IGAD CLIMATE PREDICTION AND APPLICATIONS CENTRE

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10 DAYS CLIMATOLOGICAL SUMMARY AND IMPACTS FOR THE SECOND DEKAD (11-20) OF NOVEMBER 2018 TOGETHER WITH FORECAST FOR THE FIRST DEKAD (01-10) OF DECEMBER 2018

1.0 Introduction

This bulletin reviews the climatic conditions observed during the second dekad (10-20) of November 2018, and highlights the climate forecast for the first dekad (01-10) of December 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 for rainfall and temperature.

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 second dekad of November 2018 south-central part of the northern sector, western and eastern parts of the equatorial sector, and northwestern and northestern part of the southern sector of the GHA recorded rainfall. Most of the rainfall recorded translated into below normal conditions for most areas except for western parts of the equatorial sector which recorded above normal or near normal rainfall.

Much of the northern and eastern part of the GHA recorded warmer than the average maximum temperature. Maximum temperature cooler than the mean was recorded in western part of the northern sector. The southern part of the northern sector extending to much of the western part of the equatorial sector, and also in central and parts of the southern sector of the GHA recorded warmer than the mean minimum temperature during second dekad of November 2018. Much of the rest of GHA recorded minimum temperature that was near the mean or cooler than mean

Rainfall forecast for the first dekad of December 2018 shows that rainfall is expected over several parts of the the equatorial sector, and the southern sector of the GHA.

Regions covering, northern Sudan, western and central highlands of Ethiopia, central and western highlands of Kenya, southwestern Uganda, Rwanda, and Burundi 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 second dekad (10-20) of November 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.

Rainfall Distribution and Severity

Rainfall was concentrated in south part of the northern sector, western and southeastern parts of equatorial sector, and northwestern and northeastern part of the s of the GHA during the second dekad of November 2018.

Ethiopia, Uganda and Somalia: several parts of Uganda, southern parts of Ethiopia and southern Somalia recorded rainfall of between 10mm and 100mm. Western part of Uganda and southwestern part of Ethiopia recorded rainfall of between 50mm and 100mm. Much of the rest of these areas recorded less than 10mm. A few areas in northern Ugand, southwestern Somalia, and south central Ethiopia recorded above normal rainfall. below normal rainfall was recorded mainly in southwestern Uganda, much of the rest of these areas recorded near normal rainfall.

South Sudan, Kenya, Rwanda, Burundi and Tanzania: Several parts of South Sudan, northwest and north-central Kenya, and central and southern parts of Tanzania recorded rainfall of less than 10mm. Western, central and coastal Kenya, western Rwanda, much of Burundi and northeastern Tanzania recorded rainfall of between 50 and 100mm. much of the rest of these areas recorded rainfall of between 10mm and 50mm. Much of these areas recorded near normal or below normal rainfall.

Eritrea and Djibouti: northern coastal Eritrea and eastern Djibouti recorded between 5mm and 10mm of rainfall. Much of these areas recorded near normal rainfall, except for northeastern coast of Eritrea and eastern Djibouti which recorded above normal rainfall.

Much of the rest of the GHA received little or no rainfall and remained generally dry.

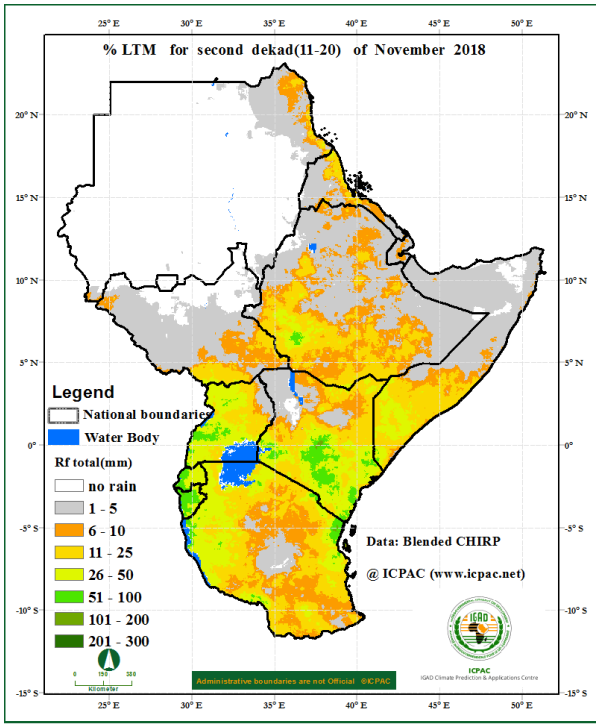

Figure 1a: Total rainfall distribution during the second dekad (10-20) of November 2018. *(Data: ICPAC Blended CHIRP)*

