



The U.S. Forest Service and Climate Change



The Forest Service strategy for responding to climate change is based on over 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, rangeland, urban, and aquatic ecosystems to the stresses created by climate change. This may involve such measures as (1) thinning forests to increase resilience and reduce risks of wildfire, insect, and disease mortality, (2) controlling invasive species, (3) restoring wetlands and streams, (4) assisting species migration, and (5) managing human uses when necessary. The Forest Service applies this strategy directly to the 193 million acres of the National Forest System, and fosters resilience of private working forests with information, technical assistance, and targeted grant programs.

Managing Forests to sustain carbon sequestration capacity

The Forest Service recognizes that forests are important for carbon storage and aims to sustain the carbon sequestration capacity of both public and private lands. Our 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 regional and state climate action programs to ensure they recognize the carbon sequestration potential of forests by providing critical information and tools to assess carbon stocks; and (3) demonstration projects that support development of private markets for ecosystem services, such as carbon sequestration. Through the Forest Inventory and Analysis program, the Forest Service tracks changes in forest carbon stocks 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 products for energy-intensive materials (like aluminum and concrete), (2) more use of excess and waste wood as renewable 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, genetics, 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. Our 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 include monitoring and modeling of carbon dioxide cycling in forests, management techniques for enhanced carbon sequestration, new processes for biofuels and bioenergy, understanding key ecosystem processes impacted by climate change, and decision support tools for forest managers.

Reducing the Agency's Environmental Footprint

The Forest Service is reviewing all its operations and reducing consumption of water, non-renewable energy, and materials. As part of this effort, the Forest Service joined the EPA Climate Leaders Program and the California Region, and the Pacific Southwest Research Station joined the California Climate Action Registry.