

Above-average to average March to May rainfall season ends earlier than normal in parts of the Horn

KEY MESSAGES

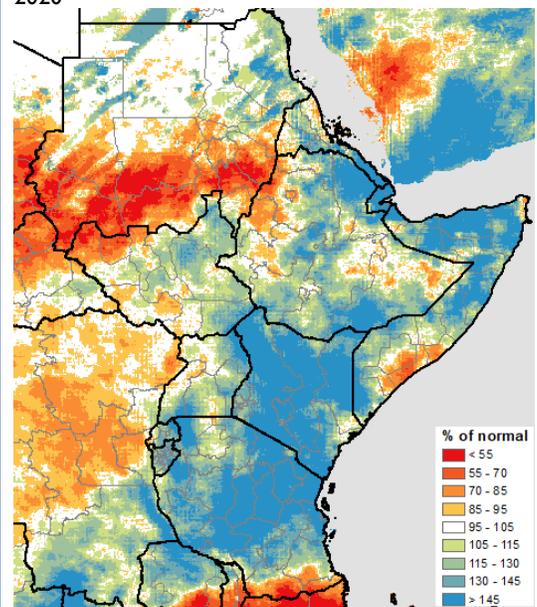
- After an early onset, the March to May rainfall season peaked in late April and early May. Torrential rain caused floods in the Lake Victoria basin, major river basins, and low-lying flood-prone areas. At least 845,000 people were displaced across the Horn, Uganda, Rwanda, and Burundi, according to data available from OCHA and country governments.
- The rainfall season began to subside by mid-May, marking an earlier-than-normal end to the season in some short rains- and *Gu*-dependent areas of the Horn and an atypical dry spell in parts of Uganda. Dry and hot conditions are expected in bimodal areas of the Horn until the onset of the short rains/*Deyr* rains in late September/October.
- Rangeland conditions remain exceptionally favorable in most bimodal areas. However, crop production prospects in eastern and southeastern Kenya, southern and northwestern Somalia, southwestern Ethiopia, parts of Uganda, and southeastern South Sudan are being closely monitored due to the mixed effects of heavy rainfall and floods, early end of season, and desert locusts.
- In unimodal rainfall-dependent areas of Ethiopia, South Sudan, and Sudan, as well as western Kenya and northeastern Uganda, rainfall forecasts predict above-average June to September seasonal rainfall with an associated risk of floods in river basins.

SEASONAL PROGRESS

The March to May long rains season concluded with above-average to average performance. In bimodal areas of Kenya, Somalia, Ethiopia, Uganda, South Sudan, Burundi, and Rwanda, cumulative rainfall ranged from 95 percent to more than 145 percent of the 1981-2010 average (Figure 1). In localized areas of Turkana county in Kenya, central Tanzania, northern Somalia, and northern Ethiopia, rainfall ranged from 150 to 200 percent of average. Seasonal rainfall in unimodal areas of western Kenya and localized areas of Yemen similarly received rainfall totals in excess of 120 percent or 145 percent of average, respectively.

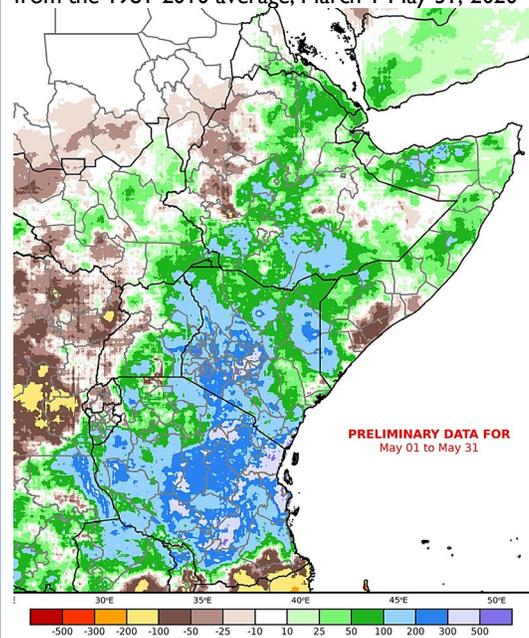
However, the onset of dryness in mid-May marked an earlier-than-normal cessation of the March to May rainfall season in several pastoral and marginal agricultural livelihood zones. Some areas that are dependent on the March to May rains in southern Somalia, Somali region of Ethiopia, western Uganda, western Rwanda, and southern South Sudan are experiencing light to moderate rainfall deficits of 10-100 mm (Figure 2). In these areas, cumulative rainfall is 95-55 percent of normal (Figure 1). Meanwhile, southern Sudan, parts of western

