CFA Newsletter

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CFA Newsletter
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Helping people restore forests around the world

Deforested land around a school in Tanzania was planted with a variety of tree species. The project was used as an opportunity to explain the value of trees in the landscape. Today, students and adults enjoy the shade and fruit provided by the trees.

Forests Without Borders is a registered Canadian charity dedicated to helping people restore forests and raising awareness of sustainable forestry. Since its founding in 2011, the charity has carried out projects in thirteen countries. These include establishing or improving community forests in Cameroon, Uganda, Ghana, and Madagascar, creating school tree nurseries in Nepal and Zambia, and providing Canadian teachers with information about current forestry practices. All international projects are organised as small businesses to ensure they remain financially viable without additional donor funds. To ensure buy-in by the local people, *Forests Without Borders* projects require local people to contribute labour or money.

Many people rely directly on ecological services provided by forests. Without these ecological services, people face various social and health problems. In areas where natural vegetation has been removed, communities can experience floods and shortages of water, fuel (80% of the wood cut in Africa is used as fuel), food, medicine, and building materials. Deforestation also diminishes soil fertility and carbon. Drilling deeper wells and constructing irrigation systems do not increase the amount of water in underground aquifers. Restoring trees helps slow the runoff of seasonal rainfall and promotes its absorption into the ground, thereby recharging aquifers.

Funds for *Forests without Borders* projects are raised in Canada through donations from individuals, fundraising events, and a few corporate donations. *Forests without Borders* keeps its administrative costs low since everyone involved in the charity in Canada volunteers, and it does not fund travel to projects. People involved in the projects pay their own way. *Forests Without Borders* is not a foundation, so it does not fund projects proposed by others.

Forests Without Borders collaborated with local and national organisations in Ghana to develop a programme that encouraged villagers to stop clearing natural forests for fuelwood and instead focus on planting trees in areas unsuitable for crops, and converting the wood to charcoal in steel kilns.

Forests Without Borders is currently involved in delivering two projects, one in Nepal and another in Uganda. In Nepal, Forests Without Borders is working with a university to establish a nature centre on campus that can be used for education and also serve as a recreational site for residents and tourists. The university will cover the operating costs once our involvement is complete. The project in Uganda involves the removal of invasive shrubs and the re-establishment of native vegetation in Kibale National Park. The plan is to create a revenue stream by converting the invasive shrubs into fuelwood and charcoal. If you would like to help us, you are invited to see how you can assist in raising funds for these projects. Remember, we and our supporters raise all our funds. *Forests Without Borders* has worked with many individuals and organisations to create fun events that raise funds. For example, we have had our supporters hold film festivals, silent auctions during conferences, bake sales, tree seedling sales, etc. It can be as simple as adding a presentation about a *Forests Without Borders* project during a conference or workshop and asking for donations. Many of our fundraising projects have connected with students and staff at forestry colleges and university programs, providing them with an opportunity to give back to society and learn leadership skills. Students led several of our projects. The work we do enables people working in forestry to connect with their communities and foster positive relationships with them.

Forests Without Borders has the potential to boost collaboration among Commonwealth nations and develop solutions that do not require taxpayer or external funds. You can learn more about Forests Without Borders by liking us on Facebook (https://www.facebook.com/forestswithoutborders2?fref=ts) and visiting the website: http://www.fwb-fsf.org/. Want to help? You can make a donation via the link on our website.

Fred Pinto
Chair, Board of Trustees, Forests Without Borders

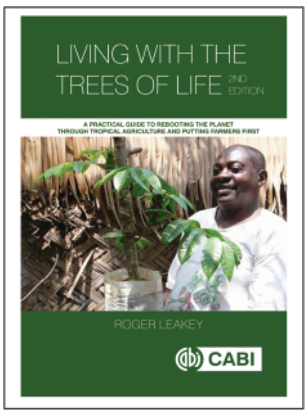
Letter

World Economic Forum recognizes the demise of forests

It was great to see in the last issue of the *CFA Newsletter* that the WEF, the bastion of corporate might together with its political support, are now recognizing that forests are in decline. It was even better to see them stating that "engaging with local communities and valuing biodiversity and the natural capital would reinforce a virtuous circle to reach a positive tipping point for nature conservation and restoration and achieve exponential change".

I worked in tropical forestry in the 1970s-80s before moving to agroforestry because I saw that natural forests were doomed if the failures of agriculture are not addressed to take the pressure off forests. I tried to make this point to WEF about 15 years ago to inform them about future options, but fortress Davos was impregnable.

Now, if there is a chink in their armour, perhaps I can squeeze some information through a crack and hope it lands on the desk of someone with influence. Can I therefore draw their attention to my book "*A practical guide to rebooting the planet through tropical agriculture and putting farmers first*"? It is the 2nd edition of "*Living with the Trees of Life*" (published by CABI, 2024). It presents the evolution of what I have called "Land Maxing"[1] which is a low-tech approach to diversifying subsistence farming systems with the indigenous food and non-food trees that used to provide rural populations with everyday useful and marketable products. When developed as new crops



[1] Leakey, R.R.B. and Harding, P.E. 2025. Land maxing: regenerative, remunerative, productive, and transformative agriculture harnessing the six capitals of sustainable development. Sustainability 17, 5876. https://doi.org/10.3390/su17135876

these trees offer sources of critical income to local communities, as well as new business opportunities for the growth of the local economy.

The higher yields resulting from the environmental, social and economic benefits due to the cultivation of these indigenous perennial tree crops makes it possible for farmers to grow their staple and cash crops on a smaller area of productive land. This in turn means that some degraded farmland can be returned to woody vegetation for carbon sequestration and restored wildlife habitat. In a nutshell, therefore, Land Maxing restores natural, social and human capital, while creating new physical and financial capital. Hopefully, once adequately scaled up, organizations like WEF will then find the political will to attain the positive tipping point they are apparently seeking.

Roger Leakey

Essay

CFA Voices: Smart Forests – can technology save the world's forests and accelerate climate action?

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Introduction: forests at a cross-roads

In the time it takes to read this sentence, another hectare of ancient forest has vanished; chainsaws roaring, carbon seeping, forest ecosystems collapsing. The world's forests are disappearing at a staggering rate of 10 million hectares per year, with tropical primary forests suffering the most severe losses.[1] In 2023 alone, an area the size of Switzerland was cleared, releasing 2.4 billion metric tons of CO_2; equivalent to India's annual fossil fuel emissions.[2] This deforestation crisis is not just an environmental catastrophe; it is a direct assault on global climate stability, biodiversity, and the livelihoods of millions who depend on forests for survival.

Traditional conservation methods; manual patrols, static maps, and delayed surveys, are no match for the speed and scale of modern deforestation. Illegal loggers, agricultural expansion, and wildfires operate with near impunity in many regions, exploiting gaps in enforcement and monitoring. But a new paradigm is emerging; smart forests,[3] where interconnected technologies, drones, satellites, artificial intelligence (AI), and Internet of Things (IoT) sensors, monitor threats in real time, predict disasters before they strike, and guide precision restoration efforts. These tools are not merely about collecting better data; they are about revolutionizing climate action.

It is well known that forests absorb 30% of global carbon emissions annually, acting as the planet's most efficient carbon sinks.[4] Losing them means losing the fight against climate change. Yet, amid this technological promise, a critical question lingers: Can algorithms and satellites alone save forests, or must they serve as a bridge, not a barrier, to the Indigenous peoples and local communities who protect these ecosystems for generations?

Why forests are the climate's silent reboot system

Forests are the Earth's lungs, shields, and sponges, regulating the planet's climate in ways that are still not fully understood. Their role in carbon sequestration is unparalleled; the Amazon rainforest alone stores 120 billion metric tons of carbon, equivalent to a decade's worth of global fossil fuel emissions.[5] When forests are cleared, this carbon is released, accelerating climate change. But their influence extends far beyond carbon storage. Forests regulate weather patterns, with deforestation in the Congo Basin projected to reduce rainfall across Africa's agricultural heartlands by 40%, threatening food security for millions. They also act as biodiversity strongholds, supporting 80% of terrestrial species, yet habitat loss is pushing 1 million species toward extinction.

The stakes could not be higher. Scientists warn that tropical forests are approaching tipping points, beyond which they may transition into savannas or degraded landscapes, incapable of recovery. This urgency has propelled forest protection to the forefront of global climate policy. The Paris Agreement's Article 5 explicitly recognizes forests as vital to climate mitigation, while initiatives such as REDD+ (Reducing Emissions from Deforestation and Forest Degradation) and the UN Decade on Ecosystem Restoration aim to incentivize conservation through financial mechanisms. However, without accurate, real-time monitoring, these pledges risk becoming empty promises. This is where smart forests come into play; offering the transparency, speed, and precision needed to turn commitments into action.

How smart forests work: eyes in the sky, sensors on the ground

A smart forest is a digitally woven ecosystem, where technology functions just like a nervous system, detecting threats and orchestrating responses with unprecedented efficiency. At the

[1] Food and Agriculture Organization of the United Nations (FAO). 2020. Global Forest Resources Assessment 2020: Main Report. Rome: FAO. https://doi.org/10.4060/ca9825en.

[2] Global Forest Watch. Tree Cover Loss Data: 2023 Update. Washington, DC: World Resources Institute, 2024. https://www.globalforestwatch.org.

[3] Büscher, Bram, and Robert Fletcher. "The Idea of the Smart Forest." Political Geography 98 (2022): 102685. https://doi.org/10.1016/j.polgeo.2022.102685.

[4] Le Quéré, Corinne, Robbie M. Andrew, Pierre Friedlingstein, Stephen Sitch, Julia Pongratz, et al. 2018. "Global Carbon Budget 2018." Earth System Science Data 10 (4): 2141–94. https://doi.org/10.5194/essd-10-2141-2018.

[5] Pan, Yude, Richard A. Birdsey, Jingyun Fang, Richard H. Houghton, Pieter E. Kauppi, et al. 2011. "A Large and Persistent Carbon Sink in the World's Forests." Science 333, no. 6045 (August): 988–93. https://doi.org/10.1126/science.1201609.

heart of this system are satellites, such as NASA's GEDI (Global Ecosystem Dynamics Investigation), which uses laser imaging to map forest carbon stocks with 90% accuracy.[6] These orbital sentinels are complemented by AI-powered platforms such as Global Forest Watch, which analyzes satellite imagery to detect illegal logging within hours – a task that once took weeks or months. On the ground, acoustic sensors embedded in the Amazon's canopy listen for the telltale whine of chainsaws, instantly alerting rangers through smartphones. Meanwhile, drones in Rwanda and Brazil are not only monitoring deforestation but also replanting 5000 trees per day, far outpacing manual reforestation efforts. Brazil's PRODES and DETER satellite systems have been instrumental in reducing Amazon deforestation by 70% in monitored areas since their implementation. These systems provide near-real-time alerts, enabling authorities to dispatch enforcement teams before illegal loggers can escape. However, when government funding was slashed in 2021, deforestation surged by 22% in a single year – a stark reminder that technology is only as effective as the political will and institutional support behind it.

