

DGDC Meeting Minutes

August 11, 2016

Attendance List:

David Bennett.....	DTI
Allan Blades	Axis Geospatial
Terrence Burns	HLA/SHPO
Matthew Christensen.....	DPH/ERH
Kim Cloud	DTI
Daniel Cook.....	DTI
Silvana Croope.....	DelDOT
Darin Dell	DTI
Mike DelTufo	DTI
Jay Gerner	DelDOT
Bernie Gilbert	DelDOT
Lauren Good	KCI Technologies
Alice Guerrant	DHCA
Jay Hodny	Kent County
John Inkster.....	DNREC
Stephanie Johnson.....	DelDOT
Jared Kauffman.....	DelDOT
Julie Krauss.....	New Castle County
Jimmy Kroon	DDA
Matthew Laick	DSHS
Danielle Lamborn	Kent County
Simon Lowe	Dover AFB
Joel Marshall	Sussex County
Noemi Mendez	US Census
Nicole Minni.....	UD/WRA
Dorothy Morris.....	OSPC
Nichole Moxley.....	DPH/ERH
Megan Nehrbas.....	Sussex County
Mark Nowak	City of Dover
Miriam Pomilio.....	OSPC
Analisa Rusnack	US Census
Brooke Santiago.....	City of Wilmington
Tom Schwartzman	Esri
Morgan McGee-Solomon ...	Landmark Eng
Rick Steffers	Kent County
Debbie Sullivan	DNREC/DTI
Mike Townshend	DTI
Greg Williams.....	DNREC
Carl Yetter.....	DE Coastal Programs
George Yocher.....	DPH

Welcome & Introductions

Miriam Pomilio started the meeting at 9:02 am. She welcomed everyone to the meeting and introductions were made.

May 12, 2016 Meeting Minutes

Kim Cloud made a motion to approve the May 12, 2016 Meeting Minutes (PDF). Mike Townshend seconded the motion and it passed unanimously.

Technical Advisory Committee Update

Mike Townshend from the last Technical Advisory Committee meeting. It was reported that the parcels are being updated and merged into a seamless feature class service.

The Delaware Geological Survey has the 1977 aerial photos scanned and many are geo-referenced. They are looking for a student to complete that series. DNREC Wetlands section also has hard copies of imagery from 1968-1992 that would fill a gap in the FirstMap imagery services.

DTI has updated the State GIS Standard – to reflect current software supported.

The TAC will begin strategic planning for the migration to ArcGIS Pro as Esri transitions away from ArcMap (2022).

With additional use of ArcGIS Online for Organizations moving into the future.

Training was also discussed at the TAC. UD and OSPC tried to coordinate an Instructor Led training at UD this summer, but it was too short notice and had to be canceled. Miriam reported that UD and OSPC are announcing plans for the same two classes to be offered next summer at UD. This announcement should provide enough time for agencies to budget training funds.

A copy of the PowerPoint which combines the Technical Advisory and FirstMap updates is attached

FirstMap Update

Kim Cloud provided a FirstMap update. Metadata is being sought for all data currently in FirstMap. Debbie Sullivan will follow up to get metadata from the Data Owners. Kim Cloud discussed migrating FirstMap to ArcGIS 10.4.1. The process will be to upgrade the Development environments in both Public and Private by September 2016. Followed by the Test environments for both. Since there may be impacts to applications using FirstMap services, all outages and upgrade windows will be announced using the FirstMap Blackboard notification as well as the DGDC list serve. As always is you experience issues, please contact the team at FirstMap@state.de.us.

Geospatial Education Committee

Nicole Minni reported that Brooke Santiago stepped down as Chair of this committee. Nicole will be the new Chair and Miriam Pomilio will be the Co-Chair. Nicole also reported that the committee received a \$5,000 grant from Esri for hosting workshops to introduce teachers to the ArcGIS Online for Organizations available for free through their ConnectED initiative. Delaware hosted 2 workshops at the DelTech campuses in Georgetown and Stanton. These were very well attended.

The Geospatial Education Committee is still looking for additional GeoMentors to assist in classrooms throughout Delaware. If you are interested, please contact [Nicole](#) directly.

GIS Day is coming up in November and we are hosting the GIS Day Field trip for 5th graders again. If you are interested in volunteering for the event on November 16, 2016, please contact [Miriam](#) directly.

Aerial Imagery Update

Miriam Pomilio provided an update on the Aerial Imagery RFP process. An RFP was published in late July seeking proposals on the capture of Aerial Imagery for the State as well as Land Use Land Cover data development. The proposals are due on August 26, 2016. Questions and Answers are to be posted on or before August 19. Miriam hopes to get the answers posted as soon as possible, to provide vendors enough time to complete their proposals.

Presentation – Esri ArcGIS Pro

Tom Schwartzman from Esri provided an overview of ArcGIS Pro. See the attached PowerPoint for additional information. Several takeaways from the presentation were:

- Resource: www.pro.arcgis.com
- Information/training: www.learn.arcgis.com
- Rick Steffers got a little excited about the Multiple Maps and Layouts returning in this application.

Presentation – HAZUS

Silvana Croope gave a presentation about HAZUS (see attached) – which is a nationally applicable standardized methodology that contains models for estimating potential losses from earthquakes, floods, and hurricanes. **Hazus** uses Geographic Information Systems (GIS) technology to estimate physical, economic, and social impacts of disasters. Silvana has been working with the University of

Delaware to develop a process and application which will convert Delaware specific data into the HAZUS data format so that this national program can reflect our actual information in the event of a catastrophic event.

Silvana is looking for help identifying the data owners for some of the HAZUS data sets. She will provide DGDC with a list of the datasets to see if we can assist in the identification of the data owners. Megan Nehrbas of Sussex County requested there be some training sessions for the manipulation of data. Carl Yetter recommended an information session be held to help counties and other agencies understand the importance of HAZUS. Miriam Pomilio suggested the Delaware HAZUS working group reconvene and start meeting on a regular basis to go over this project with UD and assist in the forward movement for the data. For additional information see the attached presentation.

Federal Update

Census – Analisa Runack was introduced as a new Geographer with the Census by Noemi Mendez-Eliason. The Census is gearing up for the 2020 Census. There will be 39 office and one in Delaware for the upcoming Census. Noemi also noted there is a Census grant-writing class coming up in November at the UD Library.

