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10 DAYS CLIMATOLOGICAL SUMMARY AND IMPACTS FOR THE THIRD DEKAD (21-30) OF APRIL 2018 TOGETHER WITH FORECAST FOR THE SECOND DEKAD (11-20) OF MAY 2018

1.0 Introduction

This bulletin reviews the climatic conditions observed during the third dekad (21-30) of April 2018, and highlights the climate forecast for the second dekad (11-20) of May 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 equatorial and south-central part of the northern sector of the Greater Horn of Africa (GHA).some areas in the southern part of the northern sector, and northern part of the southern sector also recorded some rainfall activities. Most of these areas recorded moderately wet to extremely wet rainfall, exceeding the long term average.

Warmer than the average maximum temperature was recorded in several parts of the equatorial sector as well as southwestern part of the northern sector of the GHA. Warmer than the average minimum temperature was observed in several areas south of Sudan, northwest and southeast of South Sudan, southern Ethiopia and northern Kenya. Much of the rest of the GHA recorded near average minimum and maximum temperature, except for northwestern part of Ethiopia and central Eritrea which recorded cooler than the average maximum temperature.

Rainfall forecast for the second dekad of May 2018 shows that rainfall is likely to persist in several parts of the equatorial sector and southern part of the northern sector of the GHA. Some areas in Uganda, Kenya, Rwanda, South Sudan, southern Ethiopia, and Somalia, are likely to record high rainfall amounts.

Much of GHA is likely to record temperature exceeding 20^{o}C during the third dekad of April 2018. However, regions over the Ethiopian highlands, central and western highlands of Kenya, southern Uganda, in Rwanda, Burundi, and North-central and southwestern parts of Tanzania are forecasted to experience mean temperatures below 20^{o}C.

3.0 Observed rainfall during the third dekad (21-30) of April 2018

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

Rainfall Distribution and Severity

Rainfall was mostly concentrated in the equatorial sector, southern part of the northern sector and northern parts of the southern sector of the GHA.

Uganda, Rwanda, Burundi, Kenya:

Much of Rwanda, Burundi, and central and western parts of Kenya recorded more than 100mm of rainfall, with central parts of Kenya recording more than 200mm of rainfall. A few areas in northern Uganda, northwest and eastern Kenya recorded between 5mm and 50mm of rainfall with the rest of these areas recording between 51mm and 100mm. The rainfall was near average to above average for most of these areas.

South Sudan, Ethiopia, Somalia and Tanzania:

Southwestern South Sudan, south and central Ethiopia, southern Somalia, northern parts of Tanzania recorded rainfall amounts of between 50 mm and 200 mm. Northwestern Tanzania and southern parts of Ethiopia recorded rainfall exceeding 100mm. Much of the rest of these areas received less than 50 mm of rainfall. Much of these areas recorded near average rainfall except for some parts of central to northeastern Ethiopia, central and southern Somalia and northern Tanzania which experienced above average rainfall. Eastern South Sudan , southeastern Ethiopia, northern Somalia and eastern Tanzania have shown reduced rainfall performance as compared with the previous dekad.

Eritrea and Djibouti:

Central and eastern parts of Eritrea recorded rainfall of between 5mm and 25mm, much of the rest of these areas recorded less than 5 mm. Several parts of Djibouti and central to eastern Eritrea experienced above the average rainfall, while western Eritrea experienced below the average rainfall.

The rest of GHA, particularly in Sudan recorded little or no rainfall.

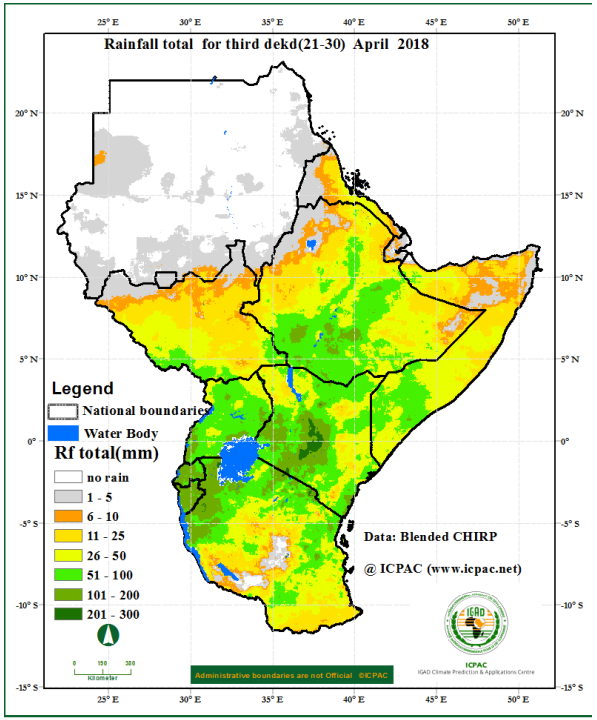

Figure 1a: Total rainfall distribution during the third dekad (21-30) of April 2018. *(Data: ICPAC Blended CHIRP)*

