WYSS ACADEMY FOR NATURE

Annual Report

2024

“This annual report highlights the fruits we can already harvest after four intensive years of work. We are all very proud and grateful to the people and partners who have contributed to this endeavor.”

—Prof. Dr. Peter Messerli, Director

Cover photo: A local woman gathers grass seeds in Naibunga, where Semi Circular Bunds have helped restore degraded land and improve livelihoods.
Photo: Kelah Kathure

2024

Annual Report

Wyss Academy for Nature at the University of Bern

Contents

Letter to our stakeholders

Committed to continuous improvement

Dear Reader,

Once again, we look back on an eventful and intense year. The first half of 2024 was marked by an evaluation commissioned by our funders—the Wyss Foundation, the Canton of Bern, and the University of Bern—that we were actively engaged in. The process of evaluating our Regional Hubs also included a project visit to Laos in which we were personally accompanied by Hansjörg Wyss. Are we worth the investment? The short answer is: "Yes." The results affirmed that, since its founding five years ago, the Wyss Academy for Nature has successfully established effective project structures across four continents, launched 89 active projects, and achieved tangible impacts in the field. Today, our team comprises 102 dedicated professionals worldwide. Five professorships, supported by their research teams, ensure that scientific insights are translated into practice (you can find the list of their 2024 publications **on page 64**). Meanwhile, our Regional Hubs in Bern, South America, East Africa, and Southeast Asia collaborate closely with numerous partners, local communities, and government authorities.

Of course, the evaluation also provided a series of recommendations, which we have taken to heart. One key takeaway is the need to further strengthen collaboration between our Hubs. Additionally, we are currently developing criteria to measure the impact of our projects more precisely. In line with the recommendations, our Board has extended the Wyss Academy's funding period by one additional year—until 2030 instead of 2029—a decision we warmly welcome.

Solutionscapes—and their impacts

Our 2024 report highlights the fundamental pillars of our work—the six Solutionscapes in Kenya, Madagascar, Peru, Laos, and the Canton of Bern. These function as "Living Labs"—real-world environments where stakeholders from local communities, governments, civil society, science, and the private sector co-develop, test, and refine solutions to pressing challenges. For this innovative approach to succeed, five key elements must come together—you can find all

An interview with our Director

Prof. Dr. Peter Messerli

Watch on YouTube

the details about our Solutionscape approach in our animation video **on page 11**.

In February 2024, we demonstrated how our approach works in practice during our evaluation visit to the semiarid region of northern Kenya. There, data collected from our semicircular bunds project shows that digging half-moon shapes into degraded areas promotes vegetation growth, enhances water retention, and boosts biodiversity. The impact of the Wyss Academy was also evident in Tambopata, Peru, where we work closely with local stakeholders to develop multifunctional land use models that integrate nature conservation with sustainable livelihoods. Similarly, in the Canton of Bern, we have collaborated with a diverse range of stakeholders to develop five promising pilot projects aimed at combating biodiversity loss and soil degradation in the Grosses Moos region, known as Switzerland's "vegetable garden." In the following pages, you can read more about these initiatives as well as those in Madagascar and Laos.

The true value of forests—our Topic of the Year

Forests are home to over 80% of terrestrial species and absorb roughly one third of the CO_2 emissions from fossil fuels. Yet they are disappearing at an alarming rate—more than 10 million hectares are lost every year. This is why we launched a series of global events in 2024 as part of the Wyss Academy Dialogues. These events fostered an exchange of local solutions that highlight the true value of forests while driving concrete action. Bringing together a diverse range of stakeholders closely connected to the topic, our Hubs hosted dialogues across four continents in May and June 2024, culminating in a global online synthesis in October. Indeed, forests are too often reduced to their economic value, yet they are vital for society, culture, and even spiritual wellbeing. Most critically, they serve an irreplaceable function in simultaneously preserving biodiversity and combating climate change. This was one of the key insights we presented at the 16th Conference of the Parties (COP) to the UN Convention on Biological Diversity in Cali, Colombia, in October 2024, where the Wyss Academy was represented with a delegation for the first time. You can read more about our Topic of the Year **on page 5**.

As we reflect on what was an intense and transformative year, we also approach a milestone: in 2025, the Wyss Academy will celebrate its fifth anniversary. Our latest Annual Report showcases the highlights of our work and the results we achieved in 2024—built on the foundations laid in previous years. We take great pride in these accomplishments and extend our deepest gratitude to our dedicated staff, partners, Board, and Advisory Committee for their invaluable contributions.

Dear reader, we look forward to hearing your thoughts and welcome your feedback.

Prof. Dr. Christian Leumann
President of the Board

Prof. Dr. Peter Messerli
Director

A quick overview of 2024

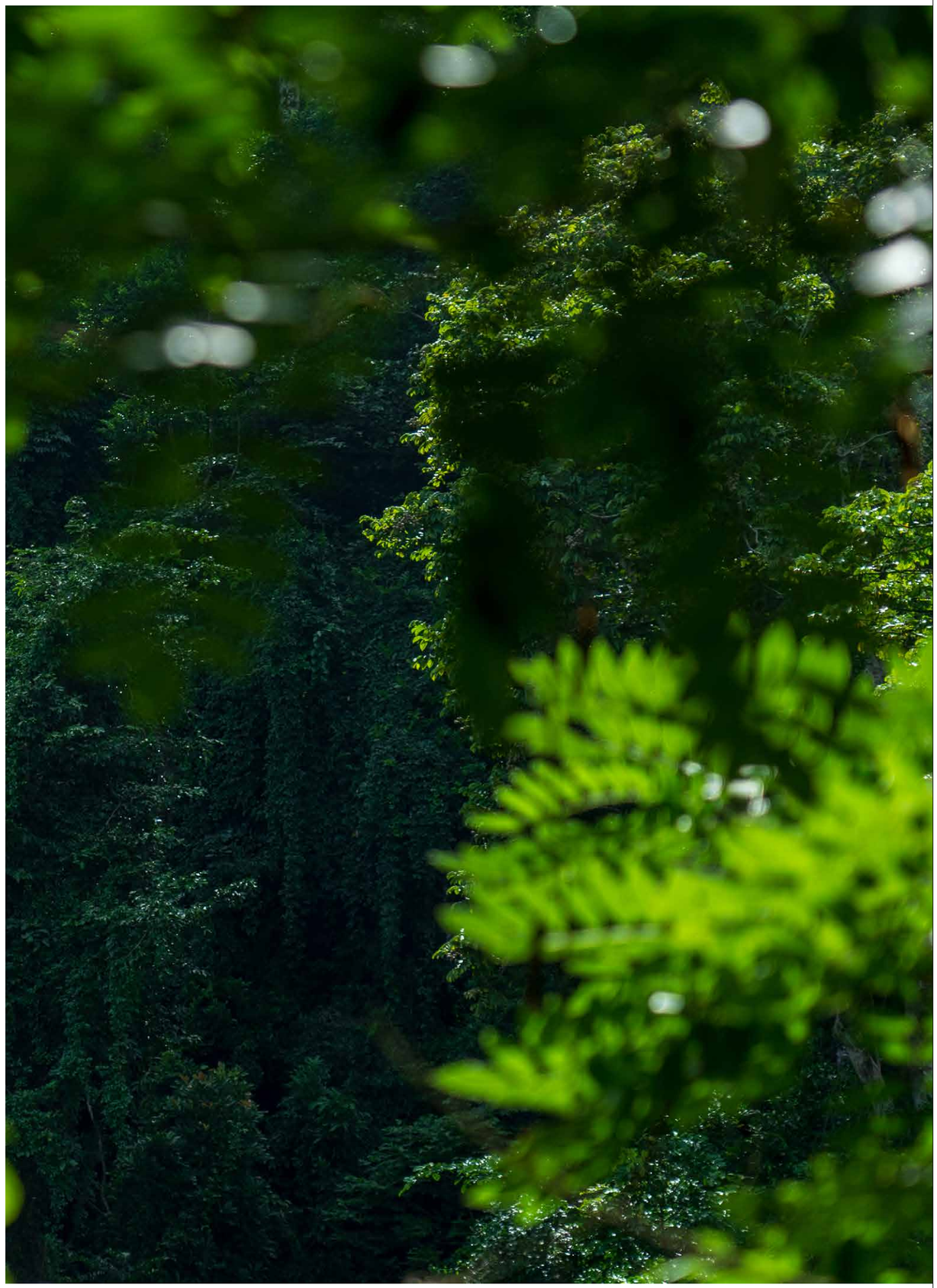
Achieving results and cruising speed

The metaphor of building an airplane while it takes off is often used to describe the rapid creation and development of the Wyss Academy. In 2024, the Foundation reached cruising speed, achieving tangible results that bring real benefits to both people and nature.

Solutionscapes
6

Projects
89

Publications
43



Topic of the year

A call to preserve the value of forests

Home to over 80% of terrestrial species, the world's forests are disappearing at an alarming rate—over 10 million hectares are lost annually. That's equivalent to an astonishing area of 14 million soccer fields vanishing every year.

Alongside this escalating threat, there is immense potential to implement new solutions to help curb the crisis. This is why the Wyss Academy launched the Wyss Academy Dialogues in 2024. The initiative encompasses a groundbreaking series of local and global events centered around a question that resonated across its four Hubs: What is the true value of forests?

Hosted as in-person events in South America, Europe, East Africa, and Southeast Asia, the dialogues took place over two days between May and June 2024, culminating in a global dialogue in October that brought participants from all regions together online. The initiative engaged various stakeholders who are closely connected with forests in each one of these regions, such as Indigenous peoples and local communities, scientists, policymakers, conservationists, and entrepreneurs. Exploring their unique perspectives on the value of forests, the events fostered an exchange of ideas, learnings, and experiences. Ultimately, the dialogues have sparked new, concrete possibilities for experimentation that are already translating knowledge into action.

Farankaraina Protected Forest, visited by participants of the True Value of Forests dialogue in Antongil Bay, Madagascar.
Photo: Svitlana Lavrenciuc

"These are people who really live from the forest but normally don't speak to each other. We came up with a format that allowed us to create safe spaces—in a way that it worked for all the regions," explained Tatjana von Steiger, Head of Global Policy Outreach and lead of the Wyss Academy Dialogues on the True Value of Forests. *"We typically operate in individual 'bubbles.' When we work on something, we often work with people from the same bubbles. So, the idea was to come up with a process that would effectively integrate a mixed group of people,"* she added.

During the dialogues, one topic of discussion was the paradox that, despite being among the world's most precious resources, healthy forests are often valued only for what can be extracted—timber, gold, and other commodities—or for the land they occupy. For example, trees and plants are often cleared to make way for the expansion of agriculture or cattle farming. Seen through this narrow economic lens, intact forests generate too little returns to secure the livelihoods of local communities.

"Forests provide numerous services to people that go beyond economics—they have social, environmental, and cultural significance. They protect against flooding, support biodiversity, and contribute to climate mitigation. They also hold deep cultural and spiritual value, serving as places where people honor their ancestors, among many other roles. Across the four continents, we confirmed that while these diverse values are widely recognized, economic valuation continues to dominate forest use, with social and environmental benefits remaining uncompensated," observed Prof. Dr. Peter Messerli, Director of the Wyss Academy for Nature.

Effective ways to preserve forests

Deforestation and forest degradation significantly contribute to global greenhouse gas emissions (GHG). While trees and vegetation in undisturbed forests absorb and store carbon, damaged forests release it back into the atmosphere, further accelerating global warming and climate change. Alarmingly, tropical deforestation alone contributes approximately 20% of annual GHG emissions.

Research conducted by the Wyss Academy in 2024 shows that protected areas are the most effective way to preserve forests. However, strong evidence also supports the long-term positive impact of alternative conservation measures, such as Indigenous territories and non-timber forest product concessions. "*These are alternatives that can create win-win solutions, benefiting both the environment and local communities. Such benefits should be recognized and counted towards national and international biodiversity commitments*," said Dr. Pablo Negret, who led the study as part of the Land Systems and Sustainability Transformations research team, in collaboration with Hub South America. The research, currently under review, examined the impact of different forest governance models on deforestation and carbon emissions in the Peruvian Amazon from 2000 to 2021.

The focus and impact of protected areas was also debated during the Wyss Academy Dialogues. "*Research from the past 15 years shows that conservation can have significant costs for local communities because of restrictions on forest access. Alternative income-generating activities aimed at offsetting these local costs often fail to reach the poorest—making them even poorer. We need to better acknowledge and recognize these local costs and the tradeoffs*," emphasized Dr. Sarobidy Rakotonarivo, Research Leader in environmental socioeconomics at the University of Antananarivo and participant in the Dialogues in Madagascar.

Representatives of Indigenous peoples, academia, NGOs, and the private sector sharing personal insights about their relationship with the forest in Manaus, Brazil. Photo: Alailson Santos

From dialogue to action

Many ideas emerged or were validated by the diverse groups of stakeholders who participated in each of the dialogues. A range of actions and tangible results were generated. In Madagascar, for example, five projects were created to protect forests while improving livelihoods, including eco-responsible beekeeping, environmental education, development for all, a library of traditions, and laws to enhance forest conservation and local engagement.

In Switzerland, initiatives that emerged ranged from a "Healing Forest" for a new hospital in the city of Baden to valuing forests for their well-being and socialization benefits. Another idea was a "Biodiversity Marketplace" that would improve the matching of supply and demand and reduce transaction and coordination efforts.

In both Southeast Asia and South America, advocacy efforts were a key focus. Although geographically distant—with discussions in Southeast Asia centering on the realities of countries along the Mekong River, and in South America on the Amazon Rainforest—both dialogues shared a strong emphasis on empowering Indigenous knowledge. The dialogues also contributed to the creation of a growing community of practice that continues to support advocacy and action. Notably, the discussions in South America helped bring greater visibility to these issues as well as how to produce such knowledge and experience, strengthening the Wyss Academy's participation in the **2024 United Nations Biodiversity Conference of the Parties (COP16)** in October in Cali, Colombia.

"The message we brought to COP16 was: 'We must defend environmental and social values against an economic system that fails to consider them. This is fundamental, and we need to have open discussions about it—while also driving innovation in this space,'" emphasized Messerli.

The dialogues also sparked interest among organizers of the annual **FLARE conference** in Rome, where the innovative format and key learnings were presented to researchers, practitioners, and policymakers. Partnering with the **Istituto Svizzero**, the Wyss Academy also launched a creative residency blending art with regional dialogues. Here, a Swiss and a Malagasy artist captured unique perspectives, with their artistic interpretations culminated in a **thought-provoking showcase** at the Istituto Svizzero in Rome.

In October 2024, a global online dialogue concluded the series of discussions, serving both as a ceremonial tribute and an opportunity for participants to pitch new ideas. A follow-up online dialogue is planned for 2025, providing participants with a chance to reflect on their journey, share progress made, celebrate successes, address challenges, and reinforce their collective commitment to driving tangible impact.

Building a successful dialogue

To ensure in-depth discussions and foster meaningful impacts, multiple actors and methods were involved in the preparation and execution of the Wyss Academy Dialogues. Organized in a tight timeframe (May–June 2024), the Wyss Academy partnered with **Impact Hub**, leveraging its expertise in process design—particularly the Art of Hosting methodology—and its private sector networks. Regional organizations contributed content expertise and local connections while a dedicated research group produced a global synthesis report summarizing discussions and insights from the regional events, including academic reflections.

