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Projections of sustainable forest biomass demand as energy source in Mato Grosso

Daniela Higgin Amaral
Mônica J. do N. Anater
Ana Paula de Souza Silva
Sigrid de Aquino Neiva
Suani Teixeira Coelho

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Instituto de Pesquisas Tecnológicas do Estado de São Paulo S/A - IPT
Av. Prof. Almeida Prado, 532 | Cidade Universitária ou
Caixa Postal 0141 | CEP 01064-970
São Paulo | SP | Brasil | CEP 05508-901
Tel 11 3767 4374/4000 | Fax 11 3767-4099

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Daniela Higgin Amaral, MSc, PhD candidate, Research Group on Bioenergy (GBio), Institute of Energy and Environment, University of São Paulo

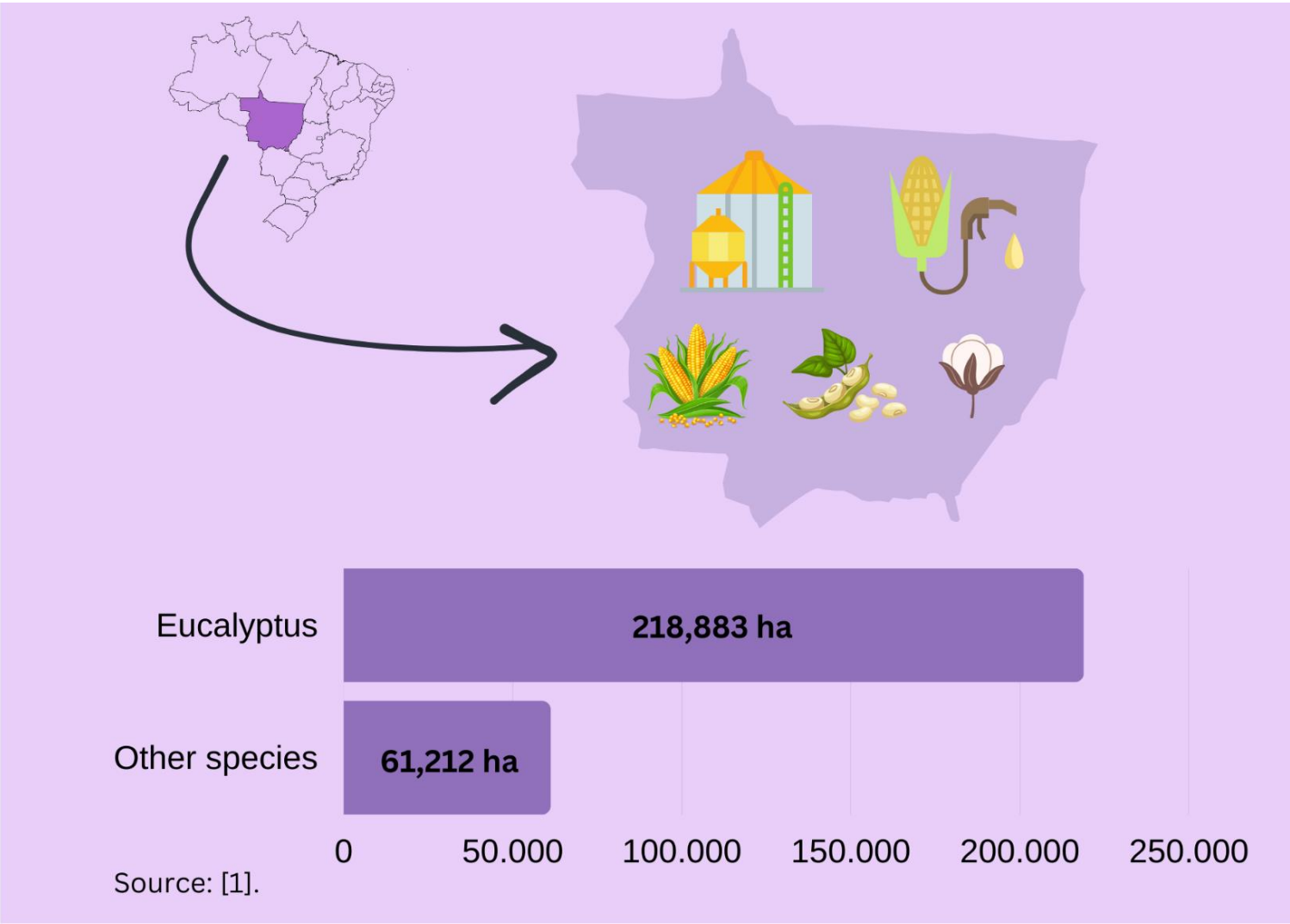
Mônica J. do N. Anater, PhD, Researcher, Research Group on Bioenergy (GBio), Institute of Energy and Environment, University of São Paulo

