**Kitsap County GIS Program**

*By Eadie Kaltenbacher*

Kitsap County has a unique geography: it is a peninsula bounded by water at the east, west, and north, and joins land only in the south. This geographic isolation has fostered a spirit of self-sufficiency, and nowhere is this more evident than in the county’s GIS Division. The GIS Division currently consists of a five-person team (plus one vacancy for a GIS Programmer/Analyst and occasional interns) and has an annual budget of more than $750,000 with additional funds of up to $100,000 for special projects.

Kitsap County is a regional leader in GIS, participating in the regional Kitsap GIS Technical Users Group, as well as hosting an in-house user group for over thirty county GIS users.

GIS began at the county in 1989 as a collaborative effort between Public Works, Community Development, the Assessor’s Office, and the Auditor’s Office, with Information Services providing initial development and system support. The primary purpose of the GIS program was to construct a tax parcel base map. This project involved digitizing tax parcels from Assessor data, with the goal of using the maps for community planning and voting districts. The software used was GenaSys' GenaMap.

Over the next couple of years, the generalized base map was completed, and in 1992 the staff involved with GIS moved to the Department of Community Development (DCD). DCD/GIS utilized GIS to analyze data and publish maps related to the county’s comprehensive plan. The plan had taken on new importance, as the county was working to comply with the state’s Growth Management Act, had taken on new importance, as the county was working to comply with the state’s Growth Management Act, implemented in 1990. Also in this year, the county switched from GenaMap to ESRI’s Arc/Info 6.

From the mid-90’s onward, GIS continued to grow in the scope and volume of applications at the county. Various departments took advantage of the new technology and developed in-house GIS applications using Arc/Info’s Macro Language (AML), including Public Works, Elections, Law Enforcement, Emergency Management, Health District, and Conservation District.

See: Kitsap GIS, page 2

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**President’s Column**

Spring greetings to all of our GIS friends! The few glimpses of warm weather this past month have lifted my spirits and have me looking forward to watching the Mariners game at the 2008 Washington GIS Conference.

Our board of directors, committee members, and volunteers are busy preparing for the 2008 Conference. We are excited to host it this year in the NW Rooms at the Seattle Center, May 5th – 7th. Based on our registration numbers so far, we are confident that this is going to be the best attended conference we’ve had!

Last year, we conducted a membership survey to see how we could improve our events and make them add more value to you. We analyzed the responses and let the results guide us in our choices for the conference this year. One of the changes this year is that we are offering two URISA sponsored full-day workshops on Monday. One of the workshops, GIS Program Management, is taught by Susan Johnson, President of URISA. The second workshop, Open Source GIS, is taught by Carl Anderson, a board member of the Georgia Chapter of URISA.

We have had overwhelming registrations for these workshops, so if you are interested in attending, make sure to sign up as soon as possible, as space is limited.

Another top priority of our membership is quality food at our events. Our conference coordinator, Neil Berry, has gone above and beyond screening caterers for the conference. After much taste testing, Neil is happy to announce that the entire event will be catered by Daniel’s. I’m certainly looking forward to a few days away from my brown bag lunch!

We are also hosting a new Monday night social event with the conference in the exhibition hall this year as well. We will be offering appetizers and a no host bar from 4:30 - 6:00 on Monday night – this is a great chance to wind-down after the workshop, or to get a jump start on registration before the Tuesday morning rush. Please join us if you are in town. One last change to the conference this year is including one ticket to the Tuesday night social event with your registration. We will watch the Seattle Mariners play the Texas Rangers at Safeco Field at 7:10. Additional tickets are available for $11, and we encourage you to bring your family and GIS friends.

As always, I’d like to thank all of our volunteers, board members and officers at WAURISA. They are a very special group of people who care so much about the livelihood of our GIS community and work hard to provide great opportunities for communication, development, and friendship.

-Angela Johnson, President
**Kitsap GIS Program**

Continued from page 1

With the turn of the millennium, several milestones in GIS were achieved: the county acquired LiDAR raster data, purchased 1-meter aerial photography, and developed a Land Information System (LIS), which included construction of an enterprise GIS geodatabase. Existing Arc/Info coverages and libraries were migrated to ArcSDE feature classes and tables while some AML applications were rewritten as ArcMap documents with Visual Basic Application (VBA) code. In addition, the GIS staff of DCD/GIS moved into their own division under the Department of Information Services, resulting in a GIS Division with 5 dedicated full-time staff including the first County GIS Manager. However, several departments continue to employ one or more GIS analysts to provide department-specific analysis and mapping. These analysts have detailed knowledge of their departments’ needs and are invaluable to the success of GIS at the county.

Since that time, the GIS Division has been supporting a wide range of internal county projects, external clients, and requests from the public. Internal projects include maintaining the LIS geodatabase, application development, and producing maps and other spatial products as requested. Data maintenance consists of ensuring timely and correct editing of feature classes, as well as training staff in other departments to use best practices when editing GIS data. For example, the county's Elections Department edits voting districts, and must ensure there are no gaps or other topological errors in district polygons. To assist internal users, the GIS Division has developed several in-house applications. The most commonly used application is called Parcel Search, and it is used by the public on a daily basis to query parcels and research information such as assessed value, ownership, and tax records. The three other applications that are used within the county are Site Address Editor, Permit Check, and Tax Map. The Site Address Editor is used by DCD and the Assessor’s Office to maintain site address points. Permit Check is an ArclMS web application used as an aid in the permitting process, allowing users to view critical areas, aquifers, and zoning, while Tax Map is used by the Assessor to generate official tax maps from the LIS geodatabase.

CENCOM, the county’s 9-1-1 dispatch center, is planning to use GIS road data for dispatching, and ultimately for routing emergency vehicles. Preparation for this transition has taken several months and is expected to enter the testing stage by the summer. The Prosecutor's Office regularly requests maps to illustrate court cases; for example, to show an escape route a suspect may have taken. Many of the county's external projects consist of providing GIS services to cities that cannot justify the continuous cost of the software and skilled staff for themselves. Requests from the public can range from a simple phone question about Parcel Search, to a printed map series with analysis of GIS data in a resident's area of interest.