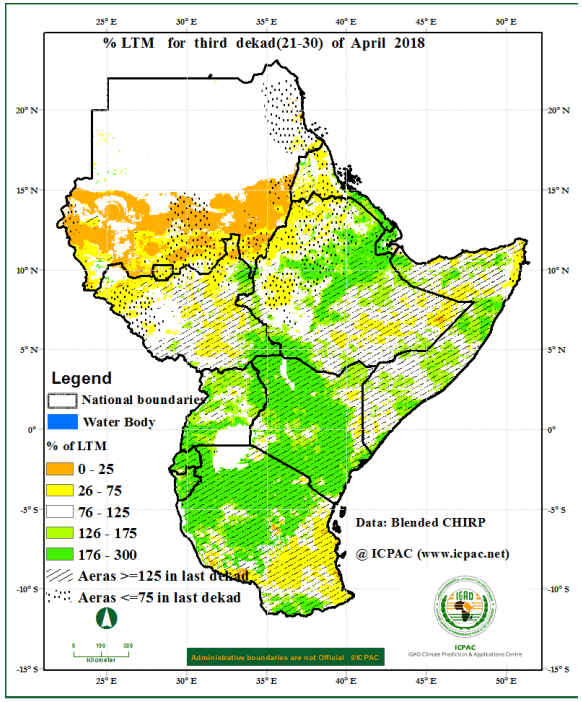

Figure 1b: Percent of long term average rainfall for the third dekad (21-30) of April 2018 *(Data: ICPAC Blended CHIRP)*

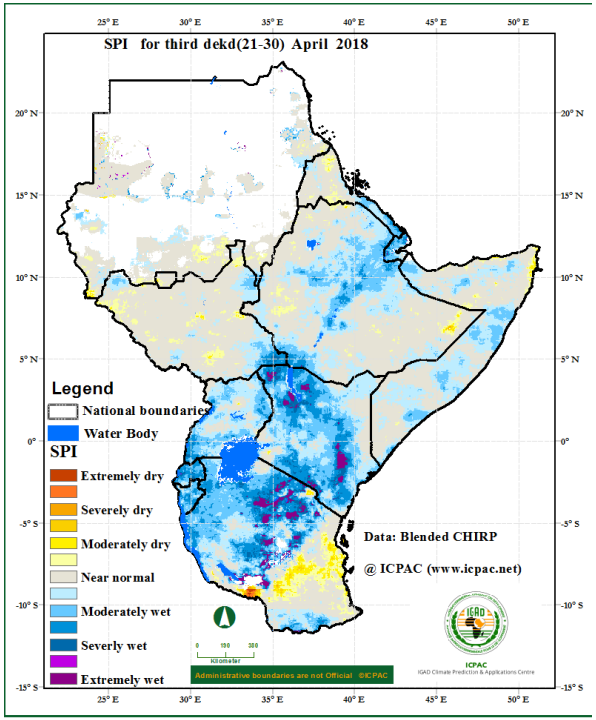

Figure 1c: Standardized Precipitation Index (SPI) for third dekad (21-30) of April 2018 *(Data: ICPAC Blended CHIRP)*

Maximum and Minimum Temperature Anomaly

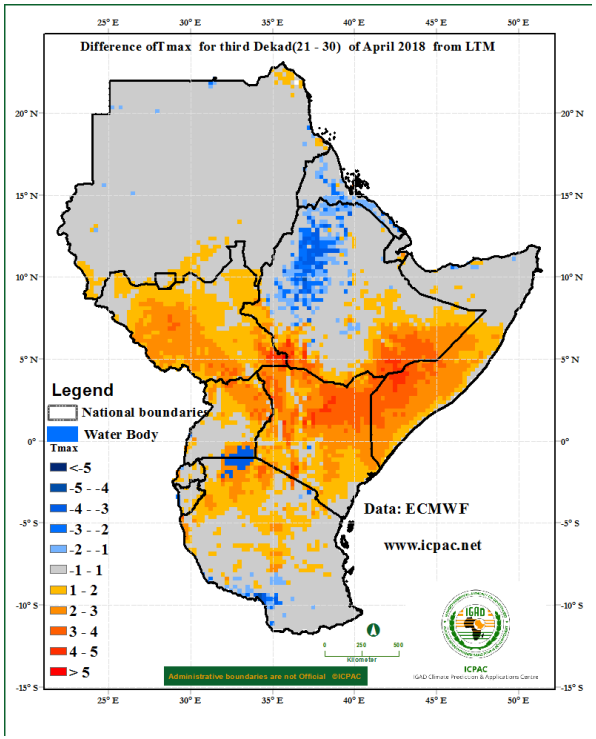

Figure 2: Maximum temperature difference from the average (2008-2017) for the third dekad (21-30) of April 2018*(Data Source: ECMWF)*

