

Facilitating the sharing and coordinated use of spatially referenced data in Delaware

Meeting Minutes
DGDC Executive Council Meeting
10:00 a.m., April 8, 2010
Room 133, Haslet Armory
122 William Penn Street
Dover, DE

ATTENDANCE

Executive Council Members

- Mike Mahaffie, OMB
Non-Voting Chair
- Marti Dobson, DelDOT
Proxy for Sec. Wicks
- Debbie Sullivan, DNREC
Proxy for Sec. O'Mara
- Sandy Schenck, DGS
Proxy for John Talley
- Michael Ward, Kent Co.
Proxy for Michael Petit de Mange
- Roger Barlow, USGS
Federal Liaison
- Dick Sacher, UD
DGDC Academic Representative
- Lillian Wang, DGS
DGDC At-Large Representative
- Mark Nowak, Dover
DGDC Municipal Representative
- Pat Susi, NCCo
Replacement for Proxy Tim Westbrook

Other Attendees

- Connie Holland, OSPC
- Kim Cloud, DTI
- Steve Elliot, ESRI
- Seth Van Aken, ESRI

Welcome and Introductions

Mike Mahaffie began the meeting at approximately 10:02 a.m. Three attendees – Dick Sacher, Lillian Wang, and Sandy Schenck – took part via video conference from the University of Delaware. Pat Susi asked that a formal request be made to New Castle County Administrator Chris Coons to make permanent his role as County proxy, which he has been covering for Tim Westbrook for several meetings.

Approval of Minutes of December 17, 2009 Meeting

Mike Mahaffie presented the draft minutes of the [December 17, 2009 meeting](#) (PDF) and asked for any corrections. Pat Susi noted that his name had been left off the attendance list. **A motion was made by Roger Barlow, and seconded by Sandy Schenck, to approve the minutes.** The motion passed unanimously.

DGDC Committee Report

Mike Mahaffie gave a brief report on [Delaware GIS Conference](#), which had had to be postponed from February to late March because of the snow storms of February. Despite the postponement and the tight economy, there were 155 registered for the conference and almost that many attended. There have been good reports of satisfaction with the conference and with the speakers.

Mike will schedule a follow-up meeting of the Conference Planning Subcommittee to review the day and formally hand-off the Chair duties to Lillian Wang who served as Vice-Chair for this conference. The next conference is expected to take place in 2012.

Old Business

GIS Strategic Planning Project

Mike Mahaffie gave an update on progress on the Strategic Plan. He noted that the results of the recent Executive Council workshop were submitted to the contractor and that he is waiting for a formal response. In the interim, the contractor, Michael Turner, of Applied Geographics, sent the following update:

The first draft of a completed Strategic Plan was submitted to Executive Council in February. That draft was thoroughly reviewed and extensive comments were provided back to Applied Geographics following the discussion during the March Executive Council meeting. The most major suggested alteration involved bifurcating the plan into interrelated Strategic and Business Plans. The Strategic Plan would focus on identifying the "vision" for a formal, central "GIS Office for Delaware", while the Business Plan would focus on the details of implementing that vision and justifying this change in course from the status quo. Due to the significant editing and re-packaging and new writing that is required to do this, it is anticipated that drafts of the two new plans will be available by the end of April, or possibly during the first week of May.

There was a general discussion of the progress of the planning project, including the project schedule, which has been extended in a formal agreement with the FGDC until August 27, 2010. Connie Holland suggested that the project keep in mind the opportunity to have input into the next state government budget development cycle starting at about that time of year. She added that the Plan should be presented to Cleon Cauley, of the Governor's Office, as soon as possible to make sure that the Plan matches administration priorities. She noted that she is hearing support among Cabinet secretaries for a strong data program.

There was a discussion of what form the Plan will take. It was noted that the current thought is that there will be both Strategic Plan (what we need to achieve) and a Business Plan (how to achieve it). Pat Susi noted that the presentation to the Governor's Office should include the idea that Delaware needs to have a Geographic Information Officer (GIO). Connie Holland suggested that the Plan should also be presented to the Cabinet Committee on State Planning Issues (CCSPI) which is being reformed and, she noted, expanded somewhat.

2011 Orthophotography Project

Mike Mahaffie gave a brief update on the effort to craft an orthophotography project to cover Kent and Sussex Counties in 2011. He noted that a working group has come together and defined the basic requirements – ¼-meter, 4-band, leaf-off, and based on the Delaware "kilometer-square" tiling scheme.

Roger Barlow added that the project will result in public data and that it will require full metadata. And, he noted, the project will need to be carefully planned in conjunction with local military installations. He also reported that the 2010 project that will provide orthophotography on New Castle County is now under way. It was delayed somewhat by concerns about standing water from the very wet winter.

Connie Holland suggested that the group check-in with DEMA which is about to start work on an update of its emergency management plan and may have need for updated geospatial data. She noted that that project could be a source of funding for the orthophotography project.

There was a discussion of approaches to contracting for the project. Roger Barlow noted that it may be possible to contract through one of USGS' standing vendor contracts. This is an approach that some other states already use. It was noted that that will need to be discussed with the Government Support Services Section of OMB and that the Executive Council will have to come to agreement on the specifications for the project.

Roger Barlow agreed to supply an "Orthoimagery Project Planning requirements" document which can be submitted to USGS for a cost-estimate for the project. Even if Delaware does

not choose to contract through USGS, this can help the planning group develop its cost-estimate.

New Business

gis.delaware.gov

Kim Cloud introduced the possibility that the Executive Council might want to use the URL "gis.delaware.gov" which she has reserved as part of the work of the Technical Infrastructure Subcommittee. She plans to use it as part of the URL for the Geospatial Data Exchange project. The current web presence of the DGDC and the Executive Council is under the State Planning web site (<http://stateplanning.delaware.gov/dgdc>)

There was a general discussion of the idea, including the need to clear use of that URL with higher levels of government. It was generally agreed that this should be suggested as part of the Business Plan now under development.

Private-Sector Data-Sharing Partnerships

Mike Mahaffie introduced this issue by noting that the DGDC has been approached by both Google and ESRI seeking partnerships in which Delaware would provide geospatial data to those entities' base-maps.

Mike Ward noted that an issue has arisen for Kent County, relative to Google Maps, that has caused the county to pull its parcel data from the download area of The Delaware DataMIL. He explained that some data users are using the parcel and street information found in Google Maps as the basis for legal and other work and that those data are generally not correct enough for such work. Mark Nowak added that the city of Dover has seen similar problems.

There was general discussion of what a data-sharing agreement might mean and whether or not it would help to off-set such problems. Issues that were raised included the technical aspects of data-sharing, possible liability, and the need to review with the Attorney General's office.

Marti Dobson reported that DelDOT's transit section is now sharing transit route information with Google under a formal agreement.

Roger Barlow noted that there are now many sources of data that are being absorbed by Google and others. It is not clear, for example, that the parcel data used by Google came from DataMIL. It is also the case that many states and counties have similar concerns about the parcel data that appeared in the last year in Google Maps. Roger noted, though, that it is important for the state, and the counties, to establish themselves as the "authoritative source" of data for Delaware.

There was a discussion of the fiscal part of this question. Connie Holland noted that there are costs to government to create and maintain the data. Seth Van Aken, of ESRI, noted that there are enhancements to the value of the data that come from sharing that data.

Sandy Schenck noted that there are other states that are wrestling with similar questions and that we should look at their agreements and learn from their experience. He added that it might be possible to control the situation by requiring Google and others to only use state-provided WMS streams of Delaware's data. It was suggested that Google's data model would not support that idea.

Steve Elliot and Seth Van Aken, of ESRI, presented information about the Community Map Program that ESRI has proposed to Delaware. (Their PPT on the program, which was not shown at the meeting, is attached, as are the letter and supporting documents sent to the state about the program).

They explained that the Community Map Program has been focused on partnerships with cities and counties, but that Delaware could become the first state to be a partner. They described it as an extension of the existing relationship between Delaware and ESRI. The program allows governments to have their data integrated, for free, into the ESRI world topo map. They explained that this is part of moving GIS into "the cloud." They added that having Delaware's data be part of the ESRI base map will make it easier for state agencies and others to create new on-line data content.

There was a general discussion about the idea. Mark Nowak noted that not all members of the DGDC and the Executive Council are part of the state's existing enterprise License Agreement with ESRI.

Dick Sacher noted that it should be the job of the GIS community to publish the data and make it easier for Google and ESRI and others to get the data. Then he added, the marketplace should determine which on-line data source is used.

Pat Susi asked how ESRI is benefitting from the arrangement and will it be republishing Delaware's state and local data? There was also a discussion of whether or not this program might obligate Delaware – either explicitly or implicitly – to pay to remain a part of the partnership in the future.

There was a discussion of the need to match Delaware's data at the borders to other state data and some question as to whether or not this project would help meet that need.

Kim Cloud noted that Delaware will need a formal policy for data-sharing to help control situations and requests like this.

A motion was made by Marti Dobson, and seconded by Mike Ward, that the Executive Council define a formal policy for data sharing agreements. Mike Mahaffie suggested that the Council propose such a policy to the Governor's office for ratification. It was further suggested that the policy be simply stated and might be ratified by electronic voting (the DGDC By-Laws, however, do not permit electronic voting). The motion passed, unanimously.

