IGAD
CLIMATE
PREDICTION AND
APPLICATIONS
CENTRE

ICPAC

Bulletin for Dekad 17 of 2019
Issue Number: ICPAC/02/989

10 DAYS CLIMATOLOGICAL SUMMARY AND IMPACTS FOR THE FIRST DEKAD (01-10) OF JUNE 2019 AND FORECAST FOR THE THIRD DEKAD (21-30) OF JUNE 2019

1. Introduction

This bulletin reviews the climatic conditions observed during the first dekad (01-10) of June 2019 and gives the climate forecast for the third dekad (21-30) 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^{o} S and 5^{o} 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 first dekad of June 2019, several parts of the of the northern sector and western and central parts of the equatorial sector of the GHA recorded rainfall that exceeded the expected amount for the period. A few places in western part of Ethiopia, southern Somalia, and coastal Kenya recorded rainfall that was less than the expected amount.

Flooding and related impacts were reported in some parts of Uganda, western and central Kenya, and South Sudan during the first dekad of June 2019.

The southern part of the northern sector, western and central parts of the equatorial sector, and western part of the southern sector of the GHA recorded maximum temperature that was cooler than or near the usual levels. Southern part of the northern sector of the GHA recorded minimum temperature cooler than the usual condition. Much of the rest of the GHA recorded maximum and minimum temperature that was warmer than usual.

The northwestern, central and eastern parts of the equatorial sector of the GHA is forecasted to receive moderate rainfall during the third dekad of June 2019. Southwest and central part of the northern sector of the GHA is forecasted to record heavy to very heavy rainfall, while the 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 except for western and central highlands of Ethiopia, which are expected to be generally cooler. 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 third dekad of June 2019.

3. Observed rainfall during the first dekad (01-10) of June 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 first dekad (01-10) of June 2019 over Greater Horn of Africa, revealed that the southern parts of Sudan, over much of South Sudan, western and central Ethiopia, Uganda, northern parts of Rwanda, and western and central Kenya recorded rainfall exceeding 50mm but less than 200mm. Much of northern Sudan, Djibouti, southern Eritrea, Somalia, southeast Ethiopia, northern and eastern Kenya, southern Burundi, and much of Tanzania is usually dry during this dekad. However, they recorded rainfall amounts less than 5 mm. Much of the rest of the GHA recorded rainfall between 5mm and 50mm.

Comparison of the observed rainfall with the baseline climatology (1981-2010) for the first dekad of June indicates that most of northern and equatorial sector of the GHA recorded near normal or wetter than normal rainfall conditions with a few places in west and southeast Ethiopia, southeast Somalia, coastal Kenya, and northern coast of Tanzania recording drier than usual rainfall conditions. (Figure 1b and Figure 1c).

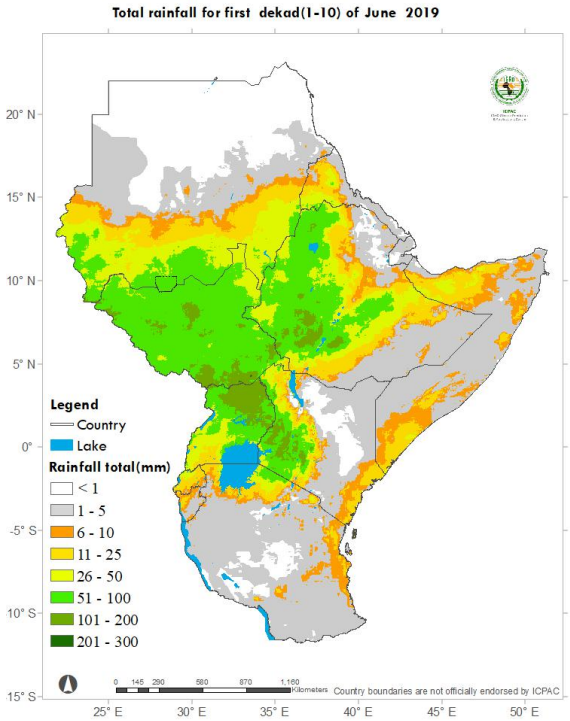

Figure 1a: Total rainfall distribution during the first dekad (01-10) of June 2019. *(Data: ICPAC Blended CHIRP)*

