UNESCO Amazon Water Resilience Challenge 2025

Desafío de resiliencia hídrica de la Amazonía

EDICIÓN 2025

ECUADOR

¡Bienvenidos!

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¡Felicitaciones!

TODAY'S AGENDA

1. Welcome
2. Introduction UNESCO Amazon Biospheres Reserve Project
3. Making Introductions - Ice Breaker!
4. Amazon Water Resilience Challenge - Program Overview
5. Participation in Training and Field Week - What, When, How
6. Closing

The Water Agency - Who are We?

WE DO THE PEOPLE WORK ON WATER!

The Water Agency is a social enterprise that aims to connect local and international people and organisations to collaborate for clean and safe water.

We believe that people should be at the heart of every water project!

Connecting =
Awareness + Education + Collaboration + Participation

Team of 15 colleagues in South East Asia. Now expanding to South America (we hope! 😊)

The Water Agency - Connecting Youth since 2010

UNESCO Water Resilience Challenge (2021-2024)

Supporting You on this Exciting Journey!

GREGOR
(TWA)

NATALIA
(TWA)

ANA-CLARA
(TWA)

OCTI
(TWA)

THINZAR
(TWA)

MARTIN
(UNESCO CONSULTANT)

ARTURO
(FUNDACIÓN ECOLÓGICA ARCOIRIS)

VERONICA
(UNESCO)

ANA
(UNESCO)

Special thanks to….

STRATEGIC PARTNERS

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El Nuevo Ecuador — Ministerio del Ambiente, Agua y Transición Ecológica

Prefectura de Loja ¡Sabemos trabajar!

Prefectura de Zamora Chinchipe

EXPERT PARTNERS

UTPL La Universidad Católica de Loja

Universidad del Azuay

FONAPA

UCUENCA

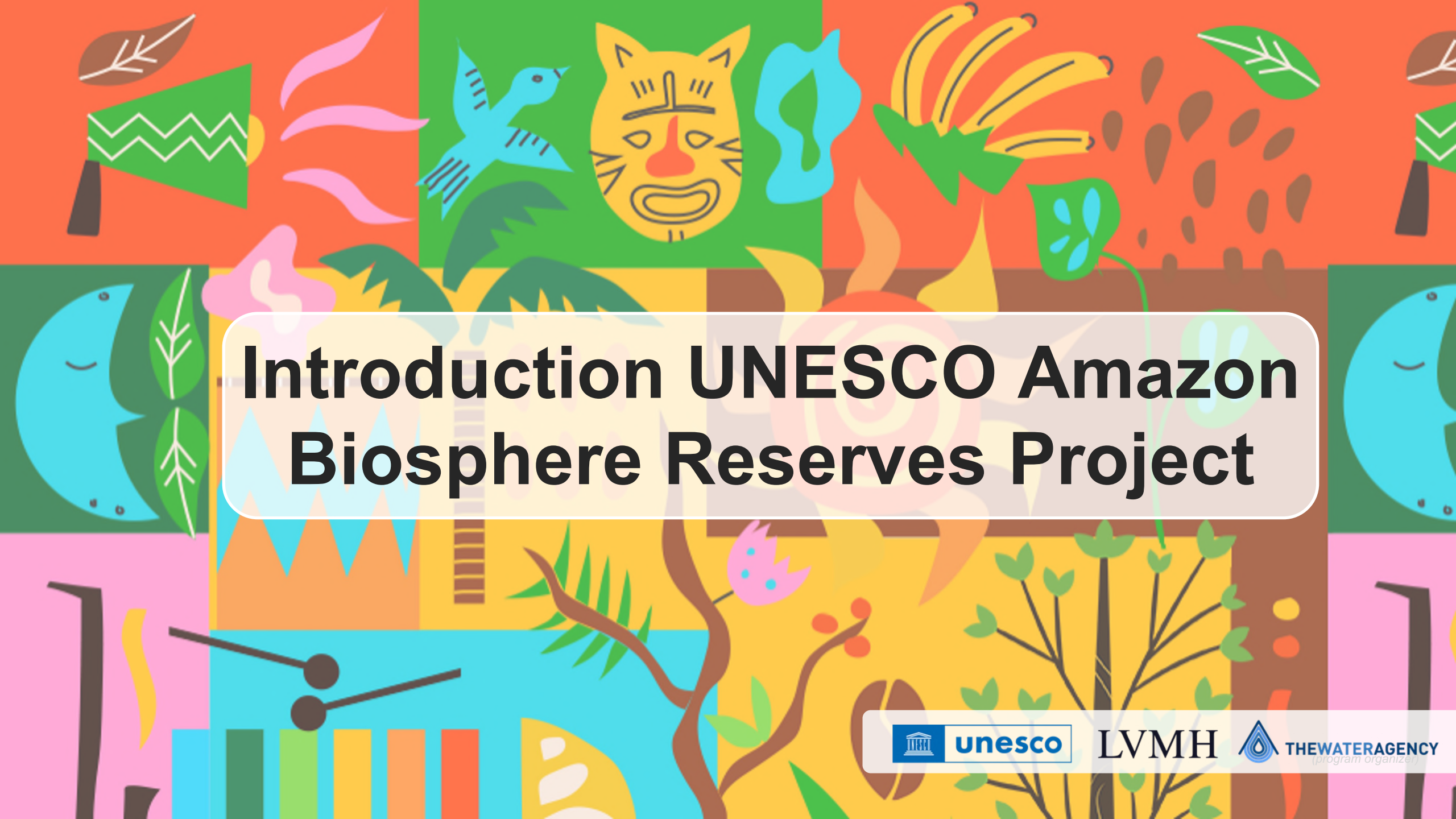
PROGRAM PARTNERS

THEWATERAGENCY

Arcoiris Fundación Ecológica

Red de Jóvenes Podocarpus el Cóndor

Introduction UNESCO Amazon Biosphere Reserves Project



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Programa sobre el Hombre
y la Biosfera

Proyecto Amazonia

CONECTANDO LAS RESERVAS DE BIOSFERA AMAZÓNICAS

con el apoyo de LVMH

2000 - 2025

Mejorar la resiliencia y **reducir la pérdida de biodiversidad**
de la **gran cuenca amazónica**

