

# MnGeo Statewide Geospatial Advisory Council

## PROJECT UPDATES

December 29, 2010

### FIELD NOTES PROJECT

#### Recently Completed Activities

##### Scanning Field Notes:

- With input from the Field Notes Advisory Committee, completed and published a Request for Proposal (RFP) for scanning the field notes. Proposals from eight companies were received.
- Awarded the scanning contract to Perfect Image (PI) of Kirkland, Washington. Scanning will occur on-site at MHS.
- PI will deliver nominally processed (de-skewed, de-speckled) TIFF images, processed (color correction, image sharpened) JPEG2000 images, and PDF images (field notes grouped by volume). Volume-based PDF images will likely be posted for download on MnGeo's website.
- PI arrived at MHS on November 24<sup>th</sup>.
- MnGeo staff created a web-based tracking system that PI, MnGeo and MHS will use to track volumes, activity and to note problems and issues.
- PI recently enhanced their equipment, so the resolution will be higher than the contract specs (720 DPI color –vs– 600 DPI color) at no extra cost.
- PI staff will be working six days per week in MHS facility.
- MnGeo received the first scanned volume from PI on 12/16.

##### *Challenges:*

- There appears to be more field note pages than what MHS and MnGeo staff realized: 325,000 –vs– 250,000. This will impact both the scanning and indexing budgets. Project goal is still to get all of the notes scanned by June 30, 2011.
- Text that rolls into the gutter of a volume is proving difficult and adds to the time needed to digitize efficiently. This extra effort may impact the scanning schedule and budget.

##### Indexing Field Notes:

- In mid-September, Field Notes indexing lead (David Claypool) started part-time.
- MnGeo began inventorying existing field note volumes and reviewing other documents to ensure that all townships were accounted for.
- MnGeo completed review of a database created by staff at the Office of the Secretary of State when the field notes were digitized in the 80's. The data has proven to be very helpful in determining the actual number of field note pages to be scanned.

- Executed mobility agreements with Mn/DOT to use two of their Survey Technicians to perform the Field Note indexing.
- Sent a copy of the GLO plat maps (TIFF images) to BLM for conversion to a MrSid format (required for the field notes indexing process). BLM archived the TIFF images for long-term storage and returned the MrSid images to MnGeo.
- Received a proposal and estimate from Science Application International Corporation (SAIC) for BLM's Cadastral Survey System (CSS) software modification, installation and training. CSS is the field notes indexing system that will be used in the project. To ensure that we maintain the integrity of BLM's existing database for Minnesota, SAIC had to create a custom map import module. It will yield a more comprehensive database – one that includes the notes, original GLO maps (from Minnesota) and duplicate maps (from BLM) which often include information not found on the original. Duplicate maps are those drawn from the field notes after the originals were generated. BLM will need to update its database and applications to be able to recognize and utilize the dual maps for Minnesota.
- Executed a contract with SAIC on November 8<sup>th</sup>.
- The MnGeo field notes indexing team traveled to BLM offices (Springfield, VA) on December 7<sup>th</sup> for three days of CSS training.
- SAIC was at MnGeo December 13<sup>th</sup> thru 16<sup>th</sup> to install BLM's CSS indexing software.
- MnGeo staff completed matching Minnesota's GLO plat images with BLM's duplicates.
- MnGeo staff began indexing the first volume using CSS on December 16<sup>th</sup>.
- Minor CSS enhancements are expected by year end.

#### Future Activities:

The following major events/activities are anticipated:

- Finalize the indexing QA/QC process.
- Determine the impact of the increased number of pages to be scanned and indexed on project schedule, staffing and budget.
- Determine the impact of "gutter text".
- Monitor PI's throughput using MnGeo's web-based tracking tool.
- Monitor PI's image quality.
- Scan, scan, scan!!
- Index, index, index!!

