Geographic Information Systems Technology News

The Newsletter of the New York State GIS Coordination Program

Fall 2005

NYS GIS Clearinghouse: http://www.nysgis.state.ny.us

George E. Pataki
Governor

William F. Pelgrin
Director

FALLKILL EXPERIMENTAL CREEK PROJECT
POUGHKEEPSIE HIGH SCHOOL

When the students of the MST (Math Science and Technology) class from Poughkeepsie High School read that the City of Poughkeepsie had to evaluate the status of the Fallkill Creek as required by New York State as part of Phase II Storm Surge Plan, they wanted to get involved. The City of Poughkeepsie set up a committee to create an economic development zone along the Fallkill Creek. Part of the students' task was to set up a green zone along the creek using the orthoquads to decipher land usage along the 1.5 miles that the creek meanders through the city. Having studied environmental protocols from the GLOBE program, they wanted to plan an "out of class experiential learning project" where the result of environmental data collection/analysis would improve living conditions for the residents of the City of Poughkeepsie. The Globe Program (www.globe.gov) has thousands of schools around the world collecting environmental data on soil, weather and water quality and reporting it to a central database for usage by NOAA and other scientific organizations. The students report this data for view by millions of young scientists around the world. Any collection of data we do along the stream has to conform to the strict protocols set by the Globe Program, and are also accepted by most governmental agencies

Students have been using both Arcview and Mapinfo GIS software in class to locate environmental parameters (e.g. temperature, dissolved oxygen, nitrates, phosphates, pH, alkalinity, hardness, and turbitity) of the quality of Dutchess County aquifers. They wanted a practical application to the theories presented. We were able to get old digital maps that were used for the planning of a 1970's storm sewer project.

These digital maps of the city (including storm drains, roads, land usage and rainfall data) were used to design and initiate a series of environmental testing sites for data analysis for the Phase II Storm Surge Project as partners with Marist and Vassar Colleges, city engineers, and Scenic Hudson.

The tasks the students did in preparation for the analysis were:

1. Determine the cross-sectional area of the stream at that point.
2. Average the velocity of the stream taken at the various points.
3. Determine the gallons per minute that pass by the stream.
4. Compare the depth of the stream to flow rates at the various data points and make a statement to verify if data or stream conditions fall within a acceptable range (discussion included a drag coefficient).

Data analysis was then done by comparing the flow rate of the water, as collected by the USGS at a gauging station, to the Meteorological data over a period of two years calculating the lag time of stream flow rate to precipitation occurrences during the different seasons of the year.

The students also had to use orthophotos to pinpoint their test site and the surrounding vegetation using Arcview and Mr. Sid.

For more information contact Patsy Cicala at pcicala@pcsd.k12.ny.us.

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SMALL TOWN USES GIS TO THE MAX!

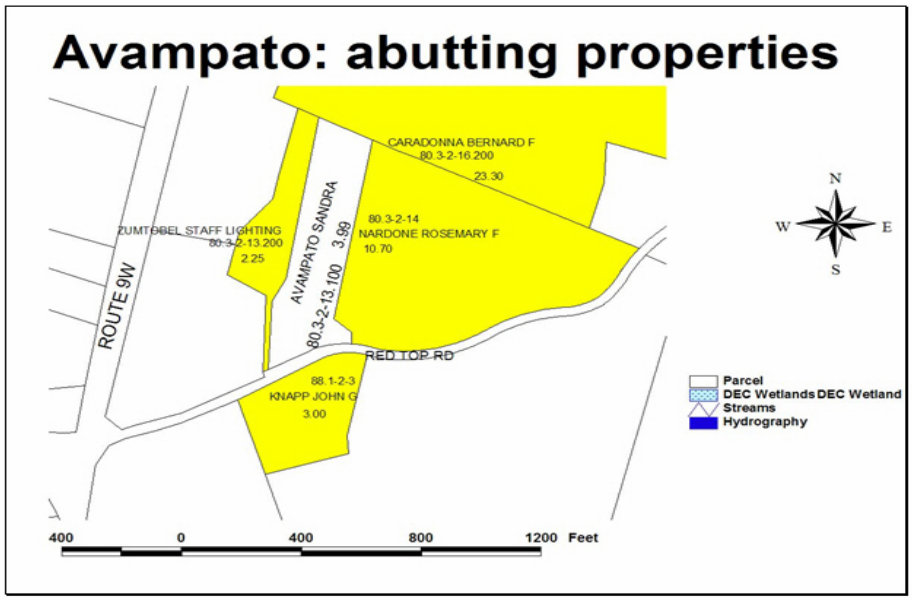
Land use reviews and decisions have become more complex and mandate-driven in recent years, and it is inconceivable how it would be managed in the years ahead without the use of GIS. Though "state of the art", GIS is affordable to even small government agencies and municipalities. Indeed, without it, it is be difficult to envision how we can respond to the growing need for development analysis and decision-making.

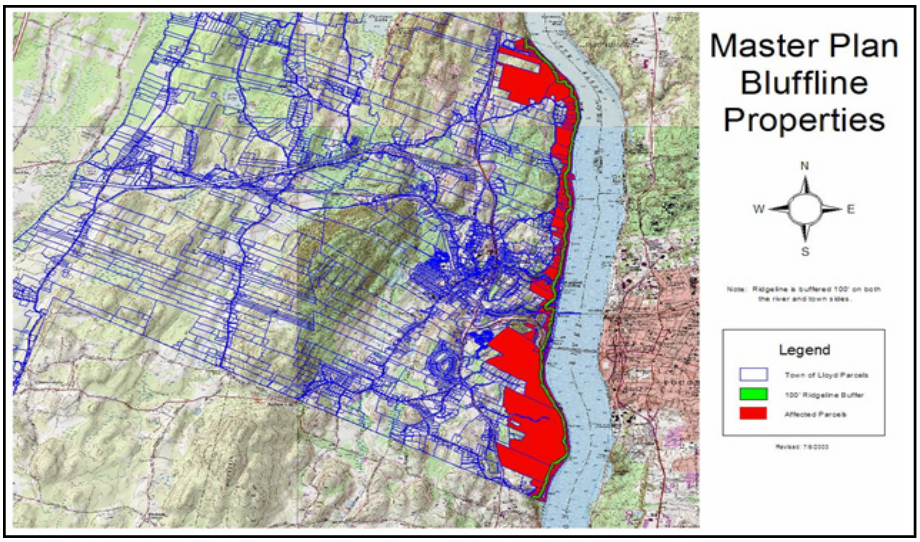
Situated on the west bank of the Hudson River about half way between New York and Albany, the Town of Lloyd has a population of 10,000. GIS was incorporated into their land use work in 1997 in a cooperative effort with two neighboring towns, Marlborough and Plattekill. The fact that all three town boards were receptive to the integration of technology into town operations was extremely advantageous. A regional meeting of five southern Ulster County towns was called to explore the potential for working together, grant-writing ability and the willingness to see the project through. At this meeting's end, it was clear that a joint feasibility study would allow us to assess proposed uses and staff capability, and determine how much work could be done by town staff as opposed to areas in which professional consultants would be needed. Collectively we hoped to disprove the prevailing theory that we weren't a big enough entity to handle this type of project.