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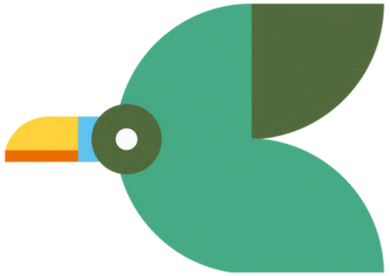
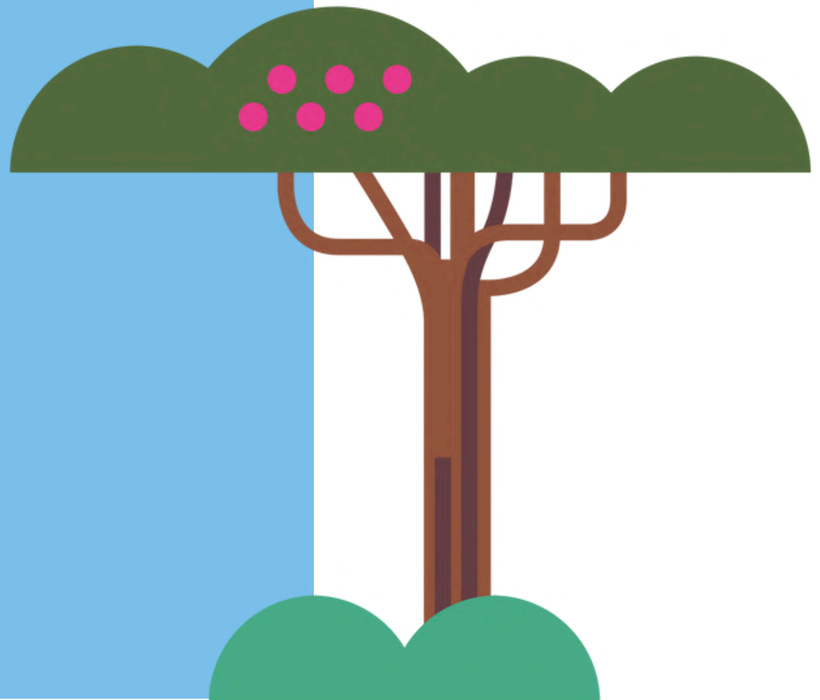
Programa sobre el Hombre
y la Biosfera

CONTENIDOS

- **Amazonía y las reservas de biosfera**
- **El proyecto**
  - El objetivo
  - La estrategia
  - La localización
  - La diversidad biologica y cultural
- **Las acciones**
- **RBs Ecuador**





AMAZONIA

Un sistema socioecológico complejo en rápida transformación

Biodiversidad excepcional

alberga alrededor del **10 % de la biodiversidad mundial**, incluidas innumerables especies endémicas, y es crucial para la estabilidad ecológica del planeta.

Importancia climática

un papel vital en la **regulación del clima mundia**l, actuando como un **importante sumidero de carbono** e influyendo en los patrones de precipitaciones en Sudamérica y más allá.

Diversidad cultural

alberga a más de **400 pueblos indígenas y locales,** que poseen conocimientos Indigenas y tradicionales de incalculable valor sobre la gestión sostenible de los recursos naturales y la conservación de la biodiversidad.

Prácticas sostenibles e iniciativas de conservación

diversidad de prácticas económicas sostenibles que desempeñan un papel crucial en la protección de la biodiversidad, ofreciendo **modelos de desarrollo respetuosos con el medio ambiente, los pueblos indígenas y las comunidades locales, y las futuras generaciones**.

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AMAZONIA

Un sistema socioecológico complejo en rápida transformación

Deforestación acelerada

la expansión de la agricultura, la ganadería y las infraestructuras están provocando una rápida pérdida de la cubierta forestal, generando degradación del hábitat y pérdida de biodiversidad.

Cambio climático

el aumento de las temperaturas y los cambios en el régimen de lluvias están afectando a los ciclos naturales de la Amazonia, contribuyendo a sequías más frecuentes e intensas y a una mayor vulnerabilidad a los incendios.

Actividades ilegales y conflictos territoriales

La minería ilegal, la tala insostenible y los cultivos ilícitos destruyen ecosistemas, contaminan ríos y suelos , agravan la degradación de los bosques y amenazan las prácticas culturales y sostenibles, generando conflictos territoriales.

Reservas de biosfera

oferencen modelos de desarrollo en que se promueve la conciliación de la conservación y el sostenibilidad.

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LAS RESERVAS DE BIOSFERA

Su rol en la **conciliación de la conservación y el desarrollo sostenible**

GLOBALMENTE

Forman una red mundial que contribuyen a los **objetivos mundiales de protección de la biodiversidad para 2030 / 2050**

REGIONALMENTE

conectan diversas **áreas protegidas**, **territorios indígenas**, **asentamientos humanos**, **áreas urbanas** y **rurales**

LOCALMENTE

Actores y organizaciones disponen de **conocimientos y tecnologías adaptadas a sus realidades** con potencial para solucionar problemas locales y regionales

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EL PROYECTO

Hacia una mejor gobernanza y resiliencia de las reservas de biosfera amazónicas

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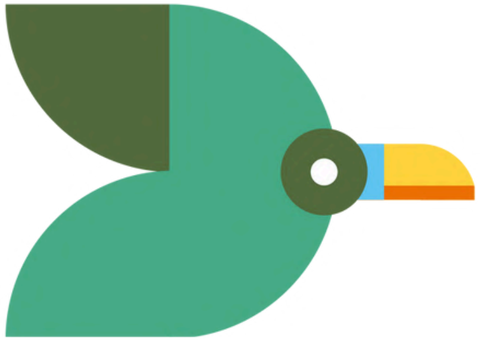
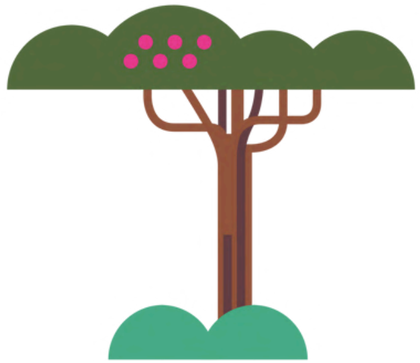
EL OBJETIVO

Mejorar la resiliencia y reducir la pérdida de biodiversidad de la gran cuenca amazónica



Reforzar la gobernanza participativa y el trabajo en red, con especial atención a los jóvenes



Fortalecerde la gestión, a través de planes de manejo integrados al paisaje de las reservas de biosfera 2020-2030

Promover actividades socio-económicas sostenibles para las comunidades locales y los Pueblos Indígenas

LA LOCALIZACIÓN

8 reservas de biosfera

en **4 países - Bolivia, Brasil, Ecuador y Perú**

5% de la cuenca Amazónica

1,3 million de personas

compartiendo desafíos similares a través de las fronteras

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LA DIVERSIDAD BIOLOGICA Y CULTURAL

