IGAD CLIMATE PREDICTION AND APPLICATIONS CENTRE

ICPAC

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10 DAYS CLIMATOLOGICAL SUMMARY AND IMPACTS FOR THE THIRD DEKAD (21-30) OF JUNE 2018 TOGETHER WITH FORECAST FOR THE SECOND DEKAD (11-20) OFJULY 2018

1.0 Introduction

This bulletin reviews the climatic conditions observed during the third dekad (21-30) of June 2018, and highlights the climate forecast for the second dekad (11-20) of July 2018 and the associated climate impacts over the Greater Horn of Africa (GHA). The observed conditions are compared to the average of the climatological period of 1981-2010 and 2008-2017 for rainfall and temperature, respectively.

For referencing within this bulletin, the Greater Horn of Africa (GHA) is generally subdivided into three sub-sectors: The equatorial sector lying approximately between -5^{o} and 5^{o} latitude, with the northern and southern sectors occupying the rest of the northern and southern parts of the region respectively

2.0 Highlights

During the third dekad of June 2018 most regions in the southwestern and central part of the northern sector, and western, central and coastal part of the equatorial sector of the GHA recorded rainfall. Majority of these areas had near normal to enhanced rainfall.

Some areas in northern part of Sudan, several parts of South Sudan, northeast of Somalia and southern Tanzania recorded warmer than the average maximum temperature. The northern part of Sudan and a few areas in the southern part of Tanzania recorded warmer than the average minimum temperature. Some areas in west and south-central northern sector of the GHA and west and central parts of the equatorial sector of the GHA recorded cooler than the average condition for minimum and minimum temperature.

Rainfall forecast for the second dekad of July 2018shows that rainfall is likely to persist in western and central parts of the northern sector as well as in some places in central equatorial sector of the GHA. Some areas in Ethiopia, Sudan and South Sudan are likely to record high rainfall amounts, which might lead to flooding.

Parts of the north and eastern equatorial sector, and much of northern sector of the GHA except for western and central Ethiopia are likely to record mean temperature exceeding 20^{o}C during the second dekad of July2018. Regions covering central and western highlands of Kenya, southern Uganda, Rwanda, Burundi, and much of Tanzania are forecasted to experience mean temperatures below 20^{o}C.

3.0 Observed rainfall during the third dekad (21-30)of June 2018

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

Rainfall Distribution and Severity

Rainfall was concentrated in the southwestern and central part of the northern sector, and western, central and coastal part of equatorial sector of the GHA.

Djibouti, Eritrea and Sudan:

The southern part of Sudan and southwestern part of Eritrea recorded rainfall between 10mm and 100mm with southeastern part of Sudan recording between 100mm and 200mm,much of the rest of other areas recording less than 5 mm. Much of Eritrea, Djibouti, and southern part of Sudan recorded above normal rainfall.

Somalia, Kenya and Tanzania: Northern and southern part of Somalia western and coastal Kenya and northeastern Tanzania recorded rainfall of between 5mm and 100mm. Western and coastal Kenya recorded between 50mm and 200m. Much of Kenya, northern and southwestern Somalia and northern and northeastern recorded above normal rainfall. A few areas in north and southeastern Somalia northwest and southern Tanzania recorded moderate to severely dry conditions.

Ethiopia, South Sudan, and Uganda: several parts of South Sudan, Uganda and western and central Ethiopia recorded rainfall of between 25mm and 100mm, with western part of Ethiopia and northwestern South Sudan recording between100mm and 200mm.The western part of South Sudan and a few areas southern Ethiopia experienced below normal rainfall while much of the rest of these areas experienced near normal to moderately wet conditions with northeast of Ethiopia experiencing extremely wet conditions.

