



 **RAPID RESPONSE #6**

[SOY]

**Monitoring
deforestation
in Brazilian
supply chains**



**MIGHTY
EARTH**

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Abbreviations

ABIOVE Associação Brasileira das Indústrias de Óleos Vegetais / *Brazilian Association of Vegetable Oil Industries*

ANEC Associação Nacional dos Exportadores de Cereais / *National Association of Cereal Exporters*

APP Área de Preservação Permanente / *Permanent Preservation Area*

ASM Amazon Soy Moratorium

CADE Conselho Administrativo de Defesa Econômica / *Administrative Council for Economic Defense*

CAR Cadastro Ambiental Rural / *Rural Land Registry*

CONAB Companhia Nacional de Abastecimento / *National Food Supply Company*

DCF Deforestation and Conversion-Free

DETER Detecção de Desmatamento em Tempo Real / *Deforestation Detection in Real Time*

Embrapa Empresa Brasileira de Pesquisa Agropecuária / *Brazilian Agricultural Research Corporation*

EUDR European Union Deforestation Regulation

FICO Ferrovia de Integração Centro-Oeste / *Midwest Integrated Railroad*

FUNAI Fundação Nacional dos Povos Indígenas / *National Indigenous Peoples Foundation*

GLAD Global Land Analysis and Discovery laboratory, Department of Geographical Sciences at the University of Maryland, United States

IBAMA Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis / *Brazilian Institute of Environment and Renewable Natural Resources*

IBGE Instituto Brasileiro de Geografia e Estatística / *Brazilian Institute of Geography and Statistics*

ICMbio Instituto Chico Mendes de Conservação da Biodiversidade / *Chico Mendes Institute for Biodiversity Conservation*

INPE Instituto Nacional de Pesquisas Espaciais / *National Institute for Space Research*

PRODES Projeto de Monitoramento do Desmatamento na Amazônia Legal por Satélite / *Project for Monitoring Deforestation in the Legal Amazon by Satellite*

SICAR Sistema Nacional de Cadastro Ambiental Rural / *Brazilian's National Rural Environment Cadaster*

SICARM Sistema de Cadastro Nacional de Unidades Armazenadoras / *Brazilian's National Cadaster of Storage Units*

SIGEF Sistema de Gestão Fundiária / *Land Tenure Management System*

SNCI Sistema Nacional de Certificação de Imóveis Rurais / *National Rural Property Certification System*

SNCR Sistema Nacional de Cadastro Rural / *Brazilian National Rural Registration System*

SNUC Sistema Nacional de Unidades de Conservação da Natureza / *National System of Nature Conservation Units*

EXECUTIVE SUMMARY

This Rapid Response Soy Report concentrates on the Amazon biome, since the Amazon Soy Moratorium, the most effective weapon against deforestation in the region, is currently threatened – and ironically this year’s COP30 takes place in Belém, Brazil, right in the heart of the Amazon.

Our new report highlights ten recent instances of deforestation and land conversion directly linked to soy plantations. Of these, seven are in the Brazilian Amazon and three are in the Cerrado. These two regions are active deforestation fronts. The combined impact of these cases is the loss of 18,325 hectares of vegetation, which is almost twice the size of Paris.

This destruction of native vegetation took place between August 2024 and July 2025 and may be linked to major international grain traders. Despite the European Union’s Deforestation Regulation (EUDR) having been upheld, many traders associated with the largest soy users are still not in compliance with the regulation. They must comply by December 31, 2025, and avoid sourcing soy that is linked to deforestation.

By examining the past, particularly as far back as 2008, it becomes apparent that these same farms were already implicated in previous instances of deforestation and land conversion. When taking these cases into account, this figure rises to 41,953 hectares of nature destroyed for these ten farms alone, located in the states of Mato Grosso, Pará and Rondônia (Amazon), Maranhão and Piauí (Cerrado), from July 2008 to July 2025.

Considering only the Amazon biome, 9,102 hectares of deforestation have taken place in these selected farms since 2008. Of this total, 8,288 hectares occurred after 2021, meaning that, under the situations we evaluated, less than 10% of deforestation in the Amazon took place from 2008 to 2020, and 90% concentrated in recent years.

This report’s “case studies” section details the accelerating rate of deforestation on these ten farms. This trend reflects a broader underlying one that we identified regarding the rhythm of conversion from forests to soy plantations in the Amazon biome.

From 2008 to 2020, an average of 24,600 hectares of forest ecosystems were converted into soy plantations every year.

About Rapid Response

Mighty Earth, in partnership with AidEnvironment and Repórter Brasil, publishes this report as part of its Rapid Response program, which aims to monitor recent deforestation in cattle and soy supply chains in Brazil. The goal of this program is to proactively halt deforestation in its early stages by urging companies to cease trading with farms involved in recent fires or clearing that are visually confirmed. By rapidly ending business with actors contributing to deforestation, we can avoid further environmental destruction and prevent hundreds of hectares of deforestation becoming thousands.

The reports are published on a quarterly basis and are used to pressure national and international traders operating in Brazil to act by sending a “rapid response” to their suppliers to stop the deforestation. This program is also used to alert international retailers, animal feed manufacturers, financial institutions that fund these companies, and other market players to the deforestation risks found in the Brazilian beef and soy supply chains and to encourage them to take action by suspending non-compliant suppliers, thus reducing deforestation in real time 

However, between 2021 and 2023, this annual rate almost doubled to 42,000 hectares.

This trend contradicts the regulations being implemented, and the supposed improvements in the Deforestation- and Conversion-Free (DCF) policies of soy sector actors, since soy originating in areas cleared after 2008 in the Amazon should not be traded, according to the Amazon Soy Moratorium (ASM). Signed in 2006 on a voluntary basis by major international soy traders and civil society organizations and cautioned by the Brazilian government, it banned the purchase of soy grown on land (legally or illegally) deforested in the biome after July 2008. Moreover, December 2020 was set as the EUDR cut-off date. This effectively implies that the European market will cease purchasing agricultural goods, including soy, from land cleared after January 1, 2021.

Concurrently, other economic and political forces were working to push things in the opposite direction and facilitate soy cultivation in the Amazon. In fact, while the soy cultivation area grew by more than 270,000 hectares per year in the Amazon between 2008 and 2020, the expansion rate increased to more than 839,000 hectares per year between 2021 and 2023. This represents a 210% increase, according to our new analysis.

The current favorable market conditions, fueled by increasing global demand, especially in China, the ongoing trade war between China and the United States, and record-high international soy prices, are driving soy expansion in Brazil. The announcement or the effective construction of logistic and infrastructure facilities supported or financed by the major traders operating in Brazil, like Cargill, Bunge, ADM, Amaggi, are also playing a critical role in this process. They allow for increased soy production, storage, transportation and export. However, they directly or indirectly encourage deforestation and conversion, annihilate biodiversity, threaten local communities with more violence and the invasion of Indigenous territories, destroy conservation areas and other lands. In doing so, these investments are inconsistent and undermine the traders' own DCF commitments and their collective engagements, such as the 1.5°C roadmap and the ASM.

The figures and the context highlighted in this report correspond to the increasing rate of deforestation observed in Brazil from 2019 to 2023 (PRODES/INPE). This trend was backed by anti-environmental actions and rhetoric promoted by the administration of former president Jair Bolsonaro, who argued that environmental policies hindered economic development. Soy producers and companies, along with lobbyists, politicians, and legislators, surged forward, resisting environmental agreements like the Amazon Soy Moratorium.

For instance, this report identified a case of deforestation (338 hectares cleared in March 2025) involving the former mayor of the municipality of Cláudia in Mato Grosso, who signed a document opposing the Soy Moratorium in 2023. Almost a year later, the state of Mato Grosso passed a law prohibiting tax incentives to companies that adhere to the Moratorium agreement.

As Brazil is hosting the COP30 in Belém, the Soy Moratorium, a much-lauded initiative that has protected millions of hectares of the Amazon, faces uncertain prospects. Like in Mato Grosso, states such as Rondônia, Maranhão and Tocantins have enacted laws with similar restrictions. Furthermore, Brazil's Administrative Council for Economic Defense (CADE) has recently determined that the current iteration of the Moratorium breaches antitrust laws, adding to the confusion surrounding its future. Without the Moratorium agreement, the cases of deforestation with authorization for the suppression of native vegetation identified in this report would be able to export soy at the expense of nature and traditional populations.

Mighty Earth calls on every global stakeholders, including European, US and Chinese soy players, traders, consulting firms, and experts, to support and uphold the 2008 cut-off date for the Amazon Soy Moratorium. Momentum is building, and actors such as the UK Soy Manifesto, the Retail Soy Group in the UK, the French Soy Manifesto, and numerous companies, including Groupement Mousquetaires, Metro, Casino, E.Leclerc, Herta, Aoste, Groupe Popy, Alsace Lait, and LSDH, already signed on. Others must join before and during COP30 to commit to protecting the Amazon.

We further request that traders promptly express their continued support for the ASM and the 2008 and 2020 cut-off dates for the Amazon and Cerrado. They should aim to publish their progress and update their 1.5°C Soy Sector Roadmap during COP30 in Belém.

METHODS & DATA

The analysis uses a range of publicly available datasets to examine the soy sector's expansion and its links to recent deforestation.

This report first examined the expansion rate of soy production in the Amazon biome during two distinct periods: from 2008 to 2020 and from 2021 to 2023. These periods were selected because they correspond to the Amazon Soy Moratorium and the EUDR cut-off dates, respectively July 2008 and December 31, 2020. In addition to examining the rate of soy expansion during these two distinct periods in the Brazilian Amazon biome, we also analyzed the proportional expansion of soy in pasture and native vegetation areas, including forest formations.

The second part of this report highlights ten case studies of potential links between recent deforestation in the Brazilian Amazon and Cerrado biomes and soy traded by seven exporters: Amaggi, Cargill, Bunge, ADM, COFCO, LDC, and ALZ Grãos.

1) Expansion of soy in the Amazon biome

To analyze the soy expansion in the Amazon biome, we utilized data from the Global Forest Watch platform, which is based on a study by the GLAD Lab of the University of Maryland (USA) on "[Commodity Crop Mapping and Monitoring in South America](#)". To understand the expansion of soy cultivation areas between 2008 and 2020, we overlapped the 2020 soy cultivation shapefile with the 2008 soy cultivation shapefile and extracted data on changes in soy acreage. In other words, we identified the regions where soy cultivation increased by comparing the 2008 and 2020 soy layers. We employed the same approach to examine the expansion of soy during 2021 and 2023, identifying the additional soy area by comparing the soy layers of those two years.

2) Expansion of soy in pasture and native vegetation areas in the Amazon biome

To examine the expansion of soy cultivation in the Amazon biome during these two distinct periods, we overlapped them with the Mapbiomas data on land use ([collection 10](#)) using the initial year of analysis for each period (2007 and 2020). We then calculated the proportional expansion of soy cultivation in areas that were once pastures, native vegetation (including forest formations), and other land uses.

3) Case studies with recent deforestation

The initial step in detecting recent deforestation was the alerts generated by the Realtime Deforestation Detection System (Sistema de Detecção de Desmatamento em Tempo Real, DETER), which is overseen by the Brazilian National Space Institute (Instituto Nacional de Pesquisas Espaciais, INPE). DETER's deforestation alerts vary by biome, with distinct categories or types of alerts for the Amazon and Cerrado. In this study, we examined DETER alerts for deforestation in the Amazon and the Cerrado that occurred between August 2024 and July 2025. For the Amazon biome, our analysis considered alerts categorized as clear-cutting (Desmatamento Corte Raso), deforestation mixed with remaining vegetation (Desmatamento Vegetação), burned scar (Cicatriz de Queimada), and degradation (Degradação). For the Cerrado biome, the DETER system only generates one alert: clear-cutting (Desmatamento Raso). In some cases, this is later classified as native vegetation clearing (deforestation) or degradation (including fire).

The INPE acknowledges that DETER data should not be interpreted as official deforestation data, since alerts may or may not be confirmed as native vegetation clearing events by the official deforestation program (PRODES), also operated by INPE. However, DETER is a reliable tool for real-time monitoring and control of deforestation efforts by the government. For this report, DETER was specifically used to identify potential case studies that showcase recent deforestation associated with soy production in the Amazon and Cerrado biomes. As a result, during the case study analysis, all clearing or degradation of native vegetation was visually assessed and identified as either deforestation or degradation.

ANALYSIS: EXPANSION OF SOY IN THE AMAZON BIOME FROM 2008 TO 2023

According to the [GLAD Lab](#) data on commodity crop mapping in South America, the soy cultivation area in the Amazon biome was approximately 1.5 million hectares in 2008. By the year 2023, it had expanded to a staggering 7.2 million hectares. This represents an increase of 5.7 million hectares over a period of 15 years, equivalent to about 384,000 hectares per year. In other words, in 15 years, the soy-growing area of the Amazon increased by more than 150,000 hectares per year, which is equivalent to more than twice the size of the city of São Paulo (150,000 hectares) or more than three times the size of Los Angeles (120,000 hectares).

