2013 WASHINGTON GIS CONFERENCE

POWER OF PLACE

MAY 6-8

LYNNWOOD CONVENTION CENTER

WA URISA

Conference at a Glance

Monday	Tuesday	Wednesday
Registration 8 AM—4 PM	Registration 8 AM—4 PM	Registration 8 AM—1:30 PM

Monday

8:30—12:00
Morning Workshops

12:00—1:00
Lunch
Box Lunch

1:00—4:30
Afternoon Workshops

5:30— ?
Informal dinner—
Rock Woodfired Pizza & Brewery
4010 196th St. SW
Lynnwood

Tuesday

8:00—10:00
Continental Breakfast
Ballrooms

9:00—10:15
**Opening Session
Keynote: Michael F. Goodchild**

10:15—10:30
Morning Break

10:30—12:00
Technical Presentations

12:00—1:00
Lunch
Buffet Lunch

1:00—2:30
Technical Presentations

2:30—3:00
Afternoon Break

3:00—4:30
Technical Presentations

4:30— 6:00
Vendor Social
Vendor Area

6:30—8:30
Evening Social
Big E Ales (Ellersick Brewing Co)
5030 208th St. SW
Lynnwood

Vendor Exhibits 8:00—6:00 Esri Learning Lab 11—4:30

Wednesday

6:30 AM—Fun Run!

8:00—10:00
Continental Breakfast
Ballrooms

8:30—10:00
Technical Presentations

10:00—10:30
Morning Break

10:30—12:00
Technical Presentations

BALLOTS DUE

12:00—1:30
Lunch
Box Lunch

12:15—1:15
Leadership Meeting

1:30—3:00
Technical Presentations

3:15—4:00
**Closing Awards Ceremony
Board Election Results
Door Prizes!**

Vendor Exhibits 8:00-3:00 Esri Learning Lab 8:30—3:00

@WAURISA #wagis13

Follow 'Washington URISA' here:

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President's Message

Welcome to the WAURISA sixteenth annual Washington GIS Conference!

It's our pleasure to host you at this annual event! Sharing successes, ideas, and goals is the hallmark of our Washington GIS community and I am pleased to be part of the organization that leads that effort in our region.

Next year is shaping up to bring about many changes in how WAURISA and URISA interact with each other. I encourage you to get involved in WAURISA to help shape the future. Help usher WAURISA into the next generation of what GIS has to offer and be a leader and champion for our region.

Please do join me in thanking our conference co-chairs, Heather Glock and Greg Babinski in putting together a wonderful event. Our attendees are from all over the state, from tribal, state and local governments, and from all levels of GIS maturity. I encourage you to come up to me and tell me that my grandmother's favorite flower was the iris and introduce yourself. If you do, you'll get a gift from me until I run out. Please make an effort to introduce yourself and learn from some new person here today. The connections you make are the web of our success in region. Each one of you can garner a new idea from another and each one of you can offer a new idea to another. Let's get going!

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	Greg Babinski, Finance & Marketing Manager, King County GIS Center
CONFERENCE ANNOUNCEMENTS	Heather Glock, Conference Co-Chair
KEYNOTE ADDRESS	Michael F. Goodchild Emeritus Professor of Geography at the University of California, Santa Barbara

Keynote

Michael F. Goodchild

Emeritus Professor of Geography

University of California, Santa Barbara

Michael F. Goodchild is Emeritus Professor of Geography at the University of California, Santa Barbara, where he also holds the title of Research Professor. He also holds an affiliate appointment in the Department of Geography at the University of Washington. Until his retirement in June 2012 he was Jack and Laura Dangermond Professor of Geography, and Director of UCSB's Center for Spatial Studies.

He received his BA degree from Cambridge University in Physics in 1965 and his PhD in geography from McMaster University in 1969, and has received four honorary doctorates. He was elected member of the National Academy of Sciences and Foreign Member of the Royal Society of Canada in 2002, member of the American Academy of Arts and Sciences in 2006, and Foreign Member of the Royal Society and Corresponding Fellow of the British Academy in 2010; and in 2007 he received the Prix Vautrin Lud.

He was editor of *Geographical Analysis* between 1987 and 1990 and editor of the Methods, Models, and Geographic Information Sciences section of the *Annals of the Association of American Geographers* from 2000 to 2006. He serves on the editorial boards of ten other journals and book series, and has published over 15 books and 500 articles. He was Chair of the National Research Council's Mapping Science Committee from 1997 to 1999, and of the Advisory Committee on Social, Behavioral, and Economic Sciences of the National Science Foundation from 2008 to 2010. His research interests center on geographic information science, spatial analysis, and uncertainty in geographic data.

Leadership Meeting

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 8 3:15 p.m. - 4:00 p.m.
Ballrooms

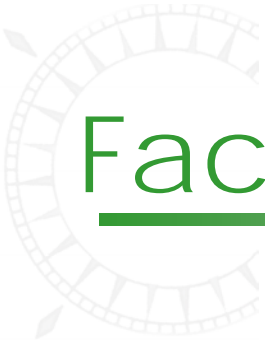|	
BOARD ELECTION RESULTS	Nomination Committee
MAP CONTEST WINNERS	Suzanne Shull
DICK THOMAS AWARD WINNERS	Amanda Taub
FINAL ANNOUNCEMENTS AND DOOR PRIZES	Heather Glock & Ann Stark

Be sure to vote...
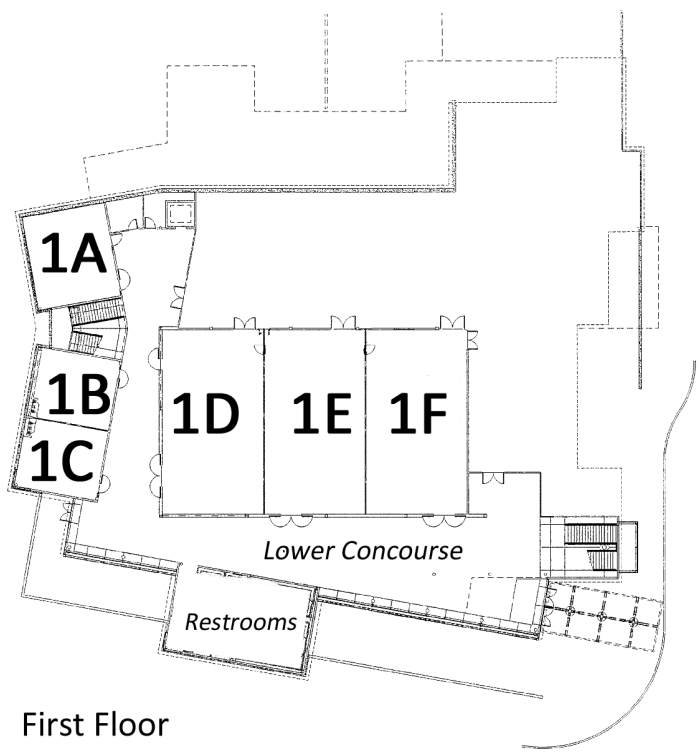
Washington URISA Chapter Board Position Nominees

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 8th.** 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 main ballroom on the second 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 8 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!

Facility's Floor Plan

1A

1B

1C

1D 1E 1F

Lower Concourse

Restrooms

First Floor

2A

2B

2C

2D 2E

Loading Dock

Upper Concourse

Restrooms
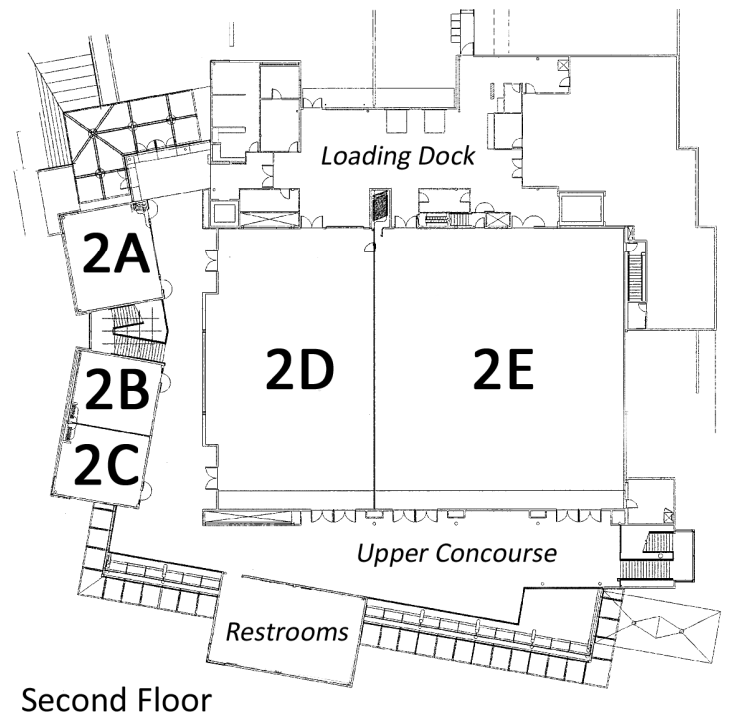
Second Floor

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

Karl Johansen   2013

WAURISA Board

PRESIDENT: Ann Stark
VICE PRESIDENT: Heather Glock
SECRETARY: Amanda Taub
TREASURER: Don Burdick
PAST PRESIDENT: Don Burdick

BOARD MEMBER: Neil Berry
BOARD MEMBER: Joshua Greenberg
BOARD MEMBER: Cort Daniel
BOARD MEMBER: Joe Brentin
BOARD MEMBER: Suzanne Shull
BOARD MEMBER: Steve Savage

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

Again this year 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:

Basics of the geodatabase model

Creating a map in ArcGIS for Desktop

Designing web applications using ArcGIS for Server

Editing with ArcGIS for Desktop

Geocoding with ArcGIS for Desktop

Getting started with Business Analyst Online

Introduction to ArcGIS for Desktop

Introduction to ArcGIS for Server

Introduction to ArcGIS Network Analyst

Introduction to ArcGIS Spatial Analyst

Working with CAD in ArcGIS for Desktop

Introduction to geometric networks for utilities applications

Introduction to geoprocessing using Python

Introduction to linear referencing

Introduction to versioned editing

Sharing data with the Community Maps Program

Sharing maps and tools using ArcGIS Online

Spatial statistics for public health

What's New at Version 10.0 and 10.1

Working with CAD in ArcGIS for Desktop

Spatial statistics for public health

What's New at Version 10.0 and 10.1

ROOM 1A	ROOM 1B/C	ROOM 2B/C
8:30 a.m.—12 p.m. **Using ArcGIS Mobile and Trimble Positions with ArcGIS Server 10.1** Jim Lahm, Electronic Data Solutions	**8:30 a.m.—12 p.m.** **Esri LiDAR WORKSHOP** TJ Abbenhaus, Solution Engineer, Esri	**8:30 a.m.—12 p.m.** **Making Beautiful Maps –** **Design and Inspiration**

An extension for Esri ArcGIS Mobile field software, the Trimble Positions Mobile extension integrates ArcGIS Mobile workflows into the Positions software suite as an alternative to Trimble GPScorrectTM extension / GPS AnalystTM extension workflows. This workshop will demonstrate how to maximize the capabilities of new the Trimble Positions ArcGIS Mobile workflow and also covers how the new workflow compares to the previous GPScorrect and GPS Analyst extension workflow.

You will be provided with a selection of Trimble GPS handhelds loaded with Esri ArcGIS Mobile together with the Trimble Positions ArcGIS extension and sample data and receive a full demonstration of the workflow from field to office server. This will be an ideal opportunity for those of you working with ArcGIS 10.1 to see the ease and advantages of working with the Trimble Positions software suite.

