

# THE SUMMIT

## News From and For The Washington GIS Community

### WAURISA

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



Spring 2006

[www.waurisa.org](http://www.waurisa.org)

Issue 3

## THE STATE OF WASHINGTON'S GIT ENTERPRISE ARCHITECTURE INITIATIVE

By Jeff Holm

The State of Washington's Geographic Information Technology (GIT) Enterprise Architecture (EA) initiative was launched in January 2005 to address several objectives highlighted in the *2005 Washington State Geographic Information Strategic Plan* (See [www.wagic.wa.gov](http://www.wagic.wa.gov)).

### GIT EA Value

The purpose of the Geographic Information Technology (GIT) Enterprise Architecture (EA) Initiative is to increase state agencies' capacity to fully support informed public policy and decision making. The initiative accomplishes this by identifying state agency GIT information, technology and business processes that should be managed and funded as state enterprise assets. This approach facilitates a single enterprise view of the data for policy and decision makers and will help resolve environmental, transportation, public safety, and other multi-jurisdictional problems.

Consistent application of the GIT EA will foster improved cross-government performance by promoting data sharing and the adoption and use of interoperable, standards-based GIT tools and technologies.

The GIT initiative is a chartered initiative of the Information Services Board (ISB) EA Program. ISB is the IT policy and oversight body for Washington State agencies (see GIT EA Governance Diagram on page 7). The Program development methodology calls for successive iterations through each component of the architecture framework to develop and document the architecture. Each iteration results in continued refinement and additional definition of the components. Phase I of the GIT Enterprise Architecture initiative addressed the first of these iterations, the Conceptual Architecture. On January 12, 2006 the Information Services Board approved the proposed GIT Conceptual Architecture.

### GIT EA Components

The GIT EA consists of a set of interrelated components designed to facilitate cross-agency analysis and identification of duplicative investments, information and technology gaps and opportunities for collaboration within and across agencies. Collectively these components define a framework for determining and describing the important elements of the GIT EA in a common and consistent way. The GIT EA includes the following components: Principles, Business Architecture, Technology Architecture, Information Architecture, and Solutions Architecture (see GIT EA Framework diagram on page 8).

See Washington GIT Architecture, Page 7

## PRESIDENT'S COLUMN 2006 WASHINGTON GIS CONFERENCE

**Greetings to my Washington GIS friends.** It must be spring because frogs serenade me nightly out at the homestead and at WAURISA, we're at work on the annual Washington GIS Conference.

Our GIS Developers' Workshop in February was a success with 85 attendees. I was fascinated, informed, and inspired by the presenters. The success of this workshop was the result of a team effort, led by our Education Committee: Angela Goodwin and John Joseph. Thanks to all those who worked with Angela and John to make the day a success and thanks to all those who attended.

Next on the plate for WAURISA is the 2006 Washington GIS Conference, which will be held in the shiny new Greater Tacoma Conference and Trade Center, May 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup>. The Conference Committee under the leadership of Angela Johnson is working day and night (literally) to assemble a variety of interesting, informative, and entertaining workshops, speakers, and presentations. The theme of the 2006 Conference is 'Putting GIS to Work for Washington State.' Attend, and you'll see 'best practice' examples of using state of the art GIS technology to meet a variety of business needs in Washington, as well presentations and vendors providing information about the emerging technology that we'll be 'putting to work' in the future.

But all work and no play is no fun for GIS Joe and GIS Jane. The Washington GIS conference will provide great food and a comfortable environment to sit, share, and network with your colleagues. The highlight social event will be an evening baseball game between the Tacoma Rainiers and Round Rock Express, along with an all you can eat barbeque. Join us for some popcorn, crackerjacks, a chance to unwind (and a chance to win an iPod Nano!) See more 2006 Washington GIS Conference news inside this issue of *The Summit*.

See you in Tacoma in May!

- Rick Lortz, President



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## **WA-TRANS: THE WASHINGTON TRANSPORTATION FRAMEWORK FOR GIS PROJECT**

*By Tami Griffin*

**WA-Trans is the project name** for the Washington Transportation Framework for GIS Project, led by the Washington Department of Transportation (WSDOT) with participation by partners from across the state. WA-Trans will be a statewide source for GIS location based transportation data comprising the best available data from all levels of government and tribes. It will include data about roads, railroads, ferries, aviation, ports, and non-motorized transportation infrastructure. It will be seamless, connected, consistent, and continuous data between jurisdiction, boundaries, and other framework layers. Wa-Trans will include route, milepost linear referencing as well as addresses. Based on a business needs assessment done before beginning the project, many business needs across the state can be addressed with this data.

### **What we have completed**

WA-Trans is a large project and will be completed in phases. The initiation and assessment phases have both been completed. This includes: project charter, business needs assessment, mapping of business needs to GIS functionality and then to data required, risk assessment, a database design and implementation, and a high level conceptual architecture.

One of WA-Trans greatest strengths is in the level of participation we have been able to use during the initiation and assessment phase. WA-Trans is predicated on the concept of using local data and participation wherever possible. Currently we have 11 state agencies, 4 regional planning offices, 22 counties, 10 cities, 10 tribes, 7 federal agencies, and many more organizations identified as partners. The steering committee has been meeting for some time and has actively participated in developing the deliverables listed above. The steering committee includes representatives from: WSDOT, WA Department of Fish and Wildlife, WA Utilities and Transportation Commission, Puget Sound Regional Council, WA State E-911 (represented by Ian Von Essen from Spokane County GIS), Lincoln County, Pierce County, Spokane County Engineers, Walla Walla County, Community Transit in Snohomish County, the US Census Bureau, and the US Geological Survey. This level of participation and the quality of participation provided by the individuals from these organizations has had a tremendously positive effect on WA-Trans success to this point.

### **Puget Sound Pilot**

The goal of the Puget Sound Pilot is to develop a two county data set in the WA-Trans database using data from King County and Pierce County. Puget Sound Regional Council will participate in testing and performing any integration required on the data. This pilot is funded through a Cooperative Agreement Grant from the US Geological Survey for The National Map. Eventually we will test adding WSDOT data for state routes to this dataset.

King and Pierce County have been working hard to establish agreement points where roads meet between their two counties. This facilitates seamless connectivity and significantly reduces the need for integration later on. It also allows the local governments providing the data to control changes made to their data before it goes into WA-Trans.

Michael Leierer, Assistant Project Manager and Technical Lead, is working on developing the translation process. This process will involve the development of a personal geodatabase that is a completely stripped down version of WA-Trans. Then, using the ESRI Data Interoperability Extension, Michael will develop a translator for bringing data into this personal geodatabase. The data provider (in this case either King or Pierce County) will develop a translation mapping for their own data into WA-Trans. Once they have a successful translation we will save the schema and take the personal database and add the data needed for WA-Trans and put it in the WA-Trans database. Puget Sound Regional Council will perform QA/QC on the two-county dataset.

Obviously this pilot is teaching us a lot about what we will need to do to successfully implement WA-Trans statewide. We could not successfully implement this pilot without the assistance of Chuck Buzzard from Pierce County GIS, Michael Berman from King County Metro, and Andy Norton from the Puget Sound Regional Council. We hope to find the funding needed to extend this pilot into Snohomish and Kitsap Counties.

### **One Road Pilot**

The translator is just one part of the WA-Trans architecture. The One Road Pilot was established to research and develop the software needed for WA-Trans development and maintenance. Software to be worked on includes: integration software, QA/QC software, user interfaces for data providers, and user interfaces for data users. In addition, more translators will be tested and considered. The funding for this pilot comes from DOT research money pooled between WSDOT, Oregon Department of Transportation, Ohio Department of Transportation, Tennessee Department of Transportation, and the Nebraska Department of Roads. Additionally, the California Department of Transportation is seriously considering joining. Each of these agencies shares the need WSDOT has recognized for local and state data to be combined to create and maintain a dataset. We hope to find other participants as well.