Burundi and Rwanda: much of these areas recorded less than 5mm of rainfall. The eastern part of Rwanda experienced above normal rainfall, while much of the rest of these areas experiencing below normal or generally dry conditions. Northern Sudan, southeastern parts of Ethiopia, South and western and parts of Tanzania are dry climatology

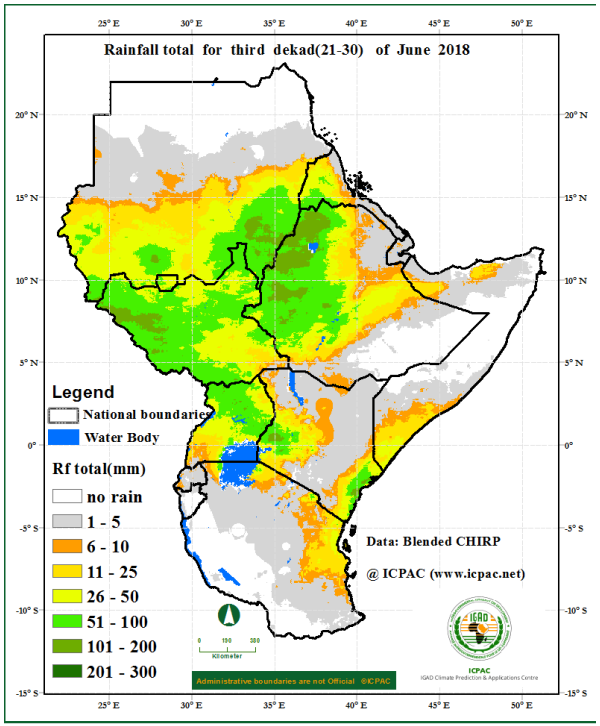

Figure 1a: Total rainfall distribution during the third dekad (21-30) of June 2018. *(Data: ICPAC Blended CHIRP)*

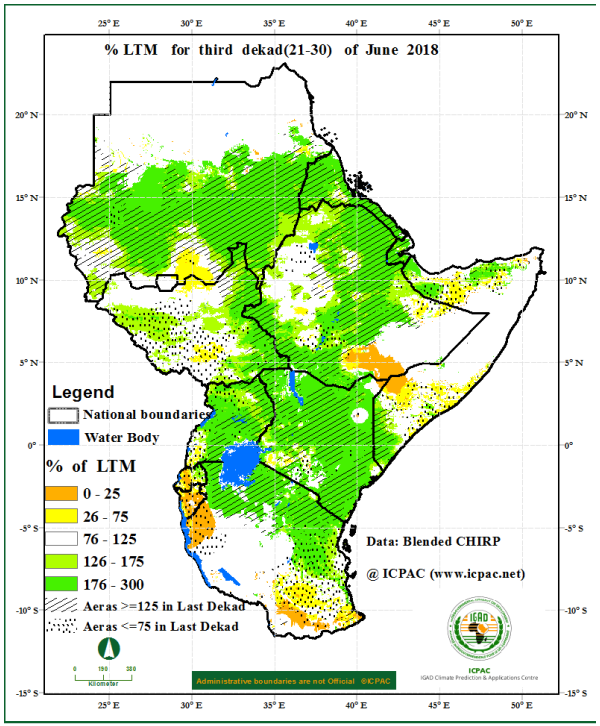

Figure 1b: Percent of long term average rainfall for the third dekad (21-30)of June 2018*(Data: ICPAC Blended CHIRP)*

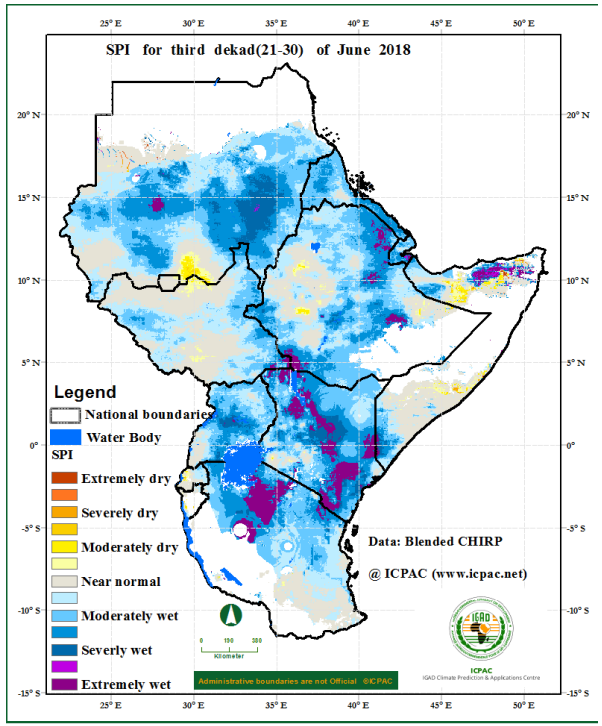

Figure 1c: Standardized Precipitation Index (SPI) for third dekad (21-30) of June 2018*(Data: ICPAC Blended CHIRP)*

