



## 10 DAY CLIMATOLOGICAL SUMMARY AND IMPACTS FOR THE SECOND DEKAD (11-20) OF AUGUST 2017 TOGETHER WITH FORECAST FOR THE FIRST DEKAD (01-10) OF SEPTEMBER 2017

### 1.0 Introduction

In this bulletin, the climatic conditions observed during the second dekad (11-20) of August 2017 over the Greater Horn of Africa (GHA) are reviewed and the associated impacts highlighted. The climate forecast for the first dekad (01-10) of September 2017 is also presented.

*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 second dekad (11-20) of August 2017 rainfall activity concentrated in the northern sector except for the northern and southeastern parts of the northern sector, also parts of western equatorial sector of the Greater Horn of Africa (GHA) experiences some rainfall. Much of the rest of the GHA recorded little or no rainfall.

The rainfall was above average for most areas in the northern sector except for the southern parts of the northern sector. Much of the south central parts of the northern sector, the western parts of the equatorial sector, as well as the eastern parts of the southern sector of the GHA experienced below average rainfall during the second dekad of August 2017. Moderately dry to extremely dry rainfall conditions were mainly experienced in southeastern South Sudan, in parts of central and southwestern Ethiopia, in northeastern and southwestern Uganda, and in western parts of Kenya during this period.

Much of the GHA recorded near average warmer than the average (2008-2016) maximum temperatures, except for south western and central parts of the northern sector, northwestern equatorial sector, and in several

places in the central equatorial sector and southwest of the northern sector of the GHA during the second dekad of August 2017. Near average (2008-2016) minimum temperature conditions were observed in much of southern and south eastern parts of the northern sector, as well as the northern parts of the equatorial sector of the GHA. The rest of the GHA including much of the northern parts of the northern sector, southern and eastern parts of the equatorial sector, and the southern sector of the GHA recorded above the average for the minimum temperature conditions during the same period.

Rainfall forecast for the first dekad (01-10) of August 2017 shows that rainfall is likely to be concentrated in western and central parts of the northern sector, as well as northwestern, eastern equatorial sector of the GHA. The rest of the GHA is likely to record little or no rainfall.

Much of the northern sector except for western and central Ethiopia, in northern and eastern parts of the equatorial sector, and eastern and northwestern parts of the southern sector of the GHA are likely to record warmer average temperature greater than 20°C.

---

### 3.0 Observed rainfall situation during the second dekad (11–20) of August 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 second dekad of August 2017.

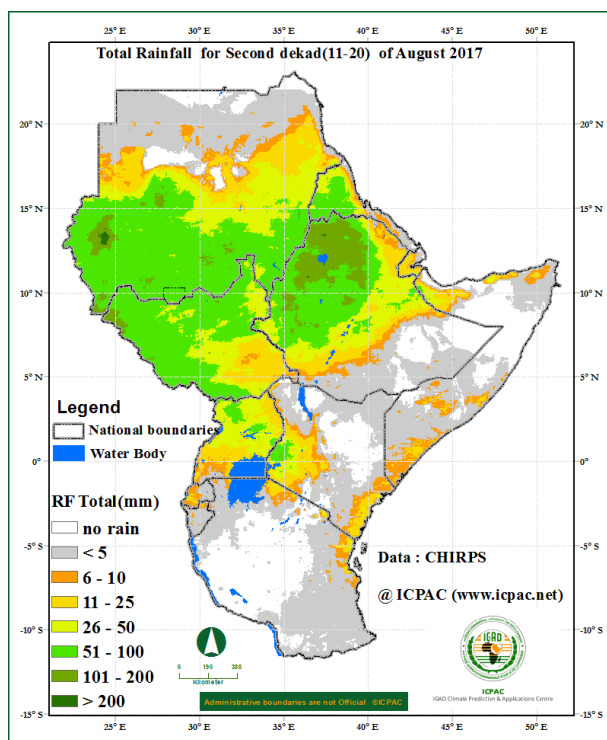
#### Rainfall Distribution and Severity

During the second dekad (11–20) of August 2017, in areas covering much of southern parts of Sudan, South Sudan, southwestern Eritrea, north, west and central Ethiopia, much of Uganda, western and coastal Kenya, southeastern Somalia, western Rwanda, as well as northeastern coast of Tanzania total rainfall amount greater than 5mm was recorded (Figure 1a). Rainfall amounts greater than 50mm was recorded around southern part of Sudan, northwestern and central Ethiopia, in southwestern Eritrea, north, and west of South Sudan, and in northwest, central and southeastern parts of Uganda, as well as in western Kenya. More than 100mm of rainfall was recorded in northwestern Ethiopia, in isolated areas southwest and south of Sudan and northwest of South Sudan. The rest of the GHA recorded less than 5mm of rainfall.