Figure 1. CHIRPS preliminary rainfall performance as a percent of the 1981-2010 average, March 1-May 31, 2020



Source: USGS

Figure 2. CHIRPS preliminary rainfall anomaly in mm from the 1981-2010 average, March 1-May 31, 2020



Source: UCSB Climate Hazards Center

Ethiopia, and northwestern South Sudan are experiencing rainfall deficits prior to the establishment of the main June to September rainfall season.

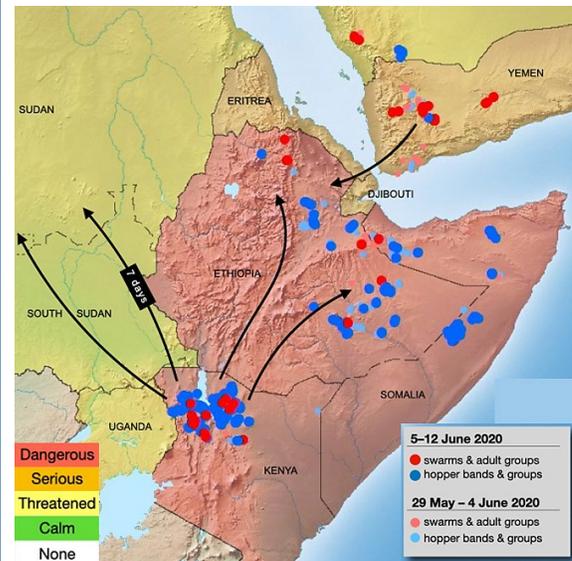
Frequent torrential rain over the past 6-9 months led to record-high water levels in several lakes as of May, particularly Lake Victoria and Lake Naivasha. Heavy rainfall in late April and early May further caused widespread riverine flooding and flash floods at the peak of the seasonal rains, affecting more than 1.8 million people, including at least 845,000 people that were displaced in Burundi, Ethiopia, Kenya, Somalia, Rwanda, and Uganda, based on data available from OCHA and country governments. The overall impact of the devastating floods is yet to be fully assessed due to the challenges posed by the COVID-19 pandemic, but the floods caused significant crop damage and destroyed various infrastructure in affected areas. In Kenya, for example, 40 percent of rice paddies in southwestern Kenya were reportedly damaged by Lake Victoria overflows in surrounding low-lying regions. In Somalia, approximately 50,000 hectares of riverine and agropastoral farmland was inundated, representing approximately 17 percent of total land cultivated during the April to June *Gu* season.

Meanwhile, the formation of second and third-generation Desert Locust swarms, groups, and bands remain a threat to the region, especially to pastoral and agropastoral areas in northwestern Kenya, eastern and northern Ethiopia, and Somalia (Figure 4). To date, the heavy rains have offset the negative impacts in most pastoral areas as vegetation regenerates. Although COVID-19 has impeded regular field assessments, crop losses from desert locust are reported in southeastern South Sudan and *Belg*-cropping areas of southwestern Ethiopia. There is high concern for additional crop losses in these areas and in agropastoral areas of Somalia and for declining rangeland during the June to September dry season in bimodal areas of the Horn. Wind flows are anticipated to encourage desert locust migration northwards from Kenya into breeding areas in Sudan and westward from Yemen into Eritrea and Ethiopia. Control operations are ongoing.