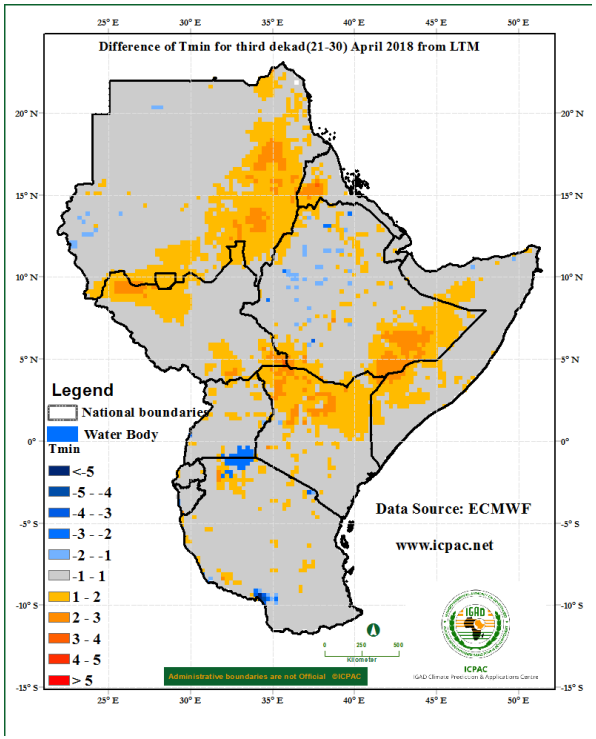

Figure 3:Minimum temperature difference from the average (2008-2017) for the third dekad (21-30) of April 2018*((Data Source: ECMWF)*

The maximum temperature during the third dekad of April 2018 shows that:

South Sudan and Kenya: maximum temperature warmer than the average was recorded in most of these areas.

Uganda, Somalia and Tanzania: much of north and eastern Uganda, central and southern Somalia, and parts of northern and central Tanzania experienced warmer than the average condition

Ethiopia Eritrea: central Eritrea and northwest of Ethiopia experienced cooler than the average maximum temperature. Southern part of Ethiopia experienced warmer than the average maximum temperature.

The minimum temperature during the third dekad of April 2018 shows that: eastern and southern part of Sudan, northwest and southeast of South Sudan, southeastern Ethiopia, and northern Kenya, warmer than the average condition.

Much of the rest of the GHA experienced near average temperature for maximum and minimum temperature.

4.0 Vegetation condition indicators

Normalized Difference Vegetation Index Anomaly

The Normalized Difference Vegetation Index (NDVI) anomaly for the period 22th to 29st April 2018 (Figure 4) indicates that:

South Sudan, Ethiopia, Uganda, Kenya and Somalia and Tanzania: most of these regions had an improvement in vegetation conditions as compared to the long term average.

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

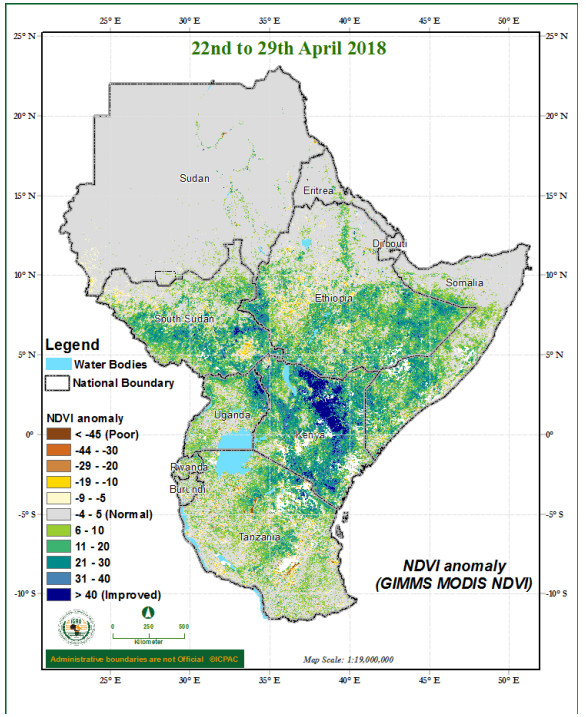

Figure 4: NDVI anomaly for the period between 22th and 29th April 2018 (Data Source: USGS NASA)

5.0 Climate Forecast

Rainfall Forecast

The rainfall forecast for the second dekad of May 2018 in Figure 5 indicates that rainfall is likely to be concentrated over much of South Sudan, Ethiopia, Somalia, Uganda, Rwanda, western central and northern Kenya, eastern Tanzania. Several parts of Ethiopia, northern and central Somalia, eastern South Sudan, north and southwestern Uganda, north, central and western Kenya are likely to record high rainfall amounts. The rest of the GHA region including much of Sudan, southeastern Kenya, as well as western and central parts of Tanzania are likely to record little amount of rainfall (less than 10 mm) or remain generally dry during the second dekad of May 2018.

