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FAMINE EARLY WARNING SYSTEMS NETWORK

EAST AFRICA Seasonal Monitor August 10, 2022

Uneven start to the June to September seasonal rains across much of Eastern Africa

KEY MESSAGES

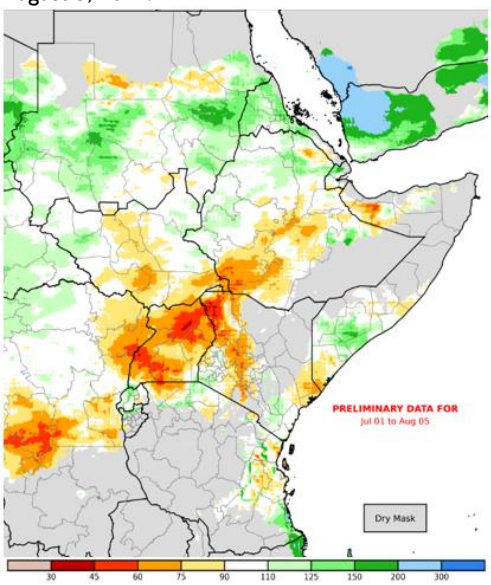
- The March to June seasonal rainy season ended with cumulatively poor rainfall across East Africa, particularly in the Horn. This marks the fourth sequential below-average rainfall season since late 2020. The ongoing drought in Somalia, Ethiopia, and Kenya is likely to continue deteriorating rangeland resources (water and pasture), as the typical dry season continues with abnormally hotter-than-normal conditions from July to October 2022.
- The northward progression of the inter-tropical convergence zone (ITCZ) resulted in a near-normal start of seasonal rains over the northern and western sectors of East Africa, but with localized areas recording a dekad early or late onset. However, seasonal rainfall deficits are present along the Nile River basin in South Sudan, much of northern Uganda, northwestern Kenya, and southwestern regions of Ethiopia.
- Rangeland resources are currently very poor over the pastoral and agro-pastoral regions of the eastern Horn and likely to continue deteriorating in the coming months. The upcoming *deyr*/short rains season is expected to be well below average, driven by the forecast La-Nina, negative Indian Ocean Dipole (IOD), and strong western Pacific Sea surface temperature gradient (WPG) conditions.
- The June to September rainy season over Ethiopia, Sudan, South Sudan, Eritrea, Djibouti, and Yemen is expected to peak from mid-August into September. However, rainfall has been cumulatively below-average in Uganda, Rwanda, western Kenya, South Sudan, and the Rift Valley areas of Ethiopia. Meanwhile, the forecast above-average rainfall in August will likely increase the risk of flooding in localized areas.

SEASONAL PROGRESS

The start of the June to September season in June and July was atypically well below average, with rainfall 25-30 percent below normal across much of East Africa. In particular, less than 60 percent of average rainfall was recorded in Uganda, Rwanda, southwestern Ethiopia, and northwestern Kenya (Figure 1). Across much of central Uganda and localized areas of southwestern Ethiopia, rainfall from June into early August is among the driest in the 40-year record (Figure 2). This below-average rainfall follows the poor March to June rainfall in northern and eastern Kenya, Somalia, and southern and southeastern Ethiopia, marking an unprecedented fourth below-average season since October 2020.

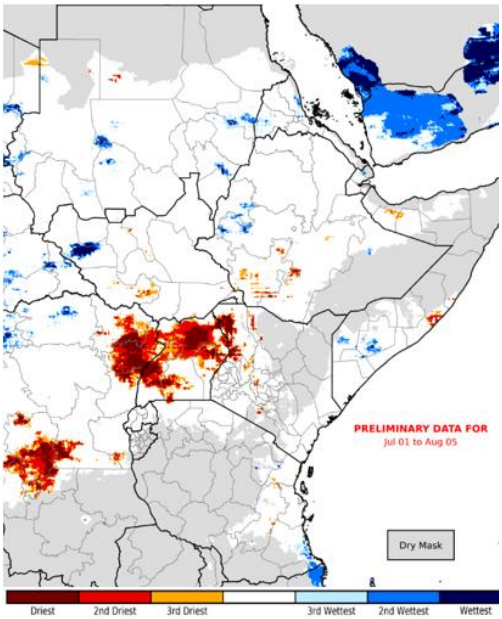
Meanwhile, in June and July, 110 to 200 percent of average rainfall was recorded over much of Sudan, northeastern Ethiopia, Djibouti, and Yemen (Figure 1). However, average cumulative rainfall was recorded in western Ethiopia and western and eastern South Sudan. However, widespread rainfall deficits have persisted along the Nile River basin of South Sudan, with significantly below-average rainfall in Uganda,

Figure 1. CHIRPS preliminary rainfall as a percent (%) of the 1981-2020 average, June 1 – August 5, 2022.