According to satellite-derived data on vegetation conditions, rangeland was exceptionally greener-than-normal (>120 percent) across the Horn of Africa and in western Yemen, as well as in parts of the western and northern sectors of the region (Figure 3). Conditions are also significantly better than the corresponding period of 2019, when the Horn of Africa was in a drought. In addition, surface and sub-surface water resources are currently at their peak levels in most of the region. However, several areas that are currently experiencing rainfall deficits are consequently exhibiting drier-than-normal vegetation conditions, including in western Ethiopia, eastern and southern Sudan, northwestern South Sudan. These conditions are likely to ease with the forecast establishment of seasonal rains in June.

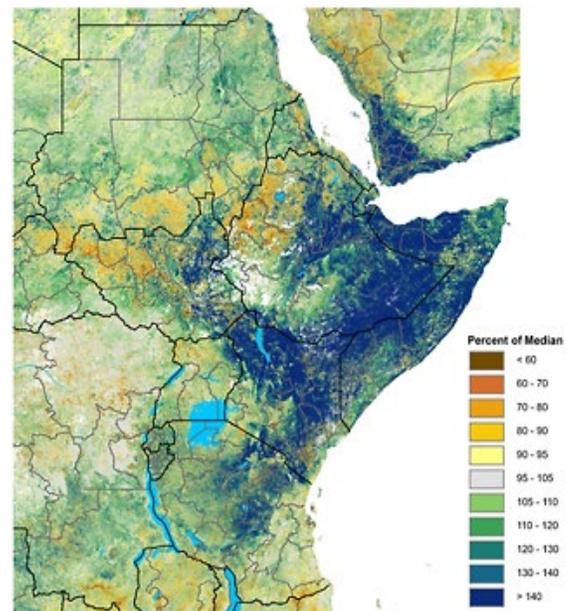
Available information from key informants and satellite-derived crop simulation models (WRSI, Evapotranspiration, and NDVI anomalies) indicate broadly average to slightly above-average crop yield prospects for early-planted crops (planted in February or early March) outside of flood-affected riverine or low-lying areas. Most early-planted crops are currently in the late reproductive to maturity stages in western and parts of central Kenya and in the harvesting stages in northeastern Tanzania, southern and eastern Kenya, southwestern Uganda, Rwanda, and Burundi. However, there is increasing concern that late-planted crops (planted in April) will to be subject to significantly reduced yields or even crop failure in marginal cropping areas in eastern and southeastern lowlands of Kenya due to prolonged crop water stress in May and early June. Rainfall deficits in western Uganda and southern Somalia pose a similar threat, though crop production prospects in these

Figure 3. Location and anticipated movement of desert locust swarms, groups, and bands as of early June 2020



Source: FAO Desert Locust Watch

Figure 4. eMODIS/Normalized Difference Vegetation Index showing vegetation conditions as a percent of the 2007-2016 median, May 21-31, 2020



Source: USGS

areas will depend on seasonal rains received in June. In *Belg* cropping areas of Ethiopia, crop development is generally mixed, following favorable rainfall in most areas but localized flash floods, water-saturated soils, and damage from desert locusts.

The following is a country-by-country update on recent seasonal progress to date:

