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10 DAYS CLIMATOLOGICAL SUMMARY AND IMPACTS FOR THE SECOND DEKAD (11-20) OF MARCH 2018 TOGETHER WITH FORECAST FOR THE FIRST DEKAD (01-10) OF APRIL 2018

1.0 Introduction

This bulletin reviews the climatic conditions observed during the second dekad (11-20) of March 2018, and highlights the climate forecast for the first dekad (01-10) of April 2018 and the associated climate impacts over the Greater Horn of Africa (GHA). The observed and forecasted 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 -5º and 5º latitude, with the northern and southern sectors occupying the rest of the northern and southern parts of the region respectively

2.0 Highlights

The rainfall activity is concentrated over the equatorial sector and thes southern sector, as well as in a few areas in the southern parts of the northern sector of the Greater Horn of Africa (GHA). These include Tanzania, Burundi, Rwanda, Uganda, Kenya, southwestern Somalia, southern parts of South Sudan, and central and southwestern Ethiopia. Much of the equatorial sector, several areas in southern sector, and southern part of the northern sector of the GHA experienced above average rainfall conditions except for southern parts of the southern sector of the GHA which experienced near the average rainfall conditions during the second dekad of March 2018.

Several parts of the equatorial sector as well as south central parts of Ethiopia and north-central part of Tanzania recorded cooler than the average conditions for the maximum temperature. Areas in northern Sudan, northwestern and western South Sudan and in western Ethiopia recorded warmer than the average conditions for maximum temperature. The northern parts Sudan and a few areas in northern Ethiopia and southwestern Somalia recorded warmer than the average conditions for minimum temperatures. A few areas in southeast of Sudan, west of Eritrea western Ethiopia, northwestern Kenya and northeastern Uganda recording conditions cooler than the average for maximum temperature. Much of the rest of the GHA recorded near the average for minimum and maximum temperature

Rainfall forecast for the first dekad of April 2018 shows that rainfall is likely to be concentrated in several parts of the equatorial sector, the southern sector and the southern part of the northern sector of the GHA. Some areas in central and eastern equatorial sector, as well as eastern and southern part of the southern sector are likely to record high rainfall amounts. The rest of the GHA is likely to remain generally dry or record little amounts of rainfall.

Much of GHA is likely to record average temperature exceeding 20°C during the second dekad of March 2018, however over the Ethiopian highlands, central and western highlands of Kenya, southern Uganda, in Rwanda, Burundi, and North-central and southwestern parts of Tanzania are likely to record average temperatures below 20°C.

3.0 Observed rainfall situation during the Second dekad (11-20) of March 2018

Figure 1a shows the distribution of total rainfall, Figure 1b shows the percent of the long term average rainfall, and Figure 1c shows the standardized precipitation index (SPI). SPI indicates whether the observed rainfall is below the or above the climatological average and to which degree. These metrics are generated from the blending of remotely sensed data (e.g. CHIRP) and observed station data across the region.

Rainfall Distribution and Severity

The second dekad of March 2018 rainfall was concentrated in the southern sector, several parts of the equatorial sector, as well as southwestern part of the northern sector of the GHA. The maximum range of total rainfall was exceeded 200 mm and was recorded in south-central Kenya and in eastern parts of Tanzania.

Uganda, Rwanda, Burundi, Kenya and Tanzania:

Northwestern Uganda, northern and eastern parts of Kenya and in a few places south of Tanzania recorded between 10 and 50mm of rainfall much of the rest of these areas recorded between 50mm and 300mm of rainfall, with southwestern and southeastern Uganda, central and southern Kenya and over much of central northeastern and western Tanzania recording more than 100mm of rainfall. Several parts of Uganda, Kenya, Rwanda, northern Burundi, northern and eastern Tanzania experienced moderately wet to severely wet rainfall condition exceeding the average rainfall conditions, while southern Burundi and southern Tanzania indicated near the average rainfall performance.

