

Fire and the Amazon

Regional Cooperation Pathways to Address the Climate Crisis

Key Messages

- Fire is a constant, plural, and everyday element in the Amazon: it can be a tool for life or degradation, depending on how, where, and by whom it is used.
- The Amazon is already hotter and drier; climate change demands reassessing and adapting practices related to fire use.
- Integrated Fire Management (IFM) combines ecology, culture, and fire management around shared, evidence-based governance.
- IFM implementation requires horizontal integration (governments, communities, producers, civil society organizations) and vertical integration (international, federal, subnational, and local), ensuring co-responsibility and co-participation.
- The effective participation of indigenous peoples, local communities, women, and youth is a condition for legitimacy and effectiveness in implementing IFM in the Amazon region.
- Amazonian cooperation, through ACTO and RAMIF, is strategic for making fire management a solidary and shared agenda in the region.



Fire: A Concrete and Everyday Element

Fire has always been part of the Amazon's history. It's found in the amazonian dark soil, in rituals, in food preparation, crop cultivation, and landscape care. It is a plural element, transmitted across generations as a tool for life, but one that today requires new care in the face of climate change.¹

The Amazon is composed mainly of humid tropical forests, extremely sensitive to fire. Even so, in cultivation areas such as traditional plots, controlled fire use can be a tool, provided it is managed responsibly. In savanna and grassland ecosystems, fire can play an essential ecological role.

In recent decades, fire has consolidated as an instrument of degradation, associated with the advancement of the agricultural frontier, deforestation, land grabbing, and real estate speculation, being used on a large scale to open areas and assert illegal land possession.

It is possible to distinguish some categories of fire use:¹

- **Traditional:** practices linked to daily life, such as cooking, processing fibers, or producing charcoal; and to spirituality.
- **Subsistence/productive:** employed to prepare crops, renew pastures, control pests, or assist in hunting.
- **Ecological:** planned management in ecosystems such as grasslands and savannas, to conserve biodiversity and reduce risks of large-scale wildfires.
- **Predatory:** criminal or destructive use associated with deforestation, illegal occupations, and land speculation.

Regardless of its purpose, when poorly managed or used carelessly, fire ceases to be a tool and becomes a consequence: a wildfire, an uncontrolled blaze in any type of vegetation that demands a response.

REGIONAL AND GLOBAL IMPACTS

The Amazon faces an unprecedented wildfire crisis, driven by climate change and disorderly fire use, with wildfires advancing over previously preserved areas. Weakened governance and monitoring difficulties reinforce vulnerabilities, with political and economic impacts on the region.²

