
Fall 2008 - Desktop GIS: ArcGIS 9.3 Released with a Plethora of Productivity Enhancements

By Todd Lusk

If you're an ESRI GIS software user and you haven't heard by now, ArcGIS 9.3 has been unleashed by ESRI and could be landing on a computer near you soon. The 9.3 release features several new enhancements and productivity improvements. While some may consider this to be a fairly minor "dot release", there are definitely some nice enhancements and features that have been added to the software which will hopefully enhance productivity. Some of those new features will be highlighted below.

Converting Graphics to Features

ArcGIS users have long been frustrated with not being able to draw a graphic on a map and then later converting it into a feature. That roadblock has now been removed, and other graphics functionality has been added to ArcGIS as well. When a graphic is converted to a feature, the graphic's element name will be added as an attribute to the feature. This is very useful when trying to symbolize features differently or when trying to distinguish one feature from another. Graphics also have geometry, and the units of the geometry can be changed from one to another as needed.

Another new graphics feature is the ability to now use a selected graphic to export a raster dataset. The interface is as simple as right-clicking on a selected graphic and choosing to export the raster data.

Enhanced Bookmark Manager

ESRI has greatly enhanced the "Bookmark Manager". The manager now allows users to go into their bookmarks and rename, change, update or delete them as needed. Users can also save their bookmarks to a file for use in another map document or to share with others. The spatial properties of bookmarks can also be updated without having to delete and recreate them.

KML Export Support

ESRI has added a tool to ArcToolbox which makes creating KML files from feature classes very easy. The tool converts features to KML and will convert ArcMap labels to labels on the features in the KML file. The tool will also allow for the creation of "pop-up" style information boxes in products such as Google Earth.

Because ArcGIS Server will publish KML files at version 9.3, this makes it very easy to consume various data sets through several different viewers such as ArcMap, Google Earth and Virtual Earth.

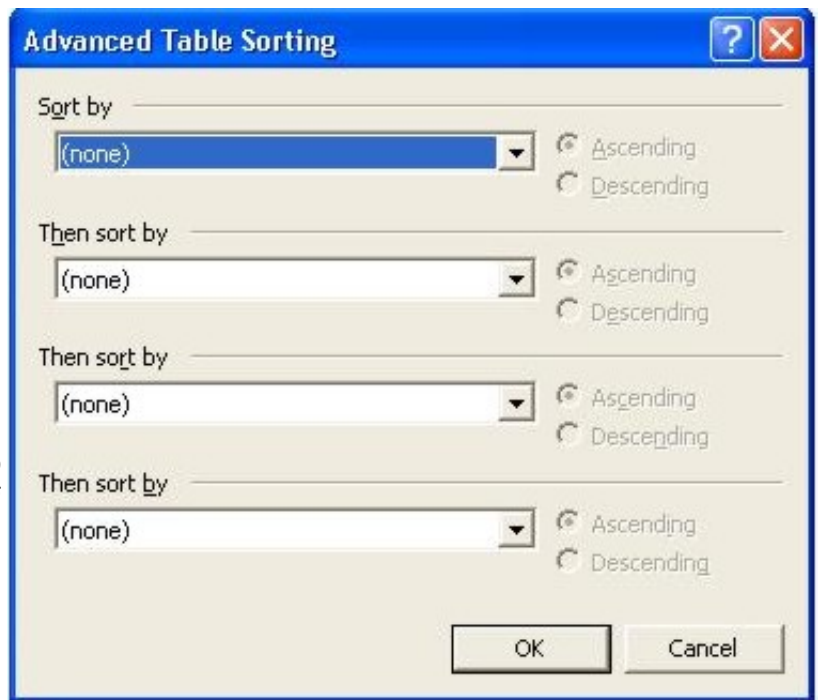
Table Enhancements

At ArcGIS 9.3, several enhancements have been made to the field "aliases" of tables. Queries and definition queries can now be performed using field alias names. Definition queries will also be honored if a join is performed on a table. It is also very easy to switch between the true table field names and their aliases by either right-clicking or Ctrl-clicking on the table field headers in the Table view.

Table sorting can now be performed on more than one field at version 9.3. The sorting will persist throughout the entire ArcMap session rather than resetting every time the table window closes. The sorting will also persist if the Map Document is closed or saved.