Eritrea, Djibouti, South Sudan, Ethiopia and Somalia:

Southern part of South Sudan, southern and central Ethiopia, southwestern part of Somalia and central Eritrea recorded rainfall of between 5mm and 50mm, while southwestern part of Ethiopia recording rainfall of between 50mm and 100mm. Much of the rest of these areas recorded rainfall amount less than 5mm. Areas in southern parts of South Sudan, southern and northeastern Ethiopia, Djibouti and southwestern part of Somalia experienced moderately wet to severely wet rainfall conditions that exceed the long term average. Northern part of South Sudan, western, northern and southeastern Ethiopia, western Eritrea and southern Somalia recorded rainfall that was below the long term average that was within the normal condition. Some places in eastern Ethiopia, central and southern Somalia and western SSouth Sudan showed reduced rainfall performance as compared with the previous dekad,

Much of the rest of GHA recorded little or no rainfall and experienced generally conditions, these area receive near normal or generally dry conditions during this time of the year.

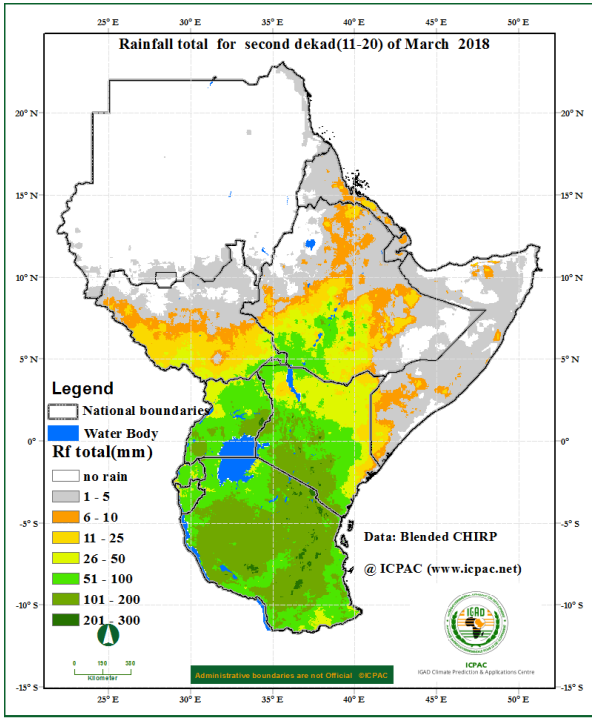

Figure 1a: Rainfall distribution during the second dekad (11-20) of March 2018. *(Data: Blended CHIRP)*

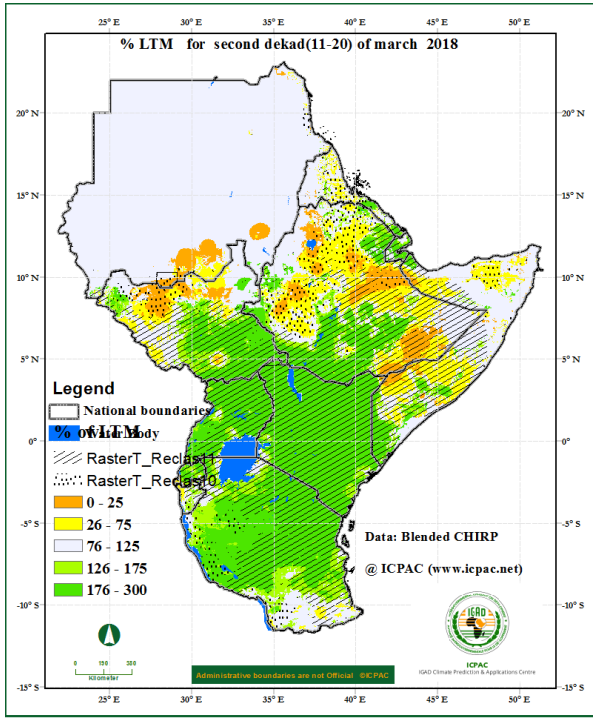

Figure 1b: Percent of long term average rainfall for the second dekad (11-20) of March 2018 *(Data: Blended CHIRP)*