Academia Update

Nicole Minni from UD reported that Olena Smith the UD GIS lead staff has set up GIS Coffee Hours to share UD GIS initiatives. These will be monthly meetings. Nicole also reported that the Water Resources Agency is merging into the UD Water Resources Center in the College of Arts and Sciences. Their mission will not change.

Open Comment Period

Danielle Lamborn of Kent County announced that Rick Steffers (formerly of the City of Wilmington) has joined Kent County and will be assisting with Comprehensive Plan mapping, spatial analysis, as well as working with the Public Works section.

David Bennet, DTI/FirstMap, reported that FirstMap continues to work through some issues with tapping into existing County services for updates to Parcels. FirstMap is committed to getting this worked out.

Carl Yetter, DNREC/Coastal Programs, reported that John Callahan's group at the Delaware Geological Survey is working on updating the Sea Level Rise scenario's and should have a product in the fall.

Allan Blades, AXIS Geospatial, reported they've opened an office in New Castle, DE to support the state.

John Inkster, DNREC/Tax Ditch, reported that he has scanned and geo-referenced 1926 aerial imagery. This data will be served on FirstMap. It is not complete coverage of the state but Hagley Museum has a photo mosaic book that can be scanned.

Alice Guerrant, Historic Preservation, reported they have an EO41 grant to hire an intern to help them populate the Historic Properties data in their CHRIS application.

Kim Cloud, DTI/FirstMap, reported there is coastal interest in some 3-D surface data for the State of Delaware.

Mike Townshend, DTI/FirstMap, reported that FirstMap will be working on doing several more “Road-shows” and will focus on getting to the municipalities as well as other state agencies. They are discussing recording webinars and posting them to the FirstMap website.

Miriam Pomilio, OSPC, reported that FirstMap will be a presenter at the December League of Local Government Meeting to promote the use and educate municipalities on the services available.

Silvana Croope, DelDOT, reported there are 3 EO41 proposals: Sussex County – Dewey/Fenwick green infrastructure along SR9 – TIS with climate change; Transportation Risk Map – UD studies on catastrophic modeling for hurricanes; National Institute for Standards and Technology partnership with training benefit cost analysis.

Next Meeting

The next DGDC Quarterly meeting will be November 10, 2016.

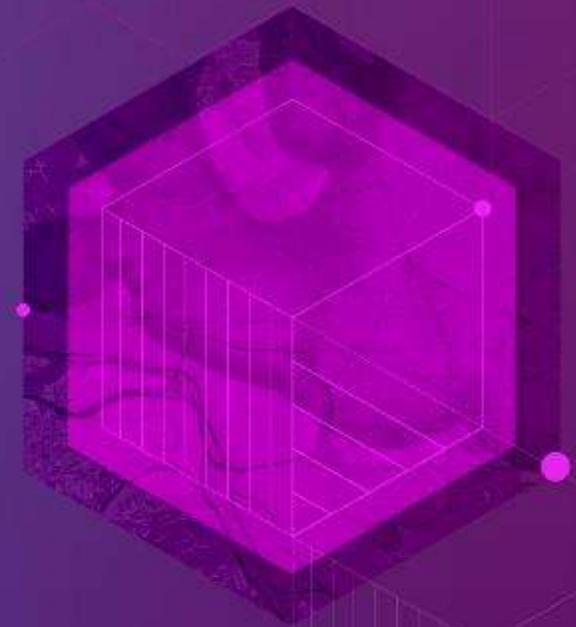
Adjournment

Dave Bennett made a motion to adjourn the meeting and it was seconded by Carl Yetter. The meeting was adjourned at 11:30 am.



