



Paraguay

National Forest Monitoring System:
Over a decade generating forest's information

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Introduction

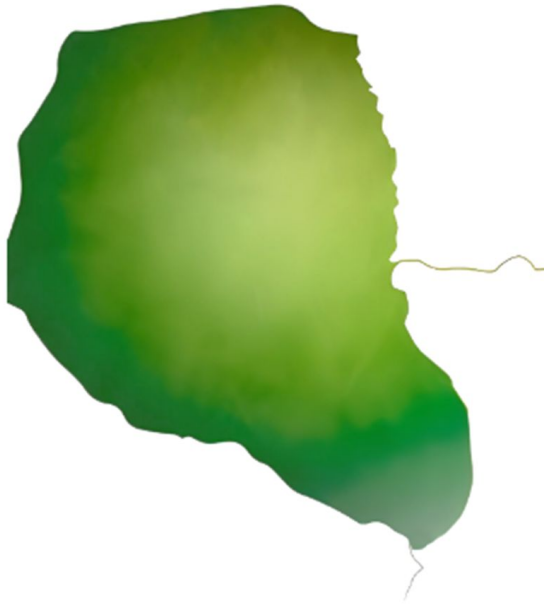
Country context



Map



Forestry Laws and Regulations



- **Law 422/73 Forestry Law** - All rural properties of more than 20 ha in forest areas must maintain 25% of their natural forest area as a legal reserve
- **Law 3464/08** - That establishes the National Forestry Institute
- **Law 4241/10** - Restoration of forest protecting riverside
- **Law 6676/20 “Zero Deforestation”** - First promulgated in 2005, prohibits conversion of forest cover land in the Eastern region
- **Law 6818/21 Integrated Fires Management** - Regulates the use of fire within the national territory



NFMS Progress



National Forest Monitoring System

Satellite Land Monitoring System (SLMS)

Generates forest and land use change information using remote sensing systems



National Forest Inventory (NFI)

Generates information on forest condition considering biophysical, socioeconomic and environmental variables, including carbon content in forests.



National GHG Inventory

Estimates the amount of GHG emissions and removals in the land use, land use change and forestry sector.



Timeline

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- 2008** ● **National Forestry Institute is created**
Law 3464
 - 2011** ● **Launch of NFMS Activities**
Start of operations under the UN-REDD+ Programme
 - 2014** ● **National Forest Inventory Begins**
Implementation of the first National Forest Inventory (NFI)



Timeline

2015

First Historical Deforestation Map

Development of Paraguay's first national deforestation map

2016

Submission of the First Forest Reference Emission Level (FREL)

Presentation of Paraguay's first FREL to the UNFCCC for the period 2000 - 2015

2018

Submission of the Technical Annex in BUR2

Reporting emission reductions for the 2015–2017 period

Legal Establishment of the NFMS

Formal recognition of the government under Article 3 of Law 6256/18

Second National Forest Inventory Cycle Begins

NFI plots were remeasured



Timeline

2019

REDD+ Results-Based Payment Funding Approved

Approval of results-based payments for 2015–2017 by the Green Climate Fund (GCF)

2022

Submission of the Second Forest Reference Emission Level (FREL)

Submission of the updated national reference level for the period 2012-2019

2023

NFMS Regulation is promulgated

Adoption of Decree 9849 regulating the NFMS



Timeline

2024



GHG Emissions and Removals Estimation (LULUCF Sector)

Reported in the First Biennial Transparency Report (BTR1)



