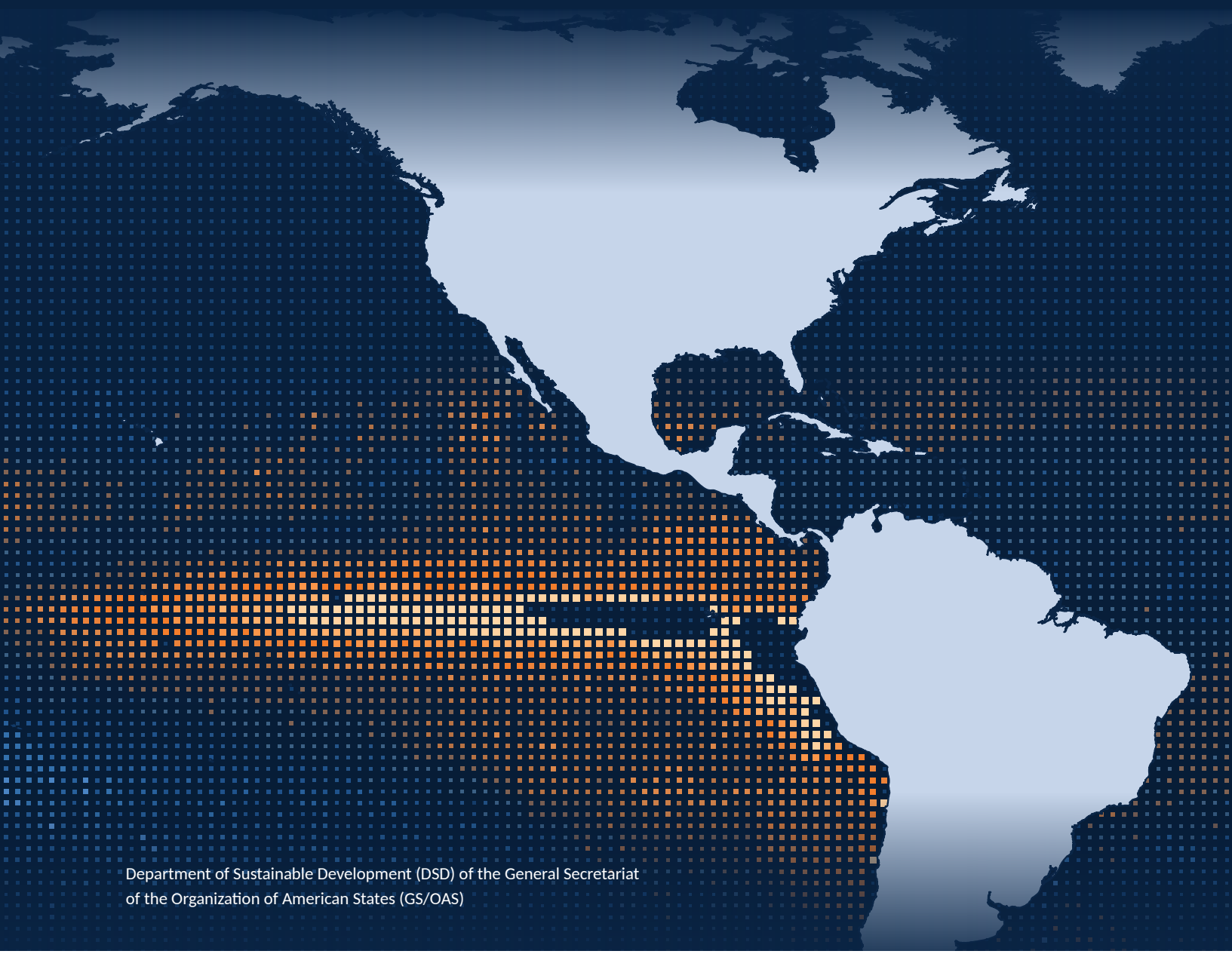
EL NIÑO

Outlook, Potential Impacts and Anticipatory Action

El Niño 2026-2027 Technical Information Note



Department of Sustainable Development (DSD) of the General Secretariat
of the Organization of American States (GS/OAS)

OAS
ORGANIZACIÓN METEOROLÓGICA MUNDIAL
CIIFEN

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El Niño 2026-2027 Technical Information Note

PREPARED BY

Department of Sustainable Development (DSD) of the Organization of American States (OAS)
in collaboration with the World Meteorological Organization (WMO) and the International Research Centre on El Niño (CIIFEN)

DATE AND PLACE

Washington, D.C., October 2026

SOURCES

World Meteorological Organization (WMO) · National Oceanic and Atmospheric Administration (NOAA) · International Research Institute for Climate and Society (IRI) · International Research Centre on El Niño (CIIFEN) · OLADE, FEWS NET, PAHO/WHO, ILO and the national meteorological and hydrological services.

COVER ILLUSTRATION

Sea surface temperature anomaly from 27 September to 3 October 2026, composed as a dot screen from the NOAA OI/SST V2 data processed by CIIFEN.

OAS

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Executive Summary

El Niño is a variation in the oceanic and atmospheric conditions of the tropical Pacific that has the potential to alter precipitation and temperature patterns and to increase the occurrence of extreme hydrometeorological events worldwide.

In June 2026 the leading climate research centres declared the onset of El Niño 2026-2027, and by September the event had already reached "very strong" intensity. There is, moreover, a high probability that it will become the most intense on record and that it will persist at least into the first months of 2027.

Earlier intense events, such as El Niño 1997-1998 and 2015-2016, have shown that the effects of this phenomenon differ from country to country in Latin America and the Caribbean, and even at the subnational scale. In this region the evidence has also shown that water is the central axis of sectoral and socioeconomic impact.

The areas with a high probability of water deficit associated with El Niño are north-central and Pacific Mexico, the Central American Dry Corridor, Panama and Costa Rica, the insular Caribbean, Andean and Caribbean Colombia, Venezuela, Guyana, Suriname and the Amazon and Andean Altiplano regions. In these regions the rainfall deficit, combined with rising air temperatures, may trigger severe drought, raising the risk of wildfires and other potential socioeconomic impacts such as urban supply restrictions, a rise in respiratory illness, reduced hydroelectric generation, damage and losses in the agricultural sector and a consequent increase in food insecurity.

