



CTrees

# Impact Report

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2025



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# Tracking carbon in every living tree on Earth to accelerate natural climate solutions.

Dear supporters,

Trees, whether inside of forests or outside in natural or urban landscapes, are a vital shield against climate change, essential for both mitigation and adaptation. Yet, the scientific knowledge and independent data needed to protect them remains alarmingly scarce and difficult to access.

At CTrees, we're providing the scientific foundation needed for effective conservation solutions. Harnessing more than 20 years of experience in forest and climate science—and leveraging the combined power of AI, satellite technology, and ecological data—we produce premier, transparent, and near real-time geospatial data on forests and individual trees worldwide.

However, transparency alone is not enough.

CTrees is pioneering innovative solutions and building unprecedented partnerships that help connect local governments, communities, private sector leaders, investors, and nonprofits. Together, we are creating a more comprehensive ecosystem where every stakeholder has access to the tools and data needed to protect our global forests quickly and at scale.

Thanks to your generous support, we have made remarkable strides over the past year:

- **Enhancing the carbon market:** We supported carbon market initiatives with our digital MRV technology, mapping deforestation and degradation with unprecedented accuracy across tropical countries and aiding jurisdictional REDD efforts in more than 18 countries and 47 jurisdictions around the world.
- **Advancing national net-zero goals:** We contributed to the global commitment to net-zero emissions by assessing carbon stock changes for every hectare of forest on Earth over the past 25 years (2000-2024).
- **Empowering tree-level management:** We quantified the location, size, and biomass of every live tree across the United States and select countries to strengthen the tree-level economy, improve management practices, and promote nature-based solutions.

We invite you to take pride in these shared achievements. As you read more about our progress and global impact, know that we remain dedicated to developing innovative climate solutions and building a forest economy that is sustainable, inclusive, and rooted in transparency and trust.



A stylized, handwritten signature in dark ink, appearing to read 'Sassan Saatchi'.

- Sassan Saatchi,  
CEO and chief scientist,  
CTrees



# About us



14

PhD researchers  
on staff

21

Scientific advisors  
worldwide

1k+

High-impact, peer-  
reviewed publications

**CTrees is a California-based nonprofit that brings independent scientific data and insights to the global community implementing nature-based climate solutions.**

Founded in 2022 by a team of international scientists, CTrees emerged from the growing recognition of a gap between cutting-edge innovations in remote sensing and AI and the operational data needs of entities working to develop effective market mechanisms and policies for climate solutions. Since 2022, our dedicated team of scientists, data engineers, and policy experts has produced groundbreaking global datasets that empower leading organizations and governments to assess the impact of conservation projects and programs worldwide.

Led by Sassan Saatchi, a senior research scientist at NASA Jet Propulsion Laboratory/ Caltech and an adjunct professor at UCLA, CTrees is pioneering the next generation of data solutions and digital MRV systems for carbon markets and climate policies. In collaboration with an international network of scientific partners and advisors, we are bridging the gap between business and policy decisions and ecological outcomes.

# Our roots

## 2022

- CTrees officially established as a 501(c)3 nonprofit organization.
- At COP27, CTrees introduces the first global system to measure carbon stocks both inside and outside of forests.

## 2023

- CTrees and scientific partners release the first high-resolution, tree-level maps of Europe, Africa, and California.
- The launch of Land Use Change Alerts (LUCA) on Google Earth Engine provides biweekly monitoring of global forests.

## 2024

- New partnerships with Conservation International, Wildlife Conservation Society, the Lincoln Institute, and others shape new MRV solutions for carbon markets and conservation efforts.
- CTrees launches REDD+AI, the first global system to measure tropical forest degradation with attribution to specific drivers.

## 2025

- Experts from AGEOS, Gabon's national space agency, visit CTrees in Los Angeles to advance the country's forest monitoring systems.
- CTrees brings together leaders at London Climate Action Week to discuss JREDD+ and the Tropical Forest Forever Facility.



# Scientific data for natural climate solutions

Backed by peer-reviewed science and advanced deep learning models, CTrees global datasets bring confidence and clarity to efforts to protect and restore our most important ecosystems. Our datasets:

- Provide near real-time land use change alerts on forest disturbances across **4 billion hectares** of global forests.
- Measure historical carbon stocks, emissions, and removals from land use activities for **263 countries and territories**.
- Track tropical forest degradation globally, revealing logging as the leading driver that affects an average of **4.6 million hectares** of forests annually and spurs construction of **421,000 kilometers** of roads.



