

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

**Meeting Summary**  
**Quarterly DGDC Meeting**  
**9:00 a.m.,**  
**February 9, 2006**  
**Room 112**  
**Tatnall Building**  
**Dover, DE**

**Attendance List:**

Mike Mahaffie .....	State Planning Coord.
Sandy Schenck.....	DGS
Miriam Pomilio.....	DGS
Brad Strittmatter .....	DGS
Paul Sample .....	Legislative Council
Deborah Sullivan .....	DNREC
Jennifer Volk.....	DNREC
Mike Krumrine .....	DNREC
Mike Townshend .....	DNREC
Doug Rambo .....	DNREC
John Inkster .....	DNREC
Mollie Raley .....	DeIDOT
Peggy Bacon .....	DeIDOT
Jay Gerner.....	DeIDOT
Bruce Allen .....	DeIDOT
George Kent .....	DeIDOT
George Yocher .....	Div. of Public Health
Barbara Gladders .....	Div. of Public Health
John Laznik .....	UD/CADSR
Rick Sherwood .....	DEMA
Tom Wuerzer.....	Town of Smyrna
Debbie Pfeil .....	Town of Georgetown
Roger Barlow.....	USGS
Kevin Hickman.....	Dover/Kent MPO
Tom Peralta .....	New Castle Co.
Sandra Janowski .....	New Castle Co.
Mike Ward .....	Kent Co.
Mary Harper.....	HCA
Chad Lauderbaugh.....	GeoDecisions
Eric Storms .....	GeoDecisions
Glenn Gladders .....	DDA/Forest Service
Jeff Brothers .....	DDA
Shelly Ide.....	DSHA
Tony Collins.....	DTI
Kim Cloud .....	DTI
Matthew Martini .....	ESRI
Mark Nowak.....	City of Dover
Chris Sommers.....	DE Group
Andy Freckman .....	EarthData
Brianne Press .....	URS
Spencer Aycock.....	Env. Resources Inc.

**Welcome and Introductions**

Mike Mahaffie began the meeting at approximately 9:10 a.m. with a round of introductions.

**Information Updates**

*GIS Coordination Legislation*

Mike Mahaffie gave an update on the status of [Senate Bill 186](#), which has passed in the Senate and is expected to clear the House this spring. This legislation will establish a GIS Coordination Council and will formalize the DGDC.

*2006 GIS Conference*

Miriam Pomilio, Vice Chair of the [Conference Planning Committee](#), noted that the conference will be June 1, with workshops on May 31 and June 2. The Chief Cartographer of the National Geographic will be the keynote speaker. Mike Mahaffie noted that the [call for nominations for the GIS Service Award](#) has been officially released. This award is in honor of Vern Svatos. The deadline for nominations is April 28. It was also noted that there will be a Sponsor Reception on May 31, as part of the Conference. Mike Mahaffie encouraged people to consider submitting abstracts in response to the [call for presentations](#).

*DataMIL/Framework*

Miriam Pomilio explained that the DataMIL has been updated to include the National Hydrography Dataset (NHD), county community data, and an edited GNIS data layer. The ability to recreate USGS Topo maps will be added soon.

### *Delaware Spatial Data Clearinghouse*

Mike Mahaffie reported that the Clearinghouse team is at new portal software for the clearinghouse and will have more to report at future meetings. Mike also announced a new data inventory tool -- RAMONA – that has been developed by NSGIC. As explained in a RAMONA hand-out (attached), the system will help federal agencies discover which data sets are available from state and county sources. The RAMONA system is expected to be officially released in the next month.

### *Road/Address Conflation Project*

Mike Mahaffie gave an update on the project to create a public/private partnership with TeleAtlas to aggregate road and address data and enable on-going data maintenance. DeIDOT has the lead on the project. The State's Homeland Security Working Group has identified federal funding that should enable the start of the project in the next several months.

### *Statewide Geocoder*

Mike Townshend reported that a Geocoder Committee has formed and met and have identified national standards that should give us the basis on which to write requirements for a Delaware geocoder. Members of the group have been reviewing these and will next start drafting requirements.

### *LiDAR Project.*

Roger Barlow of the USGS delivered four Quads of the new LiDAR data to DGS at this point in the meeting. He reported that the project is proceeding on schedule. He expects to make another delivery in the next several weeks. The USGS is working west to east, to match the needs of DNREC flood mapping project managers. They will complete Sussex County first, and then work on the eastern portion of Kent County.

