Minnesota Geospatial Advisory Council Meeting Minutes

May 25, 2022

Hybrid, with online via Teams

11:00 a.m. – 2:00 p.m.

Members Present (in-person): Len Kne, University of Minnesota; Leanne Knott, City of Red Wing; Cory Richter, City of Blaine; Alison Slaats, MnGeo

Members Present (remote): Heather Albrecht, Hennepin County; Mitch Bergeson, USGS; Jeff Bloomquist, USDA Risk Management Agency; Ryan Bonney, Shakopee Mdewakanton Sioux Community; David Brandt, Washington County; Kari Geurts, MNIT Department of Natural Resources; Britta Maddox, Anoka County; Matt McGuire, Metropolitan Council; Victoria Reinhardt, Ramsey County; Kendis Scharenbroich, Pro-West & Associates Inc.; Gerry Sjerven, Minnesota Power; Alex Steele, Minnehaha Watershed District; Shawn Strong, City of Brainerd; Benjamin Timerson, Department of Transportation; Patrick Veraguth, Douglas County; Dale Watt, The Nature Conservancy

Members Absent: Chris Mavis, Hennepin County; Stacey Stark, University of Minnesota

Non-Members Present (in-person): Will Bartsch, Natural Resources Research Institute; Nancy Rader, MnGeo; Jeff Reinhart, MNIT Department of Natural Resources; Sally Wakefield, Department of Revenue; Sandra Yassin, Department of Transportation

Non-Members Present (remote): Andrea Bergman, MNIT Department of Natural Resources; Curt Carlson, MnGeo; Will Craig, retired; Melinda Kernik, University of Minnesota; Randy Knippel, Dakota County; Patrick Landisch, Department of Revenue; Tim Loesch, MNIT Department of Natural Resources; Karen Majewicz, University of Minnesota; Andra Mathews, Department of Natural Resources; Rick Moore, MNIT Department of Natural Resources; Joseph Mueller, Department of Transportation; Akiko Nakamura, Department of Public Safety; Lisa Perna, Department of Revenue; Pamela Jo Peters [no org known]; Daniel Raleigh, MNIT Department of Natural Resources; Jesse Reinhardt, Hennepin County; Justin Roberts, Department of Transportation; Dan Ross, NSGIC; Molly Shoberg, MNIT Department of Natural Resources; Megan Sisko, MnGeo; Lucas Spaete, Department of Natural Resources; Ryan Stovern, St. Louis County; Kevin Trappe, Beltrami County; Sean Vaughn, MNIT Department of Natural Resources

1. Call to Order

Meeting presentation slides

Richter welcomed GAC members and guests, and members introduced themselves. She then introduced Alison Slaats, the State of Minnesota's new Chief Geospatial Information Office and MnGeo's new director. Slaats thanked everyone for the welcome and said she looks forward to serving the State of Minnesota in these new

positions. She is currently in listening mode and is reaching out to many constituent groups. She strongly supports the GAC and its partners.

- **Motion**: Approve today's agenda (Reinhardt/Brandt) – Motion passed.
- **Motion**: Approve meeting minutes from 3/30/2022 (Reinhardt/Bloomquist) – Motion passed.

2. Review and Accept Committee Summaries (All)

Richter thanked the committees for sharing their accomplishments through their summaries.

Richter highlighted several items in the agenda packet:

- Draft nominations for Governor's Geospatial Commendation awards are due to the Awards Committee by June 1; final versions are due June 30
- The Criminal Justice Information Services (CJIS) workgroup has held its first meeting
- The Emergency Preparedness Committee's Underground Utilities Mapping project team is working on a phase 1 prototype data management system (Fusion View)
- Two standards are out for public review: Emergency Service Zones and Stream IDs
- The open parcels effort is making steady progress
- Outreach Committee: We will discuss later in the meeting about reviving this committee

Motion: Accept the committee and workgroup summaries (Geurts/Brandt) – Motion passed.

3. Archiving Imagery Workgroup (Majewicz, Kernik)

Majewicz presented the rationale for forming an Archiving Imagery Workgroup to research and document how to archive imagery. Aerial imagery is one of the highest priority types of data requested for the archive and consumes terabytes of space. What should be done with:

1. MnGeo's web service layers that the Image Service Sustainability Committee has recommended be retired?
2. Imagery from the State that the University of MN Libraries is currently backing-up?

This new group would build on the work of the previous archiving workgroups (Archiving, Archiving Implementation, and Archiving Pilot). Those groups focused on vector data. This group would focus on unique challenges of imagery data, especially the complications of providing access to these large files (both within the discovery platform and with transferring files). Majewicz would serve as the group's chair; Kernik would serve as vice-chair. They would aim to have a report completed by December 2022.

