



10 DAY CLIMATOLOGICAL SUMMARY AND IMPACTS FOR THE THIRD DEKAD (21-30) OF JUNE 2017 TOGETHER WITH FORECAST FOR THE SECOND DEKAD (11-20) OF JULY 2017

1.0 Introduction

In this bulletin, the climatic conditions observed during the third dekad (21-30) of June 2017 over the Greater Horn of Africa (GHA) are reviewed and the associated impacts highlighted. The climate forecast for the second dekad (11-20) of July 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 third dekad (21-30) of June 2017 rainfall activity was mainly experienced over southwestern and central parts of the northern sector, in northwestern, western and extreme eastern parts of the equatorial sector, and in the northeastern parts of the southern sector of the Greater Horn of Africa (GHA). Much of the northern and eastern parts of the northern sector, central and eastern parts of the equatorial sector, and much of the southern sector of the GHA recorded little or no rainfall.

The rainfall was depressed for much of the eastern and southern parts of the northern sector, western, central and extreme eastern parts of the equatorial sector as well as in the eastern parts of the Southern sector, which exhibited near average to below average rainfall conditions. A few areas in southern part of Sudan, extending to northern South Sudan, central part of Somalia and in isolated areas east of Tanzania recorded enhanced rainfall ranging from moderately wet to extremely wet conditions during the third dekad (21-30) of June 2017.

Northern, southwestern and central parts of the northern sector, central and western parts of the equatorial sector, and also western and

southern parts of the southern sector of the GHA exhibited maximum temperature warmer than the long-term average (2008-2016) maximum temperature conditions during the third dekad of June 2017. Much of the rest of GHA region recorded near average maximum temperature.

The western parts of the GHA covering south western and south central parts of the northern sector western parts of the equatorial sector and northwestern parts of the southern sector of GHA recorded warmer than the average minimum temperature, while the rest of the GHA recorded near average minimum temperature conditions.

Rainfall forecast for the second dekad (11-20) of July 2017 shows that western to central parts of the northern sector as well as western, central and a few isolated areas in eastern equatorial sector show much possibility of receiving rainfall. The rest of the GHA including northern and eastern parts of the northern sector, southern and eastern parts of the equatorial sector as well as much of the southern sector of the GHA is likely to receive little or no rainfall during this period.

Much of the northern sector except for western and central Ethiopia, northern and eastern parts of the equatorial sector and eastern 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 third dekad (21–30) of June 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) over the GHA region during the third dekad of June 2017.

Rainfall Distribution and Severity

During the third dekad (21–30) of June 2017, in areas south of Sudan, much of South Sudan, southwestern Eritrea, western and central Ethiopia, Uganda, western and south eastern 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 but not exceeding 100mm was recorded around southwestern parts of Sudan extending to western Ethiopia, in northwest, east and southwest of South Sudan, in northwest, central and southeast of Uganda, as well as in western Kenya. The rest of the GHA recorded less than 5mm of rainfall.

During the same period areas around central and eastern parts of Sudan, western and southeastern South Sudan, much of Eritrea; much of Ethiopia except western and southeastern parts; northeastern and southwestern Uganda, much of Rwanda, western Burundi, northwestern, central and southeastern Kenya; parts of north and southeastern Somalia and in eastern parts of Tanzania recorded rainfall that is less than 75% of the long term average (1981–2010). In a few places southwest and southeast of Sudan, southern Eritrea, northwest of Somalia, northeast and southwest of South Sudan, and northwest extending to southeast of Uganda,

and in western Kenya rainfall exceeding 125% of the long term average was experienced. The rest of the GHA region recorded between 75% and 125% of the long term average rainfall (Figure 1b), during the third dekad of June 2017. Some areas in southwestern Somalia, and southern parts of Sudan have showed reduction in rainfall performance as compared with the previous dekad (Figure 1b).

