater Horn of Africa, parts of Central Africa and most parts of southeastern Africa.

At 850-hPa level, strong dry northerly flow is expected remain active and prevail across southern Sahel countries. On the other hand, meridional and seasonal wind convergence is expected to remain active across the Lake Victoria region, Congo Basin and the neighboring

areas of Central Africa, southern Cameroon, Gabon, Angola, CAR and South Sudan during the forecast period. Converging winds over Kenya, Tanzania, Uganda, DRC, Burundi, Rwanda, Ethiopia, South Sudan, Mozambique, Malawi, Zimbabwe, Zambia, Angola, Namibia, Botswana, Lesotho, South Africa and Madagascar; these are likely to maintain the occasional enhanced to moderate precipitation over these areas.

Strong lower-level convergence in the Lake Victoria region and onshore flow from the Indian Ocean with its associated lower-level convergence is expected to enhance rainfall over Central and eastern Africa. Tropical cyclone activities in the Indian Ocean are likely to enhance rainfall over portions of the Greater Horn of Africa and Southeast Africa. At least 25mm for two or more days is likely over portions of Gabon, DRC, Angola, Botswana, South Africa, Lesotho, Eswatini, Zimbabwe, Mozambique, Madagascar, Zambia, Malawi, Tanzania, Burundi, Rwanda, Uganda, Kenya, Ethiopia and Somalia. There is an increased likelihood for daily rainfall to exceed 50mm over local areas in Republic of Congo, DRC, Angola, South Africa, Zimbabwe, Zambia, Mozambique, Madagascar, Tanzania, Kenya and Ethiopia.



## 2.0. Previous and Current Day Weather over Africa

### 2.1. *Weather assessment for the previous day* (Dec 04, 2019)

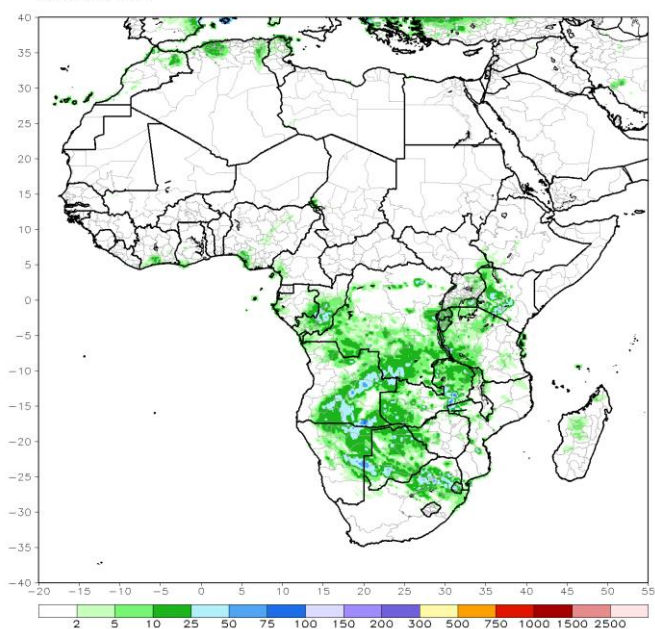
Daily rainfall amount exceeded 25mm over Algeria, Nigeria, Gabon, Republic of Congo, DRC, Uganda, Rwanda, Burundi, Kenya, Tanzania, Zambia, Angola, Namibia, Botswana, Zimbabwe, Eswatini, South Africa and Mozambique; and exceeded 50mm over South Africa, Namibia, Botswana, Angola, Zambia, Kenya, DRC and Republic of Congo.

### 2.2. *Weather assessment for the current day* (Dec 05, 2019)

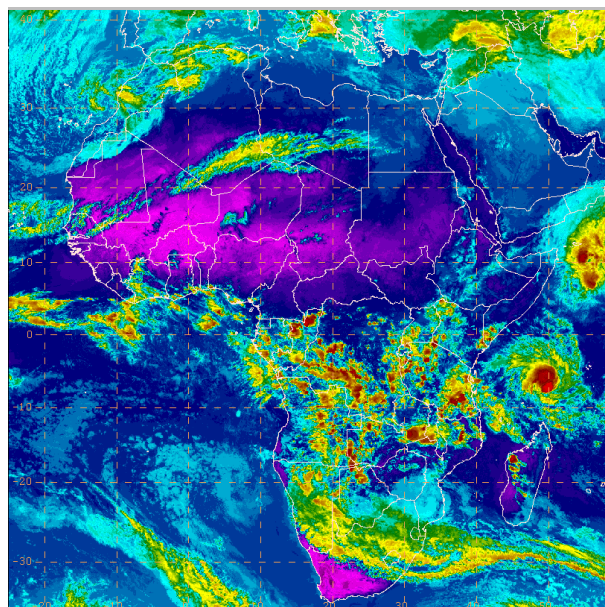
Deep convective clouds are observed over many places in the equatorial western and eastern Africa, Central Africa and a few portions in southern Africa. The tropical cyclone near the tip of Somalia and another likely tropical disturbance above the tip of Madagascar are reducing most of the convective activities over the eastern parts of the Greater Horn of Africa.

RFE2 Daily Total Rainfall (mm)

Period: 04Dec2019



IR Satellite Image (valid 1452 December 05, 2019)



**Author: MUSA Ssemujju (CPC-African Desk/Uganda Meteorological Service)**