

PROJECT LEARNING TREE

Carolinas Climate Resilience Conference

October 30, 2018
Columbia, SC



www.plt.org

What is Project Learning Tree ?

- ☀ **Project Learning Tree® is the environmental education program of the Sustainable Forestry Initiative Inc.**
- ☀ **Founded in 1973, PLT is an award-winning program designed for educators working with students in pre-K through 12th grade.**
- ☀ **Activities are used to supplement the regular curriculum.**



**PLT TEACHES STUDENTS HOW TO
THINK, NOT WHAT TO THINK ABOUT
ENVIRONMENTAL ISSUES**



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Who is SFI ?

SFI IS A SOLUTIONS-ORIENTED SUSTAINABILITY ORGANIZATION THAT COLLABORATES ON FOREST-BASED CONSERVATION AND COMMUNITY INITIATIVES THAT DEMONSTRATE AND ENHANCE OUR SHARED QUALITY OF LIFE WHILE PROVIDING SUPPLY CHAIN ASSURANCES THROUGH STANDARDS, DATA, AND AUTHENTIC STORIES.

SFI STANDARDS

SFI Forest Management Standard

SFI Fiber Sourcing Standard

SFI Chain of Custody Standard



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DIVERSITY OF SFI PROGRAM PARTICIPANTS

PROVINCIAL/STATE PUBLIC LANDS



PRIVATE LANDS



UNIVERSITY LANDS



INDIGENOUS LANDS



NON-PROFIT ORGANIZATION LANDS



CONSERVATION LANDS



Why should you use PLT materials?

- ☀ **PLT is inexpensive (uses household items)**
- ☀ **PLT activities are fun and engaging**
- ☀ **PLT WORKS - greater retention, greater involvement, less disciplinary problems & better attitudes**
- ☀ **PLT is multi-disciplinary - teaching skills in Science, Math, Language Arts, Social Studies, Visual and Performing Arts.**
- ☀ **PLT is correlated to State & National Standards.**



Our Mission ?

PLT uses the forest as a “window on the world” to increase students’ understanding of our complex environment; stimulate critical and creative thinking; develop the ability to make informed decisions on environmental issues; and instill the confidence and commitment to take responsible action on them.



Who Uses PLT?

- **Classroom Teachers**
- **Youth Group Leaders**
- **Nature Center Staff**
- **Museums, Zoos, Parks**
- **Day Care Facilities**
- **Resource Professionals**
- **Government Agencies**
- **Parents**
- **Community Groups**



WE'RE EVERYWHERE! (ALMOST)

☀ All 50 States
plus the
District of
Columbia

☀ All US Trust
Territories

☀ **Brazil**
☀ **Canada**
☀ **China**
☀ **Finland**
☀ **Sweden**
☀ **Slovakia**
☀ **Japan**
☀ **Jordan**
☀ **Mexico**
☀ **Philippines**

*In South Carolina over 20,815 educators have
been trained to use PLT materials since 1980*