For all their sophistication, smart forest technologies falter without local roots. The most successful initiatives are those that blend cutting-edge tools with Indigenous knowledge and community interventions. In Peru, the Shipibo-Conibo people combine AI-generated deforestation alerts with their deep understanding of bird calls and animal behavior to intercept illegal loggers before they strike. In Kenya, Maasai communities use drones to monitor both forest cover and grazing lands in Mau Forest Complex, ensuring that conservation efforts do not come at the expense of pastoral livelihoods.

Yet, the marriage of technology and tradition is not without risks. One major concern is data colonialism, where foreign corporations or governments harvest forest data for profit while local communities see little benefit. In Indonesia, satellite-based monitoring systems have sometimes outpaced on-the-ground enforcement, allowing corrupt officials to exploit gaps in oversight. Another challenge is exclusion: Indigenous peoples, who protect 80% of the world's remaining biodiversity, are frequently sidelined in tech-driven conservation projects, despite their proven role as the most effective forest guardians.

Future planning scenarios at the forests, climate-tech crossroads

As global deforestation worsens and climate deadlines near, scenario planning from climate and deforestation literature presents four possible futures for smart forests. These scenarios explore how technology, governance, and conservation priorities could shape forest landscapes either enabling sustainability, deepening ecological crises, or fostering innovative partnerships to balance human and environmental needs in uncertain times. The scenarios are;

1. *Climate Convergence*[7] – Decentralized leadership and a moderately stable climate enable community-driven AI and carbon markets to increase forest coverage to 38% by 2050, surpassing business-as-usual projections by 11 percentage points. A comparative forest coverage trend from 2025 to 2050 under two trajectories; Business-as-Usual (BAU) and an AI-optimized scenario within Climate Convergence. While BAU shows decline to 27%, the AI path rises to 38%, driven by smart monitoring, Indigenous knowledge, carbon markets, and inclusive governance – dependent on global coordination as shown in Figure 1.
2. *Techno-Resilience* – centralized corporate control yields 35% forest coverage, but progress stalls due to biodiversity loss in monoculture plantations.
3. *Forest Fragmentation* – decentralized responses face severe climate pressures; although local efforts are bold, forest integrity deteriorates to 55% as governance falters.
4. *Geo-AI Authoritarianism* – centralized regimes enforce militarized carbon sink zones that recover sequestration to 105%, but at the cost of erasing Indigenous land rights and ecological balance.

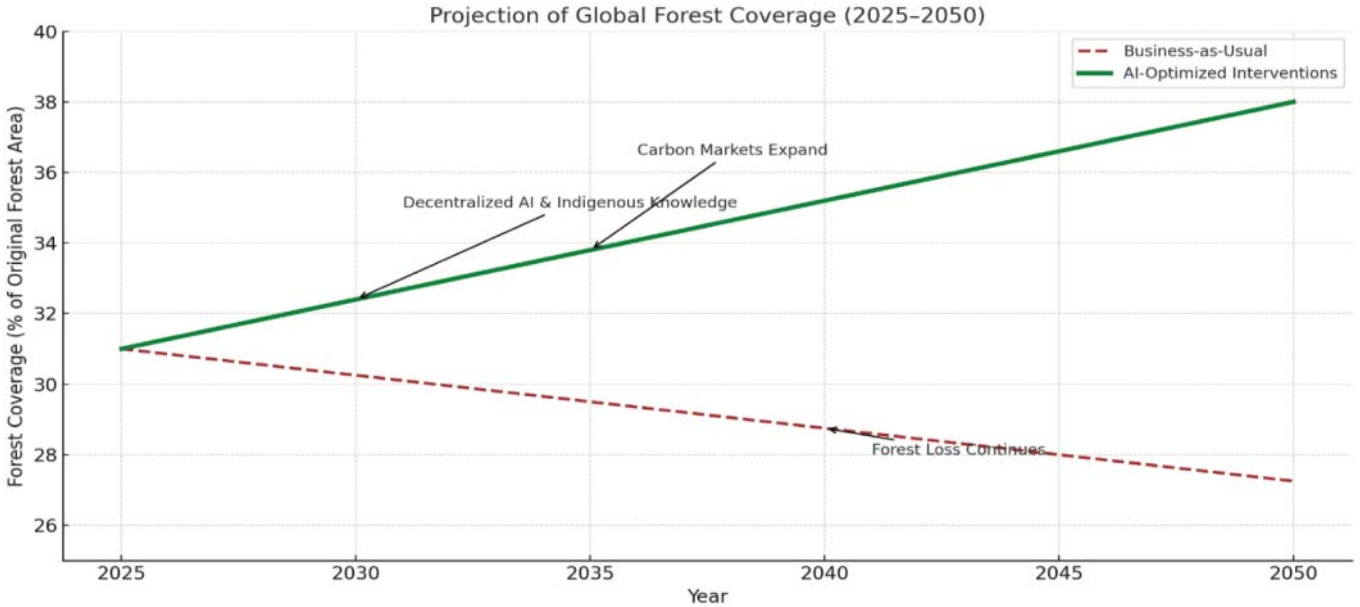


Figure 1: Scenario 1- Forest Cover under climate convergence

[6] NASA. 2021. NASA's Global Ecosystem Dynamics Investigation (GEDI). NASA Earth Observatory. https://earthobservatory.nasa.gov/features/GEDI.

[7] World Economic Forum, Climate Convergence: Scenarios for Forest Recovery and Carbon Markets by 2050 (Geneva: World Economic Forum, 2023).

Table 1: Comparative analysis of climate scenarios

Scenario	Forest Coverage	Governance	Climate Stability	Biodiversity/Equity Implications
1. Climate Convergence	38% (↑11%)	Decentralized, inclusive	Moderately stable	Promotes community leadership, AI, and markets
2. Techno-Resilience	35%	Centralized corporate	Implied stability	Monocultures harm biodiversity; equity concerns
3. Forest Fragmentation	55% *integrity* ↓	Decentralized, weak	Severe pressures	Local efforts fail to withstand climate impacts
4. Geo-AI Authoritarianism	105% sequestration	Centralized authoritarian	Implied control	Sacrifices Indigenous rights, civil liberties

The carbon arithmetic behind these futures is sobering. With AI-driven reforestation, planting 10 million hectares annually could sequester 0.05 gigatons of CO_2 each year, reaching 1.25 gigatons by 2050.[8] Tripling that effort to 30 million hectares annually would yield 0.15 gigatons per year – 3.75 gigatons cumulatively. Interestingly, each of the four scenarios presents trade-offs, and what is "better" depends on the values or priorities being emphasized. Table 1 compares the scenarios based on key factors.

From Table 1, climate convergence is the most sustainable and ethically favorable scenario. It combines a decent climate outlook, decentralized governance, and the highest forest coverage increase (above baseline), at the same time as enhancing community agency and biodiversity. It avoids the extremes of authoritarian control or ecological oversimplification.

The path forward – silicon and soil in harmony

Smart forests offer a lifeline, not a silver bullet. They can detect a chainsaw's buzz at midnight, but only a ranger can stop it. They can predict a wildfire's path, but only a community can rebuild. The algorithm won't plant a tree. Yes, the lesson is clear: technology illuminates the path, but people walk it. To truly save the world's forests, we need satellites that listen to elders, AI that empowers farmers, and climate finance that reaches the frontlines. The award for saving our forests will not go to the shiniest gadget, it will go to the alliance of innovation and humanity. The forest of the future is not just smart. It is wise. Nevertheless, the future of forest conservation lies in merging silicon and soil; creating systems where technology amplifies, rather than replaces, human expertise. Three key principles can guide this integration;

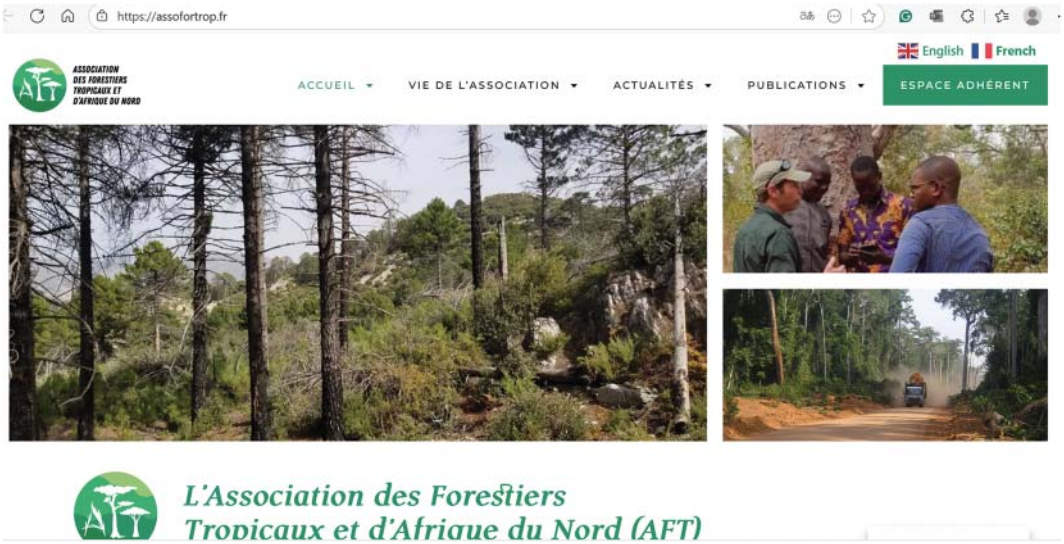
1. Community-First technology ensuring that climate finance directly benefits those who protect the forests.
2. Transparent data governance with locals retaining ownership of the information.
3. Ethical AI to prevent algorithmic bias and ensure sustainable land use.

When designed inclusively, smart forests can become more than monitoring tools, they can be platforms for climate justice, empowering the communities most affected by deforestation to lead the response.

[8] PwC. 2023. How Artificial Intelligence Can Accelerate Climate Action. London: PricewaterhouseCoopers. https://www.pwc.com/gx/en/issues/analytics/assets/pwc-ai-and-climate-report.pdf.

Association News

Key website now available in English



Our colleague Bernard MALLET, AFT's Président, has been in touch to let us know that the website of **L'Association de Forestiers Tropicaux et d'Afrique du Nord** (AFT) is now available in English.

The AFT is a non-profit organization which contributes to the promotion of sustainable forestry, reconciling social, economic and environmental issues in tropical countries and North Africa. It is a key resource for anyone wanting to know more about forestry in the region and brings together professionals and other interested parties.

assofortrop.fr

Forest Scenes

New Brazil development law risks Amazon deforestation, UN expert warns

The Amazon is already under pressure from industries like agriculture and mining (Image: Getty Images)

A new law in Brazil could cause "significant environmental harm and human rights violations", and represents a "rollback for decades" of protections in Brazil, including for the Amazon, a UN expert has said.

