



10 DAYS CLIMATOLOGICAL SUMMARY AND IMPACTS FOR THE THIRD DEKAD (21-30) OF APRIL 2019 AND FORECAST FOR THE SECOND DEKAD (11-20) OF MAY 2019

1. Introduction

This bulletin reviews the climatic conditions observed during the third dekad (21-30) of April 2019 and gives the climate forecast for the second dekad (11-20) of May 2019 with the associated climate impacts over the Greater Horn of Africa (GHA) region. The observed conditions are compared to the average of the climatological period of 1981-2010 for rainfall and mean surface temperature.

For referencing within this bulletin, the Greater Horn of Africa (GHA) region is generally subdivided into three sub-sectors: The equatorial sector lying approximately between 5° S and 5° N, with the northern and southern sectors occupying the rest of the northern and southern parts of the region respectively while average is computed based on the period 1981 - 2010.

2. Highlights

During the third dekad of April 2019, several places in the equatorial sub-sector and southern sector of the GHA recorded above average or near normal rainfall. Several areas in southwest and southeastern parts of the northern sector, and eastern and coastal parts of the equatorial sector recorded below average rainfall.

Impacts such as water scarcity, poor pastures and delay in the cropping season continued to be experienced in several parts of the equatorial sector and a few areas in the southern parts of the northern sector of the GHA.

Several parts of the equatorial sector, southern sector, and southern parts of the northern sector of the GHA recorded maximum and minimum temperature that was warmer than average mean. The north and southeast part of the northern sector of GHA recorded maximum and minimum temperature that was cooler compared to the average.

Moderate rainfall is forecasted over several regions in western and southern equatorial sector, and southwest part of the northern sector of the GHA. South and eastern part of the southern sector are forecasted to record heavy to very heavy rainfall, while the average temperature is expected to remain generally warm over much of the GHA region during the second dekad of May 2019.

3. Observed rainfall during the third dekad (21-30) of April 2019

Figure 1a, 1b and 1c shows the distribution of total rainfall, percentage of the long-term average rainfall, and the standardized precipitation index (SPI), respectively.

Rainfall Distribution and Severity

Distribution of rainfall total for the third dekad (21-30) of April 2019 over Greater Horn of Africa, revealed that rainfall amounts exceeding 50 mm was observed over southwest and central Ethiopia, over most of Rwanda, Burundi, Uganda, western and central Kenya, and over most of Tanzania. The dekad is usually dry in Sudan, Djibouti, Eritrea, parts of north and central Somalia, and northern part South Sudan and therefore these areas received rainfall amounts not exceeding 5 mm (Figure 1a).

Comparison of the observed rainfall with the baseline climatology (1981-2010) for the third dekad of April reveals that it was drier than normal in several parts of Djibouti, much drier than normal in Somalia, coastal Kenya, eastern Ethiopia, central and northern South Sudan and in southern parts of Sudan. Wetter than normal conditions was recorded in central and southwestern parts of Ethiopia, southern South Sudan, southwest Uganda, northwest, central and southwest Kenya, and over much of Rwanda, Burundi and Tanzania. Much of the rest of the GHA recorded near normal rainfall or remained generally dry (Figure 1b and Figure 1c).

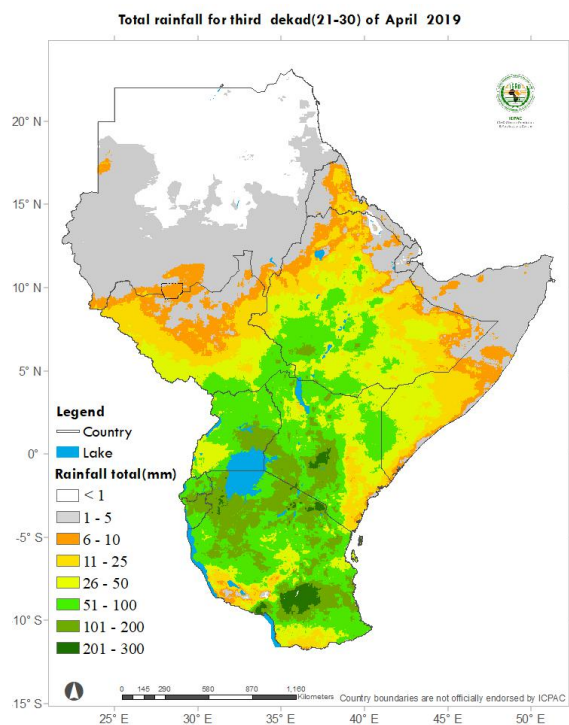


Figure 1a: Total rainfall distribution during the third dekad (21-30) of April 2019. (Data: ICPAC Blended CHIRP)