Maximum and Minimum Temperature Anomaly

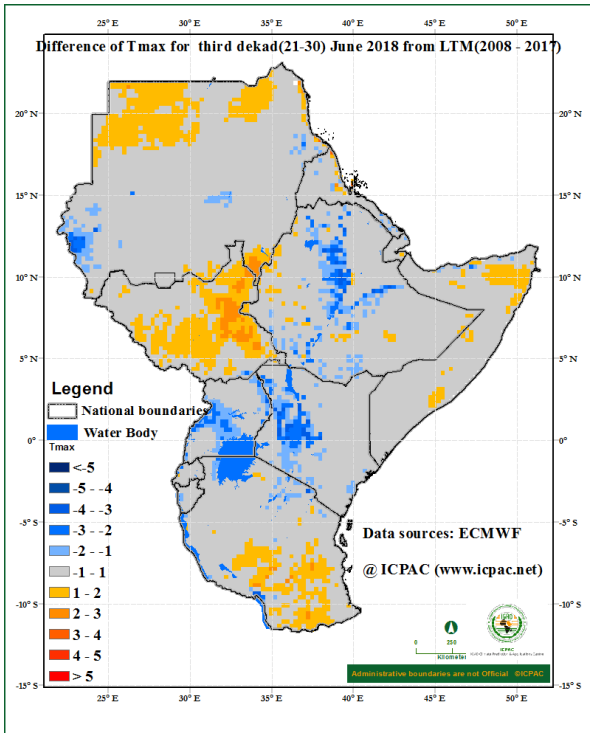

Figure 2: Maximum temperature difference from the average (2008-2017) for the thirddekad (21-30) of June 2018*(Data Source: ECMWF)*

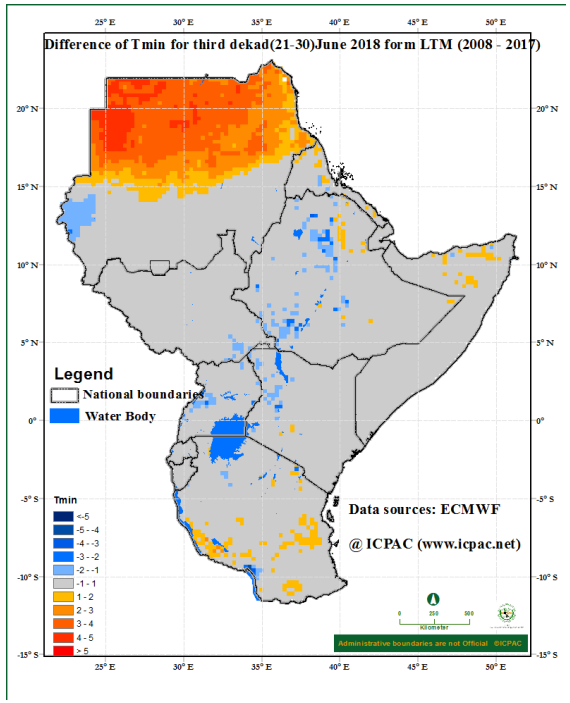

Figure 3:Minimum temperature difference from the average (2008-2017) for the thirddekad (21-30) of June 2018 *(Data Source: ECMWF)*

The maximum and minimum temperature during the third dekad of June 2018 shows that:-The northern part of **Sudan**, several parts of **South Sudan**, northeastern **Somalia**, and southern parts of **Tanzania** had warmer than average maximum temperatures. Maximum temperature cooler than the average was experienced in southwestern part of **Sudan,** northern and central **Ethiopia,** western, central and southern Uganda**,** and western and central **Kenya**.