While this article only highlights a few of the new features and enhancements with the release of ArcGIS 9.3, there are many more which may be of interest. To see a list of them all, visit ESRI's website and look for the "What's New in 9.3?" document. ESRI has also set up several short videos highlighting many of the changes and enhancements. These make for a quick and easy way to see some of the new features in action.

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Fall 2008 - GIS 101: New Online Options for GIS Training

By Scott Laursen

GIS software is not just used by GIS professionals. Many people in other professions use GIS as a tool to help them get their work done. While GIS professionals usually enter the work force with experience using GIS software that they gained in college classes and internships, non-professionals may not have had the same exposure and are often in need of training. Traditionally, new GIS users have “gone back to school”, so to speak, taking instructor-led classes at a training center, sitting in front of a computer for 3-5 days in a classroom full of other new users. In the last five years or so, though, training has become more widely available on the web. This option reduces training costs and allows the user to learn at their own time and pace.

The most well-known online option is the ESRI Virtual Campus (<http://training.esri.com>), which offers self-study classes, web casts, pod casts, instructor-led training, and other choices. Some of the materials are available for free, but the in-depth training is usually only available for a fee. Another popular online option is the ESRI Users Forum, which does not offer formal training but rather lets users learn about GIS by reading postings about problems other users have encountered and what ESRI staff and other users recommend they do to fix them. Recently, some new websites have become available that offer different options for training as well. A few of these new sites are discussed below.

ESRITV

ESRITV is the name of ESRI's YouTube channel. For those of you unfamiliar with YouTube, it is a video hosting website, a place online where anyone can make video clips available for the world to view. ESRI has now entered this arena, and has posted several different kinds of videos on their channel, from tips on how to work faster to interviews with their developers. The videos range in length from 30 seconds to 10 minutes, and new content is added periodically.

