

**2013**

## DRAFT PROGRAM: April 17, 2013

of the Twenty First Annual GIS in Action Conference

Workshops on April 29 and Conference on April 30 and May 1, 2013

Smith Center, Portland State University

Portland, OR

Oregon/SW Washington URISA Chapter and Columbia River Region of ASPRS

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10:30-noon: Late Morning Sessions  
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Conference at a Glance

## President's Welcome

2	On behalf of the collaborative partnership between ORURISA and ASPRS, I am happy to welcome you to the 2013 GIS in Action Conference!
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5	GIS In Action signifies the constant progress of our GIS community, bringing light to the collaborative partnerships and exemplary projects in our industry - inspiring us to think bigger and better. It is our pleasure to provide you with this venue for sharing knowledge about the challenges, interdependent issues, and successes from our geospatial educators, technologists and experts who come from every rank of discipline.
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20-23	GIS In Action gives you the chance to connect with many of the people who are making a positive difference in our GIS community. During the conference, I challenge you to take a look at technology as a whole and contemplate how geospatial technology, data and processes can reduce costs, deliver increased access to information and enable non-GIS professionals to benefit from the geospatial tools and applications we often take for granted. I hope you capitalize on the geospatial intelligence and social connections you will gather over the next two days in this twenty-first year of the GIS In Action conference, and thank you for your participation!
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## Welcome to GIS in Action: 2013

This is the twenty first annual conference hosted by the Columbia River Region of the American Society of Photogrammetry and Remote Sensing (ASPRS), the Oregon-Southwest Washington Chapter of the Urban and Regional Information Systems Association (URISA) and Portland State University (PSU). Each year, ASPRS and ORURISA collaborate to hold this informational conference on current issues in the Geospatial Information Community. Portland State University will join us again this year to host the conference at the PSU campus. Join us again this year for what will be another successful opportunity to meet colleagues in the geospatial industries and organizations, to learn about emerging topics and recent advances in GIS applications and to discuss our problems and solutions together.

This event features a one-fee, two day format convention, presented in concurrently running sessions on both days. There will be three tracks each day consisting of panel discussions debating hot topics, traditional sessions with 2-3 presentations per session and technical workshops providing in-depth discussion of issues and training in applications most relevant to the geospatial community.

On-site registration opens at 7:30AM on Tuesday, April 30th and will remain open through 11:00AM on Wednesday, May1st. The conference begins at 8:30AM on Tuesday with an opening address by Sharon Wood Wortman, author of the *Portland Bridge Book*, and will be followed by concurrent sessions and workshops. The Annual Vendor Social will be held Tuesday from 5:00PM to 7:00PM. The conference will continue on Wednesday beginning at 8:30AM with concurrent sessions and workshops followed by a closing session and keynote speaker Amber Case, Director of Esri R&D Center, Portland. She works on location-based technology with a focus on mobile software, non-visual augmented reality, the future of location, and reducing the amount of time and space it takes for people to connect.

## Conference Highlights:

- There are four pre-conference **Workshops** on Monday, April 29<sup>th</sup>.
- The **Exhibit Hall** will open on Tuesday at 10:00AM and remain open until Wednesday at 2:00PM. The hall will feature as many as 20 vendors in GIS related technology and services. This is an opportunity to see and discuss the latest advances in the industry.
- The **Vendor Social** will be held on Tuesday evening from 5:00PM to 7:00PM in the Exhibit Hall. Join your peers in a more relaxed atmosphere with music, food and beverages. **Music will be provided by the award-winning Cleveland High School Jazz Band.** *You will also find two free drink tickets in your registration packet.*
- Bridge Walk on Tuesday, April 30 at 6:30. Must be pre-registered and paid the fee to participate.
- The **Poster Session** will be held during the Vender Social. *Ballots for the People's Choice are included in your registration packet.* Please take it to the Exhibit Hall and vote.

## GISP and Professional Development Hour Credits:

- Selected technical sessions allow 9 to 12 hours to apply toward professional development renewal requirements for PLS, PE, and RPP as appropriate.
- Attendance at this conference also provides one education point per day for GISP training requirements.
- OR URISA membership is included with attending the conference, which is more GISP contribution points.

## SPONSORING ORGANIZATIONS

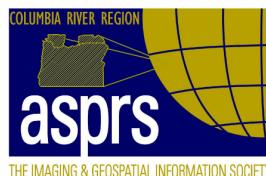
### Oregon/SW Washington URISA Chapter

The Chapter seeks to advance knowledge in the design, operation, and dissemination of urban and regional information systems. It provides a forum for a variety of issues related to information systems serving its members, related professionals, decision-makers and the public. Members live and work in Oregon and Southwest Washington.



