Strong El Niño event will contribute to high food assistance needs through 2024

The ongoing strong El Niño event, which is forecast to reach peak intensity in late 2023 and then dissipate by mid-2024, will have both negative and positive effects on acute food insecurity across the globe. FEWS NET anticipates a total of 105-110 million people will need food assistance through at least early 2024, comprising a net increase in needs in Southern Africa and the Latin America and Caribbean (LAC) regions and a net decline in needs in East Africa. El Niño typically brings below-average rainfall to Southern Africa, western East Africa, and LAC, on the one hand, and above-average rainfall to eastern Africa and Afghanistan, on the other hand. The impacts of poor rainfall and above-average temperatures on agricultural production, food prices, and water, sanitation, and hygiene (WASH) are of greatest concern in drought-prone areas of Southern Africa and LAC, as well as areas recovering from conflict in northern Ethiopia. Meanwhile, the impacts of heavy rain and floods on agricultural production, road and market infrastructure, and WASH are of greatest concern in riverine and low-lying areas in the eastern Horn of Africa; however, above-average rainfall is broadly expected to facilitate the gradual recovery from three-year droughts in the rest of the Horn and Afghanistan. Donor governments and humanitarian agencies should prepare for high assistance needs in multiple regions, especially during the 2024 lean seasons.

The strength of El Niño has steadily increased since it emerged in May, becoming a strong event in late September. According to the NOAA’s Climate Prediction Center and UC Santa Barbara’s Climate Hazards Center, the strength of this El Niño is expected to be comparable to the top six strongest events on the historical record, but relatively less severe than the two strongest events of 1997/98, which brought historic drought and floods to East Africa, and 2015/16, which brought historic drought to Southern Africa. The magnitude of El Niño’s effects on precipitation varies notably from one El Niño event to another depending on the specific anomalies in sea surface temperature and atmospheric behavior, including its interaction with other climate phenomenon such as the Indian Ocean Dipole (IOD). Of particular concern this year is the anticipated very positive state of the IOD in late 2023, as this tends to amplify El Niño’s effects on weather in the eastern Horn of Africa, as was seen in 1997.

Southern Africa: A below-average October to March rainfall season is highly likely to lead to below-average cereal and cash crop harvests and exacerbate already-inflated maize prices. Crisis (IPC Phase 3) outcomes are expected to spread, especially during the January-March peak of the 2023/24 lean season and after the 2024 post-harvest period, which starts around August. The areas of highest concern include southern and western deficit-producing areas of Zimbabwe, southern Malawi, southern and central Mozambique, and southern Madagascar, where the 2023 maize harvest already performed poorly due to various cyclone events and irregular rainfall—a trend that ran counter to regional aggregate maize performance, which was over 10 percent above average. While agricultural production in 2024 is broadly expected to be below average, the severity of El Niño’s effects will depend on the magnitude of rainfall deficits and patterns of rainfall distribution, especially between December and February. In past El Niño years, maize production deficits ranged from 10 to 15 percent on average relative to expected yields in Zimbabwe and South Africa, but some events resulted in deficits of over 50 percent, leading to sharp, regional food price spikes. Given the presence of climate conditions similar to 1991/92 and 2015/16, there is a risk of a more severe scenario in which severe drought causes both crop failure and livestock deaths, leading to more severe levels of acute food insecurity than currently projected.

1 Estimates of total food assistance needs comprise the 31 countries monitored by FEWS NET.
Global Africa: Overall, the effects of El Niño are expected to lead to a net decline in food assistance needs, but needs will remain very high due to the 2020-2023 drought in the eastern Horn of Africa, 2019-2022 floods in South Sudan, and conflicts in northern Ethiopia, Sudan, and South Sudan. Seasonal rainfall anomalies have not been significant in the Sudans so far this year, and historical data suggest heavy rain will most likely facilitate above-average harvests and livestock reproduction in most areas of the eastern Horn. Nevertheless, weather shocks linked to El Niño and the positive IOD will still contribute to Crisis (IPC Phase 3) and Emergency (IPC Phase 4) outcomes in some areas. Drought conditions during Ethiopia's June to September rainy season are a driver of below-average meher harvests and livestock reproduction, including in conflict-affected Tigray and Afar regions. In Ethiopia, Somalia, and Kenya, floods in riverine and low-lying areas during the October to December rainy season are expected to cause the short-term displacement of hundreds of thousands of people, crop and livestock losses, and increased livestock and human disease incidence. The rains also present a risk of favorable conditions for desert locusts, as witnessed in 2019. Furthermore, there is a risk of a more severe scenario in which extreme flood extent limits flood-recession agriculture and prolongs infectious disease outbreaks, leading to higher levels of acute food insecurity than currently projected.