The software developed will be tested in both Oregon and Washington (and maybe also in other states). Software will be developed and tested in two phases. Phase I will be tested using data from Benton, Franklin and Walla Walla Counties in Washington, as well as Morrow and Umatilla Counties in Oregon. We hope to test Phase II software using data from Clark and Cowlitz counties in Washington and Multnomah and Columbia Counties in Oregon. Phase II is some time in the future, so that plan could change.

Upon completion of the One Road pilot we will have data from all the participating counties to date and software to help us implement WA-Trans statewide.

### **Future Activities**

We are considering a pilot to assist a government with no data to develop a dataset and to maintain it by providing software, training, and a dataset (possibly from the US Bureau of Census TIGER Modernization effort). We would need an agreement with the government to maintain the data and provide it to WA-Trans long-term in exchange, but we aren't looking at doing this for a while.

**See WA-Trans, Page 6**

## WASHINGTON STATE ORTHOPHOTO PROGRAM

By Tim Gregg and George Spencer

**Ortho imagery is a fundamental component** of many geographic information systems. As an enhanced form of aerial photography that has been processed to give each pixel in the image a geographic coordinate, ortho imagery can be used in GIS as a two dimensional base layer on which to view vector data. State agency business processes have an increasing reliance on GIS and the ortho imagery that is a part of GIS.

Maintaining current ortho imagery is an on-going challenge. Cost is a significant factor limiting update cycles, resolution, and accuracy. The DNR initiated the program in the 1970's and funded it through cost recovery. Budget constraints in recent years have forced DNR to scale back its commitment to the program. At about the same time, opportunities emerged to share the cost as state agencies matured in their use of GIS.

### State Agency Partnership

Five Washington State agencies (Natural Resources (WDNR), Transportation (WSDOT), Fish and Wildlife (WDFW), Health (WDOH) and Ecology (WDOE)) have formed a strategic partnership to jointly fund and produce orthophotos on a cyclic schedule. An initial partnership was created in 2003 between WDNR and WSDOT. The purpose was to coordinate the two agencies Geographic Services Programs to jointly plan, schedule, and collect aerial mapping photography for the purpose of producing orthophotos. The state was subdivided into six project areas and the combined resources from the two agencies allowed one project area to be completed each biennium.

Cooperation was obtained from the three additional state agencies (WDFW, WDOH and WDOE) soon after the original agreement between WSDOT and WDNR was established. Additional funds from these state agencies, plus county and private participation, and sale of the data has provided the resources to undertake and complete a project each year.

### Specifications and Production Process

#### Aerial photography specifications

Scale: 1:32,000

Film: True color

Camera focal length: 8-1/4 inch

Flying height above mean terrain: 22,000 feet

Format: Quarter Township centered

#### Orthophoto specifications

##### Digital

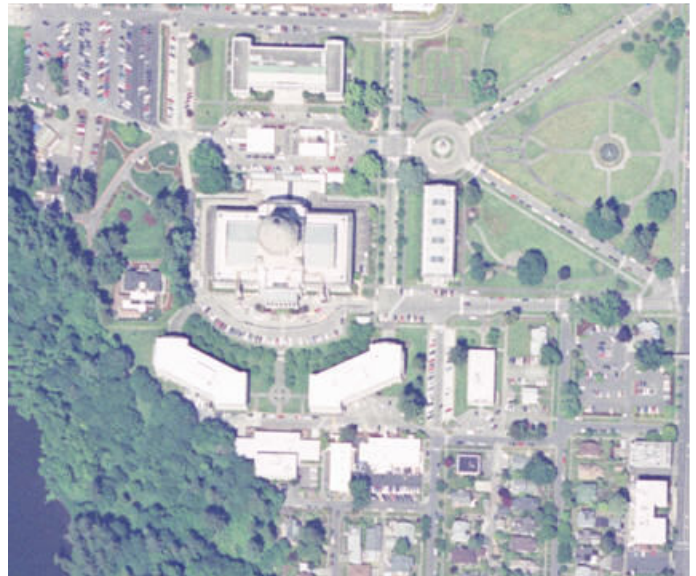
Quarter township tile 18 inch pixel resolution TIFF and LizardTech MrSID images

Township tile 3-foot pixel resolution TIFF and MrSID images mosaicked from quarter townships

##### Hardcopy

Quarter township format 1:12,000 scale prints including land net, geonames and state trust lands

Township format 1:24,000 scale prints including land net, geonames, and state trust lands



Sample ortho image data of the Capitol Campus in Olympia

### Technical Production Process

Mapping aerial photography is collected by WSDOT. This includes GPS coordinates of each camera exposure location facilitated by portable base stations placed in the project area. The aerial negatives are scanned at a resolution of 12.5 microns that represents a ground pixel size of slightly less than 18 inches.

Raw images are moved to WDNR on portable hard drives. Each flight line and image are processed to balance color, density and camera lens light falloff characteristics. A full photogrammetric aerotriangulation solution is accomplished using kinematic GPS data and available ground control. The quarter township format raw images are ortho rectified to produce the 18-inch orthos. These are then re-sampled to three feet and mosaicked into township format as a second product. Both formats (quarter township and township are approximately 500 megabytes in TIFF format.

Ortho data is distributed to partners then placed with Department of Printing for sale to the public and other organizations. Unrectified products from the original aerial negatives are available from the WSDOT Geographic Services Aerial Photolab. Proceeds from data sales help fund the program and future projects.

### Completed State of Washington Projects

One goal of the State Orthophoto Program is to provide statewide coverage. However, coverage of blocked up Federal lands will be produced only if the agencies that manage these lands participate and share costs. During the first cycle, the Forest Service and Park Service that oversee major blocks of land in the state did not participate, so the Olympic National Park and blocked up Federal lands along the Cascade Range were not included. The Columbia Basin was also excluded during this first cycle. This was because of its vast size (and associated cost), plus the Farm Services Agency has a program that provides ortho-imagery of agricultural lands that include most of this area.

See Washington Orthophoto, Page 4



## WASHINGTON ORTHOPHOTO

Continued from Page 3

### Coordination between State of Washington and Farm Services Agency

The Farm Services Agency (FSA) has a National Agricultural Imagery Program (NAIP) that produces ortho-imagery of agricultural lands in the United States. In Washington, two-meter pixel resolution data is collected approximately every two years for the area shown on the following map. Every five years, FSA will collect ortho-imagery of the entire state at a resolution of one meter, if a state can raise the funds to cover the costs of this additional coverage and higher resolution.

A consortium of state and Federal organizations was successful in raising the funds needed to support an entire state project for Washington. FSA plans to fly the entire state of Washington in the summer of 2006 and produce digital orthophotos that will be available in late summer or the fall of 2007. The state orthophoto program will participate as one of the partners contributing funding since the NAIP imagery can be used to fill the state program's gaps in the Columbia Basin, Federal lands, and other areas.

For information on how to become a partner in the NAIP project contact:

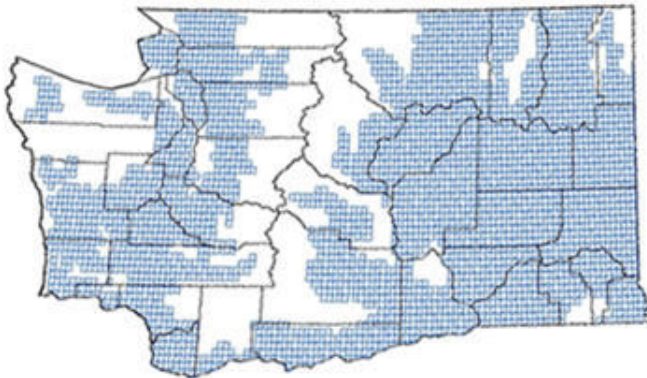
Federal Agencies: Sam Bardelson, USGS (206) 220-4563

State Agencies: Shelly Snyder, WDFW (360) 902-2483

Counties: Chris Hansen, WDNR (360) 902-1212, or  
Dwayne Schettler, USDA/FSA (509) 323-3009

Other: Chris Hansen, WDNR (360) 902-1212

### National Agriculture Imagery Program Project Coverage



NAIP Project Coverage Area

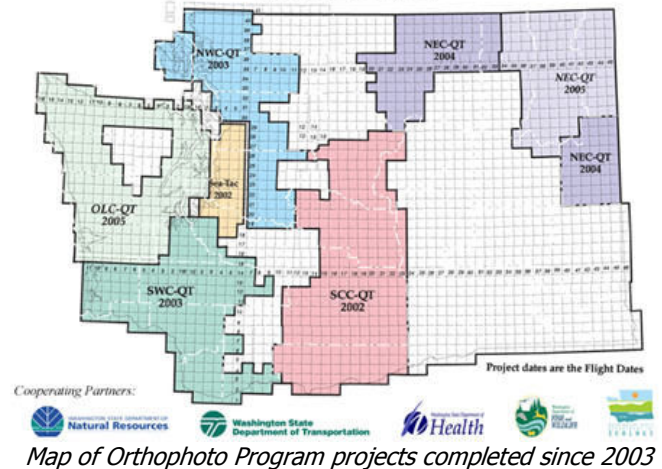
### How to Obtain State Orthophoto Program Data

Organizations have two basic choices for obtaining the state orthophoto program data: participate directly in the program by committing funds upfront or purchase the data after projects are complete.

