IGAD CLIMATE PREDICTION AND APPLICATIONS CENTRE

ICPAC

Bulletin for Dekad 17of 2018
Issue Number: ICPAC/02/953

10 DAYS CLIMATOLOGICAL SUMMARY AND IMPACTS FOR THE FIRST DEKAD(01-10) OFJUNE2018TOGETHER WITH FORECASTFOR THE THIRDDEKAD(21-30) OFJUNE 2018

1.0 Introduction

This bulletin reviews the climatic conditions observed during thefirstdekad(01-10) ofJune2018, and highlights the climate forecast for the thirddekad(21-30) of June2018 and the associated climate impacts over the Greater Horn of Africa (GHA). The observed conditions are compared to the average of the climatological period of 1981-2010 and 2008-2017 for rainfall and temperature, respectively.

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^{o} and 5^{o} latitude, with the northern and southern sectors occupying the rest of the northern and southern parts of the region respectively

2.0 Highlights

Rainfall activity wasconcentrated over the southwestern and south-central part of the northern sector, and western and central equatorial. south-central part of northern sector, and central and western equatorial sector experienced above normal rainfall.

The northwestern and western part of South Sudan recorded warmer than the averagemaximum and whilea few areas in east of the northern sector recorded warmer than the average minimum temperature. Some places in Sudan, central and southern Ethiopia, and central equatorial sector recorded maximum temperature cooler than the average while northwestern Kenya and western Tanzania recoded minimum temperature cooler than the average.Much of the rest of the GHA recorded nearaverageminimum and maximum temperature.

Rainfall forecast for the thirddekad of June2018shows that rainfall is likely to persist insouthwestern and central parts of the northern sector as well as in some places in central parts of the equatorial sector of the GHA. Some areas inEthiopia and Kenyaare likely to record high rainfall amounts, which might lead to flooding.

Parts of north and eastern equatorial sector, and much of northern sector of the GHA except for western and central Ethiopiaare likely to record mean temperature exceeding 20^{o}C during the thirddekad of June 2018. Regions covering central and western highlands of Kenya, southern Uganda,Rwanda, Burundi, and western, central, and northern parts of Tanzania are forecasted to experience mean temperatures below 20^{o}C.

3.0 Observed rainfall during the firstdekad(01-10)of June2018

Figure 1a, 1b and 1c shows thedistribution of total rainfall, percent of the long-term average rainfall, and the standardized precipitation index (SPI), respectively. SPIindicatesthe degree of rainfall severity.

Rainfall Distribution and Severity

Rainfall was concentratedin the southwestern and central part of the northern sector, and western and central part of equatorial sectorof the GHA.

Eritrea and Sudan:

The southern part of Sudan and southwestern part of Eritrea recorded rainfall of between 6mm and 50mm withmuch of the rest of other areas recording less than 5 mm. Much of Eritrea recorded above normal rainfall with southern part of Sudan experiencing below normal rainfall.Northern parts of Sudan recordedlittle or no rainfall(generally dry conditions).

Djibouti, Somalia and Tanzania:most of these areas recorded less than 5mm of rainfall. Some places in southeastern Somalia and northern Tanzania recordedbetween 6mm and 25mm. central part of Somalia experienced below normal rainfall with the rest of these areas experiencing normal rainfall conditions or remain generally dry.

Ethiopia and SouthSudan:several parts of South Sudan, and western Ethiopia recorded rainfall of between 25mm and 200mm. Southern, central Northeastern of South Sudan, Western parts of Ethiopia more than 50mm. The western part of South Sudan and eastern Ethiopia experienced below normal rainfall while the much of the rest of these areas experiencedmoderately wet severely wet conditions.

Uganda, Rwanda, Burundi and Kenya:western part of Kenya, northern Rwanda, and much of Uganda except for southwestern partrecorded rainfall of between 25mm and 100m. Much of Burundi, southwestern part of Uganda, southern Rwanda, and coastal Kenya recorded between 6mm and 25mm of rainfall. Eastern parts of Kenya recorded less than 5mm. Much of these areas experienced near normal to severely wet conditions.

