Connecticut's Geospatial Newsletter

CONNECTICUT Geo-Focus

From the CT GeoDESK

Winter Edition 2011
Volume 4, Issue 4

Geo Highlights

Newsletter Contacts

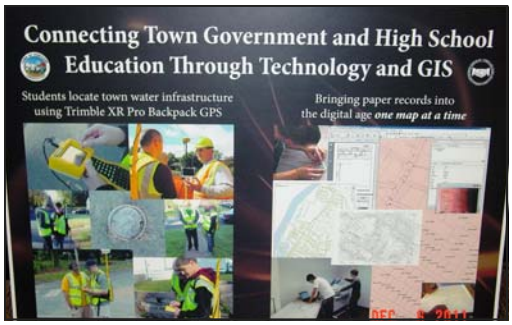
Submit letters, projects, feedback and articles to:
beth.kelly2@us.army.mil or
peter.sandgren@ct.gov

These articles are published for the education and enjoyment of the GIS community, and may be edited to fit space available.

The CT Geospatial Council does not endorse or recommend any software programs.
www.ct.gov/gis

GIS Day Event Map Poster Winners

The ***People's Choice First Place Award*** goes to Portland High School for having the most votes during the CT GIS Day event at the Legislative Office Building in Hartford. The students and their teacher came to GIS Day to view the map gallery and take in some of the presentations. Poster is shown below. See other People's Choice awards and honorable mention awards on page 4.



Congratulations Portland High School Geo - Techies !!

The Igliniit Project: Using GPS To Georeference Ice Trails

By Shari Gearheard, of the Nammautaq Hunters and Trappers Association of Clyde River, the Hamlet Council of Clyde River and the Clyde River Research Committee, and Dr. Kyle O'Keefe of Geomatics Engineering, University of Calgary and a geomatics engineering undergraduate students and collaborators.

The Igliniit Project brings together Inuit traditional knowledge with cutting edge technology. "Igliniit" in Inuktitut (the Inuit language) refers to trails routinely travelled by members of a community. The location, use, condition, and changes in Igliniit over time can help us understand a great deal about the environment and Inuit-environment relationships. In the Igliniit Project, geomatics engineers and Inuit hunters come together to design a new integrated GPS system that can be easily and affordably mounted on a snow machine, the regular mode of travel used by Inuit hunters who log thousands of kilometers per year.

Clyde River hunter and town Mayor Apiusie Apak (left) and Elder Jacopie Panipak, work on the Igliniit field computer.

Continued on page 2.

Snow and Ice Data

Continued from page 1. The system will automatically log the location of the snow machine every thirty seconds, providing geo-referenced waypoints that can later be mapped to produce the traveler's routes. In addition to tracking location, the Igliniit system will log weather conditions (temperature, humidity, pressure, wind) and the observations of hunters (e.g. animals, ice features, ice hazards, place names) through a customized PDA (Personal Digital Assistant/Palm Pilot) screen that has a user-friendly icon interface. Digital cameras on board will provide visual images that hunters want to capture at certain waypoints. The data logged in this system will be downloaded in the community and sent to the Inuit Sea Ice Use and Occupancy Project (ISIUOP) for the creation of maps. These maps will integrate the collected data, showing the routes of individual snow machines, along with the geo-referenced observations of the hunters and weather conditions. When the maps of different machines are overlaid, and more maps are accumulated over time, the result is a valuable picture of Inuit-land-sea ice use that combines both quantitative data (GPS, meteorological data) and qualitative data (hunters' observations).

