10 DAY CLIMATOLOGICAL SUMMARY AND IMPACTS FOR THE FIRST DEKAD (1-10) OF MARCH 2017 AND CLIMATE OUTLOOK FOR THE THIRD DEKAD (21-31) OF MARCH 2017

1.0 Introduction

In this bulletin, the climatic conditions observed during the first dekad (1-10) of March 2017 over the Greater Horn of Africa (GHA) are reviewed and the associated impacts highlighted. The climate outlook for the third dekad (21-31) of March 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 -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

Much of the southern sector, western and central equatorial sector, and also south central parts of the northern sector of the GHA experienced some rainfall activities during the first dekad (1-10) of March 2017

This rainfall translated into near normal to severely wet conditions mainly in the southern sector, and in a few areas in the west and central equatorial sector during the first dekad of March 2017. Southern parts of the northern sector, and isolated areas in northern, south eastern and western part of the equatorial sector of the GHA indicated moderately dry to severely dry rainfall conditions during the same period.

Northwest and central parts of the northern sector, as well as few areas in central equatorial region experienced cooler than average maximum temperature. Warmer than average maximum temperatures was observed over much of the southern part of the northern sector, eastern and central parts of the equatorial sector, as well as eastern part of the southern sector of the GHA during the first dekad of March 2017.

However much of the GHA recorded near average minimum temperatures except for a few areas in the northern part of the northern sector which recorded below average minimum temperature, and in few isolated areas south of the northern sector, central equatorial sector and east of the southern sector which recorded above the average minimum temperatures.

The outlook for the third dekad (21-31) of March 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 south western 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 third dekad (21-31) March 2017.

3.0 Observed rainfall situation during the first Dekad (1-10) 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 first dekad of March 2017.

Rainfall Distribution and Severity

During the first dekad (1-10) of March 2017, much of north, west and south of Tanzania, Burundi, Rwanda, north-central and southern Uganda, western and central parts of Kenya, and north west Ethiopia recorded more than 25mm of rainfall. Rainfall amounts of between 5mm and 25mm was recorded in north west and south west of Ethiopia, south west and south eastern parts of South Sudan, over much of Uganda, parts of western, central and south-eastern Kenya and parts of north east of Tanzania. The rest of the GHA region which include much of Sudan, Eritrea, Djibouti, Somalia, central and east of Ethiopia, northern and central South Sudan, and north eastern and eastern Kenya recorded less than 6mm of rainfall (Figure 1).

During the first dekad of March 2017, parts of west and southern Tanzania, southern Burundi, north-central Uganda, western and central parts of Kenya; and in some areas north of South Sudan, north east of Ethiopia, and northern part of Somalia indicated more than 125 % of the long term average rainfall (Figure 2a) resulting to moderately wet to severely wet rainfall conditions (Figure 2b) during the first dekad of March 2017. Less than 75% of the long term average rainfall was observed in north west and southern parts of South Sudan; over much of Ethiopia, north, west and south east of Kenya; and in parts of west and eastern Uganda, south west of Somalia, and around north-east coast of Tanzania (Figure 2a) which translated into moderately dry to severely dry rainfall condition (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 first dekad of March 2017.