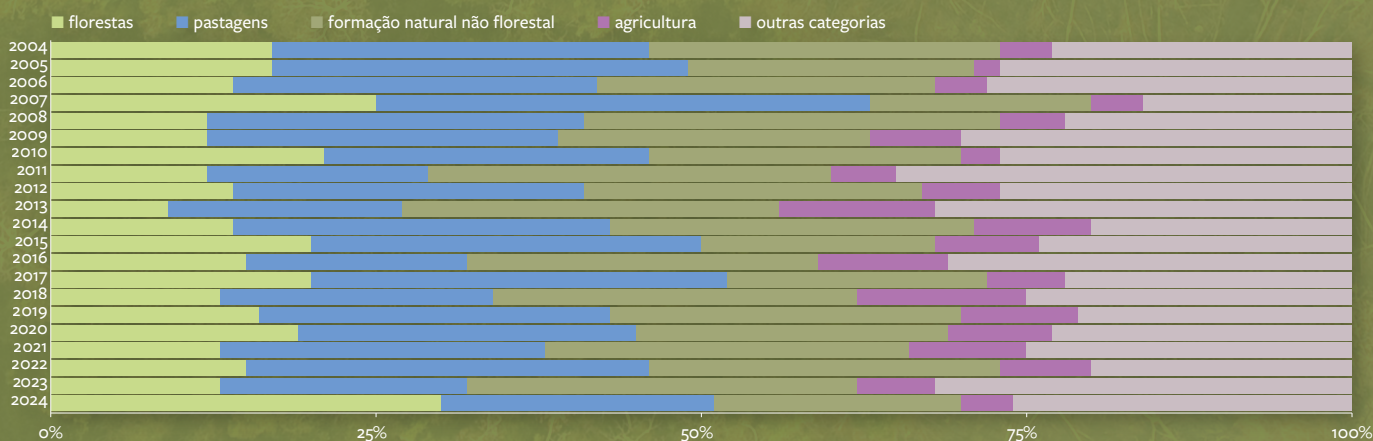
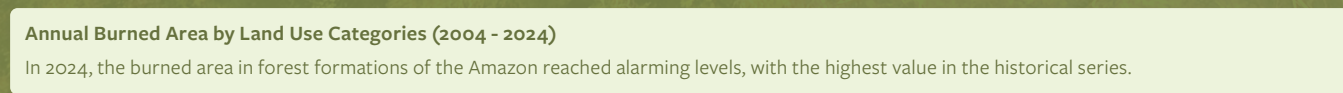
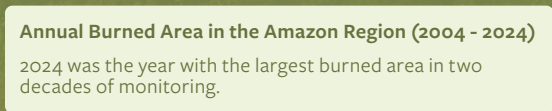
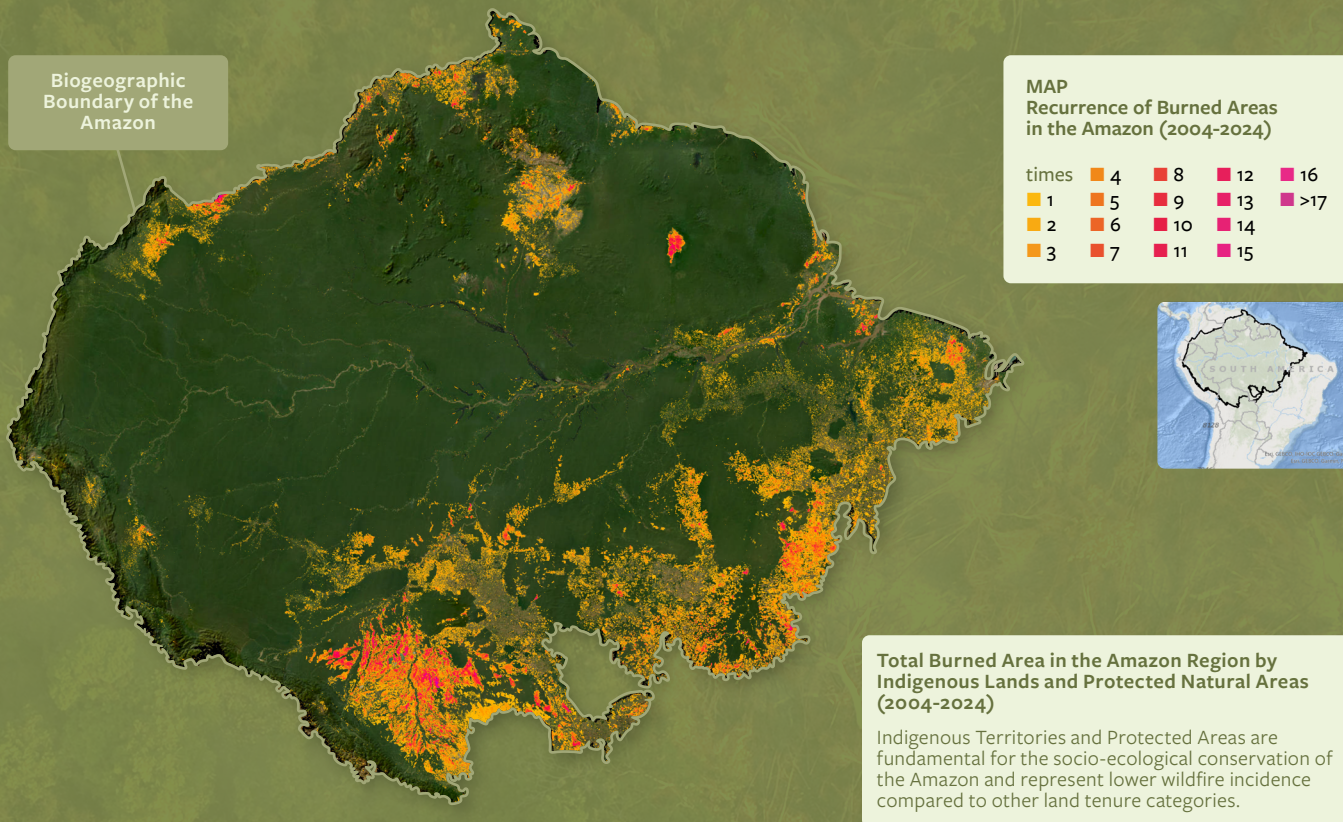
Environmental degradation, landscape fragmentation, droughts, and increased burning and anthropogenic ignition sources consolidate a new fire regime, in which previously protected forests become vulnerable, favoring fire propagation and increasing susceptibility to wildfires.³

