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10 DAY CLIMATOLOGICAL SUMMARY AND IMPACTS FOR THE FIRST DEKAD (1-10) OF AUGUST 2017 TOGETHER WITH FORECAST FOR THE THIRD DEKAD (21-31) OF AUGUST 2017

1.0 Introduction

In this bulletin, the climatic conditions observed during the first dekad (01-10) of August 2017 over the Greater Horn of Africa (GHA) are reviewed and the associated impacts highlighted. The climate forecast for the third dekad (21-31) of August 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 -5º and 5º 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 (01-10) of August 2017 rainfall activity concentrated in the northern sector, and in parts of western equatorial sector of the Greater Horn of Africa (GHA) except for the northern and southeastern parts of the northern sector. Much of the rest of the GHA recorded little or no rainfall.

The rainfall was near average to below average most areas in the GHA region. Except for central and northern parts of the northern sector, and a few areas in central equatorial sector of the GHA which experienced above average rainfall conditions during the first dekad of August 2017.

Much of the northern sector of GHA recorded warmer than the average (2008-2016) maximum temperatures, except for south-central and southeastern parts of the northern sector. Much areas in the equatorial and southern sector of the GHA recorded near average rainfall during the first dekad of August 2017. Warmer than the average (2008-2016) minimum temperature conditions were observed in much of western and northern parts of the northern sector, as well as in a afew isolated areas in central equatorial sector as well as western southern sector of the GHA. Much of the rest of the GHA including recorded near the average for the minimum temperature conditions during the same period.

Rainfall forecast for the third dekad (21-31) 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 first dekad (01-10) 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 first dekad of August 2017.

Rainfall Distribution and Severity

During the first dekad (01-10) 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, as well as southeastern Somalia rainfall amount greater than 5mm was recorded (Figure 1a). Rainfall amounts greater than 50mm was recorded around southwestern and southeastern parts of Sudan, western and central Ethiopia, north and west parts of South Sudan, northern and southeastern parts of Uganda, as well as in western Kenya. More than 100mm of rainfall was recorded in parts of western and central Ethiopia as well as in isolated areas located in southwest of Sudan and northwest of South Sudan.. The rest of the GHA recorded less than 5mm of rainfall.

Areas extending from west to east of Sudan; in parts of southeast of Sudan, central Eritrea, western and southwestern Ethiopia, southeastern Uganda, western, central and north eastern Kenya, recorded rainfall that was greater than 125% of the long term average (1981-2010). Less than 75% of the long term average rainfall was recorded in southern and easter parts of Sudan, western and southern Eritrea; in much of Djibouti, southern and northeastern parts of South Sudan, in northeastern Ethiopia; in parts of northern and southern Somalia, northwestern and coastal Kenya, southwestern Uganda, eastern and north western Tanzania; and in much of Rwanda and Burundi (Figure 1b). The rest of the GHA region recorded between 75% and 125% of the long term average rainfall (Figure 1b), during the first dekad of August 2017.

Standardized Precipitation Index (SPI) during the first dekad of August 2017 shows that much of the GHA recorded near average rainfall conditions. However a few areas in western and central Sudan, western Ethiopia, south eastern Uganda, western and central Uganda recorded moderately wet to severely wet rainfall conditions; and some areas south of Sudan, western and central Eritrea, north, western and eastern parts of South Sudan, southern Rwanda, northwester Burundi, as well as eastern Tanzania recorded moderately dry to severely dry rainfall conditions (Figure 1c)

