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

1.0 Introduction

In this bulletin, the climatic conditions observed during the second dekad (11-20) of July 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 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 second dekad (11-20) of July 2017 rainfall activity was mainly experienced over southwestern and central parts of the northern sector, in northwestern, western parts of the equatorial sector of the Greater Horn of Africa (GHA). Much of the northern and southeastern parts of the northern sector, eastern and southern parts of the equatorial sector, and much of the southern sector of the GHA recorded little or no rainfall.

The rainfall was near average for most areas except for western, central-north and eastern parts of the northern sector, southwestern and eastern parts of the equatorial sector as well as eastern parts of the southern sector, which recorded below average (1981-2010) rainfall; and also central and south-central parts of the northern sector, as well as central and western parts of the equatorial sector which recorded above average rainfall during the second dekad of July 2017.

Much of the GHA recorded warmer than the average (2008-2016) maximum temperatures, except for northern and southeastern parts of the northern sector, western and central parts of the equatorial sector and a few areas in eastern and southeastern southern sector which recorded near average maximum temperature for the second dekad of July 2017. A few areas in the northern and western parts of the northern sector, eastern and central and south-central parts of the equatorial sector recorded warmer than the average (2008-2016) minimum temperature, while the rest of the GHA recorded near average minimum temperature conditions.

Rainfall forecast for the first dekad (01-10) of July 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 July 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 July 2017.

Rainfall Distribution and Severity

During the second dekad (11-20) of July 2017, in areas covering much of south of Sudan, South Sudan, southwestern Eritrea, north, western and central Ethiopia, much of Uganda, western and coastal Kenya, southeastern Somalia, 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, western and central Ethiopia, in southwestern Eritrea, north, east and west of South Sudan, in central and eastern parts of Uganda, as well as in western Kenya. More than 100mm of rainfall was recorded in western and northwestern Ethiopia, southeastern Uganda, and in western Kenya. The rest of the GHA recorded less than 5mm of rainfall.

During the same period areas around southwestern Sudan; northern and central Eritrea; western and a few areas in southern and eastern parts of Ethiopia; in western and northeastern parts of Kenya, and in areas around western to southeastern Uganda recorded rainfall that is more than 125% of the long term average (1981-2010). Rainfall conditions less than 75% of the long term average was experienced mainly in areas extending from western, to eastern part of Sudan, northwestern and southwestern South Sudan, in northeastern Eritrea, northeastern parts of Ethiopia, in much of Djibouti and Rwanda, in northwestern part of Somalia, in central and southwestern parts of Kenya, in southwestern and northern parts of Uganda, in central part of Burundi, and in 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 July 2017. Some areas including western and central parts of Sudan, parts of northeastern Ethiopia, southwestern Uganda showed decreased performance in rainfall as compared with the previous dekad.

Standardized Precipitation Index (SPI) during the second dekad of July 2017 shows that a few areas in western Sudan, northern Eritrea, northeastern Ethiopia, northwestern and southwestern South Sudan, in central and southeastern Kenya, in southwestern Uganda, recorded moderately dry to severely dry rainfall conditions. Moderately wet to severely wet rainfall condition (Figure 1c) was experienced in southeastern parts of Sudan, in eastern South Sudan, western and southeastern Ethiopia, over much of central and southeastern of Uganda, and western Kenya. The rest of the GHA experienced near normal conditions

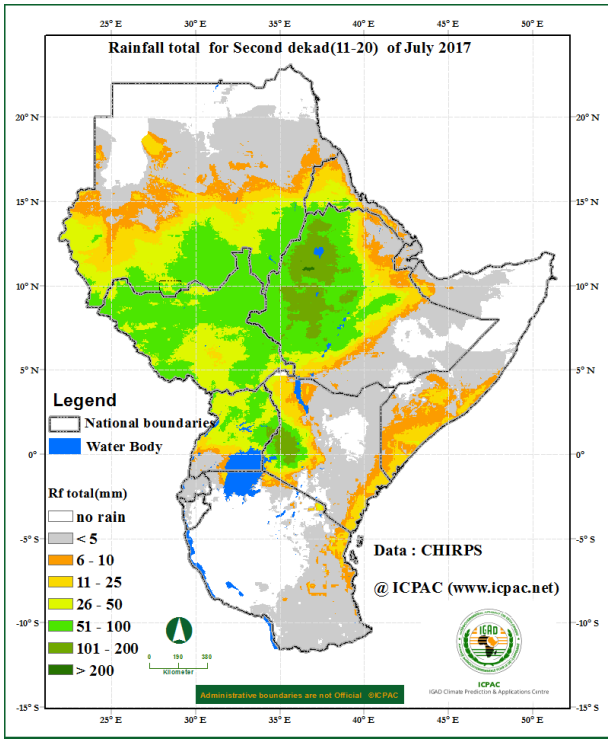

Figure 1a: Rainfall distribution during the second dekad (11-20) of July 2017. *(Data: CHIRPS satellite estimate)*

