

# Amazon River



Amazon River, Credit: NASA: [ISS064-E-14990](#)

[Link image to enlarge.](#)

This image shows the Amazon River in Brazil as it flows towards the Atlantic Ocean. Use this other [image](#) taken with the Copernicus Sentinel-2A satellite to see more details:

In the Copernicus Sentinel-2A satellite image, the sediment-laden water appears brown, and it flows from the lower left to the open ocean in the upper right. 'Popcorn' clouds are visible in parts of the image. Popcorn clouds are a common occurrence during the Amazon's dry season, formed by condensed water vapor released by plants and trees through transpiration during the sunny day. The land varies in color from the deep green of dense vegetation to light brown. Taking a closer look at the upper-left section of the image, we can see large brown areas where vegetation has been cleared away. Geometric shapes indicate agricultural fields, and linear roads cut through the remaining dense vegetation.

Rainforests worldwide are being destroyed at an alarming rate. This is of great concern because they play an important role in global climate, and are home to a wide variety of biodiverse plants, animals and insects. More than a third of all species in the world live in the Amazon Rainforest. Unlike other forests, rainforests have difficulty regrowing after they are destroyed, and owing to their nutritional composition, their soils are not suitable for long-term agricultural use.







With their unique view from space, Earth observation satellites have been instrumental in highlighting the vulnerability of the rainforests by documenting the scale of deforestation. Deforestation is threatening the survival of local habitats in Massachusetts, as well. Over 60% (3.1 million acres) of Massachusetts is covered with forest, but deforestation is affecting our state, too. According to Massachusetts Audubon, more than 40 acres of open space (forests and field) are lost to development every day in the Commonwealth.





Image courtesy of the [Earth Science and Remote Sensing Unit, NASA Johnson Space Center](#).  
Text courtesy of the European Space Agency: [Amazon River](#) and [MassWoods](#).

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## DISCUSSION PROMPTS

-  Are you noticing deforestation practices in your community?  
Document that for us.
-  What is replacing the areas of forest that were cut down in your community?
-  What are the effects of deforestation in your community?
-  Are you concerned about the environmental changes that the lack of trees could cause in your community?
-  What ideas and concrete solutions would you offer to limit deforestation in your community?
-  Share your ideas and prospective solutions with us on social media.

## OPTIONAL

-  Take pictures to illustrate deforestation in your community.
-  Share your images with us on social media.

## DEFORESTATION RESOURCES

- [NASA Earth Observatory: Deforestation in Brazil from 2000 to 2012](#)
- [ESA: Amazon Rain Forest from Space](#)
- [VTDigger: Deforestation in Massachusetts](#)
- [WBUR: New England Forests Can Help Slow Climate Change](#)
- [Avoid Deforestation – Report by Research Group at Clark University](#)

### **Additional Resources:**

- [NASA Global Climate Change: Vital Signs of the Planet](#)
- [NASA Overview: Weather, Global Warming, and Climate](#)
- [Action for the Climate Emergency](#)
- [Perspectives of Earth: Main Website](#)
- [Perspectives of Earth: UN Sustainable Development Goals: Six Essential Elements](#)
- [Windows on Earth: See Earth Through the Astronauts' Lens](#)