This is a preliminary data delivery. There will eventually be a seamless data delivery. This is not yet a public data release. Eventually, there will also be 2-foot contours. Roger hopes to complete that part of the project by the end of the state fiscal year. The Digital Elevation Model is more for higher-end analysis work. DGS and USGS are still working on how to disseminate the DEM data. The DataMIL will serve a hillshade image and contours. Sandy Schenck has offered to post a sample of a hillshade on the DGS website as an example.

Meanwhile, the LiDAR project team is still looking for funding to complete the project for the remainder of the state. The estimated cost is approximately \$370,000.

### *Orthophotography Project*

Mike Mahaffie reported that he will soon officially seek an estimate for the 2007 Ortho update from EarthData, with whom Delaware has a professional agreement that covers the 2007 update. There are funds identified by DeIDOT and in the Office of Management and Budget for the project. A request for further funding will be made.

Mike Mahaffie, Sandy Schenck, and Roger Barlow have been working with Maryland and New Jersey on a possible multi-state approach to the project. The USGS may be able to help fund the project, but not unless the data is entirely public-domain.

Meanwhile, Mike Mahaffie reported, there is a proposal under development by NSGIC to establish a national program to fund regular ortho updates. The Imagery for the Nation proposal (attached) would call for federal funding for a basic national imagery program. States and counties could “buy-up” the project locally to get even higher resolution data.

It is expected to take some time to successfully push through this idea. It is likely that the DGDC and the proposed Delaware Council will be asked for their support in the future.

#### *GIS at DTI Project*

Kim Cloud and Tony Collins, of DTI, reported that she is making progress in exploring the appropriate role for DTI in GIS and spatial data. She reported that ESRI has made a presentation to DTI on a potential enterprise GIS solution. Kim will contact various agencies that might be able to take advantage of such a solution to continue to gather requirements. Mike Mahaffie thanked Kim and Tony on bringing DTI along this far in this effort.

#### **Discussion: DGDC Charter Brainstorming Session**

Mike Mahaffie led a group discussion of what might belong in a Mission Statement for the DGDC. The legislation that will create a GIS Coordination Council will also call for a more formal DGDC and for DGDC by-laws or a charter. Mike distributed an outline of the existing by-laws of the Delaware Population Consortium (attached) as an example.

There was general discussion of what the purpose of the DGDC should be in the new coordination approach. There were several general ideas expressed, including:

- That the DGDC become a form of GIS User's Group
- That the DGDC “advise, monitor, facilitate, and share”
- That the DGDC advise and recommend
- That there be a more formal process to bring issues before the DGDC

It was generally agreed that there should be a working group to start drafting DGDC by-laws. Members include Debbie Pfiel, Bruce Allen, Paul Sample, and Mike Mahaffie. Dave Racca was asked to also review ideas and the group will recruit at least one county-level representative.

#### **Discussion: Beyond Framework: What Other Statewide Data Sets Are Needed?**

There was a general discussion of what data sets, beyond the basic framework data sets, should be served via DataMIL. In some cases, it was agreed, these are likely to be sub-layers of existing framework layers. In some cases, there may be other data web

sites that should host identified statewide layers. In other cases, there are layers needed for which data stewards still need to be identified.

The general discussion included:

- Public Lands and Protected Lands – These include state parks and state forests, as well as lands under various forms of preservation easement. State parks and forests will likely be taken care of by DNREC.
- Election District Boundaries and Senatorial/Representative District Boundaries – The data steward for these boundaries should be the Elections Commissioner's office. Several in DGDC have worked with the Commissioner's office on these data and will continue to do so. This may be a data set that should be added to DataMIL.
- Tax Ditch Boundary Layer – This is handled by DNREC.
- Ag Preservation Districts and Ag Development Districts – These are presently served for download from the SmartMap system on behalf of the Dept. of Agriculture.
- Transfer of Development Rights Zones – This category will take more research as these programs are established at different levels of geography. This may be a data set that the Office of State Planning Coordination can compile, on a statewide basis, from local sources.
- ZIP Code Areas – The US Census Bureau publishes "ZIP Code Tabulation Areas" (ZCTAs) which approximate ZIP Code areas. Because ZIP Codes are not intended to swerve as geographic areas, but rather as delivery routes, this may be the best resources available.

