IndianaMap Resources

Phil Worrall, Executive Director Indiana Geographic Information Council (IGIC) and

Lorraine Wright, Indiana Department of Environmental Management (IDEM)

www.igic.org & www.indianamap.org
IndianaMap Resources

The IndianaMap is...
Indiana’s largest publicly available collection of Geographic Information System (GIS) Data.
Questions for the Audience?

- How many folks here have used the IndianaMap (Viewer, Metadata, Vector data downloads, and/or Web Services)?

- How many folks here have used the Indiana Spatial Data Portal (Raster data downloads and imagery Web Services)?

- How many folks here have used Indiana’s OpenTopography LiDAR Server?

- How many folks here use other GIS web sites like…
  - Local Government web map sites (City/Town or County)?
  - State Government web map sites (IDNR, IDEM, INDOT)?
  - Federal Government web map sites (USGS – TNM / NHD, FEMA, NRCS, FEMA)?

- How many use web map sites like (Google, Bing, ArcGIS.com)?

- How many have Desktop GIS software? (ArcGIS, WTH ThinkMap, etc…)?

Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships
1. Introduction to IGIC, the IndianaMap and how it works.

2. Selected IndianaMap GIS Initiatives
   - IGIC - Boundaries, Cadastral, PLSS Workgroup (Lorraine Wright, IDEM)
   - IndianaMap County Data Sharing initiative
   - Statewide Orthophotography-LiDAR data
   - Local-Resolution National Hydrography Data Development
   - ISDP & IndianaMap resources & ArcGIS.com
   - Indiana OpenTopography Server

3. What’s Next?
What is IGIC?

• IGIC is a nonprofit 501(c)(3)
• IGIC is a membership organization
• IGIC is administered by an elected board of directors
• IGIC is the statewide coordinating body for Indiana geographic information

Our Mission:

To lead the effective application of geographic information in Indiana
Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships.

**IGIC Organization Committees**
- Executive Committee
- Finance Committee
- Elections Committee
- Communication Committee
- Recognition Committee
- Membership Committee
- Conference Committee
- Education Committee
- Legislative Committee
- Indiana GIS Response Corps

**IndianaMap Framework Data Workgroups**
- IndianaMap “Steering” Committee
- Data Sharing Committee
- Data Integration Workgroup
- Streets and Addresses Workgroup
- CAD/GIS Integration Workgroup
- Orthophotography Workgroup
- Boundaries-Cadastre-PLSS Workgroup
- IGIC / ISPLS Geodetic Control Workgroup
- Waters Workgroup
- Elevation Workgroup
- Utilities Workgroup

**IGIC - Committees & Workgroups**
How GIS in Indiana Works?
(The BIG Picture)
The IndianaMap is a portfolio of projects that involve the collaborative efforts of federal, state, and local partners. The purpose of these efforts is to acquire, improve, and deliver a wide variety of Geographic Information Systems (GIS) data for Indiana.

The IndianaMap provides a viewing tool that can be used to view and query more than 220 layers of GIS data through the web. The available data include aerial photographs, land cover, reference layers, and layers related to infrastructure, demography, environment, hydrology, and geology.

The objectives of IGIC are to provide for the coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, building partnerships, and the IndianaMap.
Selected IndianaMap GIS Initiatives

- IGIC – Cadastral, Boundaries PLSS Workgroup Initiatives...
- IndianaMap County Data Sharing Initiative............
- 2011 – 2013 & 2014 Ortho & LiDAR Program......................
- Local-Resolution National Hydrography Data Dev...........
- IndianaMap and the Indiana Spatial Data Portal............... 
- Indiana’s OpenTopography LiDAR Server...........
- What’s Next........................................
Selected IndianaMap GIS Initiatives

IGIC – Cadastral, Boundaries PLSS Workgroup Initiatives...

Lorraine Wright, IDEM

{LINK}
Selected IndianaMap GIS Initiatives

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- IndianaMap County Data Sharing Initiative............

