



10 DAYS CLIMATOLOGICAL SUMMARY AND IMPACTS FOR THE THIRD DEKAD (21-31) OF MAY 2019 AND FORECAST FOR THE SECOND DEKAD (11-20) OF JUNE 2019

1. Introduction

This bulletin reviews the climatic conditions observed during the third dekad (21-31) of May 2019 and gives the climate forecast for the second dekad (11-20) of June 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 May 2019, several parts of the GHA recorded near normal rainfall. Some places in the southwest Ethiopia, northeast and southwest South Sudan, eastern Uganda, southern Somalia, western and coastal Kenya, and eastern Rwanda recorded above normal rainfall. A few places in western Ethiopia, southwest Uganda, and southeast Kenya recorded below normal rainfall.

Flooding and related impacts were reported in some parts of Uganda and coastal Kenya during the third dekad of May 2019. Impacts such as water scarcity, and poor pastures and crop conditions continued to be experienced in some parts of central and eastern equatorial sector of the GHA.

Several parts of the GHA recorded maximum and minimum temperature that was warmer than or near the climatological mean. Southeast part of the northern sector of the GHA recorded maximum temperature cooler than the climatological mean and western parts of the northern sector recorded minimum temperature that was cooler than the climatological mean.

Moderate rainfall is forecasted over northwestern, central and eastern parts of the equatorial sector of the GHA. Southwest and central part of the northern sector of the GHA is forecasted to record heavy to very heavy rainfall, while the average temperature is expected to remain generally warm over much of the northern sector and northern and eastern part of the equatorial sector of the GHA. Average temperature is forecasted to be generally cool over several parts of the southern sector, and southwest and central parts of the equatorial sector of the GHA during the second dekad of June 2019.

3. Observed rainfall during the third dekad (21-31) of May 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 (21-31) of May 2019 over Greater Horn of Africa, revealed that western and northeast part of South Sudan, western and central Ethiopia, southern Somalia, western and coastal Kenya, north, central and southwestern Uganda, several parts of Rwanda, and northeastern coast of Tanzania recorded rainfall exceeding 50mm but less than 200mm. Much of northern part Sudan, Djibouti, southern Eritrea, northeastern Somalia, north and eastern Kenya, and west, central and southern Tanzania is usually dry during this dekad, and recorded rainfall amounts less than 5 mm. Much of the rest of the GHA recorded rainfall of between 5mm and 50mm.

Comparison of the observed rainfall with the baseline climatology (1981-2010) for the third dekad of May indicates that most of the GHA recorded near normal or wetter than normal rainfall condition with a few places in southwest and central Ethiopia, northwest, and southern South Sudan, western Uganda, coastal Kenya, and northern coast of Tanzania recording severely to extremely wet rainfall conditions. Drier than normal rainfall was recorded in a few places in western Ethiopia, southeastern Kenya, southwestern Uganda, southern Burundi, and northwest and southeast Tanzania (Figure 1b and Figure 1c).

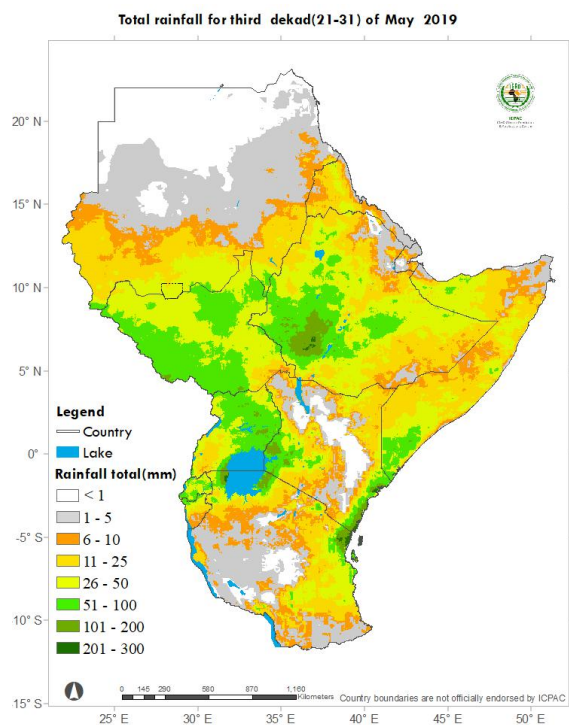


Figure 1a: Total rainfall distribution during the third dekad (21-31) of May 2019. (Data: ICPAC Blended CHIRP)

