IGAD CLIMATE PREDICTION AND APPLICATIONS CENTRE

ICPAC

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

1.0 Introduction

This bulletin reviews the climatic conditions observed during the third dekad (21-31) of August 2018, and highlights the climate forecast for the second dekad (11-20) of September 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 August 2018 western, southwestern and central parts of the northern sector, as well as western part of the equatorial sector of the GHA recorded rainfall. Some areas in south east and southwest part of the northern sector experienced below normal rainfall. Much of the rest of the northern sector and equatorial sector experienced near normal or above normal rainfall.

Areas western and central part of the equatorial sector of the GHA recorded cooler than the average maximum temperature. South central Sudan extending to northern South Sudan, and also north east of Ethiopia cooler than the average maximum temperature was recorded. Much of the GHA recorded near the average minimum temperature except for areas in northwestern Sudan central Eritrea and northern Ethiopia during the third dekad of August 2018.

Rainfall forecast for the second dekad of September 2018 shows that rainfall is expected over several areas of the northern sector of the GHA except for the northern and south-central part. The western and eastern parts of the equatorial sector are also likely to record some rainfall.. few areas in southern part of Sudan, northern Somalia, and northwestern and western Ethiopia, are likely to record high rainfall amounts, which might lead to flooding.

Regions covering, western and central highlands of Ethiopia, central and western highlands of Kenya, southwestern Uganda, western Rwanda, central Burundi, and parts of northeast, central and southwest Tanzania are forecasted to experience mean temperatures below 20^{o}C. Much of the rest of the GHA are likely to experience average temperatures exceeding 20^{o}C

3.0 Observed rainfall during the third dekad (21-31) of August 2018

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

Rainfall Distribution and Severity

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

Sudan, and South Sudan: several parts of South Sudan and southern part of Sudan recorded rainfall of between 25mm and 100mm. Rainfall exceeding 100mm was recorded in a few areas n north-central an northwestern south Sudan. western and central part of Sudan and southwestern part of South Sudan experienced above average rainfall. A few parts of eastern and southwestern Sudan, and western South Sudan recorded below normal rainfall.

Eritrea and Djibouti: southwestern Eritrea, and much of western Djibouti recorded between 5mm and 50mm of rainfall. Western Eritrea experienced below normal rainfall while much of the rest of these areas experienced above normal rainfall.

Ethiopia, Uganda and Kenya: several parts of Uganda, western and central Ethiopia, and western Kenya recorded rainfall of between 10mm and 200mm. northwestern, central, and western parts of Ethiopia, part of eastern and western Uganda and few places in western Kenya recorded between 100mm and 200mm of rainfall. Most of these areas recorded near normal or above normal rainfall except for northwestern Ethiopia, and a few places in north central Uganda and central Kenya which experienced below normal rainfall.

Rwanda, and Burundi: much of Rwanda recorded between 26mm and 100mm of rainfall, several parts of Burundi recorded between 5mm and 25mm of rainfall. Most of these areas experienced above normal rainfall.

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

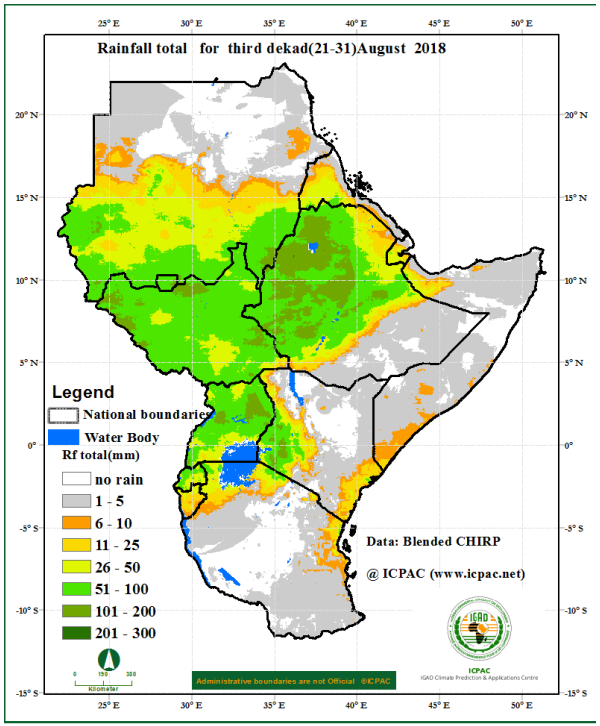

Figure 1a: Total rainfall distribution during the third dekad (21-31) of August 2018. *(Data: ICPAC Blended CHIRP)*