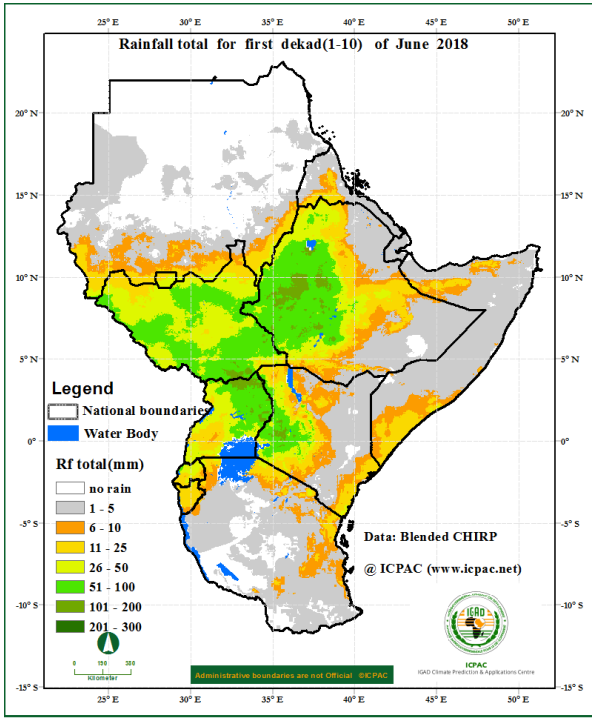

Figure 1a: Total rainfall distribution during the firstdekad(01-10) of June2018. *(Data: ICPAC Blended CHIRP)*

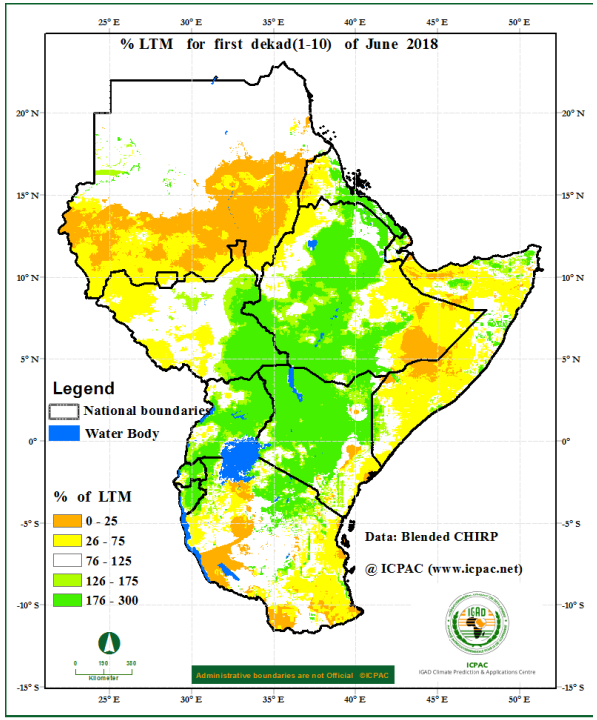

Figure 1b: Percent of long term average rainfall for the firstdekad(01-10)of June2018*(Data: ICPAC Blended CHIRP)*

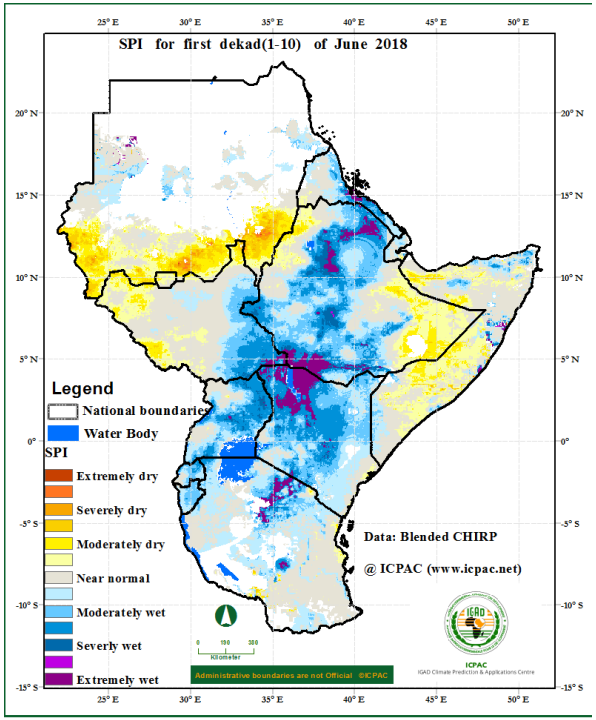

Figure 1c: Standardized Precipitation Index (SPI) for firstdekad(01-10) of June2018*(Data: ICPAC Blended CHIRP)*

