2012 Washington GIS Conference

May 7—9 • Greater Tacoma Convention and Trade Center

Conference at a Glance

Monday	Tuesday	Wednesday
Registration 8 AM—4 PM Level 3 Foyer	**Registration 8 AM—4 PM Level 3 Foyer**	**Registration 8 AM—1:30 PM Level 3 Foyer**
		6:30 AM—Fun Run!
8:00—12:00 **Morning Workshops**	8:00—10:00 **Continental Breakfast** Ballrooms	8:00—10:00 **Continental Breakfast** Ballrooms
	9:00—10:15 **Opening Session** **Keynote: Jim Geringer, Esri**	8:30—10:00 **Technical Presentations**
	10:15—10:30 **Morning Break**	10:00—10:30 **Morning Break**
	10:30—12:00 **Technical Presentations**	10:30—12:00 **Technical Presentations**
12:00—1:00 **Lunch** Box Lunch	12:00—1:00 **Lunch** Buffet Lunch	**BALLOTS DUE** 12:00—1:30 **Lunch** Box Lunch 12:15—1:15 **Leadership Meeting**
1:00—5:00 **Afternoon Workshops**	1:00—2:30 **Technical Presentations**	1:30—3:00 **Technical Presentations**
	2:30—3:00 **Afternoon Break**	
	3:00—4:30 **Technical Presentations**	3:15—4:00 **Closing Awards Ceremony** **Board Election Results** **Door Prizes!**
5:30— ? **Informal Gathering** Varsity Grill 1114 Broadway varsitygrill.com	4:30— 6:00 **Vendor Social** Vendor Area	
	6:30—8:30 **Evening Social** The Swiss 1904 Jefferson Ave theswisspub.com	

Esri Learning Lab 11:00—4:30

Esri Learning Lab 8:30—3:00

@WAURISA
#wagis12

Follow 'Washington URISA' here:

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President's Message

GIS Friends and Colleagues,

Welcome to the WAURISA fifteenth annual Washington GIS Conference! Thank you so much for taking the time and resources to join us for our annual event. We look forward to seeing you and your presentations, hearing about your challenges and successes, and enjoying your company. We have some great speakers lined up this year. Come join us at the leadership meeting Wednesday and get involved with WAURISA! Participating in WAURISA is a great way to make the next step in your GIS career. Please stop and introduce yourself to me and the other WAURISA Board members. Be sure to stick around for the closing ceremonies to help us congratulate the poster and student contest winners and have your chance at the great selection of door prizes we've lined up (see page 17). We have over $1000 in door prizes to give away. Don't miss out!

Ann Stark, President
president@waurisa.org
@StarkAnn

Opening Session

Tuesday May 8 9:00 a.m. - 10:15 a.m.
Ballrooms

Welcome & General Remarks	Ann Stark, WAURISA President
Presentation of Summit Award	Tom Nolan, GIS Manager, City of Seattle
Conference Announcements	Dana Trethewy, Conference Chair
Keynote Address	Jim Geringer, Director of Policy and Public Sector Strategies, Esri

Keynote

Jim Geringer

Director of Policy and

Public Sector Strategies, Esri

Former Governor of Wyoming

Governor Jim Geringer is a native of Wyoming. Through the Air Force ROTC program he was commissioned as an officer in the United States Air Force. During his time on active duty, he worked as project officer on space programs integrating space boosters and satellites for both the Air Force and NASA, including the Global Positioning Satellite System, early warning systems and the Mars Viking Lander.

Jim was first elected to the Wyoming Legislature in 1982, and served six years in each house before taking office as Governor of Wyoming in 1995. Governor Geringer was chairman of the Western Governors' Association and the Education Commission of the States. He also served on John Glenn's National Commission on Mathematics and Science Teaching for the 21st Century, the National Commission on Service-Learning, and on the Goals 2000 panel.

Geringer's advocacy for technology in government has centered on the end result of using technology to enhance citizen services, emphasizing the benefits of integrated service delivery and enterprise-wide solutions. That advocacy has led Jim to join in a full-time capacity with Environmental Systems Research Institute (ESRI) the top provider of geographic information systems software. Governor Geringer and his wife Sherri base their consulting business, The Geringer Group, at their farm in Wheatland, Wyoming.

Leadership Meeting

Wednesday May 9 12:15 p.m. - 1:15 p.m.
Room 315

Join us for the Leadership Meeting during lunch on Wednesday! Everyone is welcome! We'll be meeting to fill you in on our successes during the past year, and spread the news of the exciting things we have planned for the future.

Some of our accomplishments include…

· Hosting URISA workshops
· Improving our online forums
· Continuing to outreach to students and encourage their participation

…and a glimpse at what we are planning
for the future, with your help…

· Planning events for the next year
· Continuing to gather and integrate suggestions from our membership

Closing Session

Wednesday May 9 3:15 p.m. - 4:00 p.m.
Ballrooms

Board Election Results	Nomination Committee
Map Contest Winners	Suzanne Shull
Dick Thomas Award Winners	Amanda Taub
Final Announcements And Door Prizes	Dana Trethewy & Ann Stark

Be sure to vote...

Ballots due Wednesday May 9 12:00 p.m.

Washington URISA Chapter Board Position Nominees

Board members are elected for two year positions during the annual conference. Several positions are up for election this year. Ballot and candidate statements are included with your conference program in a separate handout. Please take a few moments to review candidate statements for this year's open positions, fill out your ballot and **return it to the ballot box at the registration desk by Noon Wednesday, May 9th.** One ballot per attendee. Winners will be announced at the closing session on Wednesday afternoon.

Map Contest

The Map Contest is a terrific opportunity for conference attendees to showcase their work and let their peers and colleagues be inspired by the interesting projects in which they are involved. All contest maps are on display in the foyer area near the registration desk on the third floor. Please take some time to view the maps and cast your vote for the best maps using the ballot included with your conference program. **Return your ballot by noon on Wednesday, May 9 to the ballot box located at the registration desk.** Prizes for best maps will be awarded at the closing session on Wednesday afternoon. Your vote matters!

Mark your calendars

GIS-Pro 2012: URISA's 50th Annual Conference for GIS Professionals will take place September 30-October 4, 2012 in Portland, Oregon.

URISA is pleased to announce that this year's conference is co-hosted by the Northwest GIS Users' Group.

Don't miss the Ignite talks, panel discussions, breakout sessions, luncheon presentations, and valuable networking events … in a beautiful and affordable Pacific Northwest location.

Featured Keynote Speakers:

Professor Michael Goodchild - University of California, Santa Barbara

John Sanderson - Microsoft's Cloud Evangelist

Jack Dangermond – President, Esri

Photos courtesy of Travel Portland

For regular updates and conference details, visit www.gis-pro.org frequently and follow the conference on twitter (**#gispro**).

Summit Award

The Summit Award, or GIS Person of the Year, began in 2003 to honor the GIS movers and shakers in Washington State. Criteria for the award focus on four areas: longevity of experience, quality of experience, consistency of volunteerism, and degree of mentorship effort. The nominating committee is made up of the former Board President and other interested board members. Each committee member petitions the GIS community for nominees and submits findings to the Chapter Board of Directors for selection. This award is not only an instrument of appreciation, but a statement of qualities that we, as an organization, embrace and continue to promote through our outreach and educational efforts.

Dick Thomas	2003	Mike Onzay	2008
Linda Gerull	2004	Marty Balikov	2009
Geoffery Almvig	2005	Ian Von Essen	2010
Nancy Hultquist	2006	Tom Nolan	2011
Donna Wendt	2007		

Greg Babinski 2012

WAURISA Board

President: Ann Stark
Vice President: Heather Glock
Secretary: Amanda Taub
Treasurer: Tonya Elliott
Past President: Don Burdick

Board Member: Neil Berry
Board Member: Dana Trethewy
Board Member: Cort Daniel
Board Member: Joe Brentin
Board Member: Suzanne Shull
Board Member: Donna Wendt

BOARD MEETINGS

Board meetings are held the second Tuesday of every month at Noon via conference call. Updates are presented by each committee. It is an excellent way to find out what is happening, what will be happening and how to get involved.
Everyone is welcome to attend!

1-800-944-8766
PASSCODE #: 20311

Esri Hands-On Learning

Tuesday May 8 11:00 a.m. - 4:30 p.m.
Wednesday May 9 8:30 a.m. - 3:00 p.m.
Instructor: Jack Horton
Behind the Registration Desk

Esri is bringing their Hands-On Learning Lab to the Washington GIS Conference. The Lab offers free training for conference attendees who want to experience areas of Esri software that may be new to them. Attendees will receive approximately 45 minutes of individual self-paced training consisting of a recorded lecture followed by a hands-on software exercise. Esri staff will be available for help or questions. No registration required. First-come, first-serve. Lesson topics available in the Hands-On Learning Lab (all for ArcGIS 10) are:

- Editing with ArcGIS Desktop
- What's New at Version 10.0
- Getting Started with Animation
- Introduction to ArcGIS Server
- Basics of the Geodatabase Model
- Creating a Map in ArcGIS
- Geocoding With ArcGIS
- Introduction to ArcGIS Desktop
- Introduction to Geometric Networks for Utilities
- Introduction to Linear Referencing
- Introduction to Network Analyst
- Introduction to ArcGIS Data Reviewer
- Introduction to Geoprocessing Using Python
- Introduction to Spatial Analyst
- Spatial Statistics for Public Health
- Working with CAD in ArcGIS
- Designing Effective Web Applications using ArcGIS Server

ROOM 315

8 a.m.—12 p.m.
Imagery Data Management, Visualization and Classification
TJ Abbenhaus - Esri

This hands on short course will show Imagery and Elevation data solutions using ArcGIS 10 to use and manage imagery more efficiently. We will explore the ArcGIS 10 imagery solution and specifically the mosaic dataset for faster performance and accelerated image display.

You will learn how to:

Use the new Image analysis window for time saving image interpretation and processing.

Easily manage massive image collections with dynamic mosaic and on the fly processing without duplication of storage space.

Easily manage massive image collections with dynamic mosaic and on the fly processing without duplication of storage space.

ROOM 316

8 a.m.—12 p.m.
Working with ArcGIS Online
Scott Moore - Esri

Bring your WI-FI enabled laptop to participate in a hands on workshop showing you how to create intelligent web maps without having any GIS software installed on your computer. Esri technical staff will lead participants through a series of exercises that utilize the latest capabilities of ArcGIS Online.

