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

1. Introduction

This bulletin reviews the climatic conditions observed during the third dekad (21-30) of June 2019 and gives the climate forecast for the second dekad (11-20) of July 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 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 the eastern part of Ethiopia, northern Somalia, coastal Kenya, and coastal Tanzania recorded rainfall that was less than the expected amount.

Many areas in the GHA recorded maximum and minimum temperature that was warmer than or near the usual levels. However, some places in northwest and south west part of South Sudan, eastern Ethiopia, Djibouti, and northern Uganda recorded maximum temperature cooler than the usual condition. Southwest Sudan, northwest South Sudan, eastern Ethiopia and Djibouti recorded minimum temperature that was cooler than the usual condition for the third dekad of June.

Several parts of South Sudan, southern parts of Sudan, southwest Eritrea, western and central Ethiopia, northern Uganda and western parts of Kenya are expected to record heavy to very heavy rainfall that exceeds 25mm. Southest Sudan, southeast

Somalia, southern Uganda, western Rwanda, and coastal parts of Kenya are expected to record light to moderate rainfall of between 5mm and 25mm. Much of the rest of GHA is forecasted to receive less than 5mm of rainfall or remain generally dry during the second dekad of July 2019.The temperature is forecasted 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 second dekad of July 2019.

3. Observed rainfall during the third dekad (21-30) 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 third dekad (21-30) 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, northwestern parts of Rwanda, and western parts of Kenya recorded rainfall exceeding 25mm but less than 200mm. Much of the northern parts of Sudan, coastal and southern Eritrea, Djibouti, Somalia, southeast Ethiopia, northern and eastern Kenya, south and eastern 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 third 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 eastern Ethiopia, northern and southeast Somalia, coastal Kenya, and northern coast of Tanzania recording drier than usual rainfall conditions. (Figure 1b and Figure 1c).

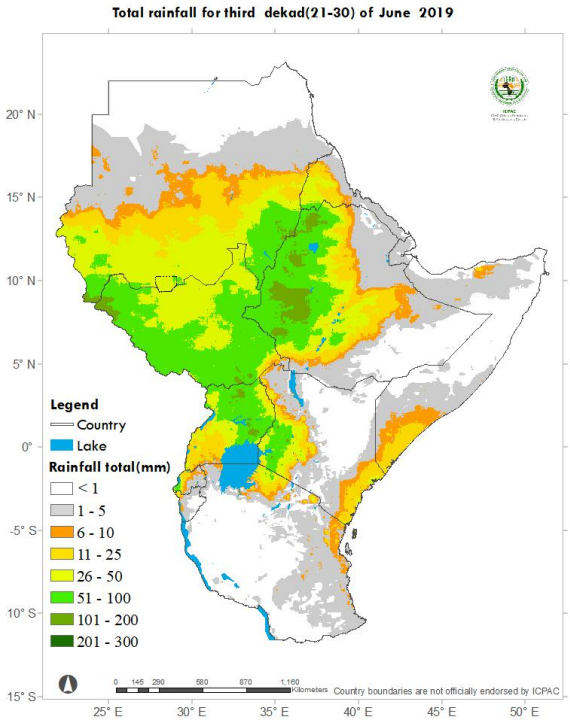

Figure 1a: Rainfall recorded mainly in southern parts of Sudan western and central Ethiopia, north and eastern and Uganda, western Kenya and over much of South Sudan. *(Data: ICPAC Blended CHIRP)*

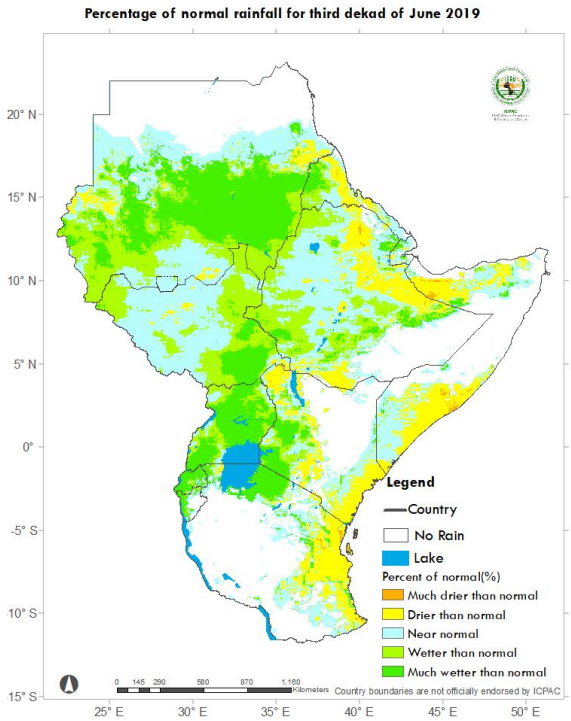

Figure 1b: much of south sudan, Uganda, Rwanda, western and southern parts of Sudan, westernand central Ethiopia, Djibouti, and western and southern Eritrea recorded near normal or above normal rainfall *(Data: ICPAC Blended CHIRP)*

