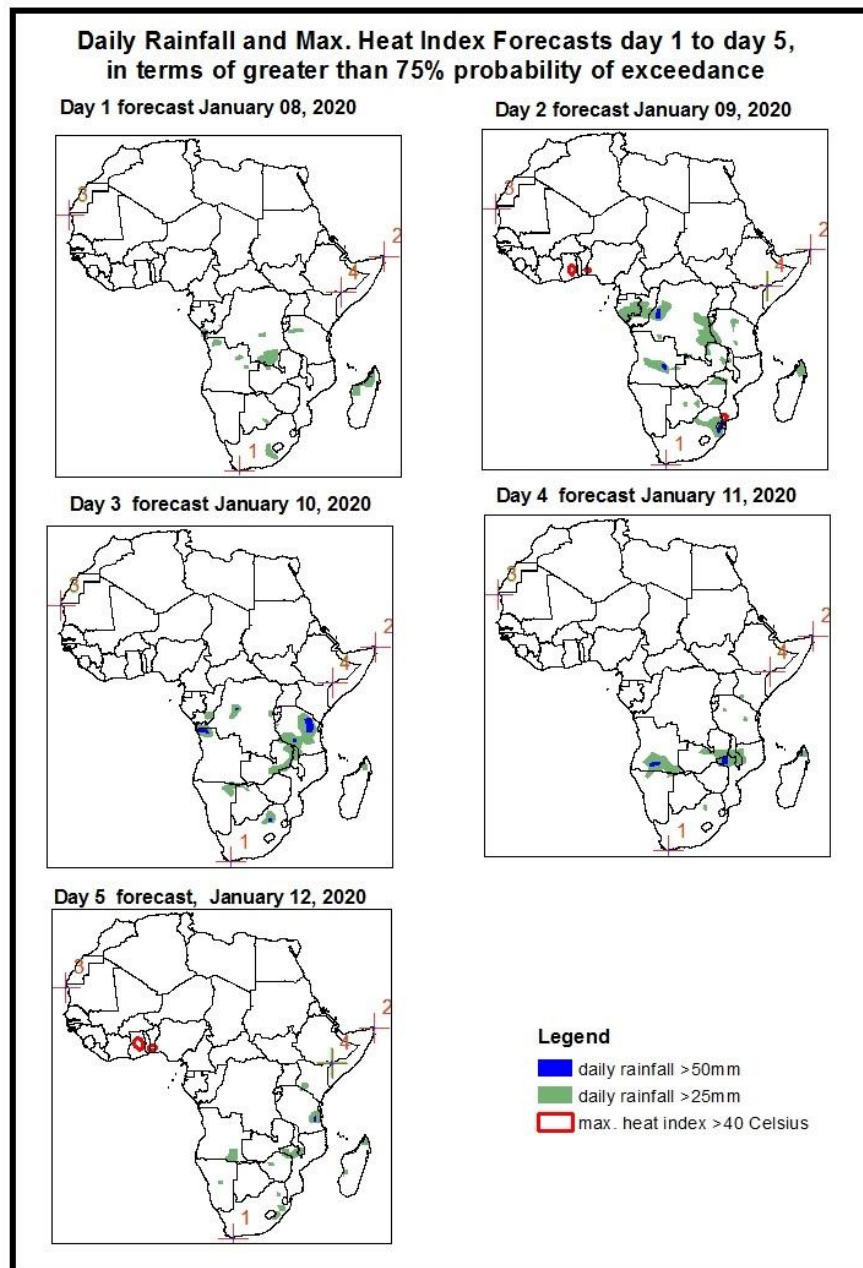


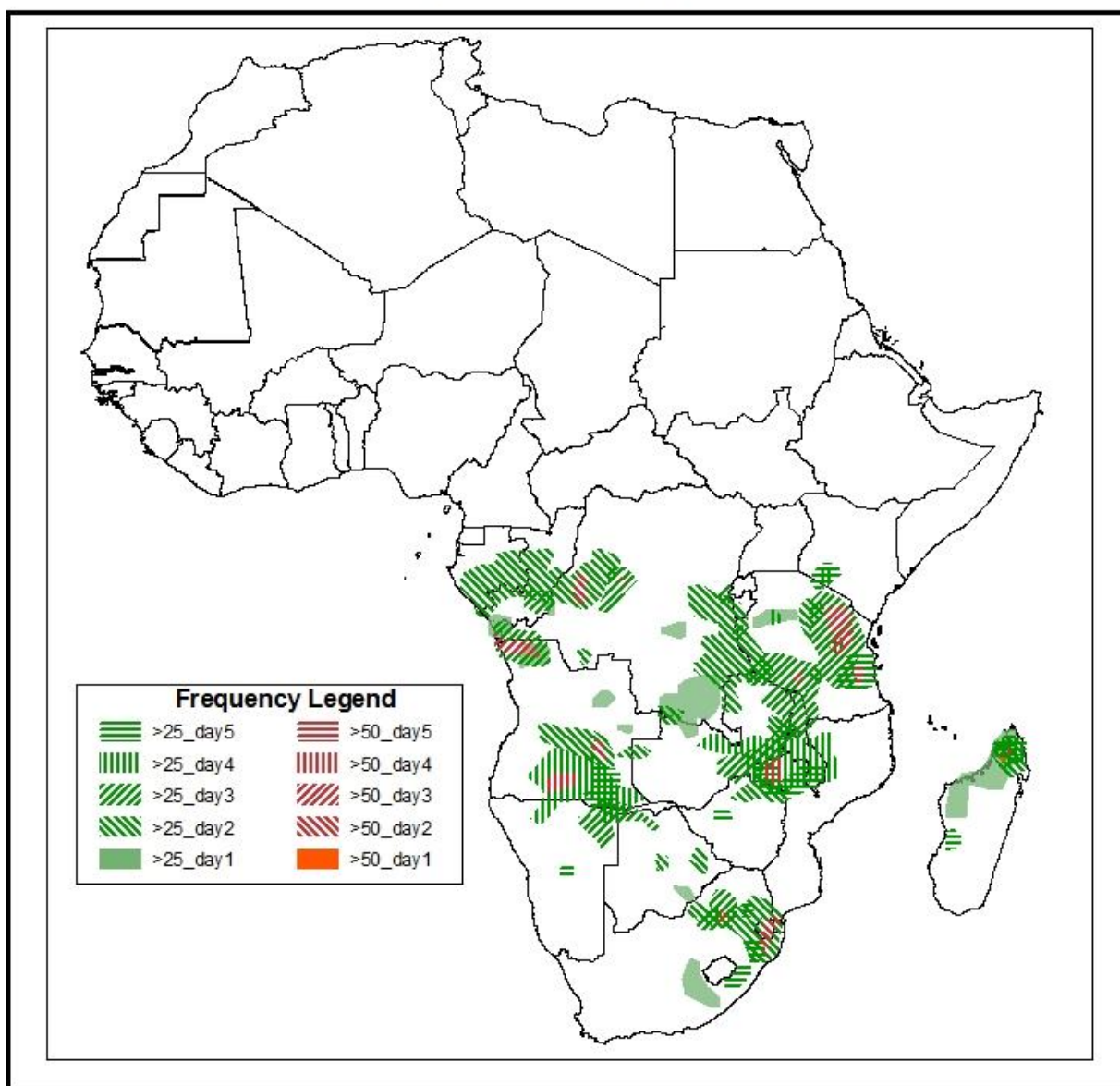
1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on January 7, 2020)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: 08 Jan – 12 Jan, 2020)

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 January 08 - January 12, 2020