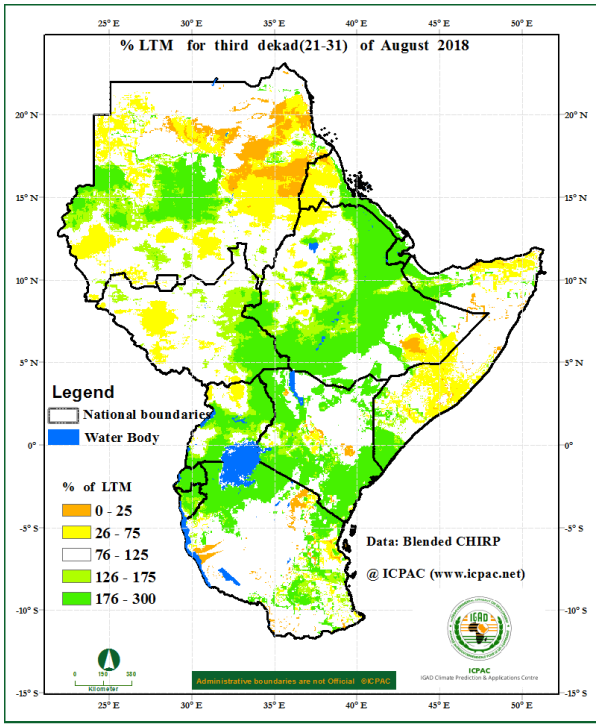

Figure 1b: Percent of long term average rainfall for the third dekad (21-31)of August 2018*(Data: ICPAC Blended CHIRP)*

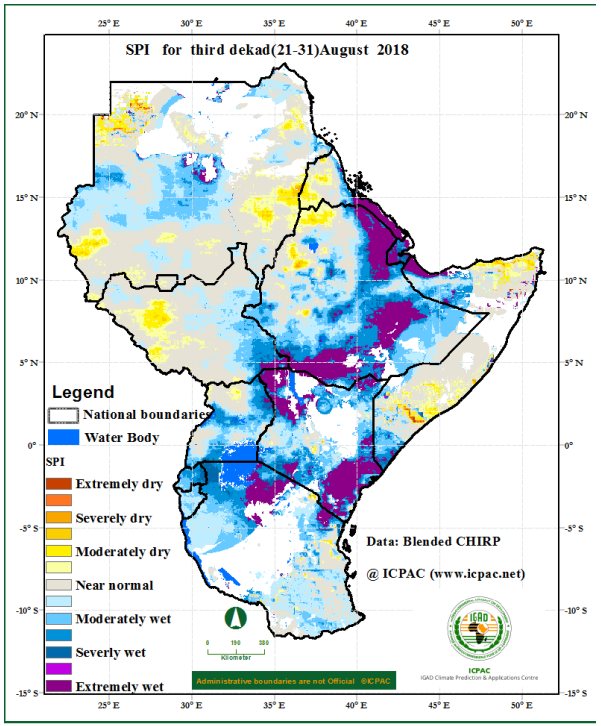

Figure 1c: Standardized Precipitation Index (SPI) for third dekad (21-31) of August 2018*(Data: ICPAC Blended CHIRP)*

