

# Tackling Climate Change Impacts on Aquatic Ecosystems: From the Andean Glaciers – to the Amazon Delta

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Amazon Cooperation Treaty Organization



Confluence of the San Juaquin River and the Itenez River - Amazonia



## TRANSBOUNDARY COOPERATION

- Political Dialogue
- Knowledge And Information Exchange
- Regional Cooperation



## WORK TOPICS

- Water
- Forest
- Biodiversity
- Indigenous peoples
- health
- Infrastructure
- Energy
- Transportation
- Climate change

1978

The Amazon Cooperation Treaty (ACT) was signed in July 3, 1978

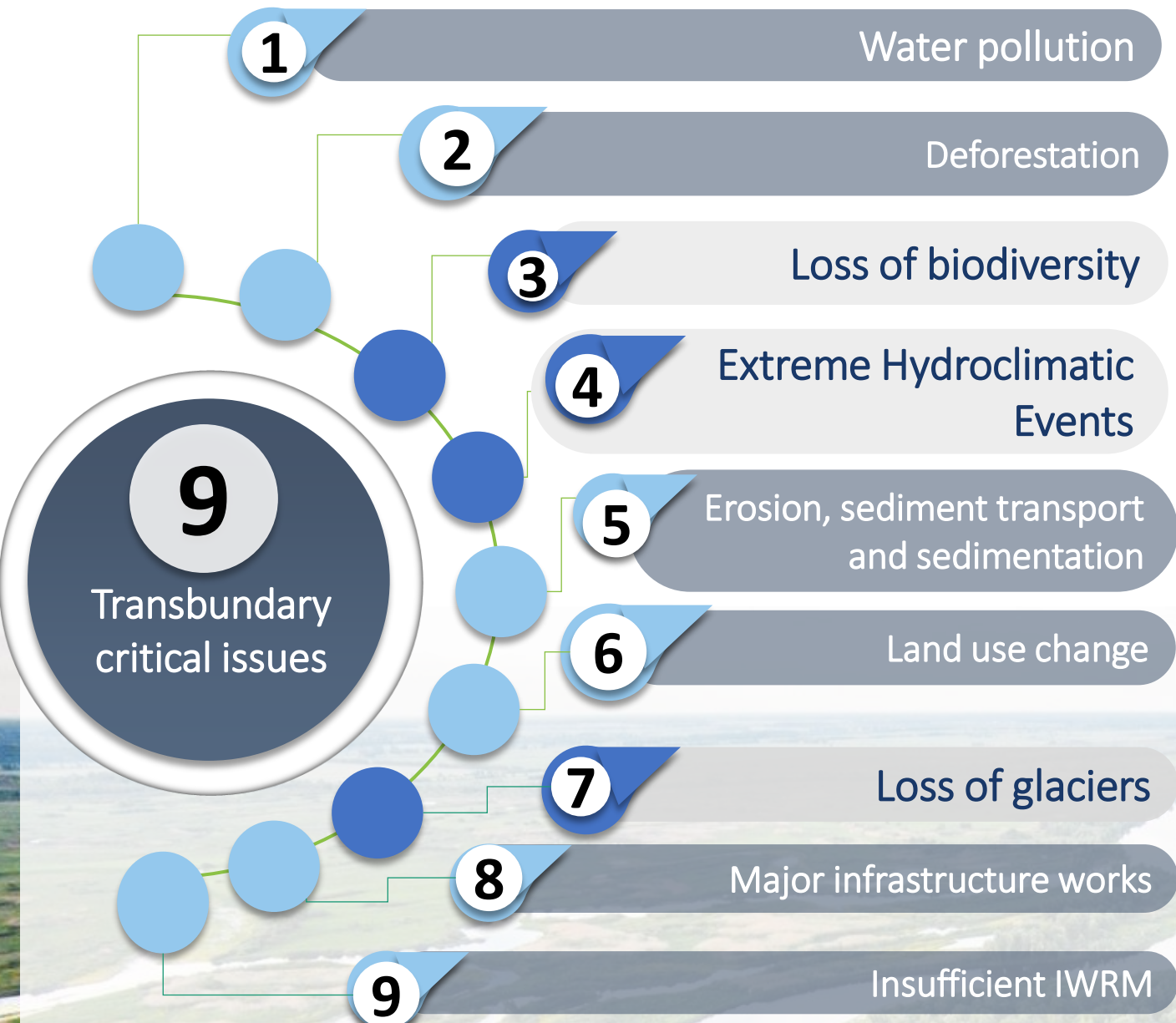
1998

The Amazon Cooperation Treaty Organization (ACTO) was created in 1998

2002

Permanent Secretariat of ACTO, inaugurated in 2002, in Brasília, Brazil

# Consensus on priority transboundary issues in the Amazon basin



### 3 Case Study:

"Improving knowledge on Amazon aquatic ecosystems and management of aquatic ecosystems in hotspots"

OTCA  
Organização do Tratado de Cooperação Amazônica

GEF  