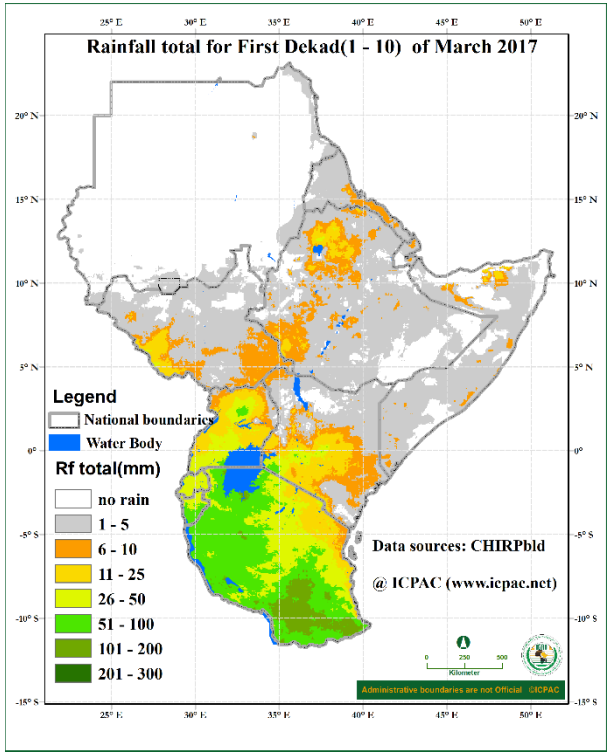

Figure 1: Rainfall distribution during the first dekad (1-10 March) of 2017. *(Data Source: Blended satellite and observed stations)*

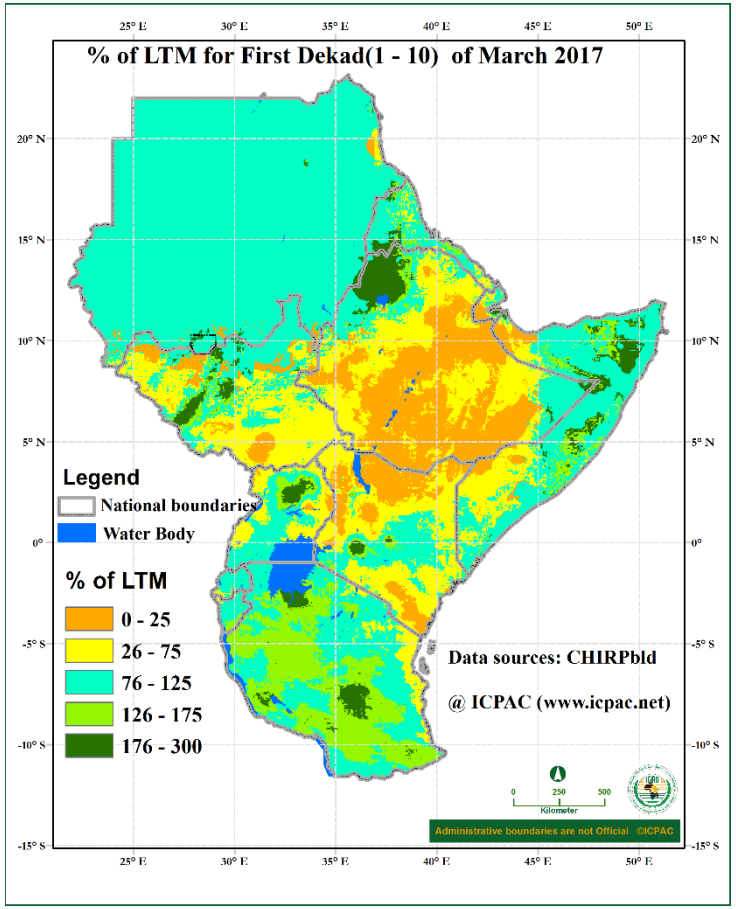

Figure 2a: Percent of long term average rainfall for the first dekad (1-10) of March 2017 *(Data: Blended CHIRPsatellite_ and observed ICPAC bld stations)*