Third National Forest Inventory Cycle

Start of the third NFI cycle



Creation of the NFMS General Directorate

Establishment of the NFMS Directorate within INFONA through Decree No. 1745



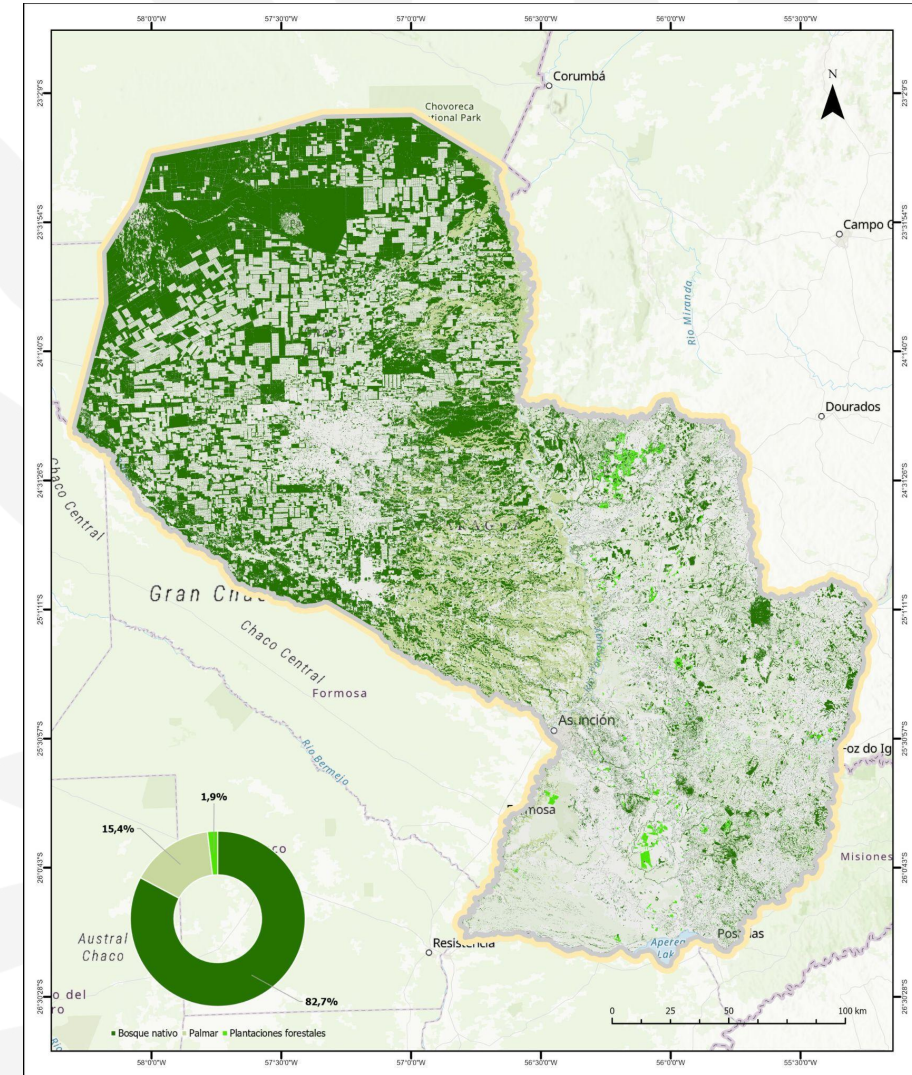
Current situation for sustainable forest management in Paraguay

17.7 millions hectares, equivalent to 44.4% of country

- Native forests 34.3%
- Forest strips 2.5%
- Palm grove 6.8%
- Forest plantations 0.9%