The Chapter seeks to accomplish objectives in the following areas: Education, Professional Development, Coordination, Networking and Information Clearinghouse, and Policy Advocacy.

Anyone having a serious interest in GIS and urban information systems is encouraged to join. You can be placed on the membership list by visiting [www.orurisa.org](http://www.orurisa.org).



### Columbia River Region of ASPRS

The American Society for Photogrammetry and Remote Sensing (ASPRS) is a scientific association serving over 7,000 professional members around the world. The ASPRS mission is to advance knowledge and improve understanding of mapping sciences to promote the responsible applications of photogrammetry, remote sensing, geographic information systems (GIS), and supporting technologies.

The Columbia River Region of ASPRS provides a local interface for members to receive information concerning national and regional events and maintain recognition as mapping science practitioners. The Region's programs are effectively utilized by members to acquire necessary information, develop relationships, and maintain their knowledge base. The annual GIS in Action conference, co-sponsored with the Oregon Chapter of URISA, is an important component of the Columbia River Region's educational and communication goals.

### Portland State University, School of the Environment, College of Urban and Public Affairs

Portland State University (PSU), a 50-acre campus located in downtown Portland, is a nationally acclaimed leader in sustainability and community-based learning. The University's position in the heart of Oregon's economic and cultural center enables PSU students and faculty to apply scholarly theory to the real-world problems of business and community organizations.



Portland State offers more than 220 undergraduate, master's, and doctoral degree options, as well as graduate certificates and continuing education programs. PSU is Oregon's largest and most diverse university, with some 30,000 students who come from all 50 states and from nearly 100 nations around the world.

Special thanks to the people who put on this year's GIS in Action.

## PLANNING COMMITTEE

<b>Co-Chairs:</b>	Keith Massie Doug Smith	<b>VOLUNTEER COORDINATOR:</b>	Alexa Todd
<b>Program Co-Chairs:</b>	Amy Esnard Nadia Jones	<b>WORKSHOP COORDINATOR:</b>	Heather Cowley
<b>WEBSITE:</b>	Nadia Jones	<b>FINANCE:</b>	Steve Lennartz
<b>REGISTRATION:</b>	Lori Servin	<b>LIGHTNING TALKS COORDINATOR:</b>	Zac Christensen
<b>VENDOR COORDINATOR:</b>	Marcus Glass	<b>PSU COORDINATOR:</b>	David Percy
<b>PRESENTATIONS AND ABSTRACTS:</b>	Nadia Jones	<b>AUDIO/VISUAL COORDINATOR:</b>	Neil Revello
<b>MODERATOR COORDINATOR:</b>	Nadia Jones	<b>OTHER COMMITTEE MEMBERS:</b>	Alejandro Bancke Bob Pool Pete Hille Richard l'Esperance Vivek Shandas Tanya Haddad
<b>POSTER SESSION:</b>	Ben Brady		
<b>BOOKLET:</b>	Heather Cowley		
<b>PUBLICITY:</b>	Amy Esnard		

Without them, this conference would not happen.

## Monday, April 29: Morning Workshops

Monday	
Morning	Workshops
Afternoon	Workshops
<b>Tuesday</b>	
8:30-10:00	Opening Keynote Speaker
10:00-10:30	Break
10:30-12:00	Late Morning Sessions
12:00-1:30	Lunch w/ Lighting Talks
1:30-3:00	Early Afternoon Sessions
3:00-3:30	Break
3:30-5:00	Late Afternoon Sessions
5:00-7:00	Social and Vendor Exhibit
6:30-8:00	Bridge Walk
<b>Wednesday</b>	
8:30-10:00	Early Morning Session
10:00-10:30	Break
10:30-12:00	Late Morning Sessions
12:00-1:30	Lunch w/ Meeting
1:30-3:00	Early Afternoon Sessions
3:00-3:30	Break
3:30-5:00	Closing Keynote Speaker
5:30-9:30	Evening Social Events
<b>Thursday</b>	
Unconference	