Plans to speed up approvals for development projects were criticised by Astrid Puentes Riaño, a UN special rapporteur, as the country prepares to host the COP30 climate summit this year.

Lawmakers passed plans to simplify environmental licences for infrastructure including roads, dams, energy and mines this month, though the president has not formally approved the bill.

Critics have dubbed it the "devastation bill" and say it could lead to environmental abuses and deforestation. Proponents say a new nationwide licensing regime would simplify the long and complex process that companies face to prove to authorities that planned developments do not cause unacceptable environmental harm.

Under the changes, some developers would be able to self-declare their environmental impact through an online form for projects deemed smaller – a move supporters say would reduce bureaucracy but critics feel is a major concern.

Ms Riaño told the BBC she feared the lighter regulations would "apply to some mining projects" and will "impact the Amazon region".

She also said was "very worried" about plans for automatic renewal of some projects' licences where no major changes have occurred, saying: "This will prevent environmental impact assessments from being done on these projects. Some of the projects will include mining projects or infrastructure projects where a full assessment is needed.

"It will also cause deforestation. Modifications or continuations of projects might mean deforestation in the Amazon without a proper assessment."

A lot of deforestation and land-clearing in the Amazon has been driven by agriculture and mining, sometimes illegally – but Ms Riaño said the bill is "going backwards" on efforts to prevent that.

Her intervention comes two months after new analysis was published **showing vast swathes of the Amazon were destroyed in 2024**, with forest fires fuelled by drought adding to man-made deforestation pressures.

Under the new law, environmental agencies would have 12 months – extendable to 24 – to make a decision about whether to grant a licence for strategic projects. If that deadline was missed, a licence could be automatically granted.

Supporters say this would give businesses certainty by preventing delays that have plagued projects, including hydroelectric dams for clean energy, or rail lines to transport grain.

Ms Riaño said she understood the need for more efficient systems but assessments must be "comprehensive" and "based on the science."

The law would also relax the requirement to consult indigenous or traditional quilombola communities – descendents of Afro-Brazilian slaves – in some situations unless they are directly impacted.

UN experts raised concerns that fast-tracking assessments could remove some participation and affect human rights.

Supporters of the bill say it will encourage economic development, including for renewable energy projects, held to grow the economy, and reduce costs for businesses and the state.

But critics fear weakening environmental protections could increase the risk of environmental disasters and violate indigenous rights.

In particular, UN experts argue it could contradict constitutional rights guaranteeing the right to an ecologically balanced environment – which means legal challenges could lie ahead.

The Senate and Chamber of Deputies have approved the bill and it is now pending presidential approval.

President Lula da Silva has until 8 August to decide whether to approve or veto the new law.

Brazil's Environment and Climate Change minister, Marina Silva, has strongly opposed the bill, condemning it as a "death blow" to environmental protections.

But she has been at odds with the president on other issues in the past, including proposals to explore oil drilling in the Amazon basin.

Even if the president vetoes it, there is a chance the conservative-leaning congress could try to overturn that.

Brazil's Climate Observatory has called the bill the "biggest environmental setback" since Brazil's military dictatorship, in which the construction of roads and agricultural expansion led to increased Amazon deforestation and the displacement of many indigenous people.

Ms Riaño said scientists in Brazil estimate the bill "will lift protections for more than 18 million hectares in the country, the size of Uruguay," adding "the consequences are huge".

bbc.co.uk

How the humble chestnut traced the rise and fall of the Roman Empire

The chestnut trees of Europe tell a hidden story charting the fortunes of ancient Rome and the legacy it left in the continent's forests.

The ancient Romans left an indelible imprint on the world they enveloped into their empire. The straight, long-distance roads they built can still be followed beneath the asphalt of some modern highways. They spread aqueducts, sewers, public baths and the Latin language across much of Europe, North Africa and the Middle East. But what's perhaps less well known is the surprising way they transformed Europe's forests.

According to researchers in Switzerland, the Romans had something of a penchant for sweet chestnut trees, spreading them across Europe. But it wasn't so much the delicate, earthy chestnuts they craved – instead, it was the fast-regrowing timber they prized most, as raw material for their empire's expansion. And this led to them exporting tree cultivation techniques such as coppicing too, which have helped the chestnut flourish across the continent.

"The Romans' imprint on Europe was making it into a connected, economical space," says Patrik Krebs, a geographer at the Swiss Federal Institute for Forest, Snow and Landscape Research (WSL). "They built a single system of governance all over Europe, they improved the road system, the trade system, the military system, the connection between all the different people all over Europe."

As a result of that connection, "specific skills in arboriculture [the cultivation of trees] were shared by all the different civilisations", he says.

The arboreal legacy of the Romans can still be found today in many parts of Europe – more than 2.5 million hectares (6 million acres) of land are covered by sweet chestnut trees, an area equivalent in size to the island of Sardinia. The trees have become an important part of the landscape in many parts of the continent and remain part of the traditional cuisine of many countries including France and Portugal.

Krebs works at a branch of the WSL in Switzerland's Ticino canton on the southern slope of the Alps, an area that is home to giant chestnut trees, where many specimens have girths

Chestnuts have become a popular part of the cuisine in many parts of Europe – an indirect legacy of the Romans, who planted chestnut trees for timber (Credit: Getty Images)

greater than seven metres (23ft). By the time of the Middle Ages, sweet chestnuts were a staple food in the area. But it was the Romans who brought the trees there – before their arrival in Ticino, sweet chestnuts did not exist there, having been locally wiped out in the last ice age, which ended more than 10,000 years ago.

Using a wide range of evidence, including paleoecological pollen records and ancient Roman texts, Krebs› research team analysed the distribution of both sweet chestnut (*Castanea sativa*) and walnut (*Juglans regia*) trees in Europe before, during and after the Roman empire. Sweet chestnut and walnut trees are considered useful indicators of the human impact on a landscape, as they generally benefit from human management – such as pruning and supressing competing trees. Their fruits and timber are also highly desirable.

In countries such as Switzerland, France and parts of Germany, sweet chestnut pollen was near-absent from the wider pollen record – such as, for example, fossil pollen found in sediment and soil samples – before the Romans arrived, according to the study and previous research. But as the Roman Empire expanded, the presence of sweet chestnut pollen grew. Specifically, the percentage of sweet chestnut pollen relative to other pollen across Europe "shows a pattern of a sudden increase around year zero [0AD], when the power of the Roman empire was at its maximum" in Europe, Krebs says.

After the Barbarian sacks of Rome around 400-500 AD, which signalled the beginning of the end of the Roman Empire amid widespread upheaval, the chestnut pollen percentage then drops temporarily. This decrease suggests that many of the Roman-era orchards were abandoned, Krebs says, probably not only due to the fall of the Roman Empire, but also, because a wider population decline in many areas at the time.

"*Juglans* [walnut] has a different pattern," says Krebs. The spread of pollen from these trees is less clearly associated with the rise and fall of the Roman empire, he and his colleagues found. Its distribution around Europe had already increased before the arrival of the Romans, perhaps pointing to the ancient Greeks and other pre-Roman communities as playing a role.

But while the Romans can perhaps take credit for spreading the sweet chestnut around mainland Europe, some separate research suggests they were not behind the arrival of these trees in Britain. Although the Romans have previously been credited with bringing sweet chestnuts to the British isles – where they are still a key part of modern woodlands – research by scientists at the University of Gloucestershire in the UK found the trees were probably introduced to the island later.

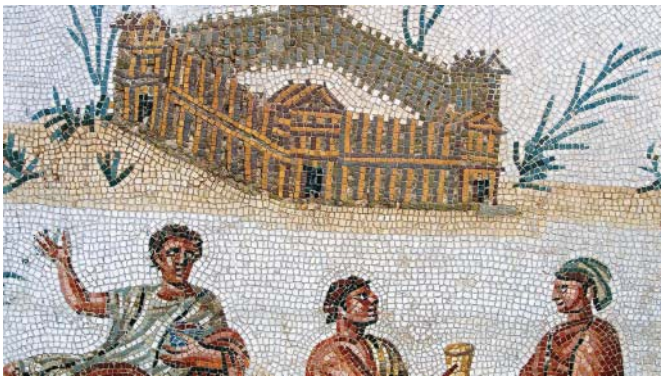
Sweet chestnut trees can be striking features of the landscape. They can grow up to 35m (115ft) tall and can live for up to 1,000 years in some locations. Most of those alive today will not have been planted by the Romans, but many will be descendants or even cuttings taken from those that ancient Roman legionnaires and foresters brought with them to the far-flung corners of the empire. The oldest known sweet chestnut tree in the world is found in Sicily, Italy, and is thought to be up to 4,000 years old.

Wood for fortresses

Why did the Romans so favour the sweet chestnut tree? According to Krebs, they did not tend to value the fruit much – in Roman culture, it was portrayed as a rustic food of poor, rural people in Roman society, such as shepherds. But the Roman elites did appreciate sweet chestnut's ability to quickly sprout new poles when cut back, a practice known as coppicing. This speedy regrowth came in handy given the Romans' constant need for raw materials for their military expansion.

"Ancient texts show that the Romans were very interested in *Castanea*, especially for its resprouting capacity," he says. "When you cut it, it resprouts very fast and produces a lot of poles that are naturally very high in tannins, which makes the wood resistant and long-lasting. You can cut this wood and use it for building fortresses, for any kind of construction, and it quickly sprouts again."

Coppicing can also have a rejuvenating effect on the chestnut tree, even after decades of neglect.



As the Roman Empire rapidly expanded, they needed fast growing timber so they could build fortifications (Credit: Getty Images)

When they are cultivated in an orchard for their fruit, sweet chestnut trees benefits from management such as pruning dead or diseased wood, as well as the lack of competition, all of which prolong their life, Krebs says: «In an orchard, there›s just the chestnut tree and the meadow below, it›s like a luxury residence for the tree. Whereas when the orchard is abandoned, competitor trees arrive and take over.»

Research on abandoned chestnut orchards has shown that when left alone, chestnut trees are crowded out by other species. In wild forests, «*Castanea* reaches a maximum age of about 200 years, then it dies,» Krebs says. «But here in Ticino, where chestnuts have been cultivated, they can reach up to almost 1,000 years, because of their symbiosis with humans."

By the Middle Ages, long after the Romans were gone, many historical texts document the dominance of sweet chestnut production and the importance of foods such as chestnut flour in Ticino, says Krebs. "In our valleys, chestnuts were the most important pillar of subsistence during the Middle Ages."

