10 DAYS CLIMATOLOGICAL SUMMARY AND IMPACTS FOR THE THIRD DEKAD (21-30) OF SEPTEMBER 2018 TOGETHER WITH FORECAST FOR THE SECOND DEKAD (11-20) OF OCTOBER 2018

1.0 Introduction

This bulletin reviews the climatic conditions observed during the third dekad (21-30) of September 2018, and highlights the climate forecast for the second dekad (11-20) 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 for rainfall.

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 September 2018 western part of the equatorial sector and over much of southwestern and southern parts of the northern sector of the GHA recorded rainfall. Below normal to near normal rainfall was experienced in some areas in southwestern and central part of the northern sector as well as in southwestern and central part of the equatorial sector of the GHA. South eastern part of the northern sector several parts of eastern equatorial sector of the GHA experienced near normal or above normal rainfall.

Rainfall forecast for the second dekad of October 2018 shows that rainfall is expected over much of the southern part of the northern sector and western equatorial sector of the GHA.

Regions covering, western and central highlands of Ethiopia, central Kenya, southwestern Uganda, and western 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 third dekad (21-30) of September 2018

Figure 1, 2 and 3 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 southern part of the northern sector, and western part of equatorial sector of the GHA.

Sudan and Ethiopia: southern part of Sudan, and western and southern Ethiopia recorded rainfall of between 10mm and 50mm. with southwestern northwest Ethiopia recording rainfall of between 50 and 100mm. Southwestern part of Sudan, and western and central Ethiopia experienced below normal rainfall. South-central Sudan, and northern and southern Ethiopia experienced above normal rainfall.

Eritrea, Djibouti and Tanzania: most of these areas recorded less than 5mm of rainfall except for southwestern Eritrea, and northwestern and northeastern Tanzania which recorded between 5mm and 25mm of rainfall. Most of these areas experienced near normal rainfall.

Kenya and Somalia: Most of these areas recorded less than 5mm of rainfall except for western and coastal parts of Kenya, and northwestern and southern parts of Somalia. Most of these areas experienced near normal rainfall conditions.

Rwanda, Burundi, and Uganda: Several parts of Uganda, much of Rwanda, and western Burundi between 5mm and 25mm, northwestern and southeastern Uganda recorded between 25mm and 100mm of rainfall. Southern part of Uganda, western Rwanda, and northwestern Burundi experienced below normal rainfall.

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

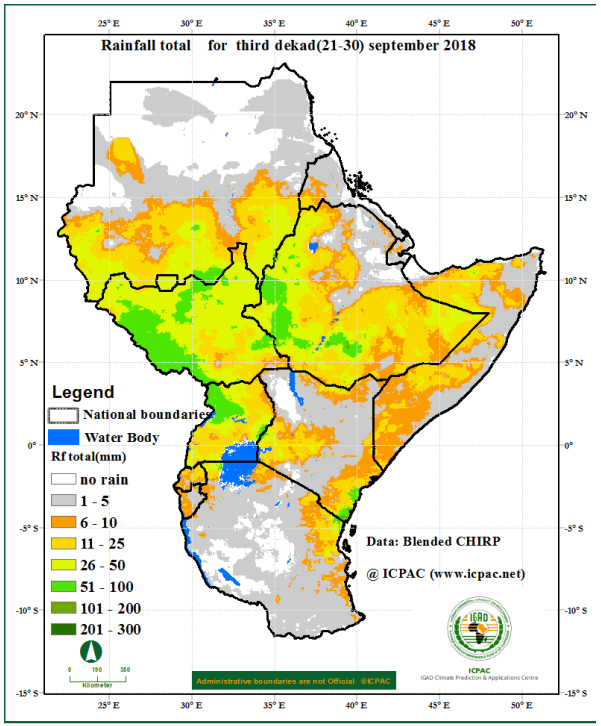

Figure 1: Total rainfall distribution during the third dekad (21-30) of September 2018. *(Data: ICPAC Blended CHIRP)*

