Mapping Nature for People and Planet

Nations around the world are increasing their ambition for nature by making bold commitments to address the dual challenges of biodiversity loss and climate change. But with limited resources and many competing land uses, governments do not always know how and where to prioritize these commitments on the ground.

Developed to address this need, the project 'Mapping Nature for People and Planet', led by the United Nations Development Programme (UNDP), supports nations in using the latest advances in spatial data technology and science to create their own national 'Map of Hope'. Local stakeholders use national and global spatial data to identify essential life support areas. These are places where nature-based actions can sustain critical benefits to humanity, including food and water security, sustainable livelihoods, disaster risk reduction, and carbon sequestration. The result is a map that governments can use to harmonize nature and development policies and prioritize areas for protection, management, and restoration.

WHAT IS THE PROJECT 'MAPPING NATURE FOR PEOPLE AND PLANET'?

The project 'Mapping Nature for People and Planet' enables governments to put nature at the heart of land use and development planning. UNDP and partners are combining forces to assist countries around the world in producing national and regional 'Maps of Hope' that optimize nature-based solutions for protecting, restoring, and managing nature to achieve national goals for nature, climate, and sustainable development.
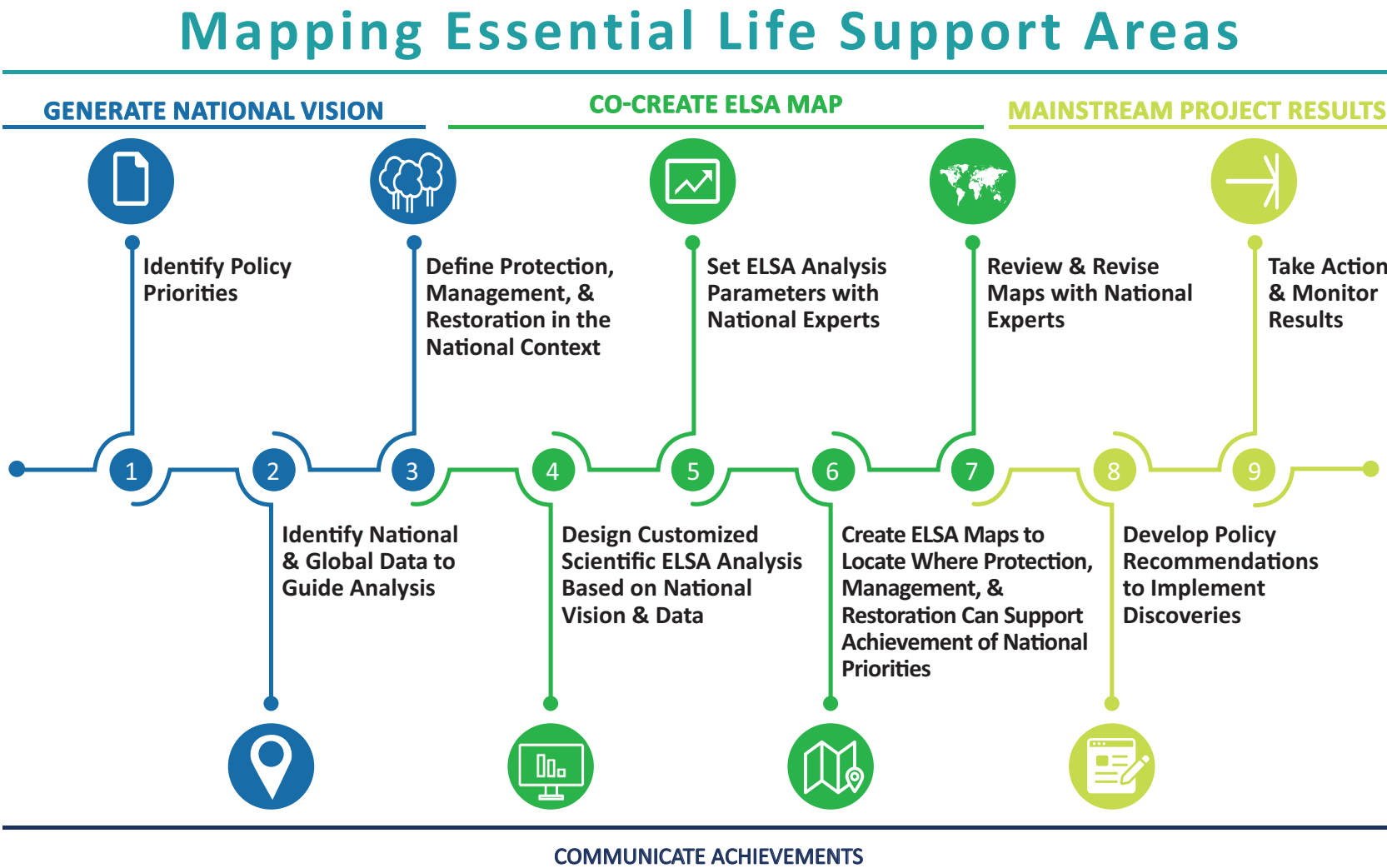
UNDP is supporting 12 countries to develop their national 'Map of Hope' – Cambodia, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, Haiti, Kazakhstan, Nepal, Peru, South Africa, and Uganda.

