

# The Amazon in Your Classroom Bulletin

Fall 2019

## THE AMAZON IS BURNING



### What is happening in the Amazon?

*In 2019, burning of the rainforest hit the news...*

**Satellite images reveal devastating Amazon fires in near real-time**

<https://news.mongabay.com/2019/08/satellite-images-from-planet-reveal-devastating-amazon-fires-in-near-real-time/>

**Here's where the Amazon is burning and why it's going to get worse**

<https://www.bloomberg.com/graphics/2019-why-amazon-rainforest-is-on-fire/>

**Amazon rainforest fires: Here's what's really happening**

<https://www.nytimes.com/2019/08/23/world/americas/amazon-fire-brazil-bolsonaro.html>

**See how much of the Amazon is burning, how it compares to other years**

<https://www.nationalgeographic.com/environment/2019/08/amazon-fires-cause-deforestation-graphic-map/>

**"A little bit of everything is burning": A NASA scientist dissects Amazon fires**

<https://www.sciencemaq.org/news/2019/08/little-bit-everything-burning-nasa-scientist-dissects-amazon-fires>



## Why should we care?

***The Amazon rainforest is important to us, wherever we live in the world.***

### **Biodiversity**

Using the global biodiversity visualizations provided at this site, students can explore the question of how the Amazon relates to other regions in terms of the forms of life that it supports. (Clearly the Amazon rainforest is an area of exceptionally high biodiversity, meaning that it supports many species. It also is quite high in productivity, meaning that it produces a large total biomass per unit area. Why are these metrics important? The Amazon supports many species that are found nowhere else on earth. These provide food, fiber, wood, and medicines. Each species is valuable in its own right, and collectively they build ecosystem stability and resilience and provide ecosystem services of importance throughout the world.)

<https://biodiversitymapping.org/wordpress/index.php/global-visualizations/>

### **Indigenous people**

Not only is the Amazon a rich ecological biome, it also is home to about 380 indigenous groups who have lived in the rainforest for thousands of years. Some live much as we do, while others rely on the rainforest for their food, shelter, and medicines. Increasingly, these people and resources on which they depend are threatened by external forces beyond their control. Have students consider these issues after reading “*The Last Stand of the Amazon.*”

<https://www.theguardian.com/environment/2011/apr/03/last-stand-of-the-amazon>

55% of the carbon stored above ground in the Amazon is located in indigenous territories and protected lands. Sequestration of this carbon is critical to the stability of the global climate as well as to the livelihoods of indigenous peoples and the health of the ecosystems they inhabit. This article summarizes these issues “Forest Carbon in Amazonia: The Unrecognized Contributions of Indigenous Territories and Protected Natural Areas.”

[http://www.tandfonline.com/doi/abs/10.1080/17583004.2014.990680#.VH4N-zHF\\_Tp](http://www.tandfonline.com/doi/abs/10.1080/17583004.2014.990680#.VH4N-zHF_Tp)

### **Ecosystem services**

Rainforests provide these five ecosystem services that to people and the planet: nutrient cycling and soil formation, rain making, regulating climate and air quality, provisioning goods, and sustaining culture.

<https://inesad.edu.bo/developmentroast/2012/11/five-types-of-rainforest-ecosystem-services-that-nourish-people-and-planet/>

Loss of forest affects water cycling and climate patterns in the Amazon and on a global scale.

<https://www.nationalgeographic.com/environment/2018/11/how-cutting-the-amazon-forest-could-affect-weather/>

Related lesson plan:

<https://www.nationalgeographic.org/media/amazon-deforestation-and-climate-change/>

Intact forests are crucial to the resilience of Amazon ecosystems and stability of the climate.

- Three recent South American studies emphasize the importance of intact forests to healthy habitat and a stable climate — both locally, and at a great distance.
- The first study found that forest integrity is crucial for habitat stability and resilience. Degradation makes it harder for Brazil’s Caatinga forest to recover from intensifying drought due to climate change. Protected forests are more resilient against drought.

- Another study showed that intense land use change in central Brazil and northern Argentina has resulted in the dry season becoming warmer across South America, with changes in Amazon plant productivity 500 kilometers from the disturbed area.
- A third study's modelling found that major future deforestation anywhere in the Amazon will dramatically reduce rainfall in the Amazon's southwest — accounting for about 25 percent of the Amazon basin — and the La Plata basin.

<https://news.mongabay.com/2017/08/intact-forests-crucial-to-amazon-ecosystem-resilience-stable-climate/>

### Explore Amazonia

Students can use National Geographic's richly illustrated map-based site to "journey into the Amazon region, where thousands of species live in a delicate balance that's imperiled by logging, mining, agriculture, roadbuilding, oil, and gas drilling."

<https://www.nationalgeographic.com/climate-change/explore-amazonia/>

## No simple solutions

### ***Opposing worldviews reveal the complexity of the situation.***

Using this provocative editorial, "*Amazon's fate hangs on outcome of war between opposing worldviews*," engage students in discussion of these two viewpoints:

- The Amazon should be protected intact because its forests and rivers are valuable for their own sake, and for the livelihoods, biodiversity, ecological services and climate change mitigation that they provide.
- Amazon forests and rivers are natural resources to be used for economic gain through activities such as logging, mining, oil and gas extraction, hunting, cattle ranching, and commercial agriculture.

<https://news.mongabay.com/2017/04/amazons-fate-hangs-on-outcome-of-war-between-opposing-worldviews/>

## What action can I take?

### ***As global citizens, we all are responsible for the fate of the Amazon***

#### **Purchase rainforest-certified products**

Production of many foods and other products that we purchase can be destructive to the rainforest unless environmental, social, and economic sustainability practices are followed.

Look for products bearing the Rainforest Alliance seal, which is awarded to products that have met their sustainability standards.

<https://www.rainforest-alliance.org/find-certified>

#### **Eat a plant-based diet**

Cattle ranching is a major motive for deforestation in the Amazon. Consumer demand for beef makes it profitable to clear land for cattle ranching, even in places where it is illegal.

<https://blogs.ei.columbia.edu/2019/08/27/amazon-rainforest-fires-beef-policy/>

Top solutions to climate change include protecting tropical forests, along with the related actions of reducing food waste and eating a plant-rich diet:

<https://www.onepercentfortheplanet.org/stories/2019/8/21/10-most-viable-global-climate-solutions>



## **Support organizations who work with Amazon communities striving to keep the Amazon intact**

There are many organizations doing amazing work in the Amazon. Here are a few of our recommendations.

- CONAPAC Peru: <http://conapac.org>
- OnePlanet: <https://www.oneplanet-ngo.org/>
- Rainforest Alliance: <https://www.rainforest-alliance.org/>
- Amazon Conservation Team: <https://www.amazonteam.org/>
- And of course, The Morpho Institute! [www.morphoinstitute.org](http://www.morphoinstitute.org)

## **For more Teaching Resources:**

**Visit The Morpho Institute's K-12 Resource Bank:** <https://morphoinstitute.org/k-12-resource-bank/>

**Follow Rainforest Classroom:** <https://www.scoop.it/topic/rainforest-education-classroom-connections-resources-and-more>

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