

TREES

FACTS ABOUT TREES

- In botany, trees are generally defined as multi-year living plants that have a large trunk and sprout branches. Overall, there are an estimated 60,000 different species of trees.¹⁶⁸
- Trees represent some of the world's oldest species still in existence, dating back to around 350 million years ago.¹⁶⁹ Trees also live the longest out of any species; a tree in Sweden being over 9,500 years old.¹⁷⁰
- The variety of trees is remarkable, from the fruit they grow, the colors of their leaves, to even the shape of their branches. Bonsai trees can measure less than a foot in its height while the redwood trees in California measure a height of over 300 feet.¹⁷¹
- Globally, trees occupy around 30.6% of the Earth's land area, down from 31.6% in 1990.¹⁷² From 2015 to 2016, the world lost 73.4 million acres of trees, a 51% increase from the amount lost the year before.¹⁷³
- Human actions continue to be the biggest direct cause of deforestation, with commodity-driven deforestation totaling around 27%.¹⁷⁴
- For an in-depth and interactive look at changes in forests worldwide, check out this [map](#) to see the changes of forests in your community.



WHY WE NEED TO PROTECT TREES

Role in the Ecosystem: Trees play a central role not only in the ecosystems of forests themselves but in relation to other species that forests support. Most notably, trees help maintain nutrient-rich soil for other plants to grow, provide shelter and habitat for animals, and help significantly in the water cycle.¹⁷⁵

Ecosystem Services: One of the most significant services that trees provide is the sequestration of carbon, which helps keep the air clean and nearby temperatures at a healthy level.¹⁷⁶ Additionally, trees have a powerful role in providing well-being in both urban and rural environments.¹⁷⁷ Culturally, trees play a central role in religions such as Hinduism and Buddhism as well as symbols of hospitality in several African communities.¹⁷⁸

Economic Contributions: Globally, the value of fuelwood and wood-based products is estimated to be worth \$400 billion.¹⁷⁹ In the state of New York alone, the forestry industry employs 41,000 people and has a direct output of over \$13 billion.¹⁸⁰ Finally, urban trees in America were calculated to have stored 643 million tons of carbon, a service valued at \$50 billion.¹⁸¹

Uniqueness: Although trees appear to be an idle species, swaying gently in the wind, studies have found trees to be anything but! For instance, European beech and Sycamore maple trees have been observed to know when animals are consuming their sap or branches and will try to deter the animals to protect themselves.¹⁸² Quaking aspens, moreover, exist not as a single stand-alone tree, but rather as an interconnected group, united by a layer of underground roots.¹⁸³

THREATS TO TREES

Deforestation: The removal of trees for commercial, agricultural, and residential purposes occurs all around the world. Rainforests are especially vulnerable. The Amazon rainforest in Brazil has lost 20% of its area since the 1970s,¹⁸⁴ with some scientists estimating that all the world's rainforests could be lost in the next century.¹⁸⁵

Climate Change: The increasing amounts of carbon dioxide trapped in the Earth's atmosphere places a strain on the ability of trees to convert that carbon into oxygen through photosynthesis, ultimately weakening the health of trees.¹⁸⁶ Additionally, rising temperatures from climate change can harm a tree's internal life cycle and make it harder to reproduce.¹⁸⁷



Insects: One of the most pervasive threats to trees around the world is the prevalence of non-native insect species that can inflict severe and lasting damage to various tree species.¹⁸⁸ In the United States, 63% of the country's national forestry is threatened by invasive insects.¹⁸⁹

Forest Fires: Decreased rainfall and increased temperatures make forests much more fire-prone. What is worse, the fires that do occur in forests are more intense, deadly, and greatly reduce the ecosystem's ability to recover.¹⁹⁰ In Indonesia, for instance, the country suffered some of its worst forest fires at the end of 2015. The fires were so destructive that at one point they were releasing more carbon than the entire U.S. economy in a single day.¹⁹¹

HOW TO HELP TREES

Support our Trees for the Earth Campaign: Launched in 2016, our Trees for the Earth campaign aims to plant 7.8 billion trees - one for each person on Earth - by Earth Day 2020. In addition to tree plantings, the campaign helps secure additional climate commitments.

Advocate for Urban Trees: As the world becomes more urbanized, it will be important to retain a strong level of trees in dense population centers. Encouraging your local urban government to adopt tree-planting measures and ordinances; doing so provides both health and economic benefits to the entire area.¹⁹²

Support Sustainable Forestry: Deforestation specially of virgin forest has a detrimental impact on the environment. By buying wood and their products from certified sustainable sources, you can help ensure that the forest and their ecosystems continue to thrive. To learn more about the different types of [eco-labeling](#), click [here](#).

Check out all of Earth Day Network's [resources](#) to help Protect our Species.

ADDITIONAL RESOURCES

ARTICLES/BLOGS/READINGS

Urban trees can store almost as much carbon as tropical rainforests - *Fast Company*

<https://www.fastcompany.com/40589994/urban-trees-can-store-almost-as-much-carbon-as-tropical-rainforests>

This article discusses the urban trees in London and the importance in the age of trees. It continues to discuss the difficulty in finding the age, and the financial strain in losing an older tree because of its carbon storage.

We Can't Save the Climate Without Also Saving the Trees - *Sierra Club*

<https://www.sierraclub.org/sierra/we-can-t-save-climate-without-also-saving-trees>

This article covers the importance in protecting forests in order to make real positive change for the environment. It establishes that the protection of forests is the key to fighting climate change.

VIDEOS

Climate 101: Deforestation - *National Geographic*

<https://www.youtube.com/watch?v=Ic-J6hcSKa8>

Forests cover about 30% of the planet, but deforestation is clearing these essential habitats on a massive scale. What is deforestation? Find out the causes, effects, and solutions to deforestation.

STORYTELLING

TED Talk: How Trees Talk to Each Other - *Suzanne Simard*

<https://www.youtube.com/watch?v=Un2yBgIAxYs>

Her 30 years of research in Canadian forests have led to an astounding discovery — trees talk, often and over vast distances. Learn more about the harmonious yet complicated social lives of trees and prepare to see the natural world with new eyes.

OTHERS WORKING ON THIS

International Society of Arboriculture

<https://www.isa-arbor.com/>

The ISA exists so that professionals, allied professionals, public officials, and consumers worldwide recognize the economic, environmental, and societal benefits and values of trees and their care at a cost that demonstrates the wise stewardship of resources.

REPORTS

The State of the World's Forests, 2018 - *United Nations*

<http://www.fao.org/3/ca0188en/ca0188en.pdf>

This report shines a light on the profound interlinkages that exist between forests and many goals and targets of the 2030 Agenda, enabling policy-makers to strike the right balance in actions, investments and partnerships directed towards food security, poverty alleviation, ecological conservation and, ultimately, to find pathways to sustainable development.