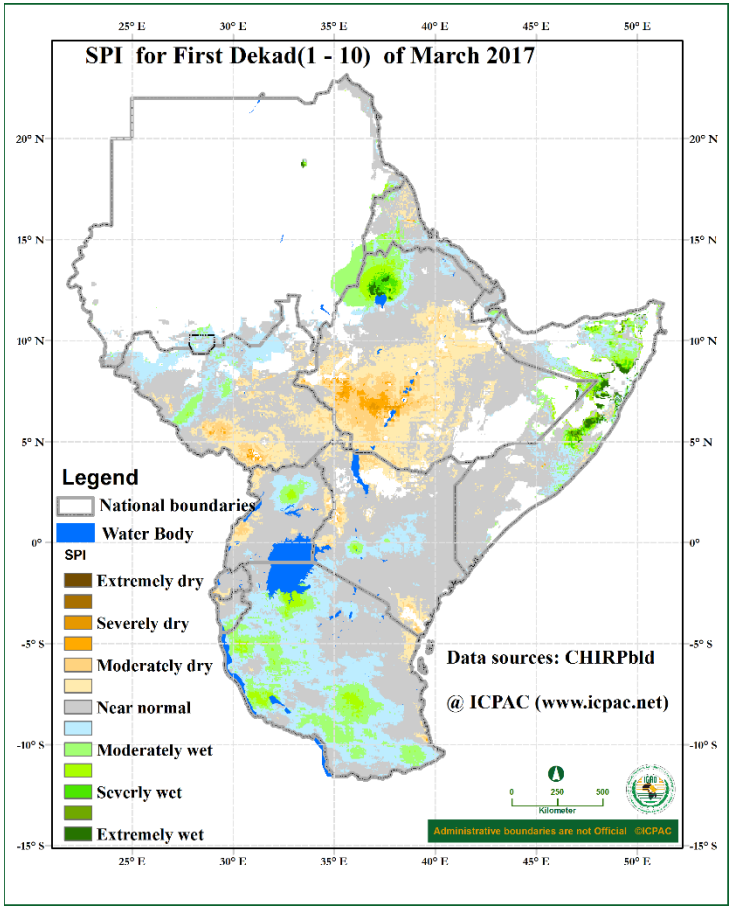

Figure 2b: Standardized Precipitation Index (SPI) for first dekad (1-10) of March 2017 *(Data: Blended CHIRPsatellite_ and observed ICPAC bld stations)*

Maximum and Minimum Temperature Anomaly

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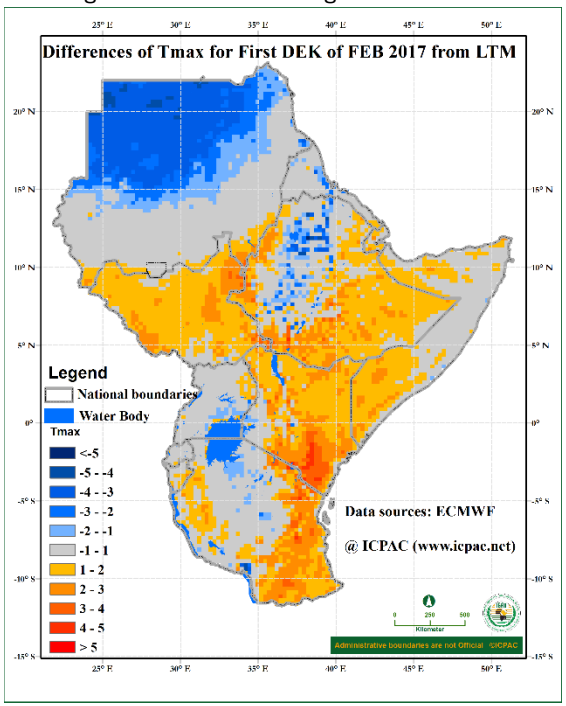

Figure 3a: Maximum temperature difference from the average (2008-2015) for the sixth dekad (1-10 March) of 2017 *(Data Source: ECMWF)*

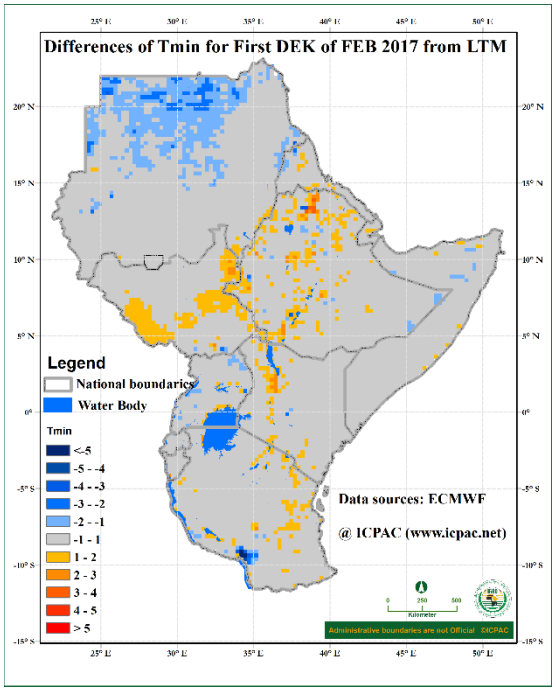

Figure 3b: Minimum temperature difference from the average (2008-2015) for the sixth dekad (1-10 March) of 2017 *((Data Source: ECMWF)*

