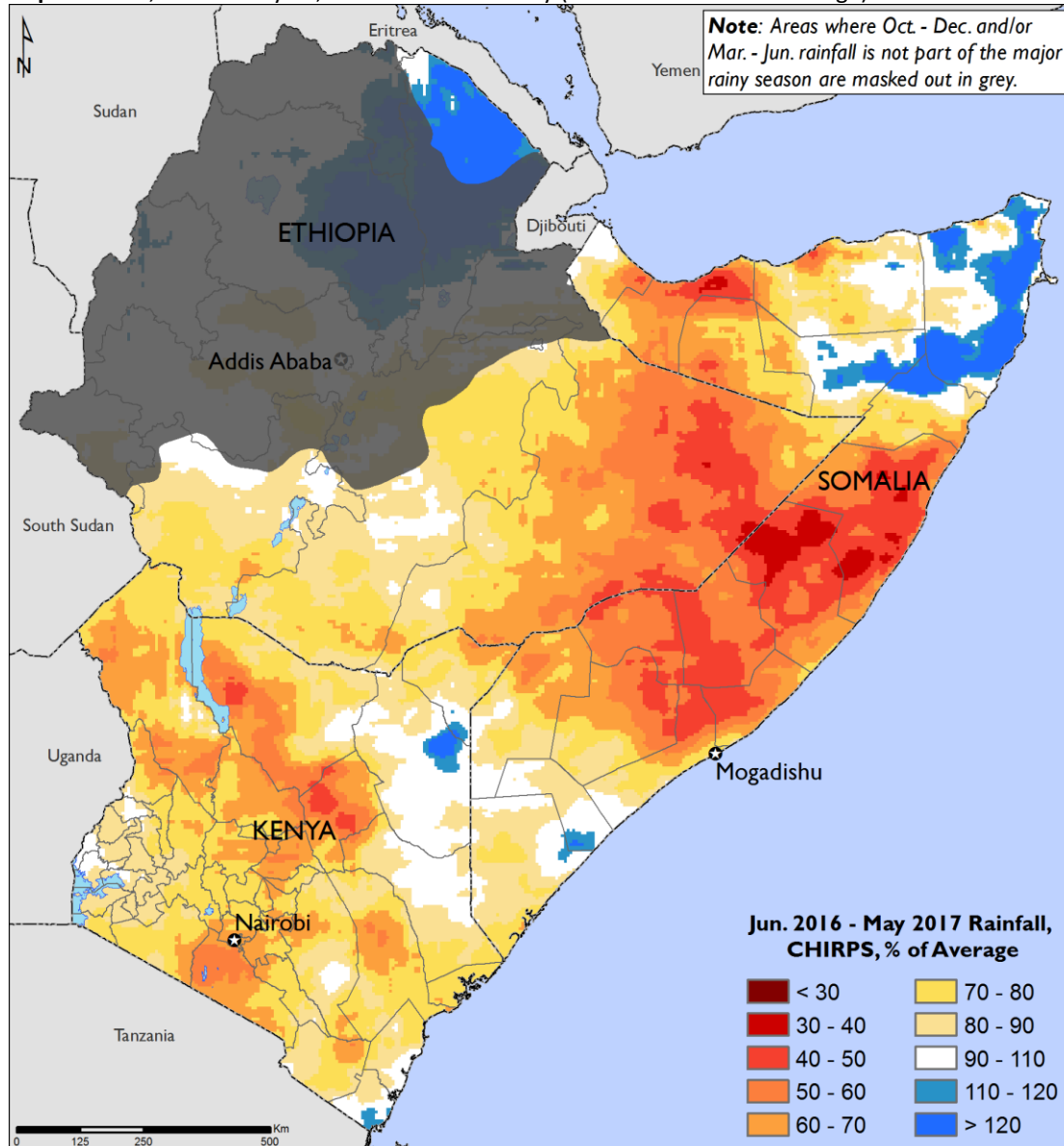


Illustrating the extent and severity of the 2016/17 Horn of Africa drought

From mid-2016 to mid-2017, a severe drought occurred across the Horn of Africa. Rainfall was erratic and significantly below-average during both the October-December 2016 and the March-May 2017 seasons. This drought greatly limited crop production, pasture growth and water availability. In Somalia and Ethiopia in particular, food security impacts are expected to be severe. This report presents a series of maps which illustrate the extent and the severity of the drought, and its impacts on crop and rangeland conditions and on food prices. For a more detailed narrative and analysis of the drought's current and expected impacts on food security, please visit <http://www.fews.net/east-africa>.