The Amazon Soy Moratorium ([ASM](#)) is a private and voluntary sectoral agreement, signed between traders and non-governmental organizations, and supported by the Brazilian government. This pact stipulates that traders will not purchase soybeans from areas that were once forested in the Amazon biome, even if such deforestation is legal. The ASM cut-off date is August 2008. It is a zero-deforestation agreement that aims to eliminate both legal and illegal deforestation from the soy-exporting supply chain in the Brazilian part of the Amazon biome.

In 2024, the EU approved the European Union Deforestation Regulation (EUDR), which aims to remove deforestation-risk commodities from the European market, including soy, along with six other groups of commodities (beef, leather, wood, palm oil, coffee, cocoa and rubber). In essence, the EUDR has implemented due diligence requirements for European companies, known as operators, who introduce products onto the European market for the first time. These operators must submit various information, including that the imported product was not produced in areas deforested after December 31, 2020. As of October 2025, the EUDR will enter into force on December 31, 2025, for large and medium-sized companies, with a six-month grace period before enforcement begins on June 30, 2026. Micro and small companies will have an additional year to comply, up until December 30, 2026. The European Commission has proposed targeted amendments to streamline compliance obligations, particularly for micro and small operators, while maintaining traceability and enforcement standards to address deforestation associated with products placed on the EU market. Most companies are continuing to prepare for compliance while they wait for the European Parliament and the member states to make their decisions.

The figure below presents the soy expansion area and the yearly expansion rate from 2008 to 2023, as well as the same data referring to two distinct periods: 2008 to 2020 and 2021 to 2023.

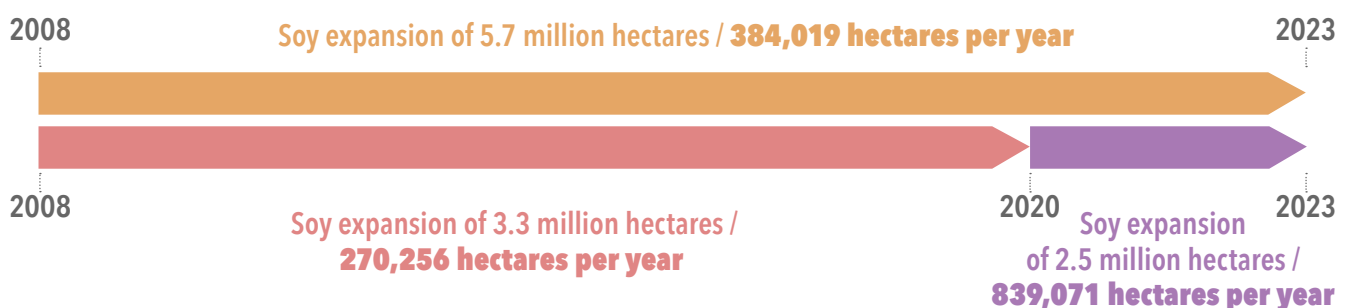


Figure 1. Expansion of soy in the Amazon biome Source: AidEnvironment based on GLAD Lab data.

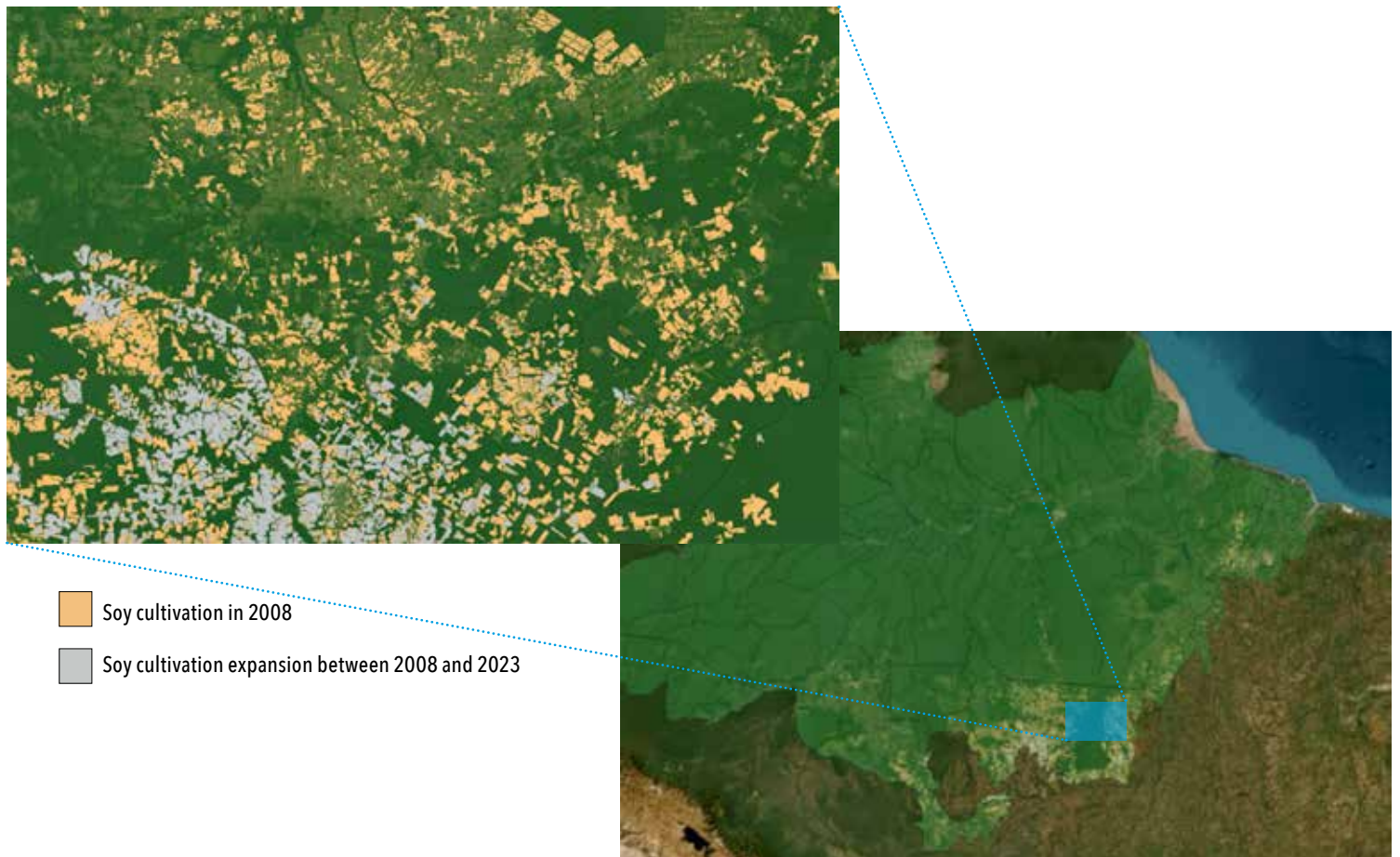


Figure 2. Soy expansion in the Amazon biome between 2008 and 2023

Soy Source: AidEnvironment based on GLAD Lab data.

Analyzing the yearly expansion rate of soy production in the Amazon biome over two distinct periods, the expansion was more than three times faster from 2021 to 2023 than in the previous 12 years. However, a key factor in understanding the expansion of soy cultivation is whether it occurred in areas previously covered by native vegetation (including forests) or for other uses.

From 2008 to 2023, 3.6 million hectares, or 63%, of the soy expansion area in the Amazon biome occurred on land previously used for grazing. A further 521,880 hectares, or 9% of the soy expansion in the Amazon biome during this timeframe, were planted on land that had previously supported native vegetation (of which 7% on forest formation areas and 2% on other types of native vegetation). The other 1.6 million hectares, accounting for 28% of the total soy expansion in the Amazon biome over the same period, took place on lands with previous land uses, such as temporary crops and forest plantations.

The conversion rate of forest formations to soy cultivation varies significantly between two distinct periods. From 2008 to 2020, an average of 24,600 hectares of forest formations were converted into soy cultivation annually. In the last three years of the analyzed period, from 2021 to 2023, this conversion rate increased dramatically to 42,000 hectares annually.

Table 1. Areas of soy expansion in the Amazon biome and previous land uses

Soy expansion in the Amazon biome (ha)	2008-2023		2008-2020		2021-2023	
Total	5,760,291	100%	3,243,077	100%	2,517,214	100%
Pasture	3,644,770	63%	2,055,396	63%	1,589,375	63%
Other land uses	1,593,641	28%	831,313	26%	762,328	30%
Forest	421,457	7%	295,249	9%	126,209	5%
Other types of native vegetation	100,423	2%	61,119	2%	39,303	2%
Forest converted into soy (hectares/year)	28,097 • 15 years		24,604 • 12 years		42,070 • 3 years	

Source: AidEnvironment based on GLAD Lab and Mapbiomas data.

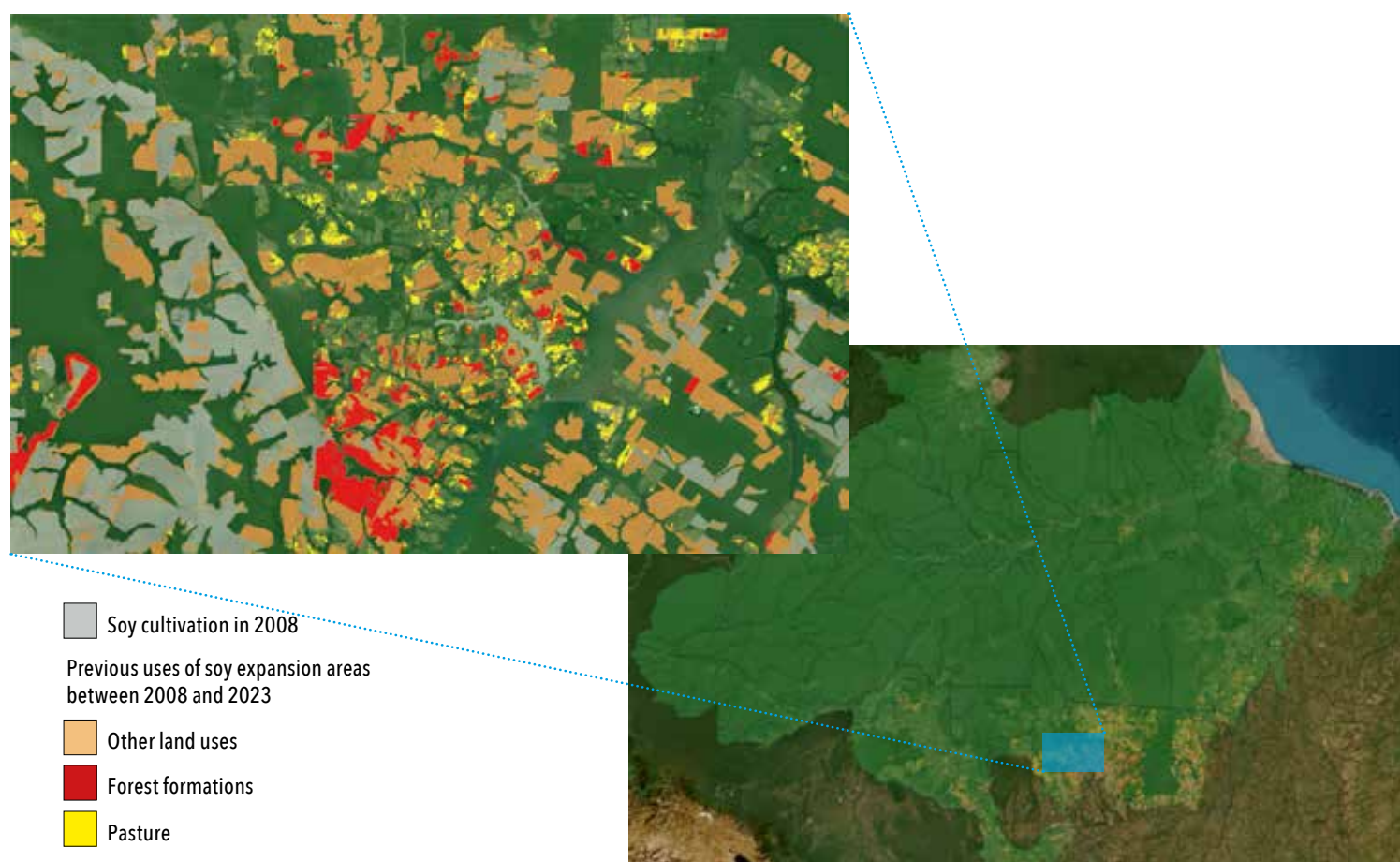


Figure 3. Soy expansion in the Amazon biome between 2008 and 2023, and previous land uses

Source: AidEnvironment based on GLAD Lab and Mapbiomas data.