Today, Europe's sweet chestnut trees are facing threats including disease, climate change and the abandonment of traditional orchards as part of the decline in rural life. But chestnut trails and chestnut festivals in Ticino and other parts of the southern Alps still celebrate the history of sweet chestnuts as a past staple food – reminding us of the long legacy of both Roman and local ideas and skills in tree-care.

bbc.co.uk

UK Tree of the Year 2025

Glasgow's Argyle Street ash is Tree of the Year 2025 (Credit: Douglas Crawford / Tree Wise Urban Forestry)

This year's national contest celebrated the value of trees in our cultural history, shining a light on magnificent trees across the UK that are local landmarks, sources of passion, inspiration and creativity. The 10 finalists included trees selected by our expert panel and one tree nominated by the public.

The Argyle Street ash tree was chosen from our public nominations and won with an impressive 27% of the vote.

Runner up with 24% of votes was the King of Limbs in Savernake Forest, an ancient oak that inspired Radiohead and gave its name to one of their albums.

In third place, the Lonely Tree of Llanberis received 13% of the vote. This tree is a popular subject for photographers and may also appear in the forthcoming series of The Witcher.

Over 30,000 of you voted for your favourite tree this year. Thank you all. Our winner will now go on to represent the UK in the European Tree of the Year 2026 contest!

Our thanks to players of People's Postcode Lottery for supporting this year's competition.

The winner's story

This lofty ash stands alongside the tenements on one of Glasgow's busiest streets. Also known locally as The Only Tree on Argyle Street, it's a people's tree, one that lives in the hearts of Glaswegians and part of the city's emotional architecture, says David Treanor who nominated it. Standing proud for over 170 years, this tree is rooted in the social history of Glasgow, having survived the Clydeside Blitz, the rise and fall of industry, and now defying the odds to resist ash dieback too.

In recognition of its cultural and ecological value to the city, the tree was the first in Glasgow to be protected by a tree preservation order. In the 1930s, James Cowan praised the tree in a local newspaper column, calling it "a very tall ash tree, its highest branches reaching far above the top windows of the tenement. It is quite the most graceful ash I have seen." The column was later published in the book From Glasgow's Treasure Chest.

Among the tree's more modern admirers, Helen Babbs references it as 'one of Glasgow's best-loved ash trees' in her book, Sylvan Cities. And Belle and Sebastian's Stuart Murdoch says: "It must have good genes to have made it. It's hip now because it's in Finnieston, but I say it was always cool."

woodlandtrust.org.uk

With no COP30 roadmap, hopes of saving forests hinge on voluntary initiatives

The world is falling short of a target to halt deforestation by 2030, but the "Amazon COP" failed to agree a concrete global plan to save rainforests despite backing by over 80 nations

Demonstrators, with lamps called 'Poronga' on their heads, attend a march in defense of the living forest, territorial rights, and global climate responsibility during the U.N. Climate Change Conference (COP30) in Belem, Brazil, November 13, 2025. (Credit: REUTERS/Adriano Machado)

Forest defenders disappointed by the lack of agreement on a roadmap to tackle deforestation at COP30 say voluntary initiatives and funding promises set in motion in Belém are at least a step in the right direction.

Indigenous people and campaigners hoped the first UN climate summit held in the Amazon would define a concrete plan for saving the world's forests. But COP30's "Global Mutirão" decision makes only passing mention of the COP28 target adopted by all countries to halt and reverse forest loss by 2030 – a goal data shows is way off-track.

A decision on cutting carbon emissions – part of the broader package of COP30 outcomes – also made short shrift of the issue, referring only to the "challenges in addressing drivers of deforestation" while also being "mindful of pursuing sustainable development and food security".

"Our expectations were far higher than what this COP in the heart of the Amazon ultimately delivered," Fernanda Carvalho, head of policy for climate and energy at WWF, told Climate Home News.

Panama's head of delegation at the talks, Juan Carlos Monterrey, said in a social media post that "a Forest COP with no commitment on forests is a very bad joke".

Off-course on ending deforestation

In the run-up to the talks, Brazil's COP30 presidency made much of the Amazon venue, and President Luiz Inácio Lula da Silva called for negotiators to deliver a roadmap to end deforestation by the end of the decade, alongside another roadmap to transition away from fossil fuels.

The world is way off-track to meet the COP28 deforestation target, first set at COP26 in Glasgow in 2021. Forested areas the size of England were lost last year as agricultural expansion continued to fuel deforestation, according to a global assessment by experts and NGOs released just before the Belém summit.

But despite winning backing from all 56 members of the Coalition of Rainforest Nations and 27 European Union member states, a deforestation roadmap – like the roadmap to transition away from fossil fuels – was relegated to a voluntary initiative to be drawn up by the COP30 presidency in time for COP31 in Türkiye next year.

COP observers blamed the weak outcome more on a lack of political will than overt opposition, but some countries did balk at giving forests stronger support.

Argentina – an agricultural powerhouse – pushed back even on a brief reference to deforestation in the mitigation text, saying mention of the drivers of deforestation "should be analysed from a historical perspective" and take into account developing countries' differentiated responsibilities.

An aerial view shows a deforested plot of the Amazon during a Greenpeace flyover amid the UN Climate Change Conference (COP30), near Cachoeira do Piria, state of Para, Brazil, November 13, 2025. (Credit: REUTERS/Adriano Machado)

"Better than nothing"

Yet while the results of the "Amazon COP" were "disappointing", COP30 did summon up "both money and political will" from countries supporting broader efforts to end deforestation, said Toerris Jaeger, executive director of Rainforest Foundation Norway, an NGO.

Carvalho said the presidency's voluntary roadmap initiative "is better than no signal on forests", adding that what really matters is the inclusion of forest policies in national climate plans – something that is still lagging.

A WWF analysis found that of the 39 nationally determined contributions (NDCs) filed by September's deadline – which accounted for 42% of the world's forests – only Brazil explicitly commits to achieving zero illegal deforestation by 2030, although implying that legal deforestation could still occur. Just 14 of the NDCs set any forest-related targets.

Outside of the official COP process, which "failed to deliver anything meaningful on deforestation", according to Felix Finkbeiner, founder of Germany-based NGO Plant-for-the-Planet, several voluntary funding initiatives were welcomed by campaigners.

European nations pledged cash to protect rainforest in Africa's Congo Basin and aid traditional and Indigenous communities living in forested areas, while Brazil's brainchild, the Tropical Forest Forever Facility (TFFF), also secured several donor promises of support.

Robson Paes sits in the Amazon rainforest during an expedition of Munduruku people as they mark the frontier of the Sawre Muybu Indigenous Territory, in Itaituba municipality, Para state, Brazil, July 20, 2024. (Credit: EUTERS/Adriano Machado)

Tropical forest fund takes off slowly

The TFFF, which aims to pay tropical countries that conserve their forests with income from financial investments, was also left out of the "Global Mutirão" decision after being featured as an option in an earlier draft.

And despite receiving pledges of funding, almost entirely from countries so far, there are questions over how the fund will operate in practice and whether it will secure the political and financial backing it needs.

"The funding model is realistic in principle", said Chris Dodwell, head of policy and advocacy at Impax Asset Management – one of the financial firms involved in the fund's design, adding that investors still needed information on the fund's reporting process, how the debt will be structured and demonstrated results protecting forests.

"The reality is that the premier investment will only flow once you have got bonds that are being issued, with all of the detail and documentation that you need. The whole concept is always going to have this idea of building over time," Dodwell told Climate Home.

Still, the TFFF has already received pledges totalling about $7 billion from a handful of countries, though some of them are conditional on it reaching a threshold of support.

That dwarfs the $500 million disbursed by the Green Climate Fund (GCF) for REDD+ forestry projects since 2017, but remains short of the target set by Brazilian officials for the first year of $10 billion in pledges.

Some multilateral banks are considering an investment in the fund, while some donor countries involved in its design – among them Canada, the United Arab Emirates and China – are yet to pledge a contribution.

New Congo Basin finance

In a major financial boost, European nations also pledged to raise $2.5 billion over the next five years for the protection of the Congo Basin, the second-largest rainforest on the planet and the last remaining strong carbon sink.

The pledge scaled up a previous $1.5-billion initiative launched at COP26 in Glasgow to protect the Congo Basin,

which trained local populations in sustainable management, helped them secure land rights and funded protected areas, according to implementation reports.

Signatories include France, Germany, Norway, Belgium and the UK, as well as multilateral banks, including the World Bank, African Development Bank, Global Environment Facility and the GCF.

In a similar voluntary initiative, the UK, Germany, Norway and the Netherlands renewed a $1.8-billion pledge to scale up land tenure for Indigenous people and Afro-descendent communities by 2030, which was one of the main Indigenous demands at COP30.

Rachel Pasternak, global lead for forests at The Nature Conservancy, said that these voluntary initiatives are "steps in the right direction", despite the formal negotiations lagging behind on forests. "While we need to do more, given the geopolitical realities that we're in, there's still a lot to celebrate."

climatechangenews.com

Cameroon's Network of Sustainable Development Actors amplifies the voices of women from the forests amid COP30

Ebo Forest in the Littoral Region of southern Cameroon. (Screenshot from the video de la chaîne YouTube de France 24)

Far removed from major global climate change meetings and conferences, some vulnerable communities bear the brunt of the climate impacts, often combining innovation with determination to cope.

From November 10 to 21, 2025, various figures in the fight against climate change gathered to discuss the world's climate future at the 30th United Nations Climate Change Conference (COP30) in Belém, Brazil. The main speeches and discussions featured the initiatives yet to get off the ground. At the grassroots level, poor communities are struggling to cope with the everyday impacts of climate change and are fighting for their survival.

While COP30 took place on the outskirts of the Amazon rainforest, forest conservation took top priority. On November 17, 2025, a Cameroon-based organization, the Network of Sustainable Development Actors (RADD), offered women a unique forest-immersion experience in this country, which has over 40 percent forest coverage. Marie Crescence Ngobo, the RADD Executive Secretary who strives for inclusive and sustainable development and fights for people's sovereignty in their resource management, explained the motivation behind this initiative to Global Voices.

Jean Sovon (JS): What inspired RADD to conduct this forest immersion, and how does this experience fall within your vision for sustainable development and nature conservation?

Marie Crescence Ngobo (MCN): To provide some context for why we conducted this forest immersion, we must examine RADD's origins and its background. RADD originated from young people's desire to continue the 'Kids For Forest' project

initiated by Greenpeace International in the Congo Basin in 2009. 'Kids For Forest' was an advocacy project that enabled young people to come together and urge decision-makers to protect and manage the forests for future generations. At its conclusion, the young people created the Network of Sustainable Development Actors (RADD) to continue promoting the sustainable, equitable, and inclusive management of natural resources, especially forests. Based on this vision, RADD had to find strategic agents capable of pursuing and representing sustainable, inclusive development. Because of their relationship with nature, land, and forests, women are best suited to this role.