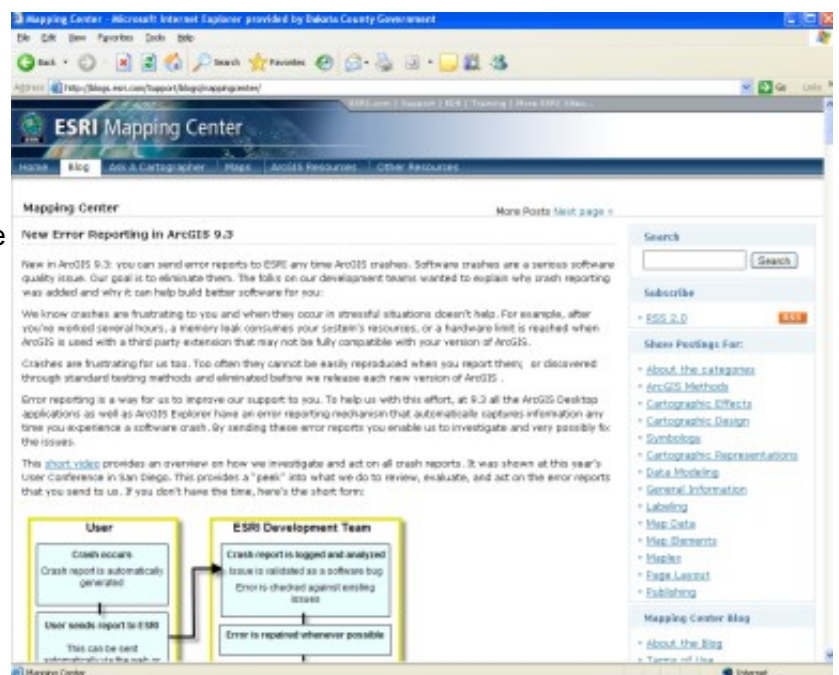
<http://www.youtube.com/user/esritv>

The Mapping Center

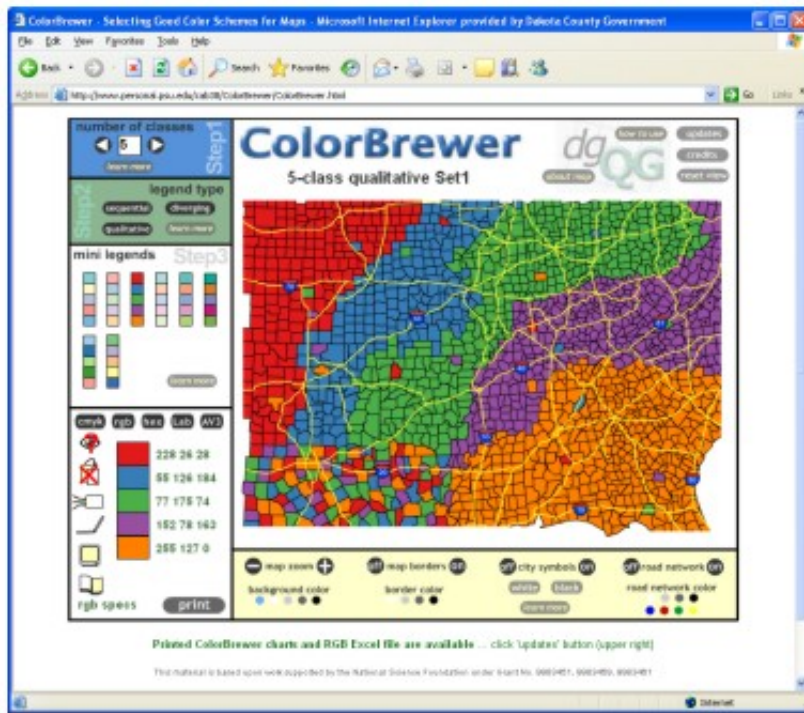
ESRI's web site now has a section called the Mapping Center. It contains all kinds of information aimed at helping you improve your cartography skills. In the “Blog” section, three ESRI employees host a blog in which they give tips on how to make good maps, demonstrate methods of accomplishing mapping techniques, and answer questions from users. The “Maps” page contains a map library with examples of different kinds of maps. There's even a section called “Ask A Cartographer”, in which readers can, you guessed it, submit cartography questions to Mapping Center staff.

<http://mappingcenter.esri.com/>

ColorBrewer.org



The screenshot shows the ESRI Mapping Center website. The main content area features a blog post titled "New Error Reporting in ArcGIS 9.3". The text explains that users can now send error reports to ESRI via the ArcGIS Desktop interface. It includes a flowchart illustrating the process: a user reports an error, the report is logged and analyzed, and the ESRI Development Team checks it against existing issues. A search bar and a list of categories are visible on the right side of the page.



One of the people that the Mapping Center staff turns to when THEY have questions is Dr. Cynthia Brewer of Penn State University. Dr. Brewer's area of expertise is color, specifically, how it relates to cartography. Dr. Brewer has created an interactive web site that helps users select colors that work well together for their maps. Check it out!

<http://www.ColorBrewer.org>

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Fall 2008 - Department Spotlight: Employment Services and GIS

By Mark Jacobs, Dakota County Employment and Economic Assistance Department

“A picture is worth a 1,000 words” certainly illustrates the value that GIS mapping offers the Employment and Economic Assistance Department’s (E&EA) Employment Services, which is part of the Community Services division. We have been fortunate to have GIS staff and mapping resources available to us over the years.

In addition to managing a variety of employment programs, we co-manage three WorkForce Centers and serve as staff to the Dakota-Scott Workforce Investment Board (WIB). The 27-member board functions as our Board of Directors, making key policy and strategy decisions for workforce development in the two-county area.

WorkForce Centers are located in Burnsville, West St. Paul and Shakopee. Clients visit WorkForce Centers to receive services, meet with employment counselors and/or use Resource Rooms which are equipped with computers, fax machines, copiers, etc., for use when writing resumes and searching and applying for jobs.

The WIB first requested GIS maps a few years ago as it evaluated potential relocation sites for the Burnsville WorkForce Center. GIS staff mapped the addresses of clients enrolled in the Dislocated Worker and Minnesota Family Investment Program (MFIP) employment programs. The resulting map clearly illustrated those areas in the county with the highest concentration of clients served. (The good news was that the Northern Service Center was located in an ideal spot!) The GIS map was an important tool for the WIB as it considered selecting the new site, which is at the northwest corner of Judicial Road and County Road 42 in Burnsville.

