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10 DAY CLIMATOLOGICAL SUMMARY AND IMPACTS FOR THE THIRTY SIXTH DEKAD (21– 31 DECEMBER) OF 2016 AND CLIMATE OUTLOOK FOR THE SECOND DEKAD (11–20 JANUARY) OF 2017

1.0 Introduction

In this bulletin, the climatic conditions observed during the thirty sixth dekad (21-31 December) of 2016 over the Greater Horn of Africa (GHA) are reviewed and the associated impacts highlighted. The climate outlook for the second dekad (11-20 January) of 2017 is also provided.

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

Most of the Greater Horn of Africa (GHA) region has indicated normal to below normal rainfall during the thirty sixth dekad of 2016. Rainfall was observed in few areas within western and eastern parts of the southern sector as well as southern areas of western and eastern parts of the equatorial sector of GHA region during the thirty sixth dekad (21-31 December) of 2016.

Maximum temperatures exceeding 35 °C was recorded in western and south western part of the northern sector, north western and north eastern parts of the equatorial sector as well as over southern part of the southern sector of the GHA. Minimum temperature less than 10°C was recorded in the highlands which include central Ethiopia, western Kenya, western Rwanda and western Burundi.

The outlook for the second dekad (11-20 January) of 2017 shows significant rainfall condition is likely to be experienced in the southern sector as well as southern and western parts of the equatorial sector of the Greater Horn of Africa. Average temperature exceeding 26°C is likely to be experienced in the south western part of the northern sector, north western and eastern part of the equatorial sector and eastern part of the southern sector of the GHA during the second dekad of 2017.

3.0 Observed rainfall situation during the thirty sixth Dekad (21-31 December) of 2016

Figure 1 shows the total rainfall distribution, Figure 2a shows the percent of the average rainfall, and Figure 2b shows the standardized precipitation index (SPI) over the GHA region during the thirty sixth dekad (21-31 December) of 2016.

Rainfall Distribution and Severity

During the thirty sixth dekad of 2016, rainfall was recorded over a few areas in the western and eastern parts of the southern sector as well as southern part of western and eastern equatorial sector of the GHA. Areas around western Tanzania recorded between 51mm and 100mm of rainfall while areas round south western Uganda, much of Rwanda and Burundi, central and south eastern Kenya, and much of western, north eastern and eastern Tanzania recorded rainfall amounts of between 11mm and 50mm. The rest of the GHA region recorded less than 10mm of rainfall during the thirty sixth dekad of 2016 (Figure 1).

During the same period, less than 25% of the long term average rainfall was recorded in south western part of Ethiopia, central and eastern parts of Uganda extending to western Kenya and northern Tanzania as well as central and southern Tanzania (Figure 2a). These areas experienced moderately dry to extremely dry rainfall conditions (Figure 2b). Few isolated areas in coastal parts of Eritrea, Djibouti and northern parts of Somalia, north eastern and south eastern Kenya, as well as western Tanzania recorded rainfall of more than 126% of the long term average amounts which translated into moderately wet to severely wet rainfall conditions. The rest of the GHA recorded between 75% and 125% of the long term average rainfall amounts which translated into near normal or generally dry rainfall conditions during the thirty sixth dekad of 2016.