DHS Partnership Opportunities

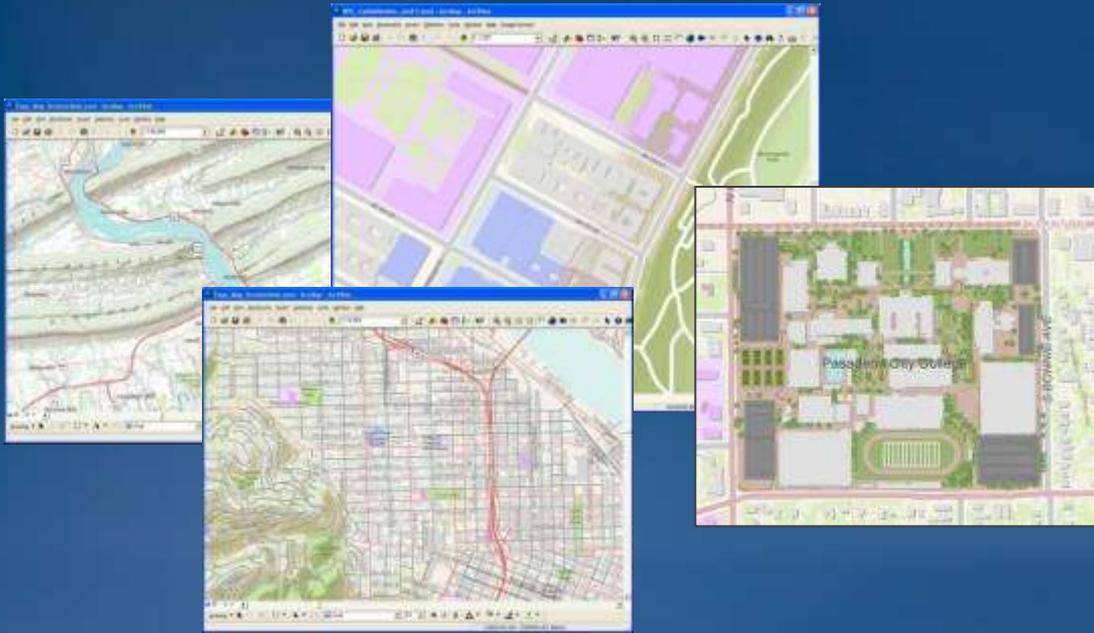
Mike Mahaffie gave a very brief overview of the Federal Homeland Security Infrastructure Program (HSIP) and the Homeland Infrastructure Foundation-Level Data (HIFLD) Working Group. These are two partnership opportunities from the Federal Department of Homeland Security which have recently been presented to the Delaware Department of Safety and Homeland Security. Brochures are attached. Mike suggested that these programs may be of use to Delaware and he noted that he will try to track them along with the Council's DSHS representative, Terry Whitham.

Open Comment Period

Debbie Sullivan suggested that the Executive Council should look at more than just "framework" data as it goes forward. She added that there are other important data sets that are now being published by state agencies and others.

Roger Barlow reported that the State of Maryland now has a signed agreement with USGS to manage their part of the National Hydrography Data Set, joining Delaware in that role.

A motion was made by Debbie Sullivan, and seconded by Marti Dobson, to adjourn.
The motion passed unanimously.



ArcGIS Online Community Map Program

ArcGIS Online Map Overview

- **Imagery Maps**

- World Imagery
- Bing Maps Imagery

- **Street Maps**

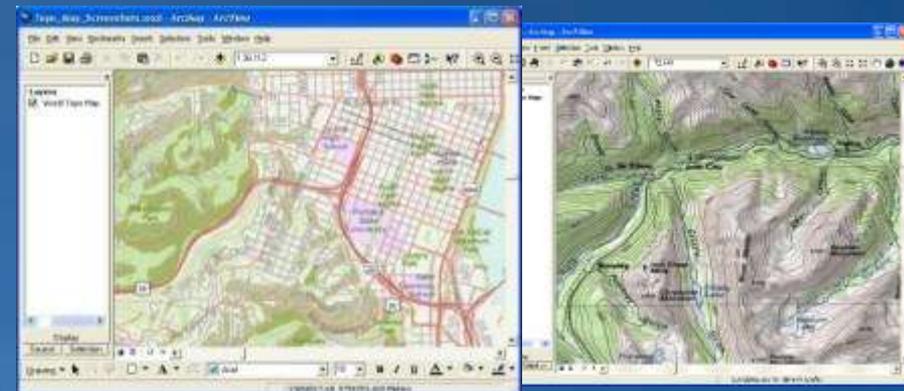
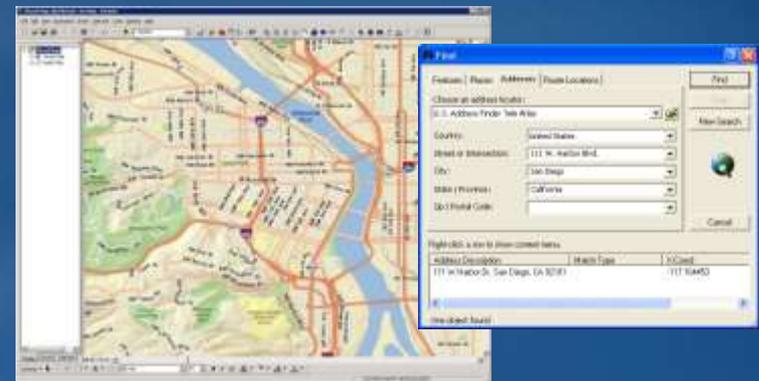
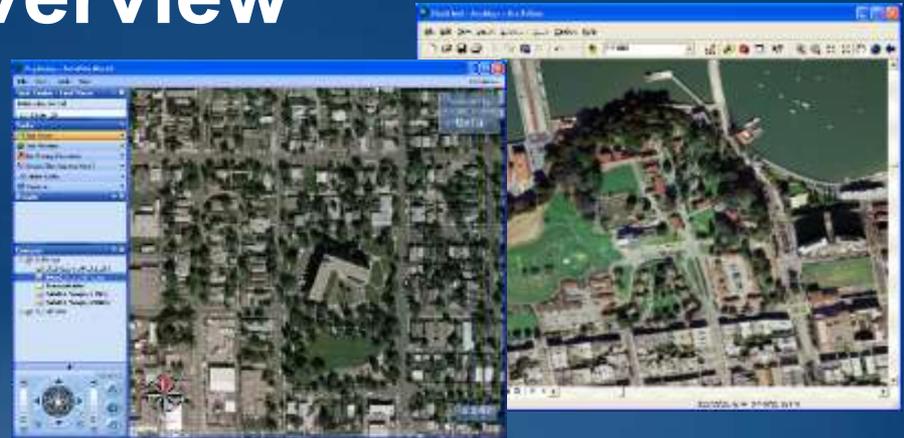
- World Street Map
- Bing Maps Roads

- **Topographic Maps**

- World Topographic Basemap
- USA Topographic Maps

- **Thematic Maps**

- Demographic Maps
- Sciences Maps



World Topographic Basemap

Current Status

- World Topographic Map Coverage
 - Worldwide Map down to ~1:150k
 - USA Map down to ~1:20k
 - Community Map for selected Cities down to ~1:1k
 - Compiled to Uniform Cartography from **Best Available Sources**
 - Portland (OR), Philadelphia, Pasadena, Redlands, New York, D.C., Yosemite Nat'l Park



Benefits to Community Participation

- **Detailed, Accurate Basemap for your City is Online**
 - High-quality cartography
 - High-performance and availability
 - No hosting costs to City
- **Basemap freely available to City and other users**
 - Use in ArcGIS applications
 - Use in Web applications
- **Developer APIs freely available to build Web Apps**
 - ArcGIS APIs for REST, JavaScript, Flex, Silverlight available now
- **Citation of Participant as data provider for their local area**
 - Referenced in online documentation and related marketing materials
 - Promotes the valuable GIS work being performed by Participant organizations