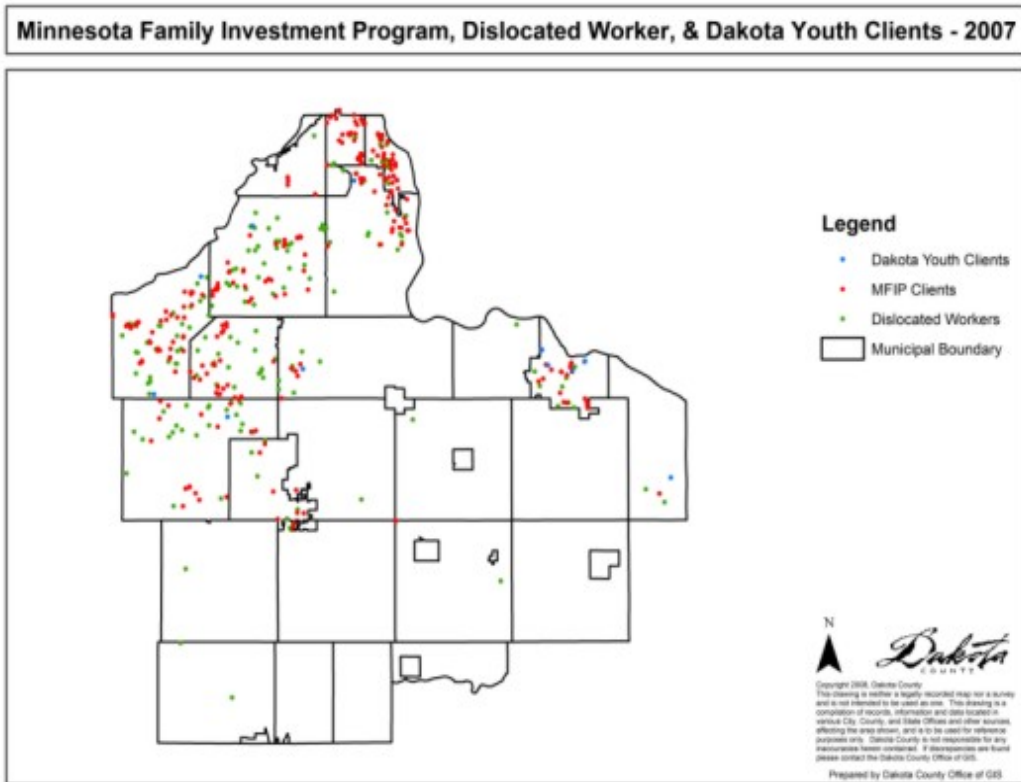


Figure 1 shows the location of the clients throughout the cities in Dakota County.

The WIB is also finding new uses for GIS information. One of the goals of the WIB is to communicate with local legislators about workforce issues. Part of that approach is notifying legislators about the impact of employment services on their constituents. Recent lay-offs at Northwest Airlines, for example, provided many legislators with anecdotal information about employment services as it seemed everyone had a neighbor, friend or relative affected by the company's down-sizing. In the quest to have data that illustrated the impact of employment programs within legislative districts, GIS staff mapped the addresses of people we have served through employment programs and services.

