IGAD CLIMATE PREDICTION AND APPLICATIONS CENTRE

ICPAC

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10 DAYS CLIMATOLOGICAL SUMMARY AND IMPACTS FOR THE THIRD DEKAD (21-31) OF JULY 2018 TOGETHER WITH FORECAST FOR THE SECOND DEKAD (11-20) OF AUGUST 2018

1.0 Introduction

This bulletin reviews the climatic conditions observed during the third dekad (21-31) of July 2018, and highlights the climate forecast for the second dekad (11-20) of August 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 July 2018 several places in northern sector, as well as well as western and coastal parts of the equatorial sector sector of the GHA recorded rainfall. southwestern and southcentral part of the northern sector and also northwestern part fo the equatorial sector experienced normal to below normal rainfall.

Areas around eastern and central Sudan and northern Tanzania recorded cooler than the average maximum temperature. Much of the rest of the GHA recorded near average maximum temperature except for South Sudan, northwestern Kenya and northern and western Uganda.. Several part of the GHA recorded near the average minimum temperature, however northern part of Sudan and eastern south Sudan recorded warmer than the average minimum temperature.

Rainfall forecast for the second dekad of August 2018 shows that rainfall is expected over several areas of the northern sector of the GHA except for the southeastern part. The western and eastern part of the equatorial sector are also likely to record some rainfall. Some areas in Sudan, South Sudan, and north and western 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 second dekad of August 2018. Regions covering central and western highlands of Kenya, southern Uganda, Rwanda, Burundi, and parts of central and southwest Tanzania are forecasted to experience mean temperatures below 20^{o}C.

3.0 Observed rainfall during the third dekad (21-31) 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, Eritrea and Ethiopia:

Southern and central Sudan, much of South Sudan, western and Eritrea, and western and northwestern Ethiopia recorded rainfall of between 10mm and 200mm. Rainfall exceeding 100mm was recorded in southern part of Sudan northwestern South Sudan and northwestern Ethiopia. Several parts of South Sudan, southern part of Sudan as well as western and central parts of Ethiopia experienced below normal rainfall, while the rest of these areas recorded near normal or above normal rainfall.

Rwanda, Djibouti, and Somalia: north and western Rwanda, southeastern Somalia and western part of Djibouti recorded between 5mm and 25mm of rainfall. Much of the rest of these areas recorded less than 5mm of rainfall. Much of Djibouti, Rwanda, and southeastern Somalia recorded above normal rainfall condition.

Uganda and Kenya: several parts of Uganda and western and coastal Kenya recorded rainfall of between 5mm and 100mm. Northern parts of Uganda and western part of Kenya experienced below normal rainfall.

Burundi, and Tanzania: These areas received little or no rainfall and remained generally dry.

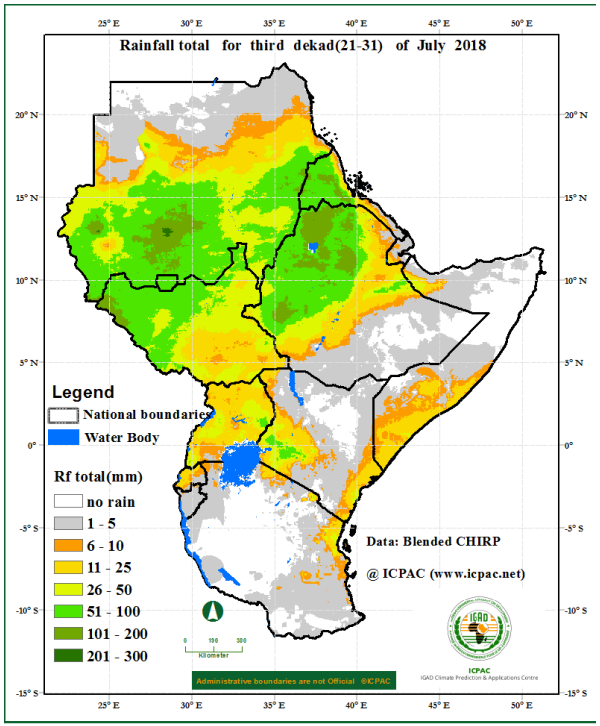

Figure 1a: Total rainfall distribution during the third dekad (21-31) of July 2018. *(Data: ICPAC Blended CHIRP)*