- 2011 – 2013 & 2014 Ortho & LiDAR Program................

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- What’s Next...........................................
The IndianaMap County Data Sharing Initiative

- Began with a letter of invitation sent to all County Commissioners in summer of 2008

- Letter requested that counties participate in the IndianaMap (www.indianaMap.org) by sharing 4 GIS data layers (parcels, point addresses, street centerlines and jurisdictional boundaries)

- Transfer technology = Use Open Geospatial Consortium (OGC) Web Feature Services (WFS)
Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships.

Collaborators:
- United States Geological Survey (USGS)
- State GIS Center of Excellence (CoE)
- Indiana Department of Transportation (INDOT)
- Department of Local Government Finance (DLGF)
- Indiana Geological Survey (IGS)
- State Data Center, State Library
- Indiana Business Research Center (IBRC)
- IndianaView Consortium
- University Information Technology Services, Indiana University
- Coalition of Universities for Spatial Information Sciences (CUSIS)
- Indiana Department of Homeland Security (DHS)
- Indiana Geographic Information Council (IGIC)
- Geographic Information Office (GIO), Indiana Office of Technology

Direct Connect Users
- State Image Library
- Work Areas
- SDE Library

State Apps
- UITS SDE Ortho Imagery
- IGS State Library Replication

IDHS Apps
- Indiana Map Cache
- WMS Services
- Indiana Map Viewer
- Public Download

 county data

Federal Data

State Data

IndianaMap IFI Public Access Point

IBRC

State Data Center
Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships.

Current

90*

*Except: Marshall, & Boone
Example of Parcel Data

http://bit.ly/1bcATBw

Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships
- 5,039 Jurisdictional Boundaries
- 584,953 Street Centerlines Segments
- 2,639,597 Point Addresses
- 3,058,314 Land Parcels

These data can be viewed and copies obtained from IndianaMap.
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Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships
3-year cycle, administered through Indiana Office of Technology, State Geographic Information Officer

**Base Products ($4.6 million)**

- 1’ Pixel Resolution – 4-Band Imagery
- USGS-compliant, 1.5 meter post-spacing LiDAR
- Digital Elevation Model

**Available Buy-up Options**

- 6”-inch Resolution Ortho
- 3”-inch Resolution Ortho
- 1-meter post spacing LiDAR
Orthoimagery: Base Resolution 12-inch
Orthoimagery: Optional Resolution 6-inch

Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships
Orthoimagery: Optional Resolution 3-inch
LiDAR Deliverables

- Filtered raw LiDAR data (point clouds) in LAS v1.2 format
- LiDAR bare earth data, first, last return data, intensity in LAS v1.2 format
- Hydro Breaklines in ESRI format
- Hydro Flattened DEM data delivered in ERDAS Imagine .IMG
- 5,000 X 5,000 tiles
Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships.

LiDAR Hillshade from 2011 -2013 Program

http://bit.ly/1gokPKH
Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships.

LiDAR

Improvements in resolution

30 m DEM

10 m DEM

1.5 m DEM

SW of Martinsville, Indiana

Slide Courtesy of Todd Thompson @ Indiana Geological Survey
Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships.

Celebrating 175 years of Indiana geology in 2012.
Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships.

Slide Courtesy of Todd Thompson @ Indiana Geological Survey

3,200 versus 8 pts
LiDAR in Karst Areas

Celebrating 175 years of Indiana geology in 2012
Delaware County, near SR 3 and SR 35/28, Drive-in-Theatre

Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships.
Hamilton County, SR 27 and 216th Street, Purgatory Golf Club

Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships.
The primary image on the Indiana Geological Survey's 2013 calendar displays both relict and modern-day stream channels of the East Fork of the White River just south of the confluence of the Driftwood and Flatwood Rivers near Columbus, Indiana.