Participation ensures that projects are funded and accomplished and these organizations receive the data first. This program would not exist without strategic commitments by partners.

***A consortium of state and Federal organizations was successful in raising the funds needed to support an entire state project for Washington.***

### Washington State Orthophoto Program Completed Projects



After participating organizations receive the data, it is made available to others for purchase through the Office of State Printing. The Printer's e-commerce site can be accessed through the Department of Natural Resource website at:

<http://www.dnr.wa.gov/dataandmaps/maps/index.html>.

Cost recovery revenues are reinvested in the program and used to fund future projects.

### Future Plans for Washington State Orthophoto Program

The second cycle of state of Washington coverage will begin soon. Cooperating state agencies are in the process of establishing a project schedule for the next cycle of coverage. The specifications are being reviewed and a discussion is underway to determine if the resolution can/should be increased so that other organizations (such as counties, that typically need higher resolution data) can be attracted to participate in the program.

### Contacts

Tim Gregg can be contacted at: [Tim.Gregg@wadnr.gov](mailto:Tim.Gregg@wadnr.gov)

George Spencer can be contacted at: [SpenceG@wsdot.gov](mailto:SpenceG@wsdot.gov)



## 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. With this issue *The Summit* will begin a series of occasional interviews to explore the background and work of Washington GIS professionals and users. Our aim is to get a personal view of the significant GIS related challenges, development issues, and implementation successes that government agencies, non-profits, researchers, businesses, and vendors face throughout the state.

-Editor

## AN INTERVIEW WITH....TOM NOLAN

By Effie Moody

**Tom Nolan is GIS Director** for the City of Seattle. Tom works in the GIS/Information Technology Department within Seattle Public Utilities. I met Tom in his office on Fifth Avenue in downtown Seattle. His window looks out to the northeast facing Lake Union in the foreground with the Cascade Mountains beyond. I suspect Tom does not have much time to take in the view. Even though I work in the same city department, Tom's busy schedule doesn't allow for much personal interaction with regular employees. Tom is far busier than I would ever want to be so I am thankful for the time he spent on this interview.

*Summit:* Tell me about yourself, your background.

**Tom Nolan:** My lifelong interest in using maps to explore new places eventually led me to a career in GIS. I grew up in central Pennsylvania and explored the wilds of New York City as well. I first became aware of variety in maps while using different types of tourist maps in New York. I got a Biology degree with an emphasis in Forestry and worked as a Park Ranger. In 1980 I moved west to Seattle and attended the University of Washington briefly. As I approached age 30, becoming a cartographer sounded fun and necessary for settling into an occupation so I re-enrolled at the UW in the Masters Program of the Geography School. With a combination of cartography, photogrammetry, surveying, and computer science classes, I became one of the UW's first students to graduate with a "GIS emphasis."

*Summit:* What is your current job title, and what you really do?

**Tom Nolan:** I started at the City of Seattle in 1989 as a UNIX system administrator and became a Project Manager before too long. I eventually led the City's efforts to implement our Corporate GIS, and then became GIS Manager for the Seattle Engineering Department.

I became the Director of Information Technology for Seattle Public Utilities in 2002 and have been involved in mainstream IT since then but still maintain my title of City GIS Director. I chair the City GIS Board and provide guidance and decision making where necessary in regard to GIS work plans and budgets. I also teach in the University of Washington's GIS Certificate Program which forces me to stay current with GIS and meet lots of great people.

*Summit:* Tell us a little about the history of the Seattle GIS program and how GIS supports the City's business and strategic goals.

**Tom Nolan:** The City of Seattle has been using GIS in one form or another since the early 1980s. Initial applications were based on street network files and address ranges to help process utility bills, keep track of transportation, and to provide a "geocoding" file to enable the City's 911 Dispatch systems. In the late 1980s, the City funded the "Joint Automated Mapping Project" to build one citywide GIS with high accuracy survey, cadastral, parcels and street network databases. In 1992 an orthophoto layer was added, along with a 2 ft topographic contour layer, and a digital terrain model.

While the City has a corporate GIS, individual utilities and departments maintain their own geo-referenced layers and applications. GIS supports virtually all our lines of business. Today GIS supports Police and Fire dispatch, including First Responder identification and Vehicle Routing and Tracking. GIS also provides a very reliable location for addresses in the City.

At Seattle Public Utilities' (SPU), adoption of Asset Management principles is heavily dependent on accurate asset inventories, maintenance histories, and financial records. For much of this information, GIS is the repository for the data. GIS is also indispensable as an index to the asset data, a means to view the data, and as an analysis tool to more easily identify trends and performance anomalies.

*Summit:* What's new with Seattle GIS and are there any new developments that will be implemented soon? What are Seattle's future GIS plans?

**Tom Nolan:** In summary; the adoption of ESRI's SDE data storage technology and ArcGIS suite of software: ArcGIS to perform data maintenance, analysis, map production and ArcIMS to distribute GIS to desktop users. Future plans include providing GIS functions as web services to enable loosely coupled integration with business systems.

For the last several years, the City and Seattle Public Utilities have engaged in projects (the GIS Technology Refresh) to replace its corporate, legacy ArcInfo coverage data with re-designed, spatial, relational databases. Replacement could be accomplished by simply copying the coverages into an ArcGIS geodatabase, but we've chosen to re-design the data to assure that we can fully integrate GIS with enterprise business systems. The data maintenance environment for each of the migrated layers is also being re-designed and re-tooled.



*Tom Nolan in his Seattle Office*

**See Tom Nolan, Page 6**

## TOM NOLAN

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We have developed a GIS architecture or infrastructure that includes central data servers, a central web map image server (ArcIMS) and web servers that serve up GIS functionality through web services and GIS-enabled web applications. Immediate future plans include providing a means for users to (centrally) publish their spatial data through an easy-to-use, but functionally rich, user-interface.

On the water utility side, we are working hard to improve the integration of the Field Operations work management data and Customer Service consumption data together with GIS water infrastructure data. We are also providing the capability for user groups without a business system to maintain data related to the existing GIS features. We host user tables within our geodatabase and include their data on the GIS data published for utility-wide desktop GIS use. The geodatabase also supports improved inter-agency communication between SPU and the Fire Department with regard to the maintenance and use of Fire Hydrants in the City. We have an ArcGIS application nearing completion that is a redesigned approach to map series production.

*Summit:* Based on your experience – are there any key 'lessons-learned' related to GIS development, operation, or organization that you can share with your colleagues?

*Tom Nolan:* GIS data requires stewardship and a long term commitment to its maintenance. A successful Enterprise GIS will always have an adequately funded maintenance program, at a minimum. Our efforts to embrace widely accepted standards in software development, data modeling, and project management, and to hire staff with experience in these areas, have improved our GIS organization in many ways:

- Software standards: more reliable applications and data development efforts (better design, more thorough testing).
- Data Modeling: better integration w/ business systems, more efficient data models.
- Project Management: higher completion rate of projects, tighter scope, more complete documentation.

