



trase

TRANSPARENCY FOR  
SUSTAINABLE ECONOMIES

## Trase Yearbook 2018

# Sustainability in forest-risk supply chains: Spotlight on Brazilian soy

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## Executive summary

The Trase Yearbook presents the latest insights on the sustainability of global agricultural commodity supply chains associated with tropical deforestation, based on Trase's unique transparency data. These data link commodity production and associated impacts, including deforestation, to specific trading companies and consumer markets.

The Trase Yearbook is intended to help companies and governments manage risks and target investments in sustainable production, whilst also supporting the wider sustainability community in assessing progress towards commitments and goals.

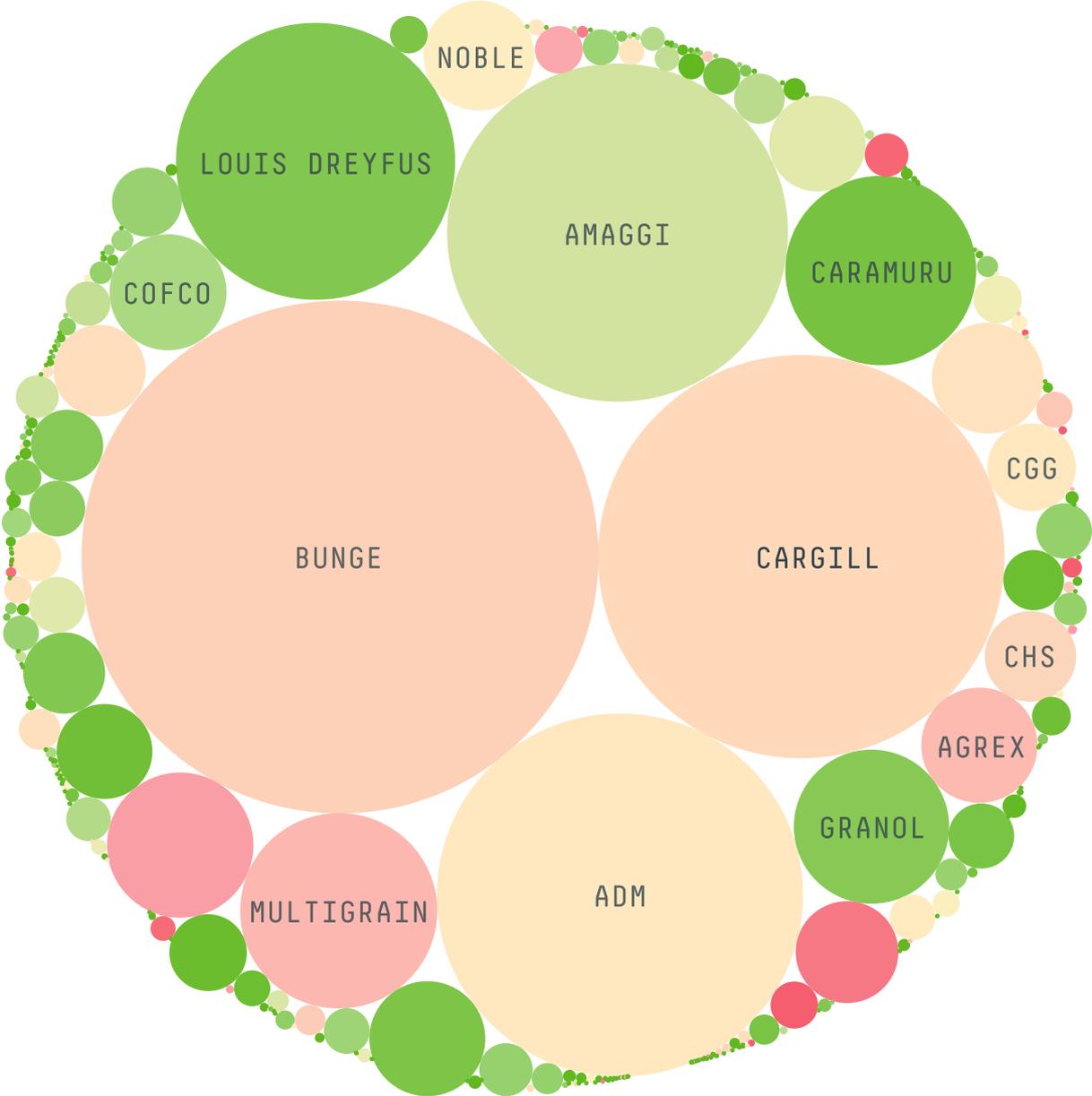
This first Trase Yearbook zooms in on soy production in South America, and particularly the emerging world leader in soy exports, Brazil.