Through forest immersion, RADD is returning to its original mission of preserving and protecting the forests. We are in the Congo River basin, and this year COP30 laid special emphasis on forests, the earth's lungs. The need to conserve forests is even greater. Unfortunately, modernity, colonialism, extractive industries, agro-industries, mining, dams, and other large-scale projects that adversely affect forests seek to keep women and young people away from the forest's vast wealth, eroding any desire they may have to contribute to its conservation. This immersion will renew the women of the Congo Basin's alliance with the forest, instilling in them a desire to conserve this ecosystem. We shall remember the role forests have always played for humans and insist on the need to preserve them for present and future generations and mitigate climate change.

JS: How does this training activity effectively contribute to the COP30 objectives and Cameroon's climate efforts?

MCN: In the run-up to this immersion, we held two panels discussing "the world's future without forests and water" and "Gender and climate finance." There was an evening in the forest, an exhibition fair with native agroecological seeds and forest handicrafts, a hike, a virtual meeting with the team in Belém, tree planting to mark our visit to Sanaga Beach, a documentary screening, and a meeting with forest representatives.

This training strengthens women's ability to understand and acknowledge forest climate issues. It trains them to engage in climate change adaptation and mitigation efforts. Women experiencing the impacts of climate change could propose relevant solutions that should be put to good use at COP30. We must preserve the Amazon and Congo Basin as they offer solutions to climate change. We cannot achieve an effective conservation of these ecosystems without women. They are the ones who must provide the solutions, rather than the other way around.

Cameroon is reaching out to decision-makers, urging them to listen carefully to what women are doing and to see them as leading actors when drafting and implementing national plans to combat climate change.

JS: Who was selected for this forest experience, and what changes do you hope to see in them after this immersion?

MCN: More than six categories of people were selected, including women living near the agro-industries. As palm oil, sugarcane, and rubber tree monoculture plantations have destroyed the forests that provide their livelihoods, these women are at the forefront of the fight for land access. This also includes women from community seed banks, who are the local seed guardians. Otherwise, the forest cannot sustain itself. Africans must strengthen their seed sovereignty and move away from hybrid seeds, which use synthetic chemical fertilizers that also cause climate change.

Likewise, female processors of agricultural, pastoral, and non-timber products (products from forests, other than wood) add value to our local products, enabling them to rival the manufactured goods swamping our markets and distancing us from our cultural, religious, and traditional values.

Also, urban women who need to recharge to reconnect with Mother Forest, a source of nutritional, health, and environmental values.

Indigenous people, or the first inhabitants of the forest, who are skilled conservationists and guardians of this forest and its wealth.

Lastly, the 'forest representatives' are a group of young people from the forest committed to its development.

JS: How does RADD intend to build on this experience? Do you plan on creating nature ambassadors or new local initiatives based on this momentum?

MCN: We will take a multilevel approach by strengthening the group of forest representatives who were at the COP30 Hub, giving them the resources to continue striving for forest protection and development. We also plan on including forest seeds in the seed system development program that RADD manages.

JS: Which institutions support you in this undertaking?

MCN: Locally, we have the Cameroonian Women's Convergence against Climate Change (COFECCC), the Ministry of Environment, Nature Protection, and Sustainable Development, and the National Office on Climate Change. Internationally, the Association for Women's Rights in Development (AWID) is our main partner, providing financial, technical, and communications support, and the Africa Climate Justice Movement (ACJM), an African women's movement supported by the Global Fund for Women (GWF). We also have the Agroecology Fund and Global Voices backing us.

We intend to seek more support for our initiatives and continue strengthening women's ability to understand the global climate challenges. Cameroonian women have proposed some endogenous solutions and are seeking partners to support their implementation.

Written (Français) by **Jean Sovon and**
Translated (English) by **Laura**
globalvoices.org

Obituaries

Christopher Latham 1933–2025

Christopher Latham, former Chairman and Treasurer of the Commonwealth Forestry Association, passed away peacefully at the end of July following a brief illness, at the age of 93.

He graduated from Clare College, Cambridge, where he studied Law before qualifying as a Chartered Accountant (Articled Fitzpatrick Graham, Chartered Accountants, in 1955). Christopher dedicated his career to James Latham plc, joining in 1959 and serving as a Director from 1963, ultimately becoming Chairman until his retirement in the 1990s.

He was deeply committed to professional development within the timber industry. He served as President of the Institute of Wood Science from 1977 to 1979, Chairman of the Timber Research and Development Association (TRADA) from 1972 to 1974, and Trustee of the Timber Trade Benevolent Association (TTBS) from 1982 to 1991.

His contributions to UK forestry included long-standing membership with the Royal Forestry Society and service as a Forest Commissioner between 1973 and 1978.

Throughout his career, Mr. Latham engaged with various sectors of the trade, notably as a Liveryman of the Worshipful Company of Builders' Merchants, where he served as Master from 1999 to 2000. Beyond his professional commitments, he was Chairman of the Psychiatric Rehabilitation Association, a charity supporting community rehabilitation in East London, especially in Hackney and Tottenham. His personal interests included collecting toby jugs and vintage cars.

Christopher married Jacqueline in 1963 and had three sons – Patrick, Charles and Paul – eight grandchildren and one great grandchild.

Paul Latham

Personal note from Alan Pottinger, CFA Executive Director

Christopher was kind, generous, and insightful. He welcomed me into the CFA and guided me with his wisdom, continuing to offer valuable advice even after stepping down as Treasurer. I will miss his warmth, care for the CFA, and feel privileged to have known him.

John Campbell OBE 1932–2025

John Campbell OBE wore many hats. He was an international forester of repute, a successful and respected businessman at senior level within Government, banking, and pension funds, a supporter of many British landowners who wanted to develop their interest in forestry, a Rotarian a man of integrity, kindness, and generosity, and above all a loyal and loved family man.

John was a true Professional and visionary leader in 'diversified' and 'integrated' forestry from the 1960s to the 1990s. He was a passionate advocate for planting trees and economic sustainability, as well as seeing the benefits towards improving life and wellbeing for all. He was ahead of his time and unique in his ability to bring many parties to work together and help address everyone's needs as well as seeing the strength of working as a whole.

John Campbell was born in Sunderland in 1932 and, after living on his uncle's farm during WWII, he went to Houghton le Spring, County Durham, Grammer School and then onto Bangor University where he obtained a BSc (Hons) in Forestry in 1954. He met his wife, May, in Bangor Teaching Training college, studying Music and Teaching, and they married in 1955.

In 1956, during his British Army service as an engineer, John and May had a son, Ian and in 1957 their daughter Heather was born in Hook End, Henley while living in the Forest

Managers cottage. They would have been married 70 years in August 2025.

After a short spell with the Forestry Commission, he devoted his working life to creating the Economic Forestry Group which became the largest private Forestry organisation in the UK. He was Group Chief Executive for over twenty years until his retirement in 1991.

John Campbell received national recognition by being honoured with the OBE in 1987 for his services to Forestry. He travelled extensively during his career – New Zealand, Australia, Canada, North America, Hong Kong, South Africa and Europe – and had many international friends and colleagues which he was able to expand through his involvement in Rotary International, the Institute of Directors and the Commonwealth Forestry Association. He also played a key part in bringing South Africa back into the Commonwealth Forestry fold.

John's services included being on the University advisory boards for Oxford and Aberdeen Universities and he served as a member of the Council of The Royal Forestry Society for over 25 Years. He served on The European Forestry Committee in Brussels and published many papers and gave many lectures including a key-note speech at the International Forestry Conference in Australia to celebrate the Bi-Centenary in 1988. The following year he was to become the first person outside North America to be invited to give the University of California annual Forestry lecture at Berkley after suffering a heart attack only 6 months before!

His publications ranged from 'The Role of Government and Private Enterprise', 'Forestry & British Timber', 'Britain's Third Forest', 'Private Investment in Forestry', 'Canada – A Forestry Nation', 'Wood Energy', 'Private Enterprise Forestry and Conservation', 'Save Oil by Buying Forests', 'British Forestry – An International Perspective' and many more.

He was appointed a Fellow of the Institute of Chartered Foresters of Great Britain in 1967, and was on the National Council for the Timber Growers UK. He sat on the EC Advisory Committee for Forestry & Forest Industries, the Arboricultural Association, the Natural Environment Research Council Review Groups and the NERC Terrestrial & Freshwater Sciences committee and the Regeneration of Tropical Forest Committee. He was also a Life Member and served on the Board of the Institute of Directors as well as awarded a Fellow of the Royal Society of Arts. A fine record of achievement by any standards.

Once retired he became a Commissioner of Taxes but devoted his service mainly through Rotary where he continued to travel to many other countries and made many friends. He became a Rotary member in 1974 and was President in 1989 but he will no doubt be remembered for 'Operation Tree-Link' started in 1991 to bring schools and tree planting together around the World. I am told this is one of the Club's most successful projects which is ongoing, and it left two forest nurseries well established in Nepal as well as other countries. With his Rotary Club of High Wycombe, he planted an avenue of trees across Hughenden Park which was named "Rotary Way" for which the Club won a Rotary Presidential award from Rotary International for its contribution to the Environment.

John Campbell OBE was not only a passionate forester and a man of vision but also had a unique empathy towards others more in need. Marlow-on-Thames was not just his home-it was a place where his influence was felt in every corner. His passion for nature, his love for people, and his ability to inspire those around him made him a pillar of strength and wisdom. He was an amazing and dedicated family man throughout and was always there for advice and always working 'All Together' as a husband, father, grandfather and great grandfather and respected and loved by all.

John Campbell OBE left a lasting legacy in the world of forestry through a blend of entrepreneurial vision, environmental stewardship, and community engagement, and helped shape the private sector's role in woodland management, biodiversity, education and climate change issues. His work influenced forestry policy and practice beyond the UK promoting responsible land use and conservation across borders.

John's impact wasn't just in the trees he planted – it was in the roots he laid for future generations to care about them. He and his EFG Group of companies have shaped UK forestry policy and modern forestry practices as we know it today.

John's legacy will endure in the forests he nurtured, the lives he touched and the values he instilled in all of us. May we honour his memory by continuing his work, embracing his ideals and striving to make the world a better place.

Ian Campbell (Son) *FInstD, MInstM*
Ian.campbell@economicforestrygroup.com
'Forest to Family'
Mobile 07973 229705

SIMON RIETBERGEN
1960–2025

Simon Rietbergen, who died from multiple brain tumours in September, aged 65, was characterised by a deep commitment throughout his career to trying to fuse social and technical aspects of tropical forestry to the benefit of both forests and those who depend on them.

He first worked at the International Institute for Environment and Development in London (where he met and married his wife in 1991). This was followed by work at the World Bank in Washington DC, IU+CN in Switzerland, the Prince's Rainforest Project at Clarence House, and the United Nations' Food and Agriculture Organization in Rome. Although his career took him all over the world, his greatest love was Africa, where he worked very widely, from the Congo Basin rainforests to the Sahelian drylands.