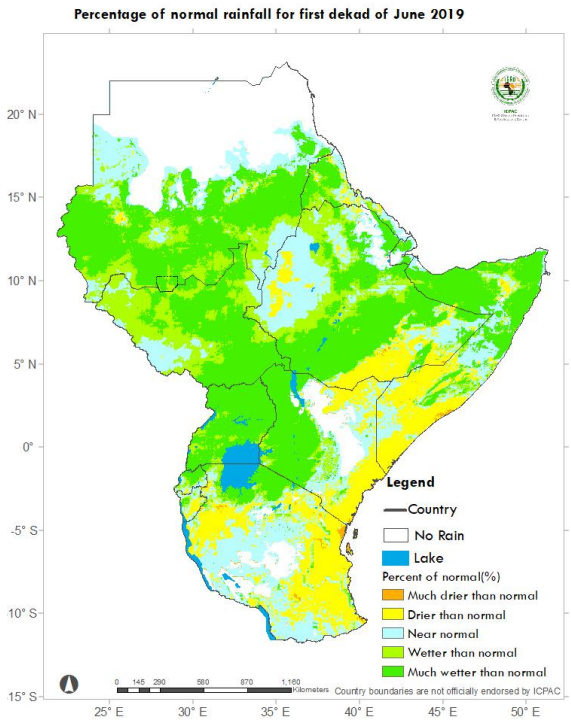

Figure 1b: Percent of long-term average rainfall for the first dekad (01-10) of June 2019*(Data: ICPAC Blended CHIRP)*

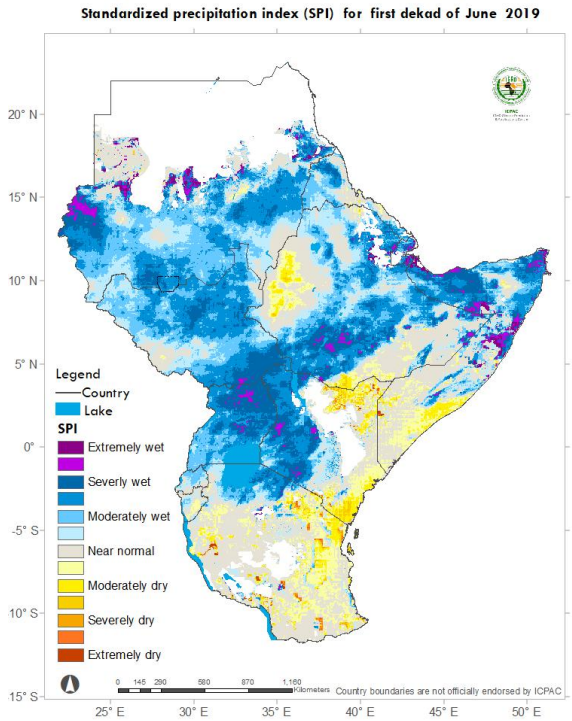

Figure 1c: Standardized Precipitation Index (SPI) for first dekad (01-10) of June 2019 *(Data: ICPAC Blended CHIRP)*