A few key principles were essential to realize a universal format that would work in all the regions. These included fostering trust among participants, respecting local contexts and the diverse realities of each region, and establishing a shared understanding of the systems and corresponding challenges. A motivational, unifying activity also included in each setting: all regional dialogue participants visited local forests together, enabling them to share perspectives and strengthen their engagement and cooperation for more sustainable relationships with forests.

The dialogues gave voice to diverse stakeholders and facilitated a fair and open exchange, enabling the emergence of new practice ideas and collective statements on the true value of forests. The global online dialogue in October 2024 brought the process to a conclusion, providing one more opportunity to pitch ideas as well as space for reflection on successes and areas in need of improvement, including the need for stronger engagement with the private sector.

Next steps will focus on ensuring that the existing initiatives continue to thrive, primarily supported by the engaged community established in this initial process. Besides the follow-up online dialogue planned for 2025, the Wyss Academy is working on refining the approach to make the format scalable and available to other organizations who wish to replicate the same steps. Finally, plans are underway for a publication showcasing key insights on how this dialogue format can drive meaningful conversations and decisions about complex topics such as the true value of forests.

Participants in the Southeast Asia Dialogue visit a forest in Nan Province, Thailand, to share their perspectives and deep knowledge of the region.
Photo: Decha Pintasan

Tatjana von Steiger (center), Roger Schmidt (left, Office for Forests and Natural Dangers/ Canton of Bern), and Georg von Graefe (right, Municipal Chief Forester, city of Baden), discuss the value of forests in Swiss Energy Policy 2025, in the Emmental Valley, Switzerland.
Photo: Natalia Peralta

Experts work to combine existing scientific and traditional knowledge to support and enhance sustainable forest solutions in Maroantsetra, Madagascar.
Photo: Daria Vuistiner

Solutionscape approach explained

The Wyss Academy's unique approach—known as the Solutionscape approach—is designed to tackle complex challenges that affect both people and nature, such as environmental degradation and competition for resources between wildlife and local communities. By focusing on local priorities and maintaining a global perspective, the approach brings together Indigenous Peoples, local communities, governments, scientists, and businesses to co-create and test real-world solutions. Discover the five key elements that make this approach effective.

Our unique approach explained

Watch on YouTube

Our Solutionscapes

How did they develop in 2024?

Satellite image of the Gambella wetland, highlighting the complex challenges around water and competing demands from various stakeholders. This dynamic landscape underscores the need for sustainable water management to balance ecological and human needs.
Imagery credits: Planet Labs PBC (2024)

Kenya

Saving wetlands for people and wildlife

The Solutionscape “Saving wetlands for people and wildlife” focuses on the Gambella Wetland in northern Kenya, located between the water-rich highlands of Mount Kenya and the arid lowlands.

Traditionally, the wetland served as a vital source of water, particularly during the dry season, when it provided grazing ground for pastoralists’ livestock as well as wildlife, including large elephant herds. For a long time, farmers have also depended on water from the spring and river flowing from the wetland. In recent years, land use has changed significantly. The growth of small-scale farming has come with an increase in the cultivation of cash crops like tomato and onion, relying heavily on groundwater for irrigation. Water extraction has reduced reservoir capacity, affected the ecosystem, and diminished the overall availability of water for various stakeholders. Wildlife and pastoralists, who travel long distances to this region in search of water during the dry season and droughts, are the most vulnerable to these changes.

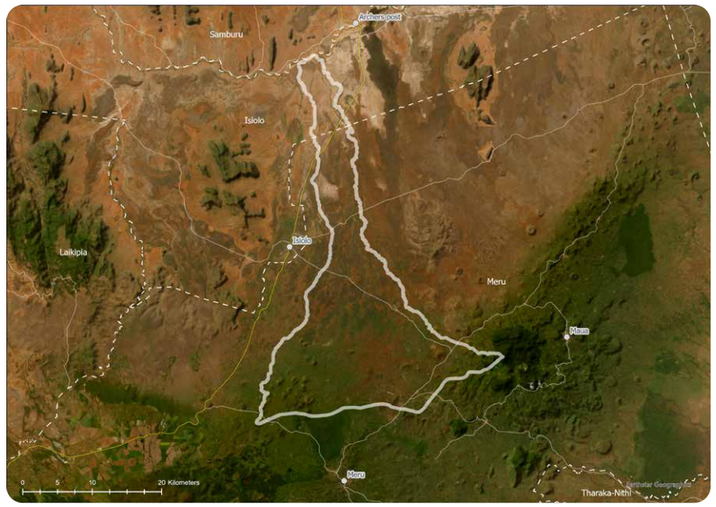
To address these growing challenges and secure water in the wetland, the Wyss Academy has brought together diverse stakeholders, forming a Coalition for Change and a Wetland Management Committee, a community-based initiative, and a sub-committee of Water Resource Users Association. These form a crucial basis for sustainable governance of the wetland area and its water resources. Current projects focus on further strengthening local and regional governance of water resources, supporting wetland regeneration and vegetation restoration, and providing access to water for wildlife, livestock, and households—while ensuring that fragile wetland vegetation under restoration remains protected. Additionally, efforts are being made to diversify local livelihoods, particularly through non-livestock-based, high-value products. The aim is to increase income while protecting nature.

Where we work

- *Office: Nanyuki*
- *Office: Maroantsetra*

Our Solutionscape

- *Solutionscape boundaries*
- *County boundaries*
- *Major roads*
- *Towns*



Key Facts

parties committed to a unified vision

28

hectares of wetland demarcated

26.3

individuals trained for sustainable harvesting of gums and resins

97

Community members carry native tree seedlings to a planting site in the Gambella Wetland in a collaborative effort to restore more than 26 hectares of this ecosystem and enhance its resilience.
Photo: Beverline Isaboke, CETRAD

Main achievements in 2024

A shared vision and united efforts for wetland conservation

For the first time, stakeholders with competing interests in the wetland have reached a shared vision for the future: "A healthy Gambella–Ngare Mara Wetland ecosystem that supports resilient livelihoods and wealth creation." A commitment was formalized and signed by diverse actors to conserve the wetland's vital resources, working together under mutually established governance rules. This milestone comes after years of various actors' failed and uncoordinated attempts to address water access and management issues. Its success relied on the collaborative nature of the approach—led by **CETRAD (Centre for Training and Integrated Research in ASAL Development)**, a key partner of the Wyss Academy in the region—which ensured widespread support from diverse groups. It also left a key lesson: Meaningful engagement creates lasting momentum for sustainable management.

Since the Wyss Academy began working on this Solutionscape, other significant achievements have been made. In addition to bringing together different stakeholders, a formal Wetland Management Committee was established to address existing challenges, establish user rules, and oversee sustainable use and conservation of water and land resources.

By agreeing on a common vision, stakeholders emphasized the importance of protecting the wetlands' ecological functions while also supporting socioeconomic development. In addition to the formal commitment and declaration, which was widely shared, participants also reaffirmed the formation of a coalition to drive positive change in the area. By embracing a shared vision, this effort directly supports two strategic goals of the Wyss Academy: demonstrating new pathways for sustainable ecosystem management and inspiring a new social contract with nature.

The newly constructed elevated steel tank, water kiosks, and animal watering stations on the outskirts of the Gambella Wetland.
Photo: Milton Mutuma, CETRAD

Protecting and ensuring access to water

In 2024, efforts to restore and safeguard the Gambella Wetland and its riparian zones gained momentum with a series of coordinated interventions. First, the wetland boundaries were marked to provide visibility for the areas that must be protected. In total, 26.3 hectares of wetland—equivalent to the size of 37 soccer fields—were demarcated with pegs. By creating a visible outline of the wetland, the national Water Resources Authority took a critical step in defining the area targeted for protection.

Additionally, to address land degradation and enhance habitat quality, 5,100 native tree seedlings were planted in a collaborative effort with local communities and Wyss Academy's partners. Reforestation in the area serves to support the fragile and vulnerable local vegetation. Youth groups were mobilized to water and tend to the seedlings, underscoring the community's long-term commitment to ecosystem resilience.

In parallel, vital water infrastructure was constructed to enable reliable access to water for people, livestock, and wildlife outside the fragile riparian zones. A topographical and hydrogeological survey, completed in early 2024, revealed two viable, high-quality water sources—a shallow well and an artesian well. A 24-hour test pumping on the shallow well confirmed its stability and suggested high recharge rates, which are crucial for sustainable water availability. By the end of the year, an elevated steel tank of 108 cubic meters capacity, equipped with solar-powered pumps, as well as six water troughs for livestock and wildlife, two water kiosks for the people from the local communities, and a pipeline network ensured reliable access to water.

Effective governance was also strengthened. A river gauging station was installed, and a wetland management sub-committee—named "Gambella Wetland Community-Based Initiative"—was formally registered to oversee the water infrastructure and coordinate conservation efforts under the Waso Mara water resource users association. Roles, resource governance strategies, and knowledge of relevant water policies were shared during a dedicated workshop.

By uniting technical expertise, stakeholder engagement, and strong local leadership, the initiative exemplifies the Wyss Academy's commitment to promoting sustainable ecosystem management and forging a new social contract with nature. Its efforts have put the Gambella Wetland on a promising path to ecological restoration and long-term community well-being.

Community training on sustainable harvesting of gums and resins for better tree health and higher income.
Photo: Grace Wambugu, CETRAD

Optimizing sustainable trade of gum arabic and resins

To complement the ongoing efforts and reduce pressure on wetland resources and the fragile surrounding landscape, it is essential to find alternative, less water-intensive ways for local communities to secure their livelihoods. Moving away from traditional farming and livestock practices, an initiative was launched in Ngare Mara in 2024 to improve and optimize sustainable harvesting of gum arabic and resins. Both products, harvested from local trees, are in high demand across industries such as food, pharmaceuticals, and cosmetics.

Although gum arabic and resins had been explored in the region in the past, unsustainable harvesting practices had led to the destruction of trees after only a few years of production. At the same time, challenges in accessing the demanding market limited profitability and diminished local communities' interest in these resources.

To address these issues, CETRAD, a key partner of the Wyss Academy, mapped the density and distribution of gum and resin trees. Social structures among harvesters and traders were also assessed. In collaboration with the partner organization **Swisscontact**, the value chains of both products in Kenya were analyzed, identifying opportunities to shorten and optimize the existing chains and provide producers with more direct access to markets. Overall, the analyses revealed opportunities to enable higher incomes by promoting sustainable harvesting methods and providing access to fairer markets.

To capitalize on these findings, an existing fledgling community-based cooperative was revitalized and strengthened, now enabling greater volumes of produce to be offered to traders at better prices. Alongside this, the local community received training and the necessary tools to practice sustainable harvesting. A total of 97 individuals from Isiolo, Archers Post, and Garbatulla were trained in the use of tools and sustainable collection methods, learning hands-on skills that not only protect tree health but also improve product quality. By improving harvesting techniques, the initiative aimed to balance economic gains with the long-term viability of these resources.

While challenges like infrastructure and market fluctuations still need attention, this initiative underscores the connection between people and nature. Responsible harvesting of gums and resins provides communities with income while preserving tree species that support broader ecological functions. It also highlights the value of collaboration: When traders, collectors, and social organizations unite, they can create fairer value chains and stronger local economies. These efforts resonate with the Wyss Academy's strategic goals by showcasing innovative ways of integrating conservation with livelihoods, forging a stronger social contract with nature, and fostering solutions that can be adapted and scaled elsewhere. As the project continues, the lessons learned in Ngare Mara could inspire other regions looking to transform natural resources into engines of both ecological preservation and community development.

Satellite image of the dry landscape in Naibunga, Kenya, illustrating the increasing challenges posed by climate change and recurring droughts on livelihoods and the ecosystem. Effective adaptation and resilience strategies are crucial to sustaining this vulnerable region.
Imagery credits: Planet Labs PBC (2024)

Kenya

Wealthier people in healthier landscapes

The Solutionscape "Wealthier people in healthier landscapes" focuses on Northern Kenya, a semiarid region increasingly affected by prolonged droughts.

The changing rainfall patterns impact water storage, and vegetation in this dryland area—unsuitable for agriculture—has become severely degraded, largely due to excessive grazing. Wildlife, including elephants, are directly impacted by the loss of vegetation and lack of water, as the area forms a crucial corridor between the lowlands and the highlands of Laikipia. Local communities in the region face the challenges of water scarcity and pastoralists struggle with shrinking grazing land, making it increasingly difficult to sustain their livelihoods. Efforts to restore the landscape also encounter significant barriers. As vegetation recovers, incentives increase for pastoralists to enlarge their livestock herds, which further depletes resources and causes soil degradation, fueling a vicious cycle. An intensifying competition for land and water has increased tensions between different groups, and human–wildlife conflicts are also on the rise.

Within this Solutionscape, the Wyss Academy collaborates with two community conservancies and a range of civil society, government, and private sector organizations. Together, different interconnected projects explore and implement solutions to restore degraded areas, improve ecosystem health, and enhance livelihood security and resilience for communities by integrating traditional and scientific knowledge. Current efforts focus on developing alternative income opportunities beyond livestock to reduce pressure on ecosystems. At the same time, taking a multilevel approach, the Wyss Academy is engaging local communities, town and county governments, and key national agencies to secure vital wildlife migration corridors essential for the long-term survival of wildlife. Ongoing activities also focus on providing evidence-driven guidance for new policies to balance environmental conservation with community needs.

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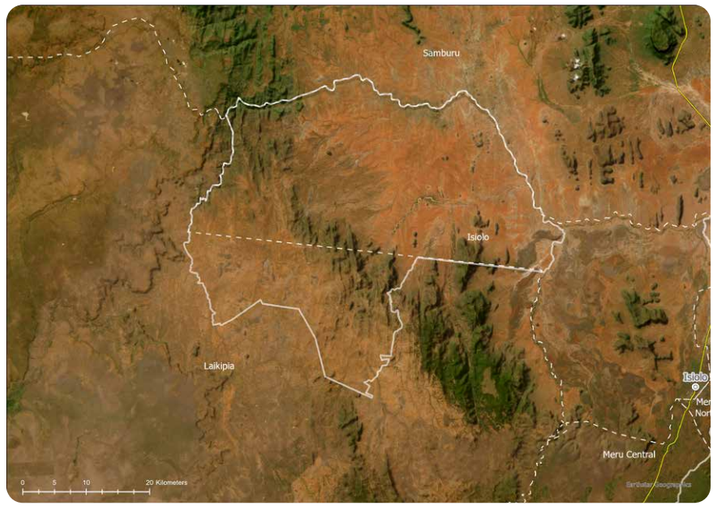


Key Facts

local partners

21

species recorded at the semicircular bund sites

910

additional critical natural assets mapped

1,400

Members of the JustDiggit and Wyss Academy teams review live soil data from Decentlab probes at the “earth smiles” site on Kuku Ranch, a control site for evaluating new restoration efforts in North Kenya.
Photo: Cornelius Okello

Main achievements in 2024

Grass and biodiversity thriving on the rangelands

Data collected from the semicircular bunds shows that their implementation in degraded areas promotes vegetation growth, enhances water storage, and boosts biodiversity. This success is further expanded by the scaling out of the initiative, which has now reached 100,000 units—a significant increase from the 5,176 bunds dug during the initial demonstration of the technique by the Wyss Academy in collaboration with **JustDiggit**, a local grassroots organization. In addition to its positive ecological impact, the project has also fostered the development of an innovative system for governing the bunds, emphasizing the long-term benefits for the environment and local communities.