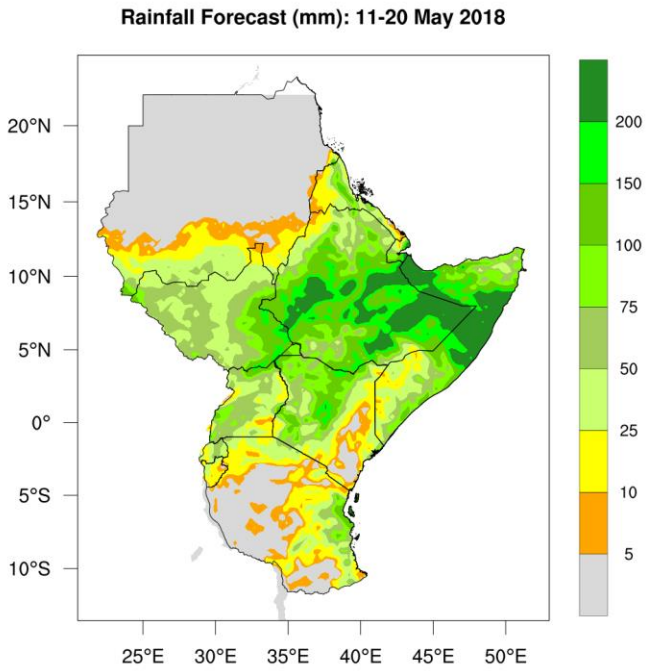

Figure 5: Precipitation forecast for the second dekad (11-20) of May 2018 (Source: WRF ICPAC**)**

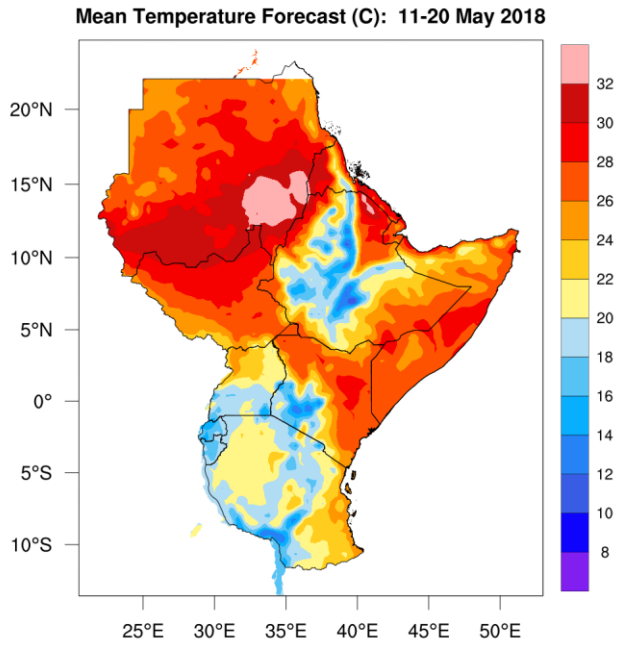

Figure 6: Forecast for average temperature for the second dekad (11-20) of May 2018 (Source: WRF-ICPAC)

Temperature Forecast

The forecast for the average temperature for second dekad of May 2018 (Figure 6) indicates much of Sudan, Eritrea, Djibouti, South Sudan, Somalia, northeast and southeastern Ethiopia, northern Uganda, northern and eastern Kenya, as well as eastern and northwest Tanzania will record temperatures exceeding 20°C. Regions in the central highlands of Ethiopia, central and western highlands of Kenya, southern part of Uganda, over much of Rwanda, Burundi, and western northern and central part of Tanzania are likely to experience average temperature less than 20°C. The warmest regions is likely to be in southwestern part of Sudan.

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 of the equatorial and parts of southern sector of the GHA resulted to improvement in water and pasture conditions, leading to good prospects of water, crop and livestock performance. Some areas in the equatorial sector and southern sector reported flooding that led to the disruption of livelihoods, and incidences of weather related and water related diseases. From the climate forecast for the second dekad of May 2018, some areas of South Sudan, Ethiopia, western, central and northern Kenya, and central southern Somalia are likely to record high rainfall amounts which may lead to possible localised flooding and related impacts.

NB: *This ten days bulletin contributes towards the update of the March to May 2018 climate outlook (*http://www.icpac.net/wp-content/uploads/GHACOF48_Statement.pdf *).*

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