In 1994, Simon put together 'The Earthscan Reader in Tropical Forestry', the first published collection of essays about more progressive, people-oriented approaches to forests and biodiversity. At the same time, he helped shape the World Bank's shift from a parallel-track focus on timber and rainforest conservation to a more integrated approach that considered forests as resources often best protected by being used sustainably in local livelihoods.

Simon found his true calling when he took on the role of team leader for large complex multilateral projects. He knew that hoping for change and making change happen were two very different things – the latter often a slow, gruelling task. Many of his colleagues have recalled with affection how he was able to combine strong energetic leadership with fun, and kind, thoughtful treatment of his team. He was a wonderful mentor of younger colleague giving them responsibility and supporting them as they made their way forward. He led by example, and fought for what was right, imbuing them with a strong sense of purpose.

His linguistic gifts (he could work professionally in seven languages) combined with humour and deep knowledge of the field made him an invaluable colleague. He knew foresters, politicians, and ecologists across the tropical world and combined charm with a strong grasp of finance and political economy.

One of his final achievements was the design of a project to advance the 'Great Green Wall,' an African-led initiative to reverse desertification by restoring a belt of natural vegetation stretching over 8000 km across the Sahel. The $150,000,000 project was finally approved by the Green Climate Fund only two months before he passed away. Simon had led a huge team of experts working in eight Sahelian countries over several years to bring the initiative to fruition. He continued to mentor and guide his team of FAO colleagues and African counterparts almost until his death.

No memory of Simon could be complete without mention of his love of music and terrific mastery of the piano. Colleagues from the tropical timber industry remember how he would bring tough negotiation sessions to a good-humoured conclusion when he turned to the piano at the end of the evening. Only two days after the second operation on his tumours, he found a piano in the hospital and treated everyone to a rendition of All Blues by Miles Davis.

Simon was born in The Hague to Elisabeth and Evert Rietbergen, a primary school teacher and headteacher respectively. Elisabeth grew up in the Dutch East Indies, where her father headed the first integrated Indonesian-Dutch school, and where she and the family were held in Japanese prisoner-of-war camps during the second world war. Simon is survived by his wife Jennifer, their children Emma, Sam and Lily, and his brothers Evert Jan and Hans.

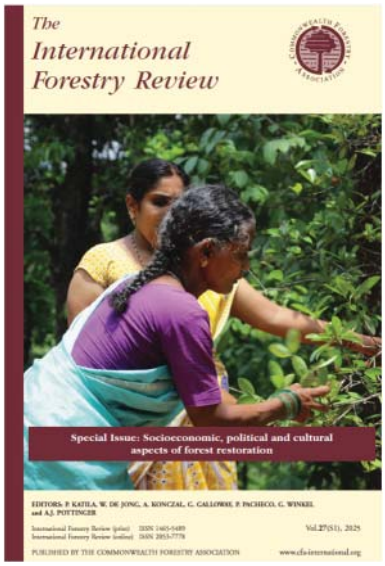
Gill Shepherd
London School of Economic and Political Science

Publications

New Special Issue of the *International Forestry Review*

A new Special Issue of the *International Forestry Review* has been published, entitled **Socioeconomic, political and cultural aspects of forest restoration** and is available, fully Open Access, at www.ingentaconnect.com/content/cfa/ifr. The publication contains the following papers:

- *Fostering forest restoration: framing, conceptualizations and knowhow* W. DE JONG
- *Forest restoration paradigms and conflicts in Europe* L. O'BRIEN *et al.*
- *Factors influencing gender equity in ecosystem restoration: a three-country analysis* R. CHHEM *et al.*
- *Landholders' engagement in restoring Brazil's Atlantic Forest is linked with livelihood compatibility and legal compliance* A. JOGLEKAR *et al.*



- *A win-win for restoration and forest-based value chains: evidence from initiatives in dryland African and Mesoamerican countries and Small Island Developing States* S.K. BARUA *et al.*
- *Evaluating policies for restoration of a forest catchment: an institutional analysis* S. GUPTA *et al.*
- *Legal approach to Indigenous participation through the implementation of 'Free, Prior and Informed Consent' in forest restoration: reflections from REDD+ Program in Viet Nam* P.A. THU
- *Learning from agrarian dynamics to tailor community-led forest restoration in the Tshopo province, Democratic Republic of the Congo* A. PEROCHES *et al.*

Global Witness

New analysis ahead of COP30 in Brazil reveals how efforts to end deforestation are undermined by climate-wrecking profits, as banks in the US, EU and UK make over $10 billion in income since the Paris climate agreement by financing companies involved in deforestation.

Key findings

- US financial institutions made $5.4 billion from deforesting companies between 2016-2024, with Vanguard, JPMorgan Chase and BlackRock the top earners.
- EU banks made an income of $3.5 billion, led by BNP Paribas (France) and Rabobank (Netherlands).
- UK institutions made $1.2 billion, with HSBC, Aberdeen group and Schroders leading.

- Banks in all other countries outside these three major financial centres generated $15.9 billion, with Bank Central Asia (Indonesia), Brazilian Development Bank (Brazil) and Bank Rakyat Indonesia (Indonesia) making the most.
- Of the deforesting businesses across the six sectors analysed, the pulp and paper sector generated the highest income (48%) followed by palm oil (41%), then soya (4%), beef (3%), rubber (3%) and timber (1%).
- Download report here %), then soya (4%), beef (3%), rubber (3%) and timber (1%).

Download Report

Or go to https://globalwitness.org/documents/962/Banks_make_26_billion_in_a_decade_of_financing_deforesting_companies_Oct_2025.pdf

Around the World

COP30: Brazil launches Tropical Forests Forever Facility

At the COP30 Leaders' Summit in Belém, the Brazilian COP30 presidency formally launched the Tropical Forests Forever Facility (TFFF), a mechanism to provide long-term, predictable financing to countries that protect and sustainably manage their tropical forests.

After initial contributions from Brazil, Indonesia, Norway and Portugal have announced funding pledges so far, though almost 50 countries expressed support for the initiative. Brazil has set a $125 billion target for the TFFF, and aims to raise $10 billion initially from governments and philanthropies, which would spur further investments from private, corporate and philanthropic investors.

Following is a statement from Mirela Sandrini, Interim Executive Director, WRI Brasil:

"From the Amazon to the Congo to Southeast Asia, the forests that sustain us all are facing a global red alert. If enough countries contribute, this new mechanism could offer a breakthrough, flipping the economics of deforestation by making standing forests more profitable than clearing them.

"The backing from almost 50 countries is encouraging and marks an important start for the TFFF, reflecting growing recognition of the need for collective action to protect and restore tropical forests. However, the pool of those that have actually committed funding so far remains limited. Broader support will be essential if the Facility is to become fully operational. It is the ultimate test of whether nations – especially wealthier ones – will recognize their shared responsibility for protecting the forests that underpin every economy on Earth.

"As COP30 gets underway**,** new contributions in the coming days would be welcome news, strengthening the initial momentum.

"The Facility will only work if it truly benefits the Indigenous Peoples and local communities who depend on forests for their livelihoods. The provision requiring 20% of payments to go to Indigenous Peoples and local communities is a strong start.

"Raising money isn't enough, though. The next step is to design the operations manual, with transparent oversight and measures to prioritize and protect intact rainforests, while genuinely involving Indigenous Peoples and local communities. It must also deal with degradation – when forests are weakened by logging, mining or building roads – and leakage – where protecting one area simply shifts destruction elsewhere. Without that precision, the Facility risks being another good-intention promise, not a breakthrough.

"Importantly, the TFFF is designed by and for the Global South, reflecting local realities and priorities. It sets a precedent for tropical countries to shape their own climate solutions while responsibly engaging global capital markets. This is not just another fund: it embodies the broader shifts our financial system needs – attracting existing capital toward smart, climate-positive, and secure investments."

wri.org

Global: Climate change outpaces trees – forests face centuries-long lag in adaptation

Ecologists are concerned that forest ecosystems will not keep pace with a rapidly changing climate, failing to remain healthy and productive. Before the rapid climate change of the past century, tree populations in the Northern Hemisphere adapted to colder and warmer periods over thousands of years.

During onsets of ice ages, tree populations migrated south, seeking warmer conditions as global temperatures cooled, their seeds dispersed by winds and carried by animals. When the climate warmed again, tree species adapted by migrating north to more suitable conditions. Mature trees are long-lived, and their populations can›t migrate quickly.

Current climate change is happening faster than many forests can adapt and thrive, creating a mismatch between the pace of warming and forests› natural adaptation.

A study in the journal *Science* shows that forests have a lag time of one to two centuries to shift tree populations in response to climate changes, according to first author David Fastovich, a postdoctoral researcher at Syracuse University in the Paleoclimate Dynamics Lab of Tripti Bhattacharya, Thonis Family Professor of Paleoclimate Dynamics and associate professor in the Department of Earth and Environmental Sciences.

The research team set out to map the timescales at which tree populations respond to climate change, examining pollen data from lake sediment cores spanning up to 600,000 years ago. "We've known these time lags have existed, but no one could put a firm number on them," says Fastovich.

"We can intuit how long a tree lives. We can count the rings on a tree and estimate from there. But now we know that after one to two centuries – very close to how long a tree lives on average – entire forest ecosystems begin to turn over as trees die and are replaced in response to climate.»

The research team used spectral analysis – a statistical technique common in fields such as physics and engineering – to study long-term ecological data. This method allowed the researchers to compare the relationship between tree populations and climate from decades to millennia.

One goal was to learn how closely tree population migrations, tree mortality and forest disturbances from things like forest fires match climate changes over time.

Spectral analysis provides a newly unified statistical approach that connects how natural forest adaptation evolves from days to thousands of years.

"This gives us a common language for people who observe forest change – ecologists, paleoecologists and paleobiologists – to talk to one another about those changes no matter if we study forests on annual or millennial timescales," Fastovich says. The researchers found that at timescales of years and decades, forests typically change slowly. After about eight centuries, though, forest changes tend to become larger, tied to natural climate variability.

"With this new technique, we can think about ecological processes on any timescale and how they are connected," says Fastovich. "We can understand how dispersal and population changes interact and cause a forest to change from decades to centuries, and even longer timescales. That hasn't been done before."

The study also suggests that forests will need more human intervention to keep them healthy. Assisted migration might be an effective tool. It is the practice of planting warmer-climate trees in traditionally colder locations to help woodlands adapt and flourish despite the heating of their habitats from climate change.