- **In Somalia**, current cropping conditions in rainfed agricultural areas are generally mixed, ranging from good to poor. Recent erratic rains and crop-water-stress in parts of the southwest and in Bay region have caused significant changes in overall *Gu* yield prospects. In contrast, most riverine cropping areas remain water-logged, though farmers are expected to engage in recessional cultivation as water recedes in the coming months. Desert locusts arrived in Bay, Bakool, and Gedo regions in late May/early June, which will likely cause crop damage in southern agropastoral areas. Desert locust swarms in the northwest are also a threat for *Gu* crops in northwestern agropastoral areas. In general, pasture and water resources remain significantly above normal, with livestock in good condition and productivity.
- **In Ethiopia**, *Belg* crop production is expected to be below average due to below-average area planted and damage from desert locust in the south and southwest, despite favorable rainfall in the southwest. Currently, early-planted crops are in the late maturity to harvest stages, while timely to late-planted crops range from the reproductive to maturity stages. Rangeland and water resources are above normal across pastoral and agropastoral zones, except in the western Ethiopian highlands, where recovery is likely due to the gradual establishment of the *kiremt* rains in June. Desert locust swarms presently in southern and central Rift Valley regions continue to threaten agricultural production. The government and partners continue to carry out aerial and ground control operations.
- **In Kenya**, above-average March to May rainfall has largely benefitted cropping and rangeland conditions across the country, according to field reports. However, severe floods had adverse impacts on lives and livelihoods of populations living around Lake Victoria and along major river basins. The early cessation of rainfall by mid-May has permitted emergency response in worst-affected areas in western, Rift Valley, central, and coastal counties. However, the early end of the rainfall season has led to high concern for the failure of late-planted maize crops in the eastern and southeastern lowlands. In the north, desert locust remains a threat to agropastoral production and rangeland, though government and partners continue to carry out aerial and ground control operations.
- **In Sudan**, rainfall deficits and drier-than-normal vegetation conditions are present in southern, western Darfur, and eastern regions prior to the establishment of the main June to September rainfall season. The gradual establishment of rainfall with the northward progression of the ITCZ and above-average rainfall forecast is most likely to alleviate these deficits. An elevated risk for flooding is likely at the peak of the seasonal rains in July and August. Based on the wind forecast, desert locust swarms from Kenya, Ethiopia, and/or Yemen may enter Sudan and reach summer breeding areas.
- **In South Sudan**, the main June to September rainfall season has started much earlier than normal, ranging from April in the south to April or May in central and northern areas. Overall, rainfall since March has generally been average in both bimodal and unimodal areas, except for slightly above-average amounts in the southeast and slightly below-average in the southwest and northwest. Current cropping and rangeland resources in bimodal-dependent areas of the southeast are in very good to good condition, but moderate to severe crop damage is reported in parts of Eastern Equatoria where desert locust are still present. However, the locusts are anticipated to migrate northward to breeding areas in Sudan. Due to recent above-average rainfall, the forecast of above-average rainfall, and historically high backflow from Lake Victoria and source of the Nile River, there is currently a moderate to high risk of flooding along the Nile River basin. The flood risk will be highest at the peak of the main rainfall season in July and August.
- **In Uganda**, most early-planted maize crops in southern Uganda are in the late maturity to harvesting stages, and recent field reports indicate green-maize harvesting is ongoing in this region. In the rest of the country, however, there is increasing concern for reduced yields of maize, which is mostly in the reproductive to maturity stages, due to poor May rainfall. Meanwhile, rangeland and water resources are very good condition. The establishment of average June to September seasonal rainfall in the eastern and northern regions are anticipated to maintain a risk of flooding, especially around the Lake Victoria and Nile River basins and flood-prone areas in the Mt. Elgon region. According to information from FAO and key informants, desert locust swarms have declined in size due to control measures and/or onward migration. However, there is a risk of swarms from Kenya passing through as they migrate toward Sudan.
- **In Rwanda and Burundi**, agricultural yield prospects for most crops are broadly favorable, despite localized impacts from recent floods. However, excess moisture has negatively affected bean production. Rangeland resources are also largely above average. The seasonal rains have mostly subsided as of late May/early June, except in western Rwanda.

- **In Yemen**, above-average rainfall has resulted in significantly greener-than-normal vegetation conditions in western coastal and highland areas. There is increased likelihood that these rains will continue and result into average to locally enhanced June to September seasonal rains. Land surface temperatures are forecast to be generally near average, with some areas of warmer-than-normal conditions during this period. Desert locust breeding is in progress, especially in the northwest, northeast, and southern coast. The formation of new swarms is expected through September, which the FAO predicts could migrate to northern Somalia or northeastern Ethiopia.