Inuit travel long distances by snow machine and dogsled. Photo: Shari Gearheard

It is important to note that the Igliniit system has multiple uses and applications for the community, in addition to sea ice studies. For example, individual hunters can print off their own maps and keep records of their travel and harvests. Collectively, hunters can use the maps to see patterns in hunting success, changes in animal populations, changes in snow conditions, connections between weather conditions and travel conditions, and locations of hazards. The maps are not only useful for hunters. Community leaders can use the maps in matters related to land use planning or land use negotiations, to clearly and easily show up-to-the-day use of land and resources that might be affected by the placement of a mine or protected area. Schools can use the maps in combination with trips on the land to study hunting, geography, and weather, for example. Lastly, Igliniit has the potential to serve a key role in search and rescue operations. In some communities, these operations are increasing, as sea ice and other environmental conditions become less predictable and younger hunters go out without as strong a base of knowledge and skills for being on the land compared to previous generations. The Igliniit system can be designed to incorporate a real-time tracking component, so that a base back in the community can quickly locate a stranded hunter. Combined with an FRS radio, the system provides a way for a person on the land to quickly call for help and their exact location is known. Without radio contact, this kind of Igliniit system can still help, alerting others back in the community to a snow machine that has stopped moving, or seems lost, and may be in need of assistance. The Igliniit System is being developed collaboratively by Inuit hunters in Clyde River, geomatics engineers from the University of Calgary, and Shari Gearheard, a researcher and resident of Clyde River. Inuit will provide input on their needs for the system, for example, the conditions it must withstand and the observations they would want to log so that the customized screen can be designed and programmed. Dr. Kyle O'Keefe at the Department of Geomatics Engineering at the University of Calgary will direct the construction and programming of the Igliniit system.

Photo of Shari Gearheard, Courtesy of Shari Gearheard

The National Snow and Ice Data Center (NSIDC) supports research into our world's frozen realms: the snow, ice, glaciers, frozen ground, and climate interactions that make up Earth's cryosphere.

NSIDC manages and distributes scientific data, creates tools for data access, supports data users, performs scientific research, and educates the public about the cryosphere.

NSIDC distributes more than 500 cryospheric data sets for researchers, from both satellite and ground observations. See Data at NSIDC to browse our holdings, get information, and download or order data sets. *By NSIDC*

http://nsidc.org/data/data-search.html

Clyde River is a community built on a small bay off of Clyde Inlet on the coast of northeastern Baffin Island, Nunavut Canada. Most of the 800 people who live here are Inuit.

Connecticut Storm News

GIS Storm Response and Recovery Assessment Group

At the November Connecticut GIS Council meeting, the Council created a working group to assess how GIS was used during Tropical Storm Irene and the October Nor'easter. The GIS Storm Response and Recovery Assessment Group is focusing on various aspects of how GIS was used for pre-storm, storm, and post-storm response and recovery efforts at the local, regional, utility, state, and federal levels. The goals of the assessment are to: identify what GIS strategies were used (or not), barriers encountered, best practices, and provide recommendations. The GIS Assessment Group has been reaching out to all GIS staff across the state, and across New England, to collect this invaluable information which will be compiled into a report.

The information already collected is shedding light on the role of GIS in Connecticut when it comes to emergency response and recovery efforts. The GIS Assessment Group anticipates the report's findings will lead to best practices that can be applied throughout the state and real short-term and long-term recommendations that can be implemented. The ultimate goal of the Group's is better coordination and use of GIS for natural disasters, including identifying shared benefits between the utility industry and local and state governments. The Group anticipates presenting its draft findings at the January GIS Council meeting. If you haven't submitted responses to the Group's questionnaire or if you have any questions about the Assessment, please contact Jeff Bolton at jeffrey.bolton@ct.gov .

GOES Satellite Video of 2011 Hurricane Season Released

The GOES series of satellites, operated by the National Oceanic and Atmospheric Administration (NOAA), provides continuous (every 30 minutes) satellite information for the U.S. and are critical during hurricane season. GOES-11 and GOES-13 provide infrared and visible satellite data over the western and eastern U.S. and eastern Pacific and Atlantic Oceans. The 2011 hurricane season is now available in one video from NOAA. NOAA just released a video from the GOES-13 satellite that takes the viewer through all 19 tropical cyclones that formed in the 2011 Atlantic Hurricane Season. Supplemental animations and images were also created by the National Aeronautics and Space Administration's (NASA) GOES Project. Those animations show activity in each month of the 2011 hurricane season. The NASA GOES Project is located at NASA's Goddard Space Flight Center in Greenbelt, MD. To access the NASA GOES Project's high resolution versions of activity each month of the hurricane season, visit: http://goes.gsfc.nasa.gov/text/goes13results.html#2011_alley.jpg.

