MnGeo Priority Projects and Initiatives

June 18, 2014

While there are many worthwhile geospatial projects and endeavors, MnGeo is focusing its efforts and its limited resources on a few projects in order to make meaningful progress. All of these projects are in collaboration with other organizations and are either underway or anticipated to be initiated in the coming months. In alphabetic order, MnGeo's priority projects are:

Planned

Statewide Addresses

Project Goal: To have building addresses and geo-locations for all structures in the State established and a mechanism created for ongoing data updating and maintenance. The data would be freely and publicly available.

Project Status: This effort has not yet started. It is anticipated to be a late 2014 project. This effort should be related to Dept. of Public Safety's 911 efforts, and to the Street Centerline and Parcel projects described below.

Anticipated Completion and Milestones: TBD

Project Funding: TBD

Project Issues, Concerns and Risks: Issues, concerns and risks will be identified during the first phase of the effort once it begins.

Project Contacts: Dan Ross (Executive Sponsor)

In Progress

Aerial Imagery

Project Goal: Complete statewide coverage of spring leaf-off color and color infrared imagery at 0.5-meter resolution (orthoimagery and stereo), providing the opportunity for partners to buy-up to higher resolution in their areas of interest. For more information on the Spring Aerial Imagery Program, see the SAIP webpage.

Project Status: On schedule

Anticipated Completion and Milestones: This project, which was initiated in 2009, is anticipated to be completed in Fall 2014. Spring 2014 imagery acquisition has been completed and is currently being evaluated for completeness and quality.

Project Funding: State: $1,100,000; Partners: $1,000,000

Project Issues, Concerns and Risks: Completing statewide imagery acquisition for this project is dependent on sufficient favorable spring weather conditions. If current imagery quality evaluation identifies deficiencies, then a new round of acquisition will be scheduled for Spring 2015. Otherwise project is likely to conclude late in calendar year 2014. Over the long term, this project demonstrates an opportunity for significant saving of public funds if the state, working with Minnesota's counties, local governments, and tribal governments, establishes a cooperative, sustainable program to collect, process and distribute aerial imagery on a predictable cycle that implements a fair cost-sharing model.

Project Contacts: Steve Kloiber (DNR); Chris Cialek (MnGeo)

ArcGIS Online for State Agencies

Project Goal: Create an authoritative, multi-purpose, public-domain site of maps and web applications from Minnesota State agencies. Assist state agencies in developing their ArcGIS expertise.

Project Status: Finishing the governance and preparing the proper metadata for the maps and apps on the site. The timeline for the project depends on the training needs for the state agencies.

Anticipated Completion and Milestones:
- Governance Document – Mid-June 2014
- Training – June 2015

Project Funding: There is no specific project funding for this effort. MnGeo has assigned a project lead who is working with other agencies to get their maps, web applications and metadata published on the site.

Project Issues, Concerns and Risks: Agencies are to use this site for their public-facing maps and web applications and use their own subscription for internal use. While discouraged, agencies may find it easier to publish on their own subscription. Some services available through the site use credits; however, there are not adequate tools to manage credit use by individuals.

Project Contacts: Norm Anderson – MnGeo

Geospatial Commons

Project Goal: The Commons is envisioned to be a coordinated, next-generation site that will allow users to find, view and download data; publish metadata and data; and find and use web services and applications. Additional proposed functions of the site include: web service ratings and monitoring; back-end broker that connects applications to web services; and user reviews of data and web services. The Geospatial Commons is envisioned to be the tool to enable Executive Branch geospatial consolidation, a component of technology consolidation.

Project Status: Project staff are adding the final features needed prior to completion of the initial phase of the effort. System testing will begin the week of June 16th. General production release is scheduled for July 1. While the Commons will be publicly released July 1, it will not be fully stocked with data. Data migration will occur in the next phase of the effort.

Anticipated Completion and Milestones: Initial system completion by June 30, 2014. The first state agencies are expected to begin migrating their data into the system in July. The first 7 agencies are expected to have their data in the system by the end of December 2014. Participation of remaining state agencies and local government will be pursued in the second phase of the effort beginning in July 2014.

Project Funding: There are no dedicated funds for this effort. A $600,000 request for funding was initiated this budget cycle, but not approved. MnGeo is providing a full time Project Manager, administrative support, and some additional staffing. Staff from several State agencies have been assigned to this project. Other resources are expected to be made available by MN.IT Services when needed.

