IGAD CLIMATE PREDICTION AND APPLICATIONS CENTRE

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10 DAYS CLIMATOLOGICAL SUMMARY AND IMPACTS FOR THE SECOND DEKAD(11-20) OFJUNE2018TOGETHER WITH FORECASTFOR THE FIRSTDEKAD(01-10) OFJULY2018

1.0 Introduction

This bulletin reviews the climatic conditions observed during the second dekad (11-20) ofJune2018, and highlights the climate forecast for the first dekad (01-10) of July 2018 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 was concentrated over the southwestern and south-central part of the northern sector, and western and central equatorial sector of the GHA. Central part of northern sector, and central and western equatorial sector experienced above normal rainfall.

The southern part of Sudan, northern and central Ethiopia, western Eritrea, and several parts of western and central equatorial sector recorded cooler than the averagemaximum temperature.A few areas in northern part of Sudan, eastern South Sudan and southern part of Tanzania recorded warmer than the average maximum temperature. Some parts of central equatorial sector of the GHA and northwestern part of Tanzania recorded minimumtemperature cooler than the average. Northern part of the northern sector recoded minimum temperature warmer than the average.Much of the rest of the GHA recorded nearaverageminimum and maximum temperature.

Rainfall forecast for the first dekad of July 2018shows that rainfall is likely to persist inwestern and central parts of the northern sector as well as in some places in central and eastern parts of the equatorial sector of the GHA. Some areas inEthiopia and Sudan and South Sudan are 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 first dekad of July 2018. Regions covering central and western highlands of Kenya, southern Uganda,Rwanda, Burundi, and much of Tanzania are forecasted to experience mean temperatures below 20^{o}C.

3.0 Observed rainfall during the seconddekad(11-20)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 100mm withmuch of the rest of other areas recording less than 5 mm. Much of Eritrea and southern part of Sudan recorded above normal rainfall.Southern part of Sudan and western Eritrea showed an improved rainfall performance as compared with the previous dekad. Northern parts of Sudan recordedlittle or no rainfall(generally dry conditions).

Djibouti, SomaliaRwanda, Burundi and Tanzania: Much of these areas recorded rainfall less than 10mm with central Somalia eastern Rwanda and eastern Burundi, and western parts of Tanzania recording no rainfall. A few areas in northern and southern Somalia experienced moderately dry to severely dry conditions. The northern part of Tanzania experienced moderately wet to severely wet conditions. Much of the rest of these areas experienced normal or generally dry.

Ethiopia and SouthSudan:several parts of South Sudan, and western and central Ethiopia recorded rainfall of between 11mm and 200mm. The western part of South Sudan and a few areas inwestern Ethiopia experienced below normal rainfall while much of the rest of these areas experiencednear normal or moderately wet conditions with northeast of Ethiopia experiencing extremely wet conditions.

Ugandaand Kenya:much of eastern Uganda and western and central parts of Kenya recorded rainfall of between 25mm and 100m. western and southern part of Uganda, and coastal Kenya recorded between 6mm and 25mm of rainfall. A few areas in the northwestern and western Uganda recorded below normal rainfall, with much of these areas recording above normal rainfall conditions.

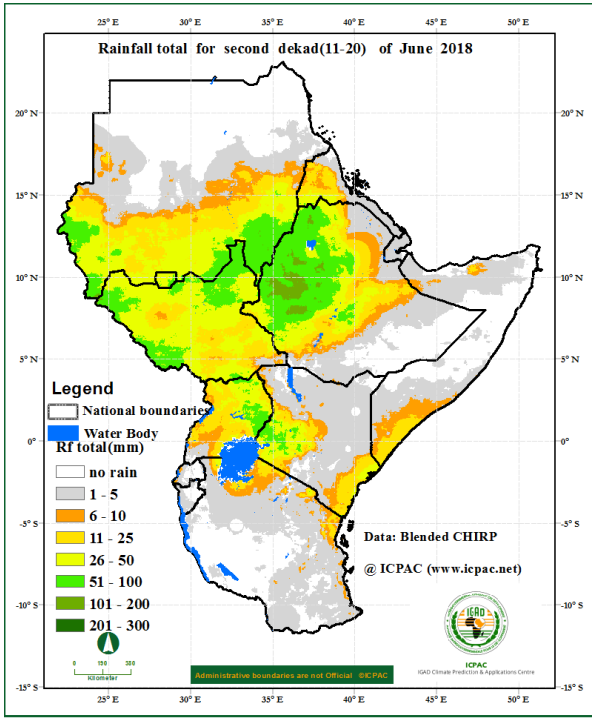

Figure 1a: Total rainfall distribution during the seconddekad(11-20) of June2018. *(Data: ICPAC Blended CHIRP)*