Source: *UC Santa Barbara Climate Hazards Center*

Figure 2. CHIRPS Season Precipitation Rank, June 01-August 10, 2022, compared to the 1981-2020 rainfall record.



Source: *UC Santa Barbara Climate Hazards Center*

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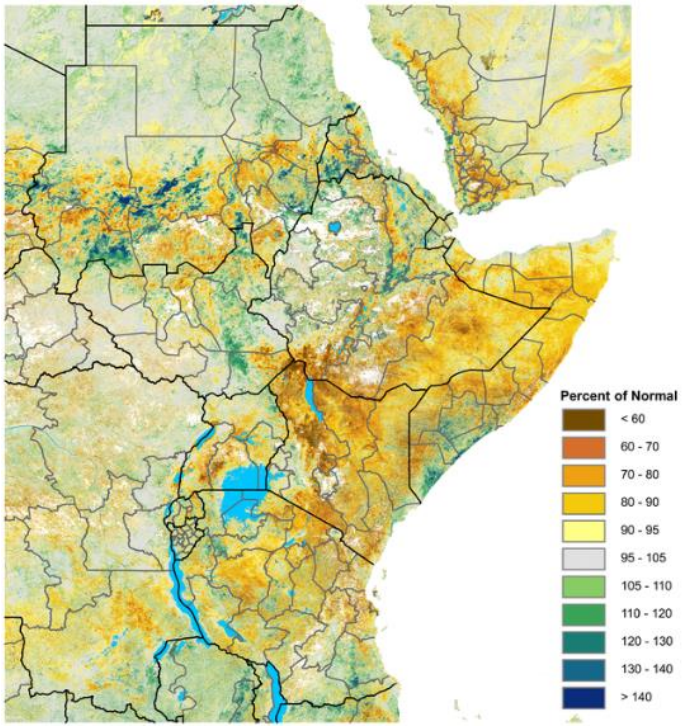
and central and southern Rift Valley areas of Ethiopia and western Kenya. These rainfall deficits are being closely monitored as the long-rains maize crop is at critical-moisture stages, particularly late reproductive to maturity stages in Uganda, western Kenya, and bimodal areas of South Sudan. The long-cycle cereal crops in the southwestern and parts of Ethiopia's southern rift valley region are also at maturation stages, with mediocre to good yield conditions.

Changes in vegetation greenness, as measured by the eVIIRS normalized difference vegetation index (NDVI), are poor across many areas of East Africa, with less than 60 percent of the 10-year mean observed in Somalia, northeastern and northern Kenya, and localized areas of southern Sudan, southern, southeastern, and northern Ethiopia, and southwestern Uganda (Figure 3). The below-average vegetation greenness indicates that rangeland conditions are declining due to the poor seasonal rainfall and hotter-than-normal conditions. In northern Ethiopia, constrained agricultural activities due to conflict are likely drivers for below-normal vegetation greenness. However, near-average to above-average vegetation greenness is being recorded along parts of the East African coastal strip, southern Somalia, western Kenya, northern Uganda, Rwanda, Burundi, eastern South Sudan, the western coastal strip of Yemen, and localized areas of Sudan following ongoing seasonal rainfall.