Project Issues, Concerns and Risks: There is a great deal to accomplish by December 2014. To be successful, State agencies will need to actively participate in migrating their data into the system.

Project contacts: Kirk Breen (Project Manager); Dan Ross (Executive Sponsor)

LiDAR/Elevation Data

Project Goal: To have LiDAR and derived product coverage for the entire state with the data freely available for viewing through a browser and for downloading from an FTP site. Data has been acquired from the International Water Institute, from Minnesota counties that acquired the data for their own purposes and by contracting for flights and processing for the remainder of the State. MN DNR is the primary and lead agency for this project. DNR has contracted for data acquisition and has generated many of the derived products. A browser-based viewer called MnTOPO has been developed by DNR and a data

download process has been developed by MnGeo. Users have the ability to request data for a specific area and specify the type of data to download including raw LAZ/LAS-format files and derived products including contours, bare earth points, 1- and 3-meter DEMs, hillshades, and, where available, breaklines, hydro breaklines and building footprints.

Project Status: The project was completed Spring 2014 and has moved into operational/maintenance mode. Available data can be found on the LiDAR project website.

Project Funding: Primary funding is coming from Minnesota Clean Water Legacy Fund that was appropriated to DNR in 2009 and again in 2011. Legislative appropriation total was $6,300,000.

Project Issues, Concerns and Risks: There is a need to identify resources after the Legacy funding expires for on-going data and system maintenance, data collection and processing, training, education and support.

Project Contacts: Tim Loesch (DNR); Brent Lund (MnGeo)

Hydrography

Project Goal: Develop an approach to create a single, authoritative, geographic representation of surface water features for Minnesota.

Project Status: DNR has been working for several years to streamline its surface water layers into a hydrography geodatabase. MnGeo has worked with MPCA, using funding from USGS and EPA, to host and improve a local authoritative database for Minnesota's portion of the National Hydrography Dataset (NHD), supporting local enhancements including datasets referenced to the NHD. Minnesota's portion of the high-resolution NHD was originally built using the DNR 1:24,000 hydrography base layers. Likewise, DNR's catchments database was used to update the national Watershed Boundary Dataset. Years of updates to the two systems resulted in differences. Keeping the two datasets synchronized has become an onerous process. There have been ongoing data development activities in recent years, and collaborative discussions, but bringing these datasets back together requires a renewed focus. MnGeo organized a meeting of primary partners (DNR, MPCA) on April 25, 2013 to restart the process toward this goal.

MnGeo has been working on two related EPA-funded projects which will be completed by 6/30/2014:

- **Improving the flow of updates to the National Hydrography Dataset through State Collaboration** (EPA 2008 funding): This project seeks to develop a sustainable process for updating Minnesota's high-resolution NHD dataset by investigating and recommending changes to existing data management processes used by the state. The focus of this project is the DNR Hydrography Geodatabase and how improvements in the DNR hydro geodatabase can be more efficiently incorporated into the NHD. In the course of this project, MnGeo discovered that updates are two-way, not one-way, and that data improvements to the NHD sometimes need to be ported back to the DNR database. A key determination will be whether updates to NHD continue to be a two-step process, or whether a shared-edit solution is possible. Results of this project have an immediate implication for the overall hydrography project goal.
- **High-Resolution NHDPlus – Enhanced Modeling and Analysis** (EPA 2010 funding): This project is piloting the development of high-resolution NHDPlus data for portions of Minnesota. Medium-resolution NHDPlus data is available nationwide and is widely used as input to the ArcHydro model. A primary result for Minnesota will be the availability of high-resolution NHDPlus data over selected areas of Minnesota, with an understanding of the inputs, the process, the ancillary information that helps improve the process, and the results. Under this project, MnGeo is working with EPA developers of the NHDPlus Version 2 Build/Refresh Tool to provide the local data preparation, processing, and feedback required to thoroughly vet the software and produce a result. This project is the first full NHDPlus dataset completed using high-resolution data inputs, and is complete pending final wrap-up. The area covered is the Upper Mississippi (Hydrologic Unit 070101) from the headwaters to approximately Little Falls.