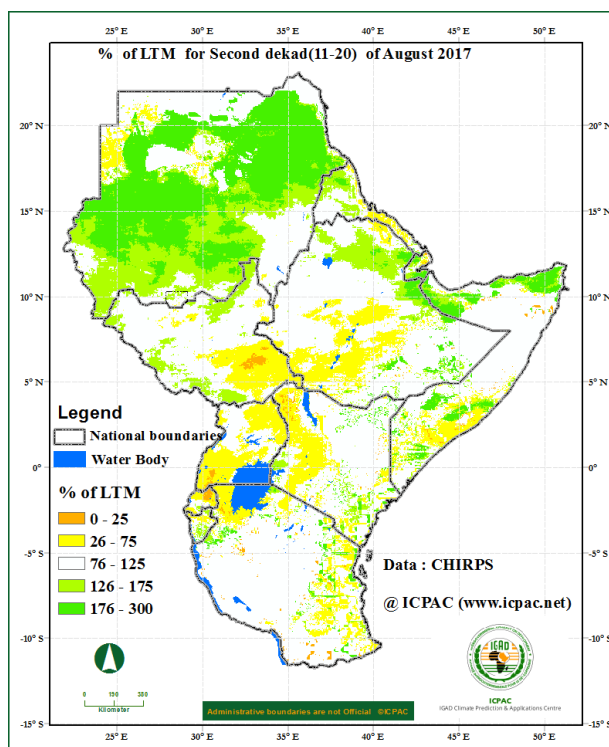
Much of Sudan, western Eritrea, northeastern Ethiopia, parts of Djibouti, northern Somalia; and in a few areas in north and west of South Sudan, southern Somalia, southeastern Uganda, and western and coastal parts of Kenya, recorded rainfall that is more than 125% of the long term average (1981–2010) (Figure 1b). Rainfall

conditions less than 75% of the long term average was experienced mainly in southeastern parts of South Sudan, southern Eritrea, northeastern Djibouti, central to southwestern parts of Ethiopia, in northeast and southwestern parts of Uganda in western parts of Kenya, in parts of Southern Somalia, northern Rwanda, and northern and eastern parts of Tanzania. The rest of the GHA region recorded between 75% and 125% of the long term average rainfall (Figure 1b), during the second dekad of August 2017.

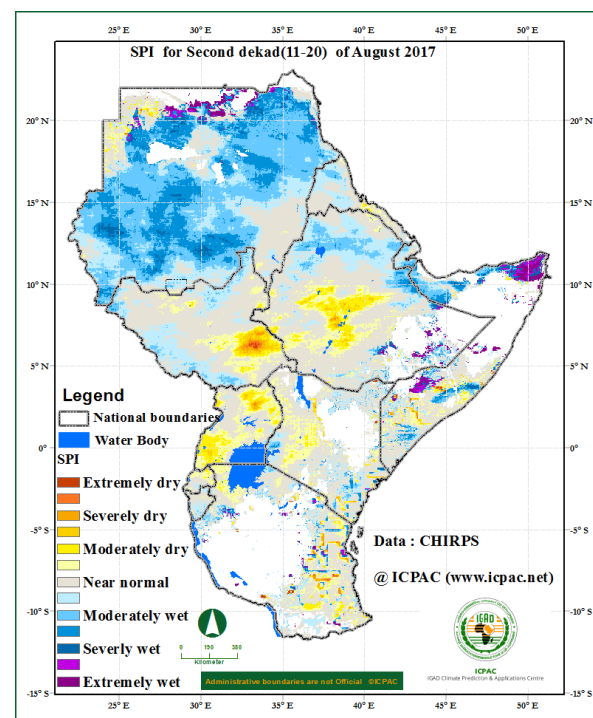
Standardized Precipitation Index (SPI) during the second dekad of August 2017 shows that much of Sudan; parts of western Eritrea, northern Ethiopia, Djibouti, northern and central Somalia, northern and western South Sudan, southeastern Uganda, and northern Somalia recorded moderately wet to extremely wet rainfall conditions. Moderately dry to severely dry rainfall condition (Figure 1c) was experienced mainly in southeastern part of South Sudan, in central and southeastern Ethiopia, over much of northeast and southern Uganda, and western Kenya. The rest of the GHA experienced near normal conditions