The future looks busy for the staff at Kitsap County GIS. The main effort at present is working with the US Census Bureau’s data through the LUCA (Local Update of Census Addresses) and BAS (Boundary and Annexation Survey) programs. These programs involve editing the census address and jurisdictional data and submitting corrections, with the goal of assisting the Census Bureau to obtain an accurate census count in 2010. On the horizon, there are two major projects: the development of a situs addressing application and KMAP.

The situs addressing application is the county's first application that will use the new ArcGIS Server framework. This application will maintain a regional database of site addresses, and will enable remote users from different agencies to view and assign addresses and road names in real-time. Benefits include improved communication between agencies, elimination of duplicate efforts, reduced paperwork, and assignment of responsibilities to appropriate jurisdictions. KMAP (Kitsap Mapping and Analysis Portal) will replace Parcel Search. Parcel Search was designed specifically for tax related queries, but it is also being used for other purposes for which it was not designed. KMAP is designed to address these needs, and includes new layers such as zoning, wetlands, and salmon habitat. It also has a friendlier interface, and is scheduled to be publicly available this summer.

Kitsap County GIS is a local leader in organizing and supporting local GIS efforts, and providing GIS services. However, this leadership position has not led to isolation. On the contrary, GIS is constantly used to bridge data from different agencies and piece together integrated products. And bridges of all kinds are much appreciated in Kitsap County!

Sources:
- A Brief History of Kitsap County's GIS, by Erik Anderson (2006)
- Kitsap County Accurate Parcel Base Map, by Paul Andrews (2002)
- GIS at Kitsap County, by Jonathan Ide (2006)

With special thanks to Erik Anderson, Paul Andrews, and Diane Mark of the GIS Division for their input.
The Lummi Nation is a sovereign government responsible for managing resources both on the Lummi Indian Reservation and through the Lummi Nation’s usual and accustomed (U&A) grounds and stations. As a result, the Lummi Nation deals with issues similar to both a state government and a small city government in managing land use, population growth, business development and economic goals, natural resources, and cultural resources. The Lummi Nation has used GIS as a management tool to comprehensively evaluate all of these factors and their inter-relationships since 1995.

The Lummi Nation is a federally recognized Native American tribe whose reservation is located approximately eight miles west of Bellingham, Washington in Whatcom County. There are nearly 4,200 enrolled members. The mainland of the Lummi Reservation totals approximately 12,500 acres of uplands. The Reservation also includes approximately 7,000 acres of tidelands. Approximately 38 miles of highly productive marine shoreline surround the Lummi Reservation on all but the north and northeast borders.

The Lummi government (the Lummi Indian Business Council [LIBC]) is the 9th largest employer in the Whatcom County area and is the major employer on the Reservation today. The LIBC is comprised of numerous departments including planning, natural resources, cultural resources, police, health and human services, and education. The tribe also has an independent court system. The LIBC provides community, administrative, education, material resources management, and health services to the tribal population in order to help achieve the tribal economic and social development goals. These goals include protection and enhancement of cultural resources, job creation for tribal members, income generation to fund community development programs, and diversification and stabilization of the local economy by creating alternatives to fishing.

The Lummi Nation GIS is now implemented at the enterprise level with a central server storing all primary GIS data and workspaces allocated to GIS users for their data creation. Nearly every LIBC department uses GIS at some level. In addition to ArcInfo licenses served over the network, ArcIMS is implemented over the intranet for users who want to simply look up information without the need for map-making choices.

The GIS Division at Lummi is comprised of two people (GIS Manager and a GIS Technician) administratively within the Natural Resources Department. Because of the resource constraints associated with a small staff, it is not possible for two people to adequately serve as the mapmakers and spatial data analysts for every LIBC department. As a result, the focus of the GIS Division in the past several years has been educating staff to become more proficient in incorporating GIS skills into their everyday workflow. The GIS Division maintains the quality and accuracy of the centrally available data, obtains or acquires the best available spatial information, ensures that metadata are maintained, assists staff with planning and development of GIS projects, and develops and conducts GIS training for staff. The education of all LIBC staff in GIS allows GIS staff to focus on larger scale issues of data management and development rather than simply map production. It also allows GIS staff to explore better workflows and create scripts to automate common tasks to maximize efficiency.

A recent success includes an Outstanding Achievement in Historic Preservation Planning award from the Washington State Historic Preservations Office in 2005. This was awarded jointly to the Lummi Nation Tribal Historic Preservation Office and Whatcom County Planning & Development Services for their development of a collaborative planning process and GIS predictive model to use as a planning tool. The tool helps with early identification of potential conflicts that can occur with development activities and the protection of cultural resource sites.
LUMMI NATION GIS
Continued from page 3

The Lummi Natural Resources department staff members are the primary users of the GIS data and many feel that it is vital to their everyday tasks. The Lummi Nation has obtained high-resolution aerial photography (6-inch resolution) and high-resolution LIDAR data, which combined with the almost daily use of mapping grade global positioning system units to collect spatial data, makes detailed and accurate project planning and analysis feasible. “GIS is an indispensable tool to proactively and reactively manage the Lummi Nation’s natural resources, both on our Reservation and within our U & A,” commented Merle Jefferson, Lummi Natural Resources Department Executive Director. “Forestry, water resource management, harvest management, and restoration efforts are all greatly enhanced by our ability to spatially analyze information and ensure that the best available science is considered in decision making.” Restoration Coordinator Jim Hansen states “GIS is absolutely critical to the restoration projects I complete each year. We simply couldn’t do without it.”

Another example of GIS applications by the Lummi Nation is an inventory of addresses on the Reservation by GIS staff and an associated report outlining numerous addressing errors and difficult situations. A collaborative effort between the Planning Department and the GIS Division will result in the installation of address signs for every addressed building on the Reservation, an address atlas available to all emergency responders, and an effort to remedy the most severe addressing problems.

