CITIZEN SCIENCE
FOR THE AMAZON

Discover to improve lives and conservation

A vast interconnected watershed

The Amazon Basin is the greatest freshwater system in the world: It spans 7.2 million km² and houses 19% of global freshwater fish diversity. In this vast watershed is the most extensive tropical forest, a forest connected by a web of rivers and the fish that move between them.

Some of these fish, such as the dorado catfish, travel across the entire Amazon jungle from the Andes to the Atlantic Ocean and back. This is the longest freshwater migration in the world, demonstrating the intertwined links within the watershed.

Rivers are central to the way Amazonian peoples understand and interact with the world, not only in their celebrations and worldviews, but also in their day-to-day routines. Their livelihoods and principal food source, fish, live in rivers. Migratory fish are particularly relevant as these represent 80% of commercial fish capture.

While there is vast traditional and scientific knowledge about the Amazon, we still have much to discover as far as the ecological and evolutionary processes occurring throughout the watershed, particularly as they relate to fish migration and climate change.

Through the Citizen Science for the Amazon project, we aim to understand fish migrations and the environmental factors that influence them. This information is key to assure sustainable fishing and the conservation of the Amazon aquatic ecosystems.

CITIZEN SCIENCE FOR THE AMAZON

Citizen science is a unique opportunity to take up the challenge of the Amazon spatial scale. More than 30 organizations from Bolivia, Brazil, Colombia, Ecuador, France, Peru, and the United States are working together to connect and empower people and organizations throughout the Amazon Basin. Together, we collect and share information about the most important fish species in the Amazon. In this way, we, citizens and scientists together, produce knowledge that contributes to the sustainable management of fisheries and the conservation of priority aquatic ecosystems.

AMAZONIAN SCALE *the challenge*

Understand how processes that occur at an Amazon Basin scale function in order to conserve their integrity.

COLLABORATION *the key*

Promote collaboration between citizens and organizations, in different moments and spaces in the Amazon Basin.

SCIENCE *the question*

Where and when do fish migrate in the Amazon Basin and what environmental factors influence these migrations?

CITIZEN SCIENCE FOR THE AMAZON

RESPECT *the value*

Value local knowledge, respect people's rights, and national sovereignty. Open, secure, and easily-accessible information.

CONSERVATION *the objective*

Knowledge and empowered citizens contribute to the conservation and sustainable management of the Amazon Basin. They inform good decision making with scientific evidence.

TECHNOLOGY *the tools*

Develop and adapt innovative, user-friendly, and low-cost technology to collect and share information about the fish and rivers in the Amazon Basin.

the Amazon Basin

Greatest freshwater system in the world

10%
of global biodiversity.

7.2
million km².