ArcGIS Pro: Update

Seth Van Aken, Tom Schwartzman



ArcGIS for Desktop



ArcMap



ArcGIS Pro



Desktop

Web

Device

Apps

Portal



Access



Server



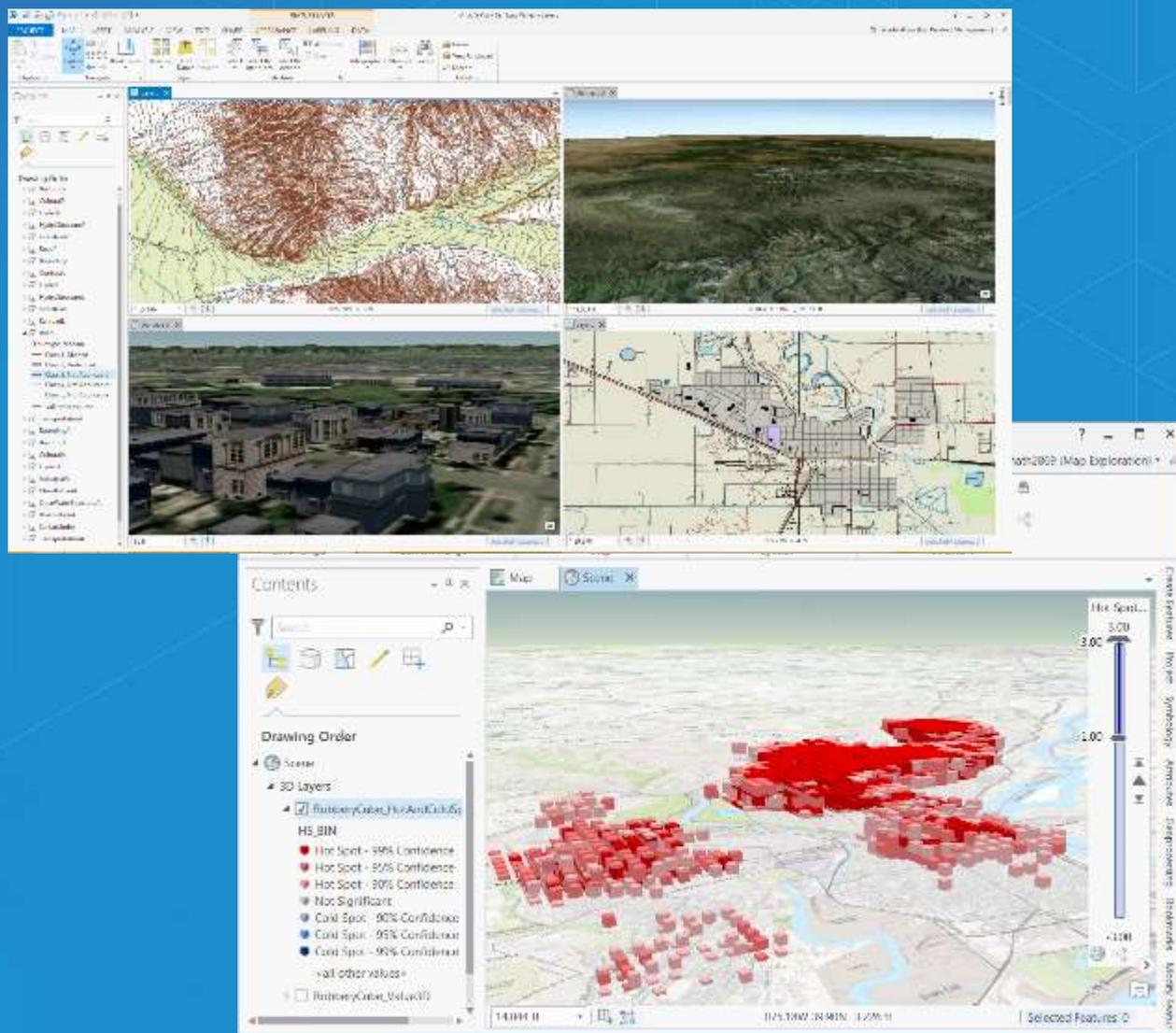
Online Content and Services

Services



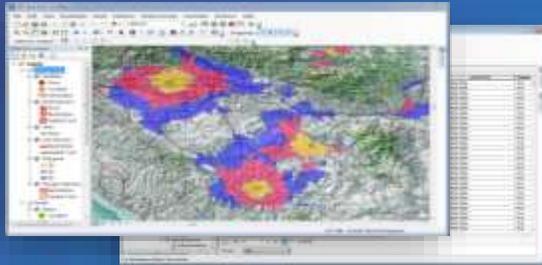
ArcGIS Pro

- 64 Bit, multi-threaded
- Simplified user interface
- Integrated with ArcGIS Online
- Combined 2D/3D experience
- Multiple maps and layouts
- Simple search and query