The project follows a similar approach in each country to create a map that is tailored to its unique context. First, national stakeholders reach consensus on the country's top ten policy commitments related to nature, climate, and sustainable development. These experts then identify and collect national spatial datasets that can be used to represent these commitments. They also agree upon national definitions and area-based targets for land protection, management, and restoration. Based on these inputs, global scientists use systematic conservation

planning approaches to develop a customized analysis. This leads to the creation of a first iteration map of the country's essential life support areas, or 'ELSAs,' which stakeholders then modify and validate. The global scientists also provide each country with an online tool to support additional national refinements of the ELSA map and results. Finally, stakeholders are supported to identify opportunities to embed the results of the analysis into national policies for nature, climate, and sustainable development.

In 2022, UNDP and its partners will release a new online ELSA tool that is fully integrated within the UN Biodiversity Lab. It will provide the foundation for any country to create a national ELSA map based on global priorities and data.

Spatial data and decision-support systems are transforming how governments conduct land use planning and mainstream biodiversity into a wide range of sectors. The 12 countries developing their 'Map of Hope' provide multiple use cases for the role of spatial data in solving complex development planning issues.

Mapping Essential Life Support Areas

GENERATE NATIONAL VISION

CO-CREATE ELSA MAP

MAINSTREAM PROJECT RESULTS

1 — **Identify Policy Priorities**

2 — **Identify National & Global Data to Guide Analysis**

3 — **Define Protection, Management, & Restoration in the National Context**

4 — **Design Customized Scientific ELSA Analysis Based on National Vision & Data**

5 — **Set ELSA Analysis Parameters with National Experts**

6 — **Create ELSA Maps to Locate Where Protection, Management, & Restoration Can Support Achievement of National Priorities**

7 — **Review & Revise Maps with National Experts**

8 — **Develop Policy Recommendations to Implement Discoveries**

9 — **Take Action & Monitor Results**

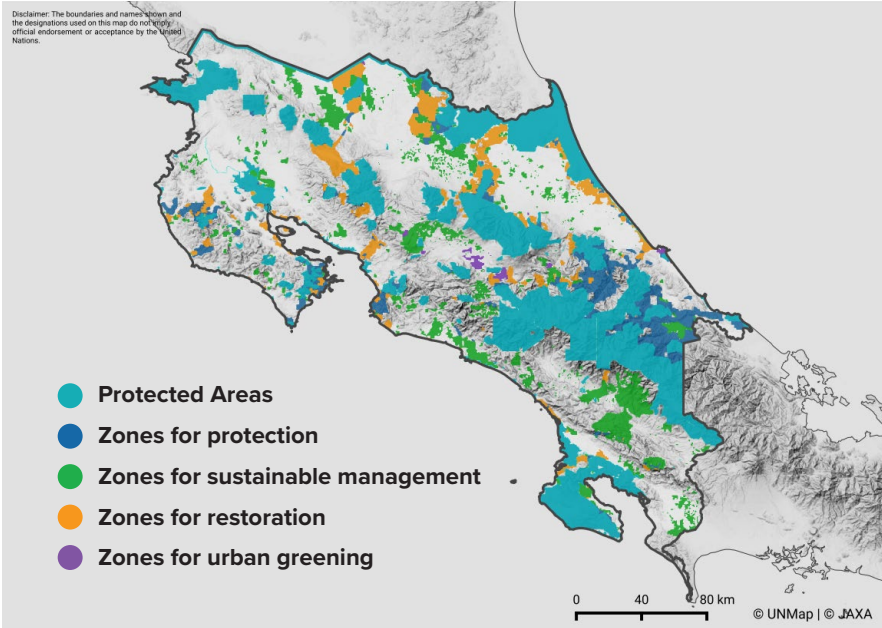**COMMUNICATE ACHIEVEMENTS**

COSTA RICA

Costa Rica's bold national commitments to decarbonize its economy while maintaining 60% of its lands for nature are outlined in an ambitious national policy framework. To determine how to act on these pledges, and harmonize them with sustainable development needs, the country sought a data-driven approach. The ELSA methodology is a key tool for building consensus in Costa Rica, with maps guiding stakeholder-driven decision-making.

