

# THE SUMMIT

## News From and For The Washington GIS Community

### WAURISA

The Washington State Chapter of  
The Urban & Regional Information Systems Association



Summer 2006

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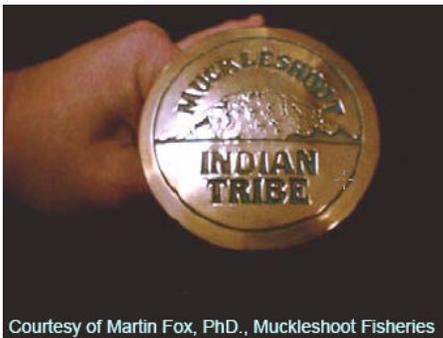
Issue 4

### MUCKLESHOOT TRIBE SURVEY NETWORK INSTALLATION: "THE SNARE"

*Tim Leach, GISP - Muckleshoot GIS*

The Muckleshoot Tribe is creating a survey network across the reservation area. This survey network is known as the "SNARE" (Survey Network "Across" the Reservation with Elevations).

Some of the survey monuments within the SNARE will be Muckleshoot Tribe's. The Muckleshoot monuments are made of brass and clearly indicate the "Muckleshoot Indian Tribe". Many will be imbedded in concrete. Muckleshoot monuments are property of the Muckleshoot sovereign nation.



Courtesy of Martin Fox, PhD., Muckleshoot Fisheries

#### *New Muckleshoot SNARE Monument*

The monuments will represent permanent measurement reference locations. Just like the BLM (US Bureau of Land Management), WSDOT (Washington State Department of Transportation) and King County, the tribal government will establish "a presence on the ground" with these monuments. These monuments will provide a consistent reference for distance and elevation measurements that are tribally controlled.

The Muckleshoot monuments will not indicate property corners and are not meant to indicate land divisions, work of the BIA, the BLM and others. They are provided as a reference so that the measurements made on the reservation are consistent.

**See: The SNARE, Page 8**

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### PRESIDENT'S COLUMN

**Warm and sunny greetings** to all Washington GIS Professionals! Summer is in full foliage and I'm fondly reflecting on the year thus far. For me, the highlight was definitely the 2006 Washington GIS Conference, held this past May in the beautiful and very 'tech' Greater Tacoma Conference and Trade Center. The technology, creativeness, companionship, and food were great! We now have a full Board of Directors, with the 'members at large' category filled in. Several new volunteers have stepped forward to help us also. Remember, we can always use whatever time and creativity you can spare to support your chapter: WAURISA.

We are delighted that Prof. Nancy Hultquist, of the Central Washington University Department of Geography, received the 'Summit Award' honoring her as Washington's GIS person of the year. Nancy's nomination, which reflected upon her dedication and mentorship, was supported by many of her former students. Nancy is featured in a fascinating interview elsewhere in this issue.

Several years ago WAURISA began discussing academic scholarships and other forms of support for GIS students. We are exploring ways to go about this task and we are looking for opportunities and volunteers to help strengthen our support of schools, colleges, and universities. These relationships will better facilitate dialog among educators, students, and employers. Educators want to know what skills employers need to be able to pass them on to their students effectively. Students benefit from networking with GIS professionals and being active in the GIS community. Employers want skilled, well trained, knowledgeable people to do the work.

Spatially enabled technologies are cutting edge. Their uses and possibilities are growing exponentially. Today's job market demands much more of the individual than it ever has. These conditions clearly indicate a need for broad, deep, and continuing enrichment of our professional skills throughout the course of our careers. As your local chapter of an international professional organization, WAURISA is uniquely positioned to provide many educational opportunities. We constantly renew our dedication to provide support for GIS professionals today, and into the future.

But we cannot do it alone. We need the help of the larger GIS community. By that I mean GIS users as well as GIS managers, developers, technicians, educators, and vendors. That means YOU! So come and join us at <http://waurisa.org>

Have a sweet summer,

**Rick Lortz, President**



## EFFECTS OF MULTIPLE PLACEMENTS ON FORMER FOSTER CARE CHILDREN AS ADULTS

*Tiffany Potter*

A recent study of former foster care children reported that the best adjusted adults had lived with the fewest foster families. Multiple foster care placements cause mental and emotional stress that contributes to problems in adulthood. In particular, frequent changes in school districts pose a serious threat to the child's educational development. The correlation between education and income is well documented and contributes to the over-representation of people with a foster care history in the homeless population. In Washington, a pilot project was launched to create a management system that would help social workers make optimal placement decisions for the children in their care.

### Effects of Foster Care on a National Level

It is well documented that on the average children with a foster care upbringing do not fare as well as their peers once they reach adulthood. The consequences are evident in this year's study by the Casey Family Programs. The study focused on adults who had spent at least one year in foster care as children- far less than the national average of three years in the system. One-third of these adults currently live at or below the poverty level and only one-fifth are both mentally healthy and employed. Although only 2 percent of children in the United States will enter the foster care system, they will account for 26 percent of the homeless adult population.

These staggering statistics are in part, a result of the educational disadvantages created by changes in foster care home placements. The typical foster care child changes homes twice. Some are relocated as many as 10 or more times. It is not uncommon for a child to change schools when placed in a new living situation. This imposes additional challenges on children in already stressful circumstances and disrupts educational progress.

A study by Berliner and Fine reported that next to GPA, school mobility is the second most influential factor in whether or not a child graduates from high school on time. Foster youth are three times as likely to change schools twice as compared to their schoolmates.

According to the Washington Department of Social Health Services, between January and June 2000, only 34 percent of those exiting the state's foster care system at age 18 had a high school diploma or GED. Studies have shown that only 3 percent have college degrees, compared to 24 percent for other adults.

Poor education results in significant social and financial burdens on both the foster child as an individual and to society as a whole. One study found that four years after leaving care, 51 percent of former foster youth were unemployed and 40 percent were receiving some form of public assistance. The Child Welfare League of America estimates that almost 33 percent will become homeless due in part to a lack of sustainable employment opportunities.

