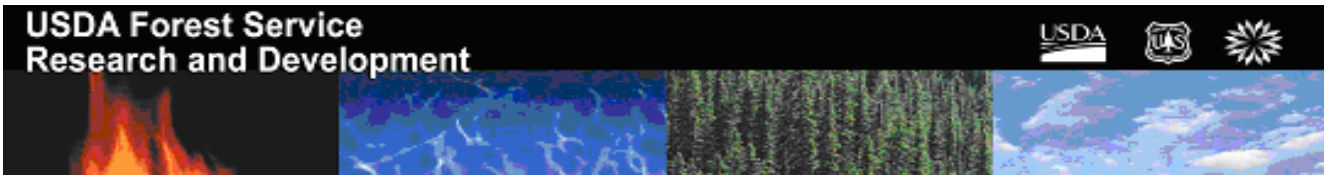


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**Climate Change and US Forest Service Research**

**Issue:** For more than 20 years, Forest Service scientists have been studying and assessing climate change effects on forests and rangelands. Decisions being made today by public and private sector resource managers will have implications through the next century. Forest Service Research and Development provides long term research, scientific information, and tools that can be used by managers and policymakers to address climate change impacts to forests and rangelands.

**Key Points**:

- A fundamental issue for scientists is how to increase the amount of $CO_2$ removed from the atmosphere by increasing carbon sequestered in forests and wood products and, at the same time, thinning overstocked forests to improve the resiliency of forests and rangeland to stresses caused by climate change.
- At this time, it is difficult to predict the numbers and locales of large disturbances (large wildfires, bark beetle infestations, hurricane damages) from climate change, and the amount of carbon released by those large disturbances.
- Forest Service scientists have several long term data sets - the Nation's Forest Census (Forest Inventory and Analysis) and the Experimental Forests – that provide decades-worth of information on forest and rangeland trends.
- More than a decade of focused global change research, a prior decade of air pollution research, and several decades of experience with natural resource assessments provide a firm scientific foundation.
- The Forest Service climate change research program is supported by strengths of its more traditional research in areas such as ecophysiology, landscape ecology, watershed hydrology, vegetation modeling, nutrient cycling, and forest management.
- Additional support comes from strong and productive partnerships with universities, federal and state agencies, non-governental organizations and the forest industry here and abroad
- Many existing mangement techniques can be adpated to assist in adaptation to climate change and mitigation of greenhouse gas concentrations in the atmosphere.
- The Forest Service climate change research focuses on science to:
    - Increase forest stress resilience (adaptation)
    - Increase forest carbon sequestration (mitigation)
    - Move carbon in forests to other long-term storage by developing methods to increase biomass used in biofuels and other wood products.
    - Provide decision support to policymakers and forest managers

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