A forest ecologist studies the interactions among plants, animals, energy, water, and nutrients. A forest ecologist also studies how all of these things relate to patterns and processes in forest ecosystems.

Dr. Katherine J. Elliot

Forest Ecologist

Ph.D., University of Maine

USDA Forest Service scientist

Dr. Katherine J. Elliot

Important Scientist Characteristics:
A quest for knowledge driven by curiosity is important as a scientist, as well as an interest in the natural environment. Science and math are key ingredients in science, and understanding computers is becoming more important. Lastly, patience and perseverance are needed by scientists because research can take a long time.

Example of a simple research question I have tried to answer: How will forest tree growth be affected by climate change?

Technology or equipment used in research:
Technology has advanced quickly since I began my career. For example, tree heights were once estimated by measuring distance from a tree with a tape measure and angle with a clinometer. Tree heights can now be measured using a laser beam with technology such as a laser rangefinder.

Most Exciting Discovery
My coworkers and I used long-term climate data and dendrochronology (study of tree rings). We found that tree growth was sensitive to when precipitation occurs, the number of small storms, and dry spell length. Tree growth was not as sensitive to the total precipitation. We also found that some eastern tree species are more sensitive to extreme climate than others.

When did you know you wanted to be a scientist? I studied forest management in college. In the summer I collected and processed soil samples for a professor. During this job, I became interested in forest ecology, ecosystem services, and forest health.

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