More than one half of former foster children exhibit signs of at least one mental disorder. Twenty five percent of former foster children are diagnosed with post-traumatic stress disorder (PTSD) - more than six times the rate in the general population and higher even than war veterans' levels. PTSD, along with other psychological disorders, is a significant indicator of homelessness, a problem which continues to plague the United States.

### Pervasiveness

The US needs new and innovative tools to deal with the dramatic increase of young people placed in foster care and the occurrence of homeless former foster children. A study conducted by the Urban Institute showed that 90 percent of states report difficulty identifying appropriate adoptive families, resulting in longer stays within the foster care system and sometimes unnecessary relocations. The study also showed that 88 percent of states are currently working to improve their child welfare case management process.

### Situation in Washington

Last year the Washington Department of Social and Human Services (DSHS) settled a multi million dollar class action lawsuit filed on behalf of children in the state's foster care system. The suit was filed seven years earlier on behalf of Jessica Braam and approximately 3,500 other foster children who had been moved three or more times while in foster care. More than one-third of those children were placed in more than eight homes. The settlement agreement required the DSHS to make major changes in its system of placing and caring for children in their custody.

DSHS sought to create a robust management system that would streamline the process and allow case workers access to all available information. During an impromptu meeting with representatives from Scientific Technologies Corporation (STC) and ESRI at the 2004 Washington State Health Conference the idea for an innovative approach to case management was developed.

In addition to creating a more efficient data management system, Geographic Information Systems (GIS) would be integrated, allowing social workers to physically track and locate children in their care. Scientific Technologies Corporation (STC), a public health informatics company with nearly 20 years of experience, and ESRI, a leader in mapping, agreed to apply their respective skills free of charge to create a solution.

STC performed an in-depth needs assessment and interviewed DSHS staff to discover what functionalities would be most beneficial. Because GIS was one of the focuses of the pilot, interviewers learned which spatial issues were most relevant to placement decisions.

The resulting pilot application was web-based and provided visual representation of pertinent placement information. This gave social workers an effective tool to track children in the foster system as well as their geographic relationship to families, schools, community services, transportation, and other important resources. By juxtaposing data maps, workers were able to perform both overlay and proximity analysis to make the best possible placement decisions. Spatial analysis also provides maps of available foster homes within a set distance of a child's school district, helping eliminate avoidable changes in environment.

According to Neal F. Cotner, a Region 2 Social Work Supervisor, who consulted with ESRI and STC and assisted with testing the pilot project, "This mapping system added a new dimension in social work practice by raising the awareness of the child and their surroundings in a graphic, cohesive manner that could be viewed layer by layer as the social worker saw fit."

**See: Foster Care, Page 3**

# PROTECTING ARCHAEOLOGICAL RESOURCES DURING AN OIL SPILL: USING GIS TO INSURE EFFECTIVE COMMUNICATION AND PROTECTION

Dr. Rob Whitlam

During an emergency response to an oil spill in coastal waters, an effective response requires accurate information and clear communications. In Washington State, the Department of Archaeology and Historic Preservation (DAHP), and its' GIS Consultant, GeoEngineers, Inc., has created for the Washington State Department of Ecology Oil Spill Response Program a GIS application that provides the Oil Spill Incident Command Structure current data on archaeological site locations during an oil spill. The application also provides contact information for notifying concerned tribal government cultural staff.

With twenty-nine federally recognized tribes resident in Washington and a rich history of cultural sites located along coastal shorelines and rivers, any oil spill has the potential to damage and contaminate sensitive archaeological sites.

DAHP uses a combination of ArcView and ArcINFO for digitizing and maintaining archaeology site locations. As part of DAHP's GIS Initiative, over 19,000 archaeological sites have been mapped within GIS and attributed with information regarding site type (e.g. burials, petroglyphs). Each site is mapped within a geodatabase and linked to a scanned image of the original documentation regarding the discovery of the site. These data are available to DAHP staff via a customized ArcGIS interface. These data are not subject to public disclosure; however, data sharing is possible with governmental agencies through Memorandums of Understanding. In this way DAHP is able to share this information with the Washington Department of Ecology for protection of these valuable resources during oil spill events.

With funding from the State's Coastal Protection Fund and the assistance of the Tribal Historic Preservation Offices and Cultural Staff of the twenty-nine tribes, DAHP created a series of specific GIS layers for each tribal government reflecting its geographic area of interest, its reservation lands, and watersheds that each tribe's cultural department wished notification when a spill occurred.

In many parts of the state, multiple tribes require notification. Also along the Columbia and Snake Rivers, tribes now resident in Oregon and Idaho have an interest and require notification. The GIS application has a database identifying the specific cultural staff contact with phone number, an after hours emergency number, and details on any staff that have hazmat training. These screens were created for ease of use during an emergency and allows for quick printing of contact sheets. Also since names and phone numbers frequently change, the table was created to allow for ease of updating.



WISAARD is DAHP's Public Web Mapping Portal



The associated screens allow for the Incident Commander during an oil spill incident to immediately identify, using the hyperlink tool within ArcGIS, any archaeological sites potentially at risk and then identify the concerned tribes using the Oil Spill Tribal Contact tool. This tool provides quick and easy access to current tribal contact names for geographic regions. By clicking on the map at the location of an oil spill, a list of federally recognized tribes is generated on-the-fly through an associated database.

During a recent spill event the Ecology responders were able to quickly identify the tribes of concern using the system. Dr. Allyson Brooks, State Historic Preservation Officer, and Director of DAHP stated:

*"Our ability to protect these unique and special places in Washington is directly related to the speed with which we can get information to the decision-makers and first responders on the scene. By providing current data in spatial and tabular format, GIS helps us accomplish that mission"*

For more information on this application contact Dr. Rob Whitlam, State Archaeologist at DAHP at 360/586-3080 or email: [rob.whitlam@dahp.wa.gov](mailto:rob.whitlam@dahp.wa.gov)



## Foster Care Continued From Page 2

This project has proven the viability and necessity of an updated childcare management system with integrated GIS. Washington's children will benefit from case workers' improved capacity to make informed, rapid placement decisions. If adopted on a larger scale, such a system could make a marked difference in the lives and futures of children in foster care.