Other GIS work products can be viewed on the Lummi Nation website (www.lummi-nsn.gov) including the Lummi Nation Atlas and the Lummi Nation Multi-Hazard Mitigation Plan. For more information about the Lummi Nation GIS contact:

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Animation in ArcGIS
by Jill Willison (compiled by Effie Moody)

Animation Use

The ability to animate data temporally adds a new element to geographic analysis and provides an exciting way to visualize your temporal data. For instance, you might examine historical patterns, such as population or land use change, or you might view changes that are planned into the future in order to facilitate better coordination between agencies.

ArcGIS 9.2

You can add the Animation toolbar to your ArcMap session as part of the core functionality. A new time layer track was added to the Animation toolbar at ArcGIS 9.2, enabling you to create temporal animations in ArcMap, as well as in ArcScene and ArcGlobe. There are a number of datasets that can be animated through time in the ArcMap display, including feature class and raster catalog layers, and you can animate layers or tables in a graph in ArcMap also.

Data Preparation

Data preparation is a key component of temporal animation. Predominantly, you'll store your data as one table, where each feature repeats itself, each with a different time stamp, and a different attribute value. This table may have been created by appending multiple feature classes from different time periods into one feature class, using the Geoprocessing Append tool, located in the ArcToolbox window (in any ArcGIS application) under the General toolset of the Data Management toolbox.

Layer Symbology

Prior to animating, you should symbolize your layer using the attribute that you want to see animated through time, such as temperature, or population.

Animation Setup

To create a temporal animation, you first need to add the Animation toolbar to your application (ArcMap, ArcScene or ArcGlobe).

Create The Time Layer Track:

Using the Create Keyframes dialog you'll select "time layer track" as the type of track to create. You'll set the layer or table you want to animate as the source object, and click New to create a new time layer track. To create an animation that shows change, you need to create at least 2 keyframes for the track.

Set The Time Field To Use in The Animation:

On the Tracks tab of the Animation Manager, you can access the track's properties by selecting the track and clicking Properties. On the Time Track Properties tab, set the date field you want to use. You can click Calculate Times to set the time values for the keyframes. With 2 keyframes, the minimum date will be applied to the first keyframe, and the maximum date will be applied to the second keyframe. You can view this on the Keyframes tab of the Animation Manger.

Set Keyframe Interval and Units:

On the Keyframes tab of the Animation Manager you can set the time interval and units that will be used between the keyframes. For instance, you might want to display data every year, each day or each hour. The interval and units you specify must be applicable for the dates you have in your date field.

For a one-to-many table relationship, where the shape of each feature is constant, but the attribute is changing over time (such as a collection of monitoring stations, each with multiple temperature readings for different dates), you can use the Make Query Table tool to perform an in-memory join.

A One-to-Many table relationship

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Jill Willison grew up in the northwest region of England, and earned her undergraduate degree in Geography and master’s degree in Geographic Information Systems (GIS) at the University of Leicester. Jill’s GIS professional interests grew from a GIS course she took as part of her undergraduate degree as a natural career progression for a “Geographer” who loved maps. Jill was fortunate to secure a position at ESRI in Redlands, CA where she embarked on a career as a Product Engineer on the ArcGIS Desktop development team. While at ESRI, Jill was the Lead Product Engineer for the Animation team when the ability to animate through time was added into the Animation framework at ArcGIS Desktop 9.2. Jill is currently employed at the City of Seattle as a GIS Analyst for the Office of Policy and Management. Her main role is to provide GIS support to the Mayor’s Executive Offices of the Office of Policy and Management and the Department of Finance, predominantly in support of policy decisions for the City.

**Animating Data in a Graph:**

As well as animating in the display, you can animate a layer or a table in a graph in ArcMap. The graph could be a line graph with time plotted on the X-axis, and an attribute on the Y-axis (such as stream flow or temperature over time) so you see the progression of the line as the animation progresses in time, or you could plot 2 attributes in the graph as a bar graph (such as population on the Y-axis and county or state on the X-axis) where each bar changes as the animation progresses in time. Once a graph is created, create a time layer track in the normal way, attaching the layer or table used to create the graph as the source object for the track. When the animation plays, the graph will animate.

**Exporting an Animation to Video:**

You can export your animation to an Audio Video Interleaved (.avi) or QuickTime (.mov) file. This is useful for distributing your animation to others, placing it online, or adding it to a power point slide show.

**Need More Information?**

The setup steps above give you the basics, but there is much more to learn. The ArcGIS Desktop online Help system is a wealth of information generally, and there is lots of information on animations under Mapping and Visualization:


Sample animation videos can be found here:

WAGI C Meeting Schedule for 2008

- February 21, 2008 from 10:00 a.m. to Noon
- April 17, 2008 from 10:00 a.m. to Noon
- June 12, 2008 - WAGIC Retreat in Ellensburg
- August 21, 2008 from 10:00 a.m. to Noon
- October 16, 2008 from 10:00 a.m. to Noon
- December 18, 2008 from 10:00 a.m. to Noon

For more information visit the WAGIC web site at http://wagic.wa.gov/

New GIS Coordinator for WAGIC

Joy Paulus has replaced Jeff Holm as the GIS Coordinator for WAGIC. The Department of Information Services continues to be committed to providing staff support to the states GIS user community. Joy comes to the position with 28 years experience working in the GIS, with 20 of those years working in Washington. Joy’s primary focus will be to help promote GIS at the national, regional and state level.

June 12’ 2008 WAGIC Planning Retreat in Ellensburg, WA

Based on feedback received from various WAGIC participants, there is an expressed interest in conducting a one day WAGIC planning session from 8:30 am to 4:00 pm on June 12th at the Ellensburg Quality Inn. This is similar to what’s been done in the past and should help revitalize interest and participation in our state’s GIS coordinating group. Please plan on attending if you can. For more information call Joy Paulus at 360.902.3447 or send an email to joyp@dis.wa.gov

Remember to sign up on the WAGIC list serve to ensure that you get meeting notices and announcements. This is our primary means of communications.

