



# FOREST SERVICE CLIMATE CHANGE EDUCATION RESOURCES

## Forest Service Climate Change

This is the main Forest Service website for climate change. It provides many links to other Forest Service programs and Web sites that offer additional information and materials.  
<http://www.fs.fed.us/climatechange/>

## Forest Service Conservation Education

Follow the link of "Educator Toolbox" to the climate change education resources.  
<http://fs.usda.gov/conservationeducation>

## i-Tree Benefits

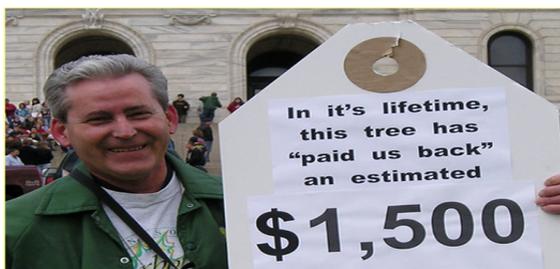
i-Tree software was developed by the U.S. Forest Service and our partners to assess the monetary value of the benefits that trees provide in urban forests and landscapes. Calculate the ecosystem benefits of a tree by simply entering your zip code, tree name, and tree diameter. The calculator will provide you with the overall \$



Breakdown of your tree's benefits

value of the tree's benefits, as well as quantifying graphs and descriptions of each benefit, such as, carbon sequestration, energy savings, and clean air and water ben-

efits. **NEW to i-tree!** – now use CAD mapping and Google Earth to map actual tree locations on your site, which allows you to refine your benefits results and to compare benefits when considering where to plant a new tree or to compare which species will provide the most benefits on your site!



<http://itreetools.org/design.php>



The i-Tree Learning Lab is an educational curriculum to help you use the tree benefits calculator with your students. With i-Tree in the Classroom, the students will learn about the ecosystem services of trees such as carbon sequestration, energy savings, and clean air and water benefits. They can apply their investigations in their school yard, and other areas in the community.

<http://www.unri.org/learninglab/>



## GreenSchools!

A national initiative of the American Forest Foundation, the parent organization of Project Learning Tree, in partnership with the U.S. Forest Service. Schools will investigate environmental issues at their schools and engage with their community in ongoing service-learning projects that create green and healthy learning environments.

Students will investigate their school's energy use; solid waste and recycling; water; school site; air quality; and more. Based on their investigations, students will work with their community in service-learning projects to create a model GreenSchool!

<http://www.pltgreenschools.org/>



Forest Service Natural Inquirer Science Education Journal

**NEW!** Just out - two new climate change editions, one for middle school students, and the "Investigator" edition for upper elementary

**students.** The Natural Inquirer is a middle-school science education journal that brings Forest Service research to life. In the newest, Climate Change Edition, students will learn about the effect that climate change may have on animals, plants, and forests. You will also learn how scientists are studying climate change. Natural Inquirers can be downloaded from the Web site, or limited copies of printed journals can be ordered from the program. On the Web site, search for climate change articles.

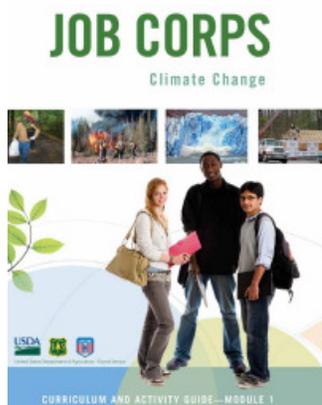
<http://www.naturalinquirer.org/>

**Symposium National Science Teachers Assn. National Science Teacher's Assn. Conference, March 23 - April 1, 2012**

**Climate Change Here and Now: Communicating and Teaching about Climate Change**

During this half-day Symposium, scientists and education specialists from NOAA, National Institutes of Health, and the U.S. Forest Service will present information about how to address climate science and impacts, common misconceptions about climate, the processes of science, and controversial issues in the classroom. Participants will be provided with resources and classroom activities that highlight the choices we face in response to climate change and the development of climate-literate citizens. Each participant will receive a \$60 stipend for attendance.

[http://learningcenter.nsta.org/products/symposia\\_archive\\_sponsor.aspx?page=USFS](http://learningcenter.nsta.org/products/symposia_archive_sponsor.aspx?page=USFS)



**Job Corps Climate Change Curriculum**

The Forest Service partnered with the Job Corps and the North American Association for Environmental Education to develop award-winning environmental education curriculum. The first in the series, address topics

of climate change, sustainable living, and green jobs. The lessons in this high school level curriculum were designed to introduce Job Corps students to the science and impacts of climate

change and include hands-on activities. The first modules of this series recently were recognized through the Forest Service Job Corps National Director's Honor Award for Green Champion - 2010. The next module planned for this series will be on the topic of water. <http://fs.usda.gov/conservationeducation>

**Northern Research Station -- Interactive Atlas of**



**Climate Change: Bird & Tree Species**

This Web site allows you to examine current distributions and modeled future-climate habitats for 134 individual tree

species by geographic areas. Changing forests mean changing habitat for the wildlife species that depend on them. The current and modeled distribution of 150 bird species is presented in the Climate Change Bird Atlas. Atlas provides natural history links on tree and bird species and shows how different carbon emissions scenarios model different effects on their ranges.

