



A forest ecologist studies the interrelated patterns and processes of vegetation, animals, energy, water, and nutrients in forests.

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Important Scientist Characteristics:

My research is founded on a solid foundation of math and science. However, it is largely driven by curiosity, sparked by creativity, and achieved with patience and persistence.

Example of a simple research question I have tried to answer: How are increases in the frequency of extreme weather events from climate change (e.g., hurricanes, droughts, heat waves, and ice storms) going to shape our forests in the future?

Technology or equipment used in research: I am increasingly using digital environmental sensors. Sensors wirelessly transmit forest data to the Internet in near real time, providing a virtual “window on our watersheds.” This allows us to measure and monitor the physical, chemical, and biological pulse of our forest ecosystems.

- : **Most Exciting Discovery**
- : Using the sensor network, we
- : observed dramatic increases in
- : soil temperature at the same
- : time the snow melts in forests.
- : This jump in soil temperature
- : occurs over a period of just a day
- : or two. The temperature increase
- : is as dramatic as annual ice melt
- : on lakes. It announces spring in
- : northern hardwood forests.
- :
- : **When did you know you wanted**
- : **to be a scientist?** I have always
- : loved the outdoors. I started
- : studying philosophy in college.
- : But I soon learned that I was
- : fascinated by understanding
- : patterns and processes of
- : energy, water, and nutrient
- : movements through forest
- : ecosystems.

<http://www.nrs.fs.fed.us/people/lrustad>