IGAD CLIMATE PREDICTION AND APPLICATIONS CENTRE

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

1.0 Introduction

This bulletin reviews the climatic conditions observed during the second dekad (11-20) of October 2018, and highlights the climate forecast for the first dekad (01-10) of October 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 second dekad of October 2018 the southern parts of the northern sector, as well as well as western parts of the equatorial sector of the GHA recorded rainfall. Some areas in western and south-eastern part of the northern sector, as well as western, central and eastern parts of the equatorial sector, and western part of the equatorial sector experienced normal to below normal rainfall.

Western part of the northern sector sector recorded cooler than the average maximum temperature. Northwestern and southeastern parts of the northern sector, central and eastern part of the equatorials sector, as well as much of the eastern and southern parts of the southern sector recorded warmer than the mean maximum temperature condition. Minimum temperature cooler than the mean was recorded mainly in western part of the northern sector much the rest of the GHA recorded minimum temperatures warmer than the mean during the second dekad of October 2018.

Rainfall forecast for the first dekad of November 2018 shows that rainfall is expected over several areas in the southern eastern part of the northern sector, western, central and eastern Equatorial sector as well as northwestern parts of the southern sector of the GHA.

Several parts of the GHA are likely to record mean temperature exceeding 20^{o}C during the first dekad of November 2018 except for northwestern Sudan, western and central Ethiopia, southwestern Uganda, parts of Rwanda, Burundi, and in western and central highlands of Kenya. which are forecasted to experience mean temperatures below 20^{o}C.

3.0 Observed rainfall during the seconddekad (11-20)of October 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 concentratedin the western and central part of the northern sector, and northwestern, central and coastal part of equatorial sectorof the GHA.

South Sudan, Ethiopia, Uganda, Rwanda and Burundi:

most of these areas recorded rainfall of exceeding 10mm, except for northwestern Ethiopia. western Ethiopia, southern part of South Sudan, much of Uganda, western Rwanda and several parts of Burundi recorded between 50mm and 200mm. Northern parts of South Sudan, southern Ethiopia, and southwestern Uganda recorded below normal rainfall. Above normal rainfall was recorded in southern part of South Sudan, Central Ethiopia, northern Uganda and southeastern Burundi

Sudan, Kenya and Somalia: western, central and northern Kenya, northern and southern parts of Somalia recorded rainfall of between 10mm and 50mm. Much of the rest of these areas recorded less than 5mm except for a few areas in western Kenya and northwestern Somalia which recorded between 50mmand 100mm of rainfall. Sothern part of Sudan, central parts of Kenya, and central Somalia recorded below normal rainfall. A few areas in northern Somalia and western Kenya recorded above normal rainfall while the rest of these areas recording near normal rainfall.

Tanzania: Northwestern Tanzania recorded between 10mm and 100mm of rainfall , eastern part of Tanzania recorded between 5mm and 50mm of rainfall. Northwestern part of Tanzania experienced above normal rainfall while eastern Tanzania recorded near normal or below normal rainfall conditions..

Much of the rest of the GHA received little or no rainfall andremainedgenerally dry.

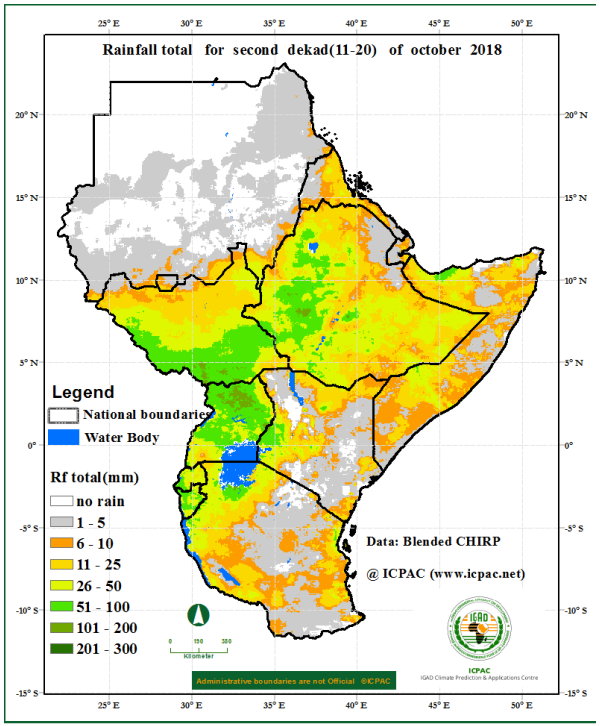

Figure 1a: Total rainfall distribution during the second dekad (11-20) of October 2018. *(Data: ICPAC Blended CHIRP)*

