

Southern Research Station Experimental Forests Network Facts

Pioneering Research in the Network



The USDA Forest Service has conducted research concerning many facets of forests for a long time. USFS Photo.

A History of Research

Since their inception, experimental forests (EFs) have been critical to Forest Service research. They provide a permanent research facility for scientists seeking answers to large-scale questions and for scientists seeking to manipulate the land in search of how an environment responds to change. The oldest experimental forest in the SRS is Bent Creek Experimental Forest near Asheville NC, established in June 1925. Since then, research on experimental forests has flourished and the Network has enabled SRS scientists to answer questions that would otherwise be hard to solve.

Soils Research on Calhoun EF

Calhoun EF, near Union, South Carolina, was not always a forest. In the decades preceding the 1950s the land currently making up the experimental forest was full of eroded dirt ravines due to extensive and unsustainable cotton agriculture. The land conditions were so bad that this site was chosen by the Forest Service to study how reforestation can improve degraded soil; the scientists called the initial conditions the "worst of the worst" in the Piedmont region. The earliest research was spearheaded by Lou Metz and Carol Wells. Since its establishment in 1947, soil changes in the Calhoun EF have been tracked

Key Messages

- Experimental forests have been critical to research since their inception due to their ability to house large-scale studies
- Research on the Calhoun EF has been fundamental to understanding soil recovery processes over previously unseen time scales
- Olustee EF was an important research site for naval stores production
- Experimental forests change and develop over time - as seen with both Calhoun and Olustee EF
- Calhoun and Olustee EF are only a couple examples of important historical research done on the SRS experimental forests. For more information visit the [EF&R GTR](#)



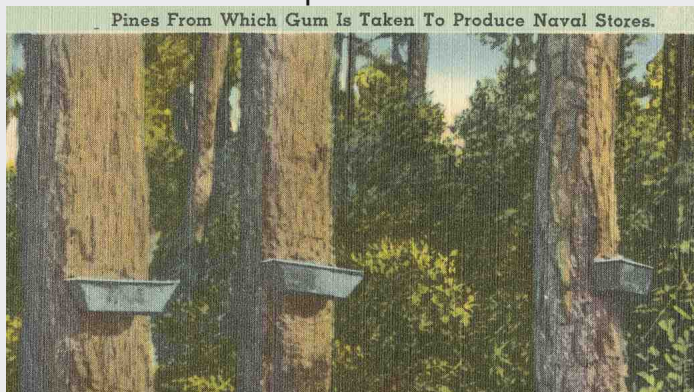
The Coweeta Hydrologic Laboratory was established in 1934 in North Carolina. It was then known as Coweeta Experimental Forest. USFS Photo.



over time scales unseen in other soil studies. The long-term studies and soil sample archives from the Calhoun EF have been useful in understanding how soil responds to change and how it recovers from stressors such as severe erosion. Research on Calhoun EF has allowed scientists to see how soil chemical properties change after decades of loblolly pine forest management.

Naval Stores Research on Olustee EF

The Olustee Experimental Forest in Florida enabled scientists to optimize pines for naval store production. Naval stores were produced from pine resin and were used to maintain ships. Naval stores kept ropes working longer and the hull watertight. In order to obtain pine resin for naval store production, pine trees must be tapped and a "streak" is placed to funnel the resin into a collecting container. Research on the Olustee EF included selective breeding programs of various pine species to optimize for resin production and the development of techniques for naval store production. Nearly all of the early research on the growth and yield of slash pine was developed here and Keith Dormann, Forest Service scientist, conducted research on southern pine genetics. Due to the rise of other manufacturing processes for naval stores, dependence on southern pine has fallen, and naval stores research has long been halted on the site. Slash pine forests continue to be maintained on the experimental forest.



Harvesters tapped trees and placed collection containers to catch the flowing resin. Photo from Wikimedia Commons.



The soil erosion due to unsustainable agriculture is evident in the above photo at Calhoun Experimental Forest in the 1940s. USFS photo.

References

EF&R Publication

<https://www.fs.usda.gov/treearch/pubs/7403>

SRS Experimental Forests

<https://www.srs.fs.usda.gov/locations/forests/>

CompassLive

<https://www.srs.fs.usda.gov/compass/2014/08/07/the-olustee-experimental-forest/>

<https://www.srs.fs.usda.gov/compass/2016/03/30/the-calhoun/>

Other Resources

SRS Publication on Naval Stores

<https://www.srs.fs.usda.gov/pubs/58160>

Keith Dormann

https://www.srs.fs.usda.gov/about-the-station/history/dorman_bio.html

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