*Summit:* How many people actively work with GIS (as GIS professionals, users, etc) at the City of Seattle? What percent of your total work force does this represent?

*Tom Nolan:* There are probably about 70 GIS professionals in various departments and utilities at the City of Seattle. In SPU, there are about 1200 employees and 500 ArcView users so approximately 40% of SPU employees use desktop GIS capabilities to assist with their work.

*Summit:* Do you use certain proprietary software for GIS and if so, what is it?

*Tom Nolan:* Our GIS software standard is ESRI's suite of products. We also have numerous CADD users in SPU. Improving the synchronization and integration with CADD data is an important on-going initiative.

*Summit:* Does Seattle have plans to hire GIS staff? If so, what positions and when and whom should one contact for employment? What advice do you have for those beginning their career in GIS?

### ***GIS data requires stewardship and a long term commitment to its maintenance. A successful Enterprise GIS will always have an adequately funded maintenance program***

*Tom Nolan:* We rehire GIS positions whenever they become vacant. Like most GIS shops, our positions don't turn over very frequently. Jobs do come open though. We have hired a GIS data technician and 3 GIS analysts over the past two years. All our positions are advertised on the City's webpage, <http://www.seattle.gov/>.

As for advice for GIS job hunters, I would say to remain patient and be persistent. Try to have samples of your work to show at interviews. Be organized, identify websites of likely employers and check them regularly. Get involved in organizations like URISA as well as local chapters and user groups to meet GIS professionals; make personal contacts, and don't rely solely on sending resumes out via email.

*Summit:* In the aftermath of the most recent disasters, Hurricane Katrina & Rita, is there something your agency will now readdress that you were not doing before? If so, please explain.

*Tom Nolan:* The main lesson we have learned is that if there was a really big disaster, like the "300 year earthquake," we should expect to be on our own for quite some time, with only minimal outside help. That I think is the most important lesson for governments from the New Orleans disaster. This makes the need for well organized and planned rotations of GIS professionals at emergency operations centers more important than in smaller events.

*Summit:* Thank you for your time Tom. Good luck to you and to Seattle GIS.



## WA-TRANS

Continued from Page 2

Once we have completed these activities we can begin implementation. This is the long-term scenario. It is possible that with adequate funding, we can do this more quickly by contracting out some of the software development and implementing more while we are developing. It is all dependent upon resources.

WA-Trans is always interested in sharing what we are doing with others and establishing new partnerships. For more information please check out the project website at [www.wsdot.wa.gov/mapsdata/transframework/default.htm](http://www.wsdot.wa.gov/mapsdata/transframework/default.htm).

*Tami Griffin can be contacted at: [GriffiT@wsdot.wa.gov](mailto:GriffiT@wsdot.wa.gov), or (360) 709-5513.*

*Michael Leierer can be contacted at [LeiereM@wsdot.wa.gov](mailto:LeiereM@wsdot.wa.gov) or (360) 709-5511.*





# WASHINGTON GIT ARCHITECTURE

Continued from Page 1

**GIT EA Principles** – Will supplement the Washington EA program principles. These GIT focused principles provide additional guidance for decision making about GIT architecture components. The principles address the following important considerations for a data-centric technology such as GIT:

1. Spatial information and data is a valued investment and asset: Spatial information can accelerate and improve decision-making, increase accountability, and improve services. Information must be shared to maximize effective decision-making across agencies, and with other government partners. The value of information is not realized if it is held in isolated pockets or "silos."
2. Spatial Data and Information Stewardship: Spatial data and information must be managed and maintained as a stewardship responsibility to support the mission of Washington State Government. Spatial data stewards will promote common business rules and standards that span agency boundaries and facilitate sharing information, communication, and improved data integrity.
3. Information Access: Easy and timely access to data and information needs to be the rule rather than the exception. This needs to be accomplished without compromising security, confidentiality, and privacy. Productivity, decision-making, and customer service all benefit from easy, direct, and timely availability of information.
4. Total Cost of Ownership (TCO): Decisions about which GIT assets should be identified as Tier One\* will be guided by TCO considerations. This will ensure that realistic estimates for costs and benefits become the foundation for enterprise GIT investment and funding decisions. The real costs of creating and maintaining multiple sets of redundant data become easier to identify and manage.

5. Mainstream Technologies and Industry Standards: GIT solutions will use industry proven and state-of-the-art mainstream technologies with emphasis given to those that comply with industry standards or open architecture principles.
6. GIT Framework Data as Primary Source: Certain fundamental data themes will have a particular dataset formally designated as the primary source of data for that specific data theme. This will allow agencies to focus limited resources on currency, quality, and accessibility. Multiple standalone versions of fundamental data themes may be an inappropriate use of scarce data management resources.

## Information Architecture Components

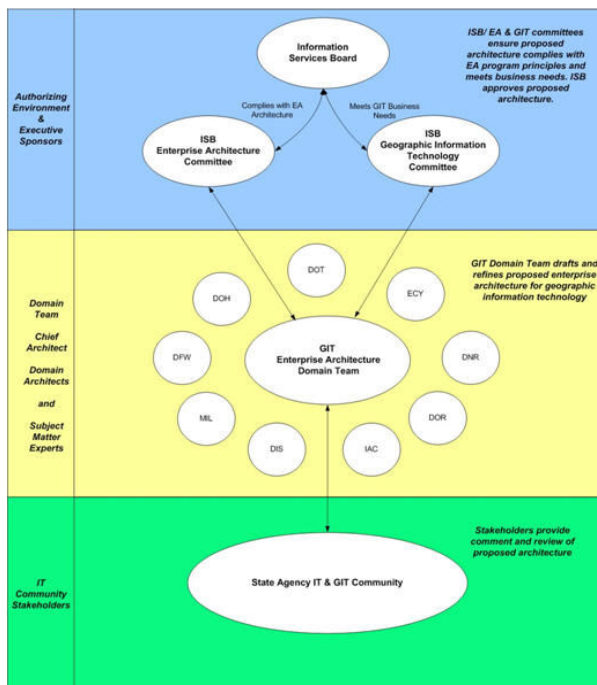
The proposed Conceptual Information Architecture consists of the seven most commonly needed digital data themes and the environment that supports the development and use of the data. These data themes provide a foundation upon which state agencies can build by adding their own detail to compile other value-added data sets and information. Additionally we have identified candidate regional or national standards for consideration during the Phase II of architecture development:

1. Orthoimagery – includes georeferenced imagery prepared from an aerial photograph or other remotely sensed data
2. Hydrography – includes surface water features such as lakes and ponds, streams and rivers, canals, oceans, and shorelines
3. Transportation – includes features that make up the states transportation network (road, rail, transit, ferries, air, and non-mechanized transportations nodes)
4. Elevation – includes data about terrain and refers to a spatially referenced vertical position above or below a datum (standardized) surface
5. Cadastral - includes information about property interests and represents the geographic extent of public land holdings
6. Governmental Units - includes geographic areas of government entities like: counties, incorporated places, cities and municipalities; functioning and legal minor civil divisions
7. Geodetic Control theme is the common reference system for establishing the coordinate positions of all geographic data.