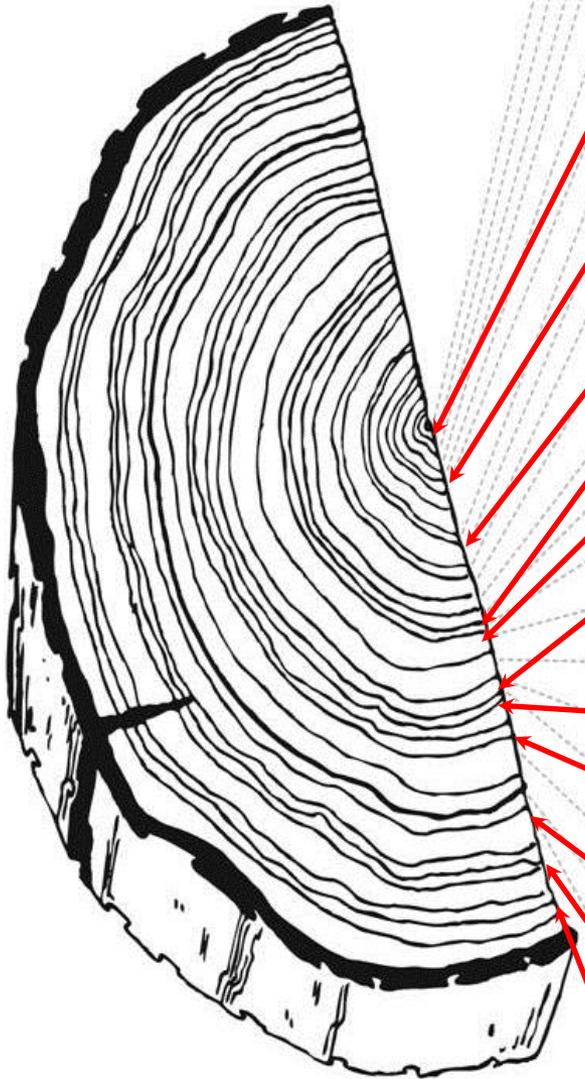


Who Sponsors PLT in South Carolina ?

- ☀ **S.C. Forestry Commission** – provides day-to-day logistics and coordinator
- ☀ **S.C. Forestry Foundation** – non-profit foundation that administers financial matters
- ☀ **S.C. Department of Education** – through a MOU, SCDOE provides guidance and membership on the state steering committee



PLT 41 Years of History



- 1976 PLT began in 13 Western states**
- 1980 PLT went International with Canada becoming a partner**
- 1980 PLT brought to S.C. by the State Dept. of Education**
- 1984 SC PLT begins operating as a non-profit consortium**
- 1989 PLT reaches 49 states**
- 1990 PLT begins a multi-year curriculum revision**
- 1993 PLT releases its new revised PreK-8 Activity Guide and *Greenworks!* service learning grant program**
- 1994 National Field Study of PLT by the Research Commission of the NAAEE**
- 1995 First Secondary Modules released and PLT In The City begins in 5 urban areas**
- 2002 PLT releases *Energy & Society***
- 2006 PLT releases newly revised PreK-8 Activity Guide**
- 2010 PLT releases Environmental Experiences for Early Childhood**
- 2014 PLT in partnership with PINEMAP release Southeastern Forests and Climate Change**
- 2015 PLT offers the first online workshops!**
- 2017 PLT introduces online E-Units & SFI becomes the national sponsor**

NATIONAL PARTNERS

PLT has a wide range of national partnering organizations, some of which include:



National Association of
Conservation Districts



WILDLIFE
HABITAT
COUNCILSM



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2017 S.C. PLT Contributors

International Paper

SC Tree Farm Committee

SC SFI-Implementation Committee

Sonoco Products Co.

SC Forestry Foundation

United Way of Atlanta

WestRock - Florence



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2017 Supporters -

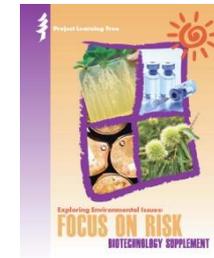
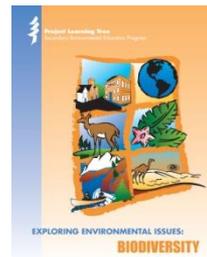
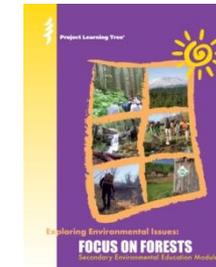
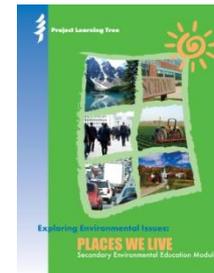
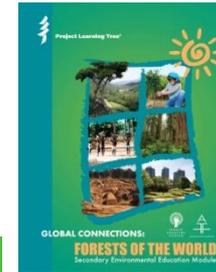
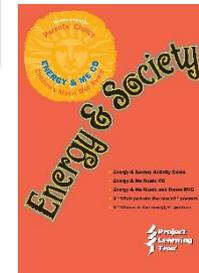
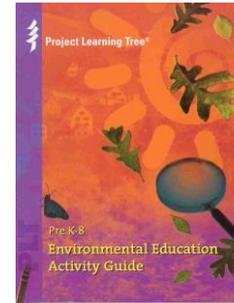
Provide indirect contributions by sponsoring workshops, contributing materials, etc.