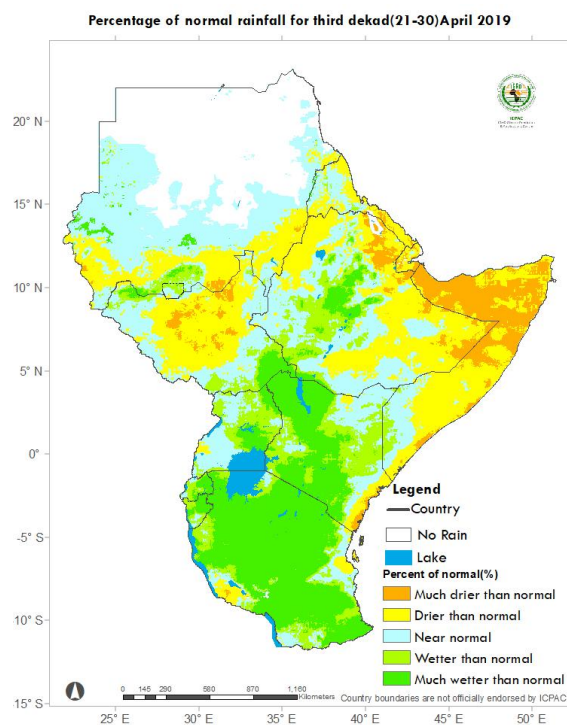


Figure 1b: Percent of long-term average rainfall for the third dekad (21-30) of April 2019(Data: ICPAC Blended CHIRP)

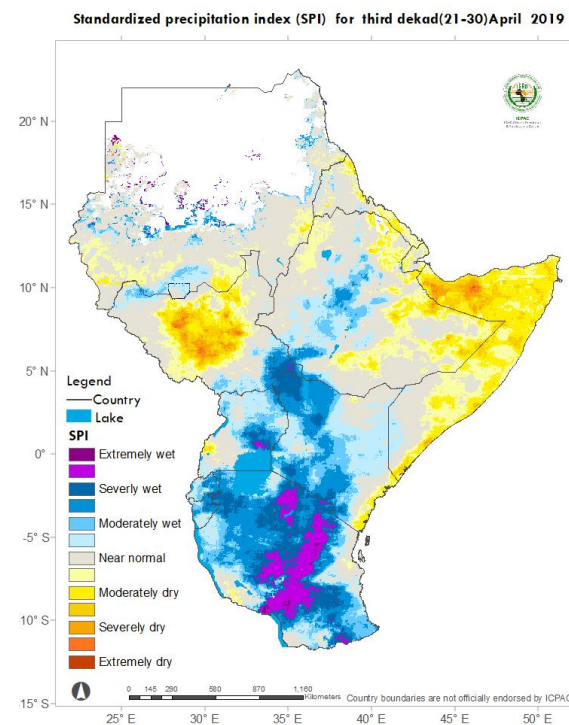


Figure 1c: Standardized Precipitation Index (SPI) for third dekad (21-30) of April 2019 (Data: ICPAC Blended CHIRP)

