

THE SUMMIT

News From and For The Washington GIS Community

WAURISA

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



SUMMER 2010

WWW.WAURISA.ORG

ISSUE 20

FIFTY STATES INITIATIVE PROJECT: WASHINGTON STATE GIS STRATEGIC AND BUSINESS PLANS - TRACKING PROGRESS AND RESULTS

By Joy Paulus

The United States Geological Survey (USGS) provided grant assistance for this project through the Cooperative Assistance Program (CAP). The project focused on updating and aligning Washington's GIS Strategic Plan with its Information Technology Strategic Plan and building a business plan for framework data that will help guide and track results in Washington.

In collaboration with the Information Services Boards Committee on Geographic Information Technology (ISB-GIT) and the Washington Geographic Information Council (WAGIC) its staff engaged Berk & Associates of Seattle to assist with the development of these plans.

One of the key successes of this project included the creation of a clear strategic vision, mission and goals that will help guide GIS activities over the next 5 years. It also includes an updated business plan that provides clear guidance on furthering GIS in Washington State.

The two final documents can be found at
<http://wagic.wa.gov/2009GISPlanning/Default.htm>:

*Geographic Information Systems (GIS) Strategic Plan:
Mapping Washington's Future, 2010-2014*

*Geographic Information Systems (GIS) Business Plan:
Washington Enterprise GIS Program and Shared Access to
Geospatial Services*

See: Washington GIS Plans, page 5

PRESIDENT'S COLUMN

Summer greetings to all of our GIS friends and colleagues. Welcome to the milestone 20th edition of *The Summit!* This publication is our primary communication to our members and the GIS community at large. Editor Greg Babinski and his team of volunteer writers have done a fantastic job of mixing up the content in every issue with articles targeted toward your technical knowledge, special interests and member opinions to inspire passionate discussions. This issue is no exception, so please browse through and enjoy the great content Greg and his team have provided.

We consider this year's annual conference another smashing success and it was wonderful to see the conference well attended again despite the economic limitations of so many. Ian Von Essen of Spokane County was a very inspiring keynote speaker and was also this year's recipient of the Summit Award, recognizing his contribution to the Washington State GIS community. It was great to see such a number of conference attendees from all over the state, particularly from east of the Cascades, which has inspired the board to continue towards our goal of doing more education outreach to that area of the state.

While our conference was only a few months ago, we are already gearing up for next year. We now have a new conference committee chairperson, Heather Glock, and she is actively moving her committee forward in the planning process of next year's event. The date and location of the event have been set so mark your calendars now. The Lynnwood Convention Center will be the location and the dates are May 9 – 11, 2011. The theme of the conference has also been set as "Mapping Washington's Future" and we expect to tie much of the content to the state's WAGIC Strategic Plan. We are hopeful that this conference will become a great meeting and collaboration place for GIS professionals throughout our region to help shape the future of GIS in the State of Washington. The conference will have the same format as last year, with half day workshops the first day and full conference content on the following days. Now is a great time to start planning if you would like to present a workshop so please email me at president@waurisa.org if you are interested.

Several of our board members are planning to attend the URISA International GIS Pro conference in Orlando, Florida this fall. As part of that, I will be attending the Chapter Leaders Forum to discuss chapter coordination and network about ways to help the international GIS community.

See: President's Column, Page 5

SAVE THE DATE **2011 WASHINGTON GIS CONFERENCE** *Mapping Washington's Future*

May 9-11, 2011
Lynnwood Convention Center

ALSO IN THIS ISSUE:

The River Network tool (2010 Student Paper Winner)	p. 2
ArcGIS JavaScript API Application in WCMS	p. 8
GRCC Tour to Bellevue & King County GIS	p. 10
Guest Opinion: New DOL GIS Competency Pyramid	p. 12
2010 WAURISA Election Results	P. 14
Opinion Page	p. 17

2010 DICK THOMAS STUDENT PAPER COMPETITION WINNER

THE RIVER NETWORK TOOL: MEASURING CONNECTIVITY BETWEEN RESERVES USING THE RIVER NETWORK

By Stephan Gmur, Alex K. Fremier, and J. Michael Scott

Wildlife once had millions of square miles of habitat to migrate through when adapting to climate effected change. Now, species are confined to narrow corridors connecting isolated protected areas over an increasingly fragmented landscape. To improve connectivity between protected areas we need to design a functional network that allows species dispersal to new habitats. We suggest using the natural river and stream network as a backbone to enhance landscape connectivity among protected areas.

- Changing climates will cause an array of aquatic and terrestrial species to migrate either upstream or to higher latitudes; understanding these movements will require new ecologically-based tools to analyze large geographic datasets.
- Using network analysis, the River Network Tool allows local- to nation-scale decision makers to prioritize river reaches for protection to improve connectivity within the existing reserve configuration and river network.

- The River Network Tool uses existing large spatial data of US protected areas and the river channel network to calculate network paths between protected areas while calculating statistics on the character of each path, including dams, urban areas, percent natural, etc.

Observed changes across the landscape in the form of fragmented habitats, climate change, loss of species diversity and depletion of resources has lead to a greater awareness of the human footprint upon the world. Due to expected changes in temperature and precipitation regimes across the globe in the near future, species of varying degrees are predicted to move to more hospitable locations, either upstream or into higher latitudes. Although species movement is not uncommon in response to climate effected landscape change, habitat fragmentation is the new norm across the globe. Human development of the landscape has created a fragmented mosaic of habitat patches that have isolated populations of species, creating a need for land managers to identify ways of maintaining diverse genetic pools and ensuring connected habitats. To improve our understanding of connectivity between protected areas, we need efficient spatially explicit tools to analyze landscape patterns to identify potential corridors.

