

**WISCONSIN  
STATE  
CARTOGRAPHER'S  
OFFICE**



**ANNUAL  
REPORT  
FISCAL YEAR 2022**



# WISCONSIN STATE CARTOGRAPHER'S OFFICE

## ANNUAL REPORT FISCAL YEAR 2022



**WISCONSIN**  
UNIVERSITY OF WISCONSIN-MADISON



## Staff of the State Cartographer's Office.

**Genevieve Burgess.** Genevieve (they/them) graduated from UW–Madison in 2017 with a BS in GIS & Cartography and a certificate in Environmental Sciences. Prior to joining the SCO, Genevieve worked as a GIS Technician on several projects for the Wisconsin Department of Transportation and Wisconsin State Patrol. While a student at UW–Madison, Genevieve worked as a student Research Assistant at UW–Madison's Space Science and Engineering Center. They enjoy reading, sewing and exploring the many natural wonders around Wisconsin.

**Title.** GIS Research Analyst

**Email.** gmburgess@wisc.edu

**Phone.** (608) 262-4721

**Hayden Elza.** Hayden (he/him) conducts research, development and support of new geospatial technologies, as well as project coordination and technical support for the SCO Student Lab. Before SCO Hayden worked in the Forest Ecosystem and Landscape Ecology Lab at the University of Wisconsin–Madison with Professor David Mladenoff. There Hayden managed a database containing 374,000 bearing tree records from the original General Land Office survey. He has also worked on GIS and web mapping projects for David Hart in the Sea Grant Institute. Hayden has a BS in Forest Science and a GIS Capstone Certificate, both from UW–Madison. His interests include free and open source GIS, open data, spatial databases, spatial web tools and drones.

**Title.** GIS Developer

**Email.** elza@wisc.edu

**Phone.** (608) 265-8106

**Sammy Fogel.** Sammy (they/them) joined the SCO in July 2022, working on a project to advance the water resource goals of the Red Cliff Band of the Lake Superior Chippewa Tribe. They graduated from UW–Madison in May 2022 with a BA in Geography and Political Science. Before working at the SCO, Sammy spent two years as an Information Specialist Intern with the UW–Madison General Library System and two semesters conducting research on the residential geographies of queer students at UW–Madison. In their free time, they enjoy reading, biking around Madison, and hiking around Wisconsin (or wherever they're able to drag their friends).

**Title.** GIS Research Analyst (1-year position starting July 1<sup>st</sup> 2022).

**Email.** shfogel@wisc.edu

**Phone.** (608) 262-4721

**Ann Buschhaus.** Ann joined the SCO in July 2020 and currently works on a project to advance the water resource goals of the Red Cliff Band of the Lake Superior Chippewa. After years as a water resources engineer Ann now works with GIS, most recently at the Bureau of Land Management. She has a bachelor's degree in Physics and a master's in Engineering. Ann enjoys logic puzzles, fixing things, making things, and being outside.

**Title.** GIS Researcher

**Email.** buschhaus@wisc.edu

**Phone.** (608) 262-4721



*Science Hall on the UW-Madison campus.  
Home of the State Cartographer's Office.*

**Thomas Kazmierczak.** Thomas joined the SCO in August 2020 to work on the Statewide Parcel Map Initiative and Statewide Public Land Survey System Database project. Prior to joining the SCO he worked for almost ten years at Northern Illinois University's Center for Governmental Studies as a Research Associate. His background includes a bachelor's degree in Geographic Information Science from Michigan State University and a master's in Geography from Northern Illinois University. When not working, Thomas enjoys military history, miniature gaming and American Football (although he is not and will never be a Packers fan!)

**Title.** GIS Research Analyst

**Email.** tkazmierczak@wisc.edu

**Phone.** (608) 262-4721

**Ana Wells.** Ana joined the SCO in April 2018. She works with the SCO team developing statewide parcel and Public Land Survey System GIS databases for the state of Wisconsin, and training geospatial professionals in the use of LiDAR technology. Before joining the SCO, she has worked as a Research Assistant for the Urban and Regional Planning Department and Nelson Institute for Environmental Studies, as well as a Teaching Assistant for the Soils Department at UW–Madison. She has a PhD in Soil Science and a Graduate Certificate in GIS from UW–Madison. She likes cooking, gardening and greatly enjoys spending time in the beautiful prairies of Wisconsin.

**Title.** GIS Data Engineer

**Email.** ajwells@wisc.edu

**Phone.** (608) 262-4721

**David Vogel.** David joined the SCO in December 2012. He has worked on cartographic projects and web applications. He has been heavily involved in all versions of the Statewide Parcel Map Initiative and Statewide Public Land Survey System Database project; he originally worked on data assessment and processing and is now serving as the SCO project coordinator. He also serves as the office's liaison to the Wisconsin County Surveyors Association and the greater surveying community. David received his BS in Forest Management & Conservation Biology from UW–Stevens Point in May 2008 and completed the GIS Certificate Program at UW–Madison in 2014. He enjoys cooking, camping and spending time in the great outdoors of Wisconsin.

**Title.** GIS Data Engineer

**Email.** djvogel2@wisc.edu

**Phone.** (608) 890-3793

**Melanie Kohls.** Melanie is a recent graduate of the Accelerated Masters Program in GIS & Cartography at UW–Madison. Melanie has been on and around UW–Madison campus since 2012, earning her bachelor's degree in Zoology and Environmental Studies before continuing on to the GIS professional curriculum. While a student, she assisted researchers at the Center for Limnology on projects ranging from surveys of Wisconsin dams to processing samples of fish from Hawaiian streams. More recently, Melanie has worked as a GIS Analyst for The Nature Conservancy and the Wisconsin Department of Public Instruction. When she's not working, Melanie is usually running around Madison with her camera, and occasionally hiking in any state that has mountains.

**Title.** GIS Outreach Specialist

**Note:** Melanie left the employ of the State Cartographer's Office in January of 2022 to pursue work in the private sector.

**Jim Lacy.** Jim joined the SCO in 2004 as the Associate State Cartographer. He provides technical and managerial leadership for projects in the office and frequently answers public inquiries on GIS, mapping and technology topics. In addition, he serves as the primary coach for SCO student assistants and works with them to build real-world skills for the future. Jim supports a wide range of geospatial organizations through active leadership and service. Jim was a Board Member and Treasurer of the American Society for Photogrammetry Western Great Lakes Region from 2011-2017, and the Wisconsin Land Information Association from 2013-2019. He has also served on several committees of the National States Geographic Information Council, including a stint as representative to the National Digital Orthophoto Programs steering committee. Jim has a BS in Geography and Information/Computing Science from UW–Green Bay and an MS in Cartography & GIS from UW–Madison. Prior to joining the SCO, he worked for the University of Nebraska and the Wisconsin Department of Natural Resources. Jim also worked as a graduate Project Assistant for the SCO in the early 1990s.

**Title.** Associate State Cartographer

**Email.** lacy@wisc.edu

**Phone.** (608) 262-6850

**Howard Veregin.** Howard was appointed State Cartographer in September 2009. His previous positions include Director of Geographic Information Services at Rand McNally, Associate Professor of Geography at the University of Minnesota–Twin Cities, and Assistant Professor of Geography at Kent State University. He began working with computer mapping technology in 1982, when he started his master's program. He received his PhD from the University of California–Santa Barbara in 1991, with a dissertation that focused on uncertainty in models of nuclear winter. Howard directs and oversees the activities of the SCO, serves as principal investigator on externally funded projects, supervises SCO staff, and is an ex officio member of the Wisconsin Land Information Council, the Wisconsin Geographic Names Council, and the Wisconsin Presidents' Council. He is responsible for providing leadership and overall strategic direction for the SCO, generating external funding opportunities, and coordinating with other UW units and professional organizations across the state. He is responsible for ensuring compliance with the statutory provisions of the State Cartographer position.

**Title.** State Cartographer

**Email.** veregin@wisc.edu

**Phone.** (608) 262-6852



## State Cartographer's Office Student Assistants.

**Ethan Lucas.** While employed by the SCO, Ethan was enrolled at UW-La Crosse taking courses to prepare for graduate school. He graduated in the spring of 2020 with a BS in Geography. While at La Crosse he interned at the US Geological Survey and worked as Geography's GIS lab assistant. His interests lie in using spatial statistics with GIS and remote sensing to better understand human environment connections. Outside of work he enjoys exercising, reading and playing games with friends.

**Dates.** September 2020—August 2021.

**Projects.** V7 parcels, Dasymetric population estimation, GeoData@Wisconsin, Ashland Building Inventory Project.

**Marie Overing.** While with the SCO, Marie was in the Accelerated Master's Program in GIS & Cartography at UW-Madison. She received her BA in Finance & Data Analytics at Ohio Wesleyan University, where she also competed as a dual-sport athlete in field hockey and golf. She is interested in geospatial intelligence and applying her studies to create fun GIS apps. In her free time, Marie enjoys playing park games, like spike ball, with friends.

**Dates.** May 2021—August 2021.

**Projects.** V7 parcels.

*Marie was a GISPP Fellow at the SCO, funded through the GIS Professional Programs in Geography at UW-Madison.*

**Christina Dennis.** While She was with the SCO, Christina was an undergraduate student at UW-Madison pursuing a BS in Cartography and GIS. She graduated in May 2022. She has worked as an intern manipulating LiDAR data for NV5 Geospatial, and she spent the summer of 2021 in northern Wisconsin mapping public beach access points in Door County for UW-Oshkosh. Her interests include cross-stitching, reading and spending time on the lakes and rivers of Wisconsin.

**Dates.** September 2021—May 2022

**Projects.** Historic Atlas of Wisconsin prototype, Wisconsin Aerial Photography Catalog, Basemap development for SCO web apps.

**Abbie Bruederle.** While working at the SCO, Abbie was an undergraduate student at UW-Whitewater working towards a BS in Environmental Science with an emphasis in Geosciences. She graduated in May 2022. She has worked as a Research Apprentice studying marine invertebrates and presented her work at the UW System Symposium. Her hobbies include hiking, crocheting and collecting beach glass and fossils along the shores of Lake Michigan.

*Abbie received the 2021 Damon Anderson*

*Memorial Scholarship from the Wisconsin Land Information Association.*

**Dates.** September 2021—May 2022.

**Projects.** V8 parcels, WICDI hydro-enforced DEMs.

**Gengkui Liu.** Gengkui received his bachelor's degree in Environmental Geography in 2018. After graduation he worked as a software test engineer in a data analytics consulting company. Gengkui has an interest in spatial data visualization, machine learning, etc. During his spare time, he likes hiking, gardening, photo-shooting and cooking.

**Dates.** September 2021—May 2022.

**Projects.** Machine learning for aerial photography indexing, Wisconsin cartographic phantoms.

*Gengkui was a GISPP Fellow at the SCO, funded through the GIS Professional Programs in Geography at UW-Madison.*



*Part of UW-Madison campus looking*

**Mike Hasinoff.** Mike is currently pursuing an MS degree in Cartography & GIS at UW-Madison. He plans to graduate in December of 2022. Several years prior to being a stay at home dad and postgraduate student, Mike had a former life that included teaching English in Japan, high school science and working as a technician in genetics and biochemistry labs. When life allows, Mike likes to spend time watching his daughters play hockey and soccer along with hiking, biking and paddle-boarding Wisconsin lakes and rivers with friends. In the winter he enjoys skiing, curling and cheering on the Edmonton Oilers despite the fact that they have been toiling in mediocrity for what seems to be eternity.

**Dates.** March 2022+

**Projects.** Wisconsin Department of Corrections Regional Atlas, Dane County Oaks Project.

**Branton Kunz.** Branton joined the SCO in September 2021 and stayed through graduation in September 2022. At the SCO he developed Python tools to support the Statewide Parcel Map Initiative and GeoData@Wisconsin. Branton received his bachelor's degree in Human Geography from UW-Madison in 2007.

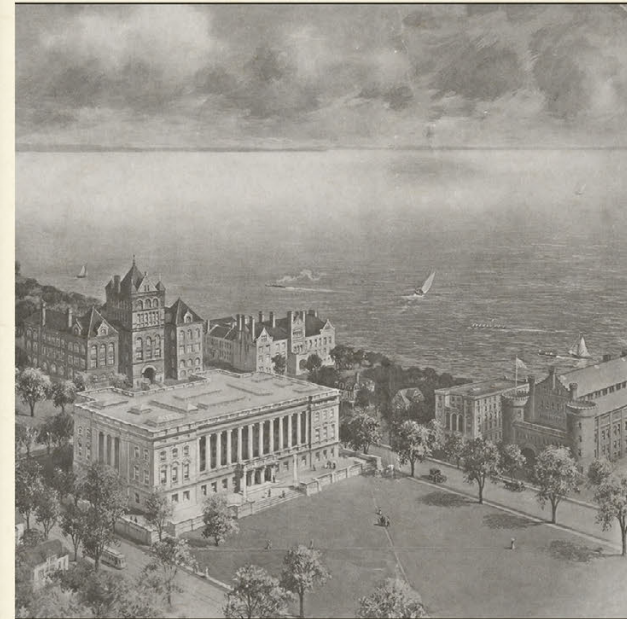
**Dates.** September 2021+

**Projects.** V8 parcel database validation tool, GeoData@Wisconsin.

**Rachel Ren.** Rachel is an undergraduate student majoring in Cartography/GIS & Computer Sciences. She has been working in the Robinson Map Library since September 2021, doing the metadata project for coastal and county layers in Wisconsin. Rachel loves dancing for the rest of the time, and she is a hip-hop dance performer in Dancas Dance Crew.

