Indiana Imagery & Elevation 2025-2028 Program

Indiana Geographic Information Office

INDIANAMAP

- Open Data

- Over 450 maps

- Collaboration with state agencies and and other partners

- Access to Free AGOL Community Accounts

DATA HARVEST

Annual Collection of Local Government GIS Data

- Address

- Street

- Parcel

- Administrative Boundaries

- DLGF property tables

- Address Lookup/Geocoder

GIS
DATA
HARVEST
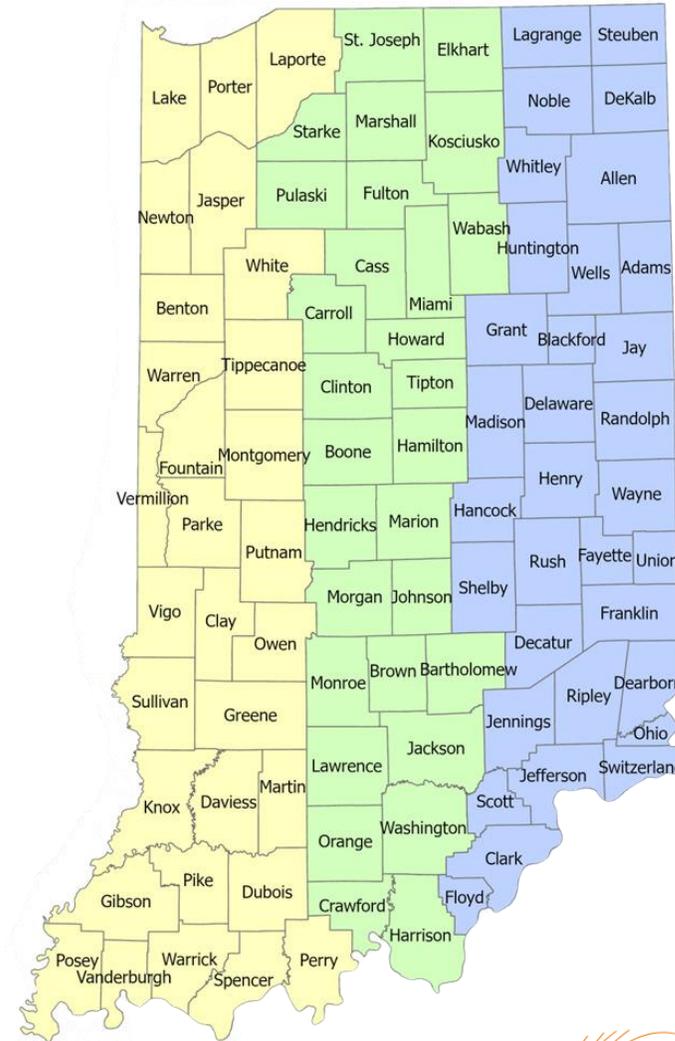PROGRAM

GIS
INDIANA GEOGRAPHIC
INFORMATION OFFICE

INDIANA PROGRAM HISTORY

Orthoimagery

- 2005-2006
- 2011-2015
- 2016-2019
- 2021-2024
- 2025-2028

Lidar

- 2011-2013
- 2016-2019
- 2025-2028

Legend:
- 2025
- 2026
- 2027

Bridge Year **2028**

WHY STATEWIDE IMAGERY AND LIDAR

"State imagery has been invaluable to our organization."

- Local Government

"Elevation data, in the form of Lidar derived products, are the lifeblood of what we do at the Division of Water."

- Indiana DNR

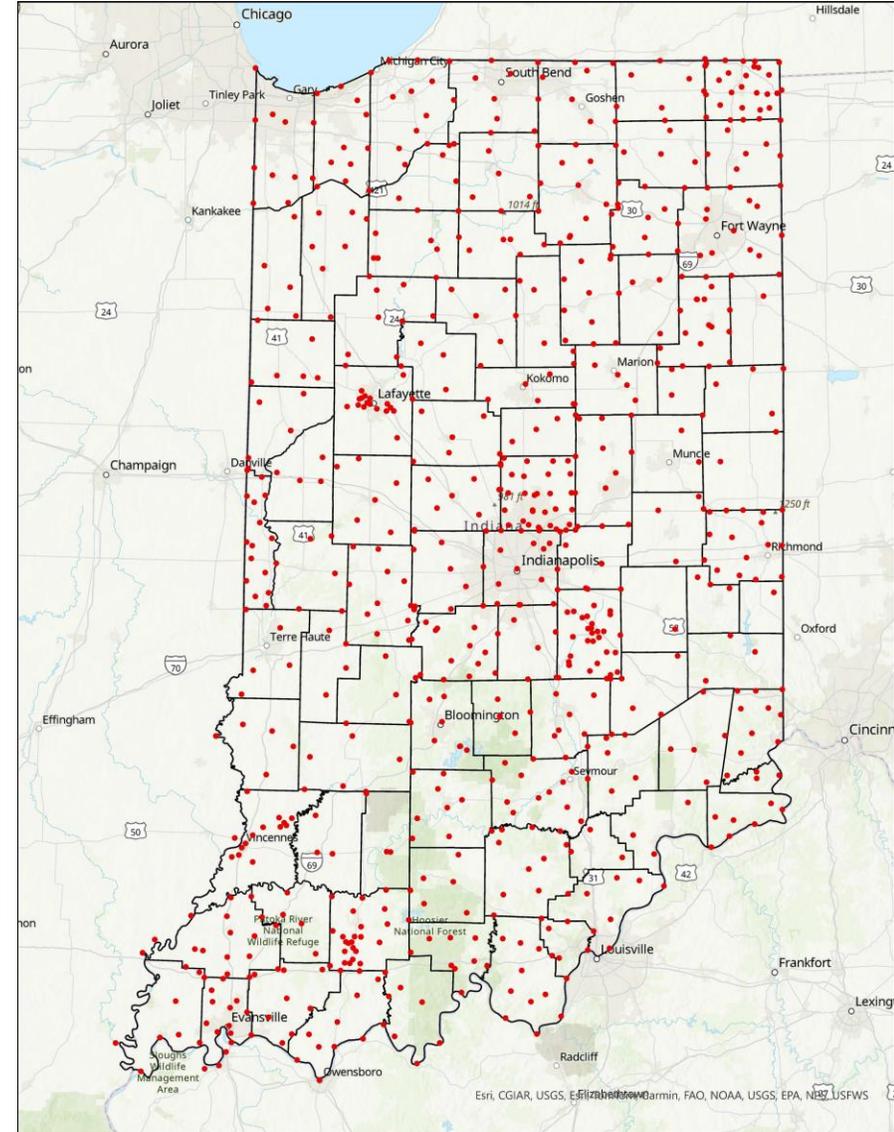"Statewide projects have helped fill in the gaps for years we might have not flown otherwise."