STC & ESRI Developed a GIS-Based Foster Care Management System

*"This case study clearly illustrates the evolution of GIS into enterprise applications and Server GIS. Social Services organizations in particular, have massive amounts of data to manage, but generally no established GIS programs. Geospatial technology provides a powerful framework for data integration and for spatially-enabling existing business applications, facilitating more informed decision making and better case management, resulting in positive outcomes."*  
- Christina Woods, ESRI

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## HOT OFF THE PRESS: REGIONAL TRANSIT MAP BOOK

*Dennis Higgins & Patrick Jankanish*

Transit users in the Central Puget Sound region will soon have a new publication to guide them in the use of public transportation and travel options throughout the region. Public transit service providers in Snohomish, King, and Pierce counties will be distributing free copies of the "Regional Transit Map Book," a new 28-page collection of regional and local transit maps, service information, and provider contacts.

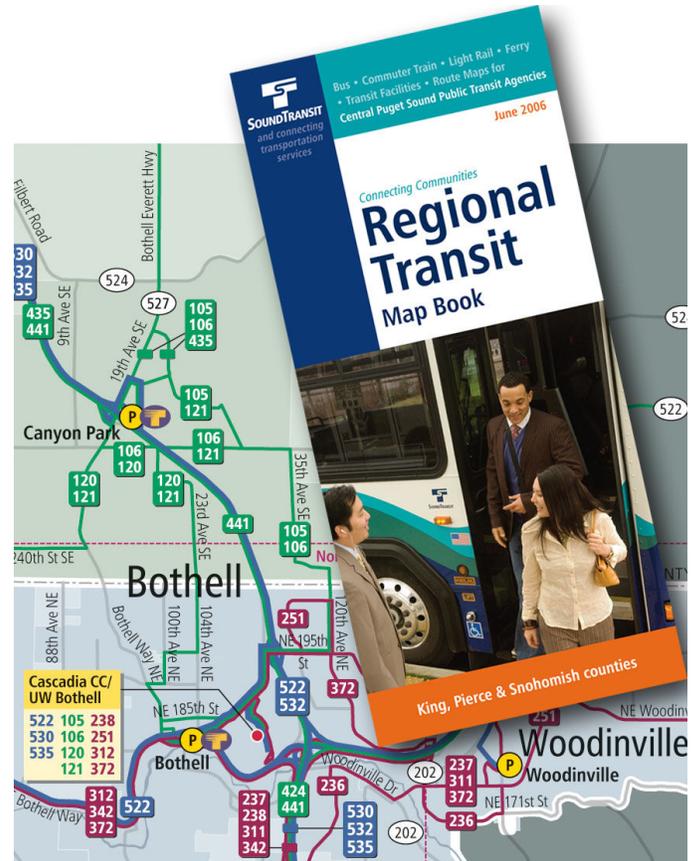
This colorful, compact booklet was created by Sound Transit (ST) and the King County GIS (KCGIS) Center in Seattle. Sound Transit developed the concept, compiled transit data, and created content, including text and the booklet's cover. A major part of Sound Transit's project-driving effort was their coordination of data acquisition and map review involving the four primary local transit service partner agencies that provide connections to Sound Transit's regional system of express busses, commuter rail, and light rail. Sound Transit commissioned the KCGIS Center through a competitive bid process to design and create the booklet's layout and its key feature: the set of more than one-dozen transit service maps. The KCGIS Center partnered with Seattle-based Consolidated Press, Incorporated for printing of the booklet.

Booklet features include a region-wide map that delineates the three-county Sound Transit District, a map of each of the five Sound Transit fare zones that shows all ST transit routes and connecting local bus routes, and large-scale maps of key urban transit locales. The maps are supplemented by tables of transit facilities, such as transit centers and park-and-ride lots, and the transit service options available at each facility, as well as bus route tables that identify the routes depicted on the maps by number, description, and hours of service. Booklet users will also have at hand information on numerous transit rider options, such as fares and passes, special needs services, and vanpooling. Contact information for nearly twenty Puget Sound area transit service providers ensure ready access to the full range of regional travel options, including online trip planning services.

### Background and Business Need

As a voter-approved regional agency, Sound Transit's mission is to "plan, build and operate regional transit systems and services to improve mobility for Central Puget Sound." Public transit options available in this region constitute a broad mix of Sound Transit's own system of services and facilities with those offered by local bus transit providers, principally King County Metro, Pierce Transit, Community Transit, and Everett Transit, and such agencies as Amtrak and Washington State Ferries. Sound Transit itself operates limited-stop, long-haul express bus routes, commuter rail that runs from Tacoma and Everett to Seattle, and Link light rail. Sound Transit's business also includes "numerous improvements to transit centers, park-and-ride lots and HOV lanes throughout the region."

Inspired by a booklet of regional transit options for the San Francisco Bay Area, and its own regionally oriented mission, Sound Transit in March of 2005 issued a request for proposals to create a transit map booklet for the Central Puget Sound region. The purpose of the booklet as defined by Sound Transit is to "help transit users to commute across the region by combining transit options from multiple transit agencies." That is a clear and straightforward purpose, but given the number of transit modes and agencies that operate within the region, the task represented a complex challenge.



*Sound Transit Map Booklet & Sample Map Page*

The King County GIS Center was established in 2001 as a separate King County internal service fund, chartered to provide GIS services to both county agencies and external customers. Since its inception the KCGIS Center has created high-quality and award-winning cartographic publications for internal clients, such as King County's Parks and Recreation Division and Department of Transportation, as well as such external clients as the cities of Mercer Island and Kirkland. The skills, experience, and resources that the KCGIS Center offers its clients were a natural fit for the publication design, GIS data handling, and cartographic design and production required by Sound Transits' specifications for the map booklet.