The bunds were scaled out to areas jointly prioritized by eleven community conservancies in Ol Donyiro, Naibunga, Maiyanat, and Shulmai. Led by the **Green Earth Warriors youth group (GEW)**, 328 trained community members led community groups to construct new bunds. These included women’s groups, youth, community land management committee members, grazing or rangeland coordinators, and conservancy managers. To enhance leadership skills, the GEW received tailored training supported by the Changemakers program of the Wyss Academy.

The effects the bunds are having are being actively studied and monitored through a collaboration of various teams from the Wyss Academy and key external partners, such as the Water Scarcity Interdisciplinary Research Team, Hub East Africa teams, and the Innovative Technologies for Nature and People (ICT) Research Team from the Wyss Academy, alongside the National Museums of Kenya (NMK), the **University of Nairobi**, the **Technical University of Kenya**, the **Directorate of Resource Surveys and Remote Sensing (DRSRS)**, and the GEW youth group. Their evidence-based monitoring follows key indicators, including community willingness to scale up the initiative, improved water infiltration and soil moisture, reduced soil erosion, accelerated vegetation growth, and increased biodiversity.

By mapping the bunds and using a survey to collect additional data, the ICT team deployed, and managed, soil sensors within the intervention and control sites. The data generated, analyzed by the Water Scarcity Interdisciplinary Research Team, show prolonged water retention within the soil at the bund sites compared to control sites. Time series data also demonstrate high water retention within the intervention areas at various soil depths.

Biodiversity surveys recorded 17 herpetofauna species, including an amphibian species—Lugh’s dwarf toad—using the semicircular bunds for both shelter and breeding. The abundance of invertebrate species such as Isoptera (termites), Hymenoptera (ants, bees, and wasps), and Coleoptera (beetles) serves as a good indicator of ecosystem health. Their diversity reflects the availability of food

sources, showing how well sites have recovered in the region.

Furthermore, the bunds have proven to be an effective tool for rangeland restoration, as they slow water runoff, allowing it to infiltrate into the soil and support the growth of vegetation, including grasses. The bunds create a microclimate that fosters the establishment of reseeded grass species like *Cenchrus ciliaris* and *Eragrostis superba*. A diversity index for vegetation species also demonstrated higher diversity within the bunds compared to outside areas, and data collected by teams from NMK and the University of Nairobi reveals higher biodiversity within restored sites compared to non-restored ones. Researchers are continuing work to prove the hypothesis that restored systems can influence the microclimate and potentially help mitigate climate change.

In parallel, suitable governance systems supporting the interventions are growing. Many of the restored sites are governed by women's groups to generate income, and the sites are incorporated in the grazing management plans at the conservancy level.

Alternative income sources supporting land restoration

Local communities in Naibunga have demonstrated how restoring and sustainably managing their environment can bring tangible benefits to both people and nature. Working on six restoration sites, they produced more than 247 kilograms of grass seeds in semicircular bunds. The income generated from selling these seeds provided the Green Earth Warriors youth group (GEW) with a vital source of earnings while also helping to regenerate degraded lands.

Building on this success, community members have expanded into mushroom farming, using elephant dung as a substrate. This not only creates an additional incentive for local communities to protect wildlife but also helps reduce human–wildlife conflicts. A total of 22 GEW members received training in mushroom drying and harvesting, improving the quality and marketability of their produce. By the end of the year, trained youth and 18 women's groups were actively selling mushrooms.

Although the generated earnings are still modest, these non-livestock-based income sources help to diversify incomes and sustain livelihoods, while reducing pressure on the vegetation. More importantly, they strengthen long-term commitment to environmental stewardship. Bund restoration and innovative ventures like mushroom farming reinforce the understanding that sustainable land use fosters resilience, mitigating resource-related conflicts and enriching local economies. This initiative proves that caring for the land is not just an ecological effort but a direct investment in human well-being.

Hand of a woman gathering grass seeds in Naibunga.
Photo: Kelah Kathure

Local women collect grass seeds in Naibunga, where restoration efforts in 2024 generated income and revitalized degraded lands.
Photo: Kelah Kathure

Women harness the benefits of healthy rangelands to generate an income.
Photo: Sheila Funnell

Elephants along one of the migration corridors used by both wildlife and livestock to access pasture and water.
Photo: Sheila Funnell

Protecting corridors for wildlife and livestock movement

In 2024, significant strides were made in planning, maintaining, securing, and protecting critical wildlife and livestock corridors in Isiolo County. These corridors are essential for wildlife and livestock in the semiarid landscapes of northern Kenya, enabling them to move across the terrain and access pasture and water. In a process known as rotational grazing, livestock and wildlife follow the rains as they move across the grasslands, giving other areas time to rest and recover.

In recent years, changes in land use have created barriers to this movement. The construction of new roads and the expansion of towns, for example, have further fragmented vital habitats. To address this issue, the Wyss Academy has partnered with key actors on multiple levels, including **Save the Elephants**, the spatial planners at Isiolo County Government, Ol Donyiro town authorities, the National Land Commission, community leaders from Ol Donyiro community conservancies, and local women's groups.

In 2024, planners from the county's spatial planning department, along with influential elders from Ol Donyiro, visited Konza city—a model of excellence in town planning that takes biodiversity needs into account. The goal of the visit was to benchmark Konza's Technopolis spatial plan before developing a similar plan for Ol Donyiro, one that will incorporate both economic development and multipurpose movement corridors in Isiolo County.

The spatial planners of Ol Donyiro began developing a nature-friendly spatial plan for the region, aimed at preserving functioning wildlife corridors and reopening those currently blocked by existing infrastructure. This plan, along with the wildlife corridors it protects, is intended to serve as a model for other county-level spatial plans across northern Kenya. The National Land Commission is being involved in the entire process to facilitate scaling out of the planning approach at a later stage.

Expanded inventory to enhance protection of assets

When moving along migration corridors, wildlife and livestock rely on very localized natural assets. These include, for example, salt licks—areas with mineral blocks, rocks, or natural deposits where animals consume essential minerals—or rock catchments, small water ponds formed in rocky terrain. While local communities are aware of the locations of these assets, the assets are often not secured or regulated because local authorities lack a comprehensive inventory. Without proper rules for usage and protection, these resources are vulnerable, and private use, or the construction of fences, may restrict animal access. That's why the Wyss Academy has partnered with the National Land Commission and local communities to focus on protecting these key resources.

In 2024, an additional 1,400 critical natural assets were mapped, digitized, and inventoried in Samburu County using the Wyss Academy geoportal, an online platform that provides geographic information. The inclusion of this information within the existing inventory brings the total number of assets mapped to roughly 7,000 across the semiarid counties of Laikipia, Isiolo, and Samburu. Mapping the assets provides tangible evidence for policy, sustainable management, and decision-making and is being used to inform the National Land Commission's "Dryland Natural Assets Inventory and Participatory Mapping Report."

The final report was elaborated in an intensive participatory process that included key partners, such as the **Centre for Training and Integrated Research in ASAL Development (CETRAD)**, the National Land Commission, and the Wyss Academy. It contributes significantly to improving the understanding and appreciation of dryland natural assets, and very tangibly addresses policy gaps and potential reforms that will lead to improved conservation and management of these natural resources. The report also provides evidence for treating dryland assets as vital resources for people's livelihoods in these fragile landscapes.

Satellite image of the Mahalevona Valley, situated near Masoala National Park in Madagascar. The vibrant landscape showcases the region's rich biodiversity and the delicate balance between conservation and local livelihoods.
Imagery credits: Planet Labs PBC (2024)

Madagascar

Environmental justice in Masoala

The Solutionscape "Environmental justice in Masoala" is located on a remote, forested peninsula in northeastern Madagascar, next to the world famous Masoala National Park.

It encompasses a valley stretching from the ocean to the mountains, along with five villages currently facing significant challenges due to deforestation. Madagascar is home to unique species, 90% of which exist nowhere else in the world. Combined with the deforestation issue, this makes it one of the planet's most important biodiversity hotspots. Local communities are among the poorest in the world. Due to the region's remoteness, they also have limited access to essential public services, such as education and healthcare. Squeezed into buffer zones delimited by protected areas, and with limited land unequally distributed for farming, younger generations in particular struggle to secure their livelihoods. Without access to land or compensation for preserving the forest, they often resort to deforestation to produce upland rice through shifting cultivation or seek opportunities for cash crops such as vanilla and clove. In this regard, the region's isolation creates further difficulties, limiting access to markets, infrastructure, and technical knowledge. Adding to these challenges, conservation and commodity crop production are often subject to uncoordinated, conflicting agendas involving both local and external actors.

To address these issues and envision a future where both nature and people can thrive, projects in this Solutionscape are developed in a complementary way to promote environmental justice through a systemic approach. While trying to overcome unequal access to land by enhancing land governance, the Wyss Academy, in close collaboration with its key partners, **Laboratoire de Recherches Appliquées (LRA)**, and the **Full Circle Initiative**, is also developing agricultural and nonagricultural revenue streams, strengthening value chains for key products and services. In view of the limitations of such a bioeconomy in a remote valley, efforts also focus on income diversification through silk production and improving digital connectivity to open the region and stimulate the regional economy.

Where we work

- *Office: Nanyuki*
- *Office: Maroantsetra*

Our Solutionscape

- *Solutionscape boundaries*
- *County boundaries*

Key Facts

visits to the community centers

5,316

value chains under development (bird's eye chili, silk, and vegetal fiber)

3

initiatives created during the Wyss Academy Dialogues

5

Local agent Juldo Belalahy at the Mahalevona community center teaches farmer Juliano Razafindrabaka how to research poultry diseases on the internet.
Photo: The Full Circle Initiative Team

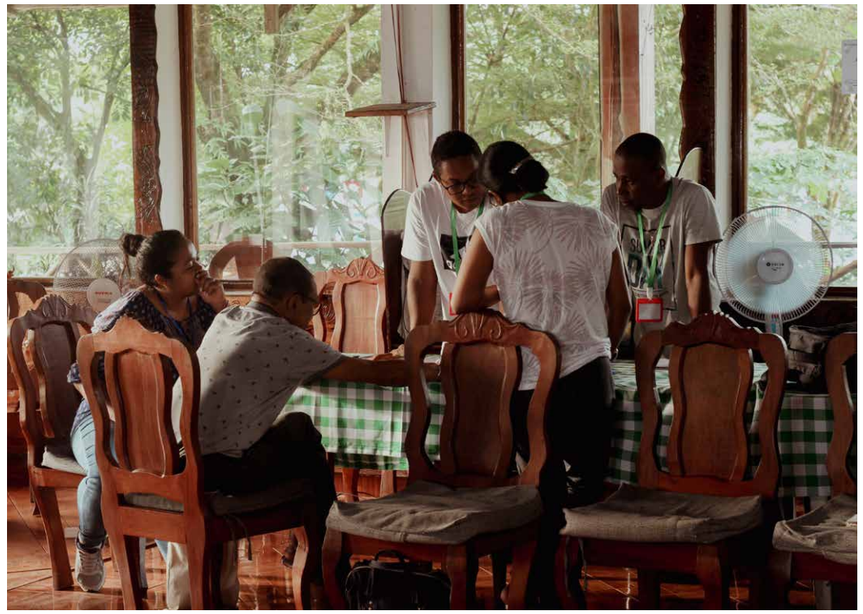
Main achievements in 2024

New community centers bring digital connectivity to remote regions

The remoteness of the valley greatly limits access to information, hampering the identification of opportunities for nature-positive development. In 2024, the Wyss Academy successfully launched two new community centers in the towns of Mahalevona and Fizono, expanding digital access for geographically isolated communities and helping to bridge information gaps. Together with the previously established facility in Maroantsetra, these centers registered over 5,000 visits throughout the year. They provide free internet, computers, and support from trained agents, helping visitors overcome the challenges of remoteness by connecting the valleys to the digital world. Research closely accompanies this incubator project to assess whether it successfully unlocks new livelihoods and knowledge opportunities for local residents. Digital literacy is currently a key focus of the visitors, with 55% of them using the centers to develop essential computer skills. Additionally, 41% engage in online research while 4% access practical training content, such as resources on poultry farming and financial education.

The success and high utilization rate of the community centers were made possible through collaboration with the Local Committee for Transformation (Komity Ifotony hoan'ny Fiovana, or "KIF" in Malagasy), external partners such as the **NGO Youth First**, as well as the Wyss Academy's Innovative Technologies for Nature and People unit and its Social Innovation project. Building on this success, 11 young volunteers received training to become digital coaches in Mahalevona valley, expanding the center's potential support to users.

Beyond digital literacy, other key activities include video screening sessions and thematic training programs, such as leadership and advocacy training for KIF members. The strong and growing demand for digital literacy and research underscores the



Group discussions at the Wyss Academy Dialogues on The True Value of Forests, exploring initiatives for sustainable forest solutions in Maroantsetra, Madagascar.
Photo: The Full Circle Initiative Team

potential for scaling efforts and tailoring resources to meet the community's evolving needs. By addressing digital exclusion and fostering education, this initiative aligns with the Wyss Academy's mission to empower communities and drive nature-positive transformation through innovation, such as digital tools.

Focus on engagement and collaborative solutions

Throughout 2024, various initiatives strengthened community and stakeholder engagement, bridging gaps between national and local actors. These efforts generated actionable solutions to regional challenges and provided valuable insights, paving the way for collaborative action.

Through the Wyss Academy Dialogues on The True Value of Forests, 29 stakeholders—including researchers, private sector representatives, civil society organizations, NGOs, park managers, and local community leaders—gathered to explore the most essential values of forests. The group included participants from various areas of the valley and explored why some values are less prioritized by different stakeholders. Initiated by the Wyss Academy's Global Policy Outreach Unit, this event provided an opportunity for knowledge exchange and empowered participants to voice their concerns, raising awareness about local forest-related challenges. Additionally, it led participants to create a collective statement for the true value of forests in the region, empowering and uniting them around a common goal. Furthermore, the dialogue directly contributed to the creation of five new initiatives led by the participants, including eco-responsible beekeeping, environmental education, development for all, a library of traditions, and laws—encompassing both customary norms and existing environmental regulatory institutions in Madagascar—to enhance forest conservation and local engagement.

Coupled with various other engagement activities of the Wyss Academy, a general spirit has emerged—spanning various stakeholder groups from the local to the national level—that these new collaborations can and will drive transformative nature-positive change in the valley.

Be Marie Wilvinah, president of the artisan women's group working in Mahalevona, prepares raffia stems by stripping them into fibers for weaving.
Photo: The Full Circle Initiative Team

Building sustainable livelihoods through agroforestry

In Mahalevona Valley, agroforestry—a method that combines agriculture and forest management—is used to tackle the dual challenge of mitigating environmental degradation and addressing economic insecurity. The approach offers the potential to create resilient, nature-positive economies, especially when paired with local craftsmanship.