Standardized Precipitation Index (SPI) is an indicator used to show the number of standard deviations that observed cumulative precipitation deviates from the climatological average. During the third dekad of June 2017 much of the GHA region showed near normal conditions when SPI is used except for areas southeast of Sudan, northeast and southwest of South Sudan, southern Eritrea, in parts of northern Somalia, southeastern margins of central Ethiopia, in northwest, central and southeastern Uganda, and in western Kenya which showed moderately wet to extremely wet rainfall condition (Figure 1c). While areas covering parts of western and eastern Sudan, northern Eritrea, southwestern Djibouti, western, eastern and southwestern Ethiopia, western and southeastern parts of South Sudan, southwestern and northeastern Uganda, western, northwestern, central and southeastern Kenya,

in western Rwanda experienced moderately dry to extremely dry

rainfall conditions (Figure 1c).

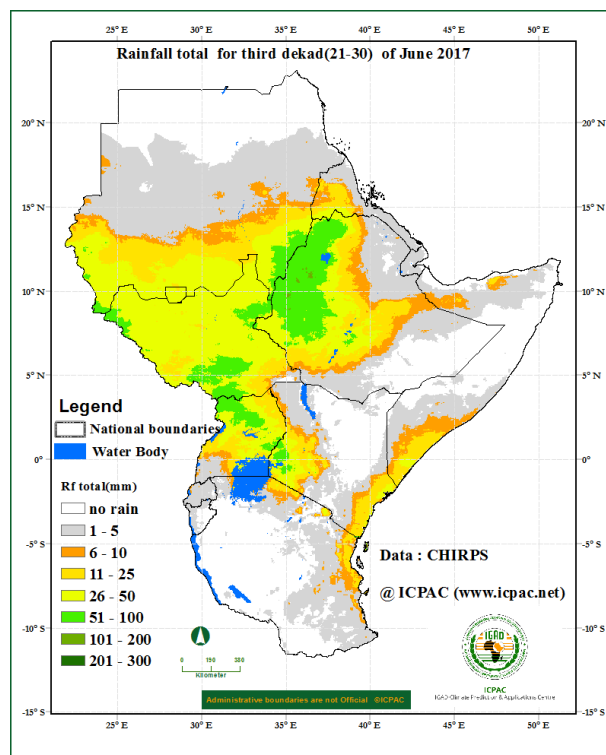


Figure 1a: Rainfall distribution during the third dekad (21-30) of June 2017. (Data: CHIRPS satellite estimate)

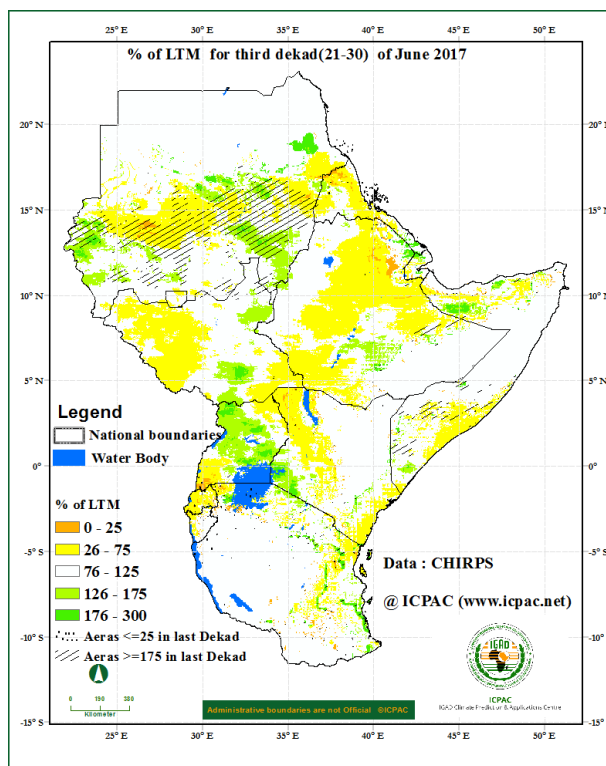


Figure 1b: Percent of long term average rainfall for the third dekad (21-30) of June 2017 (Data: CHIRPS satellite estimate)