The Atlantic Ocean hurricane season ended on Nov. 30 and it was an active season, the busiest since 1995. The GOES-13 satellite animation shows the season's 19 tropical storms (seven made it to hurricane status, and three of those major hurricane status). Hurricane Irene and Tropical Storm Lee made the most news. Irene for its devastation from the Mid-Atlantic U.S. states into New England, and Tropical Storm Lee because of its soaking rains from the Gulf coast to New England. Vermont reported record-breaking rainfall and some of the most severe flooding it has ever seen. According to NOAA, "Hurricane Irene's effects in the Caribbean and the United States led to 43 deaths and accounted for the bulk of this season's damage at $7.3 billion. Irene was the first land falling hurricane in New Jersey in 108 years." NOAA's National Hurricane Center reported that the first eight tropical storms didn't reach hurricane status, and that was a record that stood since reporting began in 1851 (at least reliable reporting). Picture on left shows a scene from the GOES-13 satellite that takes the viewer through all 19 tropical cyclones that formed in the 2011 Atlantic Hurricane Season.

Credit: NASA/NOAA GOES Project

Geo-Tidbits

Geodata.gov has provided the largest, single-point web-based access for maps, government data, and geospatial services—the Geospatial One Stop. As part of continuing efforts to increase awareness of and access to geospatial data and services, Data.gov has integrated the Geospatial One-Stop (GOS) portal and catalog, and added some exciting improvements to both the user interface as well as the underlying infrastructure. Moving this vast store of geospatial data into the cloud already utilized by Data.gov has also saved significant money.

Mapping Space, Place, and new depth of Change

"To change the world, start with the maps," says Nikolas Schiller, co-chairman of the Statehood Green Party in Washington. "As insignificant as my art may be, it's still an extension of my feeling that each of us has the capacity to change things."

Winners of GIS Day Map Gallery!

The GIS Day Event was a great success this year, thanks to everyone who participated, and a special thanks to all those who did a presentation for the event or submitted a map poster for the Map Gallery. We had over 60 posters submitted this year and they were hung at the Legislative Office Building during the month of November for all to view. This breaks our past record of posters submitted for a GIS Day Event. Posters will be displayed on the Council Webpage in January.

* **2nd place People's Choice** – CT Alert ENS, Bryan Pavlik
* **3rd place People's Choice** – Manchester's Citizen's Reporting Tool

The map poster winners for Honorable Mention are:
BEST USE/IMPORTANCE OF GIS FOR:

* a **Municipality** – Redding, CT, Land Use
* a **State Agency** – New London County Rainstorm Damage
* **Regional Planning** – Land Use of Central Naugatuck Valley
* importance to **Conservation** – Winter Flounder Populations in Long Island Sound
* supporting **Emergency Response** – Post Hurricane Irene Outage Tracking
* **Technical Abilities** – CT Shellfish Mapping Atlas

BEST USE/IMPORTANCE OF GIS TO ADDRESS/SOLVE:

* a **Social Problem/Issue** – WIC-Authorize Vendor Selection
* an **Environmental Problem/Issue** – Using GIS to Monitor Invasive Plants in Candlewood Lake
* a **Fiscal/Economic Problem/Issue** – Pipe Lining: The Sewer Main Fountain of Youth
* a **Health Issue /Problem** – 2011 H.E.L.P Program: High Risk Parcels within 1,000 Feet of a School

* **Best Use of Graphic Design** – CT Environmental Conditions Online
* **Most Unique** – Putnam River Mill Heritage and River Trails

Congratulations from the
GIS Council Education and Outreach Working Group
and the CT Geospatial Council!

GIS Education in Connecticut

Tomorrow belongs to the people who prepare for it today!

by Thad Dymkowski

Many Connecticut businesses or agencies are either using or could be using a GIS to assist them in management and decision making. With an over abundance of geospatial jobs leaving the country, there is a serious need to keep sensitive GIS materials on-shore. This is not only a security problem, but a workforce problem. One of the reasons geospatial jobs are being sent overseas is the lack of a well trained geospatial workforce in America. The Federal Bureau of Labor Statistics expects job opportunities in the geospatial field to grow steadily through 2018. Because GIS is such a powerful and beneficial tool, the need for people who are well-versed in GIS is at an all time high in our country.

Becoming well-versed begins with education. Education is our passport to the future, for tomorrow belongs to the people who prepare for it today. Connecticut is fortunate to have several institutes of higher learning that offer GIS education of varying degrees and areas of study. In corresponding with representatives from some of these schools, it is clear that the available offerings to establish or advance your GIS skills and education provide significant opportunities to suit anyone that may be interested.