Against this backdrop, a craft workshop was conducted in collaboration with a group of 16 women from five villages and **SEPALI (Sehatry ny Mpamokatra Landy Ifotony**, or the Organization of Wild Silk Producers in English), a Malagasy organization that promotes sustainable agriculture. The workshop focused on creation and production of artisanal goods using silk and plant fibers, helping to establish a nature-positive value chain and new income opportunities for participants. Additionally, to support and increase plant production in the area, a tree nursery was established in Mahalevona.

Building on these efforts, five lead farmers from three villages—Ankovana, Antanambao, and Masindrano—were trained in cultivating bird's eye chili and integrating it with agroforestry practices. Their knowledge is set to be shared in a follow-up training with over 100 additional farmers in the region in early 2025, along with distribution of seeds for cultivation. This initiative, developed in partnership with the private sector partner MC Ingredients, focuses on co-designing agroforestry systems to restore degraded land. It also seeks to link livelihood improvement with land restoration, addressing deforestation while creating economic value.

Additionally, two PhD studies have collectively conducted 90 key-informant interviews across five conservation and development initiatives, along with a household survey involving 411 respondents. These studies evaluate, on the one hand, whether and how conservation and development initiatives integrate local and scientific knowledge and contribute to systemic change. On the other, they explore the feasibility and sustainability of providing financial support or economic incentives to local communities in exchange for their conservation efforts. The insights gained from both studies will later inform decision-making, supporting the implementation of new incubator projects or other activities in the valley.

Satellite image of Nam Tien Protected Forest area in Laos, showcasing the region's intricate landscape of water bodies and agricultural areas. The scene highlights the delicate balance between land use and conservation, critical for sustaining livelihoods and ecosystems.
Imagery credits: Planet Labs PBC (2024)

Laos

Stewardship initiatives for nature and people in forest frontiers

The Solutionscape "Stewardship initiatives for nature and people in forest frontiers" focuses on the Nam Tien Provincial Protected Area in Xayabury, Laos.

Affected by uncontrolled growth of agriculture, only 40% of the Nam Tien protected area currently remains covered with forest. Local and regional authorities responsible for protecting these areas often lack resources, capacity, and enforcement ability. As a result, forest areas are treated as open spaces for unchecked and unsustainable farming practices, with farmers growing crops like maize, cassava, banana, watermelon, and rubber. The effects include wildlife loss, soil erosion, polluted water, and disrupted water flows. At the same time, local farmers, who depend on these crops, face insecure incomes due to unpredictable market changes. Adding to the pressure, foreign investors target these forest areas for large-scale farming, creating more pressure on the landscape and challenges for local communities.

To address these issues, the Wyss Academy is working with local governments, communities, private sector representatives, and research groups to develop solutions that protect and restore nature while supporting the people who depend on the land and its resources. The ongoing, highly interlinked projects focus on developing new business models for conservation and working toward the joint management of protected areas. They also test innovative ways to restore tree cover through agroforestry and create nature-positive income alternatives for local communities by combining technical, market-based, and educational approaches. Engaging both current and future generations, these projects bring together various stakeholders to drive lasting impact.

Where we work

- *Office: Bangkok*
- *Additional project (with **Trees4All**): Santi Suk district*
- *Solutionscape location*

Our Solutionscape

- *Solutionscape boundaries*
- *Solutionscape area*
- *Province boundaries*
- *National boundary*

Key Facts

local and international partners

40

engagement activities

17

schoolchildren receive safe drinking water

1,316

Schoolchildren in Nam Tien, Laos, participating in a waste-management workshop supported by the Wyss Academy's partner, the Northern Agriculture and Forestry College, Luang Prabang. Photo: Mongkon Duangkhiew

Main achievements in 2024

Nurturing youth and connecting with Nam Tien communities

With 60% of the population under the age of 25, young people in Laos play a key role in promoting sustainable mindsets and practices. Looking ahead to the next generation of environmental leaders, the Wyss Academy is working with youth in Xayabury to nurture sustainable mindsets and practices. In collaboration with the local education office, academic institutions, environmental education experts, and the **Elephant Conservation Center (ECC)**, various initiatives were implemented in 2024 to provide formative experiences for students from six local schools around Nam Tien. These activities are part of a broader effort to engage with the communities around the Solutionscape, strengthening local ties and supporting further conservation work toward joint management of the protected area.

The **Northern Agriculture and Forestry College (Luang Prabang)** has supported these schools in establishing waste management systems to reduce air pollution from waste burning, as well as setting up school vegetable gardens to educate students on safe, healthy food production. Given that elephants are a culturally important and emblematic species in Laos, school visits to the nearby ECC provided memorable experiences, enabling students to see Lao elephants up close and learn about their dependence on healthy forest habitats. Tapping into regional expertise, the Field Alliance partner from Thailand started introducing teachers to action-based learning on environmental topics such as biodiversity and climate change.

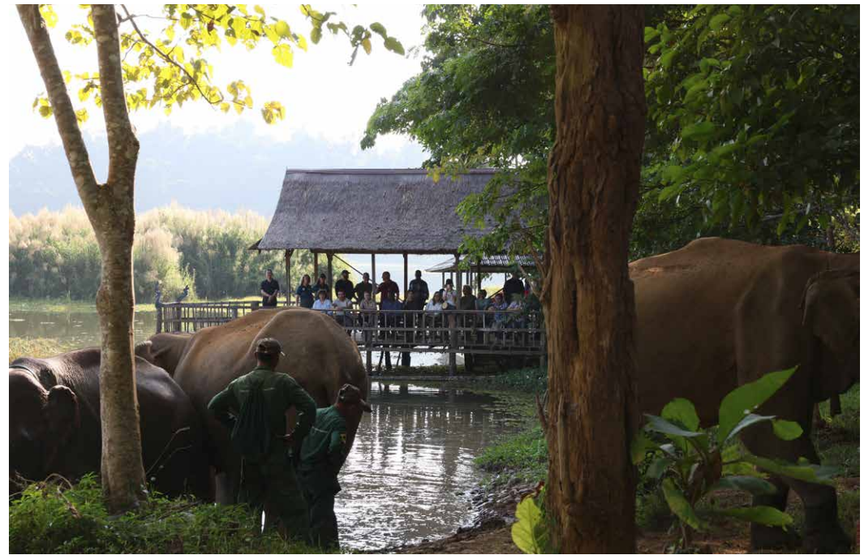
Finally, the implementation of substantial improvements in school facilities, supported by the Wyss Academy, enabled teachers to make use of online and multimedia resources in their classes and enhanced their environmental well-being. Water purifiers were installed in schools, providing safe drinking water to 1,316 students and 83 teachers while also reducing the use of plastic water bottles. The improved school facilities and the network of schools and partners formed in 2024 will continue to serve as a foundation for further youth engagement work.

Convening with local and international partners at the Agricultural Technical Service Center in Nam Tien, Laos, to co-develop agroforestry models.
Photo: Chertalay Suwanpanich

Bridging restoration gaps through collaboration

In rural Xayabury province, local communities and the government lack the resources to pursue alternative livelihoods that could curb deforestation. A strong coalition is essential to bridge gaps and overcome limitations in access to restoration knowledge, diverse markets beyond cash crops, and connections with national and international stakeholders. In 2024, a series of co-design workshops were held to bring together government officials, academics, private sector representatives, and local communities. They analyzed possible ways to test locally suited nature-positive agricultural practices and created a new vision to integrate agroforestry and non-timber forest products into current farmland, thus creating a mosaic that restores tree cover and biodiversity. The end goal is for local communities to produce and sell high-value products from this landscape, sustaining both their livelihoods and the natural environment.

In this coalition, all partners play a key role. The **Kunming Institute of Botany** supports agriculture and forestry officials in testing suitable agroforestry species with local communities, leveraging their knowledge of the promising market for environmentally sustainable products in China. Local research partners survey current agricultural investors and identify new market opportunities for the products. Hub Southeast Asia has organized exchanges between Lao, Thai, and Chinese partners, so that agroforestry expertise can be shared, along with market development experience. The Wyss Academy's Environmental Governance researchers collaborated with the **National University of Laos,** carrying out a baseline assessment that enables monitoring of future livelihood and environmental impacts. This coalition is poised for the next stage of farm trials: selecting suitable agroforestry species, establishing agroforestry demonstration sites, and conducting private sector engagement to connect communities to markets for agroforestry and forest products in 2025, so as to make this sustainable vision a reality.



At the Elephant Conservation Center (ECC) in Nam Tien, Laos, experts across the globe gathered to brainstorm for the Education, Conservation & Reseach (ECORE) initiative.
Photo: Khamla Lao

Linking local researchers to the international conservation community

The **Elephant Conservation Center (ECC)** is a leader in ecotourism in Xayabury and in Laos, and one of the Wyss Academy's main partners forming a coalition for change around the Nam Tien protected area. The ECC has been granted a land concession measuring over 540 hectares, 70% of which is forested. Over the last 15 years, the ECC has generated valuable datasets and provided a sanctuary for wild and captive elephants in Laos. Yet they have been struggling economically since the pandemic because of limited income streams to support their important work in conservation and local capacity building. Considering the ECC's significant work around Nam Tien protected area, collaborating and supporting the ECC is a key entry point to engage with local and international stakeholders in nature conservation in the Solutionscape.

In 2024, the Wyss Academy co-developed the Education, Conservation & Research (ECORE) initiative with the ECC to provide local, regional, and international researchers with a base for medium- and long-term studies, utilizing the ECC's unique setting. A total of 22 scientists and experts from nine countries and 15 institutions joined a five-day workshop, where they developed an initial outline for a long-term plan to establish ECORE. Among them were three colleagues from the Wyss Academy for Nature, based in Bern, Kenya, and Thailand.

Now that the first set of activities and the curriculum have been developed, international students and researchers will visit the ECC in 2025. The long-term goal is to turn the ECC into a regional facility and site to carry out research on conservation and the environment, including agriculture and forestry. Another aim is to further develop research areas with local and international partners, using the concession site and the protected area around Nam Tien reservoir as the main site for research. ECORE will not only generate new research and findings, but also enable North–South research partnerships, exchange, and capacity building. This includes collaborating with Lao educational institutions, supporting local Lao students and integrating conservation efforts with local communities, which is another priority of ECORE.

This satellite image of Tambopata province, Madre de Dios, Peru, reveals intact rainforest in the south and deforestation in the north and northeast—evidence of ongoing extractive activities and the fragile balance between economic interests and ecological preservation.
Imagery credits: Planet Labs PBC (2024)

Peru

Healthy forests for people

The Solutionscape “Healthy forests for people” covers a large area of the Peruvian Amazon in Tambopata Province, Madre de Dios.

Rich in biodiversity, it is home to plants and animals found nowhere else in the world, as well as numerous Indigenous groups. In recent years, deforestation and unsustainable extractive activities—including agriculture, logging, and mining—have increased the region’s income, while poverty levels remain unchanged. As a result, the region faces ongoing challenges, including habitat loss, river erosion, changes in water flow, mercury pollution, rising inequalities, and an increase in illegal activities.

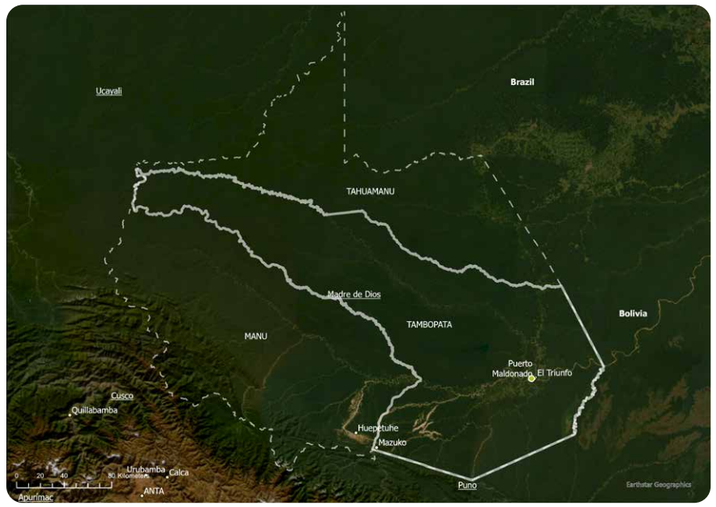
By collaborating with local partners in Madre de Dios, the Wyss Academy is developing solutions that conserve biodiversity, strengthen forest management, and create sustainable livelihood opportunities. With a shared commitment to protecting these globally significant forests as environmental challenges accelerate, current projects focus on integrating buffer zone management into local planning in collaboration with national and local stakeholders, fostering innovation and sustainable businesses that utilize non-timber forest products, and combining diverse knowledge systems to promote both forest conservation and income-generating opportunities.

Where we work

- *Office: Lima*
- *Office: Puerto Maldonado, Madre de Dios*

Our Solutionscape

- *Solutionscape boundaries*
- *Department boundaries*



Key Facts

local partners

45

engagement activities

25

participants in environmental and conservation activities

+1,000

Steering Committee of the Regional Innovation and Entrepreneurship Ecosystem of Madre de Dios coordinating joint actions. Madre de Dios, Peru.
Photo: Henry Espino

Main achievements in 2024

Coalition sets new course for conservation in Tambopata

Since 2020, government agencies, industry representatives, NGOs, civil society groups, and academic institutions have come together to address the current threats to Tambopata's conservation. They are collaborating to drive research, innovation, and technology transfer in Madre de Dios, aiming to transform the region's development model into one that safeguards the Amazon while fostering sustainable economic activities. This collective effort is led by the Steering Committee of the **Regional Innovation and Entrepreneurship Ecosystem of Madre de Dios (RIEE MDD)**.

By working closely with local stakeholders, the Wyss Academy aims to develop multifunctional land use models and innovative solutions that integrate nature conservation with sustainable livelihoods. Since the beginning of its engagement in the region, it has contributed technical expertise and scientific evidence to RIEE, supporting the strengthening of its structure, establishing objectives and strategic priorities, and refining its governance mechanisms.

The RIEE Steering Committee represents our Coalition for Change, a multistakeholder platform comprising 16 organizations. This coalition ensures balanced governance and equitable representation in decision-making processes related to the region's innovation agenda. Grounded in the rich biodiversity and cultural heritage of Madre de Dios, the coalition envisions global leadership in sustainable tourism, biotechnology, forest management, and agribusiness—anchored in biodiversity and multiculturalism. This approach respects both Indigenous wisdom and contemporary conservation imperatives.

As part of the Wyss Academy's commitment to fostering sustainable solutions, a partnership has been established with the **Consortium for Transformative Innovation Policies (HUBLAyCTIP)**, a community of practice dedicated to reshaping public policy for science, technology, and innovation through environmental and social sustainability principles. Drawing on HUBLAyCTIP's expertise, the Coalition for Change has made significant strides over the past year, exploring new theoretical frameworks and formulating actionable strategies for regional development. Upcoming participatory workshops will bring stakeholders together to finalize concrete initiatives, positioning Tambopata as a model for integrating forest conservation with economic development.