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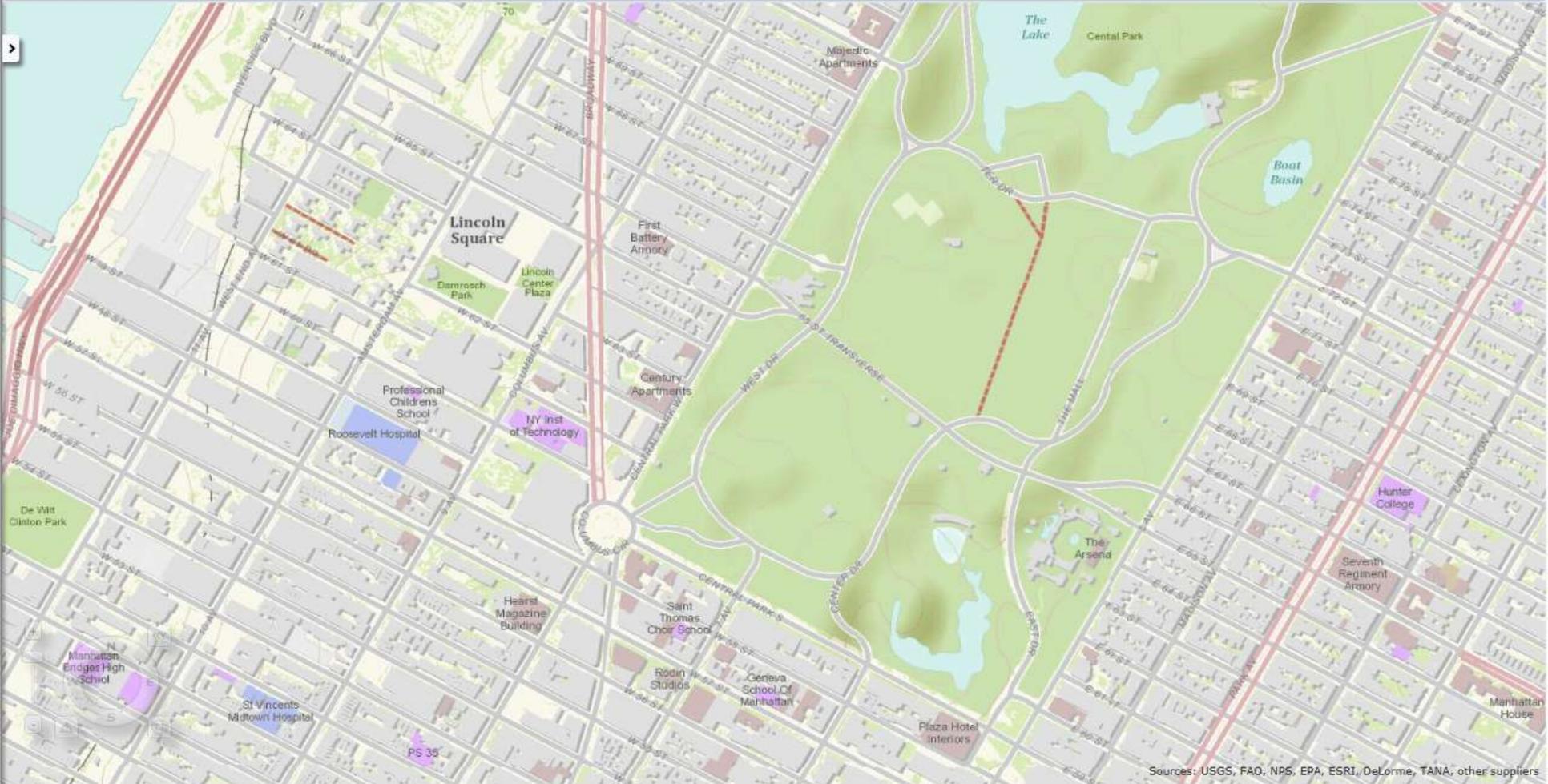
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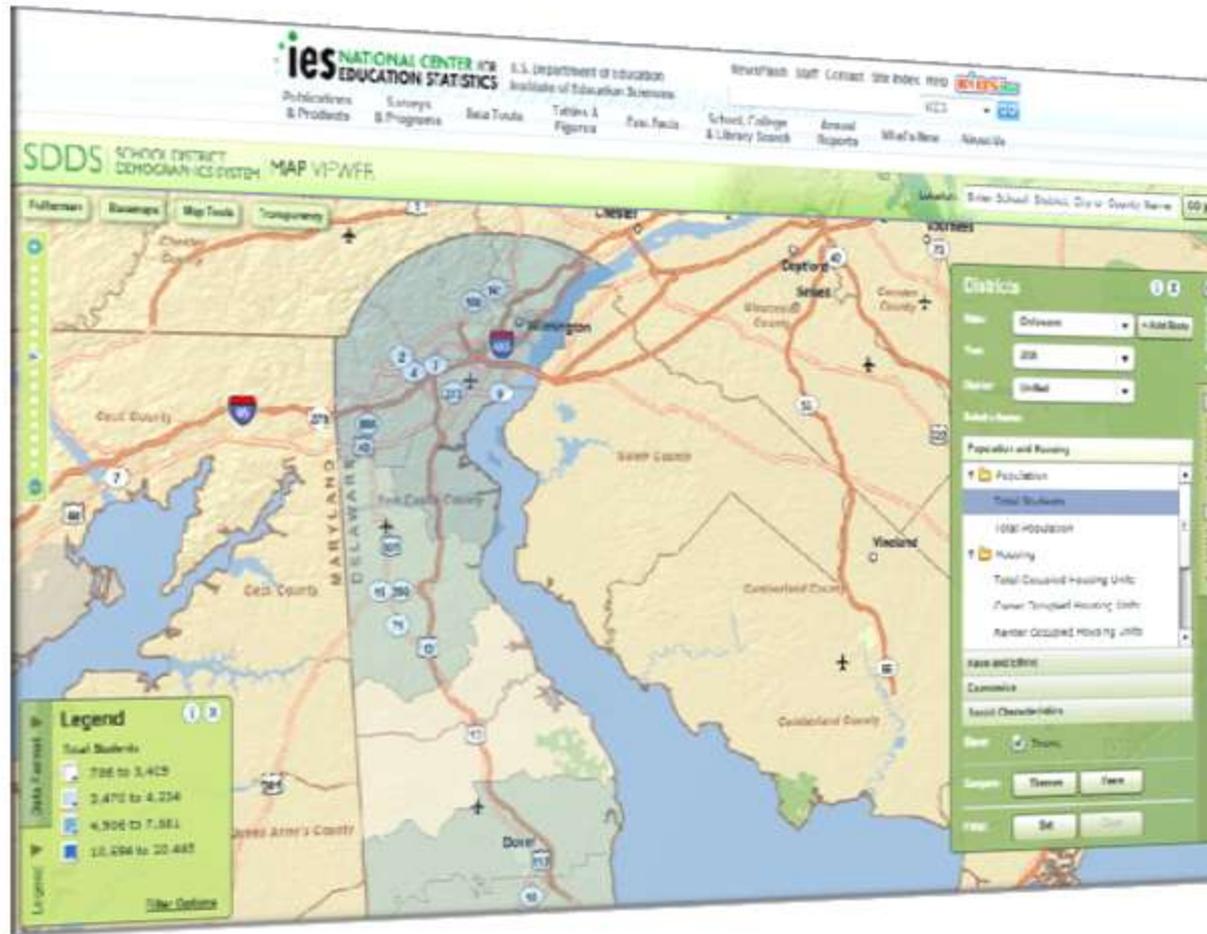
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ESRI World Topographic Map

Creating an Industry Best Base Map for Public Consumption



Workshop Formats

- **3-Day Workshop @ Regional Office**
 - Geared towards hands-on exposure to the processes and workflows developed by ESRI with a participants own data
 - Benefit from hearing ESRI experiences and best practices from real-world experience
- **3-Day Workshop – Remote connection**
 - Provides ability to piggy-back on workshop at RO but for those with limited travel budget
 - Still benefit from hearing ESRI experiences and best practices but requires more dedication to stay focused while remote

Frequently Asked Questions

- **Can City/State build web applications using online map?**
 - Yes, the map and developer APIs will be freely available to provider.
- **Is ESRI generating revenue from the use of our data?**
 - Map is freely available to ArcGIS users for non-commercial use.
- **Will the map be hosted in a high availability environment?**
 - Map hosted in commercial data centers with 99.9% availability.
- **Will the map be updated to maintain its currency?**
 - ESRI will coordinate with City/State to publish updates as needed.
 - Annual updates planned with ESRI publishing updated map/data provided by City/State.
- **How do I get my customer registered?**
 - Once a customer is on-board, send contact info to Alison – she will coordinate registration, eval requests, content sharing agreements, etc...

2/25/10

Mr. Michael Mahaffie
Office of State Planning & Coordination

Re: ESRI Community Map Program

Mr. Mahaffie,

I am very pleased to invite you and The State of Delaware to participate in ESRI's Community Map Program. The goal of the Community Map Program is to integrate specific types of data, of key ESRI customer's, into ESRI's topographic map layer – resulting in a industry best map layer that can be leveraged by the entire GIS community via ArcGIS Online.

More importantly, at this time, ESRI Philadelphia secured a chance for Delaware to be the first state to contribute to the Community Map Program and for their data to be showcased at ESRI's 2010 User Conference. Aside from the chance to be the first to contribute, participating in this program will provide a number of benefits to the state and its citizens:

- No cost solution in creating a fast performing and widely available data set
- No cost to maintain or update data
- 24/7 access to an industry best data by Delaware Citizens and Businesses
- Options to host cached copies of data internally with ArcGIS Server
- Data is hosted in a US-based, ESRI data center and ensures fast performance & high availability

ESRI wants to make this program successful and is seeking the help of its key customers by waiving all fees for map creation, maintenance and hosting. Please look over the attached documentation and reference the below link for more details on the program.

ESRI will begin integration work in the next few weeks and would like a commitment to participate by 03/05/10 to ensure Delaware is the first state – the submission of data can happen later, but to ensure a spot – we need some sort of inclination by end of next week.

Program Description: <http://www.esri.com/communitymaps>

Let me know if you have any questions or want to discuss the program or attached documents.

Thanks so much,

Steve Elliott, ESRI Philadelphia
(610) 644-3374 x5950
sellott@esri.com

ESRI Proposal to City of _____ to Participate in ArcGIS User Community Basemap

Overview

ESRI proposes to author and publish an online basemap for the City of _____. The basemap will include a set of data layers provided by the City and potentially other sources. The basemap will be authored at multiple scale levels down to approximately 1:1,000 scale. The basemap will be published as an online map service hosted by ESRI for access by the City and other users via the Internet. The basemap for the City will be integrated in a world basemap hosted by ESRI as part of its ArcGIS Online maps and freely accessible by the City for its own applications.

World Topographic Map

The [World Topographic Map](#) is an online map hosted by ESRI and published via ArcGIS Online. It is a multi-scale basemap with global data at small-to-medium scales and detailed data for selected areas at large scales.

The map has been compiled to uniform cartography using a variety of data sets from best available government and commercial data sources. The map contains rich local data for selected cities in the United States.

The map is designed to be used as a general purpose basemap to support a wide variety of applications, such as economic development, elections planning, and community outreach. The City may use the map service for its internal or external web applications at no cost.



*Sample Map for Philadelphia, Pennsylvania
(see Attachment B for more sample maps)*

Statement of Work

ESRI proposes to build a multi-scale basemap for the City of _____ using data sets made available by the City and any supplemental data sets available from federal or other sources that are needed to complete the basemap. The map will be authored using the [Topographic Map Template for Large Scales](#) available from ESRI and adjusted based on available data. The City will have the opportunity to review the map and provide feedback on the cartographic presentation before the map is finalized and published. ESRI will deliver a final copy of the map to the City, including the map document and referenced geodatabase, as well as an online map service for the map.

Below is a summary of the tasks that would be performed by ESRI in support of this effort. The specific deliverables associated with this effort are listed below.

