

2016 3DEP Program Update

- Tennessee Department of Finance and Administration
- Strategic Technology Solutions – GIS Services
 - Dennis Pedersen, Director
- *April 27, 2016*



Agenda

- USGS 3DEP/Lidar background
- 2015 Project summary
- 2016 Project summary
- Timeline/acquisition
- Future Goals
- Access and Dissemination



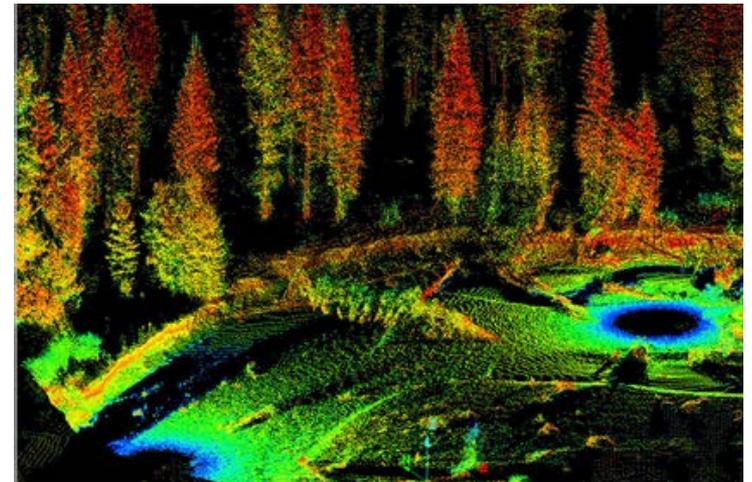
USGS 3DEP Program

- Acquire nationwide high res. LiDAR elevation data
- Backed by a comprehensive business plan (2011)
- Estimated annual benefits of \$1.2 billion nationwide
- Goal to start data production in 2015
- Establishing partnerships/collaboration on funding the program
- USGS offering contributions up to 50%
- Seeking proposals from 3DEP supporters at Fed, State, and local gov. levels



LiDAR Process for Acquiring Enhanced Elevation

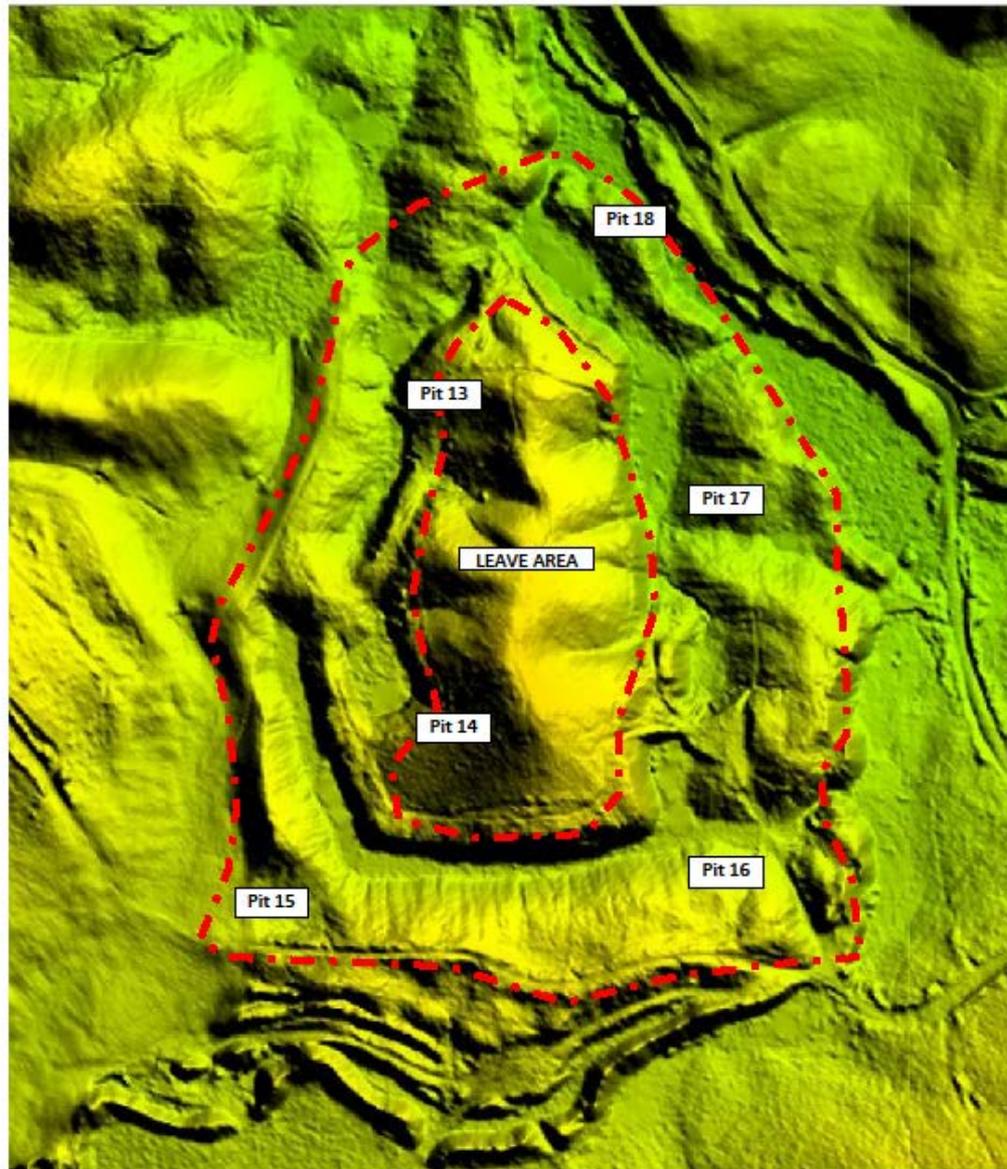
- **LiDAR Process for Acquiring Enhanced Elevation**
 - Efficient
 - Less Costly
 - Accurate Direct Measurements
 - Preferred Technology for EE
 - Multiple Applications



