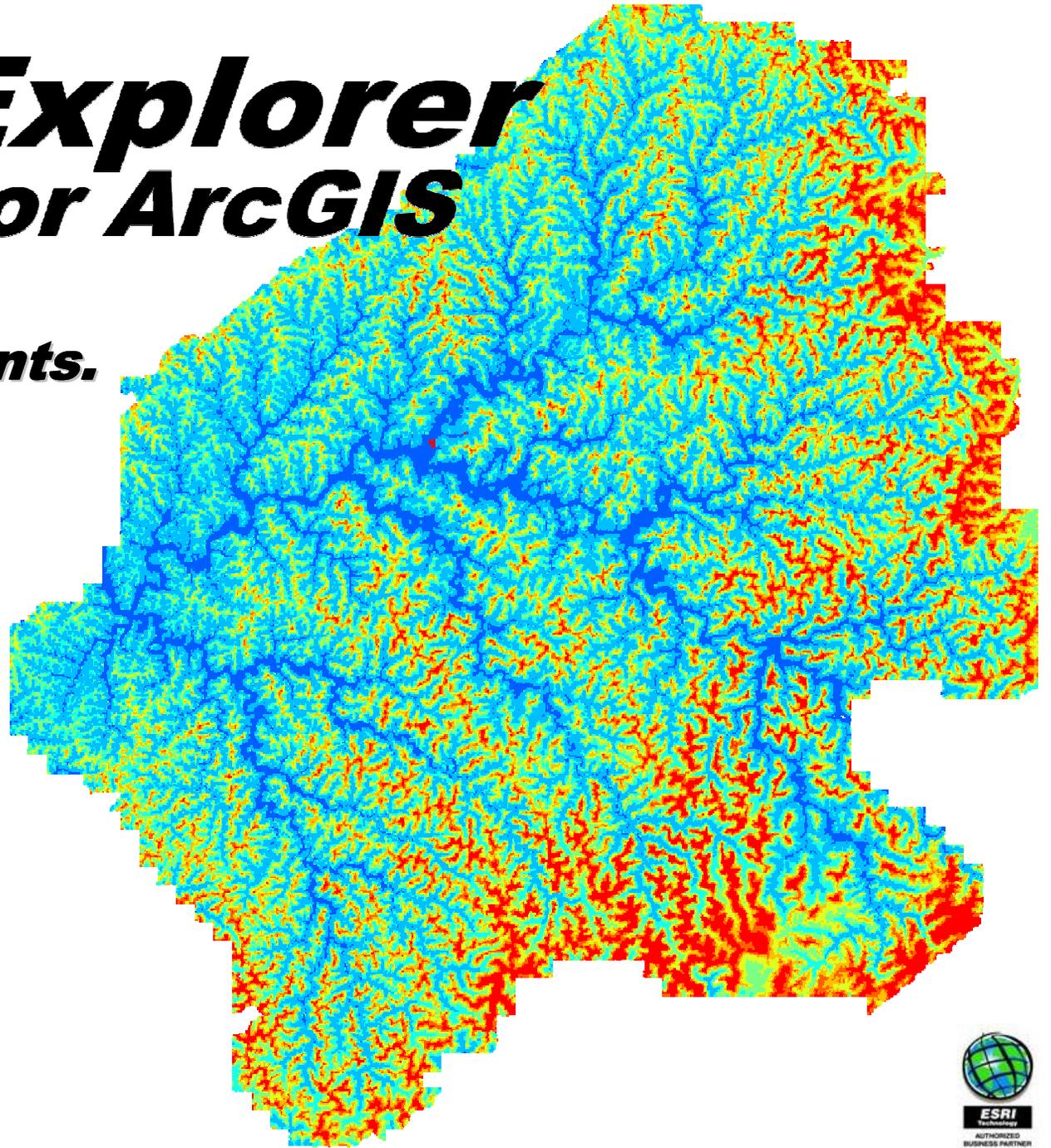# *Lidar Explorer*
Version 2.0 for ArcGIS