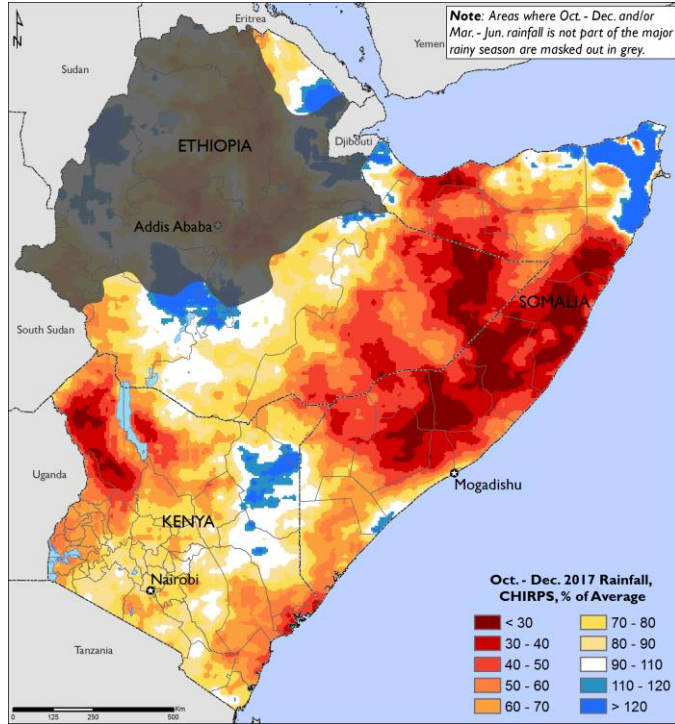
Map 1. June 1, 2016 – May 31, 2017 rainfall anomaly (% of the 1981-2010 average)



Source: FEWS NET/USGS CHIRPS

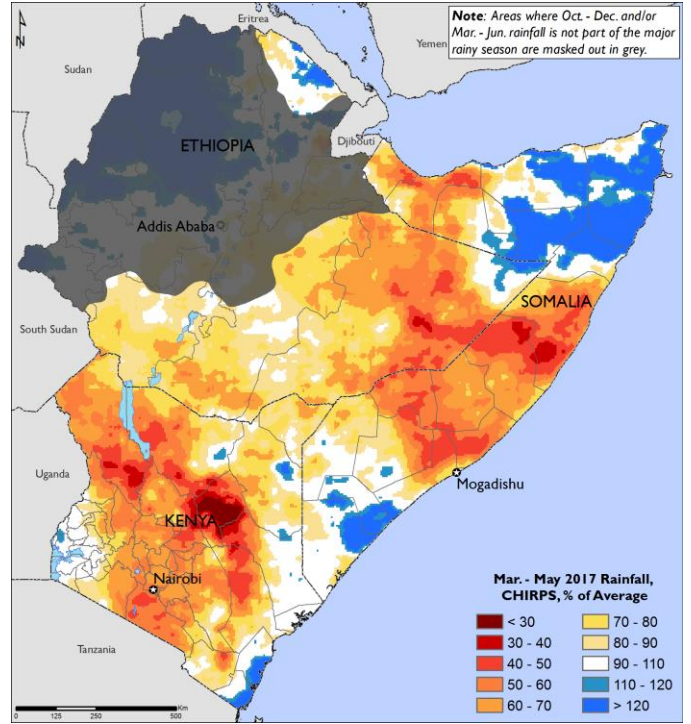
This map illustrates how rainfall between June 1, 2016 and May 31, 2017 deviated from the 1981-2010 average over the Horn of Africa. During this period, rainfall was less than 60 percent of average across central Somalia, the Somali Region of Ethiopia, and parts of eastern and western Kenya. The timing of rainfall in these areas was also very erratic.

Map 2. Oct-Dec 2016 rainfall anomaly (% of 1981-2010 average)



Source: FEWS NET/USGS [CHIRPS](#)

