



10 DAY CLIMATOLOGICAL SUMMARY AND IMPACTS FOR THE FIRST DEKAD (01-10) OF SEPTEMBER 2017 TOGETHER WITH FORECAST FOR THE THIRD DEKAD (21-30) OF SEPTEMBER 2017

1.0 Introduction

In this bulletin, the climatic conditions observed during the first dekad (01-10) of September 2017 over the Greater Horn of Africa (GHA) are reviewed and the associated impacts highlighted. The climate forecast for the third dekad (21-30) 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 first dekad (01-10) of September 2017 rainfall activity concentrated in the southern and south-central parts of the northern sector of the Greater Horn of Africa (GHA); as well as western parts of the equatorial sector of the GHA.

The rainfall was above average in the southern parts of the northern sector and western parts of the equatorial sector of the GHA. A few areas in northern and southeastern parts of the northern sector, southwestern and eastern parts of the equatorial sector, as well as eastern parts of the southern sector of the GHA showed below average rainfall performance during the first dekad of September 2017.

The western parts of the northern sector of the GHA several isolated areas of eastern and central equatorial sector as well as central parts of the southern sector of the GHA recorded warmer than the average (2008-2016) maximum temperatures, while much of the rest of the GHA recording near the average maximum temperature during the first dekad of September 2017. Warmer than the average (2008-2016) conditions for the minimum

temperature were observed mainly in areas in the north, southwestern and southeastern parts of the northern sector, as well as in eastern parts of south-central northern sector and central and eastern equatorial sector of the GHA. Much of the rest of the GHA recorded near the average for the minimum temperature conditions during the same period the first dekad of September 2017.

Rainfall forecast for the third dekad (21-30) of September 2017 shows that rainfall is likely to be concentrated in much of the southern part of the northern sector, as well as in western and eastern parts of the equatorial sector of the GHA. The rest of the GHA is likely to record little or no rainfall.

Areas in the south-central part of the northern sector, southwestern and central parts of the equatorial sector, and central parts of the southern sector of the GHA are likely to record average temperatures cooler than 20°C, leaving the much of the rest of the GHA to record likely average temperatures greater than 20°C.s

3.0 Observed rainfall situation during the first dekad (01–10) of September 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 September 2017.

Rainfall Distribution and Severity

During the first dekad (01-10) of September 2017 the CHIRPS data shows that, in areas covering much of southern parts of Sudan; much of South Sudan, southwestern Eritrea, western Djibouti, north, west and central Ethiopia, Uganda, Rwanda and Burundi; and in parts of western and coastal Kenya, northwest of Somalia, as well as northwest and northeastern coast of Tanzania total rainfall amount greater than 5mm was recorded (Figure 1a). Rainfall amounts greater than 50mm was recorded over much of western and southeastern South Sudan, western and central Ethiopia; in much of northwest and central parts of Uganda; and in parts of western Kenya. More than 100mm of rainfall was recorded in parts of western Ethiopia and in central Uganda. The rest of the GHA recorded less than 5mm of rainfall (Figure 1a).

Rainfall conditions that exceeds 125% of the long term average (1981-2010) (Figure 1b) was recorded mainly in southeastern Sudan, in parts of Djibouti, northeast, southwest and central Ethiopia, in northern parts of Somalia; over much southern parts of South Sudan, Uganda, western Kenya; and in parts of northwestern Tanzania and central Burundi. Rainfall conditions less than 75% of the long term average was experienced mainly in the central margins and southwestern parts of Sudan; in several isolated areas in western Eritrea, northern and southeastern Ethiopia, northwest

and northeast of South Sudan; over parts of north and south of Somalia, central and coastal parts of Kenya, southeastern Rwanda; and in northwestern 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 first dekad of September 2017. A few areas in central margins of Sudan, Djibouti, and in northern parts of Ethiopia showed a reduction in rainfall performance as compared with the previous dekad.

