

*Widespread floods in Sudan and poor rains in parts of Ethiopia, South Sudan, and Uganda*

**KEY MESSAGES**

- During the month of August, Sudan continued to receive significantly above-average rainfall, which caused additional widespread flooding, fatalities, livestock and crop losses, and infrastructure damage. As moderate to localized heavy rainfall is forecast over the next two weeks, particularly in southern areas, a heightened flood-risk is expected through mid-September.
- In other areas of the region, rainfall in August was unevenly distributed and below-average across parts of northwestern Uganda, northern DRC, southern and central South Sudan, and central and northern Ethiopia. As a result, this has led to significant cumulative seasonal moisture deficits and drier-than-normal in these areas.
- In addition to Sudan, the short-term rainfall forecast indicates an increased likelihood for moderate to heavy rainfall across western Ethiopia, South Sudan, Uganda, and the DRC. In addition, light to moderate rainfall is expected over the East Africa coastal strip, northern Somalia, and western Yemen during this period.

**SEASONAL PROGRESS**

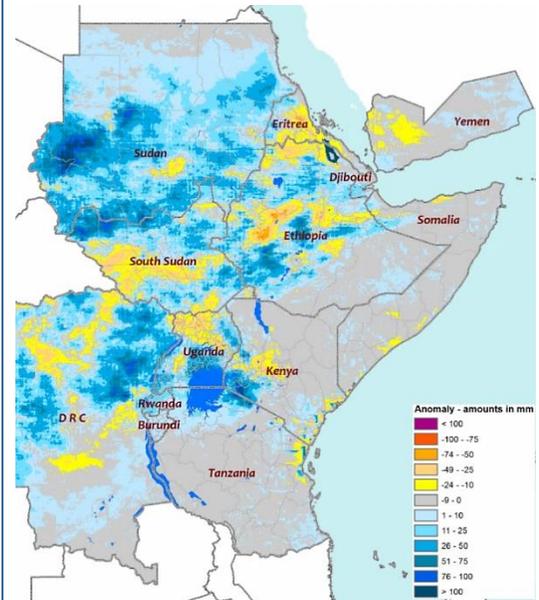
During the past month, much of Sudan continued to experience persistent and well above-average rainfall (+50 to +100 mm), particularly in the western, southern, and eastern regions of the country (Figure 1). The torrential rains caused widespread flooding, fatalities, displacement, and property and infrastructure damage. According to field reports, the worst-flood affected areas were Khartoum, Kassala, El Gezira, Sennar, Northern, and West Kordofan states.

The atypically high rainfall amounts in the northern sector of the region are largely attributed to the abnormal northward shift of the main tropical rainfall system (ITCZ) into northern Sudan and across the Sahel in West Africa.

Meanwhile during August in other parts of the region, portions of central and northern Ethiopia, western and southern areas of South Sudan, together with northwestern Uganda and northeastern DRC, significant rainfall deficits accumulated. Similarly, parts of the central Rift Valley and surrounding counties in Kenya, as well as western Yemen, experienced below-average rainfall.

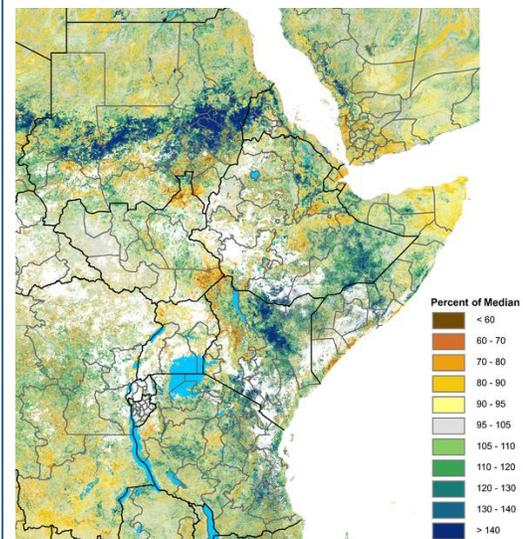
Remote sensing products, including the Normalized Difference Vegetation Index (NDVI), at the end of August, indicated increasing areas of “greener-than-normal” vegetation conditions across much of Sudan, particularly in central areas (Figure 2), in