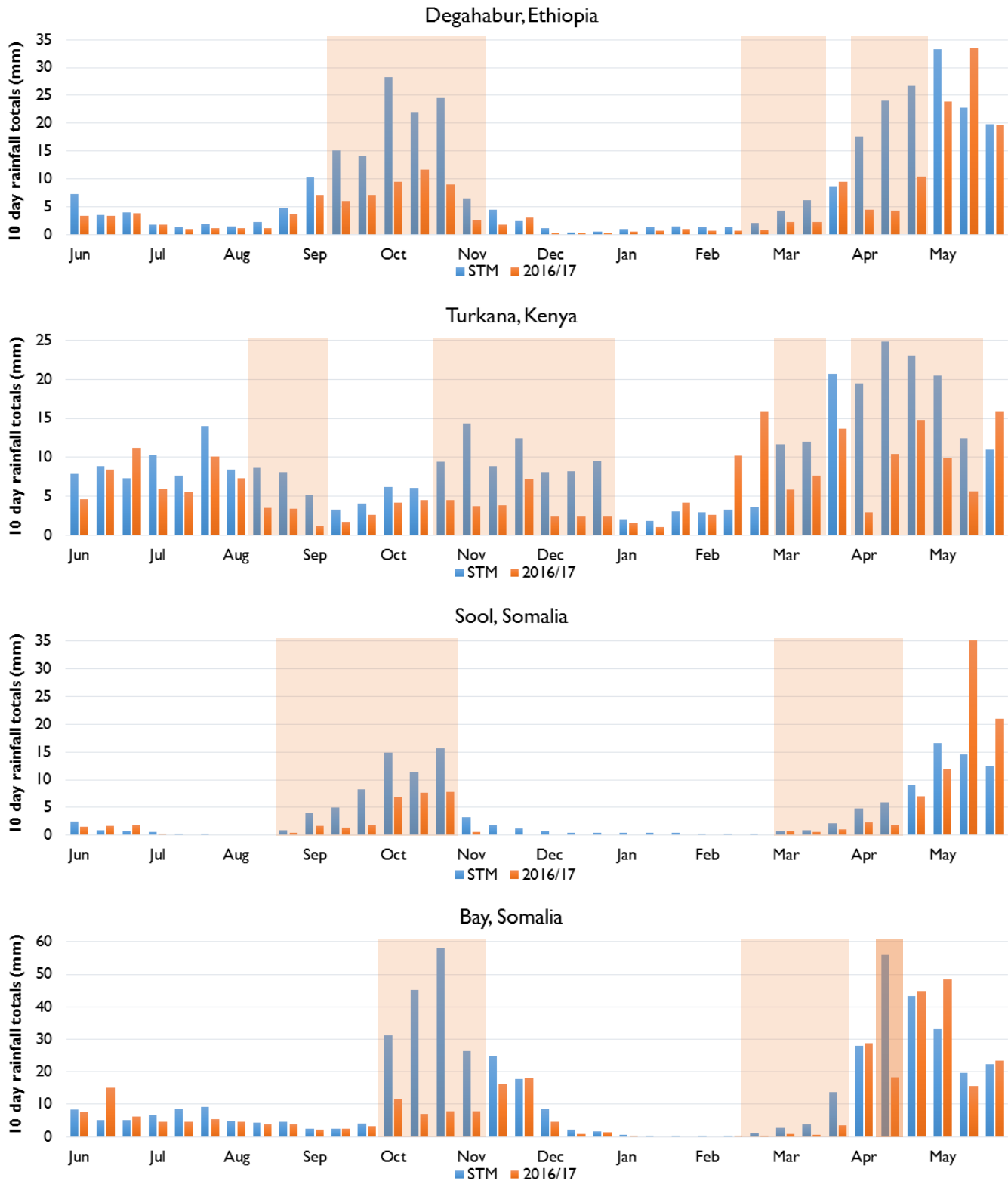
Map 3. Mar-May 2017 rainfall anomaly (% of 1981-2010 average)



Source: FEWS NET/USGS [CHIRPS](#)

The drought in 2016/17 is the result of two consecutive below-average rainy seasons. Cumulative seasonal rainfall between October and December 2016 was less than 50 percent of average across much of Somalia and southeastern Ethiopia (Map 2). Then, between March and May 2017, cumulative rainfall was less than 70 percent of average across many of the same areas (Map 3). Worst affected areas include central Somalia, eastern Somali Region in Ethiopia, and localized areas of northern Kenya.

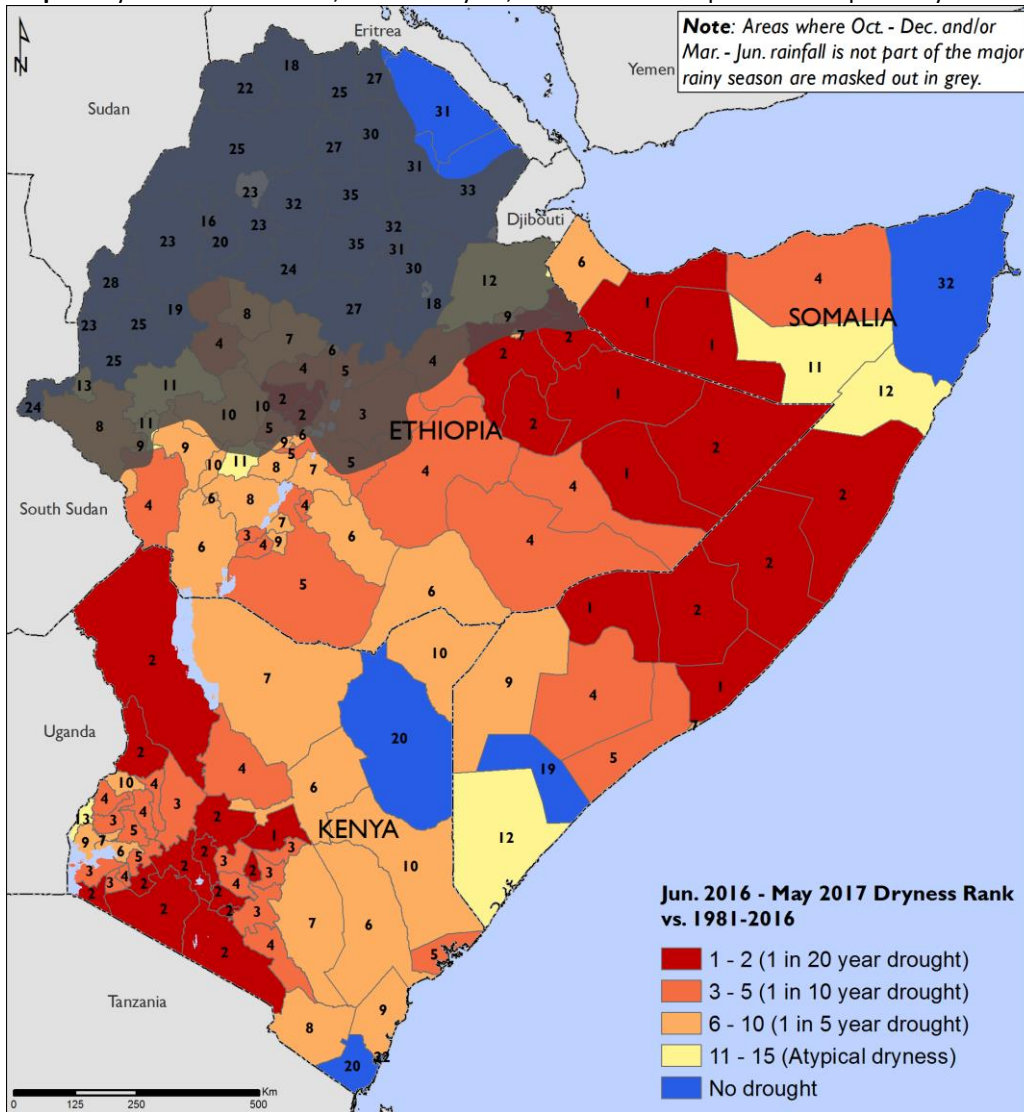
Figure 1. June 2016 – May 2017 rainfall (10-day accumulations in mm) vs. the 2000-2015 short-term mean (STM)
Late start of season and severe dry spells are highlighted in orange.