Fusion of Applications

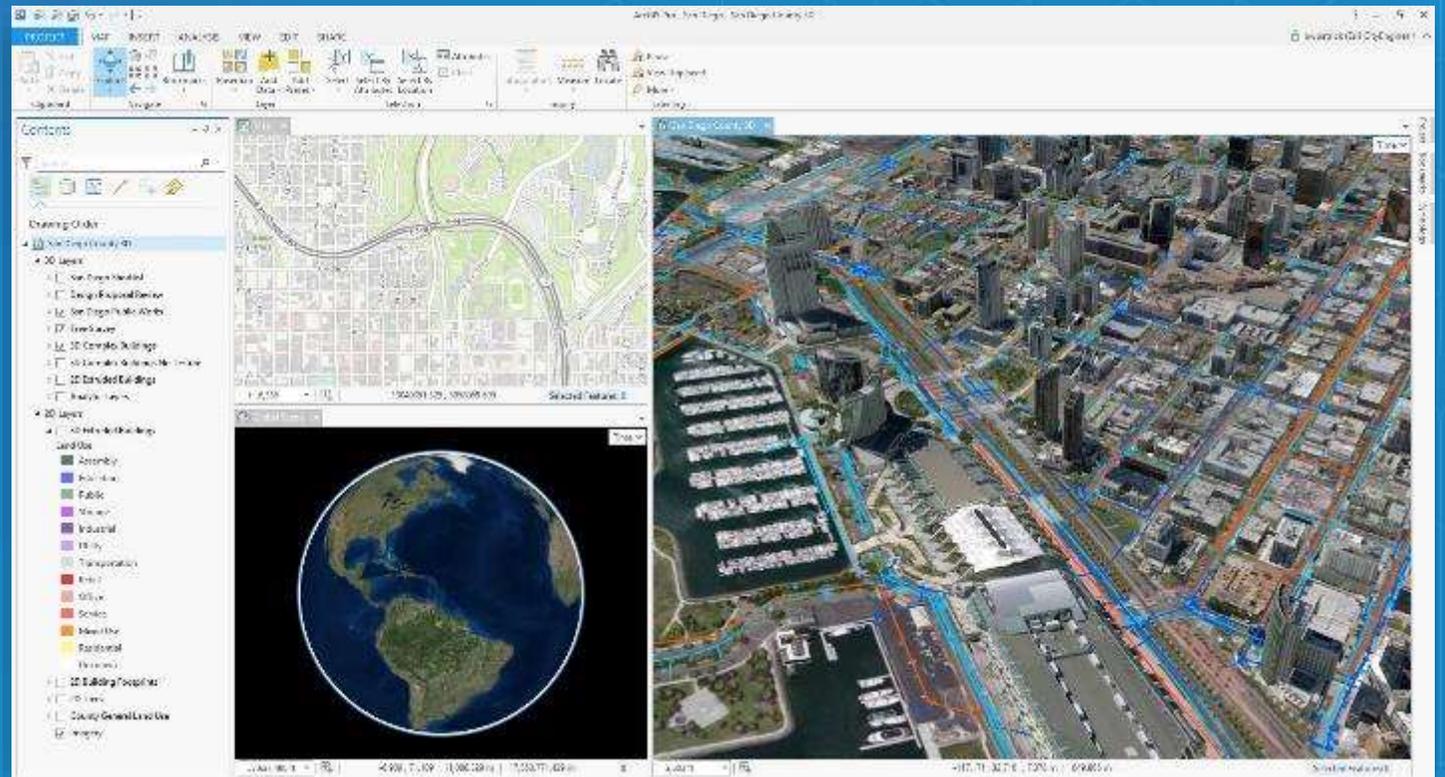
ArcMap / ArcCatalog

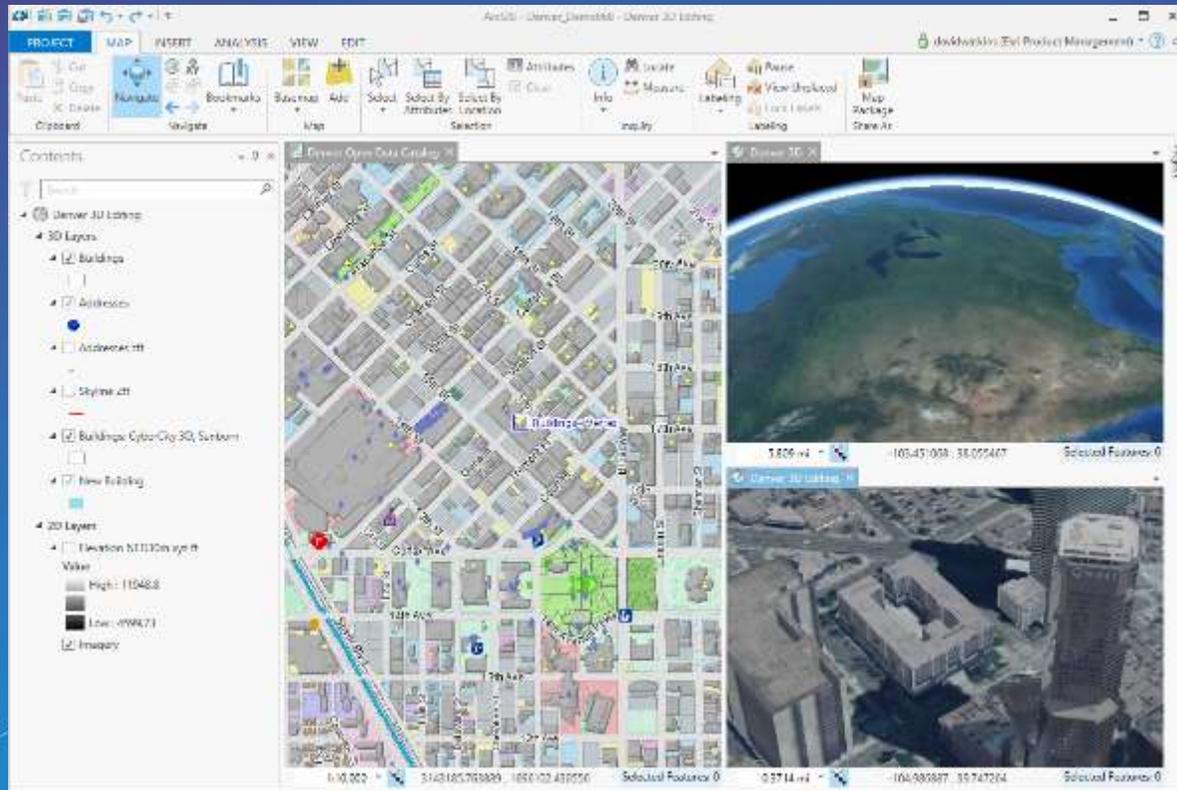


ArcGlobe / ArcScene



CityEngine





Demonstration

Tom Schwartzman



ArcGIS Pro 1.3

Supporting the GIS Professional

Vector Tiles

Geodatabase topology

Elevation surfaces

Task pallets

Network Editing

Tile packages

KML

Integrated mesh

Charts

SDK

Multi-scale map authoring

Sharing Analysis

Animation enhancements

Expressions across the platform

Improved Feature Service Support

Mobile Map Packages

Image Classification

Extending the Platform...

Getting Started with Pro – pro.arcgis.com

ArcGIS for Desktop ▾ Documentation Pricing Support

SEARCH Sign In English esri

ArcGIS Pro

Home Get Started Help Tool Reference ArcPy SDK Community

Get Started

- [Introducing ArcGIS Pro](#)
- [Set up ArcGIS Pro](#)
- [Quick-start tutorials](#)
- [Terms of use](#)

Get started with ArcGIS Pro

- [Install and set up](#)
- [Begin with a tutorial](#)
- [Migration guide for ArcMap users](#)

Whether ArcGIS Pro is new to you, or you just want to brush up on one part of the software, this guide is the place to start. Use these resources to get up and running quickly.

Install and set up

Most of you will download ArcGIS Pro from My Esri, run the installation program, sign in, and be using ArcGIS Pro in less than 10 minutes. However, if your experience isn't quite as smooth, these resources should help you:

- Review the [system requirements](#) and learn how to [install and sign in](#).
- You must have an [authorized license](#) before you can successfully start an ArcGIS Pro session. The steps for authorizing your license depend on which type of license you are using.
- After you start ArcGIS Pro, you can [review your license settings](#).
- For the future, you may also want to know how [ArcGIS Pro software can be updated](#).

Learn ArcGIS – learn.arcgis.com

Learn ArcGIS ▾ Lesson Gallery Support

Sign In

English ▾



Get Started with ArcGIS Pro

Overview

Lessons

Overview

Spanning a series of islands in a shallow lagoon, the city of Venice is renowned for its beauty. But that beauty comes at a cost. The lagoon's tidal patterns mix with the islands' low elevation to cause acqua alta (high water), a periodic flooding that affects most of the city. Although not a threat to human life, acqua alta impedes transportation and endangers Venice's priceless architecture—and the problem is getting worse.

Historically, an exceptional tide (defined as 1.4 meters above sea level) occurs about every four years. In the past decade, however, exceptional tides have become an annual event. Efforts to chart, analyze, and control acqua alta will be crucial to protect Venice in the future.

In these lessons, you'll travel to Venice with ArcGIS Pro. You'll build a 2D map of the city with canals, structures, and some of Venice's most famous landmarks. Then, you'll convert the map into 3D. You'll analyze and quantify the threat of acqua alta, before giving your scene a realistic appearance to show others.

Build skills in these areas:

- Adding data to a map
- Editing features
- Creating a scene
- Analyzing raster data
- Applying 3D symbology



[View the map](#)

ArcGIS Pro 1.2 introduced additional flexible licensing options



Named User



**Single
Use**



**Concurrent
Use**

Training Options

- Over 30 Offerings
 - Instructor Led
 - Web Courses
 - Training Seminars
- Many of them free

Getting Started with ArcGIS Pro ▶ Show Overview	Format: <u>Web Course</u> Duration: 1 module (3 hours) Price: Free ArcGIS Version: 10.3, 10.4
Distance Analysis Using ArcGIS Pro ▶ Show Overview	Format: <u>Web Course</u> Duration: 1 module (3 hours) Price: \$32 USD ArcGIS Version: 10.3, 10.4
Terrain Analysis Using ArcGIS Pro ▶ Show Overview	Format: <u>Web Course</u> Duration: 1 module (3 hours) Price: \$32 USD ArcGIS Version: 10.3, 10.4
Sharing Maps and Layers with ArcGIS Pro ▶ Show Overview	Format: <u>Web Course</u> Duration: 1 module (3 hours) Price: \$32 USD ArcGIS Version: 10.3, 10.4
Editing 3D Features Using ArcGIS Pro ▶ Show Overview	Format: <u>Web Course</u> Duration: 1 module (1 hours) Price: \$32 USD ArcGIS Version: 10.3, 10.4
Drawing Millions of Features in ArcGIS: Advanced Techniques ▶ Show Overview	Format: <u>Training Seminar</u> Duration: 60 minutes Price: Free ArcGIS Version: 10.3.1, 10.4
Finding the Optimal Location of Facilities Using ArcGIS Pro ▶ Show Overview	Format: <u>Web Course</u> Duration: 1 module (60 minutes) Price: \$32 USD ArcGIS Version: 10.4
3D Visualization Using ArcGIS Pro ▶ Show Overview	Format: <u>Web Course</u> Duration: 1 module (2 hours) Price: \$32 USD ArcGIS Version: 10.2, 10.3