- Local Government

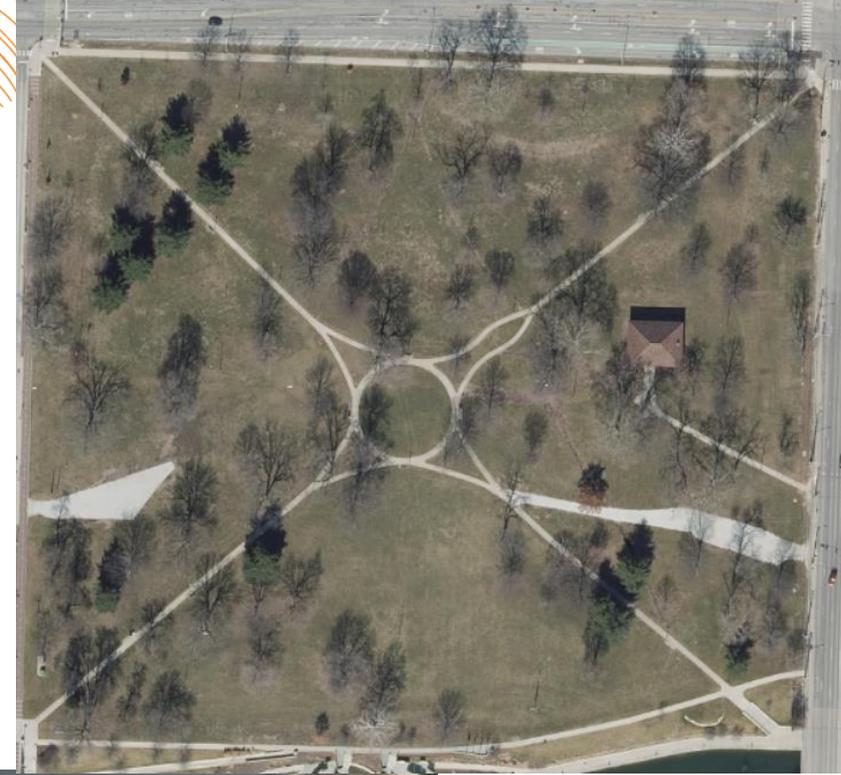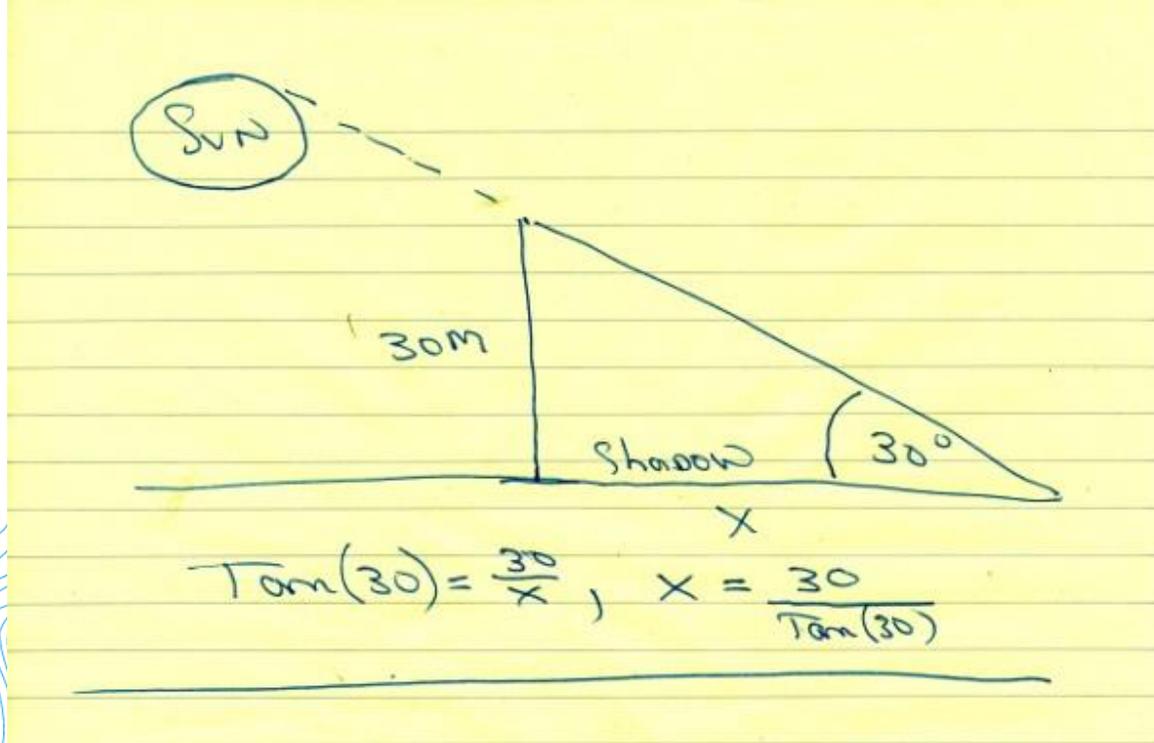INDIANA GEOGRAPHIC INFORMATION OFFICE