Maximum and Minimum Temperature Anomaly

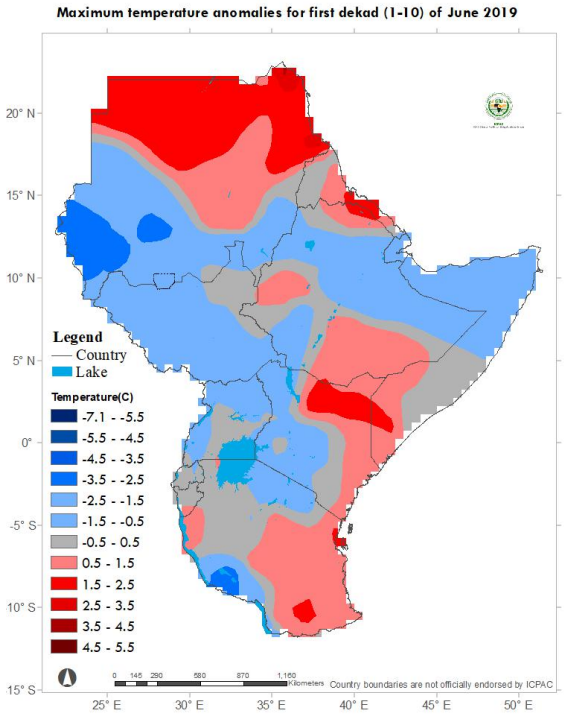

Figure 2: Maximum temperature difference from the average (1981-2010) for the first dekad (01-10) of June 2019*(Data Source: provided by the* NOAA-*NCEP CPC. GTS gridded data)*

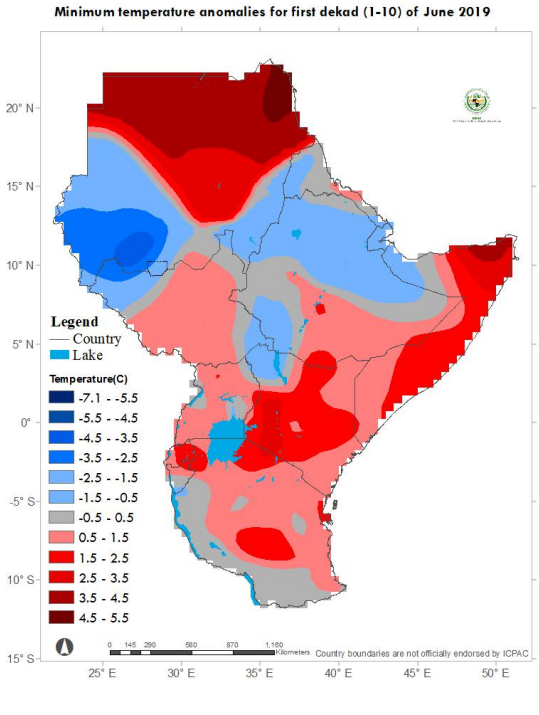

Figure 3: Minimum temperature difference from the average (1981-2010) for the first dekad (01-10) of June 2019 *(Data Source: Data Source: provided by the NOAA-NCEP CPC. GTS gridded data)*

Normalized Difference Vegetation Index Anomaly

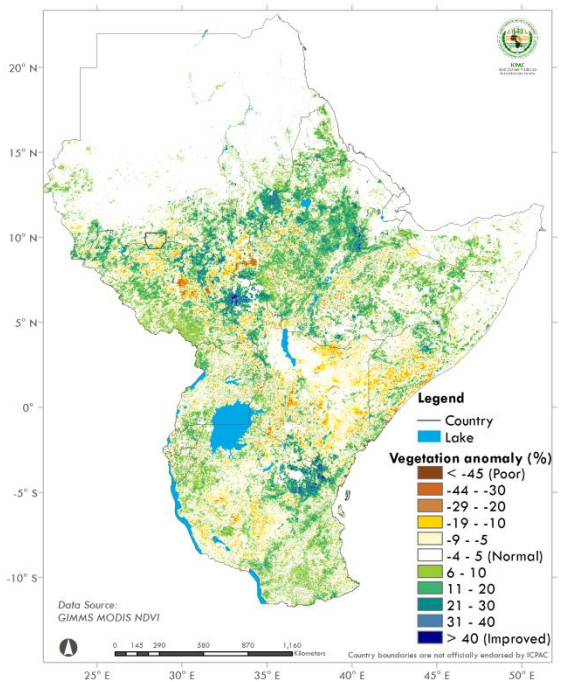

Figure 4: NDVI anomaly for the period between 01st to 8th June 2019 (Data Source: USGS NASA)

