



## What is LiDAR?

LiDAR is an emerging technology that's changing conservation planning practices from coast to coast. An acronym for **l**ight **d**etection **a**nd **r**anging, this term is used in mapping to describe how location and elevation data is collected using laser beams. A small aircraft flies over a land mass and sends out thousands of light beams to define the surface of the earth and the heights of above ground features.

The data initially gathered by a LiDAR system is raw X, Y and Z coordinates. Processing of the data points can result in a highly accurate GIS-based digital elevation model – essentially a plaster relief of the land made from light. Current trials in Iowa document eight-inch or better vertical accuracy under leaf-off conditions.

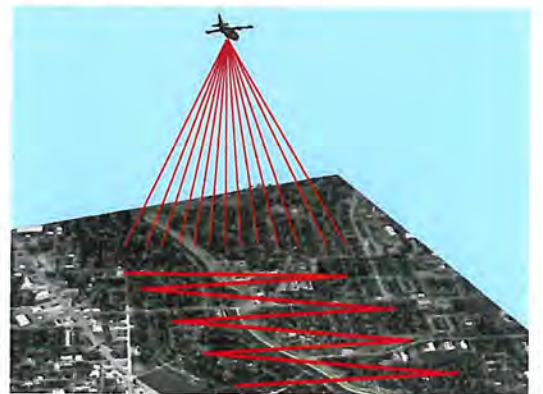
LiDAR has been used for road and culvert design, fire fuel mapping and to visualize the Grand Canyon. It's in these practical applications – where LiDAR data is combined with specialized software – that you begin to comprehend the power of what's possible. That's what inspired us to create Agren's conservation planning tools. We wanted to bring that speed, accuracy and range of choices to the conservation community.

When LiDAR data is combined with tools like the Agren suite, the information can be used to more quickly and accurately determine optimum locations for conservation solutions like ponds, waterways and basins. Additionally, the opportunity to almost instantaneously provide farmers with a visual representation of how their fields might look with different conservation practices applied is tremendous.

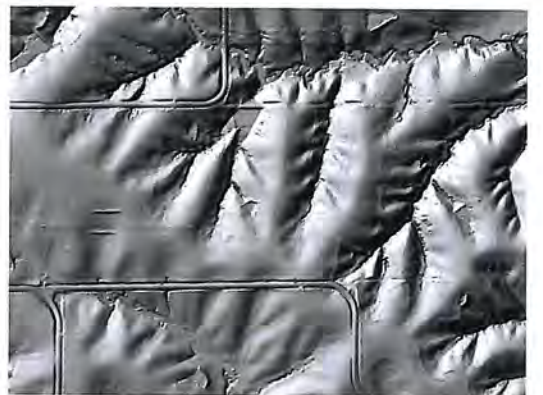
The availability of LiDAR data is increasing across the nation, with many states implementing plans to acquire LiDAR coverage within the next few years. Agencies are quickly adopting this new technology. To find out if your state has LiDAR data, check with the Geographical Information System (GIS) specialist within the USDA NRCS in your state.



*Old 10-foot contour topographic data was accurate within 5 feet.*



*Elevation data is collected by an airplane using LiDAR technology.*



*New LiDAR technology is accurate within 8 inches, allowing for more precise conservation planning.*



## ABOUT AGREN'S CONSERVATION PLANNING TOOLS

**Agren's conservation planning tools are a suite of software that increases the ease, speed, and accuracy of planning field-scale natural resources conservation practices.** The tools combine the technologies of Light Detection And Ranging (LiDAR) remotely-sensed, high-resolution elevation data and easy-to-use Geographic Information System (GIS) software with technical and engineering specifications for planning conservation practices.

The resulting software has considerable application for conserving natural resources. The tools provide far more accurate layout and cost estimate for conservation practices than ever before possible, while maximizing time efficiency. **The technology presents the possibility to almost instantaneously provide farmers with a visual representation of how their fields might look** with different conservation practices applied. Moreover, the high resolution data elevation, combined with advanced technical specifications, allow for a level of planning accuracy that has never before been possible.

**Agren's customer base for this service comprises both public and private sectors** including government agencies, non-profit organizations, private engineers, and land improvement contractors. Currently, these entities provide technical assistance for planning conservation practices to landowners on a daily basis. However, the tools and processes available to them are out-dated and time-consuming.

**Agren licenses the conservation planning tools through a web-based, Software as a Service (SaaS) model.** SaaS is a model of software deployment whereby a provider licenses an application to customers for use as a service on demand. Subscribers can pick and choose from the suite of conservation practice planning tools to create a package that best suits their local needs. Subscribers purchase seat or site (3 seats/site) licenses for access to bundles of applications. Agren currently has four of these applications in the marketplace and several others under development.

### Tools Currently Available

- BasinBuilder
- PondBuilder
- RCN Calculator (integrated)
- WaterwayBuilder
- WetlandBuilder

### Tools Under Development

- EphemeralGullyCalculator
- RxFirePlanner
- SoilLossCalculator (RUSLE2)

For more information contact:

Stan Buman

712-792-6248

[stan@agrentools.com](mailto:stan@agrentools.com)

or demo the tools at [www.agrentools.com](http://www.agrentools.com)