

NSDI Cooperative Agreements Program

Category 3: Expanding Use of the GIS Inventory System

Interim Report from the Center for GIS at Towson University

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Project title: Strengthening the Maryland Statewide GIS Inventory in Ramona
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Executive Summary

The project comprises two phases: a metadata gap analysis and 3-week campaign in November to update and complete the records in Ramona for Maryland, and a campaign in February to encourage non-participating GIS managers to create a profile and enter records. The metadata gap analysis revealed in most cases that fields required for FGDC-compliant metadata were complete but in need of updating and/or revising for clarity. For example, the description given for many records needed to be made more clear and concise to fulfill the abstract requirement of the metadata. The gap analysis results were sent to the data owners prior to the training Webinar held on November 13. The 3-week campaign to update records runs from November 26 through December 14. An obstacle encountered with Ramona was the limited amount of FGDC-compliant information that could be added. The team determined that questions can be added at a user level, but not at a data layer level. This is a limitation of the Ramona system. A training document in progress comprises a PowerPoint presentation that describes the process for creating a profile and entering descriptive records. The project is actively promoted at Maryland State Geographic Information Committee quarterly and executive meetings and at MD iMap meetings. The project has expended \$1,808.24 of the funding awarded.

Project Narrative

Project Activities

Background

The Center for GIS (CGIS) and the Maryland State Geographic Information Committee (MSGIC) previously ran two successful campaigns to populate Ramona. The campaigns were short, aggressive, focused, and well supported by the Maryland State Geographic Information Officer (GIO) and the Maryland Governor's Office. The Maryland campaigns are timed to coincide with Geography Awareness Week and GIS Day in November, and GIS Inventory Month in February (as declared by Maryland's Governor). Generally, the GIS community in Maryland understands the value of participating in a state and nationwide GIS Inventory, although barriers to participation hinder several state agencies and local jurisdictions.

Current Goal

The current project goal is to strengthen Maryland's statewide GIS inventory by further populating Ramona with Federal Geographic Data Committee-compliant metadata for nationally significant geospatial data themes, and by increasing agency and jurisdiction participation. As of January 2012, 1,364 data layers had been entered in Ramona for Maryland. Approximately 400 are registered to state agencies. As shown in the following table, Phase I of the current project targets seven key state agencies and two local jurisdictions that maintain nationally significant datasets, have established a considerable GIS presence in the state, and are likely to have associated web services and freely available data.

Maryland State Agencies	# Layers in Ramona	Local Maryland Jurisdictions	# Layers in Ramona
Natural Resources (DNR)	125	Howard County	131
Maryland Transit Administration (MTA)	35	Baltimore County	60
Planning (MDP)	27		
State Highway Administration (SHA)	10		
Housing & Community Development (DHCD)	5		
Business & Economic Development (DBED)	4		
Environment (MDE)	0		

Initial Project Activities

The project team established a timeline for tasks and training Webinars to be completed prior to the first 3-week campaign. The team compiled a PowerPoint presentation and handout (Appendix 1) for the first outreach session, which was held during the MSGIC Quarterly meeting on October 17, 2012. The presentation described the project's value, goals, and timeline, the current status of Maryland's GIS inventory, and the hope for full cooperation. Project status updates are also given at the monthly MSGIC Executive Committee meetings and at MD iMap meetings.

Project Tasks

The following tasks as described in the proposal have been completed.

Task 1: Identify the minimally compliant elements of the FGDC CSDGM, Version 2.0.

The Maryland State Geographic Information Officer (GIO) assigned a technical lead (Lisa Lowe, Senior GIS Analysis, Geographic Information Office) to work with the project team on training that describes the requirements for descriptive entries. The FGDC metadata workbook was also used (www.fgdc.gov/metadata/documents/workbook_0501_bmk.pdf). At this point, the project team experienced a challenge: the GIO officer and the technical lead wanted to collect additional metadata

fields, such as spatial reference and entity/attributes. However, this could not be accomplished through Ramona. After further investigation, the team determined that questions can be added at a user level, but not at a data layer level. This is a limitation of the Ramona system.

