



# GIEWS Update

## Emerging La Niña conditions raise concerns about agricultural production and food security, particularly in areas still recovering from the lingering effects of the recent El Niño

### Highlights

- La Niña is expected to emerge in late 2024 and persist into early 2025, bringing extreme weather events that could cause extensive agricultural damage and worsen food security conditions.
- Dry weather conditions are forecast in parts of East Africa, Central Asia, the Near East and southern parts of South America, while excessive rainfall and flooding are likely in Central America, Southern Africa and Southeast Asia.
- There is particular concern for the areas that are still recovering from the lingering effects of the recent El Niño and are also at risk of La Niña, including parts of East and Southern Africa where acute food insecurity is already at critical levels.

### Overview

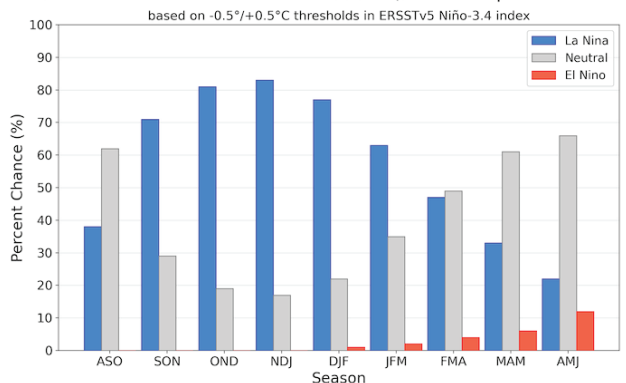
La Niña is forecast to emerge in the last quarter of 2024 and persist into early 2025 (Figure 1), exacerbating the acute food insecurity situation in areas already affected by weather extremes linked to the 2023/24 El Niño, which lasted from June 2023 to May 2024. In many countries, El Niño caused significant crop losses and disrupted livestock production, leading to food prices spikes and reducing income of households, making them more vulnerable to future weather shocks. La Niña is typically associated with below-average rainfall amounts in parts of **East Africa, Central Asia, the Near East, southern parts of South America and the United States of America** (Map 1). Conversely, above-average precipitation amounts and flooding are generally observed in parts of **West Africa, Southern Africa, India, Southeast Asia, Australia, Central America** and northern areas of **South America**.

### Effects of the 2023/24 El Niño on agriculture and food security

The 2023/24 El Niño event was strong and contributed to record high average temperatures, droughts and floods, which severely disrupted agricultural

**Figure 1: Forecasts point to a high likelihood of La Niña developing from October 2024**

Official NOAA CPC ENSO Probabilities (issued September 2024)