**Dates.** March 2022+

**Projects.** Wisconsin Department of Corrections Regional Atlas.



*to the north-west over Bascom Hill.*

**Mallory Johnson.** Mallory is currently pursuing her accelerated GIS MS degree after completing a BS in Environmental Policy and an MS in Environmental Science at UW-Green Bay. While at UWGB in her MS program, Mallory specialized in groundwater chemistry, developing a combined dataset for eastern Wisconsin and northern Illinois Cambrian-Ordovician well water isotope data alongside Prof. Luczaj to determine groundwater chemistry and age. She has previously worked with the Wisconsin Department of Transportation as an environmental intern managing data for the northeast wetland credit banks, taught introductory geoscience as a teaching assistant at UWGB, and recently completed six years working for Green Bay Athletics as a camera operator/director/replay operator for the Green Bay Phoenix. When not

working, she enjoys hiking, skiing, skating, crafting and gardening.

**Dates.** March 2022+

**Projects.** WICDI hydro-enforced DEMs.

**Param Bhandare.** Param is an undergraduate student majoring in Computer Science with elective coursework in Geographic Information Systems and Mathematics. Recently, he was part of a semester-long project that attempted to find an optimization scheme in resource transport logistics over ancient terrain for an archeological project. More recently, he engaged in a classification exercise on bank consolidation and uprooting in a hypothetical Toronto area, working with limited data to make generalized claims over the entire dataset with semi-supervised learning techniques. Problems like these interest him and he hopes to learn and apply more robust and sophisticated techniques to answer questions in several domains that intersect with Geography. He is currently embarking on a project mapping land cover and dominant species in the Lake Superior region. In his free time, Param enjoys world history, especially history of religion and mathematics, learning languages, chess, cooking and any healthy one-on-one in the courts, fields or over the table.

**Dates.** June 2022+

**Projects.** NERR habitat map.

**Chang Li.** Chang is a recent graduate from the Department of Geography at UW-Madison, with a BA in Cartography & GIS and Geography. He plans to pursue an MSc degree in Geospatial Sciences at University College London starting in the fall of 2022. Chang is an animal lover and enjoys his time with his cat, Qiuqiu. Chang is also very grateful for his girlfriend Miao's support during these years while he has been studying abroad.

**Dates.** June 2022+

**Projects.** NERR habitat map.

**Duncan McFarlane** Duncan is a graduate student at UW-Madison and is currently pursuing an accelerated MS degree in GIS. Since receiving his BS in Geography from UW-Madison in 2018, he has worked as a quality assurance specialist for a geospatial data collection company. Duncan likes to spend his spare time listening to audiobooks and music, going on walks and hikes around the Madison area, playing with his roommate's cat, 'Spaceboy' and playing board games.

**Dates.** June 2022+

**Projects.** WICDI hydro-enforced DEMs.

*Note: Duncan is a GISPP Fellow funded through the GIS Professional Programs in Geography at UW-Madison.*

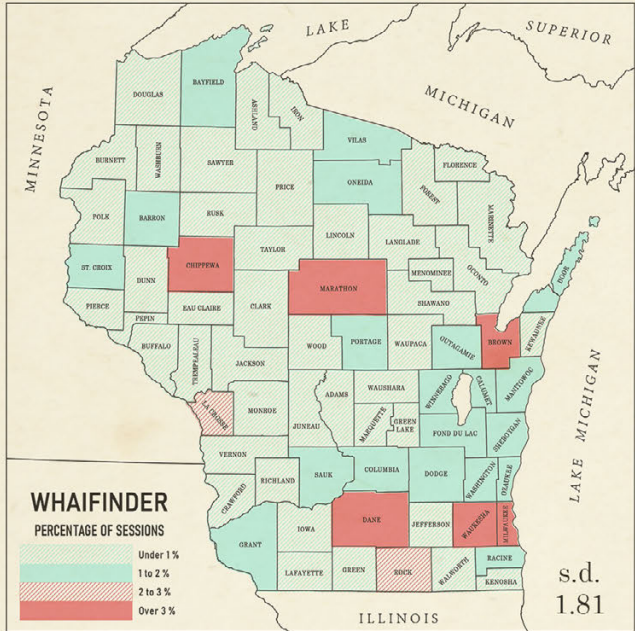


# State Cartographer's Office Online Apps.

The Wisconsin State Cartographer's Office has developed a suite of online map applications designed to deliver geospatial data to GIS professionals and the general public. These apps are available on the State Cartographer's Office website at [www.sco.wisc.edu](http://www.sco.wisc.edu)

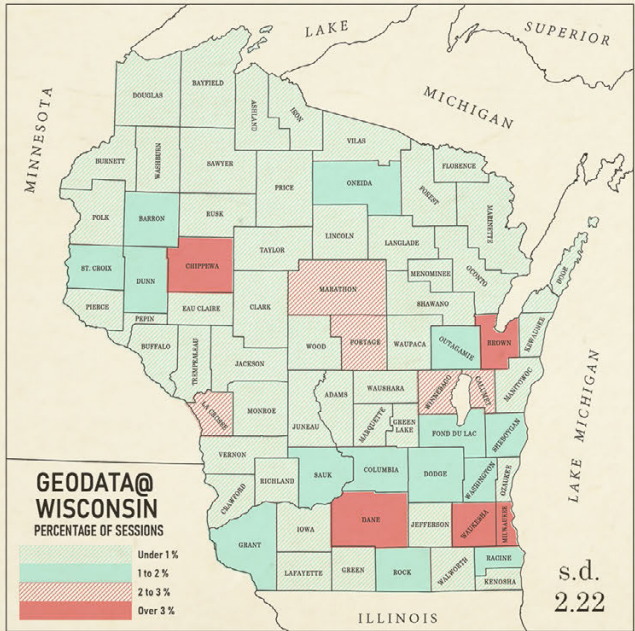
The maps on the following pages show the patterns of app usage for the period July 1<sup>st</sup> 2021 through June 30<sup>th</sup> 2022. The different colors and patterns portray the percentage of sessions originating in each county. To measure the spatial concentration of app usage, the standard deviation of the difference between the actual and expected number of sessions was calculated for each county. The expected number of sessions assumes app usage will be proportional to county population. (Without taking county population into account, the expected percentage of sessions for each county is 1.4% since there are 72 counties in the state.)

The computed standard deviations (s.d.) are shown on each of the maps below. A small value means the actual distribution of sessions is closer to what is expected for that app. A larger value indicates that, for that app, some counties have a larger or smaller share of sessions than would be expected based on population alone.



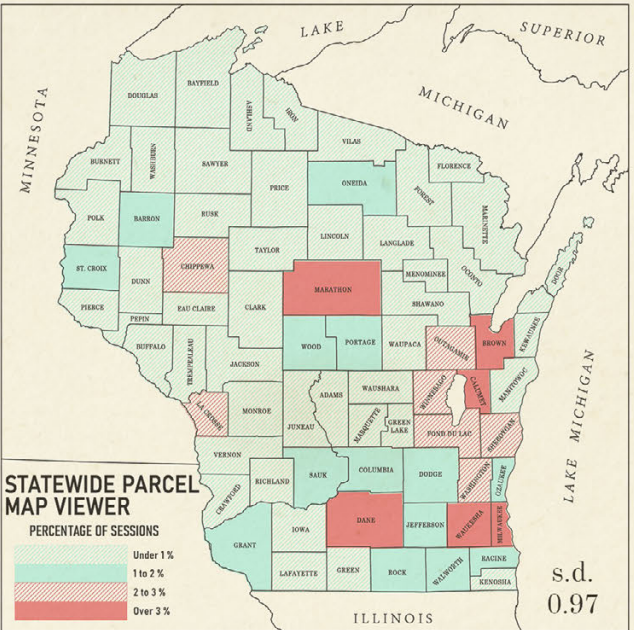
**WHAIFinder.** The Wisconsin Historic Aerial Image Finder provides free online access to over 38,000 aerial photographs of Wisconsin from 1937-41 originally acquired by the US Department of Agriculture. As part of a three-year project funded by the Baldwin Wisconsin Idea Endowment at UW-Madison, these photographs were scanned, indexed, and made web-accessible. The photographs are available for download by any user without fee or use restrictions. Collaborators on the WHAIFinder project include the Wisconsin State Cartographer's Office, The Robinson Map Library, the University of Wisconsin Digital Collections Center, and the Wisconsin Department of Transportation.

[maps.sco.wisc.edu/WHAIFinder](http://maps.sco.wisc.edu/WHAIFinder)



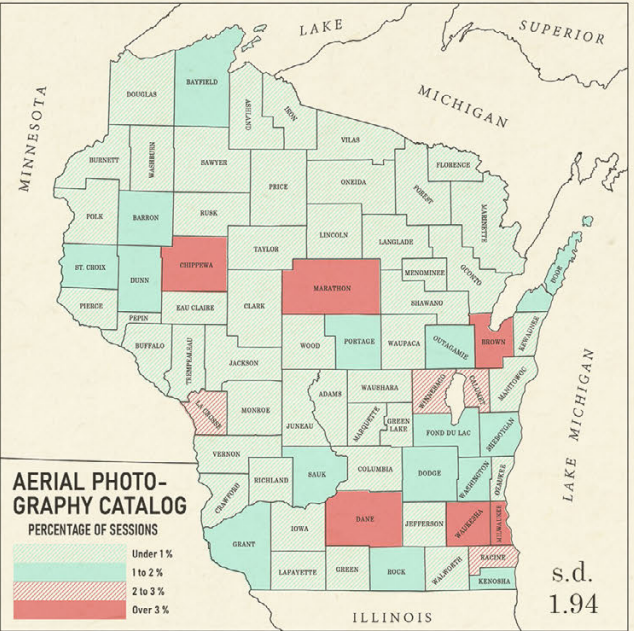
**GeoData@Wisconsin.** GeoData@Wisconsin is an online geoportal providing discovery and access to Wisconsin geospatial data, imagery, and scanned maps. It is developed and maintained by the Robinson Map Library and State Cartographer's Office. The geoportal combines a map-based spatial search with traditional keyword searching and faceted browsing options to locate and download geospatial data. A Help section gives tips on keyword searching, descriptions of the different facets and collections, and how to interact with the map search function.

[geodata.wisc.edu](http://geodata.wisc.edu)



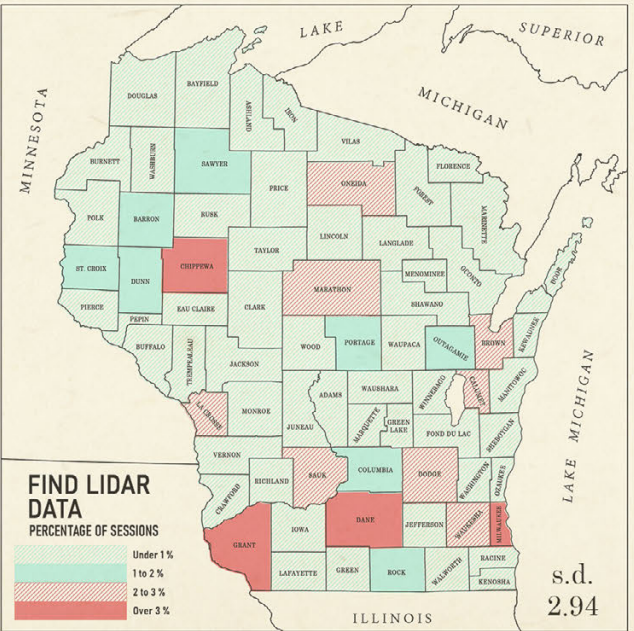
**Statewide Parcel Map Viewer.** The Parcel Map Viewer, and the associated parcel database, are the products of the Statewide Parcel Map Database project. This project is a collaboration between the State Cartographer's Office and the Wisconsin Land Information Program. The project is part of the Statewide Parcel Map Initiative established by Act 20 of 2013. The project is designed to aggregated all known digital parcel datasets for the state collected from county land information offices. The project is currently at Version 8 (V8). The V8 parcel database contains 3.5 million parcels and was made publicly available online on June 30, 2022.

[maps.sco.wisc.edu/Parcels](http://maps.sco.wisc.edu/Parcels)



**Aerial Photography Catalog.** The Aerial Photography Catalog is a directory of Wisconsin aerial photography dating from the late 1920s to the present. While the catalog does not contain individual photographs to download, it points to the sources, such as libraries or archives, that have copies. Some products listed in the catalog are physical paper copies, while others are digital and are available online. The Aerial Photography Catalog is maintained by the State Cartographer's Office in cooperation with the Robinson Map Library. The Robinson Map Library is the largest repository of aerial photography in the state.