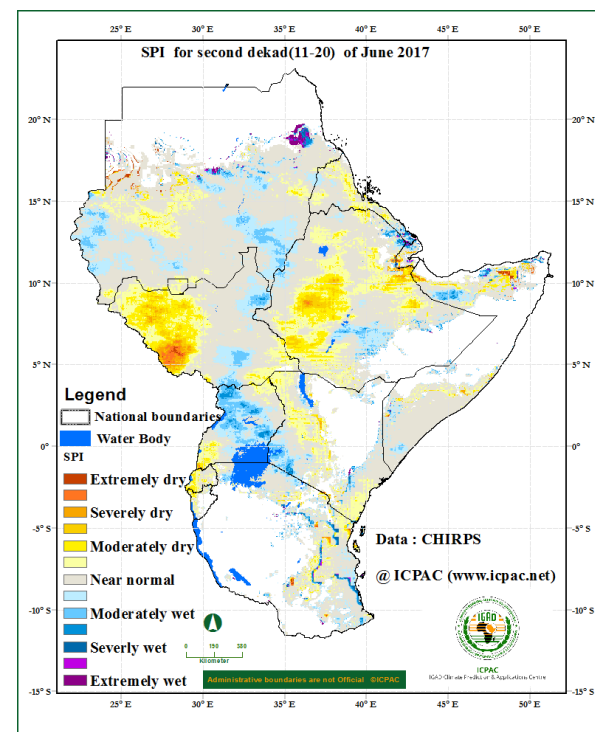


Figure 1c: Standardized Precipitation Index (SPI) for third dekad (21-30) of June 2017 (Data: CHIRPS satellite estimate)

Maximum and Minimum Temperature Anomaly

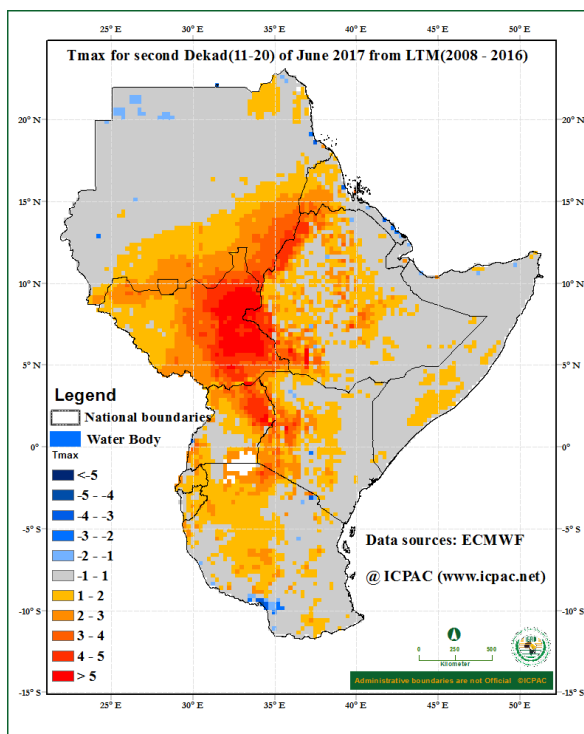


Figure 2: Maximum temperature difference from the average (2008-2016) for the third dekad (21-30) of June 2017 (Data Source: ECMWF)