Richland Co. Conservation District
Congaree National Park
Clemson University
National Wild Turkey Federation
Riverbanks Zoo
Lander University
Roper Mountain Science Center
Environmental Education
Association of SC
...And many more...



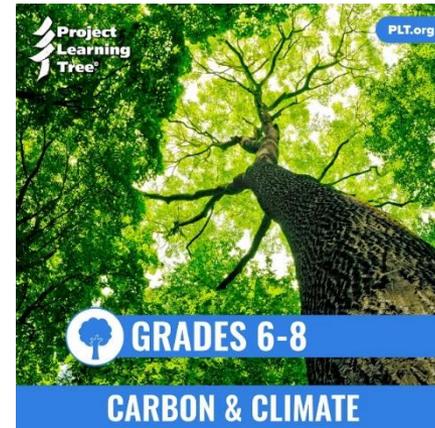
What does PLT provide for educators ?

- ☀ **Early Childhood module**
- ☀ **PreK - 8 module.**
- ☀ **Energy and Society**
- ☀ **Secondary modules**
 - Focus on Forests
 - Municipal Solid Waste
 - Environmental Risk
 - Places We Live
 - Forest of the World
 - Biodiversity (online)
 - Biotechnology (online)
 - Southeastern Forests and Climate Change



What does PLT provide for educators ?

The New PLT E-Units!



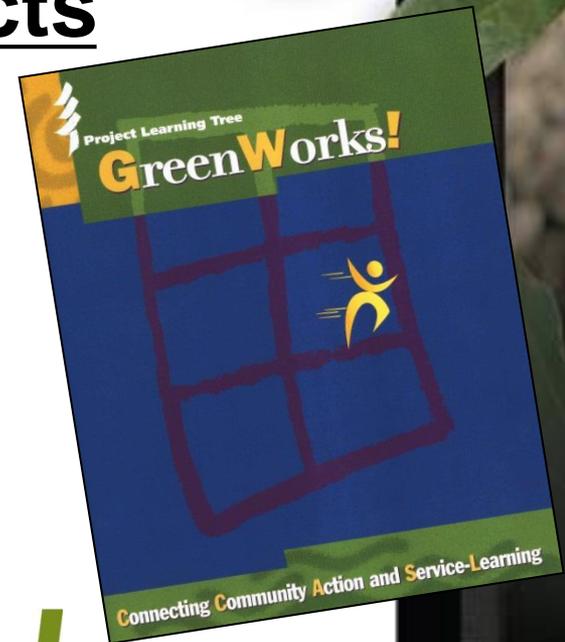
PLT's e-units are fully-contained units of instruction. The "E" in e-unit stands for "electronic," which means they are fully housed online.



Grants available for PLT trained educators!

☀ **GREENWORKS grants for community service projects**

- Up to \$1000
- Application deadline
Sept. 30th each year

The logo for GreenWorks! features a stylized green figure of a person jumping, with two horizontal lines above it suggesting motion. To the right of the figure, the text "GreenWorks!" is written in a large, bold, green font.

GreenWorks!



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And MORE!

- ☀ Correlations to state and national curriculum standards in science, social studies, math and language arts
- ☀ Common Core, FOSS, Head Start, NAEYC, NAAEE, national science and social studies, Girl Scout and Boy Scout correlations, too!
- ☀ Networking with other schools around the world through our “Environmental Exchange Box”
- ☀ The BRANCH newsletter (on line)



But wait, there's more!!!!

