



## 10 DAY CLIMATOLOGICAL SUMMARY AND IMPACTS FOR THE SECOND DEKAD (11-20) OF MARCH 2017 AND CLIMATE OUTLOOK FOR THE FIRST DEKAD (1-10) OF APRIL 2017

### 1.0 Introduction

In this bulletin, the climatic conditions observed during the second dekad (11-20) of March 2017 over the Greater Horn of Africa (GHA) are reviewed and the associated impacts highlighted. The climate outlook for the first dekad (1-10) of April 2017 is also highlighted.

*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

Much of the southern sector, and southern parts of the equatorial sector, and also south-central parts of the northern sector of the GHA experienced rainfall activities during the second dekad (11-20) of March 2017

This rainfall translated into near normal to severely dry conditions over much of the equatorial sector, southern part of the northern sector and northern part of the southern sector of the GHA. during the second dekad of March 2017. Central parts of southern sector, and isolated areas in central northern, indicated wet to severely wet rainfall conditions during the same period.

Northern parts of the northern sector experienced cooler than average maximum temperature. Warmer than average maximum temperatures was observed over much of the southern part of the northern sector, northern and central parts of the equatorial sector, as well as northern

part of the southern sector of the GHA during the second dekad of March 2017.

A areas in the central and southwestern part of the northern sector recorded, as well as a few areas in central parts of the equatorial sector recorded above the average minimum temperature. Much of the rest of GHA region recorded near the average minimum temperature during the second dekad of March 2017.

The outlook for the first dekad (1-10) of April 2017 shows that rainfall is likely to be concentrated over much of the southern sector, and over southern and western parts of the equatorial sector, as well as southwestern and south-central part of the northern sector of the GHA. Average temperature exceeding 24°C is likely to be experienced in several areas across the GHA except for the central parts of Ethiopia, western parts of Rwanda, and central Kenya of the GHA during the first dekad (1-10) April 2017.

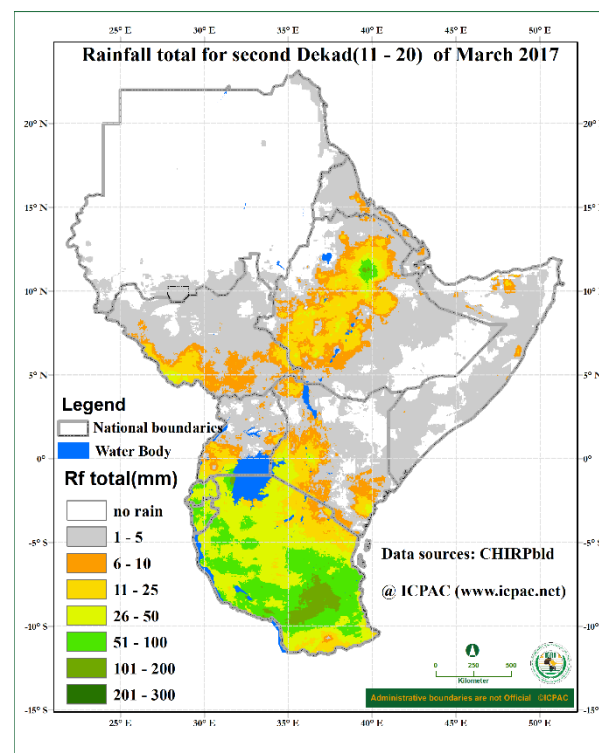
### 3.0 Observed rainfall situation during the second Dekad (11–20 ) of March 2017

Figure 1 shows the total rainfall distribution, Figure 2 shows the percent of the long-term average rainfall, and Figure 2b shows the standardized precipitation index (SPI) over the GHA region during the second dekad of March 2017.