Proposed Objectives:

- Research the historical and current formats of imagery data
- Assess the monetary investment involved in the original creation of Minnesota imagery
- Consult with the Image Service Sustainability Committee on planning workflows for image service retirements
- Identify any major challenges with archiving imagery data, such as space considerations due to the size of the files

- Evaluate existing practices and potential strategies for transferring, storing, transforming, documenting, and archiving imagery data

Discussion:

- Veraguth: Does the workgroup want to know about new imagery?
- Richter: If people want to contribute files, what should they do?
    - Kernik: Since there is no archive yet, there is currently no workflow or process to receive the files, but the workgroup would be interested in learning about available imagery in order to start an inventory.
    - Majewicz: The workgroup could reach out more officially for lists of what's out there.

From chat:

- Shoberg: Would the archive imagery workgroup be looking at lidar (.las) files?
    - Majewicz: Our plan was to start with photographic/aerial imagery first. Lidar will come later.
    - Vaughn: Good question. I will share some information on the topic. Lidar data and the subject of archival tends to be a little different than other data sources because of its fundamental nature of being a 3D snapshot in time. Although we are collecting new "Next Generation" high density lidar data, our "legacy data" (~2008 to 2012) will continue to serve Minnesota as a temporal set of foundational lidar data. We are scoping out options to someday have a data architecture and dissemination platform that allows for continued management of all lidar data holdings to support applications like change detection and modeling.
    - Shoberg: Great info, thank you for sharing!

4. PLSS Legislation Update (Veraguth)

Veraguth reported that the Remonumentation Subcommittee of the Parcels and Land Records Committee continues to advocate for passage of legislation to remonument Minnesota section corners. Sen. Ann Johnson Stewart introduced it in the Minnesota Senate as SF 4037 (Sen. Bakk is a co-author), and Rep. Paul Anderson introduced it in the House as HF 4456. The bills were heard in committee but Sen. Mary Kiffmeyer wanted more information.

It was decided that, for this year, the committee will write a report instead. That proposal is in an omnibus bill which has not yet been voted on. Whether or not the report makes it into signed legislation, the subcommittee plans to finish writing it by the end of this calendar year. Most of the data is ready; the text needs to be easy for legislators to understand. The subcommittee continues to look for new people to help on this effort.

Discussion:

- Reinhardt: She sent a letter of support from Ramsey County. This effort has support from many organizations. The work so far has built a good base to bring attention to this issue.
- See the Preserving the PLSS Hub site for more information

5. Minnesota Natural Resource Atlas (Bartsch)

Will Bartsch, Natural Resources Research Institute, gave an overview and demo of the Minnesota Natural Resource Atlas. The goal of the Atlas is to make spatial data more accessible. It is a freely available interactive

mapping tool and a multidisciplinary spatial database. He emphasized that it is not a replacement for a desktop GIS and is not a regulatory tool.

The Atlas was developed in two phases: the first covered northeastern and north-central Minnesota; the second extended coverage to the entire state. The site was developed with funding from the Legislative-Citizen Commission on Minnesota Resources, with maintenance funding provided by the Department of Iron Range Resources and Rehabilitation.

The Atlas provides access to over 500 data layers, most of which are available for download from the source. Some data is brought in via web services from third parties. The data are regularly updated. The Atlas was built using open source software and allows the user to: view multiple data layers simultaneously; measure distance, area and elevation; summarize data within a boundary; create maps; and share information.

Live Demo: Bartsch showed that the data was organized into 10 categories, with information extending beyond natural resources to provide context. From the metadata summary, the user can click to either launch the map, get the data (typically from the MN Geospatial Commons), or get full metadata. Filtering options are available; polygons can be filtered by size or attribute. The user can rearrange the drawing order and can control a layer's opacity.

Additional options allow the user to print the map in either portrait or landscape; if the legend is open, it will be included on the printout (there are some issues with long legends). The user can save map settings and can save and share their settings with another user. The Atlas also allows users to draw on top of the map and add labels. Elevation profiles can be created from the 3-meter DEM, and the user can save an image or .CSV file of the profile.