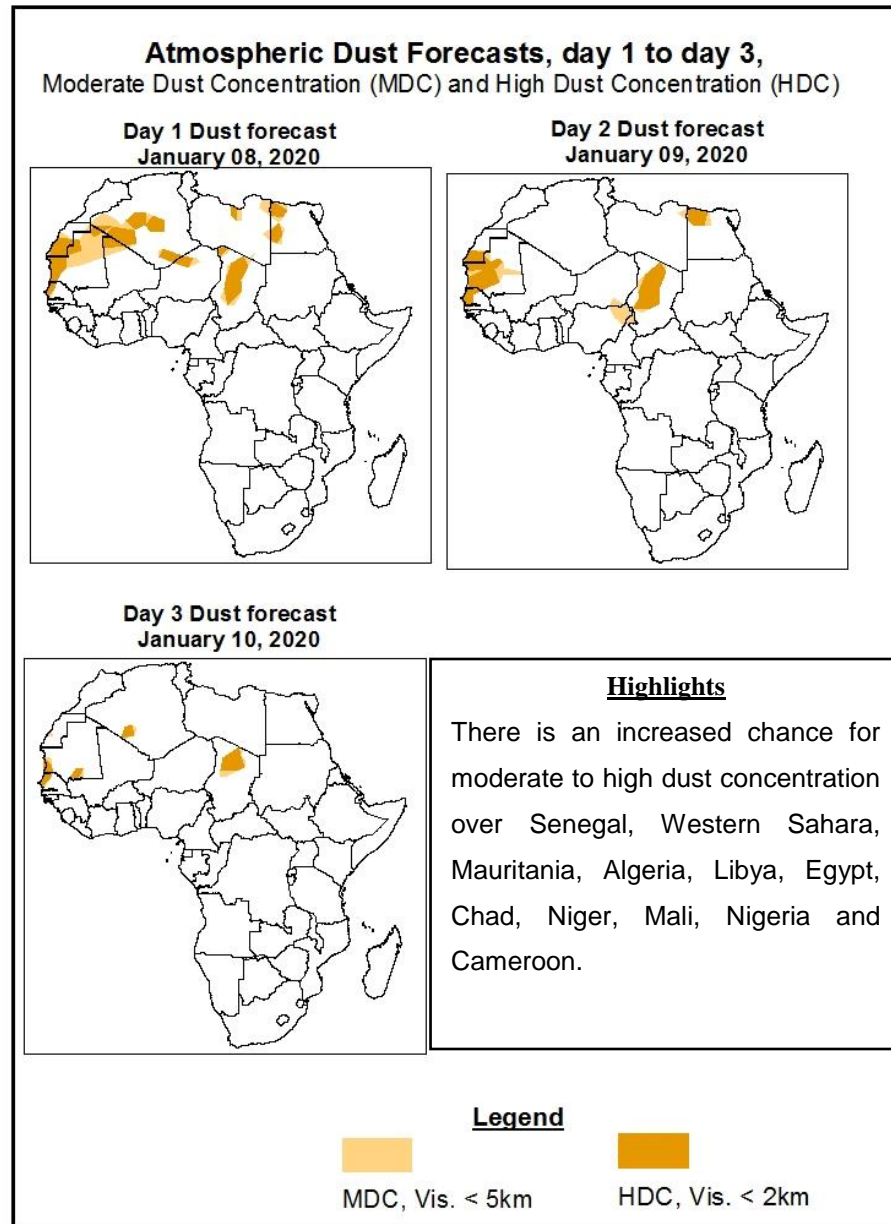


Highlights

- Strong lower-level wind convergences are expected to enhance rainfall over parts of western Equatorial Africa, Central Africa, Tanzania, South Africa and Madagascar.
- At least 25mm for two or more days is likely over portions of Gabon, Republic of Congo, DRC, Angola, Namibia, South Africa, Eswatini, Botswana, Zimbabwe, Mozambique, Madagascar, Zambia, Malawi, Tanzania, Burundi and Kenya.
- There is an increased likelihood for daily rainfall to exceed 50mm over local areas in DRC, Angola, South Africa, Eswatini, Mozambique, Tanzania and Madagascar.
- There is an increased chance for daily maximum heat index to exceed 40°C over Nigeria, Benin, Togo, Ghana and Mozambique.

1.2. Atmospheric Dust Concentration Forecasts (valid: 08 Jan – 10 Jan 2020)

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: 08 January – 12 January 2020

The Azores High Pressure system over the Northeast Atlantic Ocean is expected to remain constant at 1034hPa while shifting eastwards for the first three days of the forecast period and then it is expected to intensify with its central pressure value increasing from 1034hPa to 1036hPa for the rest of the forecast period.

The St. Helena High Pressure system over the Southeast Atlantic Ocean is generally expected to strengthen while shifting eastwards with its central pressure value increasing from 1016hPa to 1024hPa during the forecast period.

The Mascarene High Pressure system over Southwest of Indian Ocean is expected to weaken while shifting eastwards with its central pressure value decreasing from 1025hPa to 1021hPa for the first day of the forecast period and thereafter, it is expected to intensify with its central pressure value increasing from 1021hPa to 1029hPa for the rest of the forecast period.

The Arabian Ridge is relatively strong, stretching as far as Kenya and is expected to remain active during the forecast period. This implies that 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, strong hot, dry and dusty northerly to northeasterly flow from the Sahara is expected to prevail across northern Sahel region and northwestern parts of Africa, while the cool and moist southwesterly flow from the Atlantic Ocean with its low-level convergence is expected to prevail across the Gulf of Guinea, southern Sahel region and most neighboring areas of Central, western equatorial Africa. The evolution of ITD is clearly visible during the forecast period, aligning over the Sahel region. 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 combination of northeasterly and easterly flows from the Indian Ocean together with their low-level convergences is expected to prevail across most parts of southern Africa.

