The GISC’s mission is to leverage interdisciplinary collaborations in the use of geospatial technology (GIS, Remote Sensing, GPS) for research, education, and community service.

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**Community Partners**

The GIS Center provided a two hour workshop on urban design and land use planning with the ArcGIS extension CommunityViz by Pathways. The workshop had 7 attendees from a variety of backgrounds, including academia, civil engineering, and the state government.

CommunityViz by Pathways is a software extension for ArcGIS that allows a user to create various scenarios of future land use and settling patterns based on current data layers.

The workshop was well received by attendees, who gave feedback via a survey. The attendees also gave ideas for future training workshops, which the GIS Center is planning on holding.

**Dr. Greg Rybarczyk Presentations**

Dr. Greg Rybarczyk of the GIS Center and the Department of Earth and Resource Science presented research at two different conferences during the summer of 2015: the Association of American Geographers (AAG) Annual Conference and the 1st International Conference on Transportation and Health.

At AAG Annual Conference, Dr. Rybarczyk co-presented with Richard Wetzel, GIS Research Assistant at UM-Flint, their latest Food Access grant project results held in Chicago last April. The title of their talk was: “Examining the revealed accessibility of ethnic food resources using a multivariate spatial modeling approach and GIS.” The conference - the largest of its kind - was a very well-attended event, where you had the chance to hear about cutting research from the some of the most renowned Geographers in the world. In addition to attending sessions, there were several daily social events either at the conference hotel or off-site. For example, there were multiple bicycling and walking tours of local Chicago landmarks and neighborhoods, book signings, raffles, and luncheons. All in all, the conference proved to be an enjoyable experience for Dr. Rybarczyk and probably shouldn’t be missed by anyone in the GIS field.

The 1st International Conference on Transportation and Health was held at the University Campus in London in early June. Dr. Rybarczyk presented his research entitled “Visualizing active travel sentiment in an urban context” during the session “Severance, Sedentarism, & Sentiment—Oh My! Exploring the Multifaceted Health Impacts of the Built Environment.” His study investigated how travel stress (or enjoyment) varies through time and space to determine potential relationships with active commute modes, intangible/tangible urban context, and daily weather. The regression model indicated that weather, car usage, and mass-transit affected human sentiment while traveling differently through space. Dr. Rybarczyk commented that the conference was well run and provided opportunities for conference participants to tour various landmarks throughout London.
The GISC is Expanding!
The GIS Center has recently purchased new equipment to upgrade and provide new opportunities for research within the Center through funds provided by the College of Arts and Sciences. The GISC purchased:
- 4 new computers and monitors
- 1 research workstation
- 65" Flat screen TV
- Large-format plotter with large-format scanner attachment
- 3D printer
- Trimble GPS units
- Various software packages

The new computers replaced a few of the current stations and provided two new workstations in the Center. The research workstation has a great amount of storage capacity and processing power for future research projects. The 65" flatscreen TV will allow us to provide small training sessions within the GIS Center and host meetings. The large-format plotter/scanner (seen right) replaces an older plotter and gives us the ability to make digital copies of historical paper maps. The 3D printer will create opportunities for students and researchers to do terrain modeling and 3D urban planning with building footprints.

The software that the GISC will have access to includes Adobe CS6 Suite, which provides cartographic capabilities with Adobe Illustrator, ERDAS Imagine, a powerful remote sensing software package, an updated version of TransCAD and GPS Pathfinder to pair with the new Trimble GPS units.

With these new additions to the GIS Center, we hope to expand our abilities and reach within the community and the university.

GIS User Spotlight:
University Faculty - School of Public Health

Vicki Johnson-Lawrence
Assistant Professor / Research Program Manager

Brief Bio: I am an Assistant Professor of Public Health & Health Sciences. As a social epidemiologist with a biostatistics background, I am interested in the mechanisms through which social factors influence mental and physical health over the life course and ultimately affect well-being and health inequities in later adulthood. I have used GIS to examine health inequities, including income and wealth disparities, in national data.

