



# ATLANTIC FOREST

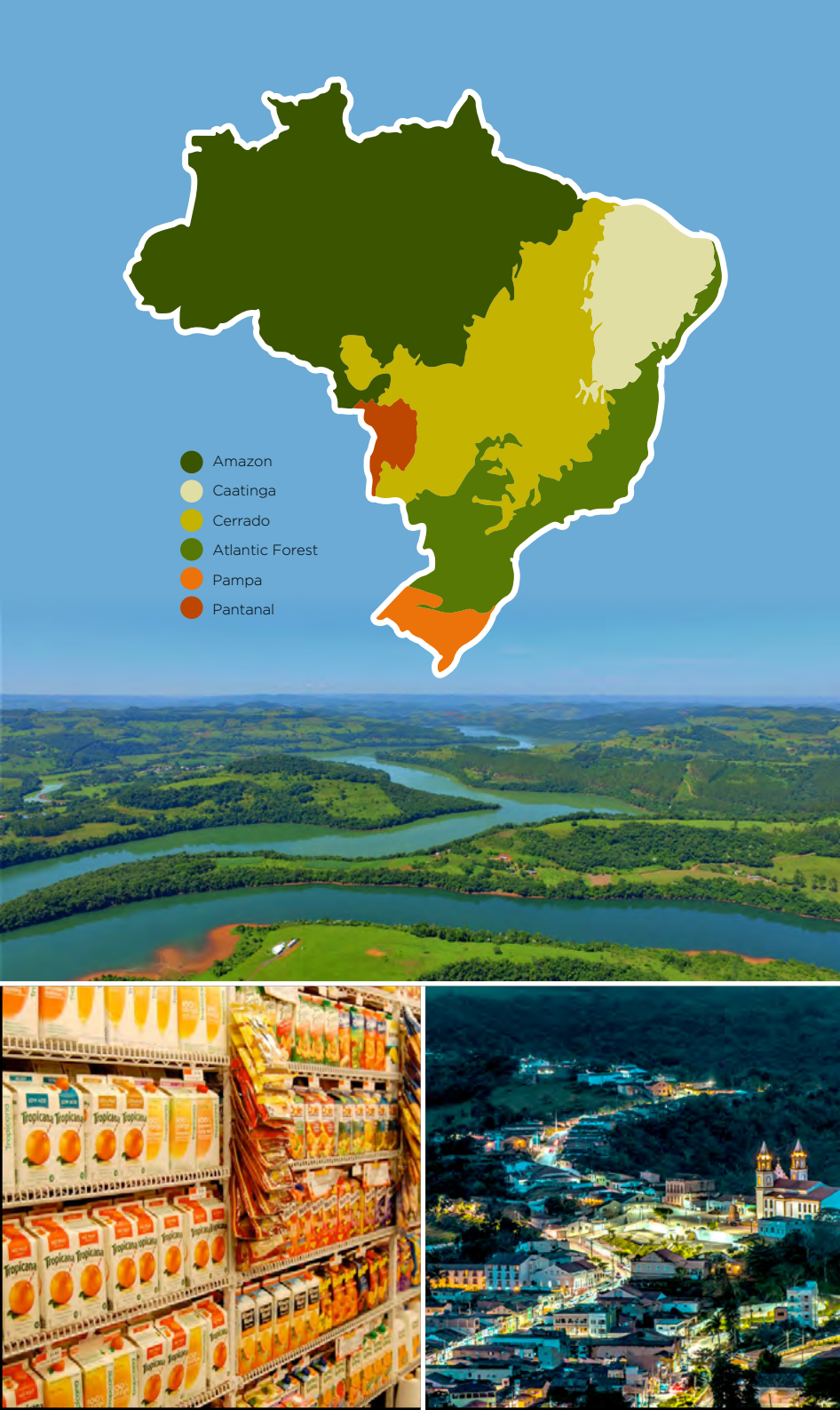
The Atlantic Forest, a top hotspot for biodiversity conservation, remains severely threatened. However, its restoration may make a substantial contribution to carbon sequestration and reaching the 1,5°C goal. Recovering its ecosystem services is critical for the Brazilian economy and people and the planet. There is a governance framework to achieve it. Reversing its tipping point may become a benchmark for the UN Decade on Ecosystem Restoration.