## Technology Architecture Components

The process of defining the Technology Architecture Components includes identification of current, emerging, and retiring IT technologies for the purpose of making good use of existing investments and sound judgments about future investments. The Conceptual Technical Architecture identifies and classifies usage for forty-two components in the following seven technology areas:

1. Data Access and Distribution
2. Data and Application Transport
3. Operating Systems
4. Application Development
5. Relational Database Management
6. Geographic Information Systems
7. Locational Data Capture

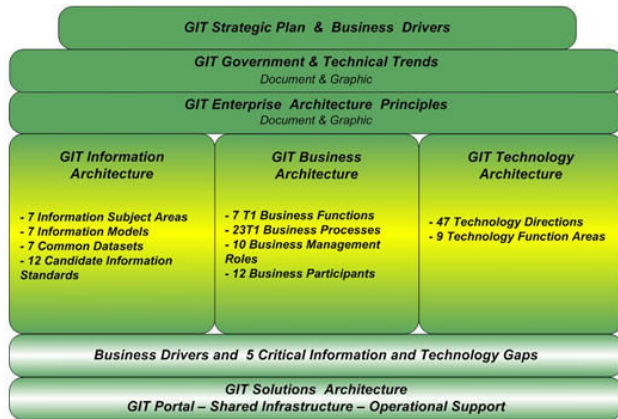


GIT EA Governance Diagram

See Washington GIT Architecture, Page 8

# WASHINGTON GIT ARCHITECTURE

Continued from Page 7



GIT EA Framework Diagram

## Business Architecture Components

Managing Tier One data and technology gives rise to the need for new enterprise level GIT business management processes. The Conceptual Business Architecture addresses GIT Tier One architecture management functions in the areas of:

1. GIT Data Management
2. GIT Shared Infrastructure Management
3. GIT Planning, Policy, Oversight, and Reporting

The business architecture also proposes governance roles and responsibilities for each of the identified processes.

## Solutions Architecture

Solutions Architecture addresses how the Information, Technology, and Business Architecture components are used to address key business needs. The Conceptual Solutions Architecture includes three major components: a central portal for access to GIT data and services; shared repository infrastructure to meet certain data management and storage needs; and a program office to support selected Tier One GIT components.

### GIT EA Documenter Team Members

(\*\* denotes team architects)

<b>George Spencer**</b> Department of Transportation GIS Manager	<b>Marty Parson**</b> Department Of Revenue GIS Manager	<b>Allen Jakobitz</b> Military Department GIS
<b>Joy Paulus **</b> Salmon & Watershed Information Management	<b>Jeff Holm **</b> Department of Information Services ISB Staff	<b>John Tooley</b> Ecology GIS Manager
<b>Tim Young**</b> Department of Fish and Wildlife – GIS Manager	<b>Dave Wischer</b> Department of Natural Resources GIS Manager	<b>Craig Erickson</b> Department of Health GIS

\*The statewide Enterprise Architecture will identify data, technology and business process elements that should be managed in common as enterprise IT assets. Those IT elements are referred to as Tier One enterprise architecture elements. A Tier One designation implies that these elements will be managed as a common enterprise IT asset.

For more information, contact Jeff Holm at [jeffh@dis.wa.gov](mailto:jeffh@dis.wa.gov)

# CENTRAL WASHINGTON GIS USER'S GROUP: BEGINNINGS, CURRENT AND FUTURE SUCCESSES & CHALLENGES

By Amanda Taub

The Central Washington GIS User Group (CWGIS) had its origins in 2003, when Jeff Berry of Erlandsen & Associates, started the CWGIS web forum at <http://www.cwgis.org>. The forum provided a way for GIS users in central and eastern Washington to find other GIS users in the area; to supply a mechanism for identifying GIS resources for central and eastern Washington; and to offer a forum for GIS professionals and users to discuss topics relevant to GIS and its implementation in our region.

Word began to spread quickly about the new forum. A group of members began to use it and meet for lunch once a month. The core group of Jeff, Jean Postlethwaite (Chelan County Assessor's), Peter Dauer & Rich Dustin (Chelan PUD), Jim Ruhoff (WSDOT), Doug Day (ESRI), Kerri Sullivan (Wenatchee Valley Transportation Council), Todd Wilson, and I (Douglas County) decided that organizing an event would be a great opportunity to introduce our group and reach out to other professionals in our area and the Pacific Northwest. We organized ourselves in a very loose organization with Jeff as our fearless leader and web site administrator and the rest of us volunteering for whatever task appealed to each of us.

Our first event on *GIS and Survey*, occurred April 14, 2004 in Wenatchee at the Chelan County PUD Auditorium, and was a great success. We attracted over 120 attendees from all over Washington, as well as from Idaho and Oregon. The North Central Washington Chapter of the Land Surveyors Association of Washington (LSAW) agreed to co-sponsor the event. We wanted to offer GIS professionals a better understanding of cadastral data and mapping issues, and to provide surveyors a look at managing survey data with GIS. There were excellent presentations from Gavin Schrock, Seattle Public Utilities, on *Why Doesn't it Fit? A Crash Course in Cadastral Issues* and mapping as well as *GIS for Surveyors*, an intro to GIS for surveyors. Jeff Barrette from ESRI demonstrated ESRI's ArcGIS Survey Analyst extension. And finally, Jeff Berry gave a presentation on *ControlNet - A Custom GIS Application for Managing Survey Controls*. In addition, six people gave brief presentations on GIS related projects and services. Lynne Gross, Grant County, discussed the county's *Coordinated GIS Project*; Mike McGuire, Ascent GIS, discussed the USDA's aerial photography products; Steve Rush, Hanford, discussed the *Hanford GIS Community*; Sam Bardelson, USGS, explained that the *National Map Program* is intended to replace the current USGS quad maps; Joe Barreca, talked about the map products Map Metrics offers; and Pree Carpenter, discussed the Seattle Public Works Department's effort to catalog and digitize their land access records.

See CWGIS, Page 9





## CWGIS

Continued from Page 8

Our second event was held February 17, 2005, again in Wenatchee. Along with the Northwest chapter of GITA (Geospatial Information and Technology Association) we hosted a *GIS Data Sharing and Project Collaboration Forum*. The forum highlighted efforts in data sharing and collaboration by Franklin, Walla Walla, and Benton Counties, as well as, Hanford. The forum's intent was to present examples of successful GIS collaboration efforts to agencies and GIS users to encourage similar efforts in Central Washington.

Catherine Udenberg from Walla Walla County and Steve Rush shared their success stories on how they established cooperative agreements. They discussed how they addressed data ownership, maintenance and budgeting issues; and the benefits their groups realized from these efforts. Florinda Paez described how Benton County gathered interested agencies to complete aerial photography projects. Zan Strausz from Franklin PUD explained how Franklin PUD and Franklin County structured the Franklin GIS Consortium to share resources and data. Additionally, ESRI gave a brief demonstration of the ArcGIS Data Interoperability extension. The day was a great success as it generated interest and conversation in our area about moving ahead on cooperative initiatives.

Our latest event on *GIS and E911/Emergency Management* was held on May 26, 2005 again at the Chelan PUD Auditorium in Wenatchee. Ron Langhelm, GIS Coordinator for the Department of Homeland Security/FEMA Region 10, gave a fascinating presentation on *Geospatial Support for Sept. 11 World Trade Center and the Space Shuttle Columbia Disasters*. He followed that presentation with how *FEMA Gives Geospatial Support for Washington State and Local Governments*. Jeff Barrette, ESRI, demonstrated how the ArcGIS Network Analyst extension could be used for *Applications for Emergency Management*. Spokane County's GIS Manager, Ian Von Essen, presented *Building an Interactive Emergency Response Database for Public Schools & Public Facilities*. Allen Jakobitz, the Hazards Technology Program Manager from Washington Emergency Management Division, gave two presentations on *GIS Tools for Emergency Managers* and *Washington State Critical Infrastructures Geospatial Database*. Spillman Technologies sent Allan Harker to discuss how their mapping capabilities are used in emergency dispatch and emergency vehicles. They also chatted about their future plans to partner with ESRI for GIS and emergency dispatch integration. T.J. McDonald, with the Seattle Police Department's Emergency Management Division, examined the steps necessary to use GIS successfully in emergency response from his experience with the City of Seattle and the TopOff 2 anti-terrorism exercise in his presentation on *Improving GIS Support for Emergency Management*. Finally, Tom Pagh with ValueCad and i-10 Associates demonstrated an application called iStreetView for recording georeferenced digital 360 degree image views with attributes along city streets.



CWGIS has had our successes, but we have also had our challenges. After three successful large events in two years, our volunteers sustained some burn out. This was manifested in low attendance at our lunch meetings and loss of momentum. We also had trouble recruiting new members. Jeff Berry stepped back from his leadership role to concentrate on other professional pursuits. He still maintains our web forum and web site ([www.cwgis.org](http://www.cwgis.org)).

