



Modular sensor system



Mobile applications



Information management platform

AguaKit AMAZÓNICA

Low-cost water and climate monitoring in the Amazon Basin



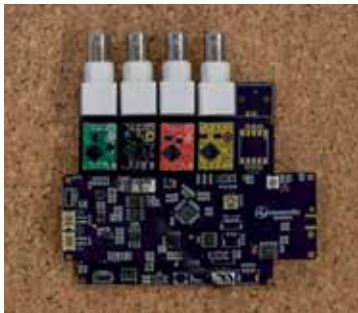
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The primary tool we'll use to monitor environmental factors is AguaKit Amazónica: a modular system of water level and quality sensors and weather stations, with accompanying web and mobile phone apps.

▶ At the regional scale, **we seek to investigate environmental factors that might relate to fish migrations in the Amazon Basin.** To do so, Florida International University is collaborating with Wildlife Conservation Society, Conservify, and numerous local partners. This is done within the framework of the Citizen Science for the Amazon project and contributes to the establishment of a low-cost, high-tech water and climate monitoring network throughout the Amazon Basin.

▶ At a local scale, **many communities and local organizations have questions of their own pertaining to ecosystems at a smaller scale.** Observations of factors like local hydrology, microbasins, and white-, black-, and clearwater ecosystems—which can be adjacent to each other yet have remarkably different environments—shape these questions. Additionally, seasonal fluctuations in water level and flooding events create interesting changes and interactions between ecosystems throughout time. Ultimately, we look to respond not only the basin-scale question, but also local questions..



▶ **AguaKit Amazónica** is a monitoring tool that is made up of a modular sensor system of water level and water quality sensors, and weather stations, as well as mobile and web applications for data collection, management, and dissemination. It utilizes open source platforms to create a low-cost alternative to traditional water monitoring.

USE

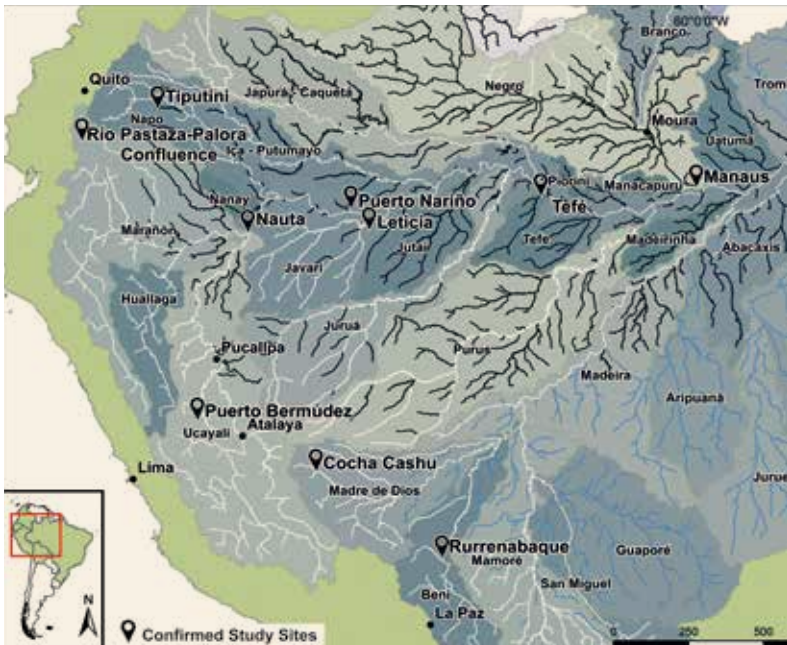
AguaKit Amazónica allows individuals and local organizations to download data from the sensors using Android devices. Then, they can upload and transfer the data to the cloud, where it will undergo quality control and ultimately be made freely available via a web application. We will generate open access data: any person with an Android mobile and an Internet connection, anywhere in the world, will be able to access and download the data.

PARAMETERS FOR MONITORING

- ▶ **Water Level.**

- ▶ **Water Quality:** temperature, pH, conductivity and dissolved oxygen.

- ▶ **Weather Conditions:** air temperature, precipitation, atmospheric pressure, relative humidity, solar radiation, and wind speed and direction.



Local Partners

- ▶ Fundación Omacha
- ▶ Instituto del Bien Común
- ▶ Instituto Mamirauá
- ▶ Instituto Sinchi
- ▶ Radio Ucamara
- ▶ San Diego Zoo Global
- ▶ Universidad San Francisco de Quito
- ▶ Wildlife Conservation Society

Pilot Sites

- ▶ **Bolivia:** Rurrenabaque and Madidi.
- ▶ **Brazil:** Manaus and Tefe.
- ▶ **Colombia:** Puerto Nariño and Leticia.
- ▶ **Ecuador:** Tiputini and Rio Pastaza
- ▶ **Perú:** Nauta, Puerto Bermúdez and Cocha Cashu.