#### Issues:

- Time!! We are 4 to 6 weeks behind our original schedule. The additional pages to be scanned and "gutter text" will make meeting the project timelines even more challenging and will likely impact the project budget.

## STRUCTURES PROJECT

### Recently Completed Activities:

- Moved from a development to a preproduction environment
- Modified application to allow multiple concurrent users
- Moved data from PostGIS into MySQL which allows more data manipulation
- Updated coding so compatible with current GeoMoose “standards”
- Enhanced application so it is easier to add/update structures. A report of updates now shows only the modified attributes or new data rather than all of the data for a structure
- Initiated a study of agency sources and available data for State owned or leased facilities
- Created National Grid query capability
- Ensured that WMS works

### Planned Activities with USGS Grant:

- Modify application to track who added or modified a record
- Enhance application security to allow the data administrator(s) to restrict updating rights to a specific county or counties and/or structure type(s)
- Generate basic technical documentation
- Work with USGS to “push” new data to the National Map
- Depending on direction set by committee either generate new 10K maps or develop a service that generates a PDF 10K map (like the current ones) based on a selection query
- Add new structures from HSIP Freedom data: Nursing Homes, Correctional Facilities, Public Health Department
- Begin to add Minnesota State facilities
- Work with the State Fire Marshal to have State fire departments review and update their HSIP Freedom Partnership data currently loaded in MN Structures database

### Potential Community Activities:

- Perform an analysis of the HSIP data to determine what attribution should be included in the MN Structures database for: Nursing Homes, Correctional Facilities, and Public Health Departments
- Review initial State facilities analysis and determine the desired attribution for Minnesota State facilities
- Assist with gathering the State facilities data
- Perform an analysis of the use and potential uses of the 10K maps to determine if newer static maps should be generated for the entire State or if a service should be developed that would generate a PDF similar to the current maps but upon request. If static maps are to be generated, perform an analysis of the output options (PDF, GeoPDF, and JPG) and their ramifications (resources to generate, store and make available)
- Develop and provide “help desk” capacity for folks reviewing and updating structure data

## 2010 Metro Orthoimagery

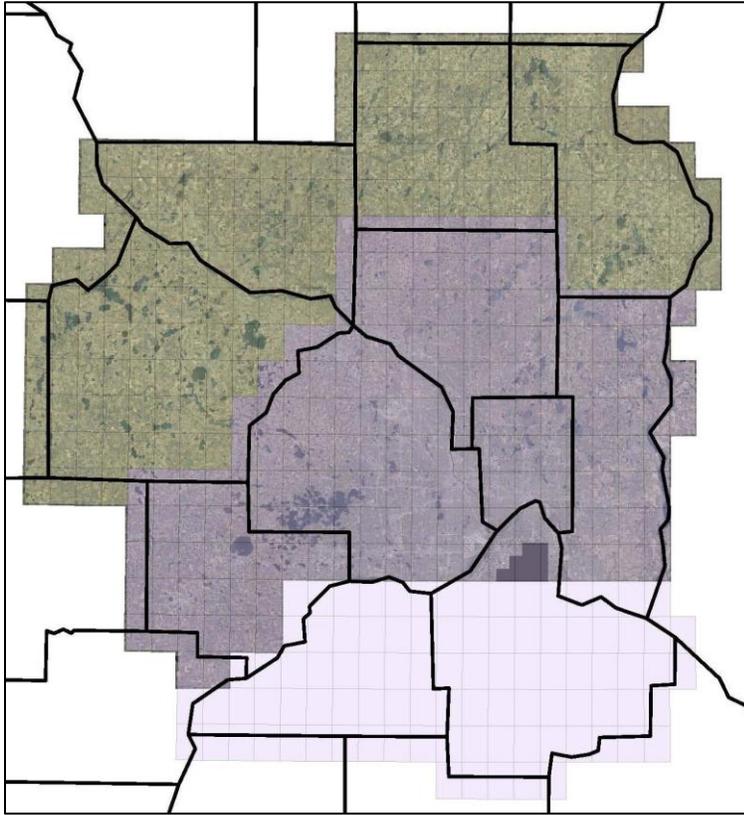


Figure 1. Half-meter resolution 2010 imagery counties shown in tan; 1-foot resolution in dark purple; and 6-inch resolution data re-sampled to 1-foot resolution in light purple.