In 1997, we were thrilled to be awarded the first grant of $35,000 to conduct a feasibility study. Applied Geographics was retained to shepherd us through mountains of paperwork to develop the feasibility study and settle on three alternatives that would focus on staffing capability, equipment and supplies procurement, and in training each town's departments on how to incorporate GIS into their work resources. We joined the NYS GIS Data Sharing Cooperative to keep abreast of developments and opportunities for learning. After the submission of a second grant and another award for more than $45,000, we began implementation.

The first step taken in the three year implementation period was the digitization of the county's watershed district and three town maps - a celebration was had on the day they were delivered and installed on our system. Once digital data was obtained, we began to address local needs and issues that a GIS could address. Lloyd's Planning Board and ZBA who work with land use as their primary mandate were among the first users. The first program created used GIS to identify the abutting properties of those parcels scheduled for public hearings. We integrated certain attribute fields with Microsoft Excel to develop a list for our notices and the mailing labels. What once took us a day or more to prepare anywhere from 50 to 100 abutting property notices is now accomplished in just hours from opening the first map and overlaying attributes through to dropping the notices with copies of the maps into the mailbox! Incidentally, we started with ESRI's Arc View version 3.2 in 1998, upgrading to version 9.1 in 2005.

Next we created color-coded zoning district maps shared with the building, code and assessor's offices on the server, mounting large format printed copies on their walls as a public service. The eye-catching appeal of GIS maps proved popular and easy to use, as well as being accurate because the layer was created using the parcel based map. The Town Planning Board and Zoning Board of Appeals became so enamored with the accessibility characteristics that we installed a server connection in the conference room so that the maps could be accessed on demand during a meeting to verify site features including elevation contour line or wetlands. Aerial photographs were added to the GIS to be used as another powerful tool for identifying actual land features. USGS maps were also incorporated into our GIS, making it extremely helpful in confirming steep slopes, wetlands and special districts – such as our Waterfront Bluff Overlay District. Streamlining the review process is beneficial to both the municipality and applicants, and never more so as when we want to determine whether a parcel is either in or out of this special district that seeks to protect the steep slopes ascending from the Hudson River.





(Small Town… continued from page 2)

GIS was used in multiple projects throughout the next months. The Town collaborated with the Wildlife Conservation Society of the Bronx Zoo to conduct a species study. Two separate voting district and road maps were created in response to numerous public requests received. GIS was even used in the development of a Comprehensive Plan Study. Everything from zoning code revisions, build-out analyses, traffic studies, school impact analyses, town water and sewer infrastructure mapping, and population density calculations were all made possible with the help of GIS.

Future projects are already lining up and indications are strong that this is only the tip of the iceberg as we discover more and more ways for GIS to illustrate a project, crunch numbers, schedule maintenance, estimate costs, meet mandates, determine compliance, to list only a few of its capabilities in utilizing the graphics as well as the powerful database underneath. To close, GIS is a very productive planning workhorse, and the uses are as limitless as our imaginations and our creativity. We hope our mapping experiences as related here will encourage your agency or municipality, regardless of size, to give serious consideration to inclusion of GIS in your plans. If you have the heart and the will, GIS has cost-effective solutions.

For more information contact Sandy Avampato at tlpz@townoflloyd.com.

NYS GIS Help Desk

The New York State GIS Help Desk, http://www.gishost.com/gishelpdesk/ is administered by the NYS Office of Cyber Security & Critical Infrastructure Coordination and sponsored by the New York State GIS Coordination Program. This web-based help desk is intended to provide support for both general GIS questions and specific questions regarding the technical use of the following GIS software products:

ArcGIS 9
ArcGIS Desktop: ArcView
ArcGIS Desktop: ArcEditor
ArcGIS Desktop: ArcInfo
ArcInfo Workstation
ArcView GIS 3.x
MapInfo Professional

Visitors can search the online **Knowledge Base** to view previously submitted questions and answers or view the Help Desk's most **Frequently Asked Questions**. Residents of New York State may **Submit** GIS technical questions which will be answered within one (1) business day. All questions and answers will also be included in the searchable knowledge base. For assistance in the use of the NYS GIS Help Desk, visitors can select **Help** from the options on the left.

For more information contact John Borst at john.borst@cscic.state.ny.us.

NEW FREE WORKSHOP "Integration of GIS and GPS Technologies"

The New York State Office of Cyber Security and Critical Infrastructure Coordination (CSCIC) is pleased to announce a new, free training class "Integration of GIS and GPS Technologies." The class is being offered in coordination with the NYS GIS Coordination Program. This 3-hour training class introduces GIS users to the basic concepts, functionality, accuracy issues and processes of data collection via GPS, demonstrates the integration of GPS data into a GIS, and illustrates how positional error within GPS data may affect the results of a GIS project. Attention will be given to the long term effects (i.e. cost savings) of the collection and proper use of accurate data, practical GPS/GIS guidance and good data collection procedures. In addition, attendees will learn about current CSCIC programs and available resources for use in the integration of GPS and GIS technologies. This training will demonstrate data collected via GPS and NOT data used to represent authoritative location (i.e. official boundaries). The goal is to educate individuals in proper GPS use and methods of converting GPS data into GIS data sets.

Classes will be held at various locations around the state, including Schenectady, Rochester, the northern Adirondacks, Syracuse, Long Island, Buffalo, Binghamton & New York City. For more information on upcoming classes and to register on-line as classes are scheduled, please visit the NYS GIS Clearinghouse at: http://www.nysgis.state.ny.us/outreach/. Due to expected high demand, make sure to register on-line to ensure seating is available. If you have any questions, feel free to contact John Borst at the NYS Office of Cyber Security and Critical Infrastructure Coordination at 518-473-4443 or e-mail at john.borst@cscic.state.ny.us.

MARK YOUR CALENDAR!