18.4% in the Eastern region and 81.6% in the Western region

>25% into the National System of Protected Wild Areas

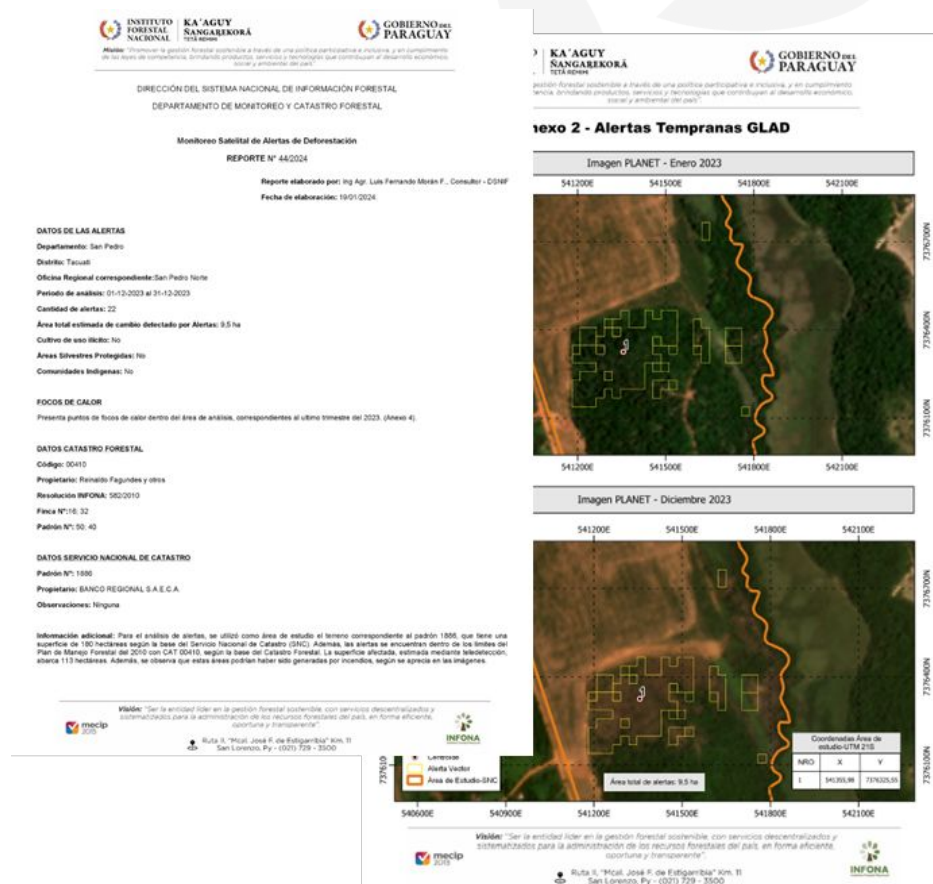


NFMS SLMS Products

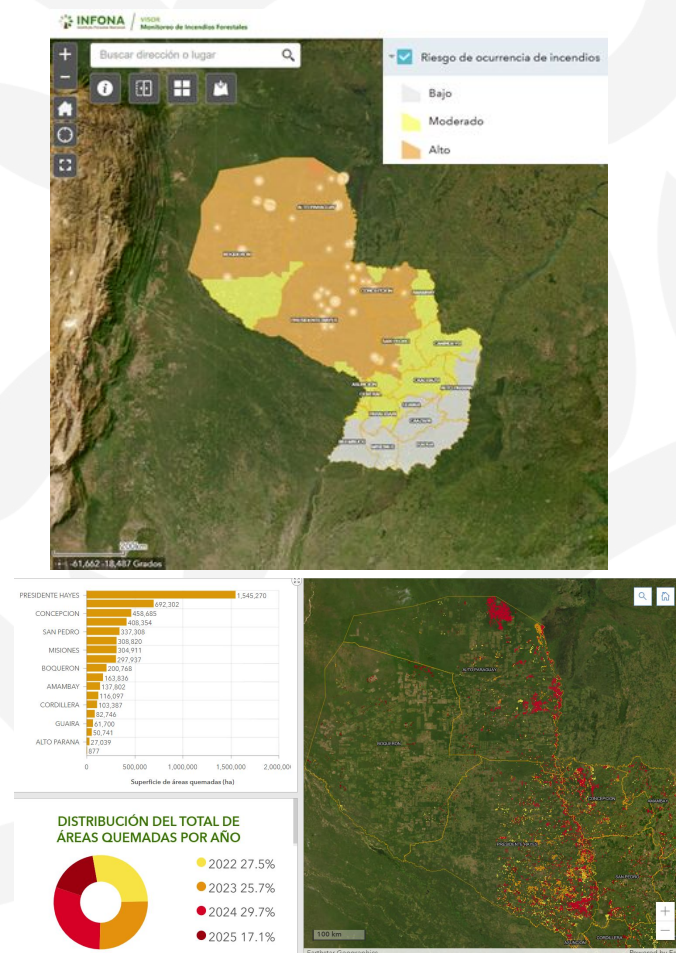
Annual reports on forest cover and land-use changes



