



## 10 DAY CLIMATOLOGICAL SUMMARY AND IMPACTS FOR THE FIRST DEKAD (1-10) OF NOVEMBER 2017 TOGETHER WITH FORECAST FOR THE THIRD DEKAD (21-30) OF NOVEMBER 2017

### 1.0 Introduction

This bulletin reviews the climatic conditions observed during the first dekad (1-10) of November 2017, and highlights the climate forecast for the third dekad (21-30) of November 2017 and the associated climate impacts over the Greater Horn of Africa (GHA).

*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° and 5° 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 first dekad (1-10) of November 2017 rainfall activity concentrated over much of the equatorial sector, and over the much of the southern sector of the of the Greater Horn of Africa (GHA).

The rainfall performance was near average to above average (1981-2010) over much of the GHA first dekad of November 2017.

Warmer than the average (2008-2016) maximum temperatures was recorded in areas area in southern parts of Sudan, over much of South Sudan, and in parts of southwestern Eritrea, northern Ethiopia, and eastern Kenya. Cooler than the average for maximum temperature was recorded over much of northern parts of Sudan, in parts of western and eastern Ethiopia, extending to central Somalia, in northwestern parts of Kenya, and in western, eastern and southern parts of Tanzania the first dekad of November 2017. Much of the rest of the GHA recording near the average maximum temperature. Warmer than the average (2008-2016) conditions for the minimum temperature was observed in southern and northeastern parts of Sudan, in northern and eastern parts of South Sudan, in parts of western Eritrea, northern and western Ethiopia, and northern Somalia.

Much of the rest of the GHA recorded near the average for the minimum temperature conditions, except for the northwestern part of Sudan and southwestern part of Tanzania that recorded cooler than the average for minimum temperature during the first dekad of November 2017.

Rainfall forecast for the third dekad (21-30) of November 2017 shows that rainfall is likely to be concentrated in much of the equatorial sector, the southern sector of the GHA. Much of the northern sector of the GHA is likely to record little or no rainfall.

Many areas of the GHA is likely to record warm average temperature exceeding 20°C except for northern part of Sudan, western and central highlands of Ethiopia, western and central Kenya, southern Uganda, in much of Rwanda and Burundi, and in northeastern parts of Tanzania which are likely to record average temperatures cooler than 20°C during the second dekad (11-20) November 2017.

---

### 3.0 Observed rainfall situation during the first dekad (1–10) of November 2017

Figure 1a shows the total rainfall distribution, Figure 1b shows the percent of the long-term average rainfall, and Figure 1c shows the standardized precipitation index (SPI) which is an indicator used to show the number of standard deviations that observed cumulative precipitation deviates from the climatological average, over the GHA region during the first dekad of November 2017. These are generated from the blending of (Climate Hazard Infra-Red Precipitation) CHIRP data and observed data.