There was some discussion of the eventual merging of the DataMIL and the Clearinghouse. This will be further explored as we look into the idea of a GIS Portal.

### **Roundtable: New Projects, New Data, What Else is New?**

Sandy Schenck reported that DGS is working on black and white aerial photos from 1961 and will soon be able to add them to the growing collection served via DataMIL. Photos from 1968 will be next.

Paul Sample noted that it would be helpful to have a method to discover the locations of trash piles, especially dumps of discarded tires. George Yocher suggested that the Civil Air Patrol has a digital hyper-spectral imaging system used mainly for search and rescue that might be able to capture such piles. Others suggested that the LiDAR data might be used to reveal topological anomalies that might be trash dumps.

Mary Harper reported that the Division of Historical and Cultural Affairs is still working with DTI and GeoDecisions to get their data online in an IMS application.

Kevin Hickman reported that the Dover/Kent MPO is working on updating demographic data. They are working closely with the UD Center for Applied Demography and Survey Research.

Debbie Sullivan reported that she has begun work on the maintenance of the National Hydrography Dataset.

Mike Ward reported that Kent County has begun working on an update to their comprehensive plan and will be in touch with several agencies for data updates.

Mike Krumrine reported that the Division of Parks and Recreation is working on an update of the State Resource Area data and updating hiking trail files for State Parks. He noted that new park maps are to be produced.

Peggy Bacon of DelDOT reported that staff are continuing to bring topographic survey data in to their GIS system. She asked whether there is statewide data showing the locations of stormwater management structures.

Mark Nowak of the City of Dover noted that the city's tax assessment office now has a point-address layer. The city is also mapping fire incidents for the fire marshal and linking it to an arson database. Mark has created a new map-book for the City of Dover.

Shelly Ide reported that the State Housing Authority continues to maintain a multifamily housing database. This will eventually be deployed as a web map.

Mollie Raley reported that she is still working on a Park-and-Ride and transit study of the resort area.

Mike Townshend reported on a variety of activities within DNREC. New internal applications include a partnership between the Watershed Assessment Branch and the DNREC Lab to push out ambient water quality data on-line. The application is being built to integrate into the state's website "common look and feel." He added that the Environmental Navigator will eventually be broken apart into several applications, each focused on a topical area of interest.

Tom Wuerzer, of Smyrna, reported that he is gathering spatial data on all of the technical infrastructure of the Town, including hydrants, water systems, and electrical utilities.

Tom Peralta reported that the New Castle County crime-location IMS site will be revamped to have a more "google-y" look and feel.

George Yocher reported that there are several centers of GIS activity within health and Social Services. In most cases, they are using GIS for internal reports.

Doug Rambo, of DNREC, reported on working on a new statewide data set of wellheads, wellhead protection areas, drinking-watersheds and related data.

John Laznik reported that CADSR is working with the Department of Education on a data set of day care locations.

Rick Sherwood, of DEMA, noted that he has been getting very useful data and ideas from the DGDC.

Tony Collins, of DTI, says he is trying to learn more about GIS, and about the DGDC and how it shares data.

Debbie Pfiel, of Georgetown, noted that she is working on a master database of development proposals and is working to have developers submit site plans electronically.

Roger Barlow reported that USGS is working with NOAA to generate an official US Shoreline. He added that it may be useful to enter into a project to densify the High Accuracy Reference Network (HARN) in Delaware to assist this project.

Jay Gerner, of DeIDOT Planning, reported that he is working on land use trends. DeIDOT is also working with an accident database and linking that other DeIDOT databases for research purposes.

Bruce Allen, also of DeIDOT, added that he is now working with the DeIDOT INFORM system, and on adding archived traffic data to the system.

Chris Sommers, of the DC Group, has been doing site plans and doing some work for municipal government. He noted that his company is available to help others as well.

Kim Cloud, of DTI, reported that she has just returned from the ESRI Federal Users Conference. She noted that DataMIL was heavily referenced and used by federal agencies.

Eric Storms, of GeoDecisions, reported that his company is working closely with DNREC and DHCA (as well as DeIDOT) and will be a subcontractor to Diamond Technologies to assist New Castle County with their IMS system.