Warmer than average maximum temperature was observed in much of South Sudan, in western, southern and eastern Ethiopia; in parts of Djibouti, in the northern and southern parts of Somalia, and over much of Kenya, and in the western and eastern parts of Tanzania during the first dekad of March 2017. Cooler than average conditions from maximum temperature was recorded mainly in the northern parts of Sudan, western part of Ethiopia and in isolated areas south west of Uganda and in north central part of Tanzania (Figure 3a) during the same period.

Cooler than average conditions from minimum temperature was mainly recorded over northern part of Sudan, and in western part of Eritrea, Warmer than average minimum temperature was experienced over isolated areas in north and central Ethiopia, west and east of South Sudan, central apart of Kenya and eastern parts of Tanzania during the first dekad 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 5th March and 12th March 2017 (Figure 4) indicates improvement in vegetative conditions in western, north east and south east of South Sudan; in the west and northern Ethiopia; central and southern parts of Uganda; around western Kenya; in parts of Rwanda and Burundi; and over western north eastern and southern parts of Tanzania. Deterioration in vegetative conditions is indicated in a few areas in south of Ethiopia; in parts of north and central Uganda; in central, southern and coastal areas of Kenya; and in parts of central and northeast of Tanzania. The rest of the GHA showed little or no change in vegetation conditions compared to the long-term average of the same period.

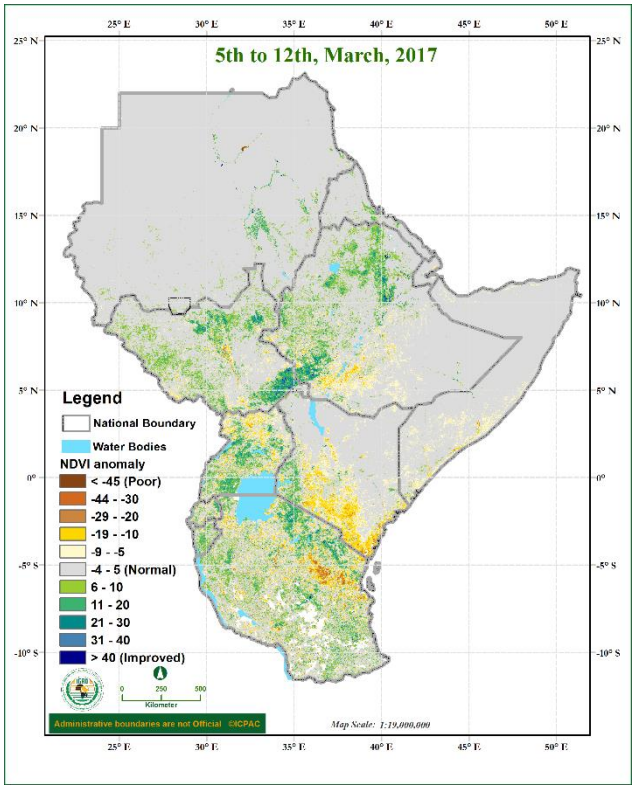

Figure 4: NDVI anomaly for the period between 5th and 12th March 2017 (Data Source: USGS NASA)

4.2 Impacts associated with observed climate conditions

During the first dekad (1-10) 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 third dekad (21-31) of March 2017 in Figure 5 indicates that rainfall is likely to be concentrated over much of Tanzania, Rwanda, Burundi, southwest and central Uganda, southern western and coastal Kenya, southern parts of South Sudan, and central Ethiopia; and in a few areas in southern part of South Sudan, central and southwest of Ethiopia, in eastern and southern parts of Kenya, western Uganda, and southern Somalia, Kenya. Much of Sudan, Eritrea,	The average temperature outlook for third dekad (21-31) of March 2017 (Figure 6) indicates the likelihood of mean temperature below 18°C over central parts of Ethiopia; western part of Rwanda; central Kenya, and south western Tanzania. Much of the rest of the GHA is likely to record average temperature of greater than 22°C during this period.