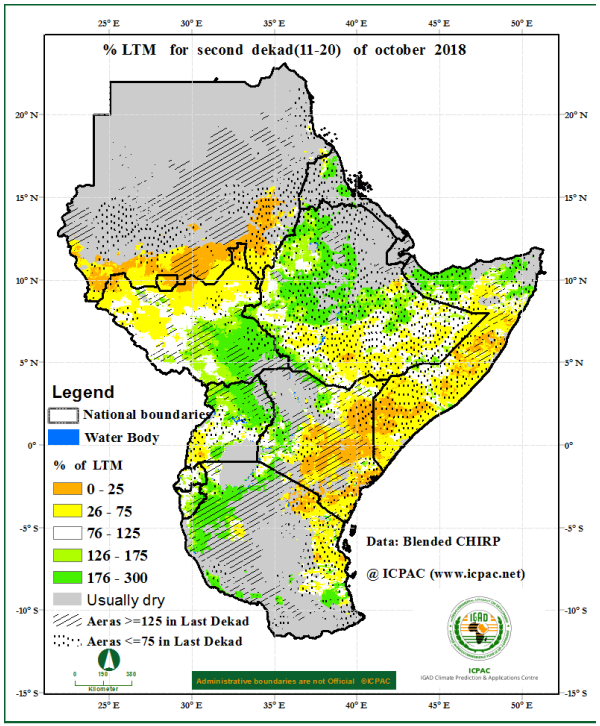

Figure 1b: Percent of long term average rainfall for the second dekad (11-20)of October 2018*(Data: ICPAC Blended CHIRP)*

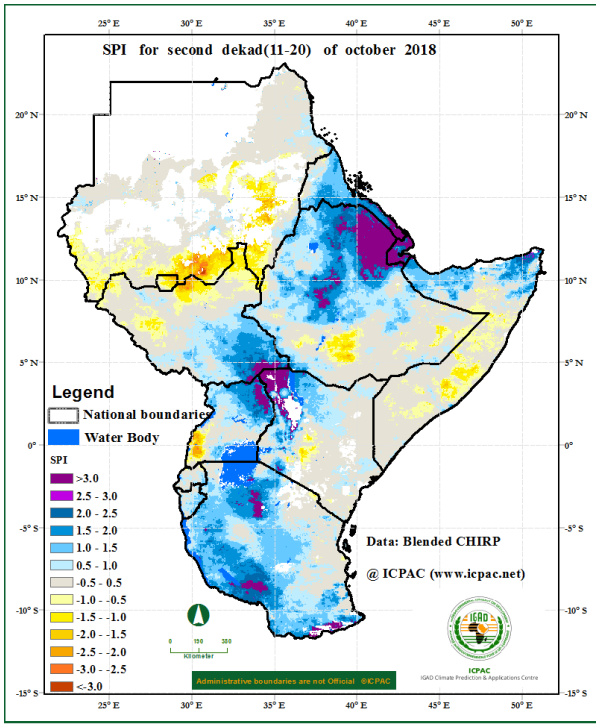

Figure 1c: Standardized Precipitation Index (SPI) for second dekad (11-20) of October 2018*(Data: ICPAC Blended CHIRP)*

Maximum and Minimum Temperature Anomaly

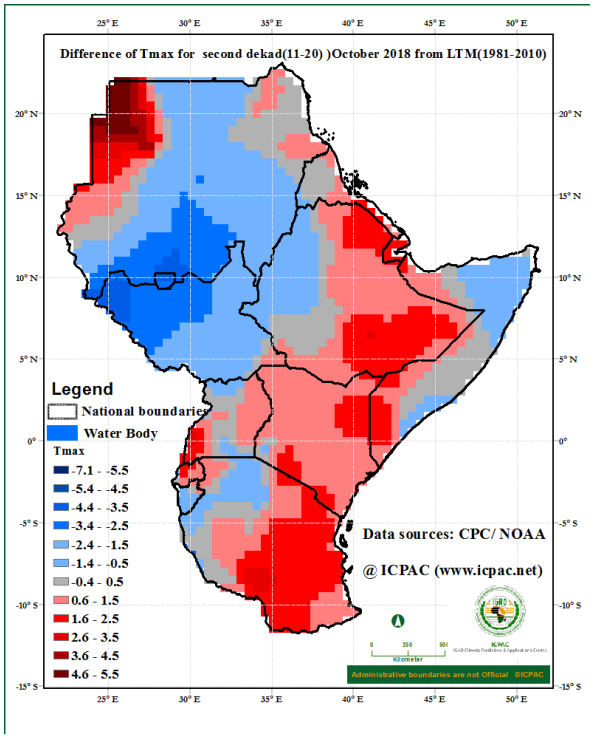

Figure 2: Maximum temperature difference from the average (2008-2017) for the seconddekad (11-20) of October 2018*(Data Source: provided by the NOAA/OAR/ESRL PSD)*