See: *The River Network Tool, Page 3*

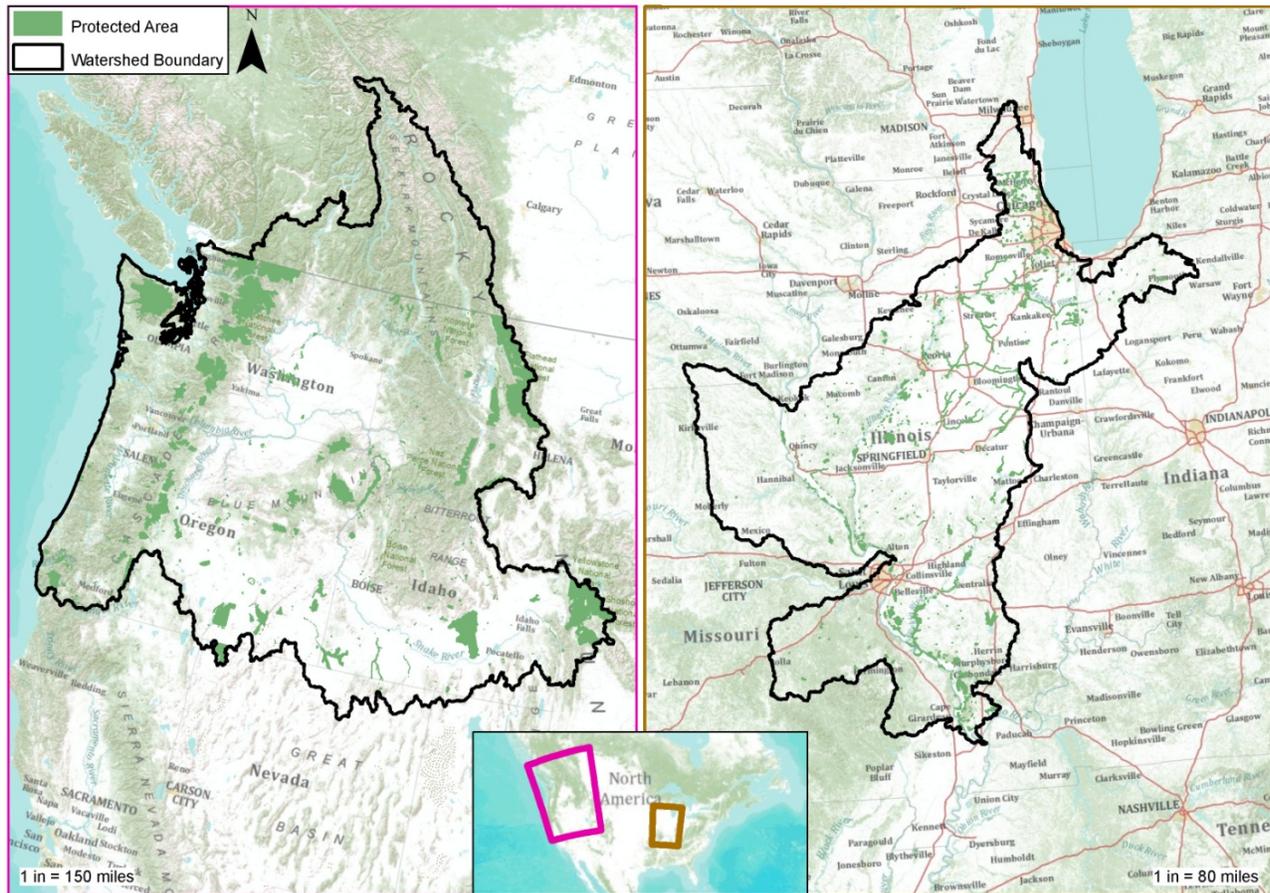


Figure 1: Distribution of protected areas across the watershed are different depending on land use, geomorphic features and other factors. The Columbia River Basin, a coastal watershed, has large protected areas located within mountainous areas while the Saint Louis Basin, an inland watershed, has smaller protected areas located along rivers and within floodplains.

THE RIVER NETWORK TOOL

Continued from page 2

Current models quantifying how protected areas are connected across the landscape typically start with the reserve network or core patches of habitat. After making inferences of habitat use, corridors are identified between habitat patches using an array of complex spatial algorithms, such as least cost or circuitscape. This general approach tries to predict the movement corridors for a given species, or given set of species, over the landscape of interest using an array of available spatial data and knowledge of the system. Once a group of corridors are identified under different scenarios, each corridor's relative use probability, financial feasibility, and improvement to the overall network connectivity are evaluated. With the best corridor identified, the next step is to hand this information over to land managers/planners to put the plan into action.

The River Network Tool takes a different approach. Our view is that these identified corridors will be either too expensive or too uni-functional to be broadly implemented. We believe that ecological-based landscape planning must search for solutions that improve an array of ecosystem functions, not limited to habitat connectivity but also to water quality, species diversity, and aesthetics. Our main supposition is that we should build on the natural corridor network of features across the landscape to improve habitat connectivity; that is, we should use the river network as the backbone to connect habitats/reserves because they ubiquitous, linear features and, with their protection, we can improve other vital ecosystem services such as reduced flooding and improve water quality. In response, we designed The River Network Tool to help increase habitat connectivity while enhancing the multiple ecosystem services by explicitly using the river network to connect habitats.

Watersheds across North America have unique characteristics such as the distribution of protected areas, layout of the watercourses within its boundaries and the locations of human developments such as urban areas. All of these factors affect the connectivity that exists within the watershed thus creating a unique landscape that different species will have to navigate across when trying to access suitable habitats. To illustrate this phenomenon, a comparison between the Columbia River Basin and Saint Louis Basin, as shown in Figure 1, reveals how protected areas have been created based on the unique characteristics of each basin. The Columbia River Basin has large protected areas located in mountainous areas that are far from urban areas or located within national forests. The Saint Louis Basin has protected areas located along major water courses where floodplains may exist. No large plots of land are set aside within the Saint Louis Basin which may be a function of land use such as farming or other historic uses. When management plans are created to balance human needs with a reserve network allows for maximum movement for species, spatially explicit tools are needed to evaluate multiple scenarios.

A group of researchers at the University of Idaho have developed a Python-based code that utilizing ArcGIS Network Analyst to give land managers a tool to better understand habitat connectivity by utilizing the river network. The solution is approached from a classic transportation network routing method, using the streams as roads and protect areas as start and end points. Each stream can have a specific weight related ease of transport, or can be a barrier to flow.

A watercourse polyline dataset is built into a network dataset with the stream length as the initial cost. GIS surfaces of resistance to movement can be overlaid within the network framework to estimate relative movement probabilities through the watershed. The extent of analysis is variable from small to large grained, allowing for a small watershed, such as a coastal basin, to the large watersheds, such as the Amazonian basin. Using geostatistical tools, we can assess habitat connectivity in the existing configuration of protected areas or for planned scenarios of new areas for protection.

This River Network Tool was used to evaluate connectivity of the Sacramento Watershed (Hydrologic Region 18b) shown in Figure 2, using the USGS National Hydrography Dataset Plus (NHDPlus) (Horizon Systems, <http://www.horizon-systems.com/nhdplus/>). Protected areas were identified using the Protected Areas Database version 5 (PAD 5) which is a result of a partnership of public and private agencies contributing areas reflecting the level of management to preserve biological diversity (<http://www.protectedlands.net/>). A total of 767 polygon areas representing protected areas with a management level equal to preserving a natural state were identified and were aggregated to form 323 distinct polygons. Each protected area polygon was evaluated for connectivity and we found that 63 percent of the areas were classified as highly connected. Those areas remaining classified as not well-connected were evaluated further to identify why they are not connected and where the most efficient location for a new reserve could be placed to improve overall reserve network connectivity.

Implementation of this tool uses Python 2.5 to bring together Network Analyst tools from ArcToolbox in coalition with the Geoprocessing framework to access individual data elements to calculate pairwise distances of all polygons within the analysis dataset $n(n-1)$ times. Python provides the data structures and IO functionality to retrieve results from Network Analyst and format information into a usable matrix format. Functionality provided by Python combined with the powerful Geoprocessing framework and access to the ArcToolbox tools allows for customized functionality to be packaged into a script that can be exposed to a user through a parameterized script housed within an ArcToolbox, as shown in Figure 3. A streams polyline dataset is used to build a network dataset used as the input Route Layer. The route start and stop points are located by calculating the downstream most location within a protected area, where the downstream most water course crosses the protected area perimeter, a point is placed representing that protected area. All protected areas are evaluated in this manner, creating a point dataset used as the input network start and stop locations which are in turn used to calculate the pairwise distances for all points in the dataset.

See: The River Network Tool, Page 4

THE RIVER NETWORK TOOL

Continued from page 3

Error!