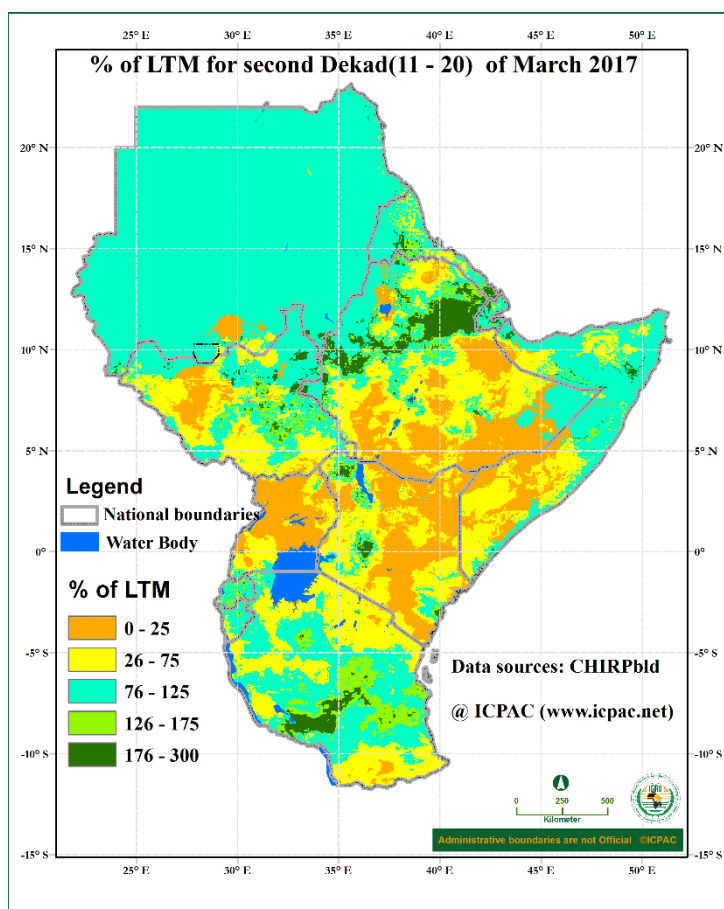
#### Rainfall Distribution and Severity

During the second dekad (11–20) of March 2017, rainfall was mainly experienced in central and northern part of Ethiopia, over western and eastern parts of South Sudan, around south western and south eastern Uganda, in western and coastal parts of Kenya, over much of Rwanda, much of Burundi, and much of Tanzania, where rainfall of more than 5mm was recorded. Rainfall amounts of between 50mm and 200mm was recorded in northern part of Ethiopia, over north west and south west parts of Rwanda, over western and eastern parts of Burundi, and over western and southern parts of Tanzania. The rest of the GHA region which include much of Sudan, Eritrea, Djibouti, Somalia, northwest and east of Ethiopia, northern and central South Sudan, and northern and eastern Kenya recorded less than 6mm of rainfall (Figure 1).

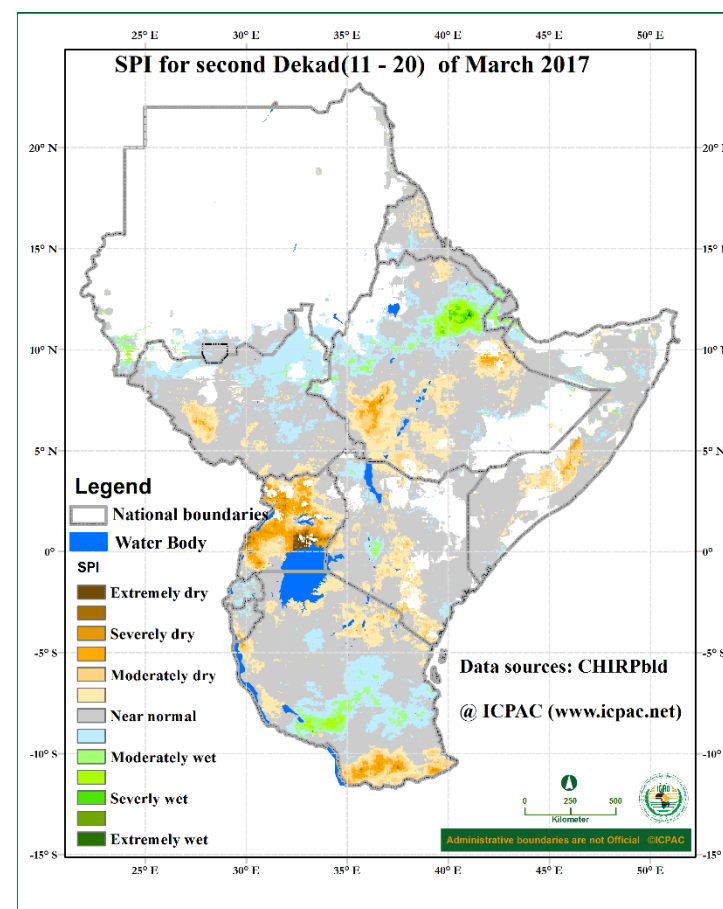
During the second dekad of March 2017, less than 75% of the long term average rainfall was observed in western South Sudan, southern and eastern Ethiopia, over much of Uganda, Kenya, Southern Somalia northern, western and southern Tanzania, as well as southwestern Burundi (Figure 2a). The rainfall in much of these areas translated into moderately dry or severely dry rainfall condition (Figure 2b). A few areas located in the northern parts of Ethiopia, north eastern part of South Sudan, northwest and central parts of Kenya, and in southern parts of Rwanda, as well as in southern part Tanzania indicated more than 125 % of the long term average rainfall (Figure 2a) resulting to moderately wet or severely wet rainfall (Figure 2b). The rest of the GHA region recorded between 75% and 125% of the long term average rainfall resulting to near normal rainfall condition during the second dekad of March 2017.