Source: FEWS NET/USGS CHIRPS

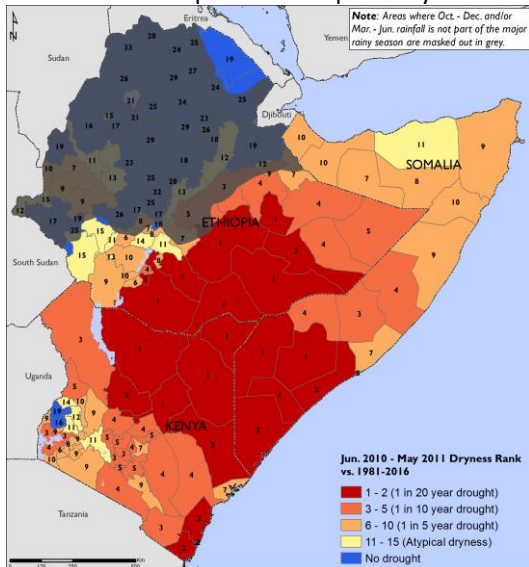
The timing and distribution of rainfall in late 2016 and early 2017 was very poor compared to normal. In the areas highlighted above, the October to December 2016 and March to May 2017 rains were affected by either late starts-of-season, mid-season dry spells, or both (Figure 1). In agriculturally productive areas, these factors led to a shorter than normal growing season and moisture stress on crops, which severely limited crop growth. In pastoral areas, lower than normal rainfall levels led to less regeneration of pasture and water than is typical.

Map 4. Dryness rank of June 1, 2016 – May 31, 2017 rainfall compared to the past 36 years



Source: FEWS NET/USGS CHIRPS

Map 5. Dryness rank of June 1, 2010 – May 31, 2011 rainfall compared to the past 36 years