Maximum and Minimum Temperature Anomaly

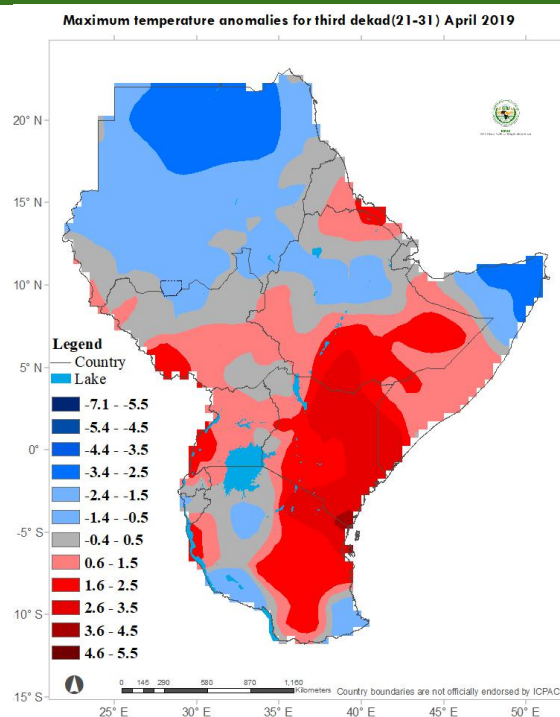


Figure 2: Maximum temperature difference from the average (1981-2010) for the third dekad (21-30) of April 2019 (Data Source: provided by the NOAA-NCEP CPC. GTS gridded data)

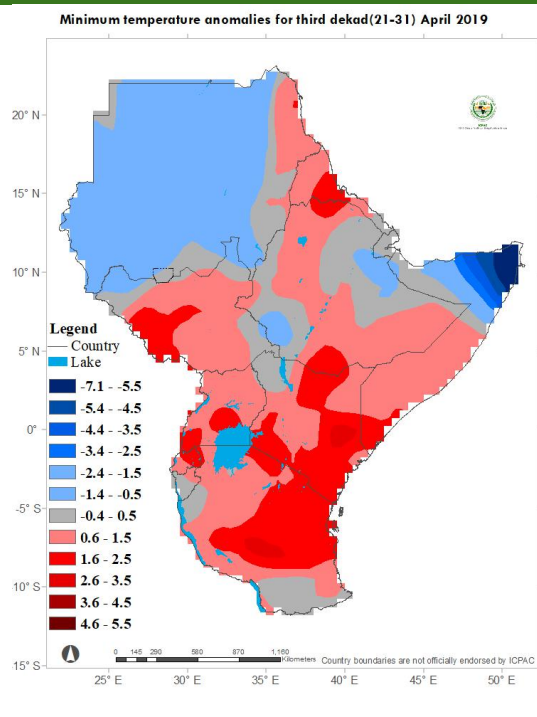


Figure 3: Minimum temperature difference from the average (1981-2010) for the third dekad (21-30) of April 2019 (Data Source: Data Source: provided by the NOAA-NCEP CPC. GTS gridded data)

Normalized Difference Vegetation Index Anomaly

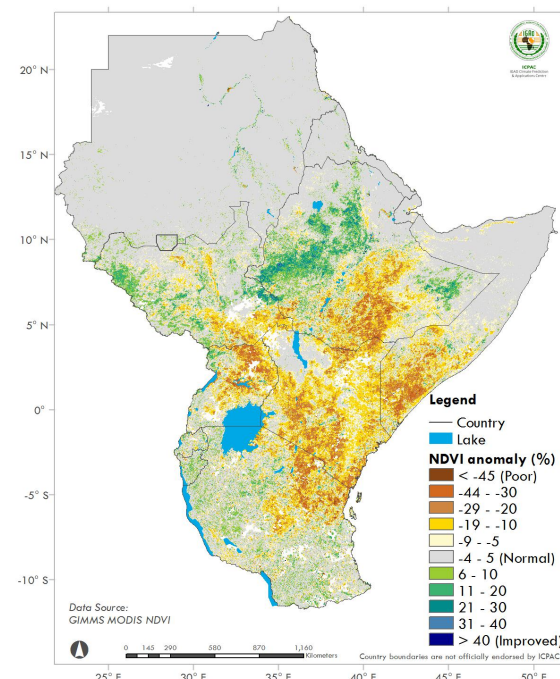


Figure 4: NDVI anomaly for the period between 22nd to 29th April 2019 (Data Source: USGS NASA)