At 850-hPa level, lower level wind convergence is expected remain active over portions of the Sahel region, central and southern Africa, Congo Basin and Lake Victoria Basin during the forecast period. Converging lower-level winds over the western equatorial region, Congo basin, portions of East Africa and Madagascar; are likely to maintain the occasional enhanced to moderate precipitation over these areas.

Strong lower-level wind convergences are expected to enhance rainfall over parts of western Equatorial Africa, Central Africa, Tanzania, Mozambique South Africa and Madagascar. At least 25mm for two or more days is likely over portions of Gabon, Republic of Congo, DRC, Angola, Namibia, South Africa, Eswatini, Botswana, Zimbabwe, Mozambique, Madagascar, Zambia, Malawi, Tanzania, Burundi and Kenya. There is an increased likelihood for daily rainfall to exceed 50mm over local areas in DRC, Angola, South Africa, Eswatini, Mozambique, Tanzania and Madagascar. There is an increased chance for daily maximum heat index to exceed 40°C over Nigeria, Benin, Togo, Ghana and Mozambique.

2.0. Previous and Current Day Weather over Africa

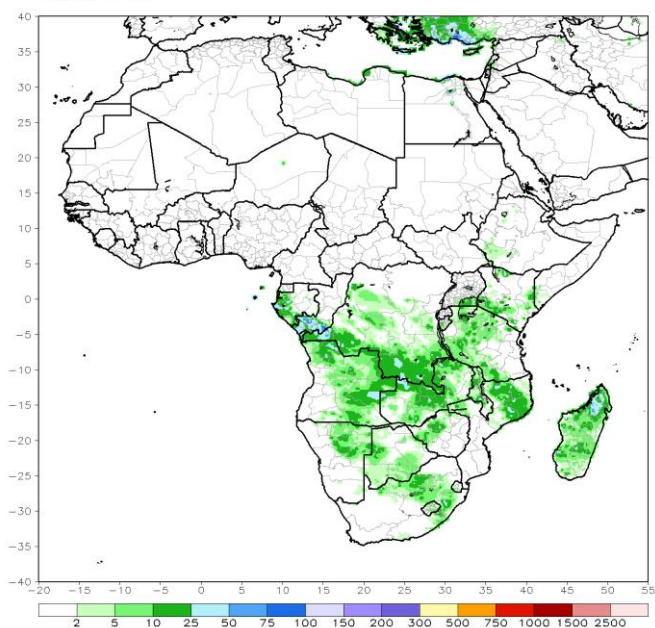
2.1. Weather assessment for the previous day (January 06, 2020)

Daily rainfall amount exceeded 25mm over Egypt, Kenya, Tanzania, Malawi, Zambia, Zimbabwe, DRC, Angola, Republic of Congo, Gabon Mozambique, South Africa and Madagascar, and exceeded 50mm over Republic of Congo, DRC, Zambia, Madagascar and Egypt.

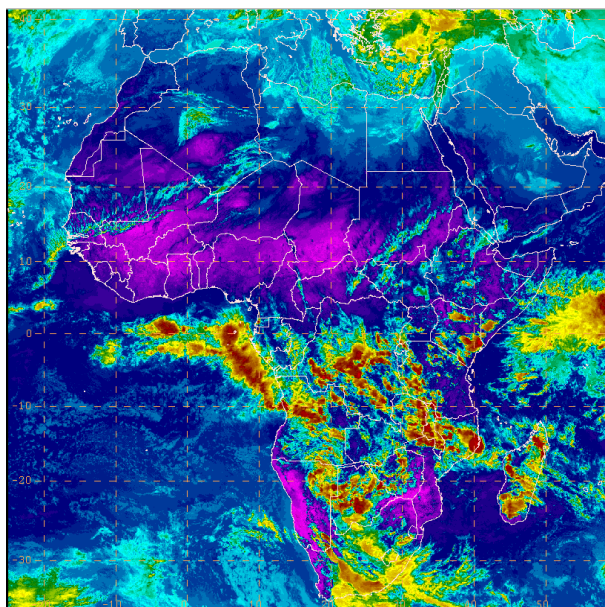
2.2. Weather assessment for the current day (January 07, 2020)

Deep convective clouds are observed over many places in the western equatorial and Central Africa, Tanzania, Madagascar and over portions of Southern Africa.

RFE2 Daily Total Rainfall (mm)
Period: 06Jan2020



IR Satellite Image (valid 1352 January 07, 2020)



Author: Musa SSEMUJUU (CPC-African Desk/Uganda National Meteorological Authority)