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News From and For The Washington GIS Community

WAURISA

The Washington State Chapter of
URISA – The Association for GIS Professionals



SPRING 2010

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ISSUE 19

BRIDGING THE GAP: PUBLIC ACCESS TO LAND INFORMATION

By Eadie Kaltenbacher, Summit Staff Editor

What is my property's assessed value? Who is my commissioner? How many chickens can I keep in my backyard?

Every day, these questions and more are asked of land information systems across the state. Before the explosion of the Digital Age, every individual had to call the appropriate jurisdiction and work their way through the maze of bureaucracy to find the information they needed. In fact, sometimes that's still how it happens. Now, however, there's a better way available. The Internet enables individuals to connect with the government's database and look up the particular information they need. But what is the interface between the individual and the database? The two main categories are text and geographical. Of the geographical choices, the most common is to serve the data directly using ArcIMS or ArcGIS Server. However, some counties have found that there is a gap between what these products offer and what they need. The gap may be in technology, or in resources such as time, expertise or cost. To bridge this gap, these counties have purchased commercial software either as an alternative or as an add-on to the traditional choices. What are these products, which counties are using them, and what do they do?

See: Public Access to Land Information, page 2



ALSO IN THIS ISSUE:

WA-Trans Status report	p. 4
Spotlight on Waurisa Volunteer: Angela Johnson	p. 8
Waurisa Education Committee	p. 8
2010 Washington GIS Conference News	p. 13
Opinion Page	p. 17
Guest Opinion: GIS Rules, Tools & Super Polygons ...	p. 17

PRESIDENT'S COLUMN

A special spring greeting to all our GIS friends and colleagues! As the days grow longer and I am teased by glimpses of warm spring days it makes me look forward to the 2010 GIS Conference and once again seeing a collaboration of all the incredible GIS talent here in the Pacific Northwest.

Preparations for the 2010 conference are proceeding at a rapid pace with workshops already established and presentation schedules being finalized. This year's conference at the Tacoma Convention and Trade Center promises to have something for pretty much every GIS professional. We have lined up six excellent and diversified half day workshops from Programming with Python and Silverlight to open source solutions, GIS database management with SQL express and GIS return on investment (ROI). Some of our workshops are near the registration limit so check them out and register as soon as possible.

When you attend the conference this year make sure that you plan ahead and leave some time for the social events. This year we are giving you extra incentives to get to know your GIS vendors and their services with a fun activity of a conference passport. Also the Tuesday evening social event, our own Washington State GIS version of Jeopardy, is shaping up to be a great social event that will have everyone cheering and strategizing.

Also while you are at the conference please try to come talk to me or any of the board members about what you would like to see from Washington URISA or if you are not at the conference email me at president@waurisa.org. We are interested in hearing from you about what you want from the organization and what direction you would like us to head. With Ian Von Essen from Spokane County coming as this year's keynote speaker perhaps we have drawn you from Eastern Washington or Northern Idaho. We have been looking at outreach activities targeted all around the state and your perspective on what Washington URISA can do for you will help mold those decisions. I myself am particularly interested in hearing from those members, like myself, who are a little detached from the many GIS professionals in the central Puget Sound area and from some of the outlying areas such as eastern and southern Washington, or the Olympic and Kitsap Peninsulas. So please tell us what WAURISA can do for you!

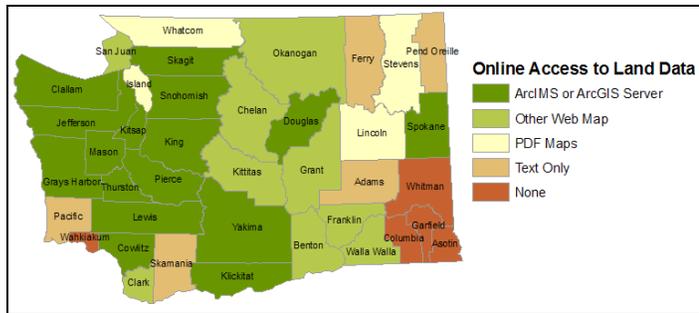
Thank you for the opportunity to serve as the Washington URISA chapter. President. I look forward to meeting all of you at the conference or hearing from you through email. Enjoy the conference and may it inspire you to **Rise to the Challenge!**

- Don Burdick, President.



PUBLIC ACCESS TO LAND INFORMATION

Continued from page 1



Methods of Online Public Access to County Land Information, as determined by accessing the public mapping application. March 2010.

ArcIMS and ArcGIS Server come with an out-of-the-box web interface which can be customized to varying levels. Some counties that select this option (dark green on the map) use the basic interface with little or no customization. Others draw on their extensive in-house resources to perform large-scale customization projects. Yet other counties may have worked with contractors to customize their ArcIMS or ArcGIS Server sites. The result is a wide range of end products that can be created in this fashion.

Other counties may wish to display their GIS data with the help of third-party software (light green on the map). These counties have selected a variety of solutions, listed in the table below.

County	Product	Company & Location
Franklin Okanogan Walla Walla Adams* Grant* Kittitas* Lincoln* Skamania* Stevens*	MapSifter	TerraScan Inc. Lincoln, Nebraska
Benton	eGovernment	Manatron Inc. Portage, Michigan
Chelan	Property Access	True Automation, Inc. Plano, Texas
Clark	Geocortex IMF	Latitude Geographics Group Ltd. Victoria, BC
San Juan	Developer Toolkit	IT Nexus Inc. San Antonio, Texas

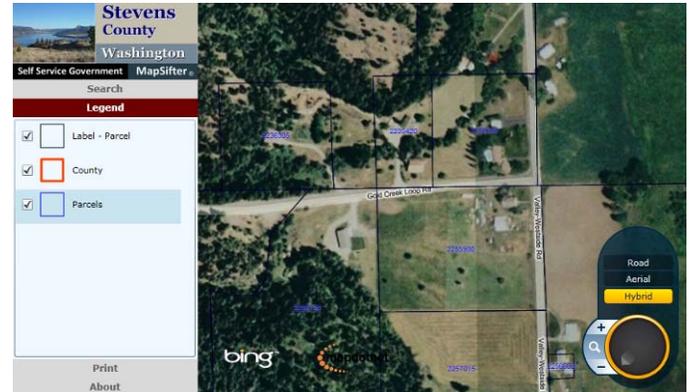
*Counties that will be adding MapSifter in the next 60 days

MapSifter by TerraScan

The most common "alternative" GIS solution in the state is MapSifter, an application created by TerraScan of Lincoln, Nebraska. According to Bill Sheldon, Vice President, a new version of MapSifter will be released in April 2010. This new version will store geographic data directly in SQL Server 2008 as geometry data types. The application will have a Silverlight front-end and have the ability to integrate public tools such as Bing Maps as a background layer. The display of MapSifter maps is customizable through an XML file, but clients generally have TerraScan set up the map display on their behalf. While MapSifter is an ESRI business partner, MapSifter is unique among the products listed here in that it does not require the client to have ESRI software.

The counties in Washington that currently use MapSifter for display of public land data are Franklin, Okanogan, and Walla Walla. Sheldon noted that over the next few months, several counties will be adding MapSifter; these are Adams, Grant, Kittitas, Lincoln, Skamania, and Stevens.

