

Mantiqueira Forest Restoration



© FELIPE FITTIPALDI

1.2 million hectares of endangered Atlantic Forest to be restored by 2030

37% of emission cuts needed could be provided by natural climate solutions

10% of the forest climate commitment met by project

WHY WE LOVE THIS STORY The reforestation of Brazil's Mantiqueira Mountains proves it is never too late or too hard to change the destiny of a landscape. A region that had lost nearly 80% of its forest is fighting back; not just planting trees but restoring nature itself. Now it is poised to give back water security to 20 million people and become a beacon of light in the global fight against climate change.

Where are we?

The Mantiqueira Mountains run for 200 miles along Brazil's south-east coast, flanked by South America's largest cities - Rio de Janeiro and São Paulo - and the metropolitan area of Vale do Paraíba. A generation ago this 10-million-hectare region was covered in tropical Atlantic Forest, but over the past 30 years the Mantiqueira slopes have been stripped bare to make way for cattle, farms, roads and small cities. Today, just 21% of the original forest remains.

This is bad news for the people who live here as the forests provided natural water storage and filtration. The Mantiqueira are the key to Brazil's national water security as they host the watersheds that supply water to the 20 million inhabitants of the neighboring megacities. The loss of the forest puts this water supply at risk.

In 2005, TNC began working to protect these watersheds. Along with farmers, ranchers and other stakeholders, the municipality of Extrema and TNC have been planting trees and restoring land to secure the area's water supply. The project has restored over 2,000 hectares of forest, while bringing nature and jobs back to the mountains.



The goal now is to replicate the Extrema experience in the other 283 municipalities in the Mantiqueira and scale-up efforts to restore 1.2 million hectares of endangered Atlantic Forest, covering 40% of the original forest area with trees by 2030.

What's new here?

Extrema began replanting trees to protect its water, but these trees are also absorbing carbon dioxide. In 2016, Brazil signed the Paris Climate Agreement and promised to slash emissions to 43% below 2005 levels by 2030. This ambitious commitment made TNC see the restoration of the Mantiqueira forest in a new light. What began as a local land restoration initiative was now part of a much bigger picture.

// This project is a tangible way to show how we can address climate change. But beyond that – it is a way to transform a huge challenge into a set of opportunities, creating a virtuous cycle in which people and nature flourish. //

Samuel Barreto, TNC Brazil Water Manager

TNC researchers were the first to realize just how much conservation could contribute to climate pledges. They calculated that “natural climate solutions” could provide 37% of the emission cuts needed to meet the Paris goals, while simultaneously providing clean air, water, habitats and jobs.

The Mantiqueira forest is the ideal test case. Restoring 1.2 million hectares will help Brazil meet 10% of its national forest restoration commitment under the Paris Agreement, potentially sequestering 668 million tonnes of carbon over the next 30 years. That’s equivalent to eliminating 145 million cars.

Can we replicate this work?

The Extrema restoration initiative kick-started a new restoration economy. The municipality created a model for using public funds to incentivize farmers and ranchers to participate through Payment for Environmental Services (PES) that can be replicated in the other 283 municipalities. Thousands more hectares across the Mantiqueira will be ripe for restoration once replenishing native forests becomes more lucrative than the cattle grazing that dominates the landscape today.

TNC is focused on creating enabling conditions for landowners to boost their income through restoration. This includes building a network of 20 Forest Restoration Hubs to incentivize PES policies and train 2,000 farmers and technicians. At the same time, we are fostering the wider restoration chain: seeds and seedlings, agroforestry, and other income-generating activities such as fruit processing.

The potential for replicating the Extrema case extends far beyond the Mantiqueira, or even Brazil. Across the world there are vast areas of degraded land just waiting for the right financial incentive to begin restoration.

What's next?

Brazil is the world’s seventh largest emitter of greenhouse gases, with 30% caused by deforestation, which Brazil has pledged to reduce by 80% as a central plank of its climate commitment.

By highlighting how just one regional initiative can contribute 10% of the forest climate commitment of a major country like Brazil, this project can help the world wake up to both the power of nature and an overlooked climate truth: cutting emissions is not enough. We need to absorb the carbon



© ROBERT CLARK

The Mantiqueira range of mountains where TNC and local partners are working to reforest many of its slopes.

already in the atmosphere and replanting trees at scale is one of the best ways to do just that.

Inspired by this realization – and projects like the Mantiqueira restoration – governments should create supportive policy environments to expand and reward creative reforestation efforts. We also need more climate finance, which currently allocates just 3% to natural climate solutions, dedicated to helping countries scale-up their nature-focused initiatives.

Additional benefits

Establishing a vibrant restoration economy drives a virtuous cycle of change. Tree nurseries and seed collection, as well as fruit processing, carpentry and building, will all create new jobs and social benefits for local communities. Soil health should also improve, reducing the need for agrochemicals and allowing commodities like coffee and nuts to generate even more jobs and income.

On top of this, native birds and animals that had all but vanished from the Mantiqueira – including the elusive puma – are making a comeback, proving forest restoration really is a win-win-win for people, nature and our planet.

Key partners

At the heart of the project’s success is its approach to partnership. The initiative is led by the Prefeitura Municipal de Extrema and driven forward thanks to the engagement of a host of collaborators. Alongside TNC and our fellow international organizations IUCN and WRI, partners include: Secretaria do Meio Ambiente do Estado de São Paulo; Corredor Ecológico do Vale do Paraíba; Instituto Coruputuba; Instituto Auá; Embrapa; Instituto Estadual de Florestas.

Contact for more information

Jesse Gallun | jgallun@tnc.org