Furthermore, this collaboration has strengthened RIEE MDD's role in broader initiatives aimed at defining sustainable forest management pathways for the Peruvian Amazon. These efforts are detailed in the document "**Exploring Forest Transition Pathways in the Peruvian Amazon**." This strategic partnership aims to build long-term ecological and economic resilience in a region facing increasing environmental pressures.

Evidence-based governance strengthens forest conservation

Over the past 40 years, Madre de Dios has lost 120,000 hectares of forest due to the expansion of extractive activities, posing a serious threat to Amazonian biodiversity. This alarming trend underscores the urgent need for a new approach to forest conservation. In response, a transformative model of territorial governance is taking shape in Tambopata Province, integrating cutting-edge research with practical policy implementation. Limited accessibility and insufficient sharing of cross-sectoral evidence on ongoing processes in the region have been identified as key challenges to achieving a transformative governance model.

In response, a geoportal—an online platform providing geographic information from different sectors and agencies—was developed by the Geospatial Lab at **CITE Productivo** and the Wyss Academy, enhancing conservation efforts by providing relevant spatial information for forest planning, land use management, and agroecological monitoring.

The Wyss Academy's Interdisciplinary Research Agroecology team continues to work with CITE Productivo to integrate biological monitoring data from tourism and Amazon nut (Brazil nut) living labs into the geoportal, making it a vital tool for land use planning. Complementing this effort, a drone survey of 100 agroforestry plots—conducted with **Conservación Amazónica (ACCA)**—is providing geospatial analyses to guide conservation and sustainable development strategies. These findings will support the co-design of impactful conservation projects and strengthen policy advocacy in 2025 and beyond.

Large parts of the region are under different forms of conservation-oriented governance. A study by the Wyss Academy's Land Use Systems team has shed light on these key governance mechanisms in the Peruvian Amazon and their effectiveness. The study reveals that protected areas have prevented 88% of expected forest loss, while non-timber forest concessions and Indigenous lands have mitigated 64% and 44% of deforestation, respectively. These findings reinforce the importance of expanding conservation initiatives beyond classical protected area systems in order to achieve the **Kunming-Montreal Global Biodiversity Framework**'s goal of protecting 30% of land by 2030.

Growth of Amazon nut (Brazil nut) seedlings after adding beneficial fungi to the soil to improve nutrient uptake. Madre de Dios, Peru.
Photo: Jandy Vasquez

Innovation drives Tambopata's sustainable economic transformation

In Tambopata Province, research-driven innovation and strategic partnerships are fostering forest conservation and sustainable economic development. This year, the Wyss Academy's activities and research focused on key economic sectors with the potential to transition toward more sustainable practices: Amazon nut, tourism, agroforestry, and mining.

As part of this effort, the Amazonía 5.0 program, led by **FabLab Peru**, was launched to assess industrial development levels across these value chains using the Industrial Maturity Index (IMI). This assessment helped companies define the most effective pathway to Industry 5.0, considering conservation impact, time, and investment. Results revealed an average 89-year gap in achieving production models based on circular and regenerative economy principles. Bridging this gap presents an opportunity to integrate digital and sustainable technologies—such as artificial intelligence, internet of things, virtual reality, biotechnology, and 3D printing—to reduce environmental impact and optimize resource use in production, information management, and innovation.

In the Amazon nut sector, the Wyss Academy partnered with **Candela**, CITE Productivo, the Asociación de **Recolectores Orgánicos de la Nuez Amazónica de Perú (RONAP)**, and the **Asociación de Castañeros de la Reserva Nacional Tambopata y el Parque Nacional Bahuaja Sonene (ASCART)**. The collaboration is focused on introducing microorganism-based technologies for reforestation and seedling enhancement. A large-scale experiment was launched to evaluate the impact of mycorrhizal fungi and Trichoderma biofertilizers on Amazon nut tree growth. In 2025, seedlings treated with these beneficial fungi will be planted in a designated concession area, and collective management strategies to address conservation challenges will be improved based on insights from the Wyss Academy's analysis of social dynamics in the producer association.

In addition, there is significant potential for developing sustainable tourism in Tambopata as a means of contributing to the region's nature-positive development. In response, the Reto Tambopata initiative was launched in partnership with **Swisscontact**. This co-financing competition encourages organizations to propose solutions for challenges in three priority destinations: the Tambopata Corridor, Lower Madre de Dios, and the Mid Tambopata River. Five conservation-based projects were recently selected. Additionally, the program has led to the formation of a new association in Lower Madre de Dios, focused on biodiversity conservation and monitoring across 10,000 hectares of forest.

Miners explore mercury-free technology in Huepetue, Madre de Dios, Peru.
Photo: Alexander Huarecallo

Agroforestry, while being a longstanding approach to nature-positive development, is not yet widely implemented in the region. Therefore, the Wyss Academy's Agroecology research team, in collaboration with **Alliance of Bioversity and CIAT** and **Conservación Amazónica (ACCA)**, began assessing the history, status, and barriers to scaling up agroforestry in Madre de Dios. The resulting study is guiding interventions by identifying best practices and areas for improvement. Findings are also shaping the creation of an agroforestry living lab, uniting key stakeholders such as CITE Productivo, the **Instituto de Investigaciones de la Amazonía Peruana (IIAP)**, **Universidad Nacional Amazónica de Madre de Dios (UNAMAD)**, and **Eco Dely**. Additionally, in collaboration with **Neofibers**, the feasibility of integrating Amazonian natural fibers into the fashion industry has been explored, opening up new possibilities for sustainable materials.

In mining, the Wyss Academy's Political Economy Research and Innovation team and the interdisciplinary mining project used an engagement strategy to support their research: a football tournament designed to foster dialogue and encourage clean mining practices. This initiative engaged 250 miners across five communities, using two types of messaging—one aspirational, envisioning a cleaner future, and another factual, presenting concrete realities. The results shed light on miners' perspectives on adopting clean technology. Additionally, in partnership with Columbia University, a blockchain application for gold traceability was tested, ensuring greater environmental accountability and ethical sourcing. Meanwhile, the Wyss Academy's Global Policy and Outreach team continues to monitor the gold value chain in Madre de Dios and the role of key stakeholders in Switzerland, advocating for greater environmental awareness and shared responsibility in fostering a fairer and more transparent gold industry.

Leader of the "Gigantes de la Amazonia" group, Oswaldo Lopez of the Yine People, participates in the "Group Exploration" activity of the Simbiojuventudes Program. Madre de Dios, Peru.
Photo: Alexander Huarecallo

Youth and Indigenous people leading conservation efforts

Effective conservation requires integrating youth perspectives and Indigenous cosmovision. By blending ancestral knowledge with modern sustainability practices, these initiatives drive lasting change, ensuring that youth and Indigenous communities play a central role in environmental governance while preserving their cultural heritage.

In 2024, the initiative **SimbioJuventudes** was launched together with FabLab Peru and **Nature Explorer,** employing a unique co-creation methodology. By integrating artificial intelligence and digital manufacturing, this initiative develops innovative forest conservation solutions. These focus on sustainable "bio jewelry", natural and cultural tourism, environmental education, and entrepreneurship networks for circular economy and climate resilience. By merging scientific, local, and Indigenous knowledge systems, SimbioJuventudes has fostered groundbreaking initiatives such as **Viste Amazonía,** which transforms banana stems into sustainable bio jewelry, and **Gigantes de la Amazonía**, a digital platform led by Indigenous youth to preserve the knowledge of emblematic Amazonian trees.

Furthermore, the Wyss Academy supported the development of the Amazon Youth Climate Roadmap 2024, led by the **Local Conference of Youth (LCOY)**, an annual event within the Global Conference of Youth (COY) framework, held prior to the United Nations Climate Change Conference (COP). This roadmap consolidated youth-led demands and solutions from seven Amazonian regions of Peru (Ucayali, San Martín, Amazonas, Loreto, Huánuco, Madre de Dios, and Cusco). It advocates for the formalization of regional roundtables, institutionalization of youth participation in policies and strategies, integration of environmental education into regional programs, implementation of ecosystem restoration, reforestation and watershed protection actions, and the strengthening of environmental law enforcement.

Artisan Katia Ponceano of the Yine People during a natural fiber sewing workshop in Madre de Dios, Peru.
Photo: Jandy Vásquez

Artisans from the Ese Eja and Yine communities, respectively, exchanging knowledge in jewelry making. Madre de Dios, Peru.
Photo: Svitlana Lavrenciuc

Additionally, a partnership was established with artisans from the Ese Eja and Yine Indigenous peoples to strengthen their economies. Under the guidance of renowned designer **Sumy Kujon,** alongside Marianela Vera and Nora Carrasco, this collaboration bridges ancestral handicraft with contemporary markets. Developed in the Monte Salvado and Infierno native communities, the initiative named "**SHEY: Together for ancestral art**" promotes cultural preservation and economic empowerment by offering specialized training in local fiber crafts to enhance artisans' skills and expand their market reach.

Territorial strategic planning reshapes public investment in conservation

Tambopata Province is leading a conservation-driven development model, redefining public investment strategies to balance economic growth with environmental stewardship. Through the Invierte.pe platform and with technical support from the Wyss Academy, the **Provincial Municipality of Tambopata** has prioritized five strategic projects focused on environmental restoration, sustainable agriculture, energy, and production. These initiatives foster unprecedented collaboration among government agencies, local communities, and environmental organizations, promoting a more integrated and sustainable approach to the province's development.

In partnership with the **Escuela de Gobierno y Políticas Públicas de la Pontificia Universidad Católica del Perú (PUCP)**, the Wyss Academy is bridging local development planning with natural resource management. A key element of this collaboration is the Provincial Development Plan (PDLC), which merges conservation and innovation to drive territorial transformation. This partnership has established technical teams from PUCP and the Provincial Municipality of Tambopata, developed a comprehensive work plan, and designed methodological frameworks to integrate innovation into development strategies.

The PDLC also serves as a platform for inclusive stakeholder participation, engaging the public and private sectors, academia, young people, Indigenous communities, and civil society. By fostering collaboration and co-creation, it ensures inclusive development strategies that enhance long-term territorial competitiveness while strengthening the resilience of Tambopata's people and ecosystems.

Satellite view of the Grosses Moos in the Canton of Bern, Switzerland, highlighting its vibrant patchwork of agricultural fields, densely forested areas and towns, a testament to the region's diverse and intensive land use.
Imagery credits: Planet Labs PBC (2024)

Switzerland

Development of the Grosses Moos

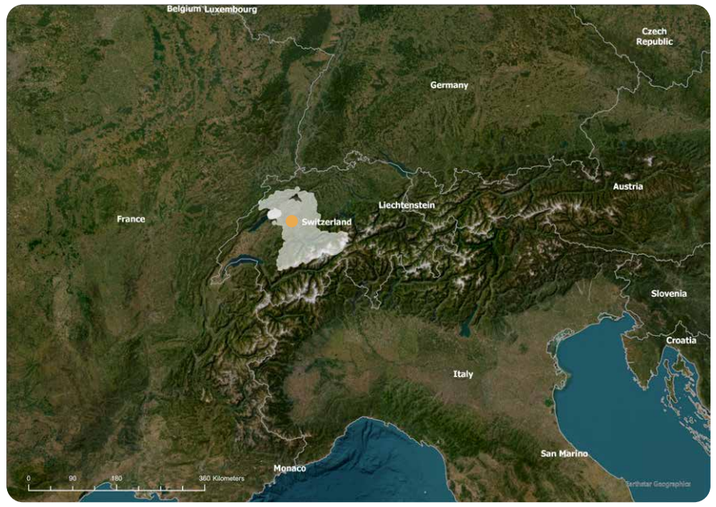
The Solutionscape "Development of the Grosses Moos" focuses on a region in the Canton of Bern known as Switzerland's vegetable garden.

Once a wetland, this area was drained over the past century to make space for intensive farming. This led to the loss of biodiversity and organic soil—that takes centuries to form—and caused the land to subside by up to 2.5 meters. The situation puts future crop yields at risk, threatens farmers' livelihoods, and creates water management problems. The degradation of this rich soil also releases carbon dioxide and contributes to climate change. To tackle these challenges, pilot projects are being developed in collaboration with farmers, local politicians, NGOs, researchers and cantonal officials, including from the **Office for Agriculture and Nature of the Canton of Bern**.

The solutions are focused on win-win-win outcomes: the aim is to ensure future yields, restore biodiversity, and reduce greenhouse gas emissions, all at the same time. This is pursued by taking a learning approach, including a baseline study on historical and recent interventions and initiatives in the region, and by establishing stakeholder engagement and starting pilot projects that are science-based and can guide future management of the land toward creating healthy and productive agroecosystems. One of the most relevant foundations of the baseline study is a soil map, produced by **Pro Agricultura Seeland.** The map reveals that there is less organic substance left in the soils of the Grosses Moos than previously assumed, and that what remains is very irregularly distributed, highlighting the importance of site-specific measures.

Where we work

Office: Bern



Our Solutionscape

Solutionscape boundaries

Key Facts

official partnerships

12

engagement events

6

pilot projects

5

Reto Trafelet from the cantonal Office for Water and Waste Management (AWA) explains the demanding maintenance of the channels and wetlands along a former course of the Aare river.
Photo: Cyrill Hess

Main achievements in 2024

Mutual learning leads to collaborative action

In its second year, the Solutionscape "Development of the Grosses Moos" reached a significant milestone with the development of five new pilot projects. This was made possible thanks to the stakeholder platform "Forum Ins" that had been established in 2023. The platform brought together 30 stakeholders representing local institutions from very diverse backgrounds, including nature conservation, agriculture, local administration, and science. People who partly met for the first time and had never spoken to each other before jointly developed a shared understanding of the region's manifold and complex challenges. This proved to be a solid basis for further conversations.

In 2023 and 2024, the participants met for four workshops and, among other things, proposed organizing field visits to facilitate mutual learning about the challenges faced by farmers and environmental organizations. Three events were organized in 2024, titled "A look into the soil," "A look into the fields," and "A look into a farm." They provided meaningful insights from different angles, as the events were organized by the local farmers' association, nature conservation organizations, and the cantonal soil department. Based on the fruitful exchanges during these visits, and investing considerable volunteer effort, the participants of the "Forum Ins" co-designed five pilot projects. Their implementation began in 2024 and will continue over the coming years. The five projects are highlighted in the following sections.

