

# Barking Up the Right Tree

A few fun facts about trees and their role in the ecosystem

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## Trees make “friends”

Trees will connect with other trees around them, going so far as to share nutrients with other trees either through fungal networks around the root tips or through the roots themselves being interconnected.

What use does a tree have for other tree “friends?” There are benefits in working together, which include creating an ecosystem that moderates extremes in the weather, water storage, erosion control. One tree doesn’t make a forest, and by working together they become a whole that’s stronger than any one tree could be by itself.

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## **Trees can “talk” to each other**

While trees certainly are not audibly communicating, they can send messages to one another through scent, chemical signals sent through the fungal systems around their roots, and even electrical impulses sent through their roots.

What do trees talk about? If one tree is getting munched on by critters and bugs it'll let the other trees in the area know to up their defenses. Certain trees can produce certain compounds to make their bark and leaves taste bitter if they are warned of an attack on a fellow tree. Trees will also send out scents that attract bees in order to help the trees spread their pollen around the forest.

## **Pando is one of the largest organisms on the Planet**

The quaking aspen is one of the many types of trees found in Utah. These tree colonies propagate primarily through their root systems and share a single root structure. Found in South-central Utah in Fishlake National Forest, Pando is one of these colonies that share a root system that is 106 acres, weighs nearly 6,600 tons, and has over 40,000 separate “trees.” The average age of Pando's trees is 130 years, with the roots reaching up to 80,000 years old!

## **Needle Antifreeze**

By storing essential oils that act similar to antifreeze in their bark and needles, spruce trees are able to keep their green finery throughout the duration of the winters. Doing this allows the trees to be photosynthesizing as soon as the weather starts warming up in the spring and allows the trees to still grow even if they are only able to photosynthesize for a few weeks out of the year.

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## **Older and Faster?**

Upon completion of research on over 700,000 trees from all over the globe, scientists were left with a surprising result, the older a tree is, the more quickly it grows! The more biomass a tree already has, the more it will be producing. Trees with more biomass can help store more carbon dioxide, which means that older trees will be more helpful in reducing carbon in the atmosphere than younger trees will be.

## **Dead Wood is still “Living”**

Almost 6,000 known species depend on dead wood and its role as a nutrient recycler. That's a fifth of all animal and plant species! A tree spends centuries absorbing nutrients from the ground and storing those nutrients in its wood and bark. Since most trees have defenses against colonization that can withstand most attacks if the tree is healthy, these critters have to wait for their chance at all those nutrients. When looking around the forest, it's easy to see this playing out, as a fallen tree will have all sorts of moss, fungi, bugs, animals, and other trees making use of all those nutrients.