

Winter 2012 - GIS 101: Twin Cities GECCo

By Randy Knippel

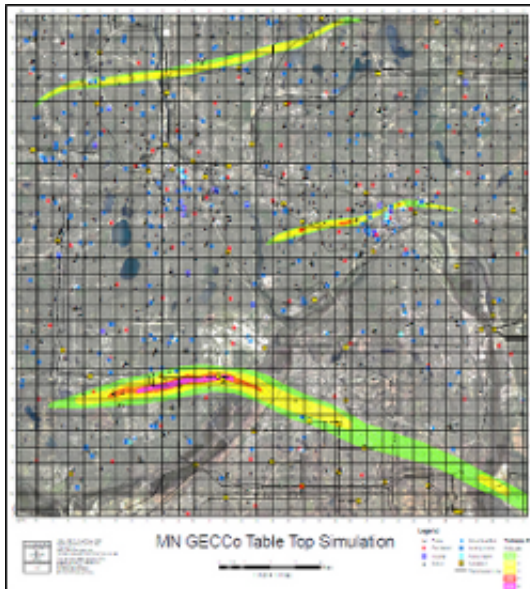


Over 75 people, from a variety of public, private, and non-profit organizations, attended a 2-day Twin Cities GECCo (TCGECCo) workshop to discover new ways they can work together to apply geospatial data and technology to help protect citizens and infrastructure in crisis situations.

GECCo stands for Geospatially Enabling Community Collaboration, and represents an event jointly sponsored by the [U.S. Department of Homeland Security \(DHS\)](#) and the [Geospatial Information and Technology Association \(GITA\)](#). The focus of the event is centered on emergency preparedness, identifying barriers that would limit the effective use of GIS in disasters. This was the eighth in a series of GECCo events conducted over the last 5 years, but the GITA facilitators that were present made it clear that they felt this one was unique due to the high level of collaboration already occurring in Minnesota.

The first day of the workshop provided background information from a variety of perspectives, to help attendees achieve a common understanding of existing capabilities and issues. It included information gathered from past GECCo's, with presentations by the DHS and the Civil Air Patrol followed by six representatives from city, county, regional, and state agencies in Minnesota.

The second day focused on a tabletop exercise. Four smaller groups were formed and asked to discuss their reactions to a hypothetical, but highly plausible, scenario involving multiple tornados. Although emergency managers and responders likely conduct similar exercises, this is the first time such an exercise has been conducted in Minnesota with a GIS focus.



The event also brought Dr. Carl Reed, CTO of the [Open Geospatial Consortium \(OGC\)](#), to the Twin Cities for presentations on Thursday evening and again on Friday over lunch. The OGC currently has 440 members, and its mission statement reads, "To serve as a global forum for the collaboration of developers and users of spatial data products and services, and to advance the development of international standards for geospatial interoperability."

The [TCGECCo website](#) includes more background information and all the materials used in the workshop. The final report and next-step actions will be posted there when they are completed. However, there clearly was strong support for formalizing relationships within the GIS professional community to create standardized data, maps and procedures, with an emphasis on the U.S. National Grid, to allow better collaboration for supporting disasters.

Winter 2012 - Desktop GIS: Go Dakota Go?

By Randy Knippel



Multiple counties in Minnesota have recently developed a GIS application to help citizens discover recreational opportunities in their area. The application was collaboratively developed with Statewide Health Improvement Program (SHIP) grant funds by the metro counties of Anoka, Carver, Ramsey, and Scott, as well as 11 Southeast MN counties.

The GIS application is a focal point of each “Go” website, developed to promote Active Living and Healthy eating. The application helps citizens “Explore and Discover” recreation opportunities within a specific geographic area by using an interactive map. Each county supports its own “Recreational Opportunities” application, but each application also has a similar look and feel and all use a common data model.



Recognizing that participation of local government is essential to the on-going success of this application, Ramsey County has also implemented an on-line editor for the creation, update, and deletion of recreational features by approved local partners. The southeast MN counties have also developed an iPhone, iPad, and Android application to explore recreation opportunities on the Go.



The “Go!” concept originated with Carver County. However, from the beginning, it was envisioned as a collaborative effort, and was developed with the intent to have other counties follow suit with their own versions. Therefore, all software development has been completed in such a way as to allow all participants to share the results. Subsequent implementations only needed to cover the cost of developing additional functionality, which is then made available to all existing and future participants.

Of course, each participant must cover the costs associated with developing, hosting and maintaining the associated website and GIS data, but this can be limited or expanded by their own needs and capabilities. For example, Ramsey County has chosen to limit their website to the map alone. Others have used commercial web development and hosting services.

For more information, please visit these Go! sites:

<http://www.goanokacounty.org/>
<http://www.goramsey.org/>
<http://www.gosoutheastmn.com/>
<http://www.goscottgo.org/>
<http://gocarvergo.org/>

Contact Randy Knippel, Dakota County GIS Manager, to discuss your ideas for implementing a Go Dakota Go! website.

Winter 2012 - Tech Talk: Why Is My Map So Slow?

By Joe Sapletal, GISP

Pop Quiz

Q1. Why does my map (choose one or more)?

- a. draw so slow
- b. label so slow?

Q2. Could it be because of the (choose one or more)?

- a. content
- b. symbology
- c. text & labels



There may be things that you are doing to your map that, while making it a really nice map, one that best communicates your message, unfortunately causes it to redraw so slowly that you can go get a glass of water or refill that cup of coffee while you wait. There may be things happening which you may not have any control over that could help, but you won't be able to adjust. But there are a few things that the ArcGIS Resource Center says you can do that won't be painful, and I've highlighted a few of them below.



Content = data. If things are going very slowly, it may be unavoidable that you need to have the data all in the same projection. Project-on-the-fly was a great innovation when ArcMap was originally released, but project-on-the-fly has to do calculations, and as a result is a little slower than when all your data in the map is in the same projection. Something else to keep in mind is that you could also simplify your data or generalize it based on the scale you are going to use it. A good example is making a map of the United States; the map will draw much faster if you generalize the coastline rather than unnecessarily drawing every vertex.

Symbology: the more complex it is, the slower it draws, exports and prints. This applies to marker (point), line and polygon symbols. As ArcMap's own documentation points out, the easiest way to improve performance is to use the line and polygon symbols in the ESRI_Optimized style. They are just like the standard ESRI style, but have been optimized for performance. These symbols appear just like the standard ESRI style but have only a few layers in them. Fewer layers = faster.



Text and labels are very important to your map. You want them to be crisp and legible. Sometimes you want to make them stand out and put a little halo around them. We've all used the halo, a lot. Haloing is great (see *Lily Pond* label on image), but, guess what: it's complex, slow to draw, and there is a faster alternative that looks good too, namely, shadowing. Add a drop shadow (like the *Bridge Pond* label) to your text and it draws faster than a halo and looks just as nice.

These are some highlights from the ArcGIS Resource Center . To read more suggestions visit the Resource Center [section on designing maps for optimal performance](#) and view the three "Optimizing map . . ." help pages.