National Geography Awareness Week

The NYS Office of Cyber Security & Critical Infrastructure Coordination (CSCIC), together with the NYS GIS Coordinating Body, is pleased to announce that as part of National Geography Awareness Week, we will be celebrating New York State GIS Day on Wednesday, November 16. We invite all state agencies, local governments, private businesses, non-profit organizations, and academia at all levels to mark their calendars accordingly. It is our goal to document GIS Day activities across the state and we are encouraging all NYS GIS Day participants to help by taking pictures of their activities and submitting them to John Borst at john.borst@cscic.state.ny.us. An activity could be anything from a poster gallery in your building, providing tours of your GIS facilities, a GIS demonstration, or even hosting your own GIS training workshop or discussion - there is no limit to NYS GIS Day activities! While we are in the process of outlining potential NYS GIS Day activities, please let us know how you will be celebrating NYS GIS Day. We will be posting NYS GIS Day updates on the NYS GIS Clearinghouse as more information becomes available. Until then, please reserve Wednesday November 16 as New York State GIS Day!

N.Y. RURAL WATER & THE VILLAGE OF WELLSVILLE SOURCE WATER PROTECTION PLAN

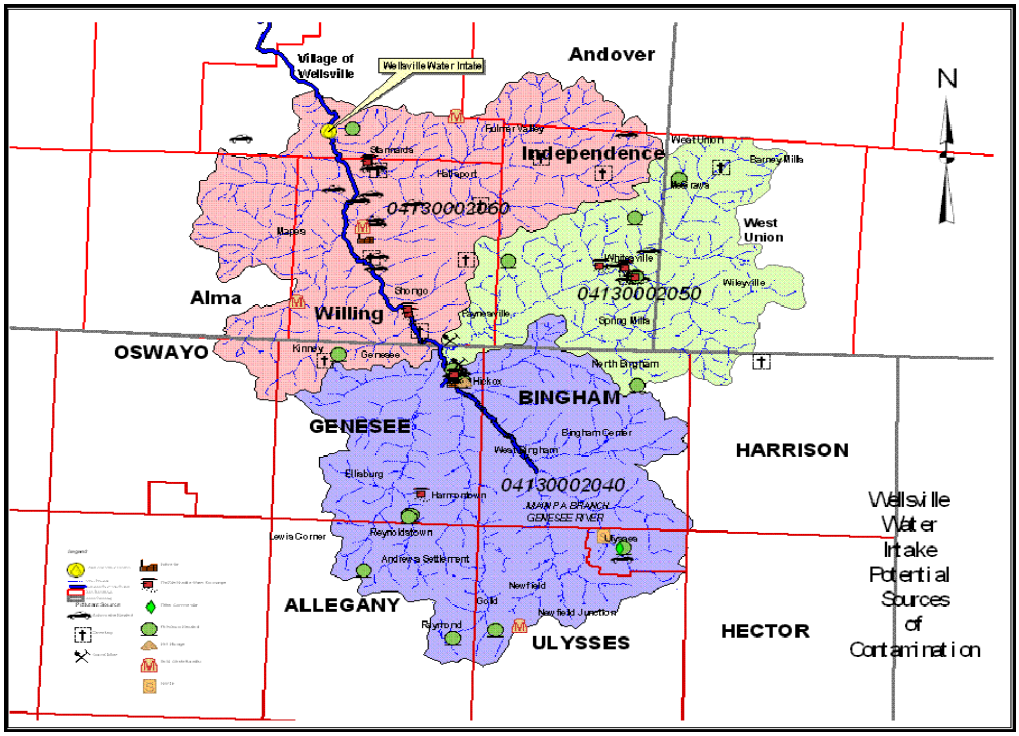
NY Rural Water Association worked with the Village of Wellsville to develop a Source Water Protection Plan [SWPP] for the Village's intake located on the Genesee River. Additional assistance was provided by the Allegany County Soil & Water Conservation District and the Potter County Soil & Water District, the Potter County Planning Commission, Allegany County Health Department and the Genesee Headwaters Watershed Association. Unlike many SWPP's this one included a fairly large area of 216 square miles that took in parts of two states containing 12 Towns/ Townships, 1 Borough, 1 Village and about 25 Hamlets. The challenge for one working on a Source Water Protection Plan of this scale is finding information that is compatible from all areas. The Village of Wellsville provided Geographic Information System services to the project as well as local knowledge. The NY Rural Water staff provided the ability to take large amounts of information and compile it into a useable document that the Village could utilize for future efforts on protecting the water supply.

The Village GIS provided most of the statistical information used in the project. It was found early that Pennsylvania has a wealth of data available on their GIS site: http://www.pasda.psu.edu/ The major issue with their data is that it doesn't always have projection information imbedded with the downloads. The Village was in the process of shifting from ArcView 3.3 to ArcView 8.3 when this project started and so 2/3 of the work was done in 3.3 while the last 1/3 was done in 8.3. Running re-projections in 3.3 has always been a labor of love and took significant time getting all the various data that the Village possessed into the preferred UTM 1983 Zone 18 system. Data from many sources was utilized from the Village developed layers, county tax layers, digitizing from Pictometry photos and the PA data. The Soil & Water Districts provided information on farm operations and PA dirt road projects within the watershed. The one area that PA is not up to the same level as NY was with their parcel data. Potter County [where the upper watershed lies] is only now digitizing their parcels. This left NY Rural Water staff to spend significant effort combing through paper records and maps on property uses. By comparison, the NY data was able to be clipped precisely to the area of the watershed, queried in many ways, and produce a short list for NY Rural water to look at for a windshield survey in fairly short order. After the short list of probable contamination sources was developed, Village water staff and NY Rural Water staff did field investigations. The staff visited all the various sites and collected a GPS location for them. These were input into the GIS along with attribute data about each site. Additional data was included in the project such as Oil & Gas wells from NYSDEC, Hamlets and federal interest environmental sites from US EPA, Hydrography and Hydrologic Units from CUGIR and Land Cover Data from the National Land Cover data set. Additional stream sections were digitized based on USGS Raster images and DEM data.

Despite the extremely rural nature of the watershed: average about 38 People/Square mile, there were 107 distinct potential sources of pollution and an additional 2,584 oil well points within the basin. The plan provides methods to follow to work on diminishing the impacts of these sources and future sources that may be developed.

Maps were produced for a presentation to the National Rural Water conference in Colorado on this project. The final report was presented to the Village of Wellsville Board in December 2004.

For more information, contact Joshua Bossard at NY Rural Water 518-828-3155 Ext. 23 or Kier Dirlam at the Village of Wellsville 585-593-1850.



Accident Location Information System (ALIS) Data Update

The NYS Office of Cyber Security & Critical Infrastructure Coordination (CSCIC) and the New York State Department of Transportation (DOT) are pleased to announce the availability of the statewide Accident Location Information System (ALIS) GIS data sets. NYS GIS Data Sharing Cooperative members can access the data through the NYS GIS Clearinghouse (www.nysgis.state.ny.us) on the CSCIC and DOT Data Set Inventory pages. For quick reference, the ALIS data sets are preceded by a grey star.