Maximum and Minimum Temperature

During the third dekad of April 2019, most parts of the equatorial and southern sectors of the GHA recorded maximum and minimum temperatures that are above or near the climatological mean, except for north-central, southwest and southeast Tanzania which recorded maximum temperature cooler than the climatological mean. Several parts of Sudan, , northwest Somalia recorded maximum and minimum temperatures cooler than the climatological mean. Northern Ethiopia and north-central South Sudan recorded maximum temperature that was cooler than the climatological mean. Northeast and southwest Ethiopia recorded minimum temperature cooler than the climatological mean. Much of the rest of South Sudan, Eritrea, Djibouti, Ethiopia and Somalia recorded maximum and minimum temperature warmer than or near the climatological mean.

4. Vegetation condition indicators

The Normalized Difference Vegetation Index (NDVI) anomaly for the period 22nd to 29th April 2019 (Figure 4) indicates that:

Ethiopia and South Sudan: eastern and southern Ethiopia, and southern part of South Sudan showed indications of deterioration in vegetation conditions as compared to the mean of the same period. A few places in western and central Ethiopia and west of South Sudan showed indications of improvement in vegetation conditions as compared to the mean.

Uganda, Kenya, Somalia and Tanzania: Most of Uganda, Kenya, south and central Somalia, and northwest Tanzania showed indication of deterioration in vegetative conditions as compared to the long term average.

5. Climate Forecast

Rainfall Forecast

The cessation of the long rains is usually experienced in May over the equatorial sector as the rainfall-bearing systems move into the northern sector. The rainfall forecast for the second dekad of May 2019 (Figure 5) indicates that general wet conditions in the equatorial sector, especially in Uganda, Rwanda, Burundi, northern, eastern and southern Tanzania, Western Kenya, South Sudan, southern and western Ethiopia and southern Somalia. Rainfall in the range of 25-150 mm is forecasted over most of these regions. Dry conditions, with less than 5 mm of rainfall are forecasted over western Tanzania, southeastern Kenya, northern Somalia, Eritrea, northern Ethiopia and much of Sudan.

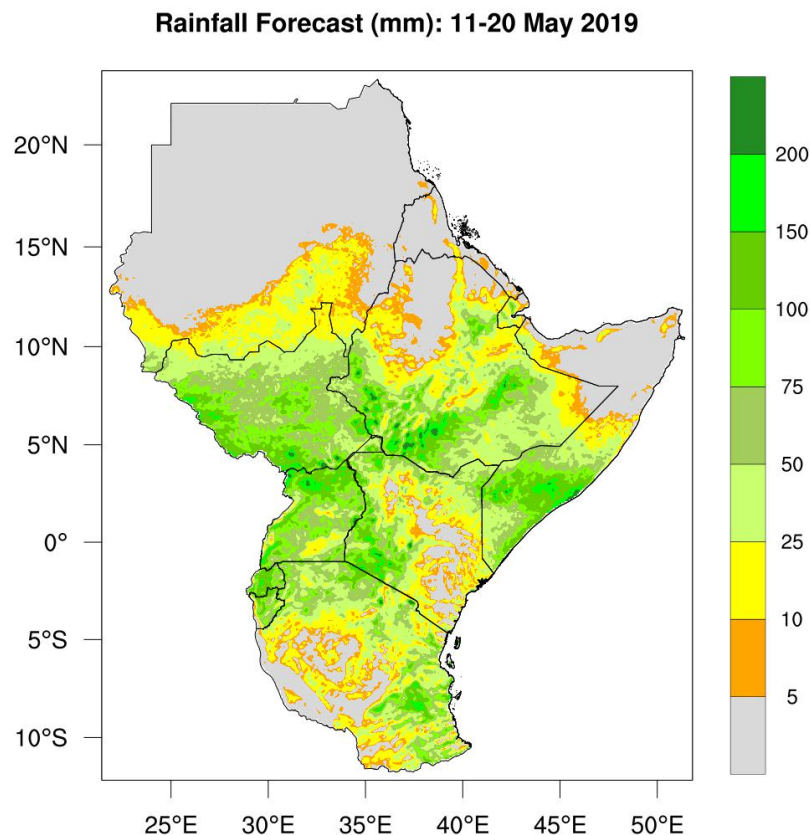


Figure 5: Rainfall forecast for the second dekad (11-20) of May 2019 (Source: WRF-ICPAC)