40% total de especies región ALC

mamiferos terrestres + aves + reptiles + anfíbios

433 territorios Indígenas

56 áreas protegidas

28 grupos Indígenas

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LA ESTRATEGIA

Coproducir conocimientos y aumentar la visibilidad y las contribuciones de las reservas de biosfera

Colaboración con las Reservas de Biosfera

COPRODUCCIÓN | APRENDIZAJE ADAPTATIVO | SOLUCIONES ORIENTADAS

Componentes

Unificar capas de **datos geoespaciales**

\+

Análisis **socioecologico** y de la **gobernanza territorial**

\+

Identificar y apoyar **iniciativas sostenibles**

Coproducción

Productos

- Repositorio e integración de datos
- Plataforma geoespacial
- Diagnóstico socioecológico
- Herramientas de apoyo a planes y decisiones de gestión integrada
- Apoyo a iniciativas sostenibles locales

Resiliencia a largo plazo de las reservas de biosfera

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LAS ACCIONES

Base de datos, diagnóstico territorial y iniciativas locales

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Base de datos geoespacial y plataforma virtual

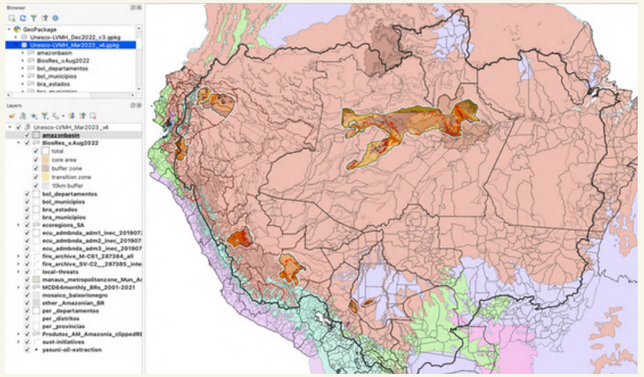
Desarrollo de una base de datos geoespacial y para la **integración, visualización y análisis de datos**

11 temas

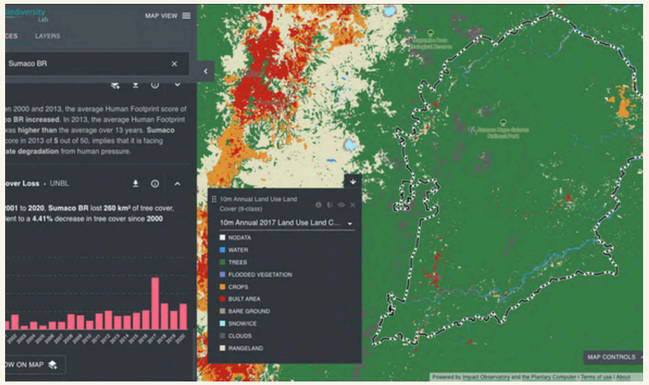
- biofísico
- hidrología
- topografía
- vegetación
- suelos
- infraestructura
- cambios de uso del suelo
- político-administrativo
- territorios protegidos
- socioeconomía
- iniciativas locales

48 capas

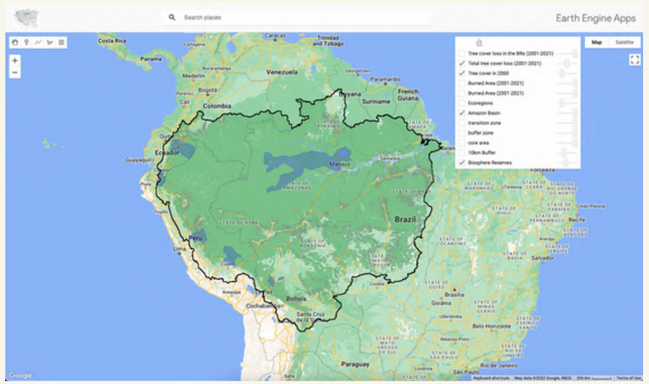
8 reservas de biosfera



Base de datos geoespacial



Laboratorio de Biodiversidad de la ONU



Motor Google Earth

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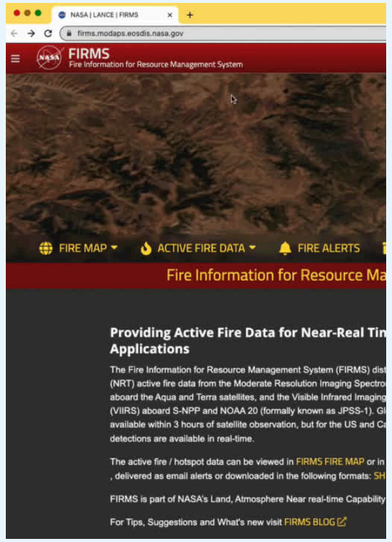
Análisis y diagnóstico socioecológico

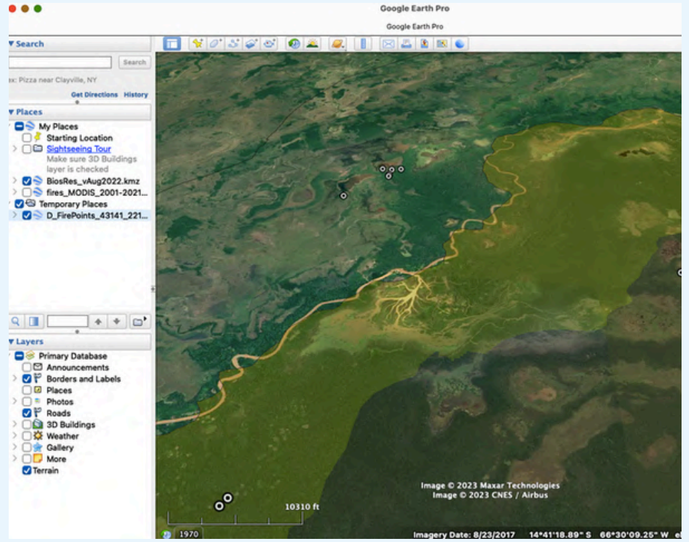
Identificación, cartografía y comprensión conjuntas de las **principales presiones y amenazas**

Validación colaborativa y modificaciones de las presiones regionales

Principales presiones regionales:

- Aumento de los fenómenos extremos (sequías, inundaciones, incendios)
- Expansión de la frontera agrícola
- Minería ilegal y cultivos ilícitos
- Limitadas alternativas socioeconómicas de subsistencia





Utilización del sistema FIRMS de la NASA para elaborar recomendaciones y suministrar datos a los gestores para combatir los incendios forestales.