Cartographers at the Indiana Geological Survey created this image using the new statewide LiDAR elevation and intensity data with Esri ArcGIS software. A 21 by 33 inch full-color calendar printed on heavy poster paper is available for $5 from the Indiana Geological Survey Bookstore.

http://markup.woolpert.com/ [video]
Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships.

Lake County, Kankakee River Slope Map derived from DEM.
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Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships...
National Hydrography Dataset

• Surface water component of the National Map
National Hydrography Dataset

- Vector data for mapping and modeling
  - watersheds
  - streams, rivers, canals, ditches
  - lakes, ponds, reservoirs, marshes
  - streamgages
  - other features
National Hydrography Dataset

- Can be used in GIS for general mapping and analysis of surface-water systems
- Can be used in CAD as planimetric basemap data
National Hydrography Dataset

• Enables the modeling of water flow in GIS applications
National Hydrography Dataset

- Indiana data stewardship is responsibility of State GIO
- partnership with IGIC

Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships.
Project to Improve Indiana’s NHD

Correct & Upgrade NHD to Local Resolution

• Use 2005 and newer Orthophotography and LiDAR to correct the existence and the locations of physical features
• Data would be at scale of 1:2,400 or 1:1,200 and aligned to 2005 IndianaMap Orthophotography or better
• Inconsistencies between USGS quadrangles will be removed
• Naming of features will be improved
• Network connectivity and flow direction will be improved
• Result in statewide water flow model of 2005 or later water features, ensuring connectivity and modeling across community boundaries
• Statewide stream addressing system with linear referencing
Improving Indiana’s NHD

Strategy to Correct Errors and Upgrade the NHD

1. Correct GNIS name errors in High-Resolution NHD (2011)

2. Create local-resolution NHD

3. Load local resolution data into the national database, includes network topology for modeling

4. Load flowlines and waterbodies datasets into the IndianaMap for use and download
NHD Upgrade Project Status

Phase 1 - 16 Subbasins (green)
- Currently underway
- Funded by Indiana Office of Community and Rural Affairs, Disaster Recovery Funds
- Complete 2014

Phase 2 – 9 Subbasins (pink)
- Begin late fall 2013
- Funded by GLI funds & USGS

Phase 3 – 15 Subbasins (red)
- Funding by USGS & OCRA
Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships.

Number of 24K NHD Features:
- Flowline – 2,177
- Waterbody – 2,571

INDIANA 24K NHD - UPPER EEL SUBBASIN

NHD – Before
Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships.

NHD – After

Number of Local Resolution Features:
- Flowline – 47,821
- Waterbody – 3,350
Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships.

Results: Increase in the Number, Alignment, Accuracy and Currency of Water Features

- High-Res in RED
- Local Res in BLUE

- 49% increase in acres of waterbodies
- 134% increase in acres of areas
- 409% increase in miles of flowlines
Improving Indiana’s NHD

Example of improved alignment

Existing High Res NHD in **RED**

Improved NHD **YELLOW**

[Live]  [Video]

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Our Cornerstone Initiative is the IndianaMAP

One Map for Indiana
It’s Statewide
It’s Regional
It’s Local
It’s Yours!

ONE MAP FOR INDIANA

Enable improved government service to citizens, and an enhanced ability for citizens to stay informed and to engage in the democratic process.
Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships.
The IndianaMap Spatial Data Portal

Welcome to gis.iu.edu

The Indiana Spatial Data Portal (ISDP) provides access to more than 30 terabytes of Indiana geospatial data. Most datasets are available to the public for download and have no use restrictions. Indiana University’s (IU) high performance networks and computing infrastructure support the ISDP which archives and provides web access to imagery provided by data partners within and outside IU. To learn more about discovering, downloading and viewing data from the ISDP, see the ISDP tutorials.

Available statewide datasets include aerial photos, topographic maps, LiDAR and elevation data, and Sanborn historic maps. In addition, the ISDP hosts several local datasets for Allen, Bartholomew, Boone, Dearborn, Gibson, Hamilton, Hancock, Hendricks, Johnson, Marion, Monroe, Morgan, Posey, Shelby and Wayne Counties.