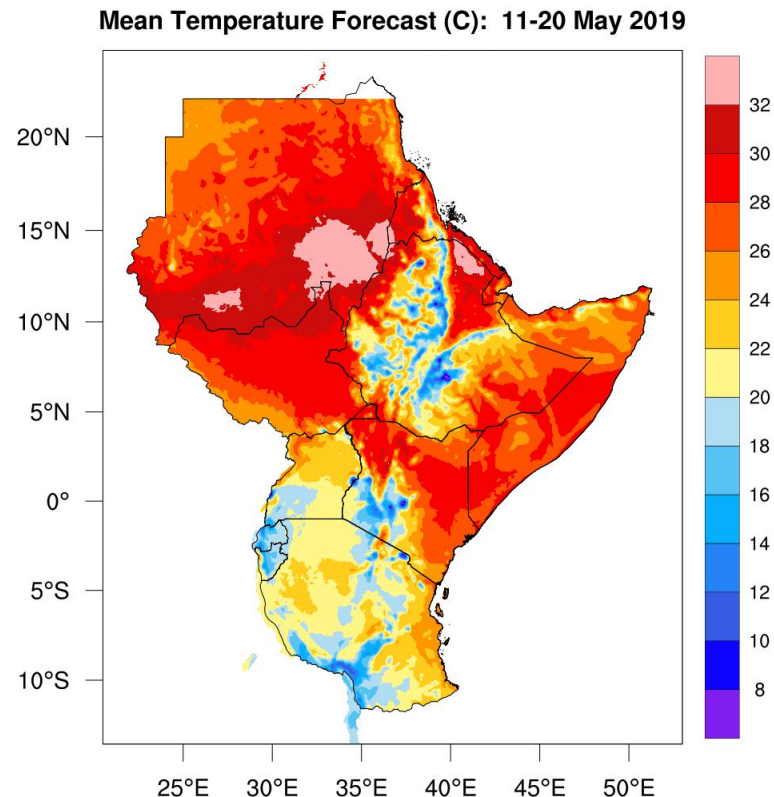


Figure 6: Average temperature forecast for the second dekad (11-20) of May 2019 (Source: WRF-ICPAC)

Temperature Forecast

The mean temperature forecast for second dekad of May 2019 (Figure 6) indicates general warm conditions in the southern sector and hot conditions in the eastern equatorial and the northern sectors. Tanzania, Burundi, Rwanda, Uganda, western Kenya and central Ethiopia will experience an average of less than 24 °C. Eastern and northern Kenya, central Somalia, northern

Ethiopia, northern South Sudan and much of Sudan are expected to have an average above 28 °C. Parts of southern Sudan and northern, are forecasted to be the hottest during this dekad, with average temperatures above 32 °C.

6. Impacts on socio-economic sectors

The socio-economic impacts associated with the observed rainfall and temperature conditions are highlighted below:

Impacts of the climate conditions

The rainfall conditions during the third dekad of April 2019 resulted in extended conditions of water scarcity, poor pasture and delay in cropping season which might have impacts on crop and livestock production and exacerbate food insecurity in many parts of the arid, semi-arid regions of Kenya, Ethiopia and Somalia, and central and northern parts of Uganda.

The forecast for the second dekad of May is likely to extend the negative impact of the dry conditions currently occurring in some areas in eastern equatorial sector of the GHA and is expected to affect water condition, and deterioration in crop performance and pasture conditions. Areas in central and western equatorial sector and also southern parts of the northern sector are likely to experienced improvement in water resources.

Reference terminology

Rainfall categories	
Range	Category
<5 mm	Light
5 - 20mm	Moderate
20 - 50mm	Heavy
>50mm	Very heavy

Rainfall coverage	
Coverage	Range
Most Places	Between 66% and 100%
Several Places	Between 33% and 66%
Few Places	Below 33%

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