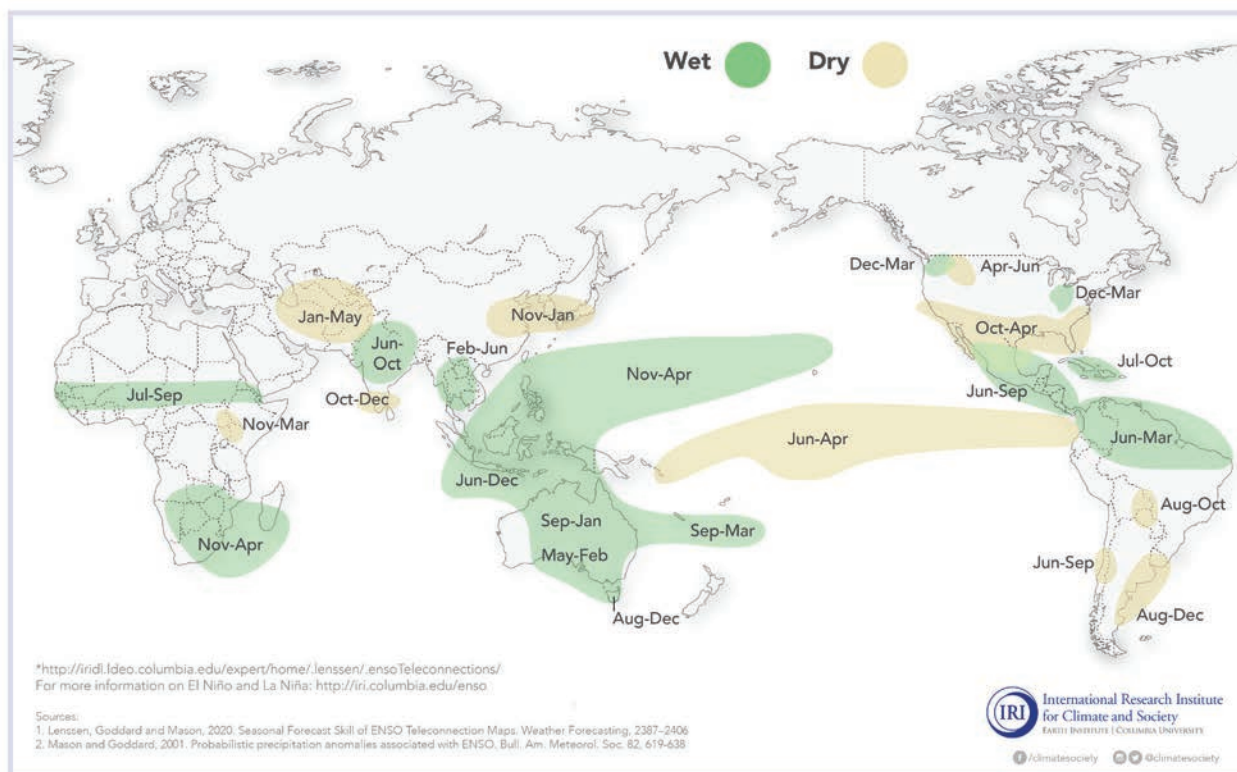
Source: IRI. 2024. *ENSO Forecast - September 2024 Quick Look*. International Research Institute (IRI). Columbia Climate School, Columbia University. New York. 19 September 2024. <https://iri.columbia.edu/our-expertise/climate/forecasts/enso/current/>

production and caused food prices spikes, worsening food insecurity in many countries.<sup>i</sup> In **Southern Africa**, a record mid-season drought from January to March 2024, driven by El Niño and a positive Indian Ocean Dipole (IOD),<sup>ii</sup> led to widespread cereal production losses in **Lesotho, Malawi, Mozambique,**

## Map 1: Typical precipitation patterns under La Niña conditions (teleconnection)

### La Niña and Rainfall

La Niña conditions in the tropical Pacific are known to shift rainfall patterns in many different parts of the world. The regions and seasons shown on the map below indicate typical but not guaranteed impacts of La Niña. For further information, consult the probabilistic information\* that the map is based on.



Source: IRI. 2024. *International Federation of Red Cross and Red Crescent Societies: Forecasts in Context - What Changes in Rainfall are Typical during La Niña?* Data Library. International Research Institute (IRI). Columbia Climate School, Columbia University, New York. Cited 29 September 2024. <https://iridl.ldeo.columbia.edu/maproom/IFRC/index.html#tabs-3>.

**Namibia, Zambia and Zimbabwe**, with outputs in 2024 officially estimated to be between 30 and 50 percent below the five-year average. In **South Africa**, the main cereal producer of the subregion, the 2024 cereal output was about 10 percent below the average. As a result, prices of the main food staples, including maize, have risen considerably in most countries, constraining access to food for the most vulnerable households. The Integrated Food Security Phase Classification (IPC) analyses show a steep increase in the number of people experiencing high levels of acute food insecurity across the subregion,<sup>iii</sup> and the governments of Malawi, Zambia and Zimbabwe declared national disasters due to the adverse effects of the drought. Prolonged drought also affected the *Dry Corridor* of **Central America**, which runs through the tropical dry forest along the Pacific coast of **Guatemala, El Salvador, Honduras and Nicaragua**, where smallholder farmers mainly grow maize and beans for self-consumption. Reduced rainfall caused a sharp drop in water levels in the Panama Canal, reducing transit capacity and

