



Mission:
To foster an efficient GIS environment through cooperation and coordination with public and private entities that access, collect, provide, and share data, metadata, applications, and educational opportunities.

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Title: Expanding the GIS Inventory System in Iowa (EGIS Iowa) – Final Report

Applicant: Iowa Geographic Information Council
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Clearinghouse Node: Iowa Geospatial Data Clearinghouse, <http://www.iowagis.org/>

Executive Summary

Expanding the GIS Inventory System (EGIS) in Iowa project is completed. Since the initial grant award there have been changes with staffing and administration that posed some challenges to the project scale, however many of the original goals have been maintained and accomplished.

Project staff received training to administer gisinventory.net. Staff reviewed Iowa users and records in the GIS Inventory System looking for outdated user information to update, 160 records were updated. An effort was made to synchronize records between NSGIC's GIS Inventory System (gisinventory.net) and the Iowa Geospatial Data Clearinghouse (IGDC) and Data.gov with the intention of greater data discovery on both a state and nation level. By setting up harvesting we were able to increase the participation of all three programs without requiring people to sign-up for another account: 148 records were added to gisinventory.net from IGDC; 89 records were added to IGDC from gisinventory.net; and 99 records were added to data.gov from the IGDC.

Our educational and outreach opportunities to GIS users groups around the state, at conferences and users groups were diminished because of the previously mentioned staffing challenges. We did presentations about the program at the state GIS conference as well as at the quarterly state board meeting. The project did create greater awareness and usership of the GIS Inventory System and the Iowa Geospatial Data Clearinghouse among municipal, county, regional and state groups.



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Project Narrative

Task 1 Staff will receive web-based training from NSGIC for administering gisinventory.net. Staff will review existing gisinventory.net accounts for out of date or non-functioning records and accounts and update them to reflect current conditions.

In August 2012, a staff person created a spreadsheet with all the current gisinventory.net records and users for identifying for outdated users. In September 2012, Amy Logan, received web-based training from Bill Burgess, NSGIC, for administering gisinventory.net. Beginning in October 2012 and continuing throughout the project, staff sent emails (as seen below) to GIS coordinators with outdated user information explaining about the grant and the gisinventory.net update process.

“Hi [Name],

The Iowa Geographic Information Council received a Federal Geographic Data Committee grant to update and expand Iowa’s GIS Inventory System on gisinventory.net (RAMONA). Gisinventory.net is a national tool for tracking data availability and geospatial infrastructure. Part of the updating process is to review records registered for Iowa and update outdated contacts.

John Doe, posted 2 records for X County on the inventory. Could you provide me with a new contact for these records? We also encourage you to inventory any additional data layers that X County has created (EMS Zones, Fire Districts, Townships, Transportation, corporate limits, etc.).

Please let me know if you have any additional questions.”

Staff successfully updated 160 existing records on gisinventory.net.

Task 2 Provide educational and outreach opportunities to GIS users in Iowa about the GIS inventory system, its uses and benefits, and why/how they can get involved.

In April 2013, a staff person gave a presentation about the gisinventory.net at the statewide Iowa Geographic Information Council Conference to introduce attendees to the new face of gisinventory.net and explain why organizations should get involved. There was also additional discussion about gisinventory.net at the July 2013 quarterly IGIC meeting.

Task 3 IGSB staff will work with Iowa County Information Technology (ICIT) group to encourage the creation of metadata records for the ICIT Data Repository (<https://www.iowagisdata.org/>), the main repository for local government GIS data in Iowa.

In April 2013, staff met with representatives of the ICIT Data Repository to discuss potentially harvesting their metadata records to the Iowa Geospatial Data Clearinghouse and then eventually pushing them up to gisinventory.net. There was discussion about creating a web accessible folder (WAF) for harvesting. ICIT representatives said they would bring it to the repository group for discussion. The biggest hurdle to working with this group was not having FGDC compliant metadata to put in the WAF. Most of the ICIT repository records do not have compliant metadata records associated with them. Despite outreach efforts in this project and metadata training from several previous CAP projects, the county group of GIS data producers remains unmotivated to producing new metadata records.

