This past fall WyGISC celebrated its 15th anniversary at the University of Wyoming. WyGISC began in 1996 as a University of Wyoming campus research cluster called the Spatial Data Visualization Center (SDVC) with funding from the National Science Foundation’s Experimental Program to Stimulate Competitive Research (EPSCoR and the Wyoming Science, Technology, and Energy Authority (later subsumed by the Wyoming Business Council).

Initially SDVC’s goal was to explore and demonstrate the utility and application of spatial data analysis and visualization science and technology in a decision support role for resource management and economic development activities. In 1999, as a result of a university-wide academic planning process, the SDVC was identified as a future focal point for expanding GIS capacities and competencies throughout the campus to support both faculty research and student education and to serve as a resource for businesses and government agencies. This lead to the reorganization of the research cluster into the Wyoming Geographic Information Science Center in 2001, based in UW’s Office of Academic Affairs.

Today, WyGISC’s mission is to advance the knowledge and application of geographic information science and technology through research, education, and service. WyGISC’s research and development activities are broad, from geospatial data collection and spatial database design and development, to environmental modeling and Web-based geographic query and visualization implementations.

The Center’s education, training and information and technology transfer activities further support the adoption and use of geospatial data and information technologies among a wide range of end-users in academia, government, business, and the general public.

This newsletter recounts some of the events held last fall in recognition of WyGISC’s 15th anniversary milestone. We hope you enjoy the stories and photos. Please keep in touch as we continue in strengthening and expanding our role as a leading interdisciplinary GIScience academic center and unique outreach resource to the university, state and region. - Jeff Hamerlinck, Director.
WyGISC data services through time

Geospatial data clearinghouses minimize the duplication of efforts among the entities associated with collecting, organizing and storing digital spatial data and are critical for expanding GIS capacities in a state or region. In 1997, WyGISC (then the Spatial Data & Visualization Center, or SDVC) developed the Wyoming Natural Resources (WNR) Clearinghouse as the first online warehouse of Wyoming-focused geospatial data layers.

The WNR Clearinghouse was one of the first 25 or 30 official nodes of the U.S. National Spatial Data Infrastructure (NSDI) that allowed users to browse over 500 geospatial data-sets for download. The WNR Clearinghouse provided geospatial data to users in two formats: compressed Arc/Info interchange (*.e00) and ArcView shapefiles (ESRI, Redlands, CA).

Datasets were available either for the entire state or as subsets organized by counties and quadrangles. Subsets reduced the time to download large datasets. Users could search the WNR Clearinghouse by theme (e.g., Biological, Land, Water), scale or source, as well as with keywords (figure above) and by visually browsing an Atlas map interface (left) with links to view metadata prior to downloading data.

With the renaming of SDVC to WyGISC, the appearance of WNR clearinghouse (below) was...
changed. The next generation of data clearinghouses built on Internet Mapping Service (IMS) and hosted by WyGISC (right) with datasets organized by themes such as Land, Water and Imagery displayed on top of a number of different years of aerial imagery and supporting “clip-and-zip” data download. Users were able to subset and download data for their customized geographic area of interest instead of downloading the entire state or county-by-county collections. The Web-based interface also supported a limited number of spatial analysis functions.

Today, WyGISC data service applications include: (a) The WyGISC Data Server (below) for downloading data for their customized geographic area of interest; (b) The WyGISC Image Server for downloading aerial imagery. Both servers run on ArcGIS Server Technology.

The Wyoming GeoLibrary (bottom) is a metadata registry for discovering and accessing geospatial data not only at WyGISC but from numerous partner agencies and organizations across the state. As new datasets are created, partners can make them aware by publishing their metadata in Wyoming GeoLibrary. Unlike the data servers, GeoLibrary stores only the metadata and contains necessary information for downloading them at the partner’s site.

“I wanted to let you know that I’ve been sharing your [web] page with a couple of my fellow Geography teachers at my high school. We’re distributing resource pages to our students for them to have useful info to refer to that will help them with their courses. We included your page in them which has excellent info and I’m confident will be very beneficial for the students, thank you so much.”

Andrea Banks, Mason Learning

“WyGISC data and servers have been an invaluable resource for Wyoming teachers and students. Fifteen years ago teachers had few options for accessing data at all scales, particularly at state, county, and city scales, so WyGISC filled a much-needed role in geospatial professional development workshops for Wyoming teachers. WyGISC continues to provide current, relevant, and easily accessible data and services for teachers throughout the state.”