Warmer than the average minimum temperature was recorded in northern **Sudan**, and a few areas in northern **Somalia** and southern **Tanzania**.

Southwestern **Sudan**, central parts of **Ethiopia**, western **Uganda** and Northwestern **Kenya** and northwestern part of **Tanzania** recorded cooler than the average minimum temperature.

Much of the rest of the GHA experienced near-average maximum and minimum temperatures.

4.0 Vegetation condition indicators

Normalized Difference Vegetation Index Anomaly

The Normalized Difference Vegetation Index (NDVI) anomaly for the period 17th to 24th June,2018 (Figure 4) indicates that:

Sudan, South Sudan, Ethiopia, and Uganda: northwestern South Sudan, western and Central Ethiopia and a few areas in north and southern Uganda showed deteriorative vegetative condition as compared to the long-term average. Southern part of Sudan, eastern and southern Ethiopia, and eastern South Sudan had an improvement in vegetation conditions.

Kenya, Somalia, and Tanzania: much of Kenya, Tanzania, and southern Somalia showed an improved vegetative conditions as compared to the long term average.

Much of the rest of the GHA, especially Sudan, Eritrea, Djibouti, northern Somalia, Rwanda and Burundi, showed little or no change in vegetation conditions.

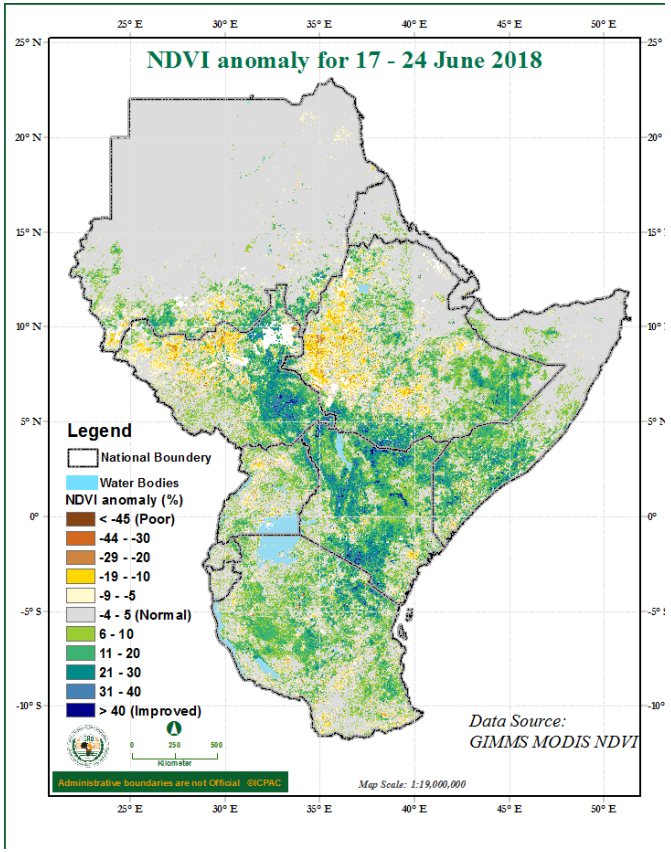

Figure 4: NDVI anomaly for the period between 9st and 16th June 2018 (Data Source: USGS NASA**)**

5.0 Climate Forecast

Rainfall Forecast

The rainfall forecast for the second dekad of July 2018 in Figure 5 indicates that rainfall exceeding 25mm is likely to be observed over much of South

Sudan, southern part of Sudan, western and central Ethiopia, eastern and northeastern Uganda, western and central Kenya Southern part of Sudan, northern South Sudan, Western and central northern Ethiopia, and a few parts of western and central Kenya are likely to record high rainfall amounts exceeding 200mm. The rest of the GHA region including much of northern part of Sudan, Eritrea, Djibouti, southern and eastern Ethiopia, central and northern Somalia, much of Kenya, Rwanda, Burundi and Tanzania, and Uganda are expected to record little amount of rainfall (less than 5mm) or remain generally dry during the second dekad of July 2018.