This hands-on workshop will cover managing and using LiDAR point cloud data with ArcGIS 10.1. GIS users will learn how to manage LiDAR data, use ArcGIS for 2D/3D visualization and analysis, as well as share their LiDAR data through web services. By utilizing the ArcGIS platform, organizations will be better able to support informed decision making by providing simple and timely access to LiDAR and imagery.

Attendees will learn a complete LiDAR data management strategy including: 1) How to catalog their data; 2) When to use LAS Datasets Terrain Datasets Mosaic Datasets;   3) What analytical options are available for LiDAR; 4) How to fuse LiDAR data with other spatial and operational layers; 5)Techniques for making LiDAR data more accessible

A fun, visually intensive workshop delivered by regional cartographic experts that will focus on the processes and techniques you can use for developing beautiful, high-quality cartographic products. This class will not be a beginner cartography class, but more a map appreciation and theory discussion with regional map authors.
Students will have a better appreciation for map aesthetics; learn about design resources and inspiration; learn fundamental design theory guidelines; learn what it takes to take a map from start to publication quality finish.

Presenters:
Adam Wilbert, CartoGaia & Lynda.com Author
Josh Greenberg, Skagit County
Ann Stark, City of Bellingham
Matt Stevenson, CORE GIS
Dan Coe, OR Dept of Geology and Mineral Industries
Jeremy Davies, The Pew Charitable Trusts - International Arctic Program

12:00 p.m. to 1:00 p.m.—Boxed Lunch

ROOM 1A	ROOM 1B/C	ROOM 2B/C
1 p.m.—4:30 p.m. **ArcGIS Online Subscriptions:** **Setting Up for Success!** *(bring your own laptop*)* Scott Moore, Solution Engineer, Esri	**1 p.m.—4:30 p.m.** **Esri 3D GIS Mapping Lab** TJ Abbenhaus, Solution Engineer, Esri	**1 p.m.—4:30 p.m.** **Making Beautiful Maps – Tips and Tricks**

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 offload selected processing activities using cloud services. In this hands-on workshop, 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.

This workshop is for administrators of ArcGIS Online Subscriptions.

The hands-on Esri 3D GIS Mapping workshop will introduce users to modern workflows for managing, producing, and sharing of 3D information using onsite enterprise architecture or cloud architecture. We'll work with the derived information to show how it can be used and distributed as a support tool for critical decisions.

Participants will learn how to bring GIS workflows that extend 2D data into 3D data incorporating remote sensing, lidar and aerial imagery. Using these sources of information, you will be shown how ArcGIS is used for accurate 3D visualization and spatial analysis. Attendees will learn how to reach a wide audience with 3D information using the internet based ArcGIS web scenes and ArcGIS online.

A lively workshop filled with tips and tricks that will help you create maps with the visual punch and interest your rich GIS data deserves. Several regional cartographers will talk about the GIS and graphics production tools they use in their daily workflow to get maps looking polished and ready for publication.
Students will gain practical how-to tips on making better maps. Topics will include advice on better printing, maximizing the visual impact of imagery and terrain data, incorporating the Adobe software suite for post-GIS enhancements, and making the most of everyday office tools like Word and PowerPoint. Students will gain an understanding of best practices and cartographic processes.

Presenters:
Adam Wilbert, CartoGaia & Lynda.com Author
Dan Coe, OR Dept of Geology and Mineral Industries
Chris Behee, City of Bellingham
Sam Matthews

8:00 AM—4:00 PM   CONFERENCE REGISTRATION   ROOM 2A

8:00 AM—10:00 AM   CONTINENTAL BREAKFAST   BALLROOMS

9:00 AM— 10:15 AM   OPENING SESSION: BALLROOMS
WELCOME MESSAGE &
KEYNOTE ADDRESS: MICHAEL F. GOODCHILD

10:15 AM—10:30 AM   MORNING BREAK   BALLROOM WITH VENDORS

10:30 AM— 12:00 PM   TECHNICAL SESSIONS   ALL 30 MINUTES UNLESS
                                                 OTHERWISE NOTED

Asset Management   Paper Session 1—Room 1D
- Mining Enterprise Memory, Rick Lortz, Lakehaven Utility District
- Developing a Field Assessment Program Using Asset Management, ArcExplorer and Python
    Programming, Renee Quenneville, Pierce County
- Leveraging a Pilot Project for Maximum Benefit in AutoCAD to ArcGIS Migration, Kirsty Burt GIS

GIS for Addressing I   Paper Session 2—Room 1E
- Managing GIS for NG9-1-1, John Joseph, GeoComm
- Technology and Policies for Public Safety Addressing, Donna Wendt,
    Wendt Consulting & GIS Services (45 minutes)

Technology Track   Paper Session 3—Room 2B/2C
- The Mapping Renaissance: How Progressive Governments are Unlocking the Power of Location,
    Annie Schwab, Digital Map Products   (60 minutes)
- Free and Easy Web Mapping, Karsten Vennemann, Terra GIS Ltd.

URISA   Paper Session 4—Room 1F
- URISA is Changing - WAURISA Will Change Too - Open Discussion, Greg Babinski, King County (45 min)
- URISA Launches the GIS Management Institute, Greg Babinski, King County (45 minutes)

12:00 PM—1:00 PM   LUNCH BREAK—BUFFET PROVIDED   BALLROOMS

1:00 PM— 2:30 PM   TECHNICAL SESSIONS

Cartography & Map Production Paper Session 5—Room 1E

- Beyond Data-Driven Pages: .NET-Based Map Series Development, David Howes, LLC

- Illustrating the Landuse/Transportation Link, Chris Behee, City of Bellingham

- Making an Effective Map: Some Simple Cartographic Principles, Robert Norheim, University of Washington College of the Environment

Enterprise and Federated GIS   Paper Session 6—Room 1D

- From Proprietary to Open Source – The Road We Travelled to Renovate an Enterprise GIS System, Xuejin Ruan, Pierce County

- Governing the City of Seattle\'s Enterprise GIS, Charlie Spear, Seattle Public Utilities

- Web-based Decision Support: Community-based Coastal and Marine Spatial Planning for Washington, Matthew Marsik, The Nature Conservancy   (15 minutes)

GIS for Addressing II   Paper Session 7—Room 1F

- Address Repositories - Benefits, Challenges and Future Direction (90 minute panel discussion)

Technology Track   Paper Session 8—Room 2B/2C

- Esri Maps for Office, Scott Moore, Esri   (60 minutes)

- Incorporating GIS in Your Daily Workflow, Matt Harman, Azteca Cityworks

2:30 PM—3:00 PM   AFTERNOON BREAK   BALLROOM WITH VENDORS

3:00 PM— 4:30 PM TECHNICAL SESSIONS

GIS FUN Paper Session 9—Room 1D

- REAL LIFE TALES OF A TREASURE HUNTER, DAN NEITZEL, CITY OF BELLINGHAM (60 MINUTES)
- GIS HISTORICAL SNIPPETS AND PREDICTIONS FOR THE FUTURE, DONNA WENDT, WENDT CONSULTING & GIS SERVICES

MOBILE GIS Paper Session 10—Room 1E

- PNTTRAX - A SIMPLE, OPEN SOURCE, WEB APPLICATION FOR THE PERSISTENCE OF FIELD COLLECTED DATA, MATT KENNY, RIDOLFI, INC.
- LOW-COST MOBILE SOLUTION FOR FIRE HYDRANT INSPECTIONS, GREG HEINTZ, PIERCE COUNTY
- DEVELOPING A SURFACE WATER ASSET INVENTORY FOR MUNCIPALITIES, SCOTT REESE, CITY OF SEATTLE

TECHNOLOGY TRACK Paper Session 11—Room 2B/2C

- GIS MODERNIZATION PROJECT: SNOHOMISH COUNTY ASSESSOR & SIDWELL CASE STUDY, TONY PELLETTIERE, THE SIDWELL COMPANY
- THE PATH NOT TAKEN; A PRIMER TO POSTGIS, ROBERT BERMIER, EARTH ECONOMICS (60 MINUTES)

THE BUSINESS OF GIS Paper Session 12—Room 1F

- THE LONE GIS PROFESSIONAL: RUNNING YOUR OWN GIS BUSINESS,   (90 MINUTE PANEL DISCUSSION) PANEL: HOWES, STEVENSON, VENNEMANN, SAVELLE

4:30 PM—6:00 PM VENDOR SOCIAL VENDOR AREA

6:30 PM—8:30 PM EVENING SOCIAL BIG E ALES

6:30 AM   FUN RUN   MEET AT CONVENTION CENTER

8:00 AM—1:30 PM   CONFERENCE REGISTRATION   ROOM 2A

8:00 AM—10:00 AM   CONTINENTAL BREAKFAST   BALLROOMS

8:30 AM— 10:00 AM   TECHNICAL SESSIONS

Data Development I   Paper Session 13—Room 1D

- Census Data Makeover: How King County Spins GIS Gold from ACS Straw, Mary Ullrich, King County
- ModelBuilder Case Study: Associating Traffic Signals to Roads, Eadie Kaltenbacher, Kitsap County
- Proposed USACE Dredge Sampling and Analysis Plan, Craig Hanson, Windward Environmental LLC

BUSINESS PROCESS IMPROVEMENT   Paper Session 14—Room 1E

- USING DIGITAL SIGNATURES IN WASHINGTON STATE AGENCIES, BRAD HOFMAN, SNOHOMISH COUNTY   (45)
- MEETING UTILITY LOCATE LEGISLATION AT SEATTLE PUBLIC UTILITIES WITH WEB SERVICES, STEVE BEIMBORN, SEATTLE PUBLIC UTILITIES   (45 MINUTES)

FEMA HAZUS Workshop   Paper Session 15—Room 1F

- Using Hazus for Planning and Emergency Response, Kelly Stone, FEMA Region X   (90 minutes)

Technology Track   Paper Session 16—Room 2B/2C

- King County GIS Center's GIS Training Express, Dennis Higgins, King County
- An Introduction to Geocortex and Building Esri-Based Mobile and WebGIS Applications, James Van Dyk, Lattitude Geographics   (45 minutes)

10:00 AM— 10:30 AM   MORNING BREAK   BALLROOM WITH VENDORS

10:30 AM— 12:00 PM   TECHNICAL SESSIONS

GIS Disaster Preparedness and Response   Paper Session 17—Room 1D

- Infrastructure Emergency Preparedness Mapbook, Gene Wisemiller, City of Everett
- Visualizing the Impacts of Natural Disasters: Hurricanes Irene & Lee in the Hudson Valley
        Collin Hodges, New York Bicycling Coalition
- Provisioning Data for Emergency Preparedness/COOP, Brad Hofman, Snohomish County

GIS STUDENT PROJECT COMPETITION   Paper Session 18—Room 1E

- RICHARD "DICK" THOMAS MEMORIAL STUDENT PRESENTATION COMPETITION

GIS PROJECT HEADACHES: WHOOPS – WE WON'T BE DOING THAT AGAIN!
Paper Session 19—Room 1F

- GIS PROJECT HEADACHES/LIGHTNING TALK: FIBER OPTIC CHASING, DORREL DICKSON, TULALIP TRIBES
- GIS PROJECT HEADACHES/LIGHTNING TALK: THE JAMP CHRONICLES IN THREE SHORT EPISODES, KARL JOHAN-SEN, PORT MADISON GIS
- A SHORT HISTORY OF DISRUPTION (PLEASE TURN ON YOUR CELL PHONES), GREG BABINSKI, KING COUNTY

TECHNOLOGY TRACK Paper Session 20—Room 2B/2C

- FINDING PATTERNS AND RELATIONSHIPS USING ARCGIS ONLINE, LEAH SAUNDERS, ESRI (60 MINUTES)
- MAPPING & GIS: FIELD TO FINISH, MARK CONGDON, GEOLINE, INC.