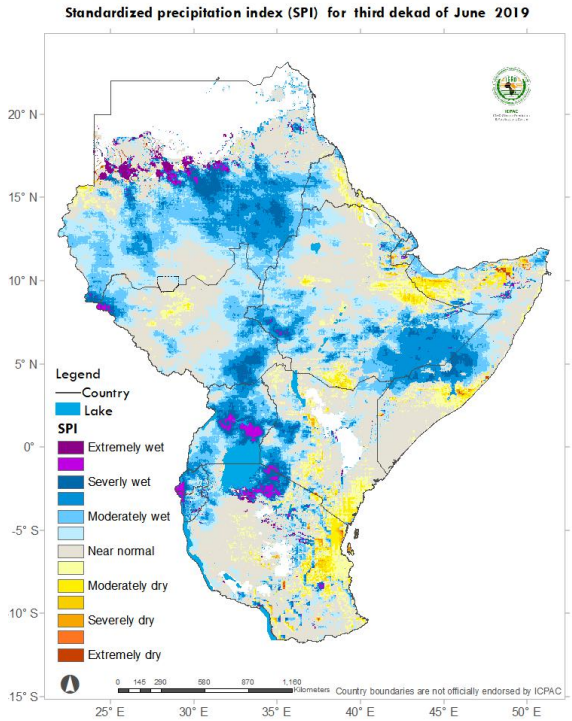

Figure 1c: drier conditions recorded in a few areas in eastern Ethiopia, northern and central Somalia coastal parts of Kenya and northeastern Tanzania*(Data: ICPAC Blended CHIRP)*

Maximum and Minimum Temperature Anomaly

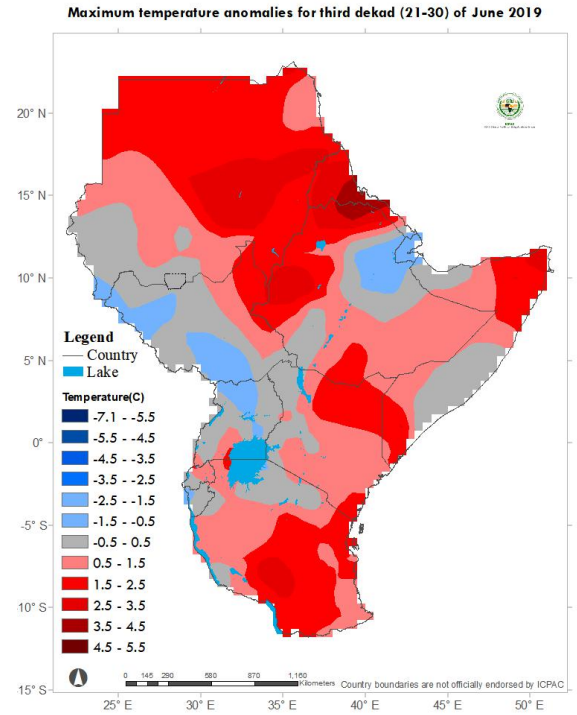

Figure 2: Most areas of the GHA was warmer than or near the mean condition for maximum temperatures except for eastern Ethiopia, western and southern South Sudan and northern Uganda which recorded maximum temperature warmer than the mean *(Data Source: provided by the* NOAA-*NCEP CPC. GTS gridded data)*

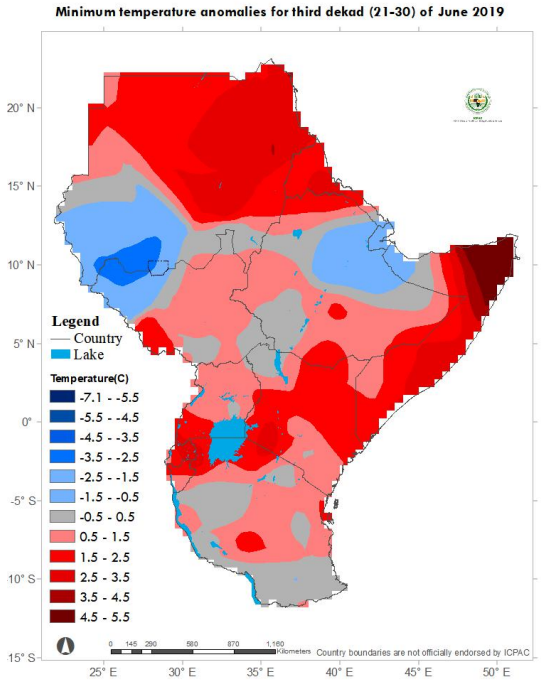

Figure 3: Most areas in the GHA recorded minimum temperature warmer than or near the climatological mean, except for areas in southwest Sudan, northwest south Sudan, eastern Ethiopia and Djibouti which experience minimum temperature cooler than the mean *(Data Source: Data Source: provided by the NOAA-NCEP CPC. GTS gridded data)*

Maximum and Minimum Temperature

During the third 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 temperature 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 that was warmer than or near the normal conditions.