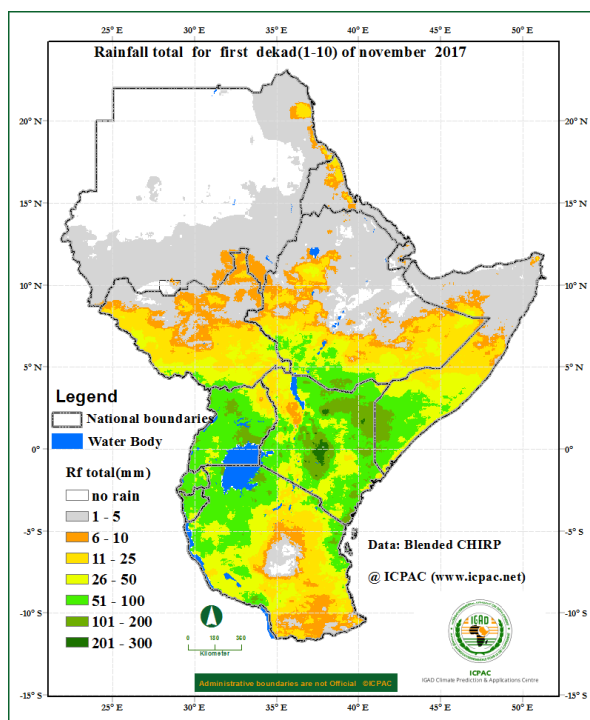
#### Rainfall Distribution and Severity

During the first dekad (1-10) of November 2017 the total rainfall greater than 200mm was recorded in central and northeastern parts of Kenya, and this present the maximum range of rainfall recorded. Southern part of Ethiopia, over much of Uganda, western, central, northeastern and coastal Kenya, in southern Somalia, Rwanda, Burundi, and in northwestern and northeastern coast of Tanzania recorded rainfall of between 51mm and 200mm. (Figure 1a). Much of Sudan, Eritrea, Djibouti, northern Somalia, northern parts of South Sudan, northern and central Ethiopia, and central Tanzania recorded less than 5mm of rainfall, while the rest of the GHA recording between 5mm and 50mm of rainfall.

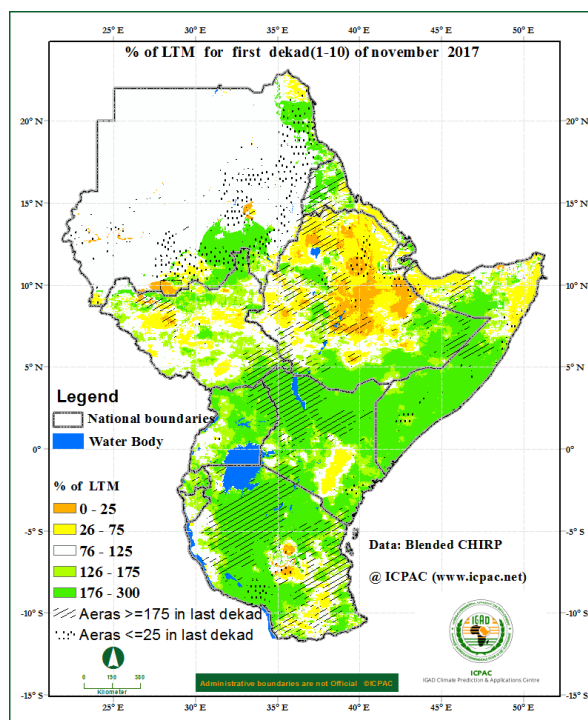
Rainfall of less than 75% of the long term average (1981-2010) was in several parts of Ethiopia, central Eritrea, northern parts of Somalia, in parts of South Sudan, southeastern Kenya and southeastern Tanzania. Rainfall conditions that exceed 126% of

average amount was observed in southern parts of Ethiopia; over much of Uganda, Rwanda, Kenya, central and southern Somalia, Tanzania, and northwestern Burundi. uch of eastern Rwanda and Tanzania. The rest of the GHA region recorded between 75% and 125% of the long term average rainfall (Figure 1b). A few areas in western Ethiopia, in southeastern Tanzania, northwestern South Sudan showed poorer performance in rainfall as compared with the previous dekad. A few areas in southern parts of Somalia, coastal Kenya and southwestern Tanzania showed improvement in rainfall performance.

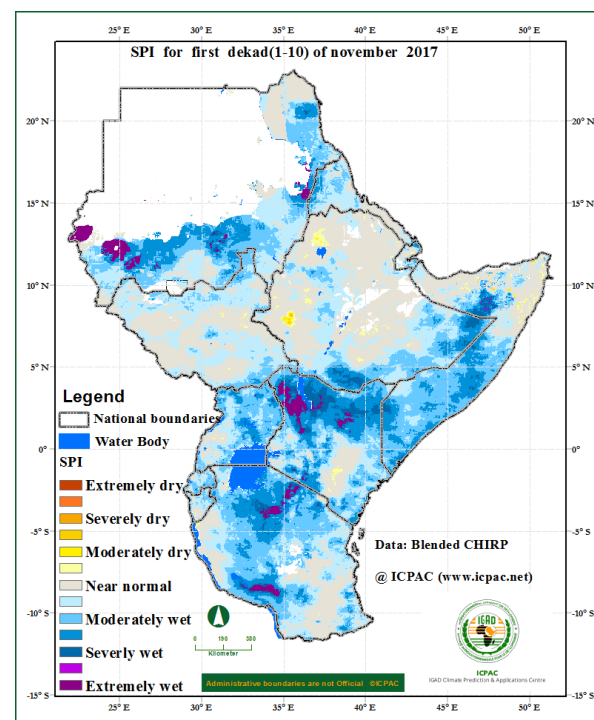
Standardized Precipitation Index (SPI) during the first dekad of November 2017 shows that much of the GHA recorded near normal to extremely wet rainfall conditions. The extremely wet rainfall conditions were experienced in northwestern and northern parts of Kenya, in northern and southwestern Tanzania