By contrast, regions such as the coast of Ecuador, northern Peru, south-central Chile and the La Plata Basin face a potential increase in rainfall, where high-intensity events may trigger river surges, floods and landslides. These hazards not only cause severe damage to infrastructure and agricultural losses, they also place heavy pressure on civil protection systems.

Government planning must therefore be structured around territorial risk zoning that takes into account both institutional response capacity and the scenarios of water deficit or excess, so that these impacts do not rapidly compound pre-existing socioeconomic vulnerabilities.

For national action on El Niño it is important to bear in mind that the coming months, between October 2026 and March 2027, are the critical window of the event. In this regard, the fourth quarter of 2026 (Q4-2026), already under way,

is the period in which an immediate operational alert must be considered. Member States should treat the month of October as the principal strategic and cost-efficient window of opportunity for preventive preparedness, the activation of early warnings and anticipatory action — releasing water reserves, managing thermal generation, securing resistant seed, mobilizing contingency emergency funds and triggering civil protection protocols.

Once October has passed, the capacity to prevent losses could fall significantly with the imminence of the peak of the phenomenon between November and December 2026 (Q4-2026). For the first quarter of 2027 (Q1-2027), persistence together with heavy rainfall events and prolonged low-water periods is expected to generate cumulative effects on water, energy, agriculture, health and logistics, with socioeconomic impacts, losses and damage that will demand a costlier response and weigh more heavily on national budgets.

The Department of Sustainable Development (DSD) of the General Secretariat of the Organization of American States (GS/OAS) therefore places at the disposal of Member States this consolidated report on the evolution, monitoring and climate outlook of El Niño 2026-2027, prepared from official information issued by the World Meteorological Organization (WMO), the National Oceanic and Atmospheric Administration (NOAA), the International Research Institute for Climate and Society (IRI) and the International Research Centre on El Niño (CIIFEN).

1 Evolution, Monitoring and Outlook for El Niño 2026-2027

Evolution, Monitoring and Declaration

In June 2026 the World Meteorological Organization (WMO) confirmed that El Niño was developing in the tropical Pacific Ocean and, at that point, was expected to be an event of considerable intensity with the potential to influence weather patterns around the world over the following months[1].

In that same month the National Oceanic and Atmospheric Administration (NOAA) issued its official El Niño declaration, on the grounds that the Pacific Ocean in the Niño 3.4 region, used to monitor this phenomenon, showed Sea Surface Temperatures (SST) +0.7 °C warmer than normal. The statement also

1 Launch of the WMO El Niño/La Niña Bulletin (June-August 2026) wmo.int/content/launch-of-wmo-el-ninola-nina-bulletin-june-august-2026

noted that the trade winds had weakened and that oceanic and atmospheric conditions therefore reflected the coupling typical of a developing El Niño[2].

Still in June, both institutions saw the possibility that El Niño 2026-2027 would be at least of "strong" intensity — a Sea Surface Temperature anomaly above +1.5 °C — which would increase the likelihood of extreme hydrometeorological events associated with El Niño, such as heatwaves, heavy rainfall and severe drought, among others.

In early September the International Research Centre on El Niño (CIIFEN) reported in its monthly monitoring bulletin that El Niño had already reached the "very strong" category, once the Sea Surface Temperature, estimated through the Relative Oceanic Niño Index (RONI) measured in the central Pacific (Niño 3.4 region), reached +2.0 °C above its historical average[3].

In addition, the Niño 1+2 region, which measures the Sea Surface Temperature anomaly off the coast of Ecuador and Peru, reached values of +4.5 °C above its historical climatology in the first week of October. These values place El Niño 2026-2027 among the most intense on record, with the prospect that it may continue to strengthen over the coming months and break the record of previous events (Figure 1) (see Annex A).

+2.0 °C

Sea surface temperature anomaly in the Niño 3.4 region in early September 2026: a very strong event.

+4.5 °C

Anomaly off the coast of Ecuador and Peru in the first week of October 2026: an extraordinary coastal El Niño.

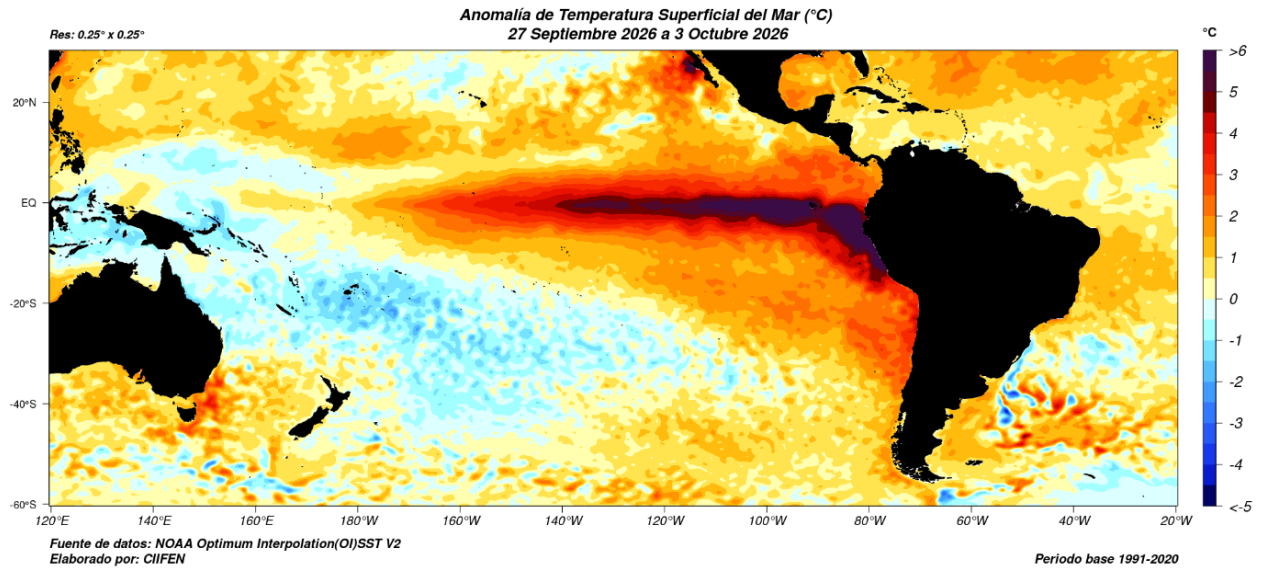


Figure 1. Sea Surface Temperature anomalies in the tropical Pacific *Source: NOAA/OISSTv2[4]. Processing: CIIFEN.*