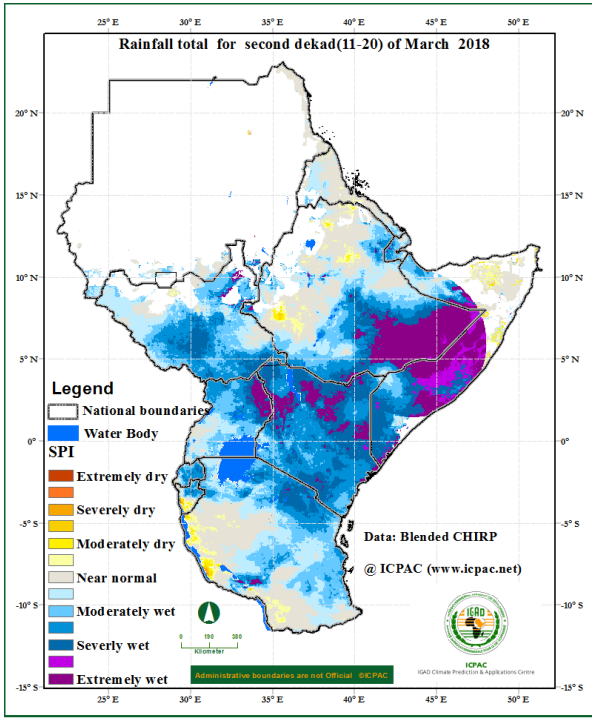

Figure 1c: Standardized Precipitation Index (SPI) for second dekad (11-20) of March 2018 *(Data: Blended CHIRP)*

Maximum and Minimum Temperature Anomaly

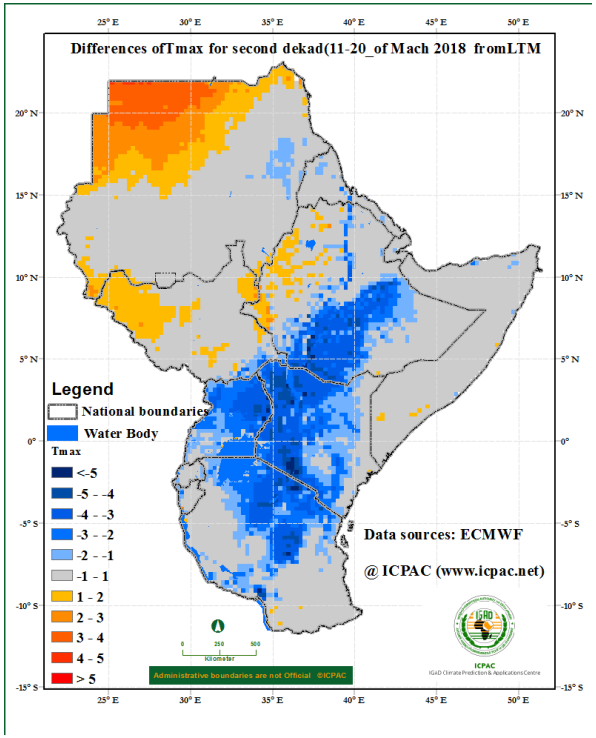

Figure 2: Maximum temperature difference from the average (2008-2017) for the second dekad (11-20) of March 2018*(Data Source: ECMWF)*

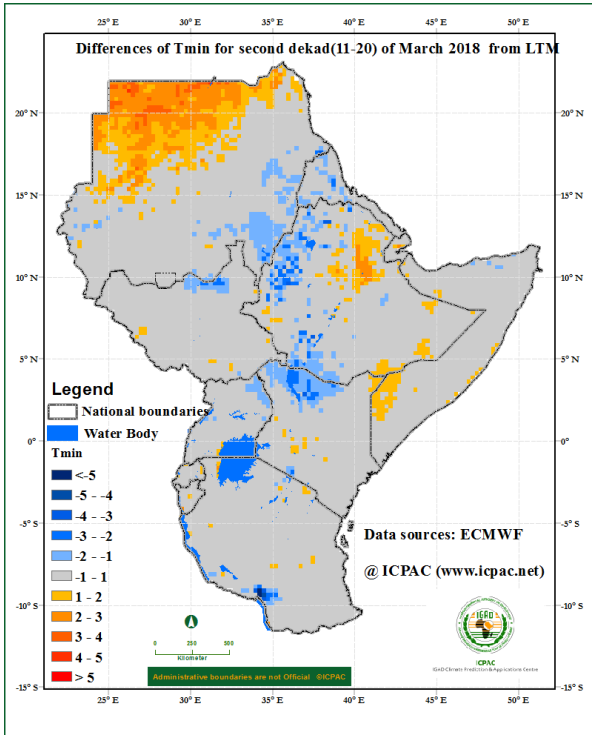

Figure 3:Minimum temperature difference from the average (2008-2017) for the second dekad (11-20) of March 2018*((Data Source: ECMWF)*

The maximum temperature condition during the second dekad of March 2018 shows that:

Sudan, South Sudan, Ethiopia: Northern part of Sudan, northwestern and eastern parts of South Sudan and in northwestern Ethiopia warmer than the average conditions for maximum temperature was experienced. Central and south-central parts of Ethiopia experienced cooler than the average conditions for maximum temperature.