This release includes the official statewide NYS Street centerline file, attributed with street names, alias/alternate street names, address ranges, and route numbers. Other integrated ALIS data layers now available include address points, civil boundaries, railroads, bridges, census geography (down to the block level), public land boundaries, zip codes, detailed hydrography, and several landmarks data sets. Users of the pre-release version of the ALIS data will notice improved street name and address attribution and better integration between the civil boundaries and streets layers.

All ALIS data sets are available as statewide files in three different formats: ESRI ArcGIS 9 (distributed as a personal geodatabase), MapInfo TAB, and ESRI shapefile. Due to their large file sizes, the streets and address points data sets are also available as individual county files. Please note that at this time individual county street files are not available in MapInfo TAB format but we expect to have these available in the near future.

Optimized geocoding solutions that work in both MapInfo and ESRI software have also been developed. Data users will find procedures for geocoding against the ALIS data, customized ESRI geocoding locators, and customized MapMarker User Dictionaries available on the NYS Streets and NYS Address Points GIS Data Set Details pages.

The geocoding solutions and data sets are undergoing continual improvements. We expect to release monthly updates of the NYS Streets data set including logs that detail what has changed in the NYS Streets data set. Quarterly releases of the other ALIS data sets are anticipated. Your input on any problems encountered will help us to improve the quality of the data and geocoding solutions for everyone. Please let us know if you have any questions or comments by contacting us at nysgis@cscic.state.ny.us.

Government agencies and Data Sharing Cooperative Members interested in participating in data maintenance should contact John Borst (john.borst@cscic.state.ny.us) or Cheryl Benjamin (Cheryl.benjamin@cscic.state.ny.us) to discuss how they can assist with keeping the data up-to-date. Participation in the NYS GIS Standards & Data Coordination Work Group meetings is also encouraged as ALIS data maintenance discussions continue to be a key component of the meetings. Information on past meetings and future meeting agendas are available on the Work Group's web page (http://www.nysgis.state.ny.us/coordinationprogram/workgroups/details/?ID=1).

Please note that due to contractual obligations, the data is not currently available to the public. However, discussions are underway to have a publicly releasable version of some ALIS data sets available later this year. Local governments who are not GIS Data Sharing Cooperative members should contact John Borst (john.borst@cscic.state.ny.us) to discuss how they can obtain the ALIS data for their geographic footprint.

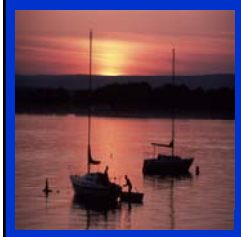
Finally, we would like to thank everyone who helped us get to this point, especially all of the state and local governments that provided street address data for the project.

ALIS Road Centerline File

How do I Become a Cooperative Member?

To learn more about benefits of participating in the NYS GIS Data Sharing Cooperative, visit **www.nysgis.state.ny.us/coordinationprogram/cooperative** or contact Sharon Oskam at the NYS Office of Cyber Security and Critical Infrastructure Coordination at (518) 474-5212 or via e-mail at **sharon.oskam@cscic.state.ny.us**.

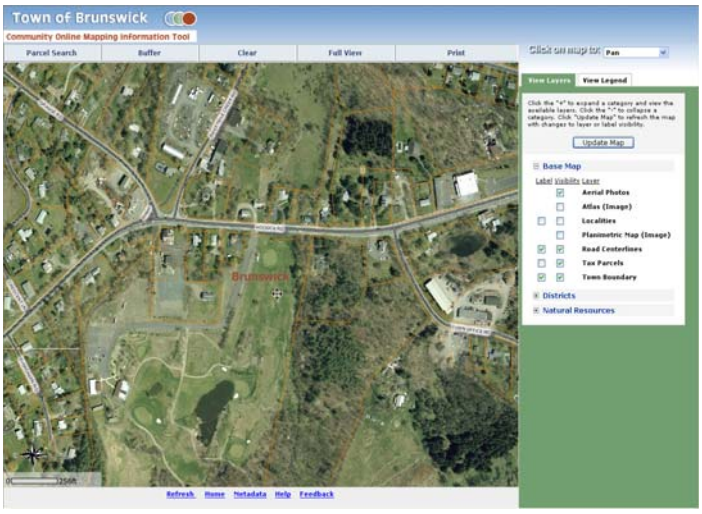
Advantages of the Cooperative



- Avoids duplication of data development
- Improves existing datasets
- Saves money, reduces project time, and saves limited staff resources

NYS GIS Web Hosting Pilot Program

In the spring of 2004, the NYS Office of Cyber Security and Critical Infrastructure (CSCIC) invited proposals to be submitted for a Local Government GIS Web hosting pilot project. The purpose of this pilot project is to demonstrate the value of an online GIS application for county/local governments over a one year period. The government participants selected included the Town of Brunswick, Clinton County, Delaware County and Tioga County. The focus for the applications is to support everyday business uses for people accessing/ utilizing parcel (land records) data.



The basic functionality of the application is common to most GIS software, including the ability to zoom in/out, pan, identify features, measure distances, etc. Advanced functionality built specifically for this application includes the ability to search for a specific tax parcel based upon owner name, address, parcel ID, minimum or maximum acreage or even land use if applicable. Additional advanced functionality includes buffer creation around selected parcel(s) to identify and produce a printable list of neighboring parcels. CSCIC provided numerous data layers such as NYS orthoimagery, street centerline, and other raster imagery, to name just a few. Each of the four participating governments were required to post their tax parcel data and also had the option of posting up to ten additional local data layers of their choice.

close window

Road Centerlines (No records found)

Tax Parcels (1 record found)

Section Lot Block	Tax ID (Printkey)	Property Address	Property Class	Owner	Owner Address	Owner City/State	Owner ZIP	Acres	Frontage (FT)	Depth (FT)	School Dist. Code	Deed Book	Deed Page
091000000406000000	91.-4-6		210			TROY NY	12180	2.93	305	0	382202	1758	150

Town Boundary (1 record found)

Muncipality	FIPS Code	Population 1990	Population 2000
Brunswick	3608310275	11093	11664

Waterbodies (No records found)

While the Tioga County website requires one to enter a user ID and password, the Clinton County, Delaware County and Town of Brunswick websites are open to the public. These publicly accessible websites can be accessed at:

www.giswebhost.org/clinton/
www.giswebhost.org/delaware/
www.giswebhost.org/brunswick/

To date, the response to the pilot program has been very encouraging. The amount of hits the websites are receiving are steadily increasing and the comments received by users are positive. At the end of one year of activity, the pilot project will be evaluated for future direction. It is our hope to establish cost effective web hosting services on New York State contract, thereby encouraging county and local government to develop more GIS/web applications at a reduced rate.