**Figure 1: Rainfall distribution during the second dekad (11–20 March) of 2017.** (Data Source: CHIRP satellite Estimate blended with observed stations)

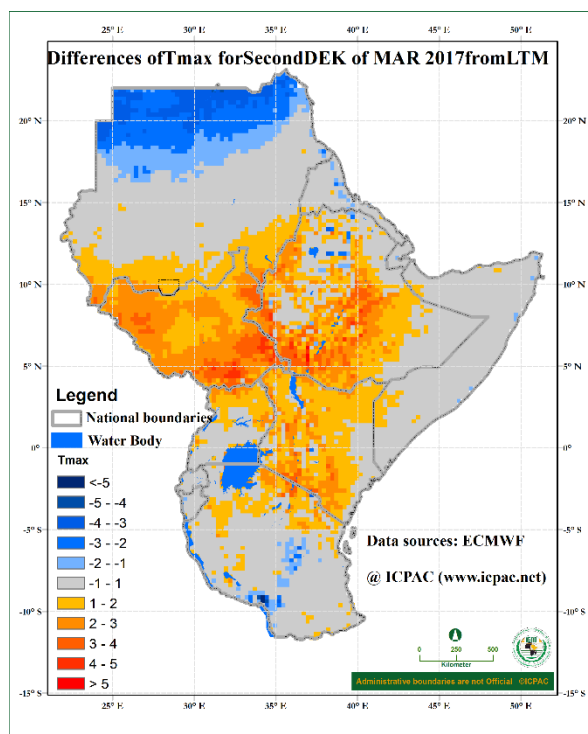


**Figure 2a: Percent of long term average rainfall for the second dekad (11-20) of March 2017** (Data: CHIRP satellite Estimate blended with observed stations)

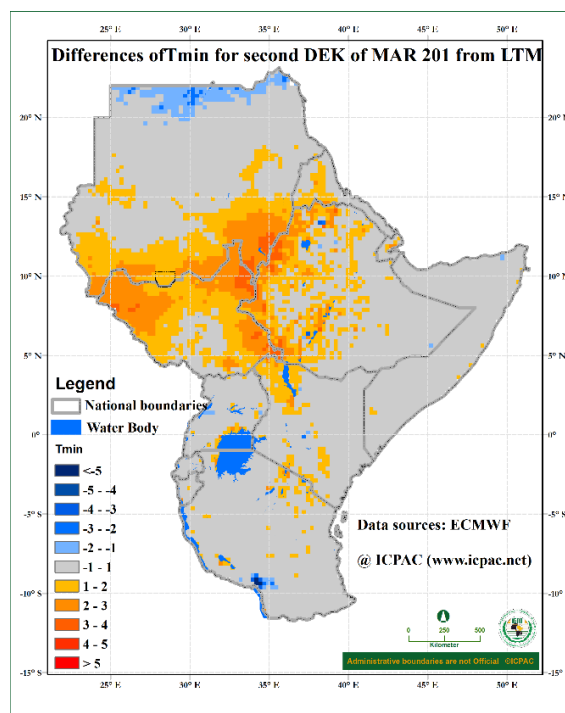


**Figure 2b: Standardized Precipitation Index (SPI) for second dekad (11-20) of March 2017** (Data: CHIRP satellite Estimate blended with observed stations)

## Maximum and Minimum Temperature Anomaly



**Figure 3a: Maximum temperature difference from the average (2008-2015) for the second dekade (11-20) of March 2017** (Data Source: ECMWF)



**Figure 3b: Minimum temperature difference from the average (2008-2015) for the second dekade (11-20) of March 2017** (Data Source: ECMWF)

Warmer than average conditions for maximum temperature was observed in much of South Sudan; in western, southern and eastern Ethiopia; over much of Kenya; in northern and western Uganda; and in northern and northeastern Tanzania during the second dekade of March 2017. Cooler than average conditions from maximum temperature was recorded mainly in the northern parts of Sudan, and in a few areas north of Ethiopia, north of Eritrea, and central and south west of Tanzania (Figure 3a).

