

GEOSPATIAL ANALYSIS CENTER

Spring 2018 Newsletter

Swenson College of Science and Engineering
University of Minnesota Duluth

Services

The Geospatial Analysis Center staff are available year-round. Contact us for assistance with:

- Figures or maps for reports, manuscripts & proposals
- Interactive maps for site selection or exploratory analysis
- Getting started with ArcGIS Desktop, ArcGIS Pro, and ArcGIS Online software
- Finding & formatting spatial data
- Calculating an estimate for a GIS component of research in a proposal

GAC is a self-funded services and research center. Grant opportunities may be available to cover the costs of GAC's services for you - no project is too small! Please contact umdgis@d.umn.edu for more information.

Workshops

The Geospatial Analysis Center is now offering several new workshops! They are offered on a continuous basis and cover topics such as:

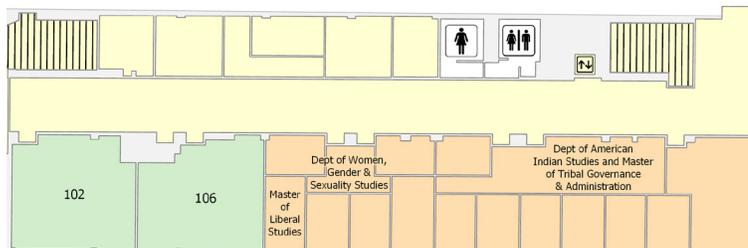
- Story Maps 101: Visual Storytelling with Maps
- Web Mapping 101: Intro to Spatial Analysis using ArcGIS Online
- Transitioning to ArcGIS Pro
- Collector 101: Field Data Collection using Esri's Collector for ArcGIS

To learn more, view dates or register, visit: scse.d.umn.edu/geospatial-analysis-center/services/workshops

U-Spatial at UMN also offers workshops: research.umn.edu/units/uspatial

Indoor Campus Maps

The Geospatial Analysis Center has produced a collection of maps for the University of Minnesota Duluth campus, which are accessible through a mobile application, the BulldogMobile App (available through Google Play or the Apple App Store). Student GIS technicians at GAC collaborated to create individual maps for every building and floor on campus. The app allows for a comprehensive campus directory to be accessed at any time via a smartphone, and will allow



users to quickly locate rooms of interest.

GAC Location & Access to GIS Help Desk

The Geospatial Analysis Center (GAC) is located in Kirby Plaza 389.

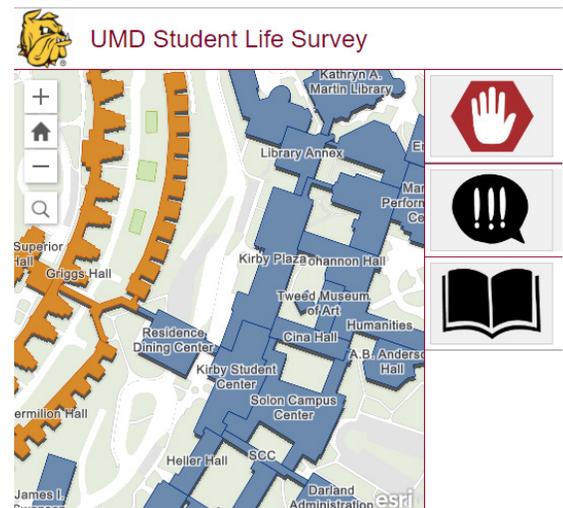
Contact us at umdgis@d.umn.edu or (218) 726-7438 to ask a question or make an appointment.
scse.d.umn.edu/gac

Or contact the U-Spatial Help Desk: uspatial@umn.edu (612) 624-7591
research.umn.edu/units/uspatial

Student Life Survey App

In collaboration with UMD Student Life, the GAC developed a web app to survey how students feel about the UMD campus. Through a simple web-based interface, students are able to confidentially identify areas on campus where they feel like doing certain activities such as studying and hanging out, or where they may feel unwelcome.

The data collected using this web app will be used directly by UMD Student Life to steer campus design and programming in the future.