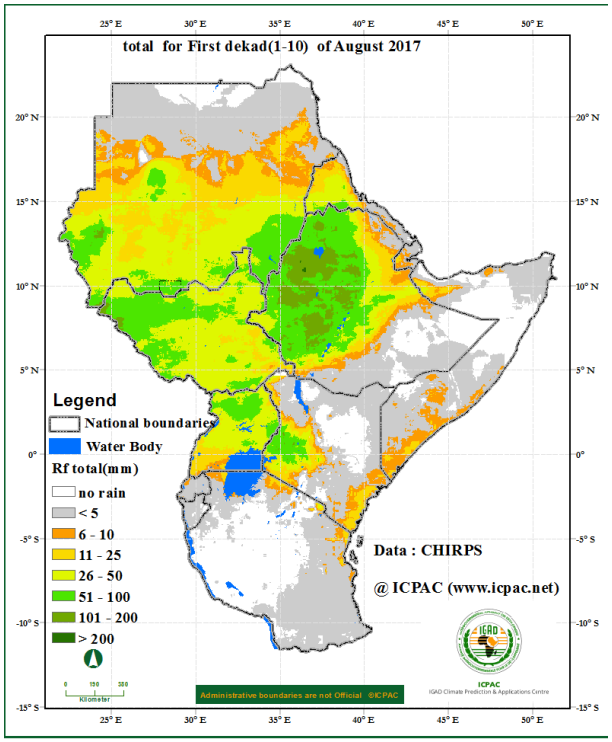

Figure 1a: Rainfall distribution during the first dekad (01-10) of August 2017. *(Data: CHIRPS satellite estimate)*

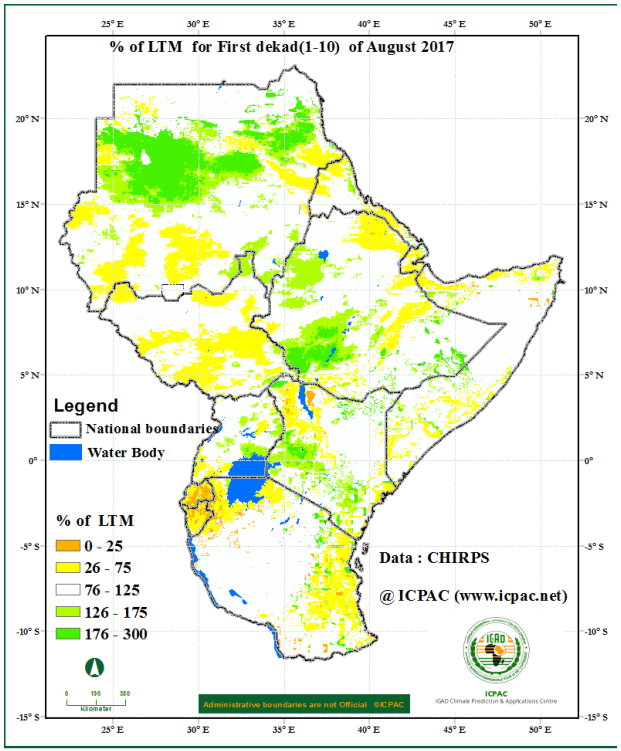

Figure 1b: Percent of long term average rainfall for the first dekad (01-10) of August 2017 *(Data: CHIRPS satellite estimate)*

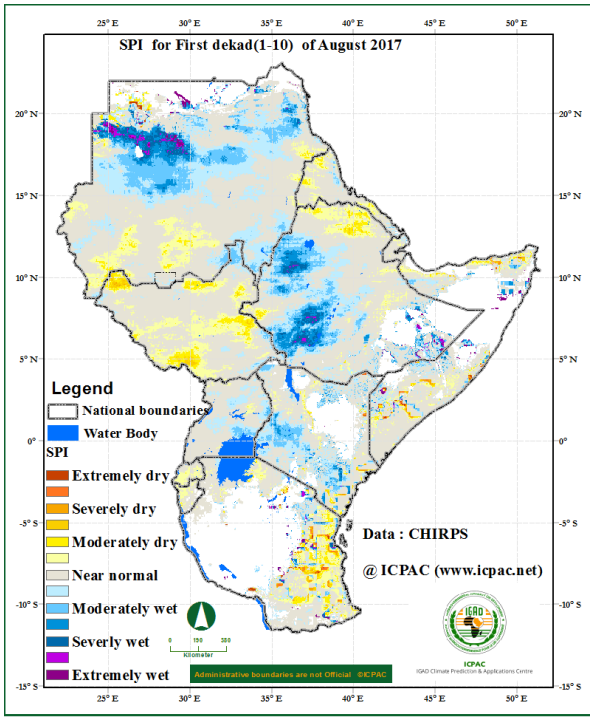

Figure 1c: Standardized Precipitation Index (SPI) for first dekad (01-10) of August 2017 *(Data: CHIRPS satellite estimate)*