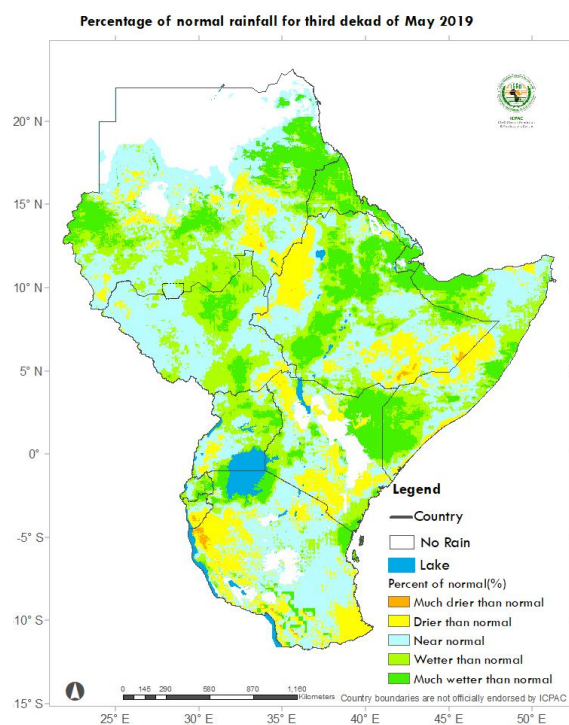


Figure 1b: Percent of long-term average rainfall for the third dekad (21-31) of May 2019(Data: ICPAC Blended CHIRP)

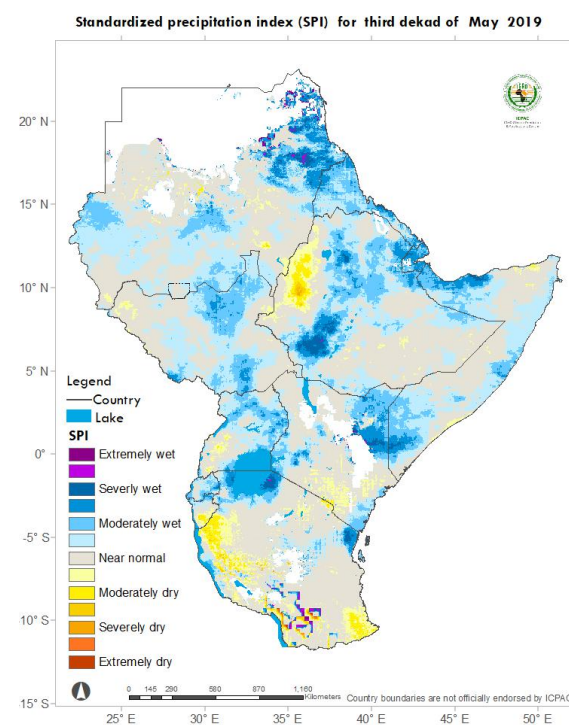


Figure 1c: Standardized Precipitation Index (SPI) for third dekad (21-31) of May 2019 (Data: ICPAC Blended CHIRP)

Maximum and Minimum Temperature Anomaly

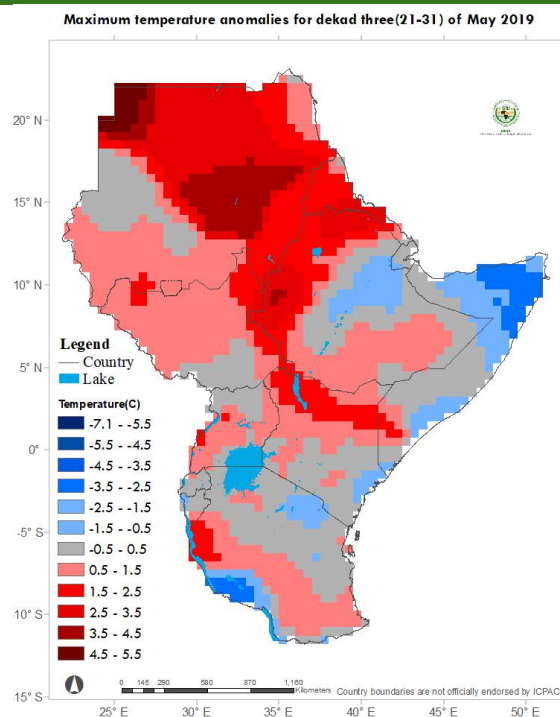


Figure 2: Maximum temperature difference from the average (1981-2010) for the third dekad (21-31) of May 2019(Data Source: provided by the NOAA-NCEP CPC. GTS gridded data)