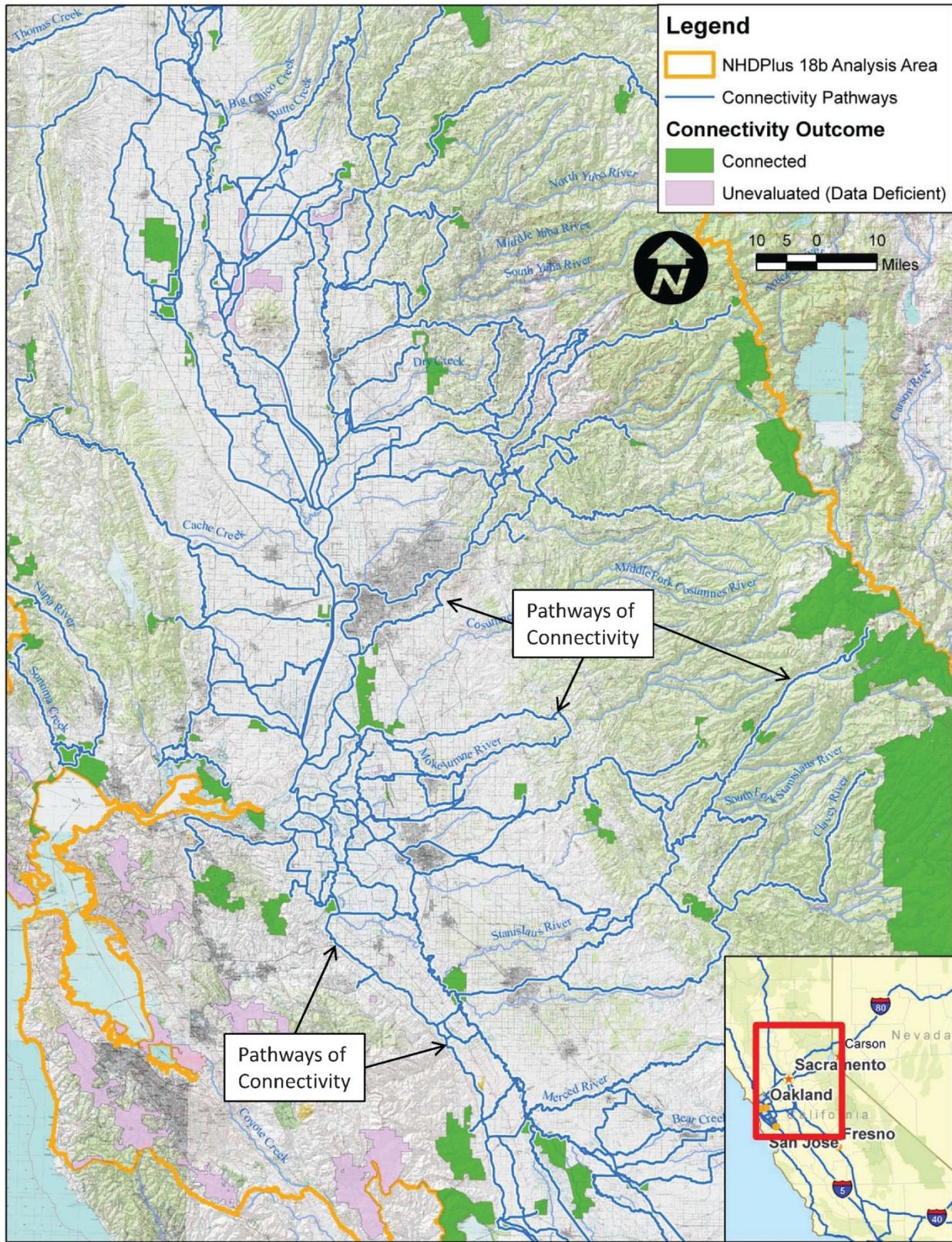
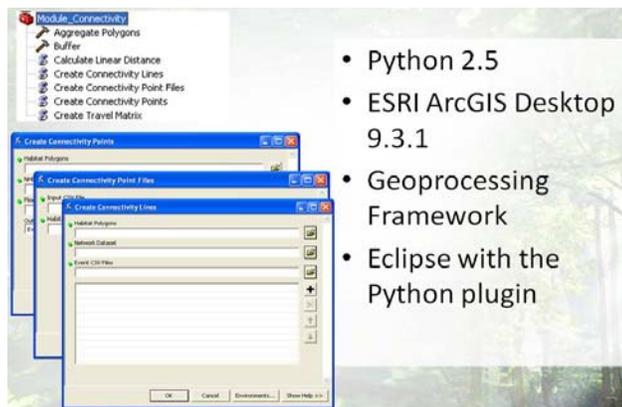


Figure 2: Pathways of connectivity that allow different species to migrate between protected areas have been identified within the Sacramento River Basin. Other protected areas located along the coastline are isolated due not being located along a watercourse.

THE RIVER NETWORK TOOL

Continued from page 4



- Python 2.5
- ESRI ArcGIS Desktop 9.3.1
- Geoprocessing Framework
- Eclipse with the Python plugin

Figure 3: The tool has been developed using the ArcGIS Geoprocessing Framework within the Python 2.5 environment to utilize the performance of many libraries with the interaction of ArcToolbox to extend Network Analyst.

This tool provides an exciting opportunity to integrate the powerful functionality of ESRI's ArcGIS Desktop and ArcGIS Network Analyst into a tool that can be employed by land managers to assess habitat connectivity in current and future conditions. The impact of different management scenarios, such as dam removal or additional protected areas can be quantified, providing measurable results for restoration efforts or projected impacts of climate change. With the River Network Tool, we envision landscape planning that simultaneously evaluates multiple ecosystem functions of a reserve network to create a multi-functional well-connected landscape.

- Stephan Gmur University of Washington School of Forest Resources sgmur@uw.edu
- Alex K. Fremier University of Idaho College of Natural Resources afremier@uidaho.edu
- J. Michael Scott University of Idaho College of Natural Resources mscott@uidaho.edu



PRESIDENT'S COLUMN

Continued from page 1

This year the URISA board is focusing on discovering GIS work challenges with a plan to initiate discussions and find solutions to those challenges. This effort aligns very well with our aspirations for our next conference and our state's goals of defining a strategic plan for the future. I encourage anyone who is interested to make their opinions known by taking the URISA work challenges survey at <http://www.surveymonkey.com/s/workchallenges>.

Thank you for the opportunity to serve over the past year as the Washington URISA chapter president. I am looking forward to the next year as we work to plan our geospatial future! I enjoy hearing from our members so please email me at president@aurisa.org if you have comments.

-Don Burdick, President



WASHINGTON GIS PLANS

Continued from page 1

The documents and their findings are the key result of stakeholder outreach efforts that were conducted in Washington between October and November 2009. They included the GIS user community in federal and state agencies, regional organizations, counties, cities, tribes, educational institutions, utilities, and the private sector. The stakeholders were engaged in multiple ways during the strategic planning process. Executive committee focus groups were convened, as well as a discussion group with the Information Services Board (ISB) Committee on Geographic Information Technology (GIT) to develop potential themes and priorities for the strategic plan. These themes and priorities were then discussed by the larger GIS user community, through an online survey and at regional listening sessions. The input from these forums shaped both the GIS strategic and business plan and conveys the following vision, mission and goals.

Strategic Vision: Utilize geospatial technology to facilitate decision-making to benefit Washington State citizens.

Strategic Mission: Work in partnership with public and private sector statewide to provide accurate, consistent, accessible, and comprehensive GIS resources for decision makers and the public.

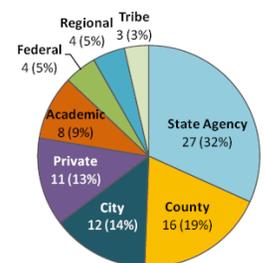
Programmatic Goals:

- Goal 1: Establish Access Mechanism for Washington Geospatial Data
- Goal 2: Staff GIS Program Office and Recruit a State Geospatial Information Officer
- Goal 3: Strengthen Coordination across Jurisdictions and Agencies
- Goal 4: Develop Statewide Standards and Guidelines for Data and Services
- Goal 5: Increase Awareness and Support for GIS through Education and Outreach

The resulting Business Plan addresses Goals number one and two. Together, these goals best describe an enterprise GIS Program that will help agencies realize Washington's Governor's objectives for creating shared services in state agencies and GIS consolidation across the agencies. The GIS Business Plan lays the groundwork for the development of a federated organizational model to more effectively deploy GIS resources in the State of Washington.

Listening Session Attendees

Attendee Type	# of Attendees
State Agency	27
County	16
City	12
Private Organization	11
Academic	8
Federal Agency	4
Regional Organization	4
Tribes	3
Total	85



See: Washington GIS Plans, Page 6

WASHINGTON GIS PLANS

Continued from page 5

Enterprise GIS Approach

The GIS enterprise approach advances customer services by providing external entities access to desired information, spatial data resources, standards, and web-based services in an effort to support transparency in state government. The key enterprise program elements include:

- Formalize GIS Data Stewardship: Designate data steward(s) for each of the enterprise level GIS data sets and any data services consuming these data.
- Provide Shared GIS Infrastructure: Establish a single point of access for enterprise level data and shared services to reduce confusion and storage costs of hosting multiple data and provide access to services like address matching, visualization tools, and applications that public, private, and governmental entities can use and benefit from. Shared data will lead to better decisions as agencies work from official versions of data rather than multiple, unsynchronized or inconsistent versions of data.
- Expand Washington State GIS Program Office: Expand Washington State GIS Program Office and establish the state Geospatial Information Officer (GIO) to be responsible for running the shared infrastructure, coordinating GIS data and software purchases, managing business agreements between stakeholders, securing sustainable funding for the upkeep of the shared infrastructure, coordinating data acquisition, and serving as the GIS point-of-contact for external stakeholders. The GIO will interface and coordinate across all governmental entities and businesses at the executive level.

