Partners in the Amazon:
Building climate resilience through transboundary water cooperation

Floodplain (várzeas) area on the Tapajós River near Santarém, Brazil.

In the Amazon river basin – the world's largest, covering more than 6 million km2 and contributing some 20 per cent of global freshwater discharge into the ocean – climate change effects are felt primarily through water, as they are in many parts of the world. People all along the Amazon basin have started to feel those impacts firsthand on their way of life: Amazonian tropical glaciers are melting before the eyes of Andean communities, threatening local water supplies and water security in nearby cities. Changes in the frequency and timing of floods and drought in the Amazonian plains affect people´s daily lives via their impacts on the stability of ecosystems vital to providing services relating to fishing, farming, forestry livelihoods, drinking water provisioning, and energy production. Downstream, people in the Amazon Delta and coastal area are contending with the destructive consequences of sea-level rise and the loss of mangrove forests' ecological services.

To address challenges in this complex and inter-connected system, the Amazon Cooperation Treaty Organization (ACTO) promotes regional political dialogue and technical cooperation among its eight member countries – Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, and Venezuela – to accelerate action on climate adaptation and resilience within a framework emphasizing integrated approaches for water resources management. In this context, climate adaptation measures are implemented with a systems lens at the transboundary level, using integrated and strategic planning, coordinated regional and national action, and sound data for decision-making.

The Strategic Action Programme: Integrating climate change adaptation in regional water planning

In 2017, the Amazon countries adopted the *Strategic Action Programme (SAP) for the Integrated Management of Water Resources in the Amazon Basin*, developed and implemented by ACTO with the support of the Global Environment Facility (GEF) and UNEP. The SAP designed response strategies for the principal transboundary problems identified by member countries, incorporating institutional adaptation to climate change as a strategic and cross-cutting issue for the integrated management of the Amazon basin's water resources. The Programme's strategic actions focused on disaster prevention via early-warning and risk-management systems and a regional hydrometeorological network. It also prioritized legal and institutional strengthening for Integrated Water Resources Management (IWRM) and data collection, management and sharing, with the end goal of building community, infrastructure, and ecosystem resilience in the Amazon.

Acknowledgements:

Authors: Alexandra Moreira, Secretary-General of ACTO and Maria Apostolova, Regional Project Coordinator

Artisanal fishing is one of the main economic activities of the riverside populations in the Lower Amazon basin.

A resident of Marajó Island has witnessed sea-level rise in the Amazon Delta region.

Implementing the Amazon SAP: building social, economic and ecosystem resilience

The current SAP project, which runs till the end of 2024, is being implemented at the transboundary, national, and local levels via the aptly named "Amazon SAP Implementation Project," also supported by UNEP and GEF and executed by ACTO. Project planning, activities, and monitoring and evaluation rely firmly on stakeholder participation, and IWRM has been linked to more recent approaches such as the Water-Energy-Food-Ecosystems Nexus and Source-to-Sea Management. The project also helps countries strengthen national capacity and regional governance for IWRM while enhancing climate adaptation initiatives and ensuring solid regional data collection and sharing mechanisms to improve decision-making and coordination for healthier and more resilient Amazon ecosystems and the communities that depend on them.

In the framework of the initiative, 13 national projects are being implemented to build the capacity of communities to respond to climate impacts. Early warning systems in vulnerable Amazon sub-basins, nature-based coastal and headwater protection solutions, alternative water sources in urban centres suffering the consequences of glacial retreat, and improved water security through groundwater conservation will bring benefits to more than 7.8 million people in the Amazon.

SAP implementation is also helping basin countries comply with their national water and environmental policies and regional and global convention commitments while encouraging the adoption of common IWRM principles, mainstreaming of climate change adaptation issues at the national and transboundary levels, nexus planning, and gender-responsive approaches.

The outcomes and lessons learned resulting from the project will be shared widely with other transboundary basins, as ACTO is a member of the Global Network of Basins working on climate change adaptation coordinated by the Convention on the Protection and Use of Transboundary Watercourses and International Lakes and the International Network of Basin Organizations for the exchange of knowledge and best practices in transboundary climate change adaptation and IWRM.

The Regional Amazon Observatory: water data for climate readiness

Filling knowledge gaps and sharing information and data are critical for water management and climate adaptation decision-making. In this regard, and with a broad vision of regional information integration, in November 2021 ACTO inaugurated the Amazon Regional Observatory. The Observatory is an information reference centre and permanent virtual forum that facilitates the flow and exchange of information across institutions, government authorities, the scientific community, academia, and civil society in Amazonian countries.

The Observatory makes data and information on water and climate accessible to those parties, including the Atlas of Hydroclimatic Vulnerability of the Amazon Region – a mapping of the Amazon region's varying levels of sensitivity, and adaptive in terms of social, economic, and biophysical aspects. The Atlas, with its 60 thematic maps, provides a basis for planning adaptation strategies and response measures in water resource management and disaster risk management, among other areas.

The Observatory also hosts the first Amazon basin-wide water monitoring system, established

The Water Resources Situation Room operating at ACTO headquarters in Brasilia

with the support of Brazil's National Water Agency. The system currently includes (1) the Amazon Hydrological Network, which monitors the water balance and exchange of water between countries based on 343 monitoring stations, and (2) the Regional Network for Water Quality Monitoring, whereby ACTO countries have agreed to exchange information on the water quality parameters defined by UN-Water in relation to indicator SDG 6.3.2. The monitoring system will soon be expanded to cover erosion and sediment transport, aquatic ecosystems, and the environmental status of upper watersheds, paramos (Alpine tundra ecosystems in the Andes) and wetlands. This will allow for regional sharing of climate and water resources data, available at the Amazon Regional Observatory, with protocols for information exchange.

The integrated monitoring system feeds data to the regional Water Resources Situation Room, established in 2021 with support from the Brazilian National Water Agency (ANA). The Situation Room was designed with the objective of systematically identifying, compiling, consolidating, processing, and analysing information on water resources and critical hydrological events to support policymaking and responses in water management and climate change adaptation. The Room will soon be linked to a network of National Situation Rooms across basin countries.

Finally, ACTO has partnered with the Inter-American Development Bank (IDB) to develop a multi-sectoral water-food-energy nexus model for the Amazon basin to understand the nexus implications of future policies and investments across a range of different climate scenarios.

With a long tradition of transboundary water cooperation and by prioritizing integrated and strategic planning, coordinated regional and national action, and sound data for policy and decision-making, ACTO has assisted member countries in coupling climate adaptation and water management at all levels for the Amazon basin's long-term resilience.

For further information, please contact Lis Mullin Bernhardt: lis.bernhardt@un.org or UNEP-ecosystems-MFB@un.org