**Figure 1a: Rainfall distribution during the first dekade (1-10) of November 2017. (Data: Blended CHIRP)**

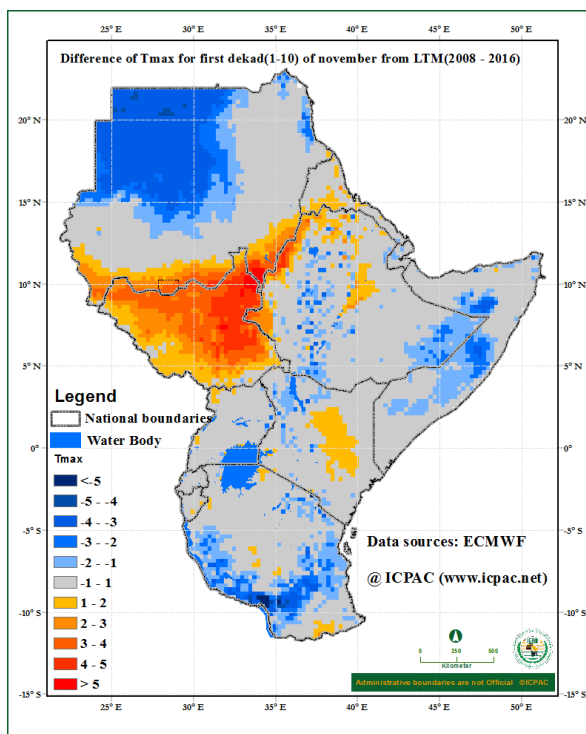


**Figure 1b: Percent of long term average rainfall for the first dekade (1-10) of November 2017 (Data: Blended CHIRP)**

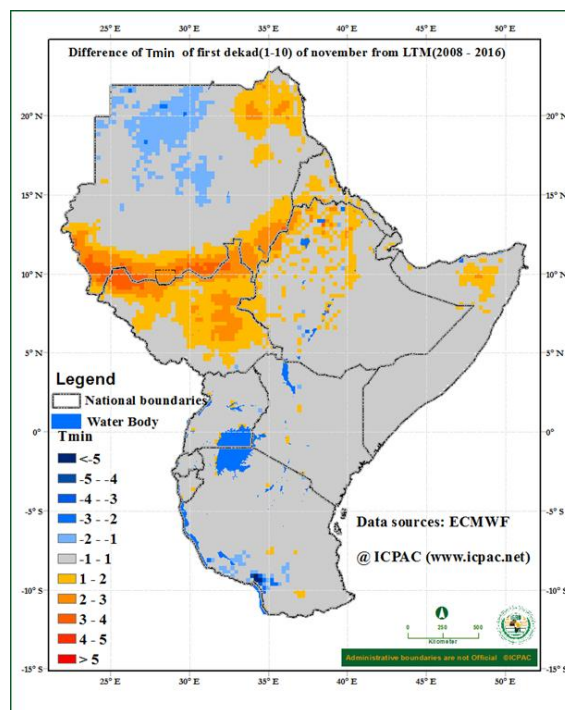


**Figure 1c: Standardized Precipitation Index (SPI) for first dekade (1-10) of November 2017 (Data: Blended CHIRP)**

## Maximum and Minimum Temperature Anomaly



**Figure 2: Maximum temperature difference from the average (2008-2016) for the first dekad (1-10) of November 2017(Data Source: ECMWF)**