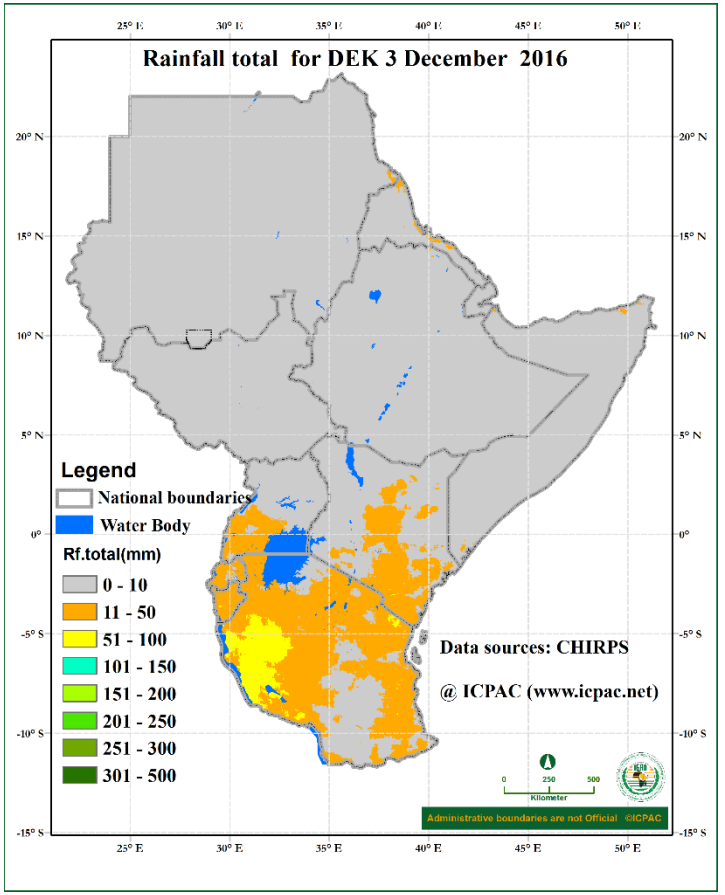

Figure 1: Rainfall distribution during the thirty sixth dekad (21–31 December) of 2016. *(Source: CHIRPS)*

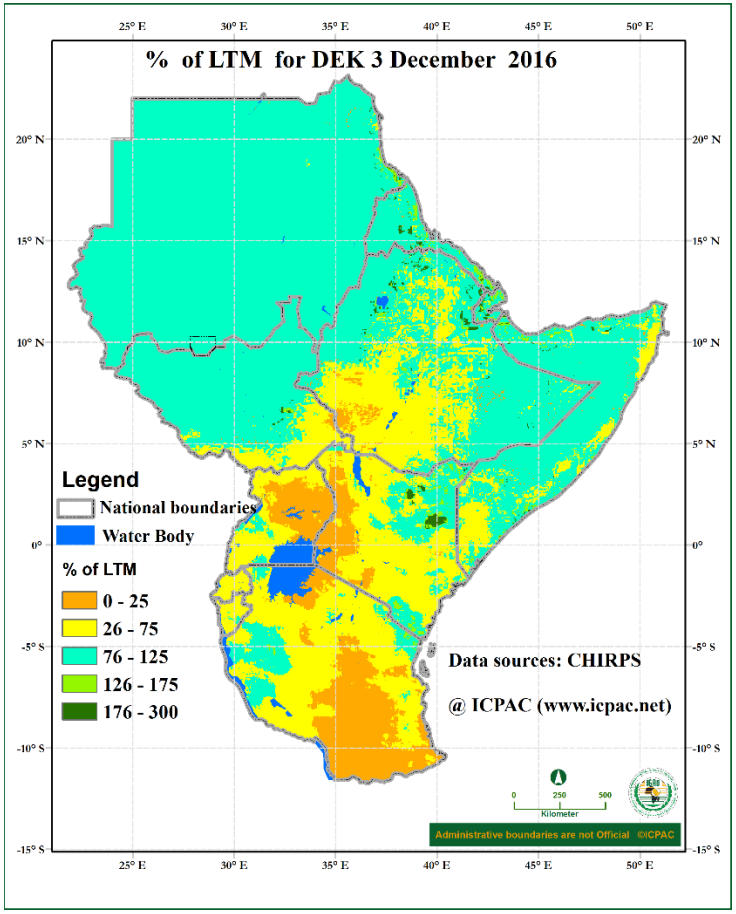

Figure 2a: Percent of long term average rainfall for the thirty sixth dekad (21–31 December) of 2016 *(Source CHIRPS)*