2 El Niño/Southern Oscillation (Enso) Diagnostic Discussion – 11 June 2026 www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_disc_jun2026/ensodisc.pdf

3 Boletín El Niño/La Niña en América Latina - Septiembre de 2026 ciifen.org/wp-content/uploads/2026/09/Boletin_ElNino_LaNina_Septiembre_2026.pdf

4 Optimum Interpolation Sea Surface Temperature (OISST) www.ncei.noaa.gov/products/optimum-interpolation-sst

El Niño Forecast

The forecasts issued by NOAA in October 2026 indicate a 100 % probability that El Niño will persist through the first quarter of 2027, and that from April, May and June there is approximately a 55 % probability of a return to neutral conditions (Figure 2).

As to intensity, NOAA estimates a 100 % probability that El Niño will remain a "very strong" event (sea temperature more than +2.0 °C above normal) through the October–November–December quarter and that it will hold this category at least into the first quarter of 2027. It also indicates a 75 % probability that the event will exceed the historical record (since 1950).

Over the following quarters its intensity would decline progressively until its decay between April and June (Figure 3). Despite this expected gradual weakening, the warm conditions and their cumulative impacts will be significant in the first quarter of 2027. It is also worth noting that, scientifically, there is no such designation as a "Super" El Niño or a "Godzilla" El Niño (see Annex A).

100 %

Probability that El Niño will remain a very strong event in the October-December quarter of 2026.

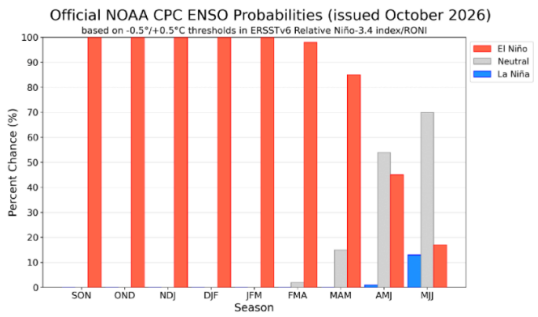


Figure 2. Probabilistic forecast of El Niño occurrence *Source: NOAA*[5].

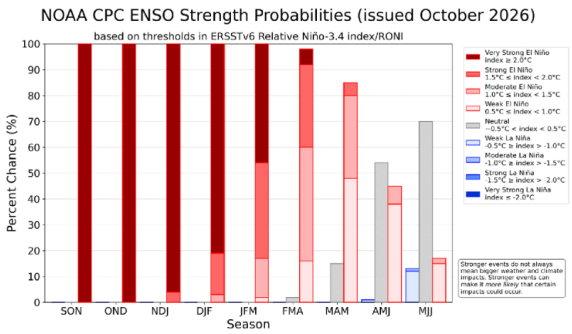


Figure 3. Probabilistic forecast of El Niño intensity *Source: NOAA*[6].

The forecasts agree on a 100 % probability that the phenomenon will persist through the second half of 2026 and the first quarter of 2027.

5 Official NOAA CPC ENSO Probabilities cpc.ncep.noaa.gov/products/analysis_monitoring/enso/roni/probabilities

6 Official NOAA CPC ENSO Strength Probabilities cpc.ncep.noaa.gov/products/analysis_monitoring/enso/roni/strengths

Climate Outlook for October, November and December 2026

- **Temperature forecasts indicate a dominant pattern across the Americas:** above-normal temperatures over practically the whole continent, with high probabilities (between 60 % and more than 80 %) from Canada to south-central South America (Figure 4).
- **Canada:** Above-normal air temperatures are expected, with high probabilities of between 60 % and 70 %.
- **United States:** above-normal temperatures are expected nationwide; the highest probabilities are forecast for the north and west of the country.
- **Mexico, Central America, the Caribbean, northern and central South America (Colombia, Venezuela, the Guianas, the Amazon basin, Brazil, Peru, Bolivia and Chile):** probabilities above 80 % for above-normal temperatures.
- **Southern Cone:** the pattern breaks in southern Brazil, Paraguay, Uruguay and Argentina, where near-normal conditions are expected, and below normal in central Argentina.

For precipitation, a pattern typical of an intense El Niño is expected, with some regions forecast to see deficits and others increases (Figure 5).

- **Canada and northern United States:** conditions are generally expected to be near normal, with a weak signal of below-normal conditions in central Canada.
- **South-central United States and Mexico:** probabilities of between 40 % and 60 % for above-normal rainfall are expected.
- **Central America, the Caribbean and parts of South America (the Guianas, Venezuela, Colombia, Amazonia, most of Bolivia, and southern Chile and Argentina):** below-normal conditions with high probabilities, between 60 % and more than 80 %. This is the area of greatest rainfall-deficit risk on the continent.
- **Coast of Ecuador, coast of Peru, southern Brazil and southern Paraguay, central Chile and central Argentina:** above normal.

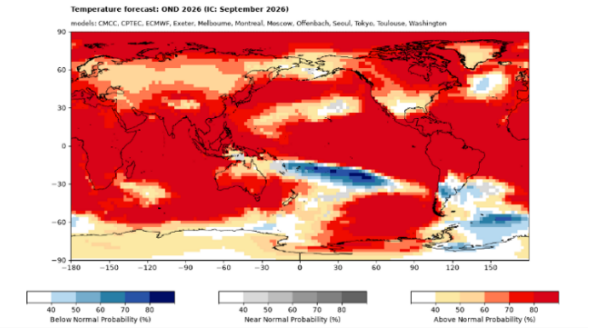


Figure 4. Air temperature forecast for the October–November–December quarter *Source: WMO*[7].