12:00 PM—1:30 PM   LUNCH BREAK - BOX LUNCH PROVIDED   BALLROOMS

12:15 PM— 1:15 PM   LEADERSHIP MEETING   ROOM 1F

1:30 PM— 3:00 PM   TECHNICAL SESSIONS

Data Development II   Paper Session 21—Room 1D

- A Divide and Conquer Algorithm for Multi-stop Routing, Zongxiang Yang, Microsoft Corp.
- Bridging the CAMA-GIS Gap Using the JavaScript, Masao Matsuoka, Thurston County (60 minutes)

GIS Reporting and Compliance   Paper Session 22—Room 1E

- Regulatory Compliance Effects on a Utility GIS Data Maintenance Team, Elaine Eberly, Seattle Public Utilities   (45 minutes)
- Supercharge your GIS reporting skills with SQL Reporting Services and Reportlab, a python plug-in, Don Burdick, City of Bellingham   (45 minutes)

GIS for Landuse Planning   Paper Session 23—Room 1F

- Where to Grow? Identifying Suitable Locations for Urban Agriculture in Federal Way, Washington, Christopher Walter, Forterra
- A Component and Tool Based GIS Modeling Approach, Jie Chen, Pierce County (45 minutes)
- Understanding the Dynamic Effects of Flight Patterns on Land use, Matt Paskus

Technology Track   Paper Session 24—Room 2B/2C

- Asset and Infrastructure Mobile Mapping, Chris Aldridge, David Evans & Associates   (60 minutes)
- Lidargrammetry: Using 3D stereo photogrammetry for lidar interpretation and feature extraction, Doug Smith, David C. Smith & Associates

3:15 PM—4:00 PM   CLOSING SESSION   BALLROOMS

GIS-Pro 2013

URISA's 51st Annual Conference for GIS Professionals

September 16-19, 2013
Providence, Rhode Island

Since 1963, URISA members and friends from around the world have gathered to learn about, share and discuss all things geospatial.
With GIS-Pro 2013 in Providence, URISA begins its next fifty years of annual conferences.

Whether you are an established or an up and coming GIS Professional, the GIS-Pro Conference is for you.

Visit http://www.urisa.org for more information about the conference

URISA
The Association For GIS Professionals
www.URISA.org

Mount Rainier Sponsor

Esri's geographic information system (GIS) software gives you the power to think and plan geographically. GIS is used in more than 350,000 organizations worldwide. It helps cities, governments, universities, and Fortune 500 companies save money, lives, and our environment. Whether transporting ethanol or studying landslides, these organizations use GIS to collect, manage, and analyze geographic information, which helps them see relationships, patterns, and trends. They can then solve problems and make better decisions because they are looking at their data in a way that is quickly understood and easily shared.

Mount Adams Sponsor

David Evans & Associates: DEA is a multi-discipline engineering firm employing over 600 professionals serving the Transportation, Energy, Land Development, Water Infrastructure, Surveying and Geomatics, and Marine Services markets. Offices located in Oregon, Arizona, California, Colorado, Idaho, New York, and Washington.

King County GIS Center: The King County GIS Center provides quality service and exceptional value for our clients with one of the most capable GIS organizations in the Pacific Northwest. Unlike most consultants, our professional staff members are not merely theoreticians, but practicing users of the types of GIS solutions government and business require. Why do we offer our services to outside customers? We have a long-term interest in the success of GIS throughout the region. We know that our success depends on satisfied clients and we are committed to delivering quality GIS business solutions that provide value for our customers. Let KCGIS help you put GIS to work!

Mount Adams Sponsor

Intergraph: Intergraph is the leading global provider of engineering and geospatial software that enables customers to visualize complex data. Businesses and governments in more than 60 countries rely on Intergraph's industry-specific software to organize vast amounts of data to make processes and infrastructure better, safer and smarter.

Electronic Data Solutions: Electronic Data Solutions proudly offers sales and support services for Trimble GPS mapping systems, Esri GIS software, Laser Technology rangefinders, Ricoh GPS Digital Cameras, Juniper Systems field computers, In-Situ water level and water quality instrumentation and Teledyne RD Instruments Acoustic Doppler current profilers. We provide industry specific software and expert guidance while assisting you to find exactly what you need to efficiently capture field data. Visit us at www.elecdata.com

Mount Baker Sponsor

CityWorks Azteca Systems, Inc. Empowering GIS for Infrastructure, Assets, Permits, and LicensingTM. Since 1986, Azteca Systems has been helping agencies effectively manage capital assets, infrastructure and property. An exclusive ESRI partner and proven industry leader, Cityworks is the only GIS-centric solution for asset maintenance management and has been successfully deployed around the world.

Sidwell: Sidwell has provided comprehensive mapping and land record information systems to local government for over 80 years. Sidwell is a national industry leader of GIS solutions for cadastral mapping and land -records management, and a provider of aerial photography, software development, and photogrammetric services. Sidwell provides outstanding solutions to our clients to enable them to achieve their goals now and in the future. Sidwell is an Esri Gold Tier Partner.

Marshall GIS is a leading provider of GeoKNX® middleware software products to facilitate and simplify the integration of Esri's ArcGIS with other Enterprise Asset Management (EAM) complex business systems such as Infor Hansen, IBM Maximo and Lucity. Enterprise application integration and mobile technologies are the two key areas where we can support your organization with years of experience and software solutions. GeoKNX Sync provides data management/data maintenance administrative tools to facilitate and maintain synchronization of your ArcGIS asset data and EAM data. GeoKNX Sync provides synchronized data to support capital planning and day to day operations.

Mount Baker Sponsor

Latitude Geographics Group, Ltd. - Since 1999, Latitude Geographics has helped people succeed with web-based geography by enabling them to make better decisions about the world around them. Hundreds of organizations worldwide rely on Latitude Geographics' Geocortex software to accelerate and enrich the process of designing, building and maintaining world-class Esri ArcGIS Server and ArcGIS Online applications. Esri is the world's leading GIS platform, and in 2010 Latitude Geographics was recognized as an Esri Worldwide Partner of the Year and one of the first to be named as an Esri Platinum Partner. For more information about our products and services, please visit www.geocortex.com

GeoLine, Inc. GeoLine provides positioning solutions that will increase our customer's productivity and profitability by integrating a wide range of positioning technologies into a complete solution.

Terra GIS Ltd. - Terra GIS provides expertise in Geographical Information Systems, consulting for social and environmental issues, and subjects related to sustainable development. Services include environmental research, field work and reporting, spatial analysis, cartography, implementation of web mapping and information systems, and the creation of specialized tools related to conservation, natural resources management, and public and social engagement issues.

Mount Baker Sponsor

The PPI Group: Since 1927, the PPI Group has been the go-to solution for our clients in the A/E/C industries. With more than 80 years of hands-on experience, we're an unmatched resource for industry knowledge. The PPI Group is one of the largest survey and construction supply companies on the West Coast and an authorized dealer of Topcon equipment and Autodesk software solutions.

Cyclomedia: CycloMedia's GIS accurate street-level imagery is used in asset management and mapping, property appraisal, and infrastructure planning. Our precision panoramic photos can be delivered as a cloud-based service or on client hosted servers and accessed via full-featured web applications or inside leading desktop GIS software.

CRW Systems, Inc.: CRW Systems, Inc. is a professional engineering and consulting firm headquartered in San Diego, CA. We provide dynamic solutions to Community Development, Code Enforcement, Public Works, Planning, Fire, and Building Departments. TRAKiT's GIS-centric automation utilizes ArcGIS Server 10 to help customers configure workflows and eliminate the duplication of work providing greater efficiencies in the processing of plans, permits, licenses, and violations.

PAPER SESSION 1: ASSET MANAGEMENT   ROOM 1D

LEVERAGING A PILOT PROJECT FOR MAXIMUM BENEFIT IN AUTOCAD TO ARCGIS MIGRATION
Kirsty Burt of Kirsty Burt GIS

Alderwood Water and Wastewater District (AWWD) is migrating from an AutoCAD GIS to an enterprise ArcGIS system. In the last year they have worked with consultants Kirsty Burt from Kirsty Burt GIS and Chris Hansen from Tetra Tech to plan the project, assess their existing data, design the geodatabase, and thoroughly test and refine the data conversion with a rigorous 6 month pilot project. The project is moving forward this year with a full data conversion, business system integration, and early implementation of key user applications.

This presentation will highlight the data conversion pilot project, and its critical role in successful enterprise GIS implementation at AWWD. Some elements that we'll cover include:

• The approach, implementation, and technical results of the conversion pilot

• Using Data Interoperability tools to create a living pilot that moves effectively into full conversion and isn't thrown away

• Leveraging the pilot project for optimum benefit, including budgeting, integration testing, development, and demonstrations

• Running parallel efforts to keep conversion and development moving simultaneously

• Keeping staff and management energized and engaged during the "back room" efforts of data assessment, design, and conversion

• Making use of ArcGIS for Local Government Data Models, tools, and templates, as well as ArcGIS Online, to jump-start and build a better project

The experience with AWWD's pilot project will be of interest to anyone working with AutoCAD and ArcGIS data, whether they are doing ongoing translations or a full conversion. The design and implementation of this pilot are also relevant to those facing the challenge of business system integration with GIS. The concept of a rigorous, multi-purpose pilot can be applied to many other kinds of GIS projects that require good design and realistic budgets.

Developing a Field Assessment Program Using Asset Management, ArcExplorer and Python Programming

Renee Quenneville of Pierce County - Public Works

Pierce County Public Works and Utilities, Surface Water Management (SWM) has many activities it performs to meet the requirements of the Clean Water Act. One of these activities is completing annual inspections of privately maintained storm water facilities to ensure these facilities are functioning properly for compliance with the National Pollution Detection and Elimination System (NPDES) permit. This process was paper based and required manual data transcription into three databases: Maintenance Connections, GPS Tracker, and ArcGIS data with little integration between the three.
 A mobile initiative was implemented in the summer, 2011 to fix the following deficiencies: limited ability to cross reference information in the above databases, no access to active work orders in the field or too vital inspection specific ArcGIS data. This presentation is to share how SWM was able to leverage mobile technology, python scripting and ESRI's Arc Explorer to streamline the inspection process for significant cost savings.

PAPER SESSION 1: ASSET MANAGEMENT (CONTINUED)   ROOM 1D

Mining Enterprise Memory   Rick Lortz of Lakehaven Utility District

A medium sized Northwest Utility District has leveraged its GIS in support of developing an asset based Maintenance Management System. Previously unmapped water service features were required before the system could be implemented. We used GIS software to create, manipulate, and validate the features. We utilized data from our enterprise billing system to create an initial parcel based point feature class, but that was only a beginning. We will discuss how we utilized our initial resources, how we modified our workflow(s), and how we became aware of unsuspected resources that ultimately led to developing a superior data layer. We share our experience in hopes that others will more fully realize and effectively utilize what they have at hand, and increase awareness of unsuspected resources in their periphery.

PAPER SESSION 2: GIS FOR ADDRESSING I   ROOM 1E

Technology and Policies for Public Safety Addressing   Donna Wendt of Wendt Consulting and GIS Services (45 mins)

Tight addresses are mission critical to today's emergency dispatch systems. The story of dispatching to the wrong address for a choking baby incident, or the retired fire chief who died while the response went to one of four duplicate addresses, illustrate the need to find and fix bad addresses. This presentation is not only for the GIS analyst, but for managers and policy makers. Using technology effectively in addition to support of fire chiefs, city managers, the GIS manager, the risk manager, and regional cooperation is all needed to make a difference and save lives.