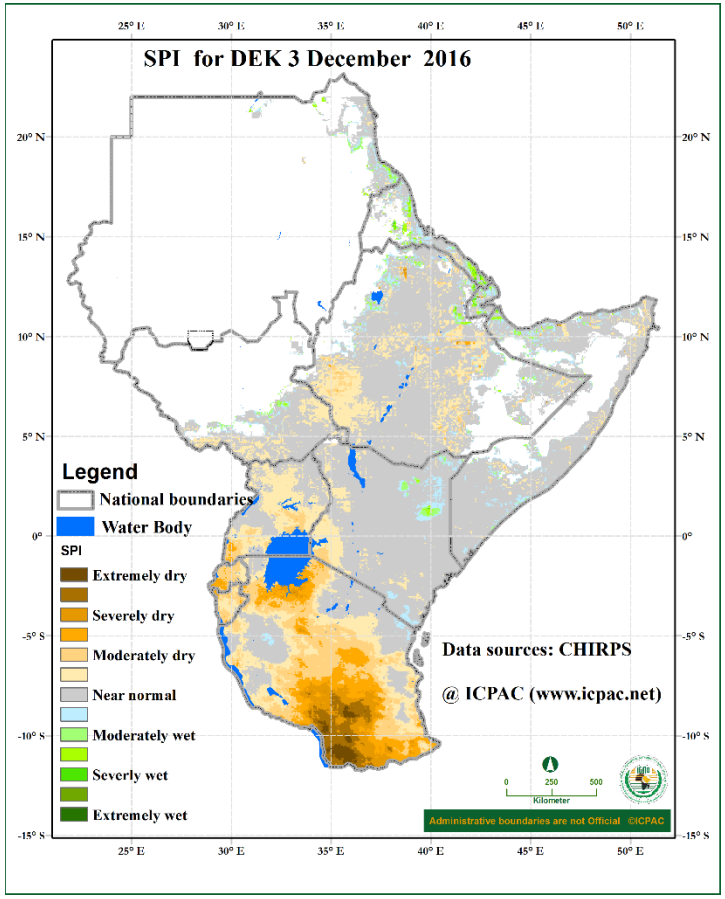

Figure 2b: Standardized Precipitation Indeex for thirty sixth dekad (21–31 December) of 2016 *(Source CHIRPPS)*

Maximum and Minimum Temperature Conditions

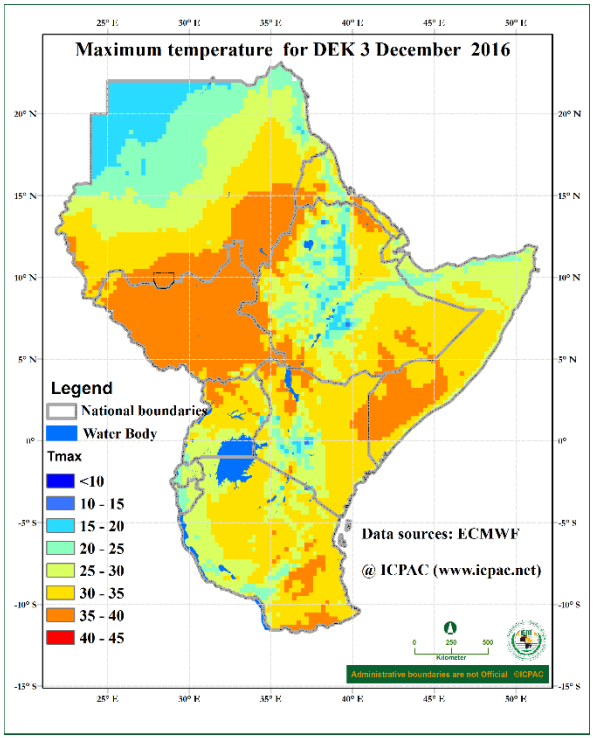

Figure 3a: Average Maximum temperature for the thirty sixth dekad (21–31 November) of 2016*(Source blended ECMWF)*

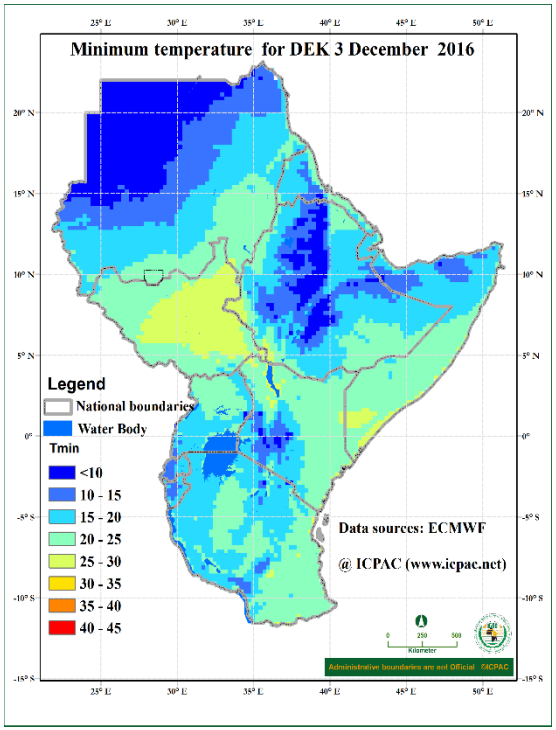

Figure 3b:Average Minimum temperature for the thirty sixth dekad (21–31 December) of 2016*(Source blended ECMWF)*