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News from Washington Geographic Information Council (WAGIC)
AN INTERVIEW WITH DONNA WENDT, 2007 SUMMIT AWARD WINNER
By Michelle Lortz

The subject of our interview for this issue is Donna Wendt, winner of the 2007 Summit Award as Washington State GIS Person of the Year.

Summit: Congratulations to our GIS pioneer Donna Wendt, the 2007 “GIS Person of the Year”.
Donna: Thank you. I was pretty much speechless when Linda Gerull called me up to the podium for the award.

Summit: Tell us about your educational and professional background.
Donna: I graduated from WSU in 1972 with a major in math and a minor in Computer Science. I then spent a year and a half doing tree growth simulation programming for the Forest Service and Weyerhaeuser. In 1974, I took the civic job with the City of Tacoma Public Utility where I was the first woman Computer Programmer. I retired on July 1, 2007, as a Senior Technical GIS Analyst for the Tacoma Community and Economic Development Department.

Summit: What sparked your interest in GIS?
Donna: At the university, I liked the computer classes best, however when I started in 1968 there were no majors in computers. Most of the math professors didn’t like computers then, “They were too imprecise”. A few special math professors liked both and saw the future in numerical analysis and simulations. I met my husband Bob in the numerical analysis class. One of my projects was to write a program to find the best route across a grid cell map, a program written in FORTRAN. I think that was my first taste of GIS. I still like transportation analysis.

I have had the privilege of “growing up” with the GIS industry, and it has been exciting to be a part of a new science as it developed from its commercial infancy to what we have today. I have learned GIS by reading manuals, going to all of the ESRI (Environmental Systems Research Institute) user conferences since 1985, taking GIS classes, and going to other conferences like the NW ESRI user group and WAURISA which use to be NWCAMA.

Summit: Tell us about your GIS experience at Tacoma?
Donna: My first Tacoma assignment was to write an address matcher to evaluate transit ridership and create a report of where riders got on the bus and where they were going to. Tacoma was using Adpac as their programming language then. I had never heard of it when I walked in the door to start that new programmer job. We had an IBM mainframe, wrote programs on coding sheets, sent them to the keypunch ladies, and submitted them for overnight compiles. It took a long time to write a computer application. One of the things I liked the least was to fill out request forms for every disk file that was needed. If you exceeded the allotted disk space, the job would crash.

In 1975, a team of CETA workers started digitizing quarter section parcel maps using a Numonics digitizer that recorded coordinates in inches on punch cards. We wrote our own GIS on the IBM mainframe, including a “warp” program that did the rubber sheeting conversion from inches to state plane feet. Some of these programs were in Fortran, and some in Cobol. In 1977, Tacoma purchased a used Calcomp 3-pen plotter and borrowed many mapping subroutines from Johnson County, Kansas. We could now produce maps using Fortran programs. The programming to make one good map took about 80 hours, 2 weeks.

Much of the work I did for the City of Tacoma was for the Planning Department now called the Community and Economic Development Department. Maps are now officially expected for each City Council presentation. It would be impossible to do today’s Planning without a GIS. Automated geographically located land records are mandatory to meet the sheer volume of measurements needed for the State of Washington’s Growth Management Act reporting of Buildable Lands. Imagine trying to categorize the square feet of change annually for residential and commercial uses by each zoning category, minus the amount of land used for roads and taken up by wetlands, parks, open space, and other critical areas without the use of GIS.

“I have had the privilege of growing up with the GIS industry...”

One of the most important goals for Tacoma is to reduce crime. This year, Tacoma and Lakewood are working together with LESA, the Law Enforcement Support Agency, to implement mobile crime mapping and Spike Detector which recognizes geographic crime spikes. Automated emails of the spikes will be sent to the appropriate captains each morning. John Joseph of ESRI organized the grant writing process for this project in June of 2007. In my opinion, this is one of the most important GIS project of the decade in Tacoma and Pierce County.

GIS provides citizens and council members with better decision-making information. For example, the 3D picture on my business card is part of the Thea Foss Waterway viewedash analysis. A proposed tower-corridor project that could result from rezoning to raise height limits is shown in the foreground. Council and citizens were able to “fly” anywhere in the scene to see how views might be blocked. Spatial Analyst was used to quantify view loss, and to do shadow analysis for different building heights at different times of the day and dates. CommunityViz™ and Multigen Paradigm ModelBuilder and SiteBuilder 3D software were used with ArcMap for the 3D visualizations. A 3D simulation like this gives you eyes to look anywhere. Without it, practical budget limitations give you one or two still scenes rendered by an architect.

See: Donna Wendt Interview, page 9
DONNA WENDT INTERVIEW
Continued from page 8

Some of my favorite GIS projects were:

- Network Analysis for Fire Response. The response zone map is in one of the early ESRI map books.
- Integration of street center lines into Northrop Grumman’s fire dispatch software, still used by Tacoma, Spokane, and Spokane County.
- Tacoma’s 1985 Crime Analysis Mapping System (written by Dean Anderson, then of ESRI Olympia)
- Many land use planning maps
- Citywide Growth and Strategic Plan Measures using GIS
- Scrubbing 209,000 addresses, standardizing on the post office abbreviations, and upgrading street center lines to geodatabases for Tacoma’s 2003 SAP conversion.
- 3D viewshed analysis and flythrough of the Thea Foss Waterway rezone for increased height limitations
- Managing GIS data exchanges with Pierce County

Donna: Tacoma has been to both extremes of GIS, centralized and totally decentralized. Fortunately it started out centralized, and important shared databases were set up. However, individual departments did not feel they had enough control over the prioritization of projects, and that they did not have enough staff. As a result, all programming staff were decentralized and sent to individual departments. Since there were not enough IT staff to go around before, some departments won and some went without GIS staff at the time of decentralization. Departments with GIS staff now were able to make quicker progress on their goals, and the GIS staff physically located in their new departments better understood their customer’s needs. Departments without GIS staff saw their applications stagnate.

"Tacoma has been to both extremes of GIS..."