Standardized Precipitation Index (SPI) during the first dekad of September 2017 shows that a few places in western and eastern parts of Sudan, northwestern South Sudan, southern Somalia, and coastal Kenya; as well as parts of northern and southwestern Ethiopia and eastern Tanzania moderately dry to severely dry rainfall conditions were recorded. Moderately wet to severely wet rainfall conditions was experienced mainly in southwestern parts of Sudan, central, southwest and north eastern parts of Ethiopia; in several parts of Djibouti; in parts of northern Somalia, southern parts of South Sudan; over much of Uganda, western Kenya; and in a few areas south of Rwanda, and north of Tanzania during the first dekad of September 2017. The rest of the GHA experienced near normal rainfall conditions (Figure 1c).

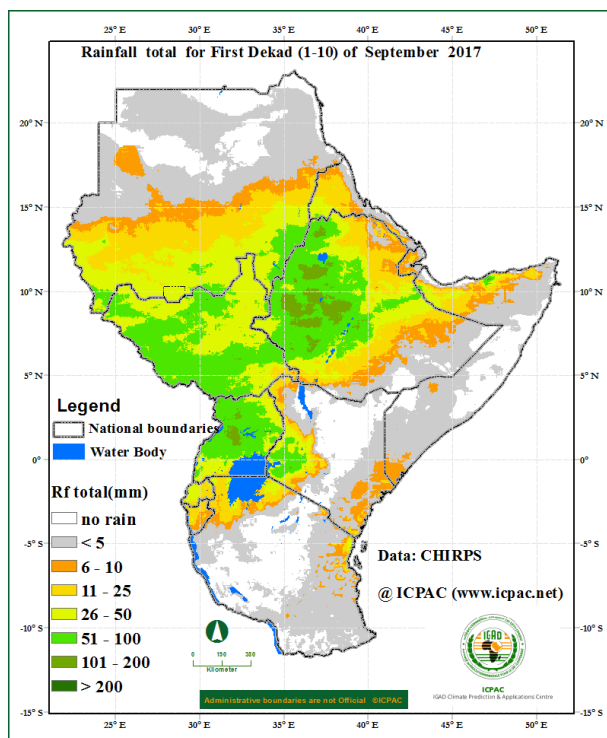


Figure 1a: Rainfall distribution during the first dekad (01-10) of September 2017. (Data: CHIRPS satellite estimate)

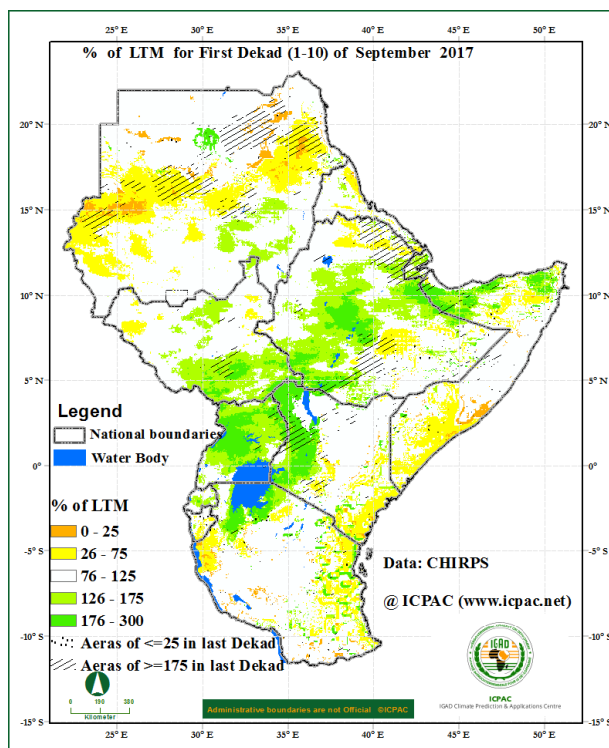


Figure 1b: Percent of long term average rainfall for the first dekad (01-10) of September 2017 (Data: CHIRPS satellite estimate)