**Figure 1a: Rainfall distribution during the second dekade (11-20) of August 2017. (Data: CHIRPS satellite estimate)**

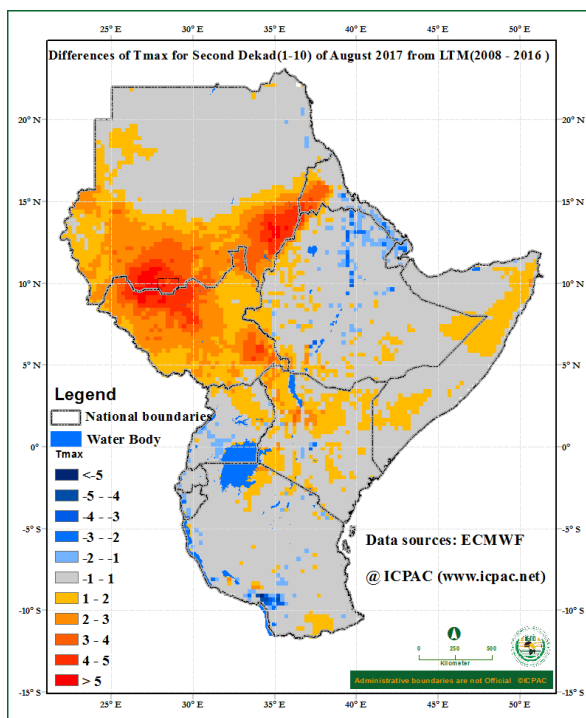


**Figure 1b: Percent of long term average rainfall for the second dekade (11-20) of August 2017 (Data: CHIRPS satellite estimate)**

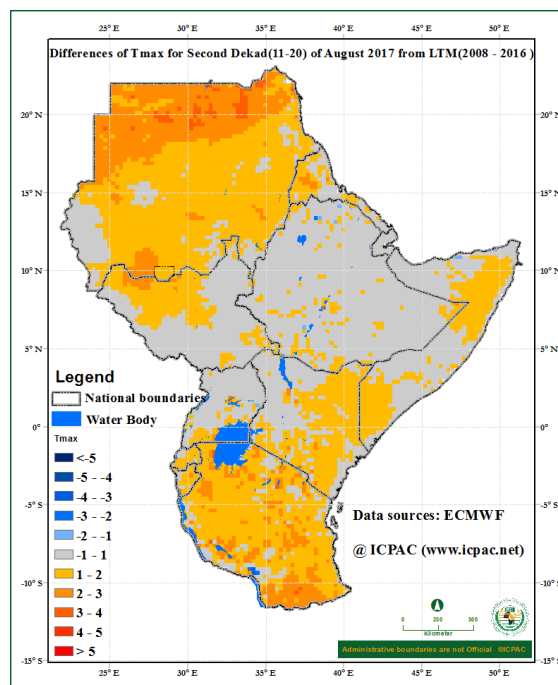


**Figure 1c: Standardized Precipitation Index (SPI) for second dekade (11-20) of August 2017 (Data: CHIRPS satellite estimate)**

## Maximum and Minimum Temperature Anomaly



**Figure 2: Maximum temperature difference from the average (2008-2016) for the second dekad (11-20) of August 2017 (Data Source: ECMWF)**



**Figure 3: Minimum temperature difference from the average (2008-2016) for the second dekad (11-20) of August 2017 (Data Source: ECMWF)**