**Figure 3: Minimum temperature difference from the average (2008-2016) for the first dekad (1-10) of November 2017( Data Source: ECMWF)**

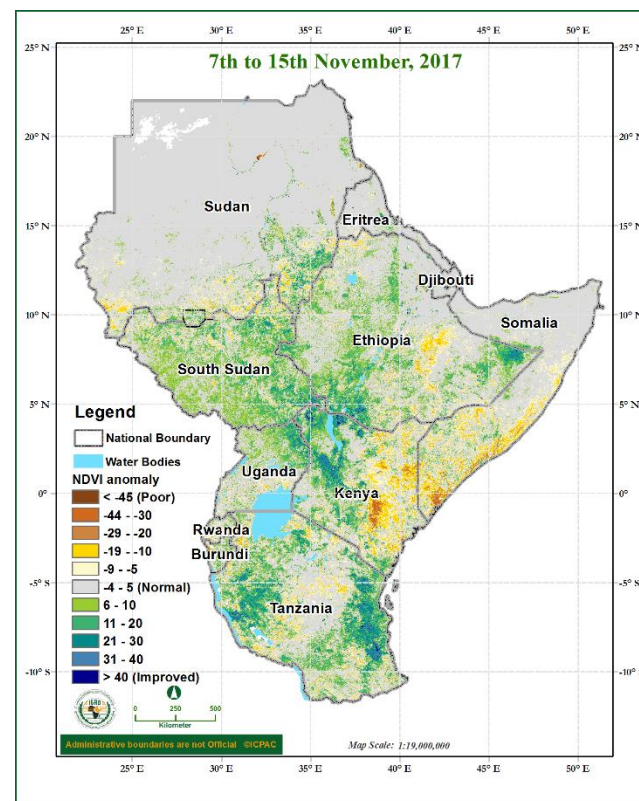
Conditions warmer than the average for maximum temperature was mainly observed over southern parts of Sudan; in much of South Sudan; in parts of southwestern Eritrea, northern Ethiopia and eastern Kenya during the first dekad (1-10) of November 2017. The northern part of Sudan, and in a few areas in western and eastern Ethiopia, central Somalia, northwestern Kenya, and in western and northeastern parts of Tanzania recorded cooler than the average condition for maximum temperature. The rest of the region recorded near the average conditions for the maximum temperature (Figure 2)

In the southern parts of Sudan, northern and eastern South Sudan, western parts of Eritrea, north and western parts of Ethiopia, and northern part of Somalia, conditions warmer than the average for minimum temperature was recorded during first dekad of November 2017. Much of the rest of the GHA region recorded minimum temperature near the average conditions except for the northwestern parts of Sudan (Figure 3).

## 4.0 Vegetation condition indicators

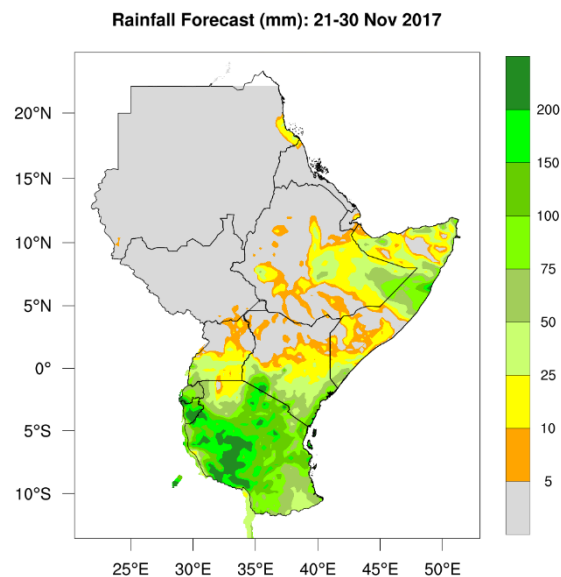
### Normalized Difference Vegetation Index Anomaly

The Normalized Difference Vegetation Index (NDVI) anomaly for the period between 7<sup>th</sup> and 15<sup>th</sup> November 2017 (Figure 4) indicates that a few areas especially in eastern Ethiopia, eastern Kenya, and in central and Southern parts of Somalia experienced deterioration in vegetative conditions as compared to the long term average vegetative conditions. Southeastern part of Sudan; central, eastern, and southwest Ethiopia; over much of South Sudan, northern and eastern Uganda, western and central Kenya, and in northwestern and eastern parts of Tanzania showed improvement in vegetative conditions as compared to the long term average vegetative conditions. The rest of the GHA showed little or no change in vegetation conditions compared to the long-term average of the same period.

