# New UNU report warns wildfires may transform forests from carbon sinks to carbon emitters



The climate strategy of relying on forests as carbon sinks is under increasing scrutiny, particularly in light of a new report from the United Nations University Institute for Water, Environment and Health (UNU-INWEH). This report argues that decades of efforts to plant trees and preserve forests might be exacerbating climate change due to heightened wildfires transforming these vital ecosystems into significant carbon emitters.

Historically, forests have been hailed as crucial allies in the fight against climate change, capable of absorbing substantial amounts of carbon dioxide from the atmosphere. However, recent developments challenge this notion. The report highlights an alarming trend: wildfires, notably in places like Canada, Australia, and the Amazon, are exploding in size and frequency. For instance, the wildfires that swept through Canada this year emitted more greenhouse gases than industrial outputs from any nation, apart from China and India, according to Ju Hyoung Lee, a research fellow at UNU and the report’s lead author, speaking from Seoul. This shift raises critical questions about the effectiveness of existing carbon offset programs, many of which rely heavily on the voluntary carbon market—a largely unregulated realm currently facing heightened scrutiny over its efficacy and integrity.

These wildfires serve not just as immediate ecological disasters but also signal a more profound systemic failure in how climate policies are constructed. The report argues that current efforts often overlook the reality that changing climate conditions are rendering many historical fire assessments obsolete. Lee pointed out that while organisations like Verra, which certifies carbon projects, typically reference past fire records to gauge risk, these do not reflect the increased frequencies and intensities of recent fires. This can lead to tragic miscalculations as more trees are planted with the aim of trapping carbon, ironically resulting in a greater risk of emissions due to future wildfires.

Kaveh Madani, director of the UNU-INWEH, emphasised the urgency for reform in how forest carbon projects are approached. He underscored that not all initiatives in the voluntary carbon market contribute to wildfire risks, but many existing certifications rely on outdated science. As the environment shifts, with factors such as rainfall patterns, soil health, and increasing droughts coming into play, these projects need to be reevaluated.

Indeed, the report calls for a comprehensive reassessment of what qualifies as sustainable forest management. It proposes integrating satellite data to monitor growing forests and fuel accumulation closely, thereby identifying areas that may pose wildfire risks. Madani iterated that this focus on real-time data is crucial for crafting informed strategies aimed at reducing carbon emissions without inadvertently aggravating the wildfire threat.

Global responses to these findings are critical. The United Nations has long warned about the rising risks associated with wildfires, urging integrated strategies to safeguard forests, climate, and broader sustainability efforts. This collective urgency highlights the need for coordinated global action against the escalating wildfire threat posed to our ecosystems, biodiversity, and ultimately human health.

In conclusion, as the dynamics of forests change under the stress of climate change, the strategies that once seemed effective require urgent rethinking. The ongoing dialogue about these issues will shape the future of climate policy and the reliance on forests as a cornerstone of our efforts to combat greenhouse gas emissions.

### 📌 Reference Map:

* Paragraph 1 – [[1]](https://www.scientificamerican.com/article/forest-preservation-tree-planting-could-actually-worsen-climate-change/), [[2]](https://www.unu.edu/inweh/news/frequent-large-scale-wildfires-are-turning-forests-carbon-sinks-super-emitters)
* Paragraph 2 – [[1]](https://www.scientificamerican.com/article/forest-preservation-tree-planting-could-actually-worsen-climate-change/), [[2]](https://www.unu.edu/inweh/news/frequent-large-scale-wildfires-are-turning-forests-carbon-sinks-super-emitters)
* Paragraph 3 – [[1]](https://www.scientificamerican.com/article/forest-preservation-tree-planting-could-actually-worsen-climate-change/), [[3]](https://www.un.org/esa/forests/news/2023/07/un-chronicle-as-wildfires-increase-integrated-strategies-for-forests-climate-and-sustainability-are-ever-more-urgent/index.html), [[5]](https://www.un.org/esa/forests/news/2023/07/un-chronicle-as-wildfires-increase-integrated-strategies-for-forests-climate-and-sustainability-are-ever-more-urgent/index.html)
* Paragraph 4 – [[1]](https://www.scientificamerican.com/article/forest-preservation-tree-planting-could-actually-worsen-climate-change/), [[6]](https://www.un.org/en/desa/opening-addressing-risk-wildfires-contribute-climate-change-mitigation-and-adaptation-cops26)
* Paragraph 5 – [[2]](https://www.unu.edu/inweh/news/frequent-large-scale-wildfires-are-turning-forests-carbon-sinks-super-emitters), [[4]](https://www.un.org/en/desa/opening-addressing-risk-wildfires-contribute-climate-change-mitigation-and-adaptation-cops26), [[5]](https://www.un.org/esa/forests/news/2023/07/un-chronicle-as-wildfires-increase-integrated-strategies-for-forests-climate-and-sustainability-are-ever-more-urgent/index.html)
* Paragraph 6 – [[3]](https://www.un.org/esa/forests/news/2023/07/un-chronicle-as-wildfires-increase-integrated-strategies-for-forests-climate-and-sustainability-are-ever-more-urgent/index.html), [[7]](https://www.un.org/esa/forests/news/2023/07/un-chronicle-as-wildfires-increase-integrated-strategies-for-forests-climate-and-sustainability-are-ever-more-urgent/index.html)

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## Bibliography

1. <https://www.scientificamerican.com/article/forest-preservation-tree-planting-could-actually-worsen-climate-change/> - Please view link - unable to able to access data
2. <https://www.unu.edu/inweh/news/frequent-large-scale-wildfires-are-turning-forests-carbon-sinks-super-emitters> - A United Nations University report highlights that forests, once reliable carbon sinks, are becoming significant carbon emitters due to increasing wildfires. The study emphasizes the need for carbon offset programs to account for rising fire-driven emissions and advocates for integrating satellite data into forest management to prevent unintended consequences.
3. <https://www.un.org/esa/forests/news/2023/07/un-chronicle-as-wildfires-increase-integrated-strategies-for-forests-climate-and-sustainability-are-ever-more-urgent/index.html> - The UN Chronicle discusses the escalating threat of wildfires to forests and the environment. It underscores the necessity for integrated strategies to address the impacts of wildfires on forests, climate, and sustainability, emphasizing the urgency of coordinated global efforts to mitigate these challenges.
4. <https://www.un.org/en/desa/opening-addressing-risk-wildfires-contribute-climate-change-mitigation-and-adaptation-cops26> - At the UNFCCC COP26, the UN Department of Economic and Social Affairs addressed the risk of wildfires in climate change mitigation and adaptation. The speech highlighted the significant impact of forest fires on biodiversity, water quality, and human health, stressing the need for comprehensive strategies to manage wildfire risks.
5. <https://www.un.org/esa/forests/news/2023/07/un-chronicle-as-wildfires-increase-integrated-strategies-for-forests-climate-and-sustainability-are-ever-more-urgent/index.html> - The UN Chronicle discusses the escalating threat of wildfires to forests and the environment. It underscores the necessity for integrated strategies to address the impacts of wildfires on forests, climate, and sustainability, emphasizing the urgency of coordinated global efforts to mitigate these challenges.
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