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Apoyo a iniciativas para la sostenibilidad local

Reconocer el papel y la importancia del conocimiento local para **replicar soluciones innovadoras que contribuyan a la resiliencia** a largo plazo de las reservas de biosfera.

Estrategia

- **Prioridades** identificadas por los **puntos focales MAB** + **gestores de las reservas de biosfera** + **socios**
- **Actividades en curso** probadas
- **Asociaciones y apoyo** existentes
- Capacidad para **consolidar iniciativas**
- **Potencial de ampliación**

Apoyo a iniciativas para la sostenibilidad local

Reconocer el papel y la importancia del conocimiento local para **replicar soluciones innovadoras que contribuyan a la resiliencia** a largo plazo de las reservas de biosfera.

Iniciativas

- Mejorar la **infraestructura** de las reservas de biosfera
- Fortalecer la **organización y la gobernanza** locales
- Apoyar a las **redes de jóvenes**
- Fomentar la f**ormación y capacitación**
- Promover la transición a **sistemas de producción sostenibles**
- Apoyar a actividades de **agregación a cadenas de valor**

>70 actividades e iniciativas seleccionadas

+1.000 familias beneficiadas

LO QUE QUE SE HIZO EN ECUADOR

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Gobernanza

- Desarrollo de los planes de manejo
- Conformaciion de los comités de gestión
- Desarrollo de marca de reserva de biosfera
- Apoyo a la conformación del Comité nacional MaB en Ecuador

Apoyo a la elaboración de 3 planes de gestión

Organización de los comités de gestión

Jóvenes

- Conformación de las redes locales y nacional de jóvenes
- Encuentros nacionals de jóvenes de las RBs del Ecuador
- Fondos semillas
- Capacitaciones (bootcamps de emprendimientos, turismo comunitario sostenible, comunicación, escuela de liderazo)

Apoyo de fondos semilla para el desarrollo de emprendimientos

Organización de las 3 redes juveniles y consolidación de las demás

Iniciativas sostenibles

- Fortalecimiento de cadenas de valor, ecoturismo y capacidades
- Varias iniciativas en Educación para el desarrollo sostenible (teatro de sombras, teatro de títeres, desarrollo de materiales contextualizados)
- Apoyo para los Global Big Days

Apoyo a mujeres indigenas artesanas

Apoyo a productores locales con praticas sostenibles

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Muchas gracias / obrigada!

Proyecto Amazonia

CONECTANDO LAS RESERVAS DE BIOSFERA AMAZÓNICAS

con el apoyo de LVMH

Contactos

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Ana Catarina Luz - a.luz@unesco.org

https://www.unesco.org/en/amazon-biosphere-reserves-project


Introduction’s Ice Breaker
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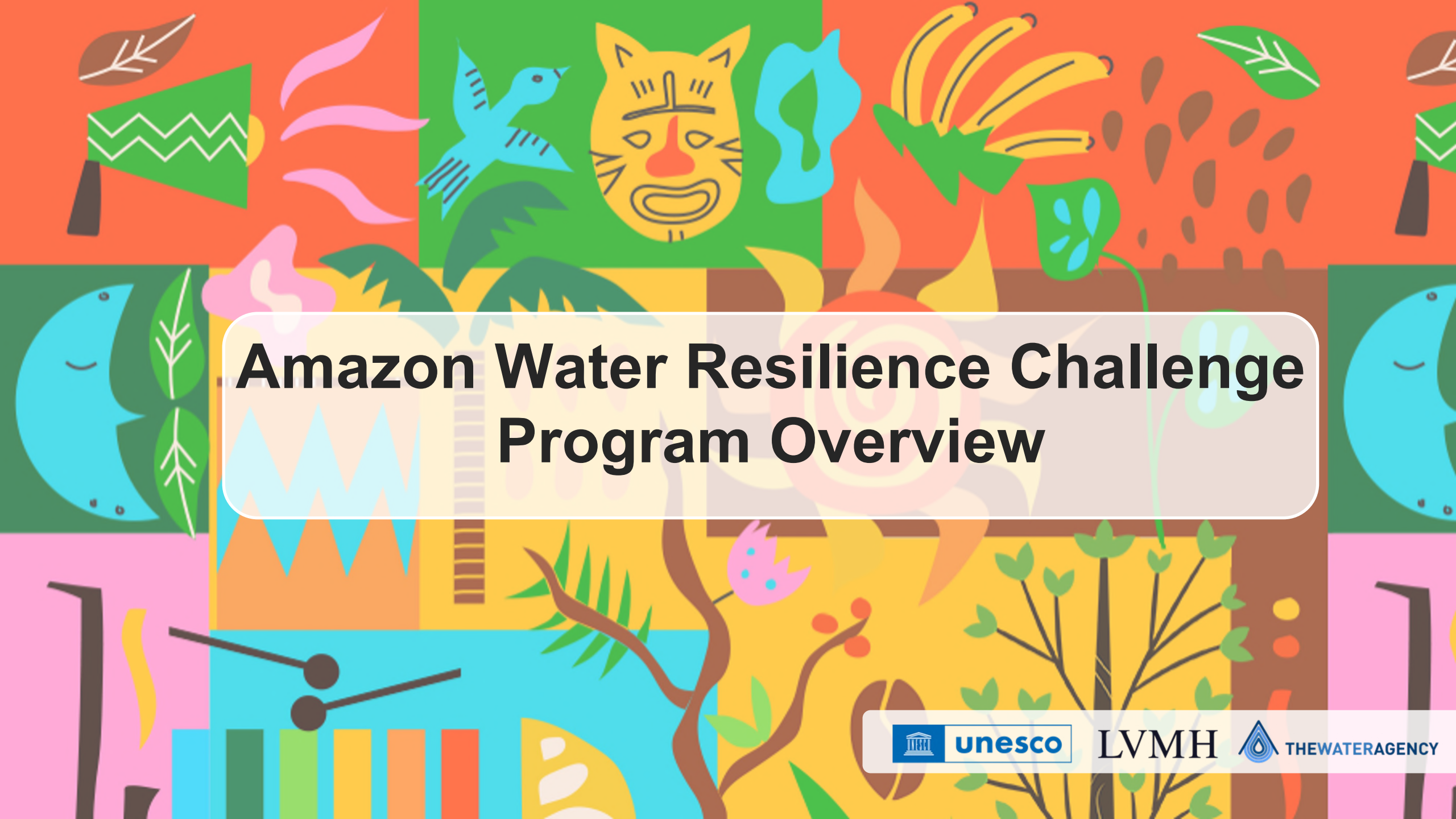
SO, WHO ARE YOU?