This web site connects to Indiana University’s Scholarly Data Archive (SDA) which provides long-term, disaster-tolerant data archival and distribution capabilities to hundreds of terabytes of IU data. The SDA archives data on tapes. When downloading files please be aware that you may experience a short delay (20 seconds to 1 minute) before the download begins. During this time a robotic system is locating and mounting the tape and transferring your file from tape to spinning disk.

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The IndianaMap Spatial Data Portal

http://gis.iu.edu

Hosted by Indiana University - UITS

Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships.
Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships

The IndianaMap Spatial Data Portal

http://gis.iu.edu

Hosted by Indiana University - UITS
Welcome to IndianaMap

IndianaMAP is the largest publicly available collection of Indiana geographic information system (GIS) map data. It is made possible by an alliance of partners from federal, state, local organizations and agencies, and universities. You can:

- View the Map
- Data and Resources
- Initiatives
- Partners

Important Links
- Indiana Geological Survey
- Indiana Spatial Data Portal
- Indiana Geographic Information Council

Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships.
Over 260 Layers on the IndianaMap from over 25 Data Contributors

- Indiana Department of Transportation (INDOT) – 14 layers
- Indiana Department of Natural Resources (IDNR) – 9 layers
- Indiana Department of Environmental Management (IDEM) – 22 layers
- Indiana Office of Technology (IOT) – Geographic Information Office (GIO) – 5 layers
- Indiana Geological Survey (IGS) – 63 layers
- Indiana Department of Commerce – 4 layers
- Indianapolis Mapping and Geographic Infrastructure System (IMAGIS) – 1 layer
- Indiana Geographic Information Council (IGIC) – 3 layers
- Indiana Business Research Center (IBRC) – 2 layers
- Indiana Election Division – 2 layers
- Indiana Utility Regulatory Commission (IURC) – 1 layer
- Federal Emergency Management Agency (FEMA) – 4 layers
- National Oceanic and Atmospheric Administration (NOAA) – 2 layers
- National Park Service (NPS) – 2 layers
- National Resource Commission (NRC) – 1 layer
- U.S. Census Bureau (USCB) – 23 layers
- U.S. Environmental Protection Agency (EPA) – 5 layers
- U.S. Geological Survey (USGS) – 23 layers
- U.S. Department of Agriculture (USDA) – 15 layers
- Bureau of Transportation Statistics (BTS) – 6 layers
- U.S. Fish and Wildlife Service (USFWS) – 4 layers
- U.S. Forest Service (USFS) – 2 layers
- Federal Communications Commission (FCC) – 1 layer
- Bernardin, Lochmueller, and Associates, Inc. – 4 layers
- Environmental Systems Research Incorporated (ESRI) – 1 layer
DATA – Download GIS data for Indiana
- IndianaMap Layer Gallery
- IndianaMap Open Topography (Indiana LiDAR data)
- Indiana Spatial Data Portal
- IndianaView

GIS RESOURCES – Access GIS data for Indiana
- IndianaMap Viewer (desktop, tablet, mobile)
- IndianaMap Map Gallery
- IndianaMap Layer Gallery
- IndianaMap Web Map Services (WMS)
- IndianaMap Web Map Services Generate KML
- IndianaMap ARCGIS.com
- IndianaView
- Indiana Geographic Information Council
- Indiana Coal Mine Information System Map Services
- Indiana State Government GIS Services
- Indiana State Government Imagery Services

INVENTORY – Find who has what Indiana GIS data.
- Data Inventory (framework layers): Use the Ramona GIS Inventory website to see who has what
- Local Mapping Websites: Search for local GIS contacts by county, organization, or application area
Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships.
NOW Retired - http://inmap.indiana.edu/viewer.htm

Hosted by the Indiana Geological Survey (IGS)

Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships
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Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships.
IndianaMap Viewer (R3) – Map Gallery

Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships.
IndianaMap Viewer (R3) – Layer Gallery

Hydrology » Karst

Sinkhole Density (2011)
Sinkhole Density (2011), (30-meter TIFF maps) - Shows the density of sinkholes per square kilometer in southern Indiana and Kentucky. It was created by the Indiana Geological Survey to support a statistical regression analysis of potential sinkhole development areas in the area.