ArcGIS Pro Road Map

▶ Advancing the Platform

KML Mobile Map Packages

GeoAnalytics Expressions

Sharing analysis **Vector tiles**

Utility network

Geodatabase topology

Grids and Graticules

Charts

Generalization

3D Scene Services

WFS Find features

Annotation & Dimensions

Incremental software releases

10.5

Pro 1.4

2017

Q4

10.4.1

Pro 1.3

Q3

10.4

Pro 1.2

Q2

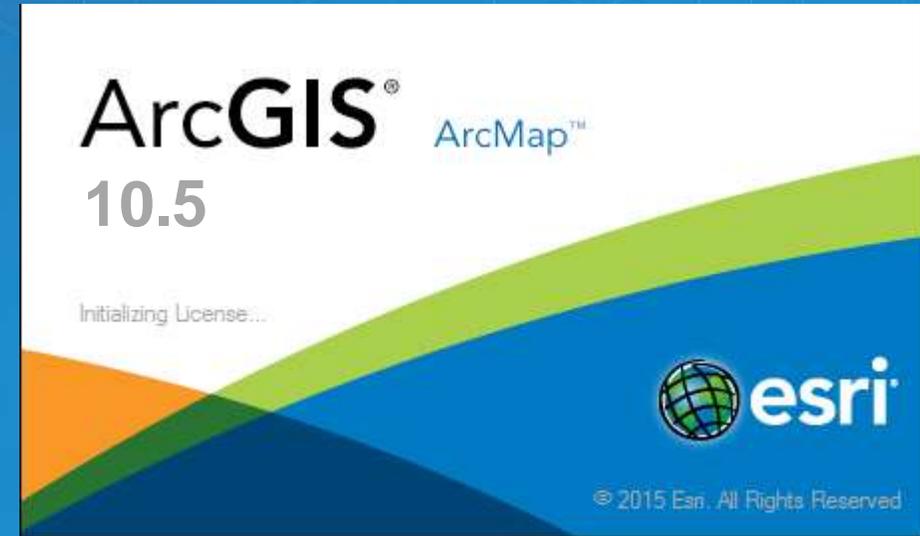
Continuous improvements

2016

... Focused on Quality, User Needs, and Innovation

What is the plan for ArcMap?

- ArcMap continues
 - Limited New Development
 - Bug fixes
- ArcMap and ArcGIS Pro run side by side
 - Separate install
 - Imports MXDs, SXDs, and 3DDs
 - Models and Scripts (Python)
- Basic, Standard, and Advanced Levels



ArcMap



ArcGIS Pro

Thank You & Questions?

Seth Van Aken: svanaken@esri.com

Tom Schwartzman: tschwartzman@esri.com

Advancing the Implementation of Hazus for Delaware: A Data Strategy for the Government



Edward Strauss – DEMA
Silvana V Croope - DeIDOT

Partners

- State of Delaware (DE)
- Delaware Department of Transportation (DelDOT)
- Delaware Emergency Management Agency (DEMA)
- Delaware Department of Natural Resources and Environmental Control (DNREC)
- University of Delaware (UD)
- UD Center for Applied Demography & Survey Research (CADSR)
- Kent, New Castle, and Sussex Counties