Djibouti, Somalia, northern South Sudan, north, northwest, and eastern Ethiopia, north and eastern Kenya, is likely to experience little rainfall or remain generally dry during the third dekad of March 2017.

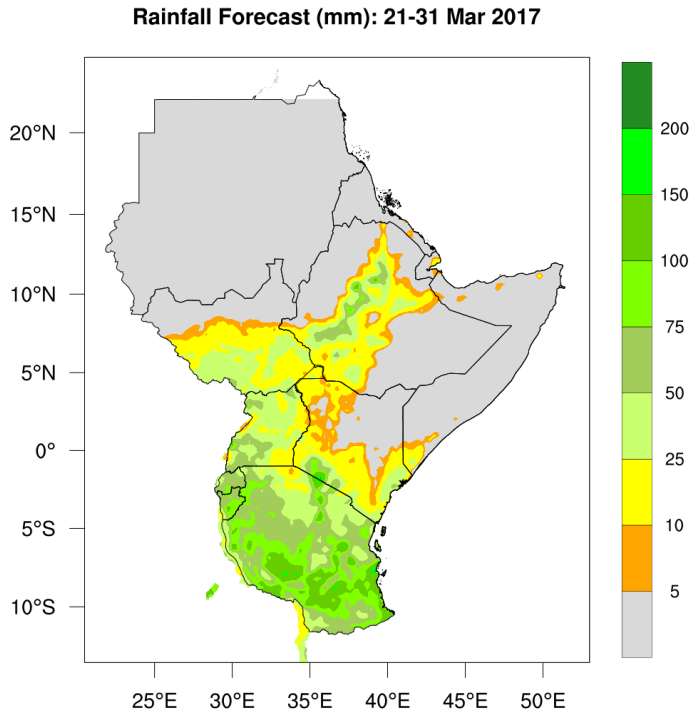

Figure 5: Precipitation forecast for the third dekad (21-31) of March 2017 (Source: WRF-ICPAC)

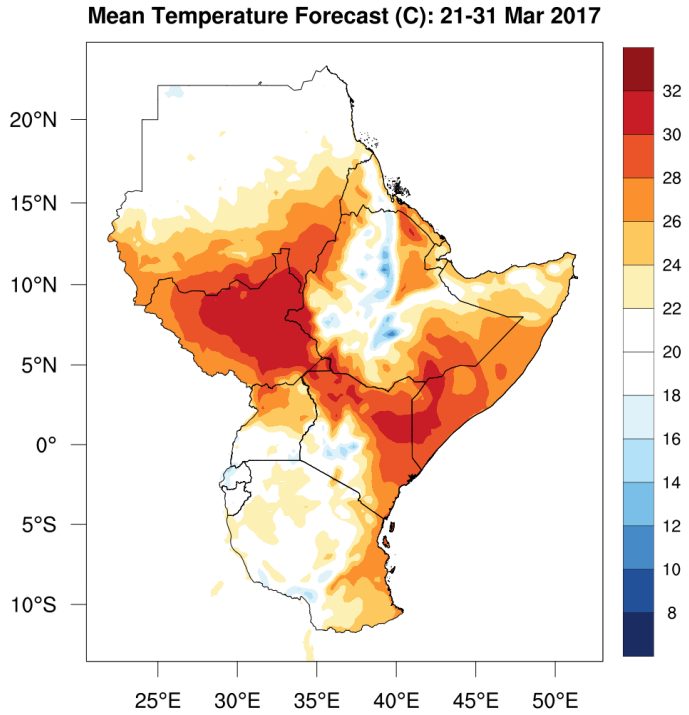

Figure 6: Forecast for average temperature for the third dekad (21-31) of March 2017(Source: WRF-ICPAC)

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