Sinkhole Inventory (2011)
Sinkhole Inventory Inventory for all karst outcrops in southern Indiana. This dataset should be used in conjunction with the Sinkhole Density dataset.

Cave Density
Cave Entrances per Square Kilometer, 1997 - Shows the density (i.e., number of entrances per square kilometer) of mapped cave entrances in Indiana. This dataset should be used in conjunction with the Sinkhole Density dataset.

Dye Lines
Inferred Connections for Selected Subsurface Dye Traces, 1999 (124,466) - Shows inferred subsurface connections between input and detection points of various dye-trace investigations in southern Indiana. This dataset should be used in conjunction with the Sinkhole Inventory dataset.

Dye Points
Input and Detection Points for Selected Subsurface Dye Traces, 1999 (124,466) - Shows the locations of input and detection points that were used for selected sub-surface dye-trace investigations in southern Indiana. This dataset should be used in conjunction with the Sinkhole Inventory dataset.

Karst Springs
Springs in South-Central Indiana, 1997 (1,265,720) - Shows the locations of springs in and around the karst region of south-central Indiana. The data should not be used for site-specific data analysis. The layer was compiled from unpublished work maps of Richard L. Evans.

Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships.
Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships.
IndianaMap Viewer (R3) – Layer Gallery

KARST_DYE_LINES_IN: Inferred Connections for Selected Subsurface Dye Traces in Southern Indiana (Indiana Geological Survey, 1:24,000, Line Shapefile)

Metadata also available as - [Parseable text]

Metadata:

- Identification_Information
- Data_Quality_Information
- Spatial_Data_Organization_Information
- Spatial_Referencing_Information
- Entity_and_Attribute_Information
- Distribution_Information
- Metadata_Reference_Information

Identification_Information:

Citation:

Originator: Indiana Geological Survey
Publication_Date: 20020717
Title:
KARST_DYE_LINES_IN: Inferred Connections for Selected Subsurface Dye Traces in Southern Indiana (Indiana Geological Survey, 1:24,000, Line Shapefile)
Geospatial_Data_Presentation_Form: Vector digital data
Publication_Information:
Publication_Date: 20020717
Publication_Place: Bloomington, Indiana
Publisher: Indiana Geological Survey

Online_Linkage: [http://igs.indiana.edu/acims/statewide/download.html]
Other_Citation_Details:
A predecessor of this shapefile (a coverage named DYE_LINE) was used in the publication of the following map: Frushour, S.S., Harper, D., and Dintaman, C., 2000, Selected subsurface dye traces in south-central Indiana, Indiana Geological Survey, Miscellaneous Map 66.

Description:

Abstract:
KARST_DYE_LINES_IN is a line shapefile that shows inferred subsurface connections between input and detection points of various dye-trace investigations in southern Indiana. This shapefile should be used in conjunction with an associated shapefile named KARST_DYE_PTS_IN, which shows input, output, and intermediate dye-trace points.

Purpose:
KARST_DYE_LINES_IN was derived from a coverage named DYE_LINE. The purpose of DYE_LINE was to compile unpublished work maps of Samuel S. Frushour (Indiana Geological Survey) and to bring...
Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships.
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IndianaMap Services on ArcGIS.com
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IndianaMap Services on ArcGIS.com

Use Story Maps to Inform and Inspire Your Audience

Story maps combine interactive maps and multimedia content into elegant user experiences. They make it easy for you to harness the power of maps to tell your stories.