*(Left to right) CTrees' open data platforms LUCA, JMRV, and REDD+AI provide unprecedented data and insights into the world's changing forests and carbon stocks.*



# Our impact, by the numbers



Monitoring **2.7 million hectares** of high integrity tropical forests, sequestering **63 million tons of CO<sub>2</sub>** per decade.



Evaluating **75+ reforestation and restoration projects** across the tropics to empower more confident investments.



Partnering with **5 international space agencies**, building the capacity to improve internal monitoring systems.



Providing accurate and operational carbon data to more than **47 jurisdictions** across 18 countries globally.



A CTrees panel at London Climate Action Week 2025 gathered more than 130 participants and expert speakers to discuss scaling jurisdictional REDD+.



Driving  
innovation in  
carbon markets





## **Introducing a new methodology for tropical forest carbon removal**

Since 2024, CTrees has partnered with Conservation International to design an innovative methodology for carbon markets based on removing lianas, the woody vines in tropical forests that inhibit tree growth. Verra's corresponding VCS methodology is expected to be released for public comment in late 2025.

## **Powering REDD+ projects with scientific data**

Verra's new REDD+ methodology (VM0048) requires more than 300 projects to verify their reduced deforestation against historical baselines at the jurisdictional level. CTrees developed forest cover and deforestation maps for 43 jurisdictions across 19 countries, providing essential scientific data for upcoming REDD+ projects and ensuring the integrity of these initiatives worldwide.



## **Building digital MRV for nature-based carbon credits**

For a Fortune 100 company, CTrees developed a tool to evaluate 9 jurisdictional REDD+ programs across Latin America, Africa, and Southeast Asia. With the private sector seeking to raise more than \$1.5 billion for jurisdictional REDD+ in 2025, CTrees now offers on-demand, scientific assessment of JREDD performance for investors.



A group of people, including a woman in a blue shirt and cap, and a man in a blue shirt, are standing in a dense forest. They appear to be engaged in a discussion or a field study. The background is filled with lush green foliage and trees.

CTrees partners with jurisdictions to secure long-term funding for conservation initiatives, improve environmental monitoring efforts, and implement impactful natural climate solutions.

# Enabling sustainable jurisdictional action





## Producing a highly detailed tree canopy height map of California

By applying a deep learning model to very high-resolution aerial imagery, CTrees scientists produced the most accurate map of California's tree canopy height to date. Their findings indicate that in 2020, trees taller than 5 meters cover just over 19% of the state.

## Partnering with Gabon's national space agency, AGEOS

Since 2022, CTrees has partnered with AGEOS to develop a 1-hectare biomass carbon map of Gabon's forests. CTrees scientists worked alongside AGEOS staff and scientists to help them leverage machine learning to improve forest monitoring systems and implement more effective forest management policies.



## Bringing cutting-edge science to GCF's 45 member states

CTrees' data exchange with the Governors' Climate & Forests (GCF) Task Force, a coalition of 45 member states and provinces representing one-third of the world's tropical forests, helps promote standardized forest carbon accounting, land-use monitoring, and actionable governance tools for jurisdictions.



A man with glasses and a dark suit is speaking into a microphone on a stage. He is gesturing with his left hand. The background features a large blue screen with a stylized globe logo on the left and the letters 'SBSR' in large white font on the right. Below the letters, the text 'XXI SIMPÓSIO BRASILEIRO DE SENSORIAMENTO REMOTO' is visible. The stage has two large, light-colored, rounded chairs in the foreground.

CTrees CEO and chief scientist Sassan Saatchi presents a keynote on tropical forest monitoring at SBSR XXI, Latin America's largest remote sensing conference.

# Developing technology for forest policy and finance





## Mapping canopy height of every tree in the United States

CTrees scientists are the first to map canopy height of every tree in the continental US, identifying West Virginia as the state with the highest mean canopy height and tree cover at 96%, and Nevada as the lowest at 14%. The data provides insights for forest health and management, improving understanding of forest biomass, productivity, and ecosystem structure.

## Building the first system to measure tropical forest degradation globally

In 2024, CTrees introduced REDD+AI, the first and only global system to measure forest degradation in the tropics with attribution to individual drivers including logging, fire, and roads. The platform's historical data allows for greater accountability and action to protect tropical forests around the world.



## Reporting quarterly forest emissions for every country globally

In 2025, CTrees began providing quarterly emissions data for the forestry and land use sector for Climate TRACE, the world's most comprehensive global emissions inventory. The high-frequency data provides an open resource for governments to report emissions inventories with speed and accuracy.



# Partners



# Funders

Thank you to our generous donors, who make our work possible!



# We would love to hear from you!



CTrees

Reach out to our Director of Development,  
Janet Smith, at [jsmith@ctrees.org](mailto:jsmith@ctrees.org), to learn more.

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