- 6 breakout rooms
- ~ 5 people per room
- 4 turns, each round for 5 min
- Each person in the room has to answer the question of the round in a short sentence so everyone can participate, and we get to know each other
- Questions per round

1. What's the story behind your name?
2. What's the nicest compliment you've ever received?
3. If someone made a painting of you doing something you love, what would you be doing in the picture?
4. If you could be anywhere else right now? (real or imaginary)



Amazon Water Resilience Challenge
Program Overview

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PROGRAM GOALS

Demonstrate the capacity of youth to develop and implement innovative solutions that have a real impact.

Support youth to gain support and commitment from different stakeholders for their ideas and solutions.

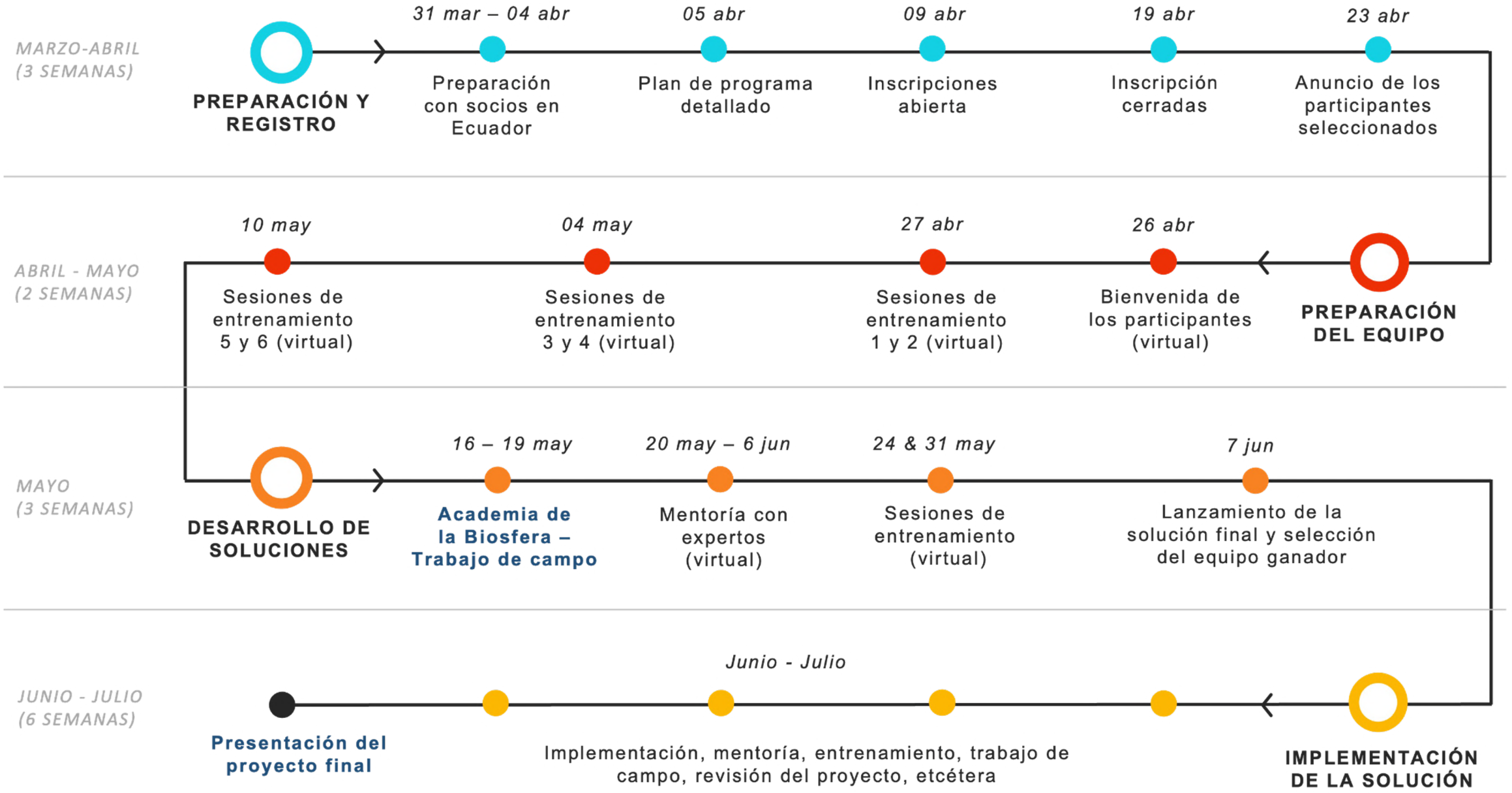
Give youth a stage to present their ideas and be a powerful voice for a sustainable future of the Amazon.

PROGRAM PHASES

Biosphere Academy I - Learning	Biosphere Academy II - Solution Development	Biosphere Academy III - Implementing	Showcase
Training, online courses, assignments and team-work to provide you the foundational knowledge and skills to develop a good problem definition.	Field work, training, assignments, mentoring and team-work to develop your innovative solutions.	Field work, training, team-work and mentoring to implement your solutions in the biosphere reserve.	Present your solutions and projects at a big event.

6 TEAMS → PRESENTATION TO THE JURY → 3 TEAMS →

PROGRAM TIMELINE




THE NATURAL
WATER CYCLE
PACIFIC/SIERRA
(LEEWARD/DRY SIDE)
ATLANTIC/AMAZONIA
(WINDWARD/WET SIDE)
LOJA
PODOCARPUS-EL CONDOR BIOSPHERE RESERVE
PACIFIC
OCEAN
ATLANTIC
OCEAN

PODOCARPUS-EL CÓNDOR BIOSPHERE RESERVE

WATER CHALLENGES

The main issues affecting the water cycle in the Podocarpus-El Cóndor Biosphere Reserve are:

1. Deforestation and Land Use Change

- Conversion of forests into pastures, crops, or urban land disrupts the natural vegetation cover.
- This reduces infiltration of rainwater into the soil, increases runoff, and causes soil erosion.
- Less water is stored in vegetation and in the ground, which affects spring flow and stream stability, especially during the dry season.

2. Mining and Agriculture Pollution

- Small-scale mining releases heavy metals (like mercury) into rivers, contaminating water and damaging aquatic ecosystems.
- Agrochemicals from fertilizers and pesticides pollute water sources, impacting both biodiversity and community health.