Ana Paula de S. Silva, PhD, Researcher, Technological Research Institute (IPT), Research Group on Bioenergy (GBio), Institute of Energy and Environment, University of São Paulo

Sigrid de Aquino Neiva, MSc, PhD student, Research Group on Energy Governance (GPGE), Institute of Energy and Environment, University of São Paulo

Prof. Suani Teixeira Coelho, PhD, Professor, Research Group on Bioenergy (GBio), Institute of Energy and Environment, University of São Paulo; Research Centre for Greenhouse Gas Innovation (RCGI).

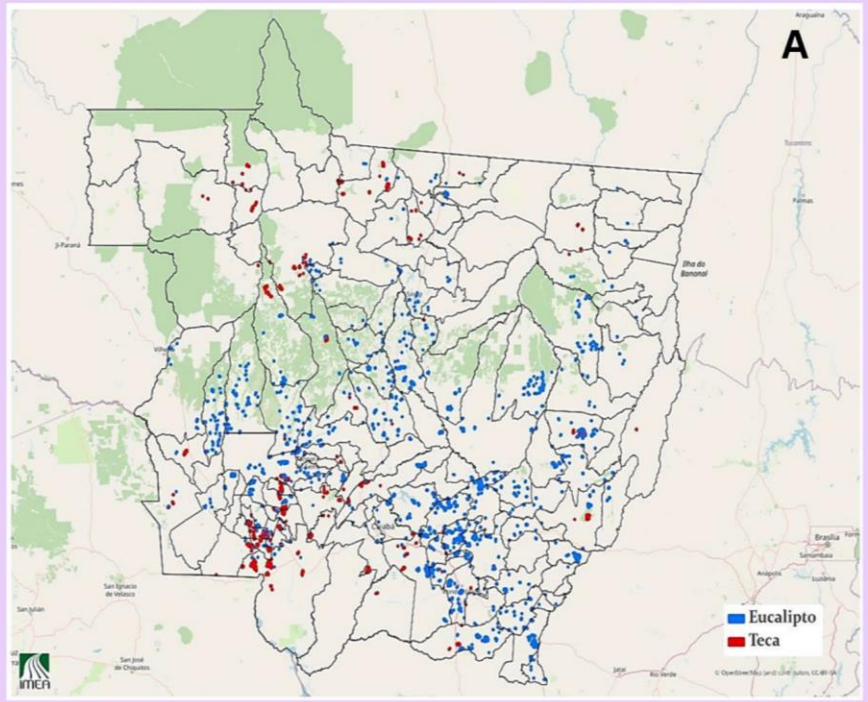
Introduction



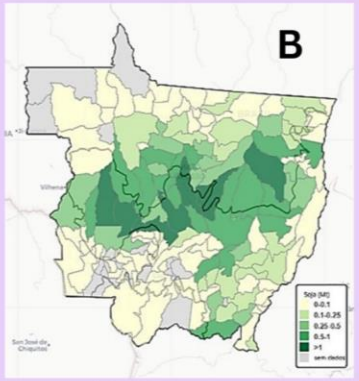
Source: [1].

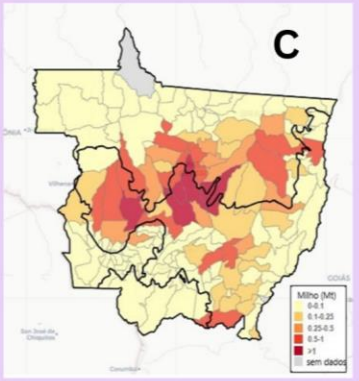
Introduction

Fig 1. Spatial distribution of eucalyptus (A), soybean (B) and maize (C) crops.



Source: [2].





Source: [3].