Benefits for Top Business Uses

Rank		Annual Benefits	
		Conservative	Potential
1	Flood Risk Management	\$295M	\$502M
2	Infrastructure and Construction Management	\$206M	\$942M
3	Natural Resources Conservation	\$159M	\$335M
4	Agriculture and Precision Farming	\$122M	\$2,011M
5	Water Supply and Quality	\$85M	\$156M
6	Wildfire Management, Planning and Response	\$76M	\$159M
7	Geologic Resource Assessment and Hazard Mitigation	\$52M	\$1,067M
8	Forest Resources Management	\$44M	\$62M
9	River and Stream Resource Management	\$38M	\$87M
10	Aviation Navigation and Safety	\$35M	\$56M
:			
20	Land Navigation and Safety	\$0.2M	\$7,125M
Total for all Business Uses (1 – 27)		\$1.2B	\$13B





CHERRY BRANCH 3 RECLAMATION PROJECT - SITE 1
DIGITAL ELEVATION MODEL (DEM) IMAGE
SEQUATCHIE COUNTY – COLLINS QUAD







Nursing home evacuated by boat due to flooding

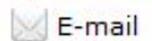
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Submitted by *JoBeth Davis*, Community Web Producer

Wednesday, July 20th, 2011, 11:11am



Topics: [News](#), [Weather](#)