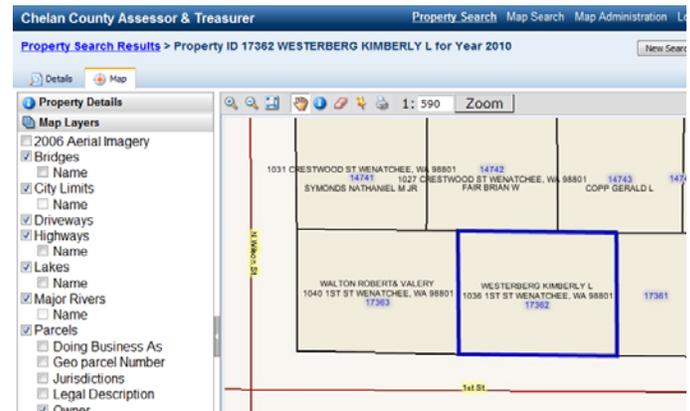
Sheldon provided a preview of Stevens County's beta site, which will be in final development over the next few weeks. The parcel data is provided by the county, but the roads and aerial imagery are provided by Bing Maps.



Stevens County MapSifter Beta Site

Property Access by True Automation and eGovernment by Manatron

Both of these products are specifically focused on displaying data from Assessor and Treasurer databases and applications. Like other property search tools, users can query data by attributes or spatially, and results can be displayed textually or geographically. They use data layers provided by the client to create customized maps, which are displayed in a customized container. Both companies said that the majority of their clients don't have the resources to customize their mapping interface, so that is generally provided as part of the package.



Chelan County Property Access Implementation

See Public Access to Land Information, Page 3

PUBLIC ACCESS TO LAND INFORMATION

Continued from page 2

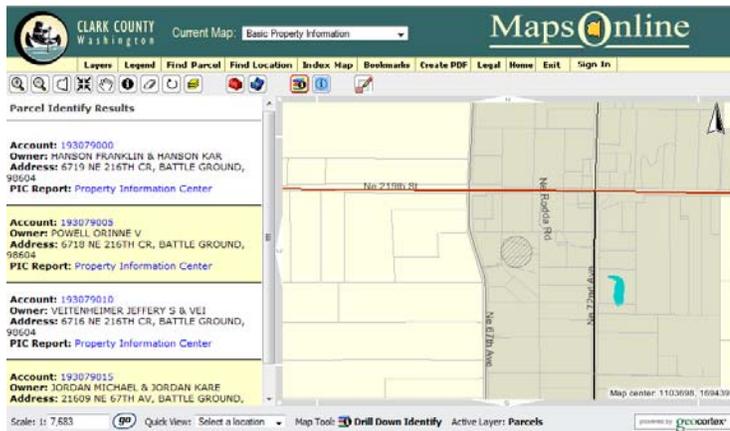
Property Access can draw assessor and appraiser focused textual data directly on the geographical interface. The screenshot below illustrates the placement of user-determined text on the map: taxpayer name and site address. In our state, Chelan County is the only county using Property Access to provide land data to the public.

One unique feature of eGovernment, as noted by Travis Rozean, Director of Operations, is the re-usable back-end components of their software. These components use REST, Silverlight and JavaScript. The idea is that these components can remain relatively constant even as ESRI technology changes, so eGovernment can easily keep up-to-date with the latest releases. They also use ESRI map services, and they are preparing for integration with cloud technology. The only county using eGovernment is Benton.

Geocortex by Latitude Geographics

Latitude Geographics offers a series of geospatial solutions in their Geocortex family. Geocortex Essentials is the product for ArcGIS Server. It facilitates the implementation and customization of ArcGIS Server, and adds functionality to ArcGIS Server, including additional user tools. Some of these features are: mark-up tools, a Google-style navigation bar, integration of audio and video, and detailed security settings. Clients can work with a web-based GUI to manage and customize their applications.

Clark County uses Geocortex IMF (Latitude Geographics' sister product for ArcIMS) to display their parcel data. This screenshot illustrates the application displaying the result of selecting parcels that intersect a 50-meter radius of a user-selected point. In addition to this Basic Property Information map, Clark County has created several other public maps, including Crime Statistics, Recent Property Sales, Surveyor's Records and Plats, and more.

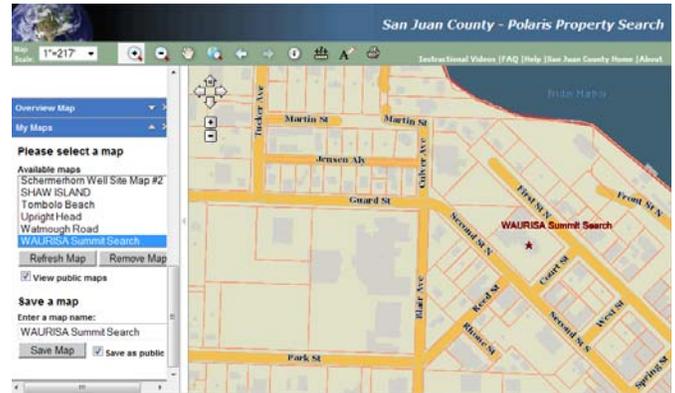


Clark County Geocortex IMF Parcel Display

Developer Toolkit by IT Nexus

San Juan County grants public access to geographic land data through an application called Polaris, which was created using the Developer Toolkit by IT Nexus to extend the functionality of ArcGIS Server. The Developer Toolkit enables the client to access map services that have been created and published with ArcGIS Server. The client adds their map services which display as layers. The client has full control over which map services are available to users, and the end user can turn the map services on and off like layers to create the display they want. This functionality means that different interfaces can be created for different sets of users without managing multiple websites.

The Developer Toolkit also includes custom tasks that run in ArcGIS Server applications. Melissa Crane, the County's GIS Program Coordinator, raved about one of her favorite custom tasks: the "My Maps" tab, which allows users to zoom in to particular views and create mark-ups. Furthermore, these views and mark-ups can be saved for 90 days on the county's server, and shared with others. Crane explained that this feature has been very popular, and is often used by people in different locations collaborating on a single project. The GIS department has plans to create several more applications using the Developer Toolkit, including one for the Public Works department that will incorporate "Select by Attribute" functionality.



San Juan County IT Nexus Polaris Application

See Public Access to Land Information, Page 4

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WA-TRANS STATUS REPORT: MARCH 2010

By Tami Griffin, WA-Trans Project Manager

Resources:

The WA-Trans Project is currently working with Central Washington University's Center for Spatial Information and Spokane County GIS. We are also investigating developing a similar agreement with Washington State University.

Communications:

Ian Von Essen and I will be presenting on WA-Trans at the annual WAURISA Conference in Tacoma. Right now it is scheduled for Wednesday April 21 at 1:30 pm. We will briefly cover the WA-Trans process and what it is, but most of the presentation will be examples of interesting issues we have had to resolve, the data and what we are doing, with images and examples from some of the actual work. It should be different from our previous presentations and I hope those who have seen a previous WA-Trans Presentation will see some interesting new changes.

I spoke at the Association of County & City Information Systems (ACCIS) Fall Conference in Port Angeles last October. It was a very well received presentation and while many of the attendees do not know much about GIS they know enough about what we are doing to appreciate it. Several local people agreed to facilitate discussions with their local GIS people where needed. I also met with Tom Shindler of Clallam County while there. Tom and I hope to be able to work together before too long on data from the Olympic Peninsula. That is all funding dependant but we will start by helping them get the Mobility LRS on their roads data.

The WA-Trans team plans to travel to the eastern part of the state in late April or May. We will try to meet with the counties we are working with on the Eastern Regional Dataset as well as with Washington State University.

