



Case study
Costa Rica

Costa Rica's progress in developing a national land use, land cover and ecosystems monitoring system

Strengthening national capacities to monitor natural, agricultural and biodiversity resources to support decision-making and increase the ambition and effectiveness of climate actions

Context

The Republic of Costa Rica is a Central American country largely covered by tropical forest that exhibits high biodiversity. The country has made many efforts to conserve its forests and biodiversity, although in most cases forest and agricultural resources have been independently assessed. Nevertheless, the interdependence of forest, biodiversity and agricultural resources has highlighted the need to develop a monitoring system that would allow consistent, integrated and comprehensive monitoring of all of these resources.

Since 2015, following a Ministerial Directive (DM-417-2015), the Government of Costa Rica has been developing a national system for monitoring land cover, land use and ecosystems (SIMOCUTE: Sistema Nacional de Monitoreo de la Cobertura y Uso de la Tierra y Ecosistemas) consisting of several integrated subsystems. SIMOCUTE constitutes the official platform for the integration and management of environmental data and information at national scale.

Actors and Stakeholders

The Costa Rican Ministry of Environment and Energy and the Ministry of Agriculture and Livestock are supporting the development of SIMOCUTE. The platform has developed through a participatory and interinstitutional process led by the National Center for Geoenvironmental Information (CENIGA: Centro Nacional de Información Geoambiental). The overall process is supported by 40 institutions from government, academia and the private sector. The National System of Conservation Areas (SINAC: Sistema Nacional de Áreas de Conservación) is in charge of developing the national forest inventory and the national ecological monitoring programme, which aims to generate and disseminate reliable scientific information on the state and trends of the country's biodiversity and conservation efforts.

SIMOCUTE is technologically and financially supported by 10 international organizations and is accessible at <https://simocute.go.cr/>.



Objectives

- » Provide high-quality, consistent data on the status quo and any changes in land use, land cover and ecosystems at national scale.
- » Facilitate data management and distribution of knowledge and information associated with land use, land cover and ecosystems.
- » Strengthen national capacities for informed decision-making on sustainable land management and maintain the quality and integrity of ecosystems and the environment for future generations.
- » Harmonize and align methodologies, protocols, classification systems, indicators, metrics and other tools related to land use, land cover and ecosystems.

Impact

- » Facilitating better access to data and mutual understanding of information related to forests, agriculture and ecosystems, encouraging transparency on emission reduction results and informed decision-making.
- » Establishing six technical working groups to develop methods and protocols related to land classification, national forest inventory, agricultural land inventory, land use and land cover change (including ecosystems), mapping and registries.
- » Strengthening national capacities in data collection and analysis in a cost-effective way through 26 training sessions in 2019. Developing protocols and oriented documents and adapting some technological applications to monitor land use/land cover with user participation.

Success factors

- » **Country ownership and responsibility:** SIMOCUTE is implemented through interinstitutional coordination that began with 11 institutions and currently includes 25. Additionally, the monitoring system has initiated support for cooperation to respond to national needs.
- » **Legal and policy basis:** An interministerial decree regulating the functioning of SIMOCUTE is under final consultation and expected to be endorsed by the Minister of Environment and Energy, the Minister of Justice, the Minister of Agriculture and Livestock and the National Center for Geoenvironmental Information.
- » **Landscape approach:** SIMOCUTE is an all-hands, multipurpose system allowing for the monitoring of natural ecosystems as well as agricultural and biodiversity resources.
- » **Institutionalization:** SIMOCUTE is led by CENIGA within the context of the National Environmental Information System (SINIA: Sistema Nacional de Información Ambiental). Clear roles and responsibilities are defined by legislation establishing the interinstitutional arrangements.
- » **Participatory discussion process:** Interinstitutional discussion has been promoted within the working groups.

Challenges

Challenges to be faced include: financial sustainability, continuing development and training programme, strengthening and implementation of institutional arrangements and data-sharing policies, implementation of a web platform for transparency and quality.

Replicability and upscaling

Several exchanges and partnerships with other countries have been developed. For example, in May 2018, Ecuadorian technicians visited Costa Rica to exchange experiences on forest monitoring systems and forest fires. The exchange was facilitated by FAO and allowed the countries to identify synergies and potential South–South cooperation.

Rafael Monge Vargas, Director of CENIGA at the Ministry of Environment and Energy (2020) has stated:

“with this process we have managed to improve our capabilities in the use of the most innovative tools in forest monitoring developed by FAO, which also provided us with new high-resolution satellite data. This helps us increase the capacity of SIMOCUTE to generate key information products for decision-making in the country.”

High-level meeting with the Vice-Minister of Environment and Energy, Vice-Minister of Agriculture and Livestock, and international cooperation.



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Related resources

MINAE. 2017. Propuesta para el diseño del Sistema Nacional de Monitoreo de Cobertura y Uso de la Tierra y Ecosistemas. Version 2. Government of Costa Rica, Ministry of Environment and Energy. <https://simocute.org/wp-content/uploads/2019/02/Propuesta-SIMOCUTE-v4-1.pdf>

SIMOCUTE. 2019. Diagnóstico de mapeo sobre cobertura y uso de la tierra y ecosistemas. San José, Sistema Nacional de Monitoreo de la Cobertura y Uso de la Tierra y Ecosistemas. https://simocute.org/wp-content/uploads/2019/08/Documento-sobre-diagnostico-mapeo_1482019.pdf