Virtually every Department/School at **Yale** is using GIS in some way, whether Faculty and Students doing their own research, or offering application specific GIS courses. The Yale Map Department GIS Services' biggest patrons are currently the School of Forestry & Environmental Studies, Archaeology and the Yale School of Public Health, though they are seeing increasing demand from Political Science, History, and the School of Medicine. Although there is no GIS "program" here, GIS is depended upon and stressed heavily as an essential tool for research. *"Yale has a surprisingly active GIS user community for a University without a 'GIS Program.' We have an internal GIS Users Listserv with about 500 subscribers,"* says Stacey Maples, GIS Specialist and Instruction Coordinator.

Central Connecticut State University (CCSU) in New Britain recently started offering a GIS Certificate program of 4 courses. The courses were designed to initiate someone who is completely unfamiliar with the technology and practices, and bring them to an advanced level upon completion. Topics of study begin with the basic principles of GIS and progress through GIS analysis, custom applications, and finally web GIS applications.

The **University of Connecticut Center for Land use Education and Research (CLEAR)** provides training at their Middlesex County Extension office in Haddam for working professionals and "weekend warriors." Their target audience is local land use officials and volunteer commission members whose job it is to make day to day decisions about land use practices in their communities.

In addition, the **Department of Geography at the University of Connecticut** initiated a Certificate Program in Geographic Information Systems in September, 1989. This program is a graduate certificate program formally recognized by the University of Connecticut. Students completing the Certificate Program receive a certificate of completion and the award of the Certificate is entered on the student's official University of Connecticut transcript.

Fairfield University currently offers four courses that incorporate GIS in the Education field and History field. They also have a class from the Sociology department where students develop maps on a variety of related topics. Led by Dr. Marsha Alibrandi, the program reaches out to high school students to introduce them to GIS and GPS through programs and activities to engage the students with practical applications of the technology.

Connecticut College has a small but thriving GIS program within the Environmental Studies Program. Coordinated by Dr. Beverly Chomiak, the program tries to introduce GIS in to many of the environmental science courses as possible, particularly geology and ecology. Students commonly use GIS in honors research projects and faculty often expresses interest in using GIS for research or as a tool for displaying spatial data.

The **University of New Haven** offers a graduate program in GIS and applications as well as a certificate program through the Environmental Science Department. Headed by Dr. Roman Zajac and coordinated by Dan DePodesta, the program boasts 4 classes that range from introduction to techniques and applications.

For further information on each program, contact the respective school department directly.

The next CT GIS User to User Network meeting will be on January 27, 2012.
Meeting place TBD, all are welcome to attend.
For more information contact Thad at TDymkowski@newingtonCT.gov

MDC Clean Water Project the choice is clear
Map Produced by MDC GIS Services

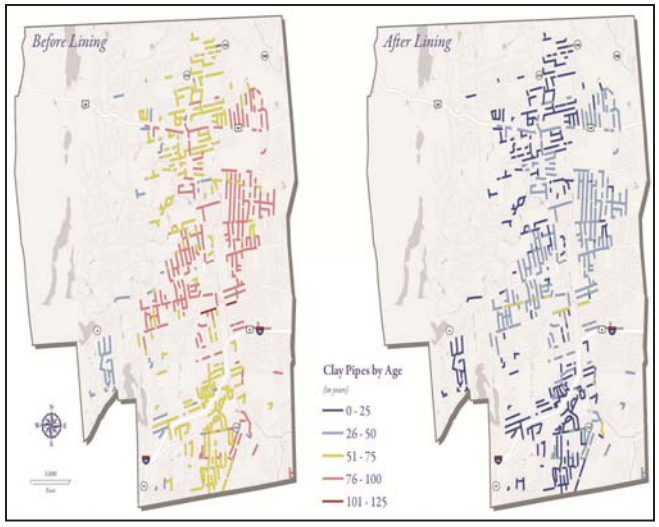
The Sewer Main Fountain of Youth

By James Wysor GISP, MDC

Clay sewer pipes make up 55% of West Hartford's sanitary sewer system. Pipe lining is suitable only for the MDC's clay tile sewer mains and thus only clay tile sewer mains are displayed. Each sewer main has an attribute that stores the installation date of that sewer pipe. These values were recorded from sewer record plans. A small number of clay sewer pipes did not have a valid installation date and were not used in the mapping or statistical calculations. The current age of each sewer main was calculated by subtracting the current year from the sewer pipe installation year. The relined pipe age was calculated by subtracting 50 years from the installation date. Fifty years is a commonly accepted value for the extension of a sewer pipe's lifespan. The calculation of the pipes relined age resulted in some pipe ages that were negative. Since one cannot have a negative age, these values were corrected to zero. Last, lining has been taking place in The District for several years in all the towns. To more accurately portray the ages, the amount of years that have passed since the pipe was lined was added to the relined age to come up with a final "new" age for each pipe.