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Objectives

This work aims to present a projection of the demand for wood in the state of Mato Grosso, based on the demand data from the main consumer sectors of the input

Determine the primary uses of forest biomass in Mato Grosso.

Evaluate the agricultural and forestry scenarios with a specific focus on energy demand.

Estimate projections for the wood demand.

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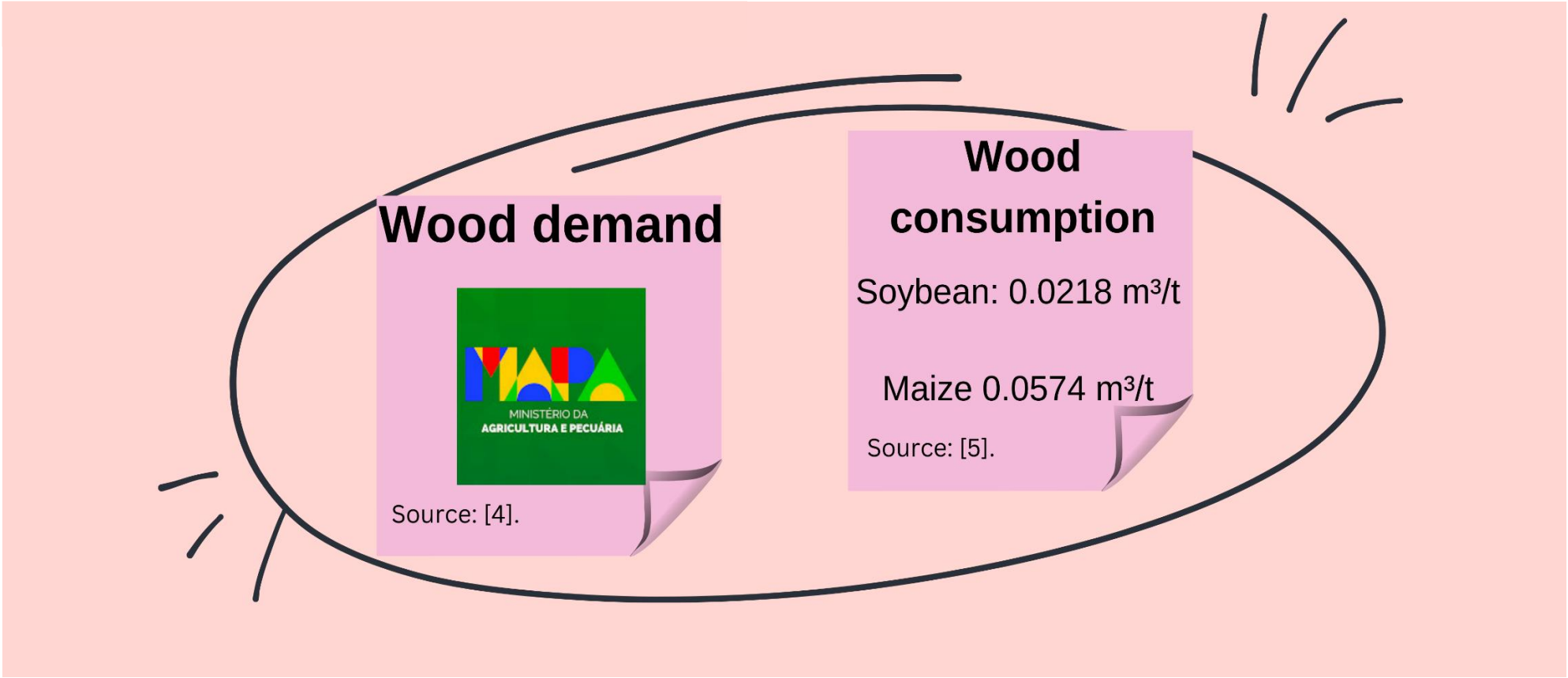
Methodology