Jeff Brothers, of the Department of Agriculture's Forest Service, noted that he is a "GIS Illiterate" but that there is a renewed interest in the use of spatial data at his agency and that he has been taking some training in the use of GIS.

There being no further business the meeting adjourned at approximately 12:10 p.m.

# Ramona GIS Inventory System

**NSGIC** is proud to announce that the Ramona GIS Inventory System is available for public use beginning on February 20, 2006. Development of Ramona was completed last fall using grant funds from NOAA. It underwent beta testing with thirteen states through December 2005, and their suggested changes have been incorporated into the system.

Ramona was developed to inventory the GIS data holdings of tribal, state and local governments, and their partners. It provides one consistent platform for the nation that is designed to work in concert with the Geospatial One Stop (GOS) Portal, but it can also be customized for use by each state.

Ramona allows its users to create their own profile, including information on their organization, systems, and data distribution and management policies. Creation of this profile takes between 15 and 30 minutes and can be done in multiple sessions. The system also provides a quick way to inventory individual data layers that only takes between 30 seconds and 2 minutes per layer.

Through various survey efforts, NSGIC estimates that 75% of state and local government agencies do not document their data holdings in a nationally consistent manner using the Federal Geographic Data Committee's (FGDC) Metadata Standard. Ramona automatically creates a very basic

FGDC-compliant Metadata form which the user can choose to send to the GOS Portal.

Using Ramona will help state, local and tribal government agencies reduce the number of data inventory requests made by federal agencies. For example the U.S. Census Bureau routinely contacts agencies to obtain information for the TIGER Enhancement Database and the Federal Emergency Management Agency inventories all available data when it begins to update Flood Maps in each jurisdiction. By entering the information for your organization, at your own pace, you can reduce the number and frequency of these contacts and manage your time more effectively. Ramona will also be use-

ful when government agencies are responding to emergencies. Your information will be readily available to other agencies and will reduce the need for them to contact you. This will help to speed-up services to your citizens.

New reports and other features will be added to support state-wide business planning activities. This will ensure that your information is available to potential partners as they develop budgets and plan for future data production. The existing management reports can give us a much better understanding of our national status, trends, and needs. Ramona is a functional tool and not just a collection of information.



[-Home](#) [-My Profile](#) [-Directory](#) [-Status Maps](#) [-Getting Started](#) [-About](#)

LOGIN  
 email   
 password   
  
[create account](#)



Welcome William Burgess - [Logout](#)

Complete	In-progress	Planned		on	off
			City/Town	<input type="checkbox"/>	<input type="checkbox"/>
			County	<input type="checkbox"/>	<input type="checkbox"/>
			Statewide	<input type="checkbox"/>	<input type="checkbox"/>
			Tribal	<input type="checkbox"/>	<input type="checkbox"/>
			Nationwide	<input type="checkbox"/>	<input type="checkbox"/>
			No Response	<input type="checkbox"/>	<input type="checkbox"/>

turn state names on  
 turn city names on  
 turn county names on  
 turn city layer on

Ramona's home page is shown above. It can be customized for each state or federal agency user of the system. Ramona was created under grant NA04NOS4730011 from the National Oceanic and Atmospheric Administration at the U.S. Department of Commerce.

## Frequently Asked Questions

### Did you know?

- The Department of Homeland Security references Ramona in Appendix H of the FY 2006 Homeland Security Grant Program Guidance and Application Kit.
- All users of Ramona can locate data custodians by using the "i" icon on the status map.
- Using Ramona, may increase your chances of obtaining partnership funding or being selected for mapping projects such as the Flood Map Modernization program.
- During emergencies, first responders can use Ramona to locate the information they need.

For questions, please contact Bill Burgess at [william.burgess@comcast.net](mailto:william.burgess@comcast.net) or Jill Saligoe-Simmel at [jsaligoe@iupui.edu](mailto:jsaligoe@iupui.edu)

### 1) What is the URL to Access Ramona?

Each state has a URL that uses the following naming convention where the two letter state code for each state is inserted in the URL (see example below for Indiana).

<http://www.in.gisinventory.net>

### 2) How can I create an account?

New users must create an account in order to be registered. Click "Create an Account" or "My Profile" to create a new account. Fill-in the required information. Registered users will be prompted to login. Your login name is your email address. If your email address changes, you are responsible for logging-in under your old email address and updating your log-in information under the User Profile section.