<b>Morning Workshops</b>	
<b>Workshop #1</b>	<b>Workshop #2</b>
<b>Mobile Applications for Natural Resources Management</b>	<b>Powerful Mapping Web Applications with Open Source Tools</b>
Room: 294	Room: 296
<p><b>Part I:</b> Surveying the landscape of mobile</p> <p>Focus is broad overview of the current choices in mobile technology, geared towards natural resource professionals conducting navigation, data access/review and data entry/editing in the field. Goal is to provide guidance on what the main factors are that should drive technology decisions in terms of devices, operating systems, software, costs, etc.</p>	<p>Overview of Mapping APIs and instructions on open source solutions. Build a map in Leaflet and add data layers. Learn how to edit OpenStreetMap (OSM) with Potlatch. OSM data downloading using QGIS, tiling, and data handling instructions will also be covered.</p> <p>Prerequisites: comfort with HTML writing. JavaScript and jQuery familiarity will be helpful. A list of recommended applications preinstalled before attending will be provided. Bring your own laptop.</p>
<p><b>Part II:</b> Case studies in mobile - matching requirements with solutions</p> <p>Focus is on real world examples of problems and solutions. Goal is to tie actual requirements to decision framework presented in Part I and explain what the constraints were, why the chosen technology was the best fit, then do a demo of some part of the final solution.</p>	<p><b>Instructors:</b> Wm Leler of Flightstats, Inc, Mele Sax-Bennett of Urban Airship, and Grant Humphries of TriMet</p> <p>Monday, 8:00am to noon Cost: \$30 with conference registration, \$50 without.</p>
<p><b>Instructor:</b> Kerry Halligan of Mason Bruce &amp; Girard, Inc</p> <p>Monday, 9:30-noon Cost: \$30 with conference registration, \$50 without.</p>	

**Must have pre-registered to attend workshops.**

Lunch is not provided for the workshops.

## All Day Workshop

### Workshop #3

#### ArcGIS Online for Everyone: Analysts, Developers, and the General Public

Room: 298

ArcGIS Online provides a growing set of Esri maps, services and tools, such as buffer and hot spot analysis, geocoding, routing and service areas. ArcGIS Online also integrates with Microsoft Office applications through Esri Maps for Office and can be used to make dynamic maps inside of PowerPoint or Excel Worksheets. Learn how to leverage many of these capabilities as well as sharing these maps and analysis results to all audiences through demonstrations and hands-on exercises in this full day workshop. In addition, the workshop will touch on how to use ArcGIS Online services for enriching your web applications through the developer APIs. Bring your own laptop.

**Instructor:** Scott Moore and Leah Saunders, Esri  
Monday, all day , 8:00-5:00, lunch time will be dictated by the instructors.  
Cost: \$60 with conference registration, \$100 without.

## Afternoon Workshop

### Workshop #4

#### State of the Art Web Mapping with open Source Tile Mill

Room: 296

Hands-on learning using TileMill, MapBox's cross platform open source design studio. Examples and walk-through demos for making several types of maps in TileMill for both technical and non-technical users. A list of recommended applications preinstalled before attending will be provided. Bring your own laptop.

**Instructors:** Justin Miller, Development Seed/MapBox

Monday, 1:00pm to 5:00pm  
Cost: \$30 with conference registration, \$50 without.

Tuesday, April 30, 8:30-10:00

**Monday**

Morning Workshops

Afternoon Workshops

**Tuesday**

**8:30-10:00 Opening Keynote Speaker**

**10:00-10:30 Break**

10:30-12:00 Late Morning Sessions

12:00-1:30 Lunch w/ Lightning Talks

1:30-3:00 Early Afternoon Sessions

3:00-3:30 Break

3:30-5:00 Late Afternoon Sessions

5:00-7:00 Social and Vendor Exhibit

6:30-8:00 Bridge Walk

**Wednesday**

8:30-10:00 Early Morning Session

10:00-10:30 Break

10:30-12:00 Late Morning Sessions

12:00-1:30 Lunch w/ Meeting

1:30-3:00 Early Afternoon Sessions

3:00-3:30 Break

3:30-5:00 Closing Keynote Speaker

5:30-9:30 Evening Social Events

**Thursday**

All Day Unconference

## Welcome and Keynote Speaker

Room: Ballroom

*Welcome by Susan Beatty, PhD, Dean of the College of Liberal Arts and Sciences*

### **Sharon Wood Wortman**

Author of *The Portland Bridge Book*

#### **Bridge Stories**

Sharon Wood Wortman is the author of *The Portland Bridge Book*, first published in 1989. Her poetry has been widely published. She's ridden the Oregon Chautauqua circuit, received three Regional Arts & Culture Council grants, and in 2006 was awarded the Frances Shaw Fellowship from the Ragdale Foundation. She performed her one-woman show, "The Bridge Lady," at Portland's Shoebox Theater in 2009, and was a featured performer for The Moth Radio Hour at the Arlene Schnitzer Concert Hall in 2011. In her 20-year career leading bridge walks for school groups and for the Portland Parks & Outdoor Recreation, she has taken more than 20,000 people of all ages bridge walking.