Forest adaptation to climate will be a slow, complex process requiring nuanced, long-term management strategies, Fastovich notes. "There's a mismatch between the timescales at which forests naturally change to what's happening today with climate change," Fastovich says. "Population-level changes aren't going to be fast enough to keep the forests that we care about around. Assisted migration is one tool of many to keep cherished forests around for longer."

phys.org

USA: Trump rescinds protections on 59m acres of national forest to allow logging

Agriculture secretary to scrap 'roadless rule' that protects lands including largest old growth forest in country

The Trump administration will rescind protections that prevent logging on nearly a third of national forest lands, including the largest old growth forest in the country, the agriculture secretary, Brooke Rollins, announced.

The announcement will be followed by a formal notice rescinding the "roadless rule", a nickname for the 2001 Roadless Area Conservation Rule, in coming weeks, the Associated Press reports. The rule prohibits road building and logging on all national forest land without roads, accounting for about 59m acres (24m hectares) of US national forest land.

Rollins shared the news at a gathering of the Western Governors' Association in Santa Fe, New Mexico, where hundreds had gathered outside to protest against congressional efforts to sell off large swaths of public lands. There, the interior secretary, Doug Burgum, spoke of a new "era of abundance" on public lands, describing Donald Trump's efforts to extract more natural resources for domestic manufacturing.

"President Trump is removing absurd obstacles to common-sense management of our natural resources by rescinding the overly restrictive roadless rule," said Rollins. "This move opens a new era of consistency and sustainability for our nation's forests. It is abundantly clear that properly managing our forests preserves them from devastating fires and allows future generations of Americans to enjoy and reap the benefits of this great land."

Republican lawmakers from western states celebrated the announcement while environmental groups expressed dismay.

On social media, the Republican representative for Alaska, Nick Begich, said: "Alaska's forests are one of our state's greatest natural assets and the 'Roadless Rule' has long stifled responsible forest management, blocked access to critical resources, and halted economic opportunity."

The Republican congresswoman Harriet Hageman of Wyoming also posted on social media, writing: "This outdated policy has long hindered effective forest management."

Meanwhile, the Sierra Club's forest campaign manager, Alex Craven, said in a statement: "Once again, the Trump administration is ignoring the voices of millions of Americans to pursue a corporate giveaway for his billionaire buddies. Stripping our national forests of roadless rule protections will put close to 60m acres of wildlands across the country on the chopping block. That means polluting our clean air and drinking water sources to pad the bottom lines of timber and mining companies – all while pursuing the same kind of mismanagement that increases wildfire severity."

In its announcement, the US Department of Agriculture cited concerns about increasing wildfire risk as reasoning for constructing roads through national forest land: "Nearly 60% of forest service land in Utah is restricted from road development and is unable to be properly managed for fire risk. In Montana, it is 58%, and in Alaska's Tongass national forest, the largest in the country, 92% is impacted."

Journalist Ben Goldfarb, author of the book Crossings: How Road Ecology Is Shaping the Future of Our Planet, questioned that logic on social media, writing: the "vast majority of fires *occur* near roads. They're worsening risk".

The decision also aligns with Trump's executive order "Unleashing Prosperity Through Deregulation", the USDA said, to "get rid of overcomplicated, burdensome barriers that hamper American business and innovation".

During the latter part of Trump's first term, the federal government lifted restrictions on logging and road-building in the Tongass, something the Biden administration later reversed.

theguardian.com

Canada: Trees on city streets cope with drought by drinking from leaky pipes

Urban trees lining streets fare better in dry spells than those in parks – now it seems that leaky water pipes are the reason for their endurance

Trees growing on city streets are more resistant to drought than those in parks because they are drinking from an unusual water source: leaky pipes.

After long periods with little rain, water levels and sap flow tend to decrease more in trees growing in parks compared with those in streets, but it was unclear why.

To investigate, André Poirier at the University of Quebec in Montreal, Canada, and his colleagues took trunk samples from Norway maple and silver maple trees (Acer platanoides and Acer saccharinum) in parks and streets in two Montreal neighbourhoods. They measured the levels of various lead isotopes – atomically distinct versions of the metal that can indicate unique origins – and then linked the isotope levels to the trees' recent history by counting the trunk rings.

While the park trees contained lead isotopes normally associated with air pollution, the street trees had isotopes found in lead water pipes, which were made with metal from geologically old deposits in nearby mines.

Maple trees need to consume around 50 litres of water per day. Since street trees can't get much of this from rainwater, which falls on concrete and drains into the city's sewers, Poirier says the most likely explanation is that it is coming from Montreal's leaky pipes, which lose 500 million litres of water per day.

"The good news is that you can keep on planting trees on the street, because it makes people happy to have trees, and they will survive better than in the parks," says Poirier, who presented his work at the Goldschmidt geochemistry conference in Prague, Czech Republic, on 8 July.

"The scale of water usage by these street trees is phenomenal and it goes against the common paradigm, which is you think that park trees would be much healthier," says Gabriel Filippelli at Indiana University.

newscientist.com

Global: New fossils from Earth's most famous extinction show climate tipping point was crossed

New fossils from Earth's most famous extinction show climate tipping point was crossed

The collapse of tropical forests during Earth's most catastrophic extinction event was the primary cause of the prolonged global warming which followed, according to new research.

The Permian–Triassic Mass Extinction – sometimes referred to as the "Great Dying," happened around 252 million years ago, leading to the massive loss of marine species and significant declines in terrestrial plants and animals.

The event has been attributed to intense global warming triggered by a period of volcanic activity in Siberia, known as the Siberian Traps, but scientists have been unable to pinpoint why super-greenhouse conditions persisted for around five million years afterwards.

Now a team of international researchers led by the University of Leeds and the China University of Geosciences in Wuhan has gathered new data which supports the theory that the demise of tropical forests, and their slow recovery, limited carbon sequestration – a process where carbon dioxide is removed from the atmosphere and held in plants, soils or minerals.

During extensive field studies, the team used a new type of analysis of fossil records as well as clues about past climate conditions found in certain rock formations to reconstruct maps of changes in plant productivity during the Permian–Triassic Mass Extinction.

Their results, which are published in *Nature Communications,* show that vegetation loss during the event led to greatly reduced levels of carbon sequestration resulting in a prolonged period where there were high levels of CO2.

The paper's lead author, Dr Zhen Xu, from the School of Earth and Environment, University of Leeds, said: "The causes of such extreme warming during this event have been long discussed, as the level of warming is far beyond any other event.

"Critically, this is the only high temperature event in Earth's history in which the tropical forest biosphere collapses, which drove our initial hypothesis. Now, after years of fieldwork, analysis and simulations, we finally have the data which supports it."

The researchers believe their results reinforce the idea that thresholds, or 'tipping points' exist in Earth's climate-carbon system which, when reached, means that warming can be amplified.

China is home to the most complete geological record of the Permian-Triassic mass Extinction and this work leverages an incredible archive of fossil data that has been gathered over decades by three generations of Chinese geologists.

The lead author Dr Zhen Xu is the youngest of these and is continuing the work begun by Professor Hongfu Yin and Professor Jianxin Yu, who are also authors of the study. Since 2016, Zhen and her colleagues have travelled throughout China

from subtropical forests to deserts, including visiting areas accessible only by boat or on horseback.

Zhen came to the University of Leeds in 2020 to work with Professor Benjamin Mills on simulating the extinction event and assessing the climate impacts of the loss of tropical vegetation which is shown by the fossil record. Their results confirm that the change in carbon sequestration suggested by the fossils is consistent with the amount of warming that occurred afterwards.

Professor Mills added: "There is a warning here about the importance of Earth's present day tropical forests. If rapid warming causes them to collapse in a similar manner, then we should not expect our climate to cool to preindustrial levels even if we stop emitting CO2.

"Indeed, warming could continue to accelerate in this case even if we reach zero human emissions. We will have fundamentally changed the carbon cycle in a way that can take geological timescales to recover, which has happened in Earth's past."

Reflecting on the study's broader mission, Professor Hongfu Yin and Professor Jianxin Yu of the China University of Geosciences, underscored the urgency of blending tradition with innovation: "Paleontology needs to embrace new techniques – from numerical modelling to interdisciplinary collaboration – to decode the past and safeguard the future," explained Professor Yin.

Professor Yu added: "Let's make sure our work transcends academia: it is a responsibility to all life on Earth, today and beyond. Earth's story is still being written, and we all have a role in shaping its next chapter."

eurekalert.org

Global: 'The Great Dying' mass extinction was a warning from the trees, study says

As climate change threatens tropical forests, a new study shows how the loss of those forests can be devastating to life on Earth.

It happened before, and could happen again….

That's the message in a new study about the catastrophic collapse of Earth's tropical forests due to natural volcanic causes 252 million years ago.

The collapse of tropical forests was the primary cause of the prolonged global warming that followed, according to a new study published July 2 in the British journal Nature Communications. This coincided with a mass extinction, likely the worst in Earth's history.

"There is a warning here about the importance of Earth's present-day tropical forests," study co-author and University of Leeds professor Benjamin Mills said, in a statement: "If rapid warming causes them to collapse in a similar manner, then we should not expect our climate to cool to preindustrial levels, even if we stop emitting CO2.

"Indeed, warming could continue to accelerate in this case even if we reach zero human emissions. We will have fundamentally changed the carbon cycle in a way that can take geological timescales to recover, which has happened in Earth's past."

'The Great Dying'

The huge climate changes back then occurred during the Permian–Triassic Mass Extinction – sometimes referred to as the "Great Dying," which happened around 252 million years ago, leading to the massive loss of marine species and significant declines in terrestrial plants and animals.

The event has been attributed to intense global warming triggered by a period of volcanic activity in Siberia, known as the Siberian Traps, the study says.

This rapid increase in carbon dioxide in Earth's atmosphere and the resulting temperature increase is thought to be the primary kill mechanism for much of life at the time, according to the Conversation.

However, scientists had been unable to pinpoint why super-greenhouse conditions persisted for around five million years afterwards.

Now, in the new study, researchers have gathered data that supports the theory that the demise of tropical forests, and their slow recovery, limited carbon sequestration – a process where carbon dioxide is removed from the atmosphere and held in plants, soils or minerals.

What caused Earth's tropical forests to collapse 252 million years ago?

Our current understanding is that it was high temperatures which resulted from huge volcanic carbon dioxide emissions over thousands of years, Mills said in an e-mail to USA TODAY. "This volcanic event is called the Siberian Traps and may be the biggest to ever have occurred."

Did the lack of tropical forests cause the climate to change?

"Yes," Mills said, adding that the climate had already warmed, which initially caused the tropical forests to die back, but the removal of forests took away one of the planet's most important carbon removal processes – photosynthesis. The lack of this "carbon sink" caused CO2 levels to build up even further, which drove excess warming.

Is this happening now? Could it happen again?

"While the climate is currently warming (and is doing so faster than during the event 252 million years ago), we are not yet at the temperature where tropical forests are expected to reach a tipping point and transition into a carbon source rather than sink," Mills told USA TODAY.