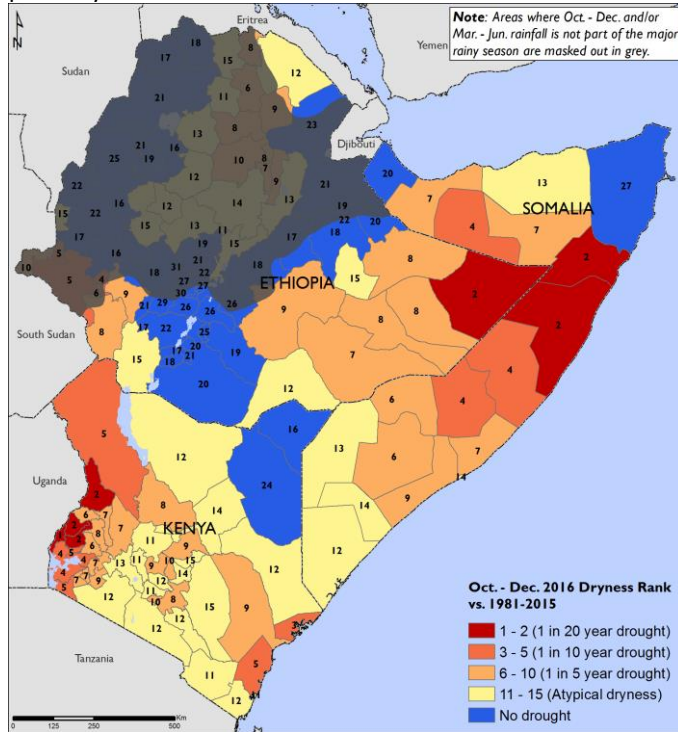


Source: FEWS NET/USGS CHIRPS

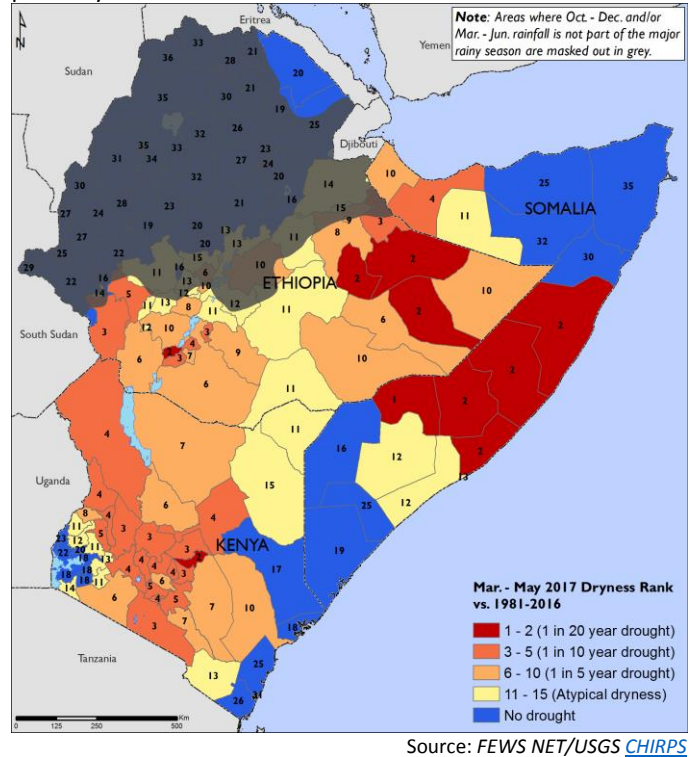
The map above illustrates the severity of drought between June 2016 and May 2017 by ranking the rainfall received during this period against rainfall received during the same period over the last 36 years. The numbers presented on the map reflect the area’s dryness ranking for the last year, with a “1” indicating that the 2016/17 period was the driest on record and a “36” indicating that 2016/17 was the wettest on record (Map 4). This analysis indicates that large areas of Somalia and Ethiopia experienced the driest or second-driest years on record.

In comparison, the map to the left indicates the same analysis for June 2010 to May 2011, a period when severe drought contributed to severe food insecurity and Famine (Map 5). While severe droughts occurred in both 2010/11 and 2016/17, the areas worst affected by dryness were different. In addition, dryness was worse across a broader area in 2010/11, and occurred when areas such as southern Somalia were facing severely constrained humanitarian access.