3. Poor Water Infrastructure

- Many communities rely on basic or aging systems that don't store or filter water effectively.
- Limited water capture and storage increases vulnerability during dry periods and reduces water quality during heavy rains.

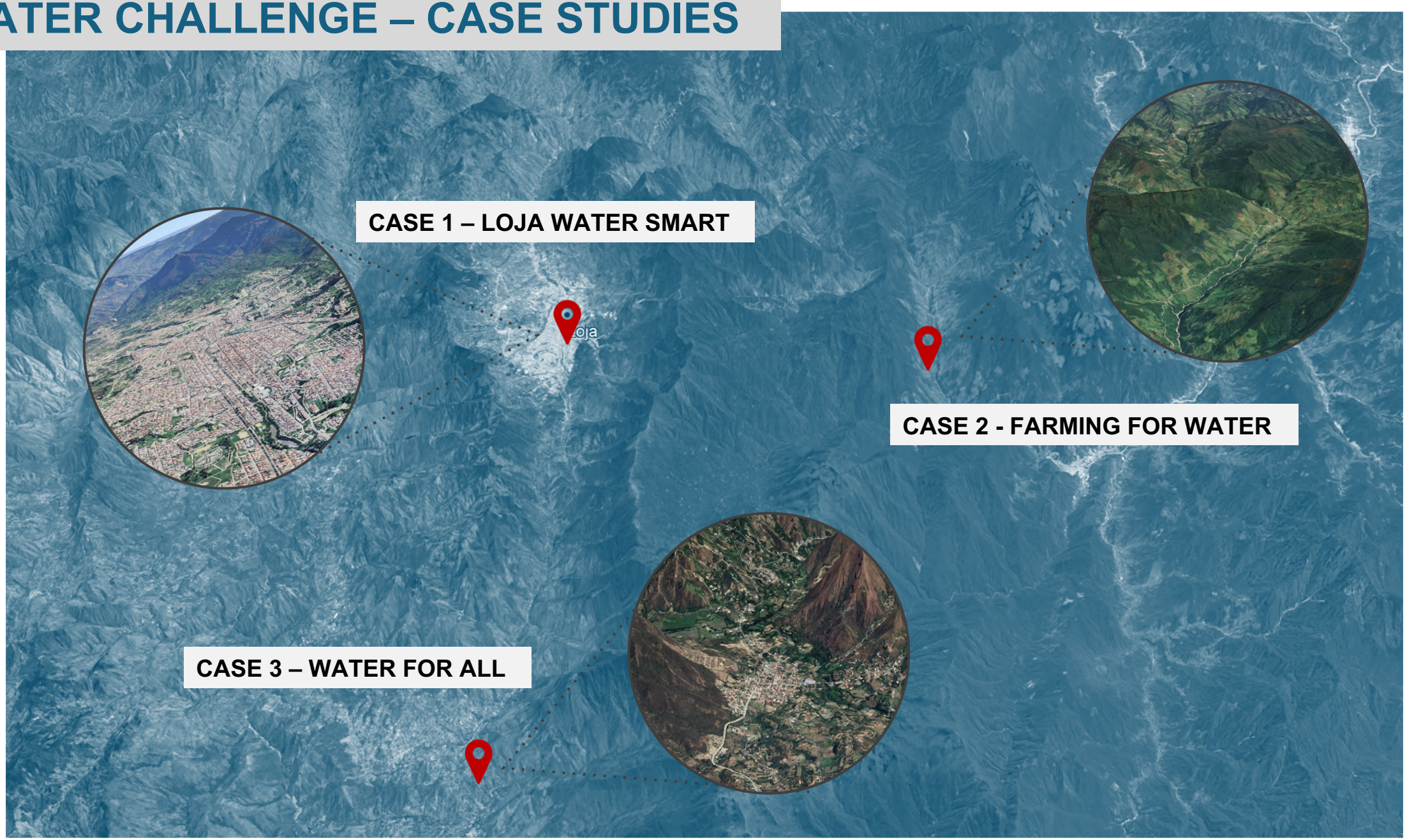
4. Climate Variability and Change

- The region faces more unpredictable rainfall, with intense storms and longer dry spells.
- This further stresses already vulnerable ecosystems and water supply systems.

5. Urban Pressure (especially around Loja)

- Expansion of urban and peri-urban areas increases impermeable surfaces, worsening flooding and pollution.
- Wastewater and solid waste from urban areas affect nearby rivers like the Zamora River.

WATER CHALLENGE – CASE STUDIES



CASE STUDY 1

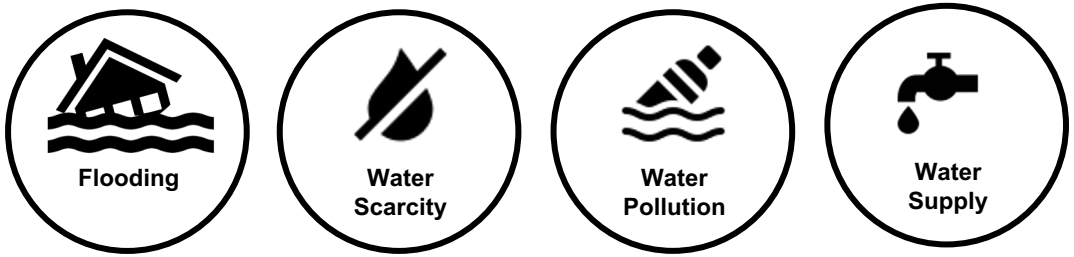
LOJA WATER SMART

THE PROBLEM

- **Flooding** - Intense rainfall overwhelms Loja's limited urban drainage systems, especially in low-lying or poorly planned neighborhoods. Inadequate stormwater infrastructure leads to flash floods that damage roads, homes, and public spaces.
- **Water Scarcity** - During dry periods, limited reservoir capacity and inefficient water supply systems struggle to meet demand. Reduced river flows also concentrate pollution, lowering water quality—particularly in the Zamora River.
- **Climate Pressure** - Climate change is intensifying rainfall variability, making both flooding and drought more frequent and severe.
- **Systemic Gaps** - Gaps in water storage, treatment capacity, and watershed protection reduce the city's ability to respond to these water extremes.

YOUR SOLUTION

- Design low-cost systems to collect and store rainwater during storms.
- Promote water conservation and protection during dry periods.
- Engage communities in implementing and maintaining "Water Smart" practices.
- Focus on scalable solutions for homes, schools, and neighborhoods.



