IGAD CLIMATE PREDICTION AND APPLICATIONS CENTRE

ICPAC

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10 DAYS CLIMATOLOGICAL SUMMARY AND IMPACTS FOR THE FIRST DEKAD (01-10) OF JULY 2018 TOGETHER WITH FORECAST FOR THE THIRD DEKAD (21-31) OFJULY 2018

1.0 Introduction

This bulletin reviews the climatic conditions observed during the first dekad (01-10) of July 2018, and highlights the climate forecast for the third dekad (21-31) 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 first dekad of July 2018 several places in southern central and western northern sector, as well as well as northwestern, central and coastal parts of the equatorial sector sector of the GHA recorded rainfall. Majority of these areas had near normal to enhanced rainfall.

Southwestern part of the northern sector recorded warmer than the average maximum temperature. Areas in central Ethiopia, central Kenya, southern Uganda and northern Tanzania recorded cooler than the average maximum temperature. Minimum temperature wamer than the average were experienced mainly in the northern part of the northern sector, as well as eastern and southern parts of the southern sector of the GHA.

Rainfall forecast for the third dekad of July 2018 shows that rainfall is expected over several areas of the northern sector of the GHA except for the southeastern part. Some areas in Sudan, South Sudan, and northern Ethiopia are likely to record high rainfall amounts, which might lead to flooding.

Part of the north and east of the 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 third dekad of July 2018. 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 first dekad (01-10) of July 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 western and central part of the northern sector, and northwestern, central and coastal part of equatorial sector of the GHA.

Sudan, South Sudan and Ethiopia:

Rainfall exceeding 100mm was recorded in parts of western Sudan, northwestern South Sudan and western Ethiopia. southern part of Sudan, western and central Ethiopia, and several parts of South Sudan recorded rainfall of between 25mm and 200mm. Much of the rest of other areas recorded less than 5 mm. A few areas in southern part of Sudan, southern South Sudan and central Ethiopia experienced below normal rainfall, while the rest of these areas recorded near normal or above normal rainfall.

Eritrea, Djibouti, Somalia, and Kenya: western Eritrea, western, central, coastal and north-central Kenya and southern part of Somalia recoded between 10mm and 50mm of rainfall. Much of the rest of these areas recorded less than 10mm of rainfall. Several parts of these areas recorded above normal or near normal rainfall condition.

Uganda and Tanzania: north and eastern Uganda and eastern part of Tanzania recorded rainfall of between10mm and 50mm. Much of the rest of these areas recorded less than 5mm of rainfall. Some places in north and central Uganda experienced below normal rainfall while much of these areas experienced near normal or generally dry conditions.

Burundi and Rwanda: These areas were generally dry.

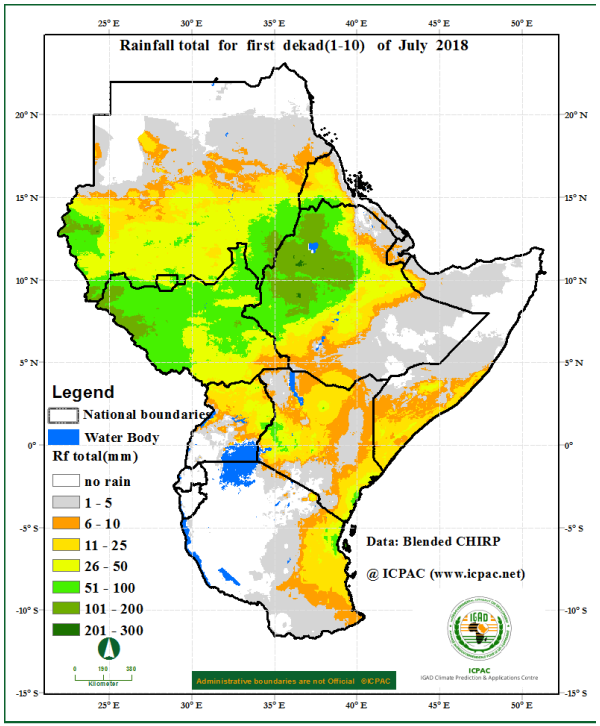

Figure 1a: Total rainfall distribution during the first dekad (01-10) of July 2018. *(Data: ICPAC Blended CHIRP)*