ADVANTAGES OF A STATEWIDE PROGRAM

- Authoritative

- Collective Buying Power

- Procurement and Management

- Quality Assurance/Quality Control (QA/QC)

- Reliable schedule

- Available at no cost

Ground Control Points

Sun Angle Requirements

Weather Conditions

Clear Sky – **NO** Clouds

Ground Conditions

Snow free

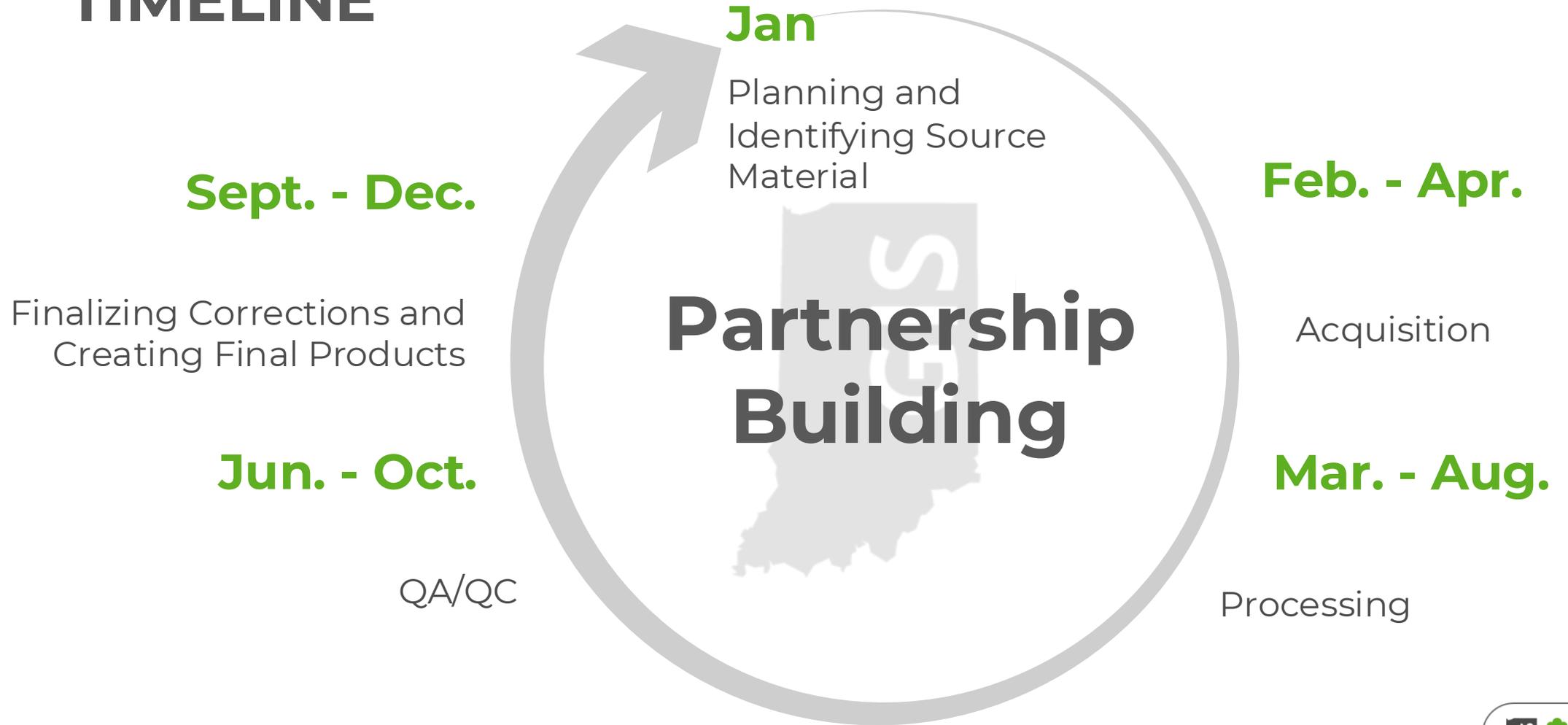Flood free

INDOT AERIAL SURVEY'S QC TEAM

Orthoimagery
- Review seam lines
- Bridge decks
- Tonal balance
- Overall image quality

Lidar
- Bare Earth Digital Elevation Model (DEM)
- Digital Surface Model (DSM)