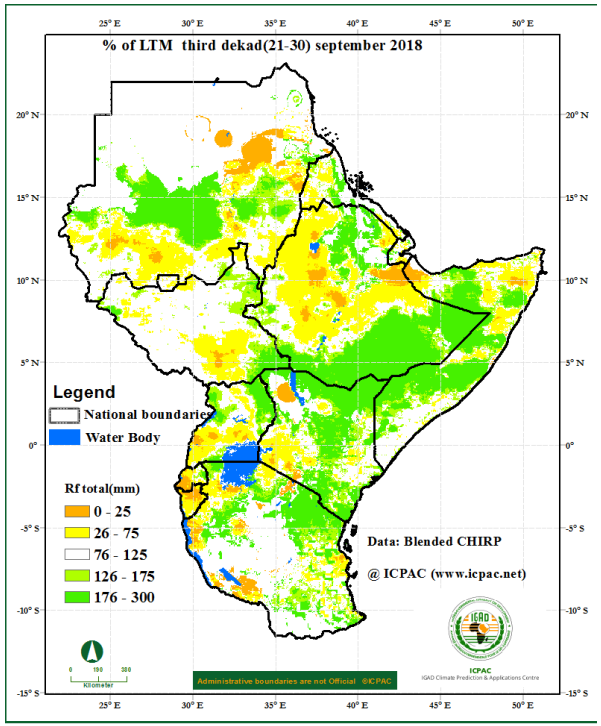

Figure 2: Percent of long term average rainfall for the third dekad (21-30)of September 2018*(Data: ICPAC Blended CHIRP)*

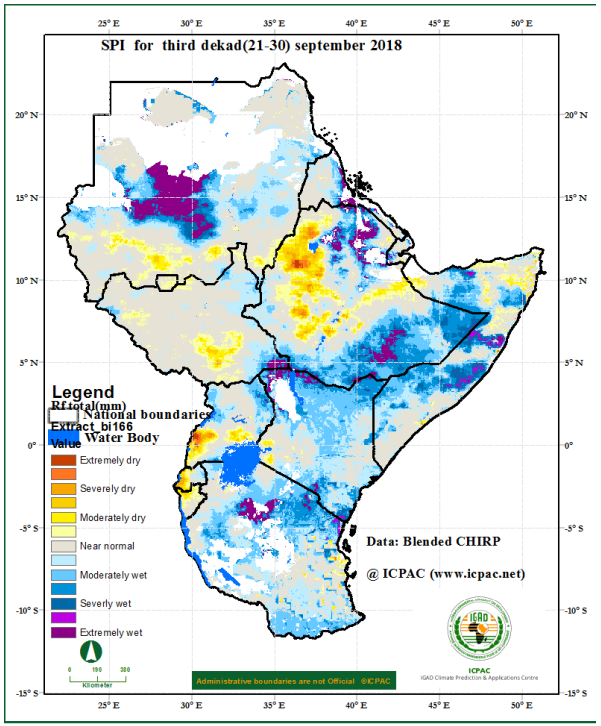

Figure 3: Standardized Precipitation Index (SPI) for third dekad (21-30) of September 2018*(Data: ICPAC Blended CHIRP)*

4.0 Vegetation condition indicators

Normalized Difference Vegetation Index Anomaly

The Normalized Difference Vegetation Index (NDVI) anomaly for the period 21st and 28th September, 2018 (Figure 4) indicates that:

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

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

Ethiopia, Somalia and Uganda: central parts of Ethiopia, and several parts of Uganda, showed deteriorative vegetative conditions as compared with the average. Improvement in vegetation conditions, was however seen in a few places in southern Somalia, southwest and eastern Uganda as well as north south and eastern parts of Ethiopia.

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

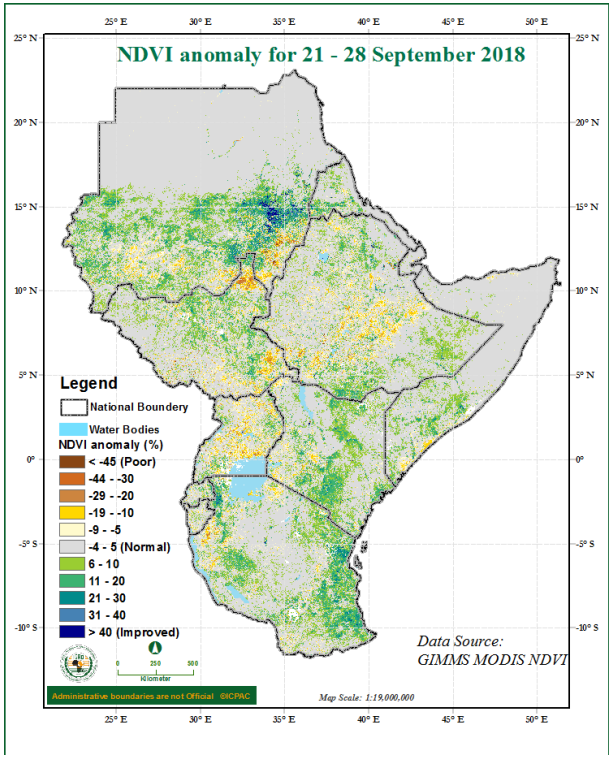

Figure 4: NDVI anomaly for the period between 21st and 28thSeptember 2018 (Data Source: USGS NASA**)**