Sharon's husband Ed is the co-author of the 2011 and 2006 editions of *The Portland Bridge Book*. He was the field engineer who worked with the ironworkers to erect the Fremont Bridge in the early 1970s. Fremont is still the longest tied-arch bridge in North America. Ed now works part-time for Multnomah County and is part of the team constructing the new Sellwood Bridge, scheduled to open in 2015. The two are now collaborating on *The Big and Awesome Bridges of Portland & Vancouver – A Book for Young Readers*, the first book about the bridges of Portland and Vancouver for elementary students.

For those participants who have registered, Sharon will be leading a bridge walk later in the evening. See page 18.

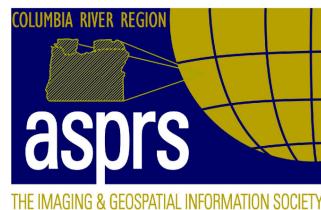
[www.pdxbridgefestival.org](http://www.pdxbridgefestival.org)



Tuesday, April 30, 10:00-10:30: Break

## Exhibit Hall Opens

### Vendors:



Consortium Mapping Services



MB&G



Tuesday, April 30, 10:30-Noon

Monday	
Morning	Workshops
Afternoon	Workshops
Tuesday	
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10:00-10:30	Break
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3:00-3:30	Break
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5:30-9:30	Evening Social Events
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All Day	Unconference

## TRACK A GIS for Natural Resources

Room: Browsing Lounge  
Moderator: Josh Sisco

### Evaluating Landscape Alternatives with Spatial Adjacency Constraints

*Tyler Bax, MEM, Geospatial Analyst,  
[tbax@masonbruce.com](mailto:tbax@masonbruce.com)*

Strategic land management plans and activities require explicit and detailed spatial information and the ability to generate a range of alternatives using simulation methodologies. When multiple attribute and spatial constraints are present, the complexity of developing and comparing valid alternatives can be quite challenging. In this talk we will present a case study where a framework for landscape sample selection was developed to assist forest managers with developing a land management plan for the redemption of timber cutting rights on timber lands in northwest Oregon. An automated sampling framework was developed using Python, ArcGIS and the statistical package R. This automated iterative process of selecting and scoring sample subsets allowed many simulations to be performed. High scoring subsets were evaluated for spatial adjacency constraints using a recursive adjacency algorithm. Multiple solutions were developed and prioritized. Final products included comprehensive statistical and spatial summaries that were integral for final prioritization and development of a management plan for the landscape. While the case study presented here may target timber land management, the methodology is relevant to a wide range of land use planning activities including watershed management, conservation planning, and zoning.

### Mapping Sage and Sharp Tailed Grouse Habitat using NAIP and WV 1 imagery in Eastern Washington

*Maria Fiorella, Remote Sensing Specialist, Bureau of Land Management*

Sage and sharp tailed grouse are both found in the scabland area of Eastern Washington. BLM, WDFW and

WSU are monitoring breeding success and habitat selection of both species. This presentation describes methods and imagery data used to initially collect field data and create the habitat map used in the analysis. Color infrared NAIP and panchromatic World View 1 data were used to develop the habitat map. A decision tree rule set was applied to the pixel data. The final polygon map was scaled up from the pixel classification using a set of classification rules. A final accuracy assessment will be completed this summer.

### Visual Resource Management for the Oregon Territorial Sea: A case study highlighting Oregon's new framework for evaluation, evaluating the potential visual impacts of marine renewable energy development

*Andy Lanier, Laurel Hillmann, Paul Manson, Oregon Coastal Management Program, [andy.lanier@state.or.us](mailto:andy.lanier@state.or.us)*

The Oregon Coast is an internationally recognized tourist destination, with over 70 State Parks and a coastline that attracts more than 20 million visits a year. The public process to amend Oregon's Territorial Sea Plan for marine renewable energy resulted in a flood of public comments related to potential adverse impacts to important aesthetic resources. Oregon's statewide ocean planning goal, Goal 19, also recognizes aesthetics as one of the existing beneficial uses that should be protected. The state has since adopted a framework for visual resource management that includes the conduct of a visual resource scenic quality inventory, adoption of visual class standards, and the determination of how the standards will be applied in a regulatory process. 144 locations were surveyed during the scenic quality evaluation process, for use in determining visual resource class values. Those values, applied to their associated viewsheds and adopted standards will help Oregonians understand the potential impacts of any proposed development.