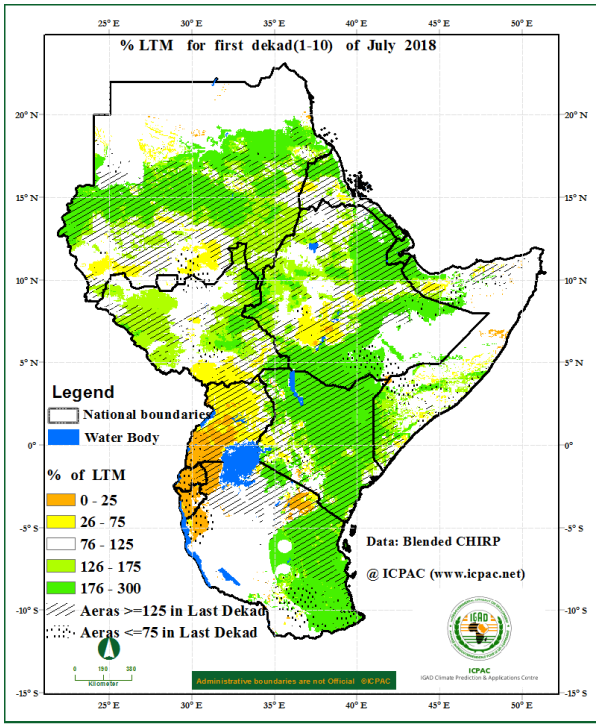

Figure 1b: Percent of long term average rainfall for the first dekad (01-10) of July 2018*(Data: ICPAC Blended CHIRP)*

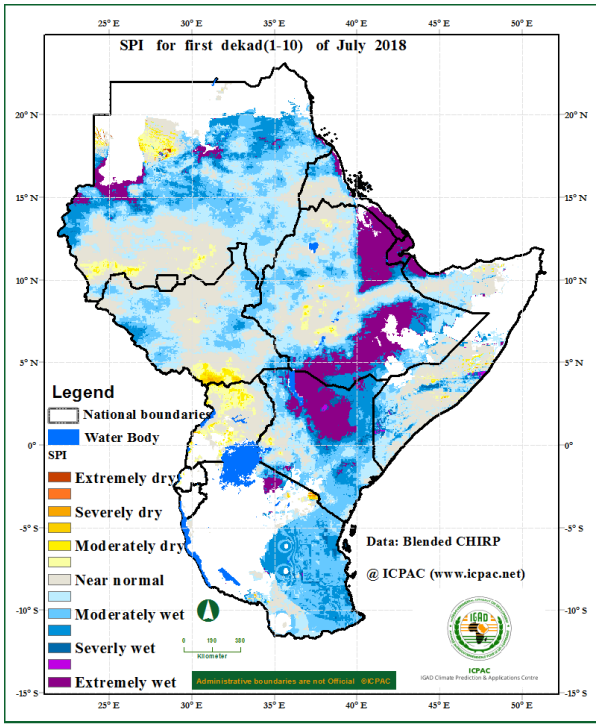

Figure 1c: Standardized Precipitation Index (SPI) for first dekad (01-10) of July 2018*(Data: ICPAC Blended CHIRP)*

Maximum and Minimum Temperature Anomaly

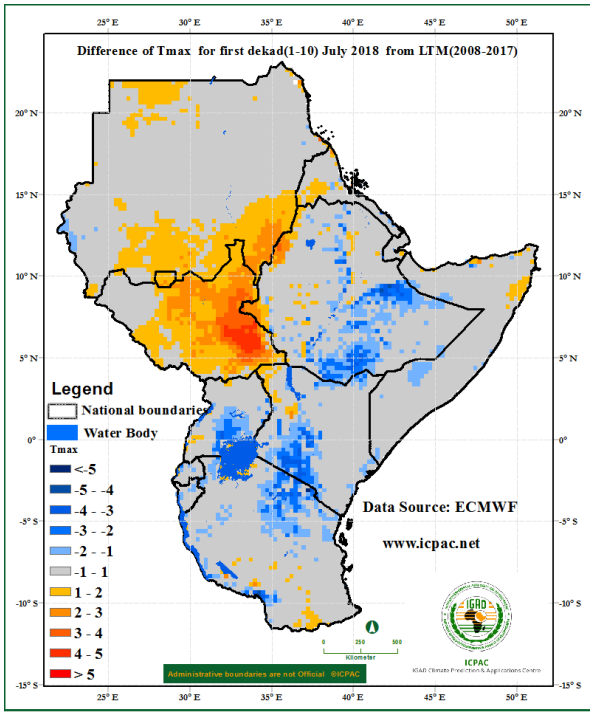

Figure 2: Maximum temperature difference from the average (2008-2017) for the first dekad (01-10) of July 2018*(Data Source: ECMWF)*