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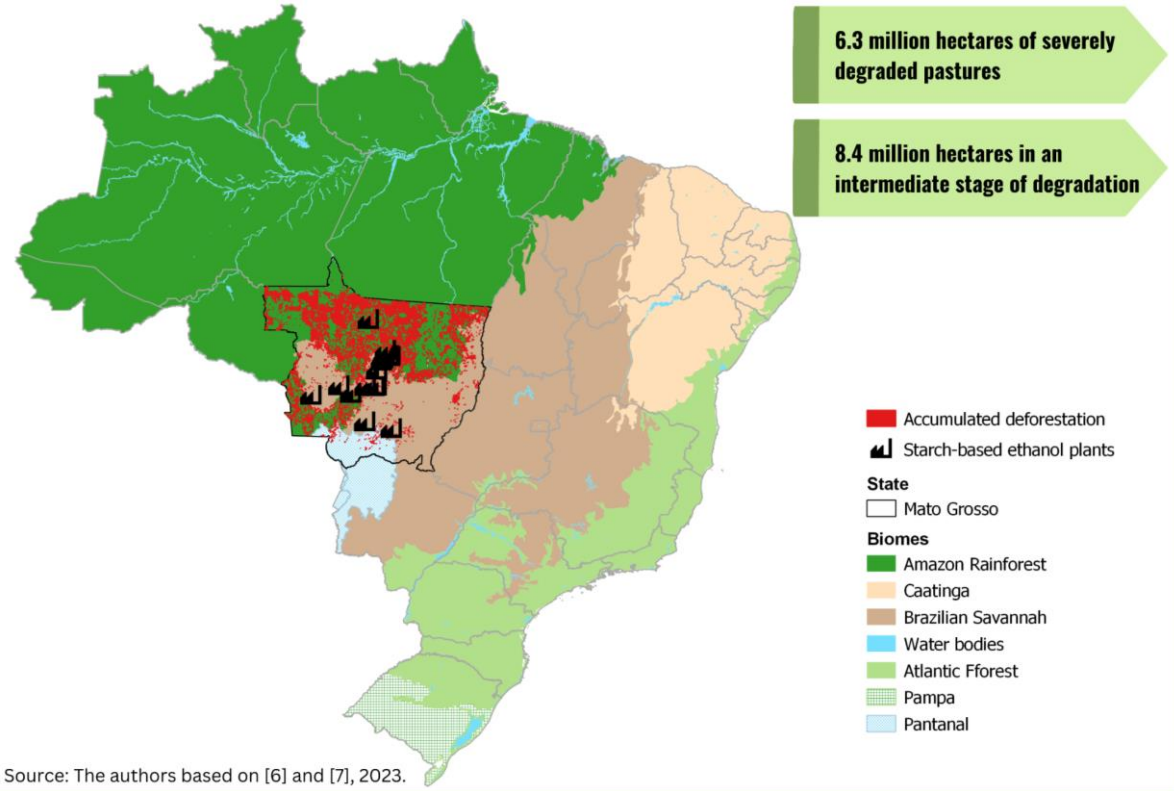
Results



Source: The authors based on [6] and [7], 2023.

Table 1. Average* soybean and maize production projections for the next 5 harvests in Mato Grosso.

Product	2023/24	2024/25	2025/26	2026/27	2027/28
Soybean	39,909	41,056	42,273	43,634	44,832
Maize	34,661	35,807	36,921	38,050	39,172

*In thousands of metric tons.

Table 2. Wood volume and planting area needed for grain drying in Mato Grosso.

Parameter	2023/24	2024/25	2025/26	2026/27	2027/28
Volume (m3)	2,859.56	2,950.34	3,040.82	3,135.29	3,225.81
Area (ha)	17.85	18.42	18.98	19.57	20.14

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Results

This approach aligns with the objectives of reducing carbon emissions as outlined in the Paris Agreement and the targets specified in the National Policy on Climate Change law. Furthermore, it contributes to achieving the goals set forth in the Sustainable Development Goals and in the state program for expanding planted forest areas in Mato Grosso.

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Conclusions

The projections made in this study estimate that the demand for forest biomass would require approximately 233,000 hectares of eucalyptus plantations.

The forest biomass presents great potential for use as an energy source, since it is essential for the maintenance of other productive chains in agribusiness, especially for grain drying.

Increasing the use of forest biomass as a renewable energy source can greatly contribute to enhancing the sustainability and security of the energy mix in the Central West region of Brazil.

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THANK YOU!

Daniela Higgin Amaral, MSc.

PhD candidate

Research Group on Bioenergy (GBio), Institute of Energy and Environment, University of São Paulo

danielahiggin@usp.br

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