Weekly reports of illegal land use change using deforestation alerts products



Daily reports of forest fires risk and annual reports of burned areas



NFMS NFI Products

3 cycles of NFI across 6 strata

- 2014-2016: 328
- 2018-2019: 132
- 2024-ongoing: 130

483
ESPECIES

338
GÉNEROS

146
FAMILIAS

1059,9
ÁRBOLES/HA

BIOMASA Y CARBONO

92,49^{TN/HA}
BIOMASA TOTAL

43,47^{TN/HA}
CARBONO EN LA
BIOMASA TOTAL

La biomasa es el material orgánico, vivo o muerto, que se encuentra por encima y debajo del suelo. (por ejemplo: en árboles, cultivos, hierbas, hojarasca, raíces).

782
AVES

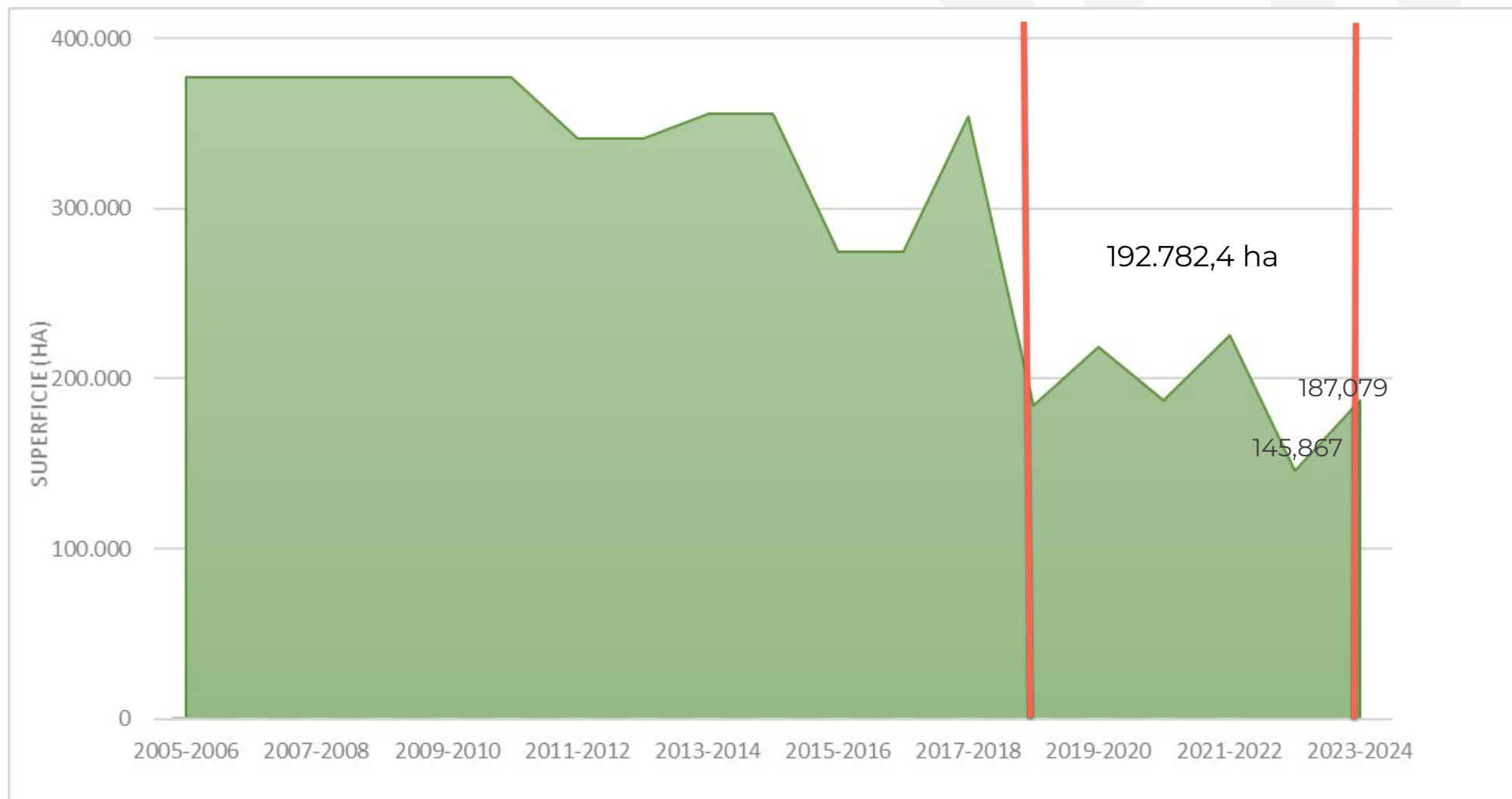
87
MAMÍFEROS

44
REPTILES

11
ANFIBIOS



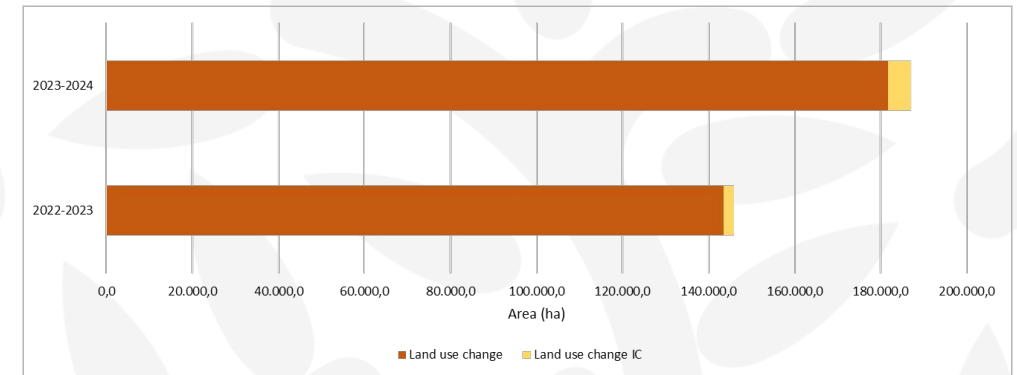
Land use change 2005 – 2024



Land use change drivers

LUC in Paraguay 2022-2024: 332,946.8 ha

- 97,6% due to activities related to livestock, agriculture, urban expansion, and others
- 2,4% due to activities related to illicit crops
- 87% in the Western Region or Chaco
- 13% in the Eastern Region



GFOI Capacity Building Impact



Capacity building

- Google Earth Engine, CODED, Alerts, SEPAL Training
- Strengthening capacity for area estimation and accuracy assessment
- Biomass Measurements Workshop
- Deforestation Alerts Workshop
- Review and update of the NFI methodology and the GHG Inventory



Challenges, needs & improvement areas



SLMS

- Generate and provide accurate activity data of deforestation and commodities production (Integrate other land uses to the NFMS).
- Forest degradation and restoration monitoring.

NFI

- Generate robust data with effective uncertainty management.
- Ensure a sustainable inventory system that incorporates a broader range of land uses.

Cross-cutting

- Integrate the information generated by the NFI and the SLMS.
- Capacity building.
- Access to technology and near real-time data.
- Ensure the sustainability of the NFMS securing funding for technical and technological resources.
- Strengthen governance and enforcement processes to eliminate illegal deforestation



Thank you / Aguije

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