Task 2: Perform a gap analysis on the existing entries in Ramona to assess compliance with FGDC CSDGM, Version 2.0.

Through the administrative console in Ramona and with assistance from a Towson University student (Brandon Magby, Geography and Environmental Science), the project team determined by agency the framework layers that do not meet the requirements for descriptive entries. The results were presented in table format to each agency targeted for the project's first phase. On November 9, the following e-mail was sent to each of the agency and jurisdiction contacts scheduled to attend the first training Webinar. The email and attachments were customized for each recipient.

"Good afternoon [name],

In preparation for the Webinar on Tuesday, November 13, 10 a.m., we reviewed your current entries in the GIS Inventory system. We highlighted the areas that will improve each data layer that you documented and will ensure compliance to FGDC minimally compliant metadata.

Attached to this e-mail is a spreadsheet detailing each data layer, with fields highlighted for review. The specific action needed is listed in the comments field. Red highlighting indicates blank fields or fields that require rewrites. Yellow highlighting indicates fields that require a review for changes since last entered.

Below is a summary of your data layers and the information we are asking you to update during the 3-week challenge from November 26 through December 14 as part of your commitment to the current CAP 3 project.

[SAMPLE for this report] Your County: 52 Records

- Production Date – no blanks: *Compliant; no further update needed.*
- Update Frequency – no blanks
 - 8 are listed as Do Not Know
- Map Service URLs – all blank: *Please add if applicable*
- Persistent URLs – all blank: *Please add if applicable*
- Description – *all layers are sufficiently described*
- Status – no blanks
 - 4 are listed as In Work
- Source – no blanks
 - 5 are listed as Not Sure

During the Webinar on Tuesday we will discuss the project in more detail and the actions needed to make this GIS Inventory project as successful for the State of Maryland as the previous ones.

Thanks for your support!"

The following task has been partially completed.

Task 3 Work with the targeted agencies to update individual data records with the missing information, and/or to add additional layers.

The first training Webinar was held on November 13, 2012, at 10 a.m. GIS managers from the following agencies and jurisdictions participated.

Maryland Transit Administration
 Maryland National Capital Park and Planning (Prince George's County)
 Anne Arundel County
 Baltimore City Health Department

The PowerPoint presentation is included in this report as Appendix 2.

Summary report and item listing of all entries from the GIS Inventory entered or updated as a result of the award.

As of November 30, the following agencies have updated their records in Ramona as a result of the first challenge campaign (note that the campaign dates are November 26-December 14).

Maryland Department of Planning (MDP) updated 3 layers: wetlands and deepwater habitats; park land and nature preserves; and cities, town and villages.
 Maryland Transit Administration (MTA) updated 1 record: railroads bridges and culverts.
 Eastern Shore Regional GIS Cooperative (ESRGC) added 1 record: (LIDAR).

Next Steps

To complete Tasks 1-3, the project team is conducting a data entry campaign from November 26 through December 14, 2012. Work will then begin on Tasks 4 and 5.

Task 4: Work with GIS managers to populate Ramona with profiles for key entities; conduct up to three online workshops.

Phase II will strengthen participation in Ramona by determining the local and state agencies that have not yet participated in Ramona and work with MSGIC on a challenge campaign to encourage the GIS managers to create a profile. The campaign will take place from February 4-22, 2013.

CGIS will obtain a current list of GIS managers from the Maryland Emergency Management Agency (MEMA) and the State GIO and will either update an existing profile or create a profile in Ramona. CGIS will develop, organize, and conduct online workshops that will be advertised through the MSGIC membership to encourage broad attendance. The workshops will include an overview of FGDC-CSDGM Version 2 metadata standards, procedures to update existing Ramona entries and entering new records, and creating and updating a profile in Ramona.

Task 5: Present the results of the project at the MSGIC Quarterly Meeting in Spring 2013 and at the TUgis conference on March 19, 2013.