It provides a first systematic assessment of:

- ✓ sourcing patterns of major buying companies and countries;
  - ✓ the 'deforestation risk' associated with the major companies that dominate Brazil's soy exports;
  - ✓ the 'deforestation risk' associated with major consumer markets, including the EU and China;
  - ✓ the links between deforestation commitments and changes on the ground.
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# Spotlights on South America, and Brazilian soy

South America has become a world leader in the production and export of some of the most important forest-risk commodities. In 2017, more than 450 million tonnes of soy, palm oil, sugar cane products, maize, cocoa and coffee were exported by the region's largest producer countries of forest-risk commodities: Argentina, Bolivia, Brazil, Colombia, Ecuador, Paraguay, Peru, and Uruguay. Trase data show that more than half of this export volume was handled by just 36 "mega-traders" - out of more than 2500 companies exporting from the region.



Volumes of soy exported from Brazil in 2006-2016 per trader

Of all the forest-risk commodities, the most traded in international markets is soy – including soybeans, oil and cake. In 2016, three South American countries – Brazil, Argentina and Paraguay – together produced almost 50% of the world’s soy covering 56 million hectares of land, an area the size of France and a forty-fold increase since 1970. In 2018, Brazil is expected to overtake the United States to become the largest producer of soy in the world.

However, soy production is also linked to substantial direct and indirect deforestation and conversion of other forms of native vegetation in some of South America’s most iconic biomes: particularly the Brazilian Cerrado and the Gran Chaco in Argentina, Paraguay and Bolivia. Today, soy expansion in the Cerrado is expanding faster than anywhere else in the world – often into areas of species-rich native vegetation and biodiversity. In the Cerrado’s newest soy frontier region, known as Matopiba, 37% of the expansion of soy cropland in the last decade was through the direct conversion of native vegetation.

Given its global importance as a forest-risk commodity, Brazilian soy was the first commodity covered by Trase’s supply chain transparency mapping. Future Yearbook assessments will expand to cover other commodities and countries mapped on trase.earth. By 2020, Trase aims to cover 70% of all globally traded forest-risk commodities.