**They're your points.
Use them.**

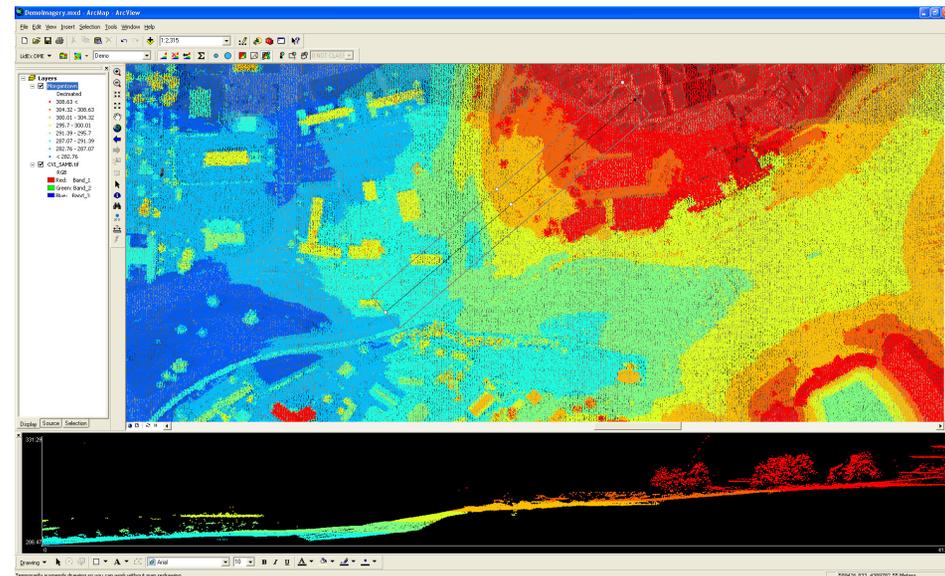**John Edwards**

August 8, 2007

ProLogic
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BUSINESS PARTNER
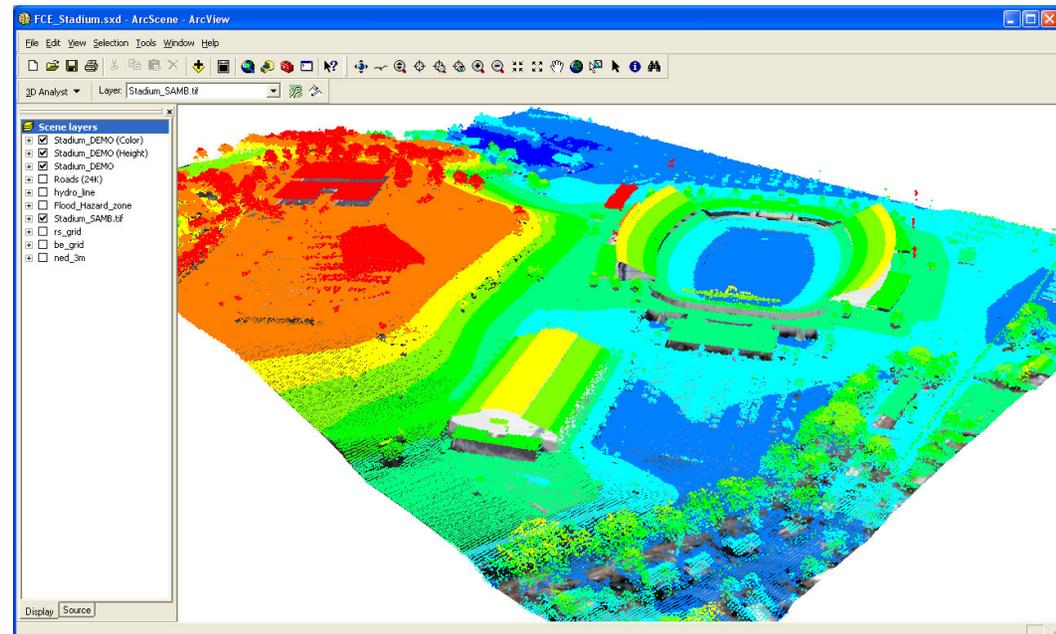
Overview

- What is Lidar Explorer for ArcGIS?

  – ArcGIS Integration

  – Project-Level Data Support

  – Outputs

- Lidar Explorer and Iowa

- Demo

What is Lidar Explorer for ArcGIS?

