

Today, a network of experimental research sites is more relevant than ever. The Nation faces natural resource problems of such extraordinary geographical and biological complexity that unprecedented levels of collaboration are required to understand them. Because of the foresight of those that created and maintained the system of EFRs, the Nation can build upon historical landscape-level research to understand current challenges, including global climate change and variability, rapid urbanization, technological transformation, and environmental impacts.



For More Information

- <http://www.fs.fed.us/research/efr/>
- <http://treesearch.fs.fed.us/pubs/7403>
- <http://www.fsl.orst.edu/lter/pubs/webdocs/reports/lugobiosci.cfm>
- Adams, Mary Beth; Loughry, Linda; Plaughter, Linda, comps. 2004. Experimental Forests and Ranges of the USDA Forest Service Gen. Tech. Rep. NE-321.

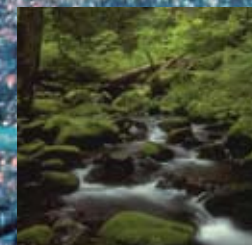
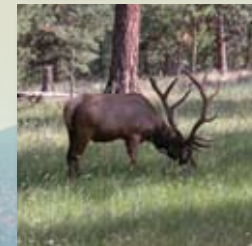
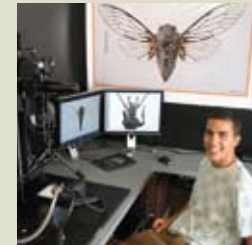
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Experimental Forests and Ranges



What Are the Experimental Forests and Ranges?

The Experimental Forests and Ranges (EFRs) of the Forest Service, U.S. Department of Agriculture, are a network of basic and applied research sites located across the United States. This network of 81 locations covers nearly every habitat type across the country, including Puerto Rico. Congress established these forests and ranges to help better understand ecosystem processes and to resolve complex natural resource issues faced by land managers. In some EFRs, continuous scientific research and education spans 100 years, making them a valuable asset to national research and conservation activities.

Why Are Experimental Forest and Ranges Unique?

The unique historical records from EFRs provide scientists with the ability to conduct research at a durational and spatial scale unmatched by other research sites. For example, researchers started data collection at Ft. Valley Experimental Forest in Arizona in 1908. The Coweeta Hydrological Laboratory in western North Carolina has been continuously monitoring forest changes since the early 1930s. In 1982, a new experiment was initiated as researchers established a 200-year log decomposition study in the H.J. Andrews Experimental Forest in Oregon. The Hawaii Experimental Tropical Forest, established in 2007, is the newest site to start collecting long-term data. All of these sites can provide long-term data used to assess how climate change has impacted various ecosystems.

What Do We Get From Experimental Forests and Ranges?

Research is conducted on a variety of topics at EFRs, including silviculture, invasive species management, wildlife habitat, desert ecology, range management, wildfire management, and global warming impacts. Other examples of research include:

- ***Timber productivity, adaptability, and forest restoration:*** Silviculture researchers at the Estate Thomas Experimental Forest (U.S. Virgin Islands) have produced information crucial to reforesting tropical lands.
- ***Soil science:*** Scientists at the Marcell Experimental Forest (Minnesota) were the first to demonstrate that soil compaction negatively impacted future aspen productivity.
- ***Urban forestry:*** Researchers participating in the Baltimore Ecosystem Study (Maryland) examine interactions between urban forests, watersheds, soils, climate, and community well-being.
- ***Watershed management:*** Scientists at the Maybeso Experimental Forest (Alaska) have improved our understanding of how timber harvest practices impact ecosystem water use and availability.
- ***Atmospheric science:*** Scientists at the Hubbard Brook Experimental Forest (New Hampshire) were the first to document acid rain in North America. Current research tracks the effects of acid rain on soil and water chemistry.

Who Uses Experimental Forests and Ranges?

Forest Service scientists; colleagues from universities, Federal and State agencies, and nongovernmental organizations; and visiting scientists from other countries use EFRs as outdoor laboratories to conduct some of the most important conservation research in the world.

While land managers and conservation professionals are the primary clients of EFR research, the general public contributes through the development of research priorities, participation in educational short courses and workshops, interaction with scientists, and, ultimately, by applying findings in research materials and publications.