- **Task 1—Assemble Data:** ESRI will assemble the data layers provided by the City, as described in Attachment A, and any additional data layers that are needed to complete the basemap and are available from other sources.
- **Task 2—Create Geodatabase:** ESRI will integrate the data layers assembled into a geodatabase that can be used to author the basemap. ESRI may adjust or supplement some attributes to support authoring the map.
- **Task 3—Author Map:** ESRI will author a multi-scale basemap referencing the geodatabase starting with the Topographic Map Template for Large Scales. The map will be authored from a scale range of approximately 1:20,000 down to 1:1,000 using data layers that are appropriate for each scale.

- **Task 4—Generate Map Cache:** ESRI will generate map cache(s) using the map document authored above. A map cache will be generated using the Bing Maps / Google Maps global tiling scheme used by ArcGIS Online. A second map cache may be generated in a preferred local coordinate system at the option of the City.
- **Task 5—Publish Map Service:** ESRI will integrate the map cache generated in the global tiling scheme into the World Topographic Map hosted by ESRI as part of ArcGIS Online. The detailed map cache for the City will be added to the map cache already available globally and nationally for the United States. The World Topographic Map is freely available to the City and other ArcGIS users for their internal or external, non-commercial use.
- **Task 6—Publish Layer Packages (optional):** ESRI will create layer packages containing the data layers used to create the map. Layer packages are compressed files that contain data layers and their symbology. The layer packages will be published to [ArcGIS Online](#) through a private account setup for the City. The City may then access the layer packages online at any time and, if it chooses, share them with other users to download.

Deliverables

Below is a summary of the proposed deliverables for this effort. The City deliverables will be required for ESRI to begin the statement of work. The ESRI work will likely require 2-3 months to complete once the deliverables are received.

City Deliverables to ESRI

1. Data layers for the City of _____, as described in Attachment A.
2. Royalty-free license for ESRI to publish a basemap using the data layers provided by the City. ESRI will not redistribute the source data provided outside the basemap without receiving separate permission of the City.

ESRI Deliverables to City

1. Multi-scale basemap for City down to a scale of ~1:1,000, delivered as:
 - a. Map cache in ArcGIS Online global tiling scheme.
 - b. Online map service hosted by ESRI referencing map cache in global tiling scheme.
 - c. Map package containing final MXD document and geodatabase used to cache map.
 - d. Additional map cache in a custom tiling scheme using the City's preferred local coordinate system (optional). The map cache may be used by the City to publish with ArcGIS Server.
2. Citation as source of the data provided by the City to build the basemap.
 - a. Citation will be part of ArcGIS Online service info and include a link to the City web site for more info.
3. Layers packages (i.e. compressed data files) that contain individual data layers and their symbology. Layers will be published to a private group in ArcGIS Online that the City can download and share with others if it chooses.

Proposed Cost

The standard cost for the services described above is \$50,000. This includes the costs for the consulting services needed to perform the tasks described in the statement of work plus the hosting costs for the map services and layer packages included in the deliverables.

In exchange for the royalty-free license to use include the City data as part of the publicly available World Topographic Map as described above, ESRI proposes to perform the statement of work described above **at no cost** to the City.

This offer is being made available to a limited number of ESRI customers with whom we would like to collaborate in this community basemap initiative. ESRI reserves the right to withdraw or modify the offer if the City is unable to provide the necessary data layers or license to use them as needed in the map. This proposal is valid for 45 days.

Attachment A: Data Layers

The large-scale levels of the basemap will primarily use a set of data layers provided by the City. The basemap will be authored by ESRI using the [Topographic Map Template for Large Scales](#) at multiple scale levels down from ~1:20,000 down to 1:1,000 scale. Below is a summary of the data layers that will be needed to author the basemap at these scales.

Data Layer	Data Type	Comments
Digital Elevation Model (DEM)	Raster	10m or better resolution elevation for shaded relief and contours.
Parcels	Polygon	Parcel boundaries, ideally with landuse classifications.
Vegetation	Polygon	Vegetation layer showing areas of green space or vegetation by type.
Landuse	Polygon	Areas showing landuse classifications (e.g. residential, commercial).
Landmark Areas	Polygon	Areas with name and type attributes (e.g. shopping, school, airport).
City/neighborhood boundaries	Polygon	Areas with name attribute showing boundary of city/neighborhoods.
Water Bodies	Polygon	Water bodies with name and type attributes.
Park Areas	Polygon	Areas with name and type attribute showing state/local parks.
Buildings	Polygon	Building footprints with landuse classifications and name attribute.
Administrative Boundaries	Line/Poly	Lines or Polygon of state/county boundaries with names.
Contours	Line	Contours lines may be generated from DEM.
Rivers/Streams	Line	Lines with name and type attributes (e.g. perennial, intermittent).
Railways	Line	Rail lines with attribute showing classification of rail type.
Transit	Line	Transit lines such as bus lines or bike routes with type attributes.
Roads	Line	Road lines with name and type attribute showing classification.
Highways	Line	Highway lines with name and type attribute showing classification.
Elevation/Summits	Point	Elevation points with elevation values in feet or meters.
Points of Interest	Point	Points with name and type attributes (e.g. tourist attraction).

Attachment B: Sample Maps

Below are a few sample maps from the World Topographic Map described above. These maps are displayed at large scales from ~1:10,000 down to 1:1,000 for selected cities. The maps have all been authored using the [Topographic Map Template for Large Scales](#) but the specific map content varies somewhat based on available data sources and decisions made by the cartographer given local conditions. The sample maps have been reduced in size to fit on page.

City of Philadelphia, Pennsylvania: source data provided courtesy of [Pennsylvania Spatial Data Access \(PASDA\)](#)

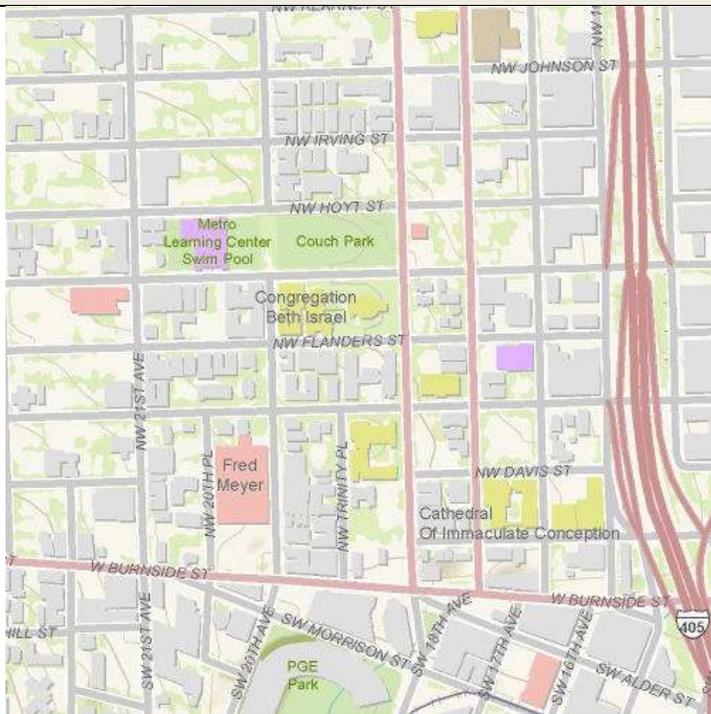


Riverfront at ~1:10,000 buildings and contours

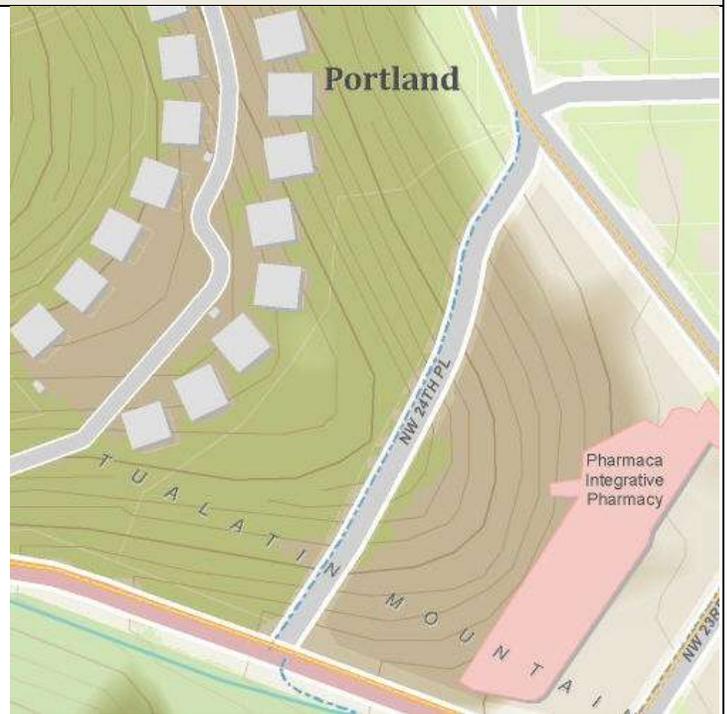


Downtown at ~1:4,000 featuring parcels by landuse

City of Portland, Oregon: source data provided courtesy of [Metro](#) (Portland Metropolitan Area)



Downtown at ~1:10,000 featuring buildings by landuse



Foothills at ~1:2,000 featuring LIDAR generated contours

Attachment B: Sample Maps (cont.)

For some maps, specific parts of the City (e.g. Rose Bowl in Pasadena, California) have been featured with special detail.