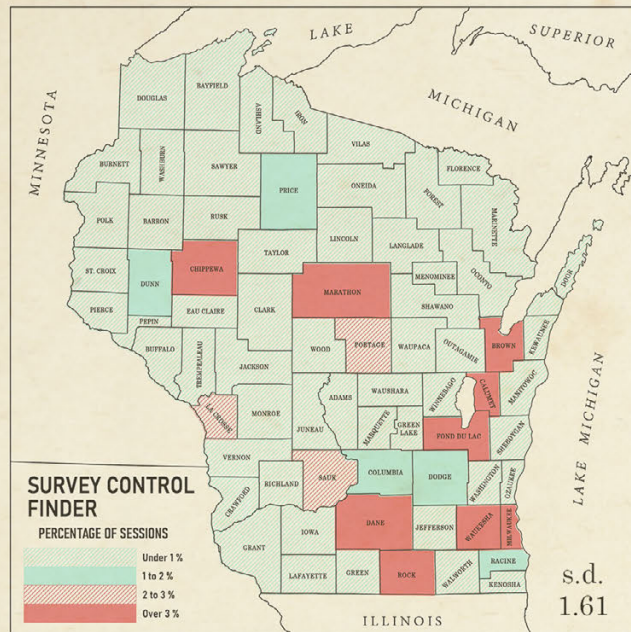
[maps.sco.wisc.edu/apcat](http://maps.sco.wisc.edu/apcat)



**Find LiDAR Data.** The Find LiDAR Data Viewer provides access to the WisconsinView data portal and additional information about LiDAR data available for download. WisconsinView is the primary archive for Wisconsin public LiDAR projects, including data from counties, FEMA and the USGS national 3D Elevation Program (3DEP). For those counties without LiDAR data in the WisconsinView portal, there are links to obtain or inquire about LiDAR data directly from the county. The Find LiDAR Data Viewer also has an interactive tile viewer to facilitate download of point cloud tiles where available. While not yet a complete archive of all LiDAR data acquired in the state, the collection is growing, especially with new 3DEP projects being completed each year.

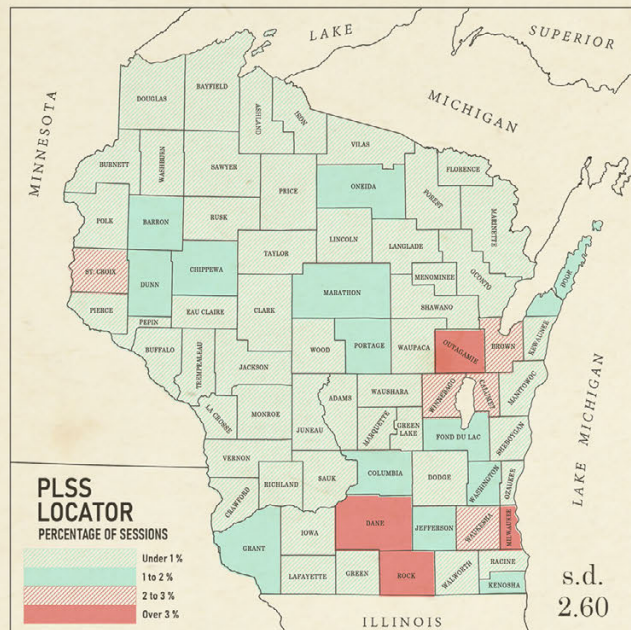
[www.sco.wisc.edu/data/elevationlidar/](http://www.sco.wisc.edu/data/elevationlidar/)





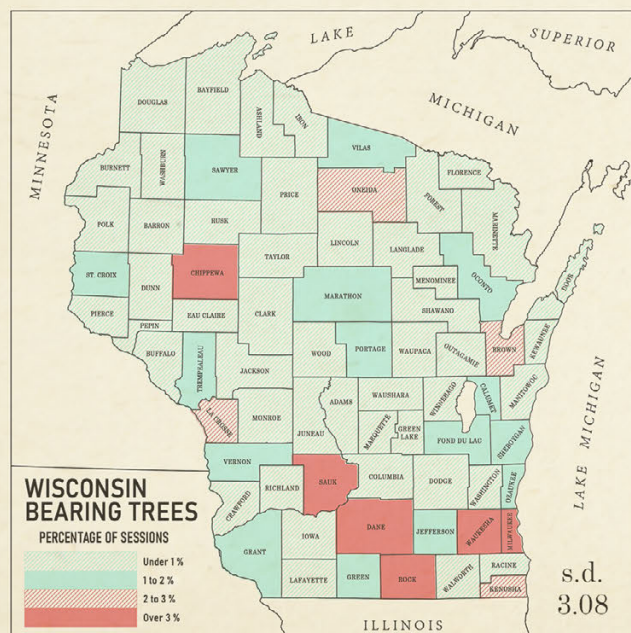
**Survey Control Finder.** Survey Control Finder is a mobile-friendly app that provides a central point of access to over 28,000 control points and over 200,000 Public Land Survey System (PLSS) records in Wisconsin. PLSS corner information comes directly from county contributors and includes links to online digital tie sheets where available. Geodetic control point information includes Wisconsin Height Modernization Program (WI-HMP) control, local control established by counties, National Geodetic Survey (NGS) control, historical US Geological Survey 3<sup>rd</sup> order vertical control, and CORS stations including the Wisconsin Continuously Operating Reference System (WISCORS) and NGS Continuously Operating Reference System stations.

[maps.sco.wisc.edu/surveycontrolfinder](https://maps.sco.wisc.edu/surveycontrolfinder)



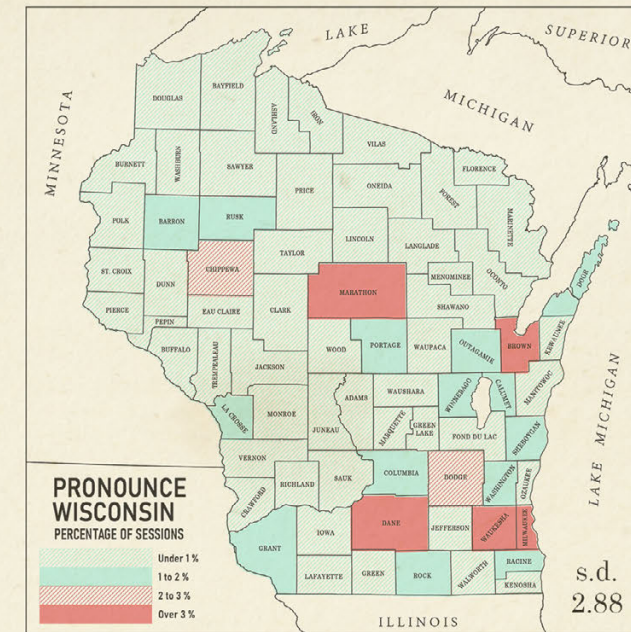
**PLSS Locator.** The Public Land Survey System (PLSS) Locator is a free tool to help users identify within which PLSS subdivisions a location resides. Users can drop a pin on the map, or enter a latitude-longitude pair, a street address, a county or a city, village or town. The Locator app provides the following PLSS information: Township, Range, Section, Quarter section and Quarter-Quarter Section.

[maps.sco.wisc.edu/plss-locator/](https://maps.sco.wisc.edu/plss-locator/)



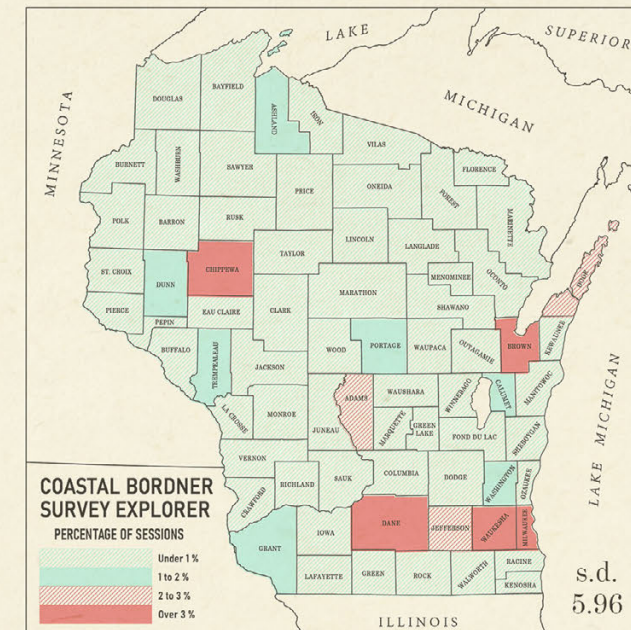
**Wisconsin Bearing Trees.** The Bearing Tree app contains photographs and other documentation for bearing trees that have survived from the General Land Office (GLO) survey of the state, conducted between 1832 and 1866. Bearing trees were an integral part of the survey as they provided physical evidence of the existence and location of property corners. However, only a handful of GLO bearing trees survive to the present day. If you have a bearing tree photo you would like to share please contact the State Cartographer's Office.

[maps.sco.wisc.edu/bearingtrees](https://maps.sco.wisc.edu/bearingtrees)



**Pronounce Wisconsin.** Pronounce Wisconsin is an online pronouncing gazetteer of place names in Wisconsin, including counties, cities, villages and unincorporated communities. Over 1700 place names can be heard by simply clicking on the map. Pronounce Wisconsin is a collaborative effort between the Wisconsin State Cartographer's Office and Jackie Johnson, creator of *MissPronouncer.com*, a website created to help people correctly pronounce the names of places, elected officials, parks, famous people and other phenomena specific to Wisconsin. Pronounce Wisconsin links MissPronouncer's digital audio archive to an interactive map interface to allow users to explore Wisconsin's place names geographically.

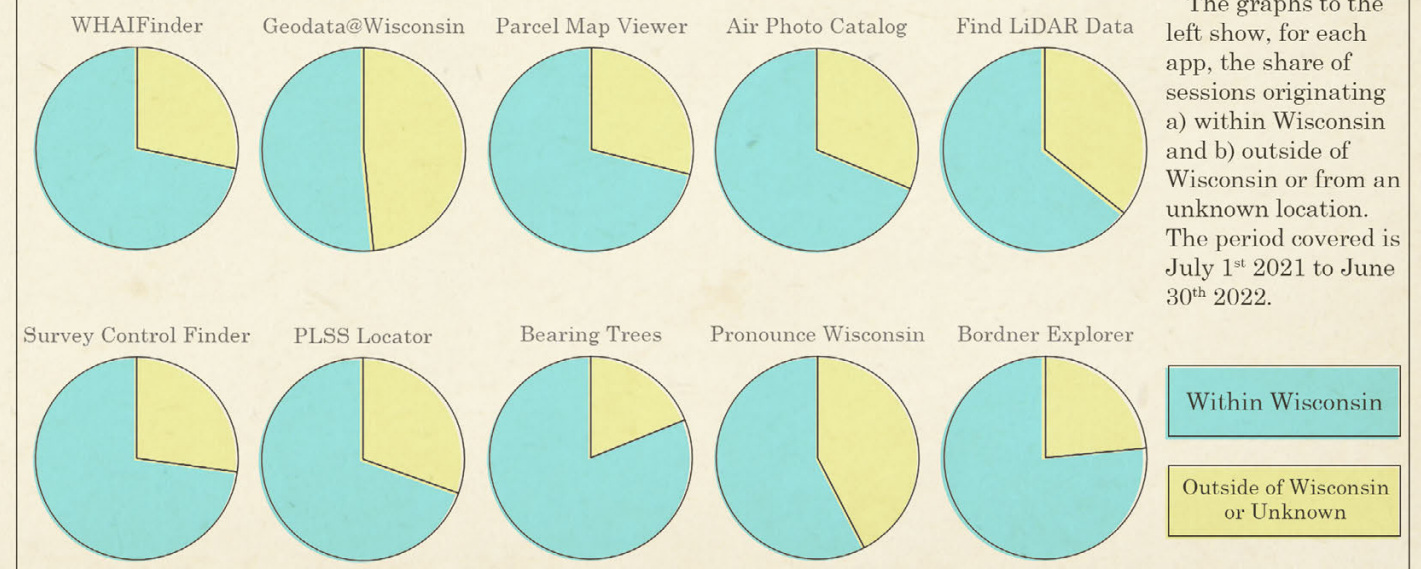
[maps.sco.wisc.edu/pronouncewi/](https://maps.sco.wisc.edu/pronouncewi/)



**Coastal Bordner Survey Explorer.** This app displays features extracted from the 1930s Wisconsin Land Economic Inventory ("Bordner Survey") maps within Wisconsin's coastal regions. The Bordner Survey, conducted from the 1920s through the 1940s, created detailed maps of Wisconsin depicting agriculture, forest cover, and physical and cultural features. Many of the Bordner maps have been digitized using GIS software to provide the capability to perform analyses on the mapped data. This app and the digitized Bordner data it displays received funding from the Wisconsin Coastal Management Program and UW-Madison. The app is a joint effort of the UW-Madison Forest Ecosystem and Landscape Ecology Lab and the State Cartographer's Office.