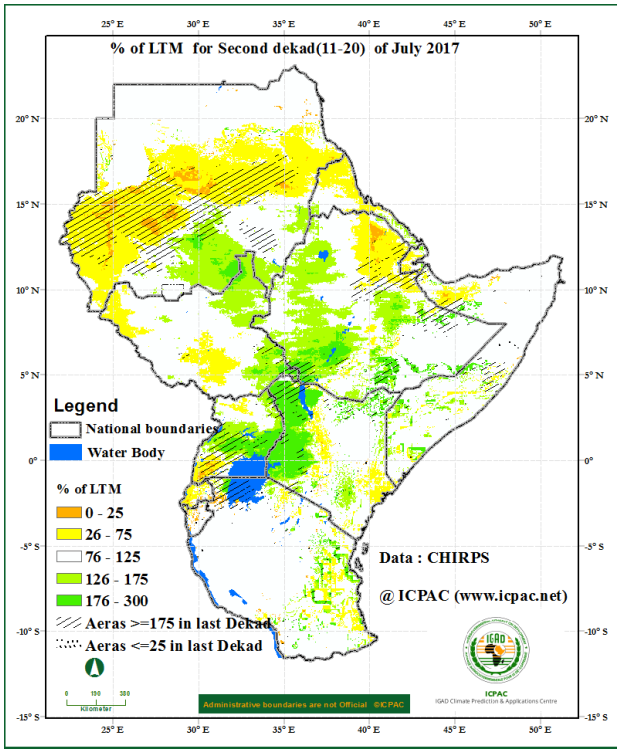

Figure 1b: Percent of long term average rainfall for the second dekad (11-20) of July 2017 *(Data: CHIRPS satellite estimate)*

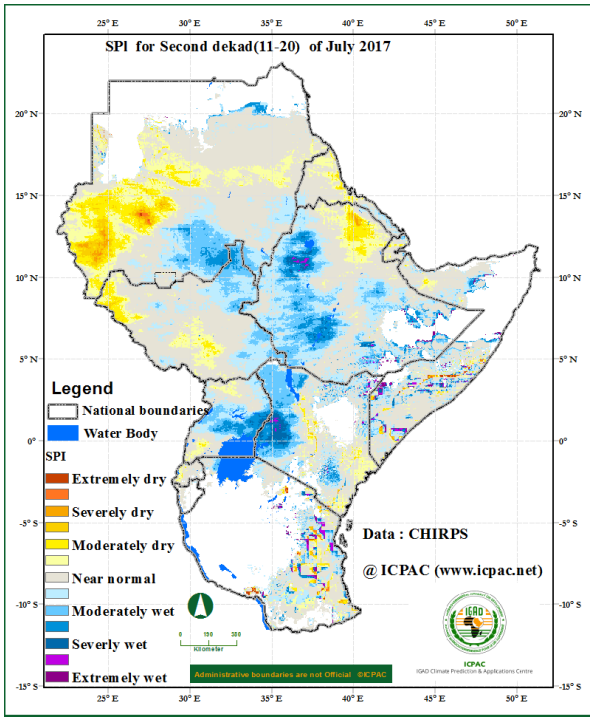

Figure 1c: Standardized Precipitation Index (SPI) for second dekad (11-20) of July 2017 *(Data: CHIRPS satellite estimate)*