## TRACK B

### GIS and Mobile Technologies

Room: Cascade

Moderator: Ken Kato

**The Form and Function of mobilizing your GIS: a demonstration by the UO InfoGraphics Lab of the Functional/ Technical elements of developing mobile apps to leverage your GIS resources as well as the Form/UI design methods for ensuring a satisfying user experience**

*Ken Kato, Associate Director,*

*Jacob Bartruff, Lead Developer,*

*Dana Maher, Mobile Application Developer,*

*UO InfoGraphics Lab, Department of Geography*

*A focus on Function – Using Esri's SDK's to put your ArcGIS Server resources into mobile user's hands. The Lab will demonstrate this functionality through published map and location-driven apps that connect to your "public" users (Uoregon Mobile, iBikeEugene) and non-public "Common Operating Picture" apps to connect incident managers and decision-makers to critical information and ensure timely communication (iRaptor and iMongoose) as well as experimental apps still in prototype and beta stages that collect crowd-sourced, room-level, interior data to keep your GIS current, accurate and relevant.*

*A focus on Form – The Lab will share some of the evolving processes and demonstrate methods we've incorporated into our workflows for developing mobile apps that focus on high quality user experience and unique design. Developing mobile mapping apps for clients/partners has forced us to expand on some of our traditional iterative design processes; making use of Sketching, Wire-Framing, Paper Mock-ups, and Prototyping. In addition to demonstrating how we make us of these techniques we will present the software and other tools we've found useful; Balsamiq, TestFlight, Basecamp, Photoshop, etc. Also, we will show how we develop and manage high-quality cartography, both standard base maps as well as interior mapping, using ArcMap and ArcGIS Server, that can serve a variety of small screen sizes and resolutions.*

## TRACK C

### Photogrammetric mapping and point cloud derivation using UAV mounted, vehicle mounted and hand held digital cameras

Room: Room 328

Moderator: Doug Smith, CP, RPP, PE, Vice President, David C. Smith & Associates, Inc.

Readily accessible digital cameras, coupled with advances in computing power that allow a high level of automation in feature extraction and pixel matching, have resulted in exciting new developments in the application of photogrammetry. Through various automated operations on imagery (e.g., feature extraction, pixel matching, etc.), imagery from both metric and non-metric digital cameras can be used to generate highly detailed 3D data sets, similar to what might be achieved with high density lidar systems. These capabilities are largely platform agnostic; potential platforms include manned or unmanned aircraft, vehicles, tripod mounted systems or handheld mobile mapping devices. As this technology continues to evolve, an increasing number of applications will be developed, ranging from survey accuracy feature extraction to general 3D visualization. This session will provide an overview of the applications, accuracies and potential implementations of this technology. The session will include four panel members who will each present on different aspects of this new and exciting technology.

#### Panel Members:

*Chris Aldridge, CP (ASPRS), RPP, SP, Certified Photogrammetrist/Geospatial Manager, David Evans and Associates*

*Survey accuracy point cloud data using Geoautomation vehicle mounted cameras instead of lidar*

*Sam Torrey, Urban Robotics*

*Accuracies and applications of point clouds derived from hand held and inexpensive digital cameras*

*Bill Timmins, Director GIS Services*

*Unmanned remote control helicopter mapping for Maricosa County, Arizona*

*Jonathan Burnett and John Raugust, ASPRS Student Chapter officers, Oregon State University*

*UAV technology research at OSU and the potential of the different systems for imagery acquisition*

## Tuesday, April 30, Noon-1:30 Lunch

### Monday

Morning Workshops

Afternoon Workshops

### Tuesday

8:30-10:00 Opening Keynote Speaker

10:00-10:30 Break

10:30-12:00 Late Morning Sessions

### 12:00-1:30 Lunch w/ Lightning Talks

1:30-3:00 Early Afternoon Sessions

3:00-3:30 Break

3:30-5:00 Late Afternoon Sessions

5:00-7:00 Social and Vendor Exhibit

6:30-8:00 Bridge Walk

### Wednesday

8:30-10:00 Early Morning Session

10:00-10:30 Break

10:30-12:00 Late Morning Sessions

12:00-1:30 Lunch w/ Meeting

1:30-3:00 Early Afternoon Sessions

3:00-3:30 Break

3:30-5:00 Closing Keynote Speaker

5:30-9:30 Evening Social Events

### Thursday

All Day Unconference

## Lunch with Lightning Talks

Room: Ballroom

Moderator: Zac Christensen

A Lightning Talk is rapid fire presentation format where presenters deliver entertaining and informative talks on a wide range of GIS subjects.