Uganda, Kenya and Tanzania: cooler than the average condition for maximum temperature was observed in much of Uganda, Kenya, and in northern Tanzania.

The minimum temperature condition during the second dekad of March 2018 shows that:

Sudan, Ethiopia, Eritrea and Somalia: warmer than the average condition for maximum temperature was observed in the northern part of Sudan, northeastern and eastern parts of Ethiopia, and southwestern Somalia. Cooler than the average condition for minimum temperature was experienced in southwestern Sudan, parts of eastern Eritrea, and western parts of Ethiopia.

Uganda, and Kenya: northwestern Kenya and northeastern Uganda experienced temperature cooler than the average condition for minimum temperature. A few places in central Kenya recorded minimum temperature warmer than the average value.

Much of the rest of the GHA experience maximum and minimum temperature that are within the average conditions during the second dekad of March 2018.

4.0 Vegetation condition indicators

Normalized Difference Vegetation Index Anomaly

The Normalized Difference Vegetation Index (NDVI) anomaly for the period 21st to 28th March 2018 (Figure 4) indicates that:

South Sudan, Uganda, and Kenya: Much of these areas showed improvement in vegetative condition as compared to the long term average.

Ethiopia and Tanzania: southern and central parts of Ethiopia, northeastern Tanzania showed improvement in vegetative conditions as compared with the long term average. Western to central parts of Ethiopia and a few places in western and central Tanzania showed deterioration in vegetative conditions as compared with the long term average.

Much of the rest of the GHA showed little or no change in vegetation conditions compared to the long-term average for the same period.

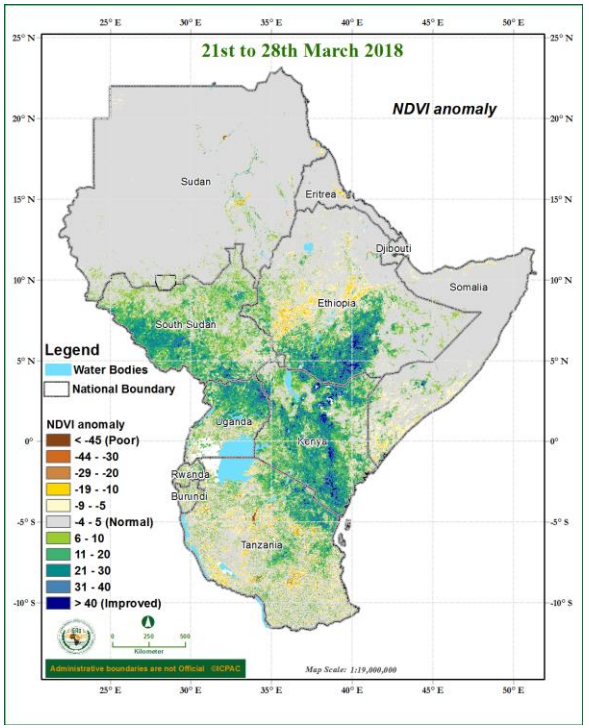

Figure 4: NDVI anomaly for the period between 5th and 12th March 2018 (Data Source: USGS NASA)

5.0 Climate Forecast

Rainfall Forecast

The rainfall forecast for the first dekad of April 2018 in Figure 5 indicates that rainfall is likely to be concentrated over much of Tanzania, Rwanda, Burundi, Uganda, Kenya, south Sudan, several parts of Ethiopia, as well as southern and central Somalia. North, south and eastern parts of Tanzania, western,

central and eastern parts of Kenya, and southern part of Somalia are likely to record high rainfall amounts. The rest of the GHA region including Sudan, Eritrea, Djibouti, northern Somalia, northern Ethiopia, northeastern Uganda, and northwestern Kenya, is likely to experience little amount of rainfall (less than 5 mm) or remain generally dry during the first dekad of April 2018.