Fundo Para o Meio Ambiente Mundial

UNEP  
Programa das Nações Unidas para o Meio Ambiente

PROJETO GESTÃO INTEGRADA E SUSTENTÁVEL DOS RECURSOS HÍDRICOS TRANSFRONTEIRÍCOS NA BACIA DO RIO AMAZONAS, CONSIDERANDO A VARIABILIDADE E MUDANÇA CLIMÁTICA

OTCAGE/PNUMA

Subprojeto II.1 Investigação dirigida sobre a compreensão da base de recursos naturais da bacia do Rio Amazonas  
Atividade II.1.1 Melhorar o conhecimento dos ecossistemas aquáticos amazônicos  
Atividade III.1.1 Manejo de ecossistemas aquáticos em hotspots

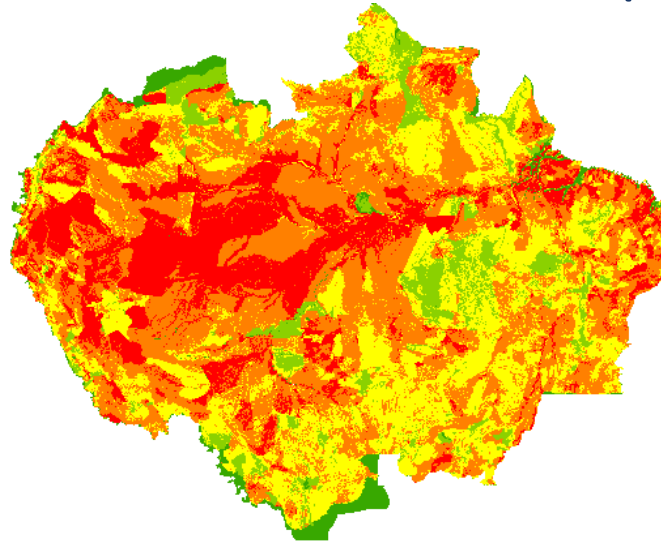
Relatório Final  
Produto 8 (Estudo final relativo às Atividades II.1.1 e III.1.1)  
Brasília, Brasil

- Identification
- Characterization
- Assessment of threats
- Priority actions

# Atlas of Hydroclimatic Vulnerability (ACTO, 2021)

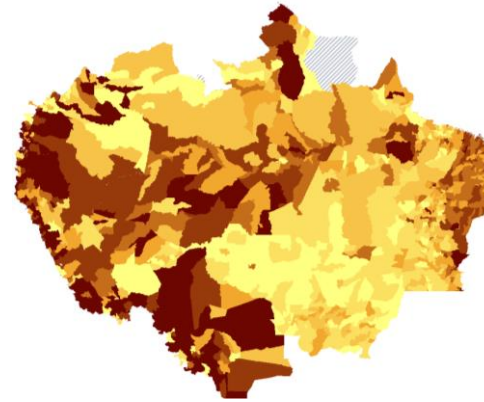
## NIVELES DE VULNERABILIDAD Y SENSIBILIDAD

Color	Nivel	Valor
	Muy alta	5
	Alta	4
	Media	3
	Baja	2
	Muy Baja	1



### Flood Vulnerability

- The occurrence of disasters reaches 50% in the Andean Amazon and 51% in the Brazilian Amazon.

