

Late December and early January rains reduced some seasonal rainfall deficits in the eastern Horn

KEY MESSAGES

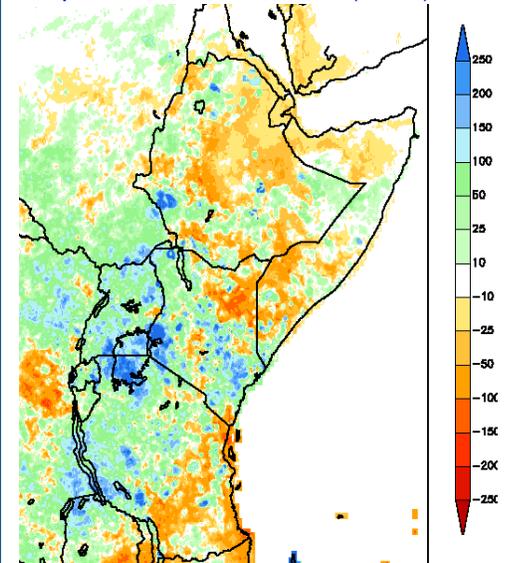
- The October to December rains, which are important in the eastern Horn of Africa, continued into mid-January, reducing some of the deficits that had lasted through the first half of December. Nevertheless, cumulative, seasonal rainfall deficits remain in several areas of the eastern Horn.
- Near normal to above normal rains occurred from October through December in western Somalia, Somali and southern Oromia Regions in Ethiopia, western Kenya, most of Uganda, Rwanda, Burundi, and the southern highlands and western areas of Tanzania.
- The short term forecasts suggests a continuation of tropical cyclone activities due to unusually high sea surface temperatures (SSTs) in the southwestern Indian Ocean that are causing intermittent rains in parts of the eastern Horn of Africa.

SEASONAL PROGRESS

The October to December rainy season is more important in the eastern Horn of Africa rather than in the western and northern areas and contributes between 40 and 60 percent of the total annual seasonal rains in several areas (See Figure 2 in the [January 2013 East Africa Food Security Outlook Update](#)). The rains are known as *Deyr* in Somalia and parts of Ethiopia, *Hageya* in parts of Ethiopia, *Vuli* in Tanzania, and the short rains in Kenya. The rainy season started poorly in many areas of southern Somalia, southern Ethiopia, and eastern and southeastern Kenya. The rains were characterized by an erratic start with poor spatial and temporal distribution. There were substantial deficits across many of these areas (Figure 1). However, from mid-December through mid-January, fairly heavy rains ensued in many parts of the eastern Horn principally in the southeastern, eastern, and coastal areas of Kenya, northeastern Somalia, and parts of the Hawd in Somalia and bordering, eastern areas of Ethiopia (Figure 2). Sustained, but abnormal warming of sea surface temperatures (SSTs) off East Africa’s coast during December have influenced this continuation of rain. Abnormally warm SSTs are also conducive to the occurrence of tropical cyclones, but this risk is currently being moderated by the erratic, southeasterly winds.

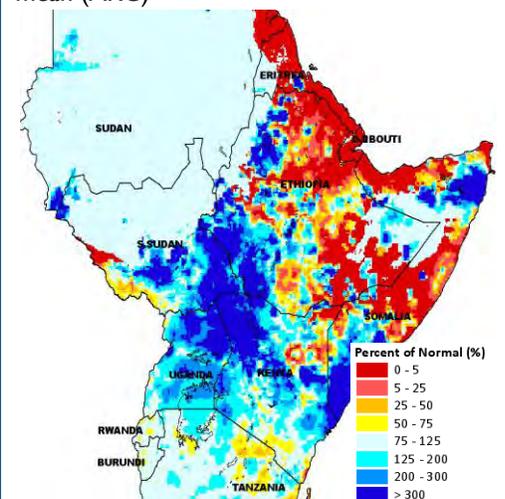
Rains fell through the second week of December, narrowing significant rainfall deficits in localized areas in southern Somalia and southern Ethiopia, most areas of southeastern Kenya, parts of northern and central Tanzania, and eastern Rwanda (Figure 1). However, significant rainfall deficits of 50 to 70 percent below normal remain in areas such as the border area around where Ethiopia, Somalia, and Kenya meet, commonly referred to as the Mandera

Figure 1. Rainfall anomaly in millimeters, October 1 to December 31, 2012 compared to 1983-2011 mean (ARC2)



Source: [National Oceanic and Atmospheric Administration \(NOAA\)/National Weather Service \(NWS\)/Climate Prediction Center \(CPC\)](#)