The GIS enterprise approach advances customer services by providing external entities access to desired information, spatial data resources, standards, and web-based services in an effort to support transparency in state government

The Business Plan embraces changes the GIS community has envisioned for years and recommended in the Washington's 2006 Enterprise Architecture effort. The implementation of this Plan is separated into four phases:

- Phase I – Budget Development and Return on Investment Planning
- Phase II – Infrastructure and Technical Staff Implementation
- Phase III – Enterprise GIS Office Expansion/Geographic Information Officer (GIO)
- Phase IV – Agency GIS Program Data Implementation

Both the Strategic and Business Plans have been formally adopted by the Information Services Board (ISB) which is the governing body for policy development, strategic IT planning, and oversight of executive branch agencies. It's comprised of members from the executive, judicial, and legislative branches, K-12 education, higher education, an elected official, and the private sector.

In just the short time these plans have been approved and adopted they are already being leveraged in: state agency internal GIS planning discussions and activities; on the Governor's efforts to implement information technology (IT) shared services; and in discussions on ways to streamline the delivery of government IT services

GEOGRAPHIC INFORMATION SYSTEMS STRATEGIC PLAN: MAPPING WASHINGTON'S FUTURE, 2010-2014

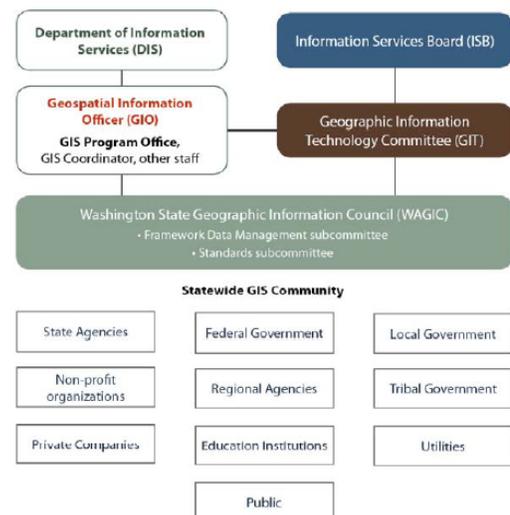


Efforts that are Currently Underway Today

Outreach, Marketing and Implementation

- Discussions with smaller state agencies how these plans can help guide their understand and efforts to deliver and expand their GIS services while leveraging existing and new geospatial shared services; and
- The Plans are being used as guides in the Governor's initiative to drive efficiencies in the delivery of geospatial services within the natural resource agencies.

Proposed Organizational Framework for Washington State GIS Community



State Geospatial Portal

- With the assistance of a FEMA grant we are leverage and expand the existing orthoimagery portal infrastructure to enable its support of both vector and image data and services.
- Through a joint partnership with the University of Washington and WAGIC the states geospatial clearinghouse has been migrated to ESRI's Geoportal Toolkit and efforts are underway to populate the site with updated metadata and service listings

Enterprise GIS Program

- A budget decision package has been drafted and submitted for review. It would fund the enterprise vision outlined in the Business Plan (staffing and infrastructure).

Standards Development

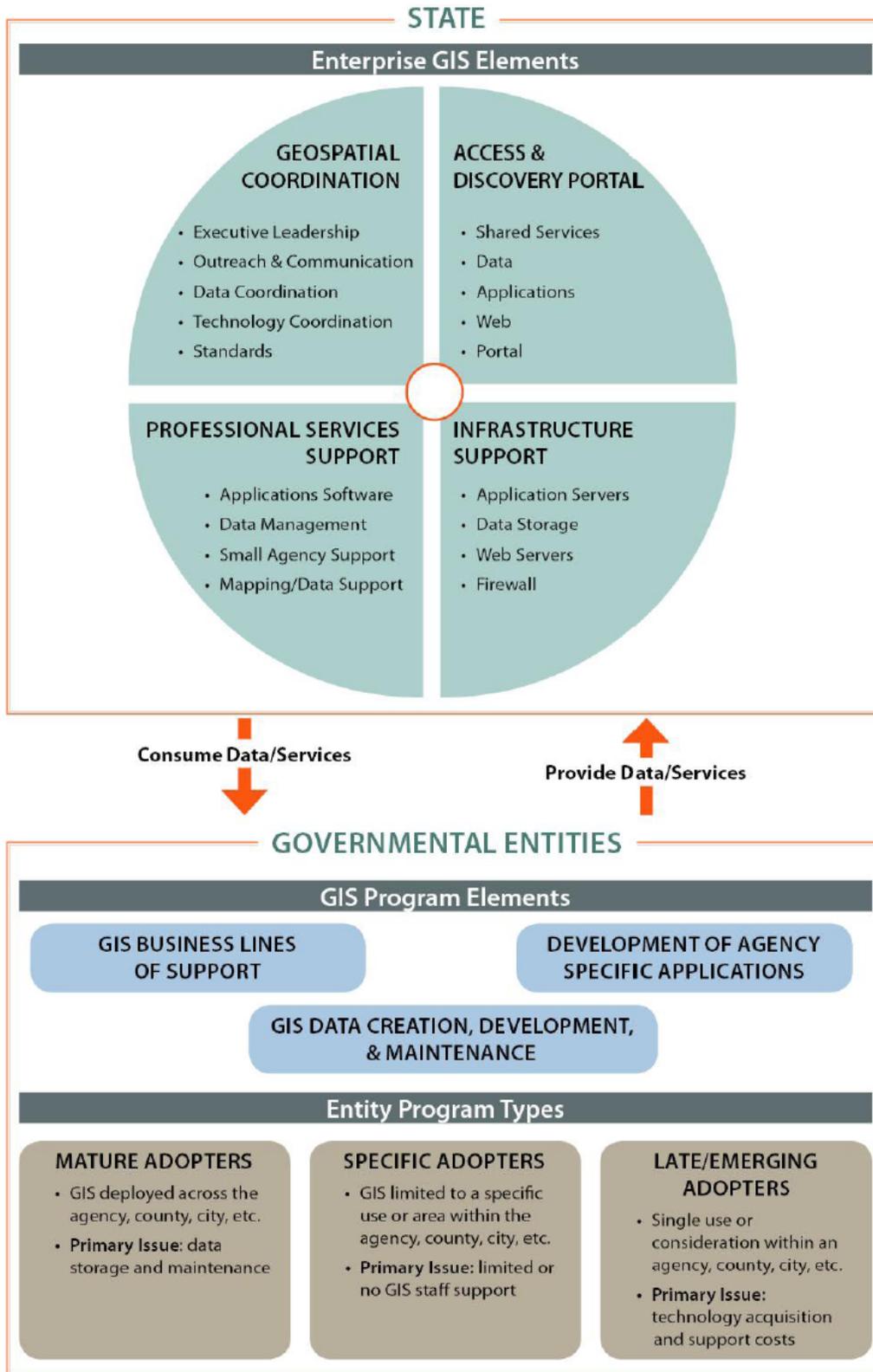
- The Standard Working group met for the first time in many years and is seeking assistance and participation in the development of the following data standards: vertical datum; web mapping application projection; non-spatial metadata; hydrography framework standard and GML/GeoRSS.

For more information on any of these activities or to become more involved in WAGIC please contact Joy Paulus, State GIS Coordinator at 360.902.3447 or via email at Joy.Paulus@dis.wa.gov

WASHINGTON GIS PLANS

Continued from page 6

Proposed Washington Enterprise GIS Program



ARCGIS JAVASCRIPT API APPLICATION INSIDE WEB CONTENT MANAGEMENT SYSTEM (WCMS)

By Harkeerat Kang and Michael Jenkins

In the past year King County GIS Center has published several ArcGIS JavaScript API applications inside the King County Web Content Management System (WCMS) and there are a few more applications in progress. ArcGIS JavaScript API has opened up a new door for developers to publish lightweight GIS applications with more focused subjects. These interactive maps are easy to use and the user easily adapts to them. We've discovered that these maps are also easy to embed in WCMS.

A Web Content Management System is software used for creating and managing web content. The software provides tools to author, manage and publish collections of web pages, images and other types of files used in web pages. The WCMS administrators define a template and style sheets, users provide the content, and the WCMS takes care of putting it all together, managing links and maintaining versions of pages as they get updated. It is a fully web-based solution that only requires a browser to create and manage content. It provides many advantages to a large organization with many content providers, like King County.