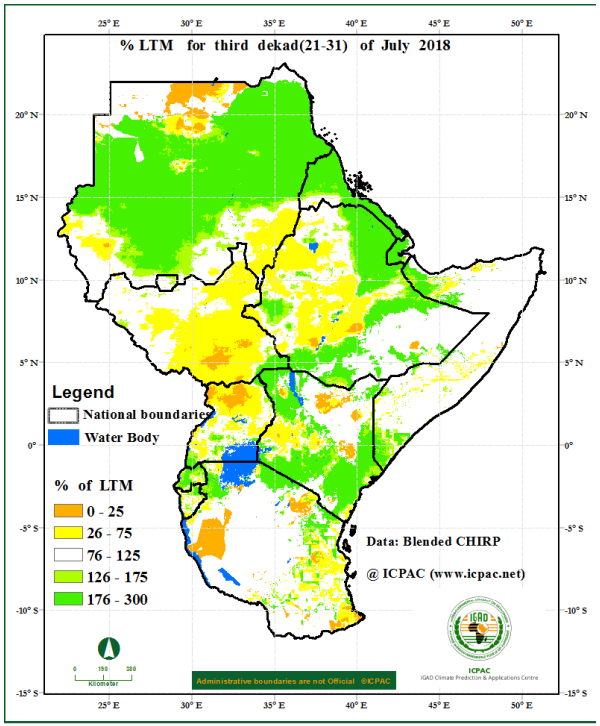

Figure 1b: Percent of long term average rainfall for the third dekad (21-31) of July 2018*(Data: ICPAC Blended CHIRP)*

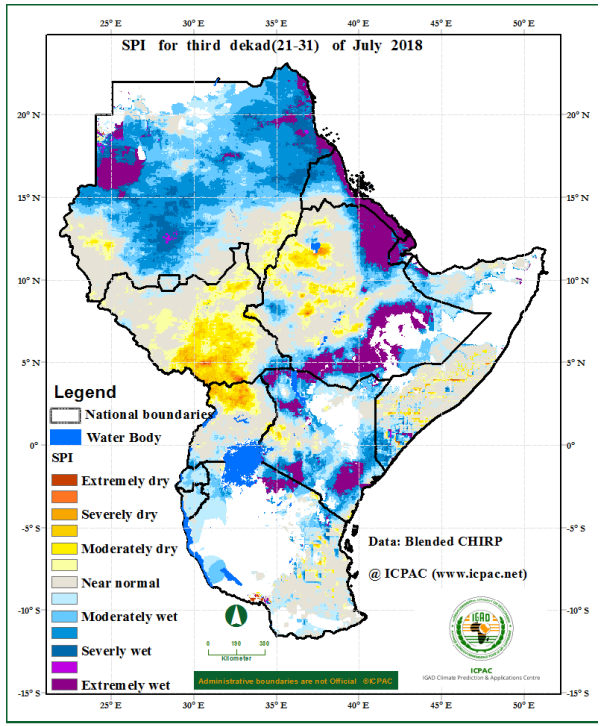

Figure 1c: Standardized Precipitation Index (SPI) for third dekad (21-31) of July 2018*(Data: ICPAC Blended CHIRP)*

Maximum and Minimum Temperature Anomaly

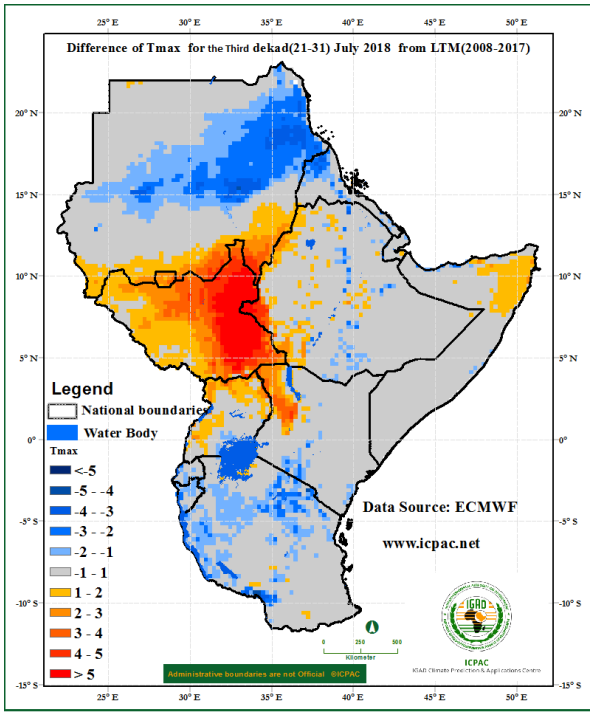

Figure 2: Maximum temperature difference from the average (2008-2017) for the third dekad (21-31) of July 2018*(Data Source: ECMWF)*