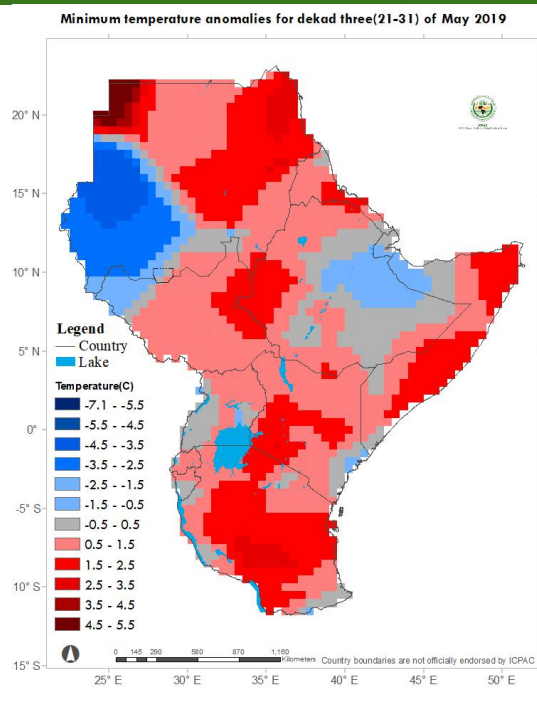


Figure 3: Minimum temperature difference from the average (1981-2010) for the third dekad (21-31) of May 2019 (Data Source: Data Source: provided by the NOAA-NCEP CPC. GTS gridded data)

Normalized Difference Vegetation Index Anomaly

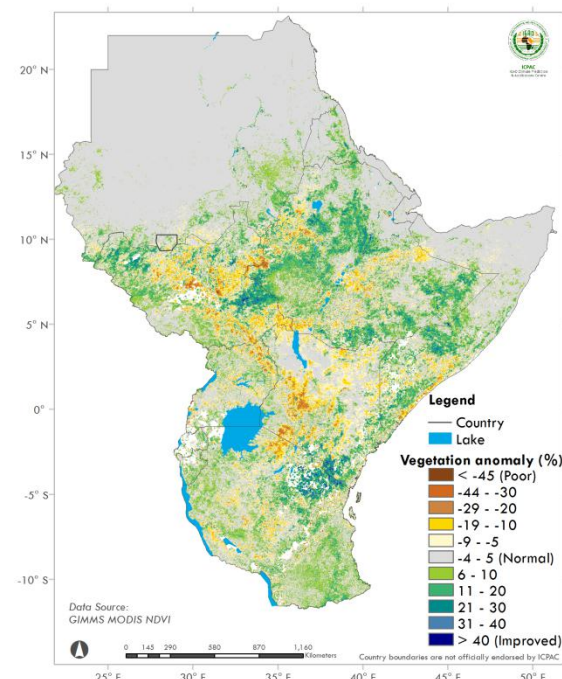


Figure 4: NDVI anomaly for the period between 24th to 31st May 2019 (Data Source: USGS NASA)

Maximum and Minimum Temperature

During the third dekad of May 2019 a large percentage of the GHA recorded maximum and minimum temperature that exceeded or was near the climatological mean. However northeast Ethiopia, north and southeast Somalia, coastal Kenya, and northeast and southwestern Tanzania recorded maximum temperatures cooler than the climatological mean. The western part of Sudan, and northeast Ethiopia recorded minimum temperature cooler than the climatological average.

4. Vegetation condition indicators

The Normalized Difference Vegetation Index (NDVI) anomaly for the period 24th to 31st May 2019 (Figure 4) as compared to the mean for the same period indicates that:

South Sudan, and Kenya: the northeast, central, and southern parts of South Sudan, and northwest and central parts of Kenya showed indications of deterioration in vegetation conditions. Northwest and southeast part of South Sudan, and southeast and coastal parts of Kenya showed indications of improvement in vegetation conditions.

Ethiopia, Somalia and Tanzania: Northwest and southwest Ethiopia, southern coast of Somalia, and northeast parts of Tanzania showed indication of deterioration in vegetative conditions as compared to the long term average. Several parts of the rest of these areas showed improvement in vegetative conditions as compared to the long-term average.

Much of the rest of the GHA showed indication of little or no change in vegetative conditions as compared to the average.

5. Climate Forecast

Rainfall Forecast

Forecast for the second dekad (11-10) of the June indicates that wet conditions are expected in the southern parts of Sudan, over several parts of South Sudan, western and central Ethiopia, over north, east and west of Uganda, western and central Kenya, southeastern Somalia, and western Rwanda. Above 150 mm is forecasted in southwest Sudan, northern and eastern parts of South Sudan, western parts of Ethiopia and in a few areas in central Kenya.