disrupting international trade.<sup>iv</sup> In **South America**, dry weather conditions and high temperatures led to numerous forest fires across parts of the subregion, including **Colombia, Chile, Bolivia (Plurinational State of), Brazil and Venezuela**,<sup>v</sup> and affected crop and livestock production. In **Far East Asia and Pacific Islands**, including **the Philippines, the Federated States of Micronesia and Timor-Leste**, dry weather conditions had a negative impact on cereal production in 2024, estimated to be well below the average, driving food prices to record high levels. By contrast, heavy rains and flooding occurred in **East Africa** during the 2024 March–May *long-rains* season, causing severe localized crop losses, population displacement and infrastructure destruction, mostly in **Kenya, Somalia, Ethiopia, the Sudan and South Sudan**.<sup>6</sup>

### Emerging La Niña

According to the latest weather forecasts, there is a 60–70 percent probability that La Niña will develop between October and November 2024, likely

persisting through January to March 2025 period.<sup>vii, viii</sup> Rainfall patterns during La Niña events tend to be the reverse of El Niño, but the affected areas are often the same, putting countries still recovering from El Niño at further risk of weather extremes. There is particular concern for the **East Africa** subregion, especially the **Horn of Africa**, where, following recent El Niño-related floods, La Niña is now expected to bring below-average precipitation amounts during the November–March secondary *short-rains* cropping season, which accounts for about 40 percent of the total crop output. This is likely to reduce both area planted and yields. Pastoralist and agro-pastoralist areas of central and southern **Somalia**, southern **Ethiopia** and northern **Kenya** are expected to be the most affected. Currently, over 20 million people in Kenya, Somalia and Ethiopia are facing high levels of acute food insecurity and are in urgent need of humanitarian assistance,<sup>ix</sup> and crop and livestock losses could further reduce food availability, diminish income of vulnerable households and exacerbate the already high food prices. In the **Near East** and **Central Asia**, La Niña is associated with below-average precipitation amounts from January to May, when the main wheat crop, a key staple in the subregion, is at critical vegetative to yield formation stages. In addition, snow accumulation is likely to be below average, increasing the risk of winterkill as crops will not be protected by an adequate snow cover, and reducing the availability of irrigation water for spring and summer crops. In southeastern parts of **South America** and **the United States of America**, expected dry weather conditions are likely to affect soybean, maize and rice crops during the vegetative to harvest period. Where precipitation amounts are forecast to be above average, agricultural production may benefit, but excessive rainfall raises the risk of flooding, which could affect standing crops, wash away stored seeds, increase mortality of livestock, damage agricultural infrastructures and cause population displacement. Excessive humidity also increases the risk of pest and disease infestations, potentially reducing yields and causing outbreaks of animal diseases. In **Southern Africa**, above-average precipitation amounts, coupled with an intense cyclone season from November to April, coinciding with the entire main cropping season, could result in flooding and cause localised crop losses in affected areas. In **Southeast Asia** and **Australia**, La Niña can trigger excessive rains and increased risk of flooding and landslides from October to March, rising concerns over planting and early development of the 2025

main rice and maize crops. In **Central America and the Caribbean**, above-average precipitation amounts and increased cyclone activity are forecast in the October to November period, which may have serious implications for the agricultural sector.

Although La Niña has not yet been officially declared, some countries are already experiencing some La Niña-like conditions. Between late August and September, floods occurred over large areas of **West** and **Central Africa**, as well as **the Sudan, South Sudan, Bangladesh, India, Myanmar, Nepal** and **Pakistan**, while early signs of drought are evident in southern parts of **South America**, including **Argentina** and **Chile**. FAO will continue to closely monitor the development of La Niña and possible weather anomalies in the coming months to assess the potential effects on crop production and food security.

