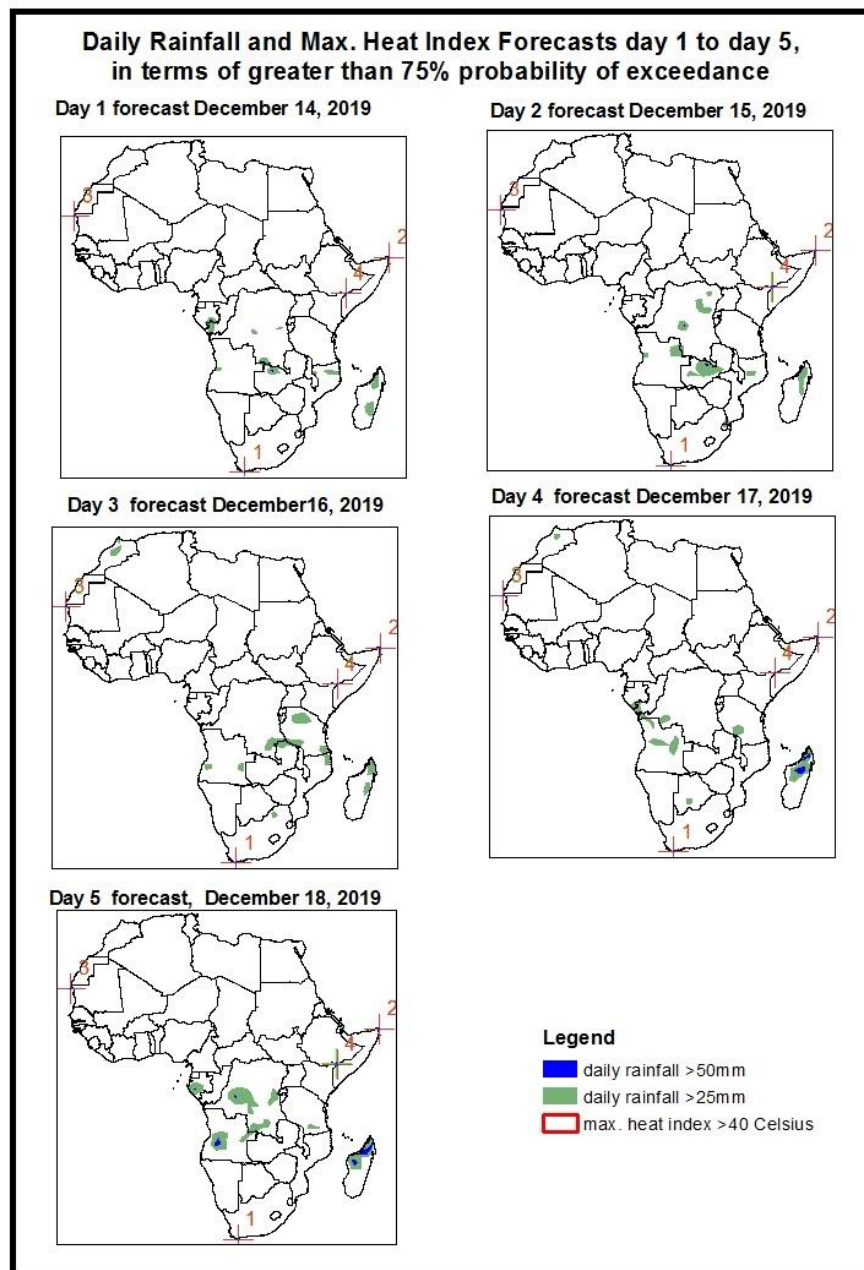


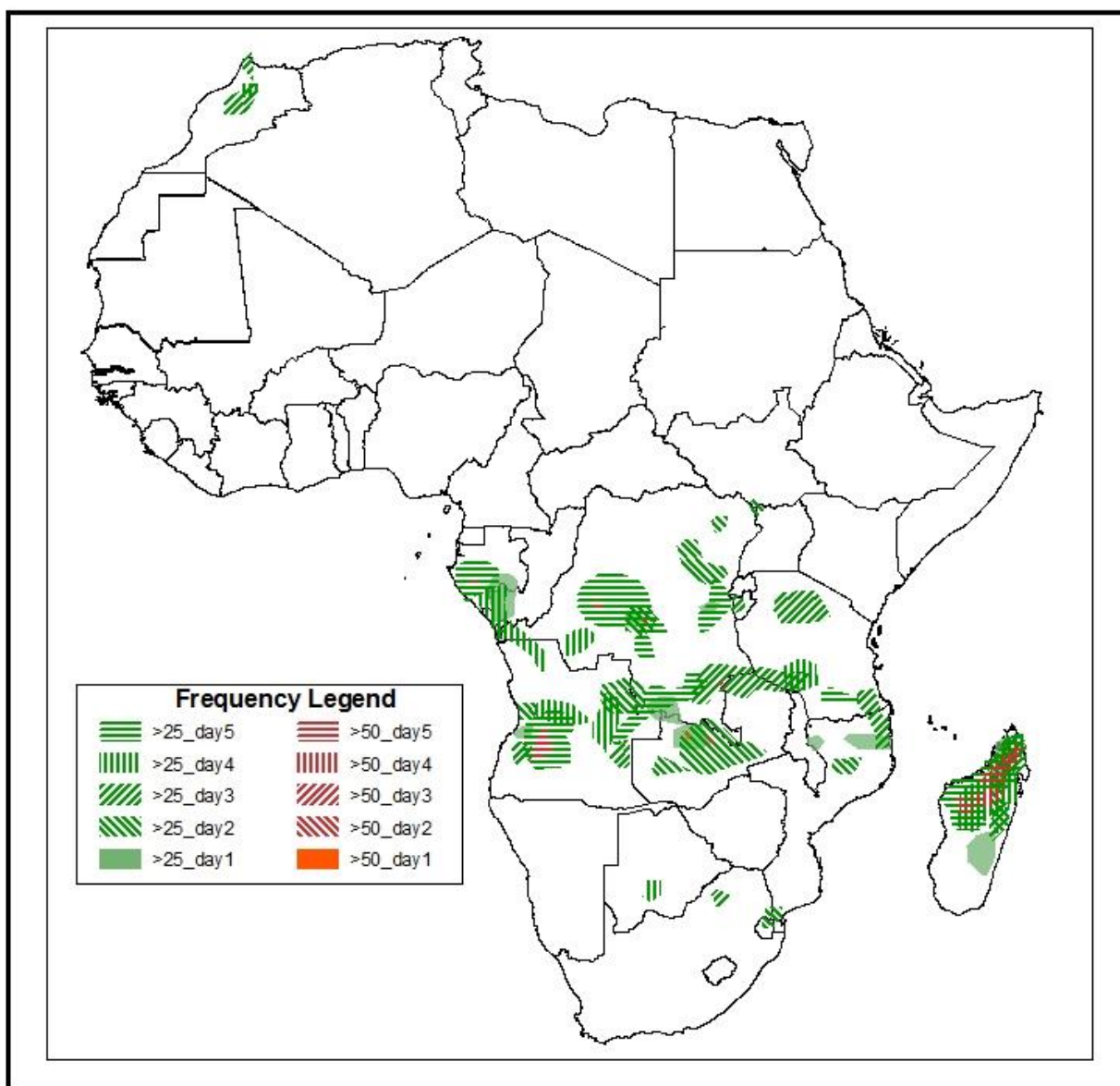
1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on December 13, 2019)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: 14 December – 18 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 14 - December 18, 2019