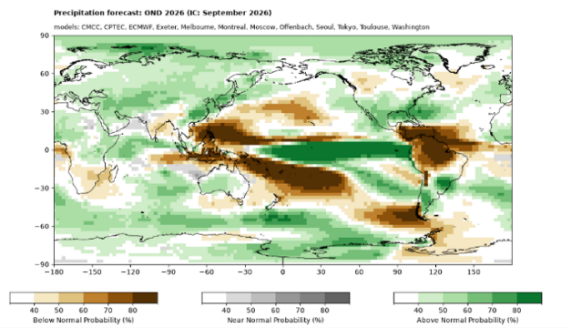


Figure 5. Precipitation forecast for the October–November–December quarter *Source: WMO.*

2 Geographic Zoning of Climate Anomalies

Historically, large-magnitude El Niño events such as those recorded in 1982-1983, 1997-1998, 2015-2016 and 2023-2024 have shown that the impacts associated with this phenomenon are not uniform. On the contrary, they generate high regional variability, which requires governments to prepare on the basis of subnational and territorial risk zones rather than assuming a single national scenario. Climate variability also depends on orographic diversity, geographic position and, above all, socioeconomic vulnerability.

In this setting, water is the central axis of impact. Any alteration in its availability — whether through extreme water deficit or severe excess rainfall — is the main trigger of a cascading scenario that will affect the energy security, agricultural production, critical infrastructure and public health of Member States. In the Americas, the rainfall pattern historically associated with El Niño shows two contrasting bands: in south-western North America (the south-eastern United States), the north-western coast of South America (Ecuador and northern Peru) and southern South America (especially southern Brazil, south-eastern Argentina and Uruguay), above-normal rainfall has been recorded.

7 WMO Lead Center for Seasonal Prediction Multi-Model Ensemble www.wmolc.org/seasonPmmeUI/plot_PMME

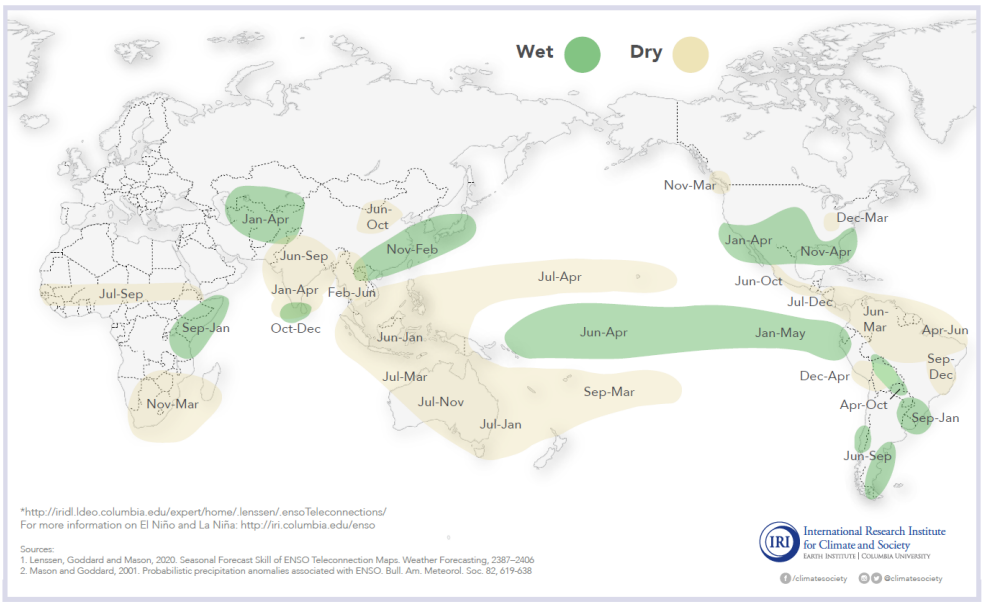


Figure 6. Historical trend of rainfall anomalies associated with El Niño *Source: IRI*[8].

In Central America, the Caribbean and northern South America, meanwhile, drier conditions have prevailed. Taken together, this pattern shows that when parts of the continent face a potential drought hazard, other parts may receive more heavy-rainfall events (Figure 6).

Given that close to 50 % of the region's electricity matrix depends on hydro-electric generation (OLADE[9]), prolonged rainfall scarcity represents a systemic, cross-cutting threat to energy, agriculture and urban supply. Table 1 sets out the seasonal information as a territorial zoning of rainfall anomalies to guide government decisions.

8 El Niño and Rainfall iri.columbia.edu/wp-content/uploads/2023/05/ELNINO-RAINFALL-2023.pdf

9 Assessment of the renewable matrix and hydropower vulnerability in LAC www.olade.org

Table 1. Territorial Zoning of Climate Anomalies (El Niño 2026–2027)[10]