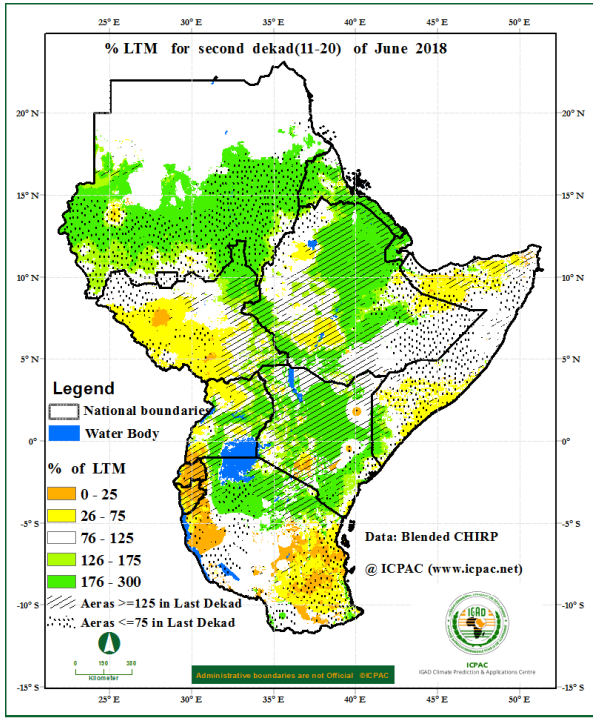

Figure 1b: Percent of long term average rainfall for the seconddekad(11-20)of June2018*(Data: ICPAC Blended CHIRP)*

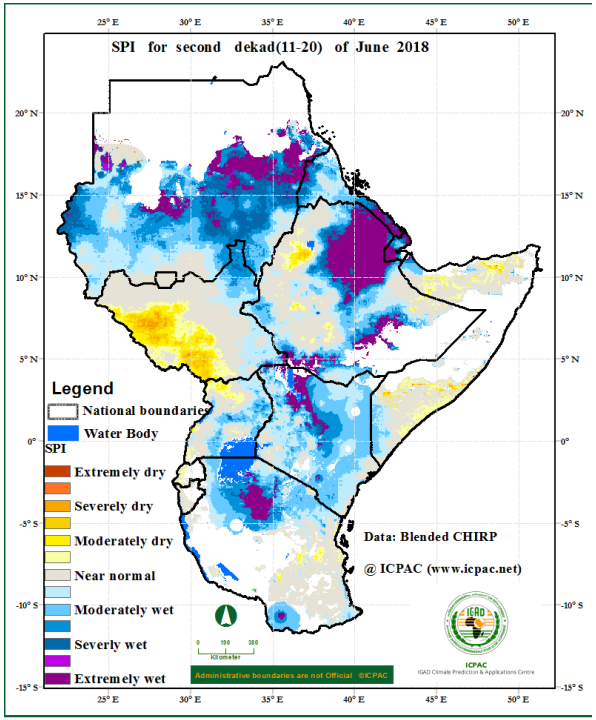

Figure 1c: Standardized Precipitation Index (SPI) for seconddekad(11-20) of June2018*(Data: ICPAC Blended CHIRP)*

Maximum and Minimum Temperature Anomaly

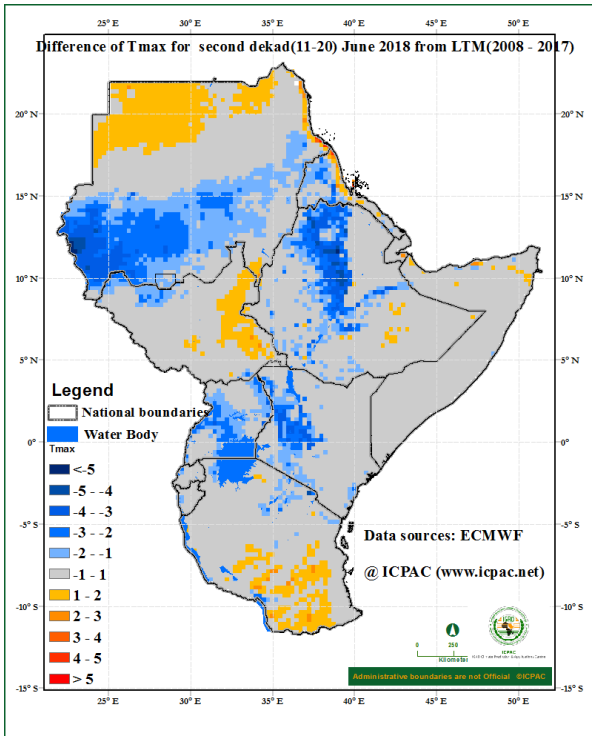

Figure 2: Maximum temperature difference from the average (2008-2017) for the seconddekad(11-20) of June2018*(Data Source: ECMWF)*