After some time passed, Jean & I stepped forward to again plan our monthly lunches. New members also joined, increasing our core membership and bringing renewed enthusiasm to the group. We resumed our monthly lunch meetings on Friday, March 3, 2006 at the Wok About Grill in Wenatchee. We met our two new members: Lilith Yanagimachi with Alliance Planning and Luke Schritter with Stemilt Management. Jean discussed Chelan County's move from a mainframe GIS to ESRI's ArcGIS and SDE. We also talked about our future and what we as a group wanted to do. Brown bag lunch meetings at local Central Washington GIS shops were discussed as well as ideas for attracting more core members. To this end, after the meeting, Lilith created a survey that Jeff sent out to our members for their input on our future.

The results of the survey showed that the majority of the respondents considered that they had intermediate GIS experience, followed by beginners, and then by advanced users. Two-thirds of the respondents would like brown bag lunch events and a third would like all day events. Half day events garnered interest from 15% of the respondents. Our members would like events that cover such themes as Managing Data, Geocoding, and Map Design/Cartography. New users would like to learn more about ArcGIS 9 and others would like to learn more about Spatial Analyst, 3D Analyst and Geostatistical Analyst extensions. Our members are also interested in water networks, economic development issues, local cartography issues, natural resource issues, demographic analyses, ArcSDE, open source GIS, using Google Earth to put data on the web, and Shapefile to geodatabase migration issues.

We have begun the search to recruit more core members in our area. We have already had some success with three new members attending our monthly meetings.

In summary, our events have always been very successful for a number of reasons. They were always free and a free lunch was always served. We always had a map gallery and prize drawings. Our greatest success was in choosing a variety of themes that appealed to a wide range of professionals. We have always been fortunate to have great volunteers that did a wonderful job planning and executing our events. We have had our share of struggles and challenges. We are making a concerted effort to reach out and invite as many of our local colleagues as possible.

I would like to thank Jeff Berry for his years of leadership of CWGIS and for his administration of Central Washington GIS User Group's web site and forum. Further, I would like to thank Jean Postlethwaite, Jeff Berry, and Brian Frampton for their input into this article. Be sure to visit the CWGIS web site at [www.cwgis.org](http://www.cwgis.org) to keep up to date on our latest happenings.

For more information about CWGIS, contact Amanda Taub, [ataub@co.douglas.wa.us](mailto:ataub@co.douglas.wa.us)



## PNW GIS VOLUNTEERS SUPPORT HUMANITARIAN DISASTER RELIEF

By Glenn Brooks

In response to the profound human tragedy caused by the December 2005, Indian Ocean tsunami, over 145 Pacific Northwest GIS volunteers and University of Washington (UW) students have volunteered 6000 hours of technical expertise, and \$1 million dollars in software, to the Pacific Northwest Response Team, for Hurricane Katrina, Pakistani Earthquake, and Indian Ocean Tsunami disaster relief.

100 volunteers and seven staff organized a six month GIS tsunami response in 2005 benefiting Mercy Corps programs in Sri Lanka and Sumatra. Blane Moore, Jeff Lynn, Anthony Boscolo, and Dana Morowitz lead Mercy Corps GIS and remote sensing projects in UW's Seattle Data Center (SDC). Dave Brown and Dan Christianson lead a truly heroic, high resolution satellite image acquisition project in cooperation with Maui based, Pacific Disaster Center and the United Nations Secretariat GIS unit, in New York. Teresa Hanson introduced GIS in Sri Lanka as our GIS Team lead for three months. Dylan Myers and Daphne Karypis deployed to Aceh Province in April and worked on livelihood redevelopment projects and a monitoring database through October. Glenn Brooks coordinated and continues to lead GIS volunteer efforts to develop a global data center at the UW.

Marty Balikov, regional Manager for ESRI Northwest, arranged donation of 12 ArcGIS licenses for the Mercy Corps--UW Tsunami relief effort. Seattle based LizardTech donated six Mr Sid Licenses. Victoria Provenza, non-profit manager for Leica Geosystems, North America donated eight Erdas geoprocessing, photogrammetry suite and image analysis licenses. Intel Corporation in Oregon loaned use of a high end Panasonic tablet PC to support volunteer efforts during Katrina response in New Orleans. Use of a locally designed Java mark up tool on this tablet PC convinced senior NGO disaster responders attending a recent global capacity building workshop moderated by the Marc Lindenberg Center to adopt GIS as a core technical innovation for early stage relief (disaster response) work. Total industry contributions of GIS software donated to the PNW volunteer community now exceeds \$1 million. Current Seattle Data Center geospatial data holdings exceed an additional \$1 million in value.

Sandra Archibald, Dean of the University of Washington, Evans School of Public Affairs, recognizing the outstanding volunteer contributions of the GIS community throughout the northwest in July 2005, authorized continued support for the 1200 square foot Seattle Data Center on the UW campus, to engage on-going humanitarian GIS relief and development work.

The Evans School's Marc Lindenberg Center for Humanitarian Action, International Development and Global Citizenship is now leading creation of a permanent, public-private partnership between NGO's, the international academic community and the local PNW GIS professional community to enhance use of GIS for disaster response and long term poverty reduction worldwide. The three goals of this effort are:

1. Improve GIS technical capacity of NGO's and local national groups who deliver direct humanitarian services at the village level
2. Maintain an international network of GIS data centers to support worldwide humanitarian relief and development activity
3. Provide humanitarian employment and volunteer opportunities for PNW GIS professionals

SDC staff and volunteers are currently working with Care, Mercy Corps, World Vision, and UNDP to create humanitarian technical capacity on three continents. SDC proposes to equip a network of regional Geospatial (GIS, remote sensing and GPS field data collection) data centers, lead by the UW Marc Lindenberg GIS Center, to support relief and development programs in South Asia, Africa, Indonesia and Mongolia. Funding proposals are now being circulated to support a three-year development cycle. Volunteerism will be a key element of the network. Pacific Northwest GIS Response Team volunteers will be able to travel, as SDC volunteers or temporary staff, to remote sites to offer technical assistance and engage in ground breaking data collection and field mapping.

The PNW Response Team also supports existing Katrina recovery in the Gulf Coast. Recently, a Portland area volunteer deployed to New Orleans (as a paid contractor) to provide Internet mapping development for the City of New Orleans web team. During September, SDC volunteers Karen Meagher, Kevin Bennet, Keven Kinnian, Janice Lake, and Harold Feinberg created a Katrina Disaster Atlas; providing Geospatial base data for a Hurricane Rita National Institute of Justice GIS field team headed for Texas and maps for Architects Without Borders, Seattle Chapter field team disaster assessment in Southern Mississippi.

Currently, UW GIS Certificate Program students Brooke Heichel and Bethany Phillips are working with SDC and a Chicago based, De Paul University graduate student urban planning team to map inner city disaster recovery for New Orleans' Tulane-Canal neighborhood. Tulane Canal Neighborhood is the poorest of the New Orleans neighborhood areas, with a pre-Katrina annual per capita income of \$7000 per resident.

The neighborhood is located immediately adjacent to, and includes, the New Orleans Superdome. Many Tulane Canal residents were stranded in the Superdome in the traumatic days following Katrina's landfall and subsequent breaching of New Orleans' levee system. The student project will wrap up in June with a GIS enabled strategic plan presentation to the neighborhood's local non-profit development board.

Another GIS Certificate project group, lead by Jackie Ferry, is using high resolution Quick Bird satellite imagery and the "Landscan" human population density geodatabase to develop rapid assessment vector GIS tools to more accurately estimate human loss and property damage in disaster zones.

Today, 2.6 billion people, 40% of the world's population, live on less than \$2 per day. 50 million people are affected by natural disasters each year. Humanitarian organizations which serve the world's poorest economies can barely afford basic utility service and have not made investments in spatial technology. Volunteer efforts by people like you and me can improve the lives of people in need. Please join our effort by contributing your time, support, and technical expertise.