Lidar Explorer is…

– An ArcGIS extension

– A project-level data management tool

– A powerful and flexible tool for classifying data
and generating DEMs

ArcGIS Integration

- There are thousands of ArcGIS users out there
- It's about time someone brought a Lidar product to the ArcGIS world
- Lidar Explorer allows users to
  - Visualize data in a familiar environment
  - Analyze data using ArcGIS tools
  - Analyze data using ArcGIS-like tools that are designed specifically for Lidar data
  - Integrate with other GIS data
  - Flexibly serve novice and expert users alike
  - Integrate existing and test new analysis algorithms (Lidar Explorer SDK)

Project-Level Data Support
History of Lidar Data Management

Lidar data has typcially been "reduced" in size

Why?

- Storage limitations

- Processing limitations

- Software limitations

How?

- Trimming

- Using single returns

- Thinning

- Gridding

- Tiling

Project-Level Data Support
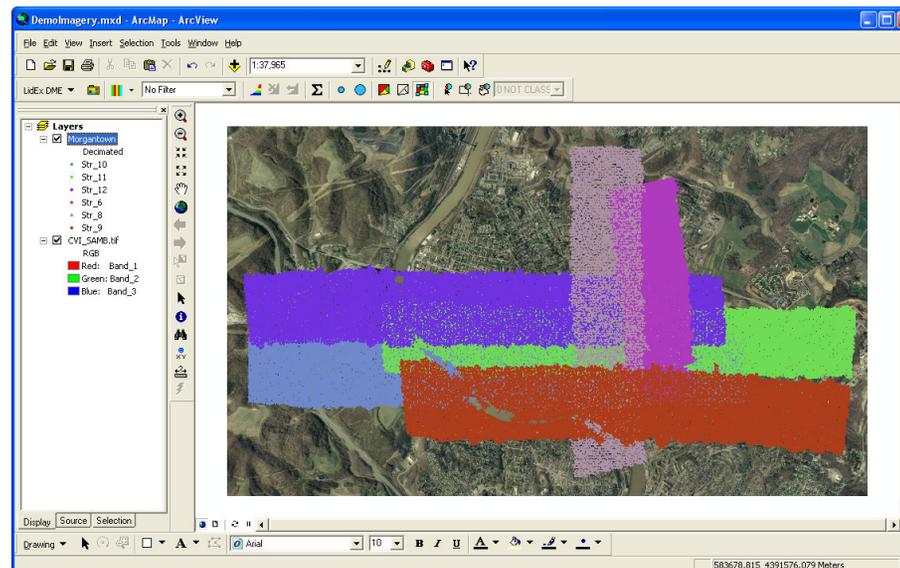## History of Lidar Data Management

Shortcomings of traditional Lidar data reduction

- Trimming: Overlap provides two views of target area

- Multiple returns: Intermediate returns contain information about the interior of vegetated areas