[maps.sco.wisc.edu/BordnerCoastal](https://maps.sco.wisc.edu/BordnerCoastal)

#### In-State and Out-of-State Sessions.



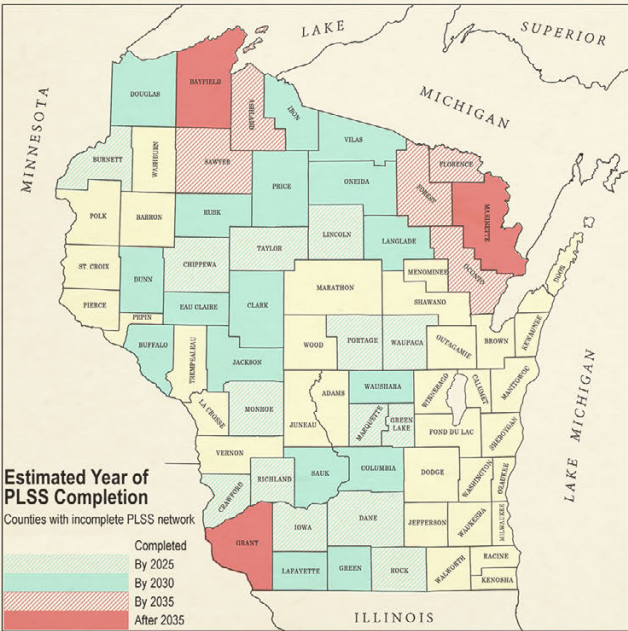
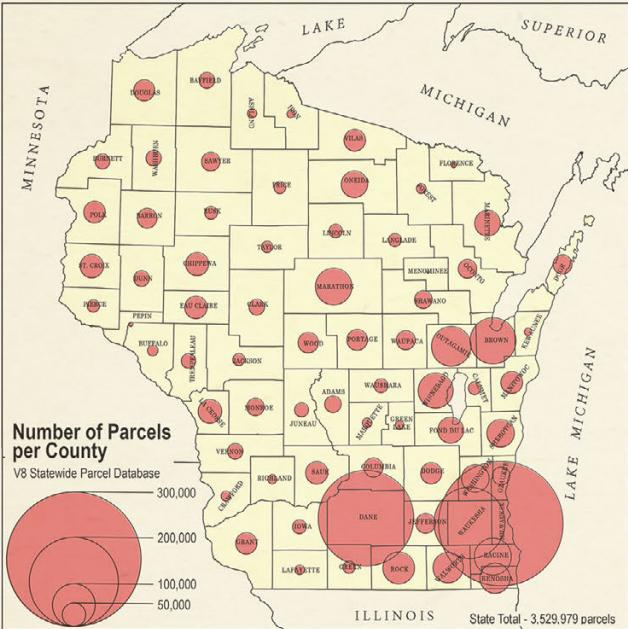
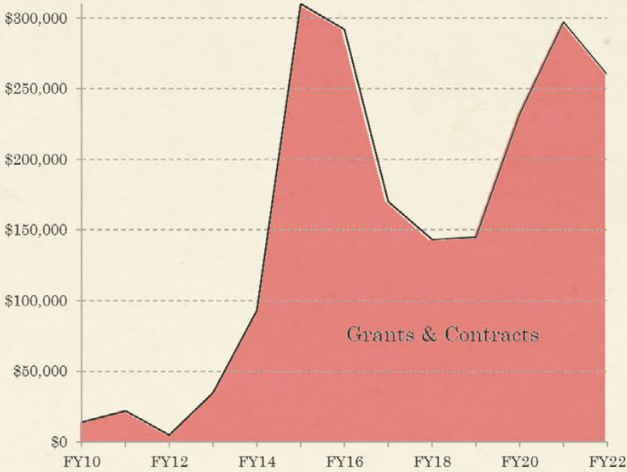


Current Grants, Contracts & Funded Projects.

The Wisconsin State Cartographer's Office is a special program at UW-Madison. The office is affiliated with the Department of Geography in the College of Letters & Science.

We receive an annual base budget allocation from the College for personnel, students and operating expenses. We fill the remainder of our funding needs through external grants and contracts. The pages below give details on current externally funded projects.

The graph to the right shows total grant and contract expenditures by the State Cartographer's Office per annum starting with Fiscal Year 2010.

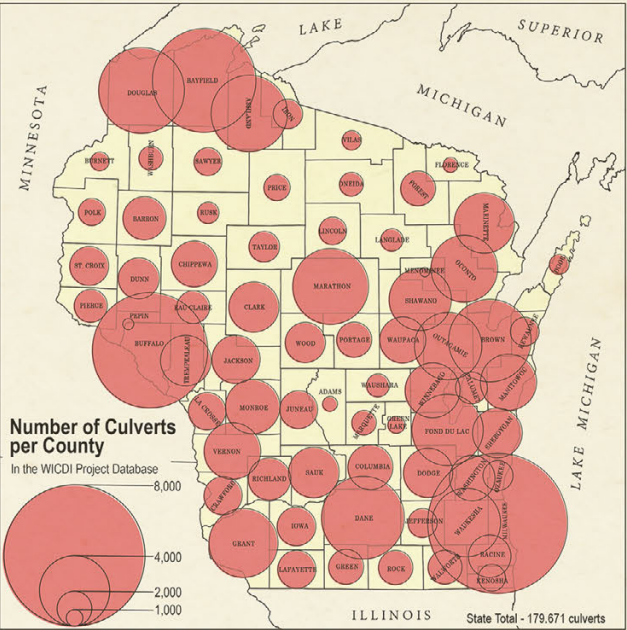


**Statewide Parcels.** The goal of the Statewide Parcel Project is to produce annual versions of the statewide parcel and Public Land Survey System (PLSS) databases using county sources. The project, part of the Statewide Parcel Map Initiative established by Act 20 of 2013, is a partnership with the Wisconsin Land Information Program at the Wisconsin Department of Administration and the state's seventy-two county Land Information Offices. The parcel database—containing statewide parcels, PLSS corner points and PLSS polygons—is publicly available online.

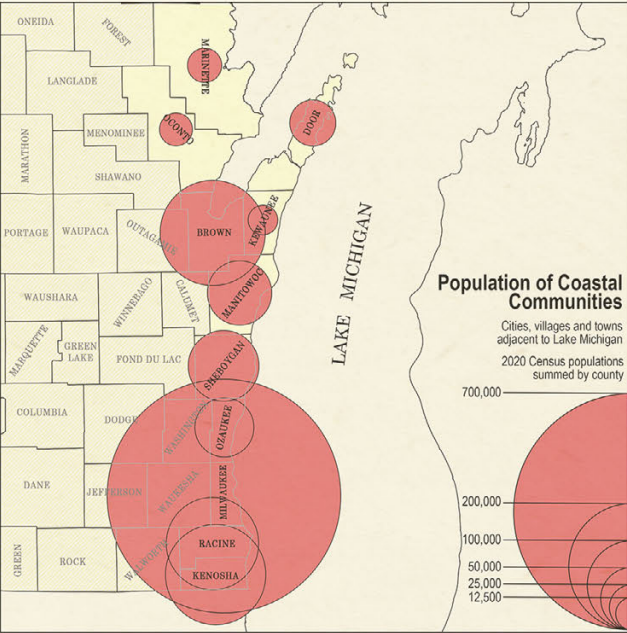
**Version 7 Statewide Parcels.**  
**Dates.** January—December 2021.  
**Amount.** Approximately \$126,000.  
**Staff.** Vogel, Wells, Kazmierczak, Elza, Veregin (Principal Investigator).  
**Students.** Overing, Lucas.

**Version 8 Statewide Parcels.**  
**Dates.** January—December 2022.  
**Amount.** Approximately \$129,000.  
**Staff.** Vogel, Wells, Kazmierczak, Elza, Veregin (Principal Investigator).  
**Students.** Kunz.

**Online Resources.**  
[www.sco.wisc.edu/parcels](http://www.sco.wisc.edu/parcels)  
[doa.wi.gov/Pages/LocalGovtsGrants/Parcel-Initiative.aspx](http://doa.wi.gov/Pages/LocalGovtsGrants/Parcel-Initiative.aspx)



*The WICDI culvert database currently contains almost 180,000 culvert records from all seventy-two counties in Wisconsin. The sources of these culvert records include federal, state, regional and local government agencies, as well as non-profit organizations.*



**Wisconsin Coastal-Management Data Infrastructure (WICDI), Part #2.** The goal of the WICDI project is to enable coastal managers to respond more effectively to damage from floods, with an emphasis on culvert mapping along the coasts of the Great Lakes. WICDI is a partnership with the Wisconsin Coastal Management Program and State Geographic Information Office, both housed in the Wisconsin Department of Administration.

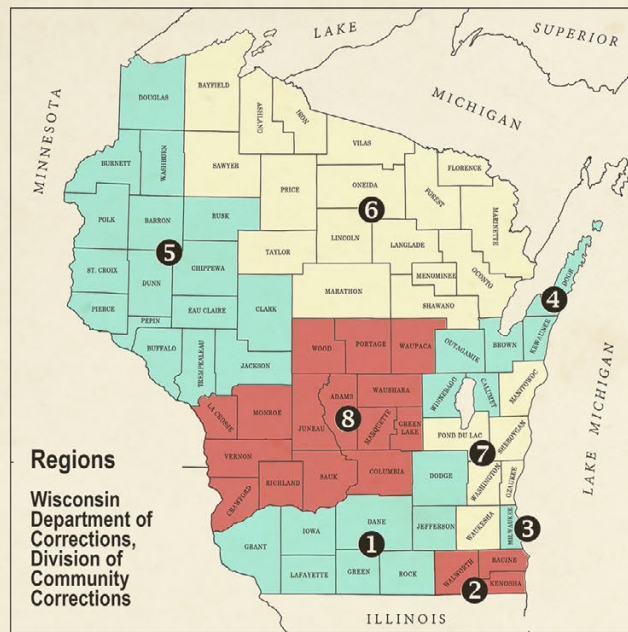
**Dates.** October 2020—March 2023.  
**Amount.** Approximately \$245,000.  
**Staff.** Kohls, Burgess, Buschhaus, Elza, Wells, Veregin (UW-Madison Principal Investigator).  
**Students.** Johnson, McFarlane.  
**UW-Madison Partners.** Anita Thompson, Biological Systems Engineering.

**Department of Administration Staff.** Kate Angel, Todd Briebly, Jim Giglierano.  
**Sponsor.** WICDI is a National Oceanic and Atmospheric Administration Project of Special Merit. Funded by the Wisconsin Coastal Management Program and the National Oceanic and Atmospheric Administration, Office for Coastal Management under the Coastal Zone Management Act, Grant #NA20NOS4190105.

**Collaborative Action for Lake Michigan (CALM).** The overall goal of CALM is to increase coastal resilience in the Lake Michigan region of Wisconsin by assisting agencies and communities to develop and revise coastal hazard policies. The project is being led by Wisconsin Sea Grant. A sub-award to the SCO extends WICDI's technical and outreach functions to this region.

**Dates.** October 2021—March 2023.  
**Amount.** Approximately \$92,000.  
**Staff.** Burgess, Veregin.  
**Wisconsin Sea Grant Staff.** Adam Bechle, David Hart.  
**Department of Administration Staff.** Lydia Salus, Kate Angel, Todd Briebly, Jim Giglierano.  
**Sponsor.** CALM is a National Oceanic and Atmospheric Administration Project of Special Merit. Funded by the Wisconsin Coastal Management Program and the National Oceanic and Atmospheric Administration, Office for Coastal Management under the Coastal Zone Management Act, Grant #NA21NOS4190032.





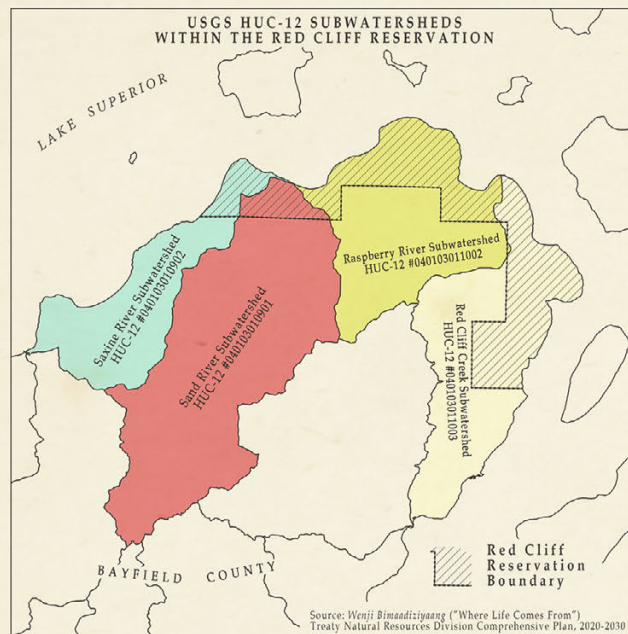
**Wisconsin Department of Corrections Regional Atlas.** SCO staff and students created a digital atlas to be used by the Department of Corrections Division of Community Corrections (DCC) to ensure their service facilities are aligned with the geographic distribution of their clients. The SCO geocoded the locations of some 54,000 DCC clients currently serving on probation or parole, and utilized a “hexagonal binning” approach to visually summarize the resulting geographic distribution. SCO students also mapped the locations of 350 critical facilities commonly used by DCC clients, and created a series of 28 unique maps at a variety of scales.