For more information contact John Borst at john.borst@cscic.state.ny.us.

The New York State Geographic Information System (GIS) Conference has become a major GIS professional development opportunity for hundreds of GIS users across the State. This year, the 21st NYS GIS Conference is being held in Rochester, NY at the Hyatt Regency Hotel. The conference is a great place to discover how New York businesses, government organizations, academic institutions, and not-for-profit entities are using GIS to accomplish important objectives. Technical presentations featuring working professionals will share their GIS experiences and solutions in dealing with real world problems like yours and detailed presentations by the state's academics will provide a deeper understanding of the technology. In the exhibit area, GIS vendors and consultants will display the latest in GIS hardware, software, analytical techniques, and services. Additionally, prizes will be awarded for a Poster Contest. Winners will be decided by a panel of cartography experts from the academic, federal, state, local and private sectors. Conference attendees will also be able to vote for their favorite poster. Early conference registration with reduced fees and poster submissions will be accepted up through September 21, 2005.

Conference information is available at the following website: http://nysgisconf.esf.edu/

NIAGARA UNIVERSITY AND OPERATION IMPACT

Vision • Leadership •Action

AUGUST 2004 --

The Environmental Leadership Institute (ELI) at Niagara University received a three-year grant from the Niagara County District Attorney's Office to conduct crime mapping for the county. District Attorney Matt Murphy received the funds through Governor Pataki's Operation IMPACT (Integrated Municipal Police Anti-Crime Teams) initiative. Operation IMPACT is a crime reduction program that targets New York State counties with higher than average crime rates. With the first portion of the funds, $29, 224, Niagara County District Attorney Matt Murphy has focused his efforts on the City of Niagara Falls.

Since August of 2004, the ELI has been responsible for planning and conducting crime mapping analysis of specific crimes of interest to law enforcement: motor vehicle crimes, robberies, assaults, and burglaries. Says Niagara Falls Police Chief John Chella "this department went too long without the use of crime mapping which has been a helpful tool to law enforcement nationwide." ELI executive director Sheen Rajmaira has been heading the project and is responsible for the mapping. "We welcome the opportunity to serve our local community. We're very excited about this partnership," said Rajmaira.

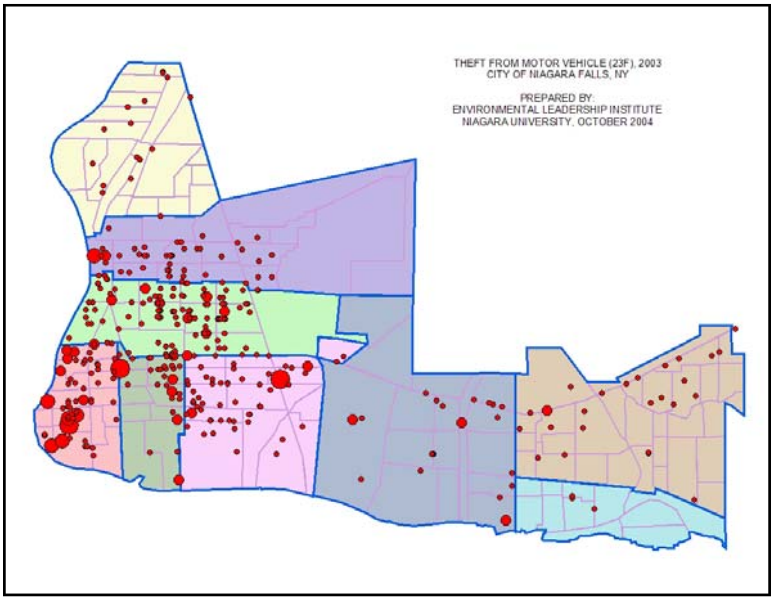
According to Rajmaira, the Institute's GIS lab has allowed the ELI to provide timely information to law enforcement concerning of the type, location, and frequency of crimes. Chella stated the mapping was very important as it helps to "allocate manpower to address specific crime problems and patterns…and hold commanders of patrol shifts and specialized units accountable." This information then allows law enforcement officials to develop strategies that effectively target crime in terms of its type and location.

Within NU, the Criminal Justice Department is also a partner in Operation IMPACT. "This is an excellent collaboration across the community and the university" says Department chair Dr. Tim Ireland. He adds "This collaboration has also benefited our graduate students by providing them valuable policy and research experience in law enforcement."

According to DA Matt Murphy, the ELI and NU will be contracted to continue its mapping efforts for at least another year. Murphy has been so pleased with the program that he is requesting a doubling of the budget for the 2005-2006 project term.

For more information, please contact Dr. Sheen Rajmaira at rajmaira@niagara.edu. Visit the Environmental Leadership Institute's website at www.niagara.edu.eli.

Exploring GIS in the Institute's Lab



EMERGENCY ELECTRIC OUTAGE REPORTING SYSTEM (EORS)

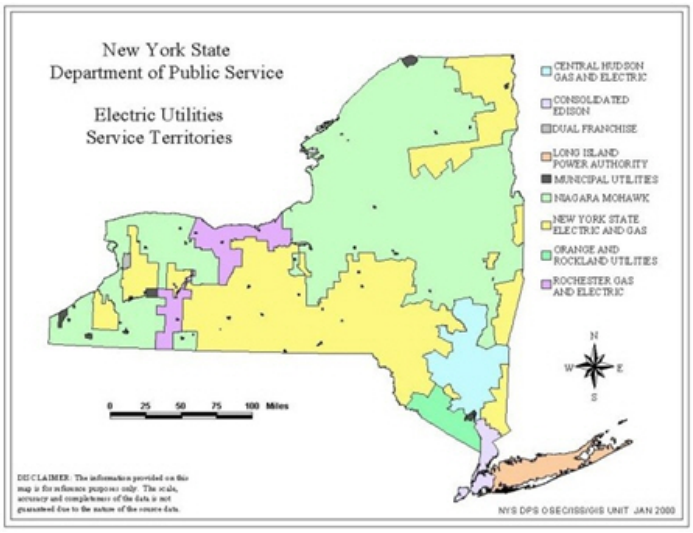
(Courtesy WMUR)

One of the responsibilities of the NYS Department of Public Service (DPS) is to monitor and oversee the electric utilities within the State. The seven private utilities and 51 municipally owned electric providers are required to notify DPS anytime there is an extended power outage that affects a significant number of customers. DPS has always depended on the utilities providing this information by phone or fax at various times during and after an outage.