You will learn how to:

Upload CSV, Shapefile, GPX and KML data sources into the ArcGIS Online Cloud and publish them in an online map.

Embed maps into a personal or organization's website. Deploy maps to mobile devices including iOS, Android, and Windows Phone 7 devices.

Build web destinations personalized with "Maps and Apps".

ROOM 317

8 a.m.—12 p.m.
GIS Mapping Utilizing Autodesk Map 3D
Craig Batchelor—PPI Group

This overview of AutoCAD Map 3D class provides demonstrations on how Map 3D can be used to leverage the collaborative design and geospatial interactions within your organization. Workshop attendees will see how to load and edit information from multiple sources and perform information queries from these resources.

Specific topics include:

- Import and Export
- Connecting Geospatial Data
- Editing Geospatial Data
- Raster Images
- Working with Survey data
- Latest features in Map 3D

12:00 p.m. to 1:00 p.m.—Boxed Lunch

ROOM 315

1 p.m.—5 p.m.
Community Analyst - Better Communities through Geography
Leah Saunders - Esri

Community Analyst is a Software-as-a-Service (SaaS) mapping solution that allows users across your organization to quickly discover and explore important facts about any area to help develop the right policy strategies, convey important information to those who need it, and ultimately improve communities. Discover how combining thousands of demographic, health, economic, education, and business data variables with instant reports and interactive color-coded maps can help you make better policy decisions and recommendations.

ROOM 316

1 p.m.—5 p.m.
Open Source GIS: Introduction to gvSIG CE and Geoprocessing with SEXTANTE
Karsten Vennemann - Terra GIS

A general introduction and overview about the capabilities of gvSIG CE (Community Edition) desktop GIS will be followed by examples illustrating the use of gvSIG for data editing, accessing different data formats &: spatial databases, and producing layouts for cartography and printing. The last part of the workshop will give an overview and examples of the various SEXTANTE tools for spatial analysis and geoprocessing including SAGA GIS, GRASS and R (Statistical package) algorithms.

- Introduction to gvSIG CE Desktop GIS
- Hands-on exercises and examples using gvSIG CE
- Hands-on exercises and examples for spatial analysis and geoprocessing with gvSIG CE and SEXTANTE

ROOM 317

1 p.m.—5 p.m.
Asset Management: Planning, Strategy, and Implementation
Ben Hoffman, GISP - Data Transfer Solutions

Public and private agencies face continuous challenges to accomplish more with less as increases in demand, regulatory requirements, infrastructure deterioration, and political and economic forces have significantly outpaced increases in capital and operating budgets. Many of these agencies are turning to Asset Management to cope with these challenges and improve business performance and effectiveness. This workshop will focus on several aspects of developing an asset management system that could help improve performance, reduce long-term costs, and maximize return on investment in infrastructure assets.

Specific topics include:

- Strategy and Planning
- Data Collection Methods
- Software Solutions
- Evaluation and Performance Measures
- Information Management

8:00 AM—4:00 PM Conference Registration — Foyer, 3rd Floor

8:00 AM—10:00 AM Continental Breakfast — Ballrooms

9:00 AM— 10:15 AM Opening Session: — Ballrooms

Welcome Message &
Keynote Address: Jim Geringer

10:15 AM—10:30 AM Morning Break — Foyer with Vendors

10:30 AM— 12:00 PM Technical Sessions

All 30 minutes unless otherwise noted

Paper Session 1: Communicating Spatial Knowledge with Collaboration — Room 316

Panel Discussion: A Tale of Twelve Cities - Launching eCityGov's NWMaps.net Site
Karl Johansen, Port Madison GIS, Inc; Brian Oevermann, City of Issaquah; Leah Llamas, City of Mercer Island; Tim Moore, City of Renton; Beth Carpenter, City of Sammamish; Xiaoning Jiang, City of Kirkland (90 minutes)

Paper Session 2: Reporting Spatial Incidents on the Road — Room 317

Reporting Snowmeggedon 2012: City of Des Moines Snow Response Tracker
Steve Schunzel, City of Des Moines, WA

Identifying Point Concentrations Using GIS Buffer Zone Methodology
Lona Hamilton, WSDOT

Paper Session 3: Spatial Knowledge in 3D — Room 318

2011 LiDAR Acquisition Quality Control Procedures for Pierce County
Ross Heasty, Pierce County IT/GIS

Adding Value to Your GIS with Intelligent Oblique Imagery
Scott Faust, Pictometry International

3D GIS and the Built Environment
Kevin DeVito, CyberCity 3D, Inc.

12:00 PM—1:00 PM Lunch Break—Buffet Provided — Ballrooms

1:00 PM— 2:30 PM Technical Sessions

Paper Session 4: Vendor Presentation — Room 315

Emerging Technologies for Field Data Access and Capture
Bill Timmins, GIS Services (30 minutes)

Mobile GIS
Esri Staff (60 minutes)

Paper Session 5: Enterprise GIS, Solutions and Management — Room 316

How Multiple Cities Came Together to Build a Citizen Map Browser
Jay Clark, City of Shoreline; Mel Soares, City of Kirkland; Todd Slind, SpatialDev

URISA Helps Develop the USDOL Geospatial Management Competency
Greg Babinski, King County GIS Center

Using ROI Methodology to Mearsure the Financial Benefits of GIS
Greg Babinski, King County GIS Center

Paper Session 6: Spatial Knowledge on the Web — Room 317

COR Maps - An Interactive GIS Web Portal
Tim Moore and Nizar Salih, City of Renton

Pierce County's Mobile Development Platform
Jared Erickson, Pierce County IT/GIS; Sean Grady, Pierce County IT

An Open Source Solution for Portal Authentication and Authorization
Xuejin Ruan , Pierce County IT/GIS

Paper Session 7: Ecology and Hydrography — Room 318

Customized GIS Models to Plan for Slipway Dredging
Anna Yost and Steve Savage, Critigen

Designing the Coastal Atlas for the Public: Public Beaches, Shore Photos and Flood Maps, Oh My!
Darby Veeck and Liz O'Dea, WA Dept of Ecology

Hydrography: Survey in Motion
Starla Robinson, NOAA Ship Rainier

2:30 PM—3:00 PM Afternoon Break — Foyer with Vendors

3:00 PM— 4:30 PM Technical Sessions

Paper Session 8: Vendor Presentation — Room 315

How to Connect a Mapping Grade GPS Unit to a VRS
Jim Lahm, Electronic Data Solutions (60 minutes)

Overcoming Challenges in Deploying Esri-based Mobile & WebGIS Applications
James van Dyk, Latitude Geographics (30 minutes)

Paper Session 9: Sharing Spatial Information — Room 316

Panel Discussion: Government's Role in Sharing Spatial Information - Data, Maps, and Services
Joshua Greenberg and Geoff Almvig, Skagit County; Timothy D. Ford, WA State Attorney General's Office; Greg Babinski, King County GIS Center; Brandy Riche, Pierce County GIS Department (90 minutes)

Paper Session 10: Communicating GIS Knowledge — Room 317

Learning from Swisstopo: Creating a Nation of Spatially Literate Citizens
Darrell Sofield, aMAP pllc (30 minutes)

Make Beautiful Maps, Share Them Anywhere
Dane Springmeyer, MapBox (60 minutes)

Paper Session 11: From Imagery to Land Cover — Room 318

Vegetation Modeling with NAIP Color IR Imagery
Chris Behee, City of Bellingham

Using ArcGIS for Landcover Classification from Landsat Imagery
Matt Stevenson, CORE GIS

GIS Land Cover Data: From Data to Sustainability
Sudha Maheshwari, Sanborn Map Company, Inc.

4:30 PM—6:00 PM Vendor Social — Foyer with Vendors

6:30 PM—8:30 PM Evening Social — The Swiss

6:30 AM — Fun Run — Meet at Convention Center

8:00 AM—1:30 PM — Conference Registration — Foyer, 3rd Floor

8:00 AM—10:00 AM — Continental Breakfast — Ballrooms

8:30 AM— 10:00 AM Technical Sessions

Paper Session 12: Vendor Presentation — Room 315

ArcGIS Online Subscriptions – An Overview
Scott Moore, Esri (60 minutes)

Maximizing the WSRN for High Accuracy Mapping Data Collection
Nick Fifarek, Geoline (30 minutes)

Paper Session 13: State and National Enterprise GIS — Room 316

Panel Discussion: The Washington State Broadband Map - From Mapping to Applications
Will Saunders, WA State Department of Commerce; Joy Paulus, WA State Office of the Chief Information Officer; Sudha Maheshwari, Sanborn Map Company, Inc. (60 minutes)

Paper Session 14: Cloud Computing — Room 317

The Cloud Revolution: How Cloud Computing is Transforming Mapping
Skip Cody and Benjamin Webb, Digital Map Products (60 minutes)

Paper Session 15: Asset Management — Room 318

Asset Management: Laying the Groundwork for Implementation in Thurston County
Owen Reynolds, Thurston County Geodata Center; Ben Hoffman, Data Transfer Solutions / VUEWorks (30 minutes)

Incorporating GIS in Your Daily Workflow Throughout Your Public Asset Management System
Matt Harman, Azteca Systems, Inc (45 minutes)

10:00 AM— 10:30 AM — Morning Break — Foyer with Vendors

10:30 AM— 12:00 PM Technical Sessions

Paper Session 16: Vendor Presentation — Room 315

ArcGIS for Local Government
Esri Staff (60 minutes)

Sextante Everywhere
Karsten Vennemann (30 minutes)

Paper Session 17: Storing GIS Knowledge in Pierce County — Room 316

Are You Ready for Your Election Year? GIS Integration with DIMS-NeT Voter Registration System
Xuejin Ruan, Pierce County IT/GIS; Mary Johnson-Hall, Pierce County Auditor's Office

Implementation of Transfer/Purchase Development Rights Program in Pierce County
Aaron Peterson, Pierce County Planning and Land Service

Paper Session 18: Maintaining Historic Information and Maps — Room 317

Update on USGS US Topo and Historical Quadrangle Scanning Project for the Pacific Northwest
Tom Carlson, US Geological Survey (30 minutes) CANCELLED!