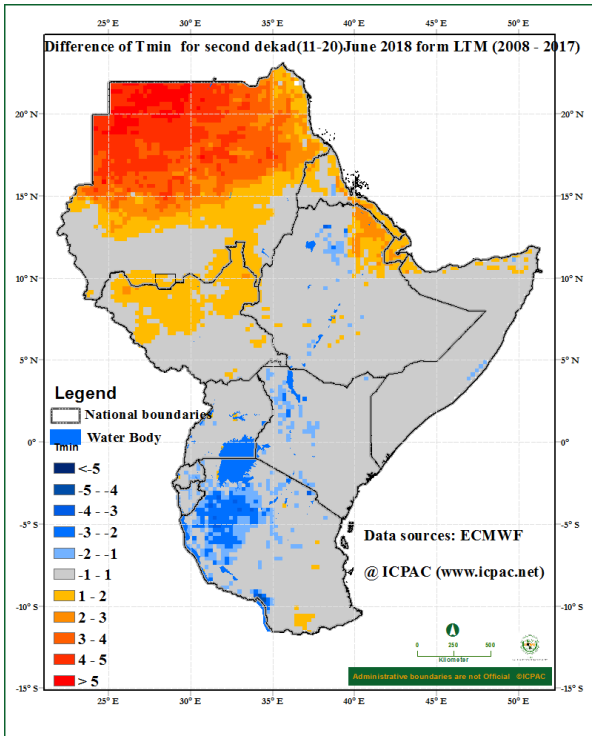

Figure 3:Minimum temperature difference from the average (2008-2017) for the seconddekad(11-20) of June 2018*((Data Source: ECMWF)*

The maximum and minimum temperature during the second dekad of June2018 shows that:-The northern part of **Sudan**, eastern**South Sudan**,and southern parts of **Tanzania**had warmer than average maximum temperatures. Maximum temperature cooler than the average were experienced insouthern part **Sudan,** southwestern **Eritrea,** northern and central **Ethiopia,** western, central and eastern Uganda**,** and western and central **Kenya**.

Warmer than the average minimum temperature was recorded in northern **Sudan**, southern **Eritrea**, northern part of **South Sudan**, parts of **Djibouti**, and northeastern **Ethiopia**. Northwestern Kenya and northwestern part 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 9th to 16thJune,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.

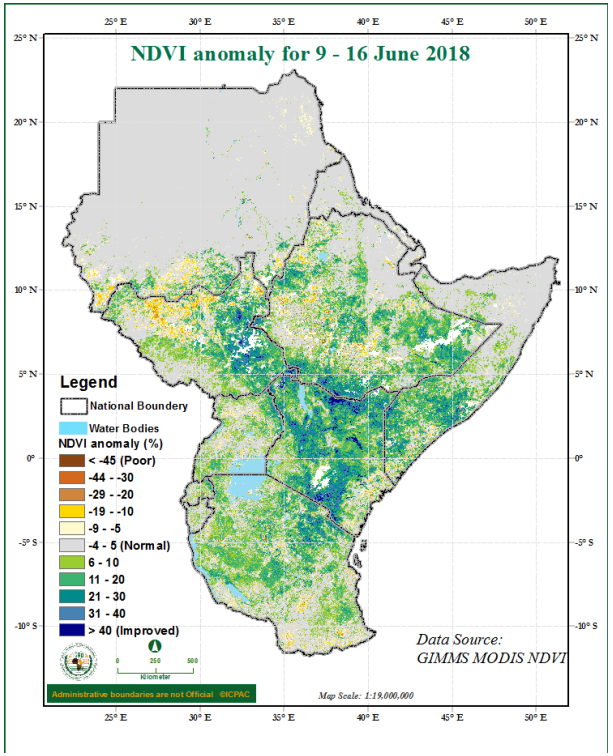

Figure 4: NDVI anomaly for the period between 9stand 16thJune2018 (Data Source: USGS NASA**)**