Wildfires are both a consequence and driver of the climate crisis, which increases global temperature and intensifies droughts and heat waves, increasing forest flammability. In turn, wildfires release large volumes of greenhouse gases, creating a feedback cycle that accelerates climate change and favors new wildfires.⁴

The consequences extend beyond climate impacts: they undermine soil fertility, biodiversity, and food security in local communities. They also disrupt the network of ecological functions upon which local populations, productive systems, and continental-scale climate stability depend.⁵

Wildfires destroy crops, pastures, and plantations, inflicting immediate losses on communities. Damages reach billions of dollars, with the greatest burden falling on local populations who lose food, income, and security, the most vulnerable being the hardest hit, deepening social inequalities.⁶

The impacts go beyond economics and extend to public health. Smoke from biomass burning increases hospitalizations and worsens respiratory diseases, especially among children, the elderly, and people with preexisting conditions. According to the World Health Organization,⁷ the climate emergency is also a public health emergency.



Integrated Fire Management: Building Solutions from the Territories

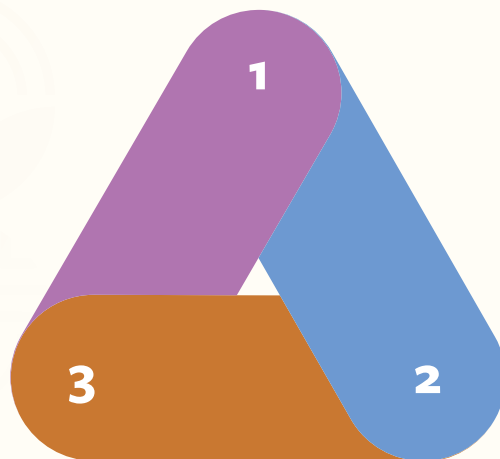
Solutions to the Amazon's dilemmas arise from the territories themselves and the people who inhabit them. Indigenous peoples, local communities, and smallholder farmers have built, generation after generation, livelihoods that combine food security, socio-environmental resilience, and cultural identity. These solutions, rooted in the territories, address local needs while offering scalable responses to the climate crisis.⁸

Fire emerges as a key element: at once an ally and a threat, it reveals the delicate tension between societies and ecosystems. The challenge is to transform this ambivalence into governance by integrating traditional practices, science, and public policy. This is the foundation of **Integrated Fire Management (IFM)**, conceived with the goal of rebalancing the relationship between fire, people, and the environment.

More than a technique, IFM is a governance framework that brings together knowledge, responsibilities, and stakeholders around three pillars: culture, ecology, and fire use. Its purpose is to turn fire management into an instrument of socio-environmental conservation, aimed at the well-being of both people and territories.⁹

From concepts to practical applications, IFM consolidates as a management tool. It goes beyond ideas, combining governance, prevention, risk reduction, response, and conservation into coordinated and interdependent activities.¹⁰

These practices embody the IFM triangle and demonstrate that effective fire management is built on cooperative and shared-responsibility arrangements.



1 FIRE CULTURE

Fire is deeply intertwined with the livelihoods and cultures of Indigenous Peoples, local communities, and smallholder farmers, who pass this knowledge down through generations, guided by natural signs and ecological calendars. It represents worldview, identity, and food security.

2 FIRE ECOLOGY

Fire can have both positive and negative impacts on ecosystems. In tropical forests, it can trigger irreversible degradation processes. In savanna and grassland areas, however, when properly managed, it can produce beneficial effects.