Figure 2. December 11, 2012 to January 20, 2013 rainfall as percent of 1920-1980 mean (ARC)



Source: [U.S. Geological Survey \(USGS\)/FEWS NET](#)

Please see http://www.cpc.ncep.noaa.gov/products/african_desk/cpc_intl/ and <http://earlywarning.usgs.gov/?l=en> for more information on remote sensing.

triangle, parts of northern Somalia, Djibouti, parts of Eritrea, and eastern Afar and eastern Tigray Regions in Ethiopia. The late recovery of rains in December and January has regenerated pasture and browse and recharged of water sources, but it is expected to have limited effect on recovery of long-cycle crop production as significant losses, damage, and moisture stress have already occurred in some areas. However, in southern Somalia, the sorghum crop output is anticipated to be normal to above normal in the sorghum belt in Bay and Bakool Regions, but the maize crop is expected to be below average in agropastoral areas of Lower Juba and Gedo Regions. A near normal maize harvest is likely in the agropastoral areas of Middle Juba and riverine areas along the Juba River. However, crop prospects are below average in the agropastoral areas in Somali Region in Ethiopia.

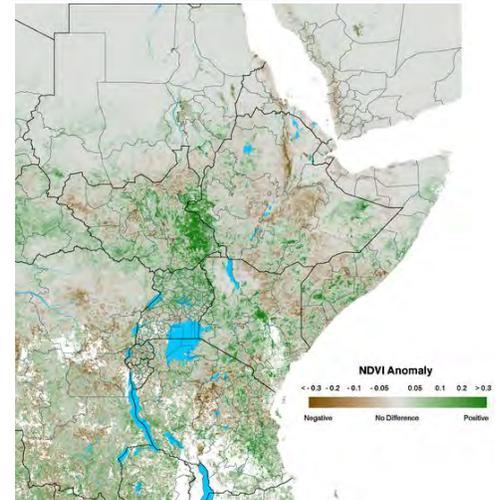
The December to February *Hays* rains in northern Somalia have started, but they are below average in terms of amount. Potential rains in the third week of January could still improve the water, pasture, and browse conditions, but further poor performance or no rain in late January would prolong the drought conditions in Guban pastoral livelihood zone. The October to February *Hays/Dadaa* rains have also been sparse in Djibouti. There have been a few coastal areas in the South such as in Arta and Al Sabieh Regions where some pasture has regenerated. The impact of the poor performance of the season in most areas has been to slow the recovery of pastoral resources that were in poor condition following the erratic, March to May 2012 *Diraa/Sugum* rains and the July to September *Karan/Karma* rains.

Although the October to December rains are not the principal season outside of the eastern Horn, many other parts of the region including northwestern Somalia, and southern Oromia in Ethiopia, most of South Sudan, western Kenya, most of Uganda, Rwanda, Burundi, and the southern highlands and western areas Tanzania have reported normal to above normal rainfall levels from October to December (Figure 1). Normal to above normal crop output is anticipated in those cropping areas outside of some flood-affected areas of Rwanda, Kenya, and Uganda. Those floods and their impacts have been localized to a few areas.

Satellite-estimated vegetation conditions such as the Normalized Difference Vegetation Index (NDVI) in eastern sector of the region depict significant increases in vegetation by early January compared to late December in eastern and southern Ethiopia, southern Kenya including the southeastern and coastal marginal cropping livelihood zones, and central Somalia (Figure 3). These increases are attributed to the late December rains. However, drier than normal vegetation conditions persisted over parts of northeastern Kenya, southern Somalia, and northeastern Ethiopia. Nevertheless, areas of average to above average vegetation conditions are interspersed with areas of poor conditions across the eastern Horn. At least in part, this sparse distribution of greening rangeland and crops is the result of the uneven temporal and spatial distribution of the October to December 2012 rains. Overall, vegetation conditions remain [drier than last year for much of the eastern sector](#).