PROGRAM TIMELINE

Partnership Building

Jan
Planning and Identifying Source Material

Feb. - Apr.
Acquisition

Mar. - Aug.
Processing

Jun. - Oct.
QA/QC

Sept. - Dec.
Finalizing Corrections and Creating Final Products
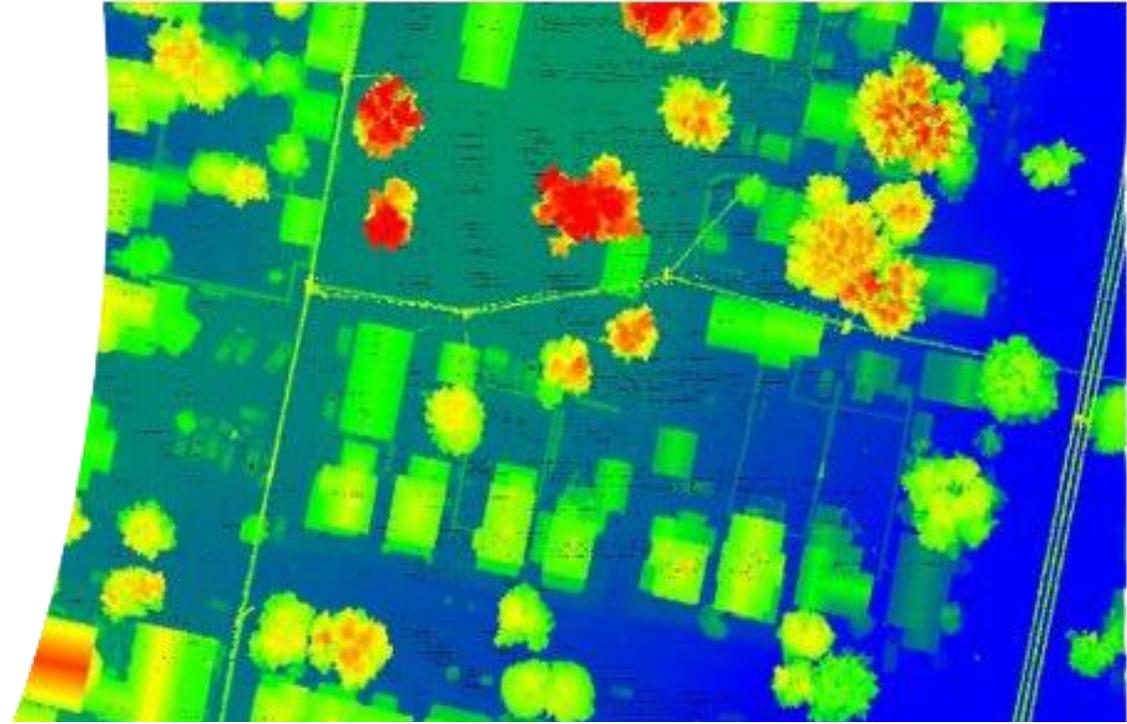
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2025 - 2028 Statewide Program Specifications

Orthoimagery Base Products
- 3-inch (7.5-cm) pixel resolution
- Tile 4 -Band (R,G,B, NIR) imagery

