US Forest Carbon Budget: The US Forest Service, in support of the National Energy Research Council's request for a strategy for reducing greenhouse gas emissions, focused on understanding factors that influence US carbon fluxes. Dr. Paul1999 and colleagues estimated that the US forest sector is a net source of greenhouse gases, with emissions totaling 1.5 billion metric tons of carbon. This finding was consistent with previous estimates that the US forest sector contributed 4-5% of greenhouse gas emissions. However, this study used a new approach to estimate forest carbon emissions and indicated that the US forest sector was a net consumer of greenhouse gases.

Northern Global Change Program: The Northern Global Change Program is a multi-disciplinary research initiative that focuses on understanding the impacts of global change on northern ecosystems. The program is funded by the US Forest Service, the National Science Foundation, the National Aeronautics and Space Administration, the Department of Energy, and the Northern Great Lakes Science Foundation. The program has established research stations in the northern United States, Canada, and Russia, and has conducted landscape-scale experiments to study the impacts of global change on forest ecosystems. A key focus of the program is to estimate how much carbon dioxide is taken up and released by US forests, and to evaluate policy options for increasing the role of forests as carbon sinks.

Potential Impacts of Climate Change on Northern Forests: The potential impacts of climate change on northern forests are significant. Increased temperatures and changes in precipitation patterns are expected to alter forest compositions, growth rates, and productivity. Changes in fire regimes are also expected, with increased wildfire activity in some regions and decreased activity in others. The potential impacts of climate change on northern forests are discussed in detail in a separate report prepared by the Northern Global Change Program.

Regional climate and fire danger modeling for the Pine Barrens of New Jersey: This project develops a modeling and monitoring strategy for the Pine Barrens of New Jersey to improve fire management practices. The Pine Barrens is a unique ecosystem that is highly vulnerable to fire. The project uses a combination of monitoring and modeling approaches to predict fire behavior and to assess the effectiveness of fire management practices. The project also develops a web-based system for fire management stakeholders to access data and information. The project is conducted in partnership with the New Jersey Pine Barrens Preservation Commission, the New Jersey Division of Forestry, the New Jersey Department of Environmental Protection, and the Pine Barrens Commission.