New high-resolution, 4-band digital imagery covering eleven East-Central MN counties has been flown this spring and final review of those data is currently underway. Four counties (Wright, Sherburne, Isanti and Chisago) were collected at a resolution of 20-inches (1/2-meter); five counties were collected at a resolution of 1-foot (Carver, Hennepin, Anoka, Ramsey and Washington); and two counties, originally collected at a resolution of 6-inches, will be provided at a re-sampled resolution of 1-foot (Dakota and Scott). Final repairs are being made this week and the project team anticipates acceptance by mid-January. These data are currently available in a preliminary form on MnGeo's Image Server

([http://www.mngeo.state.mn.us/choose/wms/wms\\_image\\_server\\_layers.html](http://www.mngeo.state.mn.us/choose/wms/wms_image_server_layers.html)).

Goodhue and Rice Counties were originally included as part of the project area, but were not collected in 2010 due to the very short leaf-off window the region experienced last spring. Those counties will be flown during the spring 2011.

## 2011 Orthoimagery Planning

A solicitation is open until January 3, 2011, requesting proposals for the collection of orthoimagery over thirty-six southern Minnesota counties to be flown next spring as the next phase of a statewide, leaf-off project (see Figure 2). As with the 2010 project, specifications will include 4-band, leaf-off imagery, provided in both ortho-rectified and stereo form. The nominal resolution of the new data collection is 1/2 meter, but five counties have expressed interest in possible buy-up to 1-foot. Proposals will be evaluated early in January and an award is anticipated by mid-month.