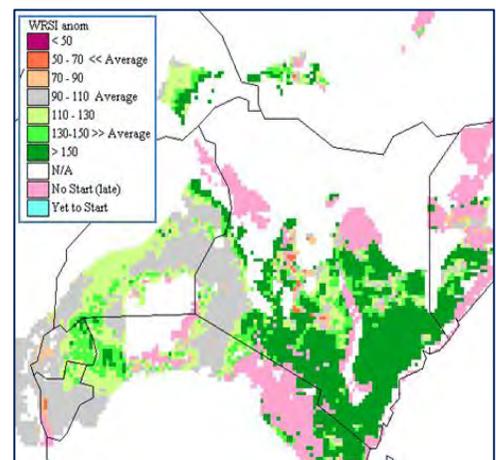
The resurgence of the rains from mid-December to the first week of January in key cropping areas in the southeastern and coastal lowlands in Kenya, in Arusha, Tanga, and Kilimanjaro Regions in northern Tanzania, in localized areas of the Juba Valley in southern Somalia, and around Dollo Ado, in Afer Zone, and in Siti (formerly Shinile) Zone in Ethiopia is unlikely to result in substantial improvements in overall crop output in marginal agricultural, rainfed riverine, or agropastoral areas, especially for crops with shorter growing cycles. Because of erratic rains, maize and sorghum crops have been replanted up to three times, some as late as in mid-December, particularly in Kenya. Despite recent improvements in rainfall, the January to February *Vuli* harvest in Tanzania is expected below average due to erratic rains and dry spells earlier in the season. It is

Figure 3. [eMODIS Normalized Difference Vegetation Index \(NDVI\) for January 1-10, 2013 anomalies from the 2001-2011 mean](#)



Source: [USGS/FEWS NET](#)

Figure 4. Anomalies in modeled crop conditions for maize based on Water Requirement Satisfaction Index (WRSI) as of December 31, 2012 from the 1996-2010 mean



Source: [USGS/FEWS NET](#)

unlikely most of the recently replanted crops will attain maturity unless the rains continue uncharacteristically into February, of which the chances are highly limited. Although the [Water Requirement Satisfaction Index \(WRSI\)](#) suggests above average crop conditions would be possible at the end of December (Figure 4), the [rains were delayed by up to four weeks](#), so replanted long-cycle crops such as maize will likely not have enough time to mature. Therefore, the expected mid-February to early March short rains harvest in the southeastern lowlands of Kenya is likely to be well below average. However, there will be some areas with better cropping in the relatively higher elevation areas in Machakos, Mwingi, Makueni, and Kitui Districts and in the coastal strip. Households in these areas typically depend on the short rains harvest for at least 60 percent of their own crop production, and [short rains crops are an important source of food and income](#).

Above normal rains caused flooding in flood-prone areas in the Lake Victoria basin, eastern and northwestern Kenya, southeastern South Sudan, southwestern and northern Uganda, northern and western Rwanda, and northern Tanzania in November and December. The floods caused significant localized crop damage and leaching of soil nutrients in affected areas. Affected crops included beans in northern Tanzania, Rwanda, and southwestern Uganda. Bean yields have likely been significantly reduced by the floods and excessive rains. Around 13,000 people were affected in the Lake Victoria flood basin in Nyando, Kisumu, and Siaya Districts in Kenya according to the [Kenya Red Cross Society](#).

FORECAST

The [National Oceanic and Atmospheric Administration \(NOAA's\) National Centre for Environmental Prediction's \(NCEP's\)](#) two-week [rainfall forecast through February 7](#) indicates that the rain belt has already shifted southward into Tanzania and the southern Africa states, as is typical for this time of year. In general, the northern areas of East Africa are likely to remain normally dry, although on-going cyclones are causing rains in the eastern Horn into mid-January. The [European Centre for Medium-Range Weather Forecasts \(ECMWF\)](#) forecast for January to March 2013 period shows that most of the northern and equatorial sector of the greater Horn of Africa is likely to experience seasonally normal, dry conditions. While current dryness is consistent with expected seasonal trends, areas that are anticipated to experience below normal March to May rains, shown on Figure 5, are faced with prolonged stress. In addition, warmer than normal dry season temperatures are expected across the northern and eastern sectors particularly in Sudan, South Sudan, northern and eastern Kenya, southern Somalia, and central and western Ethiopia. Elevated temperatures are of significant concern in the areas that received below average rains during the current and previous recent seasons because rangeland resources are likely to degrade rapidly at higher temperatures. This would lengthen the dry season, and it may reduce the productivity of livestock in these areas.

There are no clear indications on the likely timeliness of the onset of the March to May main rainy season for the eastern areas of the region. However, the [ECMWF](#) forecast for March to May suggests that there may be significant rainfall deficits in parts of the eastern Horn including northern Ethiopia, Eritrea, Djibouti, and the Lake Victoria basin (Figure 5). Preliminary indications are that the March to May rains are expected to be near-normal for the other long-rains/[Gu/Hageya/Genna/Belg](#)-receiving areas in the eastern Horn.

Figure 5. European Center for Medium-Range Weather Forecasts (ECMWF) rainfall anomalies in millimeters (mm) forecast for March to May 2013