What is Pipe Lining? Cured-in-Place Pipe Lining (CIPP) is a trenchless process to rehabilitate existing sewer pipes, due to age, cracks or leaks. The process starts by placing a flexible liner into an existing sewer pipe and curing the liner material with heat which creates a new main, within the existing one, that is tight fitting, jointless and free of cracks and holes.

Why line a sewer? Lining is done because it is a cost effective and efficient means of pipe replacement. Lining avoids having to perform a traditional replacement by excavation.



What are the benefits of lining? This process allows for pipes to be rehabilitated in place. Traditional replacement requires excavation that disturbs the surrounding area, less expensive than replacing the pipe, allows for an increased sewer flow capacity, completed in one to three days versus six to nine months for traditional pipe replacement construction, and most importantly a 50-year life expectancy.

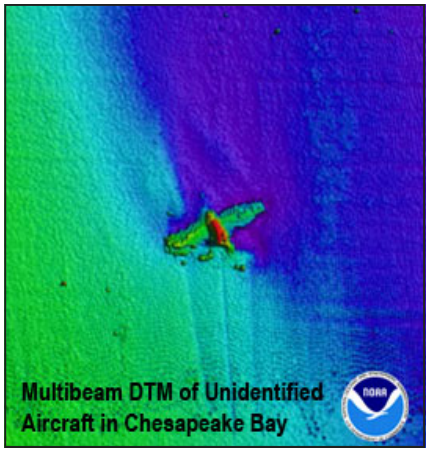
Left Map: Pipe Stats Before Lining
Total # Clay Pipes: 1,289, Minimum Age: 32, Maximum Age: 107
Total Years: 91840, Average Age: 71

Right Map: Pipe Stats After Lining
Total # Clay Pipes: 1289, Minimum Age: 1, Maximum Age: 70
Total Years: 31964, Average Age: 25

The Office of Coast Survey's Automated Wreck and Obstruction Information System (AWOIS) contains information on over 10,000 submerged wrecks and obstructions in the coastal waters of the United States. Information includes latitude and longitude of each feature along with brief historic and descriptive details.

Over 10,000 Submerged Wrecks & Obstructions—NOAA

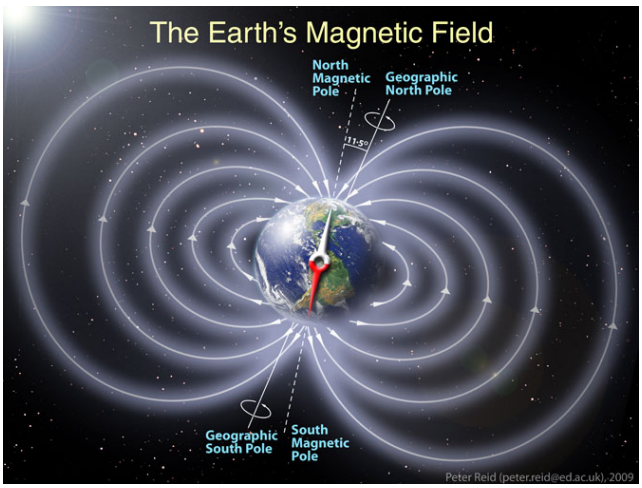
The Automated Wreck and Obstruction Information System (AWOIS) was implemented to assist the Office of Coast Survey in planning hydrographic survey operations and to catalog the substantial volume of reported wrecks and obstructions considered navigational hazards within U.S. coastal waters. Providing a historical record of selected wrecks and obstructions, AWOIS is a valuable tool and information source for marine archaeologists and historians, fishermen, divers, salvage operators, and others in the marine community. Visit http://www.nauticalcharts.noaa.gov/hsd/awois.html for more information.