City of Pasadena, California: source data provided courtesy of [City of Pasadena](#)



Downtown at ~1:10,000 featuring City College campus



Arroyo Seco area at ~1:2,000 featuring Rose Bowl stadium

City of Redlands, California: source data provided courtesy of [City of Redlands, Department of Innovation and Technology, GIS Division](#)



Southside hills at ~1:10,000 featuring orange groves



Downtown at 1:2,000 featuring ESRI main campus



ArcGIS ONLINE COMMUNITY MAPS PROGRAM PARTICIPATION AGREEMENT

ESRI, 380 New York St., Redlands, CA 92373-8100 USA • TEL 909-793-2853 • FAX 909-793-5953

Agreement No. _____

_____ (hereinafter referred to as "Contributor") is entering into this agreement to participate in the Environmental Systems Research Institute, Inc. (ESRI), ArcGIS Online Community Maps Program. By entering into this agreement, Contributor is confirming its intent to contribute its geographic data content ("Content"), as described in Exhibit 1 to this agreement, and is willing to allow its Content to be processed, hosted, published, and redistributed by ESRI for the use of ArcGIS end users and developers. Contributor acknowledges that it has read the ESRI ArcGIS Online Community Maps Program Description found at <http://www.esri.com/communitymaps> and agrees to be bound by the Program Policies and the Use Terms that are contained on that Web site.

CONTRIBUTOR LICENSE GRANT

In addition to the Program Policies and Use Terms found on the above Web site, Contributor participation in the ArcGIS Online Community Maps Program shall be conditioned on the following terms:

1. This is a license agreement and not an agreement for sale between ESRI and Contributor. This license gives ESRI certain limited rights to use Contributor's Content. All rights not specifically granted to ESRI in this Agreement are reserved to Contributor.
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 - d. Provide end user(s) the right to cache processed Content for use within the client-side applications, provided, however, any other storage or redistribution by the end user(s) is not permitted without acquiring additional written license rights; and
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 - f. Provide developer(s) the right to use, copy, publish, and display processed Content for noncommercial or internal business purposes only.

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3. BOTH PARTIES EXPRESSLY ACKNOWLEDGE AND AGREE THAT CONTENT HAS BEEN OBTAINED FROM SOURCES BELIEVED TO BE RELIABLE, BUT ITS ACCURACY AND COMPLETENESS ARE NOT GUARANTEED. CONTENT MAY CONTAIN SOME NONCONFORMITIES, DEFECTS, ERRORS, OR OMISSIONS. CONTRIBUTOR IS NOT INVITING RELIANCE ON CONTENT AND THE END USER(S) SHOULD ALWAYS VERIFY ACTUAL CONTENT OR DATA INCLUDING, BUT NOT LIMITED TO, MAP, SPATIAL, RASTER, AND TABULAR INFORMATION.
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For its part, in consideration of the licenses granted above, ESRI agrees to cooperate with Contributor and perform or provide the following:

1. ESRI or its authorized partner(s) will review Contributor Content and evaluate its suitability for use with other services datasets. ESRI reserves the right, at its sole discretion, to not use or publish Content that may not be suitable for use with its other datasets or commercially practical to publish or distribute.
2. ESRI will grant Contributor, as an existing ESRI software user, the right to access, at no charge, one (1) or more online services published by ESRI that include Contributor Content. Contributor may access the service(s) for its internal use with licensed ArcGIS Desktop, ArcGIS Explorer, ArcGIS Server, Web Mapping APIs, or other appropriate ESRI software.
3. ESRI will provide, at no charge and upon written request by Contributor, access to Contributor's processed Content created by ESRI or its authorized partner(s) for internal use by Contributor.
4. ESRI will provide, in a manner and place that ESRI determines commercially practical, attribution to Contributor as a source of content for the service or dataset in which its Content is published or distributed.

MISCELLANEOUS TERMS

Miscellaneous terms to this agreement shall include:

1. **Term and Termination.** The term of this agreement and the license rights contained herein shall be perpetual. Either party may terminate this agreement after three (3) years upon providing written notice to the other party at least ninety (90) days prior to the end of the first three (3)-year term. In the event of termination, ESRI will have a period of six (6) months after termination to remove or replace Contributor Content from online services and data appliance updates;
2. **Governing Law.** This agreement will be governed by the laws of the state of California, without reference to conflict of laws principles. Any dispute arising out of or relating to this Agreement, or the breach thereof, which cannot be settled first through negotiation, shall be finally settled by arbitration administered by the American Arbitration Association (for U.S. Content providers), or under the Rules of Arbitration of the International Chamber

of Commerce (for all other Content providers). This license agreement shall not be governed by the United Nations Convention on Contracts for the International Sale of Goods, the application of which is expressly excluded.

3. **Relationship of the Parties.** The parties hereto agree that each is an independent contractor with respect to this Agreement and that this Agreement does not constitute an agency, partnership, franchise, or joint venture and that nothing herein contained is intended to constitute, nor shall it be construed to constitute, the parties as agents, partners, franchisor/franchisee, of each other. Except as expressly provided in this Agreement, neither party shall have any power or authority to act in the name or on behalf of the other party except with the prior, express written consent of the other party.
4. **Export Regulation.** The parties acknowledge that this Agreement and the performance thereof may be subject to compliance with any and all applicable United States laws, regulations, or orders relating to the export of Content or data thereto. Contributor shall cooperate with ESRI and provide reasonable and necessary documentation to allow ESRI to comply U.S. Export Control Law or Regulations concerning the classification of any Contributor's Content prior to ESRI making any Content available on the ArcGIS Online Community Maps Web site.
5. **Sales and Use Taxes.** If required by any law or regulation, each party shall assume its respective responsibility for claiming and remitting to its respective taxing authority any and all sales, use, VAT, or other taxes arising from the transaction contemplated by this Agreement.
6. **Force Majeure.** Neither party shall be responsible for any failure to perform or delay in performing any of its obligations hereunder where and to the extent that such failure or delay results from causes outside the reasonable control of the respective party.
7. **Notices.** All notices and communications required or permitted under this Agreement shall be in writing and shall be sent by registered or certified mail, postage prepaid return receipt requested or by facsimile ("fax") transmission with confirmed answer back to the parties at their respective addresses set forth below or to such other address as either party may from time to time specify by notice to the other given as provided in this Article.

If to ESRI:

ESRI
380 New York Street
Redlands, CA 92373-8100
Attn.: Contracts Manager
Phone: 909-793-2853
Fax: 909-307-3020

If to Contributor:

Attn.: _____
Phone: _____
Fax: _____

8. **Successors and Assigns.** The Agreement shall be binding upon the parties hereto and their respective successors and assigns and shall not be construed to confer any right, interest, or benefit in favor of any other person. Notwithstanding the foregoing, either party may assign its rights and interests under this Agreement, in whole and not in part, with the prior, express written consent of the other party to this Agreement, and such consent shall not be unreasonably withheld or delayed.
9. **Equitable Relief.** Both parties agree that any breach of this Agreement by the other party will cause irreparable damage and that, in the event of such breach, in addition to any and all remedies at law, such party shall have the right to seek an injunction, specific performance, or other equitable relief to prevent the continuous violations of these terms.
10. **Agreement; Amendments.** The ArcGIS Online Community Maps Program Participation Agreement and this Attachment, which are incorporated by this reference, constitute the sole and entire agreement of the parties as to the matter set forth herein and supersede any previous agreements, understandings, and arrangements between the parties relating hereto. Upon delivery of any Content to ESRI by Contributor, Contributor is deemed to have agreed to all of these terms. Except as otherwise expressly provided herein, any Amendment(s) and/or Addendum(s) to this Agreement must be in writing and signed by an authorized representative of each party.

This agreement is hereby executed by the parties authorized representatives and shall be effective as of the date of the last party to execute below.

(Contributor)

Signature: _____

Printed Name: _____

Title: _____

Date: _____

ENVIRONMENTAL SYSTEMS
RESEARCH INSTITUTE, INC.
(ESRI)

Signature: _____

Printed Name: _____

Title: _____

Date: _____

**EXHIBIT 1
DESCRIPTION OF CONTENT**

The following gives a brief summary of Contributor's Content to be made available through this agreement. This information should include a description of Content and any required copyright attribution notices. If you are contributing multiple types of content, you may submit multiple pages for this exhibit as needed. Contributor should provide complete metadata information with Content that is delivered to ESRI.

CONTENT SUMMARY

Type of Content: _____ (e.g., imagery, streets, buildings)

Content Description: _____

Coverage Area: _____ (e.g., city, county, state/province)

Resolution or Scale: _____ (e.g., 1 m resolution, 1:10,000 scale)

Coordinate System: _____ (e.g., UTM, state plane)

Data Format: _____ (e.g., TIFF w/world file, Shapefiles)

Approx. Data Size: _____ (e.g., 10 GB, 100 GB)

Update Frequency: _____ (e.g., annual)

Content Info URL: _____

Additional Info (Optional): _____

INTELLECTUAL PROPERTY NOTICES

For online services and/or materials, attribution for ESRI and other content contributors will be provided as follows. Provide the contributor name(s) to be used for attribution of the content described above.

"Source [ESRI, Contributor]"

or

"Copyright © [year(s)] [ESRI, Contributor]."

Preferred Type of Attribution: _____ Source _____ Copyright

Name of Contributor: _____

ADDITIONAL OR SPECIAL TERMS



Infrastructure Data and Visualization Support

HIFLD to the Regions



**Homeland
Security**

Regional Critical Infrastructure Support for Local Jurisdictions

The Department of Homeland Security's (DHS) Office of Infrastructure Protection is the authoritative source for the Nation's critical infrastructure and key resources (CIKR) and shares that vital data with Federal, State, local, tribal, territorial, and private sector partners during both steady-state and incident response activities. During these events and activities, data alone does not always provide enough context to enable homeland security partners to make effective decisions. The ability to view infrastructure data in a map helps present a more comprehensive perspective of the connections between assets.

DHS and the National Geospatial-Intelligence Agency (NGA) have deployed a HIFLD to the Regions team (HTTR) to provide critical infrastructure data and visualization capabilities to each of the eight Supervisory Protective Security Advisors (PSAs) and to serve as field extension support to the HIFLD working group. By working with the PSAs and Federal, State, local, and private sector partners, these individuals assist in identifying and providing infrastructure information prior to an incident and displaying that data in a map form. The team establishes local infrastructure data partnerships to enhance information sharing among all levels of government and the private sector.