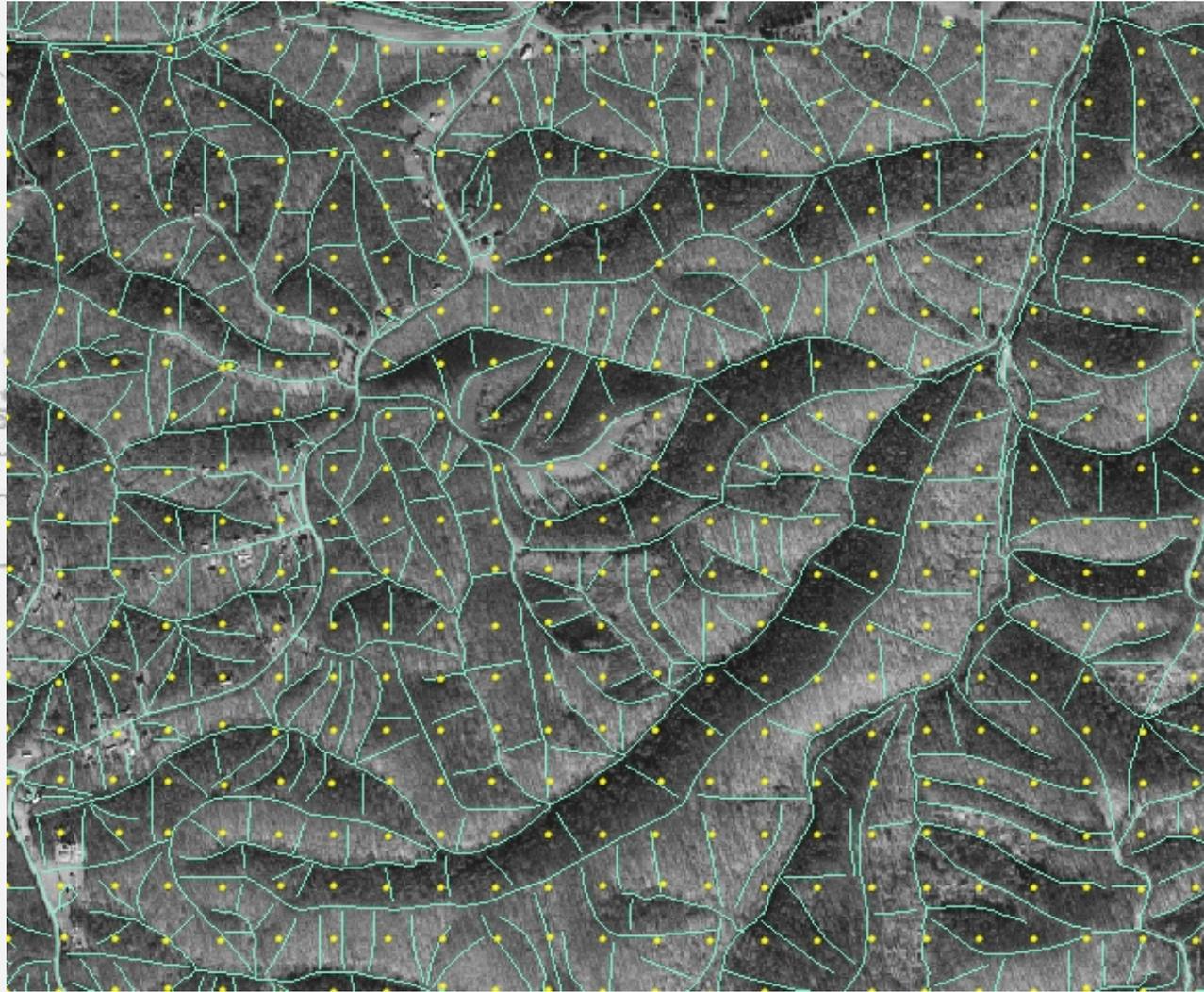


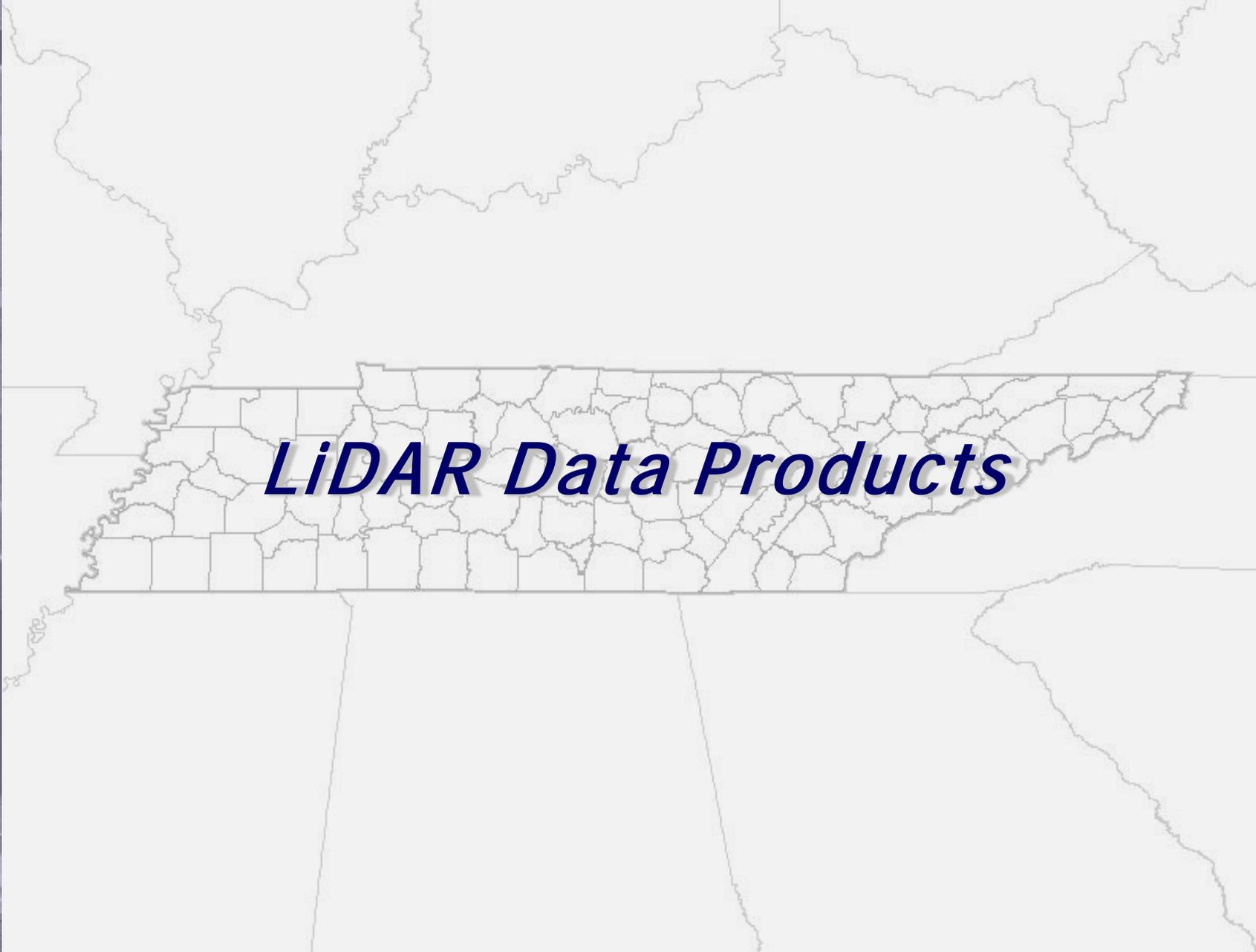
Photo courtesy Cimby Simpson Woodruff