A few new map ideas for the analysis of response patterns will be shown as well. This presentation will be of interest to GIS analysts, managers, and addressers.

Managing GIS for NG9-1-1   John Joseph of GeoComm

Soon NG9-1-1 systems will require GIS data for call routing as well as validation and location information. The National Emergency Number Association (NENA) has defined these functions as part of their i3 standards for NG9-1-1 in what they've defined as the, Emergency Call Routing Functions (ECRF) and Location Validation Functions (LVF). Both of these functions must be provided GIS data by locally authoritative sources and approved for use by 9-1-1 authorities. In this presentation we will explore the ECRF and LVF and how they will replace the traditional Master Street Address Guides (MSAG) for location based 9-1-1 call routing and location validation. We will also discuss why it's critically important that your GIS data meets or exceeds 9-1-1 MSAG accuracy. Lastly we'll focus on how you can begin to develop the methodologies and business processes to provision this data into your public safety systems today.

PAPER SESSION 3: TECHNOLOGY   ROOM 2B/C

The Mapping Renaissance: How Progressive Governments are Unlocking the Power of Location   (60 minutes(
Annie Schwab of Digital Map Products

The call for local government to improve efficiency and heighten constituent service is stronger than ever. Success in this endeavor, particularly given today's economic environment, requires cultural shifts, new technologies and a reimagining of government processes. One of the new essential tools in the progressive government toolbox is location technology, which has recently undergone a renaissance of its own. Mapping as we know it has been reinvented and is now incredibly easy to use and can be integrated into the everyday activities of local government. Municipalities need to harness this new breed of location technology to deliver on ambitious citizen expectations.

The mapping renaissance is here, and Digital Map Products' customers are leading the way by embracing mapping and seeking innovative strategies to leverage location in their operations, internal communication, citizen outreach, and agency-wide decision making. Digital Map Products' customers publish information to citizens through consumer-friendly online maps, and leverage location to unify their internal data and facilitate decisions. They are distinguished by mapping being a critical technology in their organizations, used by the vast majority of agency staff and are able to quickly adapt to the new normal of doing more with less. In our session, we'll illustrate how these Digital Map Products' customers viewed location technology in a new light, deployed mapping throughout their organizations and how each department is benefitting from location every day. We'll also cover how mapping's been transformed, the science behind maps, and provide tips for selecting this new breed of location technology.

PAPER SESSION 3: TECHNOLOGY (CONTINUED)   ROOM 2B/C

Free and Easy Web Mapping   Karsten Vennemann OF Terra GIS Ltd

Many pathways exist to publish spatial data and mapping applications on the internet. Recent years have seen a great increase of free and open source based services allowing to publish your own GIS data or even your own mapping applications online. Among of the most prominent offerings are ArcGIS online, GeoCommons, Carto DB, MapBox and Google Fusion tables. Often such services require you to register a user account and will offer their basic services for free with the option to pay for additional functionality or storage space. Often the offerings come with integrated \'easy to use\' tools that will allow to publish spatial data via a graphical user interface and without the need of operating your own web server. For certain use cases these services can replace the need to operate your own web server in order to publish your GIS data. Overall these services have been lowering the bar for many organizations and individuals that would like to get their data onto the internet. Users of the services can benefit from a simplified technical publishing process without the need for in depth technical knowledge of Web GIS components, and in addition potentially might be able to cut down (or avoid future) operating costs. However, restrictions apply what you can do (for free and otherwise) with these services and how much they allow you to customize the map application functionality the service might include. This talk explores some of the most common free and \'easy to use\' options available and will show them in live examples. The talk will conclude with a comparison of functionality, and discuss similarities, differences and restrictions of each of the services.

PAPER SESSION 4: URISA   ROOM 1F

URISA is Changing - WAURISA Will Change Too - Open Discussion   Greg Babinski of King County   (45 minutes)

Are you a member of WAURISA? If you attend the Washington GIS Conference you are a member of WAURISA for the following year. Are you a URISA member? Maybe not. Do you know the difference? Do you care?

URISA – the Urban and Regional Information Systems Association – and its chapters completed collaborative negotiations to change their relationship. WAURISA - The Washington Chapter of URISA - participated in this process. Changes facing all URISA Chapters include:
• Chapters will start paying an affiliation fee to URISA, beginning 1/1/2014
• Chapters need to nominate a representative to the new Chapter Advisory Board, which will have a direct voice with the URISA Board
• Chapters will share their membership lists with URISA
• Chapters need to provide incentives for URISA membership
• Chapters have to resolve overlapping boundaries. WAURISA has an issue with the Oregon Chapter
• By 2018, all chapter members must be URISA members.

Both URISA and WAURISA have been making changes of their own. Did you know that WAURISA has changed its membership policy? Did you know that URISA's Advocacy Agenda relies on input from Chapter members? Did you know that URISA's new GIS Management Institute will raise the professional stature of Chapter members like you?

Some people say '…all-volunteer organizations need to have a more innovative approach than the standard membership model they've used so far…' or '…board membership [is]….an old-fashioned way of doing business…'

Let's discuss what these all these issues and questions mean and possible answers.

PAPER SESSION 4: URISA (CONTINUED)   ROOM 1F

URISA Launches the GIS Management Institute   Greg Babinski of King County   (45 minutes)

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 operation and management.

This presentation will describe URISA's new GIS Management Institute. It will implement a methodology to assess the capability and process maturity of GIS operations and work with GISCI to certify the knowledge, skills, and abilities of GIS managers. The role of GIS management best practices and standards will be outlined. A proposal to institutionalize GIS related process maturity and management capability assessment will be described.

This presentation will be of value to those interested in GIS operational best practices and in the development of GIS management professional standards.

PAPER SESSION 5: CARTOGRAPHY & MAP PRODUCTION   ROOM 1E

Illustrating the Land Use/Transportation Link   Chris Behee of City of Bellingham

With ever-shrinking budgets, City and County governments continue to seek ways to maximize efficiency. Nowhere is this more true than the area of transportation planning. With millions of dollars per mile at stake, coordinating planning efforts around where people live, work, learn, shop, and play is perhaps the single most-effective way to ensure sound investment of public dollars. Understanding the complex spatial relationships between land use and transportation systems is challenging for engineering and planning professionals. Explaining these issues clearly to elected officials and the public is a critical but daunting task. This talk will highlight key data sources, spatial tools, and cartographic techniques that can help GIS staff provide a framework for illustrating the land use/transportation link.

Beyond Data-Driven Pages: .NET-Based Map Series Development   David Howes of David Howes, LLC

The ArcGIS data-driven pages functionality allows a user to create a map series using Python scripting, which works well until you want to add or remove map elements such as graphics and text. For that, .NET coupled with ArcObjects is a powerful solution. The creation of an ArcMap add-in for map series development is described. Using the data-driven pages setup information, the add-in allows a user to navigate from page to page and, for each page, generate custom figures based on the map data in view. Tools are provided to refine the layout of the figures, simplifying the map development process. The user can then save the configuration of the figures for subsequent loading as maps are viewed again and/or exported, a feature analogous to the use of multiple layouts. In presenting these capabilities, the goal will be to strike a healthy balance between concepts and technical details as well as to highlight types of functionality which, if they were implemented in Python, would significantly enhance the usefulness of the ArcPy product.

Making an Effective Map: Some Simple Cartographic Principles   Robert Norheim College of the Environment, UW

Presenting the results of geospatial analysis requires the GIS Analyst to switch from ""left-brain"" to ""right-brain"" thinking. The analyst needs to step back from being steeped in their data to think about how to communicate it effectively to someone who has never seen the data before and who may only spend a few minutes with it.

This talk will explain several cartographic principles for making more compelling maps, illustrate these with examples, and present a practical checklist of cartographic techniques and tools.

The principles include: (1) Techniques of data classification and symbolization, especially color selection, which help you choose colors or other symbols to make the message of your data as intuitive as possible. (2) Making the most important parts of your message stand out using the principles of generalization, figure-ground, balance, and visual hierarchy. (3) The proper use of map projections ensures that your data are in correct proportion and do not appear skewed. (4) Finishing touches such as titles, legends, borders and neatlines, a latitude/longitude grid, scale bars, north arrows, and labels should be used in a way that enhances the message of the map.

PAPER SESSION 6: ENTERPRISE AND FEDERATED GIS   ROOM 1D

Governing the City of Seattle\'s Enterprise GIS   Charlie Spear of Seattle Public Utilities

No two enterprise GISes are organized the same way. The City of Seattle has developed and refined a federated model. Departments house their own GIS shops, accountable to the business functions they support, to meet their specialized needs: one each for fire, police, planning, transportation and parks, several utility GISes, and so on. These departments also jointly fund a central GIS, housed in Seattle Public Utilities, which provides data, infrastructure and services that are common to all the departments. The federated model promotes standardization, reduces costly duplication of effort and gives business units control of their most critical data. This presentation will outline the essential tools the departments use to manage this central service provider, including a governing board, a service level agreement and an annual work plan.

Web-based Decision Support: Community-based Coastal and Marine Spatial Planning for Washington

Matthew Marsik of The Nature Conservancy   (15 minutes)

The President's National Ocean Policy seeks to coordinate ocean resource management and governance and coastal and marine spatial planning (CMSP) is a key process tool for implementing the policy. In 2010, the Washington state legislature passed a bill calling for comprehensive CMSP in its state marine waters. The Nature Conservancy and Ecotrust worked with the Pacific County Marine Resource Committee on a pilot project to tailor CMSP processes and technology to Washington's needs on the Pacific coast. The goal of the pilot was to develop a web-based decision support tool that facilitates multi-objective planning – in this case, Pacific County's shoreline master program. The marine planning process in Pacific County provided hands-on experience for agencies and stakeholders in advance of CMSP efforts along the entire outer coast of Washington and the West Coast region. The planning tool, Washington Marine Planner, consisted of an online data catalog, sketch tools, reports, and scenario design tools for multiple objective scenario planning. Here we can incorporate user-defined proposals based on scenario planning selection criteria that meet specific conditions of a management objective in trade-off analyses that examine proposals across multiple objectives. We incorporated interactive scenario planning and tradeoffs across management objectives to provide a viable mechanism for illustrating participatory CMSP in Washington. Currently we are working with the state agencies to redevelop the planning tool to fit the state's needs. We are in the initial stages of tool design and development and expect a working online data viewer and data portal by June 2013.

From Proprietary to Open Source – The Road We Travelled to Renovate an Enterprise GIS System

Xuejin Ruan of Pierce County GIS

QuickView, one of Pierce County's critical enterprise systems that were built on top of legacy technology stack including ArcSDE, ArcIMS and ColdFusion, has 7 subsystems that serve many internal agencies including Planning and Land Services, Auditor's office, Utilities, Water and Sewer, and several external agencies. It is a useful system, and it has had a good run. However, as time goes by, with its technology becoming outdated, it not only needs a face-lift to improve its user interface, but also a total redesign and re-architecture to better boost performance. Pierce County GIS decided to renovate this legacy system with an Open Source technology stack: PostgreGIS + TileCache + Geoserver + OpenLayers + Extjs4. The new system greatly facilitates maintenance by consolidating all the sub-systems into one; it provides much better performance with the new TileCache basemap and new mapping engines; Extjs4, the industry leading JavaScript Framework, also provides a rich and modern UI that's more appealing to our users.