4. Climate Forecast

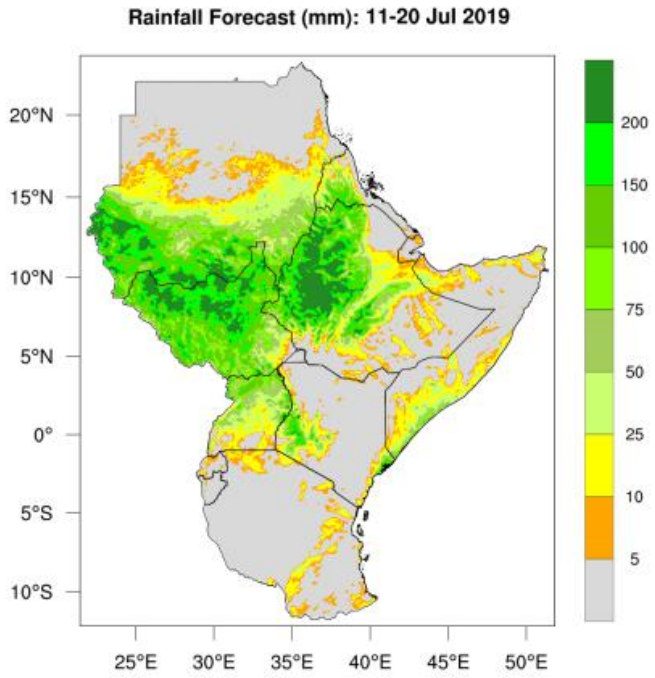

Figure 4: Western parts of Ethiopia, northern parts of South Sudan, and southern parts of Sudan are expected to receive moderate to heavy rainfall The rest of the region is expected to experience normal conditions or remain generally dry (Source: WRF-ICPAC**)**

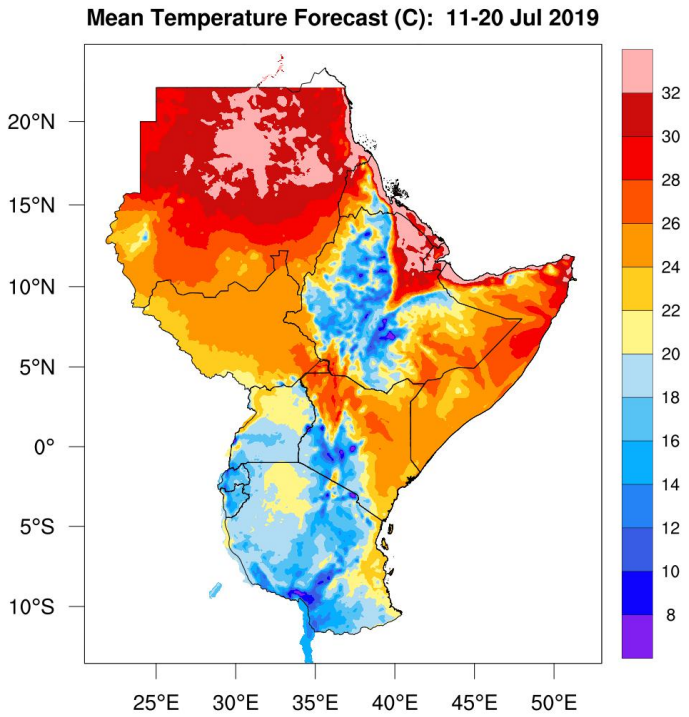

Figure 5: The northern parts of Sudan, parts of Eritrea, Djibouti, northeast Ethiopia, and north and central Somalia are expected to record very warm to hot weather. Cooler weather is expected in southwest and central parts of equatorial sector and much of the southern sector of the GHA (Source: WRF-ICPAC**)**

Rainfall Forecast

Forecast for the second dekad (11-20) of the July indicates that heavy to very heavy rainfall is expected in southern parts of Sudan, northern parts of South Sudan, western Eritrea, western and central Ethiopia and western parts of Kenya. Moderate rainfall is expected in southern parts of South Sudan, eastern parts of Uganda, southeast Somalia, and the central parts of Kenya.

Temperature forecast

The western and central highlands of Ethiopia, southern parts of Uganda, western and central Kenya, and over much of Rwanda, Burundi and Tanzania, average temperature are expected to be cooler with average temperature less than 20^{o}C expected. Much of the rest of Sudan, Eritrea, northeast Ethiopia, Djibouti, northwest Kenya ,and north and central Somalia are expected to record average temperature exceeding 30^{o}C. Much of the rest of the GHA is expected to record average temperatures of between 30^{o}C and 20^{o}C during the second dekad of July 2019.

5. 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

From the forecast for the second dekad of July it is expected that areas in central equatorial sector as well as western and central parts of the northern sector are likely to experience improvement in water resources. Flooding may be experienced in some areas in Sudan or west or northern parts of South Sudan.

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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