CASE STUDY 2

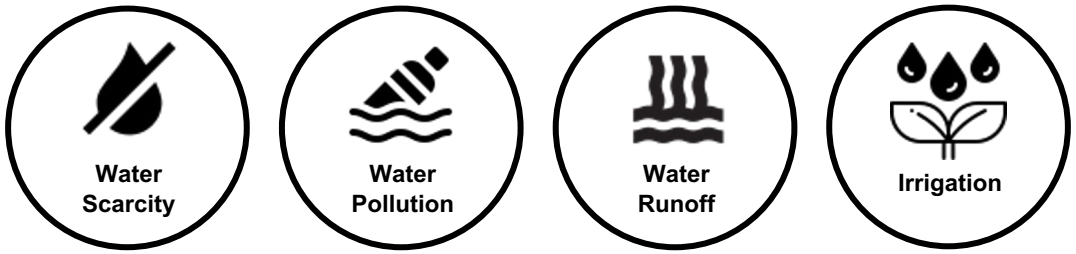
FARMING FOR WATER

THE PROBLEM

- **Inefficient irrigation systems** lead to water waste and depletion of local springs and rivers.
- **Runoff and erosion** on steep hillsides wash away topsoil and carry agrochemicals into nearby water sources.
- **Fertilizers and pesticides** pollute rivers, springs, and aquifers, harming ecosystems and downstream users.
- **Climate change** increases the risk of prolonged droughts and irregular rainfall, further stressing water availability.
- **Lack of farm-scale water stewardship** undermines both agricultural productivity and long-term ecosystem health.

YOUR SOLUTION

- Design low-cost, practical solutions that help farmers retain soil moisture and reduce runoff.
- Explore efficient irrigation, greywater reuse, mulching, or vegetative buffer zones.
- Aim for cleaner water leaving the farm than what enters—supporting both farming and conservation.
- Co-develop your approach with farmers or rural families for long-term adoption and impact.



UNESCO AMAZON WATER CHALLENGE

CASE STUDY 3

WATER FOR ALL

THE PROBLEM

- Rural communities depend on **water sources like springs and rivers** that are vulnerable to seasonal droughts and contamination from agriculture and mining.
- **Aging or poorly maintained infrastructure** limits the ability to store and distribute water.
- **Limited or absent filtration systems** increase risks of waterborne diseases, especially during rainy seasons.
- **Climate change** is making rainfall less predictable and dry seasons longer, intensifying stress on water systems.
- **Growing land use pressures** threaten water quantity and quality, putting health, livelihoods, and ecosystems at risk.

YOUR SOLUTION

- Design an integrated strategy to capture, store, filter, conserve, and reuse water year-round.
- Explore options like rainwater harvesting, greywater reuse, improved storage, and low-cost filtration.
- Ensure solutions are safe, easy to maintain, and based on local knowledge and materials.
- Involve community members in co-design, education, and water monitoring to support long-term water security.


Participation in Training and Field Week - What, When, How
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CASE STUDIES

TEAM WORK

- All of you will be assigned to a team.
- We make 6 teams of 4 persons each.
- The teams stay the same during the program.
- All teams work on the problem analysis of all 3 case studies. We want to see that you understand the problems for each case but also the connections between them (all part of the same water cycle!).
- After we complete the field visits to the 3 case study areas, each team will be assigned to 1 case study to develop their solution (so we have 2 teams working on each case study).
- Each team makes their own plan for working together.
- During the field week, we introduce the mentors who are available to advice on your work.

CASE STUDIES

TEAM WORK

TEAM 1	TEAM 2	TEAM 3
• Carlos Leonardo Llanos Barbecho • Emiliano Avalos • Karina Juliana Jimenez Jimenez • Emily Garces	• María José Bravo Ortiz • Bryan Fajardo • Selena Barba • Evelin Andrea Aguilar Chuya	• Cristian David Astudillo Torres • Guissella de los Ángeles Rivera Yunga • Jessica Denisse Sangurima Ucho • Diana Ortiz
TEAM 4	**TEAM 5**	**TEAM 6**
• Adrian Bolaños • Jhoana Ximena Armijos Carrion • Aida Lorena Sarango Morocho • Fátima Pulgarín	• Andrés Lasluisa • Jamileth Obando Parra • Lady Toapanta • Jennifer Elizabeth Marquez Peralta	• Atic Fabricio Chalan Quizhpe • Diana Inga Zumba • Katherine Valles • Isabel Rodas