Survey Monument Preservation and Restoration
Dorrel Dickson, Tulalip Tribes (60 minutes)

Paper Session 19: Dick Thomas Student Competition — Room 318

Elwha River Sedimentation Impacts Assessment System
Renee Vandermause, Mark Beggs, Marshall Kosaka, Anna Sigel , Seattle University, Department of Civil and Environmental Engineering (20 minutes)

Mapping the Cove 2 Dive Site
Chuck Neudorf, Green River Community College (20 minutes)

Rating Tropical Ecosystems for Biofuel Potential using GIS and Remote Sensing
Stephan Gmur, University of Washington School of Environment and Forest Science (20 minutes)

Marine Protection Area Ecosystem Analysis
Brian Gilmore, Green River Community College-GIS Department (20 minutes)

12:00 PM—1:30 PM Lunch Break - Box Lunch Provided — Ballrooms

12:15 PM— 1:15 PM Leadership Meeting — Room 315

1:30 PM— 3:00 PM Technical Sessions

Paper Session 20: Communicating with Mapping — Room 316

Mapping the Dynamic Dimension
Xiongjiu Liao and Chuck Buzzard, Pierce County IT/GIS

Talk to Me: Using Mapping to Communicate with Citizens in the Google Era
Skip Cody and Benjamin Webb, Digital Map Products

Mapping Secrets Unveiled: Top Mapping Faux Pas and How to Avoid Them
Annie Schwab and Skip Cody, Digital Map Products

Paper Session 21: Census — Room 317

On the Road to 2020
Michaellyn Garcia, US Census Bureau (30 minutes)

Paper Session 22: Public Safety — Room 318

Pre-Incident Planning Using GIS
Chris Rogers, Kirkland Fire Department (35 minutes)

GIS Integration in the Next Generation 911
Dan Miller, E911 GIS Manager, Washington Military Department/E911 Program Office (25 minutes)

Travel Network QC Tips and Tricks
Donna Wendt, Wendt GIS (30 minutes)

3:15 PM—4:00 PM Closing Session — Ballrooms

Door Prizes

Stick around for the closing ceremony to be included in a drawing for door prizes graciously donated by the businesses below. You must be present to win!

GeoJot smartphone app and GPS-Photo Link software ($450 value!) (Preview at booth 11)

MapSpeller Professional software ($750 value!)

Books, apparel and virtual campus classes

Two $50 gift cards to Amazon.com

- And -

Two pounds fresh roasted coffee from Valhalla Coffee House

$25 gift card from the Hub restaurant

$20 gift card from Rock Wood Fired Pizza

Mount Rainier Sponsor

Esri's geographic Information system (GIS) technology has given clients the power to think and plan geographically for over 40 years. Used today in more than 350,000 organizations worldwide, GIS helps cities, governments, universities, and Fortune 500 companies save money, lives, and our environment. GIS helps you understand and question data in ways that reveal relationships, patterns, and trends. So whether you are transporting ethanol or studying landslides, you can use GIS to solve problems and make better decisions, because a GIS enables you to look at your valuable data in a way that is quickly understood and easily shared.

Esri supports the implementation of GIS technology on the desktop, servers, online services, and mobile devices.

Mount Adams Sponsor

ELECTRONIC DATA SOLUTIONS®
Field Data Collection

Electronic Data Solutions is a company dedicated to helping our customers electronically collect data in the field. We do this through offering a variety of products and services, such as Trimble GPS, Juniper Systems rugged field computers, water quality and ground water monitoring sensors, GPS-enabled digital cameras, laser rangefinders and custom software development. We also provide certified training, technical support, repair services and rentals.

King County
GIS Center

The King County GIS Center manages the King County Geographic Information System, King County's cooperative, multi-department, enterprise GIS. The KCGIS Center provides efficient, high-quality GIS leadership, coordination, infrastructure, and services to meet the business needs of our customers and clients within King County and the communities we serve.

Mount Adams Sponsor

Geoline Inc is the Pacific Northwest leader in providing advanced positioning solutions to increase your productivity and profitability as we integrate a wide range of positioning technologies into a complete solution. With offices in Bellevue WA, Tigard OR, and sales reps in Spokane WA, and Boise ID we are well positioned to serve your needs in new instrument sales, service repair, rentals, and even used equipment sales as needed.

Fusion Digital Solutions is a NW based large format printing equipment and material supply company. We partner with HP, Canon, and Mutoh; converting and testing all our digital imaging materials in Auburn, WA. With a vast experience in the large format printing industry, our staff takes a consultative approach when recommending printing equipment and supplies. Our key focus is to reduce our carbon footprint by stocking and converting sustainable materials locally, meeting and exceeding customers' expectations.

Mount Adams Sponsor

TerraGo Technologies geospatial collaboration software and GeoPDF maps and imagery are among the most widely adopted solutions to produce, access, update and share geospatial information and applications with anyone, anywhere. TerraGo solutions increase the use of geospatial information and enhance return on investment through greater organizational efficiency, productivity and responsiveness.

Latitude Geographics helps organizations succeed with web-based geography by enabling them to make better decisions about the world around them. Geocortex software by Latitude Geographics transforms how organizations design, build and maintain Esri ArcGIS for Server applications. They can do more; faster, at less cost and risk. Esri is the world's leading GIS platform and in 2010 Latitude Geographics was recognized as an Esri Worldwide Partner of the Year. For more information, please visit: www.geocortex.com.

Mount Baker Sponsor

GIS Services provides customized GIS training, software from LizardTech and TerraGo, Intermap's DEMs, Ricoh GIS/GPS cameras, Arc2Earth products and the integration of these solutions to meet clients needs. We focus on emerging technologies for field data access and capture that are easy to use and inexpensive. These solutions eliminate the technology boundaries for access to GIS databases and for geospatial features and associated data that is collected by a wide variety of users including but not limited to public works, planning, appraisers, emergency responders and their operational managers and associated support personnel - many who have no background in GIS or databases.

CRW Systems helps to bring better solutions to Community Development, Code Enforcement, Public Works, Planning, Fire, and Building Departments. TRAKiT provides seamless integration with ArcGIS Server providing a GIS-Centric solution for governments. Delivers map service interaction, real time access to geodatabases, spatial workflows, data analysis, inspector routing, AVL and mobilization.

The PPI Group is comprised of many highly- skilled and qualified professionals who provide sales, service and support for 3D/CAD Software and Field Equipment to the Architectural, Engineering and Construction (AEC) industries of the Pacific Northwest. As an award winning Autodesk, FARO, Sokkia and Topcon partner, we help our clients adapt to new business models, technologies and industry trends by providing the most sophisticated hardware and software tools necessary to successfully complete the project. The PPI Group is locally owned and operated and we are currently celebrating our 85th year of doing business in the Pacific Northwest.

Mount Baker Sponsor

Since 1986, Cityworks has been helping public works, utilities and government agencies manage assets in the field, the office and on the go; increasing productivity, improving customer service and lowering operational costs. Empowering GISTM for Asset Management, Permitting, Licensing and more.

EnerGov Solutions is a leading and global provider of innovative Land, License and Asset Management software solutions designed specifically for enterprising government agencies. Enterprise software solutions offered by EnerGov include GIS-centric process automation of land use planning & review, permitting, enforcement management, inspections, licensing, work orders and service requests.

Since 2003 AEX Aerials Maps and Data, formerly Aerials Express-WA, provides high quality, affordable, off-the-shelf, digital, seamless color ortho imagery for most of Washington State. We also supply color infrared imagery. Our customers include counties, cities, tribes, utilities, engineers, consultants, developers and commercial real estate offices.

2011 Aerial Photography for Puget Sound Region
2010 & 2011 Aerial Photography for Washington State
Cost-effective 1-foot pixel, Color, Seamless, Ortho imagery

Terra GIS provides expertise in Geographical Information Systems, consulting for social and environmental issues, and sustainable development. Services include environmental research, spatial analysis, cartography, implementation of information systems, and the creation of specialized tools related to conservation, natural resources management, and public and social engagement issues. We are specialized in creating web mapping solutions using Open Source Geospatial Software such as MapServer, PostGIS, OpenLayers, Mapbender, QGIS, gvSIG and others.

PAPER SESSION 1: COMMUNICATING SPATIAL KNOWLEDGE WITH COLLABORATION ROOM 316

Panel Discussion: A Tale of Twelve Cities: Launching eCityGov's NWMaps.net Site

The eCityGov Alliance, a consortium of suburban cities in King County, Washington, was formed in 2001 and now hosts numerous web-based applications serving almost forty agencies and nearly 1.5 million citizens and businesses across the Puget Sound Region. Because its business model serves such a geographically dispersed clientele, the Alliance early on recognized the power of geospatial technologies including web GIS in providing services, data, and products from its Bellevue, Washington headquarters. One application – NWMaps.net (http://www.nwmaps.net/) – provides an easy to use portal for such popular map themes as zoning, community information, demographics, and environmentally sensitive areas. A GIS subgroup of Alliance member cities collaborated between 2010 and 2011 to redesign NWMaps.net, which was rolled out in its current edition in mid-2011. This panel includes many of the key contributors on that implementation, who have been asked to speak frankly and professionally about 1) The original vision compared to the final product 2) Benefits as well as challenges in a collaborative, cross-jurisdictional effort 3)Resource commitments 4)Future opportunities

Speaker Biographies:

Karl Johansen is a GIS consultant from Bainbridge Island, Washington. His career spans more decades than he cares to divulge, including tours of duty in various levels of government, the private sector, and academia. Karl's professional interests include cartographic design, GIS data development and maintenance, integration of all aspects of the mapping sciences, technical writing, geographic education, and project management. He earned a B.A. degree in Geography from the University of Washington. Outside of his work commitments, Karl enjoys gardening, mountain climbing and wilderness hiking, and hanging out with his 13-year-old daughter Lia.

Brian Oevermann, GISP, is the GIS Coordinator for the City of Issaquah, Washington. He has spent the past 20 years as a GIS professional working for federal, county, and municipal governments in Montana and Washington. His experience includes GIS analysis, cartography, parcel management, addressing, database design, ArcIMS/ArcGIS Server administration, ArcSDE administration, programming/scripting, web development, and exhilarating wildlife encounters, often all as part of the same job description! Outside of work he enjoys photography, woodworking, and playing tourist with his wife, Mary. Brian holds a B.S. in Forest Resource Management from the University of Montana.

Leah Llamas, GIS Analyst for the City of Mercer Island, Washington since 2003, graduated with a degree in Geography and Electrical Engineering from the University of Washington. Some accomplishments include mapping all City of Mercer Island utilities (Water, Sewer & Storm), being published in the annual ESRI Map Book, and also in an ESRI Disaster Response publication.