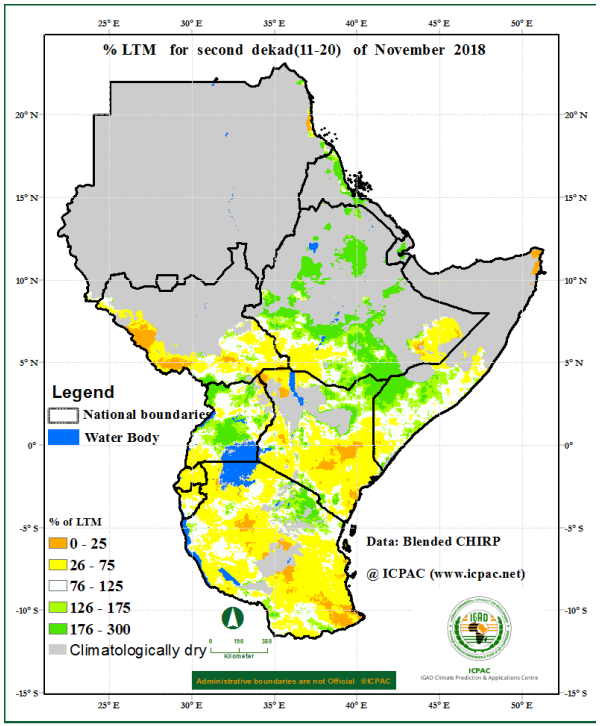

Figure 1b: Percent of long term average rainfall for the second dekad (10-20)of November 2018*(Data: ICPAC Blended CHIRP)*

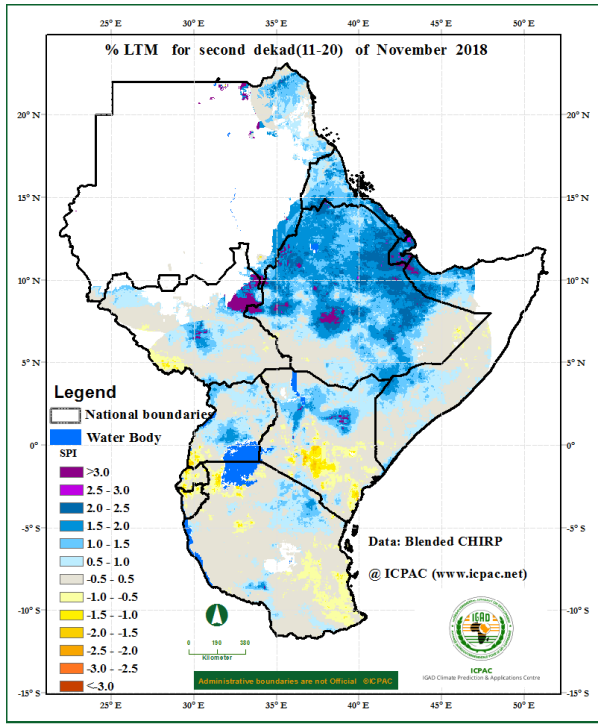

Figure 1c: Standardized Precipitation Index (SPI) for second dekad (10-20) of November 2018*(Data: ICPAC Blended CHIRP)*

Maximum and Minimum Temperature Anomaly

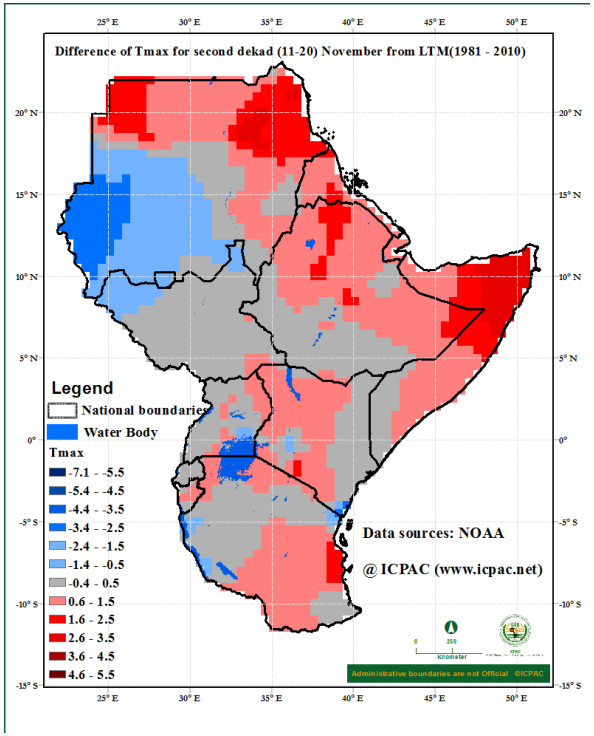

Figure 2: Maximum temperature difference from the average (2008-2017) for the second dekad (10-20) of November 2018 *(Data Source: provided by the NOAA/OAR/ESRL PSD)*