☀ Resources through state website:

<http://www.state.sc.us/forest/refplt.htm>



Login | Shop | 🔍



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MAKE LEARNING FUN!

Use the environment to engage children in learning – both outside and indoors.

LEARN MORE »

☀ Resources through national website:

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Vision

Project Learning Tree is committed to creating a future where the next generation values the natural world and has the knowledge and skills necessary to make informed decisions and take responsible actions to sustain forests and the broader environment.

TEACHING STUDENTS HOW TO THINK, NOT WHAT TO THINK ABOUT ENVIRONMENTAL ISSUES

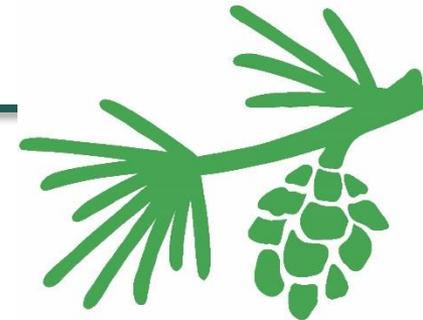


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Climate Change and Forests

Project Learning Tree Secondary Environmental Education Modules



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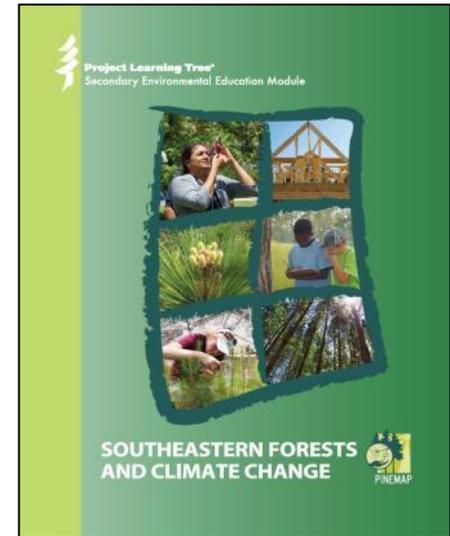
Pine Integrated Network: Education, Mitigation, and Adaptation project (PINEMAP) is a Coordinated Agriculture Project funded by the USDA National Institute of Food and Agriculture



United States Department of Agriculture
National Institute of Food and Agriculture

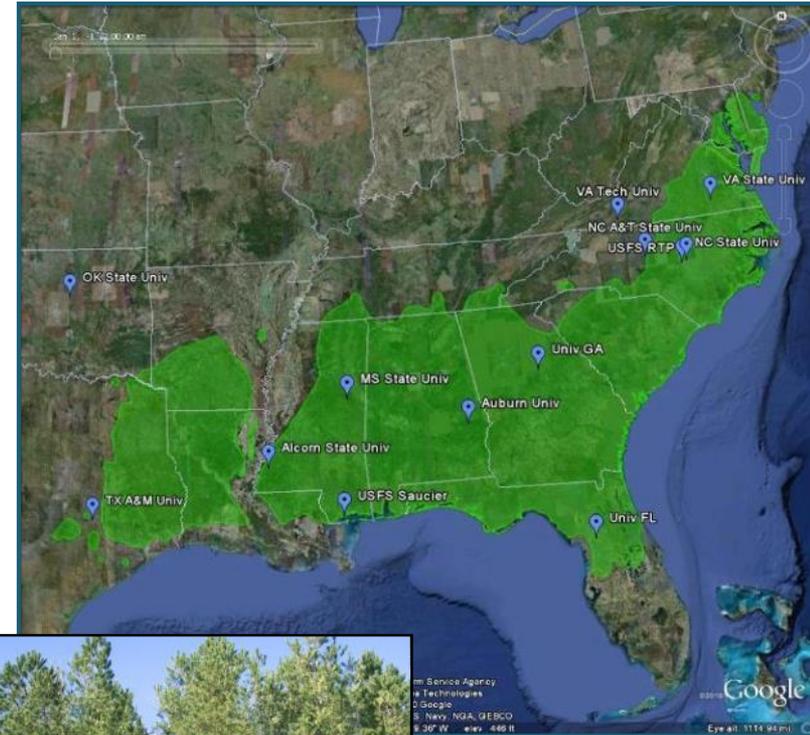
Southeastern Forests and Climate Change

- Focus on Southeast
- 14 activities to explore
 - Climate Change and Forests
 - Forest Management and Adaptation
 - Carbon Sequestration
 - Life Cycle Assessment
- Developed in partnership with PINEMAP
- Activities follow [PINEMAP](#) research framework



