Heavy rainfall and further flooding expected across East Africa through the end of May

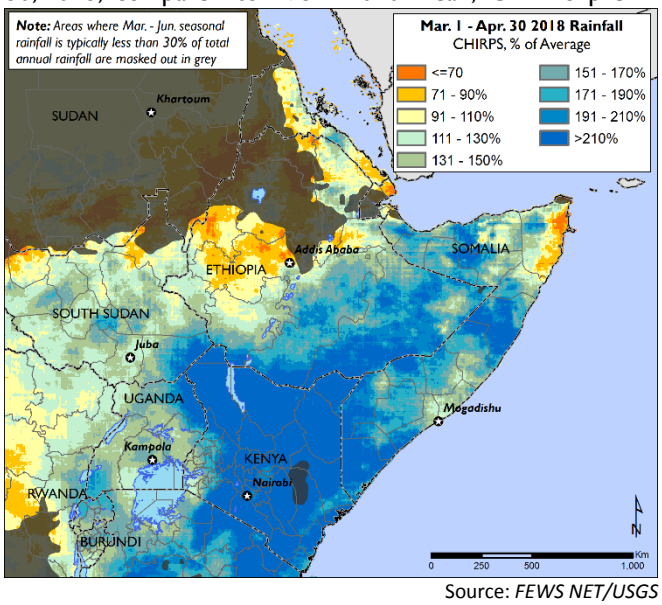
Heavy rainfall has persisted across much of East Africa since March, with rainfall totaling more than 200 percent of average in many areas (Figure 1). The heavy precipitation has caused widespread flooding, resulting in fatalities, the displacement of hundreds of thousands of people, and damage to infrastructure and crops. The scale of flooding impacts in the Horn is already similar to that which occurred in 2006/07, a bad year for flooding, and further flooding is expected in the coming weeks. After May/June, flooding is expected to decline in the Horn of Africa, but will become increasingly likely in northern parts of the region. Overall, the heavy rainfall is expected to have a positive impact on the food security of pastoral and agropastoral households. However, food security outcomes are likely to be more severe than previously projected for households in flood prone areas, most notably in riverine areas of the Horn of Africa.

Across the Horn of Africa, water levels in most major river basins and water catchments are near record high levels. In Kenya, OCHA reports flooding has occurred in 40 counties, displacing over 311,000 people, with the most significant impacts occurring in Tana-River, Kilifi, Garissa, Mandera, Siaya, Homa-Bay, Turkana, and Nakuru counties. In Ethiopia, severe flooding was reported in parts of Oromia, Somali, and SNNP regions, causing significant damage to infrastructure. DTM estimates over 97,000 people were displaced. In Somalia, more than 14,000 hectares of crops have been destroyed in riverine areas of Hiraan, Middle and Lower Shabelle, and Middle and Lower Juba, and OCHA estimates 219,000 people have been displaced.

In Uganda, Rwanda, Burundi, Tanzania, and DRC, rainfall totals are around 150 percent of average. However, these countries typically receive greater cumulative rainfall than the Eastern Horn, and 150 percent of average rainfall is equivalent to extremely high rainfall totals, around 250-750 millimeters (mm). Flooding has also been reported across these inland countries, and has caused fatalities, displacement, and damage to infrastructure and crops.

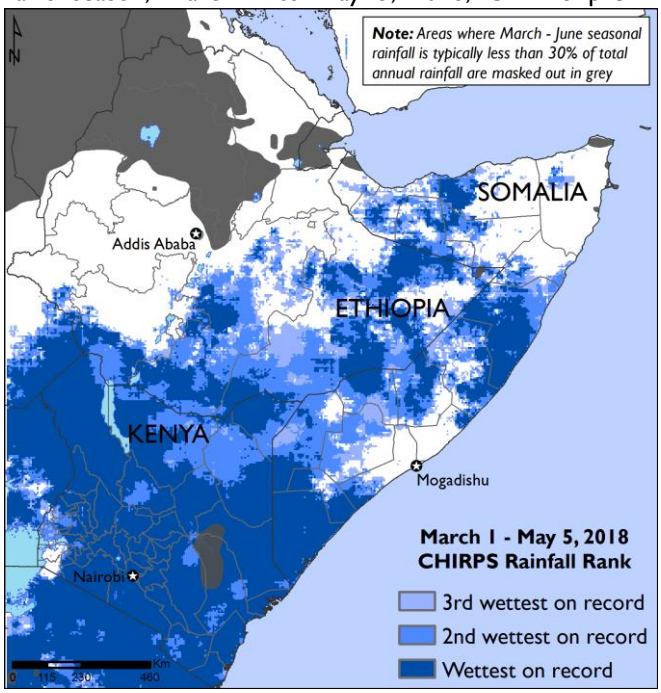
According to the Global Forecast System (GFS), moderate to heavy rainfall is expected to persist across much of East Africa through the end of May. An analysis by FEWS NET/USGS of this forecast and current soil saturation indicates that further flooding is likely in May in Somali