Subregion / Territory	Projected Precipitation Anomaly	Critical Period / Window	Confidence Level	Main Operational Impact
Mesoamerica: Mexico	Deficit to Normal / Heatwaves: above-average temperatures.	Jul 2026 – Mar 2027	Medium	Water stress in northern basins, agricultural drought and rising electricity demand.
Mesoamerica: Dry Corridor (Guatemala, El Salvador, Honduras, Nicaragua)	Severe deficit: longer and more intense midsummer drought (canícula).	Jun – Oct 2026	High	Losses in staple grain harvests (Primera/Postrera) and food insecurity[11].
Mesoamerica: Panama and Costa Rica	Continued deficit: reduced rainfall on the Pacific slope.	2nd half of 2026 – May 2027	Medium	Falling levels in Lakes Gatún and Alhajuela, canal draught restrictions [12] and lower hydropower output.
Insular Caribbean (Puerto Rico, Dominican Republic, Haiti, Cuba, Antilles[13])	Moderate to severe deficit: meteorological drought with high temperatures.	Aug – Nov 2026	High	Saline intrusion into aquifers, urban water rationing and livestock stress.
South America: Colombia (Andean and Caribbean regions)	Severe deficit: rainfall down by 40 % to 80 %.	Oct 2026 – Mar 2027	High	Critical drawdown of aggregate reservoirs (SIN), wildfire risk and pressure on electricity tariffs.
South America: North Pacific (coast of Ecuador and northern Peru[14])	Severe surplus: heavy rainfall driven by warming in the Niño 1+2 region.	Dec 2026 – Mar 2027	Medium	River surges, urban and agricultural flooding and damage to road infrastructure.
South America: Amazon Basin (Brazil, Colombia[15], Ecuador, Peru, Bolivia)	Prolonged water deficit: marked reduction in rainfall.	Aug 2026 – Feb 2027	High	Sharp fall in river levels, navigability problems, isolation of communities and wildfires.
South America: Altiplano and Southern Andes (southern Peru and Bolivia)	Deficit to Normal: below-average rainfall.	Dec 2026 – Mar 2027	Medium	Water stress in high-Andean rain-fed planting and a decline in water reserves.
South America: Chile (Coquimbo to Los Ríos)	Surplus: above-normal rainfall[16][17].	Aug – Oct 2026	High	An opportunity to recharge reservoirs and aquifers, but with a risk of landslides in the cordillera.
South America: La Plata Basin (Argentina, Uruguay, Paraguay, southern Brazil)	Surplus: rainfall above the seasonal average.	Nov 2026 – Feb 2027	Medium	Surges on the Paraná and Uruguay rivers, waterlogging of farmland and impacts on port logistics.

Note on criteria: High (the national service declares a probability ≥ 70 % or issues a single category in its current official seasonal forecast). Medium (a directional signal declared without an explicit probability, a double category, or based on historical analogues).

11 Crisis (IPC Phase 3) outcomes to emerge in the Dry Corridor during annual lean season | FEWS NET fews.net/latin-america-and-caribbean/honduras/food-security-outlook/february-2026

12 Canal de Panamá reporta aumento en tránsitos y tonelaje mientras se adapta para enfrentar Fenómeno de El Niño - Autoridad del Canal de Panamá pancanal.com/canal-de-panama-reporta-aumento-en-transitos-y-tonelaje-mientras-se-adapta-para-enfrentar-fenomeno-de-el-nino

13 Actualización del estado de la sequía en Puerto Rico y las Islas Vírgenes de los Estados Unidos - July 23, 2026 www.drought.gov/drought-status-updates/actualizacion-del-estado-de-la-sequia-en-puerto-rico-y-las-islas-virgenes-2026-07-23

14 Coastal El Niño warnings and eastern Pacific monitoring. enfen.imarpe.gob.pe/2026/07/17/comunicado-oficial-enfen-n-13-2026-estado-de-sistema-de-alerta-alerta-de-el-nino-costero

15 IDEAM, Informe de Predicción Climática a corto, mediano y largo plazo en Colombia bart.ideam.gov.co/wrfideam/new_modelo/CPT/informe/Informe.pdf

16 Boletín de tendencias climáticas Chile - Edición septiembre 2026 – DMC (Dirección meteorológica de Chile) climatologia.meteochile.gob.cl/publicaciones/boletinTendenciasClimaticas/boletinTendenciasClimaticas-202609.pdf

17 Notas balance lluvias – DMC (Dirección Meteorológica de Chile) archivos.meteochile.gob.cl/portaldmc/meteochile/prensa/01.07.2026_Pronostico_JAS_2026.pdf

10 Prepared by the authors with data from WMO, NOAA, IRI, BOM, CIIFEN and the national meteorological and hydrological services (ENFEN, IDEAM, IMHPA). For decision-making, information should be updated from the official websites of these institutions.

3 Timing and Critical Windows of Impact

International models expect El Niño to reach its maximum intensity between October and December 2026. This window coincides with key moments in production and social life across the subregions:

- **Central American Dry Corridor:** the peak of the phenomenon will directly affect the Postrera harvest (December–January) and the Apante planting (November), compromising the subsistence reserve of staple grains.
- **South America (Pacific and Altiplano):** the austral summer (December 2026 – March 2027) will concentrate the greatest risk of extreme rainfall and flooding on the northern Pacific coast, while intensifying the water deficit over the Andean altiplano.

Q4 2026: The Decisive Window for Action

Given the greater than 98 % probability that the event will be of "very strong" category, the fourth quarter of 2026 (Q4) is the critical phase for carrying out preventive interventions. Investing and mobilizing resources during this period is up to ten times more economical and effective than financing the emergency response during the peak of the phenomenon at the end of 2026 and the beginning of 2027 (Q4-2026 and Q1-2027). Inaction during October will directly expose populations and infrastructure to severe and significant impacts.

10 ×

More economical and effective to invest in the fourth quarter of 2026 than to finance the emergency response.



Figure 7. Timing and critical windows of El Niño 2026-2027 *Source: prepared by the authors.*

4 Multi-hazard Scenarios and Cascading Risks

Together with the warnings about the sustained rise in global and regional mean temperature, water anomalies will set off interconnected hazards:

Severe Drought, Heat Stress and Wildfires

The coupling of atmospheric and oceanic warming will raise surface temperatures, intensifying evapotranspiration. The sharp reduction in rainfall in Amazonia, the Central American Dry Corridor and the insular Caribbean will increase the accumulation of dry biomass, critically raising the risk of vegetation fires.

Floods and Landslides

On the coast of Ecuador and the northern coast of Peru, in south-central Chile and in the La Plata Basin, surplus rainfall will increase the risk of river surges and flooding. The alternation of extremely dry, hot days with episodes of heavy rain will also destabilize soils, increasing the landslide hazard on sloping terrain.

Public Health Risks and Hospital Operational Continuity

Heatwaves combined with water scarcity will raise occupational heat stress for outdoor work. Faced with rationing of the piped water service, communities will resort to informal household water storage, which can increase breeding sites for the Aedes aegypti mosquito and exponentially raise the risk of epidemic outbreaks such as dengue and others. This situation calls for guaranteed pumping arrangements and priority drinking-water supply for the hospital network and health facilities, preventing epidemic peaks that coincide with the low-water phase (see Annex E)[18].