The recent acceleration of forest conversion to soy in Brazil can be explained by a combination of political, economic, and regulatory factors that weakened long-standing environmental safeguards, like the Amazon Soy Moratorium. It is coherent with the trend of higher annual deforestation rates observed from 2019 to 2023 in Brazil, as registered by PRODES/INPE:

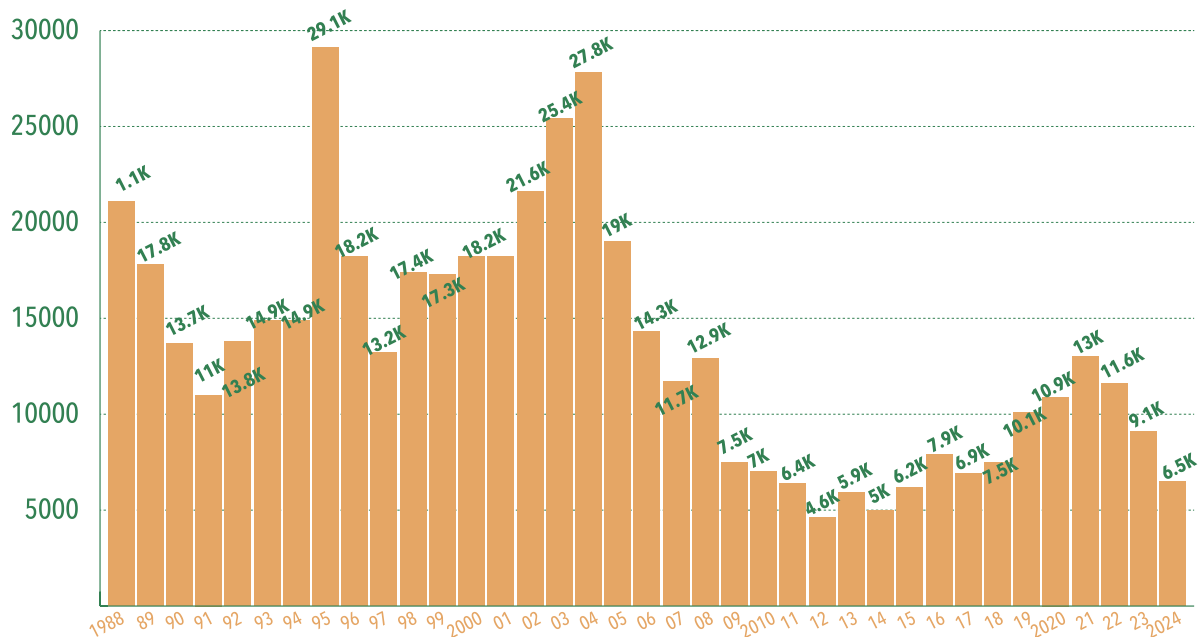


Figure 4. Annual deforestation rates in the Legal Amazon. Source: PRODES/INPE. Accessed: October 2025.

https://terrabrasilis.dpi.inpe.br/app/dashboard/deforestation/biomes/legal_amazon/rates

The rise of former President Jair Bolsonaro’s right-wing administration and the growing influence of the “bancada ruralista”, a powerful agribusiness bloc in the Brazilian Congress, transformed the nation’s environmental agenda. They framed conservation policies as obstacles to economic growth and weakened enforcement in crucial agencies such as IBAMA and ICMBio. This political shift strengthened actors at the agricultural frontier, encouraging local initiatives seeking to dismantle or weaken the Amazon Soy Moratorium. As a result, since 2024, a new wave of state-level legislation has further threatened these safeguards. In Mato Grosso¹ (Law 12.709/2024) and Rondônia (Law 5.837/2024),² local governments have enacted laws eliminating tax incentives for companies that comply with the Soy Moratorium. Similar measures were introduced in Maranhão³ (Law 12.475/2025) and Tocantins,⁴ where lawmakers also aimed to align state policies against both the Moratorium and the EUDR. These measures were hailed as victories for “sovereignty” by some sectors of the agricultural industry, but they directly undermine two decades of progress in curbing soy-driven deforestation.

This pressure is exacerbated by the recent ruling of Brazil’s Administrative Council for Economic Defense (Conselho Administrativo de Defesa Econômica, CADE), the country’s antitrust authority, which found that the Soy Moratorium, in its current form, violates competition law. This ruling characterizes the voluntary environmental agreement as a potential barrier to free market dynamics, aligning with long-standing arguments advanced by the ruralist faction and agribusiness lobby. In 2023, the CADE had already raised hypotheses about potential barriers to market entry, impacts on prices, and risks of antitrust violations in a technical note (No. 18/2023). The issue culminated in August 2025, when CADE ordered the immediate suspension of the Soy Moratorium - later postponed to January 2026.⁵

1 “Governador sanciona lei contra empresas que aderirem à Moratória da Soja,” Secretaria de Comunicação de Mato Grosso (Secom-MT), October 24, 2024

2 “Assembleia Legislativa aprova projeto de lei que mitiga efeitos da moratória da soja em Rondônia,” Ivanete Damasceno, *Rondônia Dinâmica*, July 8, 2024

3 “Balsas: Agricultores comemoram lei sancionada por Carlos Brandão,” *Diário de Balsas*, February 7, 2025

4 “Tocantins aprova projeto contra Moratória da Soja e EUDR e reforça defesa da soberania nacional,” *Portal do Agronegócio*, July 3, 2025

5 “Tribunal do Cade mantém medida preventiva sobre moratória da soja, com efeito a partir de 2026,” Ministério da Justiça e Segurança Pública, September 30, 2025, updated on October 1, 2025

At the same time, global market dynamics have exacerbated these domestic pressures. Soy production and exports in Brazil hit all-time highs after 2020, fueled by strong demand from China and favorable global prices. These economic opportunities had already been captured by market players interested in expanding soy production, storage, transportation, and export capacities several years ago. Strategic logistics and infrastructure megaprojects have been announced and are currently under construction or development, such as the Ferrogrão (EF-170) railway, the BR-163 highway corridor, the Tapajós/Miritituba River terminal cluster, and the Ferrovia de Integração Centro-Oeste (FICO). They promise to reduce freight costs and travel times from soy-producing regions to northern export ports. However, they are increasing deforestation, destroying biodiversity. They are also making traditional communities and Indigenous peoples and territories more vulnerable around new transport routes and hubs, particularly in Pará and northern Mato Grosso.

The main soy traders – Cargill, Bunge, ADM, Louis Dreyfus, and Amaggi – invest directly or support logistics and infrastructure facilities (seaports, inland ports, roads, railroads, silos, etc.) through terminal operations, joint ventures, or concession interests. They have consistently aligned with the ruralista agenda, promoting the “economic integration” of the Amazon and asserting the “Brazilian sovereignty” of national regulations, particularly the Forest Code, at the expense of international private agreements.

Table 2. Main logistic projects

Project	Main Dates and Phases	Status (2025)	Main Soy Traders / Private Actors Involved or Benefiting
Ferrogrão (EF-170) – “Grain Railway”	<ul style="list-style-type: none"> Announced: 2017-2019 Federal inclusion and design studies: 2021-2024 Auction expected: 2026 	In the environmental licensing and concession preparation phase; politically prioritized but facing strong opposition	Cargill, Bunge, ADM, Amaggi – identified by media and NGOs as likely bidders or beneficiaries; operate export terminals in Miritituba/Barcarena connected to this line
BR-163 Corridor (Nova Rota do Oeste)	<ul style="list-style-type: none"> Paving completion to Miritituba: 2019 Concession transfer and duplication works: 2022-2024 Ongoing duplication and maintenance: 2024-2026 	Active duplication and modernization under new concessionaire (Via Brasil / Rota do Oeste)	Bunge, Cargill, Louis Dreyfus (LDC) – key users of this corridor for Arco Norte exports; logistics cost savings directly favor large soy exporters
Tapajós / Miritituba River Terminal Cluster	<ul style="list-style-type: none"> Terminal expansion: 2014-2022 Major disruptions (droughts, protests): 2024-2025 New investment rounds and auctions: 2025 onward 	Fully operational hub expanding with new terminals and silos; congestion and social-environmental conflict rising	Cargill, Bunge, LDC, Amaggi, Cianport, Hidrovias do Brasil – main investors/operators in terminals along Tapajós/Barcarena corridor
FICO / Ferrovia de Integração Centro-Oeste	<ul style="list-style-type: none"> Works start: 2023 30% completion reported: late 2024 Full integration with Norte-Sul projected: 2026-2028 	Under construction; partial sections active; financed by federal funds and agribusiness-linked consortia	Amaggi, Rumo Logística, VLI (Vale, Mitsui, Brookfield) – close industrial users; soy traders expected to benefit via cost reduction
Other major logistics projects (context)	<ul style="list-style-type: none"> BR-158 reopening debates (2023-2025) Araguaia-Tocantins waterway studies revived (2024) Port of Barcarena expansion (ongoing 2023-2026) North-South railway extension to Itaqui completed (2023) 	Various stages – feasibility, concession, or operation	Benefit entire soy export chain; supported by ABIOVE, ANEC, and soy traders advocating for stronger northern export routes

Traders have pledged to eradicate deforestation and conversion from their supply chains. However, the weakening of the Soy Moratorium has led to a lack of public accountability for these commitments. For example, Cargill has set a cut-off date for 2020 for deforestation-free sourcing, in line with the EUDR, and they have overlooked the 2008 ASM initial cut-off date.⁶

Weakening the ASM could open 1.1 million hectares of the Amazon rainforest to soy cultivation, triggering widespread deforestation and bringing the Amazon perilously close to a tipping point where recovery may not be possible. In just 1-2 years, direct soy-driven forest loss could release up to 300 million tonnes of CO₂ - more than Spain's annual emissions (Reis et al., 2021).⁷

Amazon lands deforested after July 2008 - roughly 10 million hectares - would be open to soybean expansion. This would likely displace existing land uses, mainly cattle ranching. As a result, other agriculture activities may be forced to encroach further into the forest, leading to significant, largely unmeasured indirect deforestation (Reis et al., 2021).

The suspension of the ASM and the legislative pressures in key soy-producing states underscore the urgent need for ongoing vigilance and action, particularly before 2026. Collaboration among stakeholders is essential to ensure that soy production does not harm the Amazon rainforest.

⁶ "Cargill weakens Amazon no-deforestation vow, raising concerns about wider backslide," Shanna Hanbury, *Mongabay*, February 13, 2025

⁷ Reis, T. et al. (2021). Soy-driven deforestation in the Brazilian Amazon. *Environmental Research Letters*.

CASE STUDIES

To better understand the diverse patterns of nature destruction in Brazil, we selected seven case studies that reflect a small fraction of the broader deforestation crisis occurring across the country. Deforestation cases are selected based on a range of criteria, including factors such as the magnitude, timing, and location of deforestation, evidence of supply chain connections, and proximity to Indigenous Lands. Cases were selected only when DETER deforestation alerts could be visually confirmed through daily imagery from Planet (Planet Labs Inc.). After confirming the clearance of native vegetation through satellite imagery, each case was analyzed using AidEnvironment’s internal database, crossing data from different sources and datasets as described in the “Data sources and methods (case studies)” section on page 5. Finally, the data was validated by a local partner, Repórter Brasil, and a qualitative analysis of each case was undertaken using publicly available data.

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Case #6.1 – Fazenda Lagoa Serena

Machadinho d'Oeste (Rondônia) – Amazon

Recent deforestation: 1,010 hectares
Deforestation alert detected on May 31, 2025



August 2024

Source: Imagery © 2025 Planet Labs Inc.



July 2025

Source: Imagery © 2025 Planet Labs Inc.