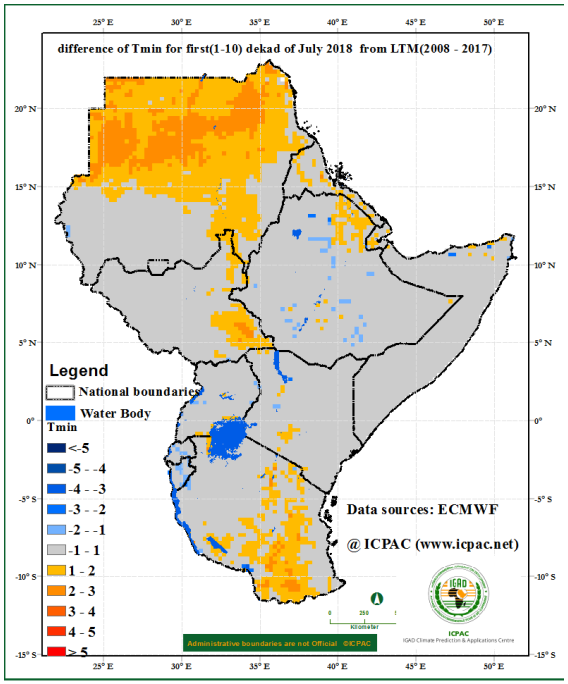

Figure 3:Minimum temperature difference from the average (2008-2017) for the first dekad (01-10) of July 2018 *(Data Source: ECMWF)*

The maximum and minimum temperature during the first dekad of July 2018 shows that:-several parts of **South Sudan**, southern part of **Sudan**, and a few areas in southwest Eritrea, northwest Kenya, northeast Somalia and southern Tanzania had warmer than average maximum temperatures. Maximum temperature cooler than the average was experienced in central **Ethiopia,** southern Uganda**,** central **Kenya,** and northern and western parts of **Tanzania**.

Warmer than the average minimum temperature was recorded in northern **Sudan**, central **Eretria**, parts of **Djibouti**, northern **Ethiopia**, eastern **South Sudan**, and eastern and southern **Tanzania**.

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 July, 2018 (Figure 4) indicates that:

Sudan, South Sudan, Ethiopia, and Somalia: southern part of Sudan, eastern South Sudan, eastern, southern and Central Ethiopia and southern part of Somalia showed improved vegetation condition as compared with the long term average. Some areas in the northern part of South Sudan, southwestern Sudan, north and west of Ethiopia showed deteriorative vegetative condition as compared to the long-term average.

Kenya and Tanzania: much of these areas showed an improved vegetative conditions as compared to the long term average.

Uganda, Rwanda, Burundi: Several parts of these areas recorded little improvement or no change in vegetative conditions.