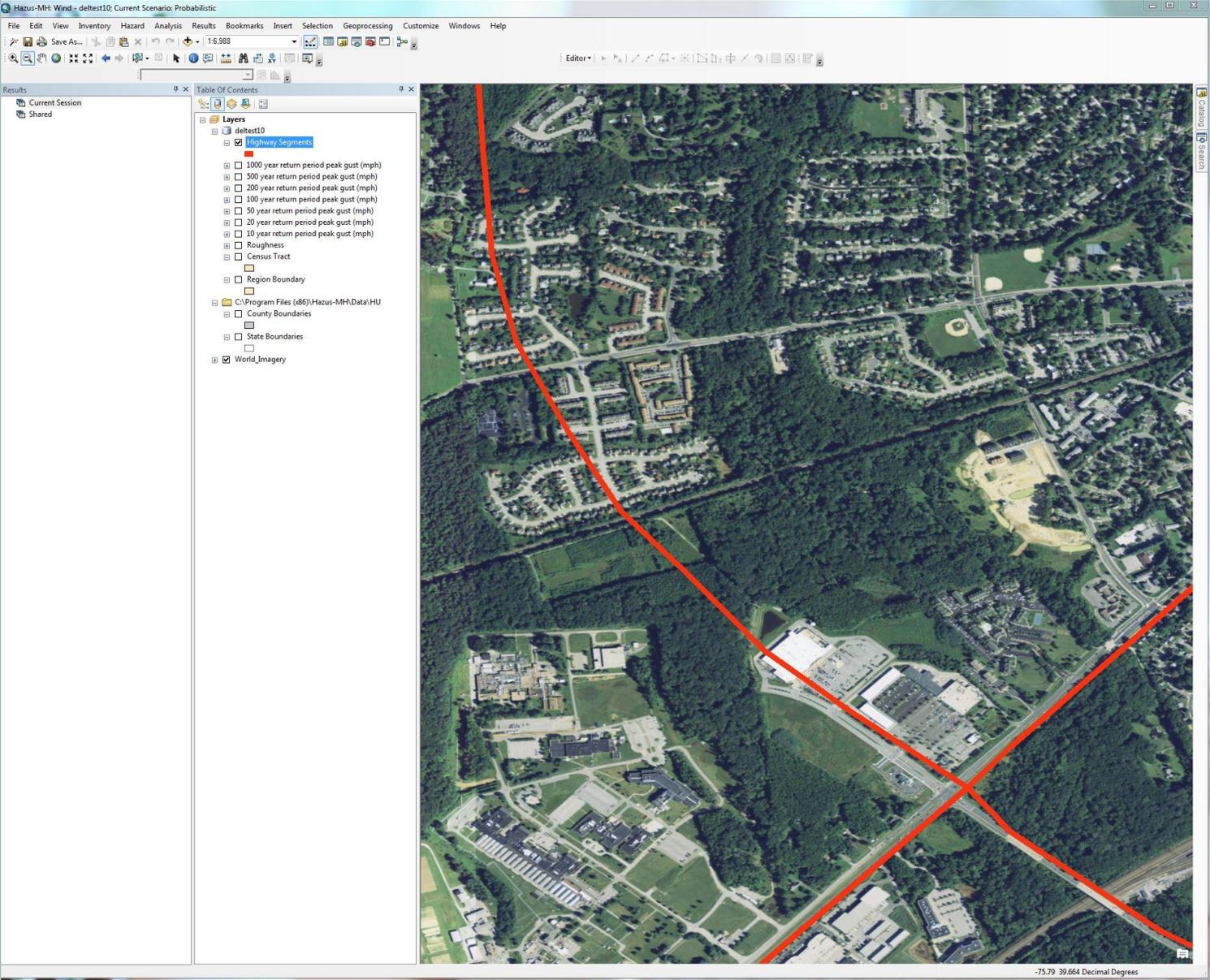
Project Purpose

- Create **general HAZUS data set** considered accurate for stakeholders within Delaware
- **Identify custodians of data files relevant to HAZUS**
- **Develop data clearinghouse and files for users to make private updates and propose public ones**
- Provide **ongoing updates to data and hazard files**
- **Increase use of HAZUS within Delaware**
- Update hazard models for Delaware

Current State of HAZUS for Delaware

- Highway maps not accurate
- Many layers missing or incomplete
- No building specific data or user defined data beyond Census defaults
- Lack of understanding of HAZUS and lack of experience working with data among county stakeholders
- **Incomplete data custodians or maintenance procedures** currently defined to improve or update state data

HAZUS Delaware Road Error Example (Suburban Plaza Newark)



Previous CADSR Work

- Created a state layer file for Delaware including correct roads and corrected data for layers already available on FirstMap
- **Created layer templates** to allow state agencies to improve data for layers they oversee in a manner that will upload directly to HAZUS
- Created **repository for** improved HAZUS dataset for **users to download**
- Provide **assistance to county and state stakeholders to use improved HAZUS** data

Current and Future Work

- Continue to improve HAZUS layers for DE with stakeholders
- Assist county and municipal employees newly tasked with Level 2 flood modeling responsibilities for updated mitigation plans
- Integrate DNG Developed by DNREC and state LiDAR files
- Work with counties to create improved User Defined Facility Layers for analysis
- Maintain SharePoint site AND coordinate with FirstMap
- Update Flood Maps
- Explore **transition to open source environment for state data**

Data Custodians

- Easy to explain, difficult to do
- Ongoing meetings with state agencies and three counties to:
 - **Obtain data or agree on definitive source**
 - Format data to create files that will allow for HAZUS modeling output
 - **Establish custodians of data layers**

Hazus Inventory:

- Data Stewards
- First Map
- Data Gaps

1	Layer Name	Points in Layer	Layer Constraints	HAZUS Editable	Layer Owner	Corresponding FirstMap Layer	Note
2	Airport Facilities	Yes	No	Yes			
3	Airport Runways	Yes	No	Yes			
4	Bus Facilities	Yes	Yes	Yes			
5	Communciations Facilities	Yes	Yes	Yes			
6	Dams and Levees	No	No	Yes			
7	Electric Power Facilities	Yes	Yes	Yes			
8	Emergency Response Facilities	Yes	Yes	Yes			
9	Ferry Facilities	Yes	Yes	Yes			
10	Fire Station Facilities	Yes	Yes	Yes			No data about buildings
11	Hazardous Materials (HAZMAT)	Yes	Yes	Yes			
12	Highway Bridges	Yes	No	Yes			
13	Highway Segments	Yes	No	No	DeIDOT		Layer updated by CADSR and loaded into improved set
14	Highway Tunnels	No	No	Yes			None in DE
15	Light Rail Bridges	No	No	Yes			
16	Light Rail Facilities	Yes	No	Yes			
17	Light Rail Segments	Yes	No	Yes			
18	Light Rail Tunnels	No	No	Yes			
19	Medical Facilities	Yes	Yes	Yes			Data reasonably complete, includes number of beds
20	Miltiary Installations	No	Yes	Yes			
21	Natural Gas Facilities	No	Yes	Yes			
22	Natural Gas Pipelines	No	Yes	Yes			
23	Nuclear Power Facilities	No	Yes	Yes			None in DE
24	Oil Facilities	Yes	Yes	Yes			
25	Oil Pipelines	No	Yes	Yes			
26	Police Station Facilities	Yes	Yes	Yes			
27	Potable Water Facilities	No	Yes	Yes			
28	Potable Water Pipelines	No	Yes	Yes			
29	Port Facilities	Yes	Yes	Yes			
30	Railway Bridges	Yes	No	Yes			
31	Railway Facilities	Yes	No	Yes			
32	Railway Segments	Yes	No	Yes			
33	Railway Tunnels	No	No	Yes			None In DE
34	Schools	Yes	Yes	Yes	FirstMap	Schools	Layre updated by CADSR with FirstMap Data. One school in MD has to be deleted from FirstMap set
35	User Defined Facilities	No	Yes	Yes			Not a single category, no owner
36	Waste Water Facilities	Yes	Yes	Yes			
37	Waste Water Pipelines	No	Yes	Yes			

Conventions:

- "Points in Layer": layer has data or not
- "Layer Constraints": layer requires specific data to function
- "HAZUS editable": templates created can be uploaded through CDMS

FirstMap

Current effort:

- OIT
- DTI
- OMB
- UD/CADSR
- DeIDOT
- DEMA
- DNREC

Outreach:

- DEMA
- DGDC

State of Delaware
The Official Website of the First State

FIRSTMAP

Delaware GIS >> FirstMap

- Home**
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Data
Web Maps
- Information**
Getting Started
Documents
FAQ
Related Links
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Data

Public Services | State Services | Web Maps | Open Data

All data are being stored in a central geodatabase and are segmented via a private and public instance. The Private instance is secure behind the State firewall, accessible by users and applications on the State network, while the public instance supports services for users and applications outside of the State Network. Data owners work with DTI to publish the services and configure replication to ensure the most current data are available. Users outside the state network can provide their data via email to the [FirstMap team](#) to load into the database.