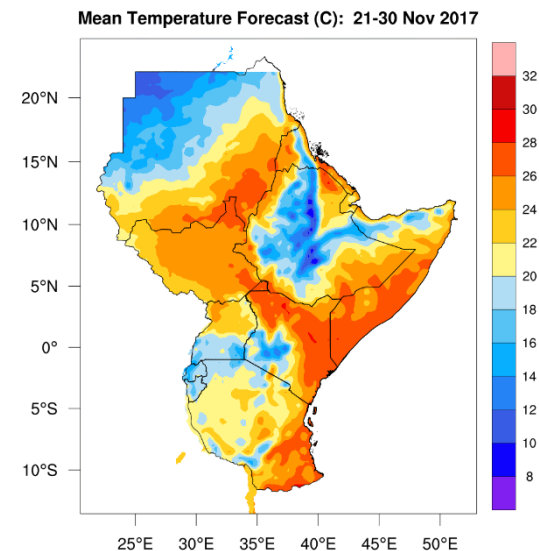


**Figure 4: NDVI anomaly for the period between 7<sup>th</sup> and 15<sup>th</sup> November 2017 (Data Source: USGS NASA)**

## 5.0 Climate Forecast



**Figure 5: Precipitation forecast for the third dekad (21-30) of November 2017** (Source: WRF-ICPAC)



**Figure 6: Forecast for average temperature for the third dekad (21-30) of November 2017** (Source: WRF-ICPAC)

### Rainfall Forecast

The rainfall forecast for the third dekad (21-30) of November 2017 in Figure 5 indicates that rainfall is likely to be experienced over parts eastern parts of Ethiopia, central Somalia, southern and coastal Kenya, southern Uganda, and in much of Rwanda, Burundi, and Tanzania. The rest of the GHA region is likely to experience little amount of rainfall or remain generally dry during the third dekad (21-30) of November 2017.

### Temperature Forecast

The average temperature forecast for third dekad (21-30) of November 2017 (Figure 6) indicates the likelihood of recording cool average temperature lower than 20°C in northern parts of Sudan, central and western Ethiopia, northern part of Somalia, southern Uganda, western and central parts of Kenya, in much of Rwanda and Burundi, and in parts of southwestern and north eastern Tanzania. The rest of the GHA is likely to record average temperature higher 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 associated with observed climate conditions

During the first dekad (1-10) of November 2017 the prevailing climate conditions have shown good rainfall performance which continue to improve the water and vegetative conditions, resulting into improved pasture availability, and prospects of good crop and livestock productivity especially in the equatorial sector, southern-central parts of the northern sector and northwestern parts of the southern sector of the GHA. A few areas in Rwanda and Sudan, Ethiopia, Kenya reported instances of flooding that led to disruption of livelihood, and reported cases of climate related diseases. Some areas continue to report effects of the dry conditions especially in the eastern and western parts of the equatorial sector, as well as parts of the northern sector of the GHA, and these continued to extend the water stress level, and reduced pasture performance, and increase in climate related diseases.

From the climate forecast for the third dekad of November 2017 much of the equatorial sector and the southern sector of the GHA are likely to have sufficient rainfall performance, leading to improved performance in water and pasture resources, and crop and livestock productivity. Areas in southwestern Rwanda, southwestern Kenya, southern Rwanda, and western parts of Tanzania are likely to experience high rainfall amounts which may result into localised flooding.

**NB:** This ten day bulletin contributes towards the update of the November-December- (SOND) seasonal outlook provided during the 47th Greater Horn of Africa Climate Outlook Forum (GHACOF47) in Zanzibar, Tanzania (<http://www.icpac.net/index.php/climate-monitoring/seasonal-forecasts.html>).