The WA-Trans Implementation Process (as it stands now):

The work process that was established with CWU has, for the most part, worked well. We are now pursuing a similar process with Spokane County and if we are able to develop an agreement, WSU. The biggest issue is the lack of dedicated staff here in Olympia to the project. This means that much of our time here is spent either preparing data to send out to be worked on, or performing QA/QC on data that we have gotten back, and not as much on automating our processes here. We have begun to develop automation in the following areas:

Topology Checking: Various topology checking processes are run against recently received data in the staging database. We have automated some of these and are developing methods of automating initial topology repairs that can then be approved or rejected manually.

Reference Point Creation and Association: An automated process creates point features at both ends of every segment and associates the IDs of these points with the segment and any corresponding attribute records, including direction.

Segmentation Changes: Segments are evaluated to determine if they meet the WA-Trans Business Rules. In some cases the data is overly segmented (based on our rules) and needs to be joined into longer segments. Automated processes have been developed to perform this task. In some cases the segments are not broken at locations where our business rules say they should and so there are processes to break segments and to add a single end-point and connect it to the appropriate segments. Attribution is appropriately applied in all cases.

See *WA-Trans Status Report, Page 5*

PUBLIC ACCESS TO LAND INFORMATION

Continued from page 3

Smaller Gaps

With the wide variety of software available, there should be a suitable solution for each situation. In addition to the products described here, there are additional services that are popular for internal applications (MapOptix by GeoNorth is a good example for Washington State) and for public applications in other states. There are still some counties in our state that don't have the resources to create and maintain geographic data, but for those counties that do, they are sure to find a satisfactory method to provide it to the public.

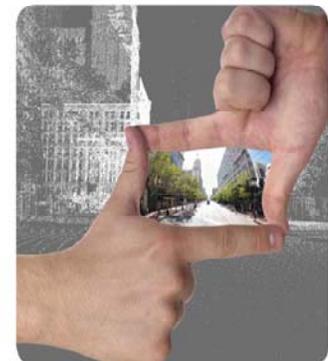
Eadie Kaltenbacher can be contacted at EKaltenb@co.kitsap.wa.us



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WA-TRANS STATUS REPORT

Continued from page 4

Change Integration: There is a difference in the integration process between the first time we integrate data from various providers and the maintenance process as things change over time. Because of the need for a repeatable maintenance process we feel much more needs to be invested into the process during maintenance. We are referring to this as the "Change Integration" process and as much as possible of that will be automated. This will be a big focus in the next several months to a year on the automated process front.

Process step tracking: For every change made to the data, copies are made and fields set to identify the processing stage and date, the record's status after processing, and the reason for the revision.

Metadata: The database is being modified to handle metadata.

- ❑ We are developing processes to create metadata (data set level) to include information gathered from our Data Characteristics Survey. This will provide the user with contextual information to assist them with determining how to better use the data.
- ❑ We are designing metadata tables in the WA-Trans database to enable the creation of WA-Trans Metadata files. Processes will be created to extract this data and create WA-Trans Metadata files to accompany WA-Trans data extracts. We are also working on processes to allow for sharing the original data provider's metadata file.
- ❑ Additionally we are adding attribute cross-walks in our databases. These cross-walks will help with development and modification of transformations into WA-Trans and also be part of the metadata so a user wanting to trace an attribute or data element back to the source metadata will be able to do this.
- ❑ Use of the process step flags allows a user of the data (or a provider) to get a report on all the steps used in the WA-Trans processing of that data. Right now they are just flags but we will develop more reports for better use of this information.

Seven-County Implementation:

The ultimate goal is to have a production dataset that is used in an incident location component in the collision location system developed at WSDOT. WA-Trans is not responsible for that collision location system, but is assisting with developing the database and making sure the state-route data provided is acceptable. The Seven County data will also be available for regional partners such as the Puget Sound Regional Council; however, we need some additional resources for developing output transformation processes in support of this. Here is status with the counties we are working with on this.

- ❑ **King County** – King County is complete. We will have CWU rework the integration between King and Pierce County.
- ❑ **Pierce County** – Pierce County is complete. We are still waiting for a single final definitive agreement point file from King and Pierce Counties and so are doing what we can with what we have but will have to use the disagreement point process for some of this integration right now.

- ❑ **Kitsap County** – Kitsap County data is complete. We are still waiting for Agreement Point data between Kitsap and Pierce Counties.
- ❑ **Clark County** – Clark County data is complete.
- ❑ **Spokane County** – CWU is currently processing Spokane County data. They anticipate being complete in a few weeks time.
- ❑ **Thurston County** – Thurston County is complete and connected to Pierce County.
- ❑ **Snohomish Counties** – We have Snohomish County data. We will be sending it for processing when the next available opportunity comes along. We anticipate some delay over the completion of the Seven-County Implementation due to contract negotiations with CWU that resulted in work stopping. This may affect work on Snohomish County but all will be done by the end of the summer at the latest.

Eastern Region Dataset Implementation:

The WA-Trans Project has entered into a Cooperative Agreement with the U.S. Geological Survey (USGS). This is the result of a proposal developed in conjunction with Spokane County. This will include improving/creating data for 4 counties including Adams, Ferry, Lincoln, and Stevens Counties and putting that data into WA-Trans. Then we would also put Spokane and Pend Oreille County in WA-Trans. We are contracting with Spokane County for much of this work. Here is the status thus far of each of the counties we have met with:

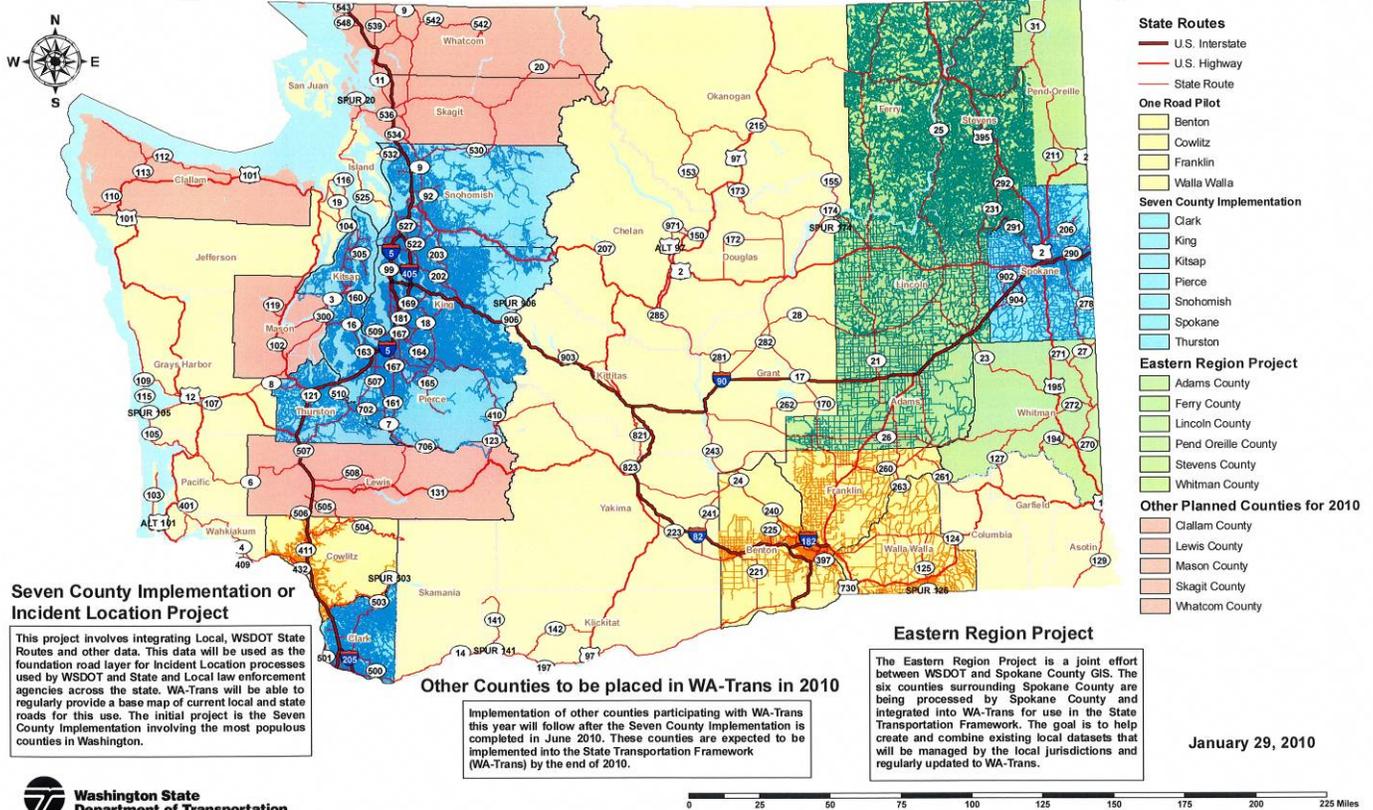
- ❑ **Spokane County** – Spokane County is part of the Seven-County Implementation, but they have a key role in this in terms of providing a local contact to collect data, evaluate data and support implementation of this regional dataset. They will also support Agreement Points when it is time to do them. Spokane County data is being processed by CWU. The delay in this processing will slow down the process of integrating the data a bit.
- ❑ **Adams County** – We have Adams County data and have transformed it into the loading database. Adams County data is ready for processing by Spokane County
- ❑ **Ferry County** – We have Ferry County data and are working on transformation processes for it.
- ❑ **Lincoln County** – Lincoln County wants Mobility LRS conflated to it. That is Spokane Counties' first task. They also have address points. Our database is now structured to handle address points. In the next couple of months WA-Trans will be working on implementing address points for Lincoln County.
- ❑ **Stevens County** – We have Stevens County data and are working on transformation processes for it.
- ❑ **Pend Oreille County** – Spokane County has Pend-Oreille County data. They just recently got the most up-to-date data from them and are updating the combined address data with the engineering data. They will be sending it to us after that. We will be approaching the USGS about an additional extension for this work. We anticipate having it all done by the end of September.