- ▶ Geospatial Services
- ▶ Aerial Imagery
- ▶ Web Maps
- ▶ Open Data

Visit our [Getting Started](#) page for helpful information to start using FirstMap.

For additional information, please email us at FirstMap@state.de.us

FirstMap
About | Links | Data

Delaware.gov | Privacy | Translate | Contact | Phone Directory

2 Months Outreach

Resources

- Data collections
- CADSR Hazus website
- Internet map services
- Internet map editing
- FirstMap
- Hazard Models

DelDOT-CADSR **HAZUS**
Goals and Timeline Hazus Library Links Mapping Questions Work Program

From the table below data updates and documents can be viewed and downloaded. Work was focused on a few primary methods to update and distribute Delaware data for HAZUS:

HAZUS Data Files

Title	Name	HAZUS Type	Description	File Format	Modified
HAZUS Type : HAZUS Doc (16)					
HAZUS Type : Layer Replacement (5)					
HAZUS Type : Layer Template (21)					
HAZUS Type : Statewide Collection (4)					
+ Add document					

Statewide Collections - For each State, FEMA provides over a two dozen item set of map and tabular layer for use in modeling. Aggregate data by census geography is mostly from the 2010 Census and map and other data is from a variety of different sources from a variety of different time periods and varies from State to State. A ZIP File is provided by FEMA and for Delaware extracts to a "DE" folder that mostly includes a MS SQL Server database file that can be read by HAZUS and ARCGIS that includes data to begin creating HAZUS regions. In the same manner CADSR has created similar collections based on updates that can be downloaded. For more information, click [ReplacingStatewideDatasetInstructions.pdf](#) to go to the State Collections Page.

Layer Templates – HAZUS requires tables and map layers that adhere to strict structure requirements as specified in the CDMS Data Dictionary. For most map layers in HAZUS, CADSR has provided a layer for download in personal geodatabase format. These layers can be edited in ARCGIS outside of HAZUS software and imported into HAZUS using CDMS to update a user's current state data collection. For more information, click [UsingLayerTemplateInstructions.pdf](#) to go to the Layer Templates Page.

Internet Layers - Layer templates which are typically a standalone version of each HAZUS map layer can also be used as the source data for ARCGIS Map Services as produced within ARCGIS Server. As another method of data update, the layer templates can be provided as internet map services, extracted using a python tool provided, and then import into HAZUS. For more information, click [here](#) to go to the Internet Layers Page.

Layer Replacements – In some cases layers can only be updated by a direct replacement of the SQL Server Table(s) in HAZUS as can be accomplished using ArcCatalog. This is true for roadway layers. These must also be in a standard format and are available for download. For more information, click [DirectInspectionandManipulationofHazusDataLayers.pdf](#) to go to the Layer Replacements Page.

User Defined Data – User defined data, also referred to as building specific data can be imported into HAZUS during a region session. This can cover a wide range of facilities data. For more information, click [here](#) to go to the User Defined Data Page.