King County's WCMS is Sitecore. When Sitecore was implemented in King County in 2008, developers were initially told by IT that Sitecore was not suitable to host applications. This meant that we would have to use other web servers to publish interactive maps and database driven applications, and "mimic the headers, footers, left column site map links in our applications. Should a link or header image change, we would have to manually update all our applications. This may not like sound much, but keeping the links current over time is crucial and consumes developer's time. After we became familiar with Sitecore and the jsapi separately, we decide to try them together. It seemed that is should be possible as long as we used pure HTML and JavaScript and avoided .NET programming.

While working through the process of testing and publishing the ArcGIS jsapi we stumbled upon several problems:

- We would need to insert references in the <HEAD> section of the page. This was not possible when we began, but our Sitecore administrators quickly made that option available with "advanced permissions".
- Sitecore creates a "Print-Friendly" link for each page which is not compatible with a jsapi map since it works by stripping out JavaScript and style sheet references – the very things that a jsapi map depend on. We had to hide this link on our application page. See last tag in Figure 1.

```
<meta http-equiv="X-UA-Compatible" content="IE=7" />
<style type="text/css">.hide {top: 6px;}</style>
<style type="text/css">#printlink {display: none;}</style>
```

Figure 1: Header Tags

- The WCMS automatically applies style sheets to the page, and the AGS jsapi also applies style sheets to the page. Style sheet conflicts were inevitable, but we were relieved to find only a few minor conflicts that were easily fixed by applying a custom style sheet that overrides the conflicting style classes. See Figure 2 to see how we made it to work.



Figure 2: Editor Window

- The phrase "What you see is what you get" does not apply when embedding an ArcGIS jsapi application inside Sitecore. Figure 2 shows how the buttons, the map div and other HTML page looks while working inside Sitecore and Figure 3 shows the published version of Flood Photo Viewer.

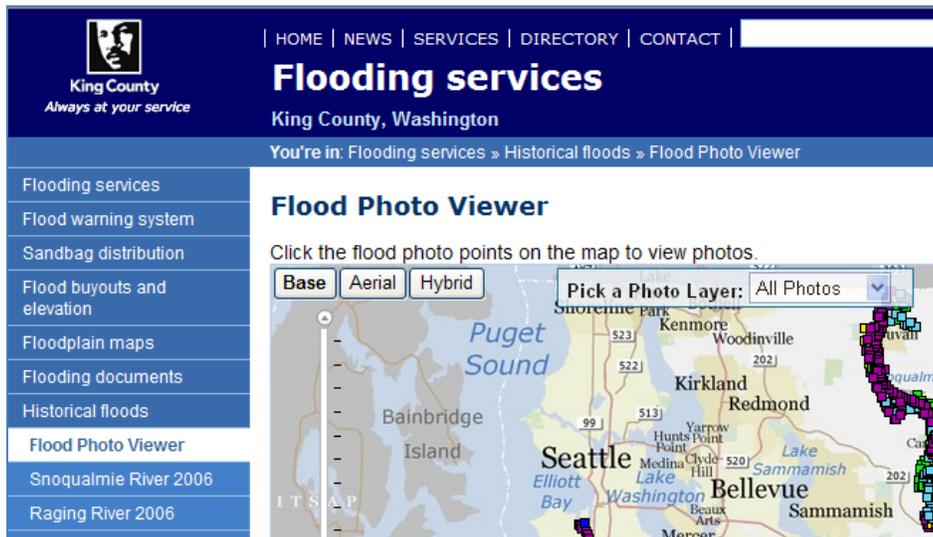


Figure 3: Flood Photo Viewer application

ELECTRONIC DATA SOLUTIONS®
Field Data Collection

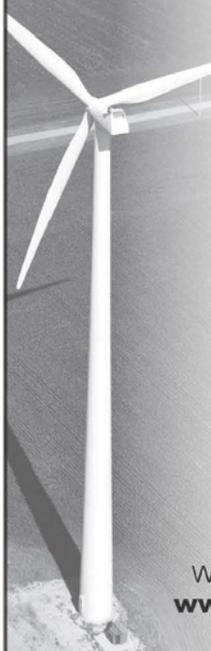
Hardware, Software & Technical Services for Mobile GIS Applications

HARDWARE & SOFTWARE

- Trimble® GPS Mapping Systems
- Juniper Systems, Inc.® Field Computers
- Laser Technology/ LaserCraft Rangefinders
- ESRI® ArcPad® & ArcGIS® Software
- Ricoh GPS-Ready Digital Cameras
- In-Situ® Water Level & Water Quality Instrumentation

SERVICES

- Technical Support
- Repair Services
- Mobile GIS Software Development
- Equipment Rentals & Used Equipment Sales
- Certified ArcPad, GPS Pathfinder® Office software and Trimble GPS Analyst™ extension for ArcGIS Desktop software training



WA Ph: 360-539-1707
www.elecdata.com

GIS TRAINING EXPRESS™

Professional GIS Training
in our Seattle facility or at your site

King County GIS Custom Classes *Created and taught by working GIS professionals*

GIS Certification Institute Qualified
Earn GISCI points



GIS Academy at King County
"Beyond the Basics"

Washington State Department of Personnel Business Partner



ESRI® Authorized Classes



Use Veteran's GI Bill Benefits



URISA's Pacific NW Education Center



Selected programs of study at the King County GIS Center are approved for those eligible to receive benefits under Title 38 and Title 10, USC.



King County

We help you put GIS to work!

GIS CENTER 206-263-5220

www.kingcounty.gov/gis/training

Helping Organizations Succeed with GIS



Specializing in hands-on ArcGIS® training at any location:

- ESRI authorized classes
- Juniper GIS custom classes
- ArcGIS, geodatabases, Spatial Analyst, & more
- Portable computer lab

**GIS consulting services
Project implementation
ESRI software sales**



541-389-6225

www.JuniperGIS.com • Email: info@JuniperGIS.com

Trademarks provided under license from ESRI.



1-877-OPENGEO
opengeo.org

Your expert partner for enterprise solutions built on open source geospatial software.

From delivering imagery to web-based editing of vector data, OpenGeo solves the geospatial IT issues facing governments, transit agencies, and businesses worldwide.



OPENGEO SUITE
Enterprise Edition

Email us at inquiry@opengeo.org to learn more.

GRCC TOUR TO CITY OF BELLEVUE GIS AND KING COUNTY GIS CENTER

By Linda Holden Givens

Green River Community College (GRCC) is a community college located in Auburn, Washington. Sabah Jabbouri is a GIS instructor for the Geographic Information System program. He is committed to training successful GIS technicians and analysts. Sabah strives to facilitate communication and connection between his students and his GIS professional community.

I am one of his students who had interest in GIS back in 2005. It was not until last year and a change in my professional life that I decided to go back to school in 2009 and attain a Certification in GIS. After inquiring several universities and colleges about their GIS programs, it was a phone call I made to ESRI that assisted with my decision to register with GRCC. They spoke highly of the GIS program and suggested that I look into it.

What grabbed my attention in the GIS program at GRCC was how Sabah challenged his students. My academic background is in Computing, where I received a MBA w/Information Systems Emphasis, B.S in Computer Information Systems and Certified Project Manager and recently receiving a Certification in GIS. As a previous student from the University of Washington and City University, I had not experienced an instructor who pushed you to reach to another level. As painful as it was during the challenge, once it was over, the benefits of learning the task far exceeded the struggle. Sabah makes sure his students are challenged; learn the latest software, technology and techniques as we learn our craft.

Geographic Information System (GIS)

GIS 102 Exploring GIS Spatial Technology (3)

Motivates and encourages students to explore and learn GIS Spatial Technology (GST) in any discipline. Students explore the uses of GST software (GIS, GPS, and Remote Sensing) and methods for applying GIS technology to the student's field of interest. Exploration involves navigating through GST spatial technology software, including Arc Explorer, ArcCatalog and Arcmap; and to see practical applications such as analysis of the causes of natural disasters e.g. wildfire, tsunami, Hurricane Katrina, and homeland security. An exciting course for everyone interested in learning and exploring 21st century spatial thinking technology. Explores the GIS profession, types of jobs in the field, required skills, and GIS programs offered at GRCC and four-year institutions.