The Costa Rican government is using the resulting 'Map of Hope' to inform how and where to implement national policies that support nature-positive development. ELSA maps are guiding national plans for ecosystem-based climate adaptation and payments for environmental services programs. ELSA maps are helping to set a baseline for future protection, management, and restoration efforts in the nation's 2021 State of the Environment Report. Decisionmakers can also use the results to visualize where urban greening can enhance the well-being of urban populations.

Costa Rica's ELSA project affirms that 'Map of Hope' can align diverse institutions with a common goal of a nature-positive future. The best available spatial data can help generate consensus on policy that puts nature at the heart of development planning.

Disclaimer: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

- ● Protected Areas
- ● Zones for protection
- ● Zones for sustainable management
- ● Zones for restoration
- ● Zones for urban greening

0   40   80 km

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> **Mapping ELSAs will be key in identifying ecosystems that support the implementation of the post-2020 global biodiversity framework.**
>
> **— Francis Ogwal, Natural Resources Manager (Biodiversity and Rangelands), National Environment Management Authority, Uganda**
>
> **Tom Okurut, Former Executive Director, National Environment Management Authority, Uganda**
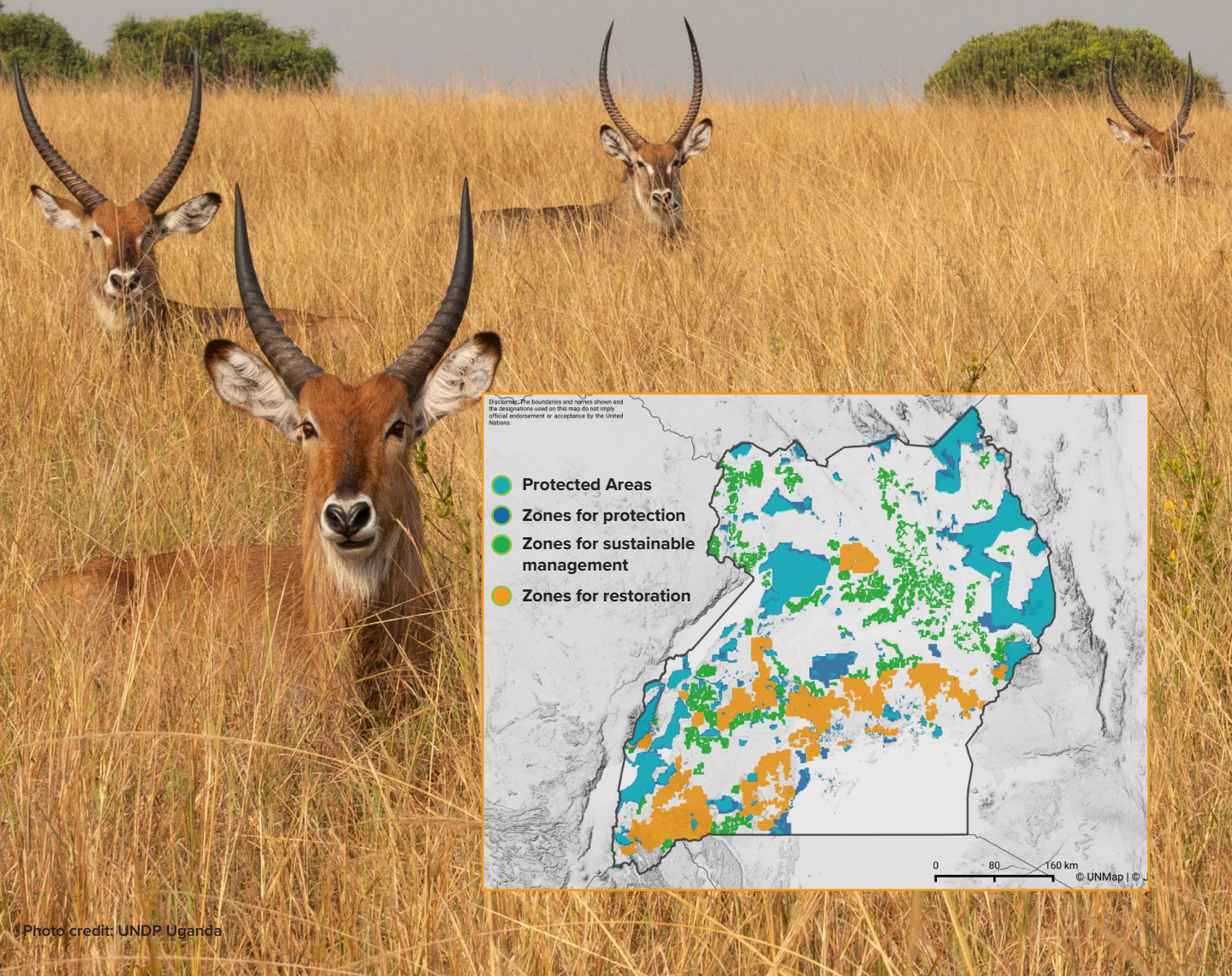>
> **Carlos Manuel Rodriguez, Former Minister of the Ministry of Environment and Energy of Costa Rica and now CEO and Chairperson of the Global Environment Facility**
>
> **(Source)**