PINEMAP

- **Pine Integrated Network:
Education, Mitigation, and
Adaptation Project**
- **USDA, National Institute of
Food and Agriculture**
 - **Coordinated Agriculture
Project**



Research Connection

- PINEMAP is an integrated research activity
 - 50 faculty and 45 graduate students across 11 universities
 - Synthesizing research and making it available to stakeholders
- This module helps teachers make sense out of current forest research
- Activities to use data bases, interpret graphs, collect data
- Videos from students and faculty about their research
- Researchers critiqued materials



Educational Strategies

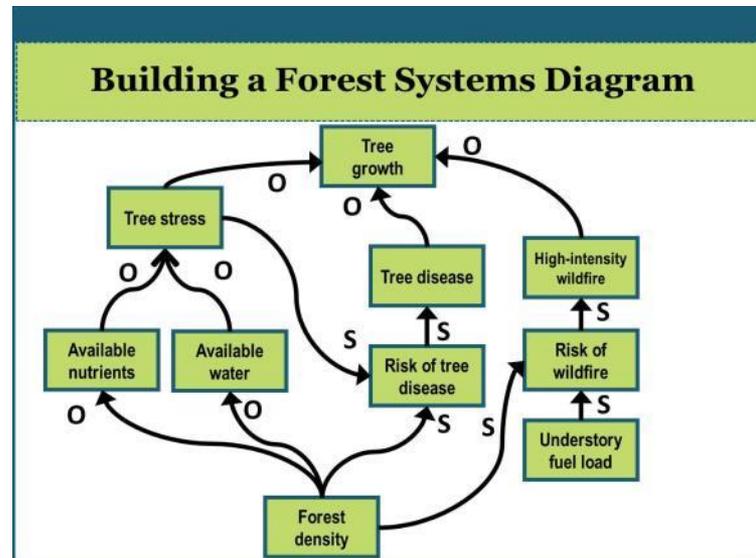
- Engaging teaching methods
 - Role play
 - Web quest
 - Data analysis
 - Videos and slide presentations
 - Cooperative learning exercises
 - Debate
 - Small group discussions
 - Service-learning action project
 - Field work
- Increasing
 - Student knowledge
 - Systems thinking and decision-making skills
 - Confidence that individual and community actions can help address climate change



Systems Thinking

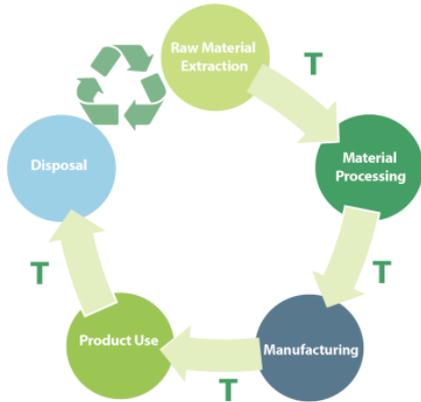


- Every activity has a systems thinking connection
- 5 activities have supplemental exercises on systems
- Two activities use systems thinking tools