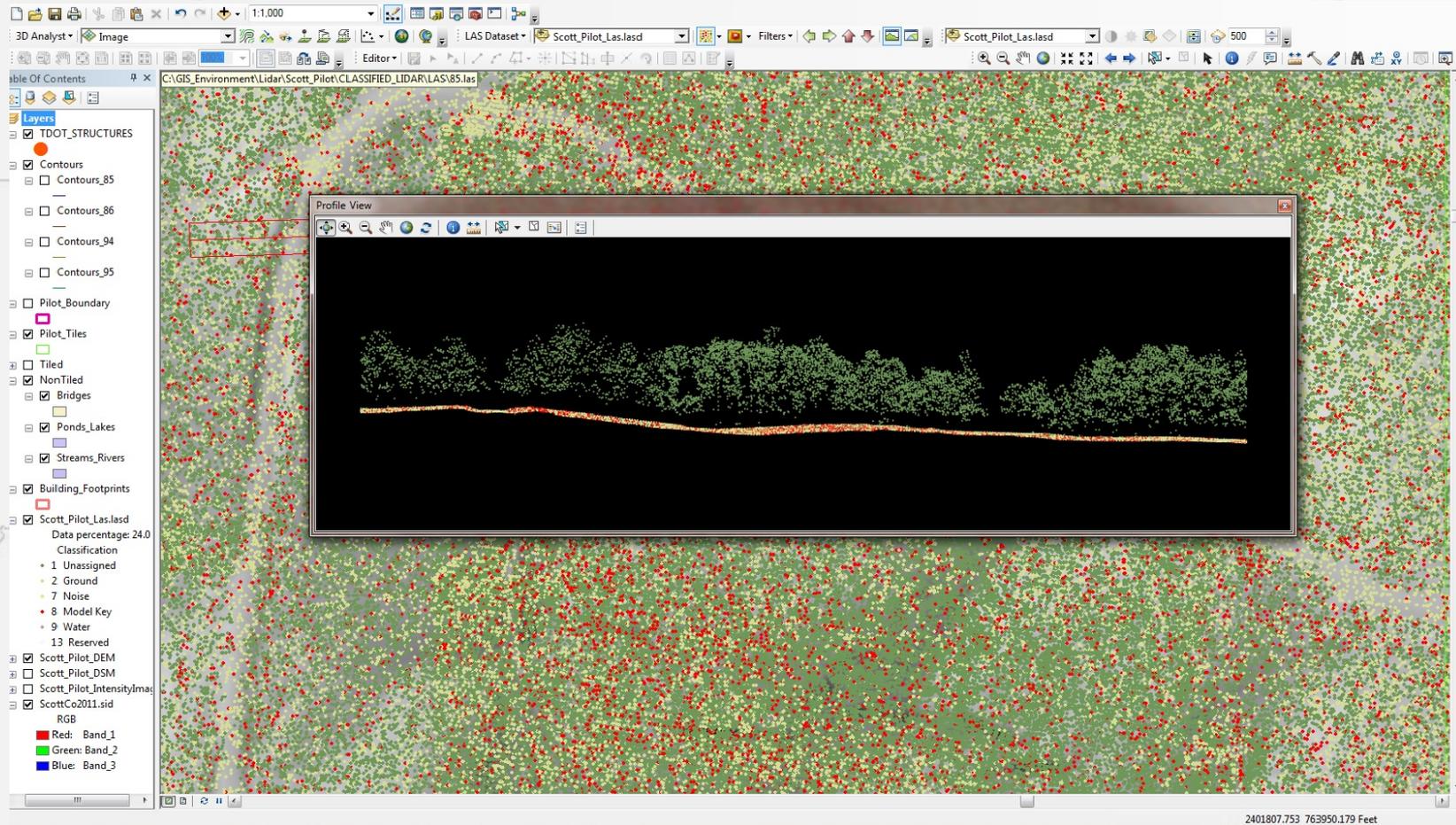


Ortho Imagery





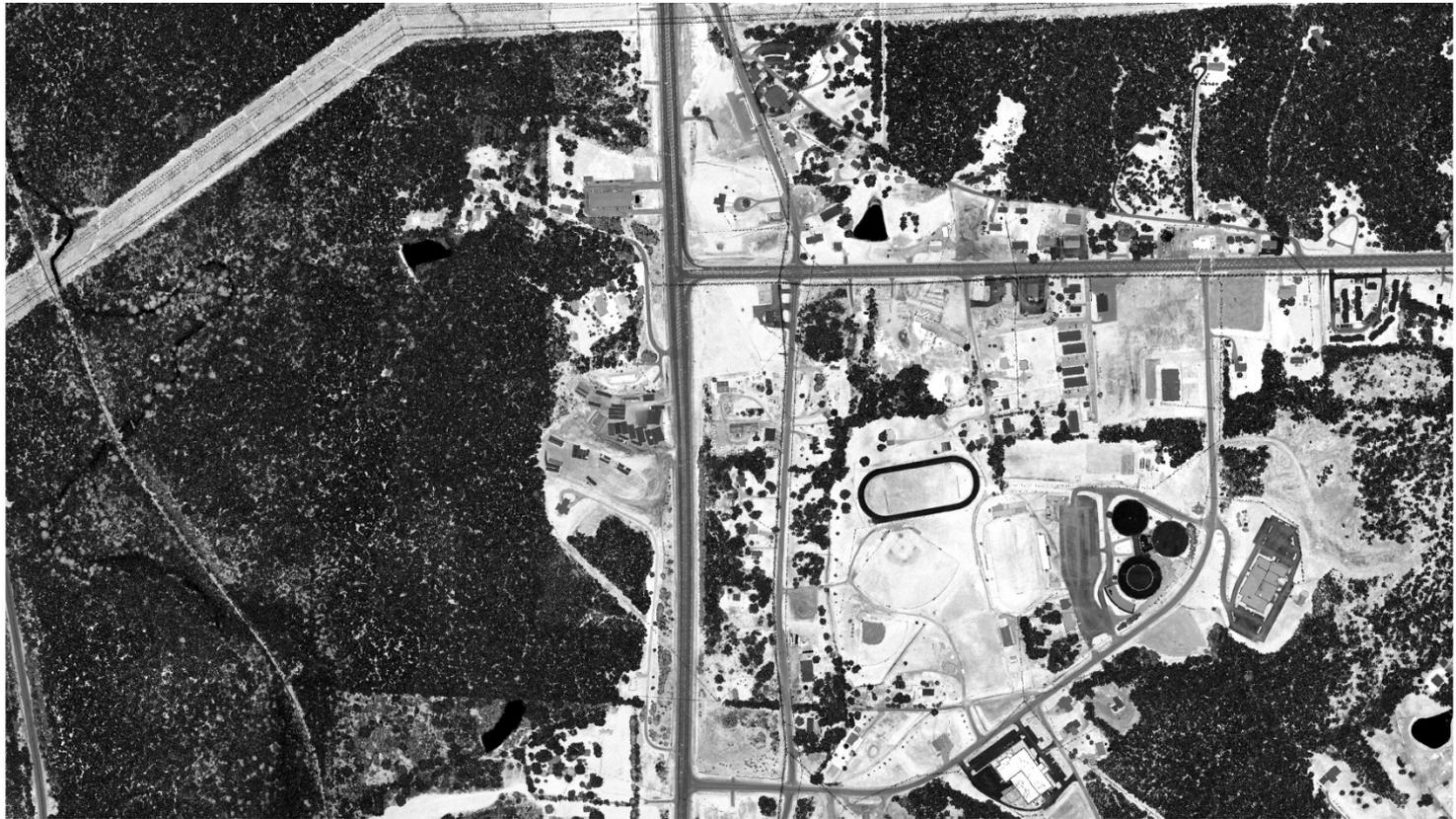
Lidar point cloud and profile view