UGANDA

Uganda faces a high degree of land degradation, including the loss of valuable wetlands and forests, the conversion of grasslands, and the degradation of agricultural soils. As a result, many areas in Uganda face a high risk from natural disasters, including flooding, droughts, and landslides. To reduce these risks, national policymakers are calling for a paradigm shift to place nature-based solutions at the centre of the country's development framework.

The government used the ELSA methodology to develop its own 'Map of Hope'. Uganda's National Environment Management Authority is using the results to inform the implementation of the country's Third National Development Plan, showing how safeguarding and restoring nature can have ripple effects for human safety and well-being.

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- 🟢 Protected Areas
- 🔵 Zones for protection
- 🟩 Zones for sustainable management
- 🟠 Zones for restoration

0   80   160 km

© UNMap | ©

Photo credit: UNDP Uganda

HAITI

Ecosystems in Haiti are highly degraded by human pressures, leading to diminished climate resilience, increased exposure to natural disasters, and decreased water security. At the same time, food security and poverty reduction are among the most central concerns across the nation. This project is helping to identify nature-based solutions that help secure a better future within this reality. For example, the nation's ELSA map shows where protecting mangroves will reduce the impact of disasters on the coast; where restoring forests can limit soil erosion and landslides; and where agroforestry can conserve important biodiversity while improving food security, livelihoods, nutrition, and sequestering carbon. This map is helping policymakers, natural resource managers, and scientists understand where actions for nature can align with immediate and long-term national needs.

Photo credit: UNEP/Marc Lee Steed, 2014

KAZAKHSTAN

Desertification and environmental degradation are compromising Kazakhstan's ecosystems and biodiversity, which is threatening the livelihoods, health, and well-being of the country's 18.7 million people. Kazakhstan's 'Map of Hope' reveals opportunities to protect, manage and restore the country's ecosystems, landscapes, and natural resources with maximum benefit and at minimum cost. Leaders in the country are eager to use this tool to develop a compelling evidence-based plan for restoration, and to identify opportunities for new protected areas across the country.

Photo credit: UNDP Kazakhstan

CAMBODIA

Although Cambodia has successfully halved extreme poverty since 1990, millions of people living in rural areas are still critically dependent on nature for their livelihoods. Their security is at risk from the impacts of a changing climate and degrading landscapes. The country recognizes that more integrated action is needed to ensure that the ecosystems supporting ecotourism, food production, water provision, and other services continue to thrive. Cambodia's ELSA analysis is guiding the development of integrated land management policies that establish a sustainable relationship with nature. The project's spatial data will also underpin the Cambodian Environmental Management Information System, a centralized platform to monitor and analyse environmental targets across the government.

Photo credit: UNDP Cambodia.

DOMINICAN REPUBLIC

In the mountainous regions of the Dominican Republic, cocoa and coffee provide an economic backbone for many families. The Caribbean country is one of the world's largest exporters of organic cocoa and is expanding its organic coffee market. The ELSA project presents an opportunity to mainstream the protection of ecosystem services in mountainous regions into public policies, while also helping local producers adopt sustainable, environmentally conscious business models, and protect high mountain watersheds. As a part of this effort, the Dominican Republic is working to adopt environmental sustainability criteria to improve ecosystem health, connectivity, and resilience in mountainous areas.