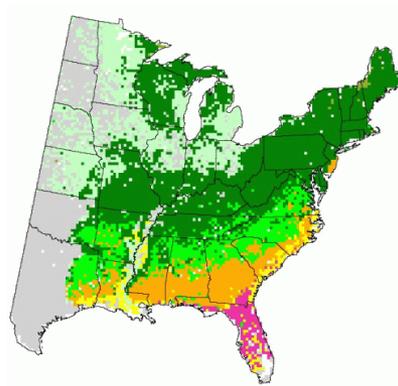


Sample causal system diagram used to predict impacts of climate change

Other Special Features



STEM and NGSS

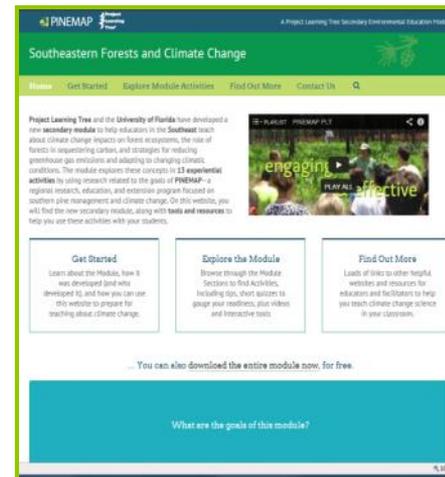


From USDA FS Tree Atlas;
forest ecosystems at
present



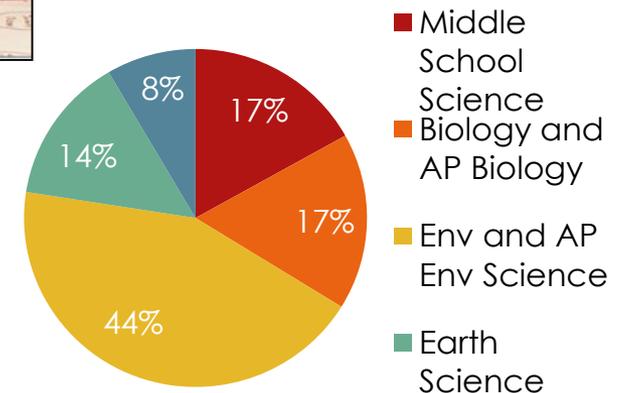
Social science connections

Accompanying Website

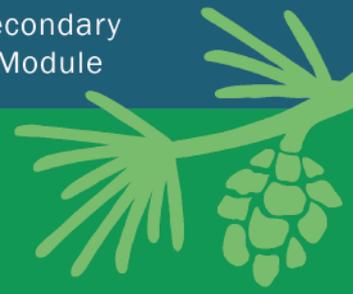


Participatory Process

- Assessment of SE science teachers
- Advisory Board
- Activity testing
- Expert review
- Formative evaluation
- Summative evaluation
- Researchable questions



Over 40 teachers participated in the formative evaluation in fall 2013



Southeastern Forests and Climate Change



1. Climate Change and Forests

- Stepping through Climate Science
- Clearing the Air
- Atlas of Change

4. Life Cycle Assessment

- The Real Cost
- Adventures in Life Cycle Assessment
- Life Cycle Assessment Debate



2. Forest Management and Adaptation

- The Changing Forests
- Managing Forests for Change
- Mapping Seed Sources

5. Solutions for Change

- The Carbon Puzzle
- Future of Our Forest
- Starting a Climate Service-Learning Project



3. Carbon Sequestration

- Carbon on the Move
- Counting Carbon

www.sfrc.ufl.edu/extension/ee/climate

Or www.plt.org

 A Project Learning Tree Secondary Environmental Education Module

Southeastern Forests and Climate Change

Home Get Started Explore Module Activities Find Resources Contact Us Login

Project Learning Tree and the University of Florida have developed a new **secondary module** to help educators in the **Southeast** teach about climate change impacts on forest ecosystems, the role of forests in sequestering carbon, and strategies for reducing greenhouse gas emissions and adapting to changing climatic conditions. The module explores these concepts in **14 experiential activities** by using research related to the goals of PINEMAP – a regional research, education, and extension program focused on southern pine management and climate change. On this website, you will find the new secondary module, along with **tools and resources** to help you use these activities with your students.