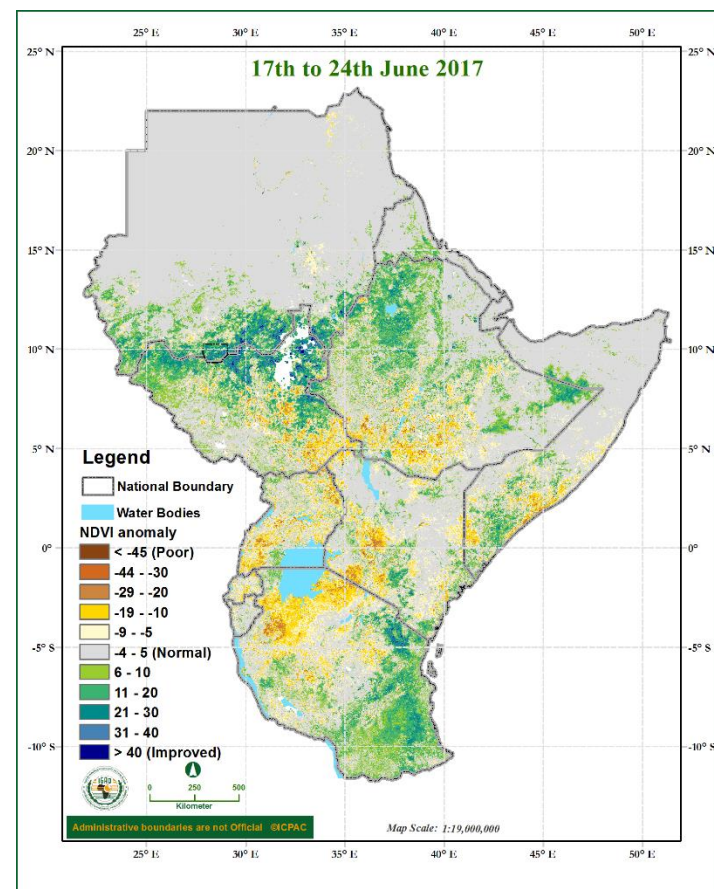
Conditions warmer than average for maximum temperature was observed over much of southern parts of Sudan, South Sudan, southwestern Eritrea; in parts of northeastern and southwestern Somalia, northern, and northeastern Uganda; in several parts of north, central and western Kenya; and in a few areas north and south of Tanzania during the second dekad of August 2017. The rest of the region recorded near the average maximum temperature (Figure 2) except for parts of southern Eritrea, parts of northern Ethiopia, and in southwestern Tanzania which recorded below the long term average for maximum temperature.

Much of Sudan, northern South Sudan, western and central Eritrea; in parts of northeastern and southern Somalia; in areas in eastern, southern and western parts of Kenya, southern Uganda; and in much of Rwanda, Burundi, and Tanzania, recorded minimum temperature warmer than the average conditions during the second dekad of August 2017. The rest of the GHA region recorded minimum temperature near the average conditions (Figure 3).

## 4.0 Vegetation condition indicators

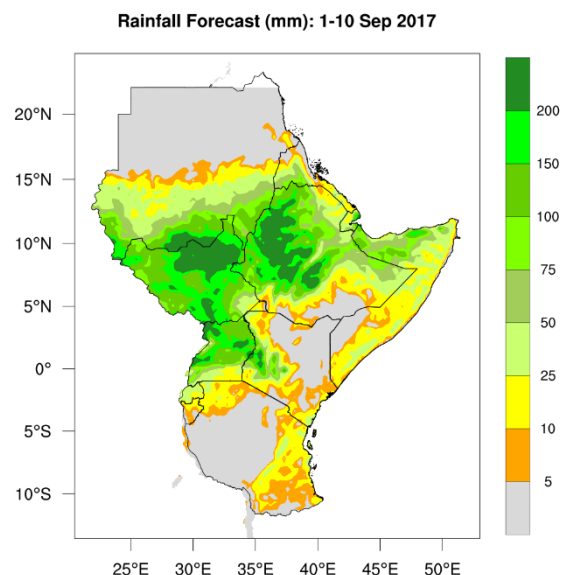
### Normalized Difference Vegetation Index Anomaly

The Normalized Difference Vegetation Index (NDVI) anomaly for the period between 17<sup>th</sup> and 24<sup>th</sup> August 2017 (Figure 4) indicates that vegetative conditions showed improvement as compared to the long term average vegetative conditions in southern part of Sudan, in northern and northeastern South Sudan, in southwest of Eritrea; in north and central Ethiopia, in parts of Southern Somalia, in parts of central and coastal Kenya, and in eastern and southern Somalia. Deterioration in vegetative conditions as compared to the long term average vegetative conditions was observed mainly in southeastern part of South Sudan, southern part of Ethiopia, in eastern and southern Uganda, western and central parts of Kenya, in southeastern part of Somalia, in several parts of Rwanda, and in northern parts of Tanzania. The rest of the GHA showed little or no change in vegetation conditions compared to the long-term average of the same period.