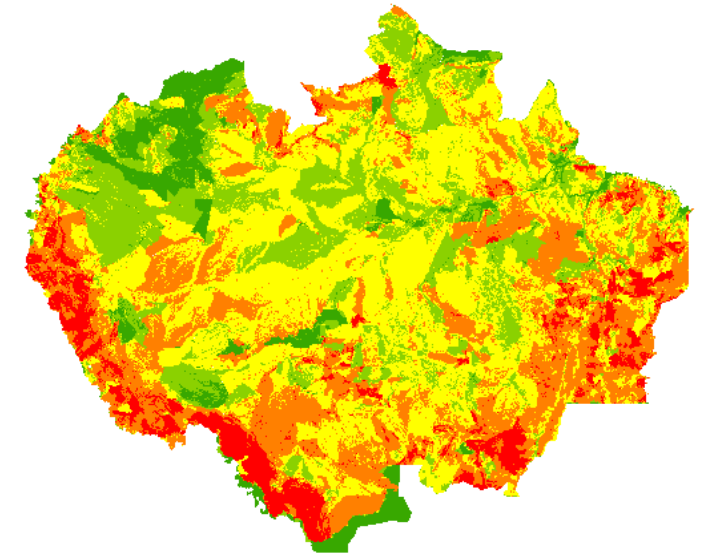
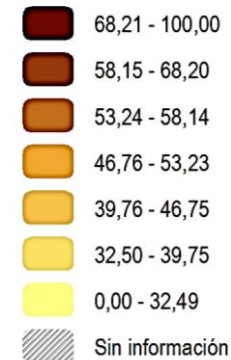