Maximum and Minimum Temperature Anomaly

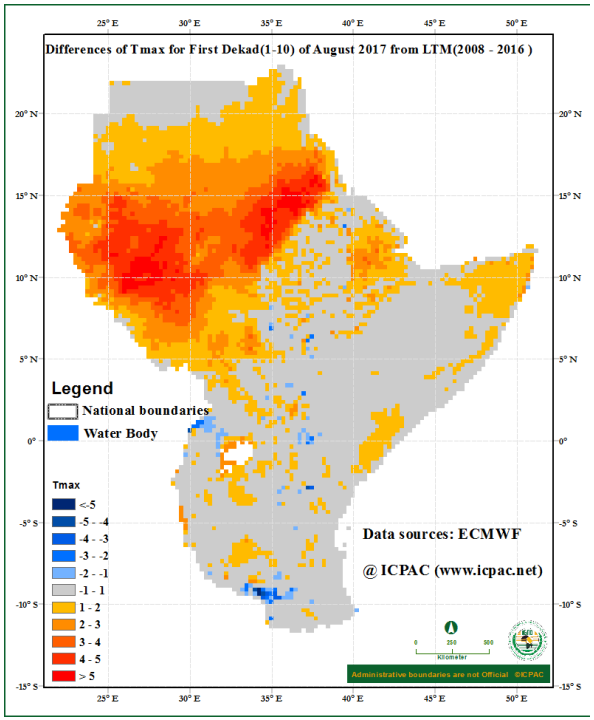

Figure 2: Maximum temperature difference from the average (2008-2016) for the first dekad (01-10) of August 2017*(Data Source: ECMWF)*

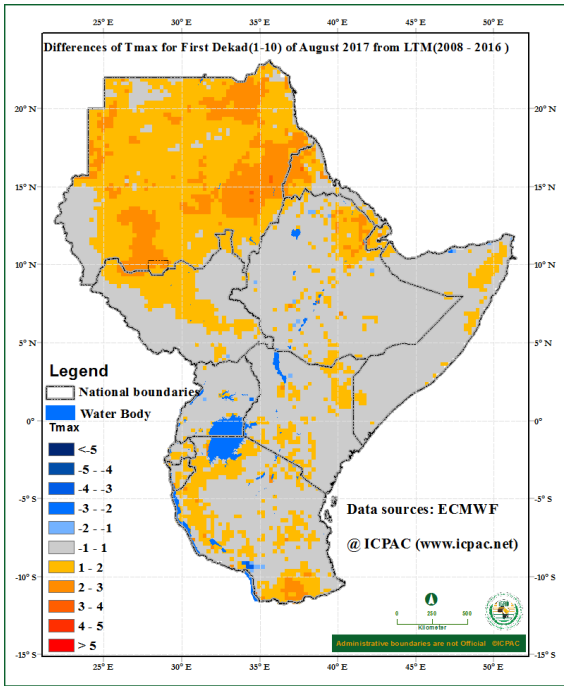

Figure 3:Minimum temperature difference from the average (2008-2016) for the first dekad (01-10) of August 2017*((Data Source: ECMWF)*

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

Much of Sudan, Djibouti, northern and central South Sudan, western and southern Eritrea; in parts of northeastern Somalia; in areas in northeastern, central and western parts of Kenya; and in much of Rwanda, Burundi, and north, western and southern Tanzania, recorded minimum temperature warmer than the average conditions during the first 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 12th and 19th August 2017 (Figure 4) indicates that vegetative conditions showed improvement as compared to the long term average vegetative conditions in northern and eastern South Sudan, central parts of Ethiopia; in parts of central and northern coast of Kenya, northern and eastern Uganda; and in eastern and southern Tanzania. Deterioration in vegetative conditions as compared to the long term average vegetative conditions was observed mainly in southeastern part of Sudan, southwestern Eritrea, eastern margins of central Ethiopia, southeastern Somalia, southern Uganda, western parts of Kenya, in much of Rwanda, and in northern parts of Tanzania. Much of the rest of the GHA showed little or no change in vegetation conditions compared to the long-term average of the same period.