# OVERALL DATA

- The Atlantic Forest is a megadiverse tropical forest, among the top [\*5 hotspots for biodiversity conservation\*](#) of the world. More than 90% of the biome is inside Brazil, but it is also present in Argentina and Paraguay.
- It is one of the [\*6 biomes of Brazil\*](#), which are: Amazon, Caatinga, Cerrado, Atlantic Forest, Pampa and Pantanal.
- It occupies 15% of the Brazilian territory, being present in 3,429 municipalities of 17 States of the country. Its original area was 3.6 times larger than Germany.
- The Atlantic Forest covers nine of the 12 Brazilian hydrographic regions and many of its rivers have problems of water quantity and quality, although they supply most of the national population and industry.
- It hosts [\*70% of the Brazilian population \(145 million people\)\*](#), [\*80% of the economy\*](#), the main cities, urban centres and industry, all depending on its severely threatened ecosystem services.
- The Atlantic Forest and the Amazon are the Brazilian biomes with predominance of moist tropical forests. The Amazon occurs mostly in the Basin of the Amazon river while the Atlantic Forest is mainly present in the coastal region and Southern inland regions of Brazil.
- It is the main agriculture region of Brazil and produces most of the staple crops and food consumed internally. The Atlantic Forest is responsible for the [\*pollination of important crops\*](#).
- Besides its 500 years supplying Europe with goods, today it is connected to the world through the trade of commodities like pulp, sugar, coffee and orange juice. Significant part is certified by green labels like FSC and Rainforest Alliance.



# BIODIVERSITY

- This biodiversity hotspot *has more than 20.000 species* (6.000 endemic = do not occur anywhere else in the world).
- It is the forest with **highest diversity** of trees per hectare in the world (more than 400 was found in one survey).
- It is the house of **384** mammals and **1025** bird species.
- It hosts **1989** threatened species of the national flora and fauna, most of them, endemic. It represents 25% of all threatened species in Brazil.
- Only **13%** of the Atlantic Forest is protected by different types of protected areas and just 9% is dedicated exclusively for conservation. For some sub-regions, only 1% of the remaining vegetation is protected.







