

Geodesición

A flexible spatial tool to guide decisions related to land use in Peru



What is Geodesición?

Geodesición is a free, easy-to-use online tool designed to facilitate access to spatial information in order to allow better decision-making around land use in Peru. It can be of service to a wide variety of users, including government units at the national, provincial and district levels, private companies, NGOs and local communities.

The tool is accessible at: http://bit.ly/geodesicion_minam.

The tool's functionalities

Geodesición allows users to visualize, query and download spatial information and analytical reports. The data layers available in the tool cover a variety of topics that are relevant to land use management, including biophysical parameters (e.g. forest cover and areas of forest loss, forest areas important for erosion control, indicators of biodiversity), legal categories (e.g. protected areas, community territories, concessions), socio-economic factors (e.g. population density, opportunity costs) and information about ongoing and completed initiatives and projects related to forest conservation. The range of available data layers is planned to be expanded further in future. After selecting the layers of interest, the user can carry out a number of analytical steps, including:

- Filtering the information, for example in order to identify and display areas where opportunity costs of land use, carbon stocks or numbers of threatened species are above a certain threshold or within a defined range.
- Querying individual elements for each data layer, for example in order to find out the name of a conservation initiative or concession holder.
- Selecting areas of interest and calculating area-specific statistics, for example average values of carbon stock or levels of deforestation over a selected time period in the past. Areas can be selected either by drawing polygons on the map or selecting territorial units, such as a district or a protected area.
- Generating and downloading analytical reports that include the maps and statistics that have been developed.

How the tool was developed

The concept of Geodesición was developed jointly by Peru's Ministry of the Environment (MINAM) and the UNEP World Conservation Monitoring Centre, in collaboration with PMP Perú, a national software development consultancy. The selection and design of the tool's features built on key functions identified through a series of consultations and participatory workshops held with a wide range of stakeholders from different levels of government, civil society and the private sector between 2014 and 2016.

Background

Geodesición was developed in the context of Peru's National Strategy for Forests and Climate Change. This Strategy seeks to ensure the conservation of forests through integrated landscape management, comprehensively addressing drivers of deforestation and forest degradation with REDD+ actions¹, while increasing productivity and human well-being. The Strategy notes that efforts to implement REDD+ provide opportunities for synergy with other national objectives in Peru, such as biodiversity conservation, support to culture and livelihoods, sustainable use of natural resources and adaptation to climate change.

The potential to achieve synergies will depend on where and how REDD+ policies and measures are implemented. Spatial analysis can provide useful information on where REDD+ may achieve additional benefits while avoiding risks, and also where implementation of certain activities may not be possible or desirable – such as in areas with mining concessions, or locations where other REDD+ or forest conservation projects have already been established.

Building on the objective of identifying and prioritizing areas suitable for REDD+ in Peru, the UN-REDD Programme has supported MINAM to develop Geodesición as a spatial tool to help guide environmental decision-making. From the beginning, Geodesición was intended to be flexible enough so that it could also be applied to the planning of other sustainable, multi-purpose land use actions and investments beyond REDD+. Being freely available online, Geodesición furthermore represents a platform that can facilitate access to public information, thus strengthening transparency in land management.

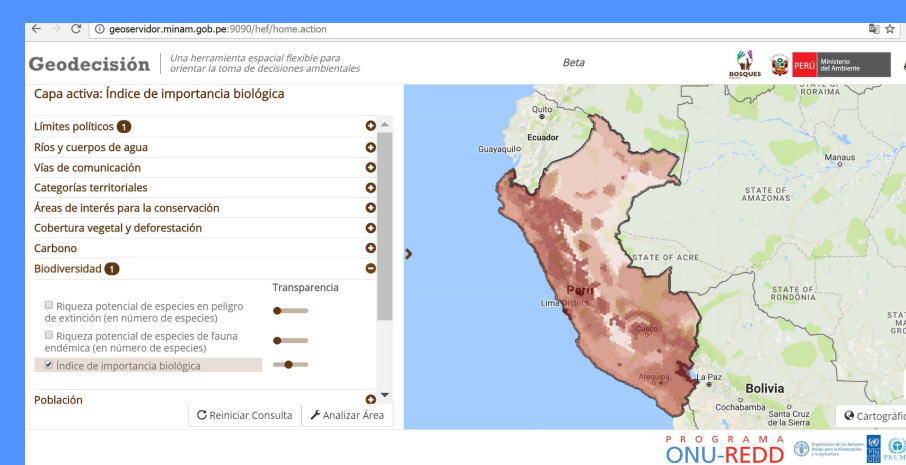
¹ Reducing Emissions from Deforestation and forest Degradation, plus conservation of forest carbon stocks, sustainable management of forests and enhancement of forest carbon stocks.

