The Northeastern States Research Cooperative (NSRC) is a partnership of the Northern Forest states of New Hampshire, New York, Maine, and Vermont, in coordination with and funding support by the USDA Forest Service, an Equal Opportunity provider. 2015.

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Research Theme 1: Sustaining Productive Forest Communities

Personal Contact Remains Effective Form of Mountain Summit Visitor Education and Stewardship
Robert Manning, University of Vermont
GPS tracking and a survey of visitors on Sargent Mountain, Maine revealed that visitors tend not to notice resource impacts, and few acknowledge causing impacts. Personal contact by a steward more successfully delivered educational messages to visitors than did posted signs.

Experimental Ice Glazing in a Northern Hardwood Forest to Understand Ecological Impacts of Ice Storms
Lindsey Rustad, USDA Forest Service Northern Research Station
In a northern hardwood forest in New Hampshire, scientists manually created ice glaze on tree branches using methods similar to those used to make snow at ski areas. This novel tool will allow scientists to study icing events as the Northern Forest faces an increase in ice storms in response to climate change.

How Forest Evapotranspiration May Be Affected by Climate Change
Heidi Asbjornsen, University of New Hampshire
Scientists studied tree growth and evapotranspiration, how water moves from soil to atmosphere through plants, in some cases using data collected over 50 years. Findings from Maine to West Virginia, demonstrate much greater sensitivity to warming climate and drought in the southern part of the region than in the cooler, more humid Northern Forest.

Research Theme 2: Sustaining Ecosystem Health

High Site Quality and Pruning Improve White Pine Lumber Yield and Quality
Rene Germain, SUNY College of Environmental Science & Forestry
In a comparison study in the Adirondacks, researchers found that eastern white pine trees grown on high quality, fertile sites yielded more 16-foot logs than did pines grown on marginal sites. On high quality sites, pines that were intensively pruned in the 1930s produced butt logs that yielded the highest quality lumber.

Ecological Impacts of Residential Roads on Adirondack Songbirds
Michale Glennon, Wildlife Conservation Society
Researchers demonstrated that bird communities may be impacted as far as 200 meters from both roads and houses in the Adirondack Park. Roads provide foraging and feeding opportunities but provide less opportunity for nesting compared to areas near houses. Keeping residential roads narrow and speed levels low will help reduce strong negative impacts on songbird communities in the Adirondacks and in other areas of the Northern Forest region.

20-Year Results from Ecological Based Silviculture Studies in Maine
Robert Seymour, University of Maine
Scientists will evaluate the economic trade-offs of using ecological based silvicultural systems, or ways to grow and harvest trees that mimic natural disturbances in a forest. Results from 20-year-old studies will inform forest managers, particularly those of larger production-based holdings who have concerns that such silvicultural systems may result in lost economic productivity, compared to more traditional forestry.

Research Theme 3: Forest Productivity and Forest Products

Samples of NSRC Research Projects

How Forest Evapotranspiration May Be Affected by Climate Change
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Research Theme 4: Biodiversity and Protected Area Management

Reducing Forest Fragmentation Through Subdivision and Zoning Strategies
Jamey Fidel, Vermont Natural Resources Council
Researchers scrutinized the relationship of subdivision and land use change in Vermont towns to devise ways to reduce forest fragmentation. They created an engaging technical assistance manual “Community Strategies for Vermont’s Forests and Wildlife,” an online community planning tool kit, and a forest fragmentation action plan to help communities grapple with development pressures on forestland.

Rare Fern Valuable to Understand Plant Responses to Climate Change
Danilo Fernando, SUNY College of Environmental Science & Forestry
Scientists determined that changes in precipitation are more critical to survival of rare fragrant fern than are increasing temperatures. Fragrant fern is an example of a species with a southern range limit in the Northern Forest and serves as a model for understanding elements of biodiversity we could lose to climate change.

The Northeastern States Research Cooperative (NSRC) is a competing grant program supporting cross-disciplinary, collaborative research in the Northern Forest – a 30-million acre working landscape that is home to more than two million residents and stretches from eastern Maine through New Hampshire and Vermont and into northern New York.