Discussion:

- Kne: Who is using the Atlas? Have there been any surprises?
    - The initial intended audience was organizations (typically small) within Minnesota who make decisions that impact natural resources and who have no in-house GIS capability. A surprise is that larger agencies are also using the site since it can provide quicker answers to many questions and since not all agency staff have access to GIS.
- Slaats: Impressed by the speed of the site!
- Richter: The site's functions are complementary to the Minnesota Geospatial Commons.
- Richter: Are there plans for enhancements?
    - Some minor changes such as the ability to calculate area by wetland type
    - There is a limit on the number of data sources they can include
    - They are seeking additional funding to maintain the Atlas; some funding comes from NRRI and the University of Minnesota's Office of the Vice President of Research, but more is needed.
    - Atlas staff are available to give training sessions – let Bartsch know if your group is interested
        - Knott: The SE GIS User Group is interested
        - There is still time to submit an abstract about the Atlas for the MN GIS/LIS Conference in October

From chat:

- Ross: Is this published as a data resource in MN Geospatial Commons?
    - Rader: It will be soon, published by the University of Minnesota
- Mueller: Is it possible to download data from the online atlas?
    - Bartsch: Yes, click the "i" icon to get a link to download the data from the source
- Sisko: Are there resources within the Atlas not on the Commons? (yes) Or relevant data (to the Atlas) on the Commons but not in the Atlas? (there is a limit on how many layers they can include)
- Watt: For high-resolution datasets like the 1m DEM, are shapefiles uploadable to download limited areas?
    - No, that capability is not available
- Shoberg: Awesome application, thank you to you and your team for developing and maintaining this resource!

Related discussion continued (from later in the meeting):

- Richter: Does the Atlas need more letters of support in order to obtain sustainable funding?
    - Bartsch: Yes, the letters show that there's a community of users.
    - Reinhardt: It's important to communicate your project successes to managers, commissioners, elected officials and groups such as NaCO (National Association of Counties); that way, they are informed and can advocate when opportunities arise.

Motion: Richter will write a letter of support on behalf of the GAC for the Minnesota Natural Resource Atlas (Reinhardt/Brandt) – Motion passed.

6. Break

7. Law Enforcement/Public Safety Sector Report (Maddox)

Maddox started an IT business analyst position with Washington County in March, which is similar to her previous position with the Joint Law Enforcement Council of Anoka County.

She first presented examples of how law enforcement uses geospatial data and technology for:

- **Mapping**: In-car computers utilize mapping software for routing to calls, establishing perimeters for searching, operational layers for things like hydrant locations, property owners, etc.
- **Critical incidents**: Staging response plans for critical incidents including floor plans of buildings, schools, location of resources, drone flights for subject tracking
- **Crime analysis and statistics**: Analysis of Calls for Service based on specific locations which often feeds into city planning and resource scheduling

Maddox has been involved with spatial data standards and accuracy, crime analytics, response plans, data sharing efficiencies, and data privacy issues. She showed a screenshot of a CrimeView Analytics dashboard, which is an application that can provide statistical reporting of a variety of agency metrics such as response time, and also heat mapping of types of calls by location or date/time.

She ended with a timeline of work milestones planned for the new Criminal Justice Information Services (CJIS) Workgroup. This year the work will focus on compiling research into a document to be presented to the GAC in the fall. In 2023, a project will begin regarding public accessibility of property crime data within the scope of CJIS best practices.

Discussion:

- Richter: Does the CJIS workgroup have enough members?
    - McGuire volunteered to join the group

8. Legislative update (Slaats)

Slaats reported that conversations are continuing about the topics of policy and funding of geospatial program needs. The National States Geographic Information Council (NSGIC) is promoting a nationwide conversation about address data.

9. Open data and outreach (Richter)

Richter noted that the open parcels effort to build toward a statewide, standardized parcel dataset, has had success with peer-to-peer outreach from Parcels and Land Records Committee members. Could a similar approach work for address points and road centerlines and would it be a good role for a revived Outreach Committee?

- Kne: It could be a role for the Outreach Committee to oversee. It is a big lift; advise that it be broken into smaller pieces. With oversight, the effort is coordinated, not duplicated, and messages are consistent. Peer-to-peer contact shows that the idea is not mandated from above. The conversations can be about challenges faced and problem-solving.
- Slaats: "Opt-in" is a respectful approach. In the case of parcels, Ryan Stovern asks counties on behalf of the Parcels and Land Records Committee which then relays the information to MnGeo. Help is needed to reach out. Also, we don't want to inundate local governments with requests. Should it be one request? Or one per dataset?
- Reinhardt: She is careful not to mix her roles. As a county commissioner, she passes any requests to her staff. She can help with contacting the Association of Minnesota Counties to get information out to counties. Surveyor groups could be tapped as well.
- Knott: Noted that MCGISA (Minnesota County GIS Association) is reforming.
- Knippel: He is a member of the MCGISA board as is Geoff Maas. An abstract has been submitted to the Association of Minnesota Counties for a conference presentation about open data. Open data is a multi-pronged effort. It involves the GAC, which represents all sectors, and MCGISA, which represents counties. It is going to take time. Contacts need to be coordinated with the Outreach Committee. The process involves trying to understand barriers and sharing the rationale for open data.
- Richter: The Outreach Committee webpage links to two older surveys (one to counties; one to cities) about issues and concerns.