## How does Trase assess deforestation risk in commodity supply chains?

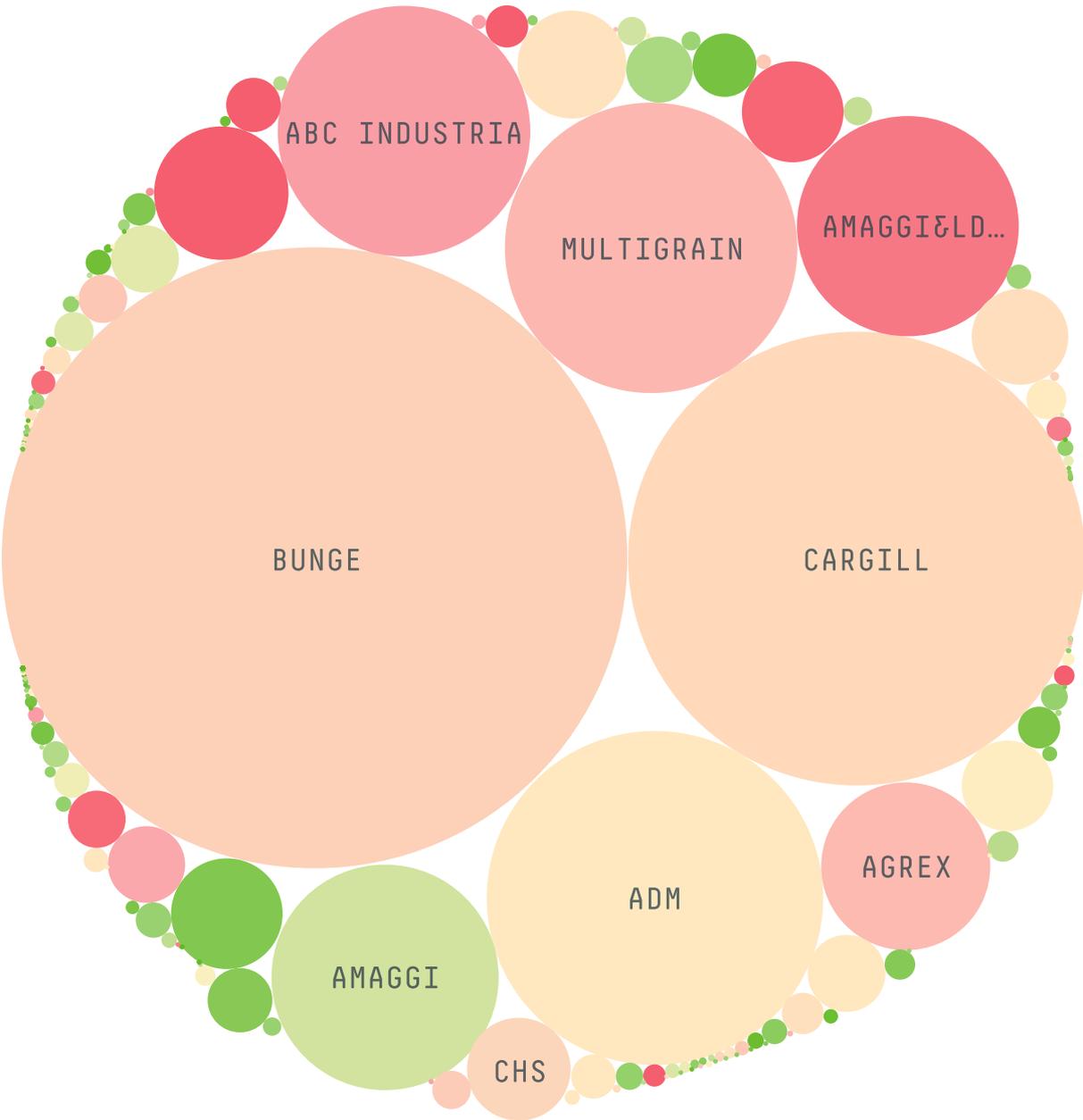
Trase generates indicators of ‘deforestation risk’ using localised data on commodity production, sourcing patterns and deforestation. This indicator, measured in terms of hectares, assesses a company’s – or import country’s – exposure to the risk that the commodity it is sourcing is associated with deforestation in the region where it was produced. The total deforestation risk associated with the supply chain of a given buyer is calculated by aggregating the share of commodity-related deforestation in each sourcing region that is proportional to the share of the total soy produced in that region being sourced by that buyer. Therefore, if a company is sourcing 500 tonnes of soy from a Brazilian municipality that produces 1000 tonnes, and where 800 hectares of deforestation can be directly linked to soy production, the soy deforestation risk for that company in that municipality is 400 ha (50% of the total). To allow comparisons between actors that source very different volumes of soy a relative measure of deforestation risk is hectares per tonne of exports.

Trase Yearbook 2018 only uses deforestation risk directly associated with soy expansion and includes the clearance of native vegetation in both the Amazon and the Cerrado biomes.

# Headline findings

**The six largest soy traders accounted for 57% of soy exports from Brazil in 2016 and two-thirds of the total deforestation risk associated with soy expansion in the preceding decade.**

The six largest traders exporting soy from Brazil in 2016 were Bunge, Cargill, ADM, Louis Dreyfus, COFCO and Amaggi. Taken together, the supply chains of these six traders are associated with two-thirds of the total deforestation risk directly linked to soy expansion, the majority of it in the Cerrado.