### 3) Is Ramona a Metadata tool?

NO - Ramona is designed to inventory GIS users and organizations along with information on their policies, systems and data, so that we can obtain valuable management information that will aid in the design of better statewide and national coordination programs. The main purpose of Ramona is to support statewide GIS coordination councils and to provide them with the information they need to form and sustain better partnerships. As an added benefit, you can control the export of the FGDC-compliant metadata that Ramona creates for you and send it to the GOS Portal. As noted on the front page, approximately 75% of state

and local governments do not create FGDC-compliant metadata. Ramona will help to "jumpstart" metadata production and encourage all data stewards and custodians to participate in documenting their data holdings.

### 4) Who should register in Ramona and complete a profile?

Ramona was designed for the individual custodians or stewards that actually create geospatial data products, so that they can inventory their own data holdings. NSGIC is encouraging statewide GIS coordination councils to support the system and its use by these individuals. We know that in some states, the state clearinghouses represent individual data-producing agencies and in other situations, some local governments with GIS data do not have Internet access. In these situations, the statewide GIS coordination councils are able to establish their own procedures regarding "who" will document available data holdings. Please keep in mind that Ramona will be most valuable when the original data producers document their own data. It is important that only one agency document a single data layer. This prevents duplicate records and confusion when people search systems like the National Clearinghouse or the GOS Portal.

### 5) If I already create Metadata, do I need to enter my information in Ramona?

YES - At this time, it is not possible to import existing metadata records into Ramona. The rea-

son is that in order to make Ramona simple and quick to use, it employs "drop down" and "pick" lists for many questions. Since the existing metadata standard allows free text answers to most questions, they can not be imported into Ramona without extensive hand editing. We recognize that this is an inconvenience, but it really takes very little time to create a profile and document all of your data holdings in Ramona. The potential benefits that will come from using the system easily offset this extra time.

### 5) Why can I only select "approximate" answers instead of filling in precise information?

In order for Ramona to be useful as a national tool, we have to compare "apples to apples," and we couldn't do that if all users were entering unique answers. We are also trying to ensure a high quality database through the use of standardized answers. For example, the map scale 1:1,200 is commonly written by different users as 1:1200, 1200 scale, 100 scale, one inch = 100 feet, one inch = 100', and 1" = 100', with almost limitless options. We simply can't maintain a high quality database and reporting system if we allow free text answers to such questions. Instead, we are asking you to select from the approximate answers that are offered, because that is the type of information that we need to promote better information sharing.



### National States Geographic Information Council

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**ABOUT NSGIC** — The National States Geographic Information Council (NSGIC) is an organization of States committed to efficient and effective government through the prudent adoption of geospatial information technologies. Members of NSGIC include delegations of state GIS coordinators and senior state GIS managers from across the United States. Other members include representatives from Federal agencies, local government, the private sector, academia and other professional organizations. A rich and diverse group, the NSGIC membership includes nationally and internationally recognized experts in GIS, geospatial data production and management, and information technology policy.



# NSGIC



## DIGITAL Imagery for the Nation

### *The Vision*

*The nation will have a sustainable and flexible digital imagery program that meets the needs of local, state, regional, tribal and federal agencies.*

NSGIC is working with the National Digital Orthophoto Program Committee (NDOP) and the Federal Geographic Data Committee (FGDC) to create a new nationwide aerial imagery program that will collect and disseminate standardized multi-resolution products on “set” schedules. Local, state, regional, tribal, and federal partners will be able to exercise “buy-up” options for enhancements that are required by their organizations. The imagery acquired through this program will remain in the public domain and archived to secure its availability for posterity.

Aerial and satellite imagery, in the form of **digital orthoimagery**, is the foundation for most public and private Geographic Information Systems (GIS). It is an essential commodity that is being developed by hundreds of different entities across the Nation leading to higher costs, varying quality, duplication of effort and a patchwork of products. Large area contracting methods will keep the cost to the taxpayer as low as possible and improve the availability of standardized, high-quality products.