Tim Moore, GIS Coordinator at the City of Renton for 1.5 years. Prior to that I was a GIS Professional for King County Metro for 13 years. Graduated from the University of Washington with a bachelor's degree in Geography in 1995.

Beth Carpenter is the GIS Coordinator for the City of Sammamish

Xiaoning Jiang is GIS Administrator for the City of Kirkland, Washington. She received her Master's Degree in Computer Cartography/Remote Sensing from Nanjing University, China. Over her 26-year-professional GIS career, she has worked for state, county, and municipal governments, private consulting firms, and academic institutions. Her experience includes GIS program management, ArcGIS server and SDE database administration, GIS application development, programming, spatial analysis, mapping, image analysis, and teaching. She enjoys hiking, traveling, and cross-culture education.

PAPER SESSION 2: REPORTING SPATIAL INCIDENTS ON THE ROAD ROOM 317

Reporting Snowmeggedon 2012: City of Des Moines Snow Response Tracker

The City of Des Moines is a city of 30,000 located in SW King County. Prior to 2011, storm responses were mainly done on an as needed basis, simply reacting to events as they were called in. There was not a pro-active methodical approach in place. No operation metrics were collected. This made responses often inefficient and lengthy. In late 2011 the City Public Works department was looking for a solution to assist taking a pro-active approach to its adverse weather responses.

Armed with only Microsoft Access and ArcGIS Desktop, the PW Superintendent worked with GIS staff to build a solution to track responses throughout the City, whether it's plowing, sanding, salting, de-icing or any combination of those. This tracker would allow staff at the PW service center to log when a response had been completed on any of the City's priority roads. The results were then scraped via an ArcPy script, processed and posted to a city webpage at regular intervals.

During the snow events in January 2012, the new response tracker was put to the test and passed to rousing success, including being recognized in an official proclamation by the Mayor. This presentation will discuss with a GIS emphasis, the development, setup and workflow used to build a solution to log and map the snow response, using existing hardware & software (no additional money!) and along the way, share some of the lessons learned. This presentation will appeal mainly to ArcGIS Desktop users of smaller organizations.

Identifying Point Concentrations Using GIS Buffer Zone Methodology

GIS use for analysis has increased dramatically over the years. GIS has the ability to analyze data spatially, presenting a visually compelling story, tables and graphs alone simply can't compete with. While GIS can spatially present data points, the real power is using GIS to analyze patterns. A challenge is how to adequately analyze locations that occur at the same XY coordinates and present them graphically in GIS. Linear buffer analysis can be performed using Excel but this methodology does not capture areas for potential improvement with intersecting state highways. One alternative is to use the GIS Buffer Zone Methodology. The proposed presentation will walk through the GIS Buffer Zone Methodology which pinpoints clusters and hot spots of point features based on a user-defined buffer zone distance. The presentation will address how to create these zones to identify potential needs, based on point feature counts and their proximity to one another. The methodology has been successful being used as an initial statewide screening tool for identifying non-domestic animal collision concentrations.

PAPER SESSION 3: SPATIAL KNOWLEDGE IN 3D ROOM 318

2011 LiDAR Acquisition Quality Control Procedures for Pierce County

Many groups are currently acquiring LiDAR data and are in the process of assuring a complete and accurate delivery. Pierce County received 1,461 square miles of LiDAR and associated data throughout 2011, including breaklines, Digital Elevation Models and Raw and ground classified LAS files. The GIS department at Pierce County was responsible for managing the LiDAR deliveries as well as assuring all data met contract specifications. This presentation will detail the quality control procedures we used during the acceptance process, the errors we found, the lessons learned and when and where the data will be available.

Adding Value to Your GIS with Intelligent Oblique Imagery

The Geospatial industry is continuing to evolve and mature. More and more GIS end users are requiring enhanced visualization. This session will discuss how oblique imagery is filling that need and enhancing how many are utilizing GIS. Deployment options as well as case studies will be presented.

3D GIS and the Built Environment: The time is now for 3D GIS in all Esri applications.

CyberCity 3D has created a 4.5 KM2 City Model of Seattle from stereo images. Applications include 3D GIS analysis, visualization, solar resource analysis and planning and facilities management. The 3D buildings, numbering over 2,000 buildings with detailed roof measurements and 14 different GIS feature classes including roof area in 2D and 3D, superstructure measurements, roof style categories and solar azimuth. The data offers a step up in building footprint quality for base maps and allows for added features including photo-texturing for visualization. The presentation will provide work-flows, costs and uses for sustainability, impervious roof surface analysis, solar resource analysis and planning in new applications such as CityEngine and ArcGIS 10.1 3D extensions including Arc Globe and Arc Scene. City departments that benefit from this data include Mapping-GIS, Planning, Sustainability, Emergency Management, Police-Fire and Building

Information Management and Geo Design. CyberCity 3D has created over 1,000,000 buildings for various government agencies over the past 3 years and is now an Esri partner and fully-integrated into the geodatabase .

PAPER SESSION 4: VENDOR PRESENTATION ROOM 315

Emerging Technologies for Field Data Access and Capture

Inexpensive and easy to use field data capture solutions can eliminate technology boundaries for access to GIS databases and allow for data collection by end users. Mobile data collection solutions provide for access to and creation of geospatial features and data by public works, planning, appraisers, emergency responders, operational managers and associated support personnel - many who have no background in GIS or databases. These solutions provide intra agency and inter agency coordination for daily workflow requirements as well as a better understanding of the roles and responsibilities of each to help in time of emergency response to help save lives and property.

Esri Mobile GIS Solutions

Mobile GIS is no longer limited to field GIS data capture using rugged devices with precision GPS capabilities. Today, mobile GIS also includes smartphones and tablets, running iOS, Android, and Windows Phone operating systems. This session will provide guidelines for how you can select the appropriate Esri mobile solution for your application needs. It will also show you how you can easily provide mobile solutions to all of your internal and external customers, using ArcGIS Online. Lastly, this session will challenge you to broaden your perspective on what mobile GIS means today.

PAPER SESSION 5: ENTERPRISE GIS, SOLUTIONS AND MANAGEMENT ROOM 316

How Multiple Cities Came Together to Build a Citizen Map Browser

The experience of redesigning a technical solution for the NWMaps.net browser will be discussed. NWMaps is one of many service specific portals provided by the eCityGov Alliance, which includes nine partner cities and another 28 cities and agencies. The NWMaps service currently serves map-based information for 12 King County cities. This presentation will follow the work of these cities from their user stories to a common technical solution provided by NWMaps.net. The challenges, successes and lessons learned from this group venture will be explained. An Agile Scrum Project Management system helped to develop the technical solutions from the business requirements, which were stated as non-technical user stories. ArcGIS Server 10, Bing Maps, Python Scripting, and JavaScript provided the technological framework to build these user stories into a current technological solution. Attendees will learn why we chose these technical solutions and how we communicated these solutions to the non-technical users. Also, an overview will show how disparate spatial data, unique to each member city, is loaded into a single map server.

URISA Helps Develop the USDOL Geospatial Management Competency

Enterprise GIS is expensive to develop, maintain, and operate. Many small to medium sized cities and counties have invested more than $1 million to develop their GIS, with annual operating budgets in excess of $250,000. However, the return on investment (ROI) for these agencies is variable - depending on the maturity of their GIS management. In 2009 the USDOL published the Geospatial Technology Competency Model (GTCM). This 9-tier model describes the competencies required for a successful career in the geospatial technology field. However, the GTCM Tier 9 (Management) was not completed. This paper describes the URISA-led initiative to develop the Tier 9 Geospatial Management Competency Model (GMCM). This initiative began in 2011 with the development of a 'strawman' draft GMCM during the 2011 Washington GIS Conference in Lynnwood, WA. During the 2011 URISA GIS-Pro Conference in Indianapolis, an international panel further refined the model in cooperation with the USDOL. The draft GMCM will be described, along with its relationship to the GTCM. The current development status of the GMCM will be discussed and possible future uses and activities outlined. This presentation will be of value to those interested in the development of GIS management professional standards and best practices.

PAPER SESSION 5: ENTERPRISE GIS, SOLUTIONS AND MANAGEMENT ROOM 316

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Using ROI Methodology to Measure the Financial Benefits of GIS

Enterprise GIS is expensive to develop, maintain, and operate. GIS is often implemented only after a cost-benefit analysis justifies the financial investment. Rarely do agencies look back after their GIS has put into operation to analyze and measure their actual ROI. This paper discusses the challenges and benefits of an after-the-fact GIS ROI analysis. The King County GIS ROI study, recently completed by a team from the University of Washington, Evans School of Public Policy, Cost-Benefit Analysis Center, will be described. The methodology used for the King County GIS ROI analysis will be outlined and the results summarized. Lessons learned from the KCGIS study will be presented and recommendations made for a standardized GIS ROI measurement approach. This presentation will be of value to agencies to measure the benefits realized from their GIS investment and to help enhance confidence in projected ROI for future GIS investments.

PAPER SESSION 6: SPATIAL KNOWLEDGE ON THE WEB ROOM 317

COR Maps - An Interactive GIS Web Portal

The City of Renton has developed a web-based interactive map "COR Maps" which provides the public access to the City's rich library of spatial information and knowledge about the community. Users of COR Maps can quickly learn valuable information about property, the zoning, and the surrounding natural environment. They can learn where community services, fire, and police resources are located and allocated throughout the city. They can discover detailed information about the transportation and utility systems that provide essential services on a daily basis. They can learn about the plans and status of City projects and events in the community. The interactive map organizes and presents information in a way that is easy to discover, learn, and use the information as well as create custom maps using your own spatial information. COR Maps also serves as an additional communication channel that is now available for the City to communicate matters related to all of these services to our customers with capabilities that can be expanded in the future. In this presentation we will discuss the design considerations for the organization of information and tools provided to find information. We'll discuss the technology in the back office to bring the information and the tools to the user. And, we'll discuss the development process used to build the application in a compressed schedule.

Pierce County's Mobile Development Platform

Mobile development is exploding. Current projections predict that in 2013 the mobile use of the Internet will exceed desktop use. Find out how Pierce County developed a mobile development platform and internship program using HTML5, PhoneGap, and Open Layers.