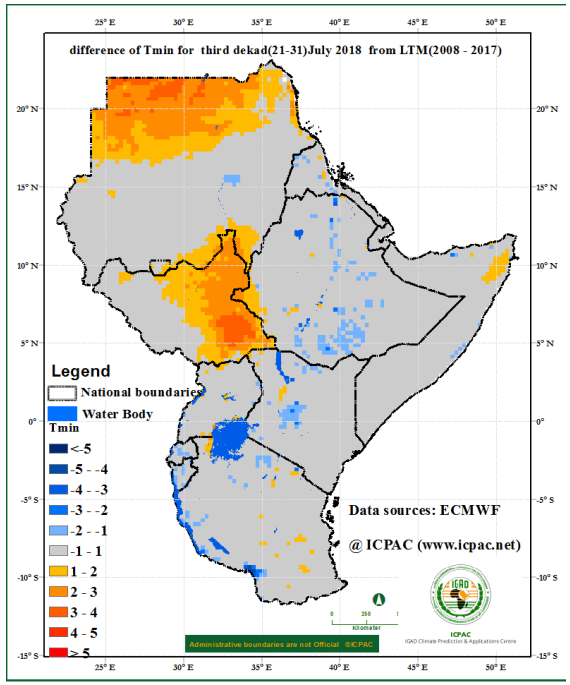

Figure 3:Minimum temperature difference from the average (2008-2017) for the third dekad (21-31) of July 2018 *(Data Source: ECMWF)*

The maximum and minimum temperature during the third dekad of July 2018 shows that: several part of **South Sudan**, southern part of **Sudan**, northern and western **Uganda**, and northwestern **Kenya** experienced maximum temperature warmer than the average condition. central to eastern part of **Sudan**, western **Eritrea**, southern **Rwanda**, parts of **Burundi** and northern and western part of **Tanzania** recorded cooler than the average conditions for maximum temperature. Northern part of **Sudan** and much of eastern **South Sudan** experienced warmer 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 19th to 26th July, 2018 (Figure 4) indicates that:

Sudan, South Sudan, Ethiopia, and Somalia: southern part of Sudan, eastern and northern South Sudan, northeastern, and eastern Ethiopia and southern part of Somalia showed improved vegetation condition as compared with the long term average.

Kenya and Tanzania: several parts of north, central and western Kenya, and western and eastern parts of Tanzania much of these areas showed an improved vegetative conditions as compared to the long term average.

Uganda: Several parts of these areas recorded deterioration in vegetative conditions.

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

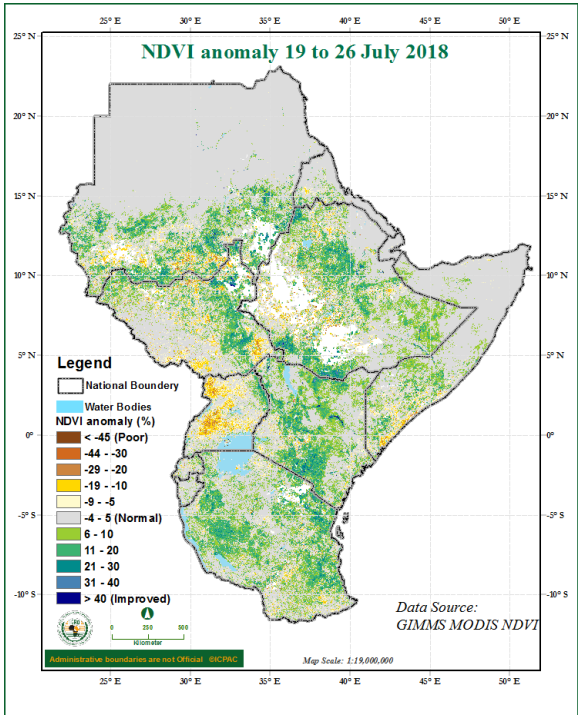

Figure 4: NDVI anomaly for the period between 19th June and 26th July 2018 (Data Source: USGS NASA**)**