FAO has recently launched a La Nina Anticipatory Action and Response Plan<sup>x</sup> to mitigate the expected impacts of La Niña induced climate extremes on agriculture and food security. Below is a list of anticipatory actions that countries can implement to minimize the potential impacts of droughts and floods on the agriculture sector. The list is non-exhaustive, and actions would need to be adapted to each country.

## Recommended anticipatory actions:

### Drought conditions:

- Distribution of farming tools and seeds of drought-tolerant crop varieties well in advance of planting seasons.
- Distribution of feed and provision of animal health support, with particular emphasis on chemicals to ensure a regular dipping regime and appropriate vaccination of livestock.
- Rehabilitation of irrigation intakes, canals and other water points at communal level.
- Promotion of capacity development and support to farmers on water-harvesting techniques.
- Developing capacity of farmers and providing support on post-harvest management and processing to minimize losses.

### **Flood conditions:**

- Establishment of food storage sites and provision of storage equipment (e.g. hermetic bags) to reduce post-harvest losses.
- Monitoring of cyclones, preparation of actionable advisories and provision of humanitarian assistance (such as unconditional cash transfers) to vulnerable households upon early warnings and ahead of landfall.
- Supporting livestock evacuation from areas exposed to flood risk, supply fodder to evacuation centres and provide vaccines and supplements for livestock.
- Identification of dry docks and safe havens to host boats, store fishing gear and agriculture tools.
- Promotion of early harvesting as soon as floods or cyclones are forecast and before the peak effects of the hazard.

### **Cross-cutting actions:**

- Strengthening community-based early warning systems and training communities on how to link warnings to anticipatory action.
- Distribution of vegetable gardening inputs, short-cycle seeds and micro-irrigation systems to ensure availability of food ahead of the harvesting period.
- Provision of cash for work (ideally via government social protection systems) to facilitate support for the rapid construction/reinforcement of community infrastructures (e.g. evacuation centres for livestock, water drainage systems).
- Provision of Cash+ through government targeting system (the "+" will need to be tailored to community needs).
- Provision of unconditional cash transfers between the forecast hazard and the peak of its effects on local population.

## Annex: Countries at risk of the effects of La Niña

### Countries at risk of excessive rains and floods

Australia  
Bolivia (Plurinational State of)  
Botswana  
Brazil  
Cambodia  
Colombia  
Costa Rica  
Côte d'Ivoire  
Democratic Republic of the Congo  
Dominican Republic  
Ecuador  
El Salvador  
Fiji  
Gabon  
Guatemala  
Guyana  
Haiti  
Honduras  
Indonesia  
Lao People's Democratic Republic  
Lesotho  
Malawi  
Malaysia  
Mexico  
Mozambique  
Myanmar  
Namibia  
Nicaragua  
Nigeria  
Panama  
Papua New Guinea  
Peru  
Philippines  
South Africa  
Swaziland  
Thailand  
Timor-Leste  
Trinidad and Tobago  
Venezuela (Bolivarian Republic of)  
Viet Nam  
Zambia  
Zimbabwe

### Countries at risk of dry conditions

Afghanistan  
Argentina  
Armenia  
Azerbaijan  
Bhutan  
Iran (Islamic Republic of)  
Iraq  
Kazakhstan  
Kenya  
Kyrgyzstan  
Mexico  
Pakistan  
Paraguay  
Syrian Arab Republic  
Tajikistan  
Türkiye  
Turkmenistan  
United States of America  
Uruguay  
Uzbekistan

## Notes

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This report was prepared by the **Global Information and Early Warning System (GIEWS)** of the Markets and Trade Division of FAO. The updates focus on developing anomalous conditions aimed at providing early warnings, as well as latest and more elaborate information than other GIEWS regular reports on the food security situation of countries, at both national and sub-national levels. None of the information in this report should be regarded as statements of governmental views.

For more information visit the **GIEWS Website** at: <http://www.fao.org/giews/en/>

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