Featured Story Maps

Get ideas for your own story maps from these examples created by a growing community of authors. View more story maps in our Gallery.
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Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships...
The Indiana OpenTopography Server
The Indiana OpenTopography Server

2011 - 2013 Indiana Statewide LiDAR

Overview: Indiana's Statewide LiDAR data is produced at 1.5-meter average post spacing for all 92 Indiana Counties covering more than 36,420 square miles. New LiDAR data was captured except where previously captured LiDAR data exists, or where participating County bought-up to a higher resolution of 1.0-meter average post spacing LiDAR data. Existing LiDAR data exists for: Porter, Steuben, Noble, DeKalb, Allen, Madison, Delaware, Hendricks, Marion, Hancock, Morgan, Johnson, Shelby, Monroe, and portions of Vermillion, Parke, Vigo, Clay, Sullivan, Knox, Gibson, and Posey. These existing LiDAR datasets were seamlessly integrated into this new statewide dataset. From this seamless LiDAR product a statewide 5-foot post spacing hydroflattened DEM product was created and is also available. See the FGDC Metadata provided for more details.

This statewide project is divided into three geographic areas captured over a 3-year period (2011-2013):


Platform: Airborne LiDAR | Survey Date: 03/13/2011 - 04/30/2012 | Survey Area: 96,094.70 km² | Point Density: 1.58 pts/km²

Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships.
The Indiana OpenTopography Server

Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships...
The Open Topography Server for Indiana
The Open Topography Server for Indiana

3. Point Cloud Data Download:
   - Point cloud data in LAS format
   - Point cloud data in LAZ format
   - Point cloud data in ASCII format

3a. DEM Generation (Local Gridding):
   - Gridding Method
     - Calculate Zmin grid
     - Calculate Zmax grid
     - Calculate Zmean grid
     - Calculate Zlow grid
     - Calculate point count grid
   - Gridding Parameters
     - Grid Resolution (Default = 6 ft):
     - Radius value (Default = 6 ft):
   - Grid Format
     - All formats
   - Null Filling
     - 7

3b. DEM Generation (TIN):
   - Gridding Method
     - Calculate TIN
   - Gridding Parameters
     - Grid Resolution (Default = 6 ft):
     - Max triangle size (Default 50 units):
   - Grid Format
     - Arc ASCII Grid
     - GeoTIFF
     - IMG

4. Derivative Products:
   - Generate hillshade and slope grids in grid format: GeoTIFF

5. Visualization:
   - Generate hillshade images and Google Earth files from DEMs
   - Altitude of the light, in degrees: 45
   - Azimuth of the light, in degrees: 315
   - Generate additional color-relief and colored hillshades:

Job Description
These options allow users to describe and keep track of their jobs. Information entered below is recorded along with other job parameters in your personal LIDAR Job archive accessed via myOpenTopo (available only to registered OpenTopography users):

Job title (up to 100 characters): My Indiana Project
Job description (up to 500 characters):
The Open Topography Server for Indiana

5. Visualization:

- Generate hillshade and slope grids in grid format
- Generate high-resolution hillshade images and Google Earth tiles from DEMs
- Generate additional color-relief and colored hillshades

Job Description:

These options allow users to describe and keep track of their jobs. Information entered below is recorded along with other job parameters in your personal LIDAR Job archive accessed via myOpenTopo (available only to registered OpenTopography users).

Job title:  (up to 100 characters)

My Indiana Project

Job description:

(up to 500 characters)

Email Address:

Enter your e-mail address for notification upon completion of processing*

pwrall@icic.org

By accessing data via OpenTopography you agree to acknowledge OpenTopography and the dataset source as specified here in publications, presentations, and other materials produced using these data.
The Open Topography Server for Indiana

LiDAR Job Report

Modify and resubmit this job
Full job metadata report

<table>
<thead>
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<th>Dataset</th>
<th>Title</th>
<th>Submission</th>
<th>Completion</th>
<th>Duration</th>
<th>Num points</th>
<th>Status</th>
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<td>My Indiana Project</td>
<td>2014-03-11</td>
<td>2014-03-11</td>
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<td>1,031,414</td>
<td>Done</td>
</tr>
</tbody>
</table>

