



What is LiDAR?

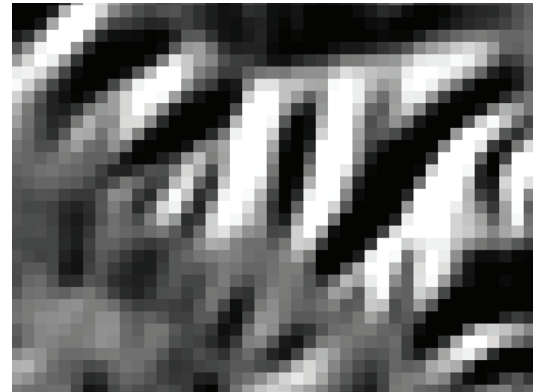
LiDAR is an emerging technology that's changing conservation planning practices from coast to coast. An acronym for **l**ight **d**etection **a**nd **r**anging, this term is used in mapping to describe how location and elevation data is collected using laser beams. A small aircraft flies over a land 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.

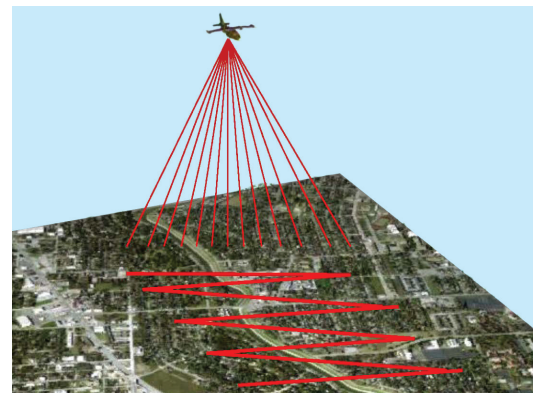
LiDAR has been used for road and culvert design, fire fuel mapping and to visualize the Grand Canyon. It's in these practical applications – where LiDAR data is combined with specialized software – that you begin to comprehend the power of what's possible. That's what inspired us to create Agren's conservation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

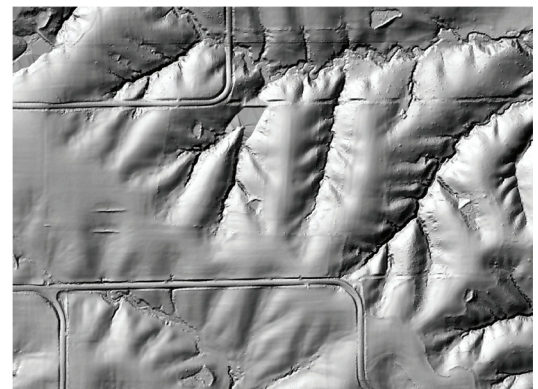
The availability of LiDAR data is increasing across the nation, with many states implementing plans to acquire LiDAR coverage within the next few years. Agencies are quickly adopting this new technology. To find out if your state has LiDAR data, check with the Geographical Information System (GIS) specialist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