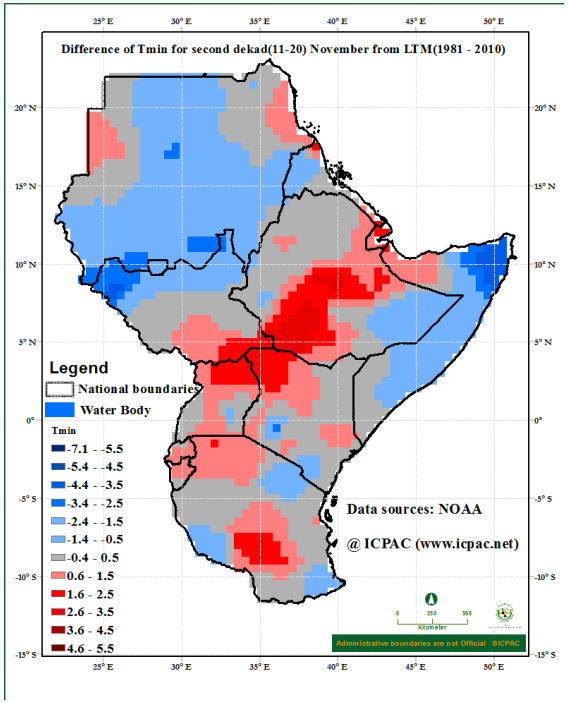

Figure 3:Minimum temperature difference from the average (2008-2017) for the second dekad (10-20) of November 2018 *(Data Source: Data Source: provided by the NOAA/OAR/ESRL PSD)*

The maximum and minimum temperature during the second dekad of November 2018 shows that western and southwestern Sudan extending to northeastern South recorded maximum temperature cooler than the long-term mean. Much of the rest of the GHA recorded maximum temperature that was warmer than the mean or near the mean.

Minimum temperature cooler than the long-term mean was recorded in much of Sudan, northern part of South Sudan, southeastern Ethiopia, in much of central and northern Somalia, south-central Kenya extending to north central Tanzania, and in westerna nd southeastern Tanzania. Much of the rest of the GHA recorded maximum temperature that were near the warmer than the mean or near the mean

4.0 Vegetation condition indicators

Normalized Difference Vegetation Index Anomaly

The Normalized Difference Vegetation Index (NDVI) anomaly for the period 8th and 15th November, 2018 (Figure 4) indicates that:

South Sudan, Kenya, and Somalia: Indications for deteriorated vegetative conditions was observed in some parts of South Sudan, eastern Kenya, and southeast part of Somalia. Some areas of eastern South Sudan, northeastern and coastal Kenya, and southwest Somalia showed improved vegetation condition as compared with the long term average.

Sudan, Ethiopia, and Tanzania: southeastern Sudan, several parts of Ethiopia, and western and northeastern Tanzania showed an improved vegetative condition as compared to the long term average.

Much of the rest of the GHA, especially northern Sudan, Eritrea, Djibouti, northern and central Somalia, western South Sudan, Uganda, northwestern Kenya, parts of Rwanda, and Burundi, showed little or no change in vegetation conditions as compared with the long term average.

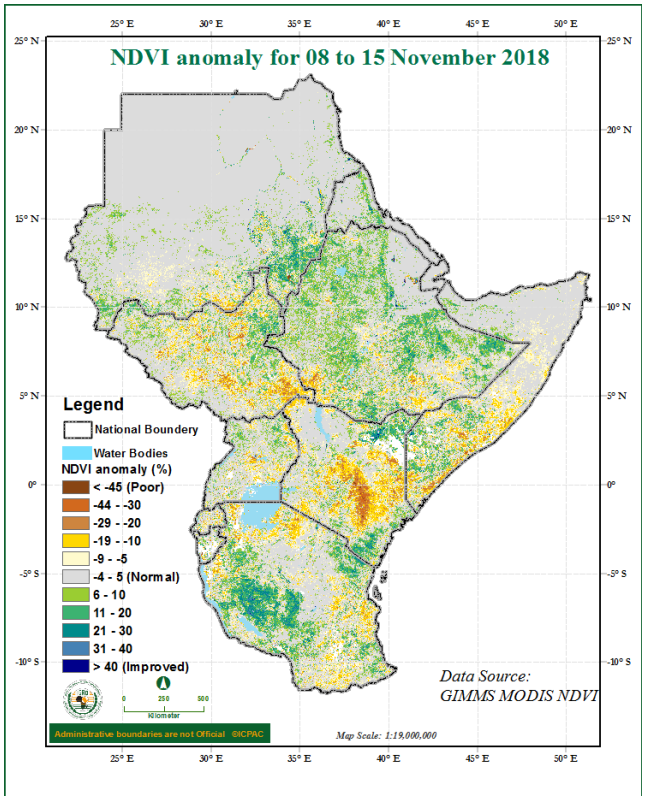

Figure 4: NDVI anomaly for the period between 8th and 15th November 2018 (Data Source: USGS NASA**)**