5 Socioeconomic Exposure and Strategic Infrastructure

Food Security: Agriculture and Fisheries

It is essential to distinguish sectoral intervention strategies according to the nature of the productive activity:

- **Subsistence Agriculture and Crops:** In the Central American Dry Corridor, prolonged rainfall scarcity is projected to push between 500,000 and 749,999 people into IPC Phase 3 (Food Crisis). Priority must be given to protecting staple grains (maize and beans) against the water deficit (see Annex D)[19].
- **Commercial Fisheries and Marine Resources:** Anomalous warming of the waters of the central and eastern Pacific (SST anomalies of up to +4.5 °C

749,999

People that rainfall scarcity could push into IPC Phase 3 in the Central American Dry Corridor.

18 For the epidemiological risk classification, occupational heat stress thresholds and vulnerability on sloping terrain, see Annex E.

19 For details of the cropping calendars by subregion, the Primera/Postrera/Apante planting cycles and the monitoring of grain and input prices, see Annex D.

in the Niño 1+2 region) severely alters the distribution patterns of the main pelagic species (such as anchoveta), affecting the industrial and artisanal fishing economy of the South American coast.

Critical Infrastructure and Logistics

- **Regional Energy Vulnerability:** Approximately 50 % of the electricity matrix of Latin America and the Caribbean depends on hydroelectric generation. Key reservoirs in the Andean and Central American subregions face severe risks of reduced inflows, which will force recourse to thermal dispatch with the consequent increase in operating costs (see Annex B)[20].
- **Logistics and Commercial Transport:** The level of Lake Gatún in Panama imposes operational restrictions on the draught of Neopanamax vessels (set at 44 feet), affecting the performance of the interoceanic canal and international trade flows. A pronounced marine intrusion into aquifers of the insular Caribbean and falling levels in the Amazon river corridors are also expected (see Annex C)[21].
- **Population and water supply:** Latin America and the Caribbean had an estimated population of 672 million in 2026, of whom close to 85.9 % live in urban areas. This high urban concentration increases the exposure of drinking water, sanitation, urban drainage, electricity, public health and transport systems to extreme events associated with El Niño[22].

50 %

Of the region's electricity matrix depends on hydroelectric generation.

44 feet

Maximum draught set for Neopanamax vessels by the level of Lake Gatún.

200M

People without continuous water services in Latin America and the Caribbean.

Water security is one of the main factors of regional vulnerability. More than 200 million people in Latin America and the Caribbean (LAC) lack continuous water services, while more than 450 million lack adequate sanitation. In addition, 1 in 6 children — 27.5 million — live in areas exposed to high or very high water scarcity in LAC, which increases risks to children's health, hygiene, nutrition and well-being during periods of drought or rationing[23].

Regional strategic infrastructure is also highly exposed to water variability. In the energy sector, OLADE reported that in April 2026 the region generated 164 TWh of electricity, 67 % of it from renewable sources and 44.6 % from hydropower, confirming the sensitivity of electricity systems to prolonged rainfall deficits

20 For the hydropower vulnerability matrix, aggregate reservoir metrics and the behaviour of regional interconnections such as SIEPAC, see Annex B.

21 For the levels of Lakes Gatún and Alhajuela, rainfall in strategic watersheds and drought indices in the Caribbean and Amazonia, see Annex C.

22 Worldometer, Latin America and the Caribbean Population 2026; Worldometer, Latin America and the Caribbean Demographics 2026.

23 UNICEF, Finance Ministers from Latin America and the Caribbean Target $372 Billion Investment in Water and Sanitation, 2024; UNICEF, Latin America and the Caribbean: 1 in 6 children exposed to severe water scarcity, 2023

and reduced river flows. In Panama, the Canal watershed supplies the water required for vessel transits and provides approximately 95 % of the drinking water for the cities of Panama, Colón, San Miguelito and, increasingly, La Chorrera[24].

The droughts of the past decade show the potential economic and social impact of this kind of event. Over the last 25 years, drought has affected more than 58 million people in Latin America and the Caribbean and threatens close to USD 80 billion of GDP each year. In the Central American Dry Corridor, FEWS NET estimates that between 500,000 and 749,999 people could require humanitarian food assistance in Honduras, with the greatest needs between June and August, owing to erratic rainfall, high staple food prices and reduced agricultural income[25].

USD 80 bn

Of regional gross domestic product threatened each year by drought.

6 Roadmap for Anticipatory Action

Government and inter-institutional authorities are advised to prioritize the following interventions:

Water Resource Management

- Put backup desalination technology in place in island and hyper-arid territories.
- Aggressively reduce technical losses in urban water distribution networks.
- Maximize reservoir operating rules and prepare urban drainage infrastructure for short but intense storms.

Energy Security

- Diversify the generation matrix and carry out preventive inspection of transmission networks.
- Pre-position thermal supply contracts (gas/diesel) in integrated markets (such as the Regional Electricity Market (MER) in Central America).

24 OLADE, Latin America and the Caribbean electricity generation grew 4.5 % in April 2026, with renewables supplying 67 % of the grid, 2026; Autoridad del Canal de Panamá, Canal Watershed.

25 World Bank, A drier future? Strengthening drought resilience in Latin America, 2026; FEWS NET, Honduras: Unfavorable weather and above-average food prices drive Crisis outcomes, 2026

- Coordinate cross-border energy exchange arrangements to avoid urban rationing.

Agricultural and Fisheries Resilience

- Distribute certified seed resistant to water stress for the key agricultural cycles.
- Facilitate access to parametric agro-climate insurance mechanisms.
- Introduce adaptive fishing closures and technical monitoring of fish stocks in response to species migration driven by marine heat stress.

Financial Risk Management and Contingency Funds

- Activate or manage emergency reserve funds and contingent financing instruments at national and municipal level.
- Promote the uptake and scaling of parametric agro-climate insurance to protect the livelihoods of smallholder farmers and vulnerable sectors against crop losses.
- Enable mechanisms for agile budget reallocation and direct financial transfers conditioned on the activation of early warnings, in order to finance anticipatory action before the peak of the phenomenon.

Table 2. Matrix of Early Action Windows (2026–2027)[26].