Presentations are intended to not only disseminate information about project results, but also to further encourage participation and to prepare for the two annual Statewide GIS Inventory challenge campaigns that will take place in November (National Geography Week) and February (statewide GIS Inventory Month).

Responses to FGDC Questions

- Will this project's activities continue after the performance period?
 - Yes. Maryland is committed to using Ramona and plans on continuing to conduct 3-week challenges to keep the data current and increase participation.
- What formal or informal organizational relationships have been established to sustain activities beyond performance period?
 - CGIS, MSGIC, and the State GIO maintain an active partnership to achieve GIS coordination in Maryland.
- Describe the next phase in your project.
 - Early in 2013 the project team will also be asking targeted users in the public safety sector to create a profile in the GIS Inventory system. This is an “online rolodex” that can be used during an emergency to locate and find users registered in the system. An additional goal is to grow and enhance the inventory with key framework layers at both the local and state level, which will build on the November 2012 challenge results.
- Requirements (more technical assistance, software, other?)
 - The project team encountered an obstacle within Ramona while attempting to update with more specific FGDC-compliant information and add fields requested by the GIO Office and the technical lead. Currently, Ramona generates generic text in some fields to create FGDC minimally compliant metadata. The project team wanted to update the text in those fields to more specific text for each dataset. In addition, the GIO Office and the technical lead requested additional fields for FGDC compliant metadata. However, the team was unable to add these questions for individual dataset being inventoried and was only able to update the fields already available within Ramona.
- What other areas need work?
 - CGIS communicated with NSGIC about adding the functionality to add fields. NSGIC agreed to look into a way to possibly alter the system for each state.

Expenditures

The project expenditure report is current as of last billing cycle of October 31, 2012. The project has expended \$1,808.24 of the funding awarded. The unspent balance is \$13,191.76.

The Maryland GIS Inventory

This is your state.

This is your inventory.

What is the GIS Inventory Challenge?

The GIS Inventory Challenge is Maryland's periodic three-week effort to list and improve the state's GIS inventory in the Ramona database (Random Access Metadata for Online Nationwide Assessments). Ramona helps data producers and data consumers nationwide by providing a consolidated search for GIS data created by multiple jurisdictions and agencies. Ramona enables others to learn about the data your agency creates and maintains.

For More Information

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Important Dates

November 13, 2012

Webinar "Overview of FGDC-CSDGM Version 2 Metadata Standards"

November 26 through December 14, 2012

3-Week Challenge "Making our GIS Inventory Current and Accurate"

January 16, 2013

Webinar "Registering and Using the GIS Inventory System"

February 20, 2013

Webinar "Registering and Using the GIS Inventory System"

February 4 through February 22, 2013

3-Week Challenge "Growing and Enhancing our GIS Inventory"

Goals

The first goal is to further populate and enhance Ramona with Federal Geographic Data Committee (FGDC) compliant metadata for nationally significant geospatial data themes, focusing on unrestricted data or services, and data available online.

The second goal is to increase the number of participating users within the GIS inventory system by encouraging users to update an existing profile or create a new profile in Ramona with a focus on key public safety personnel and GIS managers.

9 Good Reasons to Participate

1. Connects you, both locally and nationally.
2. Communicates our statewide progress and success.
3. Up-to-date inventory by data layer.
4. Creates starter metadata.
5. Offers the ability to generate reports.
6. Promotes statewide coordination.
7. Offers convenient search capabilities for GIS data throughout Maryland, all in one place.
8. Provides the big picture.
9. Provides what one participating state calls an "online rolodex of GIS data providers."