Participants are limited to five minutes and visual aides are kept to a minimum. Speakers should be applauded for not just their content but also their brevity.

GIS in Action has lined up the following speakers and lighting talks:

#### **Portland Fire & Rescue River Atlas**

*Paul Cone, City of Portland, [Paul.Cone@portlandoregon.gov](mailto:Paul.Cone@portlandoregon.gov)*

#### **RLIS Locator Tips and Tricks**

*Steve Erickson, Metro, [steve.erickson@oregonmetro.gov](mailto:steve.erickson@oregonmetro.gov)*

*Kellie Hauger, Metro, [Kellie.hauger@oregonmetro.gov](mailto:Kellie.hauger@oregonmetro.gov)*

#### **Analysis of Regional Active Transportation in five minutes**

*Matthew Hampton, Metro, [matthew.hampton@oregonmetro.gov](mailto:matthew.hampton@oregonmetro.gov)*

#### **Cramping Meter Maids & GIS: Can Esri Save Us All?**

*Aaron Paul, First American Title, [apaul@firstam.com](mailto:apaul@firstam.com)*

#### **osm2shp in 5 minutes**

*Grant Humphries, TriMet, [HumphriG@TriMet.org](mailto:HumphriG@TriMet.org)*

#### **Using small UAVs for 3D mapping**

*Jonathan Burnett, Oregon State University (OSU) ASPRS Student Chapter*

Tuesday, April 30, Noon-1:30: Lunch

**TBD**

*John Raugust, AUVSI, [johnraugust@yahoo.com](mailto:johnraugust@yahoo.com)*

**TBD**

*Bryce Gartrell, Gartrell Group, [bryce@gartrellgroup.com](mailto:bryce@gartrellgroup.com)*

The presentations will begin at approximately 12:20 to allow people to get their lunch and get settled in for what should be educational and entertaining!



Tuesday, April 30, 1:30-3:00

Monday	
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## TRACK A Conservation GIS

Room: Browsing Lounge  
Moderator: Ian Reed

### Urban Disturbance: Source and fate of organic matter and fine sediment in an urban stream

*Steven Sobieszczyk, Mackenzie K Keith, Jami H Goldman, and Stewart A Rounds, USGS, [ssobie@usgs.gov](mailto:ssobie@usgs.gov)*

In 2010, the U.S. Geological Survey began investigating organic matter in Fanno Creek, a tributary of the Tualatin River in northwestern Oregon. Organic matter serves as an instream nutrient and has been tied to a variety of water-quality concerns, including periods of low dissolved oxygen concentration in the Tualatin River. By analyzing high-resolution imagery and collecting field measurements and samples, we have explored and quantified organic matter sources and their respective origin, transport, and fate. Data was collected above (e.g., foliage), on (e.g., bed sediments), and in (e.g., dissolved organic carbon) Fanno Creek. Results showed varied availability of organic matter along an alternating landscape of forest, urban, and wetland. Terrestrial sources of organic matter were calculated from LiDAR "point cloud" data and indicated that 991 metric tons (t) of biomass were present in the floodplain, with 588 t originating from deciduous-dominant forest stands. Although these forested areas produced much of the organic material, it was the wetlands that stored the instream detritus and organic-rich fine sediments that eroded from the stream bed and banks. In these areas, sediment was shown to accumulate at rates of 240 grams per square meter per day. Lastly, due to heavy urbanization, streamflow in the Fanno Creek can be extremely flashy, with severe undercutting (0.03–0.25 centimeters/day) observed during periods of high flow. Between 2010 and 2012, roughly 1900 to 2500 t of organic-rich fine sediment left the creek each year. Through this research we hope to better inform land managers and improve the effectiveness of restoration efforts currently underway in Fanno Creek.

## Urban Catchment Delineation Tool

*Arnold Engelmann, Senior GIS Programmer/Analyst, DHI, [ahe@dhigroup.com](mailto:ahe@dhigroup.com)*

The City of Portland, Bureau of Environmental Services needed to delineate watersheds in the City taking into account the storm drain network. The challenge was to trace the flow of water overland, through structures such as culverts, man-made and natural channels, and storm sewer networks. In addition, the traditional technique of preparing elevation data for watershed delineation requires a process of "filling" the DEM which can erase topographic features in low lying areas, producing inaccurate results.