The down side of decentralization was less support for shared databases, some lack of cooperation, and the lack of a cohesive strategic plan for GIS. Tacoma has 3 GIS formats to support, ESRI, SmallWorld, and AutoCAD. Getting five or six different departments to agree on the requirements and funding for large projects such as ortho photos was like herding cats. Today, Tacoma has added a GIS Manager in IT to coordinate the shared databases and create a strategic plan. GIS staff remain in decentralized departments. The frustrating thing is that no matter where you put your staff, if you don’t have enough staff centralized, you still don’t have enough staff when you decentralize.

Good leadership, careful project prioritization, training, and new technology applied to the most important problems can help minimize the effects of low staffing up to a point. When that point is reached, bring in expert help for projects that go beyond daily work load capabilities. These special projects and grant work can give a GIS program the boost it needs at the right time.

Donna: One of the big influences on my life was the 2001 9/11 disaster in New York. I asked myself how I could help win the war against terrorism. I think all of us may have had some feelings of helplessness. I decided that what was within my control was trying to do all I could to make Tacoma an effective and strong government. Don’t just work hard, but work hard on the most important projects that would have results that would make a difference for citizens. That was on my mind when the SAP project was being worked. Even though I didn’t agree totally with the time schedule for the project and the choice of which systems to convert, I knew that if they didn’t get those address databases accurate the project could flounder or even fail. Over 80% of all government computer systems contain address data. If the addresses are of poor quality, connecting the information together, reports, and summaries will not work well and will be inaccurate. I came close to burning out on the SAP project, which was followed by tax funding cuts and a reduction in GIS staff as a result. It was a difficult time, but I would not have changed how we approached the address scrubbing project.

I am enjoying being a board member of WAURISA. This is something I didn’t have time for when I worked for Tacoma. It is fun working with other GIS professionals to plan the May conference.

Donna: Tell us about your current GIS endeavors?

Donna: Well, I just got started with the new business, Wendt Consulting and GIS Services, in 2008. (Bob had completed some GIS projects in the last couple of years.) Let me tell you the story of how we started this business. In 2003 when I was working on Tacoma’s SAP conversion, I was working a lot of overtime. Basically, I was there evenings, weekends, and holidays. I wasn’t coming home much. Tacoma was trying to convert all of their critical computer system, including utility billing, accounts receivable, payroll, permits, and over 100 other systems at once in an 18 month project. One of my tasks for this project was to “scrub” 209,000 utility billing addresses. This involved moving not only those addresses, but the GIS street center line and address point addresses to the post office standards while finding and fixing address errors.

My husband Bob, who had recently retired from 30 years of teaching math in Puyallup, asked me if there was anything he could do to help. Since I was generating several hundred street center line updates, the Fire Department could not keep up with the work load and do other work they needed to do for a dispatch system modification while participating in other SAP activities. We brought Bob in to help with the address updates.

Since that time, he has learned GIS and has donated over 3,000 hours of work to the Fire Department. He created a fire department atlas, created a 3D model for the City of Fife, helped Fife address new subdivisions, worked on Buildable Lands, and managed business district capital facility projects. We realized that we were having a great time working together and probably would be able to work a business without killing each other.

See: Donna Wendt Interview, page 10
DONNA WENDT INTERVIEW

Continued from page 9

Right now our company has 2 people, a senior GIS analyst, and a GIS analyst. We have a GIS intern for the summer to assist with the field data collection.

Starting my own business has been a dream of mine for several years. Right now Bob and I are doing an address audit and LUCA (Local Update of Census Addresses) with Kitsap County GIS. I am managing the project, designing processes, and doing some of the detail data work as well. When you are a small company of two people you do everything. Some of my GIS friends are mentoring me about how to run a business. I’m having a blast doing this. We have two other contracts in the works that will pretty much fill up 2008. We may use some of the latest field data collection techniques for one of our proposed contracts coming up.

I plan to look into the different 3D options to provide updated terrain models for a friend currently using Google Earth to calculate her point-to-point radio connections for her ISP company. This work will fit into the category of training and exploration.

Summit: Do you have advice for those beginning their career in GIS?

Donna: I have had several student interns while at the City of Tacoma. Yes, I have some advice for those beginning a career in GIS. Study at least three things, GIS, a major field such as Planning, geology, wildlife, etc., and take some computer classes. Before starting college, decide what work you love to do, because you will spend a lot of your life doing it. If you are doing something you have a passion for, it is so much more exciting and fun. Take a look at what skills employers are asking for and go after those classes in college.

Doing an internship is pretty much mandatory for landing a GIS job position. Treat this internship as the most important job you have ever had, not just another class to get out of the way. A good recommendation from a GIS professional will make all of the difference when applying for a job. Be curious, creative, helpful, a good listener, prompt, dependable, and fun to be with.

There were times when I was simply not going to take on an intern because of work load. It generally takes more time to work with an intern than you get out of the intern. However, I can think of 3 interns who were highly motivated to ask more than once, in creative ways, that I took on anyway. Their persistence paid off, and they were among the best 3 interns we had.

Summit: How do you see the future of GIS and its expansion that is still over the horizon?

Donna: We live in an instant gratification society. All GIS is not instant yet. Because some of what we do on the computer is getting fast, customers expect quality results faster and cheaper. We will be seeing more out-of-the-box quality solutions that do not take weeks of training to learn, nor will they require a programmer to write code for implementation.

We are still in the Model A stage of GIS. If you have ever driven a Model A, some things are simple and basic, such as the engine, but you have to know how to run the starter, the throttle, the clutch, all the while tweaking the choke adjustments to get it to run just right. That is how GIS is now, great for those who love to fiddle with the adjustments. We are just beginning to see some “automatics” in applications. The trick is for the genius GIS developer to see the problem from the eyes of a customer who just wants to get his or her work done, and fast.

GPS data collection is a lot of fun, but it is still in the Model A phase. I just think of how much messing around and post processing it takes to get an accurate reading. I want to take an inexpensive hand-held out and get centimeter accuracy here and now, no base station needed, no waiting, and without buying expensive equipment. Data collection remains a costly part of GIS and there is much room for improvement.