"So it is not happening now, but we may not be that far away." We have warmed the planet by about 1 degree C since

the Industrial Revolution, and estimates for Amazon rainforest tipping points range from 2 to 6 degrees C. It is hard to estimate this accurately.

How soon would the climate change after the tropical forests collapse?

The Triassic super-greenhouse took thousands of years to establish, but because we are emitting carbon dioxide much more quickly than in the deep past, we might expect effects to begin to occur "over hundreds of years," Mills said.

"To see 'super greenhouse' conditions we would need to remove almost all of the tropical forested area. It is debatable whether this could occur in the present day where the plants are different, and the shape of the continents is different than in the past. But personally I do not want us to run this experiment!"

Speaking about the new study, co-author Jianxin Yu of the China University of Geosciences added: "Let's make sure our work transcends academia: it is a responsibility to all life on Earth, today and beyond."

"Earth's story is still being written, and we all have a role in shaping its next chapter," Yu said.

eu.usatoday.com

Global: Climate change is accelerating forest defoliation by helping invasive species spread

New models predict that climate change will lead to an increase in invasive spongy moth outbreaks, already causing widespread damage to North American forests

Computer models developed by the University of Chicago and Argonne National Laboratory predict that hotter, drier conditions in North America will limit the growth of a fungus that normally curbs the spread of the spongy moth, an invasive species that has caused millions of dollars in damage to forests.

The research, published in *Nature Climate Change,* emphasizes the importance of accounting for multiple organisms and their interactions when predicting the potential impacts of climate change, as warmer temperatures cause unexpected domino effects in ecosystems.

"The vast majority of previous climate change studies look at individual organisms, but a small amount of climate change can have a big effect when you compound it across multiple species," said Greg Dwyer, PhD, Professor of Ecology and Evolution at UChicago and senior author of the new study. "So, computer models are crucial for understanding the effects of climate change on species interactions."

Small changes lead to big impacts

The spongy moth (*Lymantria dispar*) was first introduced to the hardwood forests of New England in 1869. Native to Europe, female moths lay eggs on surfaces like branches, stacked firewood, and outdoor furniture. The eggs tend to come with these objects when people move them, so the insect has spread far from where it was first accidentally released in Massachusetts. Spongy moth caterpillars feed on the leaves of trees and shrubs, especially oak trees.

For decades after their introduction, the caterpillars carved a path of destruction through forests, defoliating and killing trees by the acre.

In 1989, a lethal infection caused by the fungus *Entomophaga maimaiga* began spreading among spongy moths. This fungus is also not native to North America, but no one knows for sure how and when it arrived. It might have been introduced deliberately to control the moths, or it might have been accidentally brought into the US from Japan, where it originates. Nevertheless, it has managed to keep spongy moths in check ever since, sparing millions of trees.

Another pathogen, the nucleopolyhedrovirus (NPV), can also keep the insect in check, but it needs large populations to spread. The natural advantage of the fungus is that it can grow and infect moths in small numbers before too much damage has been done, but only if conditions are cool and moist.

"Even small reductions in mortality rate for the moths lead to big increases in defoliation," Dwyer said. "If they don't get killed off when they're at low density one year, then the next year they'll be back at higher density. You get this multiplication process going on."

Not pessimistic enough

Dwyer has spent his career modeling interactions among infectious diseases and various species, from wild rabbits to insects. In 2004, in one of his first publications at UChicago, he developed a model that accounted for the spongy moth, its predators like mice and squirrels, and NPV infection rates. In 2020, his lab designed more models to explore how the density of moth populations and weather conditions affect outbreaks of the *E. maimaiga* fungus. Those models showed that incorporating climate data produced much better predictions than models that don't account for climate, planting a seed for the new study.

Dwyer and his student Jiawei Liu worked with Jiali Wang, PhD, an atmospheric scientist in the Environmental Science Division at Argonne National Laboratory, and Rao Kotamarthi, PhD, Chief Scientist for the Environmental Science Division at Argonne, to incorporate more precise climate data into new models for spongy moth infestations. Wang and Kotamarthi specialize in taking large scale climate change models, say for all North America, and downscaling them to smaller regions, like one portion of a state. This allowed Dwyer's team to account for more nuanced differences in weather patterns and insect populations across multiple regions.

The resulting predictions were dispiriting. As climate change brings hotter and drier conditions to forests, fungal infection

rates over the next few decades will drop sharply – meaning that more moths will survive to destroy more trees. While that seems far in the future, below average rainfall and above average temperatures in recent years have already led to big spongy moth outbreaks, which Dwyer said he didn't expect to happen so soon.

"Our projections were pessimistic, but probably not pessimistic enough. It's very concerning," he said.

sciencedaily.com

Brazil: New development law risks Amazon deforestation, UN expert warns

A new law in Brazil could cause "significant environmental harm and human rights violations", and represents a "rollback for decades" of protections in Brazil, including for the Amazon.

Plans to speed up approvals for development projects were criticised by Astrid Puentes Riaño, a UN special rapporteur, as the country prepares to host the COP30 climate summit this year. Lawmakers passed plans to simplify environmental licences for infrastructure including roads, dams, energy and mines this month, though the president has not formally approved the bill.

Critics have dubbed it the "devastation bill" and say it could lead to environmental abuses and deforestation. Proponents say a new nationwide licensing regime would simplify the long and complex process that companies face to prove to authorities that planned developments do not cause unacceptable environmental harm.

Under the changes, some developers would be able to self-declare their environmental impact through an online form for projects deemed smaller – a move supporters say would reduce bureaucracy but critics feel is a major concern.

Ms Riaño told the BBC she feared the lighter regulations would "apply to some mining projects" and will "impact the Amazon region". She also said was "very worried" about plans for automatic renewal of some projects' licences where no major changes have occurred, saying: "This will prevent environmental impact assessments from being done on these projects. Some of the projects will include mining projects or infrastructure projects where a full assessment is needed.

"It will also cause deforestation. Modifications or continuations of projects might mean deforestation in the Amazon without a proper assessment."

A lot of deforestation and land-clearing in the Amazon has been driven by agriculture and mining, sometimes illegally – but Ms Riaño said the bill is "going backwards" on efforts to prevent that. Her intervention comes two months after new analysis was published showing vast swathes of the Amazon were destroyed in 2024, with forest fires fuelled by drought adding to man-made deforestation pressures.

Under the new law, environmental agencies would have 12 months – extendable to 24 – to make a decision about whether to grant a licence for strategic projects. If that deadline was missed, a licence could be automatically granted.

Supporters say this would give businesses certainty by preventing delays that have plagued projects, including hydroelectric dams for clean energy, or rail lines to transport grain.

Ms Riaño said she understood the need for more efficient systems but assessments must be "comprehensive" and "based on the science." The law would also relax the requirement to consult indigenous or traditional quilombola communities – descendents of Afro-Brazilian slaves – in some situations unless they are directly impacted.

UN experts raised concerns that fast-tracking assessments could remove some participation and affect human rights. Supporters of the bill say it will encourage economic development, including for renewable energy projects, held to grow the economy, and reduce costs for businesses and the state.

But critics fear weakening environmental protections could increase the risk of environmental disasters and violate indigenous rights. In particular, UN experts argue it could contradict constitutional rights guaranteeing the right to an ecologically balanced environment – which means legal challenges could lie ahead.

The Senate and Chamber of Deputies have approved the bill and it is now pending presidential approval. Brazil's Environment and Climate Change minister, Marina Silva, has strongly opposed the bill, condemning it as a "death blow" to environmental protections.

But she has been at odds with the president on other issues in the past, including proposals to explore oil drilling in the Amazon basin. Even if the president vetoes it, there is a chance the conservative-leaning congress could try to overturn that.

Brazil's Climate Observatory has called the bill the "biggest environmental setback" since Brazil's military dictatorship, in which the construction of roads and agricultural expansion led to increased Amazon deforestation and the displacement of many indigenous people.

Ms Riaño said scientists in Brazil estimate the bill "will lift protections for more than 18 million hectares in the country, the size of Uruguay," adding "the consequences are huge".

bbc.co.uk

Canada: Clear-cutting forests has made floods 18 times more frequent in British Columbia

The research team analyzed two adjacent watersheds that were both clear-cut in the late 1950s

Clear-cutting can make catastrophic floods 18 times more frequent with effects lasting more than 40 years, according to a new UBC study. In one watershed, these extreme floods also became more than twice as large, turning a once-in-70-years event into something that now happens every nine.

"This research challenges conventional thinking about forest management's impact on flooding," said senior author Dr. Younes Alila, a hydrologist in the UBC faculty of forestry. "We hope the industry and policymakers will take note of the findings, which show that it matters not only how much forest you remove but also where, how and under what conditions."

Same treatment, different floods

The UBC-led study draws on one of the world's longest-running forest experiments at the Coweeta Hydrologic Laboratory in North Carolina and is published in the *Journal of Hydrology*.

The research team analyzed two adjacent watersheds, one north-facing, the other south-facing, that were both clear-cut in the late 1950s. "We found seemingly minor landscape factors – like the direction a slope faces – can make or break a watershed's response to treatment," said first author Henry Pham, a doctoral student in the faculty of forestry.

In the north-facing watershed, which receives less direct sunlight and retains more moisture, floods became four to 18 times more frequent. Average flood sizes increased by 47 per cent compared to pre-treatment levels, and the biggest floods grew by as much as 105 per cent. In the south-facing watershed, the same treatment had virtually no impact on flood behavior.

Old flood models inadequate

Most conventional flood models use simplified assumptions: cut X per cent of trees, expect Y per cent more water runoff. But this study found that such models fail to account for extreme and erratic flood patterns that emerge after landscape disturbances.

"This experimental evidence validates our longstanding call for better analysis methods," said Dr. Alila. "When we apply proper probabilistic tools to long-term data, we find much stronger and more variable impacts than older models suggest."

In short, he adds, forest treatments don't just raise average flood levels – they can fundamentally reshape a watershed's entire flood regime, making rare and catastrophic events much more common.

The most concerning finding was that flood effects in the north-facing watershed persisted for over 40 years, confirming that forestry treatments can lead to long-term changes in a watershed's flood response, especially as climate change brings more extreme weather, putting downstream communities at greater risk.

Policy implications

The findings have immediate relevance for forest management practices, particularly in B.C. where there are similar terrain types and forestry operations in the form of clear-cut logging.

Dr. Alila noted that the model used in this study can be used to predict which parts of B.C. are currently more at risk of extreme flooding. It can also be used to investigate how much of the severity of Sumas Prairie floods in 2021 and the more recent Texas floods can be attributed to global warming and/or land use and forest cover changes. "Our findings highlight how multiple landscape factors interact in complex ways. As climate conditions shift, understanding those dynamics is becoming increasingly important for forest and water management."

technologynetworks.com