Anticipated Completion and Milestones: EPA 2008 – 6/30/2014; EPA 2010 – Spring 2014. Milestones to reach the larger goal of a single, authoritative, geographic representation of surface water features for Minnesota have not yet been established. EPA 2010 project was completed April 2014, and EPA 2008 will be completed by 6/30/2014.

Project Funding: Beyond the short-term projects, there is no dedicated funding for the longer-term project. MnGeo has provided primary staff support, with assistance from MPCA and DNR.

Project Issues, Concerns and Risks: Two separate, robust data collections have been built to support specific business needs. The existence of two datasets describing the same underlying features causes complications for data integration and is confusing to users. A shared editing environment would be highly desirable. But the business needs of both systems set up requirements that make it hard to bridge the gap between the two.

Project Contacts: Susanne Maeder (MnGeo); Mark Olsen (MPCA); Lyn Bergquist (DNR)

Parcels

Project Goal: To establish and maintain a parcel/cadastral data layer (both spatial and attribute) for the entire state based on authoritative county data that is freely available to the public.

Project Status: This project has been underway for several years. While significant progress has been made (survey of all 87 counties, development of a Business Plan, generation of a proposed parcel attribute data exchange standard, and passage of legislation in May 2013 for the exchange of geospatial data between governmental entities at no cost) much remains to be completed. Work has been started on a standardized license agreement and process that the State may use to acquire parcel data from counties and make it available to all State agencies and other governmental entities. The MN Department of Revenue is developing a centralized database for managing and coordinating information received by the Property Tax Division, making analysis simpler and reports more standard in their PRISM Project. The PRISM project will be collecting only attribute data. MnGeo is working with the PRISM project team to determine how the two projects can complement each other. MnGeo shared the draft parcel standard and is working with Revenue to determine which attributes might be collected in Phase 1, and those which will be collected in Phase 2.

Anticipated Completion and Milestones: MnGeo intends to work with local partners to begin a parcels collect in later summer 2014. While we do not expect to be able to obtain complete statewide coverage, we do anticipate we will be able to obtain and aggregate many counties. It is hoped that a complete statewide parcel data layer will be available in 3 years. Determination of the interrelationship of the Revenue PRISM project and the MnGeo effort is expected to be known and completion of a single state license agreement and data acquisition process is hoped to be in place by mid-year 2014.

Project Funding: There are no dedicated funds for this project. MnGeo provided a part-time project manager/business analyst until his retirement in August 2013; the extent of replacement staff time is being determined. Staff from other organizations are participating on a volunteer basis. An FGDC CAP grant provided funding to assist in developing the Business Plan.

Project Issues, Concerns, and Risks: Project success is dependent on counties developing and sharing parcel data both spatial and attribute. Issues include: some counties do not have any electronic spatial parcel data, data content and quality varies between counties (and in some cases within counties) and there is no established standard for spatial parcel data. The primary MnGeo staff person working on the project retired in August.

Project Contacts: Dan Ross (Executive Sponsor)

Street Centerlines

Project Goal: Create an authoritative, multi-purpose, public-domain centerline spatial dataset representing the entire state of Minnesota that can be relied upon to accurately represent (to the best extent possible) the actual roadway assets of the state. This data layer is to be collaboratively built and maintained to

reduce cost, eliminate redundant efforts, facilitate better data capture, provide inter-agency reporting and address a variety of needs from roadway data consumers.

Project Status: The timeline for the pilot project is dependent upon the deliverables and key milestones being met on the MnDOT TIS-LRS project timeline. The project team is working closely with pilot partners to obtain non-state centerline requirements at this time.

Anticipated Completion and Milestones: Specific dates will be determined by the project management team with input from the pilot participants and MnDOT. Anticipated completion of the pilot is June 2015.

Project Funding: MnGeo and the MnDOT are providing part-time staff; MnDOT is providing project funding.

Project Issues, Concerns and Risks: The project scope needs to be well defined. Concrete goals and objectives are developed; dates must be determined.

Project Contacts: Jocelyn Stein and Peter Morey (MnDOT)**;** Geoff Maas (MetroGIS); Gordy Chinander (Metropolitan Emergency Service Board); Dan Ross (MnGeo); Teresa Leiste and Joe MacPherson (Benton County); Perry Clark (Carver County); Jon Large (Mahnomen County); Matt Koukol (Ramsey County); Jeffrey Miller, and Chad Martini (Stearns County); Burny Tibbets and Dawn Sherk (White Earth Nation).