FORECAST

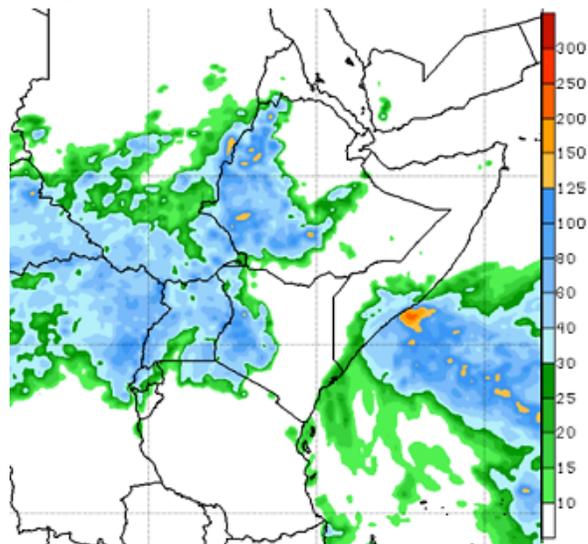
According to the latest short-term GEFS rainfall forecast, there is an increased likelihood of widespread moderate to locally very heavy rains over western Rwanda, Uganda, western and central Kenya, South Sudan, southern Sudan, *kiremt*-dependent areas of Ethiopia and *Hagaa*-dependent areas of Somalia (Figure 5). Much of Tanzania, Burundi, and eastern and northern Kenya will remain seasonally dry. However, atypically dry conditions are expected in Somali region of Ethiopia and central and northern Somalia. Yemen is forecast to be largely sunny and dry, despite some localized moderate to heavy rains over parts of its western highlands.

The short-term rainfall forecast in the western and northern sectors bring an elevated risk of flooding to the Nile River basin of northern Uganda and South Sudan and the Lake Victoria basin and surrounding low-lying environs. Low-lying areas of western and central Ethiopia are also likely to be flood prone. These areas are expected to be wetter-than-normal through mid-June, according to early estimates based on rainfall in late May and the rainfall forecast (Figure 6).

However, a slower-than-normal northward progression of the ITCZ is anticipated to result in strengthening rainfall deficits in parts of western South Sudan, Darfur regions of Sudan, and western Ethiopia. The gradual northward movement and establishment of the rains as the season progresses is most likely to alleviate these deficits, based on the climate forecast that indicates cumulatively above-average rainfall from June to September.

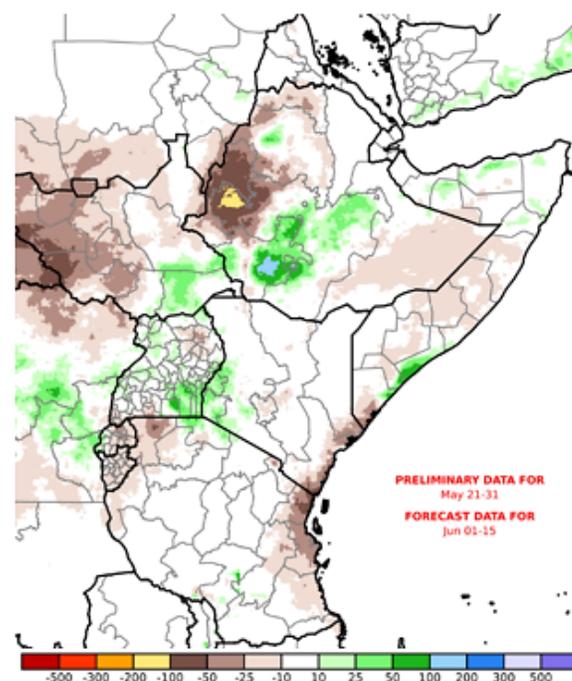
In the Horn, the short-term forecast raises concern for deficits in bimodal areas of eastern Ethiopia and Somalia. Heavy rainfall along the coastal strip is anticipated to alleviate deficits in southern coastal Somalia, while deficits are expected to emerge in coastal Kenya and Tanzania (Figure 6). The early cessation of the bimodal rainfall season in these areas, coupled with a forecast of hotter-than-normal land surface temperatures, is likely to lead to the gradual drying of surface water pans and gradual deterioration of vegetation conditions from June to September.

Figure 5. Week I GFS rainfall forecast in mm, valid through June 14, 2020



Source: NOAA/CPC

Figure 6. CHC Early Estimate for May 21-June 15, 2020, expressed as an anomaly in mm from the 1981-2018 average. Based on CHIRPS preliminary data for May 21-31, 2020, and unbiased GEFS forecast for June 1-15, 2020.



Source: UCSB Climate Hazards Center