An Open Source Solution for Portal Authentication and Authorization

Pierce County GIS Portal is a web portal controlling access to a wide variety of Pierce County GIS and IT applications. A lot of our legacy web applications are developed in ColdFusion, yet our new web GIS application are developed in Java bundled with OpenLayer and Geoserver technology stack. How to share login process with different systems becomes a challenge. In this presentation, we will show how Pierce County GIS leverages an open source SSO system – Central Authentication System – and combine with our own module to achieve the following functionalities:

1) Authentication
2) Authorization
3) Session Management including Current Session Management and Session Timeout
4) Security Control (Throttle Dictionary Attack)
5) Single Sign Out

The value of this work is 1) it centralizes authentication to a unique server, and removes that layer from individual web application developer's concern; 2) credentials are always passed to the authentication server through a secured channel, and re-authentication is transparent to users 3) it provides a broad selection of clients, and allows the flexibility to have multiple authentication handlers; 4) it seamlessly pierces together web applications developed with different technologies stacks.

PAPER SESSION 7: ECOLOGY AND HYDROGRAPHY — ROOM 318

Customized GIS Models to Plan for Slipway Dredging

Periodic dredging is often necessary to maintain adequate water depths for ships. Dredging events are often scheduled reactively - once a channel or slipway becomes too shallow for ships. Under a support contract with the United States Marine Corps, Critigen has created custom models and workflows in ArcGIS 9.3 to process depth data. In order to track changes in slipway depth and plan dredging activities; Model Builder, 3D Analyst and Spatial Analyst extensions were used to automate the processing of sounding point data collected during quarterly hydrographic surveys. The models standardize and compare data between surveys, resulting in a repeatable process to view changes in depth over time. These customized models enable planners to monitor channel depth and deposition trends, and to proactively plan for dredging events to maintain minimum depths for ships.

Designing the Coastal Atlas for the Public: Public Beaches, Shore Photos and Flood Maps, Oh My!

The Washington Coastal Atlas (http://www.ecy.wa.gov/coastalatlas/) provides geographic information to support informed management of Puget Sound and the outer coast of Washington State. Over the years the atlas has developed a broad user community beyond its targeted coastal management audience. Recent redevelopments have focused on improving usability, upgrading technology, and adding and enhancing tools that target specific user groups and needs. These tools include information on public beach access locations, an improved shore photo viewer, federal flood maps, and beach closure and water quality information. The development of each tool involved creating user profiles to represent the diverse audience, designing each tool page to meet user needs, and user testing by a sampling of users who represent different groups. Early awareness and continued input of atlas user needs improved the overall usability of this online resource.

Hydrography: Survey in Motion

NOAA Ship Rainier conducts coastal hydrographic surveys to update our nation's nautical charts. These data are also publically available for use in other coastal applications including tsunami modeling and habitat mapping. Surveying on a moving vessel in the marine environment has many unique challenges, especially in remote areas. This presentation will introduce the audience to some of the challenges of acquiring accurate bathymetry and the methods and tools used to overcome them.

PAPER SESSION 8: VENDOR PRESENTATION — ROOM 315

How to Connect a Mapping Grade GPS Unit to a VRS

This presentation will provide an overview of the Washington State VRS, called the WSRN, and the Oregon State SpiderNet, called the ORGN. We will show how it works and provide a slideshow that explains its operation. Using Esri ArcPad 10 and Trimble GPScorrect Extension for ArcPad, we will show how to configure both software programs to connect to these systems. It's important to know to which data stream to connect from the server table that appears. Selecting the correct server is dependent on the location of your project site.

We will explore the wireless options available that provide the connection necessary to receive corrections, in addition to discussing signal ranges, signal strengths and issues that can degrade accuracy.

Questions and comments will be encouraged throughout this presentation to stimulate participation and to insure that all questions relating to this process are answered.

Using this real time correction service is recommended and most beneficial to the user if they are using a very high accuracy GPS mapping system. This service will connect to any brand professional-grade GPS mapping system that provides support for such a connection in the field data collection software.

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PAPER SESSION 8: VENDOR PRESENTATION (CONTINUED) ROOM 315

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Overcoming Challenges in Deploying Esri-based Mobile & WebGIS Applications

Many organizations today build mapping applications using ArcGIS Server and technologies like Flex, HTML/Javascript, and Silverlight. Historically these mapping applications only needed to be viewed on a traditional desktop, but increasingly the demand is to view them on mobile phones and tablets that use iOS, Android, and Windows Phone. With varying levels of support across these platforms for each client technology, what is the best way for GIS administrators to build applications that can be viewed cross-platform by the greatest number of people? What happens when HTML5 gains greater acceptance in the coming months?

With growing sets of mobile users, administrators are forced to balance browser compatibility issues with limited resources to build and maintain platform-specific applications coming from multiple software vendors. This presentation will introduce the concept of a Spatial Application Infrastructure (SAI), a more efficient way to build and maintain cross-platform mapping applications. This session will also explore the benefits of using an SAI, and time permitting, include a live demonstration of building these types of applications using ArcGIS Server and Geocortex software.

PAPER SESSION 9: SHARING SPATIAL INFORMATION ROOM 316

Panel Discussion: Government's Role in Sharing Spatial Information - Data, Maps, and Services

My administration is committed to creating an unprecedented level of openness in Government….Openness will strengthen our democracy and promote efficiency and effectiveness." President Obama, 1/21/09

All government agencies in the state of Washington understand they are obligated to share information with the public. The state's Public Disclosure Act (PDA) was passed over 30 years ago and directs government agencies and employees to be open with information. The U.S. Office of Management and Budget has estimated that around 80 percent of state and local government data is location based. With huge advances in technology since the PDA was passed, sharing data is both a challenge and opportunity for government agencies. GIS data in particular can include large file sizes, proprietary data formats, poster-size maps, and be very time consuming to modify. The panel discussion will begin with a presentation, by the Open Government Ombudsman for the State Attorney General's Office, covering the legal obligations of government agencies to provide information to the public. Next, representatives from three government agencies will present their approaches to providing data, maps and services to the public. The panel will then be happy to answer questions from the audience.

Speaker Biographies:

Josh Greenberg coordinates remote sensing activities and provides imagery analysis for the Skagit County GIS Department. His background allows him to provide both ecological and technical guidance on County environmental issues such as habitat analysis, salmon restoration and long term growth models. Josh earned his M.S. and Ph.D. from the U.W. College of Forest Resources Ecosystem Science program and has been with Skagit County for 11 years.

Timothy D. Ford serves as Rob McKenna's Assistant Attorney General for Government Accountability. His duties include serving as the "Open Government Ombudsman" to assist the public, and state and local agencies with open-government questions, training, policy, and litigation. He earned a BA from Rutgers University. He joined the US Navy and served as a helicopter pilot flying the CH-53E in combat support roles. After completing his service he attended and received a JD from Gonzaga University School of Law.

Greg Babinski is the Finance and Marketing Manager for the King County GIS Center in Seattle, Washington. In addition to work in the natural gas, oil, and chemical engineering industries, he has 23 years of GIS management experience, including project management, utility related GIS development, enterprise GIS operations management, and GIS consulting work. He is the founder and Chief Editor of The Summit, the quarterly newsletter of the Washington State GIS community. He has served on the URISA board as Secretary and Treasurer, and as the Vice President of the Washington Chapter of URISA. Greg is currently the President of URISA.

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Geoff Almvig has been the GIS Manager for Skagit County for 21 years, and has worked in local government for over 28 years during which he has been working with spatial technologies as they have evolved. He has led the GIS Department as it grew from a staff of three to the current staff of ten people. In 2007, the GIS Department was recognized by ESRI for innovative use of GIS technology with a Special Achievement in GIS award. Geoff received the WAURISA "GIS person of the year" in 2005. Geoff received an Industrial Technology degree from Eastern Washington University

Brandy Riche has been in the GIS field since 1989; and at Pierce County for twelve years. During her time at Pierce County she has been cultivating and facilitating a large regional GIS consortium of cities, public agencies and private firms. This group shares data and applications, plans and funds large data projects, and generally shares common goals for growing GIS use in Pierce County. Many of the participants use Pierce County GIS to springboard their own GIS efforts in new and innovative ways, causing Pierce County to flex and evolve their methods of data-sharing to help feed those efforts.

PAPER SESSION 10: COMMUNICATING GIS KNOWLEDGE ROOM 317

Learning from Swisstopo: Creating a Nation of Spatially Literate Citizens

Swisstopo is the official name for the Swiss Federal Office of Topography, and the proud producers of the legendary topographical maps. But the organization hasn't remained in the paper-age, instead its now creates innovative digital data and collaborates with institutions to create a wide variety of value-added products. SwissTopo should be considered as a model for how progressive governments can move geospatial services into the 21st century.
Swiss maps have been praised for their accuracy and quality, but there is more to SwissTopo's success than good cartography. After spending a year in Switzerland, the author would like to share his incite on; SwissTopo, the Swiss People, their love of maps and data, and how everyone in the country is benefiting from this national asset.

Make Beautiful Maps, Share Them Anywhere

TileMill is a modern, cross-platform map design studio designed to allow anyone to make fast, beautiful maps from the desktop and to share them effortlessly to the web. MapBox hosting is a low cost, scalable cloud service for hosting maps and making them easy to share, embed, and composite with others. Dane will demo the basics of using TileMill and MapBox hosting, tailored to the needs of the modern GIS analyst and cartographer where information sharing is paramount.

PAPER SESSION 11: FROM IMAGERY TO LAND COVER — ROOM 318

Vegetation Modeling with NAIP Color IR Imagery

Color infrared imagery contains a wealth of spectral information that can inform workflows for management of wildlife habitat, stormwater infrastructure, agriculture, commercial and urban forestry, and carbon sequestration. The National Agricultural Imagery Program (NAIP) captures 1-meter natural color, and color infrared imagery at 2-year intervals for the entire nation. The data is easily available for download, or on DVD at little or no cost. This presentation will illustrate techniques for processing color infrared imagery to extract and classify vegetative cover types utilizing the image management tools in ArcGIS 10. Topics covered will include properties of multi-spectral imagery, what the NDVI is and how it works, how to use image textures to isolate cover types, and how a multivariate classification scheme works. The talk will include some technical details, but will be illustrated graphically, and discussed generally to appeal to a broad audience.