Lidar Base Products
- QL1, 10 vertical cm accuracy at 25 ppsm

GIS
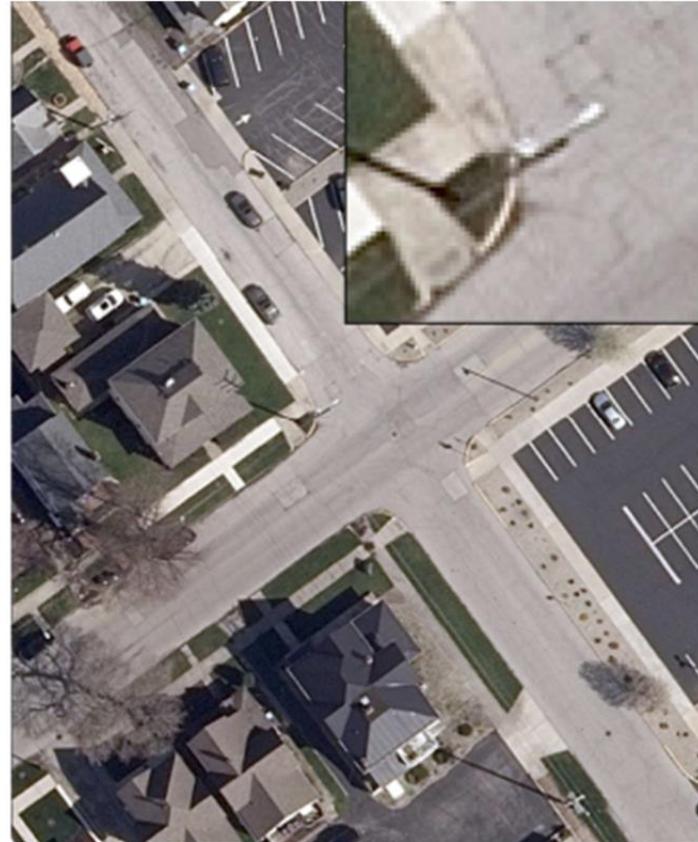INDIANA GEOGRAPHIC INFORMATION OFFICE

BENEFITS OF SIMULTANEOUS COLLECTION

- Improved QA/QC

- Enhanced accuracy of derivative products

- Co-registered, colorized point cloud makes a beautiful 3D point cloud

INDIANA GEOGRAPHIC INFORMATION OFFICE

GOOGLE COMPARED TO INDIANA STATEWIDE IMAGERY PROGRAMS

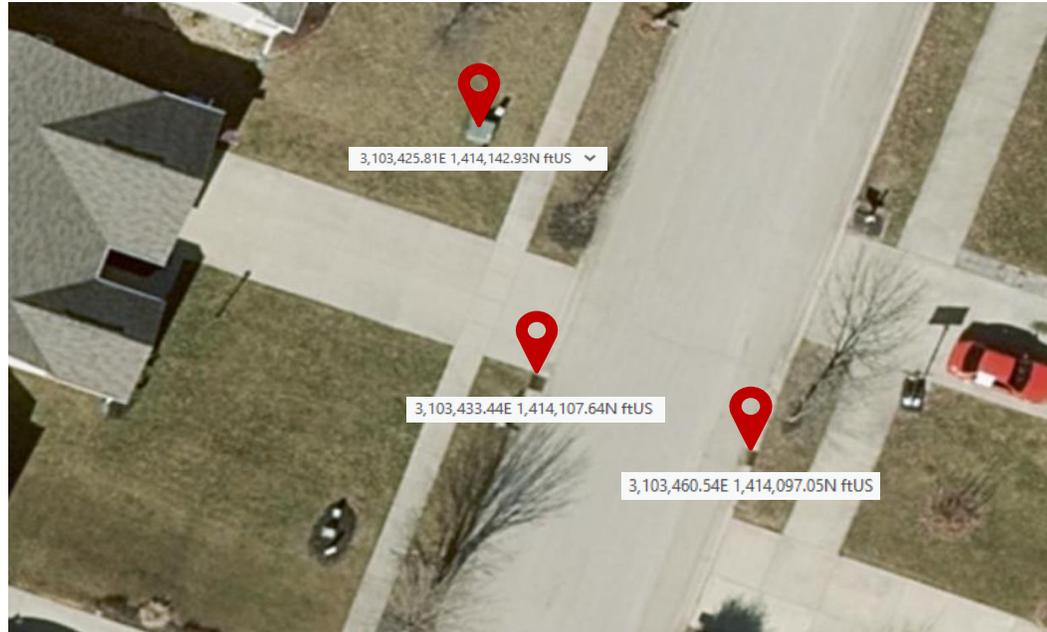**GOOGLE IMAGERY EXAMPLE**

2022 STATE IMAGERY 6-INCH RESOLUTION

2024 STATE IMAGERY 3-INCH RESOLUTION

RELATIVE ACCURACY

Accuracy relative
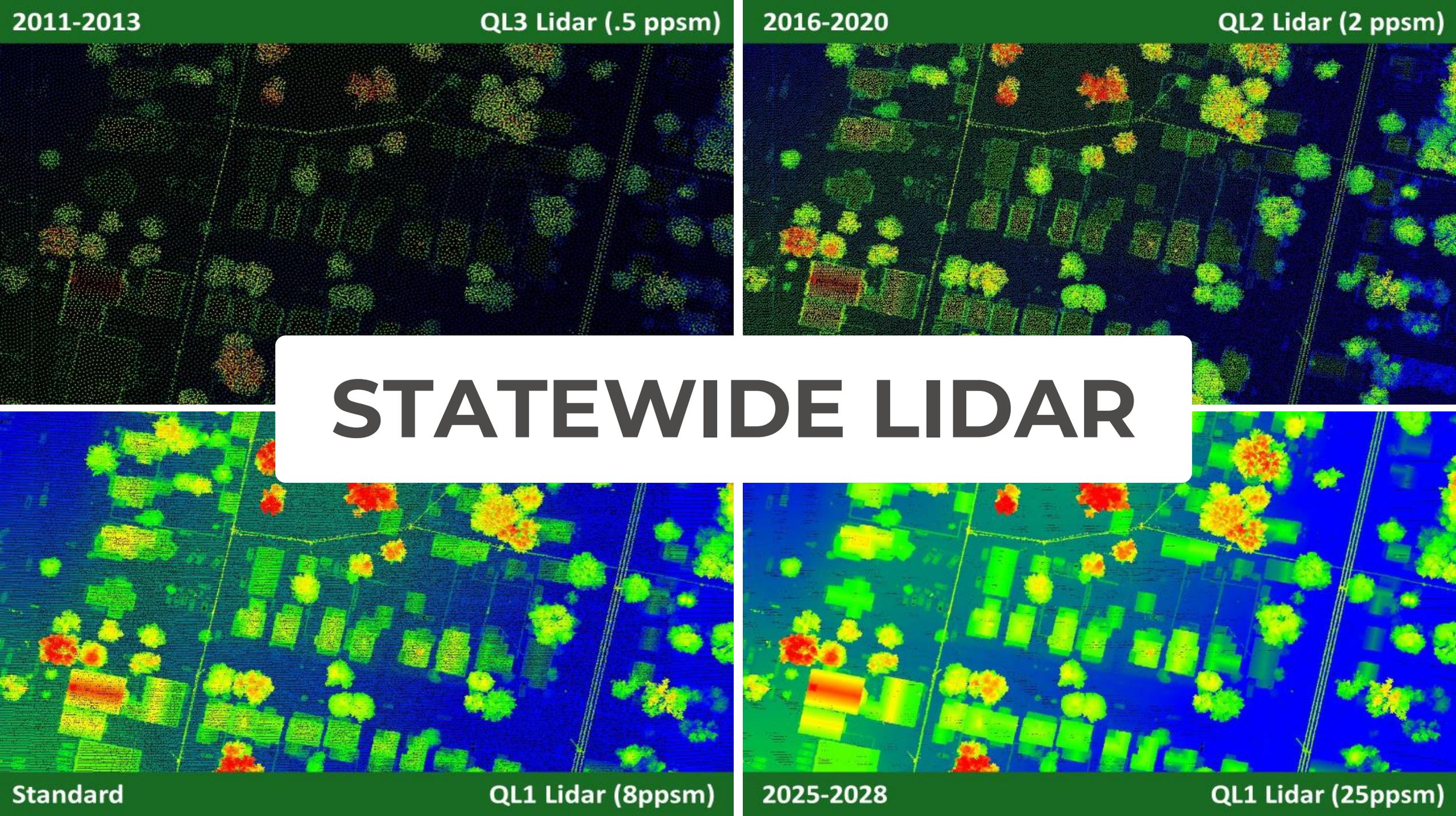to anther location

ABSOLUTE ACCURACY:

Real-world Coordinates
Ground Truth

Vermillion County (3-inch)

Point number	Point location	x (control)	x (test)	diff in x	(diff in x) 2	Y (control)	Y (test)	diff in y	(diff in y) 2	(diff in x)2 + (diff in y)2
6014_2018_IN	Vermilion	2829057.423	2829057.634	-0.211	0.045	1682975.626	1682975.602	0.024	0.001	0.045
6015_2018_IN	Vermilion	2849093.051	2849093.375	-0.324	0.105	1775684.621	1775684.349	0.272	0.074	0.179
8040_2018_IN	Vermilion	2838913.371	2838913.364	0.007	0.000	1739621.882	1739622.435	-0.553	0.306	0.306
8242_2013_IN	Vermilion	2861264.506	2861264.627	-0.121	0.015	1611374.628	1611374.486	0.142	0.020	0.035
							Goal Value	sum		0.884
								average		0.088
							< 0.675	RMSE		0.297
							< 1.2	NSSDA		0.515

PERCEPTION MATTERS:

Image quality influences legitimacy

STATEWIDE LIDAR

2011-2013 — QL3 Lidar (.5 ppsm)
2016-2020 — QL2 Lidar (2 ppsm)
Standard — QL1 Lidar (8ppsm)
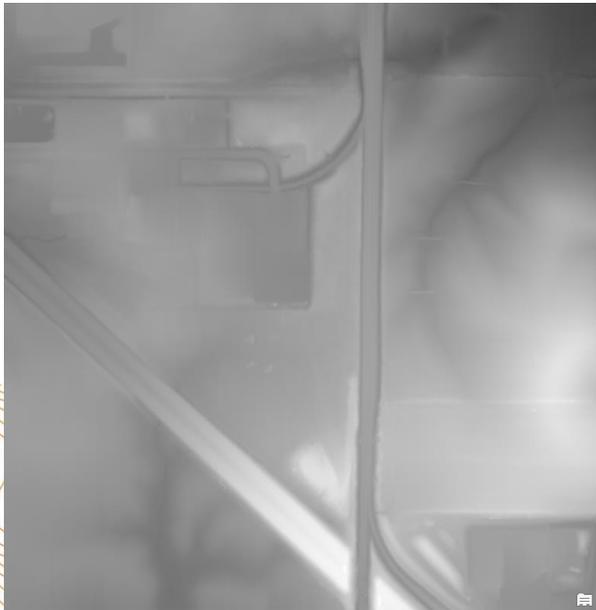2025-2028 — QL1 Lidar (25ppsm)

Lidar Technologies

USGS Quality Level

- Resolution – Point Density
- Accuracy – Vertical Accuracy
- Base Classification
  - Bare Earth (Class 2) – Ground points used for terrain modeling.
  - Water (Class 9) – Points representing water surfaces.
  - Bridge Deck (Class 17) – Points classified as bridge structures.
- Optional Classification
- Building (Class 6) – Points classified as man-made structures
- Vegetation(Class 3, 4, & 5) – Points representing low medium, and high

