

# Identifying Priority Species and Sites for Sustainable Land Management in Veracruz, Mexico

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## Introduction

- Veracruz, Mexico, is a region of exceptional biodiversity facing critical challenges due to land-use changes and habitat fragmentation.
- The conservation of this natural wealth is fundamental for planetary health and human well-being.
- This work presents an integrative conservation approach that addresses the interaction between agricultural development and biodiversity preservation in tropical ecosystems.

## Methods

- A transdisciplinary integrative conservation approach was applied, combining spatial modeling, risk assessment, and multi-criteria analysis.
- This included the development of the Conservation and Prioritization Index (CPI) to assess extinction risk in various species and the identification of priority sites for conservation.
- Taxonomic, phylogenetic, and functional diversity data were used, along with spatial analysis and species distribution models, to inform sustainable management decisions for forest ecosystems and protected areas.

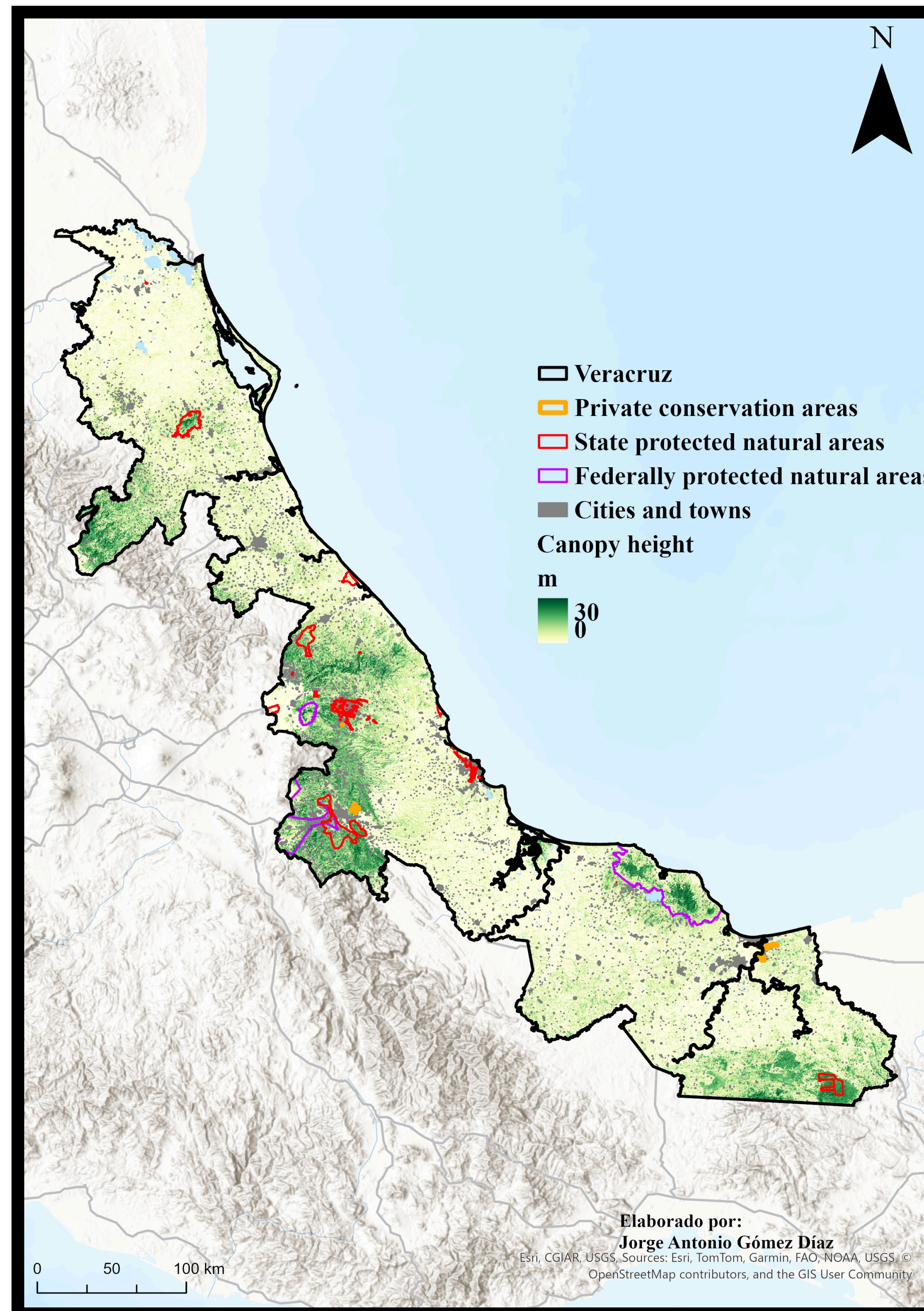


Fig. 2. Map of the state of Veracruz, México, showing canopy height and protected areas.



Fig. 3. View of the Pico de Orizaba volcano (the highest mountain in México).

## Results

- Development of the CPI to assess extinction risk.
- CPI application revealed spatial patterns of extinction risk in key species.
- Spatial prioritization analysis identified high-conservation-value forest fragments, many outside existing protected areas.
- Demonstration of how integrative approaches can reconcile agricultural development with biodiversity conservation.
- Proposal of a replicable model for conservation planning in other tropical regions.
- The methodology supports policy formulation.

## Highlights

- Integrative conservation in Veracruz.
- Extinction risk assessment and site prioritization.
- Key conservation areas identified.
- Replicable model for sustainable development.
- Policy and planetary health contributions.

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Fig. 1. Focal species and ecosystems in our projects.



Fig. 4. Agroecological project with students.



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