Digital Elevation Model (DEM)



Intensity Image

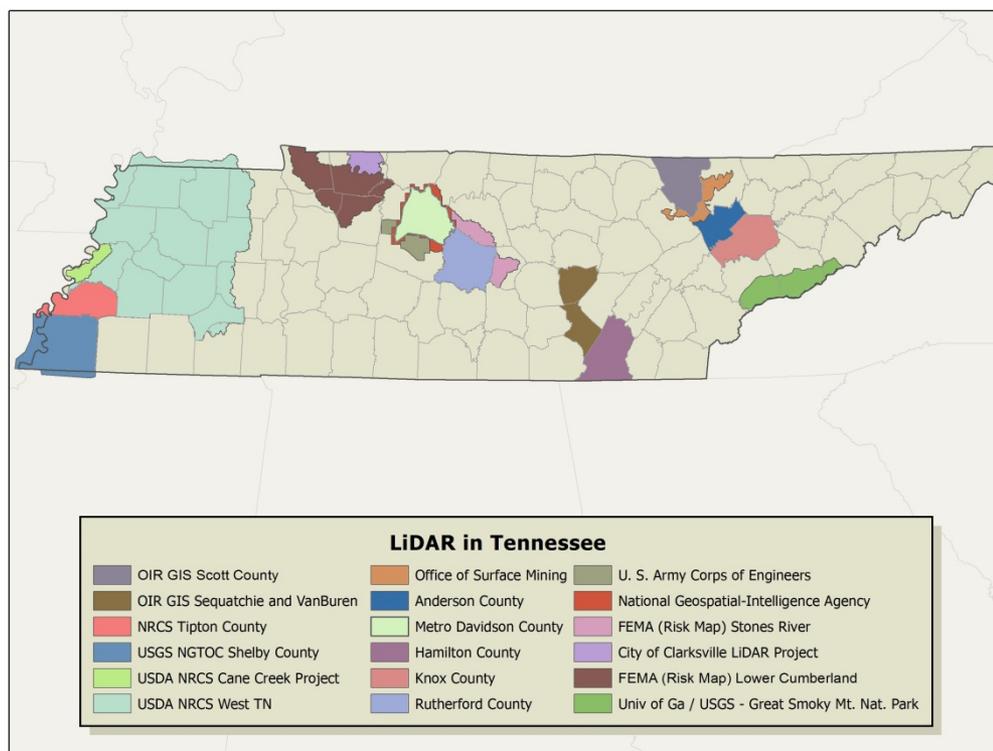


Building Footprints



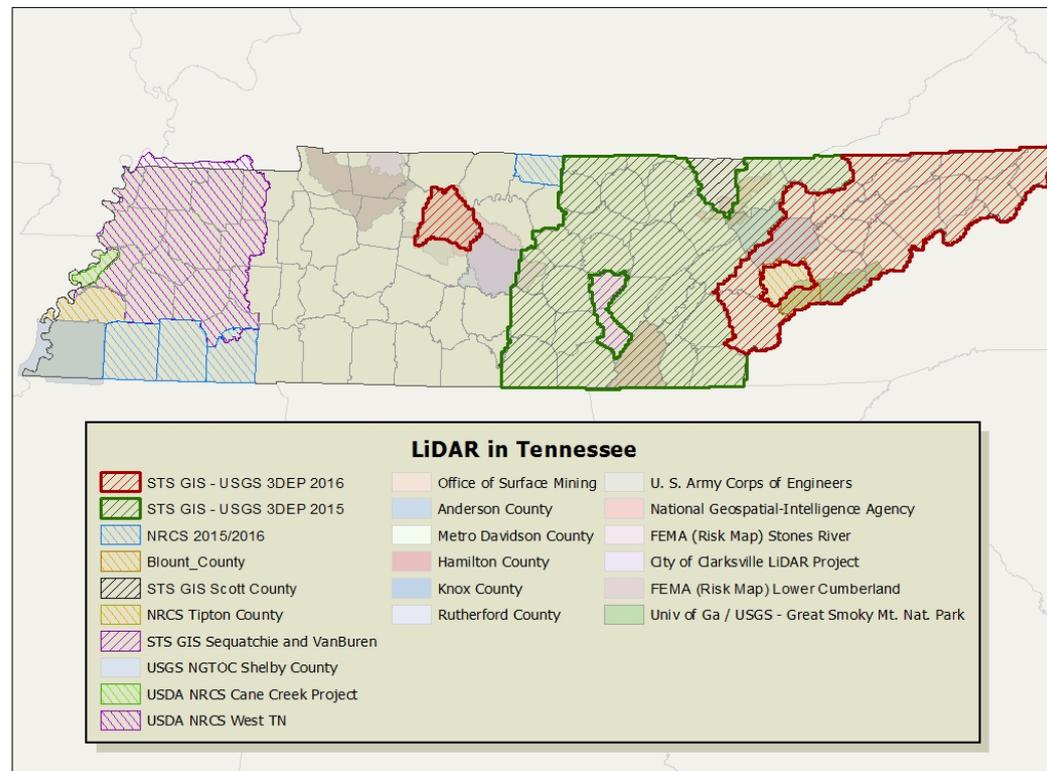
LiDAR in TN Prior to 3DEP

- **Approximately 20% coverage in the state**
- **Estimated cost of remaining 80% is: \$7-8 million**