In my second quarter (winter) at GRCC, the President of the GIS Alliance asked if there was interest in attending a tour where students could see GIS in a real environment. This action had not materialized and I decided, since I wanted to attend a real world GIS environment, I would take on the task. My only stumble block was having the right contact(s). My first attempt failed, the second attempt paid off. I attended a GIS Advisory meeting and meet several GIS professionals. Two of the individuals were Beth Carpenter and Heather Glock. I mentioned to them what I had tried to do and both offered to assist working me to make a tour happen for the GRCC Students.



I became persistent, communicated and offered to make the tour happen for my GIS class and Beth Carpenter made it happen for me. We both made sure the information we both needed was administered on both ends. Finally, Beth got the commitment of the City of Bellevue and King County in downtown Seattle. The excitement of knowing the tour was becoming a reality that would benefit everyone would be a metamorphosis.

The purpose of this tour is to expose GIS students at GRCC in GIS environments in order to see how an industry performs, manages, develops, support and trains GIS enthusiast.

City of Bellevue

On May 10, 2010, GRCC GIS students, with their instructor Sabah were on their way to attend a tour to City of Bellevue, and later King County Data Center in downtown Seattle. Arriving at the City of Bellevue first, the students were greeted by Ann Boyd (Lead GIS Analyst). She described the building, the GIS departments past and current evolved structures of the GIS department. We were lead us to the 4th floor and introduced to several GIS staff members. The office had a theme based on Italy. The students then proceeded to meet in a room where the 'Agile' programming methodology was displayed on a white board displaying post-its, walking thru the phases. The students moved to a conference room where several GIS specialists (staff members) walkthrough PowerPoint presentations on such projects as:

1. Parcels and Addresses – Jaime
2. Batch Geoprocessing – Jim
3. Pedestrian Bike Plan – Mike
4. Public Safety Antenna Radio Path – Zorba
5. Storm Based on Fact Sheets – Midge
6. Production Line Toolset - Map Atlas
7. Bellevue Traffic – Brooke
8. American Diabetes Act – Mike

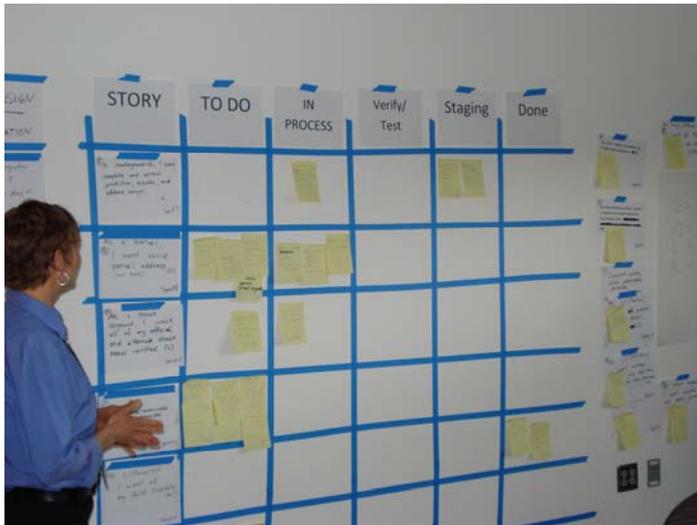


GRCC Instructor, Students & City of Bellevue GIS Hosts

See: GRCC Tour, Page 10

GRCC TOUR

Continued from page 9



Ann Boyd, City of Bellevue GIS, describes the use of 'Agile' programming methodology

King County GIS Center

The students then drove to King County ESRI Office building in downtown Seattle for lunch. Once lunch was over, the students then walked over to King County Data Center. We met in a meeting room and was handed an agenda. The agenda consisted of the following:

1. King County GIS and GIS Center Overview – Dennis Higgins (Client Services Manager)
2. Wastewater Treatment GIS – Peter Keum (GIS Specialist)
3. Transit GIS – Gunnar Goerlitz (GIS Analyst) & Tim Moore (Sr. Application Developer)
4. GIS Professional Support – Greg Babinski (Finance & Marketing Manager)

Once the agenda was completed, the GRCC GIS Students were formed into 4 – 5 groups with one guide. Each group began in a different environment and maintained a quiet tour as to not disrupt other staff members as they were performing their jobs.



GIS Analyst Frank Whitman (left) leads GRCC students on a tour of KCGIS Center facilities

Conclusions

I suggest that GIS tours become an annual experience for GIS students. It is not until they are exposed to GIS in the real world, will they have an idea of how their skills will be utilized. At the same time this will promote excitement and determination to be the best they can be.

The benefits of this tour were to:

1. Understand how GIS is used in a variety of applications
2. Gain confidence
3. Become familiar with the organizations, opportunities, and literature
4. Having access to the offices and some of the best GIS professionals in the business

Contact Linda Holden Givens at lindagivens@yahoo.com



Arc Java Script Application in WCMS

Continued from page 8

After tweaking the style sheets and developing a procedure for creating uploading and referencing our .css and .js files, then the next question was – “Why should you NOT embed maps in the WCMS?”

The advantages of putting interactive maps into WCMS pages include:

- The developer does not need to worry about the web page's wrapper such as to having a consistent header, footer, left and right page banners and links.
- The application page looks like any other King County page, but with an interactive map.
- GIS Developers can provide a very simple set of instructions to a non-GIS web page author so that they can create the content around the map and update it at will without having to worry or learn about the JavaScript and CSS, while the GIS Developer can manipulate the JavaScript and CSS without having to involve the web page author.

List of live mapping applications embedded in King County's WCMS.

1. Flood Photo Viewer - <http://www.kingcounty.gov/environment/waterandland/loading/historical-flood-photos/flood-photo-viewer-map.aspx>
2. Sandbag Distribution Location Viewer - <http://www.kingcounty.gov/environment/waterandland/loading/sandbag-distribution/location-map.aspx>
3. Adopt-A-Road Map - <http://www.kingcounty.gov/transportation/kcdot/Roads/Environment/AdoptARoad/Map.aspx>
4. Park Finder - http://www.kingcounty.gov/environment/dnrp/park_map.aspx

Harkeerat Kang and Michael Jenkins are programmers with the King County GIS Center. Contact them at:

Harkeerat Kang: 206-263-3734, Harkeerat.kang@kingcounty.gov

Michael Jenkins: 206-263-4646, Michael.jenkins@kingcounty.gov

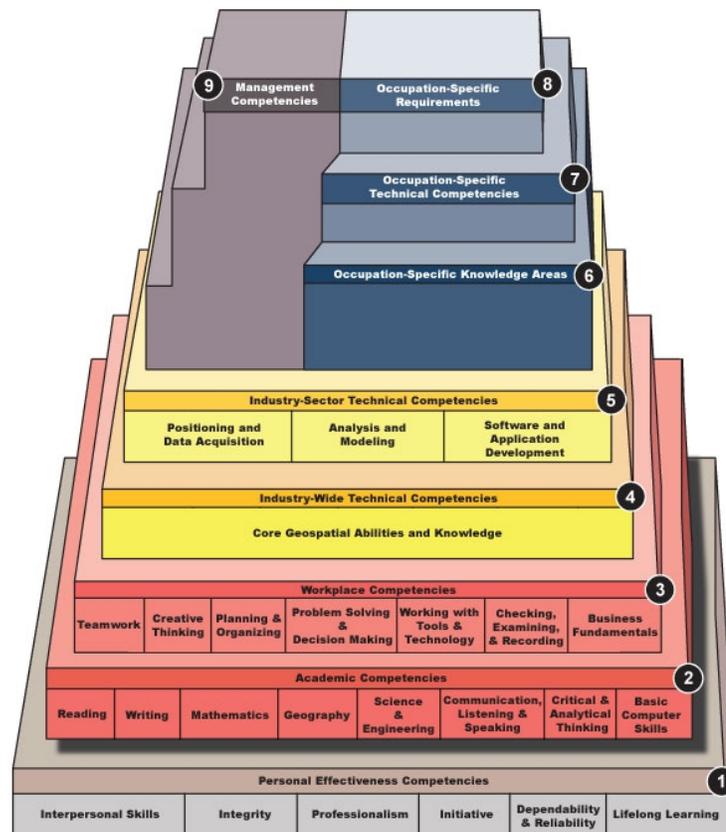


GUEST OPINION NEW DOL GIS COMPETENCY PYRAMID REVEALS GIS WORKPLACE STRENGTHS

By Holly Glaser, GISP

GIS is growing. So many people are working with it that the Dept of Labor is preparing for big increases in the GIS workforce. First they had to find out the specific personality traits, education and skills used by top performers. DOL first noticed GIS back in 1998 when it was found to be doing tasks that didn't fit in with the occupations they knew. DOL's competency model is shown as a pyramid, where the base describes personal traits of GISers and the layers above describe education, skills and narrows to specific types of GIS. Who knew that GIS folks had all that knowledge? I have to tell you, I was impressed. Check it out for yourself at <http://www.careeronestop.org/competencymodel/pyramid.aspx?GEO=Y>

We all know that IT folks are a bit different from GISers. I've wondered why that is since Tom Nolan's talk at WAURISA describing how the two groups spend their free time. He pointed out that the person building a bicycle from scratch in the garage was much more likely to be in GIS, while an IT type was much more likely to be waxing up an extremely cool car. Now that there is a detailed description for GIS, I wanted to compare it to the IT model in the hopes that the differences between the GIS and IT models would point out the sticking points in communication and provide some insight into working together more smoothly.