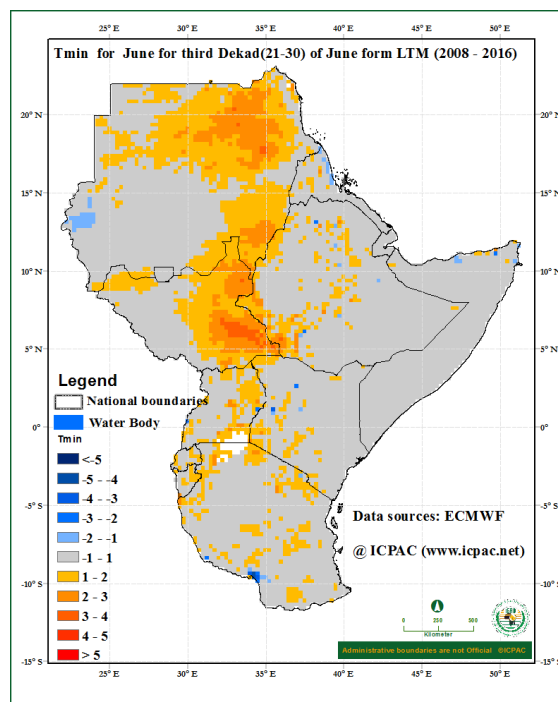


Figure 3: Minimum temperature difference from the average (2008-2016) for the third dekad (21-30) of June 2017 (Data Source: ECMWF)

Warmer than average conditions for maximum temperature was observed over northeastern and southern parts of Sudan; in much of South Sudan; western Eritrea; isolated parts of western and central Ethiopia; in northern, eastern and southwestern Uganda; western and central Kenya, central part of Somalia, eastern and southern Rwanda, eastern Burundi, and in northwestern Tanzania during the third dekad of June 2017. The rest of the region recorded near average temperature (Figure 2).

Much of eastern Sudan, northern and eastern South Sudan, western and isolated parts of central Ethiopia; in isolated parts of eastern, and southern Uganda, western and central Kenya, western and eastern Rwanda, eastern and central Burundi and northern and central Tanzania, recorded minimum temperature warmer than the average conditions during the third dekad of June 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 17th and 24th June 2017 (Figure 4) indicates that vegetative conditions showed improvement as compared to the long term average vegetative conditions in southern part of Sudan extending to northern South Sudan; in northern, central and eastern parts of Ethiopia; around parts of southern Somalia, central and coastal Kenya; and in eastern and southern Tanzania. Deterioration in vegetative conditions as compared to the long term average vegetative conditions was observed mainly in southeastern parts of South Sudan, southern Ethiopia, southeast and coast of central Somalia, in parts of western, central and a few isolated areas of eastern Kenya, over much of western and southern Uganda, 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.

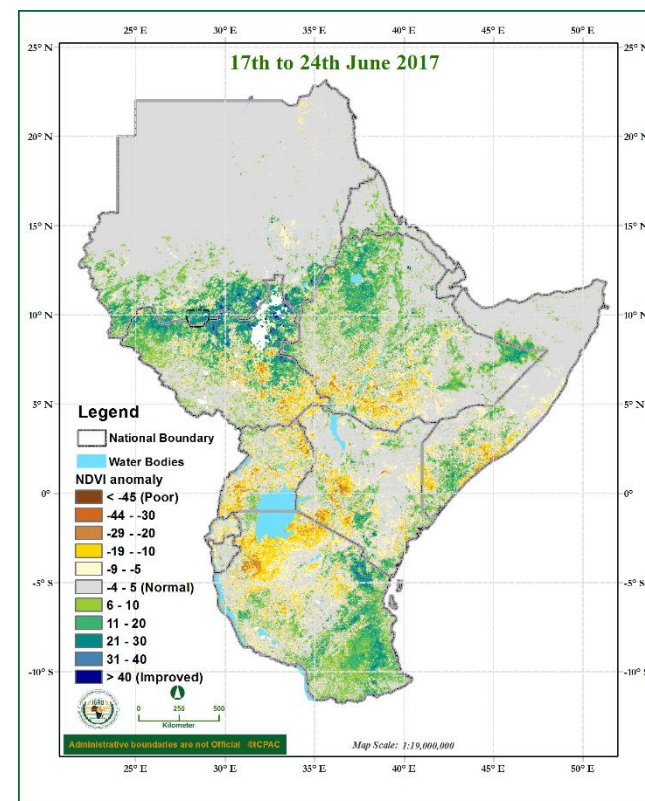


Figure 4: NDVI anomaly for the period between 17th and 24th June 2017 (Data Source: USGS NASA)