Temperature conditions during the thirty sixth dekad of 2016 shows maximum temperature exceeding 35°C being recorded in southern and south eastern parts of Sudan; over much of South Sudan; south western and central Eritrea; and over north western and eastern Kenya; southern part of Somalia; and southern part of Tanzania. North western Sudan, central Ethiopia; northern Somalia; central Kenya; western Rwanda; western Burundi, and in isolated parts south western and northern Tanzania recorded maximum temperature of less than 25° C. with the rest of the GHA recording average maximum temperature of between 25°C and 35°C.

Average minimum temperature greater than 25°C was recorded over western and central South Sudan and over southern parts of Somalia The rest of the GHA region recorded average minimum temperature less than 25°C

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 25th December 2016 and 1st January 2017 (Figure 4) indicates deterioration in vegetation conditions in much of equatorial sector and southern sectors of the GHA. These areas included south eastern South Sudan extending to southern Ethiopia, much of Uganda, western, eastern and coastal Kenya extending to southern Somalia, southern part of Rwanda, eastern and central Burundi as well as much of Tanzania. Improvement in vegetative condition was indicated in south eastern Sudan extending to northern eastern part of South Sudan, parts of north western and south western South Sudan, part of eastern margin of central Ethiopia, central and north eastern parts of Kenya. The rest of the GHA showed little or no change in vegetation conditions compared to the long-term average of the same period.

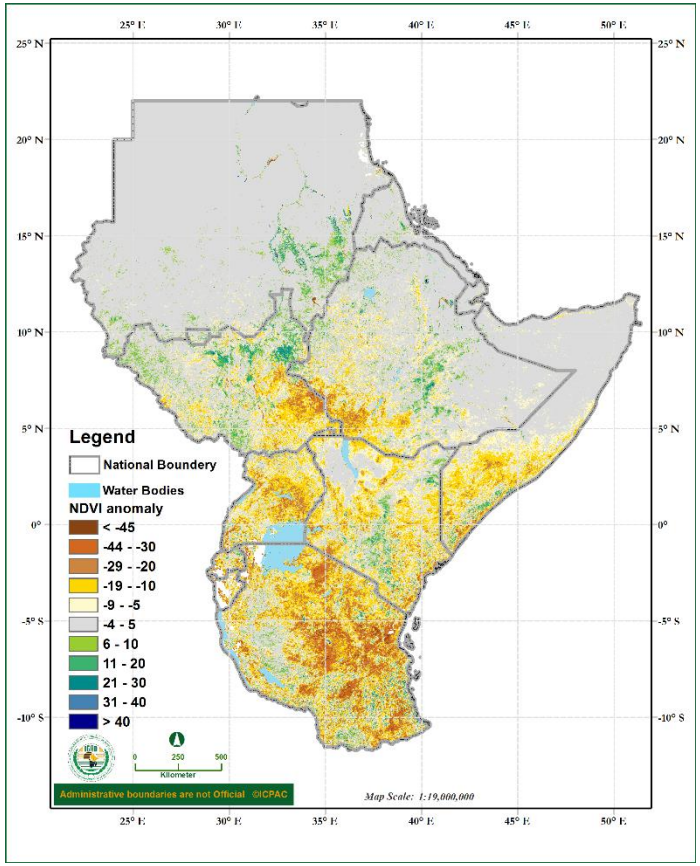

Figure 4: NDVI anomaly for the period between 25thDecember and 2016 1st January 2017

4.2 Impacts associated with observed climate conditions

The observed rainfall conditions over GHA during the thirty sixth dekad (11-20 November) of 2016 were associated with the following impacts:

- Several areas experienced dry conditions leading to persistence in deterioration in water and pasture conditions, and poor prospects of crop and livestock performance.
- Some areas have had increase in the prevalence of water related diseases.
- Increase in food prices
- Migration of pastrolists

5.0 Climate outlook

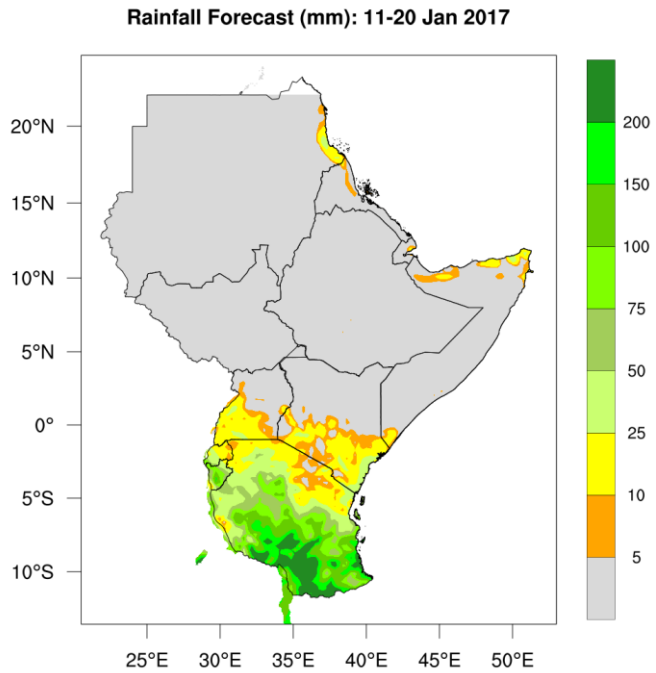

Figure 5: Climate outlook for the second dekad(11 –20 January) of 2017

Rainfall outlook

The rainfall outlook for the second dekad (11-20 January) of 2017 in Figure 5 indicates that rainfall is likely to be concentrated over much of the southern sector as well as over a few areas in southern and western parts of the equatorial sector. The rest of the Greater Horn of Africa Region is likely to experience generally dry conditions.

Temperature outlook

The average temperature outlook for second dekad (11-20 January) of 2017 (Figure 6) indicates the likelihood of mean temperature below 18°C cover north western Sudan; central parts of Ethiopia; central Eritrea; northern Somalia, central Kenya; and north western Rwanda. The rest of the GHA is likely to record average temperature of more than 22°C during this period.

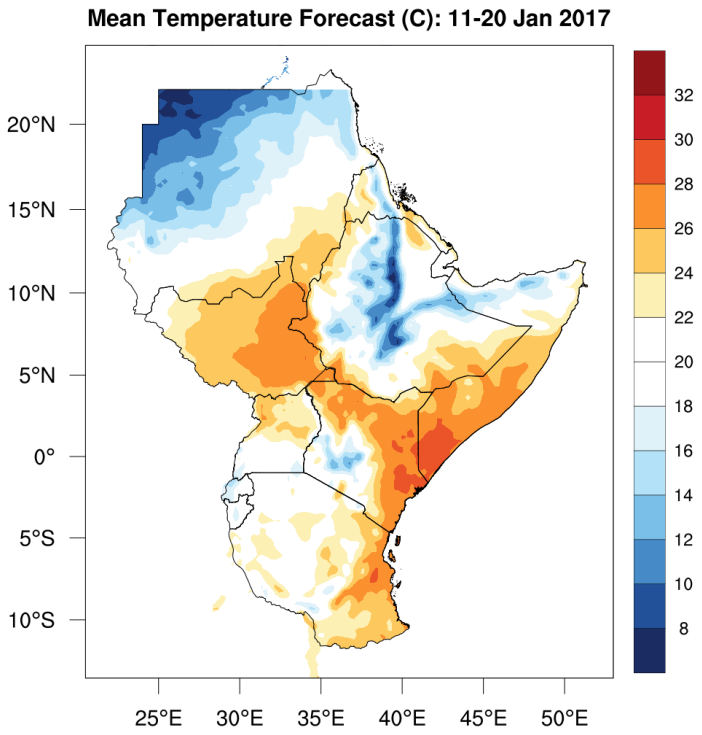

Figure 6: Climate outlook for the second dekad (11 –20 January) of 2017

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

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