<http://www.nrs.fs.fed.us/atlas/>



**Forest Service Western Wildland Environmental Threat Assessment Center**

The mission of the Western Wildland Environmental Threat Assessment Center is to generate and integrate knowledge and information to provide credible prediction, early detection, and quantitative assessment of environmental threats in the Western United States.

<http://www.fs.fed.us/wwetac/>

**Forest Service Eastern Forest Environmental Threat Assessment Center**

An interdisciplinary resource that is actively developing new technology and tools to anticipate and respond to emerging eastern forest threats. The

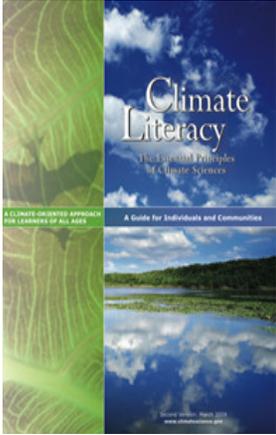
site features excellent resources about climate change, and other significant threats.

<http://forestthreats.org/climate-change>

## Climate.gov

The Forest Service has added educational resources to an interagency climate change website lead by NOAA: "climate.gov" The Web site, which is "live," is still in development, and will offer "one-stop" interagency information on climate change.

<http://www.climate.gov/#climateWatch>



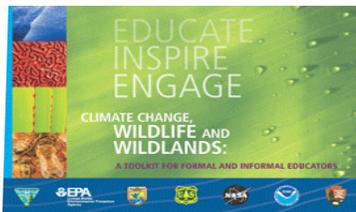
### Climate Literacy Brochure

The "Essential Principles of Climate Science" presents important information for individuals and communities to understand Earth's climate, impacts of climate change, and approaches for adapting and mitigating change. Principles in the guide can serve as discussion starters or

launching points for scientific inquiry. The guide can also serve educators who teach climate science as part of their science curricula. <http://www.climate.gov/Library/Literacy/>

## Climate Change, Wildlife and Wildlands Toolkit

The kit is designed for classroom teachers and informal educators in parks, refuges, forest lands, nature centers, zoos, aquariums, science



centers, etc., and is aimed at the middle school level. The U.S. Forest Service, along with six other federal agencies developed the kit to aid

educators in teaching how climate change is affecting our nation's wildlife and public lands, and how everyone can become "climate stewards." The contents of the toolkit include a 12 minute video introducing climate change issues as they affect wildlife and wildlands. There are 11 case studies on U.S. ecoregions, highlighting regional impacts. New materials will be added on "Communicating About Climate Change."

<http://www.globalchange.gov/resources/educators/toolkit>

## PARTNER RESOURCES – CLIMATE CHANGE

### North American Association for Environmental Education

EElink website lets you browse or search for EE resources on climate change and more. <http://eelink.net/pages/Climate+Change>

### Climate Change Science Program

The US Global Change Research integrates federal research on climate and global change, as sponsored by thirteen federal agencies and overseen by the Office of Science and Technology Policy, the Council on Environmental Quality, the National Economic Council and the Office of Management and Budget. An easy to read report on regional climate change impacts can be accessed that will help to answer the question, "What does this mean to me?"

<http://www.globalchange.gov/>

### NASA's Earth Observatory

News, feature articles, data and reference reviews on many aspects of our changing world.

<http://earthobservatory.nasa.gov/>

### Food and Agriculture Organization of the United Nations – Forestry

Maps, graphics and info. on the world's forests and water resources.

<http://www.fao.org/forestry/site/fra/en/>

### NOAA International Polar Year Web Site

NOAA's website is rich in resources for teaching climate change. This site shows the contents of a DVD disk set available from NOAA for teaching climate change topics. <http://www.ipynoa.gov>

### National Forest Foundation -- Carbon Cycle Poster

<http://www.calforestfoundation.org/pdf/carbon-poster.pdf>

## **Environmental Protection Agency (EPA) - Climate Change Information**

EPA's main climate change information page, this site is loaded with easy to understand information on the science behind global climate change. Includes an award-winning kid's site, carbon and water footprint calculator, and what you can do.

<http://www.epa.gov/climatechange/>

New EPA kid's climate change website: <http://www.epa.gov/climatechange/students/>

## **EPA Web site link: Climate Change – Effects on Forests**

<http://epa.gov/climatechange/effects/forests.html>

## **Earth and Sky - Project Learning Tree**

In cooperation with Forest Service and others, Climate and Weather Teacher's Center. Articles, activities on climate change and other environmental topics.

<http://earthsky.org/?s=climate+change>

## **Intergovernmental Panel on Climate Change**

**(IPCC)** Home of the 2007 Nobel Prize winning IPCC Reports, with report summaries, graphics, and news. Thirteen Forest Service researchers shared in the 2007 Nobel Peace Prize for their research contributions to the 2007 IPCC Assessment Report on Climate Change.

<http://www.ipcc.ch/>