### *The Program*

This is a massive undertaking that will require two separate, but well coordinated programs. The existing National Agricultural Imagery Program (NAIP) administered by the U.S. Department of Agriculture will be enhanced to provide annual 1-meter imagery over all

states except Alaska. This program will typically collect imagery during the growing season (leaf-on) in natural color.

A companion program will be administered by the U.S. Geological Survey (USGS). Under this program, Alaska will receive 1-meter imagery for the entire state once every five years. This program will also produce 1-foot resolution imagery once every three years for all states east of the Mississippi River and for all counties west of the Mississippi River with population densities greater than 25 people per square mile. In addition, 50% matching funds will be available for partnerships to acquire six-inch imagery over urban areas identified by the U.S. Census Bureau that have populations of at least 50,000 and overall population densities of at least 1,000 people per square mile. This program will typically acquire imagery during winter and spring months (leaf-off) in natural color.

### *Other Details*

- Each statewide GIS coordination council will specify its digital orthoimagery requirements in a business plan, including the following information:
  - Required Resolutions
  - NSSDA Accuracy Requirement and Confidence Interval
  - Frequency of Coverage
  - Coverage Footprints
  - Footprints for Areas of Security Concern
  - Image Type (CIR, NC, etc.)
  - Contracting Preferences
  - QA and QC Requirements
  - Funding Methods
  - Development of FGDC Metadata that is discoverable

through the Geospatial One Stop Portal, *The National Map*, and the USDA Resource Data Gateway

- Statement that the data will be made available in the public domain without license or copyright

These plans will be filed with the NDOP Committee.

- All imagery will reside in the public domain, remain available on Internet, and use a consistent national approach to address security concerns.
- Appropriate national standards will be applied to all products.
- The Federal government will fund 100% of the production costs for the base products (see Page 2).
- “Buy-up” provisions will allow acquisition of imagery that meets more specific needs (see Page 2).
- States with statewide coordination councils will have the first option for managing their 6-inch and 1-foot imagery programs. Otherwise, program management will be performed by USGS.
- Contract incentives will be used to assure timely product deliveries within 6 to 9 months depending on product.

### *Program Cost*

This program will cost approximately \$111 million per year or \$333 million during the first 3-year cycle. Nationally, it will save about \$160 million per 3-year cycle through contracting for larger areas, reducing the number of duplicate programs, eliminating certain overhead costs, and providing a return on investment that is achieved through the application of uniform standards. See Page 3 for more specific information on costs and benefits.

## Program Specifications and Buy-up Options



Ground Resolution	6"	1'	1-meter
Image Type	Natural Color	Natural Color	Natural Color
Leaf On or Off	Off	Off	On
Cloud Cover	0%	0%	10%
Horizontal Accuracy	2.5' @ 95% NSSDA	5' @ 95% NSSDA	25' @ 95% NSSDA
Location and Threshold	Footprints* of U.S. Census Bureau Urbanized Areas defined in state business plans with populations generally >50,000 & >1,000 per square mile	All areas east of Mississippi River and all counties west of the Mississippi River with >25 people per square mile	Entire Nation, including all Insular areas & territories
Frequency	Every 3 Years	Every 3 Years	<ul style="list-style-type: none"> <li>- Every Year in Lower 48 States</li> <li>- Every 5 Years in Alaska</li> <li>- Every 3 Years in Hawaii, Insular Areas, and Territories</li> </ul>
Local Cost Share	50%	None	None
Buy-up Options	<p>These are improvements over the standard base products that can be exercised by local, state, regional, tribal and other federal agencies. "Buy-ups" will require the requesting organization to pay the differential costs above the standard base product for each buy-up requested.</p> <ol style="list-style-type: none"> <li>1) 100% cost for CIR or 4-band digital product</li> <li>2) 100% cost for increased frequency</li> <li>3) 100% cost for increased footprint</li> <li>4) 100% cost for increased horizontal accuracy</li> <li>5) 100% cost for 3" resolution</li> <li>6) 100% cost for better elevation data products</li> <li>7) 100% cost for removal of building lean (true ortho)</li> </ol>	<ol style="list-style-type: none"> <li>1) 100% cost for CIR or 4-band digital product</li> <li>2) 100% cost for increased frequency</li> <li>3) 100% cost for increased footprint</li> <li>4) 100% cost for increased horizontal accuracy</li> <li>5) 100% cost for sampling the product to lower resolution</li> <li>6) 100% cost for 6" resolution</li> <li>7) 100% cost for better elevation data products</li> <li>8) 100% of cost for removal of building lean (true ortho)</li> </ol>	<ol style="list-style-type: none"> <li>1) 100% cost for CIR or 4-band digital product</li> <li>2) 100% cost for increased horizontal accuracy</li> </ol>
Federal Program Steward	U.S. Geological Survey (USGS)	U.S. Geological Survey (USGS)	U.S. Department of Agriculture except Alaska which is USGS