Benefits of Regional Information Support

- More focused support on State and local priorities and issues
- Better understanding of shared infrastructure risk, threats, and impact of natural hazards
- Greater awareness and reach of Federal infrastructure protection resources
- Stronger Federal, State, local and private sector partnerships
- Less money spent on commercial data and redundant capabilities



The Model for Regional Information Sharing



The Homeland Infrastructure Foundation Level Data (HIFLD) working group is a partnership between DHS, the Department of Defense, the National Geospatial-Intelligence Agency, and the U.S. Geological Survey to improve the collection, processing, sharing, and protection of infrastructure geospatial data. With several thousand contributing partners,

the HIFLD working group develops a common infrastructure data foundation to be used for analysis and visualization.

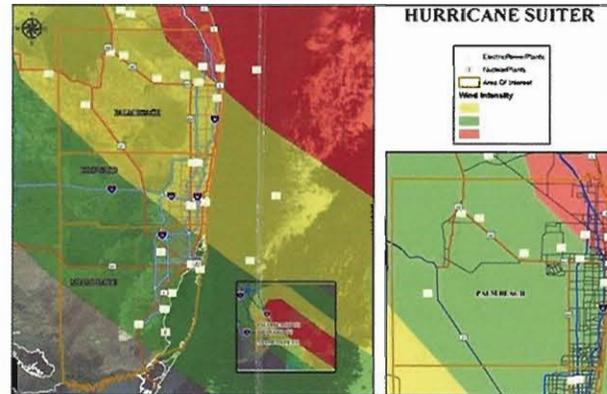
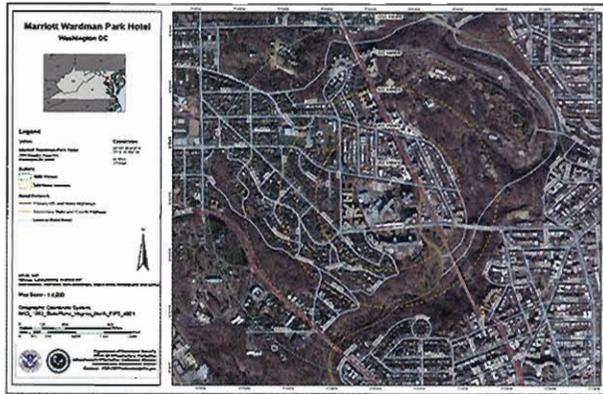
Building on the strong collaborative model of the national HIFLD effort, the HIFLD partners have worked with National States Geographic Information Council (NSGIC), the National Association of Counties, and other Federal, State and local governments to implement a regional extension of HIFLD. HIFLD to the Regions serves as a field support element for the national HIFLD partners, and helps build and enhance regional infrastructure data partnerships.

HSIP Gold

The HIFLD working group is responsible for managing the Homeland Security Infrastructure Program (HSIP), which unifies infrastructure data by compiling the best information from Federal and commercial data sets. HSIP Gold provides more than 300 data layers representing the 18 CIKR sectors, national hazards, and base map layers and is the foundational data set in iCAV and DHS Earth. To view the data inventory of HSIP Gold or the usage agreement, go to www.hifldwg.org and request access to the HIFLD portal.

HSIP Freedom

HSIP Freedom is a subset of HSIP Gold that is comprised of license-free infrastructure data already in the hands of Federal agencies, State and local authorities, and non-governmental organizations. Local jurisdictions can contribute to HSIP Freedom by describing the location of infrastructure relative to landmarks in aerial imagery. HSIP Freedom is available for download from the Homeland Security Information Network (HSIN) GIS portal. To request a HSIN login, e-mail iCAV.info@dhs.gov.



HIFLD to the Regions in Action

Our Nation's critical infrastructure is as diverse as agriculture and food, emergency services, and transportation systems. The ability to protect the complex, interconnected systems vital to our everyday life requires strong partnerships and relevant infrastructure data to inform decisions. The HTR Team is working with the Supervisory PSAs to address the threats and concerns unique to specific geographies. While their individual assignments vary from supporting hurricane preparation and large-scale events, to mapping dams and refineries, and supporting steady-state operations, the capabilities they provide remain the same.

Infrastructure Data

Before effective planning or response can take place at the State or local level, relevant and accurate infrastructure data must be identified and evaluated. By working with State and regional partners, the team members identify key infrastructure data resources and recommend collaboration and information-sharing processes. The HTR Team members also conduct data quality assurance and quality control to verify infrastructure data attributes such as the longitude and latitude coordinates so the data will display accurately.

Relationships fostered by the HTR Team help ensure the right infrastructure data are available and accessible to homeland security partners. They are able to address the specific infrastructure data challenges and needs of local jurisdictions and serve as a liaison to Federal data resources.

Data Visualization

The HTR Team has knowledge of Geographic Information Systems (GIS) tools with years of training and experience. They support the homeland defense and homeland security mission by generating geospatial products in various formats.

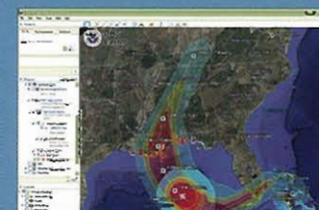
Geospatial activities provide a visual representation of local infrastructure for steady-state planning efforts and for incident planning, response, and recovery. They are also familiar with DHS mapping tools, iCAV NextGen and DHS Earth and how those tools can be used to support infrastructure protection activities.

Visualization Resources Information about iCAV and DHS Earth access requirements and training is available at <https://iCAV.dhs.gov>.



iCAV NextGen

The Integrated Common Analytical Viewer (iCAV) is a secure, Web-based, geospatial visualization tool that enables users to view and analyze infrastructure data in a customizable electronic map.



DHS Earth

DHS Earth is a homeland security data feed that can be viewed using Google Earth or other GIS tools. With DHS Earth, users can view critical infrastructure information in a user-friendly 3D environment.

Contact Information

Infrastructure Data Management

E-mail: IICD@dhs.gov

iCAV NextGen and DHS Earth

E-mail: iCAV.info@dhs.gov

Phone: 703-235-4949

Web: <https://iCAV.dhs.gov>

HIFLD Working Group

Web: www.hifldwg.org

Critical Infrastructure Protection Resources

Web: www.dhs.gov/criticalinfrastructure

HIFLD to the Regions Partners

National States Geographic Information Council (NSGIC) State Representatives

U.S. Geological Survey (USGS) State Liaisons

State Emergency Operations Centers and Emergency Management Offices

State and Local Fusion Centers

State National Guard Joint Operations Centers

FBI Field Offices

FEMA Regional Representatives

Defense Coordinating Officers, co-located with the FEMA Regions

Environmental Protection Agency (EPA) Regional Representatives

**For more information on support resources within
your region please contact:**



Protecting our Nation's critical infrastructure and key resources (CIKR) requires detailed, accurate, and consistent information to better prepare for, respond to, and recover from natural or man-made disasters. The Infrastructure Information Collection Division (IICD), within the Office of Infrastructure Protection, leads the Department's efforts to gather and manage this vast amount of infrastructure information by providing Federal, State, and local governments, as well as private sector partners, with resources for data collection, management, and visualization.



Collection

CIKR collection efforts rely on strong public-private partnerships to receive essential infrastructure data for use in national risk management, infrastructure protection, and incident management activities. To enable the collection of infrastructure data, IICD works with the 18 CIKR Sectors to develop automated risk analysis and assessment tools used to understand interdependencies and the risk landscape in a particular sector.

IICD provides the Constellation/Automated Critical Asset Management System (C/ACAMS) to enable local jurisdictions to collect and manage information about the infrastructure in their communities, including utilities, public works facilities, hospitals, schools, business, and other critical infrastructure. Available at no-cost and accessible via the Web, C/ACAMS is designed to meet the unique needs of emergency responders and other homeland security personnel. For more information, e-mail ACAMS-info@hq.dhs.gov or visit www.dhs.gov/ACAMS.



Management

IICD spearheads the focused effort to ensure that infrastructure data is authoritative, adheres to common standards, and is disseminated appropriately. As part of this effort, IICD manages the Infrastructure Data Taxonomy, which provides a common language for describing critical infrastructure to improve infrastructure data collection and sharing within the homeland security community.



IICD's Protected Critical Infrastructure Information (PCII) Program enhances public-private partnerships by providing additional protections from public disclosure. Qualifying information receives protection from the Freedom of Information Act (FOIA), similar State and local disclosure laws, and use in civil litigation. These protections enhance the collection and sharing of information by assuring owners and operators of critical infrastructure that their sensitive or proprietary information shared with the government will be protected from public disclosure. For more information, e-mail PCII-info@dhs.gov or visit www.dhs.gov/PCII.

Visualization

The ability to view a situation and gain comprehensive situational awareness is enhanced through a geospatial lens. IICD's visualization capabilities enable homeland security partners to view and analyze critical infrastructure data in a map form. This perspective provides a broader common operational picture of a pending crisis or situation, its impact on local infrastructure, and how infrastructure is interlinked with each other.



IICD's Integrated Common Analytical Viewer (iCAV) provides a suite of Web-based visualization tools that are fueled by information from a variety of sources. Homeland security partners may use iCAV's suite of tools to view data according to their needs. 2D displays provide enhanced analytical capabilities, and 3D interfaces deliver a topographical layout and additional spatial context. For more information, e-mail iCAV.info@dhs.gov or visit www.dhs.gov/iCAV.

Infrastructure Information Collection System

Office of Infrastructure Protection ♦ Infrastructure Information Collection Division

Overview

The Infrastructure Information Collection System (IICS) will offer a robust data integration and management platform using a distributed information technology (IT) architecture that enables easy access to infrastructure data.