Fazenda Lagoa Serena

Machadinho d'Oeste, RO • Farm area (ha): 1,711 • Soy area (ha): 347 • Farm coordinates: -9.4520, -62.3448

CAR: Four overlapping CAR declarations, all with a "pending" status: RO-1100130-24D64C97B7F2438B97FA1E4F3F15AE3B (Fazenda Seringal Rio Preto), RO-1100130-D1C7E34FA52F4083AA9352C-DD30F28B8 (Seringal do Rio Preto), RO-1100130-5BB42E9C023D4153AD2D85F8B4805761, RO-1100130-CD4C77413C804C22B011BBD4B7BBF641 **SNCI:** 9500331777841

Ownership: Wilson José dos Reis/Dovilio Laverde

No fire alert • CO₂ equivalent emissions (tons): 503,357

Surrounding natural conservation areas: - • Surrounding Indigenous territories: -

Estimated % of remaining native vegetation: 20% • Vegetation type: Open-canopy rainforest, submontane (also known as open submontane humid forest) **• Priority for biodiversity conservation:** Extremely high

Deforestation (ha)

Deforestation noncompliant with the Amazon Soy Moratorium (between August 2008 and August 2025)	Deforestation noncompliant with the EU Deforestation Regulation (EUDR) (between January 2021 and August 2025)	Most recent visually confirmed deforestation (between August 2024 and July 2025)
1,021	1,010	1,010

Embargoes & Environmental fines	One embargo for illegal clearance of 50 hectares of native vegetation in September 2024 in the name of Dovilio Laverde. The area of the overlapping CAR registration that is still under analysis has 16 other embargoed areas, all for illegal clearance of native vegetation under the names of: Alvaír Barros Lopes (103 ha, July 2017; 35 ha, August 2024); Divaldo Inácio dos Santos (6 ha, December 2014); João Ferreira da Silva (12 ha, April 2023); Saulo Gomes da Silva (111 ha, April 2023), Miquias Campana Batista (29 ha, April 2023); Celia Martelo Cardoso (12 ha, August 2024); Leandro Maculan (7 ha, August 2024); and unknown (69 ha, April 2023; 290 ha, October 2023; 134 ha, August 2024).
Trader's silos within a 50km radius	Nine local owners' warehouses within a 50-kilometer radius, the property is 180 km distant from an Amaggi warehouse in Porto Velho (RO).
Supply chain Details	
Other linked companies	No linked companies found
Other linked properties	Fazenda Boa Vista (Machadinho d'Oeste, RO) is another property registered under the name of Wilson José dos Reis. It indirectly supplied cattle to Marfrig (Ji-Paraná, RO) in 2020 and to Minerva (Rolim de Moura, RO) in 2018.
General comments	The reported clearing of native vegetation is confined to a small area of three overlapping CARs with pending status. The property owner, Wilson José dos Reis, is listed in the SIGEF database. One of the ongoing environmental embargoes for illegal clearing of native vegetation in September 2024 is under the name of Dovilio Laverde. In a 2018 court case, Dovilio Laverde accused Wilson José dos Reis of encroaching on part of his property, which he designated as Fazenda São Mateus I and II. According to Wilson José dos Reis's statement in the legal case, a portion of his property (Fazenda Lagoa Serena) was illegally deforested by Laverde, who intended to raise cattle on the site. In 2023, the court denied Laverde's request for repossession. This ruling was upheld in two higher courts. (1) Wilson dos Reis's Rural Environmental Registry records reveal that the ranch's borders were modified at least twice between 2020 and 2025, excluding cleared areas from the land registry. (2) Wilson José dos Reis is a cattle rancher in the Brazilian state of Rondônia. (3)

(1) <https://www.jusbrasil.com.br/processos/195077312/processo-n-700XXX-4520188220019-do-tjro> / <https://www.tjro.jus.br/novodiario/2022/20221230004-NR243.pdf>

(2) CAR register (3) GTA files

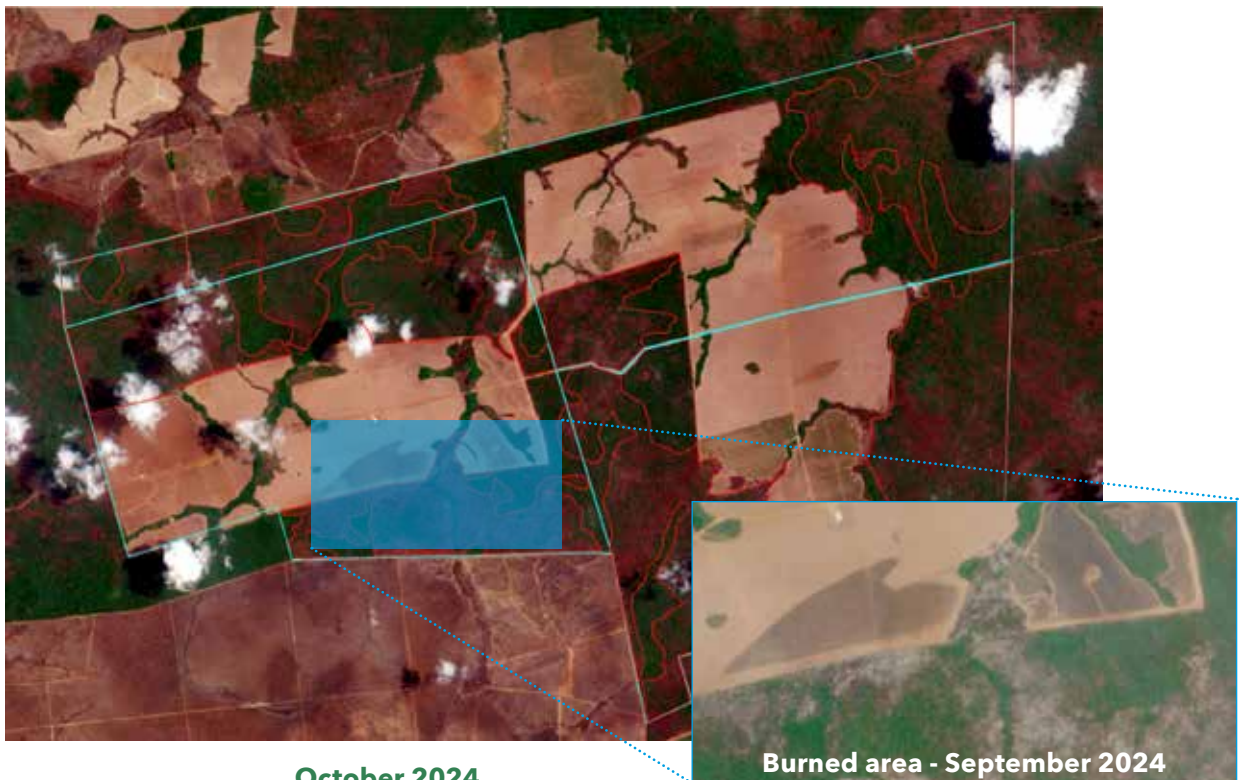
Case #6.2 - Fazenda Massapé, Fazenda Mandaguari, Fazenda Santos - Altamira (Pará) - Amazon

Recent deforestation: 3,213 hectares (deforestation by fire)
Deforestation alert detected on September 29, 2024



August 2024

Source: Imagery © 2025 Planet Labs Inc.



Source: Imagery © 2025 Planet Labs Inc.

Processed image. European Union EO
Browser Copernicus Sentinel Data 2025.

Fazenda Massapé/Fazenda Mandaguari/Fazenda Santos

Altamira, PA • Farm area (ha): 7,242 • Soy area in 2024 (ha): 441 • Farm coordinates: -8.3927, -54.9483

CAR: Seven CAR declarations overlap with the property area: PA-1500602-B655784DECF9480598BF6C1DB35D1357 (active), PA-1500602-40F7D372B8814E0E8ADBE2E9A386CFB4 (pending), PA-1500602-9DFD43466698439FA40D1CB2F72FBCD2 (pending), and other four CARs **SNCI**: 9502033696327

Ownership: Luiz Augusto Minozzo/Raimunda Elias da Costa / Renato Adriano Gomes

163 fire alerts (in August and September 2024) • **CO₂ equivalent emissions (tons): 1,601,274**

Surrounding natural conservation areas: - • **Surrounding Indigenous territories:** -

Estimated % of remaining native vegetation: 61% • **Vegetation type:** Open-canopy rainforest, submontane humid forest • **Priority for biodiversity conservation:** High

Deforestation (ha)

Deforestation noncompliant with the Amazon Soy Moratorium (between August 2008 and August 2025)	Deforestation noncompliant with the EU Deforestation Regulation (EUDR) (between January 2021 and August 2025)	Most recent visually confirmed deforestation (between August 2024 and July 2025)
3,213 (clearing by fire)	3,213 (clearing by fire)	3,213 (clearing by fire)

Embargoes & Environmental fines

One embargo in August 2024 due to irregularities in a request for gold mining in Altamira (PA). One fine for illegal gold mining in Altamira (PA) (BRL 12,780/US\$ 2,375). The geographic coordinates of this embargo overlap the CAR of Fazenda Mandaguari and Fazenda Santos.

Trader's silos within a 50km radius

Six local owners' warehouses within a 50-kilometer radius. The property is 180 km away from a COFCO warehouse in Novo Mundo (MT).

Supply chain Details

Company group

Luiz Augusto Minozzo (Fazenda Massapé) is linked to four active companies: Reserva Empreendimentos e Serviços, a cattle-producing company registered in Altamira (PA), Massapé Agroindustrial, an ethanol-producing company also registered in Altamira (PA), NSA Agropecuária, a soy cultivation company registered in Alta Floresta (MT), and Futuro Participações Societárias, a non-financial holding registered in Manaus (AM). We did not find any companies linked to Raimunda Elias da Costa and Renato Adriano Gomes.

Other linked properties

No linked properties found

General comments

The property is adjacent to the BR-163 highway, which links Cuiabá, the capital of Mato Grosso, to Santarém, where Cargill operates a grain export port. A railroad known as "Ferrogrão" is expected to follow a similar route to the highway BR-163, but it is not yet built. The reported clearing of native vegetation corresponds to a fire event that occurred between August and September 2024. The Fazenda Massapé held a valid environmental license for soy cultivation until 2021. (1) In 2024, Luiz Augusto Minozzo's mining permit was temporarily suspended due to illegal gold mining activities in Altamira (PA). (2) According to the Selo Verde platform, managed by the Pará State Environment Secretariat, Fazenda Massapé was deemed "inapt" based on the Monitoring Protocol for Amazon Cattle Suppliers' criteria. (3)

(1) <https://oimpacto.com.br/2019/06/18/licenca-de-atividade-rural-luiz-augusto-minozzo/>

(2) https://dadosabertos.ibama.gov.br/dados/SIFISC/termo_suspensao/suspensao.html

(3) <https://seloverde.info/consultar-car/>. More about the Monitoring Protocol for Amazon Cattle Supplier: <https://www.beefontrack.org/wp-content/uploads/2025/01/Protocolo-Monitoramento-Gado-2ponto0-w5111720-ING-ALT3-WEB.pdf>

Note: DETER's terminology refers to the practice of clearing land by burning as "cicatriz de queimada".

Recent deforestation: 338 hectares
Deforestation alert detected on March 11, 2025



August 2024

Source: Imagery © 2025 Planet Labs Inc.



July 2025

Source: Imagery © 2025 Planet Labs Inc.

Fazenda Santa Maria

Cláudia, MT • Farm area (ha): 1,832 • Soy area in 2024 (ha): - • Farm coordinates: -11.4345, -55.1150

CAR: MT-5103056-72D303DFE2AB48B89F49CFAC070CC385 (validated) SNCI: 9500257101563, 9014311006928, 9014310159895

Ownership: Kurten family (Marlete, Marceli, Altamir, Marlene Kurten Tartari, Marli, Marilaine Kurten Feitosa)

No fire alert • CO₂ equivalent emissions (tons): 155,710

Surrounding natural conservation areas: - • **Surrounding Indigenous territories:** -

Estimated % of remaining native vegetation: 82% • **Vegetation type:** Contact between the rainforest and the seasonal forest • **Priority for biodiversity conservation:** Very high

Deforestation (ha)

Deforestation noncompliant with the Amazon Soy Moratorium (between August 2008 and August 2025)

338

Deforestation noncompliant with the EU Deforestation Regulation (EUDR) (between January 2021 and August 2025)

338

Most recent visually confirmed deforestation (between August 2024 and July 2025)

338

Embargoes & Environmental fines

One no-longer active embargo for fraud in the Sustainable Forest Management plan in Fazenda Santa Anna (Cláudia, MT), in 2021; one fine for cutting down a protected tree species (castanheira) in March 2024 (Altamir Kurten) (SEMA, MT); and two fines linked to fraud in the Sustainable Forest Management Plan of Fazenda Santa Anna (Cláudia) in 2021.

Trader's silos within a 50km radius

Fifty-one warehouses within a 50-kilometer radius, including those operated by: COFCO (2), Amaggi (2), Cargill (1), Bunge (1), and ADM (1). Cargill's warehouse is approximately 23 km away from the property.

Supply chain Details

Company group

Kurten Madeiras do Norte

Other linked properties

Seven linked properties in Cláudia, totaling at least 654 hectares: Fazenda ABC – lots 11 and 12 (240 ha), Fazenda ABC – lots 15 and 16 (240 ha), Fazenda ABC – lot 17 (120 ha), Fazenda ABC – lot 18 (120 ha), Chácara 386 – A, B, C (11 ha), Chácara Kurten (23 ha), and Fazenda Santa Anna (unknown area).