### ***The Sound Transit Map Book will help transit users commute across the region***

To get the product into its final form, high-quality printing of the detailed maps and other booklet content, and the efficient assembly and binding of up to 100,000 copies of the double-folded booklet were required. For the critical printing component of the project, which was beyond the scope of King County's own in-house printing facility, the KCGIS Center partnered with Consolidated Press for their experience with the type of product and quantities required, for their local production facility, and for their competitive pricing.

**See: Transit Map Book, Page 7**

## AN INTERVIEW WITH....

The goal for *The Summit* is to foster the exchange of news and ideas from and for the entire Washington GIS Community. This issue of *The Summit* presents the second in our series of interviews with Washington GIS professionals and users. Our goal is to present a personal view of the significant GIS related challenges, development issues, and implementation successes that government agencies, non-profits, academics, researchers, businesses, and vendors face throughout the state.

The subject of our interview this issue is Prof. Nancy B. Hultquist, winner of the 2006 *Summit Award*, presented by WAURISA to the Washington GIS Person of the Year at the annual Washington GIS Conference.

-Editor

## AN INTERVIEW WITH NANCY B. HULTQUIST 2006 SUMMIT AWARD WINNER

By Effie Moody

*Summit:* Congratulations on receiving the 2006 *Summit Award*, as Washington GIS Person of the Year. Tell us a little about yourself - What is your educational and professional background - how did you get interested in GIS, and how long have you been involved with GIS?

*Nancy Hultquist:* My undergraduate days were in Atlanta, at Georgia State College (now University). I majored in Math but took all the geography courses I could and an early Fortran II class. From there I went to graduate school at the University of Cincinnati (1965) for a Master's degree, but with an assistantship in the computer center to be a liaison with the Geography Department, which was coming into the quantitative revolution. Over 2 years there, I learned many of the early software and programming languages. I also taught Fortran IV to the faculty and students at Cincinnati. With my Master's in 1967, I accepted my first job teaching at Georgia State University. I was first introduced to Harvard Computer Graphic's early computer mapping programs while there and began using them to teach a course called Techniques of Spatial Quantification and Computer Mapping. I continued my interest in computers and mapping when doing graduate work at the University of Iowa starting in 1969 and remained there until leaving for a position at the University of Idaho in 1974. I advised on a Master's thesis research by William Ripple to predict soil erosion for a GIS Modeling application of the Universal Soil Loss Equation on the Cow Creek Watershed in Idaho, 1977. I began a Ph.D. program at the University of Idaho in Education in 1987 (with graduate work transferred in from the Ph.D. in Geography program at Iowa) and completed it in 1990.

*Summit:* How long have you been in your current position, what is your job title, and what do you *really* do?

*Nancy Hultquist:* I have been at Central Washington University since 1988. My title is Professor of Geography. Besides teaching four GIS courses (GIS Concepts, Intro to GIS with ArcGIS 9, Intermediate GIS Spatial Modeling with ArcGIS 9, and GIS Applications in Resource Management Graduate Seminar), I also teach Map Reading and Map Interpretation, Urban Geography, Economic Geography, and Wine: A Geographical Appreciation (summer).



*Prof. Nancy B. Hultquist, 2006 Summit Award Winner*

I have a major involvement in Co-op Internships as an on-campus advisor. I add computer applications labs to every course I teach. As follow-on to the internship advising, I have built a "jobs" e-mail list that grows; anyone who wants to send me an e-mail is welcome to be on the list and is encouraged to submit job opportunities there.

***It appears to me that the limit of GIS is in the imagination of its participants***

*Summit:* Tell us a little about the GIS program at Central Washington - how does GIS support the overall mission of CWU? What is the history of GIS at CWU?

*Nancy Hultquist:* GIS courses have been taught at Central Washington University (CWU) since before I arrived. There was a matching grant received for \$50,000 from the Corps of Engineers and the Yakima Training Center to set up a GIS lab in the mid-1980s with G.R.A.S.S. (Geographic Resource Analysis Support System) software and the involvement of a geographer, an anthropologist, and a geologist (all CWU faculty members). I joined the team in 1988 and began teaching Intro to GIS with the Map Analysis Package on Macs, which I had previously been teaching at the University of Idaho on an IBM 360 mainframe. The Intermediate, Advanced Data Base, and Applications courses I taught with the others on G.R.A.S.S., plus we had a UNIX version of ESRI's ArcInfo in the lab then so I learned versions of that (plus GRID) and writing macros for both software 'languages' (AML and VI). There was a macro language associated with MAP for batch processing as well and later with the software Map\*Factory that evolved into MFWorks for PCs.

**See Nancy Hultquist, Page 6**

## NANCY HULTQUIST

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*Summit:* What is new in GIS at CWU? Any new GIS developments that will be implemented soon? What are the plans for the future that involve GIS?

*Nancy Hultquist:* Nothing much new in the past couple of years, but CWU has been primarily an ESRI/ERDAS shop which currently runs ArcGIS v. 9.1. We support a GIS Certificate which reflects 26 hours of courses in the Geography or Computer Sciences Departments aimed at GIS and quantitative technique methods, including GIS, Remote Sensing, and Air Photo Interpretation.

I also teach two courses outside of the GIS certificate program that are valuable to our students for certain career goals. One emphasizes the applications of ArcView 3.3 at the sophomore level, intended for would-be planners who still utilize Avenue macros in a few counties around WA State. A lot of people think ArcView 3.x is archaic but there are many planning agencies in Washington that are still using it. You have all these macros written in avenue in ArcView 3.x. I tell my all students: *"If you want to be the next billionaire, create a program that will translate avenue to visual basic and you've got your way paved for the future."* The K-12 Social Science Teaching Certification program requires that their students to take the course also.