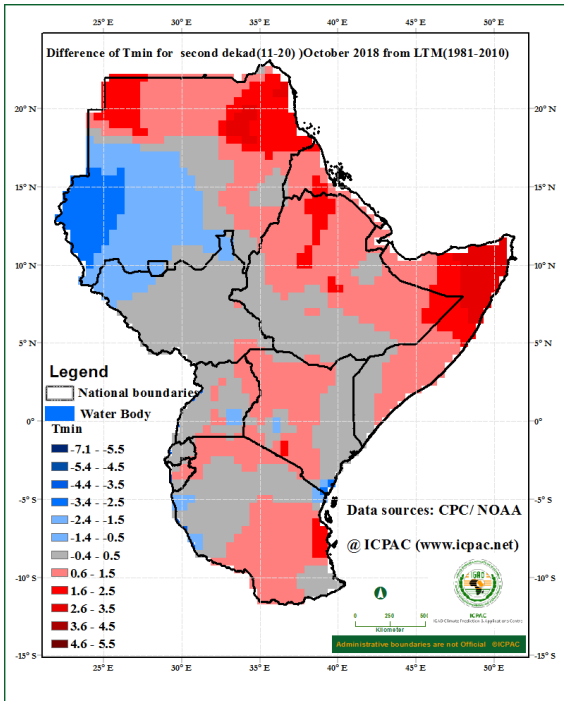

Figure 3:Minimum temperature difference from the average (2008-2017) for the seconddekad (11-20) of October 2018 *(Data Source: provided by the NOAA/OAR/ESRL PSD)*

Maximum temperature warmer than the average conditions was observed in northwestern Sudan, southern Eritrea, Djibouti, central and eastern Ethiopia much of Kenya, Rwanda, eastern and southwestern Uganda, southwestern Somalia and much of eastern and southern Tanzania. Much of the rest of the GHA recorded near average to cooler than average conditions for maximum temperature during the second dekad of October 2018.

Cooler than the average condition for minimum temperature was recorded in western and southwestern Sudan. Much of the rest of the GHA recorded warmer than the mean minimum temperature or near-average minimum temperatures.

4.0 Vegetation condition indicators

Normalized Difference Vegetation Index Anomaly

The Normalized Difference Vegetation Index (NDVI) anomaly for the period 15th October to 22nd October, 2018 (Figure 4) indicates that:

Sudan, South Sudan, Ethiopia, and Somalia: southwestern and southeastern part of Sudan, northeastern South Sudan, northern and southeastern Ethiopia showed improved vegetation condition as compared with the long term average. Areas in south-central Sudan, southern South Sudan, central and south-central Ethiopia, and southern Somalia showed deterioration in vegetative conditions as compared to the long term average.

Kenya and Tanzania: parts of north-central, central and south-central Kenya, and eastern and western parts of Tanzania showed an improved vegetative conditions as compared to the long term average. A few places in western Kenya showed deterioration in vegetative conditions.

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

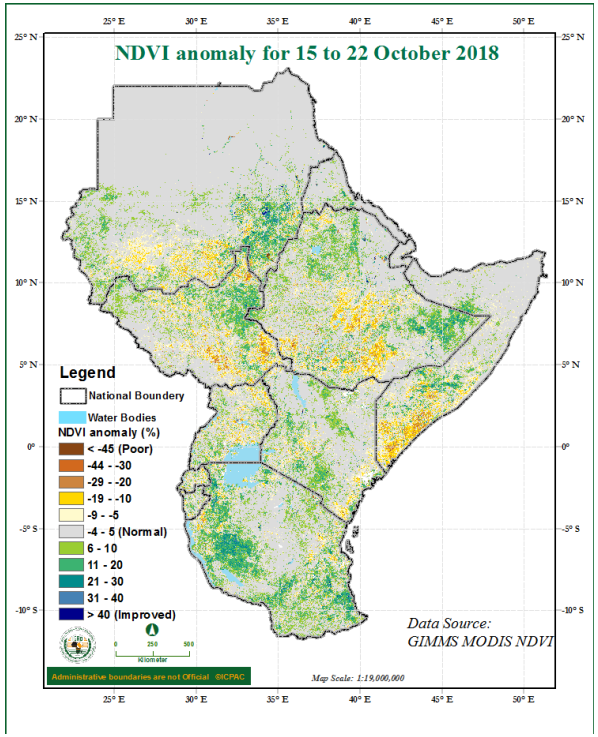

Figure 4: NDVI anomaly for the period between 15th October and 22nd October 2018 (Data Source: USGS NASA**)**