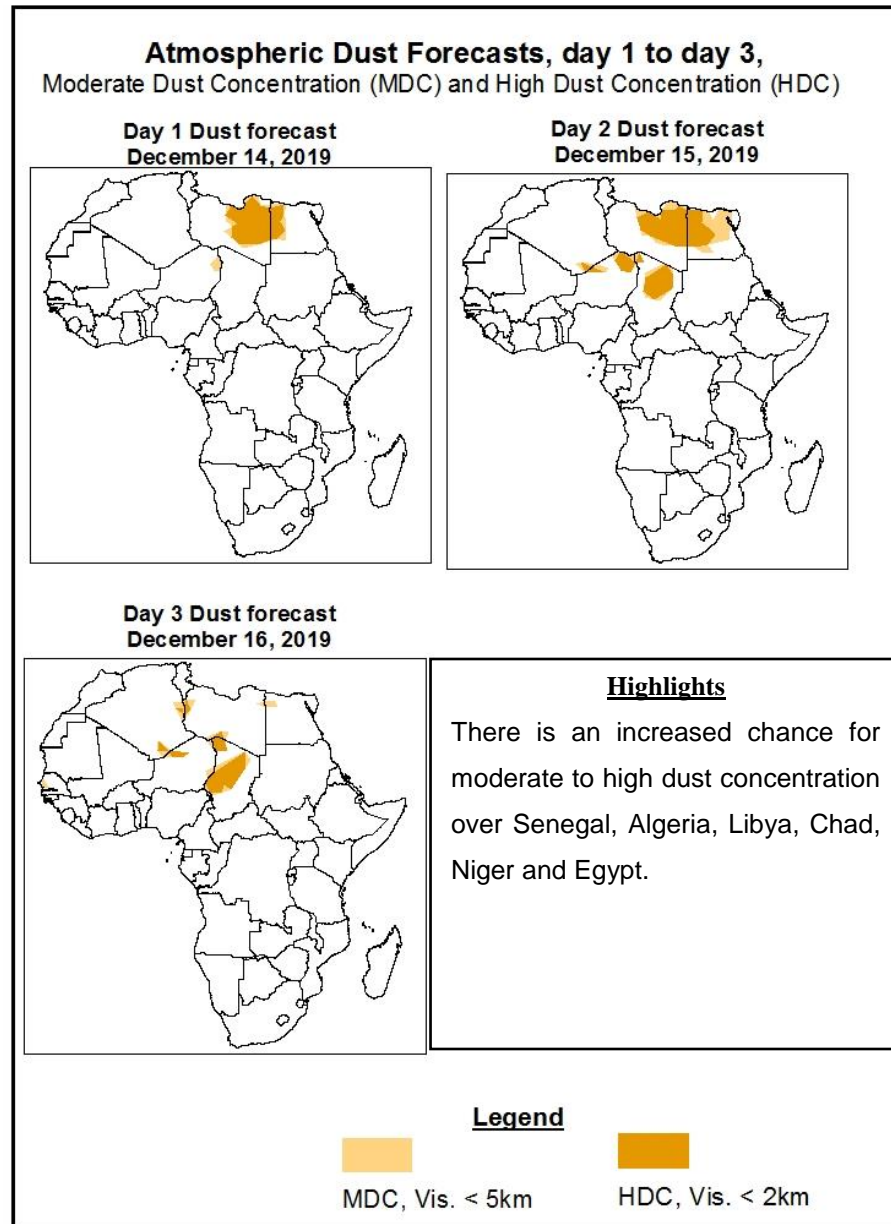


Highlights

- Strong lower-level wind convergences over portions of Central Africa, northern portions of Southern Africa and Madagascar are expected to enhance rainfall over Central and Southeastern Africa.
- At least 25mm for two or more days is likely over portions of Morocco, Gabon, Republic of Congo, DRC, Angola, Botswana, South Africa, Eswatini, Mozambique, Madagascar, Zambia, Tanzania, Burundi, Uganda and South Sudan.
- There is an increased likelihood for daily rainfall to exceed 50mm over local areas in Gabon, DRC, Angola, Zambia and Madagascar.

1.2. Atmospheric Dust Concentration Forecasts (valid: 14 Dec – 16 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: 14 December – 18 December 2019

The Azores High Pressure system over the Northeast Atlantic is generally expected to weaken with its central pressure value decreasing from 1033hPa to 1022hPa during the forecast period.

The St. Helena High Pressure system over the Southeast Atlantic Ocean is expected to intensify while shifting eastwards with its central pressure value increasing from 1022hPa to 1027hPa during the first two days of the forecast period and then its center is expected to start weakening from 1027hPa to 1020hPa for the rest of the forecast period.

The Mascarene High Pressure system over Southwest of Indian Ocean is expected to intensify while shifting eastwards with its central pressure value increasing from 1029hPa to 1033hPa during the first day of the forecast period and then its central pressure value is expected to decrease from 1033hPa to 1021hPa during the next three days and thereafter increases to 1026hPa for the last day 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 portions of the 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 northeasterly flow from the Indian Ocean with its low-level convergence is expected to prevail across most parts of the Greater Horn of Africa and parts of Central Africa whereas the southeasterly flow from the Indian Ocean together with its low-level convergence is expected to prevail across 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 and southern Africa during the forecast period. Converging winds over

Kenya, Tanzania, Uganda, Burundi, Rwanda, Ethiopia, DRC, Mozambique, Malawi, Zimbabwe, Zambia, Angola, Namibia, Botswana, South Africa and Madagascar; are likely to maintain the occasional enhanced to moderate precipitation over these areas.