Research scientist Cyrill Hess of Hub Bern explains the local soil conditions in the pilot project aimed at restoring degraded land in Treiten, Canton of Bern, Switzerland.
Photo: Daria Vuistiner

The corn bunting is an endangered bird species in Switzerland, with around 50 to 100 breeding pairs remaining, of which 10 to 20 live in the Grosses Moos region.
Photo: AGAMI/Adobe Stock

Different approaches to soil improvement

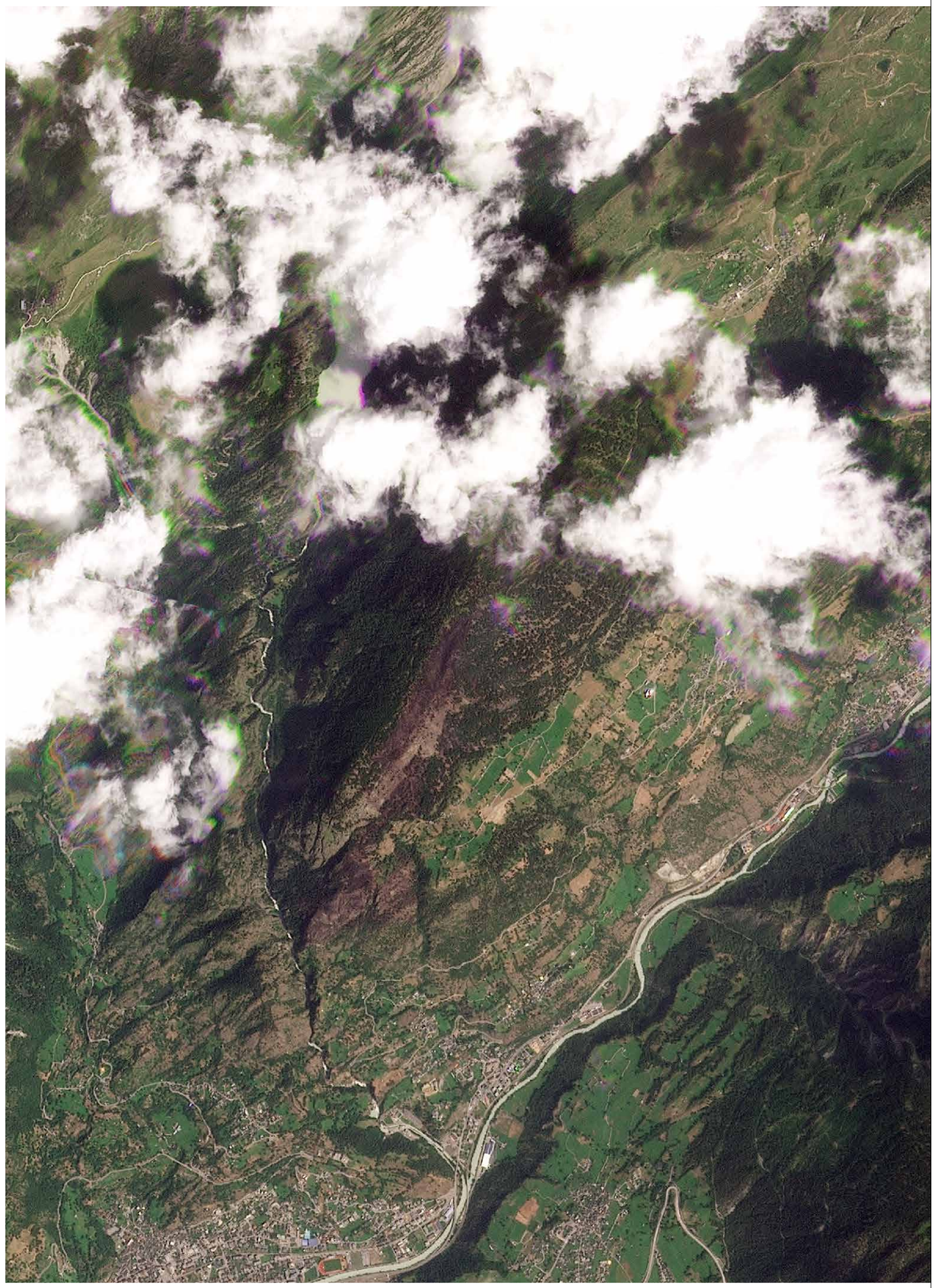
Soil improvement is a common method of restoring land by transferring topsoil—the uppermost layer of the soil—from a construction site to a degraded target plot. This practice helps level uneven ground and thus prevent waterlogging, while at the same time improving conditions for plant growth by enhancing the soil's rooting zone. In line with the Solutionscape's goals, the pilot project "Dual use soil improvement for production and biodiversity" will complement soil improvement on a fairly large plot owned by the **municipality of Treiten** by adding elements to promote biodiversity. The plot will be split into three parts. One part will be prepared for conventional agriculture, whereas another will be turned into a biotope to provide a habitat for endangered species. The remaining area will be used to test an alternative production system that benefits biodiversity while providing agricultural yields for niche products. One idea is to combine hazel with truffle. The most suitable crops for this part of the plot will be evaluated by a research team in early 2025.

Three measures to maintain the region's unique biodiversity

Biodiversity is under pressure in the Grosses Moos region, with remaining populations of endangered species continually declining in numbers. This is primarily due to the lack of suitable and unfragmented habitats. Research shows that these species' survival not only depends on the size and number of protected areas but also on their quality—for example, the presence of suitable shrubs or bushes and other structural elements—and their connectivity. Maintaining high quality is labor-intensive. Since labor for maintenance is limited, effective management of the existing areas is key to ensuring that they provide high-quality habitat for endangered species such as birds and amphibians. Therefore, one pilot project aims at developing a digital tool for recording, monitoring, and coordinating the maintenance of existing near-natural areas. Another pilot project aims at improving the quality of habitats by developing new types of biodiversity promotion areas—an instrument under the Swiss Agriculture Act—with structured habitats specifically tailored to endangered species in the Grosses Moos, such as the corn bunting. A third pilot project is setting up a consultancy service for farmers on biodiversity promotion areas, pooling existing ecological knowledge and combining it with best farming practices to identify unused ecological potential and develop optimal solutions in dialogue with farm managers.

Passive irrigation using existing drainage pipes

The fifth pilot project examines the potential of already installed drainage systems for the new purpose of passive irrigation. Trials have started on a specific farm, where targeted blocking of the main drainage pipe is intended to provide water to the crops through capillary water rise, reaching the roots from the bottom up. The trials include research to investigate the potential of passive irrigation for saving water compared to conventional irrigation. In addition, this new way of managing the groundwater table helps keep the organic substance of the soil moist, and the researchers will examine whether this can slow down the decomposition of organic soil matter and reduce greenhouse gas emissions.



Satellite image of July 19, 2023, capturing the Aletschwald forest fire in Switzerland. This devastating event highlights the increasing risks posed by climate change, emphasizing the urgent need for effective forest management and climate resilience strategies to mitigate future disasters.
Imagery credits: Planet Labs PBC (2023)

Other Hub Bern projects

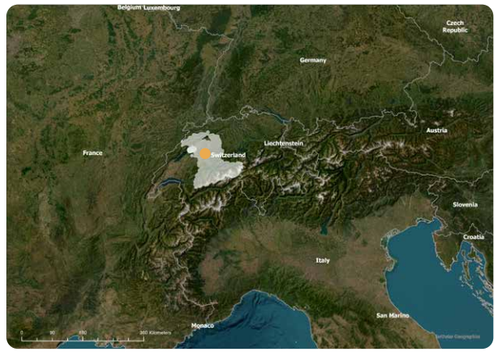
Spotlight on forests and wood

In the Canton of Bern, addressing climate change and improving forest management are essential to ensuring that forests continue to meet social, economic, and environmental needs.

With major forest fires expected to become more frequent also on the northern side of the Alps, the Hub Bern project “Forest fire management on the northern side of the Alps” collaborates with stakeholders from research, practice, and the local population to develop tailored strategies and tools for fire prevention and control. Meanwhile, the project “Developing regional forest and wood value chains” promotes sustainable practices in the timber industry, supporting climate-neutral production and use of wood and advancing research on wood waste management.

The project “Forest fire management on the northern side of the Alps” concluded its initial phase in 2024 and will enter its second, implementation-oriented phase in 2025, whereas “Developing regional forest and wood value chains” will conclude entirely by mid-2025. Both combine science-driven research with community engagement to create innovative solutions for local forest challenges.

Where we work



Office: Bern

Our project region

Project region boundaries

Forest fire management on the northern side of the Alps

Forests provide crucial social and economic benefits, while also supporting climate stability and biodiversity. Major forest fires have been relatively rare on the northern side of the Alps. However, they are expected to become more frequent as a result of climate change. Together with the **Office for Forests and Natural Hazards of the Canton of Bern**, and in collaboration with the **University of Bern**, the **Bern University of Applied Sciences**, the **Swiss Federal Institute for Forest, Snow and Landscape Research**, and private sector stakeholders, the Wyss Academy is investigating how the danger and risk of forest fires on the northern side of the Alps will develop in the medium to long term. They are also exploring how stakeholders can respond efficiently to the growing wildfire threat, and developing knowledge and tools for fire prevention and control. Drawing on experience and insights from regions in the southern Alps and the Mediterranean, they are adapting learnings to the specific conditions of the Canton of Bern. These efforts will contribute to a comprehensive risk management system adapted to climate change, as well as to the prevention and control of forest fires in the canton.

Key Facts

research partner institutes

5

specialized offices and expert committees involved

5

modules implemented during the first phase of the project

3

Knowing the fire susceptibility, fire behavior, and resilience of forest types on the northern side of the Alps is crucial to comprehensive forest fire risk management in the Canton of Bern.
Photo: Office for Forests and Natural Hazards (Amt für Wald und Naturgefahren)

Main achievements in 2024

Knowledge base and research work completed

The first phase of the project “Forest fire management on the northern side of the Alps,” which came to an end in mid-2024, focused primarily on developing a knowledge base. The results are now available in scientific publications, with a final report in progress.

The first phase comprised three modules. The “Hazard and risk” module examined the influence of the regional foehn and bise wind systems on forest fire risk. Foehn is a warm, dry wind that descends on the leeward side of the Alps, often bringing a sudden rise in temperature, whereas bise is a cold, dry wind from the northeast that brings clear but chilly weather. Additional aspects included the analysis of soil moisture levels, improvements to existing phenological information, and the development of a grid dataset to enable the assessment of both past and present forest fire risk. The outcomes will serve to expand and improve the cantonal authorities’ existing tool for assessing forest fire risk, thereby increasing the reliability of risk assessments.

In the “Forest” module, researchers investigated the vulnerability, fire behavior, and resilience of the main forest ecosystems in the Canton of Bern, as well as more generally on the northern side of the Alps. In addition, they studied the dynamics of forest stands after a fire, as well as their susceptibility to erosion and landslides. The results were used to develop a prototype of a decision-making procedure for post-fire measures. In addition, the results will contribute to the development of a practical guide for protecting forests on the northern side of the Alps in the second phase of the project.

The third module, “Perception and communication,” evaluated existing instruments and preventive measures in the canton—such as training, continuous risk assessment, public relations work, and fire bans—with the aim of optimizing prevention and

Co-project leader from the Office for Forests and Natural Hazards, Christian Pfammatter (left), and forestry lecturer from the Bern University of Applied Sciences, Massimiliano Schwarz (right), present preliminary findings at a meeting in Meiringen, Switzerland.
Photo: Hub Bern, Wyss Academy for Nature

tailoring communication to specific target groups. The results of an extensive survey in the Canton of Bern on risk perception and behavior are now being used to develop and test specific communication measures together with local partners in the hotspot regions, including the southern Jura foothills, the sunny side of Lakes Thun and Brienz, and the foehn-affected valleys in the Bernese Oberland.

Some findings of the first project phase are already being applied by the Office for Forests and Natural Hazards, while others will be incorporated into the implementation-oriented second phase of the project, which is now being developed. This next phase, to be implemented from 2025 onwards, will involve developing, testing, and deploying specific methods and instruments.

Practice, science, and knowledge transfer

To ensure that the project was grounded in both science and practice from an early stage, and to facilitate effective knowledge transfer, national and cantonal stakeholders were actively engaged in project activities. A good example of this collaboration is the “Practice Committee” composed of representatives from other cantons, municipalities, and fire departments who actively accompanied the project. Other examples include research meetings, the advisory board for the “Hazard and risk” module, and a two-day expert workshop held in the “Forest” module. A final meeting with all project participants at the end of the first project phase took place in August 2024. The results of the first project phase are currently being prepared for practical use and will be made available as a final report to all participants, the “Practice Committee,” as well as the technical experts of the Canton of Bern.

Developing regional forest and wood value chains

A sustainable forest and wood industry has the potential to become an exemplary system in which humans and nature coexist in a mutually beneficial relationship. As a renewable resource, wood plays a key role in sustainable ways of life. To move closer to the vision of a climate-friendly society, it is important today to position wood as a resource in a way that ensures that future generations can also benefit from it. Wood can be used for heating, as a plastic substitute, for packaging, in clothing, and as a building material. However, using regional wood for the right purposes is essential to guarantee that its use is sustainable and fair. The project “Developing regional forest and wood value chains” aims to enhance the use of forest and timber resources and raise awareness of their importance in the Oberland-Ost and Emmental regions in the Canton of Bern, especially in the areas that were chosen for the pilot phase of this project.

In collaboration with local stakeholders from the forestry and timber industries, politics, and society, sustainable practices are being developed to promote both forest conservation and the sustainable use of wood. These measures support the forest’s diverse ecosystem services and contribute to the region’s economic development. In 2024, five out of six incubator projects were successfully completed, representing significant progress for the overall project. The initiatives strengthen the local economy while enhancing forest and timber industry resilience to climate change and helping to protect the environment. Additionally, a **doctoral dissertation** at the **University of Bern** and a number of published articles offer key insights into transformative, sustainable timber enterprises.

Key Facts

official partnerships with key forestry and timber stakeholders

20

incubator projects completed in 2024

5

doctoral dissertation being conducted

1

Communication workshop within the incubator project “Sustainable forestry through local forestry enterprises.”
Photo: Thomas Lüthi, Lignum Holzwirtschaft Bern

Main achievements in 2024

Using regional wood in construction projects

The incubator project “Building with regional or own wood” focused on developing a model process for promoting the use of regional wood in construction projects. Although no standardized process could be derived from the analysis of numerous construction projects, key facilitating and hindering factors were identified. Facilitating factors included increased awareness among public builders of the benefits of using regional wood and the need to adjust suitability and award criteria. Frequent hindering factors were the higher costs of regional wood and the complexity of procurement processes.

These insights informed the development of guidelines and support materials for public builders concerning sustainable procurement and use of wood. By highlighting the complexity of these issues, the project provided resources to enhance community know-how and promote the effective use of wood resources. Successfully completed in 2024, it underscored the importance of regional support and competence centers to strengthen expertise in procurement, processing, and the use of wood in construction.

Promoting sustainable forestry

The incubator project “Sustainable forestry through local forestry enterprises” significantly improved communication within the forestry sector by developing concepts, templates, and best practice examples. This preparatory work culminated in June 2024 in a workshop for all forestry companies and interested forestry operations, supported by marketing professionals and social media influencers. These measures increased the visibility of the participating companies and strengthened the understanding and appreciation of sustainable forestry practices—practices that balance environmental, social, and economic objectives, ensuring that forests remain viable for future generations.

The communication strategies developed were implemented in successful social media campaigns that gained broad public recognition. An example of this is the communication between two forestry companies and forest owners, many of whom own small plots and have little connection to their forest (around 36,500 private forest owners live in the Canton of Bern). Through their measures, the two companies achieved a tenfold increase in website clicks. Also, nine new contracts for forest management were concluded. The project was completed in 2024 and contributed significantly to enhancing public engagement and awareness of sustainable forestry.