**Figure 1.** CHIRPS-Preliminary-based seasonal rainfall accumulation anomalies in comparison to average (1981-2010), August 1-31, 2018



Source: USGS/FEWS NET

**Figure 2.** eMODIS/NDVI percent of normal (2007-2016), August 21-31, 2018



Source: USGS/FEWS NET

response to the above-average rainy season. However, there are also localized areas where the vegetation conditions are not as positive, especially in the south, which is likely due to earlier seasonal rainfall deficits.

Despite this being the dry season for the eastern Horn, given the above-average March to June rainy season, there are still expansive areas with favorable rangeland conditions, particularly in Ethiopia's Somali Region and northern Kenya, except in northwestern Turkana County. However, there has been a gradual deterioration in vegetation conditions over parts of northeastern, central, and southern coastal areas of Somalia. In addition, with below-average rainfall during the June to September period in other areas of the region, including northwestern Uganda, Greater Kapoeta in South Sudan, and central portions of Ethiopia, there are significantly "drier-than-normal" conditions. In Rwanda, Burundi, and eastern DRC, near-normal vegetation conditions persist.

Field reports, in addition to crop simulation models, the Water Requirement Satisfaction Index (WRSI for grains), indicate very good cropping conditions exist across much of Sudan, the western and central Ethiopian highlands, western South Sudan, and western and central counties in Kenya. While still positive, near-average cropping conditions are ongoing in some areas of eastern Sudan and eastern and northern South Sudan. With the majority of the early planted crops in the critical reproductive stages, sufficient and continued rainfall is needed over the next few weeks to ensure optimal yield prospects.

Due to uneven and below-average seasonal rainfall amounts, parts of Ethiopia's southwestern regions and along the central Rift Valley of northeastern Ethiopia continue to experience poor cropping conditions, which may affect yield prospects. In Kenya, as there is a gradual cessation of seasonal rains over western and northern Rift Valley counties, this is likely to prove conducive for crop harvesting and drying, which is likely to start shortly.

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

- **In Somalia**, field reports indicate above-average production prospects for most crops harvested in late July and early August in southern areas. Meanwhile, flood-recession crops planted in riverine areas in Hiran, Middle Shabelle, Gedo, and Lower and Middle Juba are in favorable conditions and at late vegetative stages. The crops are likely to be harvested in September or October. In the northwest agropastoral area of Woqoyi Galbeed Region, due to erratic rainfall, there are below-average production prospects for long-cycle sorghum, which is expected to be harvested in November.
- **In Ethiopia**, overall, the western and central highland cropping regions have received sufficient rainfall to ensure favorable cropping conditions and yield prospects. In August, parts of northeastern Amhara and southern Tigray experienced improved rainfall performance, helping to slightly ease those cumulative seasonal rainfall deficits, which may lessen possible yield short-falls by the end of the *Meher* season. In Afar Region, except for northwestern areas, *Karan/Karma* rainfall in August was above average, which has improved rangeland conditions in this area.
- **In Sudan**, the widespread flooding from the continued above-average seasonal rainfall has caused crop damages and losses, according to field reports, but the amounts have yet to be quantified. In addition, due to flooding at the end of August in localized areas around the Atbara and Dindir rivers, there were reported livestock losses. On a positive note, the floods have provided an excellent opportunity for recession cultivation, especially for vegetables. Overall, most crops are in vegetative to reproductive stages and in generally good conditions.
- **In South Sudan**, in August, rainfall was mixed across the country. Some northern and southern areas received above-average rainfall, while there was below-average rainfall in western and central areas. However, in western and central areas due to earlier seasonal rainfall, there are generally average to above-average vegetation and cropping conditions. However, despite improved rainfall in August, there are still significant cumulative seasonal rainfall deficits in some southern and western regions of South Sudan. Although remote sensing products show favorable conditions over much of the country, field assessments will be able to determine actual planted areas and expected production prospects.
- **In Kenya**, the recently concluded multi-agency assessment indicated that total long rains maize production prospects are expected to be 10 to 15 percent above the five-year average and 20 percent above last year's production levels. The assessment teams also noted that even with reduced acreage due to flooding during the March to May season and Fall Armyworm infestations, there were increases in yields per hectare harvested. Despite above-average total maize production, there were regional differences, with above-average harvests in Kitui, Tharaka, Kwale, Narok, and Taita Taveta, while there was below-average production in Embu, Makeni, Nyeri, Kilifi, Kajiado, Lamu, and Meru North.
- **In Uganda**, recent field assessment reports in Karamoja indicate below-average sorghum production for the April to September season due to significant crop losses associated with previous flooding and crop waterlogging, which