The other non-GIS certificate course feeds into our Resource Management master's graduate program – and is titled GIS Applications in Resource Management. Several in WAURISA have been guest speakers in that class, and I invite others who might be interested in sharing their GIS work with these students to volunteer their time this fall. We will network after class over dinner with the students and treat you to a meal of your choice. That course has been a success and shows how people in our state are applying GIS concepts in the real world.

*Summit:* How many people at CWU actively work with GIS (as Users or Professionals)? And what percent of the total work force does this represent?

*Nancy Hultquist:* Remember this is a university -- Two of us in the department handle much of the GIS teaching and research program. Dr. Robert Hickey is in charge of our GIS Lab along with an assistant and the University's support staff, and he handles the Certificate program. Several others teach related classes – air photo, quantitative methods and so on. We have a new hire arriving this Fall -- Jennifer Lipton who is a cultural geographer primarily with interests in Latin America and Hispanic studies, but utilizing Remote Sensing/GIS in her research. Computer Science has related classes and the Geological Sciences program probably has the greatest funded research use of GIS.

*Summit:* Do you teach cartography?

*Nancy Hultquist:* We don't have cartography as in hands on manual. I do a bit of cartography for map reading and map analysis. We have a computer cartography class that Dr. Robert Hickey teaches with Corel Draw. That is the other piece of software that is in our lab. We are not a well funded lab; I mean it is good that we get as much help as we do.

*Summit:* Do you use certain proprietary software for GIS and if so, what is it? Do the majority of GIS users at CWU use the same software?

*Nancy Hultquist:* I have experienced a variety of proprietary software through the years, but at CWU, we primarily emphasize ESRI software as we have a State University License. We also use ERDAS Imagine as it is licensed for our GIS lab. I also work with Golden Software's MapViewer product as a beta tester and user of their products since the 1980s. I use Map Viewer myself to document lectures and occasionally research publications, and often participate in co-teaching workshops to K-12 teachers at the National Council for Geographic Education conferences using both vendors' software. I have used other remote sensing software in my work and past teaching and have offered workshops at conferences for it, now marketed through EarthScenes, which was known under different names in the past. I have had guests to my graduate class demonstrating their use of Intergraph's GeoMedia software in GIS planning in Benton County, WA.

*Summit:* Do you have any advice to those beginning their career in GIS.

*Nancy Hultquist:* Yes! Get an internship and work while you are in school so you have some job experience to put on your resume. Get some background in computer programming, math, and statistics, even if you do not intend to be a programmer. Learn about some subject matter in your field (biology, geology, geography, environmental studies, physics, meteorology, planning) where GIS applications occur and understand them. Learn to write clearly and spell correctly. Pay attention to detail. Practice being an engaging speaker.

*Summit:* What is the future of GIS in your opinion? Do you see an expansion of GIS use to certain areas that are not necessarily being seen now?

*Nancy Hultquist:* It's an ever-expanding industry. GIS continues to move into the public arena with planning applications and Google Earth access, etc. There are endless applications that I have seen developing over the years and that will continue. It appears to me that the limit of GIS is in the imagination of its participants. As unrelated as it might once have seemed – even the wine industry is a growing user of GIS technology. John (my spouse, a Ph.D. Geographer) and I helped write the proposal for the Rattlesnake Hills American Viticultural Area (AVA), recently approved by the Federal Government for Washington State. GIS doesn't show up in the proposal but underlies the entire concept of a viticultural area (appellation) or "Terroir" – in French.

*Summit:* In the aftermath of recent disasters, is there something you will now readdress that you were not doing before, for example, emergency management and data management- adequate backups, etc? If so, please explain.

*Nancy Hultquist:* I force my students to make backups of their work in different places on campus and on their personal jump drive or a CD. While this next comment doesn't answer your question, entirely, I did have a connection to the Katrina efforts through one of my students. He participated in the GIS mapping of the Katrina clean up efforts with a local Washington firm, spending several months off and on in New Orleans since the fall of 2005.

**See Nancy Hultquist, Page 7**

## NANCY HULTQUIST

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*Summit:* Finally, what is one of the most important lessons you have learned from your experience in GIS? Any other words of wisdom to pass on to others?

*Nancy Hultquist:* A positive attitude is important. We have to be adaptable, to be flexible, and to be willing to learn new technologies, languages, and applications. Embrace all this. Stay in touch – stay informed. I maintain contact with my former students and with user conferences and GIS-User groups to attempt to stay abreast of the current developments and applications and with changes in the job market. I participated for four years in the Puget Sound Regional Chapter, America Society of Photogrammetry and Remote Sensing (ASPRS), serving on the board, then Vice President, President, and past-President. I had to curtail my activities there when I became active in the Association of Washington Geographers and had to make all the member meetings and board meetings in the Puget Sound region or in Canada. It was too much traveling time.

Tell your children, their friends, and the neighbor's kids to only go to a university if they want to *learn*. We'll ask them to pay attention to details, learn about color and design, take photographs and work with graphics, and stand in front of fifty strangers and give a presentation.

One thing I do to remove stress in my life is to play the fiddle in a group that goes to nursing homes and assisted living homes in Ellensburg each week to play and sing the Old Time favorites.

WAURISA's Washington GIS Conference was so cool, as I met all sorts of people in the presentations and out in the foyer just talking with them. I went to the Lidar presentation by the Clallam tribe and he was awesome. I felt the same way about Donna Wendt's presentation and many others. I met some good contacts for future speakers for my class. I will be inviting people over to CWU and the best I can do is say, we can take you to dinner and then we can network afterwards. It is always in the evenings and they can come and talk to the class. I think this is really important because this is my way of getting real life into what's going on.