See WA-Trans Status Report, Page 6

WA-TRANS STATUS REPORT

Continued from page 5

Washington State Transportation Framework Progress (WA-Trans)



Future Data Plans:

The project has some additional funding from the Washington Traffic Safety Commission (WTSC). We are looking at using this funding for some process automation and additional data work. We anticipate beginning work on Skagit and Whatcom Counties and Yakima County as well. We will use some funds remaining in the Pooled Fund Study to add WSDOT LRS to Benton, Franklin, Walla Walla and Cowlitz Counties and integrate Cowlitz and Clark Counties. We continue to look for funding. We are working with WTSC and partnering with parts of WSDOT that need this data. Nothing is certain, particularly in this environment, but we are fine for a while longer.

WA-Trans Infrastructure:

We used some of the WTSC Funds to add to our infrastructure. We had a test server originally. We have added an inward facing SQL server and a GIS/ Internet Server that will also serve as our business server. This isn't everything we need but it will work for the production work we are doing now. We are in the process of versioning the staging database so we can begin to develop processes for editing and maintaining the data directly on data in the SQL SDE database. We are also upgrading to FME Server to the latest version and enabling more FME Server functionality. This should assist with our transformation process as well as many of our other automated GIS processes.

WA-Trans Processes and Software:

Please refer to the diagram at the end of this report regarding the steps described in this report:

- ❑ **New Provider / Changed Data Initiation Process** is underway and is being used for new providers. The Data Characteristics Survey has several new questions on it. It will continue to grow as we learn more nuances in how the data providers maintain and interpret the meaning of data items.
- ❑ The **Data Provider Portal** is 95% complete in a test environment. We will be developing a production version. This is also a fairly high priority for the next several months.
- ❑ The **Transform and Load process** has had the most work done on it. We have developed a database structure for the transform and load process that supports quick development of transformers and tracking information about provider specific codes.
- ❑ The **Initial QA/QC** process is complete. The report back to data providers has been tested and is working well. The only thing left are adjustments we might make as we make minor changes to the database. We are reusing many of these processes in evaluating the work being done by CWU and to be done by Spokane County and WSU.

See WA-Trans Status Report, Page 7

WA-TRANS STATUS REPORT

Continued from page 6

- ❑ The **Change Detection** process is complete. This is developing from a combination of FME against the spatial tables registered with the geodatabase and SQL stored procedures against the SQL tables.
- ❑ **Change Management** is the promotion of new and modified data from the WA-Trans Loading database into the Staging database. This is complete.
- ❑ **Integration and Conflation Processes:** We have developed series of utilities to assist with this process. They operate with SQL Stored Procedures, FME Workspaces and ArcSDE Desktop processing. We anticipate replacing some of the desktop processing with more FME and then an interface which identifies where specific work needs to be done and automates as much of it as possible. This is still in the conceptual stage.
- ❑ **QA/QC Processes:** We are around 70% complete with **Post-processing QA/QC** for conflation and integration in the staging database. We really have to determine how these processes will work in implementation to be able to automate them for maintenance. Right now because we don't have a project dedicated GIS Analyst our GIS developer is doing this work and it is not the most efficient use of him as a project resource.
- ❑ The **Data User Portal** has been tested. In a prototype mode it is 100% complete. We are determining how we might redevelop it in an environment that is less costly to maintain.
- ❑ **Extraction Query and Transformation Out** - Related to the Data User Portal and it becomes more important as we look to providing data to the Incident Location Tool. We will be exploring how to do this in some depth in the next several months.

- ❑ The **Loading Database** is complete as it is now. Some minor changes may take place as we work out different data permutations we may find. The **Staging Database** is being changed as we develop more of the integration processes. The **Production Database** is pretty stable at this time, but needs to be migrated to our new Database server.

Other News:

You may know that my long-time boss, George Spencer has retired. As a result our office has been moved and I am now reporting to Mark Finch of the Transportation Data Office. Mark has been on the partner list for some time and has significant interest in the WA-Trans Project being successful so it is a positive move. We are in the process of reorganization and I am part of the team that is designing the business plan for the future of our office in WSDOT. This allows me to represent WA-Trans needs well for the future but is taking a significant amount of my time. I appreciate your patience as my attention is divided more than usual.

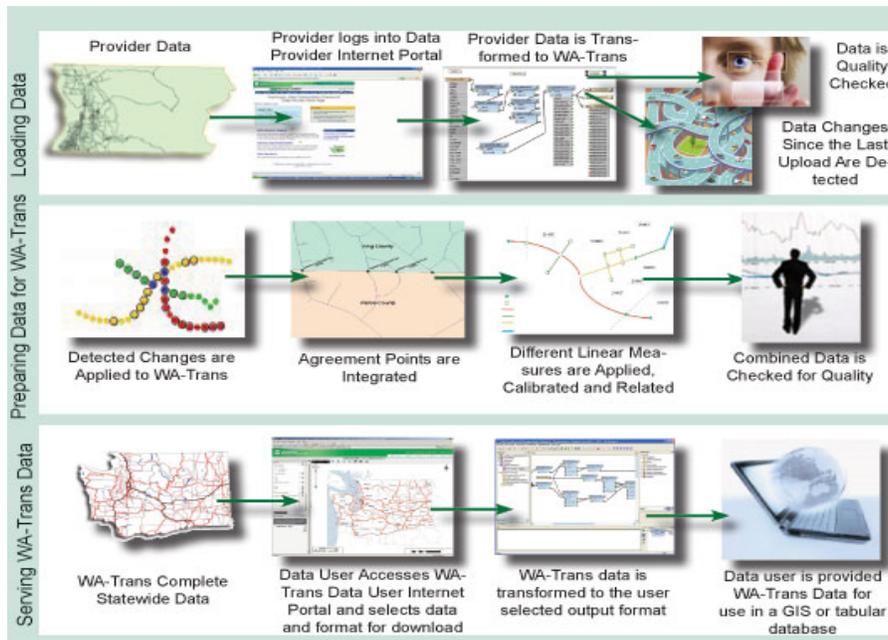
For previous status reports and other WA-Trans Material please go to:

<http://www.wsdot.wa.gov/mapsdata/TransFramework/steering.htm>

For more information please visit:

<http://www.wsdot.wa.gov/mapsdata/transframework/default.htm>

Or contact Tami Griffin at 360.596.8926 (office) or 360.742.8645(new work mobile).