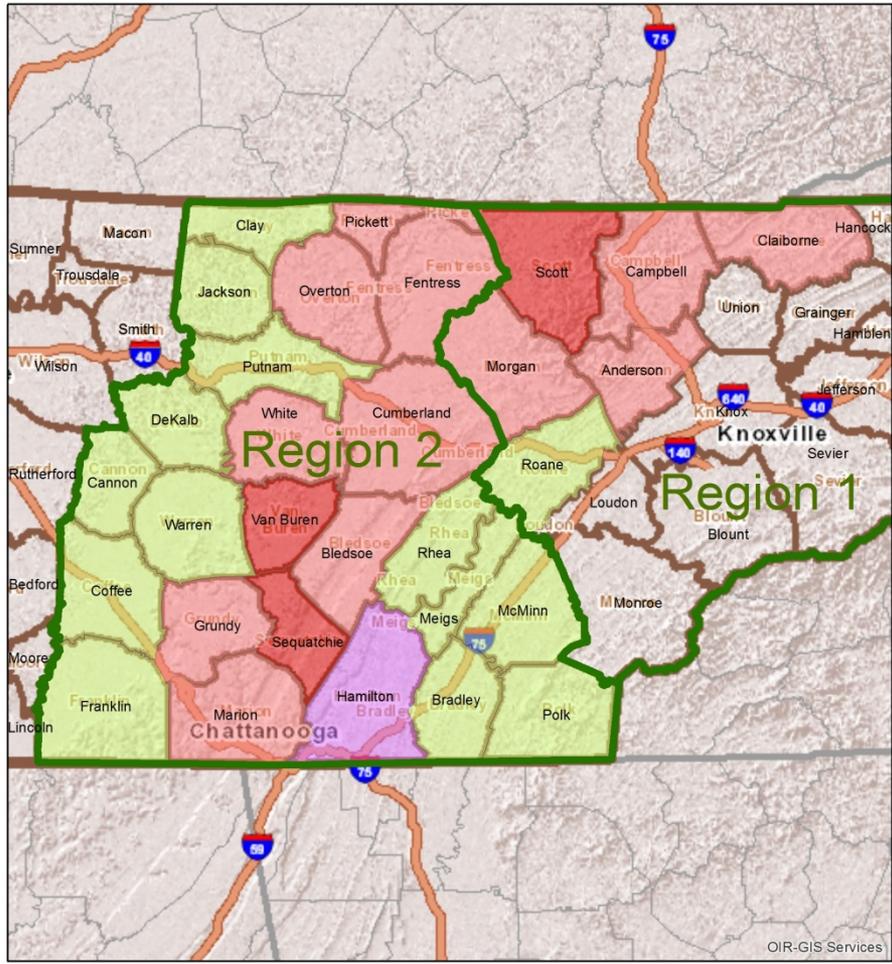


Existing LiDAR Coverage

- **Approximately 65% coverage in the state**
- **Estimated cost of remaining 35% is: \$3-4 million**



Proposed Tennessee 3DEP Counties



	TDOT Region Boundaries
LiDAR	
	Existing QL2 Data
	TVA/Hamilton Co. Area of Interest
	DOI-OSM Area of Interest
	TDOT Area of Interest

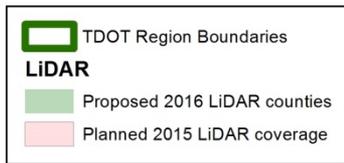
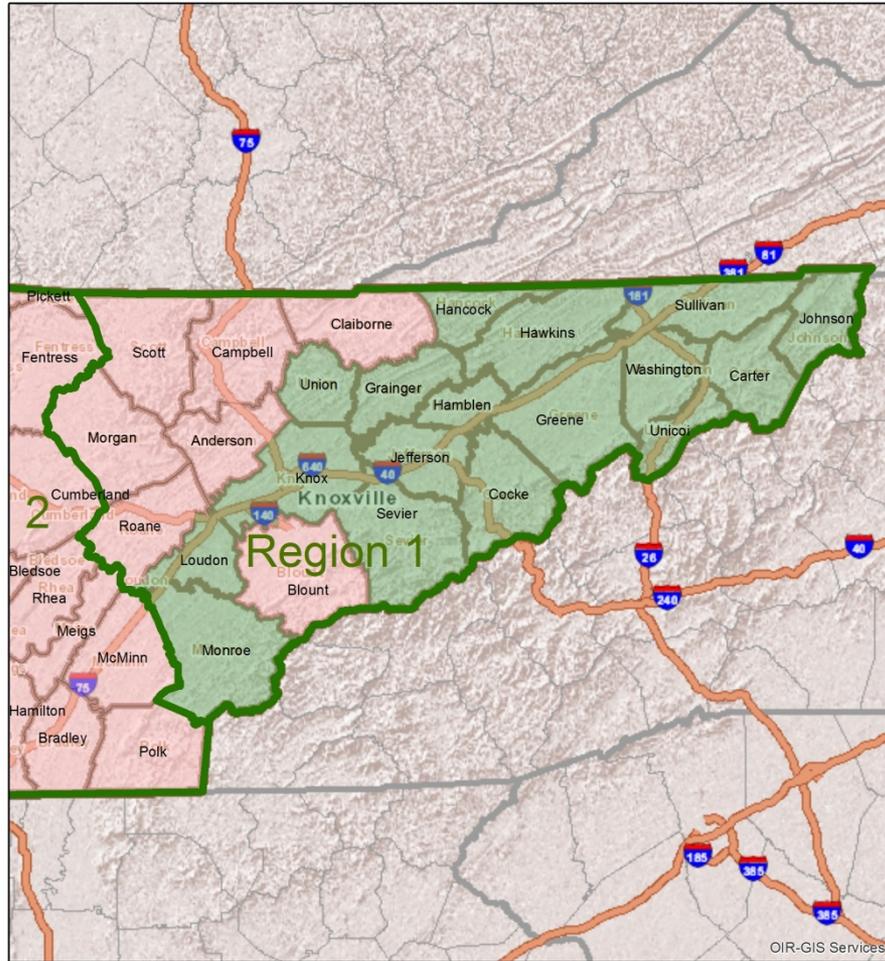