Maximum and Minimum Temperature Anomaly

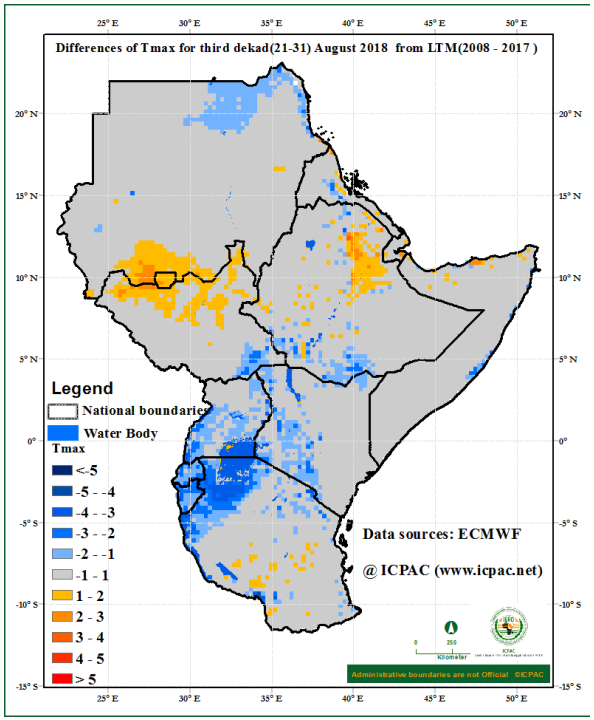

Figure 2: Maximum temperature difference from the average (2008-2017) for the third dekad (21-31) of August 2018*(Data Source: ECMWF)*

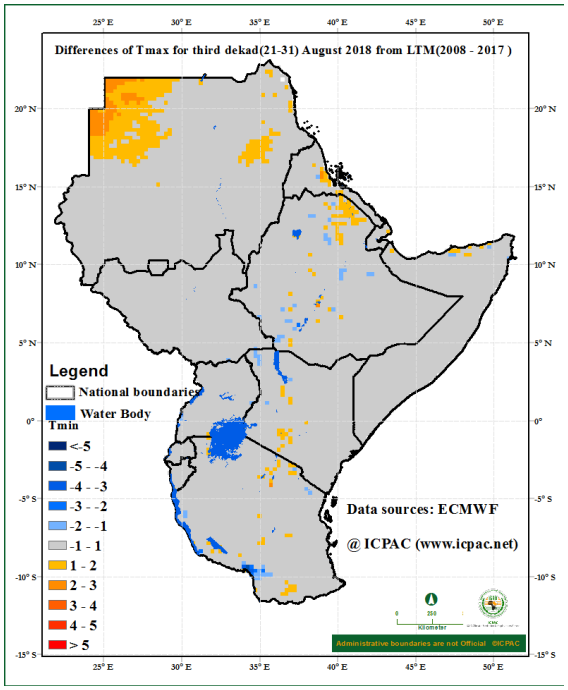

Figure 3:Minimum temperature difference from the average (2008-2017) for the third dekad (21-31) of August 2018 *(Data Source: ECMWF)*

During the third dekad of August 2018: southern part of Sudan extending to northern part of **South Sudan**, as well as in northeastern **Ethiopia** experienced maximum temperature warmer than the average condition. Northeastern part of **Sudan,** southern **Ethiopia,** southeastern South Sudan, southern part of **Uganda**, western and central **Kenya**, over much of **Rwanda** and **Burundi**, and northwestern part of **Tanzania** cooler than the average conditions for maximum temperature was recorded.

A few placed in Northwestern part of **Sudan** central **Eritrea**, and northeastern **Ethiopia** 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 28th August and 4th September, 2018 (Figure 4) indicates that:

Sudan, and South Sudan: southern part of Sudan, and eastern part of South Sudan showed improved vegetation condition as compared with the long term average. Indications for deteriorated vegetative conditions was observed in southeastern parts of Sudan

Kenya and Tanzania: several parts of north, central and southern Kenya, and northwestern, north and eastern parts of Tanzania showed an improved vegetative condition as compared to the long term average.

Ethiopia, Somalia and Uganda: central and eastern parts of Ethiopia, southeastern Somalia, showed little improvement in vegetation conditions as compared with the average, however southwestern Uganda showed deteriorative vegetative conditions.

Much of the rest of the GHA, showed little or no change in vegetation conditions as compared with the long term average.