Task 4 IGSB staff will work to synchronize Iowa metadata records across platforms from the Iowa Geospatial Data Clearinghouse (IGDC) to gisinventory.net as well as to data.gov through harvesting routines.

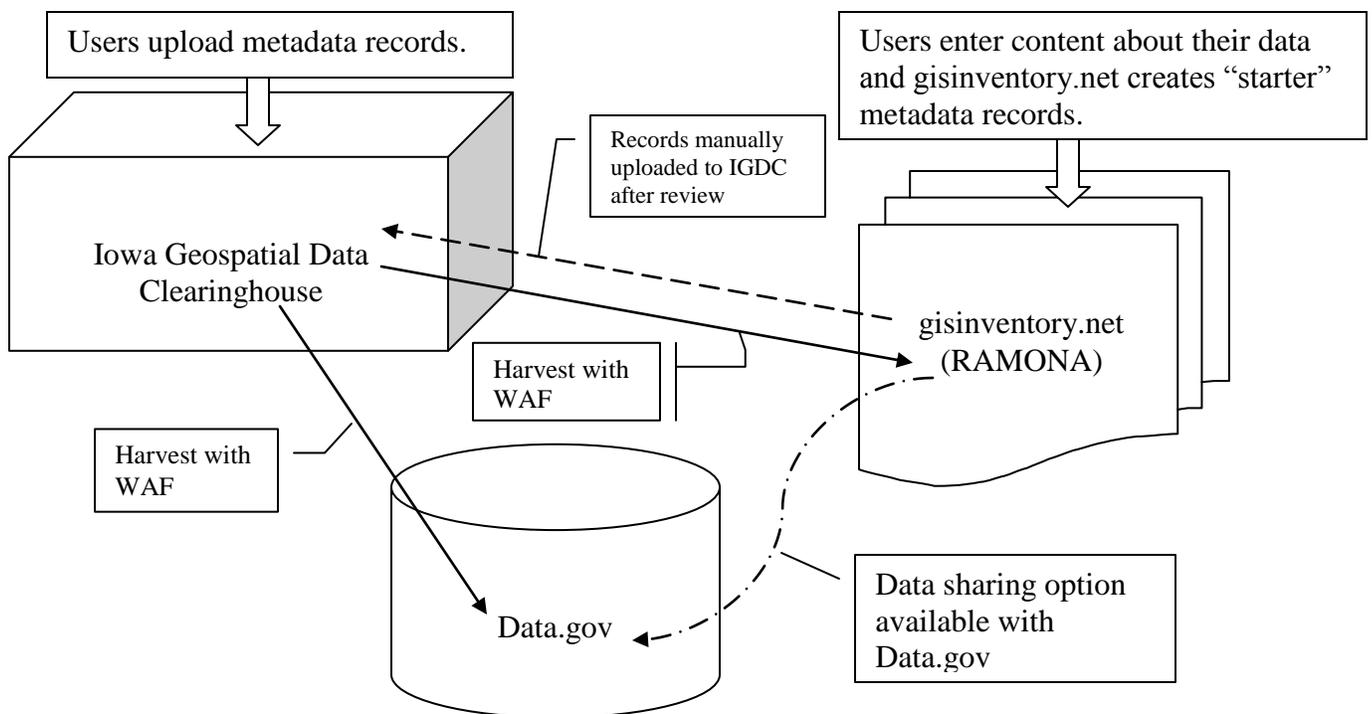


Figure 1: This figure illustrates how metadata records are shared across the different platforms.