Using ArcGIS for Landcover Classification from Landsat Imagery

ArcGIS can be used as an effective tool for classifying landcover from Landsat satellite imagery. Using a recently completed project in the Stillaguamish watershed as a case study, we will explain how to locate, download, and process freely available Landsat TM 5 data, create true-color and false-color composites using different band combinations, run unsupervised classifications, select the best areas for digitizing training polygons, how to create signature files from the training polygons, and how to run a supervised classification. Next, we will demonstrate some methods for reconciling class confusion using elevation and slope rasters, followed by a detailed description of how to assess the accuracy of your classification and generate an error matrix. Finally, we will discuss the pros and cons of using ArcGIS for image classification, and provide a list of 'lessons learned' for others who are considering a similar analysis. .

GIS Land Cover Data: From Data to Sustainability

Urban sustainability encompasses a plethora of hot issues that involve a delicate balance between optimizing economic, environmental and social goals and objectives of any decision. GIS data such as land cover data can be of immense use as one optimizes these sometimes competing objectives. To do so, data and applications need to be interoperable to support a wide variety of issues, problems and opportunities, in order to create more sustainable environments. This presentation will use the framework of plan, analyze and implement to discuss how communities are using GIS data to make more informed decisions that are creating a more sustainable world. A variety of examples will be presented from various parts of the country and application areas such as wildfire risk management, stormwater utility, and tree planting ordinances, where decision-makers have bridged the gap between data and information to implement better policies.

Don't forget!
The fun run is tomorrow morning!
Wednesday—6:30 AM

Washington GIS road warriors – bring your running gear and roll out of bed Wednesday morning for a group fun run, led by Greg Babinski, Heather Glock, and other WAURISA board members. We'll meet at 6:30 am at the Lynnwood Convention Center, then run at an easy pace along the Interurban Trail. This will be an out and back route, so run as much or as little as you like. We'll plan on being back no later than 7:15 am or so, so there will be plenty of time to freshen up and get some breakfast at the Convention Center before the day's activities begin. Joggers, power walkers, bikers, unicyclists, and roller-bladers are welcome too!

PAPER SESSION 12: VENDOR PRESENTATION ROOM 315

ArcGIS Online Subscriptions – An Overview

Esri is expanding ArcGIS Online to give organizations the ability to manage their geospatial content and publish their maps, apps, data, and hosted services in Esri's cloud infrastructure. This infrastructure will give organizations the ability to store, manage, and host their mapping services, easily publish their geographic content, and off-load selected processing activities using cloud services. In this session, we will show you how these new capabilities will not only help your organization share your knowledge and extend the use of your GIS but also enable you to meet the growing demand for your time and services by making geographic information available on demand and to self-serve customers through Esri's managed and secure cloud infrastructure.

Maximizing the WSRN for High Accuracy Mapping Data Collection

The WSRN (Washington State Reference Network) is a regional cooperative of GPS reference stations and data that enables cost-saving solutions for public and private sectors in the fields of surveying, mapping, and other high accuracy location technology needs. Geoline, Inc will be presenting a best practices approach to using this network to its potential – getting you the user the best accuracy possible. We'll discuss both theory and methodology, and will give a live demo on the network's use during the presentation.

PAPER SESSION 13: STATE AND NATIONAL ENTERPRISE GIS ROOM 316

Panel Discussion: The Washington State Broadband Map - From Mapping to Applications

This session will discuss the largest nation-wide mapping program (State Broadband Initiative) in recent years undertaken by the National Telecommunications and Information Administration (NTIA) and focus on the project activities for producing the Washington Broadband Map that is funded by a stimulus grant under this program. The session will describe both the national program and the Washington State project. It will cover the processes used in broadband data collection, aggregation, validation and the development of maps and websites used to present this information. It will also present examples of the resulting project maps and a brief demo of the web mapping application.
In addition, we will discuss future broadband activities being undertaken at the Washington State Broadband Office which includes an application contest, the publication of spatial web services using ArcGIS On-Line, and other efforts that are exploring and use of this valuable information.

Speaker Biographies:

Wilford Saunders manages the Washington State Broadband Office, which is responsible for broadband planning efforts and broadband mapping. His career in the telecommunications industry spans more than a decade and began as the director of operations for a small telecommunications company including regulatory filings and construction of a satellite earth station. As a business manager for General Dynamics Network Systems his duties included legal and management responsibilities in a multinational environment as part of a telecommunications project on the Pacific Coast of Russia.
He also served as assistant director for the telecommunications division of the Washington Utilities and Transportation Commission. While there, he managed staff responsible for legal, economic and policy analysis of all telecommunications regulatory matters in the State of Washington.

Joy Paulus is the State GIS Coordinator, Office of the CIO. She has a Bachelor of Science Degree in Geography from Oregon State University. Joy provides management and oversight of statewide GIS initiatives and policy in Washington plus staff support to Geographic Information Technology (GIT) Committee and the WA Geographic Information Council (WAGIC). She represents the State of Washington on the National States Geographic Information Council. Joy has 31 years of on-going experience in the use, implementation and management of GIS technology.

Ms. **Maheshwari** has more than 14 years of experience in the GIS and mapping industry, which includes managing a diverse range of projects in the public and private sectors as well as conducting research. She has both academic training and extensive experience in the use of GIS for urban planning and disaster management. Ms. Maheshwari has pioneered the development of several land use/land cover products that are unique in the industry and have been implemented for the States of Mass. Rhode Island, Delaware, and other places. She is also Sanborn's Program Manager for Washington's State Broadband Mapping Program.

PAPER SESSION 14: CLOUD COMPUTING ROOM 317

The Cloud Revolution: How Cloud Computing is Transforming Mapping

Cloud computing has transformed the mapping sector and is creating new rules for success. Mapping has hit the mainstream and GIS in the cloud is easier to implement, main and use. Users once timid with mapping are now demanding interactive spatial features and further innovation. Drawing on their more than a decade of experience developing innovative web mapping applications, the Digital Map Products team will outline what lies ahead for cloud-based mapping and how companies can best capitalize on this revolution in mapping.

New Users, New Markets: Web mapping has an army of new users, most of whom are nontechnical and have high expectations for their user experience. You need to understand these new users to succeed in the mapping of tomorrow.

Pervasive Mapping: Mobile and mapping are a natural fit and mapping is becoming pervasive, being integrated into any device, anywhere, any time.

Increased Innovation and Speed to Market: Cloud services free developers from many of the back-end headaches of mapping development and maintenance, affording them precious time to focus on innovation and improving the user experience.

The New Face of Geodata: In web mapping, getting the data's now the easy part. With the proliferation of mapping APIs, location data has become ever cheaper, easier to implement and keep current, and more plentiful.

The Increased Need for Data Visualization: With more demanding users, increased data, and more sophisticated mapping applications, future mapping success is predicated on good data display.

The new era of mapping is here, and it's unmistakably in the cloud. By understanding the new rules and expectations for mapping, organizations can fully benefit from this technology revolution.

PAPER SESSION 15: GIS ASSET MANAGEMENT ROOM 318

Asset Management: Laying the Groundwork for Implementation in Thurston County

Public agencies face multiple hurdles in tracking, operating and maintaining their infrastructure assets. One method to assist municipalities in overcoming some of these hurdles is the adoption of a GIS-based asset management software solution. Starting from a concept and evolving to a production system, an explanation of the sequence of events needed for a successful implementation will be presented. From this case study, audience members will gain insight to the process as it relates to GIS data development and system startup; political maneuvering when adopting new operational workflows; and return on investment. The County's asset management system implementation helps report against costs and activities which, in turn, assists in reporting and adhering to regulatory mandates set by state and federal agencies.

Incorporating GIS in Your Daily Workflow Throughout Your Public Asset Management System

GIS is the perfect platform for local governments to design and create an integrated GIS-centric public asset management system using spatial relationships as a way to manage, coordinate, and analyze all public assets and work activities. GIS plays a vital role in asset inventory, providing the "Where it is" and "What it is" for your assets. Often the GIS data is not used in the daily operations of asset, work and permit management, but mostly for making maps and visualizing infrastructure. This presentation will provide examples and the benefits of incorporating GIS into daily operations and will offer steps to accomplish this in your organization.

PAPER SESSION 16: VENDOR PRESENTATIONS ROOM 315

ArcGIS for Local Government

ArcGIS for Local Government is a key Esri initiative that is designed to extend the use of GIS within local governments. ArcGIS for Local Government provides a series of maps and apps that enable government to simplify and streamline the deployment of GIS capabilities. Application developers in local governments can configure these template apps and deploy them rapidly within their own organization. In addition, ArcGIS for Local Government harmonizes each organization's data using a common information model. This session will provide an introduction to the ArcGIS for Local Government Resource Center, and how to use the maps and apps to meet specific business needs in local government. It will emphasize implementation best practices and describe how you can participate in this user community.

Sextante Everywhere

Sextante a powerful (open source) raster and vector data geo-processing library has been around for several years. Over the last year versions for ArcGIS, gvSIG (CE) and recently QGIS have been released. Thus, the Sextante toolbox truly has the potential to become the most comprehensive and widely used GIS geo-processing tool that runs on almost any software platform and in almost any GIS software. This presentation will show the use of Sextante in gvSIG, ArcGIS and QGIS.
> Links:
> http://www.terragis.net/2012/04/25/sextante-everywhere/
> http://sextantegis.com/downloads.html

PAPER SESSION 17: STORING GIS KNOWLEDGE IN PIERCE COUNTY ROOM 316

Are You Ready for Your Election Year? GIS Integration with DIMS-NeT Voter Registration System

Every 10 years, Federal, State, and local government go through redistricting, a process to modify political boundaries based on population and taxing district changes. Redistricting ensures fair and equal representation for all citizens. Each level of government goes through the redistricting process starting with congressional districts, then legislative districts and ending with local districts. Since legislative districts are dependent on congressional districts and local districts are dependent on legislative districts, a hierarchy of districts develops as each successive level is created. After the political district boundaries have passed legal review and acceptance, County Auditors draw precinct and portion boundaries based on the political boundaries and taxing district boundaries. Voters are then geo-coded and assigned to precincts which ensures they receive the correct ballot during each election. This process is dependent on 3 levels of geometric accuracy with political boundaries dependent on US Census data, taxing districts dependent on real property data and voter geo-coding based on address data. Pierce County GIS and Auditor's Office worked together to automate this process. The end result was a product that is used to populate the Auditor's voter registration system which manages voter records and ballot creation.
In this presentation we will discuss:
1) project workflow; 2)problems encountered / lessons learned; 3)Process improvements; 4)Possibility of using GIS as voter records manager.