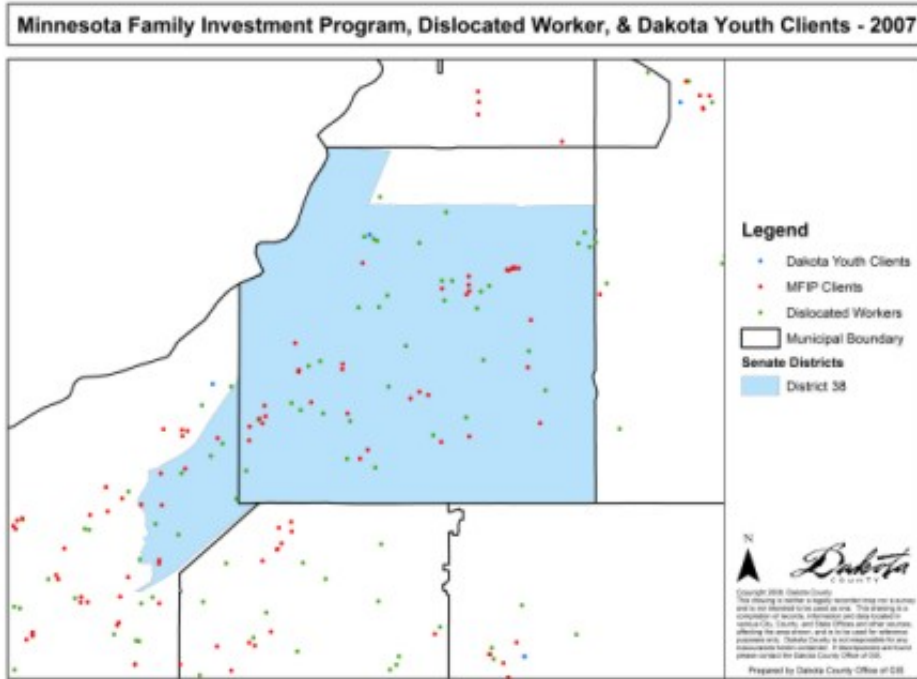


Figure 2

Figure 2 shows the location of the clients in a particular State Senate district. This type of map was created for all Senate districts in Dakota County.

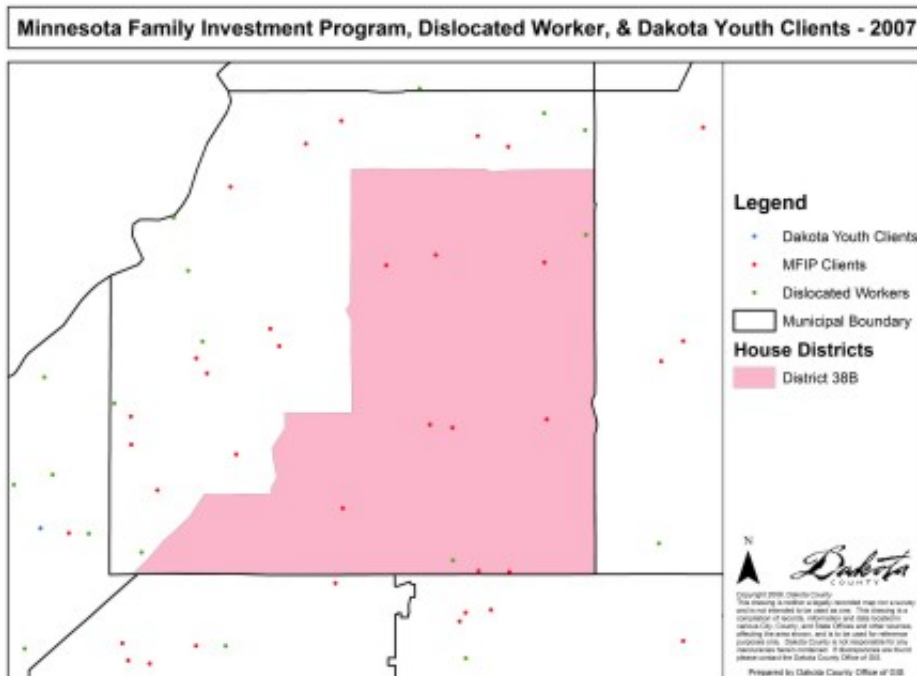


Figure 3

Figure 3 shows the location of the clients in a State House district. Maps were created for all of the House

districts in Dakota County.

These maps, along with a list of services we offer and outcomes, will be compiled into a packet of information and distributed to state legislators. Additionally, GIS staff members are sorting the data in city-specific maps which we will provide to Mayors and City Managers/Administrators. Thanks to the GIS maps we will have a clear illustration of the impact of employment programs and services in their respective areas.