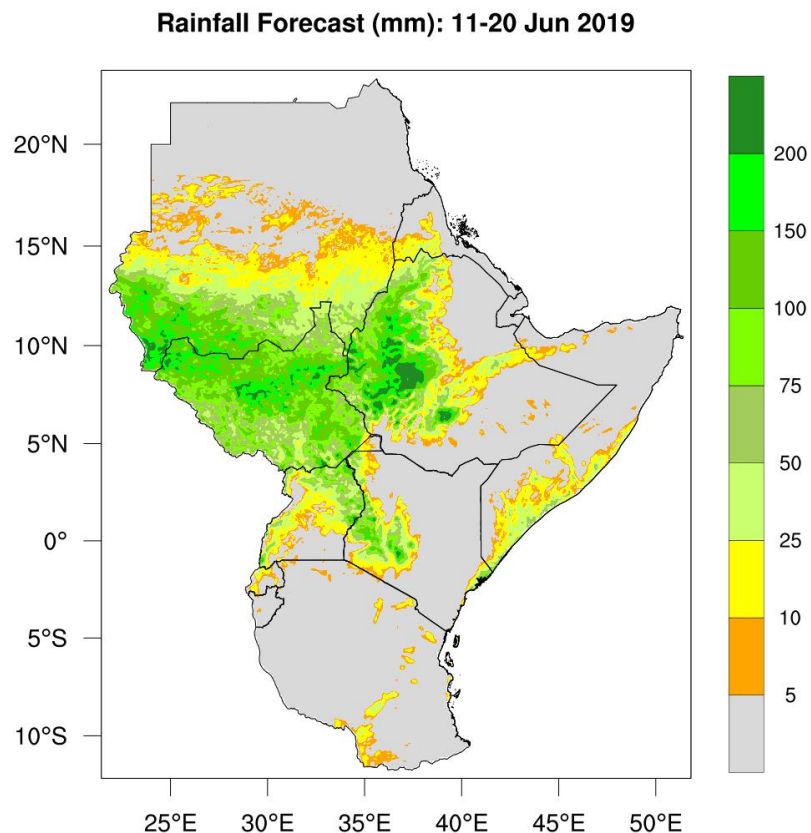


Figure 5: Rainfall forecast for the second dekad (11-20) of June 2019 (Source: WRF-ICPAC)

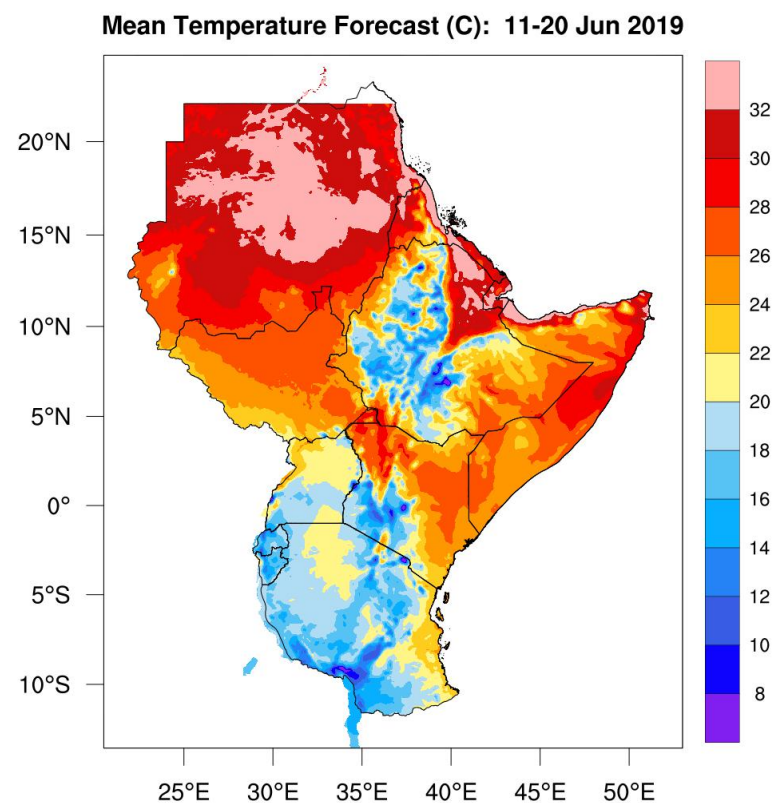


Figure 6: Average temperature forecast for the second dekad (11-20) of June 2019 (Source: WRF-ICPAC)

Temperature Forecast

The mean temperature forecast for second dekad of June 2019 (Figure 6) indicates that there is a likelihood of experiencing temperatures above 32 °C in much of Sudan, Eritrea, northeast Ethiopia, and Djibouti with adverse thermal discomfort conditions likely. Cold conditions, with temperatures less than 20 °C are forecasted over central Ethiopia, western and central parts of Kenya, western and southern Tanzania, Rwanda, and Burundi. The rest of the region is expected to be warm, in the range of 20-30 °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 May 2019 resulted in flooding and related impact reported in some places such as central and coastal Kenya and western Uganda.

The forecast for the second dekad of June in central and western equatorial sector as well as southern parts of the northern sector are likely to experience improvement in water resources, pasture and crop performance.

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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