Finally, I try hard in my GIS classes and with internships, to encourage students to pay attention to detail in their writing, in the design of GIS layouts, and I attempt to promote public speaking and poster presentations of their work whenever I can. For example, in most of my classes I require a term project that ends with a poster presentation at the end-of-quarter University-wide poster sessions; as well, we have an annual SOURCE opportunity (SOURCE stands for: Symposium On University Research and Creative Expression). I often bring students to our professional meetings to assist them getting out to practice their skills. I also nominate students for professional awards and scholarships. For example, the PNW chapter of GITA (Geospatial Information and Technology Association) has presented two of my student's \$1,000 awards over the past couple of years. Above all, I try to be positive and supportive in my students' search for a career and to encourage life-long learning.

*Summit:* Thanks for taking the time to speak with us. Good luck with your program, and congratulations again on your award.

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## TRANSIT MAP BOOK

Continued from Page 4

### A Cooperative Success

The successful completion of the "Regional Transit Map Book" project represents a milestone for Sound Transit and for the KCGIS Center. For Sound Transit and the partner transit service providers, delivery of the booklet means they each now have an attractive, easy-to-understand, cost-effective, and easily-distributed tool for introducing regional transit services to a wide audience, including many first-time transit users. And it could not have been possible without significant multi-agency cooperation.

For the KCGIS Center, the booklet was a complex technical challenge that required especially close interaction with its client as the content provider and coordinator of data from the many contributing agencies. The breadth of the intended audience called for inviting and accessible graphic design elements. And the tremendous amount of transit route and facility information demanded a high level of cartographic design creativity and problem-solving.

In many ways a product such as the "Regional Transit Map Book" can only be as good as the quality of the final application of ink on paper, plus all of the finishing tasks which result in the physical product that ends up in the user's hands. The successful work of Consolidated Press to print, bind, and deliver the booklet completes a full cycle of concept creation, project development, design, and production for Sound Transit and the King County GIS Center. The result is a new and valuable resource for transit users throughout Central Puget Sound.

*Contact Information:*

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Dennis Higgins, [dennis.higgins@metrokc.gov](mailto:dennis.higgins@metrokc.gov); 206-263-4523

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Sound Transit: <http://www.soundtransit.org/>

Consolidated Press Incorporated: [www.conspress.com/](http://www.conspress.com/)



## GITA: PACIFIC NORTHWEST CHAPTER SEVENTH ANNUAL FALL CONFERENCE

*"Out There—People, Process, and Technology."*

The dates and venue are set for the seventh annual PNW GITA Fall Conference on October 23<sup>rd</sup> and 24<sup>th</sup> at the Salishan Spa and Golf Resort on the beautiful central Oregon coast. For more information, see the GITA PNW Chapter website at: [www.gita.org/chapters/pacific](http://www.gita.org/chapters/pacific)

## 2006 NW ESRI USER CONFERENCE

*"Visualizing Our Past, Present and Future"*

Doubletree Hotel, Spokane:

- Pre Conference Training: September 11-12
- Conference Sessions: September 13-15

For more information, see the NW ESRI User group website at: <http://www.nwesriusers.org/>

## THE SNARE

Continued from Page 1

In the past, consistency in measurements was difficult within the reservation area because different standards and methods were used. Along with this, elevation references were sparse. By establishing this horizontal and vertical reference system, the Muckleshoot Tribe is creating an environment where these difficulties will begin to fade away. A significantly different perspective will begin to emerge for those who work for and serve tribal members on or near the reservation area.

The Tribe hired W & H Pacific Inc., subsidiary of a native owned corporation to perform the survey. Larry Signani, PLS is a long time resident of Enumclaw (former classmate of "older" Muckleshoot tribal members) and leads the SNARE survey. Larry is a distinguished surveyor of many years in the Northwest. His accomplishments include the 1989 Surveyor of the Year of the Land Surveyors Association of Washington and "Expedition Leader" for the 1999 Mount Rainier Re-measurement Project. He is an expert in GPS surveying and in the technical aspects of establishing networks of this nature – a reference network for surveying and engineering.

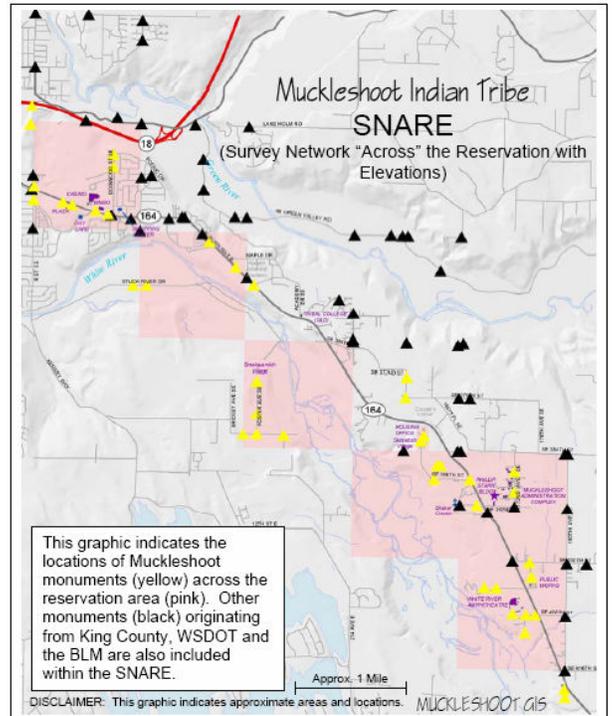
In the past, land survey, infrastructure, utilities and other projects used reference locations that were specific to each project. With this system, the Tribe is providing a consistent reference for information, no matter where a project is located or who is doing the work. For example, the elevation of a sewer main near the White River Amphitheatre will be related to an elevation at the Muckleshoot Casino even though the work performed may be by two different companies, for two separate projects, several miles away.