3 FIRE USE

A vital tool in many contexts. The goal is to ensure its safe and purposeful use, under appropriate conditions, with clear objectives, safety measures, and defined responsibilities. By considering both the ecology and culture of fire, it becomes possible to determine when its use is viable and when it should be avoided.

1 Planning and Diagnosis

Participatory assessments, mapping of critical areas, and co-creation of plans that integrate traditional and technical

2 Prevention and Risk Reduction

Burning calendars, fuel management, educational campaigns, and climate monitoring.

3 Preparedness and Capacity Building

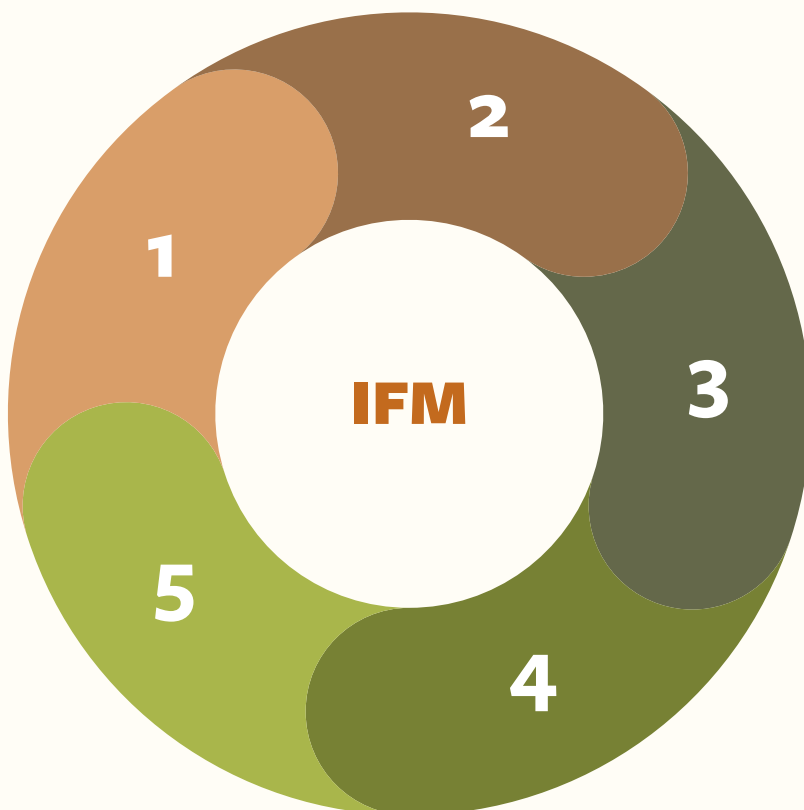
Strengthening of skills, infrastructure, and safety protocols.

4 Response

Coordinated suppression actions, protection of critical areas, and reduced response times.

5 Recovery and Restoration

Post-fire assessments, restoration with native species, community nurseries, and the strengthening of the bioeconomy.