5.0 Climate Forecast

Rainfall Forecast

The rainfall forecast for the second dekad of October 2018 in Figure 5 indicates that rainfall exceeding 10mm is likely to be observed over several parts of South Sudan, southern part of Sudan, southern Ethiopia, over much of Uganda, Rwanda, and Burundi, in northern western and central parts of Kenya, northern coastal and southern Somalia, and northwestern Tanzania. Some places in western South Sudan, Southern Ethiopia, northern Somalia, western Uganda, western parts of Kenya, and western Rwanda are likely to experience rainfall exceeding 25mm. A few places in southwestern South Sudan, Southern Ethiopia, western Uganda and western Rwanda are expected to record high rainfall amounts exceeding 200mm.

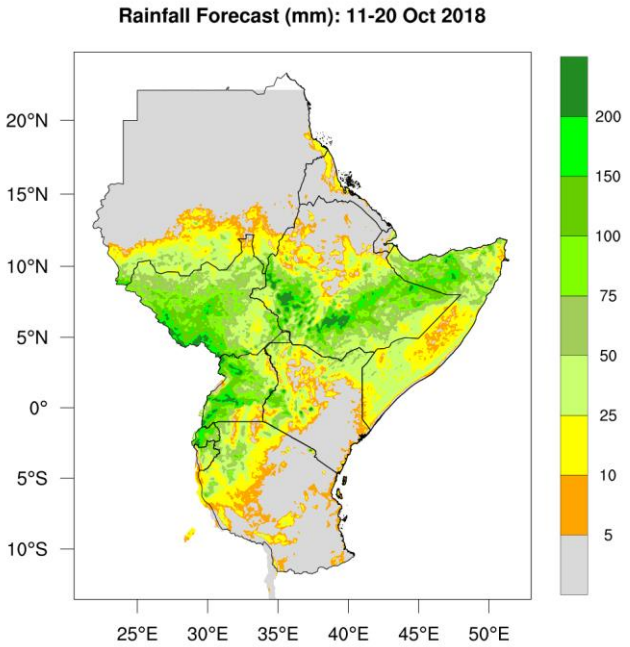

Figure 5: Precipitation forecast for the second dekad (11-20) of October 2018 (Source: WRFICPAC**)**

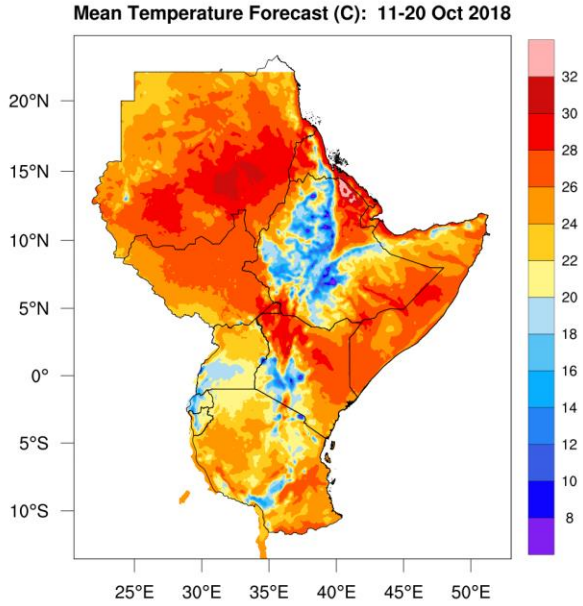

Figure 6: Forecast for average temperature for the second dekad (11-20) of October 2018 (Source: WRF-ICPAC)

Temperature Forecast

The forecast for the mean temperature for second dekad of October 2018 (Figure 6) indicates that cooler mean temperature, not exceeding 20^{o}C is expected in central and western highlands of Ethiopia, southwestern Uganda, western Rwanda, western Burundi, and central Kenya,. The rest of the GHA is expected to experience mean temperature greater

than 20°C. The warmest regions are expected to be in southern part of Sudan, central Eritrea and northwestern Kenya.

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 second dekad of October 2018, some areas in southern Ethiopia, northwestern Somalia, southwestern South Sudan, western Uganda and western Rwanda are likely to record high rainfall amounts which can lead to possible localised flooding and related impacts. The southern part of the northern sector and western part of the equatorial sector is likely to experienced continued good conditions for water and vegetative growth.

NB: *This ten days bulletin contributes towards the update of the September to December (SOND) 2018 climate outlook (*http://www.icpac.net/wp-content/uploads/GHACOF50_Final_Statement.pdf*).*

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