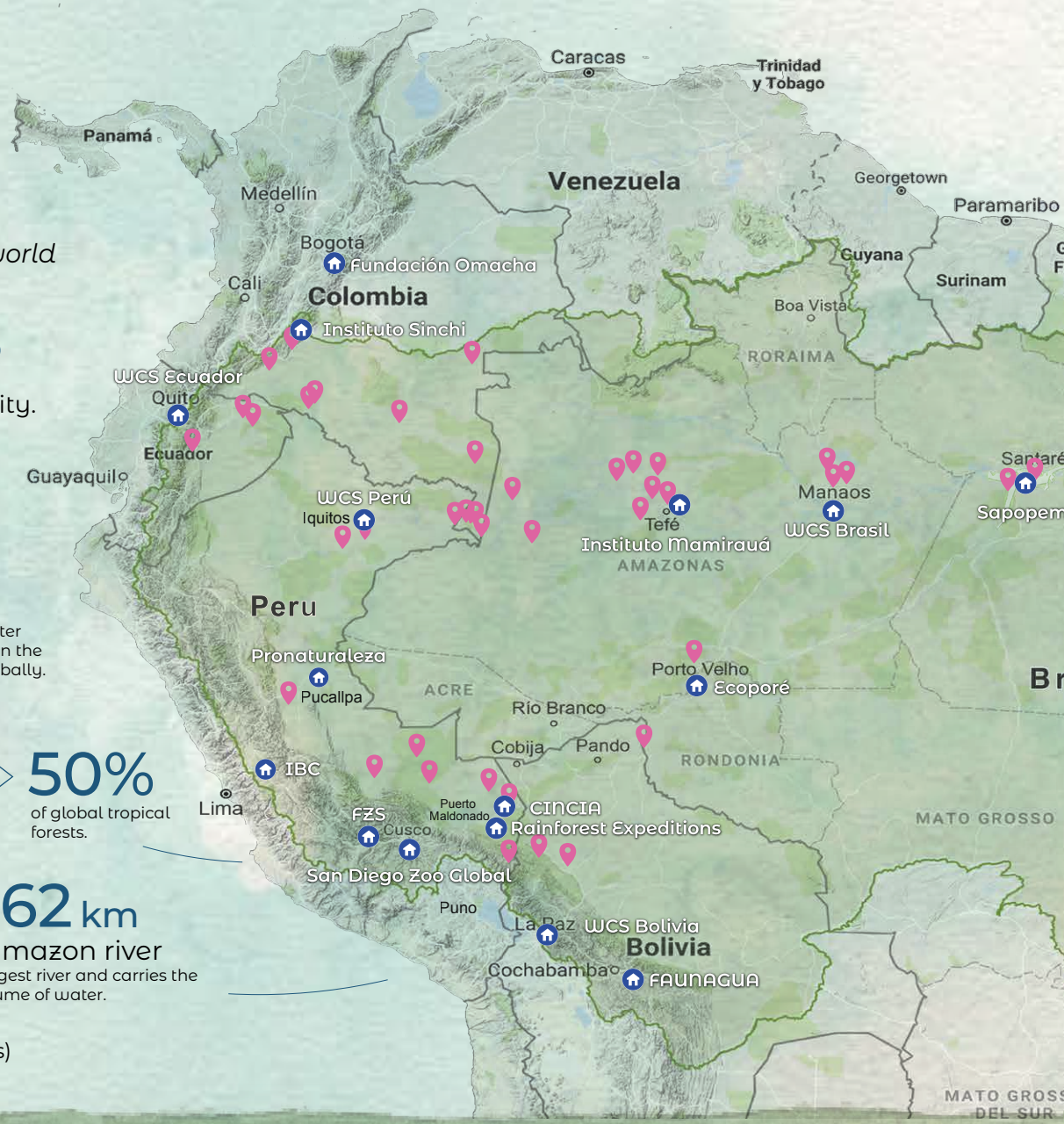
16%
of freshwater deposited in the oceans globally.

7 países
Brazil, Bolivia, Colombia, Ecuador, French Guiana*, Guyana, Peru and Venezuela.

*Overseas department of France.

50%
of global tropical forests.

7062 km
The Amazon river
is the longest river and carries the most volume of water.



Pilot Sites
Partner Headquarters (Pilot leaders)
Amazon Basin

"Updated in December 20

PEOPLE *Our commitment*

Size: 33 million people live in the Amazon Basin.

Diversity: 384 indigenous groups and nations.

Valuable traditional knowledge.

RIVERS *Fundamental for Amazonian life*

Waters: for human use and consumption.

Transport: connect people, towns, and cities.

Food: fish and other aquatic species.

Ecosystems: key for the connectivity and functioning of the Amazon.

Culture: worldview, knowledge and traditions.

