# Northern Area GIS User Group Meeting

## Friday, December 14, 2018

**Northern Great Lakes Visitor Center** (Theater)

29270 County Highway G, Ashland, WI

9:00 AM – 4:30 PM

## Agenda

**9:00 – 9:15: Registration**

**9:15 – 9:30: Introductions**

**9:30 – 11:00: Mobile Data Collection**

- Jon Schwichtenberg, Minneapolis Office Manager, GRAEF

*The presentation will go through how to use GIS for mobile data collection. GRAEF applies mobile GIS data collection in many aspects of our business, from utility inspections to tree inventories to wetland delineations to sign inventories. The power of using mobile GIS for data collection is that one system does everything, managing the data, creating the data, updating the data to reporting. We will go through the process of setting up a system to examples.*

**11:00 – 11:15: Break**

**11:15 – 11:30: Timber and Trail Management Using Collector for ArcGIS on the Bayfield County Forest**

- Jason Holmes, Inventory & Analysis Forester, Bayfield County Forestry & Parks

*Collector for ArcGIS and custom basemaps are being used in the field to help manage forest and recreational resources on the Bayfield County Forest. This session will walk through the steps involved in making a map in ArcGIS online for deployment in Collector, how to make a custom basemap in the Tile Package format, and some practical uses of the app. Bayfield Country Forestry & Parks currently uses the Collector app for tracking progress in its continuous forest inventory program (aka watching trees grow), its recreation trail management, and in general forestry field work.*

**11:30 – 12:00: Invasive Species Mapping using KoBoToolbox**

- Miles Falck, Wildlife Biologist, Great Lakes Indian Fish & Wildlife Commission

*The Northwoods Cooperative Weed Management Area (NCWMA) is a collaborative group of state and federal agencies, tribes, local governments, non-government organizations, and individuals who work together to manage invasive species in the four northernmost counties of Wisconsin. The NCWMA recently decided to adopt the free open source platform KoBoToolbox to collect and manage invasive species occurrence data and track management efforts across its various jurisdictions. The Great Lakes Indian Fish and Wildlife Commission (a NCWMA member organization) has successfully used this software since 2016. This presentation will examine the alternative data management options considered, the pros and cons of using KoBoToolbox, and identify remaining unmet information management needs of the NCWMA.*

**12:00 – 1:00: Lunch (provided) in the Multipurpose Room**

**1:00 – 1:45: Development Versus Wetlands: Using GIS to Strike a Balance in Superior**

- Darienne McNamara, Environmental Regulatory Manager, City of Superior

*The vast majority of undeveloped land in Superior is made up of wetlands. City managers must find a balance between preserving important natural resources while supporting community growth and development. To that end, the city has taken the unusual step of mapping and surveying over 5,500 acres of wetlands within city limits. The first large-scale mapping effort was done 15 years ago, and was recently updated in 2017-18. The presentation will offer a brief overview of what's in the database and how it was developed, then discuss how it is used in practice to guide local decisions about development and resource management.*

**1:45 – 2:15: NPS and Bayfield County Evaluate Usefulness of LiDAR Canopy Metrics**

- Jason Holmes, Inventory & Analysis Forester, Bayfield County Forestry & Parks
- Al Kirschbaum, Remote Sensing Specialist, National Park Service – Great Lakes Network Office

*Working together, the National Park Service and Bayfield County Forestry & Parks explored possible forest structure metrics that could help manage forest stands. The National Park Service created a number of products and Bayfield County Forestry evaluated their usefulness. Uses include defining forest stand boundaries, navigation aid, and sampling aid. Since the Bayfield County LiDAR was collected during leaf-off conditions and at a minimal point density to produce a bare earth surface, the usefulness of sub-canopy level products was limited. However, the top-of-the-canopy product was quite useful. Eventually the hope is to potentially obtain a leaf-on photo to derive canopy "slices" to evaluate the vertical structure of forests and correlate points to on-the-ground forest measurement to extrapolate forest volumes.*

**2:15 – 2:30: Break**

**2:30 – 3:30: A 110-Year History of Research, Management, and Forest Change at the University of Minnesota Cloquet Forestry Center**

- Lane Johnson, Research Forester, Cloquet Forestry Center

*In 1909, the University of Minnesota Cloquet Forestry Center was established southwest of Cloquet, an important regional hub of the forest products industry in Minnesota. The early mission of the "Cloquet Forest", as it was then called, was to experiment and demonstrate how to best reforest cut-over pinelands in Minnesota, primarily through the development of techniques for raising and transplanting nursery-grown pine stock. Since the early days, the scope of research conducted at CFC has grown to cover a wide range of land management disciplines including forest ecology, silviculture, biometry, wildlife biology/management, hydrology, and tree genetics, consistently with a focus on the application of research to management practice.*

*Record keeping has always been an important part of CFC operations, with paper and digital records of forest conditions, experimental plantings, daily weather, and many other undertakings that extend back to 1911. The challenge CFC research and management staff currently face is how to compile, relate, and provide access to geospatial information that accurately represents continually changing forest conditions, the biophysical setting of stands, and fully captures a century of University research and management history. Current geospatial data management efforts involve the reevaluation of our paper and digital records system, the digitization of historical maps to track forest change in relation to management history, updates and improvements to our forest inventory, and exploration of how to best assign geospatial attributes to historical data missing discrete spatial information.*

**3:30 – 4:30: Utilizing Hazus in Multi-Hazard Mitigation Plans**

- Zach Vavra, GIS Specialist, Geospatial Analysis Center, University of Minnesota Duluth
- Steve Graham, Research Associate, Geospatial Analysis Center, University of Minnesota Duluth

*Hazus is a nationally applicable standardized methodology that contains models for estimating potential losses from earthquakes, floods, and hurricanes. The Geospatial Analysis Center (GAC) uses Hazus in county hazard mitigation plans to estimate the damages incurred by a 100-year flood. This presentation will discuss the data needed to run this analysis, how the data the GAC receives impacts the results of the analysis, and how the results are used in the hazard mitigation plans.*

**5:00: Networking Dinner/Drinks Event at The Alley in Ashland, WI** https://www.deepwatergrille.com/
*Come network with colleagues over drinks and/or dinner (not provided). Please additionally RSVP for this event if you plan to attend.*

**If you plan to attend this meeting, please RSVP to pledin@bayfieldcounty.org**

***Looking for things to do in the area? Check out the Bayfield County Play, Eat, and Stay map: https://arcg.is/1jvu1H***