- Veraguth: How many counties are participating in MCGISA? Knippel: There are 10 regions (the NW is missing); the group is still forming.
- Stovern, Maddox and Albrecht: Can assist with this effort

10. Updates on MN GAC priority projects and initiatives

Brandt introduced three update items that priority and initiative owners should report on:

1. What is your most recent success?
2. Are you are experiencing a barrier?
3. What is your next task?

He showed an updated map of the 49 Minnesota counties that consider themselves to have free and open data, either with or without a policy.

- Updated and Aligned Boundary Data – Stovern
    - Most recent success:
        - Supporting/documenting Arrowhead Alignment Project to estimate time/effort for future work in other areas
        - Will present at the Association of Minnesota Counties conference; will have a table at the Minnesota GIS/LIS conference
    - If you are experiencing a barrier: Volunteer time
    - Next tasks:
        - Update the PLSS Status Map
        - Review PLSS data standard
        - Continue supporting/documenting the Arrowhead Alignment Project

- Parcel Data – Slaats
    - Most recent successes:
        - The public GAC-standard compiled dataset now includes 33 opt-in counties, adding Clearwater, Otter Tail and Pope counties since the March GAC meeting
        - The streamlined process where PRLC notifies MnGeo directly about new counties to add is working well
        - A GovDelivery newsletter was sent to the community to share this success
    - If you are experiencing a barrier: None
    - Next tasks:
        - PLRC's Open Data Subcommittee's outreach team will continue reaching out from county-to-county to talk about benefits of sharing data and learning more about barriers

- Road Centerline Data – Slaats
    - Most recent success: Data submission and validation routines moved to a new portal

- Barriers:
  - Work on validation process is still taking precedence over sharing data
  - Need to work out process similar to parcel "opt-in" process to support sharing of data. GAC involvement is requested.
- Next tasks:
  - Define opt-in process with the GAC
  - Build and automate the ETL process for aggregating data to the GAC standard
  - Publish to the Geospatial Commons

- Address Points Data – Slaats
  - Most recent success: Data submission and validation routines moved to a new portal
  - Barriers:
    - Work on validation process is still taking precedence over sharing data
    - Need to work out process similar to parcel "opt-in" process to support sharing of data. GAC involvement is requested.
  - Next tasks:
    - Define opt-in process with the GAC
    - Build and automate the ETL process for aggregating data to the GAC standard
    - Publish to the Geospatial Commons

- Imagery update – Slaats
  - Most recent successes:
    - Worked on image viewer recommended by Image Service Sustainability Committee
    - Added county imagery from Koochiching County to WMS
  - Barriers:
    - Time constraints to work on committee recommendations; did not accomplish removal of suggested retirement image layers
  - Next tasks:
    - Adding county imagery from Dakota
    - In discussion: Le Sueur, Lyon, Lincoln and Aitkin counties

- Critical Infrastructure Data – Stark
  - Most recent success:
    - Published the law enforcement resource to the Commons with an app for verification
    - Published a critical infrastructure resource page on MnGeo website
  - Barriers:
    - Finding avenues to publicize beyond GIS community
  - Next tasks: Forming two subgroups:
    - Data: Develop workflows for maintaining fire and law enforcement datasets. Determine costs and time, and also desired improvements to the current application (e.g., allowing counties to upload data).

        - Collaborations: How can we help HIFLD get info from the states to improve their data workflow? How can national workgroups help us find other contacts to help us meet our goals? Is there cross-participation in workgroups that would be appropriate and helpful between HIFLD (other national?) workgroups and MN data workgroups (e.g., parcel data and C.I. data). What are our next steps?