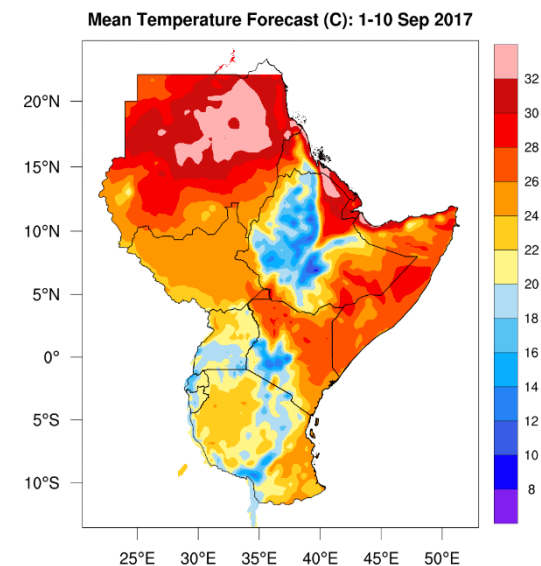


**Figure 4: NDVI anomaly for the period between 17<sup>th</sup> and 24<sup>th</sup> August 2017 (Data Source: USGS NASA)**

## 5.0 Climate Forecast



**Figure 5: Precipitation forecast for the first dekad (01-10) of September 2017 (Source: WRF-ICPAC)**



**Figure 6: Forecast for average temperature for the first dekad (01-10) of September 2017 (Source: WRF-ICPAC)**

### Rainfall Forecast

The rainfall forecast for the first dekad (01-10) of September 2017 in Figure 5 indicates that rainfall is likely to be concentrated over much of the southern part of Sudan, South Sudan, southwestern Eritrea, in much of Ethiopia except for the southern parts, in some parts of Djibouti, in much of Uganda, western, central and coastal Kenya, southeastern Somalia extending to central and northern Somalia, in much of Rwanda, northern Burundi, and in northern and eastern parts of

Tanzania. The rest of the GHA region likely to experience little rainfall or remain generally dry during the first dekad (01-10) of September 2017.

### Temperature Forecast

The average temperature forecast for first dekad (01-10) of Augsut 2017 (Figure 6) indicates the likelihood of cool average temperature less than 20°C is likely to be recorded in central and western Ethiopia, southern Uganda, western and central parts of Kenya, in much of western



---

Rwanda and Burundi, and in southwestern, central and northeastern 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 second dekad (11-20) of August 2017 the prevailing climate conditions some areas in the northern sector and western equatorial sector have shown continued improvement in water and vegetative conditions which have eased water stress, improved pasture availability, and prospects of good crop and livestock productivity have been reported. A few areas in the northern sector reported instances of flooding that led to disruption of livelihood. Some areas continue to report effects of the dry conditions in especially in the eastern equatorial sector, and southeastern parts of the northern sector of the GHA, and these have led to, water stress, poor prospects of crop and livestock productivity, and increase in climate related diseases.

From the climate outlook for the first dekad of September 2017 much of the northern western parts of the equatorial sector as well as much of the western, central and southeastern parts of the northern sector of the GHA are likely to have sufficient rainfall performance, which may lead to improved water and pasture resources, some areas are also likely to experience flooding conditions especially in some areas of Sudan, northwestern Ethiopia and northern South Sudan.

---

**NB:** This ten day bulletin contributes towards the update of the August-August-September-September (JJAS) seasonal outlook provided during the 46th Greater Horn of Africa Climate Outlook Forum (GHACOF46) in Khartoum, Sudan (<http://www.icpac.net/index.php/climate-monitoring/seasonal-forecasts.html> ).

For more information contact  
ICPAC P.O. Box 10304, 00100 Nairobi, KENYA; Tel: +254-020-3514426  
E-mail: [director@icpac.net](mailto:director@icpac.net) Website: [www.icpac.net](http://www.icpac.net)

*DISCLAIMER: The designations employed and the maps do not imply the expression of any opinion whatsoever on the part of IGAD or cooperating agencies concerning the legal status of any region, area of its authorities, or the delineation of its frontiers or boundaries.. ICPAC does not claim responsibility for the use of the product by another, however due reference should be accorded.*