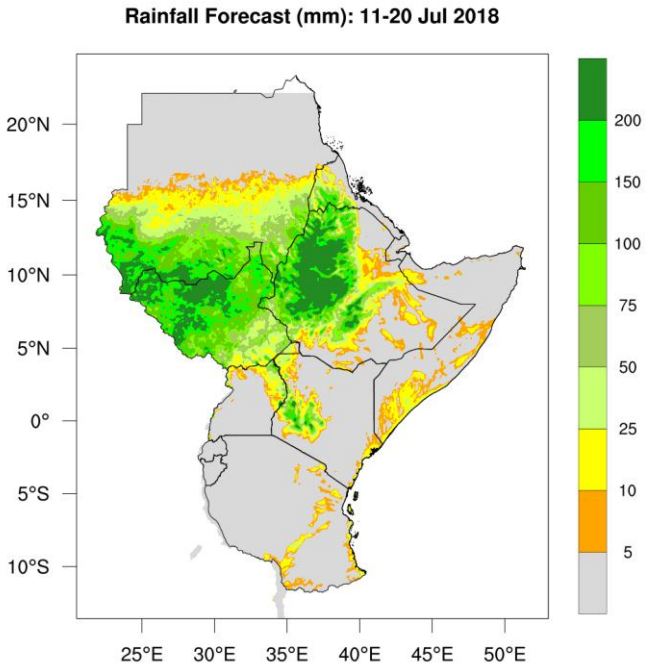

Figure 5: Precipitation forecast for the second dekad (11-20)of July 2018 (Source: WRFICPAC**)**

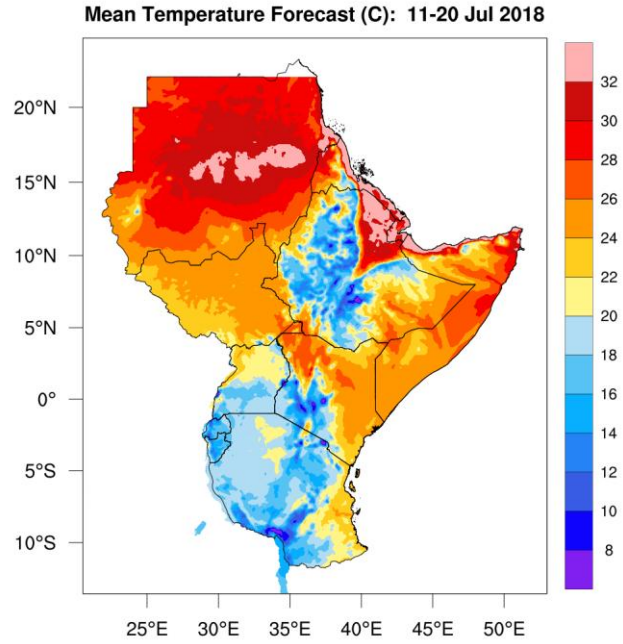

Figure 6: Forecast for average temperature for the second dekad (11-20) of July 2018 (Source: WRF-ICPAC)

Temperature Forecast

The forecast for the mean temperature for second dekad of July 2018 (Figure 6) indicates that cooler mean temperature, not exceeding 20°C, are expected in central and western highlands of Ethiopia, southern Uganda, western and central Kenya, much of Rwanda, Burundi and much of Tanzania. The rest of the GHA is expected to experience mean temperature greater than 20°C. The warmest regions are expected to be in Sudan, Eritrea, Djibouti, northern Somalia, and northeastern Ethiopia.

6.0 Impacts on socio-economic sectors

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

6.0 Impacts of the climate conditions

The rainfall conditions in western and central parts of the equatorial sector, the western and central part of the northern sector of the GHA resulted to improvement in water and pasture conditions, leading to good prospects of water, crop and livestock performance. Some areas in the northern sector of the GHA reported flooding that led to the disruption of livelihoods, and incidences of weather and water-related diseases. From the climate forecast for the second dekad of June 2018,some areas of South Sudan, southern part of Sudan, and western Ethiopia are likely to record high rainfall amounts which can lead to possible localised flooding and related impacts.

NB: *This ten days bulletin contributes towards the update of the June to September (JJAS)2018climate outlook (*http://www.icpac.net/wp-content/uploads/GHACOF49_statement_english.pdf*).*

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