- Underground Utilities Data
    - Most recent successes: Multiple – see quarterly report
    - Barrier: Working through a highly technical geospatial implementation for the first time on the planet - but making progress
    - Next tasks: Currently 5 different work groups simultaneously working over 50 spreadsheet-defined tasks spanning data, legal, security, prototype build, standards, and policy

- U.S. National Grid Materials – Knippel
    - Most recent success: The USNG Institute is now a 501(c)3 under a SharedGeo fiscal sponsorship
    - Barrier: Time
    - Next tasks:
        - Complete the interface to allow map publishers to contribute to an application that provides access to USNG maps series and map books published anywhere on the Internet
        - Migrate existing documentation from ArcMap to ArcGIS Pro

- The implementation of an archive for Minnesota geospatial data
    - See formation of Archiving Imagery Workgroup in Item 3 above

- Accurate Hydro-DEMs – Vaughn
    - Most recent successes:
        - None related to progress
        - 3DGeo starting to receive more questions about this topic. Previous state investments in DEM hydro-modification and resulting datasets will support new DEM Hydro-modification.
    - Barrier: Funding
    - Next tasks:
        - Continue to build awareness that new lidar will require DEM hydro-modification and funding
        - Identification of culverts in new lidar will facilitate DEM hydro-modification

- Culvert Data Standard – Moore
    - Most recent successes:
        - Identifying resources and interested parties to become partners/members in the committee.

        - Researching culvert data practices of other states to identify best practices
    - Barrier: Identifying time to coordinate meetings for the standard. The culvert data standard will become high priority later in 2022 in tandem with the DEM Hydro-modification Subgroup
    - Next task: Meeting to bring together interested parties for the culvert data standard. Meeting with MnDOT representatives is forthcoming.

- Remonumentation of Section Corners
    - See PLSS legislation report in Item 4 above

- CJIS Data Best Practices
    - Most recent success: Subject matter experts met May 24 to begin work
    - Barrier: Actively recruiting team members!
    - Next tasks:
        - Summary crime data: pending the completion of CJIS Data GIS Best Practices as that will be key to what we share for this.

- New Lidar Acquisition - Vaughn
    - Most recent successes:
        - Spring 2022 Acquisition includes 6 Projects: Lower Mississippi (SE); Missouri/Big Sioux (SW); Upper Mississippi; Central Mississippi; Becker/Otter Tail counties; Douglas County
            - USGS estimates about 120 days until NE delivery
            - Douglas is collected
            - Becker was recently collected, although conditions were wet
        - New technology with high density of pulses lets lidar be collected now instead of stopping
        - Spring flights in progress in the Central Mississippi acquisition block; the slide shows areas accepted, not done and undergoing quality control
        - Slide shows how the aircraft flight path shifts as clouds move in; as many as 13 fixed wing aircraft are collecting
    - Barriers:
        - Coordinating delivery of data and storage
        - Poor spring weather: Rainy, with standing water and flooding, greening vegetation
    - Next tasks:
        - Outreach for Minnesota River East and West LABs for potential 2023 collect
        - Coordinate communication with LAB partners

11. Announcements or Other Business

- **Knott**:
    - Annual conference: The Minnesota GIS/LIS Consortium is planning an onsite conference in Bemidji, October 12-14; see the Call for Presentation Abstracts and Workshop Instructors.

Deadline for abstracts has been extended. Workshop instructors are needed. Student assistants familiar with GIS will be needed. Visit the GIS/LIS Consortium website for more information.
    - Award nominations are due May 31 for Lifetime Achievement, Polaris Leadership, Emerging Professional, and Distinguished Educator
- **Kne**: Governor's Commendation Award draft nominations are due June 1; the final nominations are due June 30
- **Richter**:
    - The EDGE (Ethnically Diverse Geospatial Engagement) group is becoming quite active. Their site includes job postings.
    - Once Richter begins her new position with Ramsey County, she will email her new contact information to GAC members
- **Reinhardt**: George Floyd's murder was two years ago. Our GIS data has had a positive impact on assessing disparities, equity and support systems.
- **Brandt**: The next meeting of the MetroGIS Coordinating Committee is June 16. The group started in 1996. Much of the heavy lifting has been done. What is the future of the group? Is a new structure needed? Tanya Mayer will be the new quarter-time coordinator.
- **Albrecht**: There is an opening for a new DBA to start soon at Hennepin County in the IT Department.
- **Timerson**: He is coordinating a nomination for Dan Ross for a Consortium Lifetime Achievement award. Anyone who would like to add support should contact Timerson.
- **Vaughn**: Partnerships for the next areas of lidar acquisition are critically needed by mid-September. Without champions, the acquisition will extend out to 2025.

12. Next Quarterly GAC Meeting

- September 28
    - 11:00 – 2:00 (currently planned to be hybrid, with in-person and remote attendance options)

13. Adjourn

Richter thanked everyone for attending the meeting.

- **Motion**: To adjourn meeting (Reinhardt/Knott) – Motion passed.