Photo credit: UNDP, 2016

> "From the vibrant Amazonian region of Ucayali to the bounds of our nation, our ELSA map draws from diverse knowledge, data, and needs. It shows us how local and national action can go hand in hand to heal the lungs of our planet and of our people. It shows us how action on nature can lead to prosperity.
>
> — William Llactayo León, Technical Coordinator for Monitoring and Evaluation of Natural Resources, Ministry of the Environment, Peru

PERU

While addressing the COVID-19 pandemic, one of Peru's worst humanitarian crises, the country is utilizing the ELSA methodology to envision an inclusive green recovery. The virus is exacerbating inequalities, and Indigenous peoples and policymakers are collaborating to create a 'Map of Hope' to shape action.

Driven by leaders from the Ucayali region and members of Peru's Ministry of the Environment, the ELSA map will guide the country to pinpoint the precise locations where nature-based solutions can have the greatest impact on economic recovery. An inclusive, practical plan is forthcoming that safeguards biodiversity, mitigates climate change, and facilitates sustainable development, ensuring that no one is left behind.

Photo credit: Am Resiliente, Monica Suarez Galindo, UNDP Peru

COLOMBIA

In Colombia, 70% of drinking water comes from the páramos, a fragile ecosystem high in the Andes. These Andean moorlands occur in only 2% of Colombia's territory but regulate water provision for over a third of its population. Climate change is predicted to reduce the extent of the páramos ecosystem by up to 75%. Colombia has created a regional ELSA map as a key tool for building consensus on how and where to safeguard a sustainable urban water supply from these mountainous ecosystems for nearly 15 million people. The project is helping national and regional policymakers visualize the critical role of these páramos areas for water provision to densely populated cities. Colombia is the only country to contextualize a regional ELSA map within its national ELSA work. The 'Map of Hope' is designed to support the development of the country's post-2020 strategies for nature and integrated development in this biodiversity hotspot.
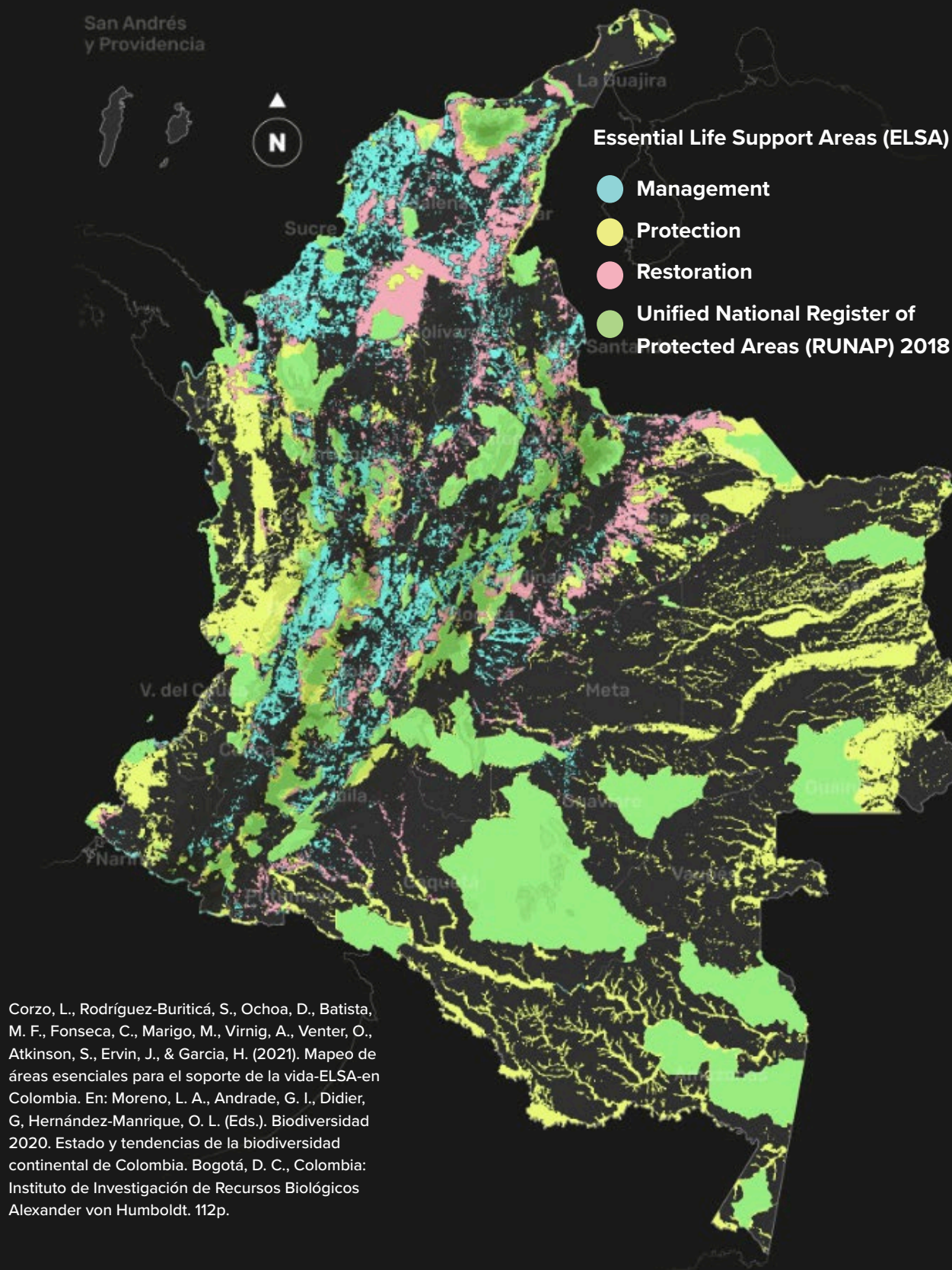
> **ELSA facilitates the identification of biological corridors, key conservation areas, watersheds, and agricultural use areas, among others, that should be considered for water security planning, ensuring that the ecosystem service of water provision is protected for current and future generations.**
>
> **— José Manuel Ochoa, Coordinator of the Biodiversity Evaluation and Monitoring Program at the Natural Resource Research Institute Alexander von Humboldt**
>
> **(Source)**