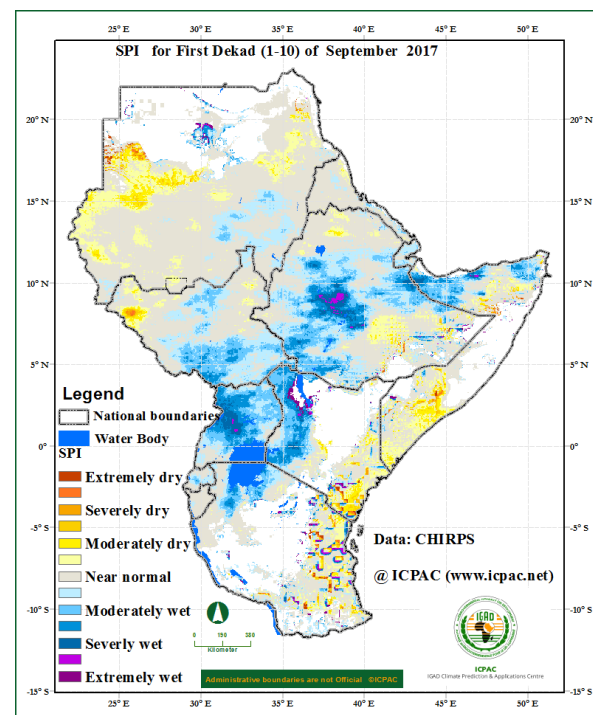


Figure 1c: Standardized Precipitation Index (SPI) for first dekad (01-10) of September 2017 (Data: CHIRPS satellite estimate)

Maximum and Minimum Temperature Anomaly

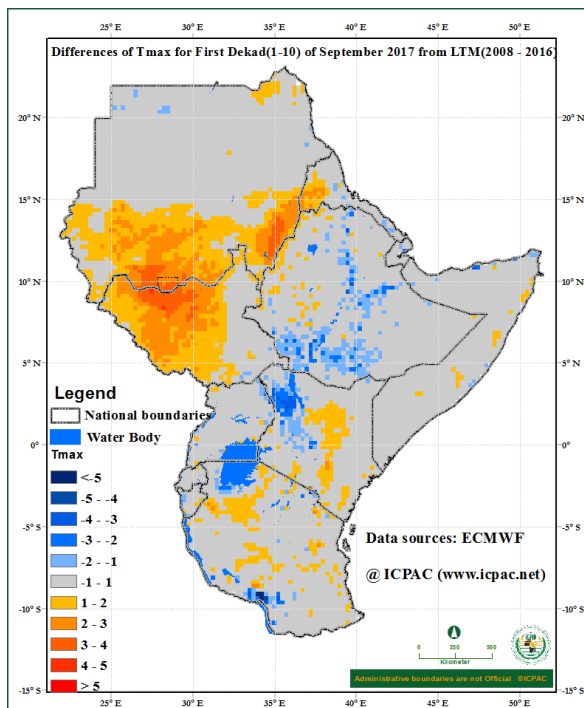


Figure 2: Maximum temperature difference from the average (2008-2016) for the first dekad (01-10) of September 2017(Data Source: ECMWF)