5.0 Climate Forecast

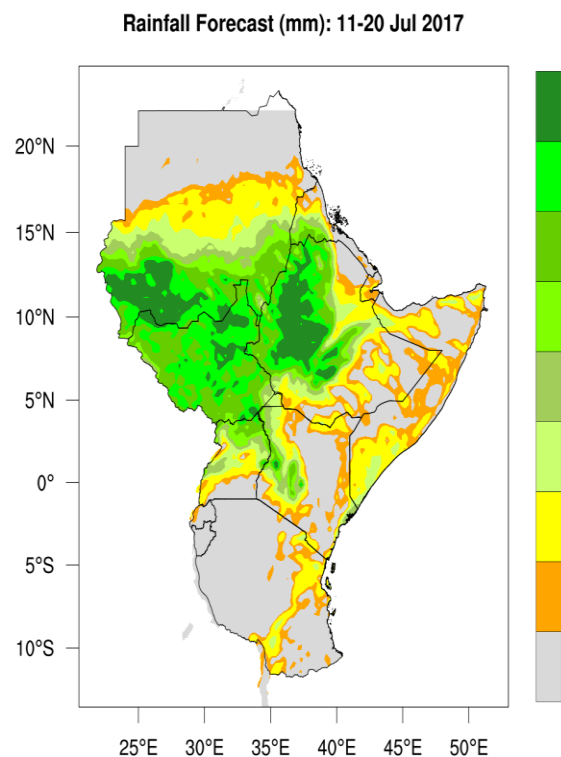


Figure 5: Precipitation forecast for the second dekade (11-20) of July 2017 (Source: WRF-ICPAC)

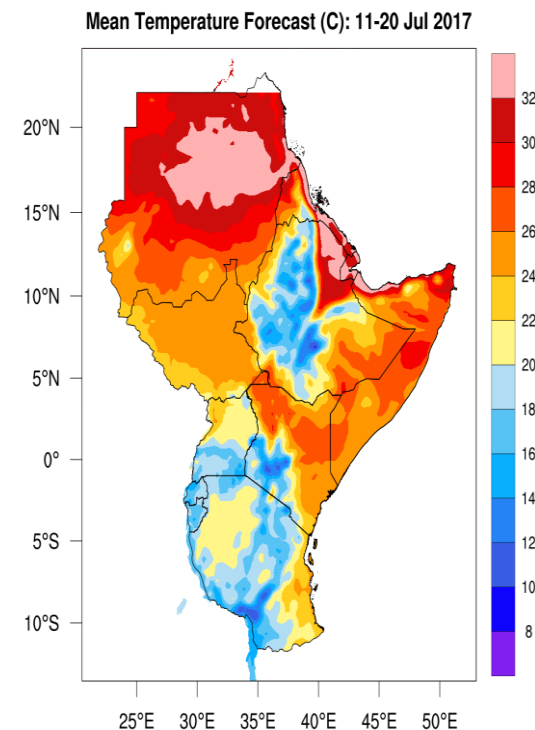


Figure 6: Forecast for average temperature for the second dekade (11-20) of July 2017 (Source: WRF-ICPAC)

Rainfall Forecast

The rainfall forecast for the second dekade (11-20) of July 2017 in Figure 5 indicates that rainfall is likely to be concentrated over much of the southern part of Sudan, southwestern Eritrea, South Sudan, north, west and central Ethiopia, in parts of Djibouti, northern parts of Uganda, western, central and extreme eastern parts of Kenya, southeastern and parts of central and northern Somalia; and in eastern parts of Tanzania. The rest of the GHA region likely to experience little rainfall or remain generally dry during the second dekade (11-20) of July 2017.

Temperature Forecast

The average temperature forecast for second dekade (11-20) of July 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 western and central Tanzania, while the rest of the GHA is likely to record average temperature greater 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 third dekad (21-30) of June 2017 the prevailing climate conditions have been associated with continued effects of the dry conditions in several areas 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, continued high food prices, migration of pastoralist, and increase in climate related diseases. In some areas in the northern and western equatorial sector 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.

From the climate outlook for the second dekad of June 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 and South Sudan.

NB: This ten day bulletin contributes towards the update of the June-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>).