

Foreword

On behalf of the USDA Forest Service Research & Development, I am proud and excited to share the science success stories made possible by the more than 100-year-old network of Experimental Forests and Ranges. These “EFRs” are living laboratories where Forest Service scientists and their colleagues make discoveries and demonstrate the importance and implications of research results. The entire network is recognized globally as valuable national asset for research, education, and conservation-related activities.

Since 1908, when the first experimental forest was established in Fort Valley, Arizona, the network has expanded to more than 80 research sites. The three most recent additions are the Sagehen Experimental Forest in northern California, the Hawaii Tropical Experimental Forest on the big island of Hawaii, and the Heen Letinee near Juneau, Alaska.

The network is the oldest and most extensive system of research sites in the USA dedicated to resolving the nation’s natural resource problems through research and public education. They remain one of the few places where ecological research can be conducted over a long period of time and, if necessary, across a broad landscape. This feature of the network has resulted in some big datasets. In science, we know that if you’ve got good data, people will use it. In the past few decades, the Forest Service has moved a subset of its experimental forests and ranges into a system of ecological observatories by cooperating with other networks such as LTER and NASA and by collaborating with scientists from other agencies, many of whom are supported by the National Science Foundation.

I believe the philosophy that established the network of experimental forests and ranges is just as relevant now as it was at the beginning of the twentieth century, but tackling national and global issues at the proper scale will require the network to function as an integrated research platform. That’s the main difference between the past and now. In the past we had a lot of great research projects happening on the ground, but they addressed specific problems on specific landscapes. The people who worked on one experimental forest didn’t talk much to the scientists working on another experimental forest, especially if it was in another part of the country. Today, a single research project might involve every single experimental forest and range in the entire network.

That's because the network contains many gradients, like differences in climate, altitude, latitude, and biodiversity. It's through long-term comparative research across those gradients that scientists will unravel the consequences of climate change and study other global change. Developing an integrated program of long-term research that covers the entire continent, and Hawaii and Puerto Rico too, while continuing to do research that assists local communities is the next great challenge for Forest Service scientists entrusted with this network.

The complexity of the environmental challenges facing humanity in the new millennium requires a research focus that addresses environmental complexity of time and space on a transcontinental scale. Because of the foresight of Congress a century ago, scientists can build on past research results and the large datasets associated with EFRs to do their part in meeting those challenges.

A handwritten signature in dark ink, appearing to read "Jim L. Reaves", with a stylized flourish at the end.

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