2015 TN 3DEP Partnership Funding Model

- TN Dept. of Transportation – 25% (\$670,000)
- US DOI. – Office Surface Mining – 25% (\$670,000)
- Other government sources – 25%
 - USDA/NRCS – (\$75,000)
 - TVA – (\$50,000)
 - Hamilton Co./City of Chattanooga – (\$71,000)
 - DOE – Oak Ridge Office – (\$25,000)
 - TN Dept. of F&A – OIR-GIS Services – (\$450,000)
 - **USGS 3DEP Funding – 25% (\$670,000)**
 - Estimated 27 county total cost - \$2.7 million



2016 Proposed LiDAR



2016 TN 3DEP Partnership Funding Model

- TN Dept. of Transportation – 30% (\$600,000)
- Other government sources – 40%
 - USDA/NRCS – (\$300,000)
 - TVA – (\$50,000)
- Local government (10) funding - (\$450,000)
- **USGS 3DEP Funding – 30% (\$600,000)**
- Estimated 18 county total cost - \$2.0 million

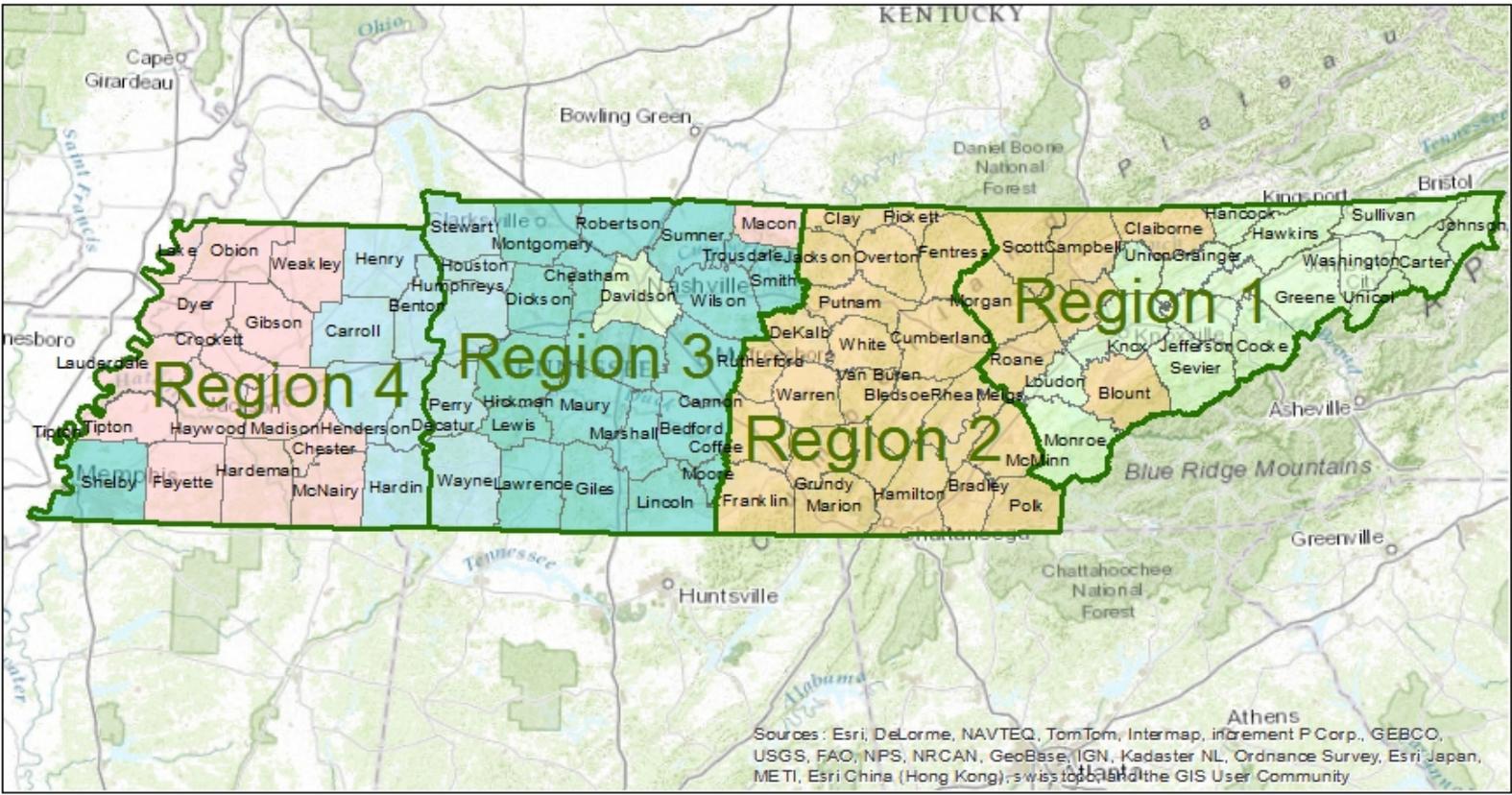


Timeline/Acquisition:

- Leveraging the USGS GPSC contract (Woolpert)
- 2014 USGS Award (Nov. 2014)
 - Missed spring 2015 flying window
 - LiDAR Acquired Dec. 2015 – Jan. 2016
 - Monthly deliveries May – August 2016
- 2015 USGS Award (Nov. 2015)
 - Contract Amendment (Dec. 2015)
 - LiDAR Acquired Feb. – Mar. 2016
 - Monthly deliveries Sept. – Dec. 2016
- 2016 USGS BAA July 2016



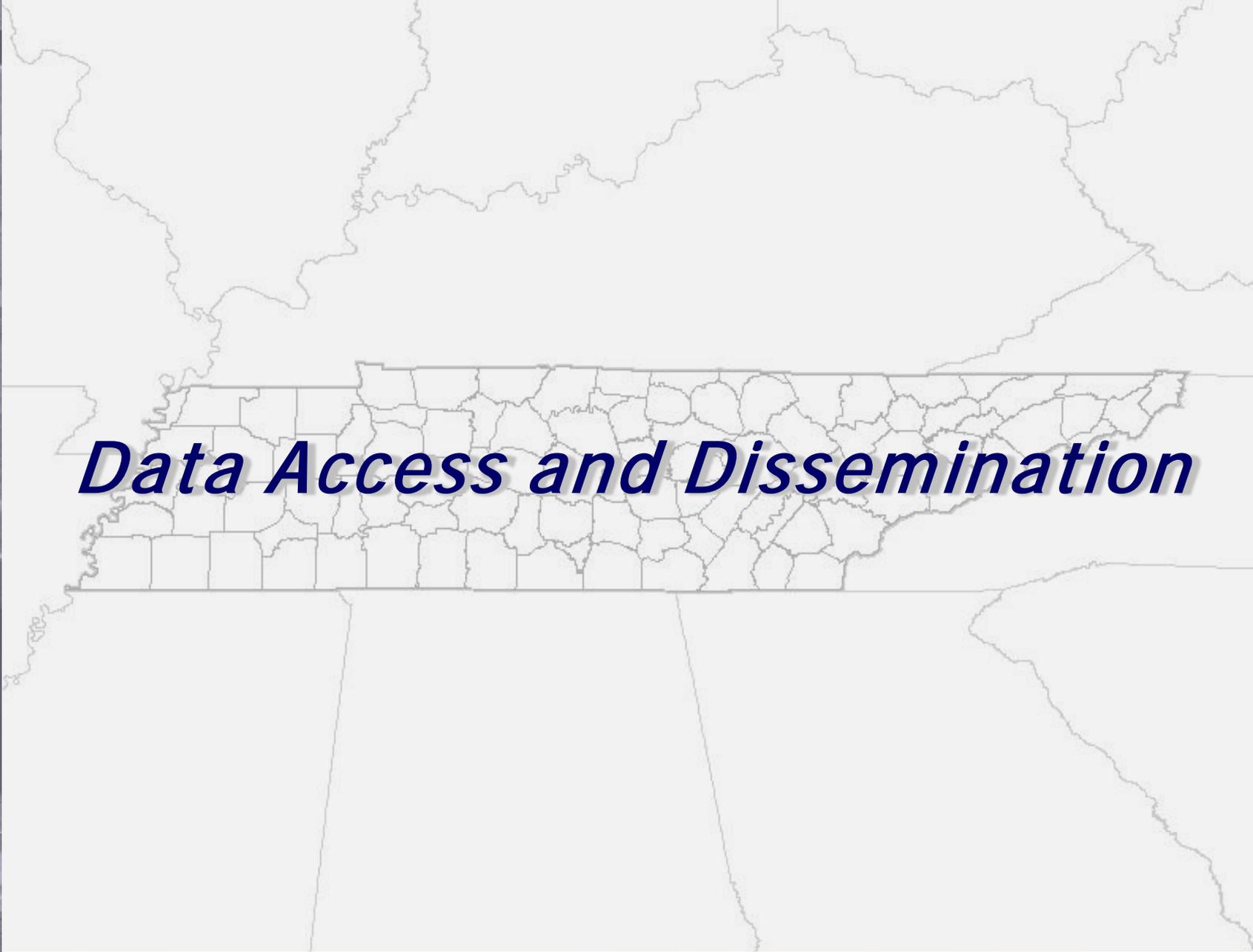
Proposed TN Lidar Acquisition from 2015-2018



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, infrement P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong); swisstopo; the GIS User Community

Legend

- 2015
- 2016
- 2017
- 2018
- Existing or Planned



Data Access and Dissemination





[*http://tnmap.tn.gov*](http://tnmap.tn.gov)