GAC in the Classroom

During the spring semester, GAC has worked with several classes across campus to introduce students to story maps and geospatial analysis:

- **Dr. Natalie Belsky's** history students developed their final presentations as web-based story maps, integrating interactive web maps, historical maps, photos, text and multimedia.
- **Dr. David Syring's** anthropology class, Digital and Participatory Methods, used the Collector App to create a map of joy, fear and feeling in the Twin Ports area as a way of exploring the human experience in the local landscape. The class also collaborated on the project with area high school students, introducing the concept of GIS research to potential future university students.
- Students in **Dr. Donn Branstrator's** Lake Ecology lab used ArcGIS Online tools to measure lake volume and to delineate watershed areas for lakes they had visited in the field. Students also compared lake settings based on land cover composition, lakeshed size and other geographic features.
- Students in **Dr. Deborah Petersen-Perlman's** courses, Media Communications and Telling Stories about the Holocaust, learned how to create story maps.

New Statewide Imagery

This February MnGeo updated their image service from 2006 to 2017 imagery. The new imagery has a 1m resolution (color and CIR) and is 64 GB FSA NAIP for the entire state of Minnesota: <http://www.mngeo.state.mn.us/>



Hazard Mitigation Planning

The Geospatial Analysis Center is currently working with the State of Minnesota's Homeland Security Emergency Management Office on the 2019 update of the Minnesota Hazard Mitigation Plan. A FEMA-approved hazard mitigation plan is a condition for receiving certain types of non-emergency disaster assistance, including funding for mitigation projects. Ultimately, hazard mitigation planning enables action to reduce loss of life and property, lessening the impact of disasters. GAC is also updating hazard mitigation plans for 8 counties and 1 tribal government in the state.

GAC is also conducting Hazus flood models for 7 counties in southwestern Minnesota. This model allows for a wide range of flood hazard analyses, including hazard risk assessments for 100-year floods.



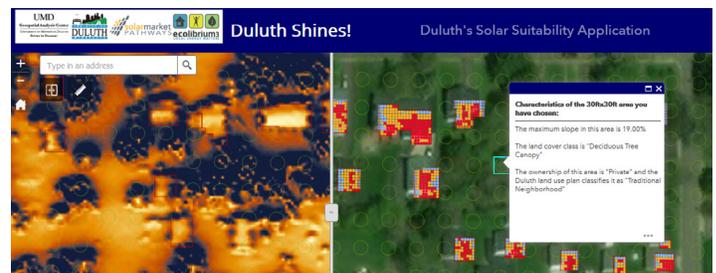
Zach Vavra Joins GAC Team

In November 2017, Zach Vavra was hired as a GIS Specialist at GAC. Previously Zach worked at UMD as the Program Coordinator for International Student Services, and as a GIS instructor for the GUESS Dept.

Presenting at the Esri Conference

At the annual Esri User Conference in San Diego this July, GIS Specialist **Micaella Penning** will be presenting "Visualizing Hazus Flood Analysis Results with Story Maps," and Director **Stacey Stark** will be presenting "Growing the GIS Professional."

Solar App Updated



In 2016, GAC worked with Ecolibrium3 to develop the Duluth Shines! Duluth's Solar Suitability Application. This online tool uses building footprints to represent the area of rooftops to demonstrate the solar resource that exists within the City of Duluth. A customizable calculator estimates an appropriate solar installation size and cost. In the winter of 2017-18, GAC updated this tool to add diverse solar installation narratives for UMD and other public buildings, and added ground mount solar potential data layers, resulting in a more comprehensive tool. See version 2 of this online tool here: z.umn.edu/duluthshines

GAC Student Graduates

In December 2017, GAC Student GIS Technician **Alex Nelson** graduated with a degree in Urban & Regional Studies. Alex worked on a variety of projects at GAC, and was a recipient of the undergraduate student scholarship at the 2017 MN GIS/LIS Consortium's annual conference, winning first place in the state and an \$800 scholarship. This fall Alex will be attending graduate school for urban planning in Vancouver, British Columbia.

Three student GIS technicians from the GAC, **Alex Nelson**, **Siona Roberts**, and **Morgan Larson**, presented posters at the American Association of Geographers annual conference in New Orleans, April 10-14, 2018. All three students received funding from UMD's GUESS Department in order to attend and present at this conference.

Student GIS technician **Morgan Larson** will be graduating this spring with a Bachelor of Arts in Geography. This fall she will be attending graduate school at St. Mary's University in Winona, MN, to study GIS.