An urban catchment delineation tool was written and enhanced based on code originally developed for the City of Tampa. The tool traces water flow both above ground and underground, and resolves the issue of filling local depressions that are drained through a network by "punching" the DEM at drainage network inlets. Methods to prepare data to handle inaccuracies were also explored and resolved.

## Coupling Wildland-Urban Interface (WUI) Fire Models to a GIS

*Derek McNamara, Principal, Geospatial Measurement Solutions, [djmacgis@gmail.com](mailto:djmacgis@gmail.com)*

Advances in fire modeling have allowed for simulations of WUI fires using three-dimensional (3D) physics based models. Deriving and integrating inputs for these models is a challenging task requiring data from a number of sources, both ground and remote based. GIS technology provides mechanisms to integrate input data for 3D fire model simulations as well as tools to visualize and analyze fire model outputs. This presentation will describe a custom geospatial application to create WUI fire model inputs from GIS data. Initial work on viewing WUI fire model outputs in this tool and other GIS platforms will be discussed. Methods for deriving 3D fire model inputs from lidar and other geospatial data sources will also be explained. Examples of this integrated technology will be demonstrated for various WUI fire events. This project is being funded by a fire research grant from the National Institute of Standards and Technology (NIST).

## TRACK B

### Mobile Imaging and Lidar for Asset Management

Room: Cascade

Moderator: Chris Aldridge

#### **AIMM: An image based approach to precision mobile mapping for asset and infrastructure information**

*Chris Aldridge, CP (ASPRS), RPP, SP, Certified Photogrammetrist/Geospatial Manager, David Evans and Associates*

The combination of the advancements in digital imagery, photogrammetry, and computer vision have met in a perfect storm to provide a mobile mapping solution that can produce a 360 degree imagery view for the extraction of precise 3D geolocated point data, vectors, and point clouds. The technology lends itself extraordinarily well to asset and inventory mapping as well as numerous other applications.

#### **The City of Troutdale captured in an 8 hour drive. Locating the City's infrastructure using 3D Mobile LiDAR, Spatial Factory, and ArcGIS**

*Christine Cooley Amedzake, GIS Analyst, City of Troutdale, OR*

Welcome to the City of Troutdale in 3D. During the presentation, the reasons the City chose to use 3D Mobile LiDAR Scanning technology will be discussed, as well as the process of capturing the entire city in about 8 hours. A short progress report of what the City has achieved in the last year since the scan will be given. The talk will conclude with a virtual tour through the city and a live demonstration, importing surface utility features into ArcMap.

## TRACK C

### Photogrammetry and Lidar for Engineering Applications

Room: Room 328

Moderator: Dean Anderson

#### **Engineering Applications of Aerial Imagery and LIDAR**

*Mark Liebe P.E., Ph.D. City of Portland, Bureau of Environmental Services*

LiDAR data, and related imagery, is being used across an ever widening base of applications. This talk presents the basics of the technology and examines examples of its use in a variety of situations where it has been providing entirely new ways of looking at the world around us –and some of the more striking conclusions that have come from its use in recent years. It is a remarkably useful and helpful tool in opening up our understanding of complex processes in everything from engineering to earth sciences.

#### **Utilizing LiDAR at Bonneville Power Administration**

*Ryan Beck GISP, Photogrammetry & Remote Sensing Team Lead, Geospatial Services, BPA*

Northwest regional majority bulk electrical transmission utility operator - Bonneville Power Administration has been investing heavily in aerial LiDAR-based (corridor) mapping of its facilities for the past seven years. During which many 3D spatial analysis approaches have been developed to leverage LiDAR technology and benefit a multitude of business applications by effectively measuring field conditions of transmission line facilities & assets. Presented will be a brief overview of corridor based LiDAR mapping, followed by a wide range of examples how utilities are modeling/analyzing LiDAR data to benefit transmission oriented business applications including the following; Vegetation & Right-of-Way management/ Engineering-Design, Facility Rating/ and Asset Inventory initiatives.

