Protecting the Amazon can protect the Climate

WWF Guyanas

Amazon Protected Areas as Natural Solutions for Climate Change Adaptation

Amazon Protected Areas are key in helping communities and nature adapt to a changing climate. They build resilience to climate change globally, mitigate the impacts of climate events, ensure provision of ecosystem services and protect biodiversity. Protected Areas should be included in climate change strategies and development plans of the Amazon countries in order to facilitate climate-resilient development and promote a safer climate future.

Policy Recommendations

- Strengthen regional collaboration towards the implementation of the Amazon Conservation Vision
- Recognize the importance of Protected Areas within the wider climate-resilient development planning context in the Amazon region
- Assess and improve contribution of Protected Areas to climate change vulnerability reduction, resilience and ecosystem services provision
- Monitor Amazon ecosystem changes induced by climate change and identify potential responses through an integrated network of Protected Area Systems
- Recognize Protected Areas as successful and cost-efficient tools for ecosystem management that can support climate change adaptation strategies
- Integrate the role Protected Areas play in adaptation and resilience in regional, national, subnational and sectorial climate change and development policy instruments, strategies and action plans

The Latin American Network for Protected Area Systems **RedParques** and **WWF Living Amazon Initiative** are leading a regional effort to strengthen Amazon Protected Area Systems and include the role of Protected Areas in climate change strategies and development plans through the project **'Amazon Biome: Natural Solution to Climate Change'** as part **Implementation of the Amazon Conservation Vision**

Federal Ministry for the Environment, Nature Conservation, Buildingz and Nuclear Safety
based on a decision of the German Bundestag

redparques

Ministerio del Ambiente

Parques Nacionales Naturales de Colombia

Perú Ministerio del Ambiente | Servicio Nacional de Áreas Naturales Protegidas por el Estado

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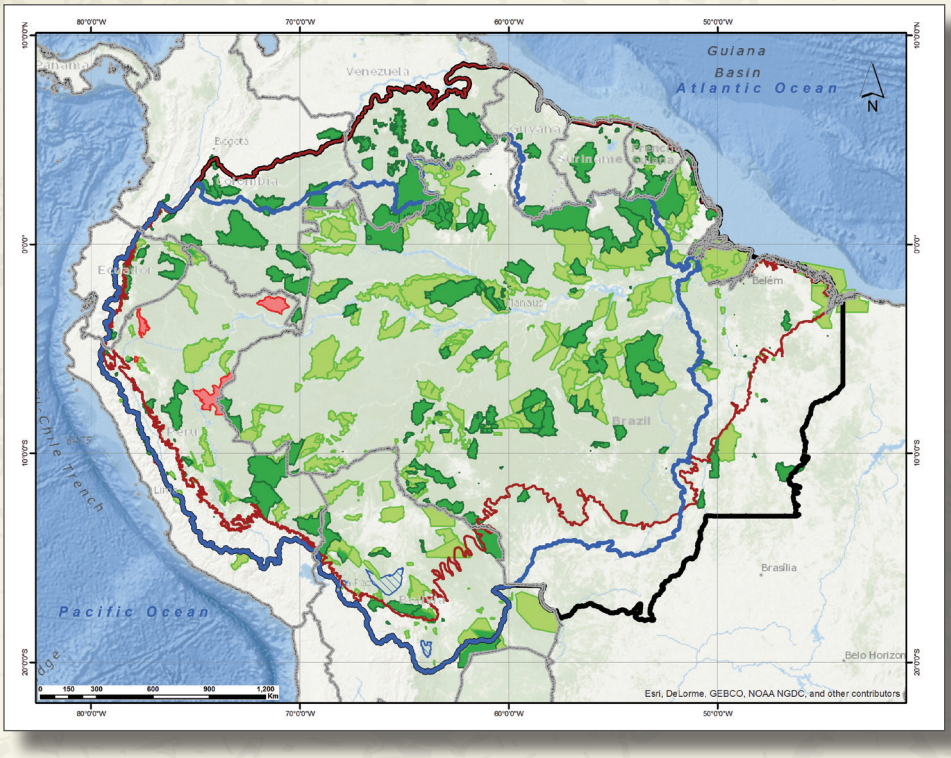
Amazon Biome Protected Areas[i]



The Amazon plays a key role in addressing climate change impact

The Amazon is the world's largest tropical forest, a complex and fascinating biome that covers an area of 6.7 million km^2 and plays an important part in regional and global climate regulation. The amazon holds **10% of the planet's known biodiversity** and its rivers discharge **15% of the world's freshwater** into the Atlantic Ocean.