Geospatial Technology Competency Model

Workplace competencies are what you do at work that makes you a top performer. Both IT and GIS organize, plan, use technology, know business a bit, solve problems and make decisions. IT works by collaboration and uses innovative thinking. GIS would rather work in teams doing creative thinking and are skeptical about data, examining the details, checking the data and organizing it for use. Collaborators like to plug their results into the solution that meets the project goal. It's more likely to find a GISer building support for a new process and energizing other staff to implement it in a project.

From these competencies, it's not hard to see why IT and GIS both get frustrated with each other. GISers think in pictures. Put them in a meeting room and they all want to draw the features and spatial operations. Staff and managers who are not primarily visual learners may regard this as weird behavior and literally not understand what you have in mind. They like flowcharts and text.

Imagine GIS and IT at the project kickoff meeting, from the IT point of view. The project is announced and the goal is defined. IT hears GIS is going on and on about some unrelated stuff when, in IT's opinion, its time to go through the tasks in detail. IT is trying to figure out what to deliver by the deadline while GIS draws out their proposed new methods on the whiteboard. IT wishes GIS would just write it down. IT taps a foot, waiting on deliverables and deadlines; when is GIS going to get to the point? Finally, GIS reveals that the data for the project is unreliable and will need to be verified using data from other sources. IT's mood sinks since you can't deliver good results if the input data is bad. IT tells GIS that the project should be better organized and asks exactly what are the tasks, who is assigned and when is it needed? The quality of communication decays as the meeting continues.

What sort of change would make this meeting fun? One way might be to respect the strengths of IT and GIS while creating agendas and schedules for project meetings. For example, a brainstorming meeting, which takes advantage of creative thinking, could continue the next day, after the ideas presented have been processed into memory during sleep. We have a saying that illustrates the role sleep plays in figuring out problems: "let me sleep on it". New information promotes innovative thinking that might just find an unexpected solution.

Holly Glaser, GISP
MappaMundiGIS LLC
4554 E Mercer Way
Mercer Island WA 98040



ArcGIS.com

Resource Center Show: All Content Help Sign In

ArcGIS GALLERY MAP GROUPS MY CONTENT Find maps, applications and more...

ArcGIS Online
Maps and Apps for Everyone

View the Gallery
See maps and apps from people and organizations worldwide.

View Groups
Work together with the people who share your interest.

Make a Map
Create a map you can view on the web, desktop and mobile devices.

Start ArcGIS Explorer Online
Use a rich application for working with ArcGIS online maps.

Learn More
ArcGIS is an online system for using geographic information everywhere.

 **esri**

[ESRI.com](#) | [Terms of Use](#) | [Privacy](#) | [Contact Us](#) | [Report Abuse](#)

ArcGIS.com is the Web gateway to the ArcGIS® system. It gives you access to free maps, apps, tools, and a host of resources. All this content is created and shared by Esri and the user community, including high-quality, ready-to-use basemaps.

- Easily search for and discover online content and tools that help you in your GIS work.
- Join groups to work on special projects.
- Form communities around common interests.
- Build rich Web applications using open Web mapping APIs.

Get started today at www.arcgis.com.



The Pacific Northwest Technology Leaders in:

- GPS
- Optical Surveying
- 3D Spatial Imagery
- GIS/Mapping
- Construction

Be More Productive with Your Investment.

Our goal is to make you productive with your investment in Trimble Systems. For your convenience, Geoline offers two Trimble Certified Service Centers, a variety of scheduled training opportunities and full support for your surveying and mapping needs. Including:

- Authorized sales and service
- Certified repair, support and training
- Rental equipment and more!

Visit us at one of our locations or on the web at: www.geoline.com

GEOLINE HEADQUARTERS
1331 118th Ave. SE, #400
Bellevue, WA 98005
800.523.6408

ADDITIONAL OFFICES
Tigard, OR
Spokane, WA
Boise, ID



Trimble is proud to work with its regional partners and invites you to contact them.



www.geoline.com



Pictometry Intelligent Images® provide solutions to government users so you can *See Everywhere, Measure Anything, Plan Everything.*® Pictometry imagery integrates directly with ESRI ArcMap, ArcGIS Server, Image Server, CAMA, and 9-1-1 Mapping Systems. Over 850 Counties use Pictometry.



Contact russ.michel@pictometry.com for information

WAURISA
Washington State Chapter of URISA
2010 Annual Conference
BOARD OF DIRECTORS ELECTION RESULTS

Date of Meeting: Wednesday, April 21, 2010
Recorded by: Karl Johansen, WAURISA Secretary
Approved by: Greg Babinski, Neil Berry & Karl Johansen

Elected Treasurer (2010-2012): Tonya Elliott
Elected as Members-at Large (2010-2012):
Cort Daniel
Heather Glock
Ann Stark

Position	Name	Term
<i>President</i>	Don Burdick	2009-2011
<i>Vice President</i>	Greg Babinski	2009-2011
<i>Secretary</i>	Karl Johansen	2009-2011
<i>Treasurer</i>	Tonya Elliott	2010-2012
<i>Past President</i>	Angela Johnson	2009-2011
<i>Member At-Large</i>	Neil Berry	2009-2011
<i>Member At-Large</i>	Whitney Bowerman	2009-2011
<i>Member At-Large</i>	Donna Wendt	2009-2011
<i>Member At-Large</i>	Cort Daniel	2010-2012
<i>Member At-Large</i>	Heather Glock	2010-2012
<i>Member At-Large</i>	Ann Stark	2010-2012

GITA PNW 11th Annual Fall Conference
October 4-5, 2010 - Whistler, BC
Smart Technology for the Future:
Geographic Intelligence for Sustainability in Energy, Transportation & Government
<http://www.gita.org/chapters/pacific/pacific.asp>

**GET YOUR DESIGN
OFF THE GROUND THE
FIRST TIME**

Your complete CAD *Solution*

- Software
- Commercial
- Training
- Government
- Consulting
- Educational

800-722-2621
www.pacificad.com

Autodesk®
Authorized Value Added Reseller

PACIFICAD





<http://www.urisa.org/gispro2010program>

Conference Schedule

- September 28 - Full-day training courses
- September 29 - Keynote Speaker, Exhibits, Educational Sessions, Luncheon, Networking Reception
- September 30 - Awards Breakfast, Educational Sessions, Exhibits, Networking Event
- October 1 - Educational Sessions, Plenary Session Speaker, URISA Annual Meeting



August 16-18, 2010
Westin Charlotte - Charlotte, NC

The only conference where GIS professionals, addressing coordinators, 9-1-1 and emergency response specialists come together for education and networking.

www.urisa.org/conferences/Addressing/Info



The next URISA Caribbean GIS Conference will take place December 6-10, 2010 in Trinidad. URISA is pleased to note that **CARILEC**, the Caribbean Electric Utility Service Corporation - an association of electric utilities, suppliers, manufacturers and other stakeholders operating in the electricity industry in the Caribbean, will be a partner in the 2010 conference!