5.0 Climate Forecast

Rainfall Forecast

The rainfall forecast for the first dekad of July 2018 in Figure 5 indicates that rainfall exceeding 50mm to 150mm is likely to be observed over much of South Sudan, north and central Ethiopia,the southern part of Sudan, eastern and northeastern Uganda, western Kenya and southeastern parts of Somalia. Western and central northern Ethiopia and northern part of South Sudan and southern part of Sudanare likely to record high rainfall amounts exceeding 200mm. The rest of the GHA regionincluding much of northern part of Sudan, Eritrea, Djibouti,

southeastern Ethiopia, central and northern Somalia, much of Kenya, Rwanda, Burundi and Tanzania, and west, central and southern Ugandaareexpected to record little amount of rainfall (less than 5mm) or remain generally dry during the first dekad of July 2018.

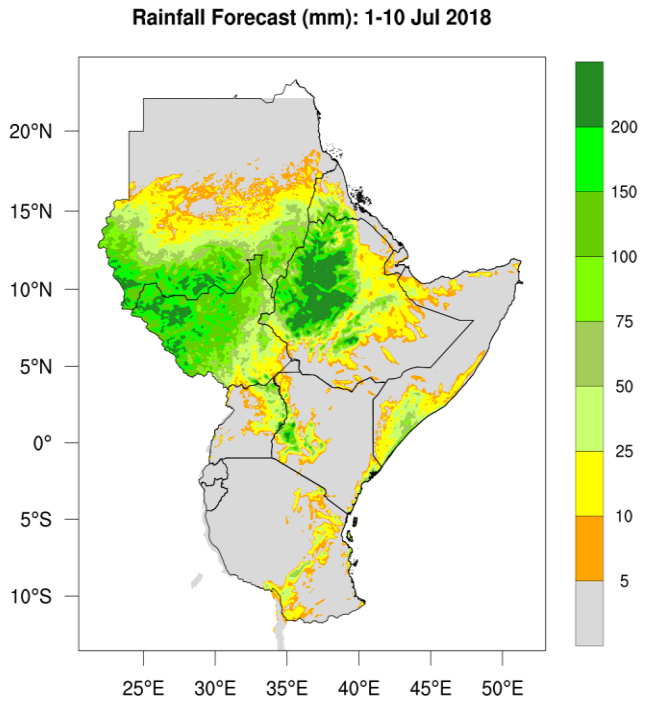

Figure 5: Precipitation forecast for the firstdekad(11-20)of July 2018 (Source: WRFICPAC**)**

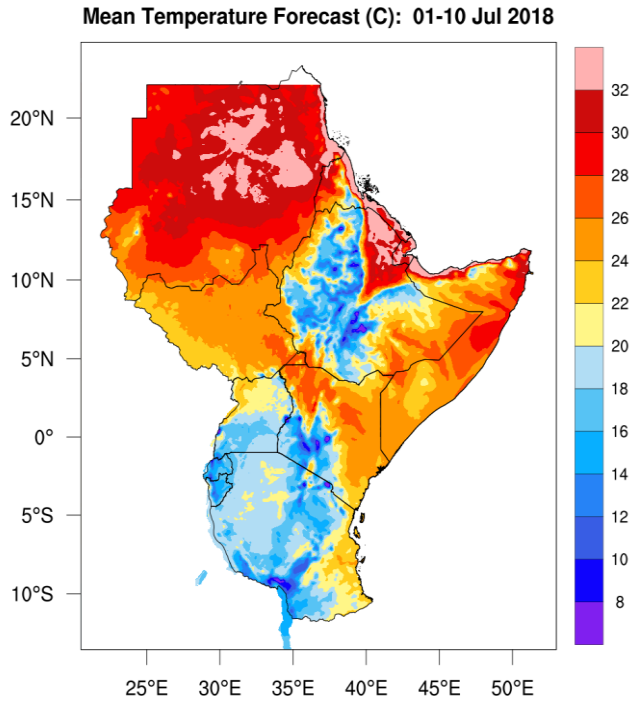

Figure 6: Forecast for average temperature for the firstdekad(11-20) of July 2018 (Source: WRF-ICPAC)

Temperature Forecast

The forecast for the mean temperature for first dekad of July 2018 (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 western and central parts of the equatorial sector, the western 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 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 first dekad of June2018,some areas of South Sudan, southern part of Sudan, andEthiopiaare 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 June to September (JJAS) 2018 climate outlook (*http://www.icpac.net/wp-content/uploads/GHACOF48_Statement.pdf*).*

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