Essential Life Support Areas (ELSA)

- Management
- Protection
- Restoration
- Unified National Register of Protected Areas (RUNAP) 2018

Corzo, L., Rodríguez-Buriticá, S., Ochoa, D., Batista, M. F., Fonseca, C., Marigo, M., Virnig, A., Venter, O., Atkinson, S., Ervin, J., & Garcia, H. (2021). Mapeo de áreas esenciales para el soporte de la vida-ELSA-en Colombia. En: Moreno, L. A., Andrade, G. I., Didier, G, Hernández-Manrique, O. L. (Eds.). Biodiversidad 2020. Estado y tendencias de la biodiversidad continental de Colombia. Bogotá, D. C., Colombia: Instituto de Investigación de Recursos Biológicos Alexander von Humboldt. 112p.

UN BIODIVERSITY LAB: CREATING A FOUNDATION TO SUPPORT ELSA MAPS

The UN Biodiversity Lab (UNBL) is a free, open-source online platform that enables governments and others to access state-of-the-art spatial data on nature, climate change, and human development to help decision makers put nature at the heart of sustainable development. With over 400 of the world's best global spatial data layers, secure workplaces to upload national data, dynamic metrics to monitor the state of nature, and curated data collections to generate insight for action, UNBL supports UNDP's work with countries to develop ELSA maps. Coming soon, new functionalities on the UNBL will enable any country in the world to create an ELSA map using global data.

Learn more here: https://unbiodiversitylab.org/

AWARDS

- UNBL & ELSA: 100+ Biodiversity Best Practices in support of COP15, Shan Shui Conservation Center (2021)
- ELSA Costa Rica: GEO SDG Award (2020)
- UNBL: UN Secretary General's Innovation Award, Shortlist (2018)
- UNBL: Featured on the UNDP Administrator's monthly innovation call (2018)
- UNBL Winner of two of the highly coveted grants from UNDP's innovation facility (2017, 2018)
- UNBL: Awarded two NASA grants, in partnership with top-tier researchers (2016-2022)

Learn more here: www.unbiodiversitylab.org/maps-of-hope/

For more information, please contact Jamison Ervin, Manager of the UNDP Global Programme on Nature for Development, at jamison.ervin@undp.org and Marion Marigo, Capacity Building and Biodiversity Specialist at UNDP, at marion.marigo@undp.org.