Total deforestation risk of major soy traders 2006-2016

## **Half of the total deforestation risk associated with exports of Brazilian soy in 2016 was linked to Chinese imports; however, other consumer markets, including in the EU, were also exposed to a high relative deforestation risk per tonne of soy imports.**

Around 60% of Brazilian soy exports in 2016 went to China. These were associated with 50% (~10,000 ha) of the total deforestation risk directly linked to Brazilian soy exports in 2016. While many European countries imported much smaller amounts of soy than China, Trase's high-resolution supply chain maps show that these imports were often associated with a higher deforestation risk per tonne.

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## **In the last decade the Brazilian Cerrado, and in particular the Matopiba region in the north of the biome, became the world's major hotspot for soy-associated deforestation and habitat loss.**

Between 2000 and 2016, 14% of all soy expansion in Brazil took place in the Matopiba region alone; and in the last decade, 37% was on native vegetation cleared directly for soy. Sixteen of the 20 companies with the highest relative deforestation risk (per tonne) across Brazil source significant volumes of soy (>10,000 tonnes per year) from Matopiba. While the major soy traders all have a strong presence in Matopiba, many relative newcomers and smaller companies are also operating in this emerging soy frontier. These newer companies include new joint-ventures and foreign companies, including from Asia, and other companies that have only recently moved into the soy sector.

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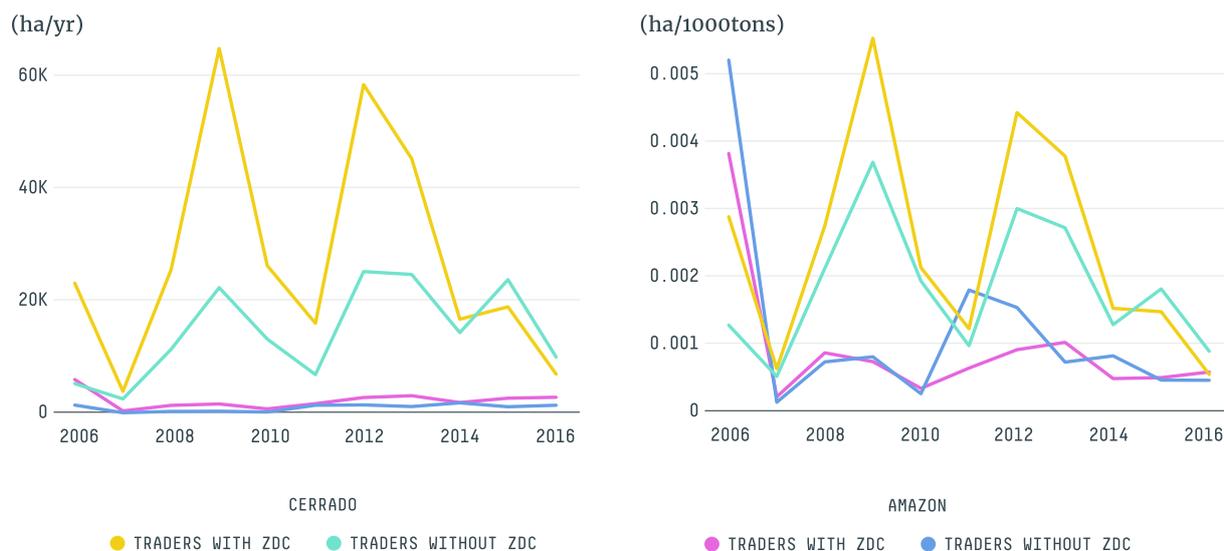
## **Major investments in their own soy infrastructure underpin the strong connections of many traders – and those who buy from them – to specific regions of production, including deforestation hotspots.**

The latest Trase data estimate that for some two-thirds of Brazil's soy-exporting municipalities – distributed across the entire country – more than half of exports were handled by a single trader, while in approximately one-fifth of municipalities a single trader handled all of the exports. These strong connections underscore the key role these companies play in shaping the development trajectories of these regions and the future sustainability of soy.

