

The big picture of the Amazon fires

September 25 2019, by Julianna Santos



Credit: AI-generated image ([disclaimer](#))

In Brazil's dry season between May and September, forest fires are common.

But for much of the year, big fires in areas like the Amazon are rare because wet weather prevents them from starting and spreading.

But the fires in the Amazon rainforest this year are different. Thousands

of fires are continuing to ravage the rainforest in Brazil in the most intense blazes for almost a decade.

The Amazon is the largest rainforest area remaining on Earth. It is home to unique wildlife and ecosystems, and plays an important role in carbon storage and global climate.

But why is the Amazon is burning? What's the relationship between these fires and the political situation in Brazil? And what are the local and global implications of these fires?

Where are the fires?

The current fires are spread across nine Brazilian states, but are also burning in some of the nine nearby countries that the Amazon spans, including Peru, Bolivia, Venezuela and Colombia.

But in Brazil, which holds more than half of the Amazon forest, the situation is the most concerning.

In 2019, there have been more than 50,000 [fire](#) outbreaks (between May and August) and more than 30000 square kilometers of rainforest has been burnt in this period.

That's equivalent to three times the size of Melbourne city burning to the ground, but the final burnt area may be even larger as new data becomes available

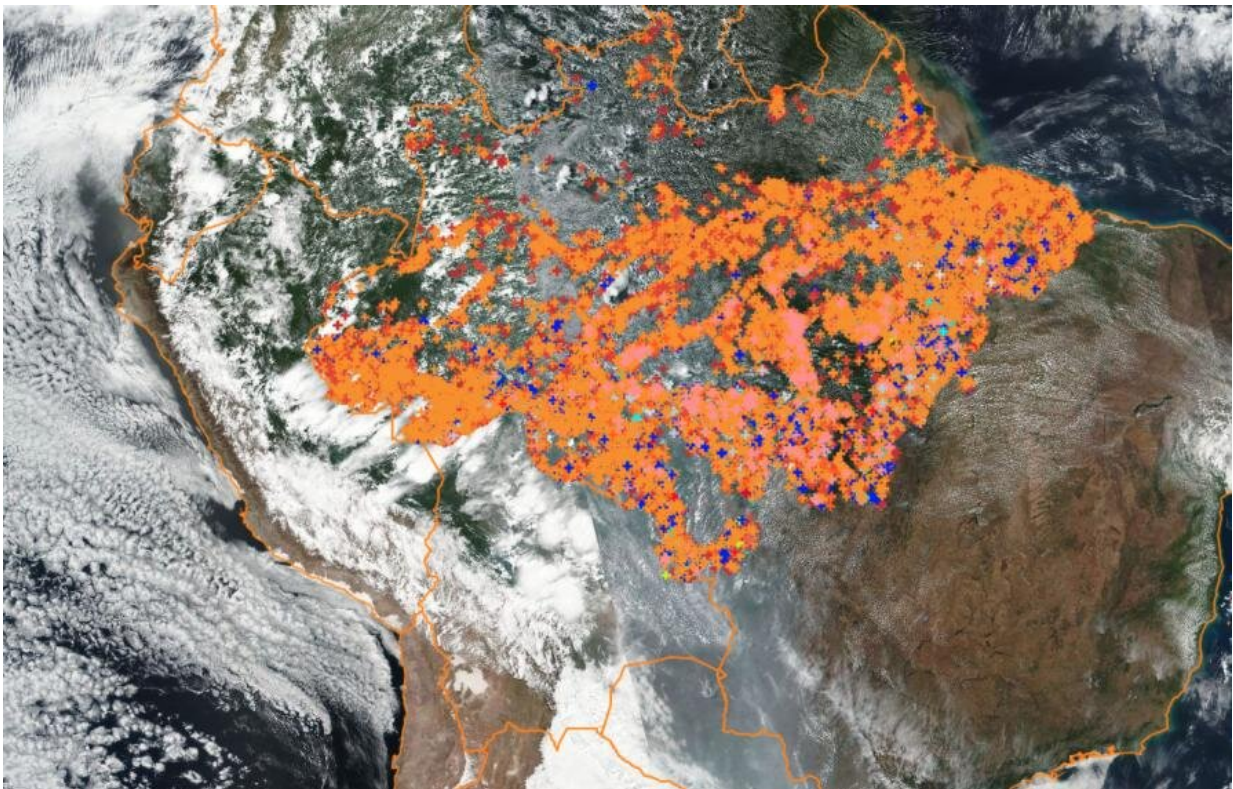
According to NASA, this year's fires are more intense than in previous years, too.

Why is the Amazon burning?