For more information call Glenn Brooks, at 206-790-8711, or email [gpb@u.washington.edu](mailto:gpb@u.washington.edu)



## SPOTLIGHT ON WAURISA BOARD MEMBER: JAIME CRAWFORD

**Dedicated board members and volunteers** are critical to any successful professional organization. Jaime Crawford has been involved with WAURISA for many years and her experience and insight as Past President has helped the newer board members and volunteers. Jaime is currently leading development of the 2006 Washington GIS Conference educational tracks and sessions. When *The Summit* asked her for her professional background and interests, Jaime replied:

*I have been working at CH2M HILL for the last 2 years and my position is NW Region GIS Operations Lead. In this position I wear many different hats and depending on the day I could be a GIS Analyst, Project Manager, Staffing/Hiring Manager or work on Business Development (writing proposals, scopes of work, etc). I am responsible for delivering quality GIS products, developing best practices in GIS, coordinating GIS efforts within the region, and making sure our GIS group is current on the latest technology. It's a very interesting role because it is a cross between staff management and project delivery. When I started working at CH2M HILL we only had 2 dedicated GIS professionals and today we have 5 GIS Analysts and 2 GIS Developers. Our GIS Practice has been growing so quickly it definitely keeps me on my toes getting new staff on board.*

*In addition to working at CH2M HILL, I am also the Lab Instructor for the University of Washington GIS Certification Program. I've been involved with the GIS Certification program for the last 3 years. This program is very exciting because it is geared towards educating professionals who want to add GIS to their skill set, as well as for those that are looking for a career change.*

*I am currently the Past President of WAURISA. I served as President in 2005 and was the Secretary from 2002-2004. I first got involved with WAURISA by attending a Board Meeting and learning that the Secretary position was open. Since I was willing and able, I unexpectedly became the Secretary. The Board is always looking for volunteers and is a great group to work with. The most enjoyable part of being involved with WAURISA is the conference planning. I have been involved in conference planning since the 2003 conference and really enjoy recruiting presenters and help organize the conference.*

*Outside of work, teaching, and participating on the Board, I am a mother of 2 wonderful little boys. I try to maintain a good balance between my family, work, and contributing to the GIS community. It's a huge challenge but somehow I manage to keep it together....most of the time.*

--Jaime

There are many volunteer opportunities to help WAURISA:

- Education Committee
- Membership Committee
- Finance/Scholarship Committee
- Marketing Committee
- Technology/Website
- Washington GIS Conference
- *The Summit*

Contact any WAURISA Board member to volunteer!



WAURISA Board Member and Past President:  
Jaime Crawford



### 2006 URISA Conference Vancouver, British Columbia, Canada September 2006

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 Annual Conference.

The URISA Annual Conference offers a unique multidisciplinary approach, with sessions led by industry leaders, powerful keynote presentations, panels, roundtable discussions and networking meetings you won't find anywhere else.

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



## **2006 WASHINGTON GIS CONFERENCE**

**May 8-10, 2006**

### **Greater Tacoma Convention & Trade Center**

The 2006 Washington State GIS Conference, "Putting GIS to Work for Washington State," will be held May 8<sup>th</sup> - 10<sup>th</sup> at the new Greater Tacoma Convention & Trade Center. WAURISA has arranged speakers from all corners of the State to share their experiences and ideas on how we can all get more out of GIS.

**Pre-Conference Workshops:** On Monday, WAURISA will host a series of pre-conference workshops presented by some of the top developers in the region:

- CH2M Hill: Open Source Development & Google Earth
- ESRI: Working with ArcGIS Geoprocessing, ModelBuilder and Scripting
- Integral GIS: Evolution or Intelligent Design (C#.NET, ArcGIS Server, Web Services)
- Safe Software: Data Interoperability

The Monday Workshops provide an opportunity to gain in-depth knowledge of cutting edge technology.

**Keynote Address:** On Tuesday, the conference kicks into full swing with a keynote address by S.J. Camarata, who currently serves as a Director of ESRI and focuses on worldwide global corporate strategies and directions. S.J. will speak about exciting new trends in GIS and the implications, challenges and opportunities from putting Geospatial technology to work.

Following the keynote, the 'GIS Person of the Year' will be announced and speaker sessions will begin.

**Educational Speaker Sessions:** We are excited to have speakers covering a variety of educational session this year including:

- *LiDAR*
- *Small Government*
- *Crime Analysis*
- *Federal/DOD GIS*
- *Vendor Track Sessions*
- *Web Solutions*
- *Enterprise GIS Management*
- *County GIS Panel Discussions*
- *Tribal Government*
- *GIS at the City of Tacoma*
- *Utilities*
- *Transportation*
- *City GIS Panel Discussion*
- *Student Topics*

**Poster Contest & Vendors:** In addition to speaker sessions on Tuesday and Wednesday, we will also have poster displays and a 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 they offer. Your registration also includes lunch each day.

**Tuesday Night Social:** The Tuesday night Social will be a 'Night at the Ballpark' at Cheney Stadium where we will enjoy a BBQ, hold a raffle, and watch the Tacoma Rainiers! With your ticket to the ball game, you will receive a baseball shirt with your raffle number on the back, a classic BBQ feast - hot dogs, hamburgers, salad, baked beans, chips and ice cream - and you'll get to watch the Tacoma Rainiers battle Round Rock Express from Texas, while socializing with your peers in a relaxed environment. Everyone who attends the game will be entered into a raffle for a chance to walk away with a 4GB iPod Nano. You and up to 4 guests are invited to attend - and it's a steal at only \$25/ticket.

**To register for the 2006 Washington GIS Conference:** Use the registration form on the next page, or register online at: [www.waurisa.org/conferences/index.html](http://www.waurisa.org/conferences/index.html)

*We hope to see you in Tacoma in May!*

## **2006 WASHINGTON GIS CONFERENCE: POSTER & MAP CONTEST**

**Give your map or poster the attention it deserves!**

**Here is your chance to brag about your project!**

Come; present your map or poster. Show your colleagues all the neat projects you have been doing! Earn great prizes! Earn points toward GISP certification!

This year's two categories are:

- ***Best Map***
- ***Best Poster***

All subjects are welcome as long as the entry contributes to the GIS profession. Entrants are limited to one entry in a single category. In addition, all entries are automatically entered into the People's Choice category.

Students are especially encouraged to enter. There will be separate judging and awards for student and professional entries.

Participants will be given a certificate of participation and will earn points toward GISP certification.

To enter, please contact Amanda Taub by e-mail at [ataub@co.douglas.wa.us](mailto:ataub@co.douglas.wa.us). Check out [www.waurisa.org](http://www.waurisa.org) for the Submittal Requirements page. Please send an abstract of the poster to [abstract@waurisa.org](mailto:abstract@waurisa.org). Surprise entries will be displayed as space allows, but will not be judged.

## 2006 Washington GIS Conference Registration Form

### Putting GIS to Work For Washington State

Today's Date: 3/30/06



**May 8 - 10**  
 Greater Tacoma Convention & Trade Center  
<http://www.tacomaconventioncenter.com/>

**Please complete one form per person**



#### Attendee Information

Name \_\_\_\_\_ Agency/Company \_\_\_\_\_

Address \_\_\_\_\_ Phone Number \_\_\_\_\_

City \_\_\_\_\_ Fax Number \_\_\_\_\_

State/ Province \_\_\_\_\_ Zip/ Postal Code \_\_\_\_\_ email Address \_\_\_\_\_

#### Registration Information

You can register for the Conference or Workshop separately or attend both at a discounted rate! If you would prefer to pay with credit, please use our online registration @ <http://www.waurisa.org/conferences>. Mailed registrations must be postmarked by April 21st, and online / email registration will be available until April 28th. Walk up registration will be available during the conference, subject to space available. If you have any questions about registration please submit this form by email, and type your question in the body of the email.