In this presentation, we will talk about:

1) The architecture and technology stacks of the legacy system, and the bottleneck that demands us to phase out this legacy system;
2) The new technology stack used to renovate the system and the reason for our choices;
3) What we've gained from the new architecture and the new design.

PAPER SESSION 7: GIS FOR ADDRESSING II   ROOM 1F

Address Repositories - Benefits, Challenges and Future Direction   Jason Matthiessen of Pierce County GIS et al (90 min)
This will be a panel discussion of the benefits, challenges and future direction of address repositories, with a focus on coordinating the contribution and involvement of multiple jurisdictions. Addressing in many places has developed in independent and often isolated "silos" that serves only the specific business function of the department or group that owns and maintains it. There has been a movement by many organizations to transition addressing to an enterprise environment. Scrubbing the many address databases, conducting field work, standards implementation and researching invalid address records are only some of the work to be done to create an address repository. Other facets of this process are more subtle but sooner or later must be accounted for to make the address repository successful.

PAPER SESSION 8: TECHNOLOGY   ROOM 2B/C

Incorporating GIS in Your Daily Workflow Throughout Your Public Asset Management System
Matt Harman of Cityworks
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.

Esri Maps for Office   Scott Moore of Esri   (60 minutes)
This new, powerful add-in for Microsoft Office brings the capabilities of Esri's mapping platform to Microsoft Excel and Microsoft PowerPoint users. With the add-in, users can easily create interactive maps of your organization's data, enabling you to see new patterns and make your presentations more impactful. This presentation will provide an overview and demonstrations of these capabilities

PAPER SESSION 9: GIS FUN   ROOM 1D

Real Life Tales of a Treasure Hunter   Dal Neitzel of City of Bellingham   (60 minutes)
The world of treasure hunting has changed significantly in recent years. Although small scale treasure hunters still comb the beaches with metal detectors, large scale hunting requires the use of many tools and the collection of a great deal of data. Even a simple deep water shipwreck search will typically employ sonar, magnetometer, sub-bottom profiler, bathymetry, date, time, speed and position, video and photography. The data is collected, stored, analyzed and interpreted. If a likely target is acquired additional passes will be made in an attempt to obtain better data on the specific target of interest.

Join Dal Neitzel, seasoned treasure hunter, as he uses images and video to present four examples of treasure hunts including the history of the four targets, the physical clue gathering process, the team selection and their specialties, the expected terrain, the tools employed, data collection techniques and the project\'s outcome. One of the four treasures discussed has yet to be located. A short poem contains all the clues to its whereabouts. Come get a copy of the poem and get started on your own hunt for a million dollar chest of gold and jewels.

This presentation will be of interest to any GIS professional who seeks to understand one of the many ways in which GIS technology is employed on an ever growing commercial canvas.

GIS Historical Snippets and Predictions for the Future   Donna Wendt of Wendt Consulting and GIS Services
We've come a long way, baby, from mainframes, minicomputers, PCs, to the Internet and hand-held mobile computing. How did we manage GIS 40 years ago? A few documents from the census bureau, Esri's hand written technical support forms for Arc/Info version 3, the hardware and software that made it happen, reveal a unique look at a developing science and industry. In 1985 the NWCAMA headline was "Panels of Local Users Discuss Data Exchange Issues." We have conquered some technical issues, but regional GIS is still under development. Project management basics are as applicable today as back then. Where is this all going? Future predictions for the Power of Place are made.

PAPER SESSION 10: MOBILE GIS   ROOM 1E

Low-Cost Mobile Solution for Fire Hydrant Inspections

Greg Heintz of Pierce County GIS

After employing Pierce County GIS to inventory fire hydrants via GPS data collection, Central Pierce Fire District in Pierce County, WA needed a low-cost mobile solution for fire hydrant inspections. The old inspection process involved documenting fire hydrant conditions and maintenance items by filling out paper forms and entering this data into the computer back at the office. This process was cumbersome and prone to user input error while transferring data from paper forms to the computer. In addition, the fire hydrant forms were organized in sequential order based on unique ID's, but these hydrants' physical location didn't follow the same unique order in physical proximity to one another, which caused an unsystematic inspection process by randomly jumping around from hydrant to hydrant. In an effort to simplify and expedite the hydrant inspection process, Pierce County GIS developed a low-cost inspection process for use in ArcPad 10 on Trimble's Juno 3B mobile device. First, to simplify data input and expedite the inspection process, attribute domains were created in ArcCatalog. Next, utilizing ArcGIS's ArcPad Data Manager, the user can check out geodatabase data through a wizard for editing in ArcPad on the Juno 3B mobile device. The field inspector can now easily edit hydrant data on the Juno 3B handheld device without carrying around paper forms. Finally, at the end of the workday, a check in wizard is used to import the updated data into the hydrant geodatabase. This low-cost mobile solution eliminates a once tedious two-step paper form process and also eliminates the need to inspect hydrants in sequential order by inspecting them in a systematic fashion according to their geographic location.

PntTrax - A Simple, Open Source, Web Application for the Persistence of Field Collected Data

Matt Kenny of RIDOLFI Inc.

This internally-deployed, open source project is born out of the need to provide project managers or other decision makers with easy access to the best available representation of field collected data (GPS, field notes, aerial markups). A major goal of this project is to increase internal efficiency by unifying these data in a single location, and presenting them in an easy to use interface, negating the need for assistance from a GIS analyst. Data can be queried and exported via KML, for transmittal to a client, or for use by staff both internally or on mobile devices. By using the Django web framework, as well as a suite of other open source geospatial libraries, an internal application could be rapidly prototyped and deployed. This case study will focus on an overview of the problem, the open source tools used, and the use cases addressed. Audience members should gain an understanding of how simple open source tools can be easily leveraged in their own organizations to create applications that empower decision makers to make decisions and data stewards to maintain high quality data.

Developing a Surface Water Asset Inventory for Muncipalities

Scott Reese of City of Seattle

Seattle Public Utilities (SPU) owns and maintains nearly 120,000 surface water assets within the City limits. These assets which include catchbasins, ditches, and culverts make up a large part of the City\'s drainage backbone. With the issuance of the NPDES Stormwater Permit in 2007, SPU was required to have an accurate GIS inventory of these assets. In response to the Permit, the Surface Water Asset Mapping Project (SWAMP) was initiated to address the mapping requirements. Using a combination of ArcGIS, Trimble GPS and Maximo Asset Management software, the SWAMP project began in 2010. With 30% of the City surveyed as of the end of 2012, the project has been successful in demonstrating how to integrate cutting-edge GPS and GIS technologies at a low cost.

PAPER SESSION 11: TECHNOLOGY   ROOM 2B/C

The Path Not Taken; A primer to PostGIS   Robert Bernier of Earth Economics   (60 minutes)

People have often thought that leveraging GIS technology implied learning how to work a menu driven, proprietary, industry standard, and often expensive, application. While the ability of rendering data into the desired graphical representation is obvious, equally important is the ability to understand alternate means of expressing GIS relations thus allowing us to ponder edge cases that would not otherwise be easily expressed, let alone resolved.

There is another way to explore and understand GIS issues: these last few years have not only seen an explosion of capacity and features on the frontend applications but backend, i.e. the database, as well.

This talk introduces you to the spatially enabled, opensource and free database, PostGIS.

The following concepts will be covered and demonstrated:
- Installation of PostgreSQL
- Enabling GIS
- Understanding the GIS functions used in PostgreSQL
- Getting results by executing SQL
- Loading shapefiles
- Examples

Working with a database can be no more difficult than using a graphically based application. However, it does require a different way of looking at your data. The only real challenge is shifting your viewpoint from one way of look at GIS to another.

GIS Modernization Project: Snohomish County Assessor & Sidwell Case Study Tony Pellettiere of Sidwell
Tired of manually verifying if your parcel, addresses and permits are all in sync? The Sidwell Company is the leader in providing Land Management solutions to local government. Come visit with Sidwell to learn about their products and services and how you can streamline your land management workflows. This presentation will feature a guest speaker and project example from the Snohomish County Assessor's office to discuss their land records modernization project.

PAPER SESSION 12: GIS BUSINESS PANEL   ROOM 1F

The Lone GIS Professional: Running Your Own GIS Business   David Howes of David Howes, LLC leads a panel (90 minutes)
Do you run your own GIS business as a sole practitioner or with a small group? Would you like to? It can be both rewarding and challenging and hearing about the experiences of others in the same situation can be helpful. In this panel session, four solo practitioners who refer to themselves as lone GIS professionals will talk about how they came to be working on their own, their business focus, the challenges they face, the benefits, how they market themselves and how they define success as it relates to operating a GIS business. Their goal is to provide useful information for their audience and to invite their audience to contribute equally valuable advice and feedback. Ideally, audience members will be able to relate to the experiences of the presenters and either make positive changes in their own solo practices or be encouraged to branch out on their own. Some aspects of the discussion will have applicability beyond the world of GIS, but, in keeping with the nature of the conference, the focus on matters specific to GIS will be strong.

Don't forget!   The fun run is 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 13: DATA DEVELOPMENT I   ROOM 1D

ModelBuilder Case Study: Associating Traffic Signals to Roads Eadie Kaltenbacher of Kitsap County

Kitsap County's 9-1-1 dispatch center allows for advanced routing by assigning "impedance" values to road segments based on whether these roads have a traffic restriction at their nodes. Our traffic restriction data (stoplights, caution lights, stop signs) is stored in a point feature class. Learn about the model we created to automate the association of the point dataset to the appropriate road segments.

Census Data Makeover: How King County Spins GIS Gold from ACS Straw   Mary Ullrich of King County

The Census Bureau\'s annual release of American Community Survey (ACS) five-year estimates contains a wealth of raw demographic information in such categories as language, poverty, income, commuting to work, education, health insurance, etc. In order to effectively use the data in a GIS environment it must be manipulated to create enhanced tables that contain, for example, margins of error, "real English" field names, and a key field to establish a relationship with census tracts. Also, these tables must be properly documented to ensure data integrity. The Census Bureau provides some tools to prepare ACS data for GIS use, but King County\'s business requirements have dictated a custom approach. We have developed our own efficient and repeatable workflow for the annual transformation of new ACS data into GIS-ready tables.

Proposed USACE Dredge Sampling and Analysis Plan Craig Hanson of Windward Environmental LLC

In Spring of 2012, the US Army Corps of Engineers released a request for proposals to ""augment District/Division expertise with technical and logistical support required for... navigation projects and for other environmental services."" Windward Environmental submitted a proposal which included an example sampling and analysis plan (SAP) for a proposed maintenance dredging of a segment of the navigation channel in Seattle\'s Lower Duwamish Waterway. The SAP presents the rationale and procedures for chemical and biological sediment characterization of the materials proposed for maintenance dredging, and its primary objective was to describe the sediment characterization activities necessary to obtain sufficient data to enable a decision regarding the disposal of dredged sediment and to determine the composition of the sediment that will be exposed by the proposed maintenance dredging activity.

The SAP included a Conceptual Dredging Plan and Sediment Evaluation Scheme that demanded modeling the waterway sediment surface and proposed dredge depth surface in GIS, calculating the estimated volume of dredged surface and subsurface sediment, and using those calculations to develop surface and subsurface dredge material management units (DMMUs) based on maximum volume requirements for each sediment type. We were then able to recommend sediment characterization sampling locations for evaluating sediment quality and determine disposal treatment.

