

TPO News, Events and Opportunities



Upcoming Events

May 19 10:00.

Barbee Library Story time for preschoolers - reading Dr. Seuss, *I can name 50 trees today!*

May 20, 10:00

Regular Tree Peace Meeting at Middleton Park in front of the Community Center

May 26, 6:00 pm

Town Hall, Council Chambers
Town of Oak Island Final Budgeting session for the new FY

100 Trees Please?!

Thank you to the Town Council, Town Manager, and Mayor for finding a way to budget for 100 more trees in the new fiscal year to be planted in the right-of-way on Oak Island Drive! The West end of Oak Island Drive is complete and now we can start East of Middleton Rd. All the way to Town Hall. Imagine what that will look like with Live Oak trees lining both sides of the road.

It was a very challenging budget with large public safety and infrastructure needs but your Town found a way to include funding for green infrastructure to restore the tree canopy with 100 Live Oaks that will harden our island against storm damage and make it a more pleasant place to live.

The final vote is next week - Tuesday May 26 at 6:00 in Council Chambers in Town Hall. Show up if you can to express your appreciation.

From the budget strategic plan:

3.3 Preserve and enhance the town's tree canopy.

1. Develop a planting map and implement an annual tree planting program on public land, including rights-of-way, while also providing trees to residents to encourage plantings on private property.
2. Maintain and enforce the Vegetation Ordinance, including annual reviews and updates as needed.
3. Preserve and promote the Serenity Oak at Bill Smith Park and develop a program from future iconic tree preservation on public and private land. **[WE CAN RECOMMEND PROTECTION FOR THE HUGE OAK IN MIDDLETON PARK JUST EAST OF TOWN HALL]**
4. Maintain Tree City USA status and promote through enhancements in education and awareness.

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About Us

Tree Peace OKI is a 509 (c) (3) non profit incorporated in the State of North Carolina dedicated to promoting and educating about the value of trees to Oak Island, NC. We may endeavor to influence legislation for that purpose but we may not support any candidates or political parties.

Contact us

We meet the third Wednesday every month at 10:00 a.m. Message us on our Tree Peace OKI Facebook page.

Our Officers

Phil Dudley, President

Paula Byerly, Vice President

Eileen Soderberg, Treasurer

David Merkle, Secretary

Judy Reid, Events Coordinator

John Schweikart, Chief Information Officer

Ann White, Membership Chairperson

Join or Donate to Tree Peace OKI

at treepeaceoki.org

A one year membership is only \$20

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The TREE PLANTING line item in the Stormwater Administration budget is only \$2,500 ... in the current FY we spent \$12,659. We will need to ask how we expect to plant 100 trees with only \$2,500 allocated.

Brunswick County Habitat for Humanity Tree Donation

On May 4 we donated and planted a tree for the newest BCHH house. The homeowner was delighted to receive the gift of a 25 gallon Live Oak from Penderlea Farms that could live as long as 600 years.

She said she would name it Ernie for her father.

Every new BCHH home gets a Live Oak tree planted by Tree Peace OKI... made possible by your support. BCHH landscaping days are organized by the NC Extension Agents and Brunswick County Master Gardeners.



Trees don't actually grow from the ground

A willow tree that gained 164 pounds over five years grew in soil that lost less than two ounces.

Jan Baptist van Helmont recorded that result in the early 1600s, and the arithmetic was difficult to dismiss. The Flemish scientist had planted a 5-pound sapling in 200 pounds of carefully dried earth, watered it for five years, and then weighed both again. The tree had grown dramatically. The soil had barely changed.

The numbers pointed away from the ground. But toward what, exactly, van Helmont could not yet say. The answer was surrounding him the entire time, too diffuse and invisible to measure with the instruments he had.

Carbon, Not Minerals

The conventional picture of tree growth positions the soil as the primary contributor. Roots reach downward, nutrients travel upward, mass accumulates. That picture is not entirely wrong, but it is wrong in the dimension that matters most.

Mineral nutrients absorbed through roots, nitrogen, phosphorus, potassium, and their chemical relatives, account for approximately 1 to 2 percent of a tree's dry mass. The rest of the accounting problem falls to another element: carbon, which makes up roughly half of a tree's dry weight.