WA-Trans Process & Software Diagram



SPOTLIGHT ON WAURISA VOLUNTEER: ANGELA JOHNSON

I've begun participating as a volunteer for WAURISA in 2003, when I signed up to help out at the conference registration desk. Since then, I've been involved as a conference coordinator, board member, and president. Now that I am in the role of past president, I enjoy helping newer board members and volunteers learn more about WAURISA and my focus has shifted from learning how to do things to documenting and passing on information about the processes we have perfected.

The board is always looking for new volunteers and they are such a great group of people to work with. By participating in WAURISA activities, I was able to expand my job skills and be exposed to more planning and project management related tasks – which gave me confidence in my abilities and helped add some breadth to my portfolio.

My favorite WAURISA work definitely relates to conference planning. To work so hard to bring our professional community together in a constructive way is very rewarding.

My academic background is in geological sciences, where I was exposed to GIS, learning command line ArcInfo. One of my first jobs in GIS was performing imagery interpretation and quality control on oodles and oodles of digitized vector data, which is where I learned that a job with variety is a very good thing! I also worked in the GIS group at Fort Lewis Public Works for six years, where I got the variety of work I was looking for and had the pleasure of working with a great group of people.

My favorite WAURISA work definitely relates to conference planning. To work so hard to bring our professional community together in a constructive way is very rewarding.

In 2008, I started working at CH2M HILL, performing GIS analysis and task management. My current position is the Northwest Region GIS Practice Lead, where I oversee staff in the northwestern states, and perform task management on environmental and transportation projects, including the environmental analysis for the SR 520 Bridge.

In September 2009, my business group was divested from CH2M HILL to create Critigen – a new company that leverages our deep domain expertise to develop technology-based approaches for some of the most prestigious and progressive clients in the world. It has been a challenging and exciting process and I'm very positive about what the future holds.

Outside of work, I am a mother of a wonderful little boy, who always keeps me very busy. I never dreamed of knowing the difference between a skid steer, backhoe, and front loader – but life has a way of always teaching us new things every day.

I am an avid remodeler and gardener, though the speed at which I tackle projects around the house has significantly slowed after becoming a mom. I think my biggest challenge in life is to find enough time to fit everything I want to do into just 24 hours a day....but I usually seem to find a way.

-Angela



WAURISA Volunteer & Past-President, Angela Johnson

WAURISA EDUCATION COMMITTEE

By Don Burdick

Our Washington URISA education committee is relatively small in numbers but we have big aspirations for our chapter. Providing cost effective professional career development opportunities is a core objective of our parent URISA International organization with the development and presentation of many certified workshops taught by many talented GIS professionals. The Washington URISA chapter is inspired to leverage those opportunities as well as explore many of our own through the conference and special events throughout the state. We are looking for more volunteers from our membership to help plan the future opportunities for our members. If you would be interested in providing some of your volunteer time for feedback and support of the committee please email president@aurisa.org and let us know. Some of the upcoming business items and events we will be discussing are:

- Offering a full day Program Management and Cartography workshop some place on the east side of the state.
- Developing a cooperative agreement with URISA International and the King County GIS Center in offering URISA certified workshops
- Soliciting and administering content for other stand alone and conference workshops.
- Coordinating with the outreach committee for support of regional user groups.

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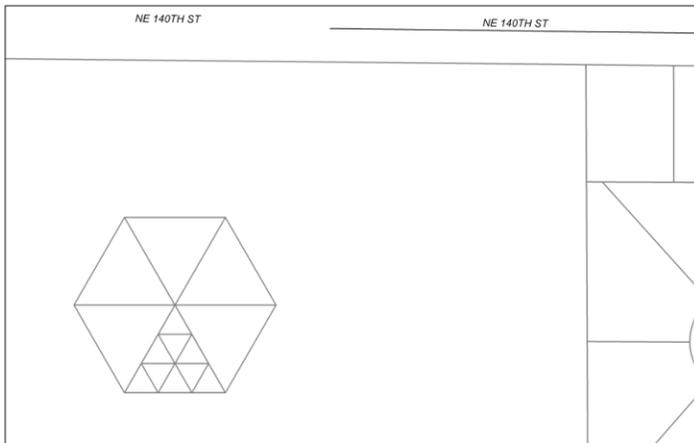
With ArcGIS® Web Mapping APIs, you can create and deploy GIS applications that are best suited for your environment. To save time and resources while learning how to use these APIs, ESRI offers live samples, training seminars, sample applications, and free maps and GIS tasks such as geocoding and routing. Discover how ArcGIS Web Mapping APIs can deliver mapping and GIS functionality in your Web applications; visit www.esri.com/mappingapis.



GUEST OPINION: GIS RULES, TOOLS & SUPER POLYGONS

Continued from page 17

Could we¹ describe a corresponding structured approach for our discipline's basic commodity – *geospatial data* (Or, quite conceivably, I am ill-informed and it already exists.)? And, whatever the approach, do we effectively practice it? Without a doubt, we elegantly and minutely organize our GIS data directories, maintain our metadata documentation, model our database schemas, and publish for public consumption our standard maps with standard disclaimers, all certainly part of a *structured approach* to GIS. But from the math teacher's assignment, perhaps we can draw an additional message.



Her lesson presents a spatial object that is based on definition. It is current, correct, usable for all purposes, and has no gaps, overlaps, or other geometric problems. Its areal or linear measurements are exact. No matter whether it was drawn large or small, it is without fault. The Dream Map! Like a ship model, a symbol, or the records residing in our spatial data repositories, it is still a representation, but a very good one indeed. What is intriguing about Mrs. Lande's Super Polygon construct is that a "building-block" approach may be directly applicable to the ongoing GIS dialogue on geospatial data quality.

Tim Leach's article in the Winter issue of *The Summit* touched on many geospatial data quality topics, among them map scale, *mapping scale*, generalization, suitability for use, map displays, decision-making based on map displays, dire outcomes resulting from these decisions, and so on. All points well taken.

Interestingly, other authors have recently published similar articles in other industry publications. In fact, map accuracy and geospatial data quality are popular topics in the literature, and have been researched and reported in a scholarly fashion for decades.

Phil Muehrcke, in his visionary 1972 treatise *Thematic Cartography*, presented a formal model of the interrelationship of data collection, map making, and map use, cautioning that the real value of map displays is for visualization, not storing or reporting of measurements.

The Federal Geographic Data Committee web site provides much in the way of standards material, although on the subject of "grading" geospatial data it seems a little tentative.