It is crucial for DPS that the power outages be handled in an accurate and timely manner. DPS is responsible for receiving the outage data and converting this data to "actionable information" so that disasters can be handled with minimal impact to the residents of New York State. With the information compiled, responsible organizations would be notified by DPS quickly, priorities would be set and remedies would be brought to the residents as soon as possible. One of the largest and most devastating ice storms in New York State's history hit the upstate region in January 1998. Three days of freezing rain resulted in six inches of ice throughout significant areas of upstate NY. The heavy, wet ice coated trees, wires, transmission towers, and every other element of the landscape. Major components of the electric transmission and distribution system collapsed under the weight. As a result, over 151,000 people lost electric power, some for as long as three weeks as the two major utilities in the area struggled to rebuild their systems in the dead of winter. The Emergency Electric Outage Reporting System (EORS) was conceived after this devastating event that left thousands of upstate New York residents without power.

(Courtesy WIXT)

During the Ice Storm event, most outage information received was via fax from the different utility companies. DPS staff reviewed and analyzed this data and forwarded it to the State Emergency Management Office (SEMO). SEMO also received data from many of the fire districts throughout the State. Data generally indicated the number of customers out of service by town or by feeder number. Where necessary, this was converted to customers by town based on knowing the number of customers served by the feeder and the approximate location of the feeder. Admittedly, this was a best estimate. Processing of each new set of information from the utilities was a multi-hour task. Initially it took almost twelve hours to receive, compile, analyze, and prepare a map. But as the process stabilized, maps could be produced in about three hours.



After the Ice Storm, the Electric Outage Reporting System was developed to provide the utilities and DPS with an integrated tool to allow DPS to receive, process, analyze, and report outage data quickly and in a uniform format. DPS selected Bowne Management Systems, Inc. (BMS) as the consulting firm to develop the tool. BMS started the design of the system in July 1999, with a prototypical first phase that was successfully operated during the Y2K event. Following Y2K, the system was enhanced and completed.

Bowne Management Systems used a combination of state-of-the-art software tools such as ESRI's ArcInfo, ArcView, Oracle's relational database and Crystal Reports to develop EORS. Bowne also utilized data sets from a variety of sources to accurately handle these unfortunate events such as NYS GIS, US Census, Utility Service Districts and Utility Operational data.

EORS has two main application components to receive, process, and analyze data: i) Receiver/Event Manager ii) Map/Analyzer. As the name implies, the Receiver/Event Manager component is used to receive, extract, validate, and load data received from utilities reporting outages using spreadsheets. This data is processed by the application and moved to the DPS Outage Reporting System's Oracle Database. This application is also used to define, manage, and process events within the Outage Reporting System. The second component, Map/Analyzer, is used to generate a series of series of standard maps,

(EORS… continued from page 8)

graphs, and reports for publication in hardcopy, digital, or image format. This component also extracts data from the Outage Database and generates MS Access files for distribution to other New York State agencies responsible for responding to these events, such as the State Emergency Management Office (SEMO).

The Outage Database is an Oracle 8i database that contains utility data, event definition data, and a non-graphic representation of the spatial basemap. The non-graphic representation of the basemap allows users to generate reports and charts without the need to use the spatial basemap data and thus allows this portion of the system to operate independently of the GIS database.

Since its completion, EORS has been used in many events, successfully reducing the time to respond these events. In 2004, DPS and Bowne Management Systems started working on EORS enhancements. The system has been upgraded to handle these events more efficiently and smoothly. Major enhancements were made to almost all components, including the Oracle Outage Database structure, geographic basemaps, and the two applications that use the Outage Database and the basemaps.

BMS has made multiple major changes to the EORS's Outage Database including changing some of the table structures, field names, and relationships. One of the most important modifications was to add the capability of updating number of the customers served in a particular geographic area in the companies' service territories.

Beginning in August 2004, a change to the existing system was made to allow for the recording of accurate "Customers Served" data. This was also facilitated by database changes in Oracle. Prior to the 2004 EORS upgrade, customer counts were accumulated for each County based on the spreadsheets submitted by the utilities. This sometimes produced results that were inconsistent.

As part of the 2004 EORS upgrade, multiple changes were made to the geographic basemap as well. Most of the changes related to utility companies' new electric networks in certain regions. This required the creation of new polygons, the deletion of a polygon, and edits to the shape of existing polygons. The second group of changes related to the removal of multiple municipal polygons in other utility companies' territories.

Prior to the application enhancements, some of the outage spreadsheets sent by the utilities were not taken into account. For example, if an outage event is localized, not all utilities report to DPS and customer counts from non-reporting utilities do not appear in any final reports. This type of data also is also included in the application as part of the enhancement efforts to have more consistent and robust results.

The EORS modifications have just been finalized and now the Department of Public Service has a great tool that allows its staff to receive, process, analyze, and finally distribute "actionable information" in such unfortunate events. The Department's GIS Coordinator, Linda Demers, who has been the project manager, has been extremely satisfied with the professional consulting services that the DPS received from Bowne Management Systems.

For more information about the EORS project contact Linda Demers lmd@dps.state.ny.us.

GIS Communications and Outreach

Looking to find a local GIS Users Group? Interested in contributing to GIS related electronic discussion lists? Then the NYS GIS Clearinghouse Communications webpage has the information that you are looking for. Here, you will find links to many different electronic discussion email lists, as well as links to and contact information for the many GIS user groups across New York State.

http://www.nysgis.state.ny.us/outreach

Who's Who in GIS

Would you like to be added to the "Who's Who in GIS" Listing? Please send an e-mail to the **nysgis@cscic.state.ny.us**. For more information, please visit **http://www.nysgis.state.ny.us/outreach/whoswho.**