Figure 1. Rainfall as a percentage of normal, March 1 to April 30, 2018, compared to 1981 - 2010 mean, CHIRPS prelim



Source: *FEWS NET/USGS*

Figure 2. Rainfall ranking for the first half of the *Gu*/long rains season, March 1 to May 5, 2018, CHIRPS prelim



Source: *FEWS NET/USGS*

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Region of Ethiopia, central regions and riverine areas of Juba and Shabelle regions in Somalia, coastal and western regions of Kenya, the Mount Elgon region of Uganda and Kenya, the Lake Victoria basin, eastern DRC, and wide areas of Rwanda and Burundi. In these areas, further crop damage and displacement are likely. Similarly, the United Kingdom's Meteorological Office forecasts 100-200 mm of rainfall over parts the eastern Horn in mid-May, which would likely trigger further flooding around major cities, including Mogadishu, Mombasa, and Dar es Salaam. In June, incidents of flooding will decline in southern countries of East Africa, as rainfall moves northward. However, some flooding is still likely in June in the Lake Victoria Basin, Mount Elgon Region, northeastern Kenya, and the coastal strip of central Somalia.

The quantity of rainfall that has occurred during the first two months of the 2018 *Gu*/long rains season is the highest on record in many areas (Figure 2). The most comparable season that has occurred during this period is the 2006/07 October to December *Deyr/*short rains season. During this season, four major flood events occurred. These flood events displaced over one million people and destroyed tens of thousands of hectares of cropland. The scale of agricultural damage reported to date during the 2018 *Gu* season is already similar to that recorded throughout the 2006/07 *Deyr* season, further flooding is likely through at least the end of May 2018, and the population living in flood-prone areas has increased over 30 percent since 2006/07. Therefore, it is likely that the impact of flooding during the 2018 *Gu* season will be similar or greater than the 2006/07 *Deyr* season.

The food security impacts of the ongoing rainy season are mixed. In many pastoral areas of the Horn of Africa, where a prolonged drought occurred in 2016 and early 2017, heavy *Gu* rainfall has led to improved livestock body conditions and supported livestock births and productivity, which will increase pastoralists' access to food and income. In agropastoral areas, the heavy rainfall is also largely beneficial, and production in most agropastoral livelihood zones of Kenya and Somalia is expected to be above average. Food security outcomes are expected to improve in these areas. However, food security outcomes are likely to be more severe than previously projected for many households in flood-prone areas, most notably in riverine areas of the Horn of Africa. Significant crop damage and low labor opportunities are expected in these areas and some households are likely to face difficulty meeting their food and non-food needs through August/September. However, above-average off-season production is likely in many riverine areas in September, which will lead to improved food security towards late 2018. Of greatest concern are households who have been displaced by flooding and whose homes were destroyed. These populations will need significant livelihoods support in the near term. It is expected some will also be in need of emergency food assistance. In a worst-case scenario where significant flooding continues through June, it is expected that additional households would be displaced as the spatial extent of flooding increases. Furthermore, the possibility of replanting crops would decline, and an increase in water-borne disease would be likely. The population in need of livelihood support and emergency food assistance would increase, and the timing of need would likely extend through much of 2018.

Looking beyond June, above-average rainfall is forecast over northern countries of the region between June and September, and flooding is likely in parts of Ethiopia, Sudan, and South Sudan during this time. In addition, current forecasts indicate there is an increased likelihood of an El Niño event during the October to December 2018 *Deyr/*short rains. There is currently low confidence in this forecast; however, in the event of an El Niño, above-average rainfall would be likely in late 2018, which could drive further flooding.