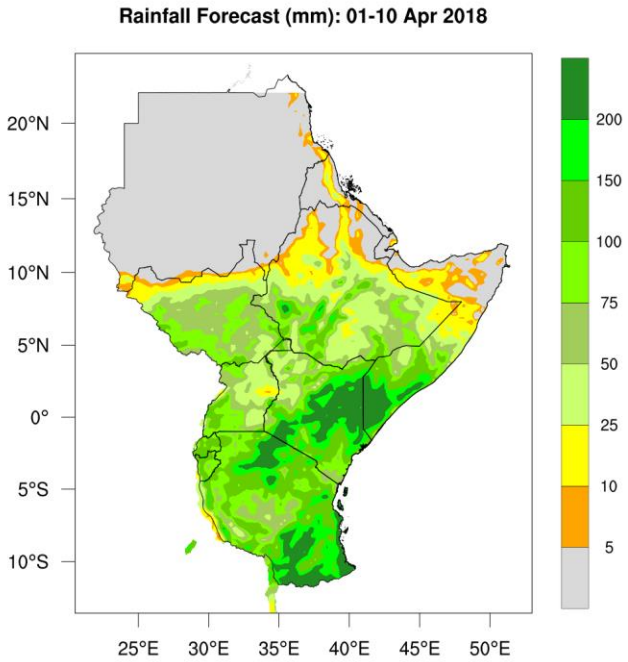

Figure 5: Precipitation forecast for the first dekad (11-20) of April 2018 (Source: WRF ICPAC**)**

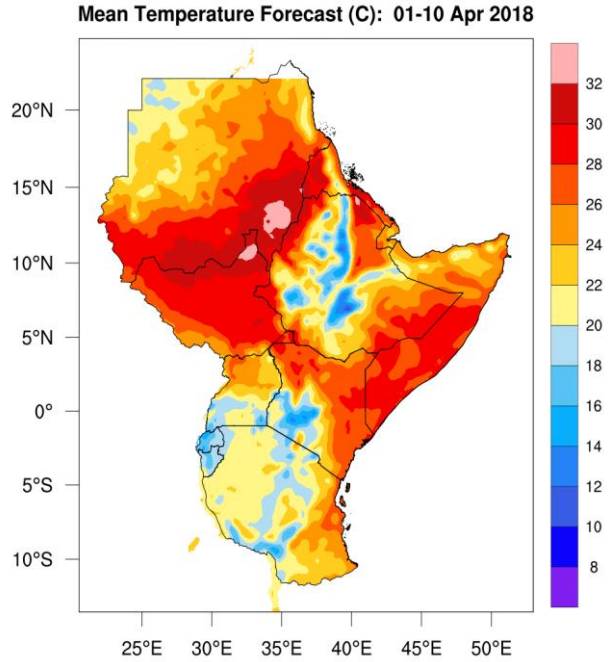

Figure 6: Forecast for average temperature for the first dekad (11-20) of April 2018 (Source: WRF-ICPAC)

Temperature Forecast

The forecast for the average temperature for first dekad of April 2018 (Figure 6) indicates much of the GHA will record temperatures exceeding 20°C except for the central highlands of Ethiopia, central and western highlands of Kenya, southern part of Uganda, over much of Rwanda, Burundi, and in southwestern and central part of Tanzania which is likely to record average temperature less than 20°C. The warmest regions is likely to be in southern Sudan, over much of South Sudan, western and southern Eritrea, southeast of Ethiopia, north and eastern Kenya, and southern and central parts of Somalia.

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 climate conditions in much of the equatorial and southern sector of the GHA resulted to improvement in water and pasture conditions, onset of rainfall and planting season in some areas in the equatorial sector, several areas also reported flooding that led to the disruption of livelihood and loss of life. From the climate forecast for the first dekad of March 2018 parts of several parts of Tanzania Burundi, Rwanda, southwestern Uganda, western, central and eastern Kenya as well as southern Somalia are likely to record high rainfall amounts which may lead to possible localised flooding.

NB: *This ten days bulletin contributes towards the update of the March 2018 climate outlook (http://www.icpac.net/index.php/climate-monitoring/monthly-bulletins.html).*

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