Sector	October 2026 Preparedness and Early Warning Phase	Nov–Dec 2026 Peak of the Phenomenon (very strong intensity)	Q1 2027 (Jan – Mar) Window of Persistence and Prolonged Low Water
Energy and Grids (SIN / SIEPAC)	Activate protocols for weekly monitoring of the Risk Aversion Curve (CAR) in interconnected reservoirs. Monitor transmission lines thermally under higher-load scenarios. Manage thermal supply contracts (diesel/gas) in the MER.	Massive, preventive dispatch of the thermal fleet to preserve minimum reservoir levels (Mazar, Paute, SIN Colombia). Enable cross-border emergency energy exchange arrangements in the Andean and Central American subregions.	Assessment of water reserves after the peak of the phenomenon. Gradual adjustment of the generation mix as flows in eastern basins begin to normalize.
Water Resources and Navigation	Introduce stepped restrictions on operating draught in the Panama Canal (down to 44 feet). Activate preventive agricultural irrigation rationing in the insular Caribbean. Inspect wells and alternative groundwater sources in urban areas.	Prioritize water use for human consumption and strategic navigation. Activate river logistics contingency plans in Amazonia in the face of extreme drawdown in river corridors.	Maintain urban water contingency plans. Recharge and monitor strategic aquifers after the low-water period.
Food Security and Agriculture[27]	Advance distribution of drought-resistant seed for the Postrera planting (August) in the Dry Corridor. Monitoring of agricultural input prices (maize, beans and fertilizer).	Deployment of targeted humanitarian assistance for the population in IPC Phase 3 (Food Crisis)[28]. Protection of agricultural stocks and monitoring of the Apante planting (November).	Soil preparation and planning of the Primera planting for the 2027 cycle in line with thermal normalization trends.
Public Health and Disaster Risk	Strengthening of vector control campaigns (Aedes aegypti) in areas under water rationing. Continuous satellite surveillance of heat sources and vegetation fires.	Full activation of hospital networks in the face of dengue outbreaks and other arboviral diseases. Monitoring of inhabited slopes for landslide risk from short, intense rainfall episodes.	Maintenance of epidemiological containment for arboviral disease after the peak of the phenomenon; assessment and repair of hospital infrastructure damaged by extreme rainfall; and guaranteed drinking-water supply to the public health network during the low-water phase.

7 Concluding Observations

The recent evolution of oceanic and atmospheric conditions confirms the presence and strengthening of El Niño conditions in the tropical Pacific. Although specific impacts will vary between countries and regions, there is high confidence in their persistence through the second half of 2026 and the start of 2027. This scenario is an opportunity to strengthen preventive action in advance, to incorporate climate information into planning processes and to promote regional

27 El fenómeno de El Niño en agricultura, ganadería, pesca y acuicultura: Pronósticos y recomendaciones para la acción openknowledge.fao.org/server/api/core/bitstreams/8ccbb5cb-74b9-4d14-8c9b-91e895905553/content

28 El Niño podría empujar a 49 millones de personas más hacia el hambre aguda | Noticias ONU news.un.org/es/story/2026/08/1541778

26 Prepared by the authors with data from OLADE, XM, CENACE, EOR, ACP, NIDIS, FEWS NET, FAO, PAHO/WHO, ILO and UNICEF (ANNEXES).

cooperation in order to reduce risks to the population, infrastructure, ecosystems and productive sectors.

Member States and sectoral authorities are invited to consult regularly the updated information issued by the National Meteorological and Hydrological Services (NMHS) and the international reference centres on the evolution of El Niño, and to strengthen inter-institutional coordination in order to anticipate and mitigate possible impacts on strategic sectors.

The General Secretariat of the OAS, through its Department of Sustainable Development (DSD), reaffirms its commitment to supporting Member States through:

- **Cross-border Cooperation:** coordination in shared river basins and regional electricity interconnections to mitigate the impacts of energy and drinking-water shortages.
- **South-South Technical Assistance:** exchange of regional planning tools, climate forecasts and evidence-based adaptation schemes.
- **Contingency Plans:** incorporation of climate information into public investment matrices and critical infrastructure projects.

Technical Annexes and Operational Indicators

Annex A Ocean-Atmosphere Monitoring of El Niño 2026-2027

Technical Indicator	Observed Value / Status	Threshold / Operational Interpretation	Source
SST anomaly (Niño 3.4)	+2.3 °C	> +2.0 °C: very strong category event.	CPC/NOAA[29]
SST anomaly (Niño 1+2)	+4.5 °C	> +3.5 °C: Coastal El Niño of extraordinary category.	ENFEN[30]
Southern Oscillation Index (SOI)	-19.4 (negative phase)	Atmospheric coupling consistent with the warm phase.	CIIFEN[31]
Persistence of the Phenomenon	100 % probability	Persistence confirmed into early 2027.	CPC/NOAA
Intensity Probability	100 % (Oct–Dec 2026)	Consensus on the very strong category (RONI index ≥ +2.0 °C) during the peak of the event.	CPC/NOAA

Featured Early Hydrological Warning: Paraná River Basin (EBY)

- **Issuing Entity:** Entidad Binacional Yacyretá — Hydrological Warning No. 01/2026 (6 October 2026).
- **Diagnosis:** Sustained increase in inflow (37 % above the historical average in September). Peak flows are projected from rainfall of up to 200 mm in the Iguazú River basin.
- Situation at Key Ports:
- **Puerto Ayolas (PY):** Estimated level of 4.10 m to 4.40 m (above the 4.20 m warning threshold and approaching the 4.50 m flood level).
- **Puerto Ituzaingó (AR):** Rising trend estimated between 2.30 m and 2.40 m (warning threshold: 3.50 m).

29 Official NOAA CPC ENSO Strength Probabilities cpc.ncep.noaa.gov/products/analysis_monitoring/enso/roni/strengths

30 Índice Costero El Niño (ICEN) siofen.imarpe.gob.pe/nivel2/indice-costero-el-nino-icen

31 Boletín El Niño/La Niña en América Latina - Septiembre de 2026 ciifen.org/wp-content/uploads/2026/09/Boletin_ElNino_LaNina_Septiembre_2026.pdf

- **Operational Implication:** Evidence of accelerating "high water" events in the La Plata Basin at the start of Q4-2026, requiring the immediate activation of contingency plans for riverside populations and infrastructure.