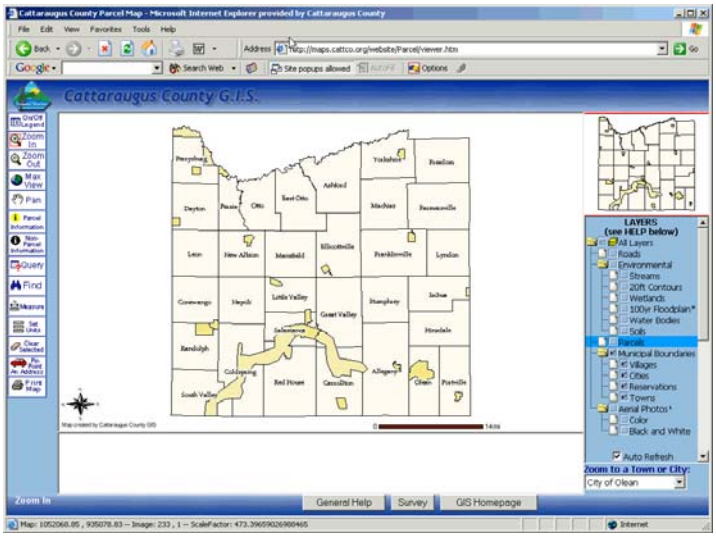
ONLINE GIS APPLICATION
CATTARAUGUS COUNTY

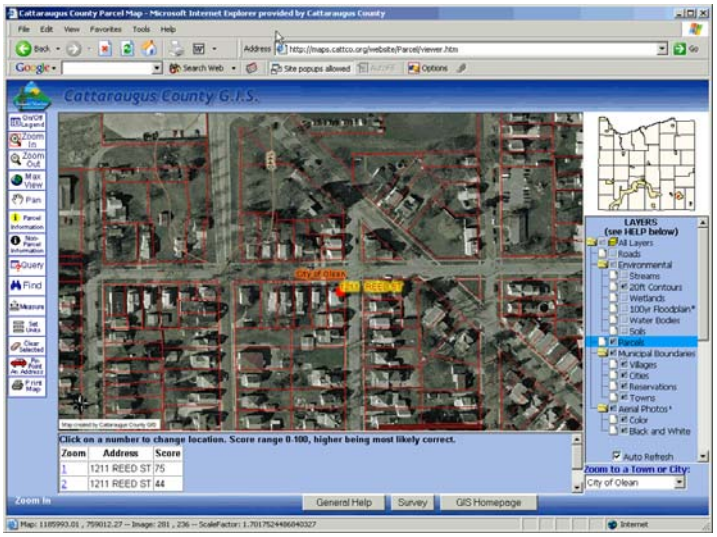
Through the use of ArcIMS and Systems Development Group "Imate Online" application, Cattaraugus County has been able to update and drastically improved our online parcel data viewer. This viewer can be accessed at www.cattco.org and is a powerful, interactive tool that promotes the county as being on the forefront of utilizing GIS for the public's benefit. This online tool is available to anyone with an Internet connection and directly helps local residents, municipal officials, bankers, realtors, attorneys and more.

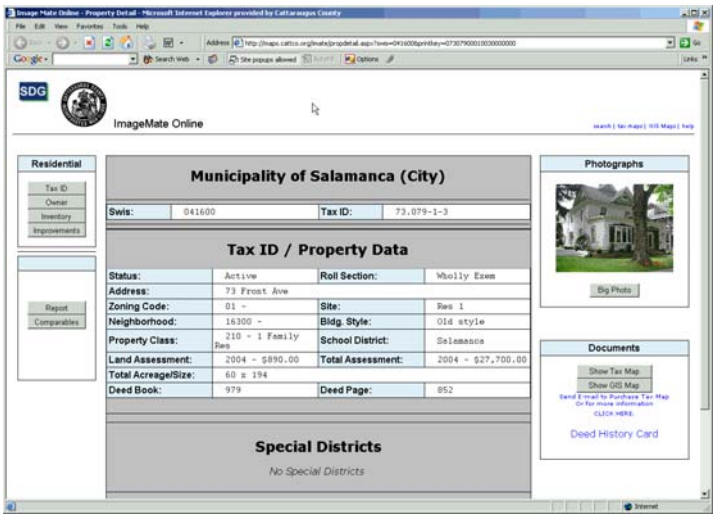
A few of the GIS layers that can be viewed are parcels, contours, aerial photos (from the NYS Office of Cyber Security and Critical Infrastructure Coordination), wetlands, floodplains, and more. New functionality includes geocoding (pinpointing an address), measuring, automatic map refresh, and the new "Parcel Information" tool. The later integrates the ArcIMS application with the Imate Online application. By utilizing this tool a user can click on a parcel and be shown up-to-the-week parcel information including, but not limited to, owner, land use, assessment, location, tax ID, and improvements. Other capabilities include, being able to create and print reports, perform comparable searches on assessments, view a pdf form of the paper tax maps, surveys, and property index cards, and view property photos that the local assessor has taken.

This is one of many interactive GIS viewers that will be created by the County. In the works currently are a tourism, mosquito spraying, and polling/elections viewer.

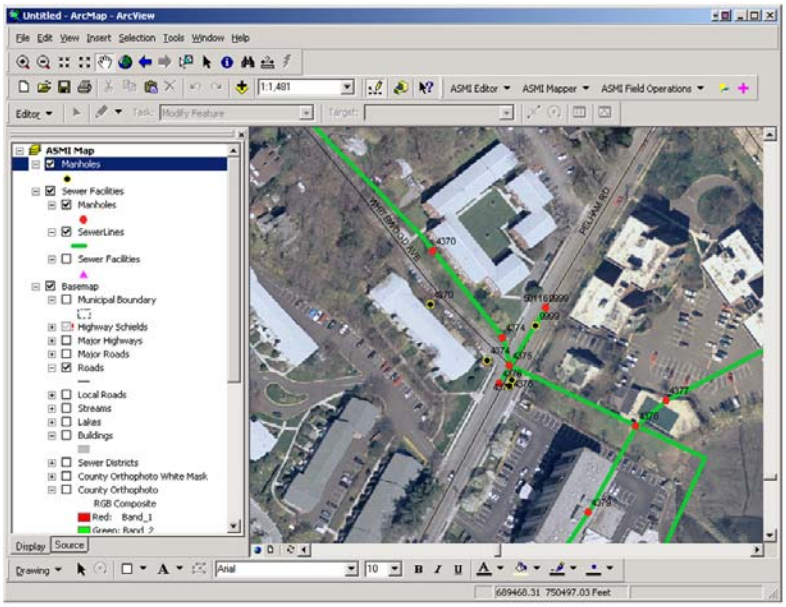
Any questions or comments can be directed to Daniel Martonis, GIS Coordinator at 716-938-9111 ext 2324 or dtmartonis@cattco.org.







WESTCHESTER COUNTY DEPARTMENT OF ENVIRONMENTAL FACILITIES AUTOMATED SEWER MANHOLE INSPECTION (ASMI)



Westchester County Department of Environmental Facilities (DEF) contracted with Parsons Brinckerhoff Quade & Douglas (www.pbworld.com) to design multi-functional GIS applications to automate DEF's sewer manhole inspection program. The Automated Sewer Manhole Inspection (ASMI) applications are executed as web-based, field-PC and desktop routines designed to achieve DEF goals while integrating with the County's enterprise GIS and Oracle environment.