Figure 3. eVIIRS Normalized Difference Vegetation Index shown as the percent (%) of the 2012-2021 average, July 21 - 31, 2022



Source: *FEWS NET*

In June and July, field crop assessments and crop production models show significantly below-average to failed harvests over southeastern and central Kenya and much of southern Somalia, following the cessation of the recent long rains seasons. Additionally, there is an increasing concern for the Rift Valley areas of Ethiopia, where long cycle crops dependent on the *Belg* and *Kiremt* rains are unlikely to recover following an extremely poor *Belg* season where many areas received less than 350 mm since March, about half the amount of rainfall typically recorded. However, near-average production prospects are likely for western and rift valley maize growing areas of Kenya and much of Uganda, Rwanda, and Burundi. However, there are concerns about below-average production in parts of western, southern, and northern Uganda and the Rift Valley regions of Kenya. The *Belg* and long-cycle crop production areas of southern and northeastern Ethiopia are also expected to record below-average harvests, along with northwestern regions of Somalia, following below-average and erratic seasonal rainfall since late February 2022.

Due to the below-average rainfall, surface water pans are drying out, especially over the arid and semi-arid regions of the eastern and central Horn. Conversely, Lake Victoria and most of the Great Rift Valley Lakes have high water levels. With the anticipated average to above average seasonal rainfall from July to September, there are flooding risks in flood-prone areas of the Blue and White Nile and Atbara rivers in the northern and western sectors of the region.

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

- **In Somalia**, the *Gu* seasonal rains concluded with poor distribution and below-average rainfall over most parts of the country. The worst-affected areas in northern and central Somalia recorded less than 60 percent of seasonal totals in areas that typically receive between 100-200 mm of rainfall. However, parts of southern Somalia and the Juba regions received relatively more rainfall, especially along the coastal areas and the border with Kenya. The rest of Somalia has significantly drier-than-normal vegetation due to prolonged drought and hotter-than-normal land surface conditions. Overall, livestock and crop production are very likely to be well below average, worsening food security outcomes for most parts of the country. Dry and hot conditions are forecast until the onset of the *Deyr* rains in late 2022.
- **In Ethiopia**, the *Kiremt* (June to September) rains are fully established across central, northeast, west, and northern Ethiopia, following an erratic onset. Meanwhile, most parts of the country's northeastern, eastern and southern regions have continued to experience significant rainfall deficits that have affected short- and long-cycle crops. In the

northeastern, eastern, and southeastern pastoral zones, rangeland resources are rapidly worsening, with some areas recording the worst performance of the *Gu* rains in over 40 years. Across these regions, there are drier-than-normal pasture and browse conditions, along with drying surface water-pans, following four consecutive below-average rainfall seasons. However, in the western half and central Ethiopia, if the current and forecast rainfall persists, there is an increased likelihood for favorable crop production in these main agricultural areas, but with an added risk of flooding. Currently, *Meher* season cereals are in the vegetative to reproductive stages, with harvest likely to begin in September. Harvesting of *Belg* season maize crops finalized under poor conditions as crops were affected by severe rainfall deficits, hot temperatures, and conflict in the north.

- **In Kenya**, the ongoing drought is negatively impacting most of the pastoral and marginal agricultural livelihood zones in the country. Following a below-average March to May long rains, rangeland resources are well-below typical for this time of year and will likely continue to decline. Meanwhile, the agriculturally productive western and rift valley counties have also experienced erratic seasonal rainfall that has been interspersed with dry spells. However, crop production for the northern rift and western cropping zones is likely to be near-average, with likely below-average crop production in the southern and central rift valley and central counties of Kenya. In the marginal agricultural areas of eastern and southern Kenya, crop failure is expected, except along the coastal strip areas of Kwale, Kilifi, and Lamu, which have recorded persistent rainfall since late May 2022.

- **In Sudan**, the June to September seasonal rains are fully established, with most crops in southeastern and western Sudan likely in favorable vegetative stages. However, high agricultural input costs are likely to result in below-average planting in Sudan's semi-mechanized and irrigated areas. Additionally, there has been an uneven onset of rainfall in southern Sudan, which is likely to result in below-average cropping conditions. As measured by NDVI, vegetation greenness also indicates below-average conditions across southern Sudan. However, cropping conditions are expected to improve as rainfall peaks in August and September. Rainfall is likely to be above average according to global climate models (NMME, WMO/LRF, and C3S) and is likely to result in flooding along the Nile River basin and the Ethiopia/Atbara border.

- **In South Sudan**, the ongoing June to September rainfall is largely near average, but with significant early season rainfall deficits around the Nile river basin, which has reduced flooding in the past month. Most planted crops are in generally good condition. However, in the rainfall deficit areas, vegetative crops are in mediocre condition, and sorghum re-planting is being reported, similar to the neighboring southern regions of Sudan. Overall, the June to September rainy season is anticipated to result in favorable agricultural production, with localized areas of below-average production.