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

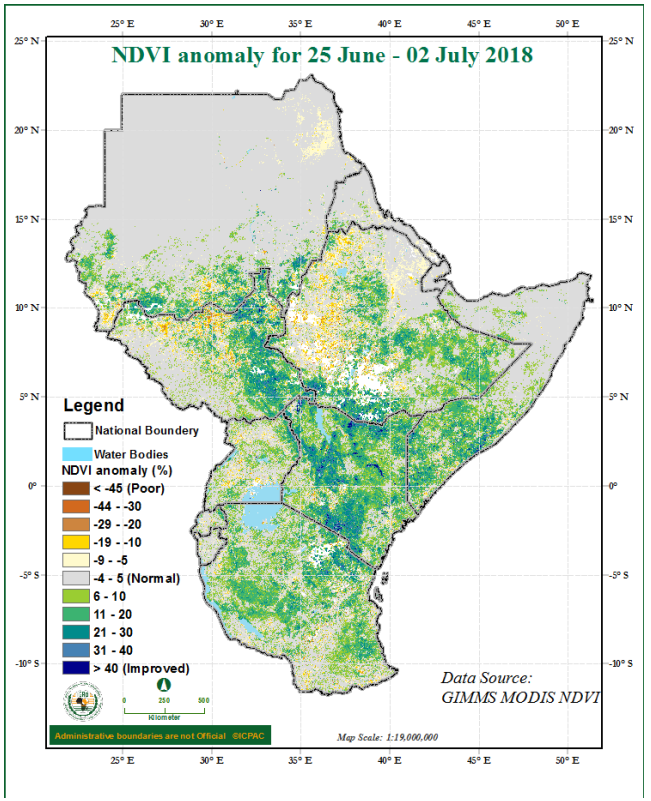

Figure 4: NDVI anomaly for the period between 25th June and 2nd July 2018 (Data Source: USGS NASA**)**

5.0 Climate Forecast

Rainfall Forecast

The rainfall forecast for the third dekad of July 2018 in Figure 5 indicates that rainfall exceeding 25mm is likely to be observed over much of Sudan, South Sudan, Eritrea, parts of Djibouti, western, north and central Ethiopia, northeastern Uganda, and western Kenya. Southern part of Sudan, northwestern South Sudan, southwestern Eritrea, as well as north and central Ethiopia are likely to record high rainfall amounts exceeding 200mm.

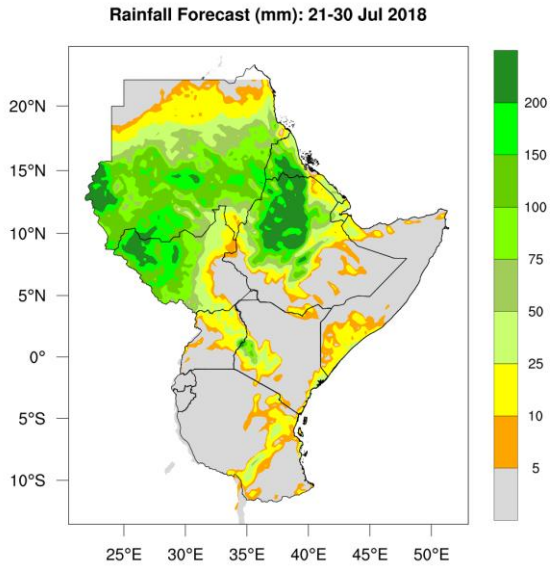

Figure 5: Precipitation forecast for the third dekad (21-31) of July 2018 (Source: WRFICPAC**)**

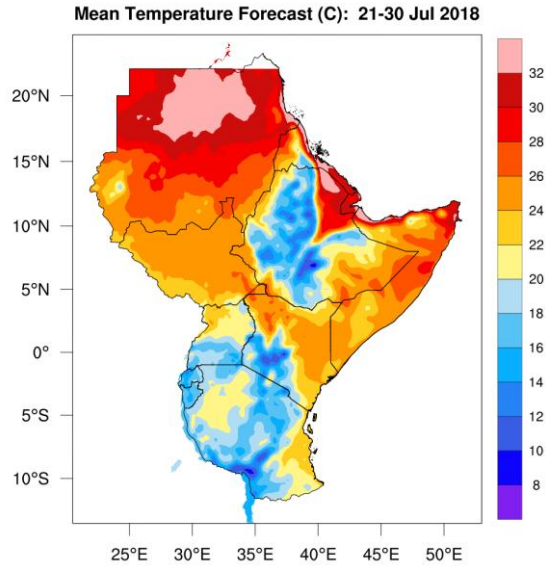

Figure 6: Forecast for average temperature for the third dekad (21-31) of July 2018 (Source: WRF-ICPAC)

Temperature Forecast

The forecast for the mean temperature for third 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 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 third dekad of July 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 July to September (JJA) 2018climate outlook (*http://www.icpac.net/wp-content/uploads/GHACOF49_statement_english.pdf*).*

For more information contact
ICPAC P.O. Box 10304, 00100 Nairobi, KENYA;
Tel: +254-020-3514426
E-mail:director@icpac.net

Website: www.icpac.net