The IICS will use data managed by a federated, virtual data warehouse to provide users with access to the most up-to-date, comprehensive source of critical infrastructure data. Users will be able to search, store, and retrieve infrastructure data from multiple sources. Ultimately, the IICS will enable users to collaborate and share knowledge about data attributes to enhance and improve data quality.

IICS data sources will include Federal, State, and local authoritative, open source infrastructure data sets and data collected through Department of Homeland Security (DHS) infrastructure protection initiatives, including data collected through site visits and related State and local outreach activities.

The IICS will enable users to:

- Access numerous and varied data from a single, virtual source
- Share data attributes to enhance and improve data quality

Features

The IICS will be accessed through the Homeland Security Information Network (HSIN) using a single sign-on feature. The system will be comprised of two primary components:

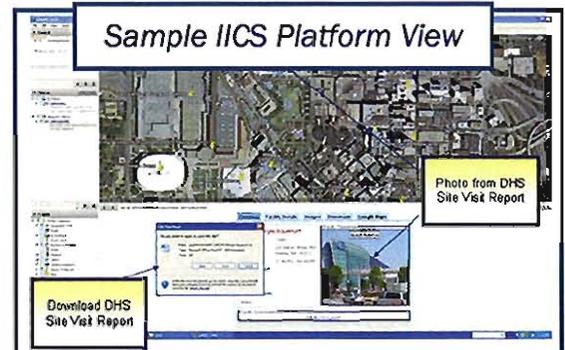
- Data applications for searching, exporting, importing, and data manipulation
- Virtual, federated database, called the Infrastructure Data Warehouse (IDW), which processes infrastructure data from numerous sources

Benefits

The IICS will enable users to quickly identify relevant vulnerability and consequence data from a virtual, single access point. The IICS will also reduce duplication of effort and will improve existing information, while facilitating data maintenance and verification by numerous homeland security partners. The IICS and the IDW will enable DHS to create, maintain, and make available comprehensive information about the Nation's critical infrastructure that is most at-risk.

Contact Us

Learn how the IICS can support your organization's homeland security efforts. Contact us at IICD@dhs.gov.



**Homeland
Security**

The Infrastructure Information Collection Division (IICD) leads the Department's efforts to protect and provide standardized, relevant and customer-focused infrastructure data to homeland security partners. Through its projects, programs, systems and mission areas, IICD implements its vision to provide DHS enterprise solutions for the collection, management and sharing of infrastructure data.

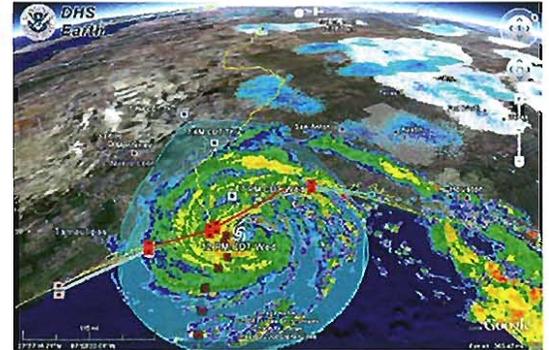
DHS Earth – Integrated Common Analytical Viewer

Office of Infrastructure Protection ♦ Infrastructure Information Collection Division

Overview

The Integrated Common Analytical Viewer (iCAV) is a suite of geospatial visualization and analysis tools managed by the Department of Homeland Security (DHS) Office of Infrastructure Protection. iCAV unites homeland security (HLS) mission partners through an integrated, Web-based architecture for infrastructure information dissemination, analysis, and visualization.

DHS Earth adds to the iCAV suite of tools a user-friendly, 3D visualization and rapid data integration capability based on the Google Earth platform. DHS Earth provides a geospatial context for situational and strategic awareness across the Nation and around the globe to help HLS partners better prepare for, prevent, respond to, and recover from natural and man-made disasters.

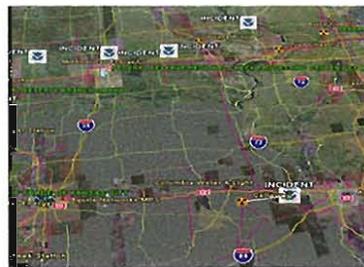


Features

DHS Earth allows for the rapid exchange and visualization of static and real-time infrastructure, spatial and situational awareness information for Federal, State, local, and other HLS mission partners. DHS Earth is built using the Google Earth application, which is recognized across government and industry for its ease of use, fast data ingest and processing speeds, and intuitive interface, yet is flexible enough to support a wide range of commonly used Web services. The DHS Earth application delivers users access to authoritative infrastructure data and a wide range of automated data delivery services to view real-time situational awareness information at the click of a button.

Benefits

DHS Earth facilitates the fusion of infrastructure and spatial information to visualize the homeland security environment in a real-time, real-world context.



DHS Earth is a data visualization tool that:

- Enables the exchange of static and real-time geospatial data
- Delivers a geospatial context for homeland security mission data
- Provides capabilities for pre- and post-imagery impact analysis
- Provides capabilities for rapid standards-based systems integration

Contact Us

Learn more about how iCAV can support your organization's homeland security efforts. Contact us at iCAV.info@dhs.gov.



**Homeland
Security**

The Infrastructure Information Collection Division (IICD) leads the Department's efforts to protect and provide standardized, relevant and customer-focused infrastructure data to homeland security partners. Through its projects, programs, systems and mission areas, IICD implements its vision to provide DHS enterprise solutions for the collection, management and sharing of infrastructure data.

Critical Infrastructure and Key Resources Asset Protection Technical Assistance Program

Office of Infrastructure Protection ♦ Infrastructure Information Collection Division

Overview

Key to the development of State and local infrastructure protection programs, the Critical Infrastructure and Key Resources (CIKR) Asset Protection Technical Assistance Program (CAPTAP) is jointly offered by the Department of Homeland Security's Office of Infrastructure Protection and the Federal Emergency Management Agency's National Preparedness Directorate. Program participants gain the knowledge needed to build tailored infrastructure protection programs in their State or local jurisdiction. Technical assistance is provided in many formats, including Web-based learning modules and instructor-led sessions.

Features

CAPTAP is designed to assist State and local first responders, emergency managers, and homeland security officials gain both an understanding and application of:

- How to identify and prioritize CIKR
- Applying the risk management framework as defined within the National Infrastructure Protection Plan (NIPP)
- Methods for identifying and cataloging infrastructure sites and systems
- Procedures for conducting infrastructure vulnerability assessments
- Public/private partnerships and their role in the infrastructure protection process
- Benefits of Protected Critical Infrastructure Information (PCII)
- How the Constellation/Automated Critical Asset Management System (C/ACAMS) assists in collecting and managing CIKR data
- How the Integrated Common Analytical Viewer (iCAV) mapping functions within C/ACAMS visualize infrastructure information to increase situational awareness

CAPTAP Participants:

- Gain an in-depth understanding about components that contribute to effective Critical Infrastructure Protection planning
- Receive training designed for the unique needs of State and local communities

Benefits

CAPTAP provides the foundation to develop and implement infrastructure protection programs in jurisdictions. Learning alongside their peers, participants are provided with ways to identify, assess, prioritize and protect infrastructure assets. Hands-on activities, such as field assessment visits, provide practical application of the principles taught in the program.

Contact Us

Learn more about CAPTAP and how it can help you in your infrastructure protection program. Contact us at (703) 235-3939 or by e-mail at ACAMS-info@hq.dhs.gov.



**Homeland
Security**

The Infrastructure Information Collection Division (IICD) leads the Department's efforts to protect and provide standardized, relevant and customer-focused infrastructure data to homeland security partners. Through its projects, programs, systems and mission areas, IICD implements its vision to provide DHS enterprise solutions for the collection, management and sharing of infrastructure data.

Infrastructure Data Management Program

Office of Infrastructure Protection ♦ Infrastructure Information Collection Division

Overview

The Infrastructure Data Management (IDM) program collects, manages, and stores information about the Nation's infrastructure for use in a variety of security applications. By establishing data taxonomies and standards to provide a common understanding of data attributes, the IDM program helps ensure interoperability so that data can be shared with Federal, State, local, and private sector homeland security partners. The IDM program employs a structured approach to data collection and sharing by identifying data requirements, using standardized processes, locating information resources, and validating data against quality and security standards.

Features

By focusing on a requirements-based data collection and management model, the IDM program helps ensure that needed infrastructure data is available and usable by homeland security partners. IDM includes two primary areas:

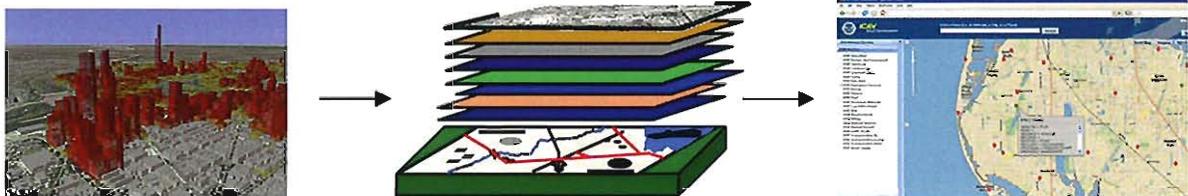
- Requirements management includes standardizing collection processes, analyzing data, and coordinating with partners to meet unique requirements
- Data management includes developing data standards and taxonomies, protecting sensitive data from unauthorized release, providing access and dissemination services, conducting quality control and assurance, and identifying where data is located

The IDM program:

- Establishes data standards
- Provides a common and consistent asset data terminology
- Defines a structured approach to data collection and management

Benefits

Data standards facilitate timely and efficient information exchange and interoperability with a variety of applications. Multiple sectors can utilize the IDM program's data for their analyses and products to develop situational awareness of impacts on infrastructure assets. IDM enables information partners and asset owners to share information with decision makers to prevent, protect, and respond to all hazards to critical infrastructure.