Cooler than average conditions from minimum temperature was in a few areas north of Sudan. Warmer than average minimum temperature was experienced over areas in south part of Sudan, extending to much of north and east of South Sudan, and western and central parts of Ethiopia; over south western Eritrea and northwestern Kenya; and over isolated areas in northern Djibouti, southern Uganda, central and south-central Kenya; and north eastern Tanzania during the second dekade of March 2017 (Figure 3b).

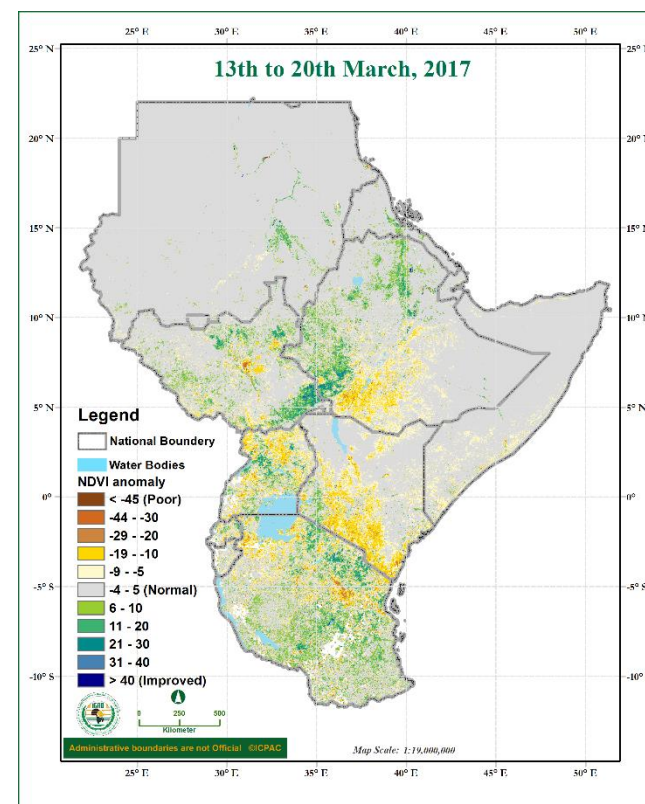
## 4.0 Impacts on socio-economic sectors

The socio-economic impacts associated with the observed rainfall and temperature conditions are highlighted below:

### 4.1 Vegetation condition indicators

#### Normalized Difference Vegetation Index Anomaly

The Normalized Difference Vegetation Index (NDVI) anomaly for the period between 13<sup>th</sup> March and 20<sup>th</sup> March 2017 (Figure 4) indicates that vegetative conditions in northeast, western, and south east of South Sudan; in the west and northern Ethiopia; in central and western parts of Uganda; around western Kenya; in the north east part of Rwanda; and over much of north, eastern and central parts of Tanzania showed improvement as compared with the long term average vegetative conditions. Areas in south of Ethiopia; in parts of north and southern Uganda; in central, southern and coastal areas of Kenya; and in parts of north and northeast of Tanzania showed deterioration in vegetative conditions as compared with the average. 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 13<sup>th</sup> and 20<sup>th</sup> March 2017 (Data Source: USGS NASA)**