### Poverty

#### Simbología y leyenda

#### Pobreza

#### Porcentaje (%)



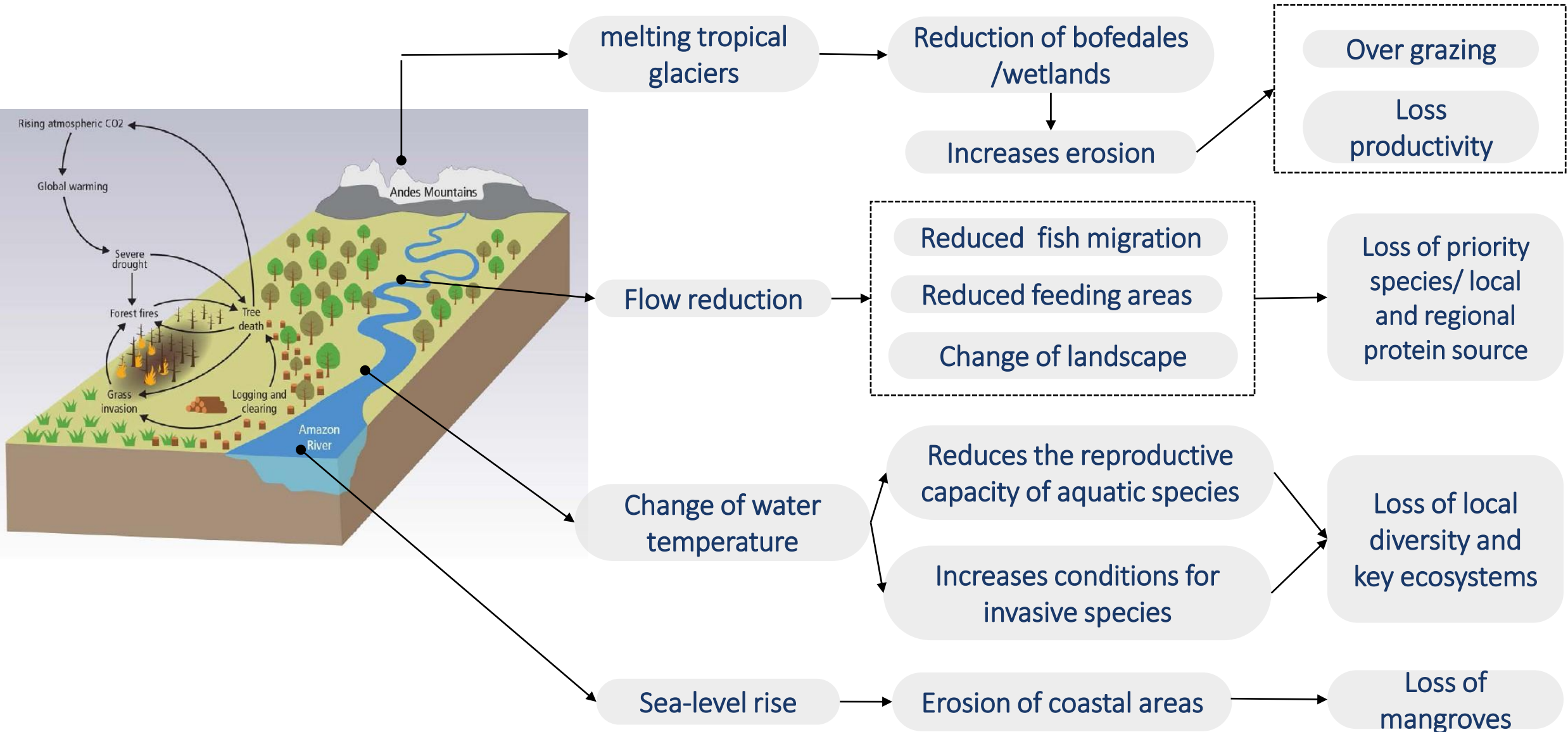
### Drought Vulnerability

- 19% of disasters in the Region are associated with drought, increasing to 46% in the Brazilian Amazon.
- The greatest impact of droughts is in the livestock sector with 58% and in crops and forests with 6%.



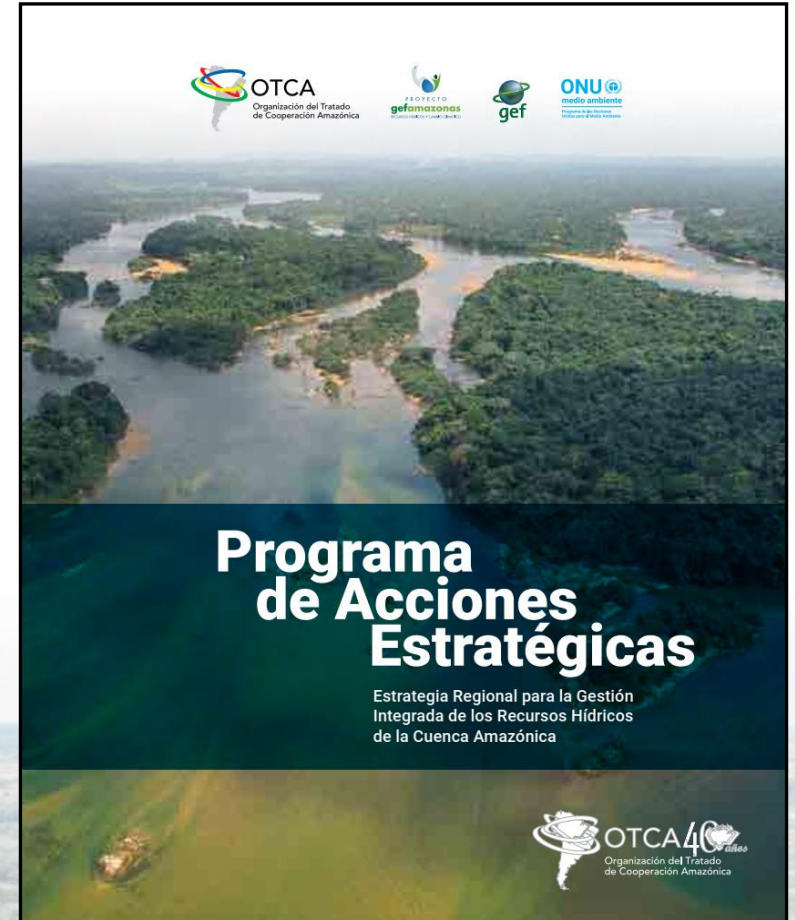
Increase of 3 to 4 °C in temperature is expected toward the XXI century (2080-2100)