Annex B Energy Sector and Regional Electricity Security

Subregion / Country	Indicator / Technical Variable	Observed Value / Status	Threshold / Operational Interpretation	Source
Latin America and the Caribbean	Regional Hydropower Dependence	~45 % to 50 % of the renewable matrix in LAC	High vulnerability of the generation fleet to prolonged ENSO-driven drought.	OLADE[32] / OAS
Colombia (Northern Andes)	Aggregate Reservoirs (SIN)	82.93 % (+2.93 % above target) *	Levels below target trigger the Shortage Statute for thermal generation.	XM[33]
Colombia (Northern Andes)	Inter-regional Water Gap	East: 90.48 % vs. Caribbean: 71.13 %	A 20-point disparity requires load transfers across the interconnected grid.	XM
Colombia (Northern Andes)	Critical Scenario (CAR)	Projected fall to 13.4 %	Operation below the Risk Aversion Curve (CAR) triggers thermal plants.	XM
Ecuador (Northern Andes)	Level in Key Reservoirs (Mazar/Paute)	Monitoring for low water in the eastern basin	Falling water inflows require rationing or energy imports.	CENACE [34]
Central America (SIEPAC)	Regional Electricity Exchange	Reduction in hydropower transactions	Higher marginal costs from mandatory thermal dispatch in the MER.	EOR[35] / SICA

*Explanatory note: The metrics presented in this section correspond to an operational reference model, intended to illustrate the monitoring methodology recommended to national energy authorities.

32 Assessment of the renewable matrix and hydropower vulnerability in LAC. www.olade.org

33 Embalses podrían caer a niveles críticos durante fenómeno de El Niño, advierte XM - El País www.elpais.com.co/economia/xm-advierte-riesgo-para-el-sistema-electrico-por-caida-de-los-embalses-tras-la-llegada-del-fenomeno-de-el-nino-2910.html

34 CENACE, Hydrothermal dispatch and reservoir levels in eastern basins www.cenace.gob.ec

35 EOR (Operator of the Central American Regional Electricity Market): monitoring of SIEPAC interconnection and transactions www.eor.org.gt

Annex C Water Resources, Logistics and Navigation

Subregion / Country	Technical Indicator	Observed Value / Status	Threshold / Operational Interpretation	Source
Panama (Central America)	Lake Gatún[36]	84.61 feet	Below the guide curve (87.0 ft); maximum at 88.93 ft.	ACP
Panama (Central America)	Alhajuela Reservoir	222.76 feet	Guide curve of 216 ft; operating maximum at 252 ft.	ACP
Panama (Central America)	Watershed Rainfall	159 mm in June (44 % below average)	Second driest June in the Chagres basin since 1950.	ACP
Panama (Central America)	Neopanamax Draught	Approximately 44 feet	Normal maximum of 50 ft; limits maritime cargo volume.	ACP
Caribbean (Puerto Rico / Virgin Islands)	Drought Classification	D2 (Severe) to D3 (Extreme)	Water deficit >60 % over 60 days across most of the territory.	NIDIS / NOAA
Caribbean (Puerto Rico)	Rationing and River Flows	Flow at Patillas at 25 % of normal	Agricultural irrigation rationing 3 days a week in the south-west.	NIDIS / NOAA
South America (Amazonia)	River Levels	Drawdown in strategic corridors	Restrictions on river navigation and risk of supply shortages.	OAS / DSD

Annex D Agriculture, Cropping Calendars and Food Security

Subregion / Country	Cycle / Component	Critical Window and Timing	Operational Impact and Vulnerability	Source
Central America (Dry Corridor)	Primera Cycle (Maize)	Preparation in May; harvest Aug–Sep.	Irregular start to planting and delay caused by the canícula.	FEWS NET
Central America (Dry Corridor)	Postrera Cycle (Beans)	Begins in August; harvest Dec–Jan.	Vulnerable to the duration and severity of the water deficit.	FEWS NET
Central America (Dry Corridor)	Lean Season	Mid-April to mid-August.	500,000–749,999 people in IPC Phase 3 (Food Crisis).	FEWS NET
South America (Northern Coast of Peru)	Summer Planting	Summer (Dec 2026 – Mar 2027).	Above-normal rainfall; risk of waterlogging.	ENFEN
South America (Southern Andes of Peru)	High-Andean Planting	Summer (Dec 2026 – Mar 2027).	Normal to below-normal rainfall; risk to rain-fed crops.	ENFEN
Region-wide	Input / Grain Prices	Monitoring 2026.	Maize +40 %, beans +22 %; fertilizer +12 % to +15 % year on year.	FEWS NET / FAO

36 Crisis (IPC Phase 3) outcomes to emerge in the Dry Corridor during annual lean season | FEWS NET
fews.net/latin-america-and-caribbean/honduras/food-security-outlook/february-2026

Annex E Public Health, Employment and Disaster Risk[37]

Technical Indicator	Observed Value / Status	Threshold / Operational Interpretation	Source
Vector Alert (Dengue)	Active regional alert for arboviral disease	High temperatures and household water storage accelerate the cycle of the Aedes aegypti vector.	WHO
Occupational Heat Stress	Above-average temperatures	Critical exposure for agricultural and construction workers in the open air.	ILO [38] / WMO
Child Vulnerability	1 in 6 children exposed in LAC	Combined risks of drought, water insecurity and malnutrition.	UNICEF
Landslide Hazard	High risk on Andean and Central American slopes	Unstable soils exposed to sudden episodes of heavy rain.	IDEAM

37 Epidemiological alerts, dengue and public health www.paho.org/es/alertas-actualizaciones-epidemiologicas

38 OIT (Organización internacional del trabajo) – Policy Brief El Niño 2026-2027 and the world of work in Latin America and the Caribbean www.ilo.org/sites/default/files/2026-08/Policy%20Brief_El%20Ni%C3%B1o%202026%E2%80%932027%20and%20the%20world%20of%20work%20in%20Latin%20America%20and%20the%20Caribbean.pdf


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