Strong lower-level wind convergences over portions of Central Africa, northern portions of Southern Africa and Madagascar are expected to enhance rainfall over Central and Southeastern Africa. At least 25mm for two or more days is likely over portions of Morocco, Gabon, Republic of Congo, DRC, Angola, Botswana, South Africa, Eswatini, Mozambique, Madagascar, Zambia, Tanzania, Burundi, Uganda and South Sudan. There is an increased likelihood for daily rainfall to exceed 50mm over local areas in Gabon, DRC, Angola, Zambia and Madagascar.

2.0. Previous and Current Day Weather over Africa

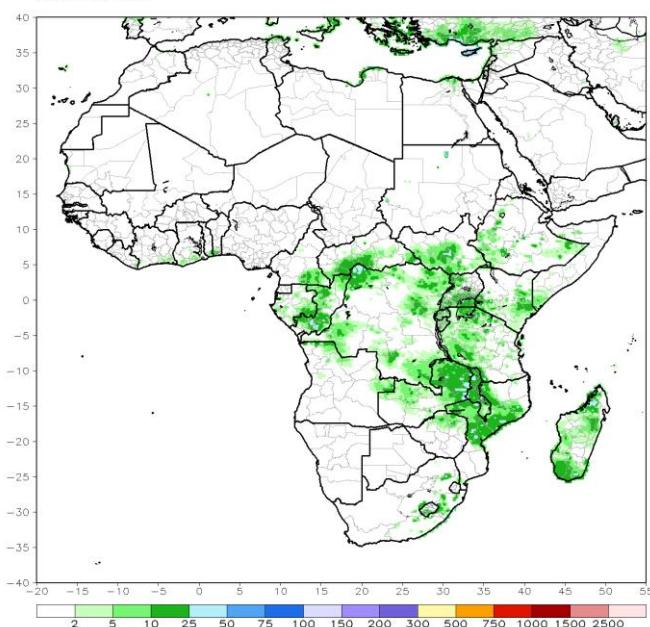
2.1. *Weather assessment for the previous day* (Dec 12, 2019)

Daily rainfall amount exceeded 25mm over Republic of Congo, DRC, Uganda, South Sudan, Sudan, Kenya, Ethiopia, Tanzania, Malawi, Zambia, South Africa, Lesotho, Mozambique and Madagascar; and exceeded 50mm only over Sudan.

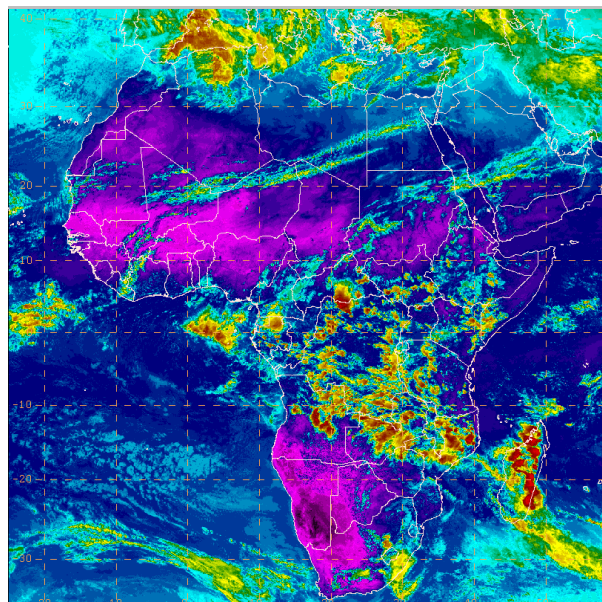
2.2. *Weather assessment for the current day* (Dec 13, 2019)

Deep convective clouds are observed over many places in the Greater Horn of Africa and Central Africa, and over a small portion of Southeastern Africa.

RFE2 Daily Total Rainfall (mm)
Period: 12Dec2019



IR Satellite Image (valid 1352 December 13, 2019)



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