The Amazon is also **home to over 34 million people who live in eight different countries:** Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, Venezuela, and the overseas territory of French Guiana. This population includes 2.7 million indigenous peoples from over 350 ethnic groups, 60 of which live in voluntary isolation. **Indigenous Territories and Protected Areas cover nearly 50% of the Biome Amazon**, presenting important management and conservation opportunities.

Climate regulation

The Amazon, due to its size, ecological structure and location in-between the equator, the Atlantic Ocean and the Andes, produces a hydrological engine that generates favorable climate conditions regionally and globally. The Amazon's hydrological cycle, however, is sensitive to changes in the biome's structure due to deforestation and degradation[ii], which combined with global climate change affect the capacity of the Amazon to regulate the climate[iii].

Biodiversity protection

Because of its large surface area and relatively good state, the Amazon biome makes it easier for species to change their distribution ranges in response to climate changes, it also buffers the impacts of extreme weather events and, in general, increases the capacity of its ecosystems to withstand shocks.

Ecosystem services flow

The Amazon biome provides fundamental ecosystem services that support its inhabitant's livelihoods and contribute to Amazon countries' economies. These services include climate stabilization, carbon sequestration, provision of water, food, timber, genetic resources, non-renewable natural resources and cultural services.

Protected Areas strengthen the Amazon's capacity to continue to deliver these planetary functions into the future.

Amazon Protected Areas

Since 1960, the area of the Amazon under protection has progressively increased, totaling **170 million hectares in 2013**, distributed among **390 Protected Areas** that range from strict protection to sustainable use. Protected Areas help maintain the integrity of the biome and reduce the Amazon's vulnerability to climate change and other pressures, hence increasing its ability to regulate the climate, protect biodiversity and provide ecosystem services to society.

The extent of area that is protected varies within the Amazon countries. Brazil, Bolivia, Venezuela and Ecuador have between 20% and 30% of protected Amazon while Colombia, Peru and Suriname have between 10% and 20% only. In addition, despite the seemingly extensive coverage, not all ecosystems are adequately represented in Amazon Protected Areas[iv].

State of the Amazon Biome and its Protected Areas

Conventional threats

Several activities currently threaten Amazon Protected Areas, including the agricultural frontier expansion by agro-businesses and colonizers, mineral and hydrocarbon extraction, and construction of hydropower and transport-related infrastructure. The Amazon lost 17% of its original vegetation due to land use changes in the past 50 years[v], around 1.1 million hectares, and a similar surface area of the biome suffers from degradation in varying degrees. Freshwater ecosystems are also under threat due to interruption of connectivity and deforestation alongside water bodies[iv]. Depending on future deforestation policies, up to half of the Amazon's original vegetation could be lost between 2030 and 2050[v].

The threat of present and future climate change

The Amazon region experienced an increase in temperature between 0.5 and 0.8°C over the last century, and models suggest that by 2050, temperature could increase by 2 to 3°C[iii]. At the same time, a decrease in rain-

The 2014 Intergovernmental Panel on Climate Change Report detailed that almost every part of the natural world and its interdependent social and economic systems is being, or will be, affected by climate change (WWF Living Planet Report 2014).

fall during dry months could lead to substantial changes in seasonality and widespread drying of some areas as experienced during the 2005 and 2010 Amazon droughts, the most severe in the past 40 years[vi]. Climate change coupled with land use changes could result in tree dieback, degradation of freshwater ecosystems, species extinction, water scarcity, land erosion, health issues and decreased agricultural yields. In an extreme scenario, between 30% and 60% of the Amazon rainforest could become a dry savanna by the end of the 21st century[v].

RedParques and WWF Living Amazon Initiative are carrying out a **Climate Change Risk Integrated Analysis**[vii] to identify the risks and vulnerabilities of the Amazon biome and its Protected Areas. This exercise recognizes the role of Amazon ecosystems in maintaining and conserving natural values and ecosystem services, and promoting sustainable development[viii]. Preliminary results show that the areas most at risk are at the southeastern part of the biome, at the Andean piedmont and along the Amazon River.