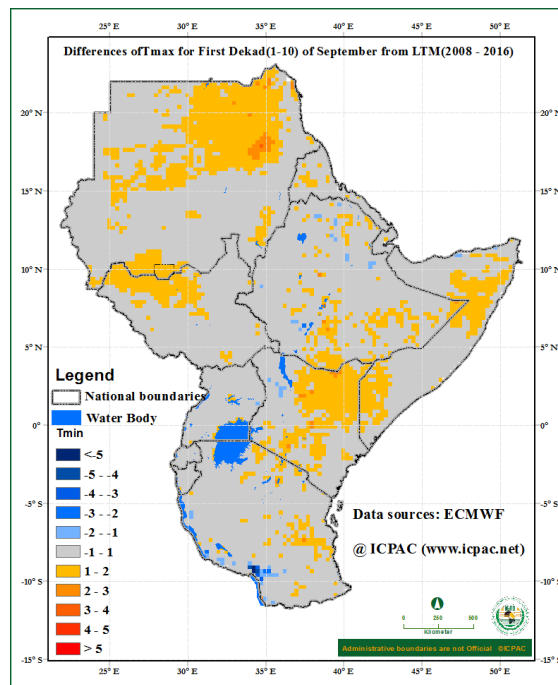


Figure 3: Minimum temperature difference from the average (2008-2016) for the first dekad (01-10) of September 2017(Data Source: ECMWF)

Conditions warmer than the average for maximum temperature was observed over southern parts of Sudan, north and western part of South Sudan, southwestern Eritrea; in central parts of Kenya; and in a several isolated areas in north, central and eastern Tanzania. A few areas in central and southwestern Ethiopia, northwestern Kenya and in southwestern Tanzania recorded conditions cooler than the average maximum temperature during the first dekad of September 2017. Much of the rest of the region recorded near the average conditions for the maximum temperature (Figure 2)

Much of northeast, and southwestern parts of Sudan; in parts of northwest of South Sudan, northeastern and southwestern Somalia, northeastern and central parts of Kenya; and over several isolated areas in southern Ethiopia, western Eritrea, and in north and eastern Tanzania conditions warmer than the average for minimum temperature first dekad of September 2017 was recorded. Much of 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 5th and 12th September 2017 (Figure 4) indicates that vegetative conditions showed improvement as compared to the long term average vegetative conditions mainly in east and southern parts of South Sudan; in a few areas in central Ethiopia; in parts northwest and northeast Uganda, central Kenya, in parts of Burundi; and in western, 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, in the eastern and southern margin of central Ethiopia, in southern parts of Uganda, eastern Rwanda, southwestern Somalia, western and coastal parts of Kenya and northern Tanzania. The rest of the GHA showed little or no change in vegetation conditions compared to the long-term average of the same period.

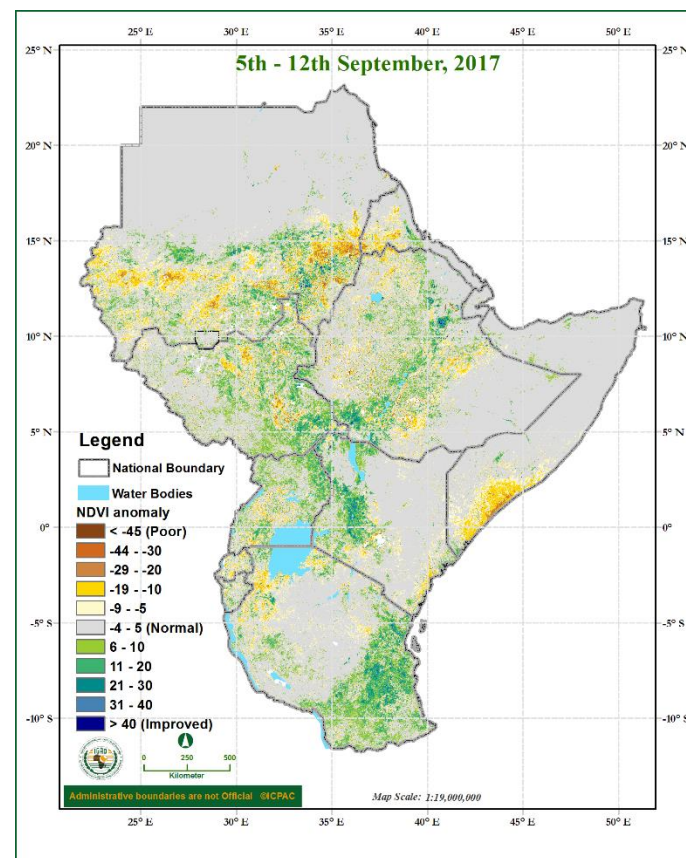


Figure 4: NDVI anomaly for the period between 5th and 12th September 2017 (Data Source: USGS NASA)