PAPER SESSION 14: BUSINESS PROCESS IMPROVEMENT   ROOM 1E

Using Digital Signatures in Washington State Agencies   Brad Hofman of Snohomish County

The traditional/current wet stamp and signature signing ceremony for Professional Engineers and professional Land Surveyors is essentially a 19th century business process and attestation leading to the assignment of risk. The need to attest to the acceptance of risk hasn't changed, but the available signing tools are very different in the 21st century. In this presentation I'll describe the road Snohomish County Public Works traveled to arrive at our current capabilities to digitally sign and electronically publish and manage contract construction documents, including critical components for our project, near- and long-term goals, return-on-investment calculations, policies and procedures, etc. The focus of this presentation will be on engineering record documents, but the reality is that digital signatures are useful at all levels in Washington State local government for just about anything that now requires a wet signature. Digital certificates can also be affixed to many different types of data to prove that the data are unchanged since signing, leading to lower public records request fulfillment costs and more efficient enterprise content management. In a nutshell, a digital signature/certificate ensures that there have been no changes to a file after it has been signed-not a single bit has been changed-a required validation for record electronic documents. Washington State took a leadership role in this area in 1997 and enacted the Washington Authentication Act, Chapter 19.34 RCW. This effort was a business improvement project with significant IT/IS components, and so a defendable business case, a well-crafted project proposal, serious research, a focused project scope that includes the wider implications, sponsorship from stakeholders, commitment of resources and a well-designed testing and acceptance process are all critical parts which have led to a successful outcome.

PAPER SESSION 14: BUSINESS PROCESS IMPROVEMENT   (CONTINUED)   ROOM 1E

Meeting Utility Locate Legislation at Seattle Public Utilities with Web Services   Steve Beimborn of City of Seattle, SPU
New legislation in Washington State introduces onerous penalties of up to $5000 per occurrence for failure to promptly locate utility infrastructure. In some cases, the legislation allows utilities to perform this function by sending a map to the excavator, rather than visiting the site to apply paint.   This talk outlines SPU's innovative efforts to efficiently comply with the new legislation by using GIS data and technology.

PAPER SESSION 15: FEMA HAZUS   ROOM 1F

Using Hazus for Planning and Emergency Response   Kelly Stone of FEMA Region X
This session will provide an overview of Hazus, which is used in conjunction with ArcGIS to estimate losses for flood, hurricane, earthquake, and tsunami (in development) hazards. Hazus can be used during a disaster event or to plan for a disaster event which will enable communities to respond quickly and pre-position resources. We will discuss what is required to update Hazus with local data and will explore the flood and earthquake modules. The session will feature demonstrations of the Hazus software including viewing Hazus datasets, inputting earthquake and flood data, as well as viewing loss output. We will also discuss the best way to display Hazus output and provide examples of output for various audiences. If you are interested in how GIS can be used for emergency planning and disasters this session is for you!

PAPER SESSION 16: TECHNOLOGY   ROOM 2B/C

King County GIS Center's GIS Training Express   Greg Babinski of King County
What is the most important asset in your GIS Program? Data? Hardware? Software? No, it is your staff of trained GIS professionals. This presentation outlines how the King County GIS Center's GIS Training ExpressTM program goes beyond just learning how to use software tools, and takes training to a new level – focusing on putting all your GIS tools to work in a typical business or local agency context.

This presentation will describe how the KCGIS Center developed its training program, based on a systematic curriculum development process that include multiple GIS user surveys, categorization of learning needs by GIS user types, and formulation of an integrated approach to enhancing end-user productivity. King County's unique week-long GIS AcademyTM will be described. KCGIS Center's extensive network of training partnerships will be reviewed. KCGIS training is available via multiple training delivery options from classroom based in Seattle to onsite in your facility.

This presentation will be of value to those interested in learning about how targeted GIS training can enhance the productivity of GIS, improve utilization of GIS within agencies and companies, and advance individual GIS users careers.

An Introduction to Geocortex and Building Esri-based Mobile and WebGIS Applications   (45 minutes)
James Van Dyk of Latitude Geographics Group Ltd.
Hundreds of organizations rely on Geocortex by Latitude Geographics to simplify building and maintaining ArcGIS Server mapping applications using Silverlight and HTML5. In this introductory session learn how Geoocortex accelerates application deployment and see a live demonstration of the out-of-the box tools that ship with Geocortex. Learn about recent developments and cutting-edge features like disconnected editing on tablet devices, integration with ArcGIS Online web maps, and more.

PAPER SESSION 17: GIS DISASTER PREPAREDNESS AND RESPONSE   ROOM 1D

Provisioning Data for Emergency Preparedness/COOP Brad Hofman of Snohomish County
Continuity of Operations Plans start with governance and succession (leadership and event management). However, it is important to do \"production\" work soon after an event is declared. Many of the Homeland Security/FEMA/COOP scenarios that our agency is designing for stipulate that the Campus (and alternate) data centers are out of commission during a COOP event, including LAN and WLAN services. Public Works is pre-positioning critical and operational data at PW COOP alternate sites so we can do cartography, science, engineering, analysis and administrative tasks as needed to support the response ("vital records" are outside the scope of this discussion). We will also pre-position technical workstations and applications. We also assume minimal infrastructure: emergency generator power will be available, as well as local WiFi. These systems should be designed as stand-alone (for service during a COOP event) and stand-by with full connectivity, for normal business operations. The choice of which data to preposition is critical, and a consensus is difficult to achieve especially between Departments with different lines of business. Enterprise application data are backed up and replicated as a standard business practice, but enterprise applications usually live in the data center and are not hardened or replicated. So, when the data center is taken over by zombies who start consuming fiber and NetEngs...

Visualizing the Impacts of Natural Disasters: Hurricanes Irene & Lee in the Hudson Valley
Collin Hodges of New York Bicycling Coalition
Maximilian Dixon, University of Washington Institute for Hazards Mitigation Planning
Undertaken as part of a public outreach program sponsored by the Hudson River Estuary Program at the New York State Department of Environmental Conservation, the goal of this project was to collect, synthesize, and map data that illustrated the impacts of Hurricanes Irene and Lee on the Hudson Valley region of Upstate New York. The project involved considerable cooperation with a variety of public agencies and private entities to coordinate data collection efforts, and resulted in a set of intuitive and comprehensible GIS maps. These maps allowed for a greater public understanding of the effects of the two storms on various infrastructure systems, environmental processes, and social dynamics. This presentation will not only provide an example of a mapping process that provided valuable and cost-effective final products, but will also highlight the difficulties, challenges, and opportunities involved in utilizing and mapping natural disaster-related data for public consumption. In addition, although this effort took place in New York State, the process and results combine to create a case study that is applicable to a diverse set of municipal mapping initiatives. It addresses the "Power of Place" by showcasing the importance of creating visualization materials that allow for greater public understanding of the past and potential impacts of natural disasters on their communities.

Infrastructure Emergency Preparedness Mapbook   Gene Wisemiller of City of Everett, Public Works, Utility Mapping

At 10:54 am PST on February 28, 2001 Western Washington was hit by the Nisqually earthquake.
Although the effect on Everett was not as severe as in other parts of the state, it set in motion an effort to be ready for the next and possibly worse earthquake. This presentation will show the steps taken by City of Everett Public Works in that effort.

The first step was to analyze how City of Everett Public Works responded to the Nisqually earthquake.   In the first few hours after the quake, there was a lack of consensus on exactly what needed to be checked, this led to some duplication of effort. We needed to define and prioritize our Critical Infrastructure.
Next, it had to be figured out how to more effectively respond.   We noticed that each department was checking their own areas, often ignoring equipment from other departments that might be located nearby. An initial "rapid windshield survey" was considered to be the best way to determine an initial damage status. As envisioned this initial survey could be done by whatever personnel was available, with more highly skilled people held in reserve for situations requiring those skills, such as repairs.

Finally, we needed to create tools to implement the rapid windshield survey. Once the determination of what infrastructure was critical had been made, it was determined how best to present the information.   Arc Map data driven pages were used to create a 1" = 700' Atlas of the city and the transmission line corridors. Determinations were made on how the information could be displayed, distributed, updated and stored so it would be ready when the next quake hit.

PAPER SESSION 18: GIS DICK THOMAS STUDENT COMPETITION   ROOM 1E

City of Bothell Water Infiltration Modeling
Christopher Wright of University of Washington Bothell -Enviro Science
Student Advisor/Professor's name: Dr. Santiago Lopez

Water infiltration is an important component to understanding, runoff, erosion, and groundwater recharge. Many factors influence how and where this process takes place. In urbanized areas, growth and development are increasing the amount of impervious surfaces and in turn, decreasing the amount of available area for water infiltration. The city of Bothell is interested in modeling water infiltration within their city planning area to understand the relationship with storm water and runoff. This project incorporates the city of Bothell's geodatabase and data provided by the USGS in a Multi Criteria Evaluation (MCE) within a GIS framework to determine sites within the city's planning area that could be suitable for water infiltration. Soil water infiltration is determined by the rate and duration of the rain or water event along with the physical properties of the soil, slope, and vegetation. Reclassification of soil data characteristics, slope, land use and land cover allowed me to assign infiltration percentages based on primary literature. Five MCE models were run and the results were reclassified and analyzed to determine area sizes. Results showed that suitable water infiltration areas range from 6-24% of the total planning area depending on how the criteria are weighted. The identification of water infiltration areas will allow city officials to implement community-based programs to increase water infiltration in areas with high priority and determine where on-site water infiltration should be employed for new development projects decreasing the demand on existing storm water infrastructure.

Assessing the associations among green space type, structure, general mental health, and general health using GIS and FRAGSTATS
Abdullah Akpinar of Washington State University
Student Advisor/Professor's name: Kerry R. Brooks, PhD

Today many people suffer from mental health problems such as depression and anxiety. The prevalence of depression and anxiety are 16.1% and 12.3%, respectively. The WHO reports that mental health disorders are expected to be one of the major contributors to illnesses by 2020. Another important phenomenon that affects/decreases mental health is stress, which is estimated to affect 75-90% people. In this study, "General Mental Health" was adopted to describe stress-depression-anxiety. Previous research reveals that green space (GS) has positive effects on general mental health (GMH) and general health (GH) and GS may mitigate GMH problems and improve GH. However, research has not demonstrated which types of GS are better to mitigate GMH and improve GH. Therefore, my project is about identifying appropriate green environments using existing nationally collected survey and geospatial information.

Objectives of my project were to fill the gap in existing knowledge in the literature and create recommendations for policy makers/planners/designers regarding where/how to design, create, preserve or restore GS that people can reduce GMH problems and improve GH. This research was conducted at zip-code levels in Washington State employing NLCD and BRFSS data. The purpose was to explore relationships between types and structures of GS, and people`s GMH and GH, specifically addressing questions of whether general specifications of GS are affirmatively associated to GMH and GH. This was done by adopting a three-tiered, hierarchical approach using GIS and FRAGSTATS: first examining relationships between unitary GS (all GS types) and people`s GMH and GH; secondly, assessing relationships between specific types of GS, GMH, and GH; and thirdly, assessing relationships between structures of significant GS and GMH and GH. Results showed that urban green space and forest positively; rangeland and agricultural land negatively affect GMH and GH; less fragmented, less isolated and well-connected GS positively affect GMH and GH.