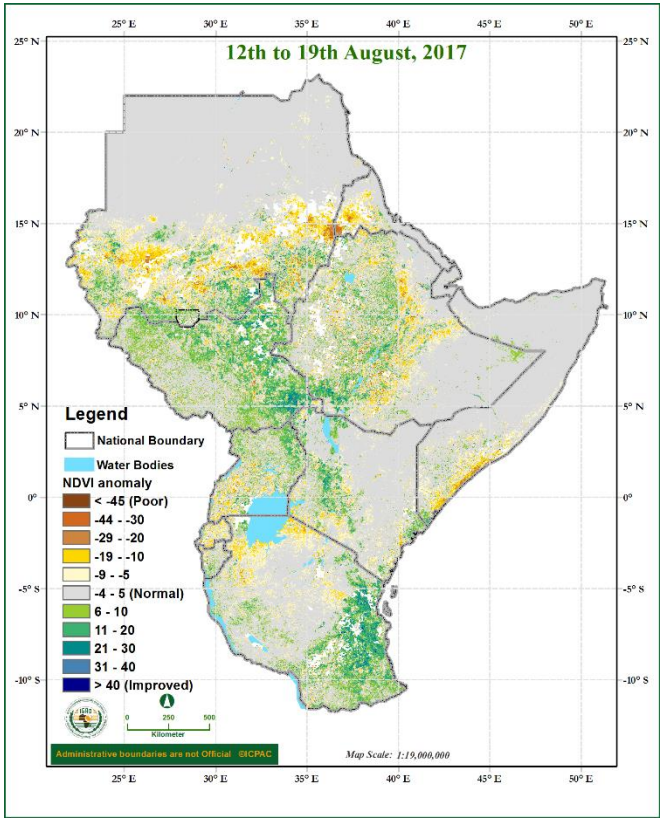

Figure 4: NDVI anomaly for the period between 17th and 24th August 2017 (Data Source: USGS NASA)

5.0 Climate Forecast

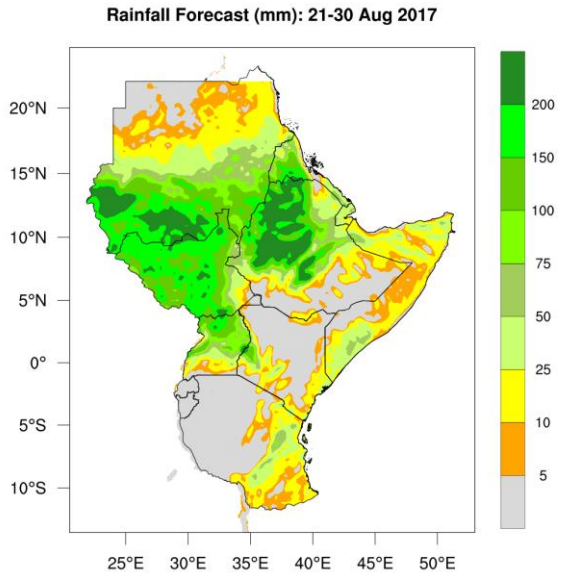

Figure 5: Precipitation forecast for the third dekad (21-31) of August 2017 (Source: WRF-ICPAC)

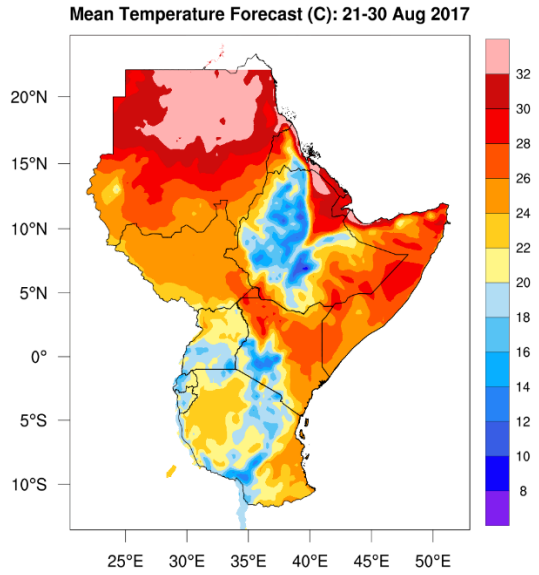

Figure 6: Forecast for average temperature for the third dekad (21-31) of August 2017 (Source: WRF-ICPAC)

Rainfall Forecast

The rainfall forecast for the third dekad (21-31) of August 2017 in Figure 5 indicates that rainfall is likely to be concentrated over much of the southern part of Sudan, South Sudan, western and southern Eritrea, north, western and central Ethiopia; in some parts of Djibouti, northern , eastern and southeastern Somalia, western, central and coastal Kenya, and in eastern and southern parts of Tanzania; and in much of Uganda except for the southwestern parts. The rest of the GHA region likely to experience little rainfall or remain generally dry during the third dekad (21-31) of August 2017.

Temperature Forecast

The average temperature forecast for third dekad (21-31) of August 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, 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 first dekad (01-10) 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 third dekad of August 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-August-August (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).*