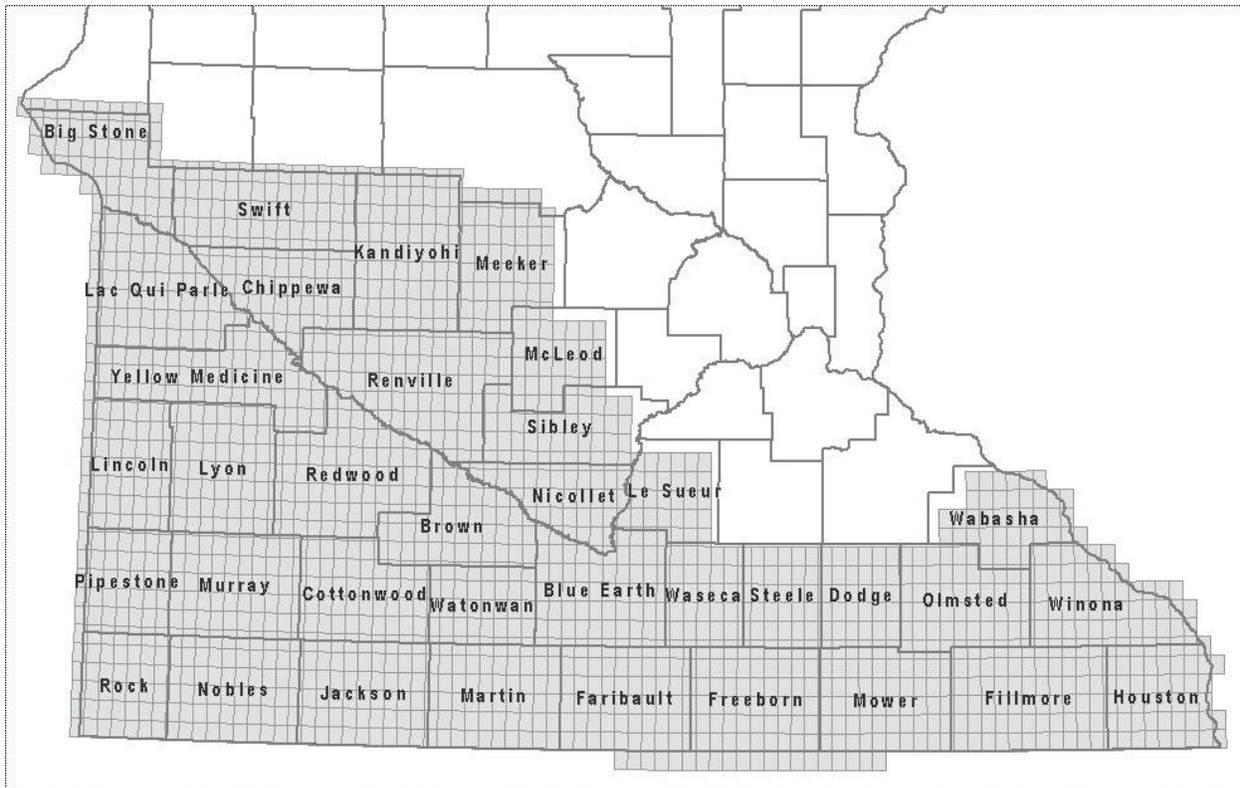


Figure 2. Counties and quarter-quadrangles to be covered in the State of Minnesota's 2011 Orthoimagery Project.

For more information on these projects, see the [spring air photo project website](#) or contact Chris Cialek, MnGeo, at [chris.cialek@state.mn.us](mailto:chris.cialek@state.mn.us) or 651-201-2481.

## State LiDAR Project 12/28/2010

The State LiDAR project is being coordinated by the Minnesota Digital Elevation Committee and managed by the Department of Natural Resources. Funded through the Clean Water Legacy funds (\$5,600,000) this project seeks to create a statewide, publicly available high accuracy digital elevation database. There are currently four individual projects underway for the State LiDAR mapping project.

### Phase 1 – Minnesota River Basin, MN portion – 17,258 sq miles

This portion of the project was acquired in the spring and fall of 2010. Data processing is on-going. Martin and Faribault county have been delivered by the vendor and Douglas and Pope counties are expected in mid January. Vendor – Aerometric Inc.

### Phase 2 – Minnesota River Basin, SD portion – 1,940 sq miles

This project was funded by the USGS and was acquired this fall. Data processing is on-going but data have yet to be delivered. Vendor – Sanborn

### Phase 3 – Arrowhead Region - 15,520 sq miles

Acquisition is scheduled for the spring of 2011. This project area has additional funding from the US National Park Service and the NRCS. MnDOT survey staff is coordinating survey point collection in the region to be used as input for data validation. Vendor – Woolpert Inc.

### Phase 4 – Metro Region, - 5,667 sq miles

Covering 11 counties in the metro region this acquisition is scheduled for the Spring of 2011. Contract negotiations have begun but a contract has not yet been finalized. There is interest from Metro area cities to have higher density data for use in urban applications such as building shape modeling, acoustic studies and automated impervious surface extraction. A meeting between the project steering team and county partners has been scheduled for Thursday January 13<sup>th</sup>, 2:00 to 3:30 at the DNR Central Office.

The cost for these four projects, along with administrative and project management costs, have expended the initial allocation from the legislature. The DNR is submitting a proposal to the legislature to support the remainder of the state from the Clean Water Legacy Funds.

The project team is working with MnGeo staff to develop a strategy to acquire proprietary LiDAR data for public distribution.

For more information contact Tim Loesch, [tim.loesch@state.mn.us](mailto:tim.loesch@state.mn.us) or visit the project web site at [http://www.mngeo.state.mn.us/committee/elevation/mn\\_elev\\_mapping.html](http://www.mngeo.state.mn.us/committee/elevation/mn_elev_mapping.html)