¹ I refer to the wider community of spatial data creators, users, and purveyors, not just the GIS discipline

A simple Google search of "map accuracy" or "spatial data quality" returns vast quantities of expository works, including one that discusses positional accuracy and then asserts

"Other types of errors on maps, such as incorrect classification of features or incorrect names of streets or places are called factual errors. It is not possible to classify these errors numerically."

It is easy to find examples of positional accuracy problems in GIS data. But I suspect the vast majority of geospatial data users seek an *overall* suitability rating that encompasses more than just geometry. Not possible? It is imperative that we – the keepers of geospatial data – make it our business to know and disclose to our colleagues and users at least basic measures of the quality and reliability of our work products. This includes the entire realm of maps, geospatial analysis, and tabular subjects. Who, if not our discipline, will do this?

So there has been much discussion, research, and writing on the topic of geospatial data quality, and what (if anything) we do about it. Not surprisingly, some of the discussion on this complex subject gets mired in arcane terminology and institutional factors, and perhaps even some complacency or resignation. An informal straw poll of some colleagues on the subject provides the following (roughly translated) responses:

- Most GIS data is garbage, but it is pretty darn good garbage
- There is no *bad* GIS data; it is useful in some way, and certainly better than nothing at all
- Users need to understand that we are at the mercy of our sources (like an investigative journalist)
- To get all this right would cost far too much, and GIS would become a dispensable luxury
- Get the GIS "done" with whatever available resources, and it will get cleaned up eventually

There is a refreshing element of frank realism in these comments, and they were definitely relevant twenty years ago, but I think now we can do better. Our discipline has the collective experience and innovation to refine the legacy discussion on geospatial data quality into something that is comprehensible, and that can materially assist the geographic information explosion. As geospatial technologies become increasingly ubiquitous, data quality assistance is needed more than ever for emerging GIS sites, existing GIS operations who are retooling, and entry-level users who are applying GIS solutions to their particular business need.

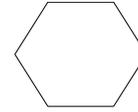
See GIS Rules, Tools & Polygons, Page 11

GUEST OPINION: GIS RULES, TOOLS & SUPER POLYGONS

Continued from page 10

Why is this important? To my earlier math homework anecdote, our GIS *tools* are now of such complexity and sophistication that it appears many users are barely keeping up. There is new- and next-generation gadgetry including software, mobile computing, GPS, remote sensing, business applications, networks, and of course the Internet. Data availability is front and center, but data quality may be of only casual interest. Given that geospatial tools are widely available, and that the prevalent notion is that maps are innately authoritative and correct, it follows that a propagation of data quality issues is possible and even likely. Most GIS users do not have the time, experience, or skill sets to detect, much less document and correct, geospatial data quality problems. The ripple effect of this scenario is obvious, although not easy to quantify.

Can a workable "discovery" process be developed? I am thinking of a check list, matrix, or set of automated routines that can be published to at least help identify geospatial data quality problems. For example: superimpose ZIP code boundaries on parcels that are color coded by mailing address ZIP codes, and compare; not a 100% solution, but a start. Or geocode address points to the best available street network data, and report the results. Or confirm a city boundary by tracing its legal description across a detailed parcel map. Such exercises provide a rudimentary data quality grade, although they don't solve what is to be done about data shortcomings.



Are there any "quick fixes" that can be taken advantage of? Various agencies have already developed and publicized some impressive "modular" approaches to combining *and reconciling* various geospatial data sources: the FGDC transportation network model comes to mind. Similarly, cadastral data "building blocks" (parcels, sub-parcels, property crumbs, etc.) could be coded so that, in concert with related tables, many (most?) boundary layers could be automatically generated and updated. ZIP code or Urban Growth Area or police beats or zoning polygons would not be drawn in overlay fashion, but would be defined and created as an aggregate of smaller features and would appear that way, regardless of display scale. Of course, this process assumes that the building blocks themselves are of high quality!

The topic of geospatial data quality has emerged from an historic body of mapping knowledge whose core parameters still govern how we represent the earth, or any other geospatial entity. Today, much of this is imbedded in our choice of GIS software, and it functions as *invisible rules* as we go about our daily GIS business. We don't even need to be aware of, much less understand, these rules, a somewhat scary proposition!

When our data quality issues emerge, it is usually in a regrettable event such as a misrouted emergency vehicle, a sanitary sewer system overflow into a critical habitat, a property boundary litigation, or a denied building permit. As a discipline we need to continue this dialogue, and better articulate the subject among ourselves as well as for society. The goal should be to promote some solid technical solutions that really make a difference.

I do believe it will come, and maybe the world's math teachers can give us some needed reality checks along the way!

~ Karl Johansen
emmasen@msn.com

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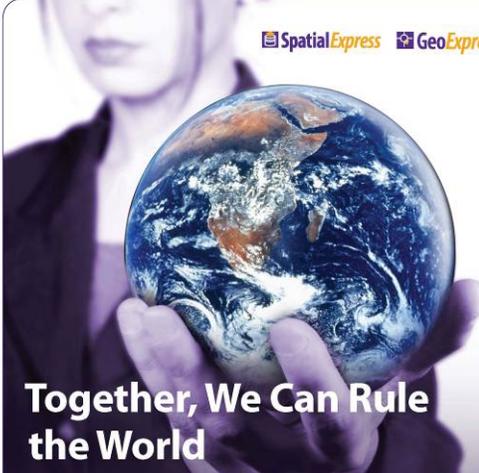
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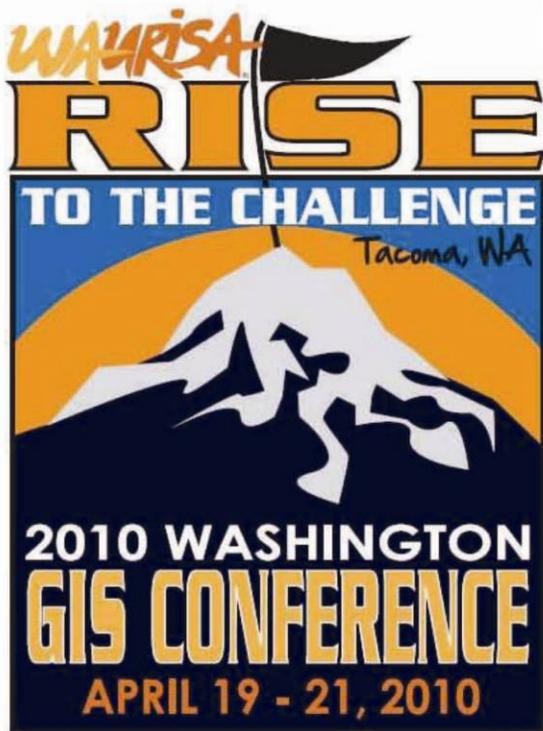
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WAURISA - the Washington State Chapter of the Urban & Regional Information Systems Association – has put together a program that includes a day of educational workshops, access to leading GIS vendors, and two days of informative speakers from all corners of the State. The Conference is designed to help you learn from your colleagues, network with your peers, and build a solid GIS foundation for your career, your company, or your agency.

The pre-conference event begins on Monday with six half day workshops to choose from. The Workshops provide technical training from leading GIS practitioners. They have become a successful part of the annual Washington GIS Conference.

Latest Conference News at:

www.waurisa.org/conferences

On Tuesday, the conference begins with the keynote address by Ian Von Essen, Spokane County GIS Manager. Following the keynote, the Summit Award will be presented to the Washington State GIS Person of the Year.

Later on Tuesday and Wednesday you can choose from a wide variety of in-depth educational sessions presented by leading GIS practitioners from across Washington.