General comments

The property is next to a large soy field. The Kurten family, which also owns several other properties with soy fields, owns the company Kurten Madeiras do Norte (registered in Cláudia, MT) and other real estate companies in Paraná. Altamir Kurten, a co-owner of Fazenda Santa Maria, served as mayor of Cláudia for three terms: from 2005 to 2008, from 2009 to 2012, and most recently from 2021 to 2024 (1). In his final term as mayor of Cláudia, Altamir declared that the municipality was in a transition from logging to agriculture and cattle production. (1) In 2023, he was involved in an investigation into criminal fraud related to environmental authorizations for sustainable forest management, operated through SEMA, the Mato Grosso state environmental agency. (2) The investigation includes a series of illegal logging operations that have been uncovered within the Indigenous Territory of Xingu. (3) Back in 2024, Altamir faced legal action from the federal prosecutor's office (MPF) for illegal extraction of gravel, (4) although no verdict has been rendered as of yet. Altamir Kurten holds three outstanding loans from the Brazilian Development Bank (BNDES) amounting to BRL4.1 million (US\$ 761,996), which he intends to invest in agriculture and livestock activities in Cláudia (MT) (5) As of March 2024, the BNDES has implemented a ban on providing agricultural loans to individuals subject to environmental sanctions. However, Altamir Kurten's loans were approved due to the expiration of the embargo in February 2023. In December 2024, Altamir Kurten received authorization for the deforestation of 365 hectares at Fazenda Santa Maria, valid until December 2026. (6) Altamir Kurten was one of the mayors of municipalities in Mato Grosso who signed a document opposing the Soy Moratorium, sent to the state governor in November 2023. Almost one year later, in October 2024, the state of Mato Grosso enacted a law banning the provision of tax incentives to companies that had signed the agreement. (7)

(1) <https://deolhonosruralistas.com.br/2020/12/01/saiba-quem-foram-os-madeireiros-eleitos-no-norte-e-no-centro-oeste/>

(2) <https://g1.globo.com/mt/mato-grosso/noticia/2023/09/21/prefeitos-de-mt-estao-entre-alvos-de-operacao-que-investiga-crimes-ambientais-em-mt.ghtml>

(3) <https://infoamazonia.org/wp-content/uploads/2024/07/relatorio-violencia-povos-indigenas-2023-cimi.pdf>

(4) <https://g1.globo.com/mt/mato-grosso/noticia/2024/01/11/mpf-denuncia-prefeito-por-extracao-ilegal-de-cascalho-em-mt.ghtml>

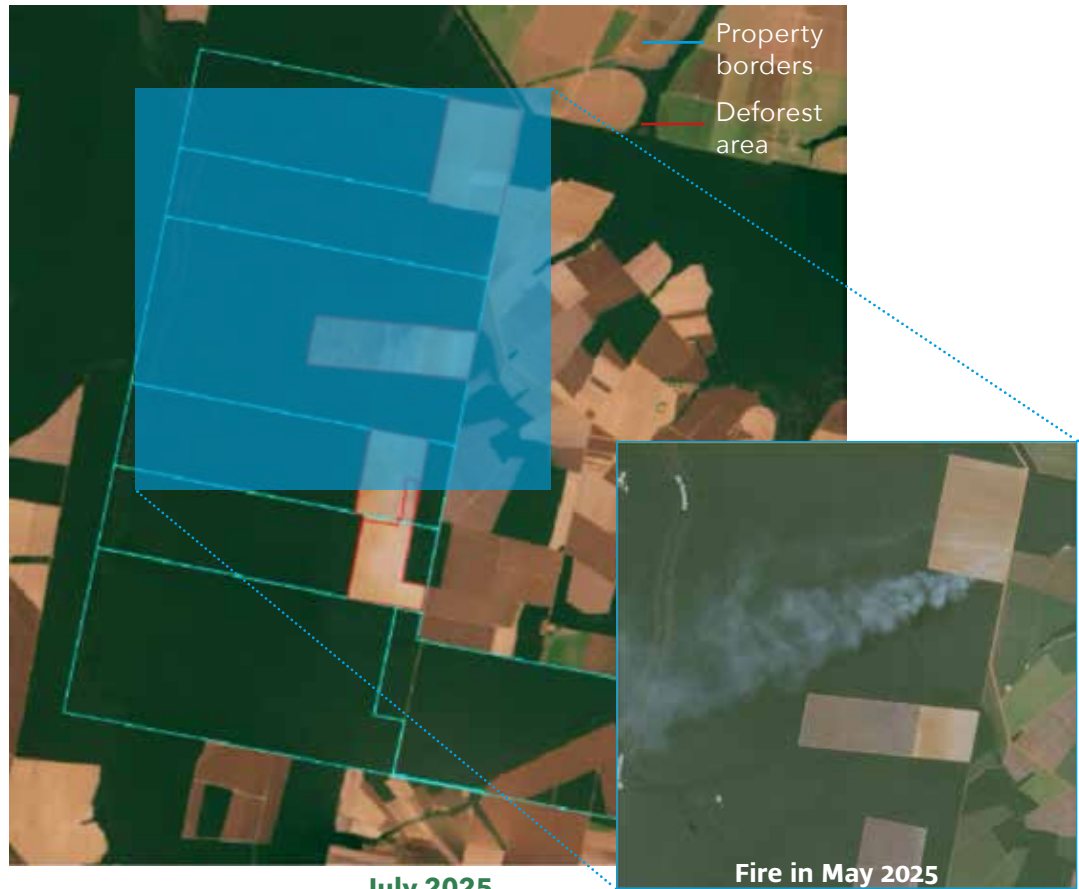
(5) <https://www.bndes.gov.br/wps/portal/site/home/transparencia/consulta-operacoes-bndes>

(6) <http://transparencia.sema.mt.gov.br/#/transparencia/sistemas/simlam>

(7) https://transparencia.camaraclaudia.mt.gov.br/fotos_downloads/5366.pdf / <https://reporterbrasil.org.br/2024/10/soja-governo-mt-ataca-acordo-baixou-desmatamento-amazonia/>

Case #6.4 - Fazenda Macaré - Querência (Mato Grosso) - Amazon

No new deforestation has been observed, but 3,312 hectares have been cleared since January 2021 and fires were detected in May 2025.



Source: Imagery © 2025 Planet Labs Inc.

Processed image. European Union EO Browser Copernicus Sentinel Data 2025.



Different SIGEF registrations for Fazenda Macaré.

Fazenda Macaré

Querência, MT • Farm area (ha): 35,267 • Soy area in 2024 (ha): 830 • Farm coordinates: -12.3149, -52.4958

CAR: Five CAR registrations, all validated: MT-5107065-B6ECBB2D8DDB48B7B113EA607255FBCA, MT-5107065-E5FEA93F46FF47C5B96FAC022B7E2AE4, MT-5107065-DB968E979A8B4C03B5B12413E1EB91B3, MT-5107065-864718343F824606B6E635DA5394C77D, MT-5107065-C9F45DB5188E40E49EDCC8528C6B33C4
SNCI: 6310190087299, 951375779878, 9511370593407

JMSW Agropecuária, Agrícola Gorgen, Cad Agro, BT&F Participações, and Lucas Medeiros Teles

1,110 fire alerts (in May 2025) • **CO₂ equivalent emissions (tons): 0**

Surrounding natural conservation areas: - • **Surrounding Indigenous territories:** Next to the Indigenous Territory "Parque do Xingu", home to 15 different Indigenous people groups • **Estimated % of remaining native vegetation:** 88% • **Vegetation type:** Contact between the rainforest and the seasonal forest • **Priority for biodiversity conservation:** Extremely high

Deforestation (ha)

Deforestation noncompliant with the Amazon Soy Moratorium (between August 2008 and August 2025)	Deforestation noncompliant with the EU Deforestation Regulation (EUDR) (between January 2021 and August 2025)	Most recent visually confirmed deforestation (between August 2024 and July 2025)
3,312	3,312	-

Embargoes & Environmental fines One embargo and environmental fine were issued in 2008 in the name of José Marcolini Jr. for illegally clearing 487 hectares of land at Fazenda Macaré. Marcolini appealed against the embargo in court.

Trader's silos within a 50km radius Forty-four warehouses within a 50-kilometer radius, including warehouses operated by ADM (1), Amaggi (1), Bunge (1), Cargill (1) and Louis Dreyfus (1), all in Querência (MT).

Supply chain Details —

Company group The property was previously owned by Macaré Agrícola, a corporation that was dismantled and reorganized into various independent companies. The property area is covered by four CAR declarations by four different companies, all registered in Jataí (GO) as soy, corn, and cattle-producing companies, and owned by families that were previously linked to Macaré Agrícola: JMSW Participações (Marcolini family); Agrícola Gorgen (Ana Rosa Gorgen and Marvaldi Gorgen); Cad Agro (Ruscitti Diniz family – same fiscal number as Macaré Agrícola Ltda.), and BT&F Participações (Teles family).

Other linked properties Several linked properties to the owners of the four companies

General comments Fazenda Macaré used to be a single farm of 41,963 hectares owned by Macaré Agrícola. (1) The ancient owners were Benildo Carvalho Teles, Cláudio Augusto Diniz, and José Marcolini Júnior. The company Macaré Agrícola was split up in 2016 into several business entities, and Fazenda Macaré was divided into several parcels. (2) According to the CAR information, the fire alerts and deforestation took place at Fazenda Macaré – lots 2 and 6 (JMSW Participações), Fazenda Macaré – lot 3 (BT&F Participações), Fazenda Macaré – lot 4 (Macaré Agrícola Ltda/Cad Agro), Fazenda Macaré – lot 5 (from JMSW Participações) and Fazenda Benila (owned by Lucas Medeiros Teles, from the Teles family). Since 2022, the Fazenda Macaré complex has been receiving authorizations for the clearance of 3,275 hectares: Macaré Agrícola/Cad Agro received an authorization for the deforestation of 999 hectares in Fazenda Macaré – lot 4, valid until 2027, and a controlled burning authorization for 953 hectares in the same area, valid until June 2026. Fazenda Macaré – lot 5, from JMSW Participações, has an authorization for the clearance of 999 hectares, valid until 2027, and a controlled burning authorization in the same area that expired in December 2024. BT&F Participações has been released an authorization for the controlled burning of 638 hectares at Fazenda Macaré – lot 3 valid until December 2025 and an authorization for a clearance in that same area that expired in April 2025. In turn, Lucas Teles, from Fazenda Belina, received authorization for deforestation and controlled burning of 639 hectares of the property valid until December 2025. (3) Fazenda Macaré was previously mentioned in a Rapid Response report from August 2019 for its alleged involvement in deforestation, with potential commercial ties to Louis Dreyfus and ADM. According to this report, a total of 2,882 ha was cleared between October 2017 and June 2019 at Fazenda Macaré. (4) A property called "Fazenda Macaré I" – owned by Ilaildes Medeiros Borges Teles, Cláudio Augusto Diniz, Rosana Ruscitti Diniz, José Marcolini Jr., and Silvia Cristina Weyand Marcolini – was used as collateral in loan negotiations for Rural Brasil S.A. (5)

(1) <https://www.portaldagronegocio.com.br/agricultura/outros/noticias/propriedades-finalistas-do-iii-prmio-produzindo-certo-12893> / <https://www.descubraonline.com/guia/mt/querencia/macare-agricola-ltda-26431803000194/> (2) Information obtained in the documents of the judicial process 1037547-82.2022.8.11.0041 (3) <http://transparencia.sema.mt.gov.br/#/transparencia/sistemas/simlam> (4) https://www.mightyearth.org/wp-content/uploads/Rapid-Response_Soy-and-Cattle_Report-4-1.pdf (5) https://overtaspublicas.xpi.com.br/wp-content/uploads/sites/10/2023/04/AgroGalaxy_Prospecto-Preliminar-Republicacao_2021.03.05.pdf (pg. 102 and 1,541)

Case #6.5 - Fazenda Santa Paula - Marcelândia (Mato Grosso) - Amazon

Recent deforestation: in May and June 2025, a total of 70 hectares was cleared and fires were detected.



July 2025

Source: Imagery © 2025 Planet Labs Inc.



Fire in June 2025

Processed image. European Union EO Browser Copernicus Sentinel Data 2025.