## 4.2 Impacts associated with observed climate conditions

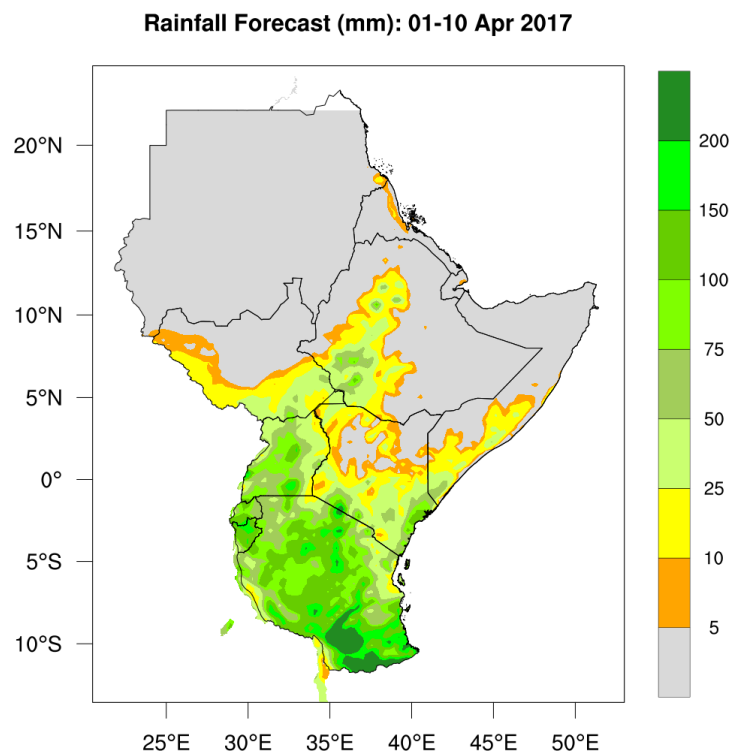
During the second dekad (11-20) of March 2017 dry conditions continued to be experienced in some areas especially in the western parts of the equatorial sector and southern parts of the northern sector of the GHA, and these have encouraged the continuity of drought related impacts such as persistence in deterioration in water and pasture conditions, loss of crop and livestock and water scarcity, which has led to poor prospects of crop and livestock performance, increase in food prices and food insecurity, migration of pastoralist, and human wildlife conflict. Several areas in the southern and equatorial sector have shown improvement in water and vegetative conditions which have eased water stress and improved pasture availability, and has also created onset of cropping season.

From the climate outlook some places in the southern sector as well as western and southern parts of the equatorial sector of the GHA are likely to have an improvement in water, and pasture resources. This is likely to create an improve prospects of crop and livestock production, and possible beginning of cropping season.

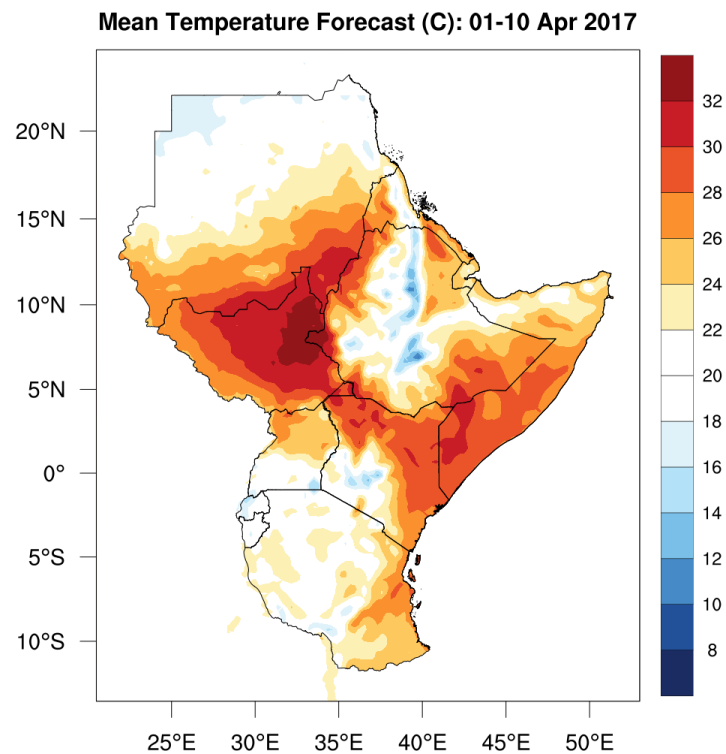
## 5.0 Climate outlook

Rainfall outlook	Temperature outlook
The rainfall outlook for the first dekad (1-10) of April 2017 in Figure 5 indicates that rainfall is likely to be concentrated over much of Tanzania, Rwanda, Burundi, Uganda, southern and coastal Kenya, southern parts of South Sudan, south western and central parts of Ethiopia, and in a few areas in southern part of Somalia. Much of Sudan, Eritrea, Djibouti, Somalia, northern South Sudan, northwest and eastern Ethiopia, north and eastern Kenya, is likely to experience little rainfall or remain	The average temperature outlook for first dekad (1-10) of March 2017 (Figure 6) indicates the likelihood of warm average temperature greater than 22°C over much of the GHA region except for areas in north west of Sudan, central parts of Ethiopia; western part of Rwanda; central Kenya, and south western Tanzania which are likely to be below 18°C .

generally dry during the first dekad of April 2017.



**Figure 5: Precipitation forecast for the first dekad (1-10) of April 2017 (Source: WRF-ICPAC)**



**Figure 6: Forecast for average temperature for the first dekad (1-10) of April 2017 (Source: WRF-ICPAC)**

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