Maximum and Minimum Temperature Anomaly

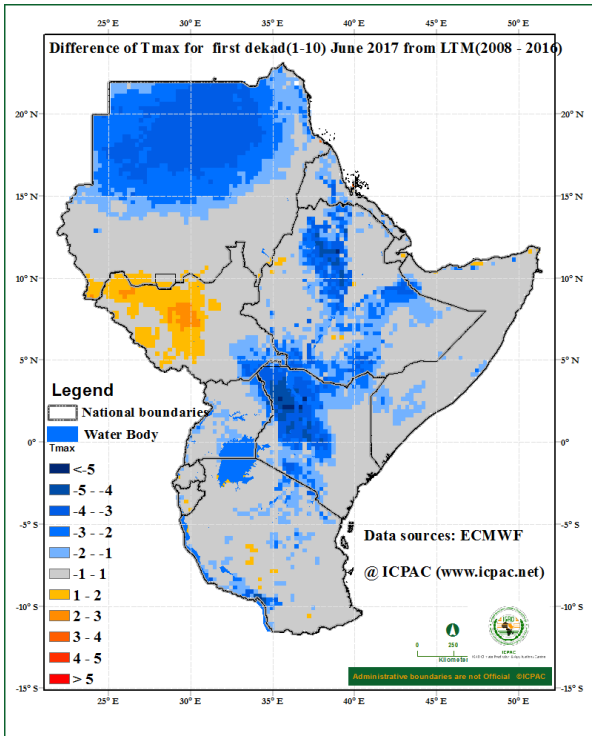

Figure 2: Maximum temperature difference from the average (2008-2017) for the firstdekad(01-10) of June2018*(Data Source: ECMWF)*

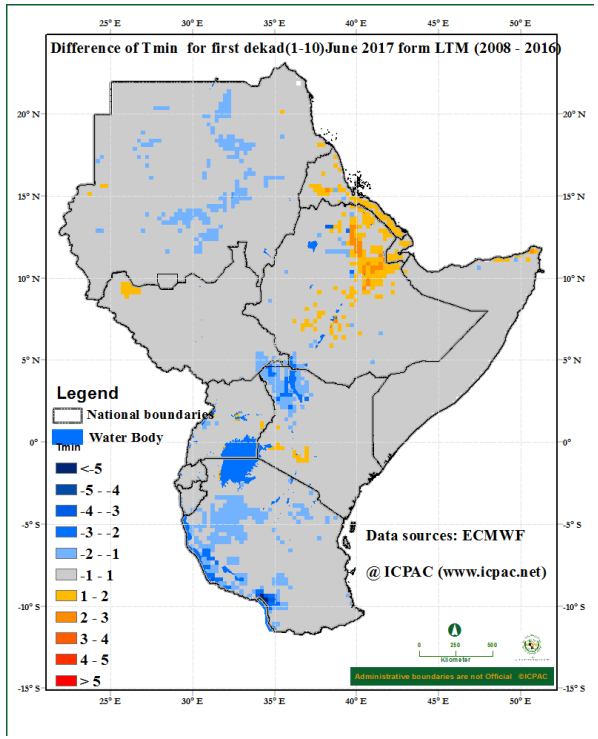

Figure 3:Minimum temperature difference from the average (2008-2017) for the firstdekad(01-10) of June 2018*((Data Source: ECMWF)*

The maximum and minimum temperatureduring the firstdekad of June2018 shows that:-

The northern part of **Sudan**, southeastern**South Sudan**, central and southern part of **Ethiopia,** and much of western and northern Kenyahad cooler than average maximum temperatures. Maximum temperature warmer than the average were experienced in Coastal western and northwestern **South Sudan**.