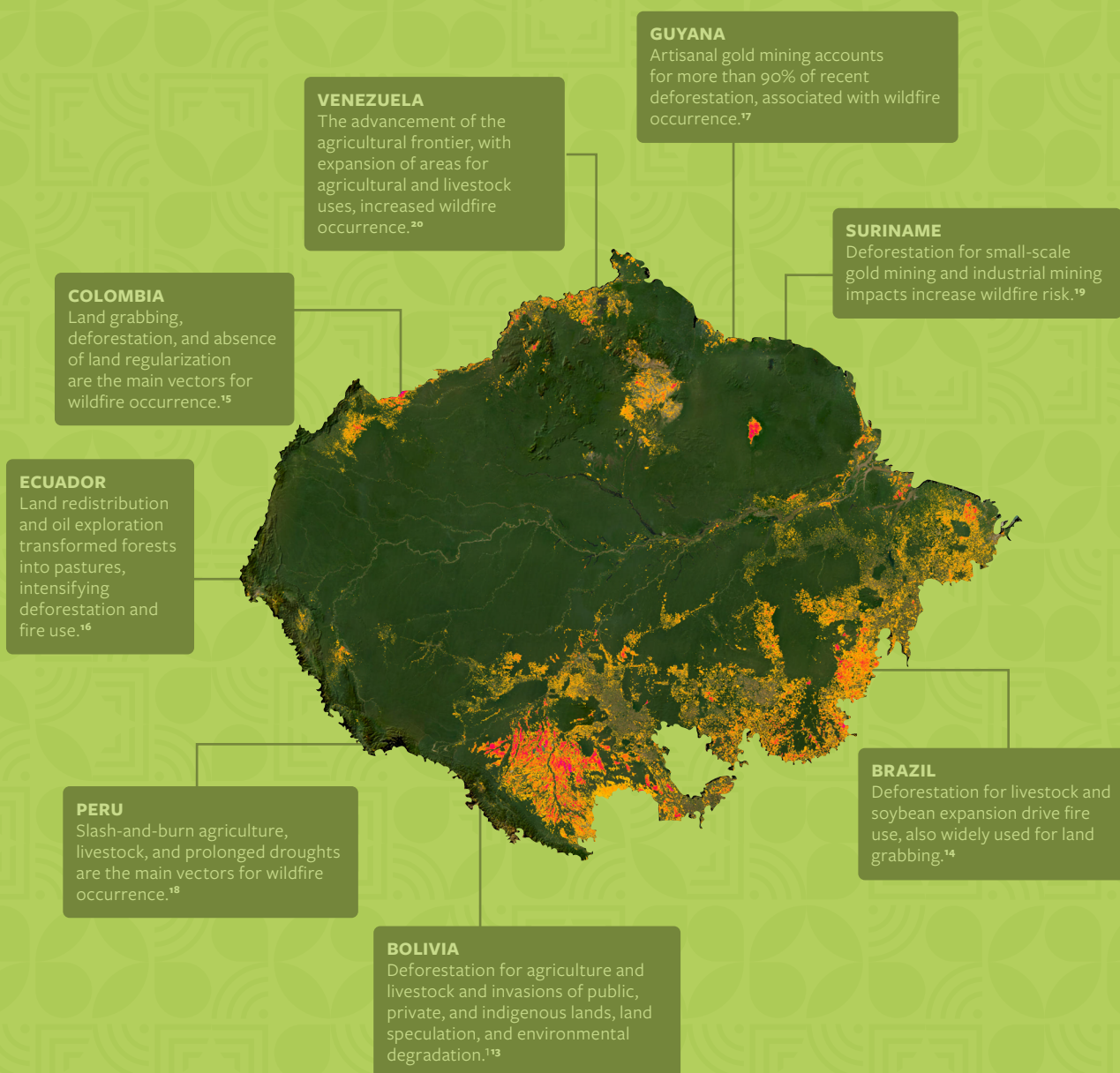
Amazonian Cooperation as a Strategic Response

In response to the urgency, the eight ACTO Member Countries signed the Memorandum of Understanding on Cooperation in Integrated Fire Management,¹¹ consolidating the regional commitment to establish integrated fire governance:

- International cooperation grounded in solidarity and the fraternity of Amazonian peoples;
- Capacity building that values cultural and ecological diversity;
- Coordinated responses to the climate emergency, aligned with global multilateral commitments.

The **Amazon Network for Integrated Fire Management (RAMIF)** embodies this effort: transforming political cooperation into concrete actions, supporting the exchange of experiences, and integrating local solutions at a regional scale. Fire, often seen as a threat, can become a vector of solidarity and a renewal of the Amazonian pact, contributing to climate resilience, emissions reduction, and alignment with global commitments such as the Paris Agreement, building a living Amazon for future generations.

Main Vectors of Wildfires in Amazonian Countries



Recommendations

INCLUDE FIRE EMISSIONS IN NDCS AND INTERNATIONAL AGREEMENTS

Incorporate fire emissions into global climate commitments (Paris Agreement, Kunming-Montreal Framework, Sendai Framework, and SDGs) using regional accounting methodologies, enhancing transparency and strengthening the Amazon's negotiating capacity.

INSTITUTIONALISING THE IFM AS PUBLIC POLICY

Transform the IFM into public policy through legislation, territorial plans and multisectoral committees, ensuring stable governance and supervision of fire use.

VALUE LOCAL KNOWLEDGE AND STRENGTHEN RESILIENCE

Ensure the participation of Indigenous Peoples, local communities, and academia in decision-making, reinforcing monitoring, response, restoration, and sustainable livelihood alternatives, integrating scientific and traditional knowledge.