An Amazon Vision: Conservation and Resilience

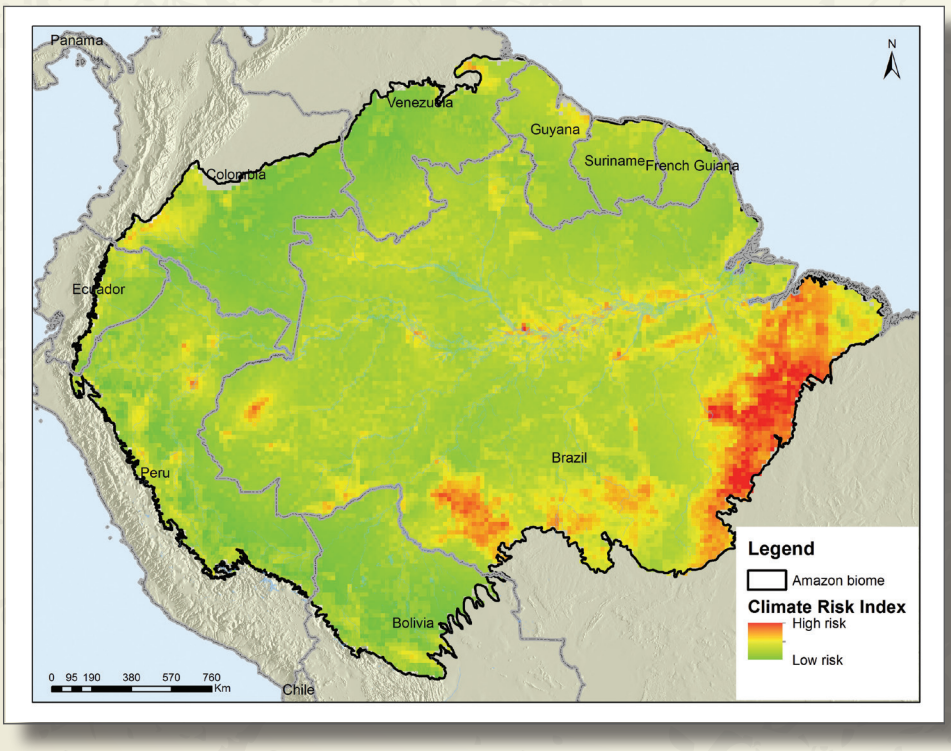
The **Amazon Conservation Vision represents a commitment of the Protected Area System directors of Amazon countries towards a common vision for the future of the Amazon**, linked to the Program of Work on Protected Areas of the Convention on Biological Diversity (CBD).

The **Amazon Vision seeks to secure natural resources for the benefit of local populations and the regional economy**, through an integrated and effectively managed network of Protected Areas, prepared to face new challenges such as climate change. This Vision is implemented under **leadership of the Latin American Technical Cooperation Network on Protected Areas 'RedParques'**, created in 1983 and currently chaired by Peru's National Protected Areas Agency SERNANP. RedParques' seeks to build capacity in Latin America's national Protected Areas institutions through knowledge and experience sharing.

Representation, integration and connectivity

Climate change requires a supranational vision of Amazon Protected Areas that ensures connectivity and representation across all key ecosystems in the biome as a whole. This implies an **important level of coordination between Amazon Protected Area Systems in order to identify integrated solutions**, including protection of transboundary environmental processes and ecosystems, and the development of regional networks to connect the diverse array of Amazon Protected Areas.

Amazon Integrated Climate Risk Index[i]



Strategic partnerships

Indigenous Territories play a central role in Amazon conservation, and Amazon natural ecosystems are vital for indigenous peoples and local communities. Coordination and understanding among indigenous peoples and protected area authorities is key for an integrated management approach for conservation of the Amazon. A solid vision of the role that Amazon Protected Areas and Indigenous Territories play in biological and cultural diversity conservation must be mainstreamed into planning processes and development agendas[ix].

The role of Protected Areas in facilitating adaptation and building resilience to climate change in the region is fundamental part of an Amazon Conservation Vision for the Future

Role of Protected Areas for Climate Adaptation in Amazon Countries' Policies

Policy State of the Art

Protected Area Systems of the Amazon countries are as diverse as the countries themselves. Their governance structures vary in terms of their history, level of development and the coordination that they exercise with government agencies in charge of climate change and planning at national and subnational levels. However, most countries are in the same situation when it comes to including Protected Areas' role for adaptation and resilience in policy instruments.