Maximum and Minimum Temperature

During the first dekad of June 2019 northern parts of Sudan, central Eritrea, north, west and southern Ethiopia, eastern and coastal Kenya, southern Somalia, and eastern and southern parts of Tanzania recorded maximum that was warmer than the usual condition. Much of the rest of the GHA recorded maximum temperature that cooler than or near the normal conditions. Southern parts of Sudan, northwest and southeast South Sudan, northern and southwestern Ethiopia, northwestern Kenya, and much of Djibouti recorded cooler than normal minimum temperature conditions. Much of the rest of the GHA recorded minimum temperature than was warmer than or near the normal conditions.

4. Vegetation condition indicators

The change in the Normalized Difference Vegetation Index (NDVI) for the period 1st to 8th June 2019 (Figure 4) as compared to the mean for the same period indicates that:

South Sudan, Ethiopia and Tanzania: Most of these areas showed indications of improvement in vegetation conditions. However a few areas in central and eastern South Sudan, western Ethiopia, and central and western Tanzania showed indications of deterioration in vegetation conditions.

Kenya and Somalia: northeast and eastern parts of Kenya, and southern parts of Somalia showed indication of deterioration in vegetative conditions as compared to the long term average.

Uganda, Rwanda and Burundi: most of these areas showed slight improvement in vegetative condition.

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 third dekad (21-30) 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, western, northern and eastern parts of Uganda, western and central

Kenya and southeastern parts of Somalia. Much of the rest of the GHA especially the southern sector, southern and eastern parts of the equatorial sector, and northern and southeastern parts of the northern sector are forecasted to remain generally dry or receive light rainfall.

.

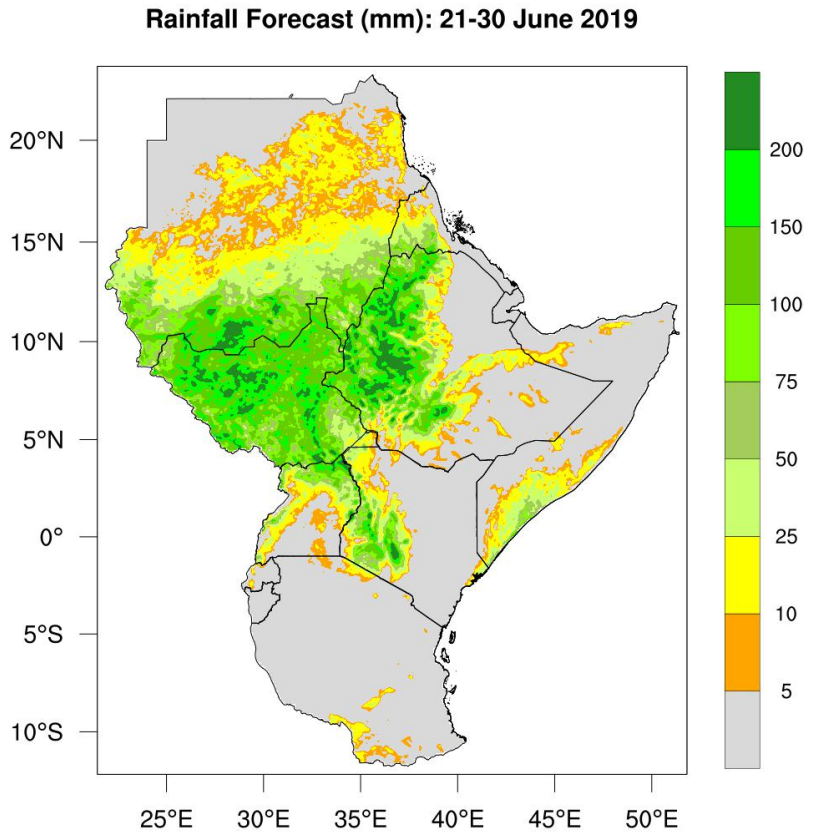

Figure 5: Rainfall forecast for the third dekad (21-30) of June 2019 (Source: WRF-ICPAC**)**