Maximum and Minimum Temperature Anomaly

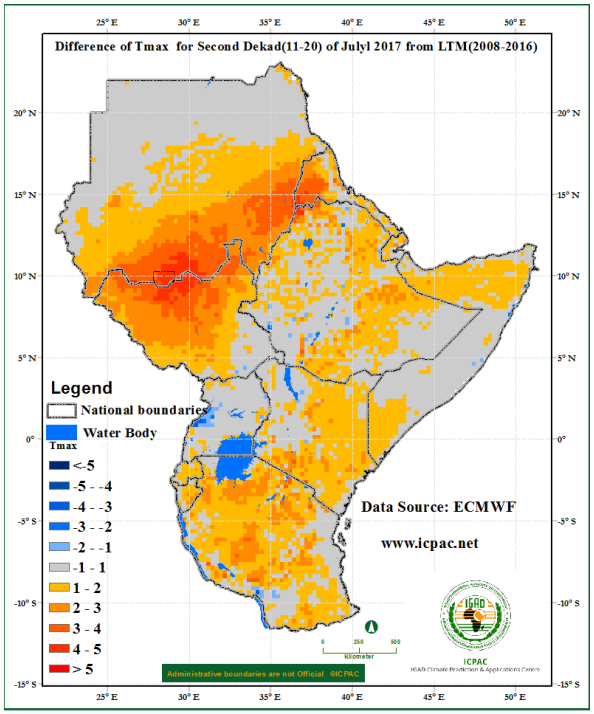

Figure 2: Maximum temperature difference from the average (2008-2016) for the second dekad (11-20) of July 2017*(Data Source: ECMWF)*

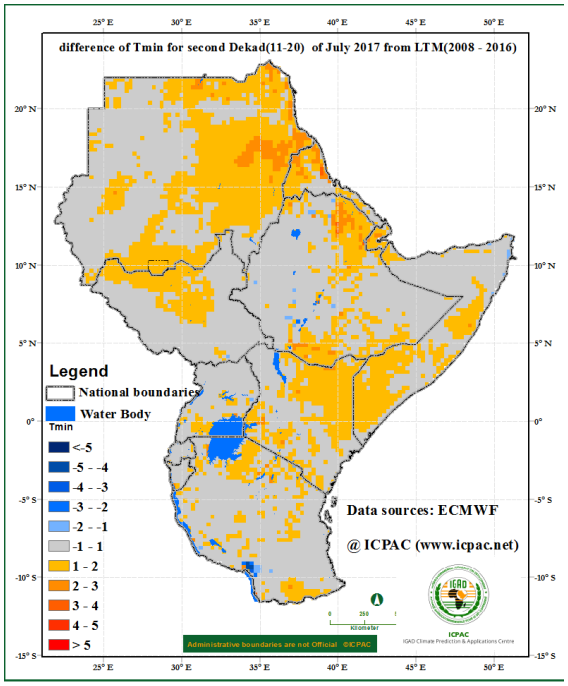

Figure 3:Minimum temperature difference from the average (2008-2016) for the second dekad (11-20) of July 2017*((Data Source: ECMWF)*

Conditions warmer than average conditions for maximum temperature was observed over much of southern parts of Sudan; South Sudan; southwestern and southern Eritrea, much of Djibouti, northern and southern Somalia; parts of western, northeastern and south of Ethiopia; and in much central, southern and eastern Kenya, Rwanda and Burundi and Tanzania during the second dekad of July 2017. The rest of the region recorded near the average maximum temperature (Figure 2).

Much of western and southern parts of Sudan, northern South Sudan, western and central Eritrea, in northeastern and southern parts of Ethiopia, in much of Djibouti, in parts of central and southern Somalia, northeastern, southern and western parts of Kenya, in parts of southeastern Uganda; and in few isolated areas in north, central and southern Tanzania, recorded minimum temperature warmer than the average conditions during the second dekad of July 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 11th and 18th July 2017 (Figure 4) indicates that vegetative conditions showed improvement as compared to the long term average vegetative conditions in southern part of Sudan, in several areas of South Sudan, in a few areas in central Ethiopia, northern Uganda, western and central Kenya, and in southern and eastern Tanzania. Deterioration in vegetative conditions as compared to the long term average vegetative conditions was observed mainly in central and southwestern parts of Ethiopia, southern Uganda, central and coastal 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.