Through a password-secured website, the ASMI web application delivers address-search, database query, and map printing functions to manage both Call-Before-You-Dig (Code53) requests and sewer overflow incidents that are directed to DEF.

The desktop module is implemented as an ArcObjects extension to ESRI's ArcGIS-ArcMap environment, which adds a toolbar with three groups of functions to the ArcMap window. Editing tools enable data entry and position editing, and enforce data integrity. Mapping tools zoom in to an inspection area with a search on street address or manhole reference number. Field Operations tools download data records from multiple sources to the field, packaging a day's work into a dated folder. Upon check-out, records are locked for editing until the check-in process reverses the data flow. Manhole inspection history records, with inspector's name, date and time, can also be accessed.

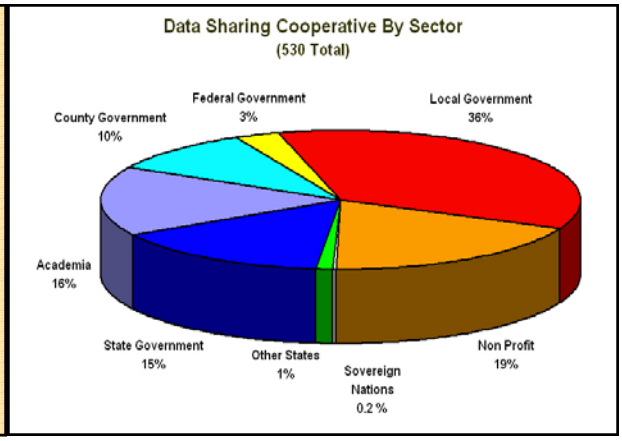
The ASMI field component provides sewer manhole inspection forms on Trimble's (www.trimble.com) handheld Windows CE-based GeoXT devices, streamlining work flow and replacing paper-based reports. Concurrently, ASMI integrates sub-meter GPS mapping of sewer system assets, which DEF field crews will capture with Trimble ProXR devices during the next inspections. For subsequent inspections, GeoXTs will help crews navigate back to hard-to-find manholes. Training sessions for DEF staff are included.

Michael Facelle, director of maintenance at DEF, guided the application development. "This project represents real operational improvement. Until now, we had generalized GIS point and line data, and an address-search that used old Census data. With ASMI, we can correct infrastructure locations, and enter and retrieve inspection information. We can also research a service call from anywhere, day or night."

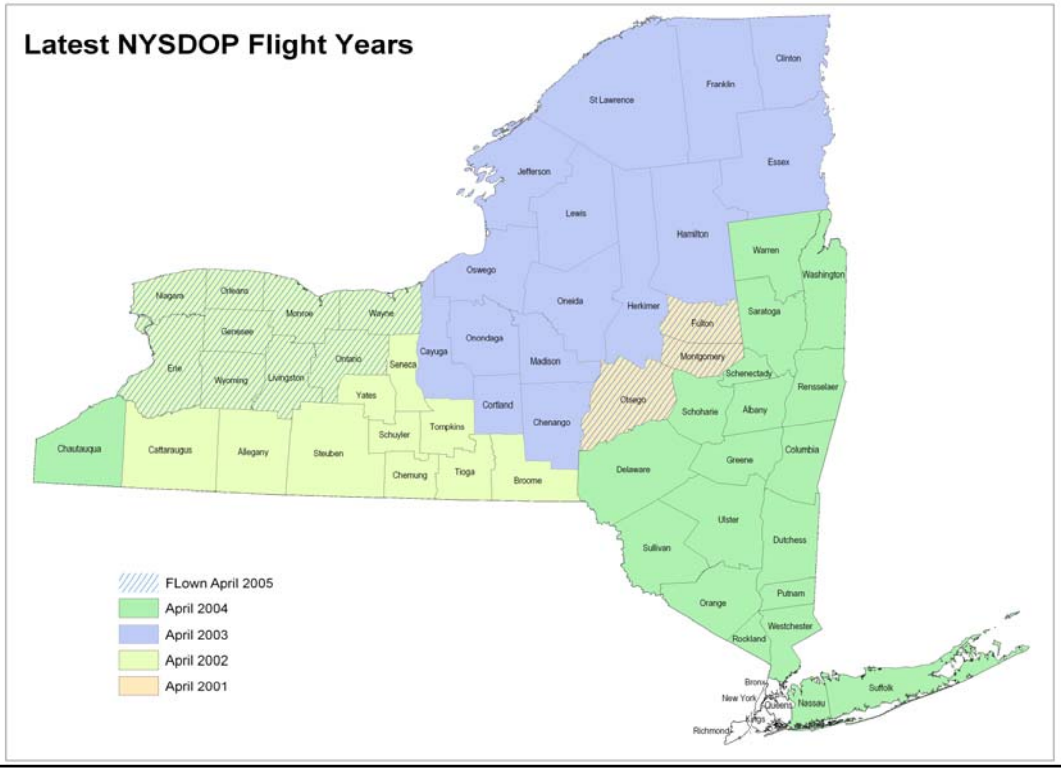
The next inspection cycle will produce a fully updated, GPS-accurate sewer infrastructure database. DEF anticipates integrating image and video data access through the ASMI interface in the future. For more information, contact Michael Facelle (914) 813-5449 or Deborah Parker (914) 995-3888.

GIS Data Sharing Cooperative Still Growing

Membership in the NYS Data Sharing Cooperative has shown a steady increase with more and more governmental entities, not-for-profits, and academic institutions signing the Data Sharing Agreement, allowing each other to share their GIS data sets. The number of Cooperative Members is at the time of this publication at an all-time high of 530. A breakdown of Cooperative members by sector is as follows:



NYS DIGITAL ORTHOIMAGERY PROGRAM



Orthophoto production continues from the imagery captured in Spring 2005 for the NYSDOP's Annual Lot 5. Deliveries will begin later this Fall. In addition, CSCIC has released a Request for Proposals to secure a contract for flights and orthophoto production in 2006 and 2007. The final contractor selection should be made by November.

For more information contact Tim Ruhren at tim.ruhren@cscic.state.ny.us.

A special thanks to the contributors to this issue:

Patsy Cicala (Poughkeepsie High School), Sandy Avampato (Town of Lloyd), Joshua Bossard and Kier Dirlam (Village of Wellsville), Linda Demers (NYSDPS), Dr. Sheen Rajmaira (Niagara University), Daniel Martonis (Cattaraugus County), Michael Facella and Deborah Parker (Westchester County), Cheryl Benjamin (CSCIC), Tim Ruhren (CSCIC).

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On-line version available at:

http://www.nysgis.state.ny.us/outreach/communications