# HISTORY AND TRADITIONAL PEOPLE

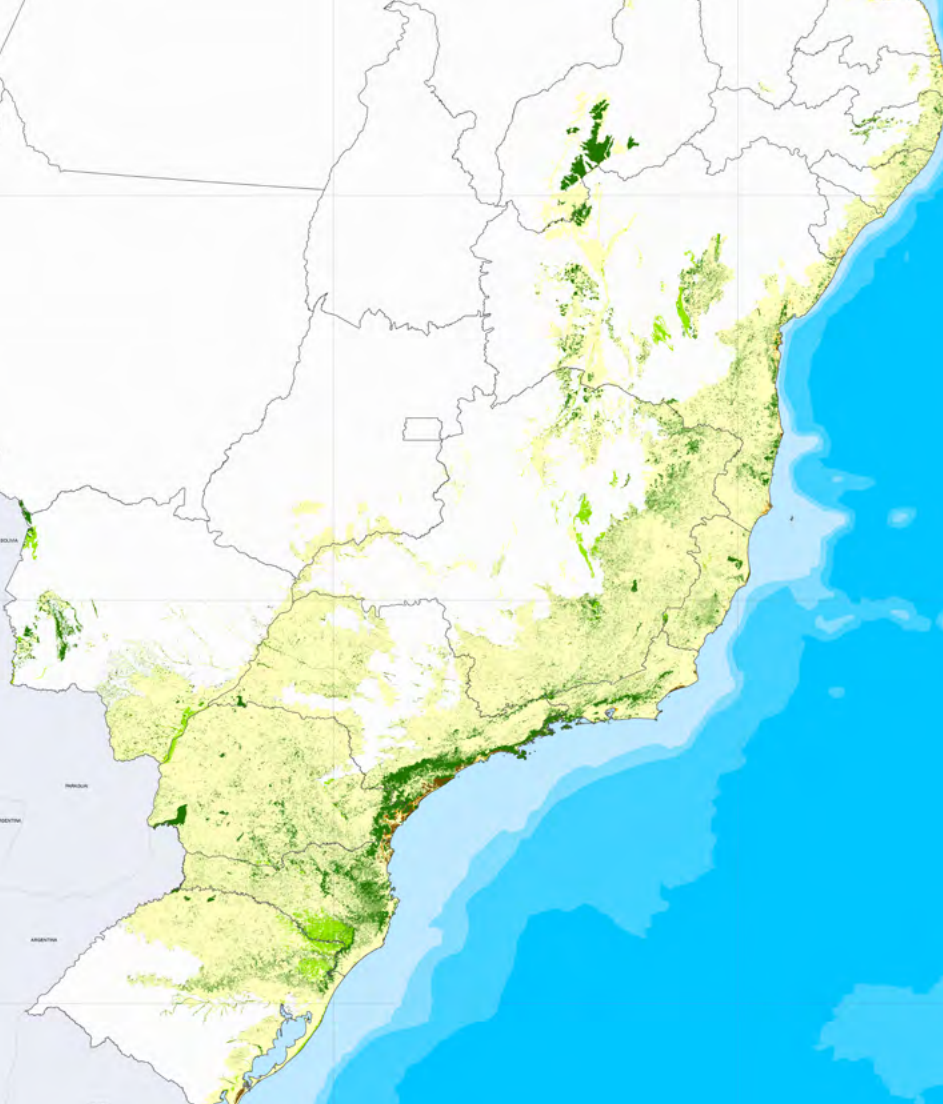
- The Atlantic forest was once connected to the Amazon as a single forest in South America around 30 thousand years ago. They were separated after the last glaciation and the present distribution of the biome was defined 20 thousand years ago.
- From 11 thousand years until 1500 the biome was the home of different groups of indigenous people.
- A native tree species of the biome named the country: [\*pau-brasil\*](#) (*Caesalpinia echinata*). The tree was logged for construction, furniture, ships, musical instruments and to colour clothes until near its extinction. It remains a [\*threatened species\*](#). In 2020, a [\*500 years old pau brasil tree\*](#) was found in the State of Bahia.
- [\*From the arrival of the Portuguese\*](#) until the middle of the 20<sup>th</sup> century the biome was destroyed by predatory economic cycles harvesting timber and producing and exporting sugar, gold and coffee to Europe.
- In this process, most of the many indigenous people groups were slavered and devastated, together with black people captured in Africa.
- Today there are 29 ethnic groups of indigenous people living in 196 indigenous lands of the biome. There is also the presence of former slave black communities (quilombolas) and other traditional groups, like caiçaras.





# DEFORESTATION

- The Atlantic Forest is one of the most threatened biomes of the world. From the original cover of 1,309,736 km<sup>2</sup>, (3,6 x Germany), only 12,4% of its area remain in many fragments, which is below the minimal 30% threshold for its conservation. Most of the fragments are smaller than 50 hectares, although there are areas with more than 10,000 hectares protected.
- Since 1990 the biome lost 5 million hectares (similar to the area of half Portugal), losing around 100,000 hectares per year in the 90's. With advances in governance, civil society participation and technology, deforestation of the biome sharply decreased from 90,000 hectares in 2000 to 11,400 hectares in 2018. However, due to the political changes in the environmental policy in Brazil, its deforestation increased 30% in 2020.
- Nine of the 17 States have reached Zero Deforestation in the biome. It is an attainable goal.
- Most of the remaining vegetation (around 80%) is in private properties of farmland.
- Because of its very high biodiversity and fragile situation, the biome is considered a National Heritage by the Federal Constitution and it is protected by a Federal Law published in 2006. It is a world Biosphere Reserve.
- Nevertheless, its stable area since 1985 (with regeneration of new areas) hides the loss of mature forests and the degradation of its fragments, with reduction of large and rare trees, losing carbon and biodiversity. Fragments are then becoming more isolated.