FISH *The greatest global diversity*

Diversity: 2400+ species = 19% of global freshwater fish diversity

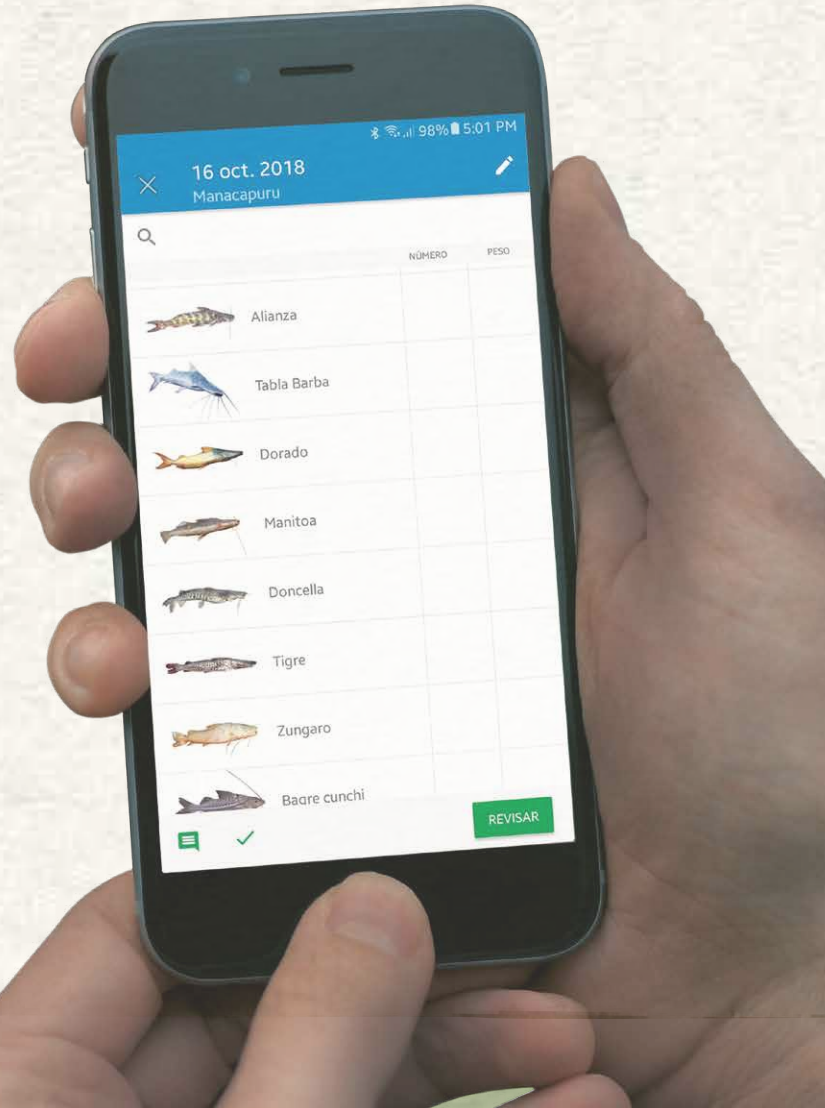
Food and economic security: Source of protein and livelihoods for Amazonian peoples.

Migratory fish: represent 80% of the commercial fisheries in the Amazon.

Ictio

The app to track fish observations in the Amazon Basin

A free database and app for mobile devices that allows one to record and share information about fish in the Amazon Basin. Developed by the Cornell Lab of Ornithology in collaboration with the Wildlife Conservation Society and project partners.



Designed for:

Citizens: families, fishers, tourists, students, and any person with the will to collaborate.

Organizations: of civil society, educational and scientific organizations, businesses, and government.

With Ictio you can record:

- Species
- Number of individuals
- Weight (Kg)
- Location
- Date
- Market price
- Photographs

We prioritize **20 fish species** based on relevance to fishers' day to day lives.

Available for Android in GooglePlay or at:

www.ictio.org

AguaKit AMAZÓNICA

Low-cost water and climate monitoring in the Amazon Basin

A monitoring tool consisting of modular water level and quality sensors, weather stations, as well as web and mobile phone apps for the collection, management, and sharing of data. Uses open access platforms to create a low-cost alternative for water and climate monitoring.

We research the environmental factors that correlate with fish migration in the Amazon Basin at a regional scale. Led by Florida International University, project partners are collaborating to implement a water and climate monitoring network, and in that way collecting data in places where there currently are no monitoring programs.

With AguaKit you can record:

1. **Water level.**
2. **Water quality:** temperature, pH, conductivity, and dissolved oxygen.
3. **Weather conditions:** air temperature, precipitation, atmospheric pressure, relative humidity, radiation.

Contact: **aguakitamazonica@gmail.com**

Modular sensor system

Mobile applications

Information management platform

CITIZEN SCIENCE FOR THE AMAZON

Partners:

Wildlife Conservation Society
The Cornell Lab of Ornithology
FIU Florida International University
conservify
Instituto de Desenvolvimento Sustentável Mamirauá
Instituto del Bien Común
San Diego Zoo Global Peru
FABLAB PERU
Ecoporé
SAPOPEMA
Universidad San Francisco de Quito
Rainforest expeditions
UNIR
Grupo Caparari – Laboratório de Ictiologia e Pesca
IRD Institut de Recherche pour le Développement France
LMI Evolución y Domesticación de la Ictiofauna Amazónica
UTEC
cita
Instituto amazónico de investigaciones científicas SINCHI
ACEER Foundation
Centro de Innovación Científica Amazónica
Pronaturaleza
iiap
Institute for Global Environmental Strategies
Earth Innovation Institute
FAUNAGUA
fundación omacha
KANINDÉ Associação de Defesa Etnoambiental
SERNANP Perú

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www.AmazonCitizenScience.org

Av. Roosevelt 6360. Miraflores, Lima – Perú +51 1 4464947 / cienciaciudadana@minkaparaconservar.org