Warmer than the average minimum temperature was recorded in southern **Eritrea**, parts of **Djibouti**, and northeastern **Ethiopia**. Northwestern Kenya and wetern parts of Tanzania recorded cooler than the average minimum temperature.

Much of the rest of the GHA experienced near-average of the maximum and minimum temperatures.

4.0 Vegetation condition indicators

Normalized Difference Vegetation Index Anomaly

The Normalized Difference Vegetation Index (NDVI) anomaly for the period 1th to 8th June,2018 (Figure 4) indicates that:

South Sudan, Ethiopia,Uganda, Kenya, Somalia, Rwanda Burundi and Tanzania:much of Kenya,eastern South Sudan, in parts of southern Ethiopia, southern and central Somalia, eastern and southwestern Uganda, Rwanda Burundi, and north and central Tanzania hadan improvement in vegetation conditions as compared to the long-term average.

Much of the restof the GHA, especially Sudan, Eritrea, Djibouti,northern Somalia,and central Uganda,showed little or no change in vegetation conditions.

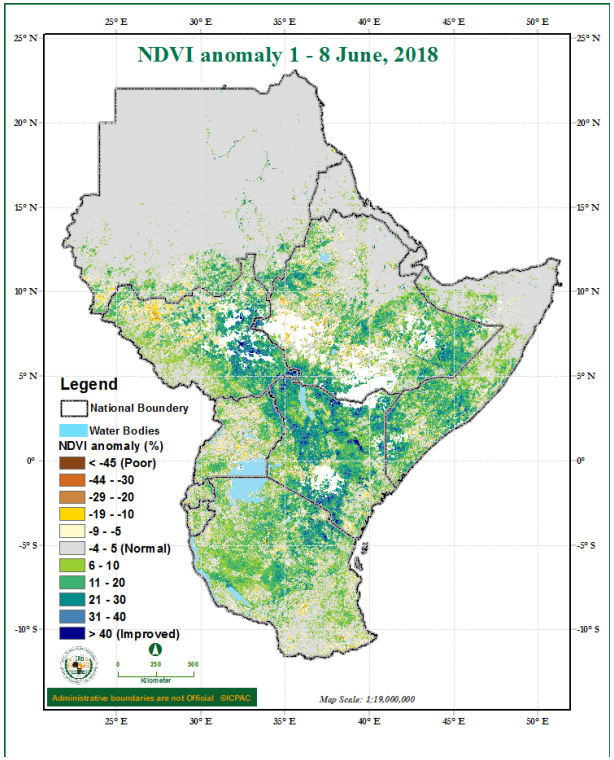

Figure 4: NDVI anomaly for the period between 1st and 8th June2018 (Data Source: USGS NASA**)**

5.0 Climate Forecast

Rainfall Forecast

The rainfall forecast for the thirddekad of June2018 in Figure 5 indicates that rainfall exceeding 50mm to 150mm is likely to be observed over much of South Sudan, the southern part of Sudan, eastern and northeastern Uganda, western Kenya and southeastern parts of Somalia. Much parts of central northern Ethiopia are likely to record high rainfall amounts exceeding 200mm. The rest of the GHA regionincluding much of Sudan, Eritrea, Djibouti, north and eastern Ethiopia, north,central and eastern Kenya, central Somalia, and

Tanzaniaareexpected to record little amount of rainfall (less than 5mm) or remain generally dry during the thirddekadofJune2018.