Fazenda Santa Paula

Marcelândia, MT • Farm area (ha): 4,398 • Soy area in 2024 (ha): No soy in 2024, but surrounded by huge soy-producing areas •

Farm coordinates: -53.9247,-11.0979

CAR: MT-5105580-158235FC98F040CDA43968DE2FB0FE4F (validated) SNCI: 9011302034243

Madeiraira e Transportadora Gazziero

185 fire alerts (in May and June 2025) • **CO₂ equivalent emissions (tons): 32,248**

Surrounding natural conservation areas: - • **Surrounding Indigenous territories:** Next to the Indigenous Territory "Parque do Xingu", home to 15 different Indigenous people groups • **Estimated % of remaining native vegetation:** 76% • **Vegetation type:** Contact between rainforest and seasonal forest •

Priority for biodiversity conservation: Extremely high

Deforestation (ha)

Deforestation noncompliant with the Amazon Soy Moratorium (between August 2008 and August 2025)	Deforestation noncompliant with the EU Deforestation Regulation (EUDR) (between January 2021 and August 2025)	Most recent visually confirmed deforestation (between August 2024 and July 2025)
770	167	70

Embargoes & Environmental fines	From 2008 to 2023, issued by IBAMA and SEMA-MT (the Environmental Agency of Mato Grosso) imposed a total of 22 embargoes related to the illegal transport of timber and unlawful deforestation using fire. Additionally, 29 environmental fines were issued on adjoining properties in Mato Grosso between 2008 and 2024 for the same reasons. A fine was levied against Fazenda Santa Paula in 2024 for impeding the recovery of native vegetation.
Trader's silos within a 50km radius	Five local warehouses within a 50-kilometer radius, and the property is located 60 km away from a COFCO warehouse in Marcelândia (MT).
Supply chain Details	—
Company group	Madeiraira e Transportadora Gazziero, Gazziero Transportes, Auto Posto Matheus, and Auto Posto Madeira
Other linked properties	Five linked properties in Mato Grosso, totaling at least 2,670 hectares. In Sinop (MT): Fazenda Gazziero Morada do Sol (10 ha) and lot 90-A (60 ha); In Marcelândia (MT): lot 245 (2,067 ha), Fazenda Nossa Senhora de Fátima (484 ha), and Sítio São Matheus (48 ha).
General comments	Madeiraira e Transportadora Gazziero Ltda. (Transportadora Gazziero) is a company registered in Sinop (MT) owned by Valdecir Gazziero and Aparecida Pires da Silva. (1) Valdecir Gazziero is involved in the soy, logging and beef industries. The producer is linked to several cases of corruption and environmental infractions, such as illegal deforestation and illegal use of wood. In 2016 and 2019, IBAMA imposed two embargoes on the company for deforesting a total of 822.7 hectares at Fazenda Gazziero, in União do Sul-MT. (2) Fazenda Gazziero has other embargoes from the Mato Grosso Environmental Agency due to deforestation of 536.6 hectares in the property's Legal Reserve. (3, 4) Valdecir Gazziero owns a gas station chain in Mato Grosso, and was accused of corruption in 2013, as part of a case led by the former mayor of the municipality of Sinop, Juarez Costa (MDB). (5) Earlier, in 2009, Valdecir was arrested with other twenty people accused of operating a fraud scheme to legalize wood extracted from unauthorized areas. (6) Madeiraira e Transportadora Gazziero has an authorization for the deforestation and wood exploitation of 179 hectares on Fazenda Santa Paula valid until February 2028 and a controlled burning authorization in the same area valid until April 2026. (7) Valdecir Gazziero has five current loans from BNDES, totaling BRL 4.6 million (US\$ 854,923), which he obtained between 2018 and 2021 for agricultural and livestock activities in Marcelândia (MT). (8) As of March 2024, BNDES has stopped providing rural credit to producers with outstanding environmental embargoes due to illegal deforestation, even on properties not directly related to the financing. The regulation applies to regions that the Brazilian Environmental Agency (IBAMA) has imposed sanctions on, but which lack initiatives to rehabilitate the degraded area, such as an Environmental Conduct Adjustment Agreement or a Degraded Area Recovery Project. (9)

(1) https://solucoes.receita.fazenda.gov.br/servicos/cnpjreva/cnpjreva_solicitacao.asp

(2) <https://servicos.ibama.gov.br/ctf/publico/areasembargadas/ConsultaPublicaAreasEmbargadas.php>

(3) <https://dadosabertos.ibama.gov.br/dataset/fiscalizacao-auto-de-infracao>

(4) <https://geoportal.sema.mt.gov.br/>

(5) <https://www.reportermt.com/politica/prefeitura-empenha-r-87-5-milhoes-em-cinco-meses-de-gestao/27002> / <https://www.reportermt.com/poderes/advogados-acusam-gaeco-de-grampo-ilegal-contra-deputado-e-crime-de-falsidade-ideologica/95899>

(6) <https://www.sonoticias.com.br/geral/nortao-pedido-afastamento-de-delegado-e-promotor-de-investigacao>

(7) <http://transparencia.sema.mt.gov.br/#/transparencia/sistemas/simlam>

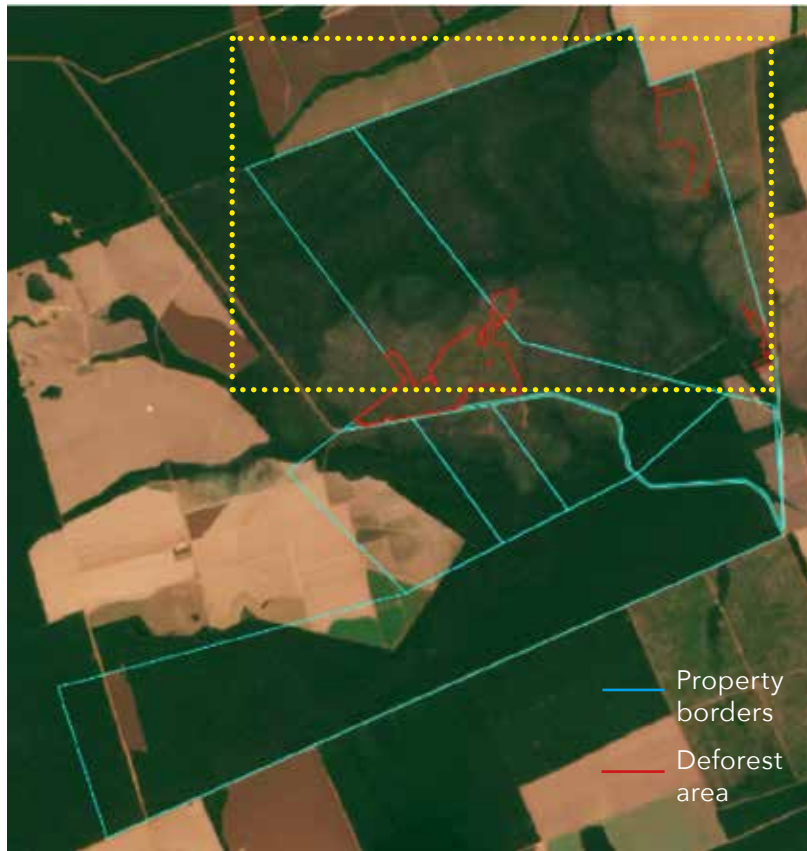
(8) <https://www.bndes.gov.br/wps/portal/site/home/transparencia/consulta-operacoes-bndes>

(9) <https://agenciadenoticias.bndes.gov.br/socioambiental/BNDES-amplia-vedacao-de-credito-a-clientes-com-embargo-por-desmatamento-ilegal/>

Case #6.6 - Fazenda Lagoa do Alegre III, IV, V

Nova Maringá (Mato Grosso) - Amazon

Recent deforestation: 1,800 hectares (deforestation by fire)
Fire alerts started on August 2024



July 2025

Source: Imagery © 2025 Planet Labs Inc.



September 2024

Processed image. European UnionEO
Browser Copernicus Sentinel Data 2025.



Burned area July 2025

Processed image. European UnionEO
Browser Copernicus Sentinel Data 2025.

Fazenda Lagoa do Alegre III, IV, V

Marcelândia, MT • Farm area (ha): 2,110 • Soy area in 2024 (ha): 350 • Farm coordinates: -56.9450, -13.1120

CAR: 5 CARs registrations, all validated: MT-5108907-68606656FDF64AFBA9C6F08F39E9ECC6, MT-5108907-F50DC27484C346D89C34B72AC8F4FA5D, MT-5108907-C8A5A2B34CC64182ABCOC2AB06DF9704, MT-5108907-B46D63475E6B43D8B7416AA429796622, MT-5108907-234002999D434FECAEB15F89FC6B9FF9 **SNCI:** 6330540465829

Fenan Agropecuária, Agro Barazetti

217 fire alerts (in August and September 2024) • **CO₂ equivalent emissions (tons): 829,224**
Deforested areas inside Forest Code's protected areas (ha): 1,800 • **Surrounding natural conservation areas:** - • **Surrounding Indigenous territories:** - • **Estimated % of remaining native vegetation: 85%** •
Vegetation type: Contact between rainforest and seasonal forest •
Priority for biodiversity conservation: Very high

Deforestation (ha)

Deforestation noncompliant with the Amazon Soy Moratorium (between August 2008 and August 2025)	Deforestation noncompliant with the EU Deforestation Regulation (EUDR) (between January 2021 and August 2025)	Most recent visually confirmed deforestation (between August 2024 and July 2025)
248	248	1,800 (full clearing by fire)

Embargoes & Environmental fines	Two environmental fines in name of Fenan Agropecuária in an unknown property at Nova Maringá-MT in 2007 and 2010
Trader's silos within a 50km radius	Twenty-two warehouses within a 50-kilometer radius from the property, including two COFCO warehouses (Nova Maringá – MT)
Supply chain Details	–
Company group	At least nine companies, including Toscana Agropecuária and Fenan Agropecuária/Fenan Group
Other linked properties	At least six properties, totaling 3,900 hectares in Mato Grosso. In São José do Rio Claro (MT): Fazenda Lagoa do Alegre IV (222 ha), Fazenda Lagoa Alegre IV (1,229 ha), Fazenda Lagoa do Alegre III (1,830 ha); In Nova Maringá (MT): Fazenda Lagoa do Alegre IV (439 ha), and Fazenda Lagoa do Alegre III (194 ha)
General comments	Fenan Agropecuária is a company registered in the name of Antônio Evaristo Francesconi, deceased in April 2024. The court ruled that his daughter Camila Francesco Fioratti should become his representative of the companies in which he was a partner. (1) The family business includes soy production, cattle raising and breeding, and real estate. Several years ago, Antônio Evaristo Francesconi's ex-wife was implicated in a case of illicit enrichment. (2) The property also has a validated CAR declared by Agro Barazetti, registered in Nova Maringá (MT) as a soy-producing company owned by Aline Campagnolo Barazetti and Jean Michels. The farm under alert was already flagged in our Rapid Response report published in December 2019 for the deforestation of 939 hectares inside a Legal Reserve. It potentially supplied soy to COFCO International Brasil (2018) and COFCO International Grains (2019). (3) The current reported burned area extends beyond the farm boundaries; however, this affected area also belongs to Fenan Agropecuária.

(1) <https://www.jusbrasil.com.br/jurisprudencia/tj-sp/3255661081/inteiro-teor-3255661093>

(2) <https://g1.globo.com/sp/sao-paulo/noticia/2019/02/05/ex-fiscal-da-fazenda-de-sao-paulo-e-investigada-em-portugal.ghtml>

(3) https://mightyearth.org/wp-content/uploads/Rapid-Response_Soy-and-Cattle_Report-8.pdf

Case #6.7 - Fazenda São Pedro I - União do Sul (Mato Grosso) - Amazon

Recent deforestation: 500 hectares (deforestation by fire)
Fire alerts started on August 2024



**Burned area
September 2024**

Processed image. European UnionEO
Browser Copernicus Sentinel Data 2025.



— Property borders
— Deforest area



Degradation in September 2024

Processed image. European UnionEO
Browser Copernicus Sentinel Data 2025.

July 2025

Source: Imagery © 2025 Planet Labs Inc.

Fazenda São Pedro I

União do Sul, MT • Farm area (ha): 6,331 • Soy area in 2024 (ha): 1,160 • Farm coordinates: -11.5705, -54.6337

CAR: MT-5108303-4D5B25838ABF489FB713C38B8B6B51F1 (validated) SNCI: 9010322846450

Armando Broch, Oraide Zilio Broch (both deceased)

13 fire alerts (in August and September 2024) • **CO₂ equivalent emissions (tons): 829,224**

Deforested areas inside Forest Code's protected areas (ha): 500 • **Surrounding natural conservation**

areas: - **Surrounding Indigenous territories:** Next to the Indigenous Territory "Parque do Xingu",

home to 15 different Indigenous people groups • **Estimated % of remaining native vegetation: 74%** •

Vegetation type: Contact between rainforest and seasonal forest • **Priority for biodiversity conservation:** High

Deforestation (ha)

Deforestation noncompliant with the Amazon Soy Moratorium (between August 2008 and August 2025)	Deforestation noncompliant with the EU Deforestation Regulation (EUDR) (between January 2021 and August 2025)	Most recent visually confirmed deforestation (between August 2024 and July 2025)
200	0	500 (full clearing by fire)