- Thinning: Very complex and difficult to get right

- Gridding: Interpolation inherently degerates data

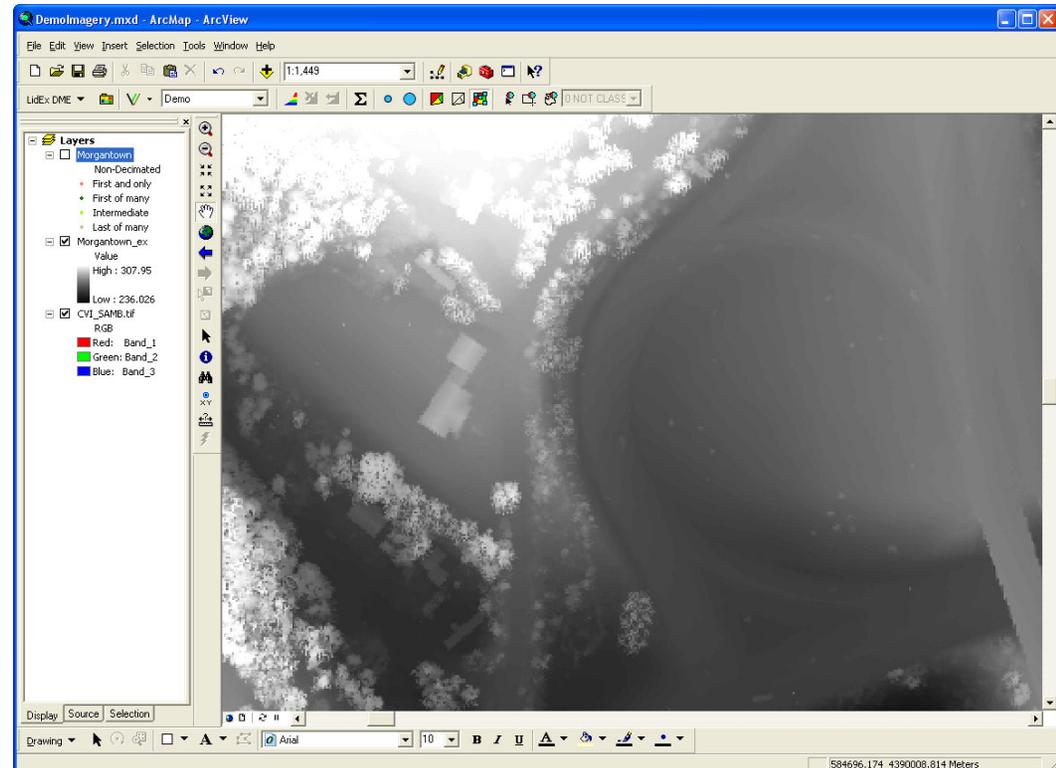- Tiling: The collected order of points provides analysis possibilities

Project-Level Data Support
Lidar Explorer

- Supports data that is whole and intact
  - Works with full swath data (not thinned, not trimmed)
  - Works with multiple swaths (all swaths for a project)
  - Works with tiled data (common for existing data)
- Supports data in multiple formats
  - Works directly from points (not derived rasters) in LAS format
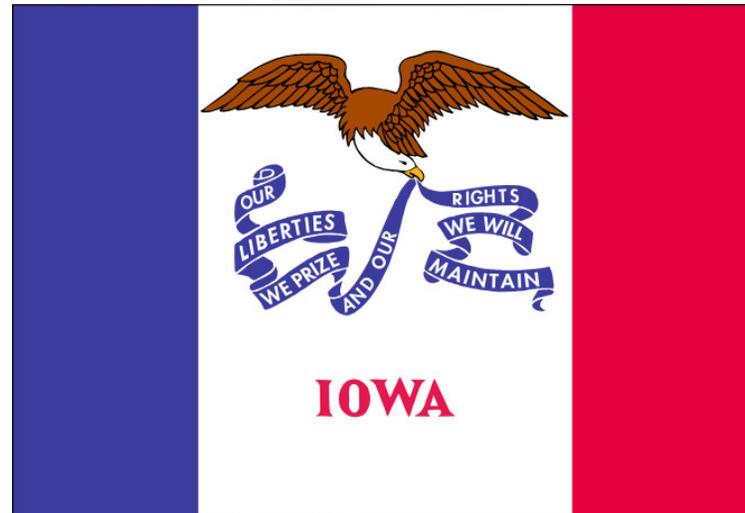 - Imports/exports Lidar data to/from other formats

Outputs

- **Lidar Explorer supports**
  - Point re-classification
  - Point deletion
  - Clipping
  - Export to ASCII
  - Export to LAS
  - Export to DEM

Lidar Explorer and Iowa

- Lidar Explorer is an ArcGIS extension
  - Eases current Iowa GIS users' transition to using Lidar data
  - Encourages use of Lidar data by presenting it in a familiar environment
- Lidar Explorer supports project-level data
  - Single state, county or tribal agency may need to manage over a billion points spanning multiple files
  - Lidar Explorer manages these points without requiring any data reduction, serving up pristine points
- Lidar Explorer produces
  - Point redistribution
  - Reclassification
  - Analysis

They're your points. Use them.

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Summary

- What is Lidar Explorer for ArcGIS?

  – ArcGIS Integration

  – Project-Level Data Support

  – Outputs

- Lidar Explorer and Iowa

- **Demo**