

# Today's Challenges and Opportunities Climate Change

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## What the Forest Service is Doing About Climate Change

The Forest Service strategy for dealing with climate change is based on 20 years of targeted research and a century of science and management experience on public and private forest land. As a result, the Agency has highly skilled and experienced land managers, internationally recognized climate scientists, and a body of peer-reviewed scientific information for developing responses to climate change. The Forest Service strategy includes:

### Helping Forests Adapt to Climate Change

The Forest Service strategy is to improve the resilience of forest, range, and aquatic ecosystems to the stresses created by climate change. This may involve such things as (1) reducing overstocking that creates risks of fire, insect, and disease, (2) controlling invasive species, (3) restoring wetlands and streams, (4) assisting species migration, and (5) relocating, redesigning, and managing human use. The Forest Service applies this strategy directly to the 193 million acres of the National Forest System, and fosters resilience of private forests with information, technical assistance and targeted grant programs.

### Managing Forests To Increase the Carbon Dioxide They Capture and Store

The Forest Service strategy is to encourage increases in net carbon sequestration in forests and forest ecosystems over time through a variety of means, such as: (1) rapid reforestation of forests damaged by fires, hurricanes, and other catastrophic events, (2) technical assistance to DOE and to regional and state climate action programs, such as the California AB32 Climate Change Program, to help insure they recognize the carbon sequestration potential of forests, and (3) demonstration projects to support the development of private markets for ecosystem services, such as carbon sequestration. Through the Forest Inventory and Analysis program, the Forest Service is tracking changes in carbon stocks on forests throughout the country.

### Using Forest Products To Reduce and Replace Fossil Fuel Energy

The Forest Service provides research, technical assistance, and targeted grant programs to foster (1) substitution of wood based building projects for energy-intensive materials (like aluminum and concrete), (2) more use of excess and waste wood as sources of heat and power, and (3) development of cost-competitive wood-based biofuels, such as cellulosic ethanol and biodiesel, to replace fossil fuels.

### Maintaining a Research Program

The Forest Service Global Change Research Program builds on existing expertise in areas like landscape ecology, watershed hydrology, vegetation modeling, nutrient cycling, and forest management. It also builds on unique long term data sets from the Forest Inventory and Analysis program and the Forest Service network of Experimental Forests and Research Natural Areas. The forthcoming Global Change Research Strategy for 2009-2019 intensifies the focus on forest adaptation, climate mitigation, and increased use of wood for energy and building materials. Specific topics will include things like monitoring and modeling of carbon dioxide cycling in forests, management techniques for enhanced carbon sequestration, new processes for biofuels and bioenergy, and decision support tools for forest managers.

### Reducing the Agency's Environmental Footprint

The Forest Service is reexamining all its operations and is reducing its consumption of non-renewable energy and materials. As part of this effort, the Forest Service has officially joined the EPA Climate Leaders Program, and the California Region and the Pacific Southwest Research Station have joined the California Climate Action Registry. Few other Federal entities have done so.



## Climate Change: Selected Forest Service Websites

This is a highly selected list from among hundreds of Forest Service web pages with information on various aspects of climate change. Recommended for those seeking an overview of Forest Service activities in climate change research and forest management.

<http://www.fs.fed.us/kidsclimatechange/climate.shtml>

Links to further resources on climate change. Principal links are for research & development, ecosystem services, sustainable resource management, ecosystem restoration, biomass utilization, and sustainable operations.

<http://www.fs.fed.us/research/fsgc/climate-change.shtml>

The main page for Forest Service research information. The links on the upper right lead to copies of briefing papers on a variety of topics. The links on the lower right lead to main pages for the various research stations, all of which have additional information related to climate change research.

<http://www.fs.fed.us/pnw/research/climate-change/>

The main page for the Pacific Northwest Research Station, which is a rich source of information on climate change. The first link on this page, "Scientists talk about climate change in the west," goes to a page with links to 10 excellent web videos done by Forest Service researchers on various aspects of climate change.

<http://www.fsl.orst.edu/geowater/PEP/ClimChange/Millar/>

"Rethinking Forest Management in the West," an outstanding web video by Connie Millar of the Pacific Southwest Research Station. Although focused on the west, the principles are universally applicable. 45 minutes

[http://www.fs.fed.us/pnw/pep/climatechange/peterson\\_ohalloran/](http://www.fs.fed.us/pnw/pep/climatechange/peterson_ohalloran/)

"Adapting to Climate Change in the Olympic National Forest," an outstanding web video by Kathy O'Halloran, Resources Staff Officer on the Olympic National Forest and David Peterson, Pacific Northwest Research Station. how scientific information is starting to be used for planning and managing a unit of the National Forest System today. 34 minutes

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

The main page for the Forest Products Lab in Madison, Wisconsin, with multiple pages describing its work in biofuels and biomass utilization.

[http://www.fs.fed.us/r2/sustainable\\_operations/index.shtml](http://www.fs.fed.us/r2/sustainable_operations/index.shtml)

Annual report on Forest Service efforts to reduce its environmental footprint. Main topics are energy use, recycling, water conservation, vehicle management, and green purchasing. This link has the 2006 report for the Rocky Mountain Region, which designed and pilot tested the report. The 2007 report, which covers all Forest Service regions, will be available soon.