Use of this system will reduce confusion and project costs for construction, infrastructure improvement, environmental assessment or enhancement - the list is long. It will allow the Tribe and others to better manage different projects that impact the reservation. It will also provide a basis for resolving inconsistencies of the past. Once problems are resolved, they too will begin to fade away. SNARE related positions will be able to be reestablished if location markers are lost or damaged. The Muckleshoot SNARE will last for many generations ensuring a consistent reference through time.

As the reservation area grows to support the homes, utilities, and facilities that serve tribal members, the need for better management of the infrastructure increases. The Muckleshoot SNARE creates a foundation to support this and is a significant step forward to help to ensure the projects the Tribe undertakes, and those who work for the Tribe and others are "on the same page" with good, consistent information.

WE ASK FOR YOUR HELP AND SUPPORT to allow the monument installations to take place and to help protect the SNARE when they are in place. These monuments are property of the Muckleshoot sovereign nation and people. They are placed on the ground to assist those that work on behalf of the Tribe. Please report any suspicious activity or damage to Muckleshoot Public Works at (253)876-3143. In Washington, destruction of monuments is a gross misdemeanor with a fine of up to \$1000 (RCW 58.04.015) that can be assessed for damages.

Tim Leach, GISP, Muckleshoot GIS Manager  
[tim.leach@muckleshoot.nsn.us](mailto:tim.leach@muckleshoot.nsn.us); 253-876-3323



Map of the Muckleshoot Tribe SNARE Project

## VISIT THE NEW AND IMPROVED URISA WEBSITE!

**The Urban and Regional Information Systems Association (URISA)** is a nonprofit association of professionals using Geographic Information Systems (GIS) and other information technologies to solve challenges in state/provincial, regional and local government agencies. URISA is considered to be the premier organization for the use and integration of spatial information technology to improve the quality of life in urban and regional environments.

The new URISA web site ([www.urisa.org](http://www.urisa.org)) has been redesigned to provide GIS professionals and users a convenient resource for a wide variety of information to aid them in their careers and professional development. Visit the new web site and you will find:

- News
- Membership
- Chapters
- Conferences & Workshops
- Publications
- Awards
- Career Center
- Member Space
- Resources
- Corporate & Business Member Directory

[WWW.URISA.ORG](http://WWW.URISA.ORG)

## 2006 WASHINGTON GIS CONFERENCE RECAP

**WAURISA held a very successful 2006 Washington GIS Conference** in Tacoma, May 8-10. The Conference included a day of technical workshops, followed by two days of educational sessions, vendor presentations, vendor displays, a map contest, and a leadership luncheon. Prof Nancy B. Hultquist from Central Washington University was presented the new Summit Award, for 'Highest Contribution to the Washington GIS Community.'

Attendees kicked back and enjoyed an evening of socializing at a Tacoma Rainiers minor-league baseball game. Each person who attended the ball game received a URISA Chapter/Conference baseball style T-Shirt. The number on the back of the shirt was each person's raffle number for a prize give away at the ball game.

A number of vacant Chapter Board positions were filled at the conference. The current Washington Chapter Board is comprised of the following members:

<b>WAURISA Board of Directors</b>					
<b>Position</b>	<b>Name</b>	<b>Term</b>	<b>Position</b>	<b>Name</b>	<b>Term</b>
<b>President</b>	Rick Lortz	2005-2007	<b>Member At-Large</b>	Dun Burdick	2006-2008
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*Attendees network during a break*



*Map contest judges*



*WAURISA members enjoy the sun and the ball game*



*Busy vendor area*

**WAURISA would like to thank our 2006 Washington GIS Conference Sponsors:**

<b>Mount Rainier Level Sponsor:</b>	<b>Mount Baker Level Sponsors:</b>	
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## THE 44TH ANNUAL URISA CONFERENCE *THE PLACE FOR SPATIAL INFORMATION PROFESSIONALS*

September 26-29, 2006  
Vancouver Convention Centre  
Vancouver, British Columbia

**URISA's 44th Annual Conference** will generate discussion and debate about the most serious topics faced by those trying to improve our urban and regional environments through the use of information technology. Beginning on Tuesday with full-day, comprehensive workshops, followed by three full days of educational sessions and networking opportunities, URISA 2006 is a complete conference — thought-provoking, unbiased and worthwhile.

Go beyond basic technology and applications and contemplate issues related to designing, managing and applying information technology – at its highest and best use – to improve our urban and regional environments. Join your colleagues, peers, thinkers and doers from around the world at URISA's 44th Annual Conference.

- Thirteen pre-conference workshops
- An opening and a closing keynote address
- More than 200 presenters
- Special presentation by the 2006 URISA Exemplary Systems in Government Award winners
- Vendor hospitality and user group meetings
- A packed exhibit hall
- Networking opportunities abound

This year's theme is "Challenge the Limits", and the conference will offer every professional in attendance a chance to stretch well beyond their comfort zones. Whether it is hearing about an emerging technology for the first time and determining how you can apply it in your situation, figuring out where you can find the time to talk with all of your colleagues who have so much to offer, or participating in the important meetings of the committees that contribute so much to URISA's outstanding reputation, expect to be challenged.

For more information see: [www.urisa.org](http://www.urisa.org)

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King County GIS Center  
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[www.cityofseattle.net/gis/](http://www.cityofseattle.net/gis/)

For more information about WAURISA Sponsorship, contact Rick Lortz ([rlortz@lakehaven.org](mailto:rlortz@lakehaven.org)), or any WAURISA Board member

## THE SUMMIT - EDITORIAL

### VERITAS?

The motto of Harvard, the oldest university in the United States, is 'Veritas' – Truth. Recently, Harvard announced that the study of geography would return to the University, after an absence of 58 years, with the establishment of a new Center for Geographic Analysis (CGA). Douglas Richardson, Executive Director of the Association of American Geographers, stated: "This development should have far-reaching positive impacts at other institutions considering adoption of new geography education and GIS research programs" (ArcNews, Spring 2006).