Application examples

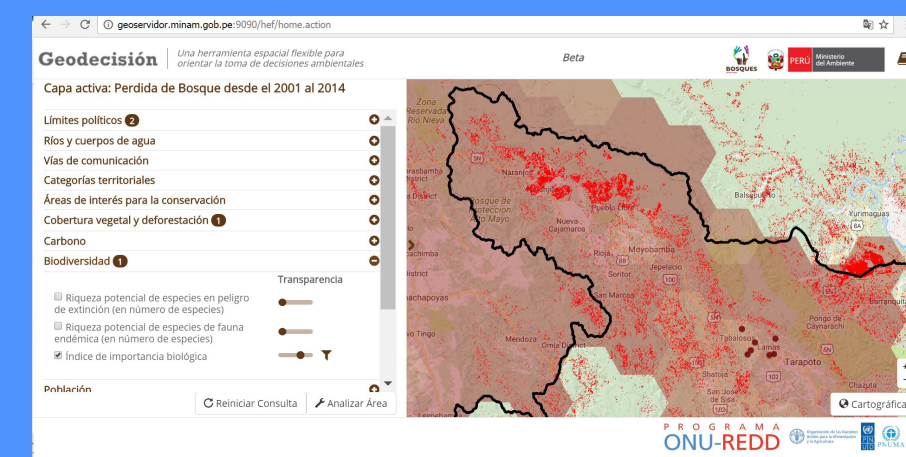
Some examples of the intended possibilities for using Geodesición are:

- Regional, provincial or district governments can use the tool to improve the management of their territory by identifying and prioritizing suitable areas for the implementation of measures for conservation and sustainable development.
- Private enterprises can use the tool to identify key stakeholders and organizations implementing projects within their area of operation, and explore possibilities for collaboration.
- Non-governmental organizations can use the tool to identify priority areas for establishing new projects for sustainable development and land use management.
- Local communities can use the tool to obtain information about the conservation projects and initiatives that are being carried out in surrounding areas.

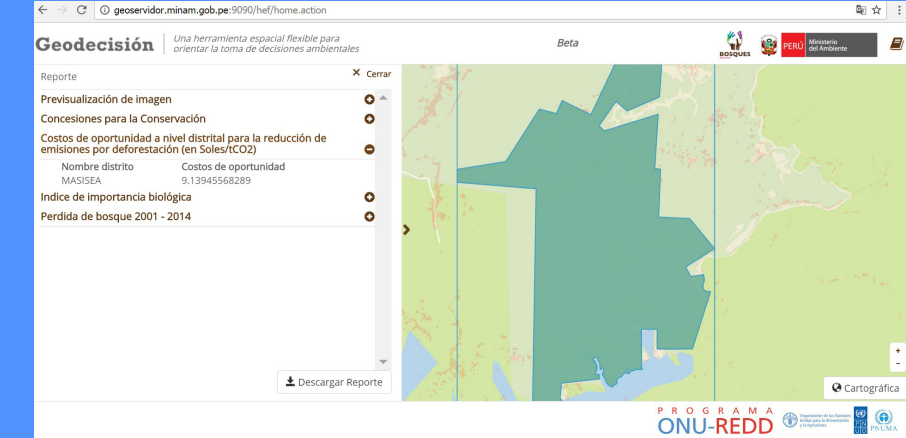
The tool in action



Displaying the values of the Biodiversity Importance Index² for the whole of Peru (darker shades of magenta colour indicate higher index values).



Displaying areas with high to very high values of the Biodiversity Importance Index (magenta coloured hexagons), existing conservation initiatives (dark purple dots) and recent deforestation (bright red polygons) in the San Martín region of Peru.



Calculating statistics of average opportunity costs, average values of the Biodiversity Importance Index and total forest loss between 2001 and 2014 for the area of the conservation concession 25-PUC/CON-RI-001-06 in Ucayali region, Peru.

² For an explanation of the Biodiversity Importance Index, see Epple, C., Thorley, J., Güisa, M., Calderón-Urquiza, A., Walcott, J., Väänänen, E., Bodin, B., Woronicki, S., Salvaterra, T. and Mant, R. (2014) Promoting environmental and social benefits of REDD+ in Peru through spatial analysis. How maps can support the achievement of multiple policy goals. UNEP-WCMC, Cambridge, UK. Available online at: http://wcmc.io/Peru_REDD_environmental_and_social_benefits.

How Geodesición can support mainstreaming of environmental goals into decision-making

As Geodesición facilitates open access to information relevant for land use planning and management to all interested stakeholders, it can allow enhanced coordination among initiatives carried out by a variety of actors, and encourage the mainstreaming of environment-related goals into their planning.



Developed in collaboration between:

Ministerio del Ambiente del Perú (MINAM)
UNEP World Conservation Monitoring Centre (UNEP-WCMC)
Project Management Professional Peru (PMP Perú)

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