Implementation of Transfer/Purchase Development Rights Program in Pierce County

The Pierce County Transfer/Purchase of Development Rights (TDR/PDR) program was established in 2007 in response to threats to agriculture from land use conversion. Specifically, the TDR/PDR program was created as a tool to keep farmland intact while monetarily compensating the landowner. Development rights are transferred/purchased (Sending Site) from agriculture land, forest lands, habitat, and trail extensions These development rights are then transferred (Receiving Sites) to or in some cases required in cities, urban growth areas and comprehensive plan amendments resulting in higher densities. GIS has played an integral role in the implementation of the TDR/PDR program since its inception. We initially used GIS to identify potential sending sites and calculate the number of sending credits on each of these sites. The criterion needed to be included as a sending site and the associated calculation of available sending credits is defined in the language of the adopted TDR/PDR ordinance. Next, a database was created to track completed TDR transactions. These include sites that require transfer credits (receiving sites) and those that have exhausted development rights (sending sites).
We are currently using GIS databases to define priority regions as well as quantify/prioritize sending sites. This has been and will be accomplished by using both local and regional datasets. Thus, we have been able to integrate the TDR program with a number of other regional projects such as watershed characterization and regional TDR efforts. Pierce County is also

PAPER SESSION 18: MAINTAINING HISTORIC INFORMATION AND MAPS ROOM 317

Update on USGS US Topo and Historical Quadrangle Scanning Project for the Pacific Northwest

This presentation will provide an update on the U. S. Geological Survey's (USGS) US Topo and Historical Quadrangle Scanning Projects. The US Topo is the next generation of digital topographic maps from the USGS. Arranged in the traditional 7.5-minute quadrangle format, digital US Topo maps are designed to look and feel like the traditional paper topographic maps for which the USGS is so well known. At the same time, US Topo maps provide modern technical advantages that support wider and faster public distribution and enable basic online geographic analysis for all users. The Historical Quadrangle Scanning Project is scanning all scales and all editions of approximately 250,000 topographic maps published by the USGS since the inception of the topographic mapping program in 1884. This scanning will provide a comprehensive digital repository of USGS topographic maps, and like the US Topo are available to the public at no cost. This project serves the dual purpose of creating a master catalog and digital archive copies of the irreplaceable collection of topographic maps in the USGS Reston Map Library as well as making the maps available for viewing and downloading from the USGS Store and The National Map Viewer.

CANCELLED!

Survey Monument Preservation and Restoration

Survey Monument Preservation and Restoration

Abstract: All the land within the Tulalip Reservation was surveyed by the United States Government in the 1870s using a nonstandard method called the "Three Mile" rule. That survey covered 36 square miles and required the setting over 400 monuments. The land was then conveyed to tribal members based on the monuments set during that survey. The current property lines are still based on those 1870s monuments, but most of the monuments set during that survey are gone. In this presentation we will cover how the government surveyed and conveyed the land, the problems the "Three Mile" rule created, what has happened to the monuments, how property lines are currently being marked without using the 1870s monuments, and what Tulalip Tribes is currently doing to preserve and restore the monuments.

PAPER SESSION 19: GIS DICK THOMAS STUDENT COMPETITION ROOM 318

Elwha River Sedimentation Impacts Assessment System

The Elwha and Glines Canyon Dams on the Elwha River in northwestern Washington are being removed to restore the anadromous fish population and surrounding ecosystem to pre-dam conditions. In order to assess the river's sensitivity to the increased sediment load due to dam removal, Seattle University's Civil Engineering Team will combine the most recent geographic information for 2D modeling. The team intends to model different levels of aggradation below the reservoirs with a United States Bureau of Reclamation 2D model (SRH-2D) applied to the lower river. The results will supplement the larger monitoring plan and allow the USBR to assess the Lower Elwha River's potential flood risk due to changed topography. We choose to use Arc-GIS to create a digital elevation model (DEM) for the 2D model in order to integrate multiple geographic data sets with varied spatial accuracy and interpolate missing information. Methods for interpolating channel bathymetry from survey data exist but require relatively dense data. Dense data was available for the main channel but there were large gaps in survey data for the river's primary side channel. For the main channel we interpolated a DEM using bank points from the most recent aerial LiDAR (2009) and river bathymetric data (2011) in GIS. Due to the gaps in survey data for the side channel we developed our own approach to assign elevations where data was missing. This was done by using a relationship between variables measured in Arc-GIS, including radius of curvature and down channel distance. We used this relationship to create a more dense data set in order to interpolate a DEM that more closely resembles the natural topography of the river; greater depth on the outside of bends and shallower depth along the inside of bends. The DEM will then be modified for varying levels of aggradation.

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PAPER SESSION 19: GIS DICK THOMAS STUDENT COMPETITION ROOM 318

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Mapping the Cove 2 Dive Site

Scuba divers have unique needs for geographic information. Faced with limited instrumentation, limited visibility, limited dive time, and restrictions on vertical motion, divers need to move confidently and efficiently in a very hostile environment This project uses large scale lidar base maps along with collected data in order to produce maps that are germane to the needs of divers at Cove 2, Elliot Bay, Seattle. GPS positions will be coordinated with depth soundings in order to establish points that are georeferenced and contain a z value that represents depth. The positional data will be stored on a solid state chip in the GPS/depth sounder that can be plugged into a laptop computer for downloading. The data can then be imported into a GIS where it will be used to create a surface that represents the seafloor. This surface will contain points of interest and depth contours. The final product will be a digital map that will be available to divers for information and planning, and a hardcopy map printed on a plastic slate that can be taken underwater and used during the course of a dive.
This project will produce useful maps where none are now available. Further, it will provide experience in project planning, data collection and management, and GIS mapping.

Rating Tropical Ecosystems for Biofuel Potential using GIS and Remote Sensing

Shifting focus towards renewable energy sources has created a demand for technologies which utilize biomass in the form of forest or agricultural residuals. To meet this demand new tools and techniques are needed to quantify and understand the ability of ecosystems to remain productive and not be irreparably harmed when biomass is harvested. A national evolution of biomass potential of production forests across the country of Indonesia was conducted to quantify the area of land suitable for feedstock creation to create bioenergy. Methodology to conduct this analysis employed a weighting matrix within a vector overlay using the geospatial environment of ESRI Desktop. Using geospatial information, biophysical and terrestrial conductions such as soil order, texture, land use, net primary productivity and precipitation allowed for a uniform analysis across the country of Indonesia. The analysis was limited to the land use classification areas of production forest, limited production forest and convertible production forest where forestry practices are already in use. These areas were evaluated by examining biophysical and terrestrial factors which influence ecosystem productivity, created a ranking system using the values of “Good”, “Fair” and “Poor”. These categories were assigned using threshold values from the weighting matrix which when taken in concert determine the productivity of an ecosystem. Results from the analysis were validated through field visits and review of scientific literature reporting productivity conditions at study sites. Overall results found that close to half of all production forest lands were rated as “Good” while less than ten percent was rated as “Poor”. Those areas which were rated as “Fair” can be brought to a “Good” rating using silviculture and other management methods.

Marine Protection Area Ecosystem Analysis

The purpose of this project is to analyze different criteria used in the development of Marine Park Areas (MPA’s). An area of study was chosen off of the west coast of the big island of Hawaii, Kailua Kona specifically. This area was chosen for both its bio-diversity and the large amount of research data available used to drive the analysis. This project required the development of an effective geodatabase, a companion Access database and a Python script which was developed to read and print the properties of each layer in the map document. Included in the geodatabase are domains, subtypes and topologies to ensure data integrity and analysis of specific photic zones. Analysis of the marine species data and raster datasets were handled using the Marine Geospatial Ecology toolbox within the framework of the ESRI Arc Marine data model.
Finally surface and sub-surface characteristics were developed into a 3D ArcScene representation. By developing an ArcScene model many different factors could be evaluated concurrently, factors such as Surface Sea Temperatures (SST’s), surface and below surface current direction and temperature. These two factors were evaluated on the effects changes would have on the eco-system of the reef structure in terms of animal growth and species diversity. Terrestrial systems taken into account in this analysis include soil types (for erosion effect purposes) and agricultural runoff/leeching (used to evaluate what man induced process might affect the overall health of the reef eco-system).

PAPER SESSION 20: COMMUNICATING WITH MAPPING ROOM 316

Mapping the Dynamic Dimension

GIS data collection, especially of dynamic data, has been one of the largest challenges for maintaining a successful GIS. For many years data source providers have obtained public input through public meetings or surveys which then guided the development of GIS layers. This concept has gone a step further with the advent of crowd sourcing, where volunteers provide the source. A good example of this Open Street Map (http://www.openstreetmap.org/). Social Media is also playing a role by allowing the crowd to rate content as to its validity or popularity. These relatively recent technologies can provide those responsible for maintaining source data or publishing public events new avenues for data collection.

In this presentation we will introduce a construct for collecting and publishing dynamic data that reflect important public activities like neighborhood meetings, addresses corrections, farmers' markets, crimes, open houses, etc. Using a GIS platform, citizens can report important neighborhood news to their neighbors. Site monitoring and topic control will be discussed. Site viewers have the ability to rate content--spatial news—on validity and event popularity. The collection of dynamic data fills the gap of officially maintained GIS datasets and the publication of these data promotes citizens' communication and interaction though existing GIS infrastructure.

Talk to Me: Using Mapping to Communicate with Citizens in the Google Era

More than ever, our lives are defined by information; we live in the "Google Era." As such, our expectations for data availability and information access have morphed. It's not surprising then, that in the Google Era, citizens have heightened expectations of their government communications: transparent, anytime/anywhere online information access, and two-way conversations. While adopting open data policies and implementing web 2.0 technologies to improve resident communications may seem daunting, it's necessary. Evidence shows that when municipalities embrace these new information rules, they operate more efficiently, achieve higher levels of public satisfaction, and deliver better constituent service.

The cities of San Juan Capistrano, CA and Longview, WA confronted these challenges, and found success in publishing information to residents using online, interactive maps. By allowing residents to self-service their information requests, cities experience significantly reduced in-person and phone inquiries and greater resident awareness of community amenities. The City of San Juan Capistrano won a web innovation award for publishing their city-wide hiking and horse trails online, and the City of Longview fulfilled a long-standing citizen request with their interactive maps displaying park locations, school data, trash pick-up days and more. In our session we'll illustrate how these cities bridged their citizen communication gap, address new community expectations for information communication, and highlight the types of information residents value most.