What is curious in the ArcNews article, as well as in the announcements on the Harvard University web site, is the absence of an explanation of why in 1948 Harvard President James Conant decided to disband the Geography Department. Why is this question important? The truth is that after Conant's decision, other leading Universities in the U.S. followed Harvard's lead. Shortly after 1948, Yale, Columbia, Michigan, Stanford, and many other schools disbanded their geography programs.

Speculation about the basis for Harvard's decision includes inter-department rivalry with Geology, rumors of a homosexual scandal in the Geography Department, and an uninformed bias on Conant's part. He was reported to have once stated: "Geography is not a university subject." The fact is that careers were ruined.

In addition, students at America's most important universities were deprived of a systematic approach to developing geographic awareness. Could the leaders who emerged from Harvard, Yale, Stanford, Michigan, and Columbia during the past six decades have benefited from a geographic perspective to their educations? Could some of our leaders who emerged from those institutions have been misinformed or uninformed about the geography of important regions such as Vietnam, Iraq, Korea, or Latin America, or the geographic aspects of natural resources management, the spatial factors driving immigration to the U.S., or the distribution of water resources across arid regions?

Harvard's decision to reestablish the study of geography is a response to what we in the Washington GIS community know. Geography does matter and GIS is an important tool to utilize geospatial understanding in many aspects of modern life. But perhaps Harvard owes the discipline an explanation and the truth behind its decision in 1948, if it would live up to its own motto.

We are fortunate that not all schools followed Harvard's lead. Down the road from Harvard, Clark University in Worcester, Massachusetts continued an important geography program. In California, UC Berkeley and UCLA maintained vibrant geography departments. And closer to home, the University of Washington has been a leader in geographic research and teaching to this day. The interview with Nancy Hultquist elsewhere in this issue of *The Summit* demonstrates that geography is alive and well at Central Washington University. Many other geography and GIS programs across Washington prove that we know the value of the discipline that so many important universities ignored for too long.

The future for GIS seems bright. We should welcome Harvard's decision and hope that other universities follow (there is already agitation at Stanford to reestablish a geography program). Washington GIS professionals can do their part so that the citizens and decision makers we serve never have to say 'I was misinformed' about the important spatial factors that affect our world.



## LETTERS TO THE EDITOR

"The Summit is an excellent newsletter. Very informative and a great source of information about events, projects, and involved GIS practitioners. Great job of putting it together."

*Bob Haas, GIS & Web Manager  
Deschutes County Information Technology*

*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 250 words.

### LET YOUR VOICE BE HEARD

*The Summit* would like to facilitate the exchange of ideas and opinions regarding matters of importance to GIS professionals and users in the State in future newsletters. Consider submitting a letter to the editor or an essay if there is a GIS-related issue that is on your mind. Let your voice be heard. Share your ideas with the Washington GIS Community.

## THE SUMMIT— LITERARY CORNER

### What brought you to Casablanca?

#### Captain Renault:

*'Tell me Rick, what in heaven's name brought you to Casablanca?'*

#### Rick Blaine:

*'My health - I came for the waters.'*

#### Captain Renault:

*'The waters? There are no waters in Casablanca. This is the desert.'*

#### Rick Blaine:

*'Then I was misinformed.'*

*-Humphrey Bogart & Claude Rains, from Casablanca*

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**Newsletter Editor:** Greg Babinski  
**Interview Editor:** Effie Moody

For subscriptions, content, comments, or suggestions, email: [SummitGISNews@URISA.org](mailto:SummitGISNews@URISA.org)



## UPCOMING GIS EVENTS IN WASHINGTON

ACSM – Washington State Section

<http://www.wss-acsm.org/>

Dinner meetings at 6:00pm, 3rd Thursday of the month at Angelo's Restaurant, 1830 130th Ave NE, Bellevue WA.

ASPRS Puget Sound Region

<http://www.photogrammetry.com/ASPRS-PSR/>

Central Puget Sound GIS User Group

<http://waurisa.org/phpBB2/viewforum.php?f=24>

Meetings the 3rd Tuesday of each month from 1:00 to 3:00pm at Mercer Island City Hall. Contact Dick Thomas at: [dick@samplat.wa.org](mailto:dick@samplat.wa.org)

Central Washington GIS User Group

<http://www.cwgis.org/>

Meets the 1st Friday of each month at the Wok-About Grill, 110 N Wenatchee Ave, Wenatchee, WA at 12:00 noon.

King County GIS User Group

[http://www.metrokc.gov/gis/KC\\_Users\\_Group.htm](http://www.metrokc.gov/gis/KC_Users_Group.htm)

Meets 1st Wednesday of each month at 11:00am at the KCGIS Center, 201 S. Jackson Street, Seattle WA, Conf Room 7044/7045.

Northwest Washington GIS User Group

[http://www.acadweb.wvu.edu/gis/nwgis\\_mtgs.htm](http://www.acadweb.wvu.edu/gis/nwgis_mtgs.htm)

Spokane Regional GIS User Group

<http://waurisa.org/phpBB2/viewforum.php?f=19>

Meets last Wednesday every other month from 12:00 noon to 1:00pm. Contact: Dave Rideout, Spokane County 509-477-7251 [drideout@spokanecounty.org](mailto:drideout@spokanecounty.org)

2006 NW ESRI User Conference, September 11-15, Spokane, WA

<http://www.nwesriusers.org/>

2006 URISA Conference, September 26-29, Vancouver, BC

<http://www.urisa.org>

2006 GITA PNW Chapter Conference, October 23-24, Salishan Resort, OR

<http://www.gita/chapters/pacific>

2007 Washington GIS Conference:

<http://www.waurisa.org>

To have your GIS related event listed in future issues of *The Summit*, notify the editor at: [SummitGISNews@URISA.org](mailto:SummitGISNews@URISA.org).

To be added to *The Summit* mailing list, contact:

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Contact Rick Lortz or any Board member listed above.

## JOIN THE WASHINGTON GIS COMMUNITY FORUM!

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