# The Business Case for a National Program

## Value of Imagery

Orthoimagery provides the visual content of an aerial photograph while being as accurate as a map for measurements. These qualities allow users to easily:

- Measure Distance
- Calculate Areas
- Determine Shapes of Features
- Calculate Directions
- Determine Accurate Coordinates (Locations)
- Determine Land Cover & Use
- Perform Change Detection

Orthoimagery is displayed in E-911 response centers to dispatch first responders to exact locations and for tracking incoming calls from mobile phones. Police in squad cars and rescue workers in fire trucks analyze orthoimagery before responding to emergencies. Digital images are used to collect a wide variety of information, including transportation routes, wetlands, streams, shorelines, building outlines, timber stands, land use patterns, farm fields, and crop types.

Local governments rely on orthoimagery to map land property boundaries and to manage their streets and other infrastructure assets.

Orthoimagery serves as a seamless base map layer to which many other layers are registered. It provides visual

information for the following partial list of applications.

- Homeland Security, Homeland Defense & Emergency Management
- Public Safety Planning, Response & Mitigation
- Tax Parcel Mapping
- Transportation Management, Operations & Planning
- Economic Development
- Utilities Management, Operations & Planning
- Land Planning and Zoning
- Drainage Planning & Management
- Code & Permit Enforcement
- Agriculture
- Insurance
- Surveying & Mapping
- Environmental Management, Planning & Regulation
- Education
- Natural Resource Inventories and Assessments

## Program Benefits

This program can be operated and managed using federal contracts with multiple professional firms at a lower cost (~25%) than the current independent contracts managed by federal, state, and local governments. It offers outstanding value to local governments and smaller states, because price

breaks are achieved by contracting for larger areas.

The national program cost estimate on Page 1 (\$111 million per year) includes imagery acquisition and processing costs, contract management, quality control, quality assurance, data distribution and archiving. Generally, these costs add approximately 14% to orthoimagery production costs.

A national imagery program lacking the suite of coordination mechanisms outlined here (current state) would cost nearly \$485 million over three years. Cost Savings in four areas can reduce this to ~\$333 million. The first two are the “large area” and “other” cost savings cited above. The third (~25%) comes from reducing duplication of effort and program redundancy. The final factor is a 19% Return on Investment (ROI) value that is achieved through adherence to standards. NSGIC and NDOP estimate the following cost savings for each of these factors during each three-year cycle.

Large Area	\$ 57,717,000
Other Costs	\$ 7,510,000
Duplication	\$ 53,644,000
ROI	\$ <u>40,770,000</u>
<b>Total Savings</b>	<b>\$159,641,000</b>

**IMAGE CREDITS** (All images are adjusted to fit available space and do not accurately represent their true scale.)

Page 1 - Image provided by SURDEX. It is 6-inch resolution natural color image from Palm Beach, Florida.  
 Page 2 - Image at left is a full resolution sample of the image on Page 1. Image at bottom is provided by the USDA NAIP Program. It is from York County, Nebraska.  
 Page 3 - Image at left is provided by the USDA NAIP Program. It is from Adams County, Nebraska.  
 Page 4 - Images at left and top right produced by EarthData and provided by the Maryland Department of Natural Resources. Image at left is a 1-meter false color infrared image and image at top right is a 1-foot natural color image. Images at bottom and bottom right, provided by SANBORN. They are 3-inch and 6-inch resolution false color infrared images from Miami, Florida.