**Dates.** Fall 2021—Spring 2022.

**Amount.** Approximately \$7,000.

**Staff.** Lacy.

**Students.** Hasinoff, Ren.



*The US Geological Survey’s Watershed Boundary Dataset (WBD) shows hydrologic units (HUs) representing areas of the landscape that drain into specific portions of the stream network. HUs are arranged in a nested, hierarchical system with each HU identified with a unique Hydrologic Unit Code (HUC). The WBD contains eight levels of HUs identified by unique 2- to 16-digit codes. The HUs shown in the map above are HUC-12s (subwatersheds).*

*Source: [www.usgs.gov/national-hydrography/watershed-boundary-dataset](http://www.usgs.gov/national-hydrography/watershed-boundary-dataset)*

**Advancing the Water Resource Goals of the Red Cliff Environmental Department.** This is a cooperative project with the Red Cliff Environmental Department’s Water Resource Program (WRP) to help build its capacity to address its long-term objectives. The project will focus on assisting the WRP to augment its hydrologic GIS database layers and apply GIS-based models to derive new data and evaluate surface water concerns. The project will provide training and tools to WRP staff and Red Cliff community members. A key outcome of the project will be increased readiness and resilience to future climate change impacts for Red Cliff, documented through successful creation of GIS and modeling products. The WRP will also come away with the knowledge and capacity they need to continue their own work in these areas after the project period is over. Another key outcome involves developing data protection and sharing protocols that comply with Red Cliff Tribal Council’s requirements.

**Dates.** July 2022—June 2023. **FY23 PROJECT**

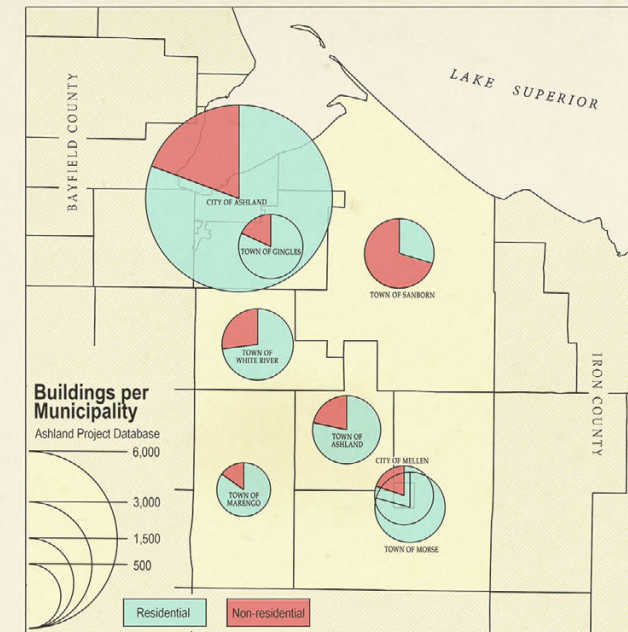
**Amount.** Approximately \$108,000.

**Staff.** Buschhaus, Fogel, Wells, Veregin (co-Principal Investigator).

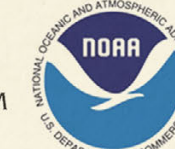
**UW-Madison Partners.** Anita Thompson, Biological Systems Engineering (co-Principal Investigator).

**Red Cliff Partners:** Linda Nguyen, Environmental Director; Allison Rakowski, Water Resources Manager.

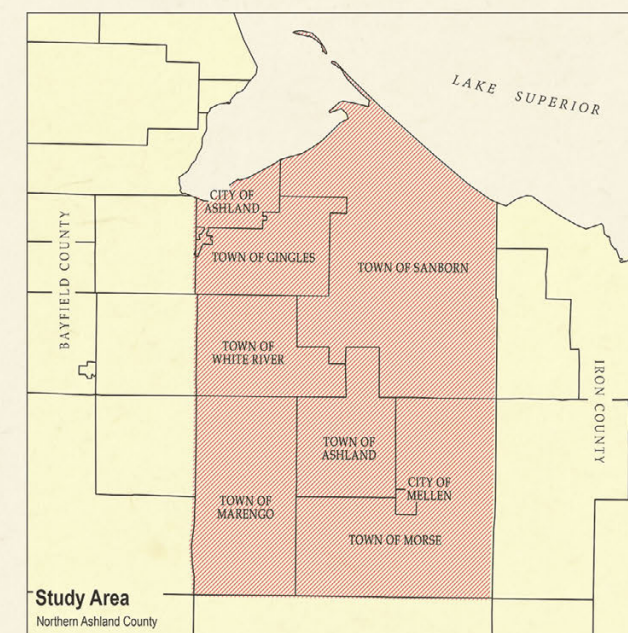
**Sponsor.** Baldwin Wisconsin Idea Endowment.



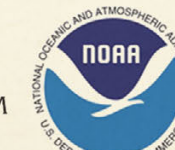
**WISCONSIN COASTAL MANAGEMENT PROGRAM**



*The study area for both of these studies includes the cities of Ashland and Mellen, and the Towns of Gingles, White River, Sanborn, Marengo, Ashland and Morse. This area has a history of recent flooding, with federal disaster declarations in 2012, 2013, 2016 and 2018.*



**WISCONSIN COASTAL MANAGEMENT PROGRAM**



**Ashland County Building Inventory.** The goal of this project was to develop a detailed building inventory for northern Ashland county, combining building footprints, parcel data, critical infrastructure points and tax assessment records into a single GIS layer. Detailed building data can help make assessments of flood risk more accurate by allowing for site-specific estimates of flood damage and loss. The project developed a detailed workflow and cost model to enable better decisions to be made about flood vulnerability.

**Dates.** Jan 2021—May 2022.

**Amount.** Approximately \$53,000.

**Staff.** Buschhaus, Wells, Elza, Vogel, Veregin (Principal Investigator).

**Students.** Lucas.

**Sponsor.** Wisconsin Coastal Management Program and the National Oceanic and Atmospheric Administration, Office for Coastal Management under the Coastal Zone Management Act, Grant #NA20NOS4190092.

**Online Resources.** [www.sco.wisc.edu/2022/08/01/ashland-county-building-inventory-project](http://www.sco.wisc.edu/2022/08/01/ashland-county-building-inventory-project)

**High-Resolution Flood Exposure/Vulnerability Mapping for Northern Ashland County.** The goal of this project is to build a multi-layer GIS database for flood exposure and vulnerability (EV) in northern Ashland County. Development of the database will make use of dasymetric mapping methods, which rely on underlying controlling variables such as land use to reapportion data tabulated for large areal units such as census tracts. The project will demonstrate how dasymetric mapping and other GIS tools can be used to produce detailed EV layers at a spatial scale appropriate for local decision-making.

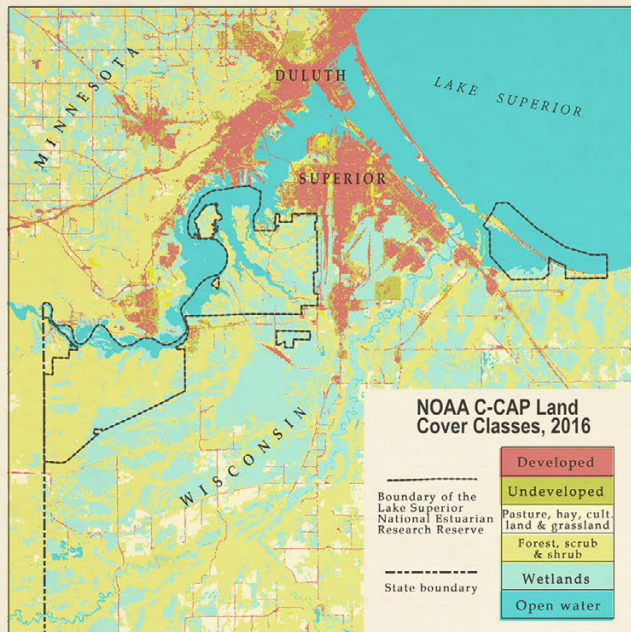
**Dates.** July 2022—June 2023. **FY23 PROJECT**

**Amount.** Approximately \$49,000.

**Staff.** TBD + Wells, Veregin (Principal Investigator).

**Sponsor.** Wisconsin Coastal Management Program and the National Oceanic and Atmospheric Administration, Office for Coastal Management under the Coastal Zone Management Act, Grant #NA22NOS4190085.





C-CAP is NOAA's Coastal Change Analysis Program, a national inventory of land cover for coastal areas. The spatial resolution of these maps is 30 meters; the goal for the NERR habitat map is 1 meter. For more information on C-CAP see: [coast.noaa.gov/digitalcoast/data/ccapregional.html](http://coast.noaa.gov/digitalcoast/data/ccapregional.html)

**Lake Superior National Estuarine Research Reserve Habitat Map.** This project is a collaboration with the Lake Superior National Estuarine Research Reserve (NERR) to develop a high-resolution habitat map showing land cover data and dominant species within the NERR boundaries. This habitat map will be used by local resource managers and researchers to plan and evaluate conservation and restoration projects and enable researchers to better understand how the dynamic freshwater ecosystem of the St. Louis River is responding to climate change, changing lake levels and remediation efforts.

**Dates.** June 2022+.  
**Amount.** Approximately \$9,000.  
**Staff.** Veregin.  
**Students.** Bhandare, Li.  
**NERR Partner.** Kirsten Rhude, Stewardship Coordinator.  
**Fond du Lac Tribal and Community College (FDLTCC) partners and students.** Carl Sack, GIS faculty; Zack Johnson, student.  
**Sponsor.** UW-Madison Extension Innovation Funding Initiative.

# State Cartographer's Office: Engagement.

## Help Desk Statistics.

In addition to their other responsibilities, State Cartographer's Office staff provide ongoing support to the general public, geospatial professionals around the state and University of Wisconsin faculty, staff and students through an online Help Desk system. The table to the right shows detailed statistics on Help Desk questions submitted during Fiscal Year 2022, organized by topic. Responding to a particular question can be a simple task requiring only a few minutes of work, or it can involve hours of research and communication. Examples of these interactions include answering technical questions, helping find map or data resources, advertising an open position, explaining a mapping concept, solving a GIS processing problem, and more. The statistics in the table give a quantitative sense of the number of submissions; individual staff can provide anecdotal evidence about the positive impacts these interactions have across the state.

To access the Help Desk simply send an email to [help@sco.wisc.edu](mailto:help@sco.wisc.edu)

Help Topic.	Count.
Job Posting.....	121
Miscellaneous.....	41
Aerial Photography.....	40
Elevation and LiDAR.....	27
Find Maps.....	18
Public Land Survey System.....	16
Surveying.....	15
Parcel Submission Support.....	14
Geospatial Data.....	13
Lake and Bathymetric Maps.....	12
Topographic Maps.....	9
Parcels.....	8
Coordinate Reference Systems.....	4
Plat Book.....	3
School Districts.....	3
Total.....	344

Help Desk submissions, Fiscal Year 2022, organized by topic.

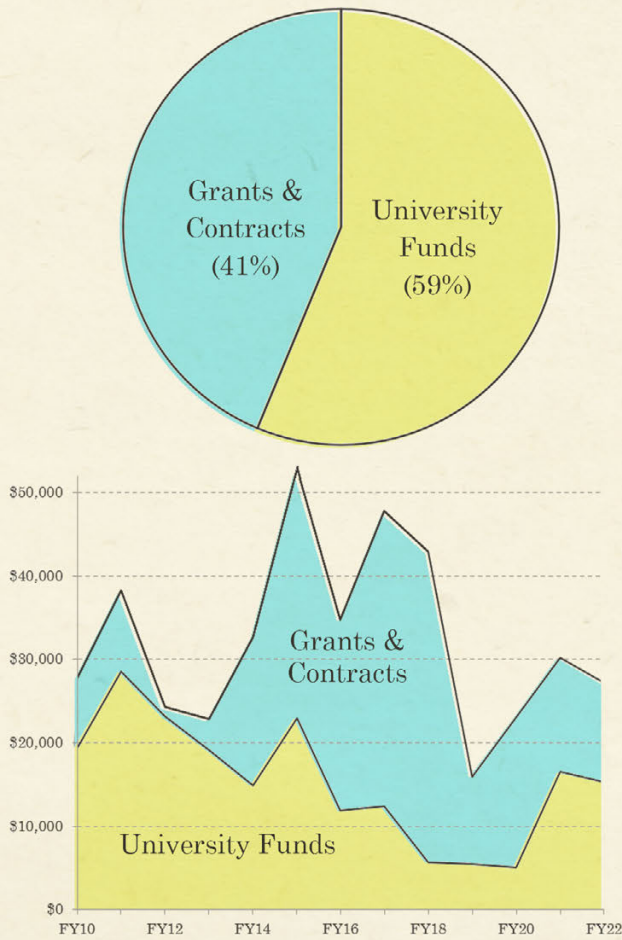
## STATE CARTOGRAPHER'S OFFICE GRANT & CONTRACT FUNDING.