**Visit Ramona at gisinventory.net
and click on Getting Started.**

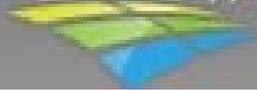




Webinar: Overview of FGDC- CSDGM Version 2 Metadata Standards

Towson University Center for GIS

November 13, 2012



Webinar Outline

- Project goals
- Previous challenge results
- GIS Inventory and FGDC metadata requirements
- How to update/add required fields
- Next steps



Project Goals



Project Goals

- Build on previous statewide GIS Inventory challenges to strengthen Maryland's GIS inventory
 - Perform gap analysis of current data/metadata
 - Further populate Ramona with FGDC compliant metadata for nationally significant geospatial data themes



Project Goals

- Strengthen statewide participation in Ramona
 - Campaign to convince non-participating agencies and jurisdictions to reconsider their reasons for not participating
 - Help non-participating entities overcome barriers

Current GIS Inventory Status

1,364 data layers entered in Ramona for Maryland

- More than 400 are registered to state agencies.
- More than 600 are registered to local jurisdictions
- Maryland has identified 21 framework data layers of importance to the state

Maryland State Agencies	# Layers in Ramona	Local Maryland Jurisdictions	# Layers in Ramona
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Environment (MDE)	0		



Previous Challenge Results



Previous GIS Inventory Challenges

- 3-Week GIS Inventory Challenge: February 3-28, 2011
- **1,109** data layers were registered to the State of Maryland
 - 426 state agency data layers
 - 14 private entity data layers
 - 2 regional group data layers
 - 1 federal agency data layer
 - 666 county data layers

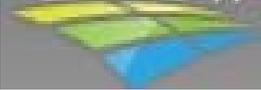


Previous GIS Inventory Challenges

- Geography Awareness Week Challenge: November 14-18, 2011
- **186** data layers were added
 - 95 are framework layers.
 - Of 504 possible framework layers, 50.2% are now entered, and 66.1% are accounted for (some do not exist or are not owned by a state agency).



GIS Inventory Metadata Requirements



GIS Inventory Metadata

- Inventoried information translates to metadata
- Standards-Compliant metadata
- Download metadata files
- Harvesting of metadata



GIS Inventory Metadata Fields

- Description
- Update frequency
- Production Date
- Progress
- Source
- Approximate Scale
- Metadata URL
- Map Service URL

Description

A brief summary describing the data set. The abstract should address the following questions:

- What is the topic of the data set?
- What is the data set comprised of?
- Where was the data collected? What general area does the data represent?

Existing

- Maryland child daycare center.

Revision

- This dataset contains the licensed daycare center locations in MD. Addresses were provided by the Department of Labor Licensing and Regulation (DLLR), and geocoded using Maryland Statewide Addressing Initiative Centerline.



Update Frequency

The planned frequency of updates and revisions to the data after it is published

Continually, Daily, Weekly, Monthly, Annually, Unknown, As needed, Irregular, Quarterly, or None planned, Semi Annually, or every 2, 3 or 4 years.

Existing

- Blank
- Do Not Know

Revision

- If blank please specify the frequency with which you expect to make changes and additions to your data after the initial version is completed.
- If *Do Not Know* was previous selected, please review and update where applicable



Production Data

The date when the data set is published or made available to users.

Existing

- Blank
- All Dates

Revision

- Indicate the date of creation, publication or revision on your map.
- Review and update if revisions occurred since last updated.



Status

The state of the data set.

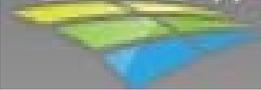
Complete, In work, or Planned.

Existing

- In Work
- Planned

Revision

- Review and update if the status changed since last updated.



Source

A brief statement identifying the information and or data which was used to construct the data set. (Examples: Field Observation, Field Survey/GPS, Hardcopy Maps, LIDAR, Orthoimagery)

Existing

- Not Sure

Revision

- Review and research the data to determine if a source can be defined



Metadata / Persistent URLs

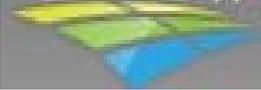
Provide the complete URL to more comprehensive FGDC metadata record *(where applicable)*

Existing

- Blank
- <http://www.MarylandGIS.net>

Revision

- Please review and update with a URL if one exists
- MarylandGIS.net has been retired since previous update
 - Update with New URL
 - Remove URL



Map Service URLs

Provide the complete URL to access a web service *(where applicable)*

Existing

- Blank
- All Existing URLs

Revision

- Update with a complete URL to access a web service view or features (e.g. OGC WMS) of this dataset
- Review and update if the Map Service URL has changed or no longer exists.