increased the prevalence of pests. Crop harvesting is ongoing or complete in Nakapiripirit and many parts of Moroto and Napak but has not fully begun in Kotido and Kaabong in northern Karamoja. Estimates indicate that Kotido is likely to harvest only 20 to 30 percent of normal, Moroto between 25 to 35 percent, and Nakapiripirit at 30 to 40 percent. Meanwhile, in much of the southern, western and central parts of the country, land preparation and planting started in August. Currently, the crops are in emergence stages, and favorable conditions are expected to continue, as moderate to heavy rains are forecast through the end of September.

- **In Yemen**, much of the central highlands of the country experienced below-average rainfall amounts in August, and there are drier-than-normal vegetation conditions. Due to the ongoing conflict, seasonal agricultural activities continue to remain constrained. However, over the past 30 days, pastoral areas received near-normal rainfall amounts.

## FORECAST

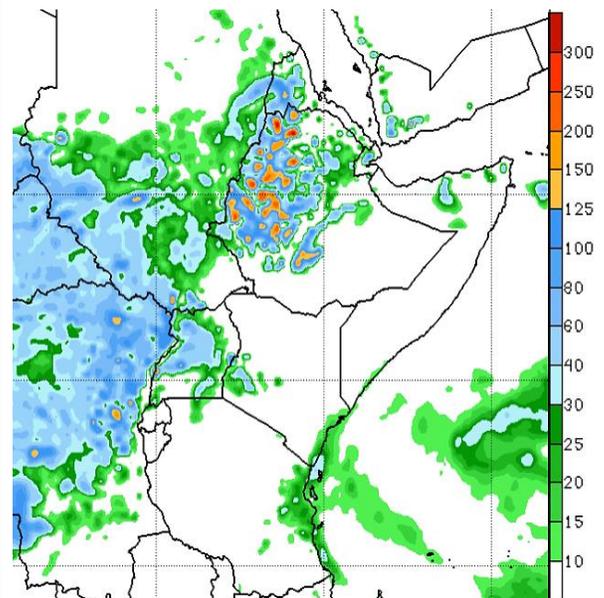
The two-week rainfall forecast, based on the GFS model, indicates an increased likelihood for moderate to localized heavy rains over western and central Ethiopian highlands, eastern and western Sudan, and much of South Sudan. In addition, a similar forecast is expected for Uganda and eastern DRC (Figure 3).

In Sudan, the risk of additional flash floods remains likely through mid-September with the forecast of continued above-average rainfall and the current saturated ground conditions. Sudan's Red Sea, Kassala, Khartoum, and West Darfur states are particularly susceptible.

Over the same period, sunny and dry conditions are expected to prevail over much of the eastern Horn regions of eastern Ethiopia, central and southern Somalia, Kenya and Tanzania. However, the East Africa coastal strip, especially in Kenya and northeastern Tanzania, are forecast to experience light to moderate rains in the coming weeks.

Towards the end of September, the seasonal rains over the northern sector of the region are likely to gradually subside. As typical, the seasonal rainfall is expected to start shifting southwards, which will mark the onset of the September to December seasonal rains over western areas in the region, including Uganda, Rwanda, Burundi, and western and northwestern Tanzania.

**Figure 3.** Week 2 GFS-Rainfall forecast (mm), valid through September 23, 2018



Source: USGS/FEWS NET