2012: Magnetic Pole Reversal Happens all the (Geologic) Time

by *Patrick Lynch* *NASA's Goddard Space Flight Center*

Scientists understand that Earth's magnetic field has flipped its polarity many times over the millennia. In other words, if you were alive about 800,000 years ago, and facing what we call north with a magnetic compass in your hand, the needle would point to 'south.' This is because a magnetic compass is calibrated based on Earth's poles. The N-S markings of a compass would be 180 degrees wrong if the polarity of today's magnetic field were reversed. Many doomsday theorists have tried to take this natural geological occurrence and suggest it could lead to Earth's destruction. But would there be any dramatic effects? The answer, from the geologic and fossil records we have from hundreds of past magnetic polarity reversals, seems to be 'no.'



Reversals are the rule, not the exception. Earth has settled in the last 20 million years into a pattern of a pole reversal about every 200,000 to 300,000 years, although it has been more than twice that long since the last reversal. A reversal happens over hundreds or thousands of years, and it is not exactly a clean back flip. Magnetic fields morph and push and pull at one another, with multiple poles emerging at odd latitudes throughout the process. Scientists estimate reversals have happened at least hundreds of times over the past three billion years.

Sediment cores taken from deep ocean floors can tell scientists about magnetic polarity shifts, providing a direct link between magnetic field activity and the fossil record. The Earth's magnetic field determines the magnetization of lava as it is laid down on the ocean floor on either side of the Mid-Atlantic Rift where the North American and European continental plates are spreading apart. As the lava solidifies, it creates a record of the orientation of past magnetic fields much like a tape recorder records sound. The last time that Earth's poles flipped in a major reversal was about 780,000 years ago, in what scientists call the Brunhes-Matuyama reversal. The fossil record shows no drastic changes in plant or animal life. Deep ocean sediment cores from this period also indicate no changes in glacial activity, based on the amount of oxygen isotopes in the cores. This is also proof that a polarity reversal would not affect the rotation axis of Earth, as the planet's rotation axis tilt has a significant effect on climate and glaciation and any change would be evident in the glacial record.

Earth's polarity is not a constant. Unlike a classic bar magnet, or the decorative magnets on your refrigerator, the matter governing Earth's magnetic field moves around. Geophysicists are pretty sure that the reason Earth has a magnetic field is because its solid iron core is surrounded by a fluid ocean of hot, liquid metal. This process can also be modeled with supercomputers. Ours is, without hyperbole, a dynamic planet. The flow of liquid iron in Earth's core creates electric currents, which in turn create the magnetic field. So while parts of Earth's outer core are too deep for scientists to measure directly, we can infer movement in the core by observing changes in the magnetic field. The magnetic north pole has been creeping northward – by more than 600 miles (1,100 km) – since the early 19th century, when explorers first located it precisely. It is moving faster now, actually, as scientists estimate the pole is migrating northward about 40 miles per year, as opposed to about 10 miles per year in the early 20th century.

The science shows that magnetic pole reversal is – in terms of geologic time scales – a common occurrence that happens gradually over millennia. While the conditions that cause polarity reversals are not entirely predictable – the north pole's movement could subtly change direction, for instance – there is nothing in the millions of years of geologic record to suggest that any of the 2012 doomsday scenarios connected to a pole reversal should be taken seriously. A reversal might, however, be good business for magnetic compass manufacturers.

iTree Tools Help Communities Evaluate The Value of Their Trees

By Peggy Minnis, Ph.D. Pace University

The iTree suite of software is available free and offers ways to quantify the effects of the urban forest in ways that will become more important in the coming years. As many communities try to quantify their carbon footprints, ways to measure the offsets to those numbers can be valuable.

The urban forest provides many benefits to the community, but most of those benefits are thought to be difficult to calculate. Most people would rather park under a tree in the summer or are thankful for that south-facing tree in front of their house that shades the house in the summer. It seems intuitive enough, but the US Forest Service and Davey Institute have produced several tools that help assess the many ways the trees benefit us. The portal to these tools is at http://www.itreetools.org.