# Examples of Aerial Imagery and its Uses

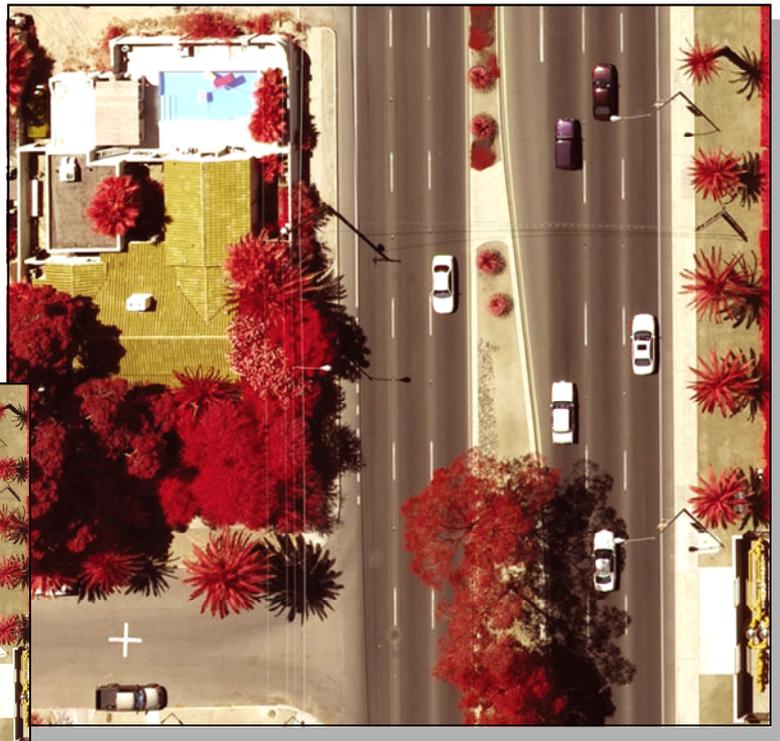


**AT RIGHT:** This 1-foot resolution image was taken shortly after an F4 Tornado struck Charles County in Southern Maryland. It was used to document damage and help emergency managers during recovery operations. During this event, the water tower (top left) was removed prior to the arrival of the insurance adjuster. The adjuster was hesitant to settle the claim until presented with this image (shown at reduced resolution), that clearly showed the type of construction and damage sustained by the water tower.



**AT LEFT:** This is a 1-meter resolution false color infrared image of the type that is often used to identify natural features (e.g. forests & wetlands).

**AT RIGHT and BELOW:** This false color infrared digital imagery demonstrates the effect that pixel resolution has on the usefulness of imagery. The image below was sampled to a 6-inch resolution while the image at right was produced with a 3-inch pixel resolution. Both images are of the same area. A minimum of 6-inch resolution is required for detailed mapping in urban areas.



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**ABOUT NSGIC** — The National States Geographic Information Council (NSGIC) is an organization of States committed to efficient and effective government through the prudent adoption of geospatial information technologies. Members of NSGIC include delegations of state GIS coordinators and senior state GIS managers from across the United States. Other members include representatives from Federal agencies, local government, the private sector, academia and other professional organizations. A rich and diverse group, the NSGIC membership includes nationally and internationally recognized experts in GIS, geospatial data production and management, and information technology policy.

**DRAFT OUTLINE**  
**ORGANIZATIONAL BYLAWS**  
**Based on existing Bylaws of the**  
**Delaware Population Consortium**

**ARTICLE ONE**

**NAME, PLACE OF BUSINESS, AND PURPOSES**

*Section 1.* Name of Organization

*Section 2.* Place of Business

*Section 3.* List of the Purposes (ie “carry out the following [list of] responsibilities and duties.”)

**ARTICLE TWO**

**MEMBERSHIP**

*Section 1.* General membership (Member organizations and types, voting, etc.)

*Section 2.* Steering/Executive Committee (if applicable)

**ARTICLE THREE**

**OFFICERS**

*Section 1.* Selection and Title (What officers there are and how chosen)

*Section 2.* Powers and Duties of Officers (Listed, by title)

**ARTICLE FOUR**

**MEETINGS**

*Section 1.* Public Notice and Involvement

*Section 2.* Regular Meetings

*Section 3.* Special Meetings

*Section 4.* Annual Meeting (if applicable)

*Section 5.* Quorum

*Section 6.* Conflict of Interest (Recusal, etc.)

*Section 7.* Attendance at Meetings

**ARTICLE FIVE**

**AMENDMENTS**

*Section 1.* Amendments to the By-Laws (Rules for how to amend bylaws)