Systems Thinking
These materials provide opportunities to explore systems thinking tools and concepts.
[EXPLORE](#)

Additional Resources
Find connections to Next Generation Science Standards and additional resources.
[CONNECT](#)

Teach Climate Change
Learn more about incorporating the topic of climate change into your curriculum.
[LEARN MORE](#)

You can also [download the entire module now, for free.](#)

New! Errata and Improvements Sheet
[Click here](#) for a list of changes and improvements completed in the second edition (updated April 2016).

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PROVEN AND AWARD-WINNING!

Project Learning Tree is an award-winning environmental education program designed for teachers and other educators, parents, and community leaders working with youth from preschool through grade 12.

Southeastern Forests and Climate Change

Home Get Started Explore Module Activities Find Out More Contact Us 

Activity 1: Stepping through Climate Science

Overview

This short introductory activity presents climate change by engaging students in creating a timeline of climate science and policy initiatives over the past two centuries. Students also begin to explore connections between climate, climate change, and forest ecosystems and discuss mitigation and adaptation strategies being implemented by the U.S. Forest Service to address climate change in national forests.

Downloads

[Login or Register to Download](#)

Full Activity (with student pages included)

- [Activity 1](#)

Student Pages (editable format)

- [Climate Science Timeline student page](#)
- [Forest Service and Climate Change Video student page](#)

Answer Key

- [Forest Service and Climate Change Video answer key](#)

Supporting Materials

- [Master Timeline](#)
- [Timeline Cards](#)
- [Interval Signs](#)
- [Additional Timeline Pieces](#)

Links

You can find more related websites at the end of [Activity 1](#) or check out the [Additional Resources](#) for the entire module.

- [Climate ChangeLIVE](#) – A U.S. Forest Service program that offers webcasts, webinars, and other climate education resources.
- [Climate Connections Special Series](#) – A National Public Radio special series with videos, articles, and interactive maps to look at the causes and signs of climate change, along with stories about solutions and adaptation.
- [Climate Literacy Guidelines: The Essential Principles of Climate Science](#) – A guide for individuals and communities to learn about and understand climate, impacts of climate change, and approaches to mitigation and adaptation.
- [Climate Voices](#) – A database of experts from around the country who bring nonpolitical conversations about the research findings of climate scientists to citizens across the United States and Puerto Rico.
- [NASA, Global Climate Change](#) – Information on the evidence, causes, effects, and uncertainties of climate change from the National Aeronautics and Space Administration.
- [NOAA, Climate.gov](#) – Information, maps, educational resources, and videos about climate science and climate change from the National Oceanic and Atmospheric Administration.
- [U.S. EPA Climate Change Information](#) – Easy to understand information on the science behind global climate change, an award-winning kid's site, and carbon and water footprint calculators from the U.S. Environmental Protection Agency.
- [U.S. Forest Service, Climate Change Resource Center](#) – Information, videos, case studies

Teacher Tools



 [Tour the Activity](#)



 [Video: Forest Service & Climate Change](#)

Check Your Knowledge

 [Take an Interactive Quiz for Educators](#)

Systems Exercises

Learn more about the exercises.

- [Learning about a Tree](#)
- [Dynamic Systems Dance](#)

Southeastern Forests and Climate Change

[Home](#)
[Get Started](#)
[Explore Module Activities](#)
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Resources for Educators

We have correlated the module activities by subject, the PLT Conceptual Framework, the Next Generation Science Standards (NGSS), and the NGSS Crosscutting Concepts (as applied to systems thinking skills).

[Subject Chart](#)

[PLT Conceptual Framework](#)

[Related PLT Activities](#)

[Next Generation Science Standards](#)

[NGSS Crosscutting Concepts](#)

Many programs, organizations, and agencies provide information and resources on climate change and forestry topics. Each activity page lists additional resources related to the activity's content. We also provide a general list of additional resources, organized by topic.

[Related Websites and Resources](#)

Throughout the upcoming year, we will be offering webinars to help introduce this module. Events will be listed here, or you can [contact us](#) to receive an email notification when an event is scheduled.