##### Professional Registration

- Workshop Only, May 8 (\$100)
- Conference Only, May 9- 10 (\$175)
- Workshop & Conference, May 8- 10 (\$250)

##### Student Registration

*(Please include proof of active student status - half-time load, minimum)*

- Workshop Only, May 8 (\$100)
- Conference Only, May 9- 10 (\$75)
- Workshop & Conference, May 8- 10 (\$150)

Tacoma Rainiers Baseball Game, BBQ & Social, May 9 (\$25) T-Shirt Size

Guest Ticket T-Shirt Size      
  2nd Guest Ticket T-Shirt Size      
  3rd Guest Ticket T-Shirt Size

Total Registration Fee

#### Payment & Billing Information (if applicable)

- Check Enclosed (payable to \*WAURISA\*, please print and mail this form with check to address below)
- Need Invoice to process payment (please fill out billing information below and submit via email:

Print Form

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State/ Province \_\_\_\_\_ ZIP/ Postal Code \_\_\_\_\_

Phone Number \_\_\_\_\_ Fax Number \_\_\_\_\_

Contact Name \_\_\_\_\_ P.O. Number \_\_\_\_\_

Submit by Email

**WAURISA \* 1402 Auburn Way North \* PBN 158 \* Auburn, WA 98002**  
[www.waurisa.org](http://www.waurisa.org)

## URISA ANNOUNCES SIX NEW GISCORPS MISSIONS

March 9, 2006 (PARK RIDGE, IL)

**URISA's GISCorps volunteers** recently began six new missions as a result of its partnership with the Global Spatial Data Infrastructure (GSDI) Association. Juna Papajorgji, the Co-chair and Co-founder of URISA's GISCorps, led the effort to identify projects and volunteers to contribute to the global effort of building a Common National Spatial Data Infrastructure. Most of these projects – in Armenia, Hungary, Kenya, Mali, Marshall Islands, and Namibia – will make use of open source development environments and will use products built with OpenGIS specifications. All of the projects will be conducted remotely in support of major research and academic institutions in these countries.

Following is a list of projects and assigned GISCorps volunteers.

Country	Institution	Project	GISCorps Volunteer
Armenia	Institute of Geological Sciences of the National Academy of Sciences.	Collecting and web publishing known volcanoes as they relate to geo-referenced topographic maps and DEM.	Ramasawamy Hariharan, University of California, Irvine, PhD Candidate
Hungary	Institute of Ecology and Botany, Hungarian Academy of Sciences	Develop a spatial web portal to serve natural vegetation and landscape ecological maps.	Philippe Duchesne, Ionic Software, Belgium, GIS Programmer
Kenya	Marine and Fisheries Research Institute (KMFRI)	Web publishing of Kenya's Oil Spill Contingency sensitivity atlas.	Dan Carey, Kentucky Geological Survey, University of Kentucky, Hydrologist
Mali	World Food Program	Technical and policy support for the National Committee of Geographical Information (CNIG), in their effort to strengthen the country's SDI.	Sarah Williams, Columbia University, Director of Geospatial Analysis and Remote Sensing
Marshall Islands	Environmental Protection Authority	Develop a geospatial web application for GIS data/metadata clearinghouse.	Yasser Ayad, Clarion University of Pennsylvania, Associate Professor
Namibia	National Botanical Research Institute	Server side programming to enhance Namibia's <u>Biodiversity Database</u> (NADIB)	Sean Montague, ATS-Denver, Inc, Lead GIS/Web Programmer

The Urban and Regional Information Systems Association (URISA) is considered to be the premier organization for the use and integration of spatial information technology to improve the quality of life in our urban and regional environments. Operating under the auspices of URISA, GISCorps coordinates short term, volunteer based GIS services to underprivileged communities.

*For more information about URISA and GISCorps, visit [www.urisa.org](http://www.urisa.org) and [www.giscorps.org](http://www.giscorps.org)*

## TACOMA IMAGES – WASHINGTON GIS CONFERENCE, MAY 8-10, 2006



There is plenty of opportunity for recreation and entertainment in the Tacoma area. Whether you want to spend a peaceful afternoon in a museum, have lunch at a sidewalk cafe, watch an exciting game of baseball, or take in a concert or exhibition at the Tacoma Dome -- if you're in Tacoma, you've got choices.

**Coming from out of town** for the Washington GIS Conference? The Tacoma Sheraton is offering special reduced room rates (\$109 per night) for a limited time – call 253-572-3200 and ask for the Washington State Chapter of URISA rate.

Also – government employees - check for Tacoma Hotels with government room rates at: <http://www.hotelsatperdiem.com>.



## THE SUMMIT - EDITORIAL

### PUTTING GIS TO WORK

Most people have at least a passing interest in Geography. Anyone who goes to the dentist twice a year, gets their eyes examined once a year, and an annual medical checkup can't avoid a variety of magazines in the waiting room. Sure – there'll be copies of *People*, *Time*, and *Sports Illustrated*, but almost invariably there will also be a number of copies of a magazine bordered in distinctive yellow: *National Geographic*. Most people reading this column would likely go further and agree that geography – the 'G' in GIS, is fun. Most of us would also agree that computers, and software, and even databases are fun. Being a somewhat nerdy bunch, we get satisfaction seeing them all fit together in an elegant and responsive system.

But fun is not what we're paid for. Whether we work as a GIS professional or as a GIS user, whether we work for a public agency, private company, software firm, hardware manufacturer, consultant, or vendor, we get paid to put GIS to work. We have to balance our passion for GIS with a passion for customer service and focus on helping the agencies we work for make use of GIS as a business tool.

From our perspective it may be obvious that GIS can improve how our agencies or companies meet their customers' needs. But for the decision makers in the organizations we work for, GIS is just one of many tools they have to consider in putting together a budget or re-engineering their business processes. A public works manager may have to decide between that new GIS system you've been proposing, or a new back-hoe for next year's budget. How do you make your case that GIS is the better business decision?

This issue of *The Summit* focuses on how the State of Washington has made some of those decisions in planning critical GIS related infrastructure. The State's GIT Enterprise Architecture Initiative is building a sound IT foundation. This foundation will be strengthened by a comprehensive Orthophoto Program and Transportation Framework Project. Other articles in this issue outline how GIS is put to work at the City of Seattle (Tom Nolan Interview) and to aid disaster relief (PNW GIS Volunteers).

Putting GIS to Work is the theme of the 2006 Washington GIS Conference. This event will be an excellent opportunity for the Washington GIS Community to see how their peers are putting GIS to work. The Conference will also include access to vendors and sessions that will focus on emerging technology that we may be using as business tools in the future.

Those of us with a passion for GIS and a passion for geography and who are luck enough to work in this field are fortunate indeed. We have an obligation though to keep our professional focus on how we can put the GIS tools at our command to work for our employers, customers, and society as a whole.

### 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.

## LETTERS TO THE EDITOR

"Great newsletter! I'm already looking forward to the next issue. I am finding the content to be detailed enough to keep my interest and varied enough that I have learned several new things from each of the first two issues. These articles by regular people give it a 'grassroots' feel that is especially appealing. Keep up the good work."

*Michael Jenkins, KCGIS Center*

"I really enjoyed the last issue. I definitely agree that as a GIS professional, I must be prepared to continue my education. I must be cognizant of the needs of my employer and my own professional development. For example, our County does not have anyone that knows any of the various programming languages for GIS. Sometime with in the next year or two, one of us should begin the process of learning programming so that we can customize our GIS to better serve our needs. This example is just one of the skills that we will need to learn to improve our GIS."

*Amanda Taub, Douglas County GIS*

*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.

## THE SUMMIT— LITERARY CORNER

### Geography

#### Geography in small degree

**Collects the facts that be**

**On land and sea,**

**Expects but little thought, nor is it sought.**

#### Geography in large degree

**Is thus the gift to see,**

**Not thee and me,**

**But us, summed up with grace, in mass and space.**

*- Unknown*

*The Summit* is published by WAURISA, The Washington State Chapter of the Urban & Regional Information Systems Association

**Newsletter Editor:** Greg Babinski

**Interview Editor:** Effie Moody

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## 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@sammplat.wa.org](mailto:dick@sammplat.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).

GIS in Action: April 18 & 19, Vancouver, WA

<http://www.orurisa.org>

2006 Washington GIS Conference: May 8-10, Tacoma

<http://www.waurisa.org>

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

<http://www.urisa.org>

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

## 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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- **King County GIS Center**
- **City of Seattle**

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