In 1986, I had the privilege of riding in one of the first cars with a navigation system in it, the Etac system. We rode around the block in San Bernardino and watched the map turn around the stationary car. Because it didn’t use GPS, it was integrated with the car and a gyroscope for dead reckoning navigation. Etac was the ancient Polynesian term for a navigation point of view that you are in the middle of the universe which moves past you. Current navigation systems are portable and so small you can lose them in the bottom of a brief case. Now what we need is navigation unit with an attitude: “No, you should have turned at the other freeway entrance, not this one!” “Turn around and try again!” GPS has revolutionized navigation, and this will only continue to improve.

I find it ironic and disturbing that the waste from the computers that have made GIS possible is now cluttering and poisoning the earth. Couldn’t we just make progress without killing ourselves off? We need non-toxic computers, toys, and food.

Summit: Finally, what are the most important lessons you have learned in your experience with GIS? Do you have any other words of wisdom to pass on to our readers?

Donna: Share and play well with others. Politics can both help or delay progress. Having an agency-wide strategic plan and serious support from top management for meeting this plan are essential. Don’t miss the forest for the trees; be sure you know what the “main thing” is.

When creating a computer model, it has to be real, it has to communicate, and it has to hold up in court. If it is a big project, cut it up into smaller tasks and geographic areas and provide many intermediate results. Design the project in such a way that mid-course adjustments can be made without losing too much time.

Things to consider in choosing technology are efficiency, accuracy, and meeting the customer’s needs. Even though GIS has come a long way, I think the industry will see improvements in accurate, easy, and fast data capture.

Continuously listen to the customer needs. Techies often find communicating a challenge, and communication is so essential for informing management about what is critical and why. Compelling data, maps, reports, graphs, and any other means of communicating can take the results of much work and study to the point that they can be effective. Change the world.

Thank you for everything.

The Summit interview with Donna Wendt will continue in the next issue.

Michelle M. Lortz
425-432-3036 home; 206-919-6547 cell
michelle@lortzco.com
The 2008 Washington State GIS Conference, “Integrating GIS Into the Enterprise” will be held Monday through Wednesday, May 5-7 in the Northwest Rooms at Seattle Center. WAURISA - the Washington State Chapter of the Urban & Regional Information Systems Association — is finalizing a program that includes a day of educational workshops, access to leading GIS vendors, and two days of informative speakers from all corners of the State. The Conference is designed to help you learn from your colleagues, network with your peers, and build a solid GIS foundation for your career, your company, or your agency.

The event begins on Monday with two concurrent daylong URISA-certified Workshops to choose from. The 2008 workshops are presenting are “GIS Program Management” and “Open Source GIS.” The Workshops offer in-depth training from leading GIS practitioners brought in from across the country. They have become a successful part of the annual Washington GIS Conference.

**Early Bird Registration Ends April 21 — Register Today at:** [www.waurisa.org/conferences](http://www.waurisa.org/conferences)

On Tuesday, the conference kicks into full swing with a keynote address by URISA President Susan Johnson. Susan Johnson began her term as president of URISA in August 2007. She is a nationally recognized leader and highly motivational speaker who will share her vision for the future of GIS in the enterprise.

- GIS Management
- Public Safety
- Government
- The Lone GIS Professional
- Environmental GIS
- Tribal GIS
- Imagery & 3D
- Managing Data
- Data Modeling
- Application Development
- Open Source GIS
- Transportation

Following the keynote, the Summit Award will be presented to the Washington State GIS Person of the Year.

On Tuesday and Wednesday, we will also have the annual poster and map competition to showcase some of the great work being accomplished around the State. Vendors will be on hand to demonstrate their products and answer any questions about services and products that they offer. Your registration also includes lunch and refreshments each day.

**Keynote Speaker: Susan Johnson**

Susan Johnson began her public service career as the first Information Services Director for the city of Raleigh, NC. She currently serves as the CIO for the Charlotte-Mecklenburg School District in Charlotte, NC, where she is responsible for enterprise information technology and communications. Susan was elected URISA President in 2007.

**Social Events:** New this year will be a Monday evening social in the vendor hall following the workshops. This will be an opportunity to meet and mingle. On Tuesday after the Conference sessions we’ll be going to Safeco Field to see the Seattle Mariners play the Texas Rangers — your conference registration includes one free ticket! You won’t want to miss this fun-filled evening.

**Earn GISCI Points!**

- Attend the 2008 Washington GIS Conference and earn GISCI education points for your GISP application or future renewal
- The GIS Certification Institute will award 0.2 GISCI education points for attending the Monday workshops and 0.1 points for each day you attend the educational sessions on Tuesday and Wednesday (subject to verification)
- For more information about GIS Certification, see: [http://www.gisci.org/](http://www.gisci.org/)

**WAURISA**

The Washington State Chapter of
The Urban & Regional Information Systems Association
Serving Washington’s GIS Community
2008 Washington GIS Conference
Draft Program Now Available
Register by April 21 to take advantage of lower Early Bird Registration
For latest Conference news and to register on-line—visit: www.waurisa.org/conferences

Monday May 5th, 2008
Draft 4/17/08

8:00 am - 1:30 pm
Management Track
GIS Program Management (Shaw Room)
Today, most government organizations have some type of GIS programs in place. These programs vary from developing entirely new systems, rebuilding or tuning up existing systems, to completely overhauling with new or emerging technologies and applications. This workshop is designed to provide guidelines for managing your GIS program. It will look at the various organizational and technical issues program managers must address to develop a successful GIS program. Discussions will include managing all aspects of a GIS program from staffing and budgeting to procuring technology and working with vendors. A variety of real world examples will be presented showing a range of GIS programs and their implementations. This workshop presents an overview of successful and unsuccessful techniques for implementing GIS.

Technical Track
An Overview of Open Source GIS (Fidalgo Room)
Free and open source software (FOSS) has been offering choices to computer users for a number of years. Over the past few years the open source choices in GIS have been broader and more capable than ever before. This workshop will focus on GIS open source software. It will give an overview of current developments from technical and management perspectives. Selected packages and their applications in various projects will be demonstrated and discussed.