How do you use GIS within your research?  My research uses GIS approaches to investigate the distribution of multimorbidity in the local Flint community. This work seeks to understand the community level correlates that are contributors to or results of individual and community resources managing multiple chronic conditions at once, and may help us understand how to better locate existing resources to meet the health needs of our community.

Do you have any plans on using GIS in future research?  If yes, please give a brief synopsis.  My future work will continue to incorporate GIS, particularly to study the placement of existing community resources and the variety of services offered in the same location. In order to help those with the greatest health burdens, we have to really meet our community members where they are.

Do you use GIS while you are teaching?  If so, how?  I often demonstrate the value of GIS in my courses- and particularly epidemiology- when we discuss various types of exposures in relation to disease outcomes. The traditional introductions to epidemiology acknowledge the work of John Snow, who realized that community members who lived closest to a contaminated water source were most likely to be affected by cholera in London- which highlights the importance of geographic location in relation to health and disease. I continue to emphasize geography as a component of the narrative for improving health outcomes and reducing health inequities.

What is your favorite aspect of using GIS?  Visualization of the positive impacts of ongoing public health efforts. There’s no faster way to demonstrate the reach of public health than a graphic that can quickly show the problem, but also highlight the reach of great solutions.
Current/Recent Activities in the GIS Center

Presentations
- Troy Rosencrants presented research titled “GIS Method for Characterizing Fire-flow” at the 24th Annual IMAGIN conference in Traverse City, MI on June 9, 2015.
- Greg Rybarczyk and Richard Wetzel presented their work on their USDA grant titled “Food Access in Michigan” at the annual American Association of Geographers National Conference in Chicago, IL in April 2015.

Mapping Projects
- The GIS Center helped Dr. Victoria Morckel from the Earth and Resource Department create a publication figure as well as maps for her study of the Flint’ Farmers Market survey.
- The GIS Center helped Dr. Lisa Lapeyrouse from the Public Health and Health Sciences Department on a summer research project with a high school student from Grand Blanc. Maps and simple analysis were performed involving population demographics and pharmacy locations.

Recent Publications

News in GIS

⇒ The Michigan Center for Shared Solutions and Technology Partnerships has released the version 15 updates to the Michigan Geographic Framework. More information at http://gis.michigan.opendata.arcgis.com/.
⇒ ESRI has released ArcGIS 10.3.1. New features include improvements to geoprocessing tools, along with improvements in reading geodata.
⇒ The University of Michigan is launching a $100 million Data Science Initiative over the next five years to enhance opportunities for student and faculty researchers across the university to tap into big data.

Jobs, Internships, and more!

Jobs
- The GIS Center will be announcing two new positions in the next few weeks. One will be a GIS Web Administrator that has experience with ArcGIS for Server and web application development. The other will be a Post-Doc Research Scientist position. For more information, keep an eye on umjobs.org and the GISC website.

Job Boards
- www.gjc.org
- www.mygisjobs.com

Upcoming Conferences
- AAG Annual Meeting
- IMAGIN 2016 Annual Conference
  The annual IMAGIN conference will be held at Great Wolf Lodge in Traverse City, MI on May 15-17, 2016. More information is at www.imagin.org/conference.php.
- ESRI User Conference: United We Map
  The annual User conference by ESRI will be held at the San Diego Convention Center June 27–July 1, 2016. More information is at http://www.esri.com/events/user-conference.

National Geography Week
The GIS Center is planning on holding an event during the National Geography Week, which is November 16-20, 2015. Keep an eye on our website for more details!

U of M Faculty, Staff and Students Have Free Access to Virtual GIS Courses
All University of Michigan faculty, staff, and students have free access to free ESRI Virtual Campus GIS courses. No matter your expertise there is a course for you. For more information please visit http://guides.lib.umich.edu/content.php?id=161311&sid=1363686 and follow the instructions listed under ESRI Virtual Campus Courses.