Download Job Metadata: 
metadata-13945840620101162163857.txt

Point Cloud Results:
- Download point cloud data: points.las

DEM Results:
- Download compressed DEM results: demos.tar.gz (Local Gridding)
- Download compressed DEM results: outputlnt.tar.gz (TIN)

Derivative Product Results:
- Download compressed Hillshade & Slope Products: viz.tar.gz (Local Gridding)
- Download compressed Hillshade & Slope Products: viz.tar.gz (TIN)

Visualization Products:
- Zidw DEM: Download KMZ file: viz.lzw.kmz
  View with Google Earth browser plug-in
- Download KMZ file: viz.lzw.cha.kmz
  View with Google Earth browser plug-in
The Open Topography Server for Indiana
The Open Topography Server for Indiana


Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships
Selected IndianaMap GIS Initiatives

- IGIC – Cadastral, Boundaries PLSS Workgroup Initiatives
- IndianaMap County Data Sharing Initiative
- 2011 – 2013 & 2014 Ortho & LiDAR Program
- Local-Resolution National Hydrography Data Dev
- IndianaMap and the Indiana Spatial Data Portal
- Indiana’s OpenTopography LiDAR Server
- What’s Next

Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships
WHAT’S NEXT?

• Adding Value to County Data Sharing Initiative
  – Adding attributes to harvested centerline, point address, and parcel layers to support statewide geoprocessing, geocoding and routing applications [INDOT, NG9-1-1, ISP, US Census & more]
  – Quality Reporting of harvested data back to the Counties [with attribute additions and changes].
  – Creating seamless statewide datasets matching at the new GIS County Boundary Layer.
WHAT’S NEXT?

• Ortho-LiDAR Program
  – 2014 – 2016 RFP Developed by IGIC for GIO
  – Existing Contract Modification with Woolpert for 2014 [Center Tier]
  – 2014 updated product specifications and pricing for Ortho, LiDAR, and derivative products (Impervious Surfaces, Land Use Cover, Contours, and more)

• 2014 Participants
  – As of today, State has not been able to find 1-foot pixel base level funding for Center Tier, so Counties are participating on their own.
  – 2014 County Participants
    • Harrison Co (6-inch + land use cover)
    • Wabash Co (1-foot)
    • Vanderburgh Co (6-inch)
    • Monroe Co (6-inch)
    • Pike Co (6-inch)
WHAT’S NEXT?

- Local-Resolution NHD Stewardship
  - Adding Names to the new Local-Resolution streams, ditches and ponds
  - Web-based NHD Feature Updates
  - Conflating IDEM Permits & Events to Local-Resolution NHD?

Proposing Names for Un-Named Features

All names in NHD must first be in the national Geographic Names Information System, GNIS

Local reviewer proposes a new name

Local name authority notified and reviews

DNR reviewer notified and reviews

IBGN notified and reviews

Previous reviewers notified

Submitted to USBGN

Local reviewer proposes a new name using web application

Coordination of Indiana GIS through dissemination of data and data products, education and outreach, adoption of standards, and building partnerships
• Remembering the [GIS] Past!
  – Indiana Historic Imagery preservation and applications [INDOT]
  – Historic Sanborn Maps preservation and applications
  – Archiving of other historic GIS layers [e.g. Elevation / Contours, etc… - creating our own GIS Way-Back Machine]
Moving the IndianaMap to the Cloud

- ArcGIS.com IndianaMap Portal
- Indiana Cloud-based GIS Pilot [GIO / Polis / UITS / IGIC]
- Indiana GIS Data on any mobile device
  [Smartphone, Tablet, Google Glasses, Wrist Watch, or inside your brain!@#$%^&*()_+!]
- IndianaMap Data Distribution / Sharing to support 3rd Party GIS - DAAS, and SAAS initiatives.
Questions?