Embargoes & Environmental fines	Two embargoes for deforestation and damage of 597 hectares at Fazenda São Pedro I in 2022. One fine for illegal use of fire and deforestation in 2017 (BRL 195,000/US\$ 36,241). One fine for selling timber without proof of legal origin in 2012 (BRL 13,500/US\$ 2,509). Two environmental fines for deforestation and damage of 597 hectares at Fazenda São Pedro I in 2022 (BRL 10,000/US\$ 1,858).
Trader's silos within a 50km radius	The property is within 50 kilometers of 43 warehouses, including two COFCO warehouses (Marcelândia and Cláudia, MT) and one Cargill warehouse (Cláudia). There are also warehouses operated by Bunge, which are between 20 and 50 kilometers away.
Supply chain Details	-
Company group	No affiliated companies found.
Other linked properties	Three linked properties in the states of Paraná, Mato Grosso do Sul, and Rio Grande do Sul, covering a minimum area of 5,560 hectares. In Sananduva (RS): Fazenda Tres Porteiras (957 ha), in Caarapó (MS): Fazenda Boa União (3,669 ha); and in Coronel Domingos Soares (PR): Fazenda Forteleza (940 ha).
General comments	Fazenda São Pedro I is a registered company with activities in logging, as well as soy, corn, and rice cultivation. The owners of the farm died in a car accident in 2015. (1) While the farm is still active under the name of the deceased owner, its current leadership remains unclear. The family possesses several properties in Mato Grosso. (2) Cinara Broch Barbeiro, daughter of Armando and Oraide Broch, was appointed executor (or representative) of the parents' estate. (3) The farm under alert received four environmental fines, one due to the unlawful clear-cutting of 100 hectares, one for damage to 497 hectares in 2022, one for using fire illegally on 189 hectares in 2017, and one for selling timber without proof of legal origin. (4) In the past, the owner and his son were listed as debtors to the Brazilian state, having donated to political campaigns and owing a total of BRL 4.29 million (US\$ 910,679). (5, 6)

(1) <https://arede.info/ponta-grossa/27336/morre-no-hospital-5-vitima-de-acidente-com-caminhonete?d=1>

(2) <https://www.jusbrasil.com.br/diarios/105584243/djms-03-12-2015-pg-316>

(3) <https://www.jusbrasil.com.br/diarios/1171312532/djmt-caderno-judicial-das-comarcas-09-03-2022-pg-1093>

(4) <https://geoportal.sema.mt.gov.br/>

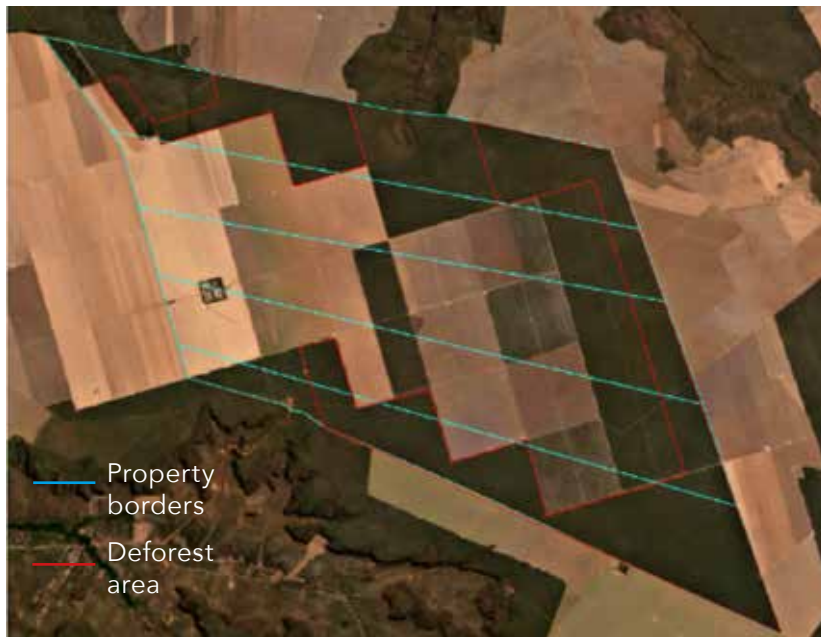
(5) <https://multimedia.gazetadopovo.com.br/media/info/2017/201709/devedores-da-uniao-doaram-a-deputados.pdf>

(6) <http://meucongressonacional.com/eleicoes2014/empresa/KWIWXIIXIKJ>

Case #6.8 - Fazenda Rio Verde, Fazenda Indianópolis

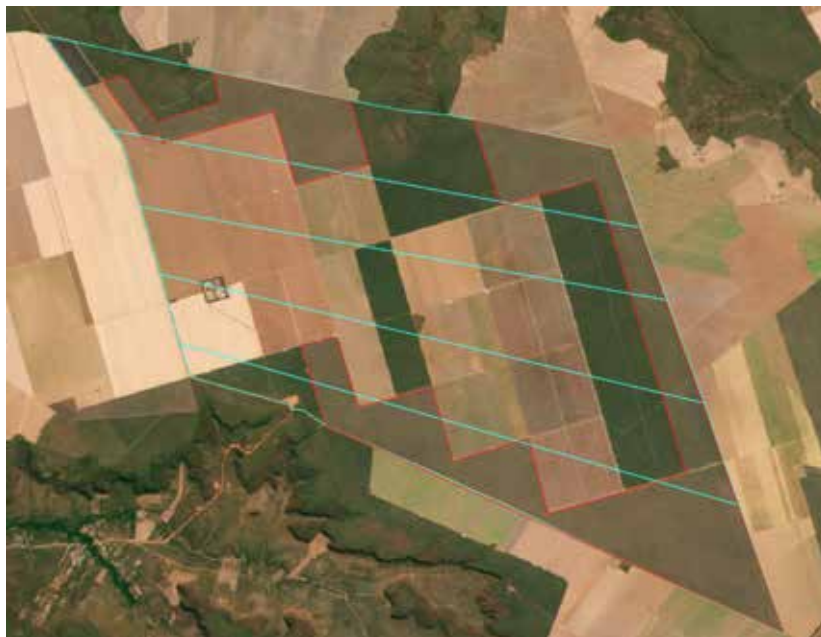
Uruçuí (Piauí) - Cerrado

Recent deforestation: 4,043 hectares
Deforestation alert detected on April 18, 2025



August 2024

Source: Imagery © 2025 Planet Labs Inc.



July 2025

Source: Imagery © 2025 Planet Labs Inc.

Fazenda Rio Verde, Fazenda Indianópolis

Uruçuí, PI • Farm area (ha): 13,617 • Soy area in 2024 (ha): 6,900 • Farm coordinates: -7.7634, -44.4039

CAR: PI-2211209-13E8D88434AB48889D78C02CB00A4FC1, PI-2211209-B2C997877CB34D3FB650F10DB8B261C0

SNCI: 9500254503911, 9500255504261, 9500255506981, 950025550663, 9500255503966

Armando Broch, Oraide Zilio Broch (both deceased)

0 fire alert • CO₂ equivalent emissions (tons): 178,337

Deforested areas inside Forest Code's protected areas (ha): - • Surrounding natural conservation areas: - •

Surrounding Indigenous territories: - • Estimated % of remaining native vegetation: 11% •

Vegetation type: Wooded Savanna • Priority for biodiversity conservation: No

Deforestation (ha)

Deforestation noncompliant with the Amazon Soy Moratorium (between August 2008 and August 2025)	Deforestation noncompliant with the EU Deforestation Regulation (EUDR) (between January 2021 and August 2025)	Most recent visually confirmed deforestation (between August 2024 and July 2025)
10,673	4,043	4,043

Embargoes & Environmental fines	One embargo in 2023 for the irregular use of fuel in Fazenda Futura (Nova Ubiratã, MT) and one linked fine (BRL 50,500/US\$ 9,385); one fine in 2023 for irregularities in agrochemical storage in Fazenda Futura in 2023 (BRL 6,500/US\$ 1,208), and one fine for deforestation of 325 hectares at Agropecuária Festugato Farm in 2023 (BRL 4,082,500/US\$ 758,744)
Trader's silos within a 50km radius	Twenty-seven warehouses are within 50 kilometers of the property, including two on-site warehouses and a Bunge warehouse 45 kilometers away.
Supply chain Details	-
Company group	Agropecuária Aernoudts, Agropecuária Nova Granja Guará, Agropecuária Nova Granja Zelândia, Agropecuária Uberlândia, Agrisa Agropecuária, Agropecuária Aernoudts Sul, and Sementes São Francisco. All of these companies are registered as soy producers in the states of Rio Grande do Sul and Piauí.
Other linked properties	The Aernoudts family owns various properties across the states of Rio Grande do Sul, Minas Gerais, Goiás, Mato Grosso, Piauí and Maranhão: Fazenda Alto Garças in Balsas, Maranhão; Fazenda Alegria, Fazenda Boa Sorte, Fazenda Flor de Liz, Fazenda Panambi, Fazenda Santa Maria, and Fazenda São Francisco, all in Mato Grosso; Alto das Garças, Fazenda Agropecuária Festugato, Fazenda Palmeira das Missões, Fazenda Vale Verde, Fazenda Solidão, and Fazenda Lagoa, all in Piauí.
General comments	The Aernoudts family is deeply engaged in the production of soy feed, with operations spanning the states of Rio Grande do Sul, Goiás, Mato Grosso, Maranhão, and Piauí. (1) They control a range of corporate entities that oversee adjacent farms near Fazenda Rio Verde in Uruçuí and are among the founders of Fundação Pró-Sementes (soybeans, wheat, oats, etc.) The Aernoudts family was involved in a legal case brought by IBAMA for illegal deforestation of 5,631 hectares in the Parnaíba river basin in 2005. (3) However, in 2018, they were cleared of legal consequences due to the expiration of the deadline for judging environmental crimes. (4) Previous Rapid Response reports have highlighted instances of deforestation linked to this family. Specifically, the reports identify 888 hectares that were cleared between 2018 and 2019 on various farms (such as Fazenda Rio Verde and Fazenda Indianópolis) registered under different company names (Agropecuária Aernoudts Ltda., Agropecuária Nova Granja Guará Ltda., and Agropecuária Nova Granja Zelândia Ltda.), according to the reports published in July 2019 and August 2016. (5, 6)

(1) <https://www.sementessaofrancisco.com.br/nossa-historia>

(4) <http://fundacaoprosementes.com.br/>

(3) <https://trf-1.jusbrasil.com.br/jurisprudencia/1110960/recurso-criminal-rccr-7030-pi-2005400007030-3/inteiro-teor-100639574>

(4) <http://www.tjpi.jus.br/themisconsulta/processo/303532473>

(5) https://mightyearth.org/wp-content/uploads/Rapid-Response_Soy-and-Cattle_Report-3.pdf

(6) https://mightyearth.org/wp-content/uploads/Rapid-Response_Soy-and-Cattle_Report-4-1.pdf

Case #6.9 - Fazenda Aliança - Baixa Grande do Ribeiro (Piauí) - Cerrado

Recent deforestation: 6,029 hectares
Deforestation alert detected on December 17, 2024



August 2024

Source: Imagery © 2025 Planet Labs Inc.



January 2025

Source: Imagery © 2025 Planet Labs Inc.



**Burned area
October 2024**

Processed image. European Union EO Browser Copernicus Sentinel Data 2025.

Fazenda Aliança

Baixa Grande do Ribeiro, PI • Farm area (ha): 22,415 • Soy area in 2024 (ha): 9,820 • Farm coordinates: -8.2233, -44.9846

CAR: PI-2201150-73937B1141B6467180F45A0CE2B716D0 SNCI: 2230260382376, 9500688578405

Agricrop Agrícola

101 fire alerts (in September 2024, June and July 2025) • **CO₂ equivalent emissions (tons): 265,939**
Deforested areas inside Forest Code's protected areas (ha): - • **Surrounding natural conservation areas:**
 60 kilometers away from the "Estação Ecológica Uruçuí-Una" • **Surrounding Indigenous territories: -** •
Estimated % of remaining native vegetation: 3% • **Vegetation type:** Wooded Savanna •
Priority for biodiversity conservation: Extremely high

Deforestation (ha)

Deforestation noncompliant with the Amazon Soy Moratorium (between August 2008 and August 2025)	Deforestation noncompliant with the EU Deforestation Regulation (EUDR) (between January 2021 and August 2025)	Most recent visually confirmed deforestation (between August 2024 and July 2025)
20,856	6,029	6,029
Embargoes & Environmental fines	-	
Trader's silos within a 50km radius	The property is situated near 40 warehouses within a 50-kilometer radius from the property, including a company-owned warehouse inside the property, two Bunge warehouses (Uruçuí and Baixa Grande do Ribeiro) and one Amaggi warehouse (Uruçuí), all situated between 25 and 45 kilometers away from the property.	
Supply chain Details	-	
Company group	Agricrop Agrícola is registered in Guarapuava (PR) as a soy-producing company. Additionally, there are other affiliated companies registered in Paraná and Piauí, such as Nordeste Bioenergia, an ethanol-producing company established in 2024.	
Other linked properties	One neighboring farm in Baixa Grande do Ribeiro (PI): Fazenda Santa Cecília (2,940 ha)	
General comments	In 2024, Ralf Karly, a co-owner of Agricrop, was awarded a prize from the Brazilian Soybean Strategic Committee (CESB) for achieving one of the highest soy production rates per hectare at Fazenda Aliança, approximately 117 bags per hectare. (1) In July 2024, Agricrop was granted an environmental license to engage in farming on 5,905 hectares at Fazenda Aliança. (2)	

(1) <https://revistacultivar.com.br/noticias/vencedores-do-desafio-nacional-de-productividade-de-soja-2024-sao-revelados-pelo-cesb>

(2) <https://siga.sem.br/validar/96911-02024/cd20.dbc1.6beb/>

Case #6.10 - Fazenda Derlam - Balsas (Maranhão) - Cerrado

Recent deforestation: 1,322 hectares
Deforestation alert detected on April 30, 2025



February 2025

Source: Imagery © 2025 Planet Labs Inc.