Soil does not supply carbon in quantities sufficient to explain that fraction. Neither does water, the other intuitive candidate. Trees move enormous volumes of it, a large oak on a hot day may pull up around 100 gallons, but water is a reactant in photosynthesis, not a structural material. Its hydrogen and oxygen are separated and processed; the oxygen is released to the atmosphere, and the hydrogen participates in downstream biochemical reactions. The molecular backbone of wood is not water. It is carbon dioxide.

The Chemistry of Assembly

Atmospheric carbon dioxide currently comprises a small fraction of ambient air, easy to treat as a background gas. For a tree, it is the primary construction material.

The process begins when carbon dioxide enters leaf tissue through microscopic pores called stomata. Inside the leaf, chlorophyll molecules in the chloroplast absorb photons. That absorbed light energy excites electrons to higher energy states, initiating a chain of reactions that generate ATP and NADPH, the chemical currency the cell uses to do biochemical work.

Those energy-carrying compounds then drive the Calvin cycle, a sequence of reactions in which the plant fixes atmospheric carbon. Carbon dioxide molecules are cleaved, and the liberated carbon atoms are progressively assembled into glucose, a six-carbon sugar. That is the first point of conversion: an atmospheric gas becomes an organic molecule.

From glucose, the tree builds further. Glucose units link into cellulose, the long-chain polysaccharide that forms the structural matrix of plant cell walls. A second polymer, lignin, fills and reinforces that matrix, cross-linking into a rigid composite material. The combination produces wood: dense, mechanically strong, and chemically stable enough to persist for centuries. What began as a gas has become a solid structural tissue.

Van Helmont's Missing Mass

Van Helmont could quantify the soil and measure the tree. What his experimental design could not capture was the mass flux passing through the leaf canopy overhead. Carbon dioxide entered the system continuously and invisibly, was chemically incorporated into biomass, and left no trace in the soil measurements he was using as his primary indicator.

His results were not a failure of observation. They were a successful elimination of the wrong hypothesis. The soil was not the source. The remaining candidate, which he could not measure, turned out to be correct.

Modern carbon analysis has confirmed the accounting. Isotopic tracing and elemental analysis of wood tissue consistently show that the dominant mass fraction derives from atmospheric carbon fixed through photosynthesis. The mineral contribution from soil is real and essential for cellular function, enzyme activity, and metabolic regulation, but it is minor relative to the structural bulk of the organism.

A Different Reading of Familiar Material

The practical implications of this are easy to under-appreciate. Wood is not geological material shaped by roots. It is atmospheric carbon reorganized into polymer chains by solar energy. A plank of lumber, a sheet of paper, a forest canopy: each represents carbon that was once suspended as gas, captured by leaf tissue, chemically reduced, and locked into a solid matrix.

Forests, viewed through this lens, are not simply biological communities rooted in landscape. They are reservoirs of atmospheric carbon made physical. Their mass represents carbon withdrawn from circulation and stored, temporarily on ecological timescales, in structural biomass. When that biomass decomposes or burns, the carbon re-enters the atmosphere. The cycle is not metaphorical; it is a measurable chemical flux that connects the atmosphere, living systems, and the geological record.

The carbon that constitutes a tree's trunk also passes through the broader carbon cycle. It moves from atmosphere into plant tissue, from plant tissue into herbivores and decomposers, and eventually back into the air or into long-term geological storage. The same element that forms cellulose in a tree's heartwood may later form structural protein in an animal that consumed plant material, and before that may have been exhaled by another organism entirely.

The arrangement changes. The carbon does not disappear.

Van Helmont's missing two ounces pointed toward a question he could not quite frame. The answer required understanding what the air was made of, what leaves were doing with it, and how sunlight could be converted into something you could knock on with your fist. The willow already knew. It had been pulling the answer out of thin air the whole time.

WRITTEN BY: JOSEPH SHAVIT/EDITED BY: JOSHUA SHAVIT

<https://www.thebrighterside.news/post/trees-dont-actually-grow-from-the-ground-scientists-find/>

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A multi-generation Oak Island family donated \$1,000.00 to continue our efforts to preserve and restore the tree canopy. Anonymously.

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