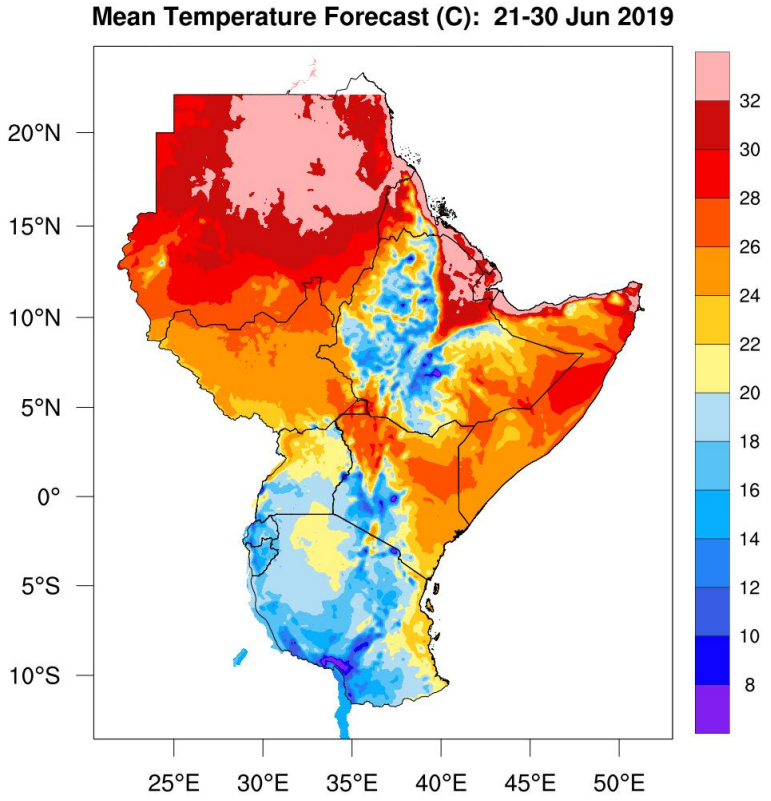

Figure 6: Average temperature forecast for the third dekad (21-30) of June 2019 (Source: WRF-ICPAC)

Temperature Forecast

The mean temperature forecast for third dekad of June 2019 (Figure 6) indicates that there is a likelihood of experiencing temperatures above 32 ºC in much of Sudan, Eritrea, Djibouti, northeast Ethiopia, Somalia, north and eastern South Sudan, and north and eastern parts of Kenya. Cold conditions, with temperatures less than 20 ºC are forecasted over central Ethiopia, western and central Kenya, southern Uganda, and over much of Rwanda, Burundi and Tanzania. The rest of the region is expected to be warm, in the range of 20-30 ºC.

6. Impacts on socio-economic sectors

The socio-economic impacts associated with the observed and forecasted climate conditions are highlighted below:

Impacts of the climate conditions

The rainfall conditions during the first dekad of June 2019 resulted in flooding and related impact reported in some places such as central and coastal Kenya and eastern Uganda and southwest part of Sudan.

The forecast for the third dekad of June is likely to extend the negative impact of poor rainfall performance in some areas in eastern and southern equatorial sector of the GHA and is expected to affect the water condition, deterioration in crop performance and pasture conditions. Areas in central equatorial sector as well as southern and central parts of the northern sector are likely to experience 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%

For more information:
IGAD Climate Prediction and Applications Centre
P.O. Box 10304, 00100, Nairobi, Kenya.
Tel: +254-020-3514426
E-mail: director@icpac.net
www.icpac.net
Follow us on:
HYPERLINK