**Total Expenditures, FY22.** State Cartographer's Office, Fiscal Year 2022 (July 2021—June 2022) by funding source.

**Total.** Approximately \$635,000.  
*Note: Expenditures include staff and student salaries and fringe, travel, equipment and supplies. Total excludes fringe for university-funded staff.*

**Total Expenditures on Student Salaries (Over Time).** State Cartographer's Office, Fiscal Years 2010—2022, by funding source.

*Since FY2010, the State Cartographer's Office has spent over \$420,000 on student assistant salaries, an average of \$over \$32,000 per annum. Of this amount, 52 percent has come from external grants and contracts, and 48 percent has come from university funds.*

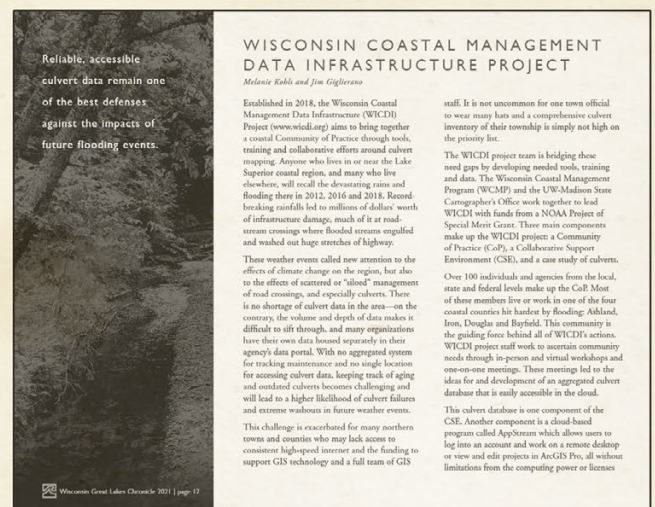


## Staff Publication.

Melanie Kohls and Jim Giglierano. *Wisconsin Coastal Management Data Infrastructure Project. Wisconsin Great Lakes Chronicle*, 2021, pp. 12-13.

Published by the Wisconsin Coastal Management Program and the National Oceanic and Atmospheric Administration, Office for Coastal Management.

[doa.wi.gov/DIR/Coastal\\_21-Wis-GL-Chronicle.pdf](http://doa.wi.gov/DIR/Coastal_21-Wis-GL-Chronicle.pdf)



## Alumni.

The State Cartographer's Office has provided service learning opportunities for University of Wisconsin students since the 1970s. This activity reflects a core value of the SCO: connecting students to real-world problems as they begin their school-to-career transition. The SCO alumni database list the 250-plus students (and staff) who have worked for the Office over the years.

[www.sco.wisc.edu/sco/alumni](http://www.sco.wisc.edu/sco/alumni)

Name	Position	Location	Era
Bruderer, Abbie		Cedarburg, WI	Alumni - 2020s
Dennis, Christina	GIS Intern - City of Marshfield		Alumni - 2020s
Du, Jin	Graduate Student - University of Southern California	Los Angeles, CA	Alumni - 2020s
Gleason, Abby	GIS Specialist/Developer at North Point GIS	Madison, WI	Alumni - 2020s
Hemstead, Brenda	Retired	Madison, WI	Alumni - 2020s
Janarthanan, Vinesh			Alumni - 2020s
Kohls, Melanie	GIS Analyst at Cardio	Madison, WI	Alumni - 2020s
Liu, Genghui	GIS Intern - American Family Insurance		Alumni - 2020s
Lucas, Ethan	Graduate Student at The Ohio State University	Columbus, OH	Alumni - 2020s
McNair, Kyle	GIS Specialist	Madison, WI	Alumni - 2020s
Owring, Marie	Intern at the EU Satellite Centre	Madrid, Spain	Alumni - 2020s
Seibel, Josh	GIS Analyst at Startec	Cottage Grove, WI	Alumni - 2020s
Torres, Aaron			Alumni - 2020s
Wang, Shupin			Alumni - 2020s



## Other Projects and Collaborations.

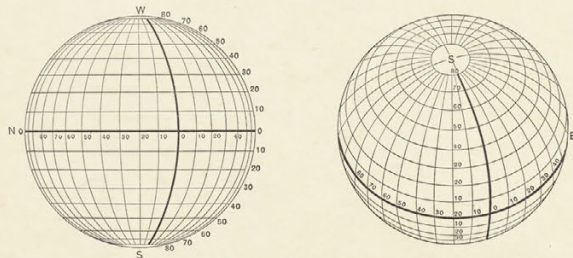
### WEB APPLICATION WORK.

**Survey Control Finder Pop-Ups.** Updates to the pop-up windows in Survey Control Finder were first discussed by the SCO at Wisconsin County Surveyors Association meetings in the spring of 2022. Implementation began in the summer of 2022. These updates focus on simplifying the data that is displayed and emphasizing the horizontal accuracy status of corners within the application.

**SCO team.** Vogel, Elza.

**GeoData@Wisconsin.** The SCO and Robinson Map Library continue to collaborate on expanding the collections of data cataloged in GeoData@Wisconsin. Major additions in Fiscal Year 2022 include data collected for the Statewide Parcel Project, updated statewide topographic maps, new NAIP aerial imagery and significantly expanded and streamlined LiDAR holdings. SCO staff and students also worked to improve the technical operations of GeoData@Wisconsin by making numerous updates to scripts and code that operate the system. The Map Library hired a private consultant to assist with updating the codebase that runs the system, and the SCO participated in a week-long code sprint that resulted in a variety of operational improvements to app.

**SCO team.** Lacy, Elza, Kunz, Lucas.



**Wisconsin Aerial Photography Catalog.** The SCO has maintained a catalog of aerial photography in some format for nearly fifty years. In Fiscal Year 2022 the online Aerial Photography Catalog was augmented with over 1,000 historic aerial photography flights conducted by the Wisconsin Department of Transportation.

**SCO staff and students.** Lacy, Dennis.

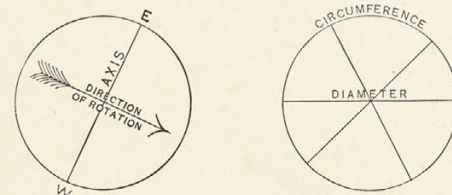
**Basemap Development for SCO Web Apps.** SCO student **Christina Dennis** inventoried and then made updates to the standard basemaps used by several SCO online web apps. She also researched the implications of and modifications necessary to move our apps from raster basemaps and newer vector-tile basemaps.

**SCO staff and students.** Lacy, Dennis.

### STUDENT PROJECTS.

**Parcel Database Validation Tool.** For the previous six iterations of the Statewide Parcel Project, the SCO has relied on the first version of the Parcel Validation Tool, an ArcPy script tool. In 2021 the project team determined that the development of an updated guided user interface (GUI) was appropriate. **Branton Kunz** began work on this tool in May 2022, and was later joined by **Param Bhandare**.

**Machine Learning for Aerial Photography Indexing.** In the fall of 2021, **Gengkui Liu** and Robinson Map Library student **Rachel Ren** took on the challenging problem of how to transform scanned paper maps showing air photo index points into digital spatial data. They researched and implemented a computer vision approach to this problem. This research relates to ongoing efforts to catalog and distribute additional historic aerial imagery held by the Map Library.



**Historic Atlas of Wisconsin Prototype.** In the spring of 2022, **Christina Dennis** developed a prototype for an online Wisconsin Historic Atlas containing a variety of historic GIS layers. This project ties into a larger SCO initiative to provide access to historic data in a format that can be readily used by the general public.

**Wisconsin Cartographic Phantoms Map.** In the spring of 2022, SCO student **Gengkui Liu** produced a large-format map of some of Wisconsin's "cartographic phantoms" – communities that appear on official maps even though no signs of a community are present on the ground. Gengkui's map used only publicly available data and relied only on GIS software for map production purposes, including layout and label placement.

**Dasymetric Population Estimation.** **Ethan Lucas** worked on a project to estimate the population of unincorporated communities using dasymetric mapping. This technique uses an underlying "controlling variable" to reapportion population from large areal units to create data at a finer spatial scale. Class of property values from the Statewide Parcel Map were used as the controlling variable.

cont'd >>>>

### COLLABORATIONS.

**Culvert Vulnerability Modeling.** SCO staff continue working with Professor Anita Thompson, in Biological Systems Engineering at UW-Madison, to develop statistical models of culvert vulnerability. Such models are being developed for the Wisconsin Coastal-Management Data Infrastructure (WICDI) and Red Cliff projects.

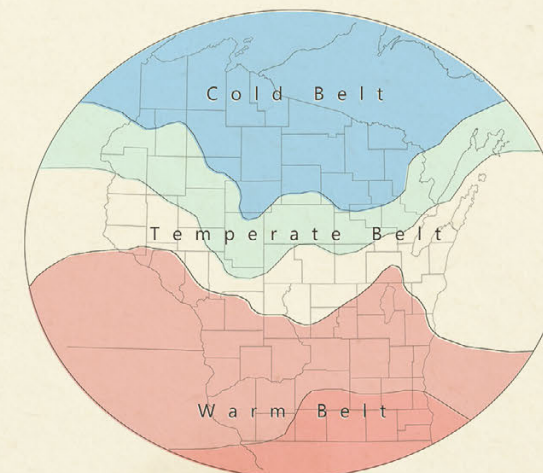
**SCO team.** Buschhaus, Wells, Veregin.

**Dane County Oaks.** The SCO is collaborating with Matt Noone (Capital Area Regional Planning Commission) and the Dane County Tree Board to update a database of bicentennial oak trees. These oaks were first identified as being over 200 years old at the nation's bicentennial in 1976.

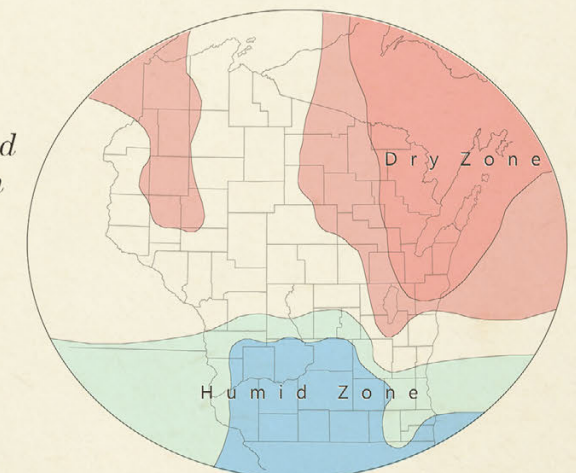
**SCO team.** Dennis, Hasinoff, Veregin, Wells.

**School of Pharmacy Mapping and Data Analysis.** The SCO continues to support Dr. Laurel Legenza at UW-Madison in her ongoing research to map and analyze the distribution of antibiotic resistant microbes. In Fiscal Year 2022, efforts focused on map production for a journal publication and continued refinement of analysis methods.

**SCO staff.** Lacy.



Heat belts and  
precipitation  
zones of  
Wisconsin



**Hydro Enforcement of Digital Elevation Models.** Hydro enforcement of Digital Elevation Models (DEMs) involves the meticulous identification of cutlines through which surface water can flow. Cutlines typically correspond to the locations of culverts, underpasses and bridges that are hidden from view on LiDAR-derived DEMs. **Abbie Bruederle**, **Mallory Johnson** and **Duncan McFarlane** have been implementing and testing a hydro-enforcement workflow to support work on the Wisconsin Coastal-Management Data Infrastructure (WICDI) and Red Cliff water resources projects.

**Wisconsin Land Economic Inventory Digitizing.** The SCO is collaborating with Professor Lynnette Dornak at UW-Platteville to complete the digitizing of the 1930s Land Economic Inventory (or "Bordner Survey") maps. Professor Dornak's GIS students are working on the effort as a class project. Matt Noone (Capital Area Regional Planning Commission) is also volunteering on this project. In 2020, funds were obtained from the Wisconsin Department of Natural Resources for Professor Dornak to fund her students.

**SCO staff.** Veregin.

**Technical Advisory Committee, NERR Habitat Map.** The Lake Superior NERR in Superior, Wisconsin, is currently developing its first habitat map in partnership with Fond du Lac Tribal and Community College and the SCO. The Technical Advisory Committee (TAC) is a group of experts selected for their knowledge of and interest in the NERR and its habitat map project. The TAC includes staff from NOAA (Nate Herold and Brandon Krumwiede), UW-Eau Claire (Papia Rozario), the EPA (Thomas Hollenhorst), UM-Duluth (Carol Reschke) and UW-Superior (Kelly Beaster).