12:00 pm - 1:00 pm
Lunch Break (Box Lunch Provided)

1:00 pm - 4:30 pm
GIS Program Management(cont.)
(Shaw Room)
Presented by Susan Johnston
UPBAA President
Charlotte Mecklenburg Schools, Charlotte, North Carolina

An Overview of Open Source GIS(cont.)
(Fidalgo Room)
Presented by Carl Anderson
GIS Manager, Talbot County, Georgia

5:00 pm - 6:30 pm
Vendor Reception - Olympic Room

Waurisa Thanks Our 2008 Conference Sponsor/Exhibitors:

Mount Rainier Sponsor:
- ESRI

Mount Adams Sponsors:
- Geoline Positioning Systems
- GeoNorth LLC
- LizardTech
- King County GIS Center
- Pacific Alliance Technologies
- Spatial Wave, Inc.
- TerraGo Technologies
- The PPI Group
- The Sidwell Company

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- Aerials Express
- David C. Smith & Associates
- Electronic Data Solutions
- Latitude Geographics Group
- Metro Geospatial
- Terra GIS Ltd.
- Woolpert, Inc.
### Conference Registration

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<thead>
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<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>8:00 am - 4:00 pm</td>
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<tr>
<td>8:00 am - 9:00 am</td>
<td>Tuesday Continental Breakfast - Rainier Room</td>
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### Opening Session - Rainier Room

**Keynote Address by Susan Johnston**

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<tbody>
<tr>
<td>9:00 am - 10:15 am</td>
<td>Management</td>
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<tr>
<td>10:15 am - 10:30 am</td>
<td>Morning Break - Rainier Room</td>
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<tr>
<td>10:30 am - 12:00 pm</td>
<td>Public Safety</td>
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<tr>
<td>12:00 pm - 1:00 pm</td>
<td>Lunch Break - Rainier Room</td>
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### Government

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<td>2:30 pm - 3:00 pm</td>
<td>Afternoon Break - Rainier Room</td>
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### Management

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### Environmental GIS

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### Vendor Track

- Vendor 1
- Vendor 2
- TBD

### Exhibits Open - Room 22

**Tuesday May 6th, 2008**

**Draft 4/17/08**
### Wednesday May 7th, 2008

**Draft 4/17/08**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
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| 8:00 am - 1:30 pm | Conference Registration: Tribal GIS, Open Source, Vendor 4  
Grant Timsettaw - Muckleshoot Indian Tribe - Implementing ArcGIS Server for Realty & Public Works App's  
Chris Scharper & Keith Legg - Metric Planning - 3D Visualization & Animation  
TBD  |
| 8:00 am - 9:00 am | Tribal GIS Continental Breakfast - Rainier Room  
TBD  |
| 8:30 am - 10:00 am | Morning Break - Rainier Room  
TBD  |
| 10:00 am - 10:30 am | Morning Break - Rainier Room  
TBD  |
| 10:00 am - 10:30 am | Morning Break - Rainier Room  
TBD  |
| 10:30 am - 12:00 pm | Lunch Break and Leadership Meeting - Rainier Room  
TBD  |
| 11:30 am - 3:00 pm | Closing Session: Board Election, Poster Contest Winners & Dick Thomas Award Winner Announcements - Rainier Room  
TBD  |

#### 2008 WAURISA Board of Directors Election

Vote for candidates to fill three current 2008-2010 term Board vacancies. Your conference registration will include an official ballot and candidate statements. The WAURISA Nominating Committee presents the following slate of candidates:

- **Don Burdick** (Incumbent Board Member), City of Bellingham, GIS & Technical Services Manager
- **Heather Diaz**, Sales, ESRI
- **Jean Postlethwaite**, Chelan County, GIS Analyst
- **Amanda H. S. Teub** (Incumbent Board Member), GISP, Douglas County, GIS Analyst
- **Write-in Candidates will also be welcome**
OLYMPIC ROOM
19 - 10' x 10' booths
w/ 1 - 8'/30" table & 2 chairs
in each booth
3 - 8'/30" tables for caterer

NO LINENS

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SC Storage

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Join industry leaders like ESRI and get your message broadcast to the 2500 people across Washington State who receive each quarterly issue of *The Summit*. How? Advertising is limited to Mt. Rainier and Mt. Adams level sponsors of the annual Washington GIS Conference. Find out how your company can participate in the 2008 Washington GIS Conference and get your ad in *The Summit* by contacting:

- Angela Johnson: president@waurisa.org
- Greg Babinski: secretary@waurisa.org
- Steve Schunzel: sschunzel@desmoineswa.gov
- Rick Lortz: rlortz@lakehaven.org
- Neil Berry: neil.berry@seattle.gov

**The Summit Welcomes Two New Editors**

The Summit is pleased to welcome Eadie Kaltenbacher as our new Kitsap and Olympia Peninsula area editor. Eadie is a GIS Analyst for Kitsap County GIS. Eadie’s first article - *Kitsap County GIS* - appears in this issue.

Michelle Lortz joins the staff of *The Summit* with an interview of Donna Wendt, 2007 Washington State ‘GIS Person of the Year.’

Look for future articles from Eadie and Michelle about GIS programs and people in the State of Washington.
**UPCOMING URISA EVENTS AND CONFERENCES**

**URISA Leadership Academy in Chicago**  
June 16-20, 2008  
Ambassador East Hotel  
[http://urisa.org/ula](http://urisa.org/ula)  

A Leadership Academy for the GIS Practitioner  
- Do you see GIS as much more than “just a map”?  
- Do you see GIS potential in every industry/application?  
- Do you recognize GIS as a major enabling technology to help achieve most goals?  
- Do you want to make a positive difference in the world around you using GIS?  
- Do you understand the power of visualizing and spatially analyzing information?  
- Are you frustrated by others in your organization that just don’t “get” GIS?  
- Are you overwhelmed by your management responsibilities?  

If you can answer “yes” to two or more of these questions, then the URISA Leadership Academy (ULA) is for you.