5.0 Climate Forecast

Rainfall Forecast

The rainfall forecast for the second dekad of August 2018 in Figure 5 indicates that rainfall exceeding 25mm is likely to be observed over much of South Sudan, southern part of Sudan, southwest Eritrea, western, north and central Ethiopia, several parts of Uganda, and western Kenya, southeastern Somalia. Southern part of Sudan, several parts of South Sudan, southwestern Eritrea, as well as north, western and central Ethiopia are likely to record high rainfall amounts exceeding 200mm.

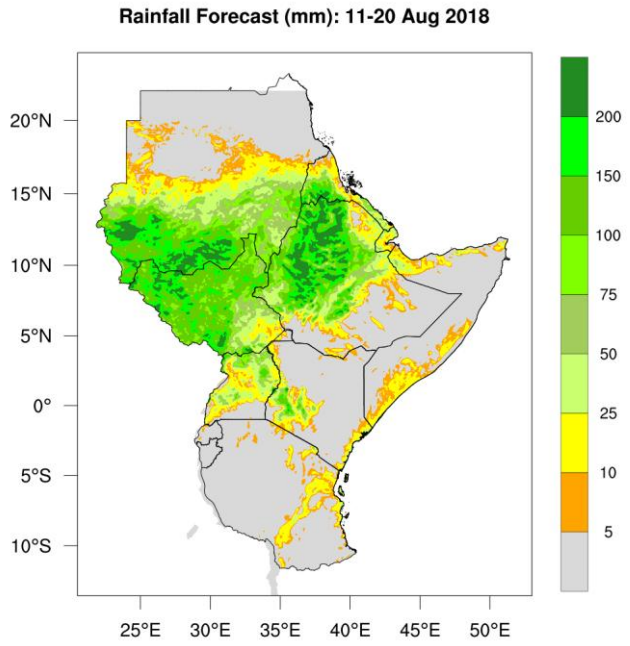

Figure 5: Precipitation forecast for the second dekad (11-20) of August 2018 (Source: WRFICPAC**)**

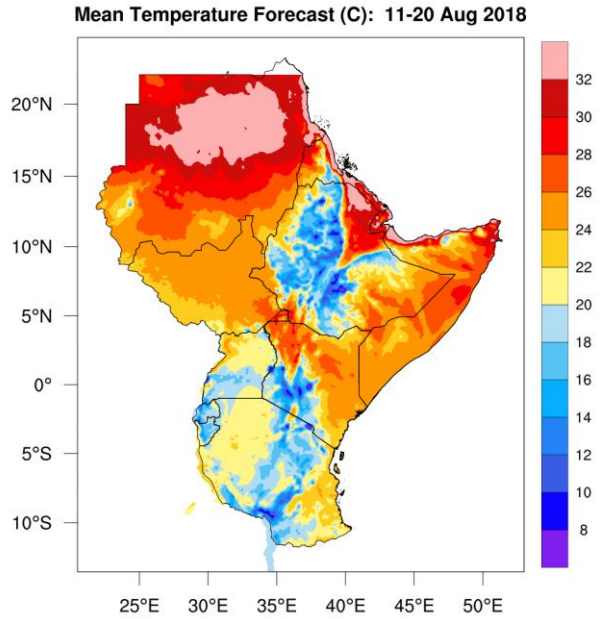

Figure 6: Forecast for average temperature for the second dekad (11-20) of August 2018 (Source: WRF-ICPAC)

Temperature Forecast

The forecast for the mean temperature for second dekad of August 2018 (Figure 6) indicates that cooler mean temperature, not exceeding 20°C is expected in central and western highlands of Ethiopia, southern Uganda, western and central Kenya, much of Rwanda, Burundi, and central and southwestern 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 Sudan 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 August 2018, some areas of South Sudan, southern part of Sudan, and western and northern 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 (JJAS) 2018climate outlook (*http://www.icpac.net/wp-content/uploads/GHACOF49_statement_english.pdf*).*

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