**SCO team.** Veregin, Li, Bhandare.

**Robinson Map Library.** The SCO continues its collaboration with Jaime Martindale, Map & Geospatial Data Librarian at the Robinson Map Library. In Fiscal Year 2022 the team devoted considerable energy to streamlining access to LiDAR-derived elevation products produced by state and local governments. The SCO and Map Library also collaborated to acquire, catalog and distribute historic aerial imagery to the general public. SCO and Map Library staff are also collaborating to conceptualize, propose and then develop a sustainable raster data archive that builds upon the longstanding success of WisconsinView.

**SCO team.** Lacy, Elza, Dennis, Kunz, Lucas.



Presentations Made and Events Organized.

PRESENTATIONS AT THE WISCONSIN LAND INFORMATION ASSOCIATION (WLIA) ANNUAL CONFERENCE, ELKHART LAKE, FEBRUARY 2022.

Christina Dennis. A Novice's Adventures in Esri Web App Technologies.

The numerous options for getting maps and apps on the web can be overwhelming if you're new to web mapping like me. Esri is a great place to start because they provide so many applications and tools to make web mapping fast and simple. However, with so many options, it can be hard to choose the 'right' one. I'm going to share what I've learned since diving into Esri's toolbox. This presentation will walk through three different tools: ArcGIS API for JavaScript, Experience Builder, and WebApp Builder. For each tool, we will cover the skills you need and the types of problems you can solve.

Melanie Kohls & Genevieve Burgess. WICDI: Continuing Community Cultivation through Culvert Collection.

The Wisconsin Coastal-Management Data Infrastructure project continues to build on its goals of increasing tools, training, and data geared toward culvert mapping in the Lake Superior region and beyond. Recent updates include development of culvert collection tools, a culvert database web app, and community expansion to the Lake Michigan coast. Tune in to our presentation to hear these updates (and more), and to learn how you may want to get involved with WICDI as we continue to grow.

PRESENTATIONS AT OTHER CONFERENCES.

Howard Veregin & Ann Buschhaus. The Ashland County Building Inventory Project: Barriers to Acquiring Digital Assessment Data in Wisconsin.

Building-level assessment data, acquired annually by local assessors, includes detailed information for dozens of building attributes that can be used for a wide variety of purposes. Unfortunately, obtaining assessment data for Wisconsin communities in a machine-readable format is more difficult than you might imagine. The obstacles include technical and software issues, per-record fees, the data formats available, and restrictions on data redistribution. Come to this presentation and hear about our experiences with assessment data in northern Ashland County for a flood-related building inventory project.

Wisconsin Land Information Association Spring Regional Conference, Stevens Point, May 25th 2022.

David Vogel, Ana Wells & Thomas Kazmierczak. Creation of the E3 Statewide PLSS Database.

In November of 2021, the SCO and WLIP released the 3rd version of the Statewide PLSS database, a sub-project of the greater Statewide Parcel Map Initiative. The E3 database relies on county coordinate data whenever possible, allowing for spatial improvements over previous statewide PLSS layers. Our talk will focus on the characteristics of the database and the technical aspects of its creation.

Hayden Elza. PDF Maps: From Static to Interactive to "Wait, I Didn't Know PDFs Could Do That!"

You've probably used PDF maps before and you've probably even heard of a GeoPDF, but did you know that PDFs can have javascript? In this talk I will explore PDF maps from the simple interactive map exported from QGIS or GDAL to a more complicated example that pushes the limits of what can be achieved in PDFs.

Richard Kleinmann & Howard Veregin. WSRS2022 Task Force Update.

Learn about the latest happenings regarding the move to the new horizontal and vertical datums.

Jim Lacy. Forensic Anthropology Workshop at UW-Parkside.

Jim attended and presented at this workshop for undergraduate students enrolled in UW-Parkside's criminal justice program. He introduced students to the concepts of topographic mapping and air photo interpretation.

Kenosha, June 6th 2022.

MAP KEY.

- 1 Elkhart Lake
- 2 Stevens Point
- 3 Kenosha
- 4 Wisconsin Dells
- 5 Madison
- 6 Town of Lincoln, Bayfield County

EVENTS ORGANIZED BY SCO STAFF.

President's Council Virtual Meeting. November 17th 2021.

The SCO continues to facilitate an annual meeting of all the major land information-related professional associations each fall.

SCO staff. Lacy (facilitator and secretary), Veregin (SCO representative).

Wisconsin Spatial Reference System 2022 (WSRS2022) Task Force Rediscovery Meeting. Wisconsin Dells, December 8th 2021.

This meeting focused on establishing priorities in light of changes to the federal rollout of the modernized National Spatial Reference System.

SCO staff. Veregin. (Event co-organized with Richard Kleinmann, co-chair of the Task Force).

Science Expeditions Open House. Science Hall, UW-Madison, April 8th 2022.

The general public was invited to campus to explore science-related exhibits across the UW campus. The SCO participated in an open house held in the Robinson Map Library along with the Wisconsin Geological and Natural History Survey, Cartography Lab and History of Cartography Project.

SCO staff. Lacy.

Wisconsin Coastal-Management Data Infrastructure (WICDI) Workshop. Town of Lincoln, Bayfield County, July 29th 2021.

This in-person, small-group workshop focused on the collection of culvert data in the field.

SCO staff. Kohls, Burgess, Wells, Veregin.

Wisconsin Coastal-Management Data Infrastructure (WICDI) Virtual Workshop. August 5th 2021.

This workshop targeted the creation and deployment of survey forms for culvert data, data collection using the forms, and viewing/downloading from completed forms.

SCO staff. Kohls, Burgess.

Parcel Submission Assistance Virtual Webinar. March 24th 2022.

This webinar allowed county data preparers to ask questions and obtain assistance with any issues encountered during the parcel data preparation process. These issues included schema questions, tool troubleshooting, workflow optimization suggestions, etc.

SCO staff. Vogel, Wells, Kazmierczak.

Ashland County Building Inventory Virtual Presentation for Stakeholders. June 29th 2022.

This online gathering of stakeholders assembled for a presentation of findings and a discussion of the inventory's utility, the availability of data, and ways forward.

SCO staff. Buschhaus, Veregin.



Presentation and event locations.



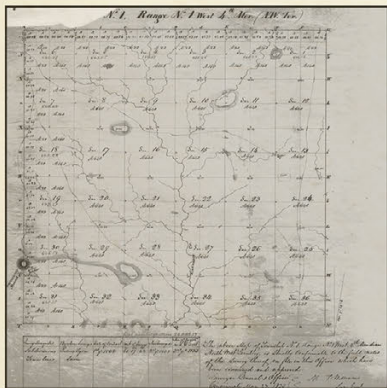
WICDI culvert workshop.



Councils, Committees & Organizations.



State Capitol



Statewide Organizations

Wisconsin Spatial Reference System 2022 Task Force (WSRS2022)	Veregin, Co-Chair
State Agency Geospatial Information Committee (SAGIC)	Lacy, Chair
Wisconsin Geographic Names Council	Veregin, Ex Officio Voting Member
Wisconsin Geographic Information Council	Veregin, Ex Officio Voting Member
Presidents Council	Veregin, SCO Rep.; Lacy, Coordinator
Wisconsin Land Information Officers Network	Veregin, SCO Rep.
Wisconsin PLSS Work Group	Veregin, Vogel, Members
WSRS2022 Hardware/Software Focus Group	Elza, Co-Lead
Wisconsin Initiative on Climate Change Impacts (WICCI) Geospatial Working Group	Lacy, Member

Professional Associations

Wisconsin Land Information Association (WLIA) Education Committee	Lacy, Elza, Members
Wisconsin Land Information Association Conference Committee	Elza, Member
Wisconsin Land Information Association NG911 Committee	Veregin, Member
Wisconsin County Surveyors Association (WCSA)	Vogel, SCO Rep.
Wisconsin Society of Land Surveyors (WSLS)	Vogel, SCO Rep.

←←← Township 1 N., Range 1 W., at the origin of Wisconsin’s Public Land Survey System on the Illinois border, surveyed in 1832.



Department of Geography, UW-Madison

Awards and Development Committee	Veregin, Member
Finance Committee	Lacy, Member
Geocomputing Committee	Elza, Member
Space and Services Committee	Veregin, Member
Academic Staff Evaluation and Compensation Committee	Lacy, Member

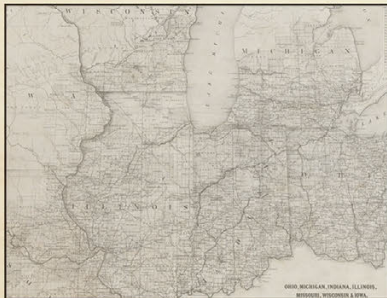
←←← Science Hall on the UW-Madison campus, home of the Geography Department.



College of Letters & Science, UW-Madison

Professional Development and Recognition Committee	Lacy, Chair
Committee on Academic Staff Issues	Lacy, Member

←←← South Hall on the UW-Madison campus, home of the College of Letters & Science.



Regional

Big Ten Academic Alliance Task Force	Lacy, Member
University of Minnesota MGIS Advisory Board	Veregin, Member

←←← A portion of the Middle West.

State Cartographer’s Office Online News Articles.

TITLE.	SYNOPSIS.	AUTHOR.	DATE.
There’s No There There! (Part 1)	Don’t visit these Dane County locations if you’re hoping to fill up your tank or get a cappuccino.	Veregin	July 1, 2021
There’s No There There! (Part 2)	Don’t visit these Dane County locations if you’re hoping to fill up your tank or get a cappuccino.	Veregin	July 8, 2021
Using the Statewide Parcel Database to Analyze Changes in Property Values	A map showing the annual change in residential property values across the state was constructed using data from the Statewide Parcel Database.	Veregin	July 15, 2021
Bryan Meyer to Discuss Importance of PLSS at Wisconsin Counties Association Meeting	Bryan Meyer, La Crosse County Surveyor, will deliver a presentation about the importance and value of the Public Land Survey System at the Wisconsin Counties Association Annual Meeting in La Crosse on September 27, 2021.	Veregin	July 21, 2021
V7 Statewide Parcel Web App and Data Download Now Available	We are pleased to announce the release of the Version 7 Statewide Parcel Data within the Statewide Parcel Web Application and Statewide Parcel Data Distribution Page.	Vogel	July 29, 2021
SCO Annual Report for 2020-21 Now Available	Our latest annual report covers SCO activities from July 2020 to June 2021.	Veregin	Aug. 19, 2021
Office of Emergency Communications Releases NextGen9-1-1 Resources	The Office of Emergency Communications at the Wisconsin Department of Military Affairs has released a GIS Gap Analysis and a geodatabase template for the state’s NextGen9-1-1 effort.	Veregin	Sept. 2, 2021
Progress Being Made with GPS on Bench Marks Initiative	New statistics from the Wisconsin DOT show that the GPS on Bench Marks campaign has made significant progress over the summer months.	Veregin & Heberlein	Sept. 3, 2021
Major Donation Establishes Geospatial Analysis and Technology Scholarship at UW-Eau Claire	The scholarship is made possible by a \$1 million donation from Jeanne Foust and her husband Dr. Brady Foust.	Lacy	Sept. 7, 2021
Governor Evers Proclaims September as Coastal Awareness Month in Wisconsin	Governor Evers has proclaimed September, 2021, Coastal Awareness Month in Wisconsin, in recognition of the many ways that Lakes Michigan and Superior contribute to the quality of life in the state.	Veregin	Sept. 14, 2021
Legislature Invites Public Input into Redistricting	The Wisconsin Legislature welcomes Wisconsin residents to provide input on the 2021 redistricting process.	Veregin	Sept. 15, 2021
Customizing Layer Content in Geospatial PDFs	How to create customized geospatial PDFs with layer controls.	Veregin	Sept. 21, 2021
Attend the WLIA 2021 Fall Meeting and Take a Field Trip to the Survey Marker in the State Capitol	The Fall Meeting of the Wisconsin Land Information Association includes a field trip to the “World’s Most Elaborate Survey Marker” at the Wisconsin Capitol.	Veregin	Sept. 22, 2021