New uses for raw wood products

The incubator project “Innovative wood products” was successfully completed and consisted in the development of the business case “Use of hard-to-sell raw wood products.” This case study explored four ideas for innovative products: wood-based electricity generation, biochar, charcoal, and discolored laminated timber and facade wood from storm-damaged timber. The report analyzed potential uses of these products, assessed their economic feasibility, social acceptance, and risks, and provided recommendations for action. In addition, potential business partners were consulted to support implementation of the ideas.

The relevance of this approach is tangible, as the ideas have since been adopted by companies, schools, and organizations and are being pursued outside the project. One example is a project of the **Bern University of Applied Sciences** that involves Lignum Bern and several companies from the forestry and timber industry. It focuses on the increased use of so-called “blue wood,” timber that has been discolored by fungal activity. Some of the mentioned product ideas were presented at **Bern Wood Day** in January 2025.

Jan Göpel, Postdoc in the Climate Scenarios as well as in the Land Systems and Sustainability Transformations team, analyzes drivers of forest loss in the Peruvian Amazon.
Photo: Daria Vuistiner

Our publications

In 2024, Wyss Academy members authored, contributed to, or commissioned a total of 43 articles and publications. Discover their insights and findings by exploring the full list of publications.

Adhola, T., et al. *Semi-Circular Bunds and Community-Based Conservation at the Naibunga Community Conservancy, Laikipia County, Northern Kenya: Final Technical Report for Phases I & II July, 2024*. University of Bern, Oct. 2024, **https://doi.org/10.48620/34076**.

Adler, Carolina, et al. "Chapter 22 - Making Connections for Our Changing Mountains: The Mountain Research Initiative." *Safeguarding Mountain Social-Ecological Systems*, edited by Stefan Schneiderbauer et al., Elsevier, 2024, pp. 149–54, **https://doi.org/10.1016/B978-0-12-822095-5.00022-X**.

Agurto Adrianzén, Marcos, et al. "Empowering Underprivileged College Students through Leadership Roles in Their Communities: Experimental Evidence from Peru." *Journal of Human Capital*, vol. 18, no. 4, Dec. 2024, pp. 668–709, **https://doi.org/10.1086/730272**.

Aitmambet, Zharas, et al. "A Protocol for the Review of Examples of Transformational Change in the Energy and Public Health Sectors to Inform Climate Mitigation and Adaptation Interventions." *The European Journal of Development Research*, Apr. 2024, **https://doi.org/10.1057/s41287-023-00620-x**.

Alibakhshi, Sara, et al. *Natural Forest Regeneration Is Projected to Reduce Local Temperatures*. 2024, **https://doi.org/10.48620/84889**.

Bauer, Alexander Max, et al. "When the Poorest Are Neglected – A Vignette Experiment on Need-Based Distributive Justice." *SSRN Electronic Journal*, Dec. 2024, **https://doi.org/10.2139/ssrn.4503209**.

Bernardino, Angelo F., et al. "The Inclusion of Amazon Mangroves in Brazil's REDD+ Program." *Nature Communications*, vol. 15, no. 1, Mar. 2024, p. 1549, **https://doi.org/10.1038/s41467-024-45459-w**.

Caesmann, Marcel, et al. *Censorship in Democracy*. June 2024, **https://doi.org/10.5167/UZH-260103**.

Caillaud, Cécile, et al. "Northwestern Mediterranean Heavy Precipitation Events in a Warmer Climate: Robust Versus Uncertain Changes With a Large Convection-Permitting Model Ensemble." *Geophysical Research Letters*, vol. 51, no. 6, Mar. 2024, p. e2023GL105143, **https://doi.org/10.1029/2023GL105143**.

Care, O., et al. "Reaping What We Sow: Centering Values in Food Systems Transformations Research." *Ambio*, vol. 54, no. 2, Nov. 2024, pp. 226–38, **https://doi.org/10.1007/s13280-024-02086-5**.

Carr Kelman, Candice, et al. *Convergence Research as Transdisciplinary Knowledge Coproduction within Cases of Effective Collaborative Governance of Social-Ecological Systems*. 2024, **https://doi.org/10.48620/76540**.

Eckert, Sandra, et al. "Spatiotemporal Assessment of Deforestation and Forest Degradation Indicates Spillover Effects from Mining Activities and Related Biodiversity Offsets in Madagascar." *Remote Sensing Applications: Society and Environment*, vol. 36, 2024, p. 101269, **https://doi.org/10.1016/j.rsase.2024.101269**.

Ehrensperger, Albrecht, et al. "How R4D Projects Interact with the SDGs: An Analysis of the Links between Sustainable Land Use Projects across the Global South and the SDG Targets." *Global Sustainability*, vol. 7, Jan. 2024, p. e47, **https://doi.org/10.1017/sus.2024.42**.

Fosser, Giorgia, et al. "Convection-Permitting Climate Models Offer More Certain Extreme Rainfall Projections." *Npj Climate and Atmospheric Science*, vol. 7, no. 1, Feb. 2024, p. 51, **https://doi.org/10.1038/s41612-024-00600-w**.

Frieler, Katja, et al. "Scenario Setup and Forcing Data for Impact Model Evaluation and Impact Attribution within the Third Round of the Inter-Sectoral Impact Model Intercomparison Project (ISIMIP3a)." *Geoscientific Model Development*, vol. 17, no. 1, Jan. 2024, pp. 1–51, **https://doi.org/10.5194/gmd-17-1-2024**.

Gharari, Shervan, et al. *A Flexible Framework for Simulating the Water Balance of Lakes and Reservoirs From Local to Global Scales: MizuRoute-Lake*. May 2024, **https://doi.org/10.48620/84874**.

Hes, Gabriel, et al. "Projecting Future Forest Microclimate Using a Land Surface Model." *Environmental Research Letters*, vol. 19, no. 2, Feb. 2024, p. 024030, **https://doi.org/10.1088/1748-9326/ad1f04**.

Hug, Miriam, et al. *Transformative Firm-Level Agency: A Case Study of Small and Medium-Sized Enterprises (SMEs) in the Swiss Wood-Processing Industry*. Dec. 2024, **https://doi.org/10.48620/7356**.

Jud, Stefano. "Diffusing Risk: Bureaucratic Agency, UN Security Council Horse-Trading, and the Role of Co-Financing." *International Studies Quarterly*, vol. 68, no. 4, 2024, p. sqae140, **https://doi.org/10.1093/isq/sqae140**.

Kellner, Elke, et al. "Polycentric Climate Governance: The State, Local Action, Democratic Preferences, and Power—Emerging Insights and a Research Agenda." *Global Environmental Politics*, vol. 24, no. 3, Aug. 2024, pp. 24–47, **https://doi.org/10.1162/glep_a_00753**.

Koopmans, Myke, et al. "Mapping Heat-Related Risks in Swiss Cities under Different Urban Tree Scenarios." *City and Environment Interactions*, vol. 24, 2024, p. 100175, **https://doi.org/10.1016/j.cacint.2024.100175**.

Kull, Christian A., et al. "Pitfalls for the Sustainability of Forest Transitions: Evidence from Southeast Asia." *Environmental Conservation*, vol. 51, no. 3, 2024, pp. 152–62, **https://doi.org/10.1017/S0376892924000079**.

Lagneaux, Elisabeth G., et al. "Understanding the Diversity of Private Conservation in the Peruvian Amazon." *Conservation Science and Practice*, vol. 6, no. 10, Sept. 2024, p. e13228, **https://doi.org/10.48620/84885**.

Martin, Dominic A., et al. "Interactive Visual Syntheses for Social-Ecological Systems Understanding." *Socio-Environmental Systems Modelling*, vol. 6, Apr. 2024, pp. 18637–18637, **https://doi.org/10.18174/sesmo.18637**.

Mathez-Stiefel, Sarah-Lan, et al. "Chapter 20 - Advancing Transformative Knowledge for Sustainable Mountain Development: How Can a Scientific Journal Bring Knowledge into Policy and Practice?" *Safeguarding Mountain Social-Ecological Systems*, edited by Stefan Schneiderbauer et al., Elsevier, 2024, pp. 137–41, **https://doi.org/10.1016/B978-0-12-822095-5.00020-6**.

Schröder, Patrick, and Jack Barrie. *How the Circular Economy Can Revive the Sustainable Development Goals: Priorities for Immediate Global Action, and a Policy Blueprint for the Transition to 2050*. Royal Institute of International Affairs, 19 Sept. 2024, **https://doi.org/10.55317/9781784136222**.

Moser, Stephanie, et al. "Berner Oberland-Ost: Auf Dem Weg Zur Klimaneutralität." *Bundesamt Für Energie BFE*, 2 Sept. 2024, **https://energeiaplus.com/2024/09/02/berner-oberland-ost-auf-dem-weg-zur-klimaneutralitaet/**.

Moser, Stephanie, et al. *Lokale Energie-Transitions-Experimente Als Beitrag Zur Transformation Hin Zu Einer Klimaneutralen Gesellschaft. Pilotierung Eines «Transition Management Prozesses» Im Berner Oberland*. Bundesamt für Energie BFE, 10 July 2024, **https://doi.org/10.48350/198846**.

Negret, Pablo Jose, et al. "Conservation Planning for Retention, Not Just Protection." *Global Change Biology*, vol. 30, no. 3, 2024, p. e17211, **https://doi.org/10.1111/gcb.17211**.

Nguyen, Quynh, Thomas Sattler, et al. "Great Power Dynamics and International Economic Cooperation: Experimental Evidence from Parallel Surveys in China and the United States." *European Journal of Political Research*, vol. n/a, no. n/a, Dec. 2024, **https://doi.org/10.1111/1475-6765.12748**.

Nguyen, Quynh, Gabriele Spilker, et al. "How Sudden- Versus Slow-Onset Environmental Events Affect Self-Identification as an Environmental Migrant: Evidence from Vietnamese and Kenyan Survey Data." *PLOS ONE*, vol. 19, no. 1, Jan. 2024, p. 15, **https://doi.org/10.1371/journal.pone.0297079**.

Neu, Urs, et al. *Ausbau erneuerbarer Energien biodiversitäts- und landschaftsverträglich planen*. Apr. 2024, **https://doi.org/10.5281/ZENODO.10927046**.

Okita-Ouma, Benson, et al. "Physiological Stress in Eastern Black Rhinoceros (*Diceros Bicornis Michaeli*) as Influenced by Their Density, Climatological Variables and Sexes." *African Journal of Ecology*, vol. 62, no. 1, 2024, p. e13239, **https://doi.org/10.1111/aje.13239**.

Owuor, Margaret Awuor, et al. *Flow of Mangrove Ecosystem Services to Coastal Communities in the Brazilian Amazon*. Mar. 2024, **https://doi.org/10.48350/193935**.

Partelow, Stefan, et al. "A Meta-analysis of SES Framework Case Studies: Identifying Dyad and Triad Archetypes." *People and Nature*, vol. 6, no. 3, 2024, pp. 1229–47, **https://doi.org/10.1002/pan3.10630**.

Pietroiusti, Rosa, et al. "Possible Role of Anthropogenic Climate Change in the Record-Breaking 2020 Lake Victoria Levels and Floods." *Earth System Dynamics*, vol. 15, no. 2, Mar. 2024, pp. 225–64, **https://doi.org/10.5194/esd-15-225-2024**.

Regional Pastoralists Peace Link (RPPL). *Assessment of Community Cohesion in Oldonyiro (Isiolo) and Naibunga (Laikipia) Community Conservancies*. Wyss Academy for Nature, 2023, **https://www.wyssacademy.org/_files/ugd/08ce95_1f74be025ed7444391c5b96727cd82df.pdf**.

Roebroek, Caspar Tj, et al. "Climate Policies for Carbon Neutrality Should Not Rely on the Uncertain Increase of Carbon Stocks in Existing Forests." *Environmental Research Letters*, vol. 19, no. 4, Apr. 2024, p. 044050, **https://doi.org/10.1088/1748-9326/ad34e8**.

Stucki, Peter, et al. *Dynamical Downscaling and Data Assimilation for a Cold-Air Outbreak in the European Alps during the Year Without a Summer of 1816*. Oct. 2024, **https://doi.org/10.48620/74892**.

Thieme, Susan, and Eda Elif Tibet. "Unorthodox Coalitions: Co-Creative Media Initiatives for Transformative Critical Sustainability Studies." *Rethinking Media Studies*, Routledge India, 2024.

Tobin, Paul, et al. "The Empirical Realities of Polycentric Climate Governance: Introduction to the Special Issue." *Global Environmental Politics*, vol. 24, no. 3, Aug. 2024, pp. 1–23, **https://doi.org/10.1162/glep_a_00758**.

Waldock, Conor, et al. *Deconstructing the Geography of Human Impacts on Species' Natural Distribution*. Oct. 2024, **https://doi.org/10.48620/36373**.

Wegscheider, Bernhard, et al. *Neglecting Biodiversity Baselines in Longitudinal River Connectivity Restoration Impacts Priority Setting*. Aug. 2024, **https://doi.org/10.48350/199633**.

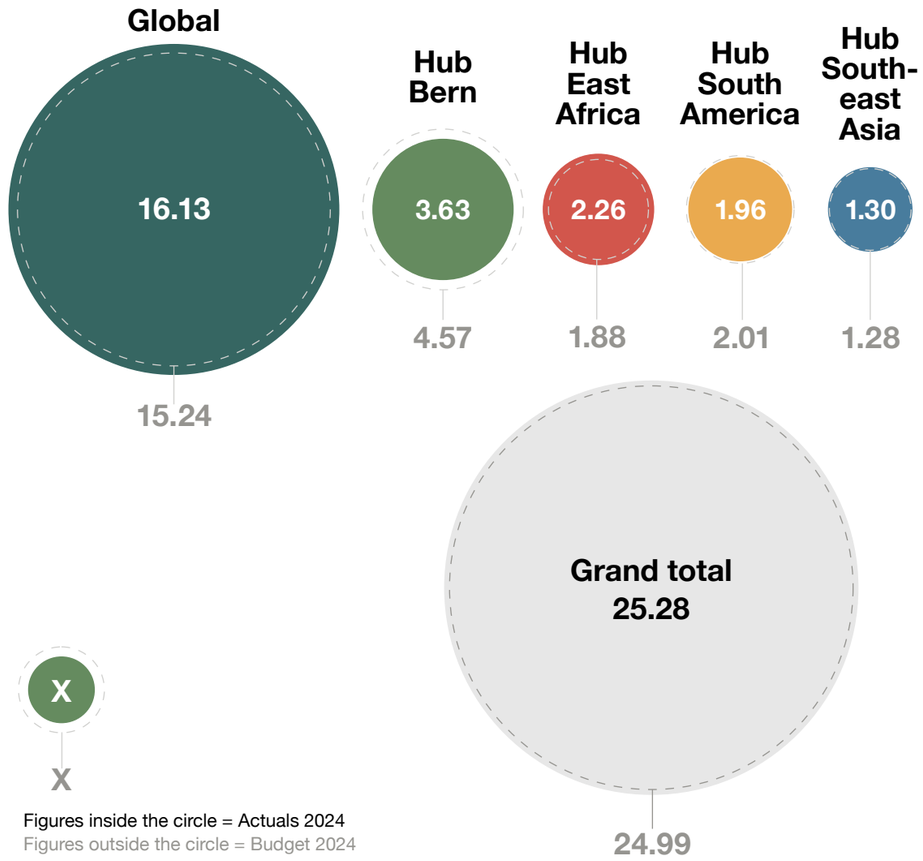
Zaehringer, Julie G., et al. "How Are Large-Scale Extractive Industries Affecting Progress toward the Sustainable Development Goals in Madagascar? Perceived Social-Ecological Impacts of Mining Investments." *Current Research in Environmental Sustainability*, vol. 8, 2024, p. 100257, **https://doi.org/10.1016/j.crsust.2024.100257**.