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## **Over 40% of all soy exports from Brazil are now covered by some form of zero-deforestation commitment (ZDC) – but coverage remains very uneven between regions.**

In recent years a growing number of companies in Brazilian soy supply chains have been making ZDCs. In 2016, 42% of all soy exports from Brazil were covered by some form of ZDC. While almost all the soy exported from the Amazon is covered by the Soy Moratorium – with some traders not yet signatories – less than half of soy exported from the Cerrado biome was covered by a ZDC.



Deforestation risk of traders  
with and without zero deforestation commitments

**Trase data show that during the last decade soy traders in the Brazilian market with zero-deforestation commitments have been associated with similar levels of deforestation risk as companies that have not made such commitments.**

For the period 2006–2016, the four traders that have made commitments (ADM, Bunge, Cargill, and Amaggi) have been exposed to a total direct deforestation risk of 326,000 hectares of deforestation and native vegetation clearance linked to soy expansion. This follows a year-on-year trend in risk exposure that is similar to other companies, with overall soy-associated deforestation across Brazil falling sharply in recent years. Whilst zero-deforestation commitments are a positive step forwards, it is too early to assess whether they are effective in reducing deforestation. These findings underscore both the scale of the challenge and the enormous potential benefits to be gained from implementing such commitments.

**Trase data show that the seven European countries that have made ZDCs through the Amsterdam Declaration remain exposed to high levels of deforestation risk.**

Over the last decade, signatories of the Amsterdam Declaration were exposed to similar or higher levels of relative deforestation risk - hectares of deforestation per tonne of exports - than major consumer markets such as China, with no discernible decline in deforestation risk since the declaration came into force in 2015.

## An opportunity for change

Government projections of soy production in Brazil indicate that around 10 million more hectares of land may be converted to soy production within the next decade. Much of this will likely be concentrated in the already vulnerable Cerrado. Ensuring that this projected expansion does not drive more deforestation is an immense challenge. Yet further loss is not inevitable, when, in the Cerrado alone, nearly 20 million hectares of already cleared land, much of which is degraded, low productivity pasture, is classified as suitable for soy.

By linking soy traders and buyers to the places where soy is grown, Trase data can help to identify and manage risks, highlight opportunities for new partnerships and investment to improve sustainability, and monitor progress over time. This provides a critical missing part of the puzzle of shifting soy to a more sustainable footing.



## What is different about the Trase approach to supply chain mapping?

Trase uses a powerful new approach to supply chain mapping and visualisation that brings a new level of understanding to complex global supply chains of commodities such as soy, beef and palm oil that drive the majority of tropical deforestation today. Trase provides unique sub-national maps of the supply chains connecting individual regions and jurisdictions of production to specific trading companies and consumer markets for all exports of a given commodity. The jurisdictional focus of Trase makes it possible to discriminate differences in agricultural conditions and sustainability between different sourcing regions whilst also providing complete coverage of the exports from a given country.

Trase uses only publicly accessible data, such as customs records and shipping manifests, tax registration data, and subnational production data.

# The future of the Trase Yearbook

The 2018 Trase Yearbook is a pilot report with a spotlight on Brazilian soy exports. Future Trase Yearbooks will present annual assessments and updates of the sustainability of different commodity supply chains based on Trase's unique data. The coverage of future editions will increase as the supply chain maps for new commodities and countries are published on the Trase online platform, [trase.earth](https://trase.earth).

As well as providing a go-to synthesis of key indicators of supply chain sustainability, each Yearbook will report an update on key trends observed during the previous year, as well as more focused analyses on priority regions and commodities. A primary goal will remain the assessment of progress towards zero-deforestation commitments and other sustainability policies, providing an entry point for individual companies and governments to assess trends in risk and performance. To help identify new opportunities for positive change the Yearbook will build from this assessment to highlight both the limitations and successes of efforts by companies and governments to improve the sustainability of the production and trade in forest-risk commodities.

## Partners and Funders

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