PAPER SESSION 18: GIS DICK THOMAS STUDENT COMPETITION (CONTINUED)   ROOM 1E

Utilizing Georeferenced Data and Technologies for Crime Prediction in a Block Group in Spokane, WA
Solmaz Amiri of Washington State University
Student Advisor/Professor's name: Kerry R Brooks

One of the main desires of human beings is to live in crime-free environments. The design of the built environment can influence fulfilling this desire. One of the main qualities of physical configuration postulated to promote freedom from crime is natural surveillance (NS). NS is facilitated by physical design that offers residents/guardians opportunities to survey non-private spaces of their residential settings. Previous research have acknowledged a relationship between NS and the distribution of crime incidents, hypothesizing that crime is more reduced in eye-policed streets. However, studies have measured the degree of NS in two ways: either objectively in two dimensions without taking into consideration the height and surveillance characteristics of surrounding structures, or subjectively based upon retrieved researchers'/residents' judgments of whether or not a dwelling can be seen from other dwellings.

This study utilizes georeferenced data and technologies to expand the objective approach into the 3rd dimension. To this end, in a residential neighborhood, data on the position and size of openings (i.e. doors, windows, etc.), vegetation and visual barriers are gathered from geo-referenced oblique aerial imagery and complemented by site surveys. Openings are enumerated and mapped. Then, ArcGIS 3D Analyst tools has been utilized to create a three dimensional model of this site. Sight-lines are generated from each opening to openings in all other residential structures on the same street segments. Sight-lines that are too distant or that are obstructed by vegetation and barriers are removed and intensity of NS for each opening are calculated. Next, the entry point of burglars for the actual burglarized dwellings from the Spokane Police Department reports are compared to the NS intensity for each opening. A multi-level analysis will reveal which openings might be more targeted by burglars, and whether significant mean differences exist for NS between burglarized and non-burglarized housing units.

King County Cedar Grove Road Area: Odor Identification and Sourcing
Melissa Kelly of Green River Community College, GIS Department
Student Advisor/Professor's name: Sabah Jabbouri

For well over a decade, residents in the Cedar Grove Road area in King County have been plagued by nuisance odors in their neighborhoods. A number of lawsuits and penalties have yet to resolve the situation.
At the center of the situation are two Cedar Grove Composting (CGC) sites. Local residents are convinced that the CGC sites are the source of the odors. However, a reclamation facility and the King County Regional Sanitary Landfill lie next to CGC, thereby complicating the identification of odors.
The regulatory agency responsible for the situation is the Puget Sound Clean Air Agency (PSCAA). Unfortunately, they have been somewhat ineffective because they are required to be accurate in any indictments they may make. In addition, CGC claims that they are not the source of the odor complaints but instead point to the county landfill and the materials site next door.

CGC requires and deserves accurate and timely odor source identification. In collaboration with Atlas, a non-profit organization for the Four Creeks Unincorporated Area Council (FCUAC), and local residents, the objective of this project is to develop a system to effectively identify the source of nuisance odors.
Once originated, odor particles are at the effect of meteorological forces and physical blockage including vegetation, topography, and man-made objects. Wind, humidity, and temperature are among the forces that influence the direction and disbursement of odors. The outcome will be to perform multiple analyses including mapping odor complaints and the facilities in question, topography analysis, and Spatial Analyst modeling using weather station data for various weather parameters. Geostatistical Analyst will be used to produce predictions of weather phenomena for the unsampled locations. Hot Spot analysis will be generated using all complaint addresses. Several GIS maps will be created for comparison of days with and without odor complaints.

PAPER SESSION 19: GIS PROJECT HEADACHES   ROOM 1F

GIS Project Headaches/Lightning Talk: Fiber Optic Chasing   Dorrel Dickson of Tulalip Tribes
Over the last decade, miles of underground fiber optic conduits have been constructed in Quil Ceda Village, but … no records were kept of their numbers or locations. Information about the conduit network was kept in the heads of a few key employees. Most of those employees have moved on or are retired. In 2012 a project was started to survey every fiber optic conduit. The information was to be recoded in a GIS database. After months of work, the project was 95% complete with over 33 miles of conduit mapped and 120 vaults opened, inspected and documented when the project was deemed too dangerous and abandoned.

A Short History of Disruption (Please Turn on Your Cell Phones)   Greg Babinski of King County
Disruption is a powerful natural occurrence. By their nature most people strive to avoid disruption. But history shows that disruption makes us what we are, who we are, and why we are where we are. Disruption is bad if it means I cannot finish this chapter of my book in peace. But disruption is good if it leads to positive change.

Disruption is also a factor in innovation and technology development. Laziness is also a factor in innovation. Our goal as GIS professionals who attend conferences should be to return to our jobs and be disruptive. If we are not coming back with knowledge and ideas about new technology or means of applying it that will accommodate the instinct towards laziness, we will have failed.

And history shows that disruption will be forced on us. This presentation will include insights into the role that GIS can play in an inevitably more disruptive world, and will take the audience through 2 million years of disruption to today, with a call to be disruptive.

GIS Project Headaches/Lightning Talk: The JAMP Chronicles in Three Short Episodes Karl Johansen of Port Madison GIS
The City of Seattle's original GIS implementation – the 1989 Joint Automated Mapping Project (JAMP) – experienced all the usual challenges of a large, multi-agency technology initiative….and much more. Before a pilot was even complete, the project became embroiled in a high-stakes, Federal lawsuit when the city's GIS consultant terminated its map conversion subcontractor. Many of us on the front lines of the litigation marvel at the drama, posturing, righteousness, theatrics, and appalling waste of it all. Try (if you can) to follow this fast-forward account of a major GIS program startup in three sobering installments:
• All Systems Go: the project setting including a cast of thousands clamoring for GIS
• Into The Void: the lawsuit minefield
• Recouping and Regrouping: bandaging the wounds, recovery, stabilization (lessons learned??)

and conquer approach for solving orientation dominant routing problem. The algorithm has been prototyped and tested with both real world data and randomly generated data sets, and achieved satisfactory results.

PAPER SESSION 20: TECHNOLOGY   ROOM 2B/C

Finding Patterns and Relationships Using ArcGIS Online Leah Saunders of Esri   (60 minutes)
ArcGIS Online provides a growing set of analysis tools for finding patterns, assessing relationships and making decisions. Learn about some of the newest tools available and how to leverage these to answer spatial questions and make important decisions using more than a simple visual analysis.

Mapping & GIS: Field to Finish   Mark Congdon of Geoline
This session will focus on mapping and GIS "Field to Finish" principles. GeoLine has worked with many customers who do a great job doing professional data collection. Then, there's the other group that processes that data and publishes it in a variety of ways. Those two groups though are often just that…two groups. We'll spend 30 minutes walking you through a project from data collection to published data. And, of course we'll save time for your questions."

PAPER SESSION 21: DATA DEVELOPMENT II   ROOM 1D

Bridging the CAMA-GIS Gap Using the JavaScript   Masao Matsuoka of Thurston County, Geodata Center   (60 minutes)
Computer-Assisted Mass Appraisal System (CAMA) and GIS tools are essential to appraisers' daily work. However the ability for both systems to work together was very limited due to the lack of a live-link between the two systems. Instead they relied on the process of exporting data out of the CAMA system and importing into GIS. As the result it was not possible to view up-to-date appraisal information stored in CAMA on the GIS map, nor possible to update CAMA data from the map interface. As appraisers began to appreciate more the power of GIS, there was a growing demand for a system that can bring CAMA and GIS together with live-links so that user could work with both systems from a single map based interface to query and update data. As a response, Thurston County Geodata Center has created the Appraisal Mapper website taking advantage of the latest web technologies available such as ArcGIS JavaScript API, ArcGIS Server and Windows Communication Foundation (WCF). The ArcGIS Server brings the GIS data to the web, the WCF brings the CAMA data to the web, and the JavaScript brings them together into a single web interface. Now appraisers can spatially select parcels on the map and view the corresponding CAMA data, or query CAMA database based on the appraisal information and display corresponding parcels on the map. Once the CAMA data is displayed, user can update the information right in the website. There is no longer need to go back-and-forth between CAMA and GIS applications.

A Divide and Conquer Algorithm for Multi-stop Routing   Zongxiang Yang of Microsoft Corp
Multi-stop routing deals with many stops and attempts to achieve the optimal ordered routing sequence with the shortest total distance. This presentation introduces a divide and conquer strategy to break a larger problem into smaller problems for multi-stop routing, thereby making previously computationally intangible problem practically feasible even for routing with very large number of stops. The specific aspects enabling its practical application consist of: recognizing and taking advantage of anchor points; recognizing and the use of diversion points; and an orientation guided, distance based divide.

PAPER SESSION 22: GIS REPORTING AND COMPLIANCE   ROOM 1E

Supercharge your GIS reporting skills with SQL Reporting Services and Reportlab, a python plug-in
Don Burdick of City of Bellingham
This presentation will be an overview of two reporting tools available that may be unfamiliar: SQL Server Reporting Services (SSRS) and ReportLab. Summary reporting and feature listing/filtering will be demonstrated with SSRS examples. SSRS allows for direct SQL querying capabilities on a feature class in a report form. These reports can be generated without an ArcGIS license through a web interface. Once established, users can run reports looking at live data on their own without taking up your valuable time.

Additionally, on-the-fly report generation will be demonstrated with a third party plug-in for Python, called ReportLab, which creates formatted reports with the final output being a PDF. Simple examples will be covered showing how reports are generated from the City of Bellingham's web mapping application as a geoprocessing service running on ArcServer. The reports gather information related to survey monuments from several databases including lengthy history information, many photos, and all scanned related documents in one PDF generated in under 6 seconds. The presentation will provide information on how to get started using the tools along with some tips, tricks and issues to be aware of.   You can preview some of the sample reports at http://goo.gl/g9WH4

Regulatory Compliance Effects on a Utility GIS Data Maintenance Team or How a Small Staff Managed to "Smell Victory"
Elaine Eberly of City of Seattle, SPU
The Drainage and Wastewater (DWW) GIS data depicts a wide array of assets owned by Seattle Public Utilities, other agencies or private entities. Early in 2012 the Draft Permit Language for the 2013-2018 NPDES MS4 Permit indicated that all connections to the MS4 authorized by the City of Seattle "be mapped within six months of receipt". This change to the language would precipitate an immediate prioritization level change in the update of the DWW GIS data (over 15,000 records at the time) as well as would transform the makeup of the team responsible for the work. Planning for budget, additional staff, and workspace and equipment needed to occur quickly; the work queue needed to be established. (Huge sigh, everything appears to be under control.) WHAT??: New changes to the Underground Utility Locate Statute allowing the WA State Utilities and Transportation Commission to collect and analyze compliance and damage data will be enforced beginning January, 2013. Additional regulatory compliance work and not part of the original scope forced the work unit to

PAPER SESSION 14: GIS FOR LANDUSE PLANNING   ROOM 1F

Where to Grow? Identifying Suitable Locations for Urban Agriculture in Federal Way, Washington
Christopher Walter of Forterra

Urban agriculture, primarily in the form of community gardens, is increasingly being recognized by planners and policy makers as an important strategy for addressing some of the greatest challenges facing cities today: namely, increasing rates of poverty, hunger, unemployment. Here in Washington, communities across the state are turning to urban agriculture to achieve interconnected social, economic, and environmental goals. In addition to promoting public health by providing access to affordable and healthy food, urban agriculture contributes to local food systems and local economies by offering new opportunities for community development and job creation. And, as population growth continues to be focused in already developed areas, city farms and community gardens provide a vital, urban connection to the natural world.

This session will describe a recent land inventory and suitability assessment for the city of Federal Way Planning Department which identified public property likely suitable for community gardens, urban farms and food forests. A wide range of criteria was included in the assessment to both identify potential sites and assist with future decision making--from land cover, slope and zoning to accessibility, surrounding residential density and household income. We will describe the methodology, data and analysis techniques utilized as well as the challenges, discoveries and final results.