Facts and figures

A few key figures offer an overview of how 89 Wyss Academy projects contributed in 2024 to achieving 11 of the 12 strategic objectives, in alignment with the organization's three overarching strategic goals. The year marked a new phase for the foundation, as the results of implemented projects in the Hubs began to emerge. An overall implementation rate of 101% was achieved, representing a 35% increase compared to the previous year. These 2024 outcomes were made possible through the joint efforts of 102 staff members, along with partners and allies around the world.

Spending 2024: Implementation by regions

in million CHF



Looking at the project costs from a regional perspective, 14% of the total cost was spent on projects in Hub Bern, while the Hubs East Africa, Southeast Asia and South America accounted for 22% of the project expenditure. Over 60% project expenditure was allocated to global projects and strategic objectives in 2024. They serve the further development of all four Hubs, as well as the global projects, research activity of the Research & Innovation teams, and the Policy Outreach engagement activities around the world.

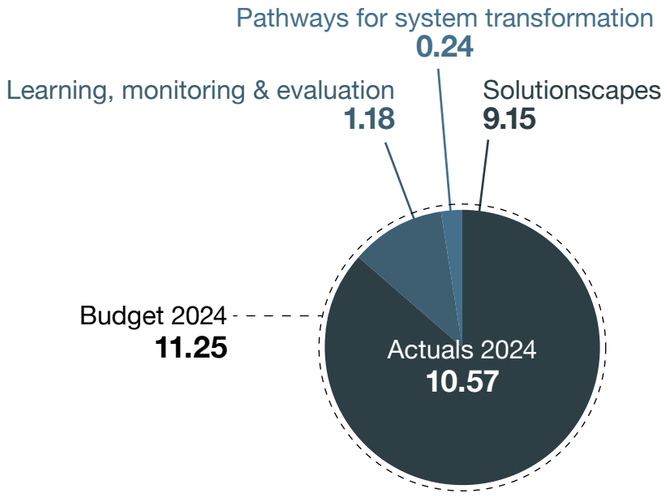
Spending 2024: Implementation by strategic goals and objectives

in million CHF

In the fifth year of the Wyss Academy, a total of 89 projects contributed to the implementation of 11 out of 12 strategic objectives, which are structured according to the three strategic goals defined in the 2022-2024 strategy process. An overall implementation rate of 101% represents an increase of 35% compared to the previous year.

Goal 1
Demonstrate concrete pathways

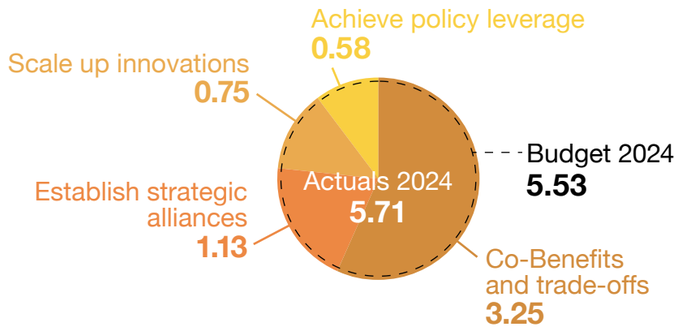
in million CHF



An implementation rate of above 90% was observed under Strategic Goal 1, which aims to identify very specific transformation paths. This amounted to almost 45% of the total expenses in 2024 and 55 projects.

Goal 2
Inspire a new social contract

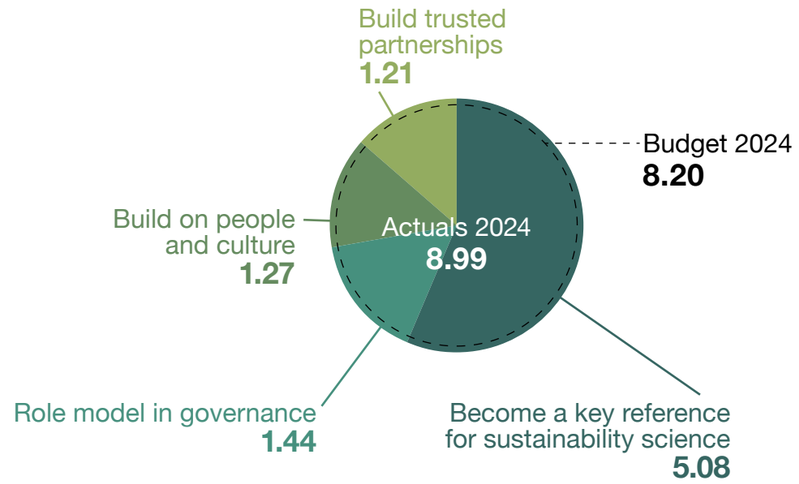
in million CHF



Strategic Goal 2, which focuses on inspiring a new social contract with nature, was implemented slightly above 100% of the expenditure of the planned activities in 15 projects, and accounts for around 20% of the costs in 2024.

Goal 3
Become a global enabler of innovations

in million CHF



Strategic Goal 3, centered on becoming a global enabler of innovation for a just system transformation, was implemented at a rate of 110% of the planned budget, which corresponds about 35% of the total project costs in 19 projects.

The Wyss Academy in numbers

In 2024, while the total number of projects initiated increased by 1% and turnover increased by 35%, the proportion of costs accounted for by additional third-party funding acquired for innovation projects amounted to 3.8%. While outreach through our publications— totaling 43 —remained at a similar level to last year, teaching activities decreased from 22 to 14 in 2024. Through engagement activities, the Wyss Academy reached out to people, institutions and stakeholders at more than 29 events, while communication and campaign activities led to a 60,1% increase in social media audience growth, reaching over 11,797 followers.

The Wyss Academy and its members also appeared in 45 print, online and broadcast media around the world. The number of employees increased by 13.3% in 2024, growing to 102 employees by the end of the year. Our employees have an average age of 38 years and come from 18 countries.

*The methodology for flight emissions was updated in 2024, including an increase of the Radiative Forcing Index from 2 to 3 (see details: myclimate). The change in methodology resulted in a median increase of CO_2eq emissions per flight of approximately 25%. Additionally, note that around 2/3 of flight emissions reported are non-CO_2 emissions, such as nitrous oxide, water vapor, soot and sulfate aerosols, and increased cloudiness due to contrail formation.

Financial overview

During the 2024 financial year, significant efforts and resources were directed towards the continued development of the Regional Stewardship Hubs and the expansion of their activities and partnerships. Alongside, interdisciplinary collaboration across research and innovation teams was further enhanced, and several initiatives were undertaken to strengthen the integration of science and policy. In its fifth year, the Wyss Academy reached its target size, expanding its workforce from 90 to 102 employees, and underwent an in-depth evaluation on all institutional levels.

The high ambitions outlined in the 2024 budget were achieved, with an implementation rate of 101%. The turnover increased by 35% when compared to 2023 and slightly exceeded the plan. Moreover, the equity accumulated in previous years began to decrease as planned, driven by new project implementation and further growth of existing initiatives at the Hubs.

The financial result reflects an operating income of CHF 20.38 million, expenses of CHF 25.28 million and a financial income of CHF 0.16 million.
This led to a reduction in equity of CHF 4.74 million by the end of 2024.

Balance sheet 2024

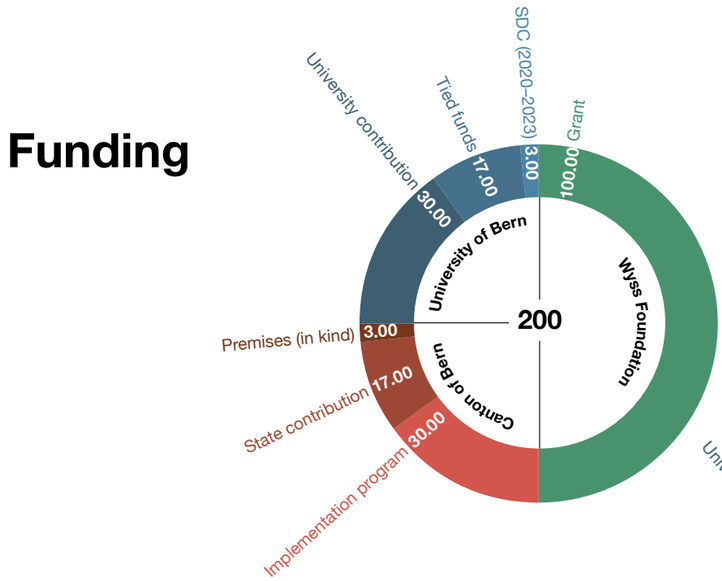
Assets	CHF
Cash and cash equivalents	17,526,017
Current financial assets	5,006,934
Receivables from services	2,938,305
Other short-term receivables	10,203,835
Advance payments Regional Hubs	319,932
Prepayments and accrued income	62,241
Current assets	**36,057,264**
Tangible fixed assets	847,542
Intangible assets	119,215
Non-current assets	**966,757**
Total assets	**37,024,021**

Liabilities and foundation capital	CHF
Payables from goods and services	2,543,988
Accrued liabilities and deferred income	2,218,398
Short-term provisions	1,492,968
Current liabilities	**6,255,354**
Foundation capital	10,000,000
Result carried forward	25,510,189
Result of the year	-4,741,522
Total foundation capital	**30,768,668**
Total liabilities and foundation capital	**37,024,021**

Income statement 2024

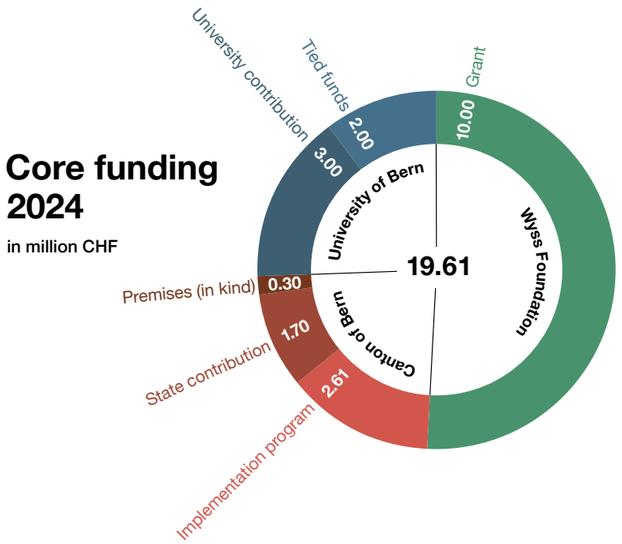
	CHF
Donor contributions	17,000,000
Income for implementation program Hub Bern	2,613,011
Other third-party funding by Canton of Bern	581,974
Other third-party funding for projects, research and services	172,131
Other operating income	10,177
Total operating income	**20,377,293**
Project expenses	-11,180,275
Personnel expenses	-12,285,694
Other operating expenses	-1,461,828
Depreciation of tangible assets	-236,505
Amortisation on intangible assets	-111,904
Total operating expenses	**-25,276,205**
Operating result	**-4,898,912**
Financial result	157,228
Ordinary result	**-4,741,685**
Extraordinary result	163
Result of the year	**-4,741,522**

Funding



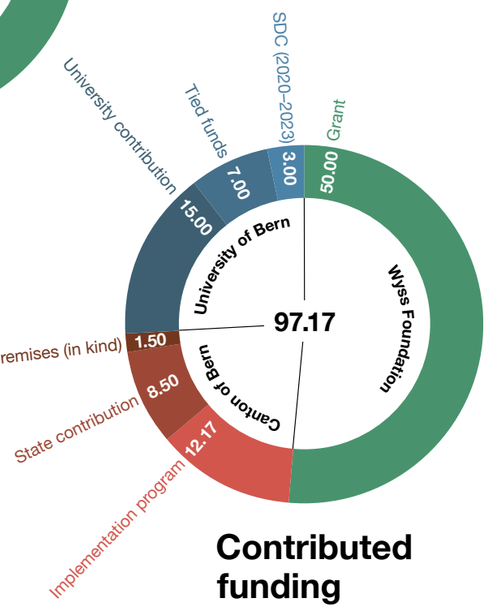
Committed funding 2020–2030*

in million CHF



Core funding 2024

in million CHF



Contributed funding 2020–2024

in million CHF

in million CHF

Donor	Purpose	Committed funding 2020–2030*	Average per year	Core funding (Income) 2024	Contributed funding 2020–2024	Remaining commitment 2025–2030
Wyss Foundation	Grant	100.00	10.00	10.00	50.00	50.00
Canton of Bern	Implementation program	30.00	3.00	2.61	12.17	17.83
	State contribution	17.00	1.70	1.70	8.50	8.50
	Premises (in kind)	3.00	0.30	0.30	1.50	1.50
University of Bern	University contribution	30.00	3.00	3.00	15.00	15.00
	Tied funds	17.00	1.70	2.00	7.00	10.00
SDC	SDC (2020–2023)	3.00	0.30	–	3.00	–
Total		**200.00**	**20.00**	**19.61**	**97.17**	**102.83**

*including one year of no-cost extension

About us

The Wyss Academy for Nature is a foundation that offers a new approach to pressing issues at the intersection of climate change, biodiversity loss, and land use change, including their implications for human well-being and inequality. Operating across four different Hubs around the world, it aims to bridge the gap between understanding these problems and implementing concrete action in response.

What we do

Our mission is to develop and catalyze solutions that transform the relationship between people and nature. We use the power of knowledge and the creativity of engagement to empower agents of change.

The Wyss Academy for Nature was created to do things differently – to help solve complex problems that have been affecting not just the environment, but ever more people around the world.

The challenges we face

Our vision for the future is a world in which the relationship between people and nature is both just and mutually beneficial.

But our planet is facing existential problems: such as climate breakdown, biodiversity loss, poverty, and inequality. In an increasingly hyperconnected world, these cannot be addressed separately. They are interconnected and may have multiple causes. There is no silver bullet answer to these wicked problems: A solution that works in one landscape or for one person (or animal, or plant) can be another's burden. Untangling the knots may bring surprises and unexpected side-effects.

Our answer

To deal with the complex existential problems of biodiversity loss, climate breakdown, unjust land use, poverty and inequality, a new approach is needed. We must address the driving forces behind them, by fundamentally transforming the systems that affect our relationship with nature and with each other – such as how we produce our food, run the economy, generate energy, or plan and organize our cities.

At the Wyss Academy for Nature, we follow a unique approach to overcome the growing gap between understanding the problems and concrete action. In our four Regional Hubs in South America, East Africa, Southeast Asia, and Central Europe, we bring together researchers and other knowledge holders with local communities, civil society organizations, businesses and policy makers. Together, we co-design, test, and implement solutions that have the potential to change local and transregional systems. Such solutions are tested and evaluated within real-world labs, uniting scientific and traditional knowledge. We call this approach: Solutionscapes.

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