Starting in September 2013, records from the Iowa Department of Natural Resources, many of Iowa’s counties, Iowa Department of Cultural Affairs and other organizations were added to the IGDC with the intention that they would eventually be harvested to gisinventory.net and data.gov. In October 2012, an ISU GIS Facility staff person wrote a python script that allowed for the download of Iowa’s gisinventory.net xml files to later be uploaded to the IGDC.

In January 2013, IGSB staff did further research to investigate how to set up harvesting for IGDC to gisinventory.net. A web accessible folder was created. In February 2013 a test harvest was completed. There was additional training about how to set up harvesting from Bill Burgess, NSGIC. In March 2013, there was a successful harvest of the IGDC to gisinventory.net. Many records needed additional administrative help to be fully processed. In April and May 2013, additional records were added for Story County, Iowa to the IGDC and records for Linn County, Iowa and Jones County, Iowa on gisinventory.net were uploaded to the IGDC. June and July 2013 staff worked to get records harvested to the new data.gov website. A node was set up for the ISU GIS Facility and 99 records were added to the data.gov. In August 2013, a staff person went to the annual MAGIC (MidAmerica GIS Consortium) Clearinghouse meeting in Bismarck, North Dakota and shared about Iowa's experiences with the new gisinventory.net website and harvesting procedure. This spurred renewed interest from several other state clearinghouses including Missouri.

Staff added records from gisinventory.net to the Iowa Geospatial Data Clearinghouse (IGDC). These records are added manually because when the gisinventory.net auto-generates titles that contain repetitions, are unnecessarily long, or aren't as clear as staff would like them for the IGDC clearinghouse. Therefore we have had to prioritize which records to add to the IGDC first, and staying with the original intent of the grant focus to promote emergency management applications. We focused our efforts on adding records used for emergency response (address points, transportation, fire districts, hydrology, parcels, boundaries, etc.). Approximately 89 gisinventory.net records have been added to the IGDC.

Staff worked with NSGIC representatives to set up the ability to harvest records from Iowa's clearinghouse to gisinventory.net. Records have been harvested from the Iowa's clearinghouse to both gisinventory.net (148 records) and data.gov (99 records). Iowa's clearinghouse provided records from agencies not yet participating in gisinventory.net or data.gov.

Task 5 Provide targeted outreach to agencies to increase user participation in gisinventory.net.

In March 2013, a meeting was held to target several state agencies (Natural Resources, Transportation, and Iowa Counties Information Technology Group) to see how we could reduce barriers to encourage them to participate in both the IGDC and gisinventory.net.

Additional individual groups and agencies were targeted based on previous interest in creating metadata and based on known metadata records. As seen in the table below, the original participation goals were very ambitious and were not able to be met. We did make some progress, 5 additional county groups are now inventoried and 2 more state agencies are participating.

<u>Agency Type</u>	<u>Start of Project Participation</u>	<u>Participation Goal</u>	<u>Final Participation</u>
Municipal Governments	2	15	1
County Government	27	40	32
Regional Groups	1	5	1
State Agencies	3	7	5

Challenges

- 1) The biggest challenge we faced was the reduction in staffing. At the time the grant was submitted (January 2012) there were two full-time employees working at the Iowa GIS Service Bureau. In June 2012, one of the full-time employees went to part-time. Due to lack of funding the Iowa GIS Service Bureau suspended operations in June 2013. The former IGSC employees became employees of the Iowa State University GIS Facility. In July 2013, the full-time employee left. Then in September 2013, further administrative changes occurred and the IGDC will no longer be housed at Iowa State University but will now be merged with the Iowa Department of Natural Resources library and will be housed at the University of Iowa. These reductions in staffing and administrative changes made it challenging to complete all the tasks we had initially set out to complete.
- 2) Another challenge was motivating agencies to participate in gisinventory.net. Many agencies are short on time and staff and do not want to participate in another activity or website. That is why having the ability to harvest and synchronize records was such a breakthrough for our state. It allowed those who were already participating in one program to have their data available elsewhere without additional work.
- 3) Adding the gisinventory.net records to Iowa's clearinghouse is time consuming. This is because gisinventory.net auto-generates the metadata it creates and often the titles contain repetitions, are unnecessarily long, or aren't as clear as Iowa staff would like them for the IGDC clearinghouse. Retitling and uploading records to the IGDC takes significant additional effort.