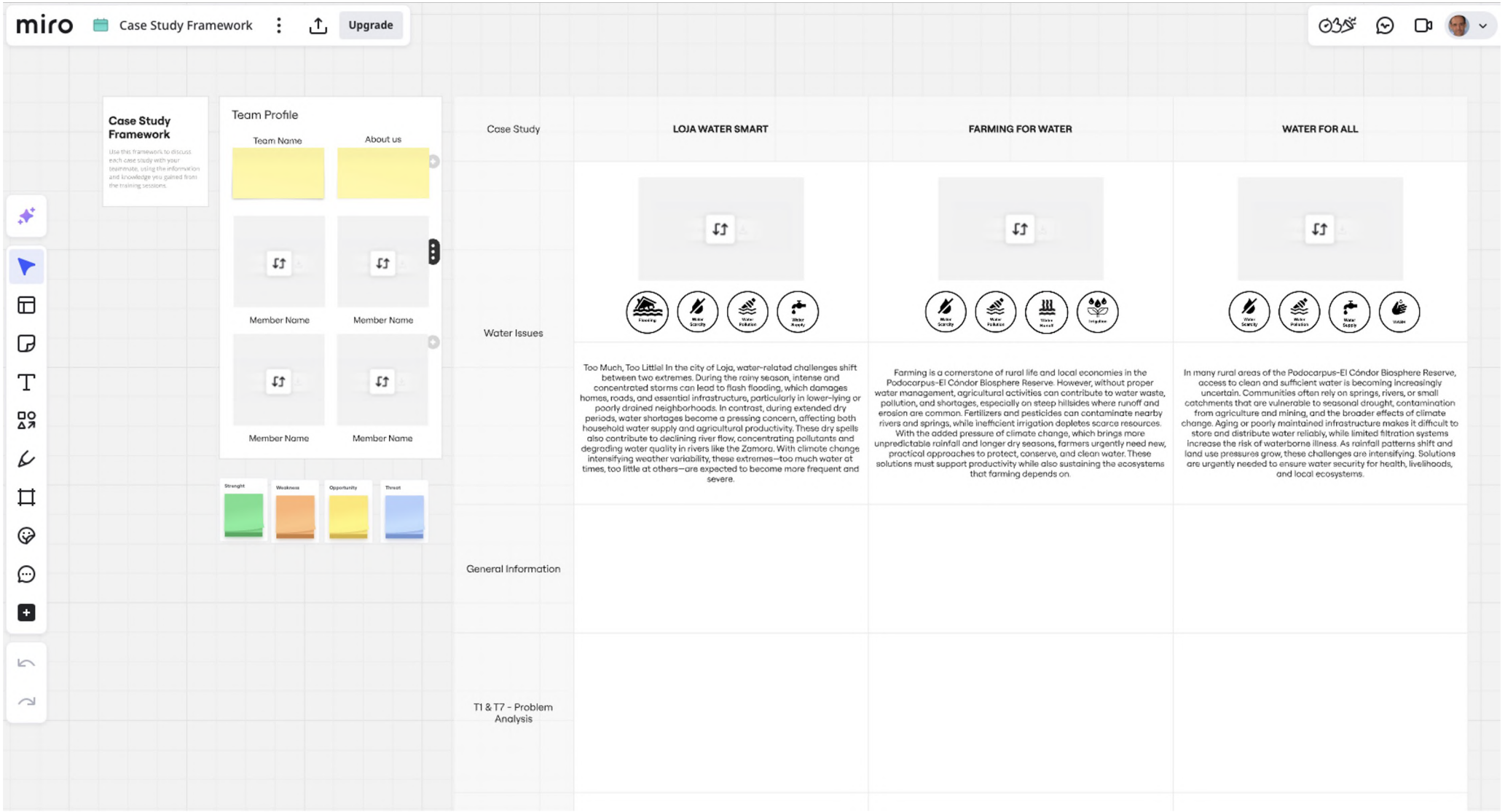
PODOCARPUS-EL CÓNDOR BIOSPHERE RESERVE

TRAINING PROGRAM

Date/Time	Training Modules	
27 April 09:00-12:00 ECT	**- Podocarpus-El Condor Biosphere Reserve** **- Problem Analysis (Methodology)**	**Expert Course + Team Work**
28 April - 3 May	- Introduction to Physical Hydrology - Introduction to Integrated Water Resources Management - Climate Change and Water Impacts	Online courses - self-study
4 May 09:00-12:00 ECT	**- Hydrology and Water Management** **- Climate Change, Adaptation and Resilience**	**Expert Course + Team Work**
5 May - 9 May	- Introduction to Water Politics and Governance - Introduction to Ecosystem Services - Introduction to Food Systems and Water	Online courses - self-study
10 May 09:00-12:00 ECT	**- Water Governance and Politics** **- Ecosystem Services and Environmental Economics**	**Expert Course + Team Work**
11 May - 15 May	- Water Economics - Payment for Ecosystem Services for Watershed Conservation Through Stakeholder Collaboration - Water Security and Climate Adaptation	Online courses - self-study

PODOCARPUS-EL CÓNDOR BIOSPHERE RESERVE

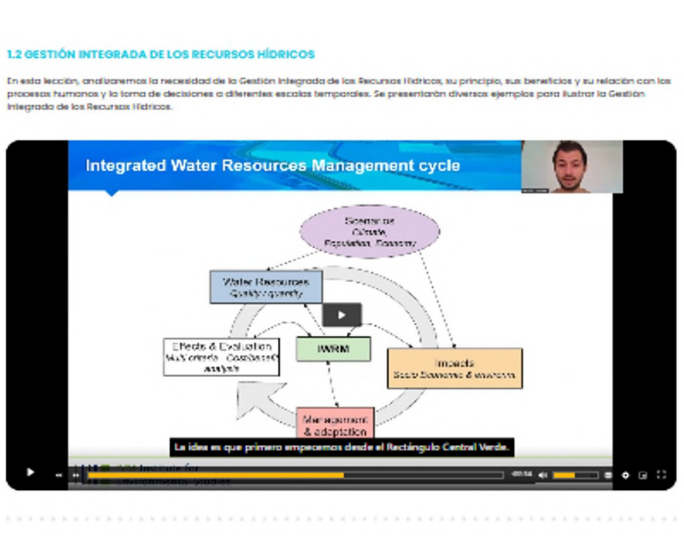
TRAINING PROGRAM



PODOCARPUS-EL CÓNDOR BIOSPHERE RESERVE

TRAINING PROGRAM

Online Self-Paced Courses



Block	Available Date	Study Link
Block 1	Now Available	https://amazonwaterchallenge.com/es/resources/self-paced-courses-block-1/
Block 2	4 May	Will be shared
Block 3	10 May	Will be shared

PODOCARPUS-EL CÓNDOR BIOSPHERE RESERVE

TRAINING PROGRAM

GUIDELINE

- Zoom link for all online training sessions: https://bit.ly/UAWRC2025Ecuador
- Be online at least 5 minutes before the start. Respect the time of our experts!
- Find a quiet place where you can focus and participate.
- Check your camera and audio are working well.
- Camera ON - always
- Use a computer or laptop so you can participate in the team assignments
- Log into the Miro workspace before the training starts
- Set the program background in Zoom

YOU'RE READY TO GO! 😄

PODOCARPUS-EL CÓNDOR BIOSPHERE RESERVE

FIELD WEEK

Date		
15 MAY	ARRIVAL IN LOJA	Check-in Hotel Welcome Dinner, Meet & Greet
16 MAY	DAY 1	Welcome Presentation Problem-Analysis by each team Training Stakeholder Engagement Preparation Field Visits - Team Work
17 MAY	DAY 2	Field Visits (case studies 1 & 2)
18 MAY	DAY 3	Field Visit (case study 3) Solution Development - Team Work
19 MAY	DAY 4	Solution Development - Team Work Closing Presentations by all teams Farewell Dinner
20 MAY	DEPARTURE HOME	Check-out / Travel Home

PODOCARPUS-EL CÓNDOR BIOSPHERE RESERVE

FIELD WEEK

GUIDELINE

- Make sure you have 15 - 20 May free to attend!
- Complete the travel form (we will send it to you).
- Make sure you have insurance for travel and medical.
- We book and pay your travel from your home to Loja and back.
- We book and pay your hotel in Loja (Hotel Carrion ****)
- Hotel rooms are shared (2-3 people per room)
- We arrange breakfast, lunch and drinks on all days.
- Group dinner on 15 May (welcome), 16 May and 19 May (Farewell). Other evenings are open (at own cost).


Thank you!
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