



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

A Historical Perspective of Windbreaks in the Great Plains Using GIS

Todd Kellerman, Richard Carlson, Greg Lohr, David Mangan

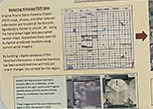
U.S. Forest Service Northern Research Station, Northern Forestry Experiment Station, Lincoln, Nebraska

Prairie States Forestry Project 1935-1952

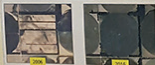
The Prairie States Forestry Project (PSFP) was a landmark effort to establish a forest in the Great Plains. The project was a joint venture between the U.S. Forest Service and the Canadian Forestry Service. The project was a landmark effort to establish a forest in the Great Plains. The project was a joint venture between the U.S. Forest Service and the Canadian Forestry Service.



Windbreaks: Then and Now



The Need for Agroforestry Inventory



2000 2004

Emerging Research for Windbreak Inventory Estimation



Windbreak Trends in Antelope C

According to the U.S. Forest Service, the PSFP was a landmark effort to establish a forest in the Great Plains. The project was a joint venture between the U.S. Forest Service and the Canadian Forestry Service. The project was a landmark effort to establish a forest in the Great Plains. The project was a joint venture between the U.S. Forest Service and the Canadian Forestry Service.

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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.
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- **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/trees-outside-of-forests/