

# Amazon Wildfires: Soil Restoration Reduces Fire Risk in Peru

*Studies in Ucayali show degraded soils increase wildfire risk, while productive restoration has reduced fires by up to 42% in key areas.*

PUCALLPA, UCAYALI, PERU, February 24, 2026 /EINPresswire.com/ -- Soil degradation is emerging as a critical factor behind the growing intensity of Amazon wildfires. Recent studies conducted in Ucayali, Peru, reveal that degraded soils lose moisture and natural carbon reserves, creating conditions that allow fires to spread more rapidly and with greater intensity. At the same time, research shows that productive restoration and the transition to permanent crops can significantly reduce wildfire risk.



Dr. Miguel Pinedo-Vásquez, Systems Ecologist

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Restoring degraded soils is not only an environmental priority, but a practical solution to reduce wildfires and build climate resilience in the Amazon.”

*Dr. Miguel Pinedo-Vásquez,  
Systems Ecologist*

Systems ecologist Dr. Miguel Pinedo-Vásquez explains that fire does not only affect surface vegetation. “When soils lose their natural carbon and moisture, they lose their ability to retain water and sustain biological balance. An impoverished soil is a soil that burns more easily,” he notes.

In the Amazon, burning has historically been used to manage pasturelands, prepare small farms, and control invasive species. However, the unintended consequences have become increasingly evident. Degraded soils dry out

faster during seasonal droughts, making landscapes more vulnerable to uncontrolled wildfires. In addition to accidental fires, land-use conflicts and unmanaged burning practices further intensify the problem.

Research conducted along the Pucallpa–Aguaytía corridor, on the Federico Basadre Highway, identifies this zone as one of the most dynamic and vulnerable areas in the Peruvian Amazon.

The conversion of forests and traditional agricultural plots into intensive cattle ranching areas has significantly reduced soil carbon stocks. This loss weakens ecosystem resilience, limiting the land's capacity to withstand drought and fire events.

Yet the findings also point toward practical solutions.

In the district of Amaquella, near Pucallpa, the transition from degraded pasturelands to permanent crops such as cacao and oil palm has delivered measurable results. Producers report that under this productive restoration model, wildfires declined by 22% in 2024 and by 42% in 2025. Maintaining permanent vegetation cover improves soil stability, enhances moisture retention, and supports the gradual recovery of carbon reserves, reducing the likelihood of fire spread.



Amazon wildfires

According to Dr. Pinedo-Vásquez, effective wildfire prevention in the Amazon requires more than prohibiting burning. It demands a structural transformation of land-use systems. “Wildfires represent one of the greatest obstacles to restoring degraded lands. To address this challenge, we must clearly identify the roles of landowners, producers, and public authorities in both degradation and restoration processes,” he emphasizes.

Documenting successful case studies, strengthening collaboration with local universities, and developing practical prevention and recovery tools are essential steps to scale these solutions across Ucayali and other parts of the Amazon. Productive restoration not only mitigates wildfire risk but also protects livelihoods and contributes to long-term climate resilience.

Dr. Miguel Pinedo-Vásquez is a researcher affiliated with the [International Research Institute for Climate and Society \(IRI\)](#) at [Columbia University](#) in New York, specializing in socio-environmental dynamics in the Amazon and participating in scientific discussions on wildfire management in Peru.

[Ocho Sur](#) values the dissemination of research that deepens understanding of the socio-environmental challenges facing Ucayali and the Peruvian Amazon, while highlighting evidence-based solutions that promote sustainable land use, soil restoration, and climate resilience.

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