Understanding the Dynamic Effects of Flight Patterns on Land Use Matt Paskus of WWU Geography

In recent years, airlines have introduced a new business model, shifting to smaller regional airports in order to reduce costs, while at the same time offering convenience for air travelers. This shift, while easing demand constraints at larger airports, will increase the number of flight segments above Puget Sound altering the land uses below each new segment.
The airline industry is highly speculative, and the economic drivers associated with the airline industry are dynamic. It is projected that commercial jet traffic will increase annually between 2%-5% through 2050. The increase of jet aircraft traffic and recent residential growth are beginning to conflict. The cities of Everett, Seattle (Boeing Field) and Bremerton are interested in growing their aviation economies. This adds additional layers of complexity in land use mitigation in multiple regions without any one region requiring the consent of any bordering region.

This study will assess the land uses and property values which rest below the flight path of some of these new flight segments. The geographical focus for this study is centered in Whatcom County, Washington. BLI is one of the fastest growing airports in the United States with close proximity to the metropolitan areas of Seattle, Washington and Vancouver, Canada. It is the researcher's hypothesis that land use impact outside of airport boundaries is insufficiently accounted for in current use-models and will propose an expanded model to account for this.

A Component and Tool Based GIS Modeling Approach Jie Chen of Pierce County - Public Works   (45 minutes)
The Development of Pierce County Land Use Inventory and Allocation Model (LUIAM)
Understanding existing and future land use is a necessity in the field of urban planning and infrastructure delivery. Using traditional methods, this is a time consuming and costly process. LUIAM compiles and builds a base year land use inventory. Using an allocation methodology it forecasts future land use based on user inputs and various policy choices.   It's implemented through a component-based and task-oriented framework with the assistance of customized GIS tools. The entire framework adopts an open and flexible structure by breaking many complex land use planning components into smaller tasks, which could be resolved quickly with customized Python scripts executed through Arc/GIS ModelBuilder.

The modeling concept of LUIAM leverages heavily on decades of our work in research, development, and practice in the fields of urban planning and computer programming. The six major modeling components are further broken into sub-tasks. These six major components are: Current Residential Land Use Inventory, Current Employment Inventory, Pipeline Analysis, Redevelopment Activities, Buildable Lands, and Future Parcel Allocation.

This new approach has many advantages compared to the traditional ones. First, each component/sub-task is independent of each other. Therefore, old one(s) could be easily replaced by new one(s) without affecting the entire modeling structure. Second, developing a solution for the small component/task is much easier with less programming effort. Third, each tool could be applied independently to a sub-task or be linked together to tackle a major component consisting of several sub-tasks. Last, it enables users to view and validate the modeling results immediately. Clearly, this new land use modeling approach provides a viable alternative to urban planners and policy makers.

PAPER SESSION 23: TECHNOLOGY   ROOM 2B/C

Asset and Infrastructure Mobile Mapping   Chris Aldridge of David Evans and Associates

Asset and Infrastructure Mobile Mapping (AIMM) - Terrestrial photogrammetry is not a new science, but AIMM is a new application of that proven science. Leveraging the technological advancement of digital imagery and processing power, the technology now exists to use vehicle mounted camera systems to acquire high overlap stereo imagery, georeference the imagery, and extract feature data with precise geo-location information within a corridor. The system can be used to visit remote areas from the desktop, to view, asses, and collect information about signs, hydrants, poles, paved surfaces, and any other feature visible in the imagery. The value to the end user will be explained and a current projects will be demonstrated. The presentation will focus on Asset Inventory management, the technology behind multi-ray photogrammetry, and the GeoAutomation platform DEA uses to collect and process the data.

Lidargrammetry: Using 3D stereo photogrammetry for lidar interpretation and feature extraction
Doug Smith of David C. Smith & Associates, Inc

This presentation will include a brief overview how 3D stereo photogrammetry tools can be used in conjunction with lidar point cloud data and lidar intensity data to enhance and upgrade engineering and GIS lidar datasets. Typical enhancements would include adding breaklines to improve bare earth accuracies, quality control review of bare earth feature classification and extracting 3D vector breakline or planimetric data for features such as roads, shorelines, buildings, etc. Past project examples for engineering and GIS applications, including findings as to related accuracies, feature recognition and potential new applications, will be discussed.

Supporting Organizations

Urban & Regional Information Systems Association (URISA)	Lone GIS Professional Group
URISA British Columbia Chapter	Padilla Bay NERR—WDOE
Oregon & Southwest Washington URISA	City of Bellingham
Central Washington GIS User Group (CWGIS)	ESRI
Central Puget Sound GIS User Group (CPS-GIS)	Critigen
King County GIS User Group	Wendt Consulting and GIS Services
Northwest GIS User Group	Taub Haus
Cascadia Users of Geospatial Open Source (CUGOS)	Pierce County
Washington State Geographic Information Council (WAGIC)	URISA Northern Rockies Chapter
GIS User.com	Tri-Cities AutoCad User Group
GIS Lounge.com	Puget Sound Cadies
Directions Magazine	Northwest MapInfo User Group
The American Surveyor (amerisurv.com)	GITA Pacific NW Chapter
ACSM - Washington State Section	American Water Resource Association – Washington Section
ASPRS - Columbia River Region	Bentley User Community of Seattle
American Planning Association Washington Chapter	Washington Chapter – Intergraph GIS User Group
Aboriginal Mapping Network	Association of Washington Geographers
Land Surveyors Association of Washington (LSAW)	Cadalyst Magazine
Northwest Washington GIS User Group	Bellingham AutoCad User Group
Portland Area GIS User Group	APWA - Washington Chapter
Women in GIS	Padilla Bay NERR—WDOE

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

Mark Your Calendar

The 2014 Washington GIS Conference
will be held **May 12-14** in Tacoma at the
Greater Tacoma Convention & Trade Center.

Seeking 2014 Conference Chair

We're seeking a volunteer to coordinate our 2014 conference! In this role, you'll lead a willing and experienced team of volunteers through all aspects of conference planning. You'll enjoy support and guidance from past conference coordinators and volunteers as well as the WAURISA board. If you like to organize and are interested in meeting new people in the GIS community, inquire with any board member while you're here this week, or contact 2013 conference co -chairs Heather Glock hglock@esri.com or   Greg Babinski greg.babinski@kingcounty.gov for more information.

Evening Social Map & Directions
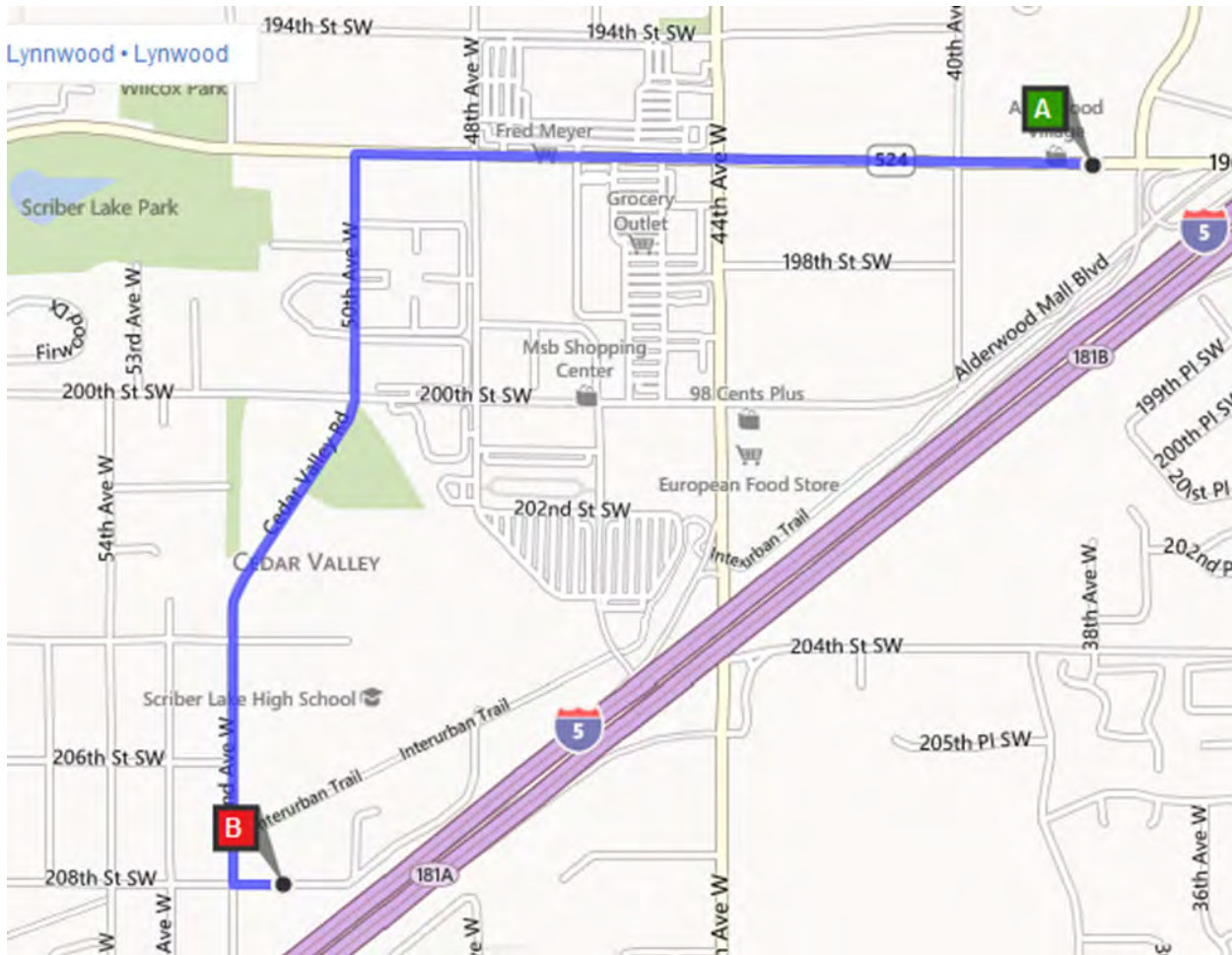
1.6 mi, 5 min driving
8 min with traffic
A
Lynnwood Convention Center
3711 196th St Sw, Lynnwood, WA
(425) 778-7155Website
Depart WA-524 / 196th St SW toward 40th Ave W

- 0.8 mi

Turn left onto 50th Ave W
Taco Bell on the corner

- 0.3 mi

Road name changes to Cedar Valley Rd

- 0.2 mi

Road name changes to 52nd Ave W

- 0.3 mi

Turn left onto 208th St SW

- 275 ft

Arrive at 5030 208th St Sw Ste A, Lynnwood, WA
The last intersection is 52nd Ave WIf you reach 50th Ave W, you've gone too far
B
Big E Ales
5030 208th St Sw Ste A, Lynnwood, WA
(425) 672-7051Website

Lone GIS Professional Gathering

The presenters of **"The Lone GIS Professional: Running Your Own Business"** invite you to join them and other participants for a chance to chat about the subject of the session and continue the Lone GIS Professional mission of helping those working on their own or in small groups be successful.

Look for our table during the Tuesday evening social at **Big E Ales** (http://bigeales.com).

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

very grateful.

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Poster Contest	Suzanne Shull
Booklet	Heather Glock & TJ Keiran
Dick Thomas Contest	Amanda Taub & Sarah Meyers
Marketing	Amanda Taub, Heather Glock & Lane DeLarme
Volunteer Coordinator	Maria Sevier
Food	Angela Johnson
Social Event	Greg Babinski
Workshops	Josh Greenberg
Nominations	Don Burdick
Fun Run	Greg 'Jack Rabbit' Babinski & Heather 'Legs' Glock