Map 6. Dryness rank of Oct-Dec 2016 rainfall compared to the past 36 years

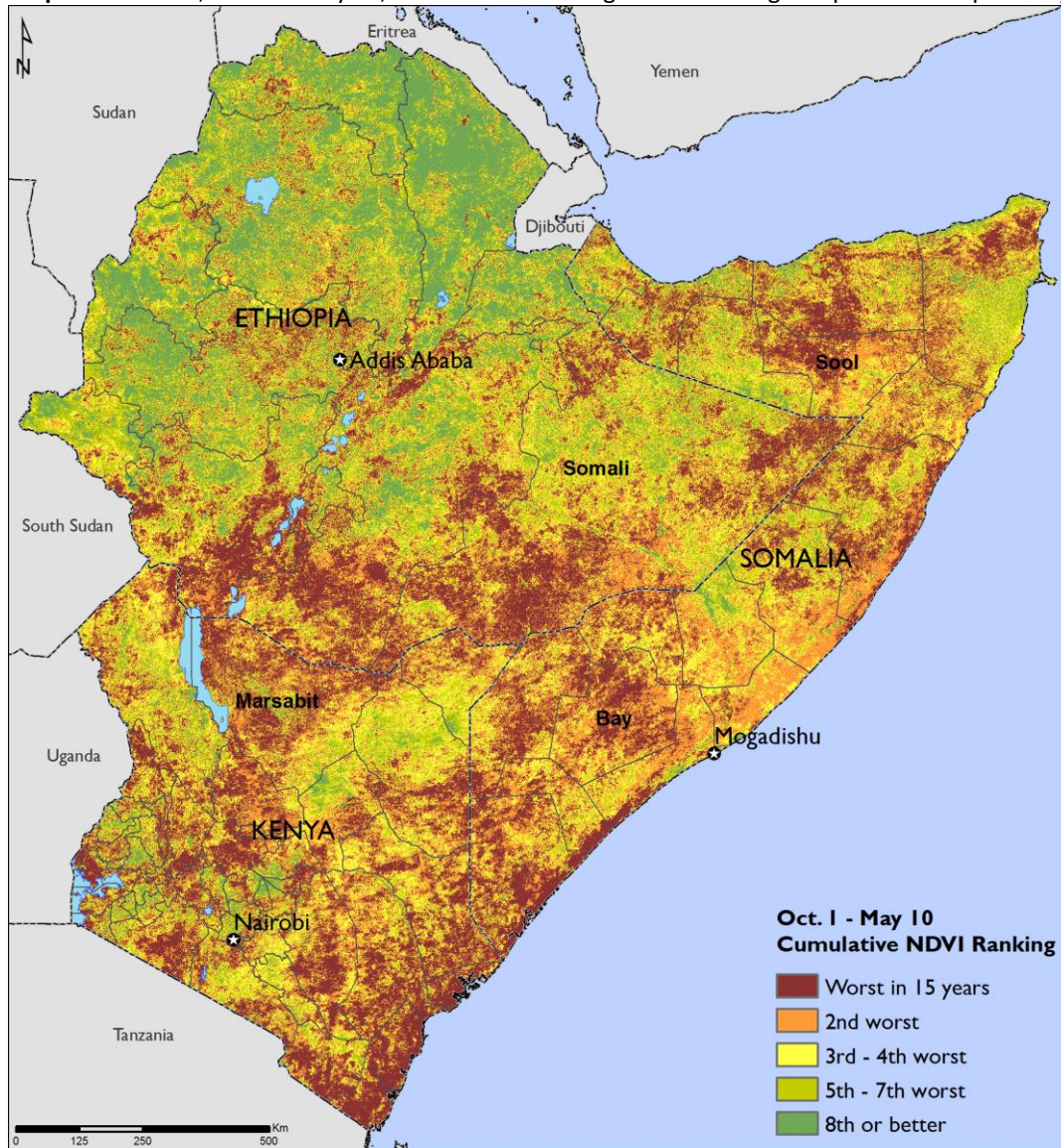


Map 7. Dryness rank of Mar-May 2017 rainfall compared to the past 36 years



Rainfall during the October to December 2016 season was among the lowest in 36 years in parts of central and northern Somalia, southeastern Ethiopia, and western Kenya (Map 6). Then, between March and May 2017, rainfall was again among the lowest on record for many of the same areas (Map 7). Areas where rainfall improved during March to May 2017 include coastal and southeastern Kenya, far southern Somalia, and northern Somalia.

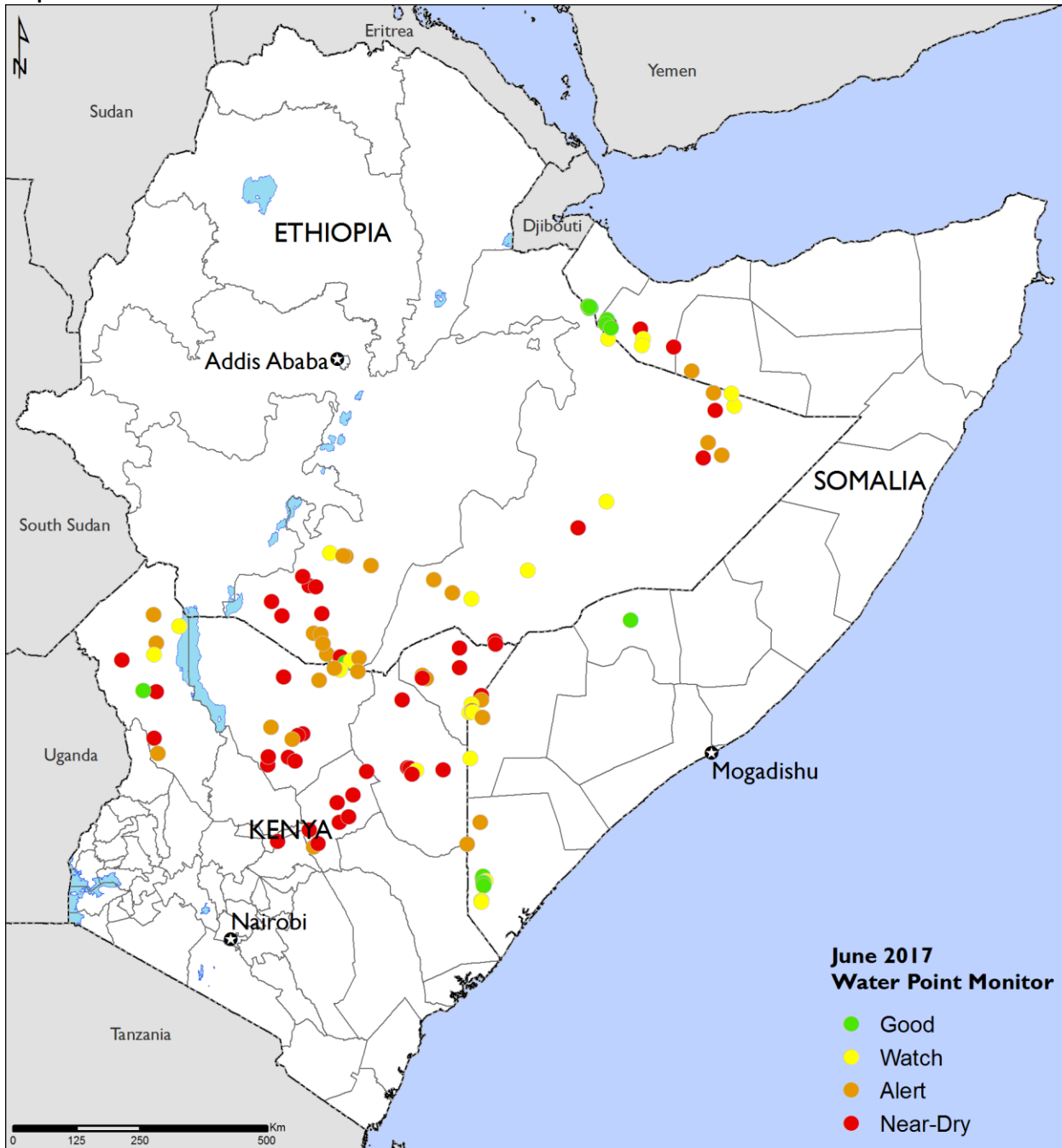
Map 8. October 1, 2016 to May 10, 2017 cumulative vegetation ranking compared to the past 14 years (2002/03-2015/16)