5.0 Climate Forecast

Rainfall Forecast

The rainfall forecast for the first dekad of November 2018 in Figure 5 indicates that rainfall exceeding 25mm is likely to be observed over southeastern South Sudan, southern part of Ethiopia, coastal Djibouti, several parts of western, southern and central Uganda, western and central Kenya, southern and central Somalia, over much of Rwanda and Burundi, and in northwestern Tanzania.

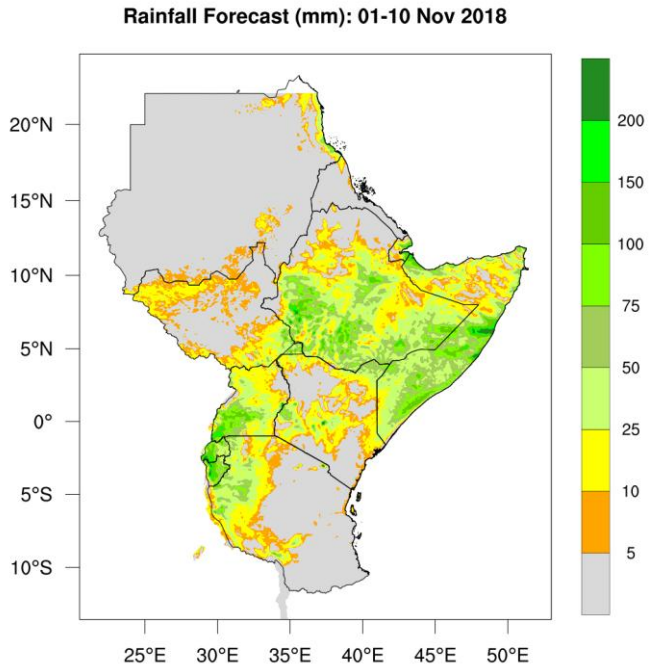

Figure 5: Precipitation forecast for the first dekad (01-10)of November 2018 (Source: WRFICPAC**)**

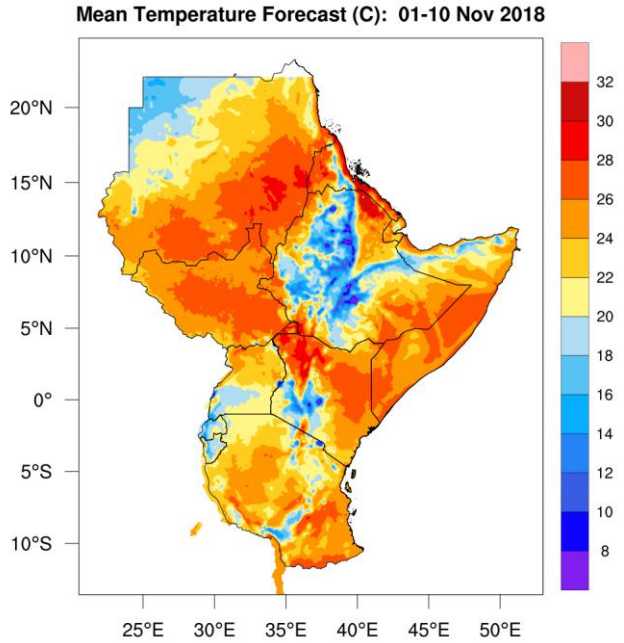

Figure 6: Forecast for average temperature for the first dekad (01-10) of November 2018 (Source: WRF-ICPAC)

Temperature Forecast

The forecast for the mean temperature for first dekad of November 2018 (Figure 6) indicates that much of the GHA is going to record warmer temperature exceeding 20^{o}C except for northwestern Sudan, central and western highlands of Ethiopia, southwestern Uganda, western and central Kenya, and much of Rwanda, Burundi.

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

From the climate forecast for the first dekad of November 2018,some areas of western Rwanda, western Burundi, and southern Somalia 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 October to December (OND)2018climate outlook (*http://www.icpac.net/wp-content/uploads/GHACOF50_statement_english.pdf*).*

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