April 2025

Source: Imagery © 2025 Planet Labs Inc.

Fazenda Derlam

Balsas, MA • Farm area (ha): 2,570 • Soy area in 2024 (ha): No soy in 2024, but surrounded by huge soy-producing areas •

Farm coordinates: -8.4848, -46.1419

CAR: MA-2101400-676BBCC5DAD040AF879C16EEF15CB77C, MA-2101400-2184088A2C05494892E8BF41F698414F SNCI: 9999623580024

Carlos Gilberto Derlam

No fire alerts • CO₂ equivalent emissions (tons): 58,313

Deforested areas inside Forest Code's protected areas (ha): - • Surrounding natural conservation areas: - •

Surrounding Indigenous territories: - • Estimated % of remaining native vegetation: 3% •

Vegetation type: Wooded Savanna • Priority for biodiversity conservation: Extremely high

Deforestation (ha)

Deforestation noncompliant with the Amazon Soy Moratorium (between August 2008 and August 2025)	Deforestation noncompliant with the EU Deforestation Regulation (EUDR) (between January 2021 and August 2025)	Most recent visually confirmed deforestation (between August 2024 and July 2025)
1,322	1,322	1,322
Embargoes & Environmental fines	-	
Trader's silos within a 50km radius	Thirty warehouses are located within a 50-kilometer radius, including two ADM warehouses in Balsas and Tasso Fragoso (MA), as well as one Bunge and one Cargill warehouse in Tasso Fragoso (MA)	
Supply chain Details	-	
Company group	No affiliated companies were found.	
Other linked properties	No linked properties found	
General comments	Fazenda Derlam is adjacent to the SLC Agrícola Parnaíba farm, encompassing at least 73,730 hectares of soy cultivation in 2024. (1) Carlos Derlam is a grain producer in Rio Grande do Sul and a member of a state-level farmers' cooperative. (2)	

(1) <https://brasil.mapbiomas.org/>

(2) <https://cotriba.com.br/diretoria-e-conselho/>, <https://cotriba.com.br/2018/08/15/comeca-plantio-da-nova-safra-de-milho-no-rs/>

COMPANIES' RESPONSES

The traders' responses to the questions about their business relationships with the aforementioned suppliers are below (case studies).

You can read here the full responses that were sent to Mighty Earth. (add link to PDF)

Ammagi replied on October 7, 2025:

"[...] Farm number (SNCI): 9500331777841 (Fazenda Lagoa Serena – Machadinho D'Oeste/RO): No commercial relationship was identified between AMAGGI with the mentioned property.

Farm numbers (CAR/SIGEF): 9500257101563, 9014311006928, 9014310159895 (Fazenda Santa Maria – Claudia/MT): No commercial relationship was identified between AMAGGI with the mentioned property.

Farm number (CAR/SIGEF): 6310190087299 (Fazenda Macaré – Querência/MT): No commercial relationship was identified between AMAGGI with the mentioned property.

Farm number (SIGEF): 2230260382376, 9500688578405 (Fazenda Aliança – Baixa Grande do Riveiro/PI): AMAGGI don't have operations in Piauí state. [...]"

Bunge replied on October 6, 2025:

"All cases have been analyzed, and based on our records of the farms of producers noted below, we either have no commercial relationship with the farm group; if a producer was found to not be complying with our sourcing policies, it has already been blocked; or based on our monitoring process and engagement with the farmers when/if concerns were present, such producers were able to provide the relevant documentation to demonstrate compliance with our sourcing policies. [...]"

COFCO replied on October 10, 2025:

"Q: Please inform if your company's monitoring system had already identified any of these fire or deforestation cases.

A: COFCO International does not have purchase contracts or agriculture financing for these farms.

Q: Please state any commercial or other supply chain connection (seed and inputs supply, credit, joint venture, investment etc.) to each of the farm units listed above.

Answer: There is no commercial relationship with the farms units listed. [...]"

LDC replied on October 10, 2025:

"We were unable to locate any properties using the SIGEF number provided (6310190087299). However, under the name 'Macaré', we identified different properties in our monitoring system, suggesting that the farm was divided into smaller areas (CARs) with different landowners. Although our system detected deforestation on some of these CARs, there is no indication of overlap with soybean cultivation areas.

Based on the above findings, we confirm that there is no soybean origination contract between LDC and CARs with deforestation after 2020. [...]"

Cargill did not reply to Mighty Earth e-mails sent on October 1st and 6th, 2025

DATA SOURCES FOR THE CASE STUDIES

Deforestation and Fire

We processed deforestation alert data from the INPE/DETER program for both biomes, the Amazon and the Cerrado. The Global Forest Watch (GLAD alerts) and the Mapbiomas Alertas platforms were alternative sources for double-checking the data. The fire alerts were checked on the NASA/Firms platform and processed using the Copernicus Sentinel EO Browser platform. Deforestation was confirmed for each selected case through satellite imagery from Planet (® Planet Labs Inc.).

INPE (DETER alerts): <http://terrabrasilis.dpi.inpe.br/>

Global Forest Watch (GLAD alerts): <https://www.globalforestwatch.org/>

MapBiomas Alerta: <https://plataforma.alerta.MapBiomas.org/>

NASA Fires: <https://firms.modaps.eosdis.nasa.gov/>

Copernicus Sentinel: <https://www.sentinel-hub.com/>

Planet Lab Inc.: <https://www.planet.com/>

Landownership (SIGEF/SNCI/SNCR) and Environmental Rural Cadaster (CAR)

The land ownership data is from the Brazilian federal land tenure systems SIGEF (*Sistema de Gestao Fundiaria*) and SNCI (*Sistema Nacional de Certificacao de Imoveis Rurais*), and is cross-referenced with SNCR (*Sistema Nacional de Cadastro Rural*) data to identify the most recent registered owners. Land ownership registration at local notary offices is not verified and may differ from the federal system. The self-declared rural environmental cadaster CAR (*Cadastro Ambiental Rural*) is checked in the Federal System SICAR (*Sistema Nacional de Cadastro Ambiental Rural*), including the Legal Reserves and Permanent Preservation Areas (Area de Preservacao Permanente, APP). The CAR is one of the mandatory requirements for complying with the Brazilian Forest Code. For some states, such as Mato Grosso and Pará, checking the CAR declarant name through the Environmental State Agencies' CAR platforms is possible. It is essential to highlight that the CAR is not recognized as an official land tenure or ownership document, as it is a self-declared document that might be canceled at a later stage.

SIGEF/SNCI: http://certificacao.incra.gov.br/csv_shp/export_shp.py

SNCR: <https://sncr.serpro.gov.br/sncr-web/>

SICAR (federal): <https://www.car.gov.br/publico/imoveis/index>

CAR Mato Grosso: <https://geoportal.sema.mt.gov.br/#/>

CAR Pará: <https://car.semas.pa.gov.br/>

Brazilian Forest Code: https://www.planalto.gov.br/ccivil_03/_ato2011-2014/2012/lei/112651.htm

Brazilian Forest Code protected areas

According to the Brazilian Forest Code, certain areas on private land, known as Legal Reserves and Permanent Preservation Areas (APP), must be preserved. The size of Legal Reserves varies based on the biome: 80% in the Amazon biome, 35% in the Cerrado biome within the Legal Amazon, and 20% in other regions. APPs specifically protect water and soil conservation areas near rivers, wetlands, slopes, and high hills. The Legal Reserve and APP areas considered in this report were those self-declared in the Rural Environmental Cadaster (CAR). In some instances, the CAR was also used to obtain ownership details. Despite being a self-declared document, it often contains the most up-to-date information on the current operator listed for a property.

Brazilian Forest Code: https://www.planalto.gov.br/ccivil_03/_ato2011-2014/2012/lei/112651.htm

SICAR (federal): <https://www.car.gov.br/publico/imoveis/index>

Conservation Areas and Indigenous Territories

Data on Conservation Areas comes from ICMBio, which is responsible for monitoring and managing officially recognized Natural Reserves according to the National System of Natural Reserves (*Sistema Nacional de Unidades de Conservação*, SNUC). The SNUC establishes the jurisdiction of the area, which can be a federal, state, or local government, or a private entity. It also outlines the permitted use of natural resources and who is allowed to use them in each category of Natural Reserve. Data on Indigenous Territories comes from the National Foundation for Indigenous Populations (*Fundação Nacional dos Povos Indígenas*, FUNAI). These are formally recognized areas where Indigenous communities have customary rights to access and utilize the land.

Conservation areas (ICMBio): <https://dados.gov.br/dados/conjuntos-dados/>

Indigenous territories (FUNAI): <https://www.gov.br/funai/pt-br/atuacao/terras-indigenas/geoprocessamento-e-mapas>

Types of vegetation and Priority for Biodiversity Conservation

The types of vegetation data comes from the Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística*, IBGE) and Embrapa, consulted through the INPE website. The Priority for Biodiversity Conservation classification comes from a study elaborated by the Brazilian Ministry of the Environment, updated in 2018.

Vegetation type (IBGE): <https://www.ibge.gov.br/geociencias/informacoes-ambientais/vegetacao/22453-cartas-1-250-000.html?=&t=downloads>

Priority for biodiversity conservation (Amazon): <https://www.gov.br/mma/pt-br/assuntos/biodiversidade-e-ecossistemas/ecossistemas/conservacao-1/areas-prioritarias/arquivos/amazonia.zip>

Priority for biodiversity conservation (Cerrado): https://www.gov.br/mma/pt-br/assuntos/biodiversidade-e-ecossistemas/ecossistemas/conservacao-1/areas-prioritarias/arquivos/cerrado_pantanal.zip

Environmental Embargoes and Fines

Embargoed areas and environmental fines are checked in the database of the Federal Environment Agency IBAMA. Embargoes are areas where all activity is temporarily halted or prohibited by IBAMA, generally due to environmental degradation. Properties can be removed from the list of embargoed areas once the issue has been resolved. Environmental fines are typically imposed for violations and directed towards the property owner.

Environmental embargoes (IBAMA): <https://servicos.ibama.gov.br/ctf/publico/areasembargadas/>

Environmental fines (IBAMA): <https://dados.gov.br/dados/conjuntos-dados/fiscalizacaoauto-de-infracao>

Company Group and linked properties

Once the ownership of the property is linked to an individual, we use the SINTEGRA database to check all the registered companies under this individual or group of individuals' names. If a company has already registered its ownership, we also check the corporate structure of the company through open-source websites. Once the ownership, affiliated companies, and corporate structure are defined, we search for other properties registered under the same or similar ownership in the Federal Tenure Land systems SIGEF and SNCI.

SINTEGRA: <http://www.sintegra.gov.br/>

Warehouses and soy traders' assets on the ground

The warehouses' location are the ones listed in the SICARM, managed by the National Food Supply Company (CONAB). We only considered warehouses and assets registered in the SICARM under the targeted soy traders. However, this approach may lead to an underestimation of their overall impact, as it excludes intermediate companies that operate their warehouses and potentially serve as indirect suppliers to the targeted traders.

SICARM: <https://consultaweb.conab.gov.br/consultas/consultaArmazem.do?method=acaoCarregarConsulta>

CO₂ Emissions

The calculation of CO₂ emissions refers to the "above-ground carbon emissions" according to the cleared vegetation type(s). We used two sources: 1) Nogueira et al. (2015). *Carbon stock loss from deforestation through 2013 in Brazilian Amazonia*, and 2) the *United Nations Framework Convention on Climate Change (2016). Brazil's Forest Reference Emission Level for Reducing Emissions from Deforestation in the Cerrado biome for Results-based Payments for REDD+ under the United Nations Framework Convention on Climate Change*. The tons of CO₂ emission was calculated per type of vegetation times the ratio of molecular weight of carbon dioxide to carbon (44/12) times the number of hectares cleared.

Nogueira et al. (2015). *Carbon stock loss from deforestation through 2013 in Brazilian Amazonia*: <https://onlinelibrary.wiley.com/doi/epdf/10.1111/gcb.12798>

United Nations Framework Convention on Climate Change (2016). *Brazil's Forest Reference Emission Level for Reducing Emissions from Deforestation in the Cerrado biome for Results-based Payments for REDD+ under the United Nations Framework Convention on Climate Change*: https://redd.unfccc.int/media/documento_1012639_brazil_national_frel.pdf

Remaining native vegetation

To determine the remaining native vegetation on a property, we combined two data sets: first, the self-reported Environmental Rural Cadaster (CAR), which includes the amount of native vegetation at the time of declaration, and second, the most recent collection (8.0) of the Mapbiomas platform, which identifies the remaining vegetation across the entire country. MapBiomas: <https://plataforma.brasil.MapBiomas.org/>

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