Source: FEWS NET/USGS [NDVI](#)

The eMODIS Normalized Difference Vegetation Index (NDVI) is a satellite derived measure of vegetation health and density. Comparisons between current and historical NDVI data can provide a good indicator of relative crop health and availability of pasture/forage for livestock. Map 8 compares the cumulative NDVI ranking for the October 1, 2016 to May 10, 2017 period with the last 14 years, suggesting that recent vegetation levels were either the worst or second worst in the past 15 years across broad areas of Somalia, Kenya, and southern and southeastern Ethiopia (Map 8).

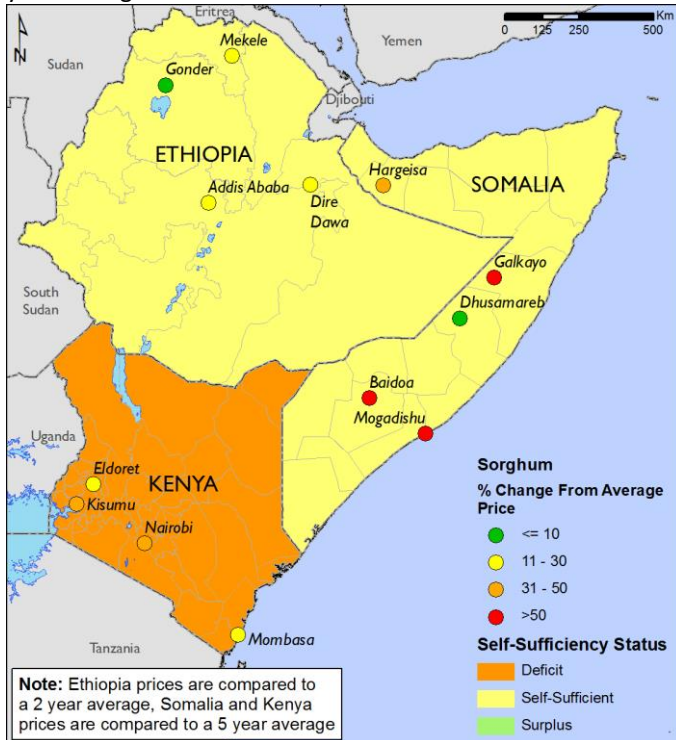
Map 9. Water Point Levels as of June 2017



Source: FEWS NET/ USGS [Water Point Viewer](#)