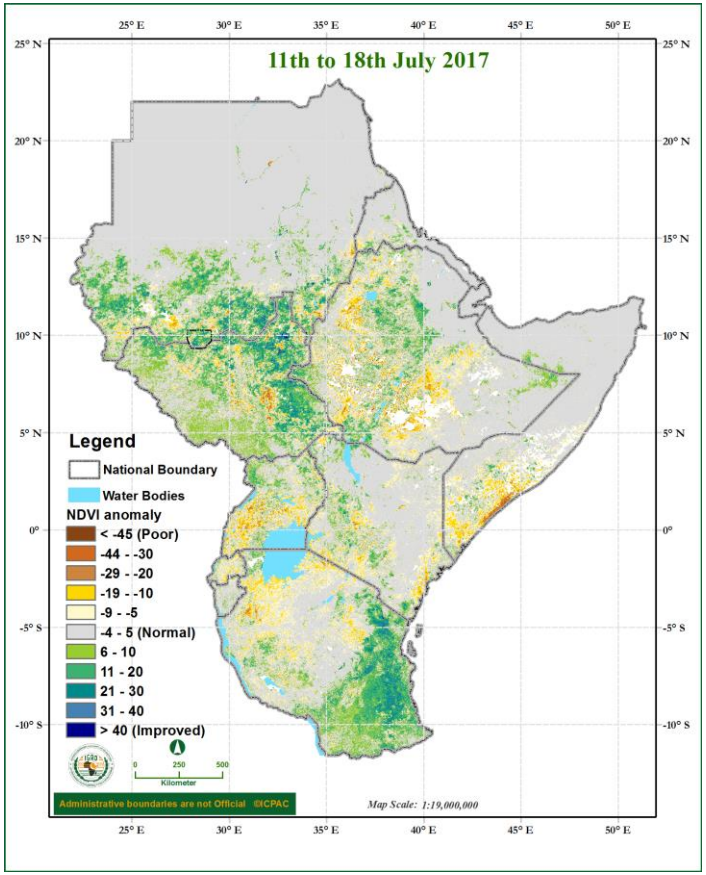

Figure 4: NDVI anomaly for the period between 11th and 18th July 2017 (Data Source: USGS NASA)

5.0 Climate Forecast

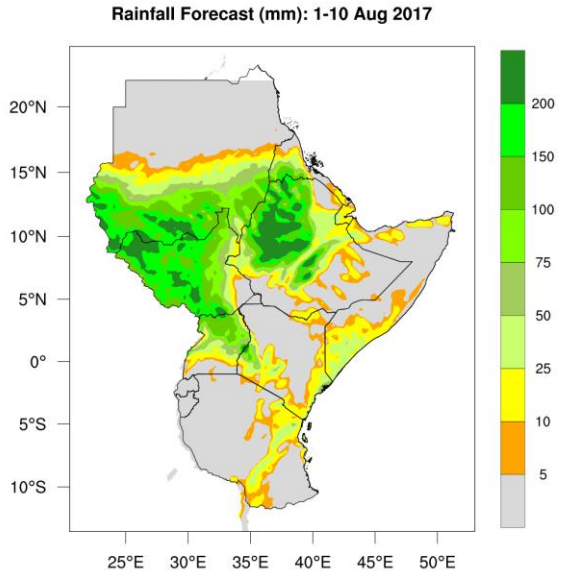

Figure 5: Precipitation forecast for the first dekad (01-10) of Augsut 2017 (Source: WRF-ICPAC)

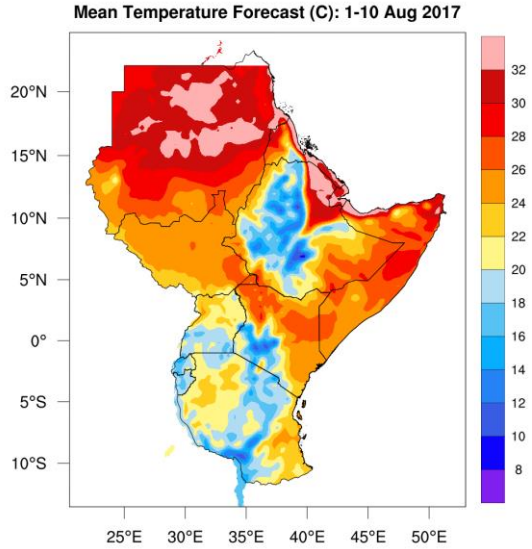

Figure 6: Forecast for average temperature for the first dekad (01-10) of August 2017 (Source: WRF-ICPAC)

Rainfall Forecast

The rainfall forecast for the first dekad (01-10) of August 2017 in Figure 5 indicates that rainfall is likely to be concentrated over much of the southern part of Sudan, South Sudan, southwestern Eritrea, north, west and central Ethiopia, in some parts of Djibouti, in much of Uganda except for some areas in the south, in western Kenya and eastern parts extending to southern Somalia, and also in 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 August 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 Rwanda and Burundi, and in southwestern, central and northern 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 July 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. Some areas continue to report effects of the dry conditions in especially in the 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 August 2017 much of the northern western parts of the equatorial sector as well as much of the western and central parts of the northern sector of the GHA are likely to have sufficient rainfall performance, which will 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 July-July-August-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).*