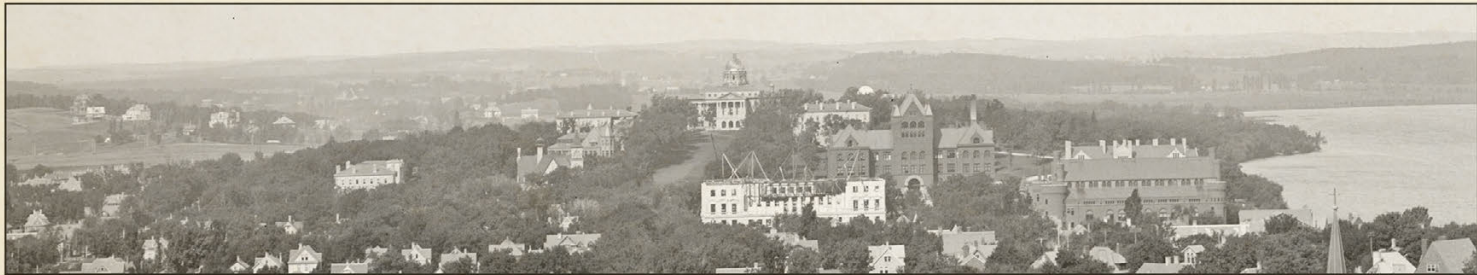


Calling all Consultants: Lincoln County Seeks Land Information Services.....	The Lincoln County Register of Deeds is seeking to contract with an individual or entity to perform re-indexing services for scanned previously recorded documents.....	Lacy ...Sept. 23, 2021
Land information community mourns the loss of D. David Moyer.....	We learned Wednesday of the passing of Dr. D. David Moyer, a true pioneer in our field.....	Lacy ...Sept. 30, 2021
Wisconsin DOT Releases Rustic Roads Interactive Map.....	The Wisconsin Department of Transportation has a new Rustic Roads interactive map highlighting these unique rural roadways.....	Veregin .....Oct. 4, 2021
SCO Has Public Layers in the Cloud and Here's How to Use Them.....	A little known fact is that SCO has layers such as Wisconsin townships and county boundaries publicly available in the cloud via CARTO. In this post we look at how they can be used.....	Elza.....Oct. 13, 2021
The Wisconsin Shoreline Inventory and Oblique Photo Viewer: An Effort Born from Collaboration.....	The Wisconsin Shoreline Inventory and Oblique Photo Viewer was developed through collaborations between multiple project partners.....	Veregin.....Oct. 15, 2021
History of Cartography Recognized in Wisconsin News.....	How long does it take to tell the story of maps and mappers from prehistoric times to the present?.....	Kohls.....Oct. 29, 2021
Al Miller Leaves Behind a Legacy of Service.....	Our community recently lost another land information pioneer, Mr. Allen H. Miller, who passed away on November 11 <sup>th</sup> .....	Lacy ....Nov. 18, 2021
National Geodetic Survey extends GPS on Bench Marks Deadline to December 31, 2022.....	NGS is officially extending the GPS on Bench Marks Campaign for an additional year to collect even more data to improve the quality of the Modernized National Spatial Reference System.....	Veregin.....Nov. 19, 2021
E3 Statewide PLSS Database Now Available.....	The State Cartographer's Office and Wisconsin Department of Administration announce the release of the statewide E3 PLSS database.....	Vogel....Nov. 30, 2021
Statewide 2020 Block-Level Census Data Now Available on Geodata@Wisconsin.....	A statewide layer of 2020 census redistricting data for over 200,000 blocks is now available on Geodata@Wisconsin.....	Veregin.....Dec. 2, 2021
National Geodetic Survey Provides Update for Completing SPCS 2022 Redesign.....	The National Geodetic Survey has provided another update for completing the design of the State Plane Coordinate System 2022.....	Veregin.....Dec. 9, 2021
New GIS User Group Forming in Southwestern Wisconsin.....	A new GIS community of practice called the "Driftless Area GIS User Group" met for first time in Viroqua on October 8 <sup>th</sup> 2021.....	Lacy ....Dec. 10, 2021
Using Kinetic Energy to Place Satellites in Orbit.....	A new startup, SpinLaunch, hopes to catapult satellites in orbit by 2025 using a kinetic energy launch system.....	Veregin ....Dec. 22, 2021
Federal Government Takes Action to Eliminate Derogatory Toponyms.....	The US Department of the Interior has established new administrative bodies to replace derogatory geographic feature names.....	Veregin ....Dec. 30, 2021
Registration Now Open for Esri Midwest User Conference.....	Early-bird registration for the March event in Chicago runs through January 21.....	Lacy.....Jan. 4, 2022

Continental Mapping Is Now Axim Geospatial.....	The Sun Prairie, WI company rebrands after acquiring TSG Solutions and GISinc.....	Lacy.....Jan. 4, 2022
Krueger Promoted to Vice President of Ayres Geospatial Division.....	Krueger is a certified photogrammetrist and GIS professional who joined Ayres in 2007 as a project manager.....	Lacy.....Jan. 6, 2022
Converting and Transforming Coordinates in the Modernized National Spatial Reference System.....	Converting coordinates in the new NSRS will require the use of several models, one to change the epoch and one to change the reference frame.....	Veregin ....Jan. 14, 2022
WEDC Seeks Proposals for Wisconsin Environmental Equity Tool Development.....	"WEET" will analyze and visualize data online specific to Wisconsin so government, tribal entities, community-based organizations, and the public can pinpoint our most impacted communities and understand the environmental and health equity challenges they face.....	Lacy ....Jan. 21, 2022
How Big is a Degree?.....	Deconstructing a recent Apple Watch ad.....	Veregin ....Jan. 21, 2022
Explore these Cartographic Phantoms near Elkhart Lake while Attending the 2022 WLIA Conference.....	Join the quest to hunt down cartographic phantoms across the state, starting with these examples close to Elkhart Lake, the location of the 2022 Wisconsin Land Information Association Annual Conference.....	Veregin ....Feb. 17, 2022
Nienow Promoted to Manager of Aerial Mapping.....	Congratulations to Zachary Nienow, GISP, Ayres' new manager of Aerial Mapping .....	Lacy ....Feb. 21, 2022
Congratulations to SCO Intern Abbie Bruederle, .....	Abbie, recipient of 2021 Damon Anderson Scholarship, started working for the SCO in 2021.....	Lacy ....Feb. 21, 2022
Public Comments Invited on Proposed Replacements for Derogatory Place Names.....	The U.S. Geological Survey is requesting public comment on candidate replacements for geographic feature names declared derogatory by the Department of Interior Secretary.....	Veregin ....Feb. 28, 2022
SCO Presentations from WLIA Annual Conference now available.....	Staff from the State Cartographer's Office delivered four presentations at the recent Wisconsin Land Information Association Annual Conference, held in Elkhart Lake.....	Lacy ....Mar. 14, 2022
Wisconsin NextGen9-1-1 GIS Implementation Plan Released.....	The Wisconsin Department of Military Affairs has published the state's NextGen9-1-1 GIS Implementation Plan.....	Veregin ....Mar. 21, 2022
NextGen9-1-1 Grant Program Established for Wisconsin Counties.....	With the recent enactment of Wisconsin Act 261, the legislature has paved the way for a new grant program for NextGen9-1-1.....	Veregin .....May 2, 2022
Update on Wisconsin Spatial Reference System 2022 Task Force Activities...	A brief update on Wisconsin Spatial Reference System 2022 Task Force activities in relation to the National Geodetic Survey's National Spatial Reference System modernization program.....	Veregin .....June 1, 2022
DMA Issues Request for Proposal for NG9-1-1 Data Management Services.....	The Wisconsin Department of Military Affairs has issued a Request for Proposal to prepare GIS data for NG9-1-1 implementation.....	Veregin ....June 14, 2022
National Spatial Reference System Modernization Now Set for Mid-2025.....	NGS anticipates the release of all data and limited tools by the middle of 2025.....	Veregin ....June 24, 2022



# About the State Cartographer's Office.



*UW-Madison from the rotunda of the Capitol.*

## Who We Are

The State Cartographer's Office is a special program at UW-Madison housed within the Department of Geography. Staff and students of the State Cartographer's Office engage in outreach, research and education to support Wisconsin's geospatial community and the state's citizens.

## Responsibilities

The State Cartographer position was created in 1973 by the Wisconsin Legislature and assigned to the University of Wisconsin. The University created the State Cartographer's Office to assist the State Cartographer in performance of the following statutory duties:

1. Maintain a catalog of maps of Wisconsin available in municipal, county, state, and federal agencies.
2. Promote cooperation amongst municipal, county, state, and federal mapping agencies and surveyors to facilitate coordination and information exchange.
3. Stay up-to-date on the progress made by mapping agencies.
4. Disseminate information about innovations in mapping techniques and procedures, map and air photo indexes, control data, data accuracy standards, legal aspects of map publication, and other topics in order to facilitate an effective mapping program for the state.
5. Publish special maps to promote the mapping of the state and the use of maps by individuals, as long as these maps are not within the activities of another state or commercial agency.
6. Assist the Department of Natural Resources in its work as the state representative of the US Board on Geographic Names and its other functions.

The specific statutory language can be found in Wis. Stat. § 36.25.

## Vision and Mission

Our vision is a Wisconsin geospatial community that is well-informed, supported, and collaborative, and that operates on complete, up-to-date, integrated information for effective analysis and service delivery to the citizens of the state.

Our mission is to foster the development of the state's geospatial community by facilitating the creation and exchange of geospatial data, services, and information, and promoting their informed use.

The Wisconsin Idea lies at the heart of our efforts. The Wisconsin Idea is the principle that education should influence people's lives beyond the classroom, and that knowledge and expertise within the University of Wisconsin should enhance the quality of life for all citizens of the state.

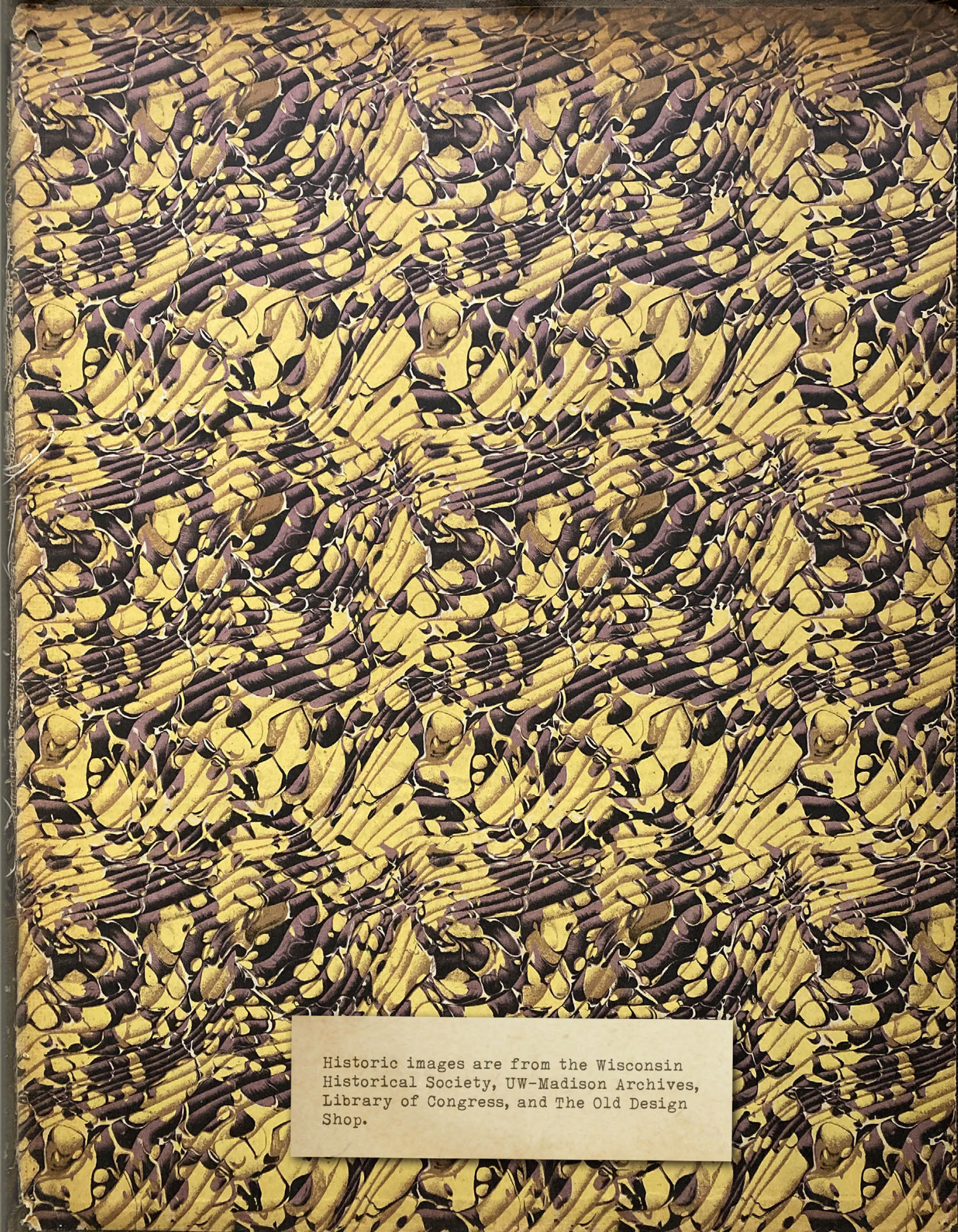
## Strategic Priorities

1. **Education and Training.** Deliver and support geospatial education and training opportunities, to promote the advancement of geospatial technology across the state.
2. **Research and Innovation.** Engage in applied research projects to develop and disseminate information about new methods and practices.
3. **Data Development and Integration.** Develop and apply methods and best practices for statewide data development and integration, to support data analysis, decision support, and service delivery.
4. **Data Discovery.** Improve online data discovery and access, to provide the geospatial community and citizens with access to the best available data.
5. **Community Engagement.** Engage, inform, coordinate, and support the Wisconsin geospatial community.

## Contact Us

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Historic images are from the Wisconsin Historical Society, UW-Madison Archives, Library of Congress, and The Old Design Shop.