**Call for Interest: URISA Young Professionals**  
Our sister association in Australia and New Zealand, the Spatial Sciences Institute (SSI), has a very active [Young Professionals Group](http://www.urisa.org/conferences/aboutannual). The YPs, noted as those 36 years of age or younger, was formed to address specific issues facing young professionals in the industry. Is there an interest within the URISA membership for a Young Professionals Group or committee? If so, the URISA Board is very eager to support such an initiative! If you are interested, please call or email Wendy Nelson (847/824-6300, wnelson@urisa.org) and we’ll help connect you to other YPs.

**Integrating GIS & CAMA Conference**  
Annual Conference for Professionals in Property Assessment, Tax Administration, Mapping and Information Technology  
New Orleans, LA  
[http://www.urisa.org/gis_cama](http://www.urisa.org/gis_cama)

**OTHER UPCOMING GIS EVENTS:**

**GeoWeb 2008 Conference Welcomes ESRI, Google, Digital Globe & Pitney Bowes Maplnfo as Sponsors**  
Industry leading event focused on GIS and the Internet  
The annual conference will take place in Vancouver from July 21-25th, 2008 and the meeting is being held at the Morris J. Wosk Centre for Dialogue. GeoWeb is the only annual event exclusively focused on the combined benefits of GIS and the Internet and the economic potential associated with the convergence of XML, web services and geographic information systems. The GeoWeb 2008 conference welcomes both public and private organizations to meet, discuss and learn about today’s most innovative geospatial technologies.
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ESRI
www.esri.com

GITA 2008 Conference: Seattle
www.gita.org

GIS Boot Camp in Seattle
GIS Boot Camp is a week of focused custom training, designed and taught by experienced King County GIS professionals. Get the most out of ArcGIS as you learn the essentials of editing & analysis, develop your SQL and geoprocessing skills, and master best practices for metadata management.

King County GIS Center
www.kingcounty.gov/gis

Kuker-Ranken Incorporated
http://www.krinc.net/

Latitude Geographic
http://www.latitudegeo.com/

LizardTech
http://www.lizardtech.com/

The PPI Group
http://www.theppigroup.com/

In addition to the paid sponsors listed on this page, WAURISA acknowledges support from the following agencies that provide chapter board members:

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- City of Des Moines
- CH2M Hill
- King County GIS Center
- Lakehaven Utility District
- Mason County
- Douglas County
- Washington DOT
- Wendt GIS

The Summit reaches more than 2,600 readers across Washington State. For more information about the benefits of WAURISA Sponsorship, contact Angela Johnson (president@waurisa.org), or any WAURISA Board member.....
**PUBLIC MAPS IN WASHINGTON**

Seattle hosts the Washington GIS Conference this year and public maps abound across the city. A delightful spot to rest and refresh yourself while in downtown Seattle is the lower lobby of the Seattle Municipal Tower (formerly the Gateway Tower and the Key Bank Building). A quartet of comfortable chairs provides a quiet spot to read by yourself or chat with friends. A nearby map display explains how the city of Seattle is transforming itself by ‘Going Green’ and adapting to climate change.

Do you know of a public map display in Washington? Send it to The Summit and we’ll include it in a future issue.

-Editor

**THE SUMMIT – LITERARY CORNER**

**Sylvie and Bruno**

Mein Herr looked so thoroughly bewildered that I thought it best to change the subject. “What a useful thing a pocket-map is!” I remarked.

“That’s another thing we’ve learned from your Nation,” said Mein Herr, “map-making. But we’ve carried it much further than you. What do you consider the largest map that would be really useful?”

“About six inches to the mile.”

“Only six inches!” exclaimed Mein Herr. “We very soon got to six yards to the mile. Then we tried a hundred yards to the mile. And then came the grandest idea of all! We actually made a map of the country, on the scale of a mile to the mile!”

“Have you used it much?” I enquired.

“It has never been spread out, yet,” said Mein Herr: “the farmers objected: they said it would cover the whole country, and shut out the sunlight! So we now use the country itself, as its own map, and I assure you it does nearly as well.

From Sylvie and Bruno Concluded by Lewis Carroll

The Summit would like to hear from you. To encourage the discussion of issues and ideas of importance to the Washington GIS community we welcome letters to the editor and opinion essays. Letters to the editor should be a maximum of 100 words and essays should be limited to 500 words.
GIS USER GROUPS IN WASHINGTON

ACSM – Washington State Section
http://www.wss-acsm.org/

ASPRS Puget Sound Region
http://www.photogrammetry.com/ASPRS-PSR/

Central Puget Sound GIS User Group
Meetings the 3rd Tuesday of each month from 1:00 to 3:00pm at
Mercer Island City Hall. Contact Nora Gierloff at:
ngierloff@ci.tukwila.wa.us

Central Washington GIS User Group
Meets the 1st Thursday of each month at the Super China Buffet in East
Wenatchee, WA at 12:00 noon.
For information contact Amanda Taub at: ataub@co.douglas.wa.us

King County GIS User Group
Meets 1st Wednesday every other month at 11:00am at the KC GIS
Center, 201 S. Jackson Street, Seattle WA, Conf Room 7044/7045.

Northwest Washington GIS User Group
http://www.acadweb.wwu.edu/gis/nwgis_mtgs.htm

Spokane Regional GIS User Group
Contact: Dave Rideout, Spokane County 509-477-7251
drideout@spokanecounty.org

Washington Geographic Information Council (WAGIC)
http://wAGIC.wa.gov/
Join Listserv at: http://listserv.wa.gov/archives/wAGIC.html

To have your GIS related group or event listed in future issues of The
Summit, notify the editor at: SummitGISNews@URISA.org.

To be added to The Summit mailing list, contact:
SummitGISNews@URISA.org

Back issues of The Summit are available at:
http://waurisa.org/thesummit/

JOIN THE WASHINGTON GIS COMMUNITY FORUM!
The Summit is not the only communications resource available to
members of the Washington GIS Community. Sign up as a
member of the Washington GIS Community Forum
(http://waurisa.org/phpBB2/index.php) and access the latest news
about GIS jobs, training, projects, and professional activity in
Washington State.

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Contact Angela Johnson or any Board member listed above.

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