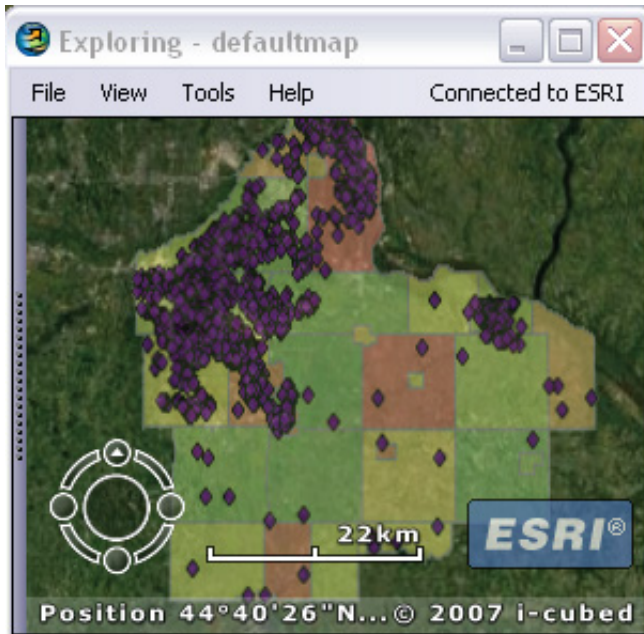
Note: When creating these maps, the Office of GIS had to take into account the type of information that was being displayed and create maps that would mask individual's private information. For these maps, any layers that would help people determine the exact location of the clients were omitted, such as the road centerlines.

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Fall 2008 - Tech Talk: ArcGIS Server

By Joe Sapletal, GISP

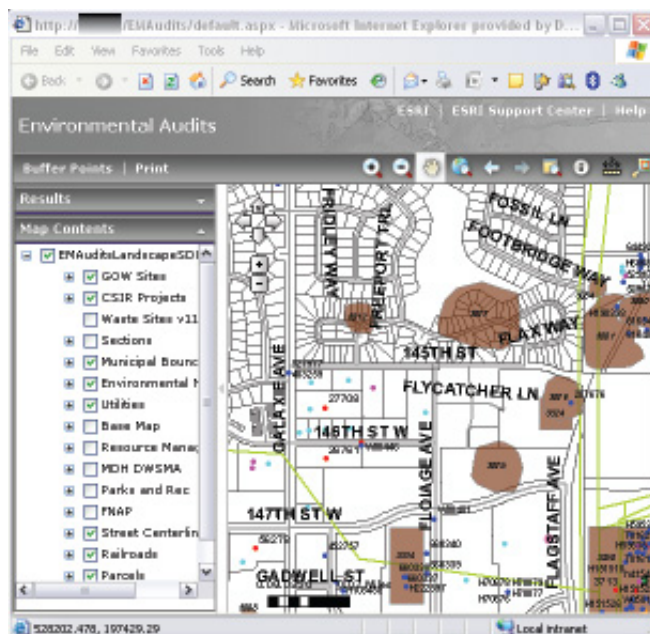
ArcGIS Server from ESRI is a server-based GIS. It allows the distribution of data, maps and GIS capabilities over the Internet, either through a web browser or right in ArcMap or ArcGIS Explorer.



ArcGIS Server gives authors the ability to create web services and make them available to the world through the Internet. These web services are then consumed by applications such as ArcMap, ArcGIS Explorer, or an ArcGIS Server web application. This means you can share data over the Internet instead of having users host all the data they need. According to ESRI.com, "You can also create OGC WMS, Web Feature Services (WFS) and Web Coverage Services (WCS), as well as Keyhole Markup Language (KML) services." In its simplest form, you create a map document and publish it as a service that can be accessed by other ArcMap or ArcGIS Explorer users. You could even create a web application from that service. The example to the left is a service published from a map document being consumed by ArcGIS Explorer.

ArcGIS Server comes in three editions - Advanced, Standard and Basic - and each edition is available for Enterprise and Workgroup levels. ArcGIS Server Advanced

Enterprise allows access to many tools and the ability to edit data. The ability to edit GIS data extends GIS beyond the ArcMap users to people who simply have the need to maintain their data.



ArcGIS Server will mostly help bridge the gap between a web-based GIS tool like Dakota County GIS ([DC GIS](#)), which has over 260 layers that can be used for visual analysis, and a sophisticated desktop application for editing, geoprocessing and analysis. ArcGIS Server gives the ability to create focused web applications for those users in the middle with the ability to do editing and geoprocessing using tools already created for them in a friendly web environment.

For more information about ArcGIS Server licensing visit the [ArcGIS Server site](#).

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