5.0 Climate Forecast

Rainfall Forecast

The rainfall forecast for the first dekad of December 2018 in Figure 5 indicates that rainfall exceeding 25mm is likely to be observed over, eastern Sudan, southwestern Ethiopia, southeastern South Sudan, southern Somalia, and over several parts of Uganda, Kenya, Rwanda, Burundi and Tanzania. However some areas in northeastern Uganda, northwestern Kenya and northeastern Tanzania are expected to record less than 10mm of rainfall. Rainfall amounts exceeding 200mm are expected over southwestern Rwanda, western Burundi, western Kenya, southeastern Somalia, and central and southwestern Tanzania.

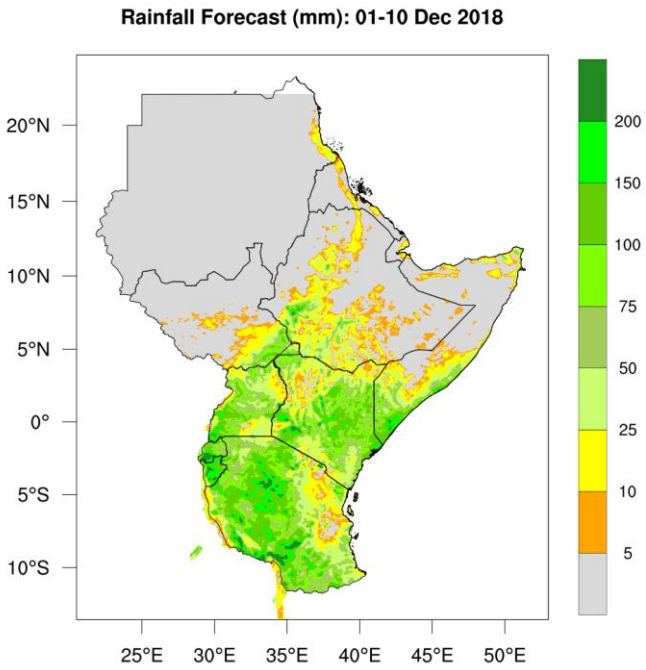

Figure 5: Precipitation forecast for the first dekad (01-10) of December 2018 (Source: WRFICPAC**)**

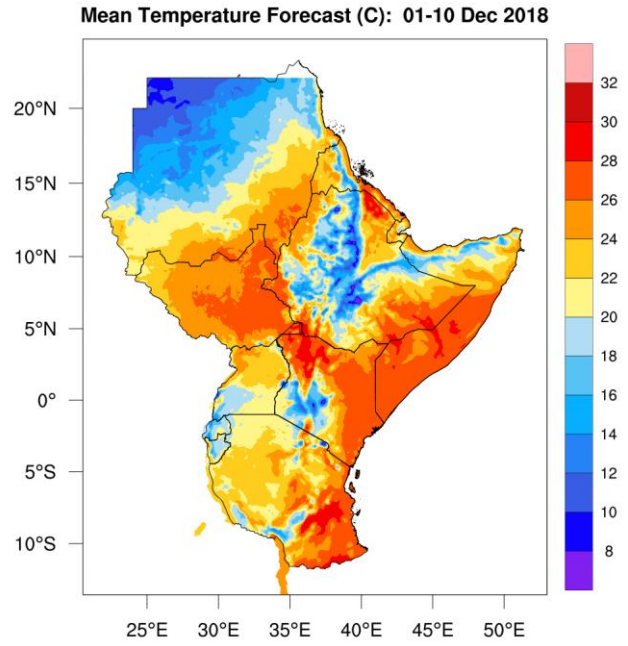

Figure 6: Forecast for average temperature for the first dekad (01-10) of December 2018 (Source: WRF-ICPAC)

Temperature Forecast

The forecast for the mean temperature for first dekad of December 2018 (Figure 6) indicates that cooler mean temperature, not exceeding 20°C is expected in northern part of Sudan, central and western highlands of Ethiopia, southwestern Uganda, western and central Kenya, over much of Rwanda, and Burundi The rest of the GHA is expected to experience mean temperature greater than 20°C.

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 southern part of the northern sector, and western and eastern part of the equatorial sector of the GHA resulted to improvement in water and pasture conditions, leading to good prospects of water, crop and livestock performance. Coastal parts of Kenya reported flooding that led to the disruption of livelihoods, and incidences of weather and water-related diseases during the second dekad of November 2018 . From the climate forecast for the first dekad of November 2018, some areas of southern Somalia, and central 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 November to November (JJAS) 2018climate outlook (*http://www.icpac.net/wp-content/uploads/GHACOF49_statement_english.pdf*).*

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