<http://www.urisa.org/conferences/caribbean/info>

URISA Leadership Academy

Just Announced: Don't miss your ONLY opportunity to attend the URISA Leadership Academy in 2011!

May 16-20, 2011
Moonrise Hotel
St Louis, Missouri

WWW.URISA.ORG/ULA



2010 ULA Graduates, Baltimore, MD



The Association For **GIS** Professionals

Search:

Jump To:



Have you seen the new URISA Website? See: www.URISA.ORG

WAURISA SPONSORS

WAURISA thanks the following sponsors for their generous support....



WWW.ESRI.COM



WWW.KINGCOUNTY.GOV/GIS



WWW.ELECDATA.COM



WWW.GEOLINE.COM



WWW.SKAGITCOUNTY.NET/GIS



WWW.PACIFICAD.COM



WWW.OPENGEO.ORG/



WWW.JUNIPERGIS.COM/



WWW.PICTOMETRY.COM

SAVE THE DATE
2011 WASHINGTON GIS CONFERENCE
Mapping Washington's Future

May 9-11, 2011
 Lynnwood Convention Center



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

- City of Bellingham
- Critigen
- Metro Parks Tacoma
- City of Seattle
- ESRI
- Port Madison GIS
- City of Olympia
- Pierce County
- Wendt GIS
- King County GIS Center

THE SUMMIT - EDITORIAL

DOES THE MAP PRECEDE THE TERRITORY?

In his book *Theoretical Geography*, William Bunge observed that a child might doubt that a map of the earth could ever be created, considering the infinite number and distribution of features that make up our world – even from the limited observations of a youth. Of course geographers (and those who use GIS) simulate reality using symbols and cartographic conventions in their depictions of the earth.

The simulation of reality goes beyond maps and is really quite pervasive in modern society. Photographs, paintings, novels, video games, television, the evening news...a major portion of our culture and economy is about simulating reality. Think of that iconic iPod ad with a person linked to the device via ear buds and dancing ecstatically like they were at a concert listening to live music with other people. How many people live vicariously – reading pulp fiction but living quietly, reading cook books but rarely cooking, playing air guitar but never learning to play, or indulging in video-games? We are programmed to live in a simulated world.

In his book *Simulacra and Simulation*, Jean Baudrillard interrogates the relationship between reality, symbols, and society. He suggests that symbols have become so pervasive that our link to reality has become tenuous at best and for many people symbols themselves are the reality. The danger is that those who control the media/symbols can create 'simulations' with no grounding in reality that can then be used to sway or control society.

What does this mean to us? The simulation of reality is what geographers do. But geographers and cartographers have distorted reality in the past in ways that have been used to sway or control society. Distorted language maps helped start wars at the beginning of the Twentieth Century...100 years later in Bosnia, Rwanda, and the Middle East they helped foster 'ethnic cleansing.' Misunderstood crime or pollution maps are used to distort property values, and demographic maps are used to raise passions about illegal immigrants. In each of these cases the map is used to 'precede the territory.'

Geographers need to keep the precedence of reality in our simulations. The GIS work we do can benefit society. The GISCI Code of Ethics provides some guidance in its section on 'Obligations to Society':

- Be objective, use due care, and make full use of education and skills.*
- Practice integrity and not be unduly swayed by the demands of others.*
- Provide full, clear, and accurate information.*
- Be aware of consequences, good and bad.*
- Strive to do what is right, not just what is legal.*

The territory does precede the map.



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.

Chief Editor: Greg Babinski
Interview Editor: Michelle Lortz
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

A map or not a map? The Haus Wunderbar in Leavenworth provides this illustration to orient visitors to some of the peaks and landmarks visible from their grounds. No scale but there is a compass rose. It is public, but is it a map? You be the judge – preferably over a good beer - prost!



Illustration at Haus Wunderbar in Leavenworth
 (Thanks to Amanda Taub)

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 PRECESSION OF SIMULACRA

If we were able to take as the finest allegory of simulation the Borges tale where the cartographers of the Empire draw up a map so detailed that it ends up exactly covering the territory (but where the decline of the Empire sees this map become frayed and finally ruined, a few shreds still discernible in the deserts — the metaphysical beauty of this ruined abstraction, bearing witness to an Imperial pride and rotting like a carcass, returning to the substance of the soil, rather as an aging double ends up being confused with the real thing) — then this fable has come full circle for us, and now has nothing but the discrete charm of second-order simulacra.

Abstraction today is no longer that of the map, the double, the mirror or the concept. Simulation is no longer that of a territory, a referential being or substance. It is the generation of models of a real without origin or reality: a hyperreal. The territory no longer precedes the map, nor survives it. Henceforth, it is the map that precedes the territory — PRECESSION OF SIMULACRA — it is the map that engenders the territory and if we were to revive the fable today, it would be the territory whose shreds are slowly rotting across the map. It is the real, and not the map, whose vestiges subsist here and there, in the deserts which are no longer those of the Empire but our own: The desert of the real itself.

- **Jean Baudrillard**



GIS USER GROUPS IN WASHINGTON

ACSM – Washington State Section

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

ASPRS Puget Sound Region

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

Cascadia Users of Geospatial Open Source

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

Contact Karsten Venneman at: karsten@terragis.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_gis@yahoo.com

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>

Washington Hazus Users Group

<http://www.usehazus.com/wahug>

Contact Cathy 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:

SummitGISNews@URISA.org.

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

Summit@WAURISA.org

Back issues of *The Summit* are available at:

<http://waurisa.org/thesummit/>

Interested in volunteering your time to help WAURISA?

Contact Don Burdick or any Board member listed to the right.



WAURISA BOARD OF DIRECTORS

President: Don Burdick: dburdick@cob.org
Vice President Greg Babinski: greg.babinski@kingcounty.gov
Secretary Karl Johansen: emmasen@msn.com
Treasurer Tonya Elliott: Tonya_Elliott@hotmail.com
Past President Angela Johnson: Angela.Johnson@critigen.com
Board Members At-Large:
 Neil Berry: Neil.berry@seattle.gov
 Whitney Bowerman: wbowerma@ci.olympia.wa.us
 Cort Daniel: cort.daniel@co.pierce.wa.us
 Heather Glock: hglock@esri.com
 Donna Wendt: d_l_r_wendt@hotmail.com
 Ann Stark AStark@cob.org

WAURISA COMMITTEE VOLUNTEERS

Marty Balikov: mbalikov@esri.com
 Randy Bracket randyb@co.island.wa.us
 Daryn Brown: Daryn.Brown@ci.bothell.wa.us
 Dave Brown: daveb@ehsintl.com
 Chuck Buzzard: cbuzzar@co.pierce.wa.us
 Jaime Crawford: Jaime.crawford@ch2m.com
 Jennifer Cutler cutler.jennifer@nisqually-nsn.gov
 Starla DeLory: starla@deloreyworks.com
 Mike Dana: mike@mdrmanage.com
 Melissa Faga: mfaga@redmond.gov
 Bryan Fiedor bfiedor@jsanet.com
 Byron Gessel: Byron_Gessel@RL.gov
 Holly Glaser: h.glaser@comcast.net
 Tami Griffin: griffit@wsdot.wa.gov
 Tony Hartrich: thartrich@quinault.org
 Eadie Kaltenbacher: ekaltenb@co.kitsap.wa.us
 Tom Kimpel tom.kimpel@ofm.wa.gov
 Jitka Kotelenska: Jitka.Kotelenska@CH2M.com
 Rick Lortz: rlortz@lakehaven.org
 Michelle Lortz: michelle@lortzco.com
 Reily Love: Reily@LoveGIS.com
 Effie Moody: effie.moody@seattle.gov
 Jill Oliver: joliver@perteet.com
 Chris Owen: cowen@ci.walla-walla.wa.us
 Steve Schunzel: sschunzel@desmoineswa.gov Heather
 Spates: hspates@auburnwa.gov
 Lurleen Smith: lurleen@penlight.org
 Matt Stull: matts@co.mason.wa.us
 Amanda Taub ataub_gis@yahoo.com
 Cathy Walker c.walker@emd.wa.gov
 Bob Wendt: rwendt@cityoftacoma.org
 Walker Willingham Walker.willingham@gmail.com



WAURISA

1402 AUBURN WAY NORTH
 PBN 158
 AUBURN WA 98002