

Climate Change and the Glacier Project

Several people expressed concern about climate change and the Glacier Project. We would like to take this opportunity to explain how climate change is being addressed both in the Forest Service and in Glacier.

Ongoing climate change research has been summarized in reports produced by the United Nations Intergovernmental Panel on Climate Change (www.ipcc.ch). These reports have concluded that accelerated climate change is already happening, that it will accelerate more rapidly in the future, and that human greenhouse gas emission, primarily carbon dioxide emissions, are the main source of accelerated climate change.

Projected global climate change impacts include air temperature increases, sea level rise, changes in the timing and quantity of precipitation, and increased frequency of extreme weather events such as floods. These changes could have effects on water resources, forests, ecosystems, and agriculture that may vary regionally. Although these resource effects are predictable, their magnitude is uncertain and depend on how aggressively global programs to cut greenhouse gas emissions can be implemented.

While uncertainties remain, regarding the exact timing and magnitude of the regional impacts of global climate change, the majority of scientific evidence supports the view that continued increases in greenhouse gas emissions may lead to increased global climate change.

The Forest Service Mission is to “Sustain the health, diversity, and productivity of the Nation’s forest and grasslands to meet the needs of present and future generations.” The Forest Service Chief has characterized the agency’s response to the challenges presented by climate change as “one of the most urgent tasks facing the Forest Service” and stresses “as a science-based organization, we need to be aware of this information and to consider it any time we make a decision regarding resource management, technical assistance, business operations, or any other aspect of our mission.”¹

The Forest Service has been studying climate change for over 20 years (USDA Forest Service. 2008. Climate Change and the US Forest Service Research and Development, 4 pages.) and recently the Chief of the Forest Service, Abigail Kimball, stated that “I believe history will judge the leaders of our age by how well we respond to climate change.” (USDA Forest Service. 2008 Letter from Chief Kimball to the National Leadership Team, 3 pages) 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. The Agency has internationally recognized climate scientists and a body of peer-reviewed scientific information for developing responses to climate change.

The Forest Service strategy includes:

1. Restoring the resilience of forest, range, and aquatic ecosystems.

The purpose of the Glacier Project is to maintain and promote native vegetation communities that are diverse, productive, healthy, and resilient by moving the vegetation component toward Landscape Ecosystem objectives described in the 2004 Superior National Forest Land and Resource Management Plan (Forest Plan p. 2-23, O-VG-1). We recognize there may be changes occurring to some ecosystems. We do not yet have the ability to accurately predict how the vegetation in the project area might be impacted. We do believe it is important to manage for healthy, diverse ecosystems to help ensure there will be adequate habitat for wildlife species and resilience so the ecosystems can withstand some of the changes that might be occurring as a result of climate change.

¹ Abigail R. Kimball, Chief, USDA Forest Service, February 15, 2008, letter to Forest Service National Leadership Team

2. Managing forests to increase the carbon dioxide they capture and store.

Interest in terrestrial carbon sequestration has increased in an effort to explore opportunities for climate change mitigation. Carbon sequestration is the process by which atmospheric carbon dioxide is absorbed by trees through photosynthesis and stored as carbon in biomass (trunks, branches, foliage, and roots) and soils. Carbon sequestration in forests and wood products helps offset fossil fuel emissions, one of the key drivers of human-induced climate change.

Sustainable forestry practices can increase the ability of forests to sequester additional atmospheric carbon while enhancing other ecosystem services, such as improved soil and water quality. Planting trees, restoring forested ecosystems, and improving forest health are some of the ways to increase forest carbon. Harvesting and regenerating forests can also result in net carbon sequestration in wood products and new forest growth. Investing in forest carbon sequestration projects is a cost-effective way to complement corporate greenhouse gas reductions or allowance purchases.

Land management programs that restore forests to healthy and productive conditions will help ensure the long-term maintenance of existing forest carbon stocks which would otherwise be lost to disturbance. This also prevents the carbon stored in these forests from reentering the atmosphere and negating carbon sequestration efforts.

3. Using forest products to reduce and replace fossil fuel energy.

Emissions of carbon to the atmosphere are reduced to the extent that wood products production and use causes less fossil fuel carbon emissions than production and use of substitute products. Production and use of wood products in place of alternate products can reduce carbon emissions and their associated contribution to global warming. In the future, biomass grown for cellulose ethanol production, such as agricultural crops, may further offset carbon emissions from fossil fuels. (Interim Update of the 2000 Renewable Resources Planning Act Assessment, pp. 83-85). Carbon can be stored in long lived forest products such as buildings, where wood can be substituted for materials that have a high CO₂-intensity such as cement, steel and petroleum based products.

Restoring healthy forests that resist intense wildfire is good carbon management especially if fuel removed from the forest is utilized for wood products or energy.

The Glacier Project proposes to produce between 33 and 55 million board feet of timber.

4. Reducing the Agency's environmental footprint.

The USDA Forest Service is taking action to reduce our environmental footprint. Some specific actions include using hybrid vehicles, using teleconferencing technology to reduce travel, purchasing green products, utilizing the Leadership in Environmental and Energy Design program when constructing new buildings such as the new Kawishiwi Ranger District Office, and reducing our dependence on non-renewable resources.

Forest Service Research

Forest Service Climate Change Mission: Sustaining the health, diversity and productivity of the nation's forests and grasslands to meet the needs of present and future generations for forest products and services. Products include timber, water supplies, wildlife, and wild foods. Services include carbon storage, clean air, recreation, biodiversity, and aesthetic and spiritual benefits. Climate change affects all of these products and services. Climate change effects must be integrated into management systems to continue delivering these products and services.

Other Forest Service research underway:

- How carbon cycles through forest and rangeland ecosystems, and how the management and use of these ecosystems affects the amounts of carbon from the atmosphere retained in forests and rangelands;
- How the rate and intensity of climate change affects forest growth, productivity and health;
- How climate-induced changes in natural disturbances can be mitigated and reduced in cost-effective and environmentally beneficial ways;
- How the maximum resilience to rapid climate change by forests and rangelands can be managed.
- How biomass utilization will help reduce fire impacts by reducing fuel loads and how reduced fuel loads and carbon stocks can be done to allow for needed increases in carbon sequestration.

For additional information on climate change, please visit the following web sites:

USDA Forest Service Climate Change Research: <http://www.fs.fed.us/research>

United Nations Intergovernmental Panel on Climate Change: www.ipcc.ch

Climate change is not addressed as a separate topic in the Glacier EIS because it is incorporated in the Landscape Ecosystem objectives and the purpose and need for the project which is to provide forests that are healthy, resilient, and adaptable. As more research is conducted and better information becomes available on specific changes that might be occurring in a local project area, changes to the Landscape Ecosystem objectives will be considered.