How to Update/Add Required Fields

Documenting Your Data Layer(s)

Minimally Compliant Fields

The screenshot shows a web form for documenting a data layer. The title 'Child Day Care Centers' is circled in red. A legend indicates that an asterisk (*) denotes a required field. A red box highlights the 'Progress', 'Source', 'Production Date', 'Approx. Scale', and 'Update Frequency' fields, along with an 'Important!' instruction to provide a concise description (maximum 255 characters). Other fields include 'Project or Program Name', 'Tracking Code', 'Geography' (with a dropdown menu), a 'Publish to Web' checkbox, and a 'Full metadata web address/URL' field. A vertical scrollbar is visible on the right side of the form.

Child Day Care Centers * Denotes a required field

Save Close Window

Progress * Source * Production Date * Approx. Scale * [What is this?](#) Update Frequency *

YYYY

Important! Provide a concise description to properly document this layer
(maximum 255 characters)

Project or Program Name [What is this?](#) Tracking Code

Geography
Your Geography - Your Default Geography

Add more geographies in the 'My Geography' section of your profile.

Publish to Web [What is this?](#)

Full metadata web address/URL (format: http://www.example.com/) [What is this?](#)

Documenting Your Data Layer(s) Minimally Compliant Fields

Child Day Care Centers * Denotes a required field

[Save](#) [Close Window](#)

Geography

Your Geography - Your Default Geography

Add more geographies in the 'My Geography' section of your profile.

[Publish to Web](#) [What is this?](#)

[Full metadata web address/URL](#) (format: http://www.example.com/) [What is this?](#)

[Web Map Service URL](#) (format: http://www.example.com/) [What is this?](#)

[Do you archive this layer for long-term preservation?](#) [What is this?](#)

No

[Save](#) [Close Window](#)

GIS INVENTORY



The Ramona GIS Inventory is a service of the National States Geographic Information Council (NSGIC)

My Child Day Care Centers Data Layer:

Created: Friday Nov 09 2012 12:19 pm | Last Updated: Friday Nov 09 2012 12:25 pm

[View in Status Map](#)

[Update this Layer](#)

[Delete this Layer](#)

Progress	Source	Production Date	Scale	Update Frequency
Complete	Other	2012	1:2400 (1in=200ft)	Monthly

Geography: [Your Geography](#)

Published to Web? **Yes**

Metadata: [gis-inventory-metadata-5511-20922.xml](#)

Layer Description: This dataset contains the licensed daycare center locations in MD. Addresses were provided by the Department of Labor Licensing and Regulation (DLLR), and geocoded using Maryland Statewide Addressing Initiative Centerline.

Project or Program Name: **No Value**

Tracking Code: **No Value**

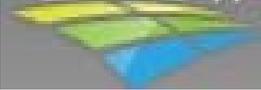
Persistent URL: <http://mdimap.us/arcgis/rest/services>

Web Map Service URL: <http://mdimap.us/ArcGIS/rest/services/Society/MD.State.ChildCareCenters/MapServer>

Archived Layer: **No**



Next Steps



3-Week Challenge

Making our GIS Inventory Current and Accurate

November 26 – December 14, 2012



Framework Layers & Profile Creation

- **January 16, 2013**
 - Webinar “Registering and Using the GIS Inventory System”
- **February 20, 2013**
 - Webinar “Registering and Using the GIS Inventory System”
- **February 4 through February 22, 2013**
 - 3-Week Challenge “Growing and Enhancing our GIS Inventory”

GIS INVENTORY



The Ramona GIS Inventory is a service of the National States Geographic Information Council (NSGIC)

Q & A