Out of over 80 Amazon countries' policy documents reviewed, including national and subnational climate change strategies, development and zoning plans, agricultural strategies and so forth, only 33 refer in some way to the role of Protected Areas in adaptation and resilience. Of those, 24 are

Many plants and animals that have adapted to their environment over millions of years are vulnerable to even the slightest changes in temperature. Some species could end up having to leave the safety of current Protected Areas in search of better climate conditions and may even become extinct (WWF LAC).

national policies, including laws, strategies, action plans, and ministerial bills from which close to half relate to climate change, 21% to Protected Areas, 12% to development and the rest to agriculture or environment at large. Many of them refer to the role of forest conservation more generally in buffering the impacts of climate change, while others focus altogether on the climate change mitigation benefits of conserving natural areas, leaving adaptation aside.

Flagship Policies that link Protected Areas to Climate Change Adaptation and Resilience

Amazon countries are in the early stages of linking these traditionally separate topics. Some countries, however, have taken important steps to recognize this feature of protected areas in national strategies, bringing forward important examples of flagship policies for the region.

For example, **Bolivia's National Adaptation Mechanism** recognizes the role of Protected Areas in fostering nature's adaptation to climate change. One of its policies aims for 'Protected Areas in harmonious balance with buffer zones and secondary scape areas for wildlife adaptation to climate change', including a) the establishment of biological corridors to allow for ecosystem adaptation and uninterrupted ecosystem service provision, and b) protected areas expansion for conservation in future climate change scenarios. In addition, **Bolivia's Joint Mitigation and Adaptation Mechanism**, based on forests, recognizes that the National System of Protected Areas brings a benefit for climate change mitigation and adaptation unique to this type of territory.

Other good examples are **Colombia's National Strategy for the Coordination of Climate Change Policies and Actions** and the country's **National Parks Institutional Plan**, which are very progressive in their recognition of Protected Areas' role in "maintaining the integrity of ecosystems, regulating local climate, buffering impacts of climate events, increasing ecosystem resilience and ensuring ecosystem provision for communities' safety and well-being".

Protected Areas Potential as Natural Solutions for Climate Change must be Recognized

National Protected Area Systems represent the Amazon's 'biodiversity safety net'; a block of protected and managed areas that enhance resilience to climate change impacts[iv]. Protected Areas across all categories are the best-known mechanism to conserve ecosystems and the services they provide for human well-being, including food, security, health, social relations and freedom of choice and action[iv]. However, with increasing land use change drivers on several fronts, Protected Areas and Indigenous Territories are under strong pressure, facing attempts to reduce, downgrade or degrade them[ix].

Protected Area Systems are a core element of public policy frameworks and should be recognized as **the foundational building blocks of responsible and sustainable development strategies that work with, rather than against nature**[ix]. Strengthening Protected Areas and including them in climate change adaptation and development strategies is cost-effective thanks to an absence of start-up costs and due to the provision of economic benefits to society through ecosystem services[x].

The potential of Protected Areas to contribute a 'natural' cost-efficient solution for climate change adaptation must be recognized and supported as a pillar of the Amazon Conservation Vision and an ally in the establishment of a regional Amazon Climate Agenda.

Natural systems have the potential to adapt through autonomous processes, but successful adaptation depends on our ability to allow and facilitate the adjustment of natural systems to a changing climate, maintaining the ecosystem services on which all life depends (IPCC -AR5, 2014)

Flagship Policies in Amazon Biome Countries

Bolivia
- National Adaptation Mechanism
- Joint Mitigation and Adaptation Mechanism
- National Protected Areas Service (SERNAP) Institutional Strategic Plan

Brazil
- National Climate Change Policy and Climate Change Plan

Colombia
- National Strategy for Articulation of Climate Change Policies and Actions CONPES 3700
- National Development Plan (marine and coastal protected areas only)
- National Adaptation Plan
- National Natural Parks Institutional Plan
- National Natural Parks System Climate Change Strategy

Ecuador
- Pastaza Province Zoning Plan
- Environment Ministry Accord for inclusion of climate change in local planning

Peru
- Natural Protected Areas Bill, Regulation and Action Plan

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[ix] WWF LAI. Protected Areas and Indigenous Territories: spaces for conserving biological and cultural diversity and for contributing to reduction of poverty and of social exclusion. 2014.

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