Longview and San Juan Capistrano were early adopters of online mapping as a means to share information with their communities, and represent prime examples of simultaneously improving city efficiency and constituent service in the Google Era. Digital Map Products' local government solutions are used by hundreds of municipalities throughout the US and are revolutionizing the way cities both implement and use mapping technology.

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PAPER SESSION 20: COMMUNICATING WITH MAPPING ROOM 316

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Mapping Secrets Unveiled: Top Mapping Faux Pas and How to Avoid Them

In today's world of in-demand location technologies, mapping is now a requisite element for websites and analysis tools. Mapping Secrets Unveiled will illustrate the top 7 mapping faux pas organizations make and how you can avoid them so your mapping advantage doesn't turn into your downfall. You'll learn tips to improve the user experience and how to make mapping easier to implement, maintain and use.

Faux Pas #1: Where the Map?
Today's information consumers expect maps. Make sure your site includes maps and when you do integrate maps, don't hide them!
Faux Pas #2: Bad Geocode
When you do map, get the location right. Accurate location data exists and should form the foundation for your mapping experience.
Faux Pas #3: Dumb Maps
Today's users expect their maps to be more than pretty pictures. Avoid dead-end maps and user disappointment on your site by adding interactivity to your maps.
Faux Pas #4: Loading Map Syndrome
Today's mapping consumers have high expectations. You must avoid "loading map syndrome" and use every development trick in the book to optimize the performance of your location technologies.
Faux Pas #5: Bad Data Visualization
Bad data visualization techniques give mapping a bad reputation and can render this powerful tool useless. Stop blaming the map and employ good data display tactics to increase the usability of your site and help users connect the dots.
Faux Pas #6: Stopping at the Property Location
Don't treat your map as a store locator. Take your maps further with local data and analysis tools – no longer is a point on a map compelling.
Faux Pas #7: Mapping Hieroglyphics
Don't make your users learn a new language or hieroglyphics to use your mapping application. Successful web mapping is all about the user interface.

PAPER SESSION 21: CENSUS ROOM 317

On the Road to 2020

In 2012 the US Census Bureau has reorganized its field infrastructure and redesigned how we do business. Preparation and planning for the 2020 Census is included in the redesign. A significant component of the redesign is increased partnerships with State, County, Local and Tribal Governments and engaging new partnerships with other entities, allowing for more interactive and timely geographic updates on a continual basis. This presentation will cover information regarding the reorganization, plans for the 2020 Census and the current development of localized interactive update tools, file transfer and Volunteer Geographic Information (VGI).

PAPER SESSION 22: PUBLIC SAFETY ROOM 318

Pre-Incident Planning Using GIS

The Kirkland Fire Department has been using GIS software to produce and maintain pre-incident plans for several years. After some years of work, we've found several tips that make ArcGIS a useful program including –

- Standardization of plans and symbols
- Implementation with the Fire Service Data Model
- Avoiding duplication of other map work (e.g., hydrant maintenance)
- Using a customized version of ArcGIS called PITMapper
- 3D modeling of a potential hazard
- Community risk assessment
- Ability to see an incident location in several views
- Integration of GIS data that isn't readily available in standard CAD programs
- Several other advantages

ArcGIS has proven to be a labor-saving tool.

GIS Integration in the Next Generation 911

There will be many challenges to get existing address databases compliant with Next Generation 9-1-1 (NG911) GIS standards. In Washington State, several counties have started this process where others have no GIS programs at all. Creating an implementation plan to get the entire state compliant will be a challenge and GIS is at the root of the solution. Part of the process will include:

- Understanding the Standards with regard to GIS
- Examples of E911 and NG911
- Determine the status of each county (PSAP) in Washington State (baseline)
- Create an implementation plan to meet NG911 standards.
- "Herding the Cats" –vs- Working as a Team
- Maintaining the System

Travel Network QC Tips and Tricks

Public Safety response systems are increasingly modeled using a GIS travel network. Data quality and connectivity are mission-critical for dispatch operations. Donna will show different ways to nail down the network using network analyst, topology, and a new better-than-topology technique to find those troublesome unsnapped pseudo-node intersection breaks. Fishbone lines that connect address points to streets can help prevent address problems that could send a dispatch across the map in the wrong directions. Learn how to build these using ArcGIS 10 tools.
This presentation is not just for public safety. The techniques shown will improve address datasets, routing, and reduce geocoding time and errors.

Supporting Organizations

WAURISA would like to thank the following professional organizations and user groups who support and promote our activities and efforts:

Urban & Regional Information Systems Association (URISA)

URISA British Columbia Chapter

Oregon & Southwest Washington URISA

Central Washington GIS User Group (CWGIS)

Central Puget Sound GIS User Group (CPS-GIS)

King County GIS User Group

Northwest GIS User Group

Cascadia Users of Geospatial Open Source (CUGOS)

Washington State Geographic Information Council (WAGIC)

GIS User.com

The American Surveyor (amerisurv.com)

ACSM - Washington State Section

ASPRS - Columbia River Region

American Planning Association Washington Chapter

Aboriginal Mapping Network

Land Surveyors Association of Washington (LSAW)

Northwest Washington GIS User Group

Portland Area GIS User Group

Women in GIS

Lone GIS Professional Group

Padilla Bay NERR—WDOE

City of Bellingham

ESRI

Critigen

Wendt Consulting and GIS Services

Taub Haus

Pierce County

The Elliott Family

Every Washington GIS Conference is a labor of love

supported by volunteers who contribute hundreds of hours of their time to the effort. It would not be possible to bring you these fun and educational opportunities without the contributions of the following people, for which we are

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Chairperson	Dana Trethewy
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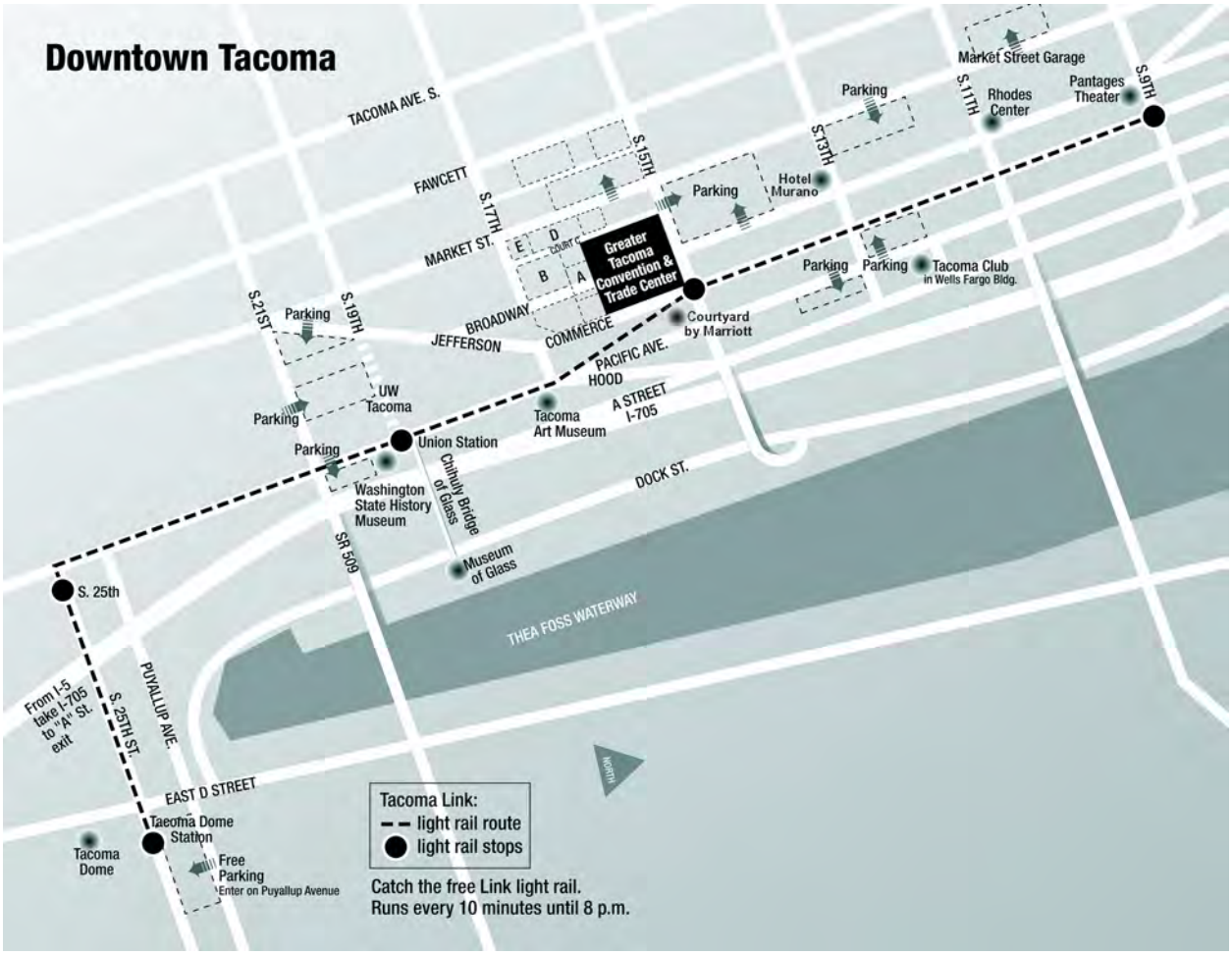
Moderator Guru	Neil Berry
Poster Contest	Suzanne Shull
Booklet	Ann Stark
Conference logo	Michèle Savelle
Dick Thomas Contest	Amanda Taub
Marketing	Amanda Taub, Greg Babinski
Volunteer Coordinator	Maria Sevier
Food	Dana Trethewy
Social Event	Maria Sevier
Workshops	Don Burdick
Nominations	Don Burdick
Fun Run	Greg 'Jack Rabbit' Babinski & Heather 'Legs' Glock



Tacoma offers a free light rail train service. The light rail train runs every ten minutes, regularly from 6:00am to 8:00pm, Monday- Friday, Saturday 8:00 am-10:00pm and Sunday 10:00am - 8:00pm. A convention center light rail stop is located just outside the first floor of our facility (on Commerce Street) for convenient access throughout downtown Tacoma. Free parking is located at the Tacoma Dome Station. Parking is available at the Convention Center for $10 a day.

The 2012 WA URISA Conference logo was designed by Michèle Savelle GIS & Graphic Design

Thank you Michèle!

For more information, visit: www.michelesavelle.com

Facility Map