The fires in the Amazon are a result of the combination of three main factors: deforestation, farming and climate change.

[Research](#) from Brazil's National Institute for Space Research (INPE) shows an 88 percent increase in deforestation in June 2019 in comparison with the same period last year.

Burning is a common farming practice and has been used for decades in many parts of Brazil. After clearing vegetation, lighting a fire can be a relatively fast and easy way to clear remaining bush and debris, and prepare the soil for agriculture.



Fires recorded in across the Amazon between 1 August and 11 September.
Credit: INPE

In fact, cattle farming and (to a lesser extent) soybean production are the [main reasons for land clearing in the Amazon](#). However, selective logging, road construction, and other infrastructure developments also motivations for illegal, small-scale land clearing.

But, recently the situation has become more volatile with longer and more severe droughts, and that means wet areas of forest are [becoming drier](#).

As a result, fires that start in pastures and once stopped in the forest, are now spreading more easily and consuming rainforest areas.

What's the current political and social situation in Brazil?

Although Brazil is one of the [top ten economies in the world](#) in terms of its size, it still has [one of the highest level of social inequality](#) in the world.

Consecutive [corruption scandals](#), consecutive years of economic recession, and increasing crime rates continue to erode people's confidence in politicians and systems in the country.

President Jair Bolsonaro, a conservative politician, is skeptical about climate change and openly supported by agricultural lobbyists. Since his election last year Bolsonaro has been delivering on his campaign promise to [loosen environmental laws](#), which he believes are preventing Brazil from successful economic development.

In August, Bolsonaro [fired the director](#) of the National Space Research Institute, Ricardo Galvao, after the agency released data that showed an accelerated rate of deforestation in the Amazon since the beginning of

this year.

While the military has been deployed to fight the fires, many Brazilians have [taken to the streets to protest](#) against Bolsonaro's stance on the Amazon.

What's the impact of the fires?

The Amazon is home to [unique plants and animals](#) that occur nowhere else on Earth.

The vast and majestic area of green we see on [satellite imagery](#) is made up of thousands of species, diverse ecosystems and unique wildlife refuges interspersed by giant rivers.

While many species are endemic to specific areas in this massive forest, there are likely others that [haven't even been discovered yet](#). As a result of these fires, we are probably losing wildlife that we know little or nothing about.

Unlike so many of the species we have here in Australia that have adapted to fire, [Amazonian plants and animals have not evolved with fire](#), which makes them more susceptible. For example, many plants with thin bark and unprotected seeds will probably die in the fires, leaving little chance for regeneration of rainforest species.

The Amazon is also home to [Indigenous communities](#), who by preserving their culture and close relationship with nature, [fight for the conservation](#) of the forest as industrial farming continues to make inroads into the biome.



The Amazon rainforest in Rondônia state, Brazil. Credit: Eduardo José Gazzinelli

What are the solutions?

There are solutions, but they are big.

Brazil needs to look at stopping deforestation, start reinforcing and complying with environmental regulations as well as giving back power, resources and autonomy to environmental agencies. This is on top of boosting and investing in their fire management capabilities.

In terms of agriculture and [meat production](#), improvements in [productivity](#) and [sustainable agricultural practices](#) will help to decrease

the number of areas necessary for crops.

Policy needs to focus on integrated management (at a national and local level) that is informed by science and supported by local communities.

Governments must respect the rights of Indigenous communities, while NGO's should continue to support the creation of innovative and high-value sustainable products that generate resources to support local communities.

And nationally, Brazilians need to take a stand on environmental issues and [biodiversity loss](#) – demanding better governance and integrated national plans and policy targets to [protect the Amazon](#).

Internationally, while the aid package pledged by G7 countries to help Amazon countries fight the wildfires will help, there needs to be a focus on the longer term that includes a reforestation plan ([a proposed plan is set to be discussed at the United Nations next year](#)).

But we also need to reinforce programs that facilitate international cooperation, like the [Amazon Fund](#).

What's the future for the Amazon?

Science and technology will no doubt help us to predict and manage environmental issues, including deforestation and large-scale fires.

Better satellites will improve our monitoring capacity, yield more precise information about fires and climate and enhance preparedness.

New data on deforestation rates and fires will also give us more accurate analysis, fire simulations and impact assessments of a crisis like this.

And there is hope.

[Better protecting the Amazon rainforest is possible](#) – Brazil has already proved it can do this between when between 2005 and 2014 it reduced deforestation by 70 percent. There just needs to be political will, and a fair political system, behind it.

And the worldwide outcry over the Amazon fires crisis tells us that many people, beyond Brazil, care and are willing to take action to help protect and conserve one of the most biodiverse places on Earth.

Provided by University of Melbourne

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