Southeastern Minnesota GIS Users Group

Meeting Minutes

Minnesota Pollution Control Agency, Rochester MN July 14 2016 8:45-12:00 pm

Attendees:

Jonathon Graves – Waseca County
Leanne Knott – Goodhue County
Alex Johnson – City of Red Wing
Kate Meixell – OPU
Brian Huberty – Fish & Wildlife Service
Rubin Seifert – City of Owatonna
Philip Nagel – City of Waseca
Christy Shostal – City of Rochester
Greg Roemhildt – City of Faribault
Chad Hanson – Goodhue County
Kevin Morrisey – Rochester Public Works
Sidney Jackson – RPU
Doug Thom – Steele County
Kevin Maxa – City of Austin Utilities
Paul Senne – Respec
Nick Flatgard – Steele County
Katherine Logan – MPCA
Tyler Johnson – Bolton-Menk
Greta Poser – St. Mary's University
Dave Wavrin – OPU
Michelle Trager – Rice County
Dan Krzoska – Houston County
Marty Mollenhauer – Winona County
Beau Kennedy – SWCD Goodhue Co
Ashley Ignatius - MPCA
Joey Nadeau – Winona County
Nick Meyers – Bolton-Menk
Erica Brown – City of Rochester
Jason Ewert - MPCA
Mary Sheehan – Olmsted County
Randy Growden – Olmsted County
Blaine Hackett – Respec
Anne Morrris – MPCA
Doug Thom – Steele County

9:15 am Meeting Started

Esri Web AppBuilder – Developer's Edition

Leanne Knott – Goodhue County

- Leanne Knott presented on her experience with downloading and deploying Esri's Web AppBuilder Developer Edition for Goodhue County's web applications. The presentation included information about WAB on the ArcGIS Online Platform, use case, app design considerations, installation and widget development, deployment and future upgrades.
- Leanne demonstrated both Goodhue County's AGOL cloud-hosted WAB applications along with the Goodhue County Internal Parcel Viewer to show functional differences between the two app versions. Goodhue County hosts Parcel Viewer solutions for Dodge County and County GIS User Group participants.
- Advantages and disadvantages were discussed – advantages included Esri support for the platform, tracking site usage through AGOL; disadvantages included complex file structures, widget interactions, and the need to update to new versions (including custom widget coding).

- Future upgrades will be coordinated with WSB & Associates staff to ensure widget coding matches the latest release with a target for annual updates Q1.

Integration of GIS and Transportation Planning

Nick Meyers and Tyler Johnson – Bolton & Menk

- Nick Meyers and Tyler Johnson of Bolton & Menk presented on a Prediction Tool they had developed for identifying crash 'hot spots'. Their presentation included a demonstration of the GIS Application and a discussion of the Python Programming used to create the tool.
- The tool will be used twice yearly in the Metro and Greater Minnesota areas and contains two separate crash analysis datasets for reactive and proactive projects. The reactive dataset utilizes 3 years of crash data (2013-2015) while the proactive dataset utilizes 10 years of crash data (2006-2015).
- The Python script tool creates intersection points, buffers intersections and then creates crash reports. Intersection points are created from centerlines datasets and geoprocessing tools, crash data is tabulated for each intersection point and then clipped and spatially joined.
- ReportLab and MatPlotLib modules are utilized to template map documents for individual cities.

Building a Conservation Irrigation Water Management Application

Paul Senne – Respec

- Paul Senne presented on the Irrigation Management Assistant application developed for a test project with the MN Soil and Water Conservation Distric in Benton County. The demonstration included project background, irrigation scheduling methods, software stack, inputs, data model and application demo.
- Irrigation and conservation issues were discussed, including field capacity measurements and best practices. Monitoring conservation indicators through field data was also discussed.
- Business case for the application included the need to understand precise crops need and ensure easy access to resource data. The software development stack included Leaflet, Apache, Flask, Python, Bootstrap, jQuery, PostGIS and others.
- User inputs to measure field AWS (Available Water Storage) were demonstrated. Map Unit Key, Component Key and CHorizon were utilized in SQL scripting.
- Additional user inputs included top depth and bottom depth, weather station zones, stage IV rainfall, and irrigation. The data model accounted for scalability but needed additional work to generate new instances on demand and take inputs for setup.

DroneView: Remote Sensing & Mapping

Brian Huberty – Fish & Wildlife Service

- Brian Huberty presented on drones for data collection including UAS history, large UAS, the University of Minnesota UAS program and latest updates on FAA sUAS. A small drone and flight maps were passed around during the presentation.
- Brian provided background on his 2015 UAS Tour in Grand Forks including photographs of large UAS craft. He also showed UAS data examples including orthophotos, point cloud, vertical, surface model, 3D Mesh and Oblique imagery outputs.
- UAS applications included mapping landcover, land use, topography, inspections for civil engineering, utilities and insurance, urban and inventory forestry, event disaster response, and many more.
- Small drone craft advantages included fast data processing and use case for surveillance but flying for positional accuracy was not recommended.

Statewide Update

- Minnesota Geospatial Advisory Council http://www.mngeo.state.mn.us/councils/statewide/
  Committees are always looking for more volunteers.
- DNR Buffer Map
- http://dnr.state.mn.us/buffers/index.html
  http://arcgis.dnr.state.mn.us/gis/buffersviewer/
- MnGeo Priority Projects and Initiatives Update
  http://www.mngeo.state.mn.us/councils/statewide/MnGeo_Priorities_2016-06-01.pdf
- Minnesota GIS/LIS
  http://www.mngislis.org
  Committees are always looking for more volunteers.
- K-12 Education
  http://education.state.mn.us/MDE/SchSup/SchTech/GISinK-12/MDEDEV_004345
  K-12 Map Contest: https://sites.google.com/site/minnesotamapcontest/prize-maps
- Spring Workshops
  Thank you to everyone who volunteered, taught and attended. It was another successful event.
- Annual Conference
  October 26-28th
  Sessions are almost finalized.
  You can still submit posters.
- **Greta Bernatz will be hosting the next Southeastern MN GIS Users Group Meeting Thursday, October 6th at Cascade Meadows, Rochester.**

12:00 pm Meeting Adjourned

** Members are encouraged to present at a future meeting and to offer suggestions of vendors or other agencies to present. Please contact a Steering Committee member or the next meeting's host if you are interested in presenting.

Jay Forstner
GIS Coordinator
JForstner@RPU.ORG
Rochester Public Utilities
Phone: (507) 280-1609

Greta Poser
St. Mary's University of MN
gcbern07@smumn.edu
Resource Analysis Dept. (GIS)
Phone: (507) 457-8739

Leanne Knott
GIS Specialist
Leanne.Knott@ci.red-wing.mn.us
City of Red Wing
Phone: (651) 385-3619

Ashley Ignatius
GIS Analyst - MPCA
Ashley.Ignatius@state.mn.us
Resource Analysis Dept. (GIS)
Phone: (507) 206-2614

Michelle Trager
GIS Coordinator
mtrager@co.rice.mn.us
Rice County
Phone: (507) 332-5950

Meredie Sexton
Emergency Management Assoc.
sexton.meredie@mayo.edu
Mayo Clinic
Phone: (507) 538-1916