LAC: The impacts of El Niño are expected to be significant in Central America, where own-produced crops have the largest contribution to household food needs, whereas imported foods and irrigated crops are typically most important in Venezuela and Haiti. While national harvests are expected to remain near average due to irrigation use among commercial producers, yield declines are expected among subsistence farmers. Crisis (IPC Phase 3) outcomes are projected to spread by spring 2024 in the Dry Corridor and northern Honduras, where subsistence farmers are expected to lose up to 25 percent of their crops this year and water availability for humans and livestock is declining. Meanwhile, in Haiti, crop yield losses are exacerbating the concurrent effects of insecurity and poor economic conditions on acute food insecurity. Overall, El Niño has already suppressed seasonal rains since May/June, causing a delayed rainfall onset, erratic rainfall distribution, and high temperatures that have reduced soil moisture and led to increased pest disease incidence. In late 2023, rainfall forecasts vary from near-average to below-average across the region; regardless, a combination of erratic rainfall patterns, above-average temperatures, and reduced seed availability after the first season's yield losses are all expected to have negative impacts on harvests in late 2023 and early 2024.

Afghanistan: While poor economic conditions will continue to drive acute food insecurity in Afghanistan in 2024, the positive impacts of El Niño on water availability and agricultural production are expected to support a relative decline in food assistance needs compared to recent years. At this time, Afghanistan is still in the midst of a three-year drought that – in combination with other factors – has suppressed wheat and livestock production for multiple years. In 2023, wheat production is again below average, though better than last year due to both improved rainfall distribution and a shift from poppy to wheat production in the southern provinces. Looking forward, forecasts call for above-average rainfall during the October to April rainy season, which is anticipated to end the current drought and support improved cropping and livestock production conditions. Historical trends suggest crop yields will benefit from the improved rains; however, it is premature to estimate the degree of improvement, as the prolonged drought and early depletion of snowmelt this year may impede improvements in water availability, including the planting of irrigated winter crops. Additionally, heavy rains bring a risk of floods, and pest disease incidence is a concern.

West Africa: The impacts of El Niño, which is expected to end by the 2024 cultivation season in the Sahelian zone, are expected to be minimal in West Africa. Empirical evidence demonstrates El Niño has inconsistent impacts on rainfall in the region, and cumulative rainfall performance during this year's June to September 2023 rainfall season was broadly near average. To the extent any impacts occurred, poorly distributed rainfall at the beginning of the season has delayed the maturation of cereal harvests by several weeks; however, staple cereal production is generally expected to be near average outside of conflict-affected areas. Conflict and economic drivers remain the primary drivers of acute food insecurity, including localized declines in crop and livestock production, and this trend is expected to persist in 2024.

The variable effects of El Niño on levels of acute food insecurity across these regions will require close monitoring throughout late 2023 and well into 2024. Humanitarian response actors should prepare for not only a high likelihood of increasing food assistance needs in regions of concern, but also the potential for more extreme scenarios mirroring the events of 1991/92, 1997/98, and 2015/16. At this time, El Niño is not anticipated to cause large disruptions to the global grain supply, as the varying positive and negative impacts on different regions, along with other production dynamics, are expected to have a net stabilizing effect. Similarly, it is not expected to be a dominant factor in global grain prices, which are currently driven by geopolitical and economic factors. However, if more extreme scenarios materialize, there is potential for a significant effect on a global scale.

Recommended citation: FEWS NET. Global Alert, October 3, 2023: Strong El Niño event will contribute to high food assistance needs through 2024.