Dr. Alan Buss, Professor, Department of Elementary Education, UW
In celebration of its 15th anniversary, WyGISC hosted the first ever Laramie OpenStreetMap Mapping Party at the Historic Laramie Depot. More than 50 local citizens attended the event, learning about GPS technology and mapping techniques, before braving a damp and windy afternoon outdoors to map some of the favorite landmarks, recreation areas and other public facilities. At the end of the day, data collected by volunteers was uploaded to the worldwide OpenStreetMap online database for viewing and use by others.
Ken Driese and Ramesh Sivanpillai took photos of this event. More photos are at WyGISC’s photostream site in Flickr® (http://www.flickr.com/photos/wygisc) or scan the QR code (right) with your smartphone.
GIS Day—2011

WyGISC hosted its annual International GIS Day Open House on Wednesday, November 16, 2011. Activities included poster displays and demonstrations of recently developed spatial decision support software applications.

The open house was followed by a public seminar teaming WyGISC’s Margo Berendsen and Professor Alyson Hagy, UW Department of English, in a comparison of the recent technology-focused WyGISC Mapping party with the UW Creative Writing Program’s more artistically focused Gem City Atlas Project.

Adventures in Hometown Mapping
Laramie’s Gem City Atlas and OpenStreetMap Party

**Alyson Hagy**
Professor, Dept. of English

**Margo Berendsen**
Research Scientist, WyGISC

4:15pm, Nov 16, 2011
UW Business Auditorium

A&S College Dean Walter (left), Associate Dean Lawson-Borders (right), and Dr. Reiners and Dr. Hamerlinck viewing EarthNow! demonstration.

Margo Berendsen and Paul Caffrey answering visitor’s questions during the GIS Day Open House.

Teal Wyckoff and Wendy Berelson demoing new GIS applications.
Education & Outreach

One of our missions is to advance the use of geographic information science (GISci) at the University of Wyoming by furthering GISci education and training at all academic levels, by pursuing basic and applied research in GISci, and by using GISci technologies for problem-solving within the University and throughout the State and region. WyGISC has been providing GISci professionals with flexible and comprehensive training for over ten years. This designation means that WyGISC meets ESRI standards for quality and content and we are approved to offer ESRI courses. For further information about short courses, GIS certificate, or our upcoming course schedule contact:

Phone: 307-766-2770
Email: wygisc-education@uwyo.edu
Web: http://www.uwyo.edu/wygisc/education

ESRI Virtual Campus offers FREE GIS courses for UW students, staff and faculty. There are more than 25 online courses that you can complete at your pace. Courses cover introductory materials to advanced database management. At the end of successful completion of each course, users can print an ESRI course completion certificate, which is recognized in the geospatial industry. Non-UW users can enroll in these courses through www.esri.com. For further details about Virtual Campus courses call (307) 766-2770, email wygisc-education@uwyo.edu or visit the Education & Outreach section in http://vc.wygisc.org/

Spring 2012 Short Courses

ArcGIS for Natural Resources Applications  April 17-18
ArcGIS Desktop II: Tools and Functionality  May 8-10
ArcGIS Desktop III: GIS Workflows and Analysis  May 22-23
Introduction to Metadata for GIS Users  May 30

ESRI Virtual Campus: FREE Online GIS Courses

Fall 2011 Geospatial Forum Series on Geospatial Education

09/02/11: “Trends and Futures in GIS&T Education” Dr. Steven Prager, GEOGRAPHY
09/09/11: “Detection and Assessment of Land Use/Cover Changes in the Mid-west Escarpment of the Ethiopian Rift Valley: implications to population-environment dialogue” Dr. Muluneh Abshare, ADDIS ABABA UNIVERSITY
09/16/11: “Integrating GIS and Remote Sensing in Public Schools: An Overview of Regional Efforts to Improve Geospatial Reasoning ” Dr. Alan Buss, ELEMENTARY EDUCATION
09/23/11: “MrSID Imagery: The Next Generation” Ms. Genie Hays & Mr. Jeff Young, LizardTech, Seattle, WA
09/30/11: “Introducing Remote Sensing to Laramie K-8 Students” Dr. Ramesh Sivanpillai, WyGISC & BOTANY.
10/07/11: “The Hot Zone: Predicting where and when Rift Valley Fever virus will reach the US” Drs. Sarah Konrad & Scott Miller, RENEWABLE RESOURCES
10/14/11: “Barriers to transferring skills from training to the job: GIS, statistics, media and Miller’s Magic Number.” Margo Berendsen, WyGISC
10/28/11: “Sleepwalking into the Future: A World without Geospatial Education” Dr. Joseph Kerski (photo above), ESRI, Denver, CO
11/11/11: “This will be one of the hardest classes you’ve ever taken: Reflections on 12 years of teaching GIS in Anthropology” Dr. Mary Lou Larson, ANTHROPOLOGY
Giving to WyGISC

Gifts to WyGISC enhance our programs by providing support for outreach and educational materials, scholarships, and student and academic staff development. If interested, please contact us at wygisc@uwyo.edu. You can also make a contribution online through the UW Foundation at https://uwsecureweb.uwyo.edu/GIVEONLINE/. Be sure to indicate that your gift is to be made to the Wyoming Geographic Information Science Center under further instructions about your gift of giving online form. Thank you for your valuable support.