Direct Import Layer Replacement Template Example

OBJECTID	SHAPE	HazusID	Address	Area	BackupPowe	CensusTract	City	ContactPers	FacilityClass	FacilityNam	KitchenFacil	Latitude	Longitude
1	ng binary data	DE000014	55 South Mead	0	0	10003013615	Newark		EFS1	FOREST OAK	0	39.70495224	-75.68340301
2	ng binary data	DE000015	2815 Highlands	0	0	10003013604	Wilmington		EFS1	HERITAGE	0	39.72229385	-75.68500518
3	ng binary data	DE000162	504 South Broa	0	0	10003016601	Middletown		EFS1	MEREDITH	0	39.44326019	-75.71622467
4	ng binary data	DE000168	1160 South Cer	0	0	10005051802	Laurel		EFS1	DISTRICT OFFIC	0	38.54216003	-75.56988525
5	ng binary data	DE000173	7 Front Street	0	0	10001041701	Wyoming		EFS1	DISTRICT OFFIC	0	39.11965942	-75.55236053
6	ng binary data	DE000207	378 Brick Mill R	0	0	10003016604	Middletown		EFS1	BRICK MILL	0	39.45881652	-75.68666076
7	ng binary data	DE000211	1340 Little Balt	0	0	10003013505	Hockessin		EFS1	NORTH STAR	0	39.76659393	-75.71392822
8	ng binary data	DE000236	301 West Mark	0	0	10005050504	Georgetown		EFS1	GEORGETOWN	0	38.68490982	-75.39070129
9	ng binary data	DE000313	534 Vandever A	0	0	10003000602	Wilmington		EFS1	The Ark Learni	0	39.74934349	-75.53710618
10	ng binary data	DE000323	37850 Oysterhc	0	0	10005051003	Rehoboth		EFS1	Community Le	0	38.71081363	-75.09674783
11	ng binary data	DE000324	22051 Wilson R	0	0	10005050503	Georgetown		EFS1	Jefferson Scho	0	38.72988865	-75.36701455
12	ng binary data	DE000329	19 The Mead	0	0	10001042900	Houston		EFS1	Lighthouse Chr	0	38.90758893	-75.49281814
13	ng binary data	DE000331	133 Thomas Mc	0	0	10001042201	Magnolia		EFS1	St. Thomas Mo	0	39.0842775	-75.4803622
14	ng binary data	DE000338	361 Rose Valle	0	0	10001041802	Dover		EFS1	Rose Valley Sc	0	39.14107571	-75.60013187
15	ng binary data	DE000341	100 Paxson Lan	0	0	10003014805	Newark		EFS1	Kinder Care Lrr	0	39.595505	-75.74277426
16	ng binary data	DE000001	920 North Van	0	0	10003001500	Wilmington		EFS1	LEWIS	0	39.7493782	-75.55814361
17	ng binary data	DE000002	2916 Duncan R	0	0	10003013400	Wilmington		EFS1	BRANDYWINE S	0	39.742527	-75.653656
18	ng binary data	DE000003	1500 Spruce Av	0	0	10003012200	Wilmington		EFS1	BALTZ	0	39.74372863	-75.59980773
19	ng binary data	DE000004	2101 Centervill	0	0	10003012000	Wilmington		EFS1	MARBROOK	0	39.7420845	-75.62490844
20	ng binary data	DE000005	2110 Edwards A	0	0	10003013200	Wilmington		EFS1	MOTE	0	39.73544311	-75.63800048
21	ng binary data	DE000006	3415 Skyline Dr	0	0	10003013607	Wilmington		EFS1	LINDEN HILL	0	39.73367691	-75.69292449
22	ng binary data	DE000007	1801 Milltown	0	0	10003013604	Wilmington		EFS1	DICKINSON	0	39.72835922	-75.6733551
23	ng binary data	DE000008	2900 Skyline Dr	0	0	10003013604	Wilmington		EFS1	SKYLINE	0	39.72417068	-75.68733215
24	ng binary data	DE000009	201 Jackson Av	0	0	10003012600	Wilmington		EFS1	CONRAD	0	39.72264862	-75.6013565
25	ng binary data	DE000010	16 Idella Avenu	0	0	10003012900	Wilmington		EFS1	RICHARDSON F	0	39.72291946	-75.59143066
26	ng binary data	DE000011	105 East Highla	0	0	10003012900	Wilmington		EFS1	RICHEY	0	39.71775054	-75.60806274
27	ng binary data	DE000012	1800 Limestone	0	0	10003013614	Wilmington		EFS1	STANTON	0	39.71437072	-75.65126037
28	ng binary data	DE000013	1621 Telegraph	0	0	10003013614	Wilmington		EFS1	DISTRICT SCHO	0	39.71220397	-75.65240478
29	ng binary data	DE000016	55A South Mea	0	0	10003013615	Newark		EFS1	MEADOWWOOD	0	39.70419692	-75.68401336
30	ng binary data	DE000017	510 West Main	0	0	10001040201	Clayton		EFS1	CLAYTON	0	39.28804779	-75.63603973
31	ng binary data	DE000018	399 North Mark	0	0	10005050406	Seaford		EFS1	SEAFORD	0	38.65184021	-75.6135025
32	ng binary data	DE000019	1 Delaware Pla	0	0	10005050406	Seaford		EFS1	DISTRICT	0	38.65141677	-75.6164093
33	ng binary data	DE000020	500 East Stein H	0	0	10005050406	Seaford		EFS1	SEAFORD	0	38.64828109	-75.61322021
34	ng binary data	DE000021	1 Swain Road	0	0	10005050406	Seaford		EFS1	DOUGLASS	0	38.64570236	-75.60369873
35	ng binary data	DE000022	511 Sussex Ave	0	0	10005050405	Seaford		EFS1	WEST SEAFOR	0	38.64289855	-75.63154602
36	ng binary data	DE000023	900 South Arch	0	0	10005050403	Blades		EFS1	BLADES	0	38.63129043	-75.60643768
37	ng binary data	DE000024	17099 County S	0	0	10005050408	Georgetown		EFS1	SUSSEX TECHN	0	38.64411544	-75.44278717
38	ng binary data	DE000025	735 Meeting H	0	0	10003013501	Hockessin		EFS1	H B DUPONT	0	39.80021286	-75.69158172
39	ng binary data	DE000026	50 Hillside Roa	0	0	10003011900	Wilmington		EFS1	A I DUPONT	0	39.77752304	-75.60159301
40	ng binary data	DE000027	3130 Kennett P	0	0	10003011900	Greenville		EFS1	A I DUPONT	0	39.76755905	-75.58353424
41	ng binary data	DE000028	2100 Gilpin Ave	0	0	10003001300	Wilmington		EFS1	HIGHLANDS	0	39.76194	-75.56575775
42	ng binary data	DE000029	301 McKennan'	0	0	10003013613	Wilmington		EFS1	MCKEAN	0	39.75765609	-75.66690826
43	ng binary data	DE000030	801 West 18th	0	0	10003000400	Wilmington		EFS1	WARNER	0	39.75784683	-75.54824066
44	ng binary data	DE000031	100 North duP	0	0	10003002400	Wilmington		EFS1	CAB CALLOWA'	0	39.75380706	-75.58744049
45	ng binary data	DE000032	100 West 18th	0	0	10003000500	Wilmington		EFS1	SHORTLIDGE	0	39.752182	-75.54495239
46	ng binary data	DE000033	400 Governors	0	0	10005050301	Greenwood		EFS1	WOODBIDGE	0	38.80420684	-75.58666229
47	ng binary data	DE000034	307 Laws Stree	0	0	10005050301	Bridgeville		EFS1	WOODBIDGE	0	38.73991012	-75.60060119
48	ng binary data	DE000035	48 Church Stree	0	0	10005050301	Bridgeville		EFS1	PHILLIS WHEAT	0	38.75070571	-75.60243225
49	ng binary data	DE000036	365 North Mair	0	0	10001040201	Smyrna		EFS1	NORTH SMYRN	0	39.30442428	-75.61357116
50	ng binary data	DE000037	500 Duck Creek	0	0	10001040201	Smyrna		EFS1	SMYRNA	0	39.29973602	-75.62754821
51	ng binary data	DE000038	20 West Frazier	0	0	10001040202	Smyrna		EFS1	J B MOORE	0	39.29849624	-75.60516357

CADSR HAZUS Layer Editing Tool

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Add Features

- PoliceStationFacilities**
★ Police Station Facilities
- AirportFacilities**
✈ Airport Facilities
- AirportRunways**
▲ Airport Runways
- BusFacilities**
● Bus Facilities
- CommunicationFacilities**
◆ Communication Facilities
- ElectricPowerFacilities**
⬠ Electric Power Facilities
- EOCFacilities**
✚ EOC Facilities
- FerryFacilities**
⚓ Ferry Facilities

Hazard Data Sources

- Incorporated into HAZUS
 - Delaware LIDAR and DEM data
 - NOAA Sea Level Rise data
 - USACE Flood and Erosion data
- Collected data beyond HAZUS
 - Traffic models
 - Statewide placefile and population file
 - Temporary conditions in Delaware (Wilmington weekday daytime population, Beach summer population, NASCAR)

End Result

- Updated data sets in HAZUS format with custodians
- Multiple resolutions of data files based on region size
- Improved facilities map for Delaware
- Communication between counties and state agencies required to do HAZUS analysis
- 3D building mapping for presentations
- Probabilistic damage models for internal use in Delaware

Thanks DGDC!

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