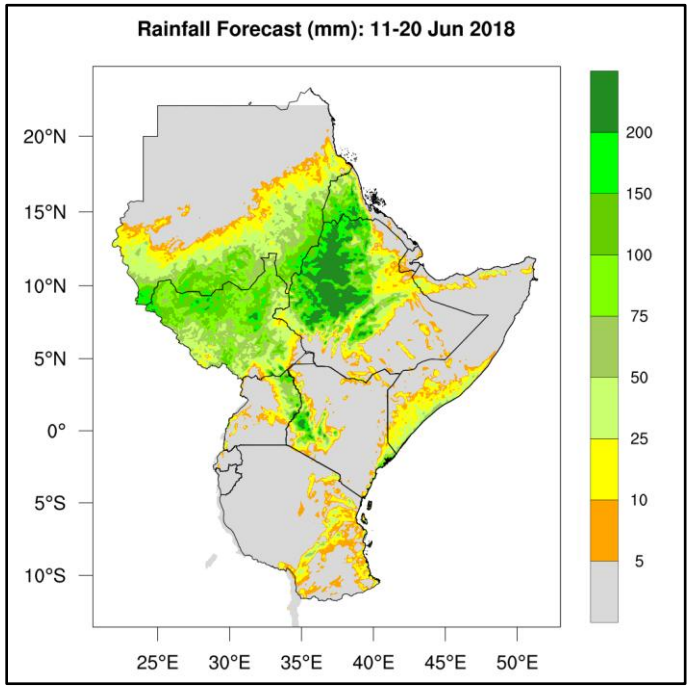

Figure 5: Precipitation forecast for the thirddekad(21-30)of June 2018 (Source: WRFICPAC**)**

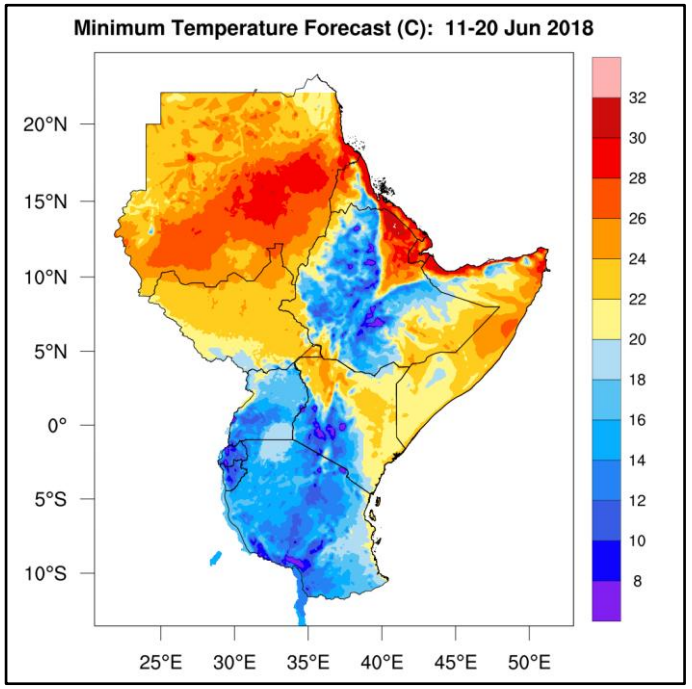

Figure 6: Forecast for average temperature for the thirddekad(21-30) of June 2018 (Source: WRF-ICPAC)

Temperature Forecast

The forecast for the mean temperature for thirddekad of June2018 (Figure 6) indicates that cooler mean temperature, not exceeding 20°C, are expected in central and western highlands of Ethiopia, much parts of Uganda, western and central, southwestern Kenya, much of Rwanda, Burundi and much of Tanzania. The rest of the GHA is expected to experience mean temperaturegreater than 20°C. The warmest regions areexpected tobe inSudan, Eritrea, Djibouti, and northeastern Ethiopia.

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 of the climate conditions

The rainfall conditions in much parts of the equatorial sector, the southern and central part of the northern sectorof the GHA resulted to improvement in water and pasture conditions, leading to goodprospects of water, crop and livestock performance.Some areas in the equatorial sector and southwestern part of the northern sector of the GHAreported flooding that led to the disruption of livelihoods, and incidences of weatherand water-relateddiseases.From the climate forecast for the thirddekad of June2018,some areas of South Sudan,Ethiopia and westernKenya are likely to record high rainfall amounts which can lead to possible localised flooding and related impacts.

NB: *This ten days bulletin contributes towards the update of the March to June2018climate outlook (*http://www.icpac.net/wp-content/uploads/GHACOF48_Statement.pdf*).*

For more information contact
ICPAC P.O. Box 10304, 00100 Nairobi, KENYA;
Tel: +254-020-3514426
E-mail:director@icpac.net

Website: www.icpac.net