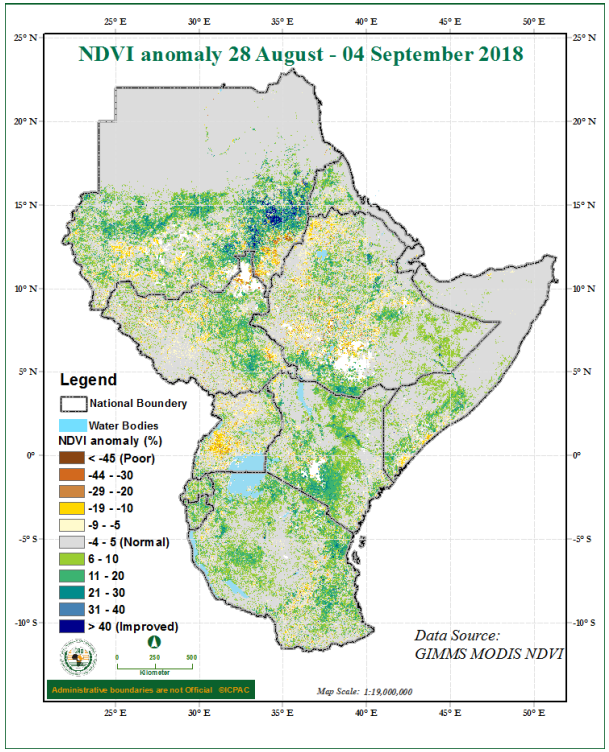

Figure 4: NDVI anomaly for the period between 4th and 11th August 2018 (Data Source: USGS NASA**)**

5.0 Climate Forecast

Rainfall Forecast

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

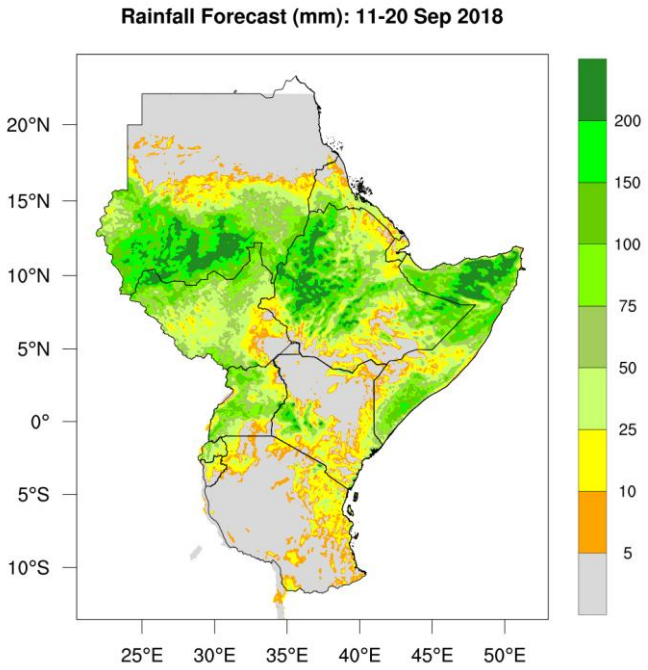

Figure 5: Precipitation forecast for the second dekad (11-20) of September 2018 (Source: WRFICPAC**)**

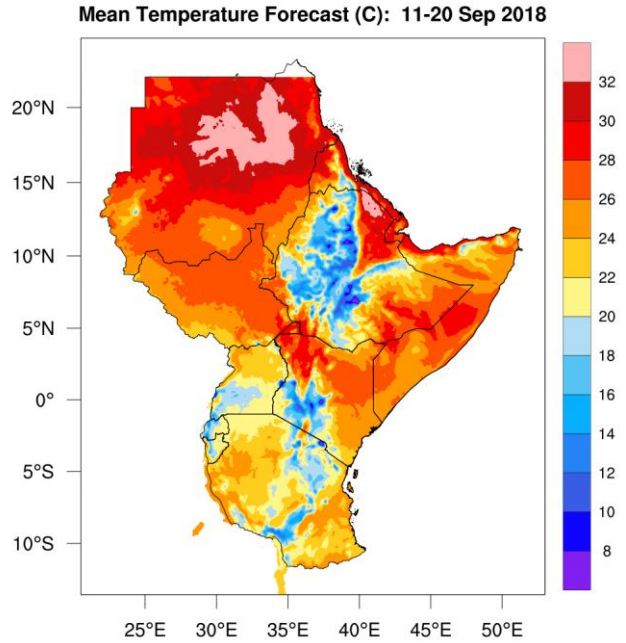

Figure 6: Forecast for average temperature for the second dekad (11-20) of September 2018 (Source: WRF-ICPAC)

Temperature Forecast

The forecast for the mean temperature for second dekad of September 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 in parts of central, northeastern 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, 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 during the third dekad of August 2018 . From the climate forecast for the second dekad of September 2018, some areas of South Sudan, Sudan, western and central Ethiopia, Northern Somalia, and western Kenya 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 August to September (JJAS) 2018climate outlook (*http://www.icpac.net/wp-content/uploads/GHACOF49_statement_english.pdf*).*

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