The tools have been rolled out gradually, sometimes under different names as they evolved from beta versions to fully-debugged utilities. The important aspect for GIS professionals to know is that there are some very strong GIS needs behind some of these tools. For some tools, there are Google Earth and Google Maps components.

iTree Eco (formerly UFORE) can use field data from either a municipality's complete tree inventory or from GIS-generated random plots. They use this data in conjunction with hourly air pollution and meteorological data to quantify the urban forest structure, environmental effects, and value to communities, both in terms of money and less tangible terms. Hartford has used this tool and a report is available at this link. http://www.ct.gov/dep/lib/dep/forestry/urban_forestry/ufore_flyer_letter.pdf

iTree Streets helps put numbers on the benefits of street trees per year - environmental and aesthetic benefits, energy conservation, air quality improvement, CO_2 reduction, stormwater control, and property value increases. If a municipality is starting a Streets project from scratch, GIS can provide a list of random streets for volunteers to sample to estimate the benefits for the entire city. If there is an existing tree inventory that measured the diameter at breast height (DBH) and tree species, that data can be reformatted into the Streets protocol to provide the results. I had two students use Streets for their theses; one was comparing two very different areas in New York City where the new trees were planted two years ago. It required him to get out on the streets to do the field work. Another student is using an existing tree inventory in Norwalk.

iTree Hydro is in beta and the developers are very receptive to feedback. Another student used Hydro to help show how using pervious pavement could change the runoff and baseflow from the parking lots at Pace University, which was planning major renovations. Hydro uses the GIS Spatial Analyst extension to determine the boundaries of a watershed, based on the USGS seamless DEMs. It also interacts with Google Earth and downloadable USFS files to determine the locations of the best stream gauges and weather stations. The results are very poster-worthy graphs of precipitation and predictions of where and when the water will flow.

Canopy has been a great tool to help a city determine the extent of their tree canopy and other surfaces. Canopy requires a shapefile of the area, using the same coordinate system as Google Maps (and only the .shp file). My undergraduates are getting a good idea of how statistics works as they do the analysis; the more spots they sample, the smaller the error bars on the graphs become.

iTree Storm is a new tool that puts a price on the cleanup from storms. A Hurricane Adaptation of the utility is also available. Storms establishes a standard method to assess widespread damage immediately after a severe weather event. This assessment method can be used by different community sizes and provides information on the time and funds needed to clean up the storm damage. This tool calls for planning in advance and taking inventories of existing areas that can then be re-sampled once a storm has happened. As severe storms become more common, this type of planning will become essential for communities.

The Urban Natural Resources Institute (UNRI) hosted several weekly webinars in the spring/summer of 2010 to cover many of the modules mentioned above. They were usually one-hour sessions and give excellent introductions to these free programs. They can be found at http://www.unri.org/webcasts/itree/ .

Connecticut's Geospatial Newsletter

The Map Room

Winter Edition 2011

Volume 4, Issue 4

The Office of Legislative Research "The Map Room"

The Map Room offers maps by Committee, listed below:

Aging
Banks
Children
Commerce
Education
Energy and technology
Environment
Finance Revenue and Bonding
General Law
Higher Education and Employment Advancement
Housing
Human Services
Insurance and Real Estate
Judiciary
Labor and Public Employees
Planning and Development
Public Health
Public Safety
Transportation
Veteran's Affairs

The Office of Legislative Research (OLR)

The General Assembly's nonpartisan research office is collecting links to maps we believe to be informative and of interest to legislators as well as the public. We have organized the links by legislative committee and range from a map showing Connecticut's farms to the location of failed banks around the country to where medical identity theft happens around the country. We will be adding maps to the page as we find them.

Visit the link below to see the map room.
http://www.cga.ct.gov/olr/maproom.asp

College Navigator Map. Interactive and printable. Helps locate colleges by a variety of criteria.

The Bank Failures Map, 2008 to 2011. Interactive map and printable. See how many banks failed in each state and the total assets of those banks.

Looking back at the "*How Old Is That Globe*" article in the fall edition

Several people wrote in about the age of the globe – including Patrick Ladd, Bryan Pavlik and Meghan McGaffin, but there were no correct guesses. There are several clues. (1) The metal base of the globe is reminiscent of machine age* art and artifacts. (2) The globe shows Siam, which was renamed Thailand in 1939. (3) Going back further, Persia was renamed Iran in 1935. On the globe, Iran shows in parentheses, a tantalizing suggestion that production began before this change was widely accepted.

Globe date – 1935-'36. Look for another vintage globe in the spring edition of Geo-Focus!

*Considered to be at a peak in the time between the first and second world wars, it forms a late part of the Industrial Age (Wikipedia).