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

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New for 2010:

- | | |
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| Exhibit Hall Vendor Passport Contest: | Tuesday Evening GIS Jeopardy Social: |
| • Visit & talk to vendors | • Have a drink on Waurisa—5-6:30pm |
| • Get your passport stamped | • You may be chosen as a contestant |
| • Enter to win \$100 gift certificate | • Win \$100 gift certificates |
| | • Audience drawing for \$25 prizes |

Wednesday Gift Giveaways:

- Pete Crowell's GIS Management Handbook
- ESRI book bags

Keynote Speaker: Ian Von Essen

Ian Von Essen manages the Spokane County GIS Program.

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The GIS Certification Institute will award 0.2 GISCI education points for attending the Monday workshops and 0.1 points for each day you attend the educational sessions on Tuesday and Wednesday (subject to verification). For more information about GIS Certification, see: <http://www.gisci.org/>

Social Event:

Join us in the vendor hall on Tuesday after the educational sessions ends for a reception and to meet the sponsors who help bring us the conference. Then stick around for the GIS Jeopardy social event to unwind, meet friends old and new, and have fun.

WAURISA

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

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Monday			
8:00am - 4:00pm	Registration		
Time	Room 1	Room 2	Room 3
8:00 am - 12:00 pm	Developing with the Silverlight API in ArcGIS Server 9.3.1 - ESRI	Using A Free and Open Source Geospatial Stack - OpenGeo.org	Building an ROI-based Enterprise GIS Strategic Plans & Business Case - PA Consulting Group
12:00pm - 1:00 pm	Lunch		
1:00pm - 5:00 pm	Python Scripting for Map Automation in ArcGIS 10.0 - ESRI	Open Source Tools for Spatial Analysis and Geoprocessing on the Desktop - Terra GIS Ltd. and the Cascadia Users of Geospatial Open Source group (CUGOS)	Installing, Configuring, and Using an SDE SQL Server Express GeoDatabase - Kessler GIS

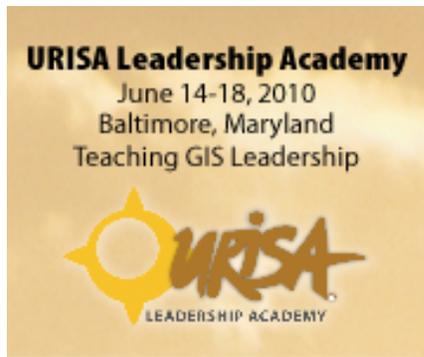
Tuesday				
8:00am - 4:00pm	Conference Registration			
8:00am - 9:00am	Continental Breakfast			
9:00am - 10:15am	Opening Session Welcome & Keynote Address Keynote by Ian Von Essen GIS Manager for Spokane County and Chair Elect of the Washington State Geographic Information Council.			
10:15am - 10:30am	Morning Break			
Time	Room 315	Room 316	Room 317	Room 318
10:30am - 12:00pm	Vendor Presentations	Rise to the Challenge	Crisis Management	Environmental GIS
	Configuring Flex Applications with ArcGIS Server by Darin Herle from Latitude Geographics / Geocortex	Discussion: Rising to the Challenge, Robust GIS in Recessionary Times Panel Members Ian Von Essen, George Horning, Kirsty Burt, Steve Beimbom, Linda Gerull	The Howard Hanson Dam & Green River Valley: A Flood Impact Analysis on Washington DOT Infrastructure by Richard C. Daniels To Help the Most Vulnerable: Using GIS for Emergency Planning in the Lower Green River Valley, WA by Irina V. Sharkova	GIS Modeling and Web Services Made Easy - Promoting Community Awareness about Stormwater Runoff by Angie Venturato & Xiongjiu Liao Non-Point Source Pollution - Community Pilot GIS Project by Suzanne Shull, Austin Rose, & Jack Middleton
	The Use of CORS Derived Control in GIS by Nathan Bentley from Electronic Data Solutions			
	No presentation scheduled.	GIS in a Down Economy - Achieving Return on Investment by Elizabeth J Marshall	Rapid Open Source Development during Crisis Response: www.haitcrisismap.org by Aaron Racicot	No presentation scheduled.
12:00pm - 1:00pm	Lunch			
1:00pm - 2:30pm	Vendor Presentations	Census 2010	3D Modeling	Open Source Introduction and Practical Examples of Application
	Using Oblique Imagery Integrated with GIS to Rise to the Challenge of Today's Economics by Russ Michel & Scott Faust from Pictometry	2010 Census And More: Data For Dollars by Linda Clark	Creating a Sketchy 3D Model to Visualize Proposed Building Height Increases by Michael Stoddard An Irregular Tessellated Surface Model Map Algebra to Define Flow - Directions and Watershed Boundaries using Bare-Earth LIDAR Sample Points by Gerry Gabrisch	Introduction to Open Source Tools - Their Philosophy and Community by Tyler Mitchell (20 mins.) Making Open Source Sing: How Commercial Funding of Open Source GIS Projects can Benefit Your Bottom Line by Roger Andre (20 mins.)
	WebGIS and ArcGIS Online by Leah Saunders from ESRI		No presentation scheduled.	Mapping People in Need - The WA State Office of Civil Legal Aid Web GIS by Karsten Vennemann (20 mins.) Panel Discussion with Session Open Source Speakers by Tyler Mitchell (30 mins.)
2:30 pm - 3:00pm	Afternoon Break			
3:00pm - 4:30pm	Vendor Presentations	Census Mapping and Addressing	Crime Analysis	Washington Statewide GIS Plan
	GIS Training Express - An Update on the KCGIS GIS Training Program by Dennis Higgins & Cheryl Wilder from King County GIS Center	Mapping Census Data by Chris DeSisto	Crime Early Warning System - Spatially Enabling Crime Data for Pierce County Law Enforcement to Help in Reducing Violent Crime by Maria Sevier & Kathy McAlpine	Washington Statewide Strategic GIS Plan Tom Carlson, PhD Joy Fautus Ian Von Essen Cy Smith
	AutoCAD Civil 3D 2010 by Dusty Gallinger from PacificCAD Inc.	An Enterprise Approach to Address Management by Katherine Sotnik, Geoffrey Almvig, & Janice Baird	An Open Source Approach to Geospatial Intelligence for Crime Analysis by Martin Davis & Mark Sondheim	No presentation scheduled.
	No presentation scheduled.		No presentation scheduled.	No presentation scheduled.
4:30pm - 6:30pm	Social Event			

It is not too late to register for the 2010 Washington GIS Conference. Take a look at the preliminary program....there is something for everyone. Rise to the Challenge! Be a part of the premier GIS event in Washington State and register today:

<http://www.waurisa.org/conferences/>



Wednesday				
8:00am - 4:00pm	Conference Registration			
8:00am - 9:00am	Continental Breakfast			
Time	Room 315	Room 316	Room 317	Room 318
8:30am - 10:00am	Vendor Presentations	Tools and Technology	Managing GIS	Data and Application Development
	ArcGIS 10 Highlights by Timothy Weisenburger from ESRI	Open Source GIS at Pierce County by Jared Erickson	Update on the Proposed Municipal GIS Capability Maturity Model by Greg Babinski	Maintaining a Tax Parcel Geodatabase - a Technical and Political Success Story told by the City of SeaTac and King County, Washington by Zinta Smidchens
		Using PostgreSQL-PostGIS and ArcSDE: an Overview of Strengths and Weaknesses by Cort Daniel	Regional Problems, Regional Solutions: Tactics for Using GIS to Convene Governments by Chris Overdorf & Josh Knauer	The Development and Use of the Washington State Parcel Database by Luke Rogers
		Beyond PostGIS - New Developments in Open Source Spatial Databases by Karsten Vennemann	Keys To A Successful Software Project by Kirk van Gorkom	Update and Modernization of Sales Tax Rate Lookup Tool for Public and Agency Users by David Wright
10:00am - 10:30am	Morning Break			
10:30am - 12:00pm	Vendor Presentations	If it is Free, is it Good?	Mapping Road Assets	Dick Thomas Student Competition
	ESRI Mobile Solutions Overview by Shane Clarke from ESRI	Panel Discussion: If it is Free, is it Good?	Finding Your Assets: City of Des Moines Sign Inventory by Steve Schunzel	Dick Thomas Student Competition Presentations
	Open Source GIS Training Classes and Support by Karsten Vennemann from TerraGIS LTD.	Ian VonEssen, Roger Andre, Michael P. Gerlek, Jared Erickson, Donna Wendt	GIS Applications Solve City of Tacoma Challenges by Pam Murray	
		No presentation scheduled.	Web Map Applications in a Large Organization - Reflections and the Road Ahead by Dana Tretthewy & SunHee Helm	
12:00pm - 1:00pm	Lunch Room			
1:00pm - 2:30pm	No Presentations scheduled	Transportation Networks	Modeling with GIS	Spatial Data Quality: Dealing With the Devil in the Details
		Washington Transportation Network, Getting a State Travel Network Together into a Single Map by Tami Griffin & Ian Von Essen	Modeling the World: Collaborative Spatial Analysis using the GeoAnalytic Grid Engine by Martin Davis & Mark Sondheim	Panel Discussion: Spatial Data Quality Issues
	No presentation scheduled.	Connecting Purgatorio to Paradise - Ferry Tracking and Captain's Log Automation using a GPS/AVL Solution by Xuejin Ruan & Chuck Buzzard	Quantifying Differences Among Similar Sets of Linework with Hydrodiff by Kenneth B. Pierce PhD.	Karl Johansen, Doug Smith, CP, PE, RPP, Michael Kulish, PLS, GISP, Gavin Schrock, PLS
			No Presentation Scheduled	
3:00pm - 4:00pm	Closing			



2009 Seattle ULA Graduates.

For information about ULA 2010, see:
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What past ULA Graduates have said:

"I've been working in the GIS field for 15 years and this was, by far, the most valuable and comprehensive training I have received. No matter how much you think you know about GIS management, you will learn more than you ever thought possible."

- Scott A Weisman, GISP, GIS Technical Services Manager, Tallahassee Leon County GIS

"This is an excellent leadership course, which I would highly recommend to anyone involved in managing GIS projects. The session on Evaluating Where You Are provides insightful practical techniques and tools for assessing any GIS project. The session on risk management and ROI were equally insightful and beneficial. Once I returned to home to my GIS world, I immediately implemented the concepts and strategies I learned from this training."

-Annette Gardner, Lead GIS Public Health Advisor, Centers for Disease Control and Prevention, Atlanta, GA



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Conference Schedule

- September 28 - Full-day training courses
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- September 30 - Awards Breakfast, Educational Sessions, Exhibits, Networking Event
- October 1 Educational Sessions, Plenary Session Speaker, URISA Annual Meeting



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THE SUMMIT - EDITORIAL

GIS – IT'S ALL ABOUT COMMUNITY

April is GIS community month in the Pacific Northwest, or so it would seem. With the annual GIS in Action conference in Portland and the Washington GIS Conference in Tacoma, GIS users and professionals have outstanding opportunities to meet in community this month.

The Pacific Northwest is fortunate to have four very active URISA chapters providing a wide variety of educational opportunities. In addition to the Oregon and Washington chapters, URISA BC and the Northern Rockies chapters are very active. The Northern Rockies Conference will take place in Bozeman beginning on April 19. URISA BC will also present an Open Data for GIS seminar in Burnaby, BC next month.

If you are reading this...you are a member of the Washington GIS community. But to be an active member of a community, you need to participate. Can't attend the Washington GIS Conference (it's not too late to register, by the way) – then look for other opportunities.

Attend a URISA sponsored workshop or get active in a local GIS user group. You can be active to via The Summit: write a letter to the editor, submit a book or software review, or write an article about your GIS project or program. Get active in your GIS community.

LETTER TO THE EDITOR

Really nice job on the last Summit...I distributed the link to our engineering/survey staff so they could review the page 1 article...(GIS Follies)

-Brad Hoffman, Snohomish County

GIS RULES, TOOLS, AND SUPER POLYGONS –

A GUEST OPINION

By Karl Johansen

Recently I faced a homework assignment (actually my 11-year-old-daughter's) involving plane geometry: regular hexagons, and estimating or calculating their areas. The teacher, Mrs. Lande, seemed to be trying to invoke *rules* (logical thinking, guidelines, and outcomes), *tools* (pencil, scale, graph paper), and *spatial objects* (in this case, her concept of *Super Polygons*, how a hexagon is made up of equilateral triangles and other subunits). With the word *polygon*, naturally, a GIS metaphor came to mind.

See GIS Rules, Tools & Polygons, Page 10

The Summit is published by WAURISA. To encourage the discussion of issues and ideas of importance to the Washington GIS community we welcome letters to the editor or opinion essays. Letters to the editor should be a maximum of 100 words and essays should be limited to 500 words.

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Olympia Area Editor:	Whitney K. Bowerman
West Sound Area Editor:	Eadie Kaltenbacher

For subscriptions, content, comments, or suggestions, email:
Summit@WAURISA.org

PUBLIC MAPS IN WASHINGTON

The Seattle Bike Tunnel is the location of this fanciful mural. The tunnel is located above the I-90 freeway tunnel that leads from the city and onto the Lake Washington floating bridge.

The tunnel is used by joggers and bike commuters. It is lined with several murals including this one that shows an aircraft filled with happy children traveling west across a map of the world.



Map Mural in Seattle Bike Tunnel



Tunnel Entrance

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

-Editor

THE SUMMIT – LITERARY CORNER

The Prince

Dedication to the Magnificent Lorenzo Di Piero De' Medici, paragraph 3 (circa 1513)

'Nor would I have it thought presumption that a person of very mean and humble station should venture to discourse and lay down rules concerning the government of Princes. For as those who make maps of countries place themselves low down in the plains to study the character of mountains and elevated lands, and place themselves high up on the mountains to get a better view of the plains, so in like manner to understand the People a man should be a Prince, and to have a clear notion of Princes he should belong to the People.'

- Niccolò Machiavelli

GIS USER GROUPS IN WASHINGTON

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

ASPRS Puget Sound Region

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Cascadia Users of Geospatial Open Source

<http://groups.google.com/group/cugos/>

Contact Karsten Venneman at: karsten@terraxis.net

Central Puget Sound GIS User Group

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

Contact Nora Gierloff at: ngierloff@ci.tukwila.wa.us

Central Washington GIS User Group

Meets the 2nd Wednesday of each month.

For information contact Amanda Taub at:

ataub@co.douglas.wa.us

King County GIS User Group

<http://www.kingcounty.gov/operations/GIS/UserGroups.aspx>

Meets 1st Wednesday every other 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

Southeast Washington/Northwest Oregon GIS User Group

For more information, contact Chris Owen:

cowen@ci.walla-walla.wa.us

Washington Geographic Information Council (WAGIC)

<http://wagic.wa.gov/>

Join Listserv at: <http://listserv.wa.gov/archives/wagic.html>

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Contact Gathy Walker at: c.walker@mil.wa.gov

To have your GIS related group or event listed in future issues of *The Summit*, notify the editor at:

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