- **In Uganda,** poor rainfall in bimodal rainfall areas has resulted in below-average first-season crop production. In many northern, central, southwestern, and eastern areas, maize has wilted and dried up more extensively in June and July, leading to estimated losses of at least 30 percent. Abnormal dryness exacerbated by above-average temperatures has also impacted other annual and perennial crops. As of mid-July, significantly below-average vegetation conditions persist over most cattle corridor districts in the southwest, central, and northern parts of Uganda. Livestock body conditions and milk productivity are reportedly below average, with the most affected areas facing severe pasture and water shortages.

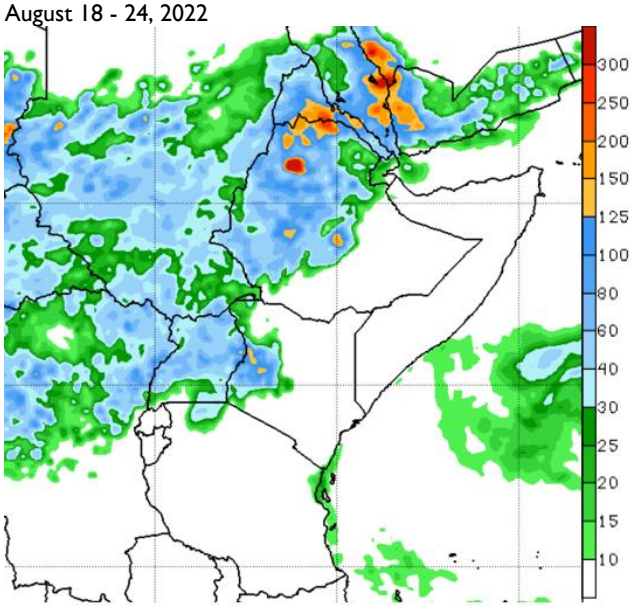
- **In Rwanda and Burundi**, the March to May B-season rainfall and crop performance is largely near-average, with slightly below average rainfall reported in parts of western Rwanda, northeastern and eastern Burundi. Overall, maize production is expected to be normal and comparable to 2021. Presently, sunny and dry conditions have continued to prevail and are forecast to continue with little or no rainfall until the onset of season-A rains in late September/early October.

- **In Yemen,** the March to May seasonal rains were cumulatively below-average, with significantly below-average performance over the higher production areas in the western highlands. This has resulted in drier-than-normal vegetation conditions in the highland areas. However, above-average rainfall in June and July is gradually improving the vegetation and cropping conditions across the country. However, the forecast for significantly above-average rainfall in the second season from July to October is likely to alleviate irrigation costs but will likely result in flooding and some crop damage.

FORECAST

The week-2 forecast from NOAA/CPC GEFS, valid from 18 – 24 August, is indicative of an increased likelihood of widespread moderate to localized very heavy rains over much of Sudan, South Sudan, western Yemen, northern Uganda, and western, northern, and central Ethiopia (Figure 4). Meanwhile, typical dry conditions are likely to prevail across the region, especially the eastern Horn and southern sector of East Africa. This is supported by the IRI/CPC sub-seasonal (sub-X) probabilistic rainfall forecast for August 13 - 26, which indicates there is an over 60 percent chance of above-average rainfall over central and northern Sudan, northeastern and southwestern Ethiopia, southeastern Sudan, northern Uganda, northwestern Kenya, and parts of southeastern DRC. Meanwhile, there is an even higher probability of similar occurrence over western Yemen, Eritrea, and northeastern, central, and western Ethiopia.

Figure 4. Week-2 GEFS rainfall forecast in mm, valid between August 18 - 24, 2022



Source: *NOAA/CPC*

However, most global weather modeling forecasts reviewed indicate a high probability for widespread below-average seasonal rainfall over much of equatorial East Africa from October to December, marking a potential fifth poor rainfall season in eastern and southern Ethiopia, Somalia, and Kenya. The ongoing drought will likely result in increased deterioration in forage and water resources in pastoral areas and poor crop production in marginal agricultural areas.