Next Steps

Will this project's activities continue after the performance period?

Users will be encouraged to update their records after the performance period. State agencies (DNR and DOT) will continue to provide resources for creating and maintaining metadata records through the Iowa Geospatial Data Clearinghouse, which will be moved to the University of Iowa network in 2014. IGIC will continue to make GIS producers aware of these resources, and offer assistance and training whenever possible.

What formal or informal organizational relationships have been established to sustain activities beyond performance period?



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Although we only began to scratch the surface as far as the resource potential with the Iowa County Information Technology group we will continue to work with them to encourage them to create metadata records that can then be harvested to various data hubs.

Describe the next phase in your project.

We would like to document more web services for county online mapping sites as well as the Iowa State Orthoserver web services and make those services searchable through the IGDC, gisinventory.net and possibly Data.gov. We would also like to continue adding gisinventory.net records to our clearinghouse. Continue to work with the ICIT group to encourage metadata creation of county GIS data.

Requirements (more technical assistance, software, other?) It has been our experience that metadata training and inventory efforts have been worthwhile in Iowa. We will continue to struggle towards greater acceptance and usage of metadata. With upcoming state requirements for the statewide collection of county parcel and real estate data, there is a good chance that metadata will be required as part of the delivery from counties to the state agency pushing this effort. At this time, our efforts with FGDC to train data producers and create metadata educational materials and develop methods for data inventory should finally result in acceptance close to what was projected in this effort.

What other areas need work? We feel additional work may be necessary to enhance the creation of shorter titles for geoinventory.net auto-generated metadata. The level of effort required to fix titles was significant and beyond the grant resources available.

Feedback on Cooperative Agreements Program

What are the CAP Program strengths and weaknesses?

One strength of the CAP Program is that it provides funding for programs that are often underfunded. Without this funding we would not have been able to have staff devote time to update user accounts and records or have staff work to have harvesting set up to provide additional connections to Iowa's data. A weakness was a lack of promotional materials and presentations to use for promoting the gisinventory.net. Most of our efforts were spent on the technical side of the project: updating records, setting up harvesting, transferring records, we would have liked to do more outreach but didn't have enough time to create promotional resources.

Where did it make a difference?

Without the CAP Program this project would not have been possible at all.

Was the assistance you received sufficient or effective?

We received training on how to use gisinventory.net as well as how to set up a harvesting account and how to modify harvested records to satisfy gisinventory.net criteria for metadata. These trainings were effective and helped the staff understand how to use gisinventory.net and administer it. We obviously could have done more with more resources, but are happy with the results so far.

What would you recommend that the FGDC do differently?



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A recommendation would be to have some sort of advertising campaign and curriculum centrally developed to promote gisinventory.net so that each project is not having to reinvent the wheel but can have a place to start from in terms of promoting the program more effectively.

Are there factors that are missing or are there additional needs that should be considered? None.

Are there program management concerns that need to be addressed, such as the time frame?

This was a good amount of time to complete the project.

If you were to do the project again, what would you do differently? If we ever do this type of effort again, I would say that we would look into different kinds of incentives, either for individuals or agencies to participate more enthusiastically in metadata and inventory efforts. Maybe training opportunities for individuals, access to GIS software, or peer recognition for agencies would be legal forms of incentives.

We are sorry that the CAP program has suspended new opportunities for the time being, and look forward to working with FGDC in the future. Iowa has no centrally funded or coordinated geospatial state office so it is up to groups like IGIC and ICIT to provide a minimum level of leadership and direction, and we consider FGDC's assistance as critical to that effort. Unfortunately we don't foresee any progress on the state level in the near future.