HISTORIC GIS

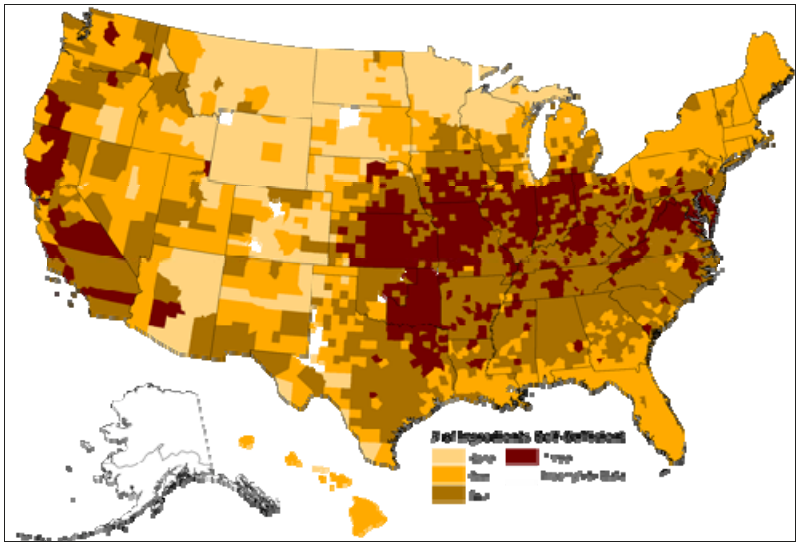
The National Historical Geographic Information System (NHGIS): Mapping The Old and The New

By Jason Borah – GIS Analyst for the Minnesota Population Center

Have you ever wanted to map historical census data? Interested in the percentage of slave holding families per county in 1790? How about mapping the change in wine production among Connecticut farmers between 1860 and 1870? Perhaps you are more interested in recent census data, like mapping disparities in average rental costs among Whites, Blacks, and Asians between 1980 and 2000 at the census tract level for areas across the Eastern Seaboard? The spreadsheet data and historical GIS shapefiles to address these topics and hundreds more are all available absolutely free through www.nhgis.org , a project of the Minnesota Population Center (MPC) at the University of Minnesota.
Why use NHGIS instead of the US Census website for census data? Many data users are unaware that the US Census Bureau only provides decennial census data from the 1990, 2000, and 2010 censuses in formats useful to GIS users. The older historical data is typically only available as PDF copies of scanned census reports—usable when hand entering a small amount of data but daunting in most circumstances. Easy-to-download census data coupled with historical shapefiles makes NHGIS a valuable resource for all geospatial professionals.

The NHGIS website launched in 2005, and recent updates have added a modern look, new data, and improved search capabilities and help documentation. With the recent changes, NHGIS now serves over 400 shapefiles with approximately 28 million polygon records and over 10,000 tabular data tables, with plans to add more data! While geographic and tabular data from recent censuses can also be downloaded through TIGER and the American FactFinder, NHGIS provides a streamlined user interface designed for heavy data users. Data for multiple years, geographic levels and topics can be downloaded together as one extract. Extracts are also optimized for each user's intended analysis tool—GIS, spreadsheet software or statistical software. In addition, users' data downloads are also stored indefinitely, providing hassle-free extract revisions.

The NHGIS project began in 2001 with a $5 million National Science Foundation (NSF) grant to gather all surviving census data from 1790 – 2000, format them consistently, develop comprehensive standardized machine-readable documentation, create high-precision electronic boundary files, and develop a web-based tools for disseminating the data. NHGIS, with continued funding through NSF and the National Institutes of Health, is now working hard to release American Community Survey data and 2010 Census Summary File 1. In addition, NHGIS is in the early stages of adding a major temporal component to its data holdings. This addition will provide time-series tables that link comparable variables across multiple (varying from two to 23) censuses as well as providing geographic boundary files for "minimally aggregated" geographic levels that will allow for easier research involving fixed locations through time.



Map of Thanksgiving Meal Self-Sufficiency Index—1900 Census. Data on turkey, sweet potato and cranberry production at county levels from NHGIS.

Please contact NHGIS with additional questions at NHGIS@umn.edu. In addition, NHGIS, as part of the MPC, will be exhibiting at a number of upcoming national conferences, including the Association of American Geographers (AAG) meeting in New York City and the American Planning Association (APA) Conference in Los Angeles. If you will be attending, please stop by, say hello and ask a question or two. For our complete conference schedule, please visit our website at www.nhgis.org .