# Climate change impacts on Amazon aquatic ecosystems: from Glaciers (source) to the delta Amazon (sea)



# Strategic Action Program for Transboundary Water Management in the Amazon (SAP)

- The SAP is the first Regional Strategy in the Amazon to address Integrated Water Resources Management in the context of climate variability and change.
- Developed as part of a regional initiative of the 8 Amazonian countries, supported by ACTO in partnership with UNEP/GEF, the Program was endorsed in 2017.
- The SAP guides coordinated actions across the countries along 3 strategic lines: Strengthening IWRM, Adaptation to Climate Change and Knowledge Management.



# Strategic Action Program for Transboundary Water Management in the Amazon (SAP) – Implementation

- Water security in the cities of La Paz and El Alto (Bolivia) through alternatives for water supply and efficient use of water resources impacted by **melting glaciers**.
- Nature-based solutions for enhancing coastal ecosystems and mangrove services affected by **sea level rise** and human interventions (Suriname).
- Regional mapping and monitoring of the Amazon aquatic ecosystems most vulnerable to climate change and human impacts.

## Approach



Source

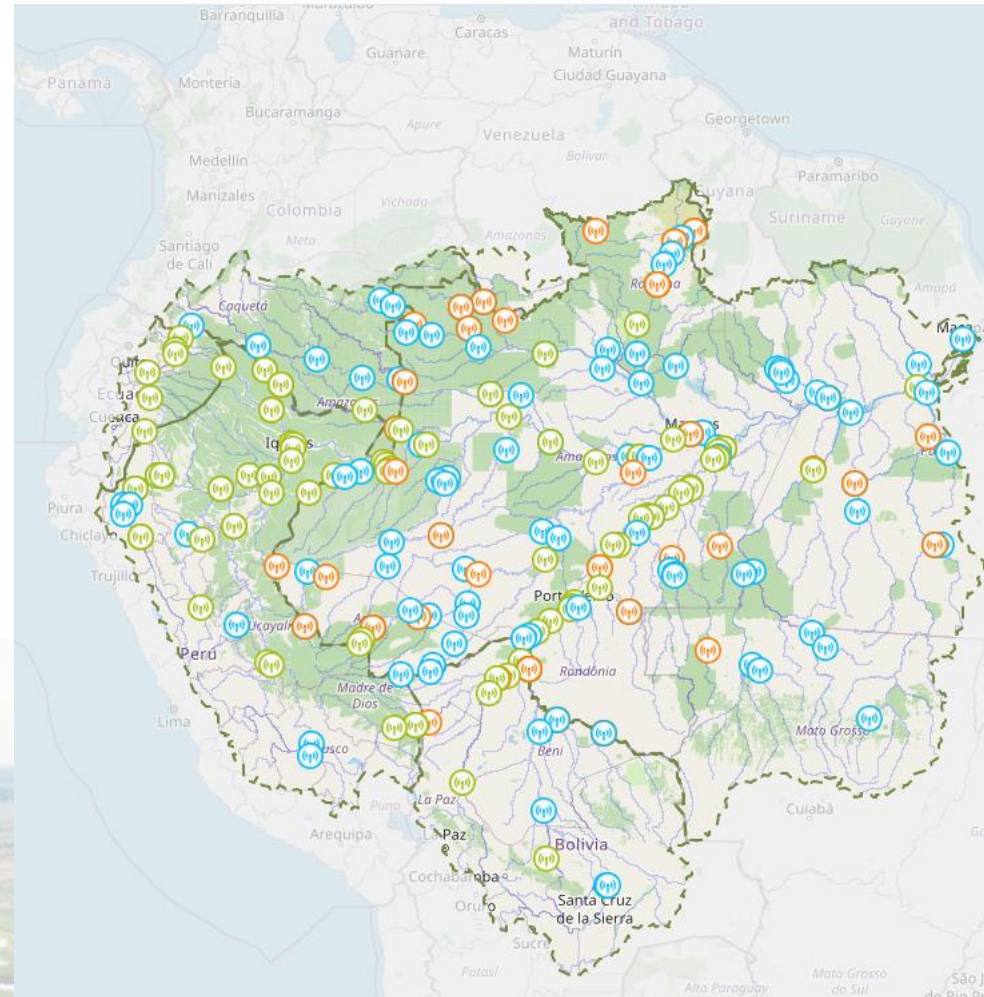
To

Sea

# ORA – AMAZON NETWORKS MODULE – REGIONAL WATER RESOURCES MONITORING SYSTEMS

- This system performs **hydrological and water quality monitoring** on the basis of national monitoring systems.
- It will be extended to cover issues of erosion and sediment transport, **aquatic ecosystems and environmental status of upper basins**, moors and wetlands, key to **decision-making in countries** and at the regional level.

Todas as Redes



Todas as Redes

Última atualização em 18/04/2022, 17:20

Estadísticas

Estações

Estações por rede ⓘ



● Rede Hidrológica Amazônica	107
● Rede de Estações HYBAM	91
● Rede de Qualidade da Água	44

Estações por países ⓘ

Brasil	162 estações	Peru	41 estações
Bolívia	19 estações	Colômbia	13 estações
Equador	7 estações		

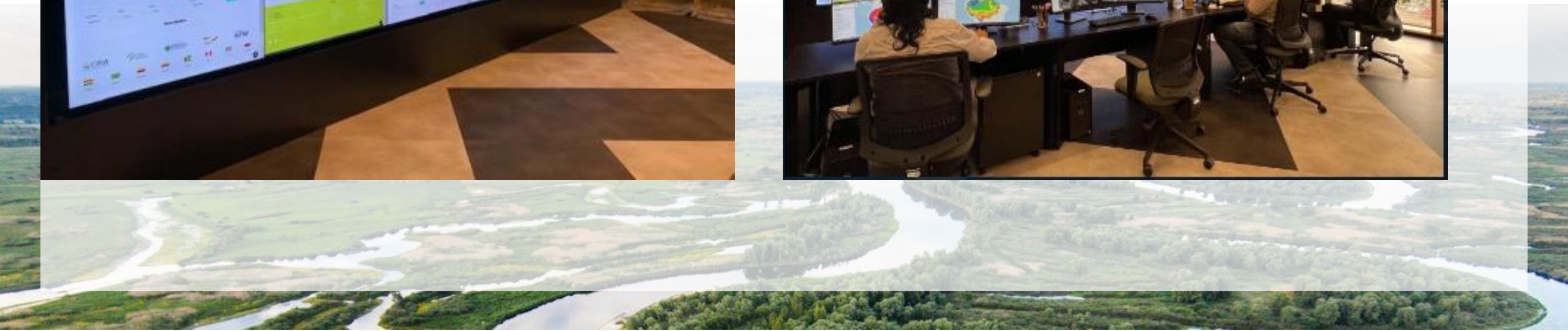
Ranking de rios por números de estações ⓘ

1° Madeira	21
2° Rio Purus	12
3° Rio Maranon	11



# AMAZON REGIONAL OBSERVATORY – ORA

## Extreme Event Situation Room - ACTO



# Thank you



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