- Remaining forest
- Non-forest natural areas
- Mangrove
- Restinga
- Original area of the biome. Limits of the Atlantic Forest Law 11.428/06





# DEFORESTATION

- The main drivers of deforestation in the last years have been expansion of agriculture in specific regions (Bahia, Minas Gerais, Paraná and Santa Catarina), urbanization around medium and big cities, tourism infrastructure and aquaculture in coastal regions.
- Thus, its extinction remains a risk. Reversing its tipping point urgently demands halting deforestation and large scale and fast speed restoration.
- Due to a tricky and complex political situation and legal regulation, past illegal deforestation would become legal once they were restored. However, landowners have not restored their farms, but remain legal, even not complying with the law – the Forest Code. The law approved in 2012 defined a sequence of steps and dates to start restoration. These deadlines have been postponed many times and many proposals have tried to change the regulations. Therefore, although not complying with the law, farmers are legal. But in fact, national and international value chains of the Atlantic Forest do not comply with the Forest Code.
- It is a tricky situation for international trade agreements like the EU-Mercosul, as commodities do not comply with the law, but are not illegal.







# RESTORATION

- Besides urgently halting deforestation, ecosystem restoration is key to fight against climate change and to reach the 1,5°C goal. Both solutions are among the ones with lower cost and easier implementation in the short term to mitigate climate change as opposed to changing the energy matrix or eliminating fossil fuels.
- Brazil has a central role and a great opportunity to contribute with mitigation in the land-use change sector at a high scale and fast speed. While halting deforestation of its forests (mainly the Amazon) would avoid emissions of greenhouse gases, restoration of its biomes and degraded lands would capture large amounts of CO<sub>2</sub>.
- Due to its high and strategic importance for climate change and ecosystem services, the UN declared the 2021-2030 period as the [Decade on Ecosystems Restoration](#).
- There are important international and national initiatives to promote landscapes restoration in the world. [The Bonn Challenge](#) has a global goal to bring 150 million hectares of degraded and deforested landscapes into restoration by 2020 and 350 million hectares by 2030.
- In this context, the Atlantic Forest biome is among the [top priority global ecosystems for restoration](#), matching biodiversity, climate, and costs. It is part of a group of ecosystems which restoration of 15% of their lands could avoid 60% of expected extinctions while sequestering 299 GtCO<sub>2</sub>, which represents 30% of the total CO<sub>2</sub> increase in the atmosphere since the industrial revolution.
- As most of the people and the GDP of Brazil rely in the severely threatened ecosystem services of the Atlantic forest, its restoration is crucial for the economy of the country and wellbeing of its population. It will also result in benefits for the planet and humanity in global scale.
- In opposition to many other threatened tropical forests of the world, the knowledge and international and national governance and policy framework to protect and restore the Atlantic forest are set such as the Bonn Challenge, the UN Decade on Ecosystem Restoration, the National Forest Code, the Atlantic Forest Law, the National Conservation Units System, a Plan for Vegetation Recovery, and the recently approved Payment for Environmental Services law.





# RESTORATION

- Moreover, the country's sectorial plan for vegetation (PLANAVEG) plans the restoration of 12 million ha of forest until 2030. The Atlantic Forest Pact plans the restoration of 15 million ha until 2050, with a network of projects spread around the biome.
- Only the restoration of the degraded Permanent Preservation Areas required by the Forest Code (APPs – riparian forests) would result in the planting from 4 to 7 million hectares of forest and a substantial sequestration of greenhouse gases. They would build forest corridors which could connect protected areas and the remaining fragments in private lands.
- Restoration of riparian forests for protection of water springs and rivers is fundamental to guarantee supply of water for cities, industries, hydroelectricity, and irrigation. Several large and medium cities of the Atlantic forest region have suffered with water shortages in the last decade.
- Besides recovering fragile and degraded lands in APPs, restoration can foster a powerful forest economy in the Atlantic Forest. [\*The Verena project\*](#) designed a large-scale plan for the forest economy based on restoration. Only [\*one bank created in 2020 a fund of R\\$ 750 million\*](#) (~US\$ 150 million) to invest in forest assets in Brazil. A former fund of the same bank raised R\$ 1 billion (~US\$ 180 million) for the same purpose.
- Together, restoration of APPs and economic forests of the Atlantic Forest may create jobs, include smallholders, empower women, recover degraded lands, protect biodiversity, provide ecosystem services, and mitigate climate change.
- Thus, achieving its protection and reversing its tipping point requires national and international coordination, political will, and investments from the financial sector and from the value chains of its products.
- Its case may become a benchmark for the protection and recovery of tropical forests and threatened hotspots.





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