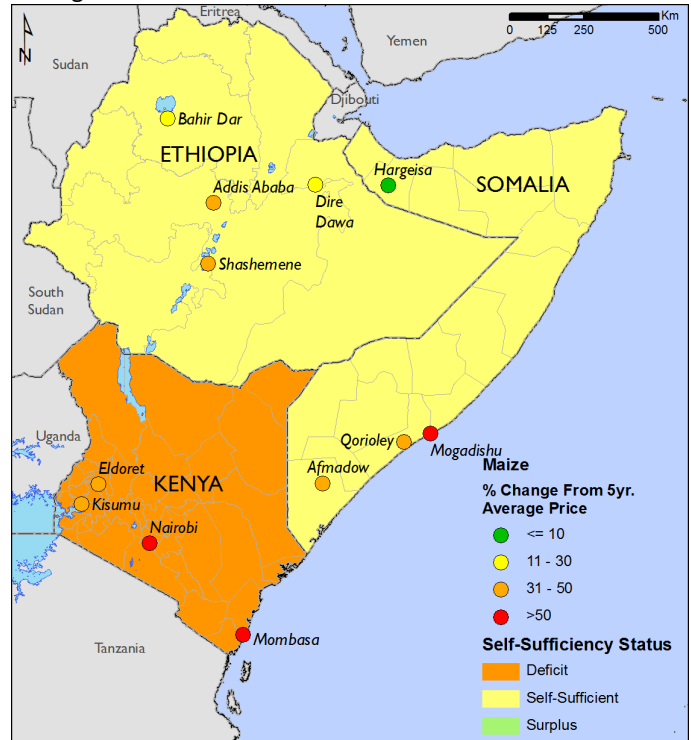
This map illustrates water point monitoring data from USGS. The system monitors 234 water points from Mali to Somalia and aims to help provide an understanding of the current availability of water for human and livestock consumption. By estimating water point depth and comparing to previous years' levels, the Water Point Viewer is able to provide an indication of the status of water points. In June 2017, most monitored water points in Kenya, Ethiopia, and Somalia were at "Alert" or "Near-Dry" levels. Since no rainfall is expected for many of these areas until October 2017, water availability is expected to decline further in the coming months.

Map 10. May 2017 sorghum prices compared to recent five-year average



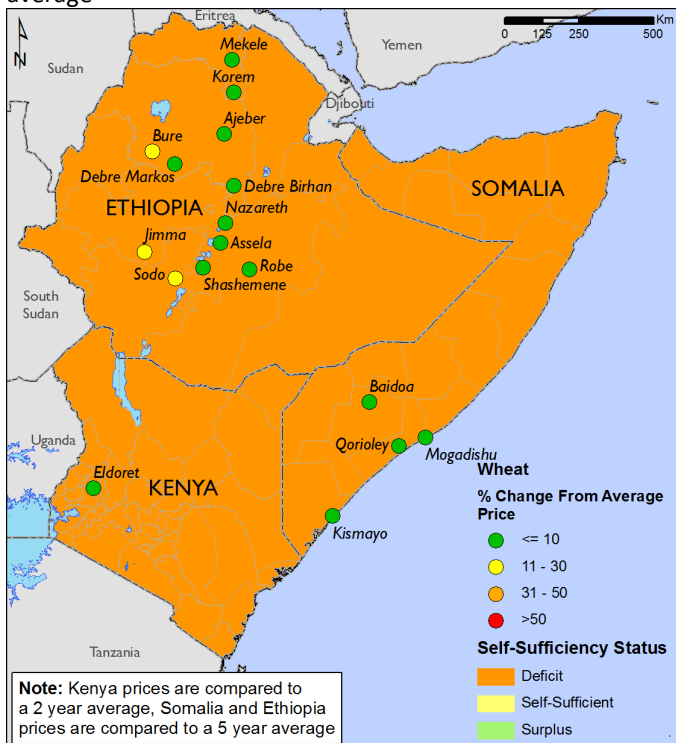
Source: FEWS NET

Map 11. May 2017 maize prices compared to recent five-year average



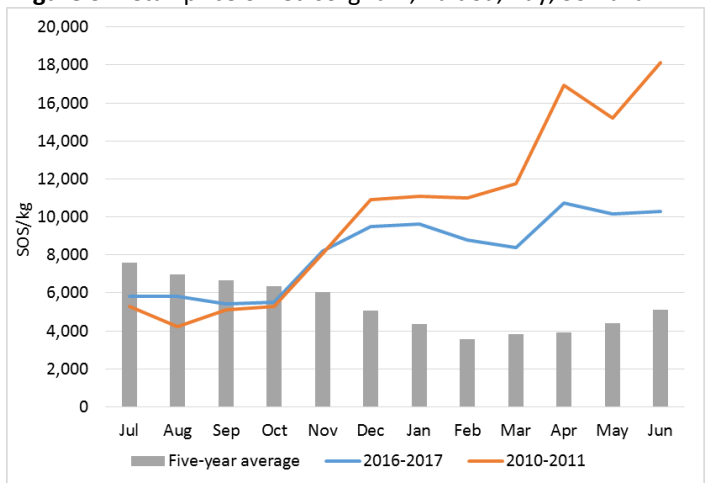
Source: FEWS NET

Map 12. May 2017 wheat prices compared to recent five-year average



Source: FEWS NET

Figure 3. Retail price of red sorghum, Baidoa, Bay, Somalia



Source: FSNAU/ FEWS NET

These maps illustrate May 2017 sorghum, maize, and wheat prices compared to average, and indicate which countries are self-sufficient or deficit/surplus producing for each commodity. Figure 3 shows the price of sorghum in a key market in Somalia, Baidoa, compared to average and to 2010/11. Prices for local cereals (sorghum, maize) are atypically high in many areas of Somalia, particularly in southern and central regions. In the worst-affected areas of Somalia, prices remain well above average, but significantly lower than levels seen in 2011 (Figure 3).