5.0 Climate Forecast

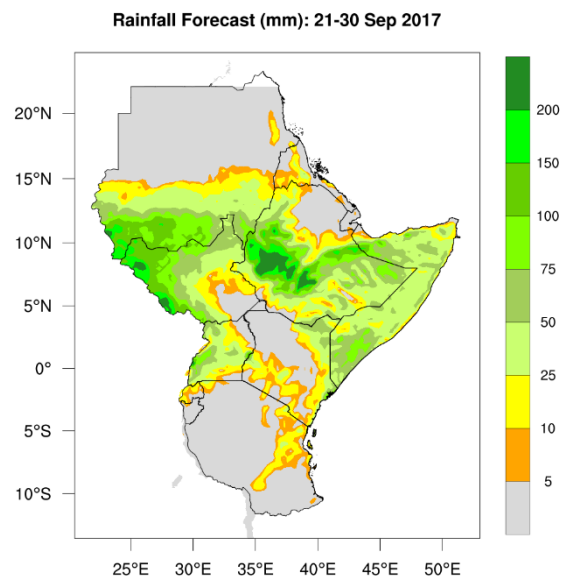


Figure 5: Precipitation forecast for the third dekad (21-30) of September 2017 (Source: WRF-ICPAC)

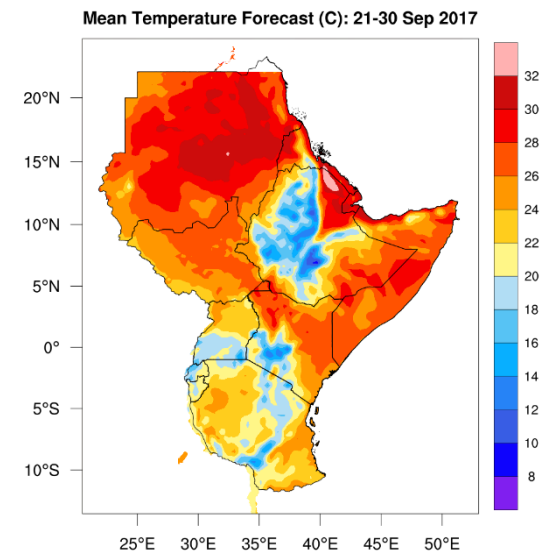


Figure 6: Forecast for average temperature for the third dekad (21-30) of September 2017 (Source: WRF-ICPAC)

Rainfall Forecast

The rainfall forecast for the third dekad (21-30) of September 2017 in Figure 5 indicates that rainfall is likely to be concentrated over much of the southern part of Sudan, and Somalia; over much of South Sudan except for the southeastern part, in much of Ethiopia except for the northeastern part; over much of Uganda except for the northeastern part; and in parts of western and eastern Kenya, northern Burundi and northeastern Tanzania.

The rest of the GHA region likely to

experience little rainfall or remain generally dry during the third dekad (21-30) of September 2017.

Temperature Forecast

The average temperature forecast for third dekad (21-30) of September 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 first dekad (01-10) of September 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 Uganda reported instances of flooding that led to disruption of livelihood and increase in water related diseases. Some areas continue to report effects of the dry conditions especially in the eastern and southwestern parts of the equatorial sector, and southeastern parts of the northern sector of the GHA, and these continued to extend the water stress level, poor prospects of crop and livestock productivity, and increase in climate related diseases.

From the climate outlook for the third dekad of September 2017 much of the northern western parts of the equatorial sector as well as the 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 west of South Sudan, southern Somalia and southwestern Ethiopia.

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