STRENGTHEN REGIONAL COOPERATION ON FIRE

Consolidate ACTO as a platform for joint action and RAMIF as a political and technical space for cooperation. Create regional protocols for communication, early warning and joint response, and promote permanent spaces for the exchange of good practices between countries, communities and institutions, expanding Amazonian integration in fire management.

SECURE FUNDING FOR INTEGRATED FIRE MANAGEMENT (IFM)

Establish national and international funds, expand REDD+, payments for ecosystem services, and multilateral mechanisms, ensuring direct, accessible, and transparent resources for local territories.

Glossary

WILDFIRE

Fire out of control in vegetation areas, with social, environmental, and economic impacts that requires response.

BURNING

Use of fire for productive, cultural, or management purposes, such as pasture renewal, soil preparation, or waste elimination. May be legal or illegal/negligent.

INTEGRATED FIRE MANAGEMENT (IFM)

Holistic fire management approach that articulates cultural, ecological, and fire use dimensions, promoting shared and co-responsible governance, aimed at reducing greenhouse gas emissions, conserving biodiversity, and reducing wildfire severity.

TIPPING POINT

Maximum stress level that a system can withstand before beginning collapse to another equilibrium state. Also known as bifurcation point or unstable equilibrium state. As the system approaches this point, it loses resilience and can collapse more easily from disturbances.

AMAZON NETWORK FOR INTEGRATED FIRE MANAGEMENT (RAMIF)

ACTO regional mechanism that articulates Amazonian countries around mutual support and experience exchange, strengthening integrated fire management, regional cooperation, and construction of joint responses to climate and socio-environmental challenges.

Amazonian Trajectories and Fire

Projections indicate that reduced rainfall and rising temperatures are likely to expand areas affected by forest fires, fueling the feedback cycle between climate and fire¹² and bringing the Amazon closer to a **tipping point**. IPCC projections for 2030 and 2050 show a significant increase in temperature and a decrease in rainfall across much of the Amazon.²⁰

These changes overlap with areas already heavily degraded by fire, revealing a scenario of increasing ecological and social vulnerability. In this context, public policies for fire management become essential to mitigate risks, protect communities, and maintain the ecosystem services that sustain the region.