Infrastructure data can be combined with other information for use in a variety of analysis and visualization applications.

Contact Us

Learn how the IDM program can support your organization's homeland security efforts. Contact us at IICD@dhs.gov.



**Homeland
Security**

The Infrastructure Information Collection Division (IICD) leads the Department's efforts to protect and provide standardized, relevant, and customer-focused infrastructure data to homeland security partners. Through its projects, programs, systems, and mission areas, IICD implements its vision to provide DHS enterprise solutions for the collection, management and sharing of infrastructure data.

Protected Critical Infrastructure Information Program

Office of Infrastructure Protection ♦ Infrastructure Information Collection Division

Overview

The Department of Homeland Security created the Protected Critical Infrastructure Information (PCII) Program in accordance with the Critical Infrastructure Information (CII) Act of 2002. The PCII Program protects from public disclosure CII voluntarily shared with government entities for homeland security purposes. Typically, when information is shared with the Federal government it becomes a public record and may be accessed through public disclosure laws, unless additional protections are applied.

The PCII Program works with various government partners to integrate PCII protections into the entities' data-collection processes. This offers a way for government security analysts to access CII while owners and operators of critical infrastructure are assured that their information is protected from public disclosure. Program safeguards ensure that only trained and authorized individuals with a need-to-know access PCII and only use it for homeland security purposes.

Features

The PCII Program enhances private sector and government collaboration by providing the following:

- Protection from public disclosure to qualifying CII shared with the government
- A set of standard safeguarding and handling requirements for PCII authorized users

Benefits

The private sector can more freely share sensitive and proprietary CII with government partners with the confidence that it will be protected from public release. Government entities partnering with the PCII Program are able to access information they may not otherwise have for homeland security purposes, while demonstrating their ability to safeguard the information from public disclosure.

Contact Us

Learn how the PCII Program can support your organization's homeland security efforts. Contact us at (202) 360-3023 or by e-mail at PCII-info@dhs.gov. Information is also available at www.dhs.gov/PCII.

PCII is protected from:

- FOIA—Freedom of Information Act—disclosure
- State and local disclosure laws
- Use in civil litigation

Additionally, it cannot be used as the basis for regulatory action.



**Homeland
Security**

The Infrastructure Information Collection Division (IICD) leads the Department's efforts to protect and provide standardized, relevant, and customer-focused infrastructure data to homeland security partners. Through its projects, programs, systems, and mission areas, IICD implements its vision to provide DHS enterprise solutions for the collection, management and sharing of infrastructure data.

Integrated Common Analytical Viewer

Office of Infrastructure Protection ♦ Infrastructure Information Collection Division

Overview

The Integrated Common Analytical Viewer (iCAV) unites homeland security (HLS) mission partners through an integrated Web-based Service Oriented Architecture for information dissemination, analysis, and visualization. The iCAV suite of Web-based viewers, owned by the Department of Homeland Security, provides a geospatial context for situational and strategic awareness across the Nation and around the globe to better prepare for, prevent, respond to, and recover from natural and man-made disasters. The iCAV system exchanges static and real-time information between Federal, State, local, and other HLS partners.

Features

iCAV connects previously stove-piped systems to provide consistent, User-Defined Operating Pictures (UDOP) across organizational boundaries utilizing Homeland Security Infrastructure Program (HSIP) data. In addition, iCAV links HLS systems and users ranging from the local level to agencies across the Federal government and its partners. iCAV's two- and three-dimensional viewers visualize geospatial products, data feeds from multiple sources, and impacts to baseline infrastructure.

iCAV is an analytical and electronic display tool that:

- Provides capabilities to exchange static and real-time geospatial data
- Delivers a geospatial context to multiple information systems
- Visualizes impact to infrastructure



Sample iCAV visualizations (L-R): post-event infrastructure impact analysis, real-time data from analytical dynamic weather feeds, and Emergency Response Guidebook (ERG) chemical first responder quick cardplume.

Benefits

iCAV facilitates the fusion of information from multiple sources by fostering horizontal and vertical information sharing to provide situational awareness tracking for disasters, such as hurricanes and other real-time events.

Contact Us

Learn how iCAV can support your organization's homeland security efforts. Contact us at iCAV.info@dhs.gov. Information is also available at www.dhs.gov/iCAV.



**Homeland
Security**

The Infrastructure Information Collection Division (IICD) leads the Department's efforts to protect and provide standardized, relevant, and customer-focused infrastructure data to homeland security partners. Through its projects, programs, systems, and mission areas, IICD implements its vision to provide DHS enterprise solutions for the collection, management and sharing of infrastructure data.

Homeland Infrastructure Foundation-Level Data Working Group

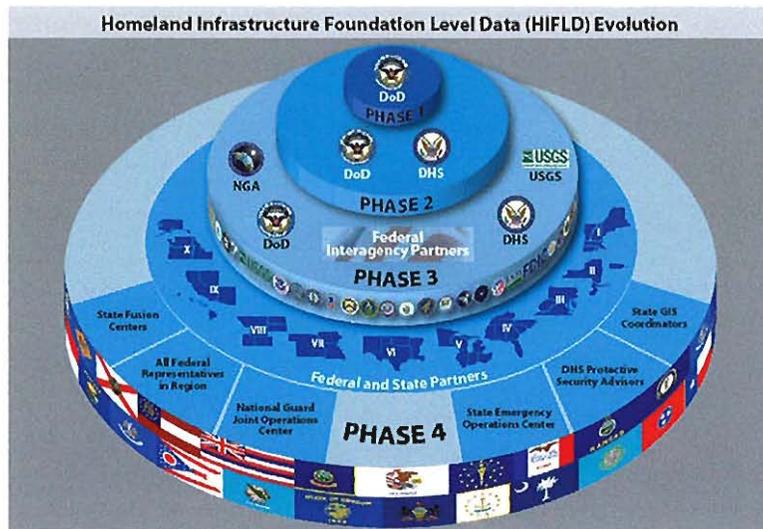
Overview

Established in 2002, the Homeland Infrastructure Foundation-Level Data Working Group (HIFLD) is comprised of four official members (Department of Homeland Security, Department of Defense, National Geospatial-Intelligence Agency, and U.S. Geological Survey) and several thousand contributing partners who promote the collection, processing, and sharing of infrastructure geospatial information. HIFLD includes Federal, State and local governments, federally-funded research and development centers, and private industry partners focused on strengthening information exchanges; partnerships; and coordinating preparedness, response and recovery efforts in the event of natural or man-made disasters.

Features

The bi-monthly HIFLD meetings focus on various topics and activities including:

- Fostering partnerships across all levels of government and industry
- Department of Homeland Security and Department of Defense Infrastructure information requirements
- Promoting and populating the Homeland Security Infrastructure Program (HSIP) geospatial databases, HSIP Gold and HSIP Freedom
- Sharing best practices for Federal-interagency coordination
- Identifying authoritative infrastructure geospatial data sources
- Acquiring infrastructure geospatial data
- Creating and maintaining geospatial data standards and symbology
- Developing recommendations on policy-related issues



Benefits

HIFLD provides partners:

- Access to common infrastructure geospatial data sources
- Established standards for geospatial data collection, processing and sharing
- Forum for user feedback on HSIP data
- Participation in infrastructure information partnerships across all levels of government

Contact Us

Learn how HIFLD can support your organization's homeland security efforts at www.hifldwg.org. Contact us at IICD@dhs.gov.



Constellation/Automated Critical Asset Management System

Office of Infrastructure Protection ♦ Infrastructure Information Collection Division

Overview

The Constellation/Automated Critical Asset Management System (C/ACAMS) is a secure, Web-based portal designed to help State and local emergency responders, such as infrastructure protection planners, homeland security officials, law enforcement personnel, and emergency managers, collect and organize critical infrastructure and key resource (CIKR) asset data as part of a comprehensive CIKR protection program. C/ACAMS is managed by the Department of Homeland Security's Office of Infrastructure Protection and was developed in partnership with the Los Angeles Police Department's Operation Archangel and the Federal Emergency Management Agency National Preparedness Directorate. C/ACAMS is provided at no cost for State and local use.

Features

C/ACAMS provides the following features to help State and local users develop and implement comprehensive CIKR protection programs:

- Live law enforcement and counter-terrorism news feeds
- Built-in Buffer Zone Protection Plan development tools
- Comprehensive electronic CIKR reference library
- Built-in asset manager questionnaires
- Programmable role-based access
- Standard and customized reports
- Public disclosure protections through the Protected Critical Infrastructure Information (PCII) program
- Robust mapping and geospatial functionality using the Integrated Common Analytical Viewer (iCAV)
- DHS-approved CIKR asset taxonomy classification capability
- Comprehensive infrastructure inventory management and vulnerability assessment tools

C/ACAMS helps State and local users:

- Collect and use CIKR asset data
- Assess CIKR asset vulnerabilities
- Develop response and recovery plans
- Build public-private partnerships



C/ACAMS character map

Benefits

C/ACAMS provides users with an integrated approach for collecting, protecting and analyzing CIKR asset data consistent with the National Infrastructure Protection Plan.

Contact Us

Learn how C/ACAMS can support your organization's homeland security efforts. Contact us at (703) 235-3939 or by e-mail at ACAMS-info@hq.dhs.gov. Information is also available at www.dhs.gov/ACAMS.



**Homeland
Security**

The Infrastructure Information Collection Division (IICD) leads the Department's efforts to protect and provide standardized, relevant, and customer-focused infrastructure data to homeland security partners. Through its projects, programs, systems, and mission areas, IICD implements its vision to provide DHS enterprise solutions for the collection, management and sharing of infrastructure data.