



Meet the Scientist!



<http://www.naturalinquirer.org>



As a GIS (Geographic Information Systems) Specialist I use special computer software to collect, analyze, and model geographic data to create maps.

Todd Kellerman GIS Specialist

B.S., University of Nebraska-Lincoln
USDA Forest Service scientist

Important Scientist Characteristics:

Project management and computer/software skills are important for my job. I use many different types of digital data and find innovative methods to create new data. Communication skills are important so others can use and understand the data.

Example of a simple research question I have tried to answer:

I work with agroforestry, which is combining trees and agriculture for multiple benefits. Where can trees be planted to have the most environmental impact? Planting trees in the right place along a stream, for example, can minimize soil and pollutant runoff while providing wildlife habitat. I can use GIS to locate these places.

Technology or equipment used in research:

I use special computer software that enables me to view and analyze "layers" of data. Imagine a cake with many layers. Some examples of these layers of data are soils, land cover, elevation, climate, or population density. Being able to view and manage these data layers together is a very powerful tool.

Most Exciting Discovery

Using cloud-computing technology and computer-learning algorithms with aerial photography, we can map tree cover in agricultural areas where smaller, linear patches of trees are common. These important working trees provide many benefits but are often overlooked in other forest inventories. Having this data is helpful for landowners and other natural resource professionals.

When did you know you wanted to be a scientist?

I have always been interested in maps and the natural environment. GIS seemed like a natural fit to combine geography with my interests in information technology. I was fascinated with using spatial data to solve complex environmental issues.

https://www.nrs.fs.fed.us/inventory_monitoring/monitoring_assessment/