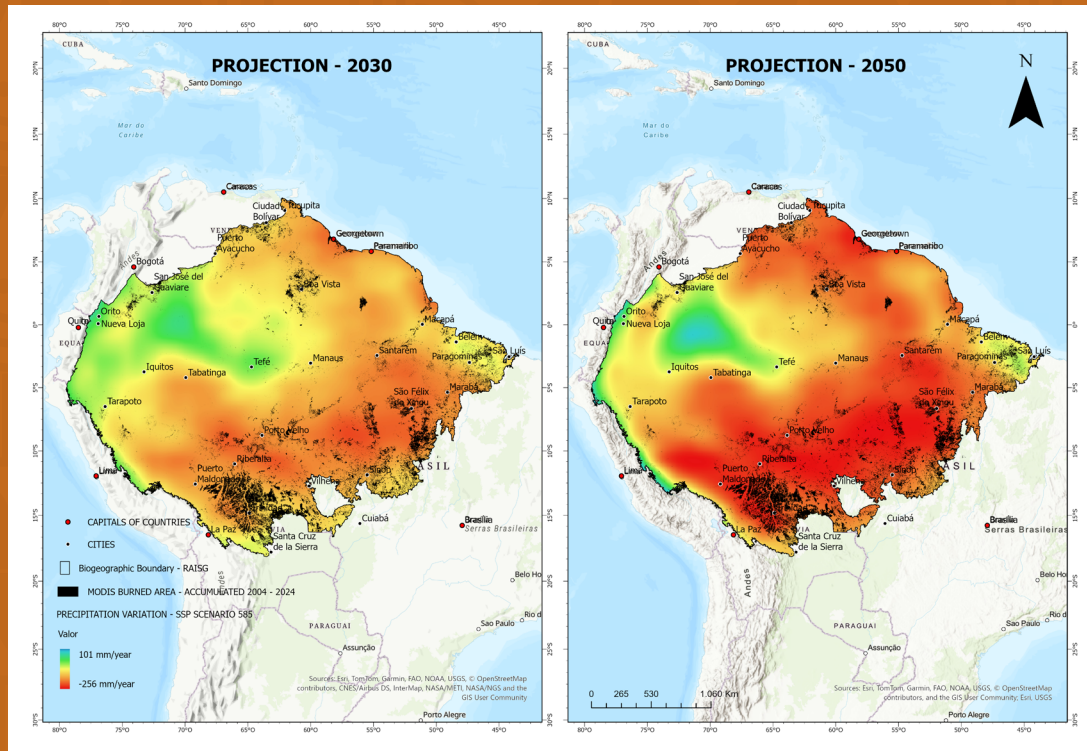


Figure: CMIP6 multi-model ensemble average for Precipitation variation (mm/year) - 2030 and 2050 projections for the SSP-585 scenario (high emissions)

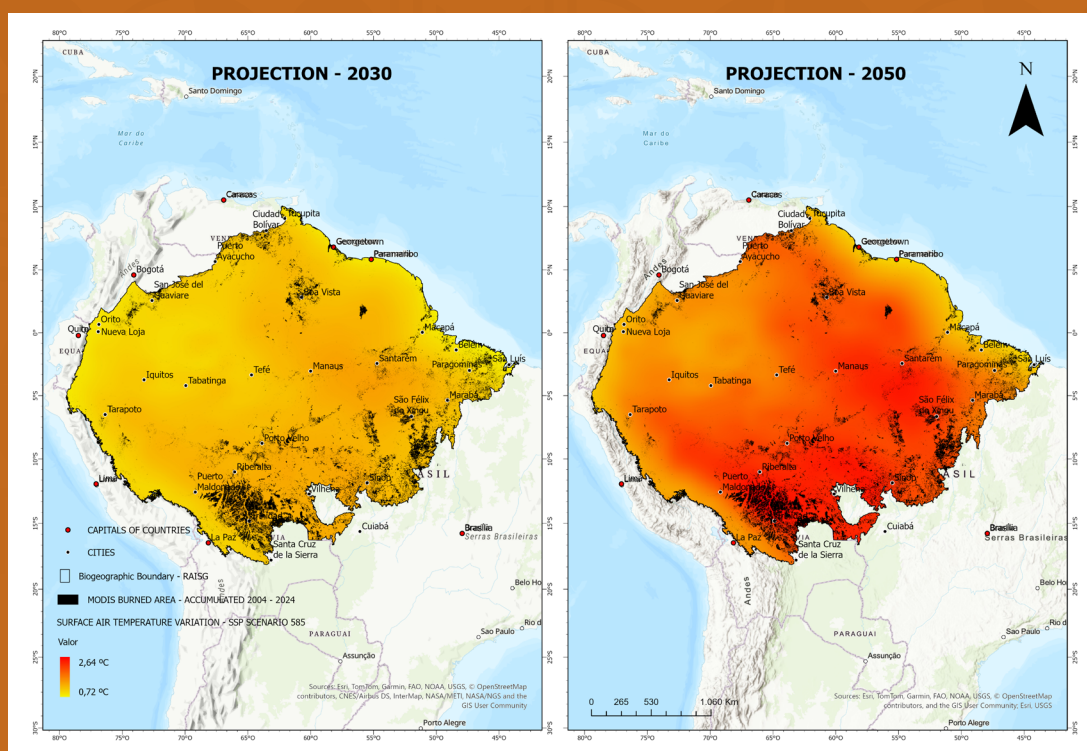


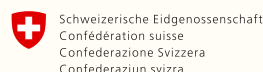
Figure: CMIP6 multi-model ensemble average for Temperature variation (°C) - 2030 and 2050 projections for the SSP-585 scenario (high emissions)

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AMAZON REGIONAL OBSERVATORY (ARO)

ARO is ACTO's reference center that integrates data, tests innovations, and disseminates information to support member countries in cooperation and decision-making.

AMAZON COOPERATION TREATY ORGANIZATION (ACTO)

ACTO is an intergovernmental organization formed by eight Amazon countries: Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, and Venezuela, which signed the Amazon Cooperation Treaty, making it the only socio-environmental bloc in Latin America.

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