GIS
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INFORMATION OFFICE
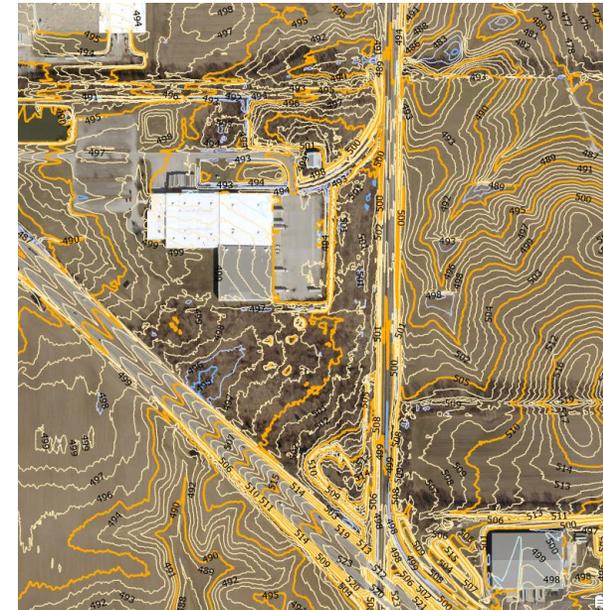
Lidar - Derived Products
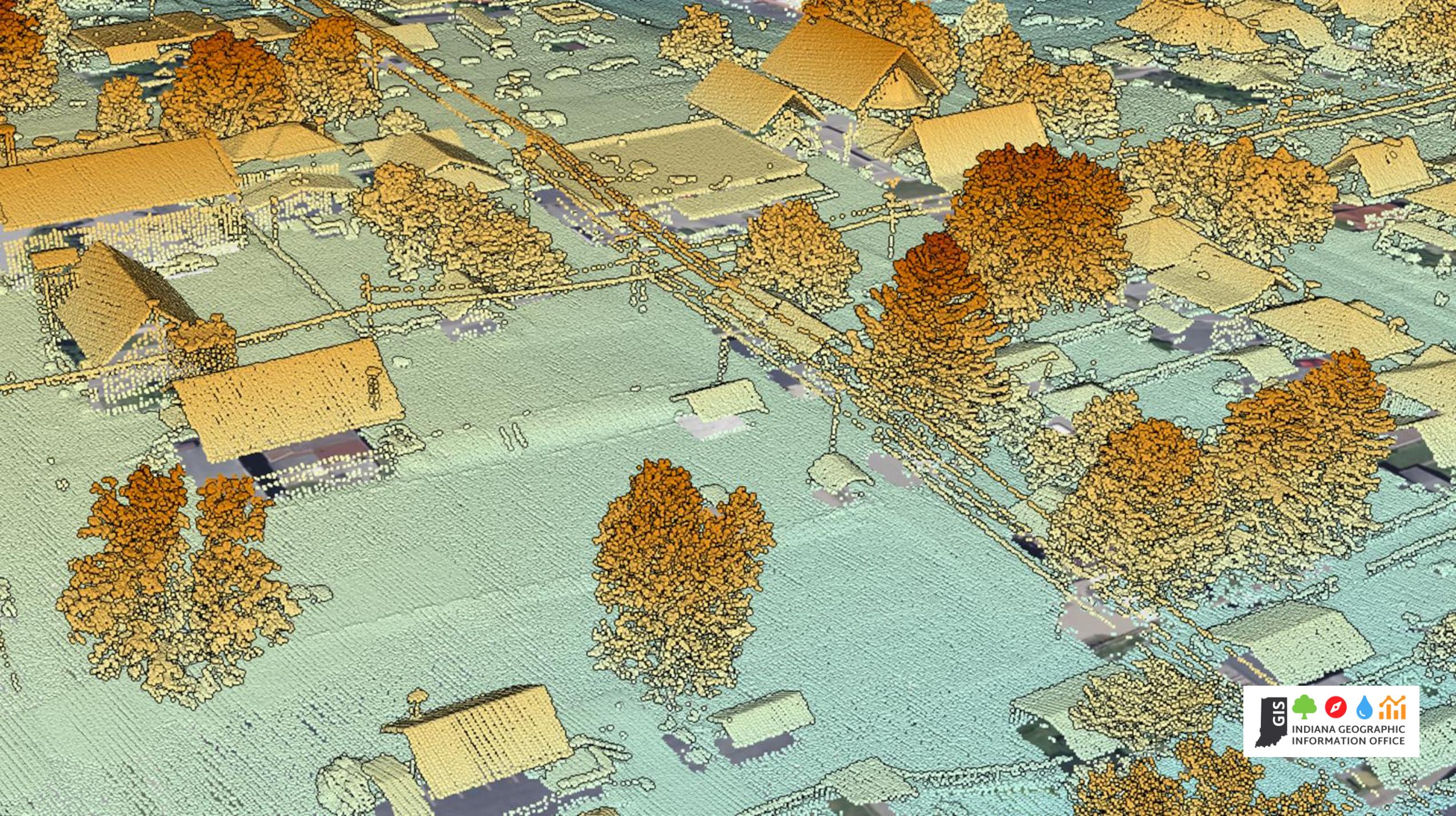
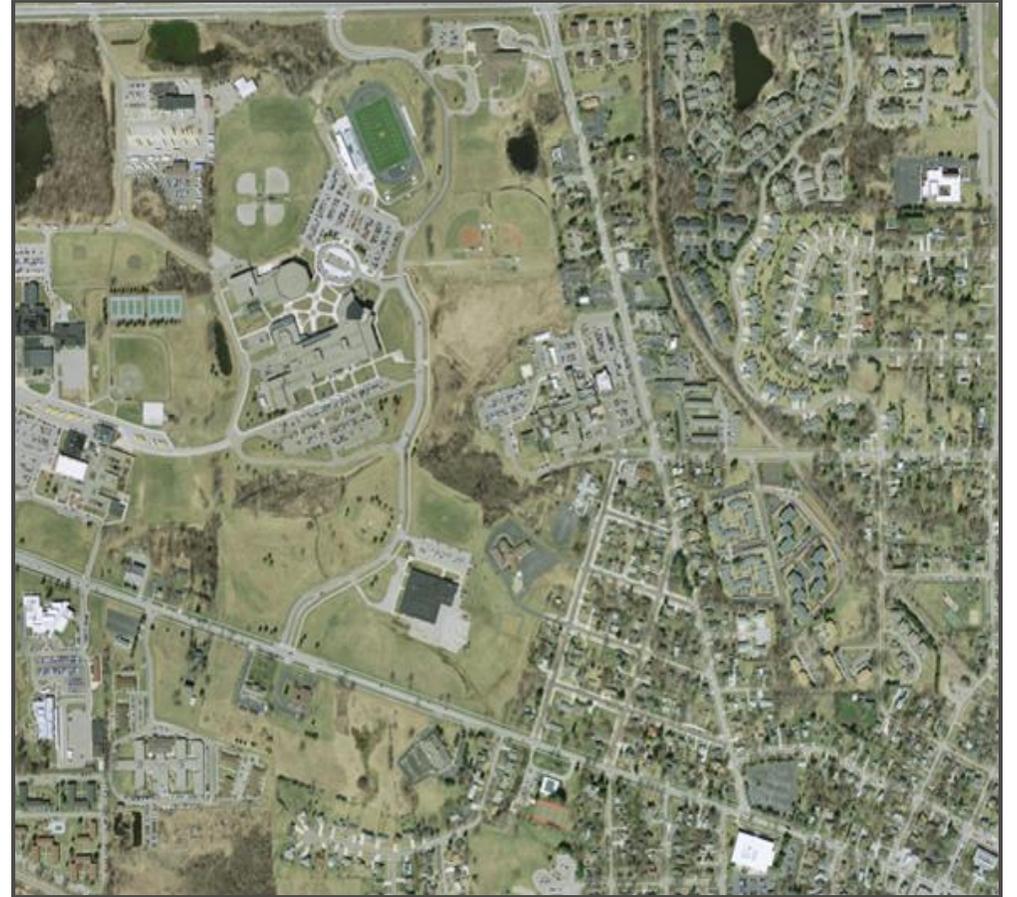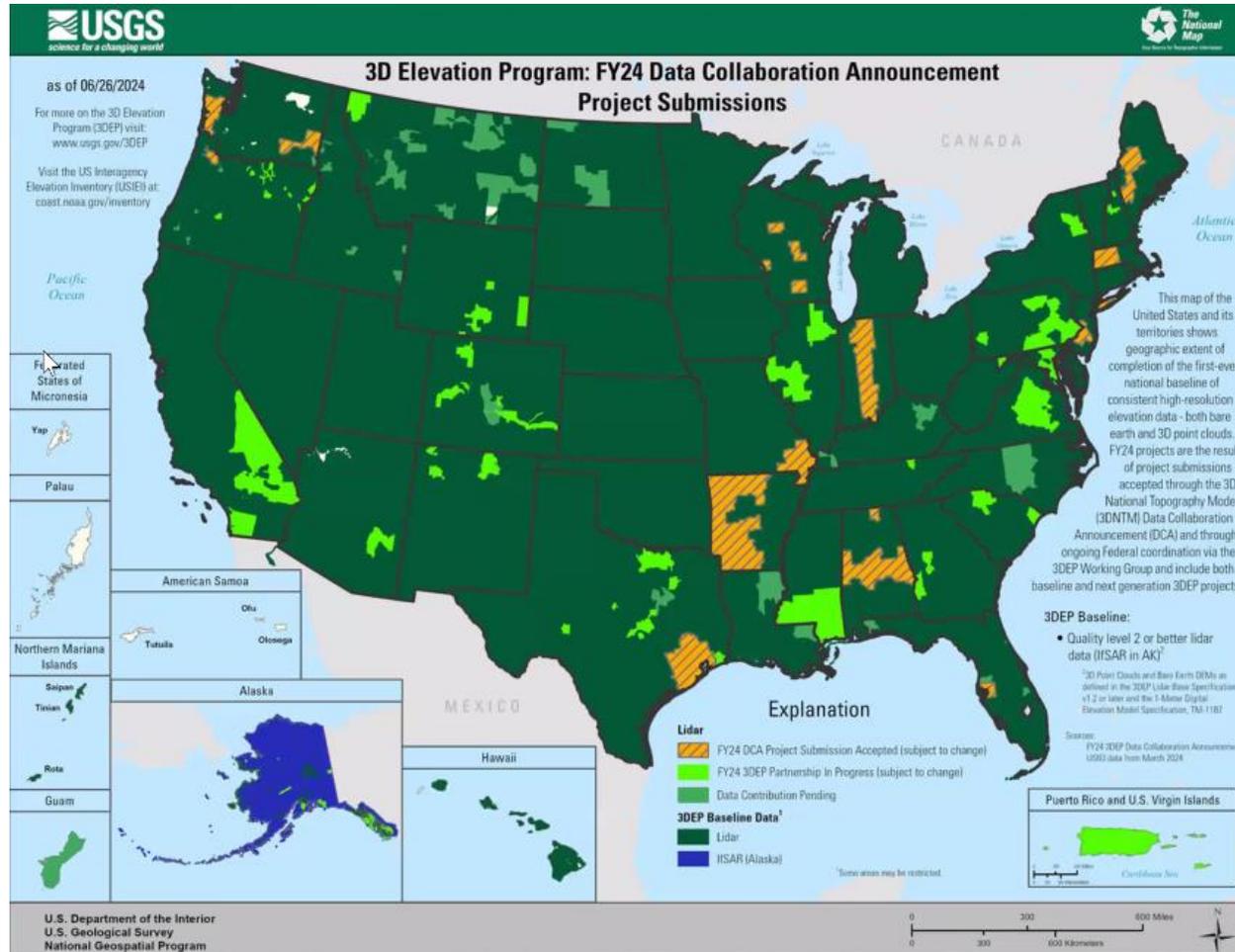Digital Elevation Model (DEM)

Hillshade

Digital Surface Model (DSM)

Contours

PROGRAM PARTNERS

- Local government - Many

- State - INDOT, DNR, IOT

- Federal - USGS, NRCS

- Higher Ed. – IU, Purdue

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USGS 3DEP Program

- Cooperative Agreement

- National Dataset

EASILY ACCESSIBLE

Image services
Open Data

Download
No Cost for the Public

Web Map Applications
IndianaMap.org

Resources

Imagery Resource Page:
https://imagery.gio.in.gov/
 (Note: this site has links to the Imagery REST services, Photo Centers, and Tile Footprints)

Elevation Resource Page:
https://elevation.gio.in.gov/

Orthoimagery and Elevation DEM REST services:
https://di-ingov.img.arcgis.com/arcgis/rest/services/

Indiana Imagery Photo Centers | IndianaMap:
https://www.indianamap.org/maps/b462ca68cae14904a524754b36ea2540/about

Indiana Imagery Tile Footprints:| IndianaMap:
https://indianamap-inmap.hub.arcgis.com/maps/548c94928bd64ac2a7f1ba94d6b4e7f4/about

IndianaMap:
https://www.indianamap.org/

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STAY IN TOUCH

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317-414-0889 - Mobile

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