**Tuesday 3:00-3:30**

**Break**

Tuesday, April 30, 3:30-5:00

Monday	
Morning	Workshops
Afternoon	Workshops
Tuesday	
8:30-10:00	Opening Keynote Speaker
10:00-10:30	Break
10:30-12:00	Late Morning Sessions
12:00-1:30	Lunch w/ Lightning Talks
1:30-3:00	Early Afternoon Sessions
3:00-3:30	Break
3:30-5:00 Late Afternoon Sessions	
5:00-7:00	Social and Vendor Exhibit
6:30-8:00	Bridge Walk
Wednesday	
8:30-10:00	Early Morning Session
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12:00-1:30	Lunch w/ Meeting
1:30-3:00	Early Afternoon Sessions
3:00-3:30	Break
3:30-5:00	Closing Keynote Speaker
5:30-9:30	Evening Social Events
Thursday	
All Day	Unconference

## TRACK A Data Management for Natural Resources

Room: Browsing Lounge

Moderator: Erik Strandhagen

### Outdoor Recreation & Conservation Areas (ORCA)

*Max Woodbury, Senior GIS Specialist, Data Resource Center, Metro, [max.woodbury@oregonmetro.gov](mailto:max.woodbury@oregonmetro.gov)*

*Tommy Albo, Natural Areas GIS Coordinator, Sustainability Center, Metro, [tommy.albo@oregonmetro.gov](mailto:tommy.albo@oregonmetro.gov)*

For over twenty years, Metro's Data Resource Center has been using the same data structure for publishing the "Parks" GIS data layer in the quarterly Regional Land Information System (RLIS) release. All types of "protected lands" in the Portland Metropolitan region were consolidated together as the RLIS "Parks" layer. A new, much richer "protected lands" dataset, Outdoor Recreation & Conservation Areas (ORCA), was created to enhance usability and functionality for Metro's Sustainability Center and all RLIS users. The ORCA dataset is a taxlot parcel based layer containing outdoor areas used for recreation and conservation including parks, natural areas, golf courses, cemeteries, homeowner associations, school land, and other areas not designated. We would like to demonstrate some of the enhancements in this dataset, as well as some useful ways it can be rendered.

### An overview of the Regional Conservation Strategy (The Intertwine Alliance)

*Dan Roix, Mid-River Conservation Lead, Columbia Land Trust, [droix@columbialandtrust.org](mailto:droix@columbialandtrust.org)*

*Tommy Albo, Natural Areas GIS Coordinator, Sustainability Center, Metro, [tommy.albo@oregonmetro.gov](mailto:tommy.albo@oregonmetro.gov)*

Get an overview of the recently released Regional Conservation Strategy (RCS) and Biodiversity Guide (RBG), the modeled outputs of high value lands, riparian high value lands and the 5m land cover for the Portland-Vancouver metropolitan region. This is a two year

collaborative effort that was lead by The Intertwine Alliance. The geography spans the OR/WA state boundary, portions of 10 counties and multiple cities. This effort sets out to not replace but to support the various existing and ongoing efforts in the region, all of which may have been completed at different scales with slightly different intentions. This presentation will touch on the challenges as well as some of the decisions made along the way. We hope to leave you with some creative ideas on ways this information may further help your conservation efforts as well as your ability to frame these efforts in a regional perspective.

### Emergency Response GIS in Oregon... Current Status & Future Directions

*Don J. Pettit, R.G., Senior Emergency Response Planner, Emergency Response Program, OR Dept. of Environmental Quality [pettit.don@deq.state.or.us](mailto:pettit.don@deq.state.or.us)*

Emergency response data and mapping systems have evolved tremendously over the past five years. With the explosion of available data, and the ability to crowd source data, the challenge is now how to determine which data is appropriate, and how best to store and deliver it when and where needed during an incident. In Oregon, several new and innovative platforms for accessing and viewing data relevant to understanding the setting of an incident have developed, and a means of storing and serving data to these viewing platforms exists already. However, the ability to identify, evaluate, package and catalogue emergency response relevant data is still being developed. This talk aims to describe current efforts to develop a data catalogue to fill the needs of the emergency preparedness and response community, and to establish an efficient process for its ongoing care and feeding.

## TRACK B Mobile Mapping

Room: Cascade  
Moderator: Christine Amedzake

### Mobile LiDAR – Uses at Oregon DOT

Ron Singh, PLS, Oregon Department of Transportation,  
Chief of Surveys/Geomatics Manager,  
[ranvir.singh@odot.state.or.us](mailto:ranvir.singh@odot.state.or.us)

Mobile LiDAR and other emerging technologies is enabling and positioning transportation agencies for the next big leap in highway engineering; full 3D. This presentation will provide an overview of mobile LiDAR, showcase some sample projects, and discuss full utilization of information rich 3D point cloud data - beyond the project and into the life cycle management of the highway corridor.

## TRACK C Topographic and Bathymetric Lidar Applications

Room: Room 328  
Moderator: Marcus Glass

### Micro-Topographic Feature Detection Using Aerial LiDAR Data

Thomas Prescott, Remote Sensing Data Analyst, MHA,  
[thomas.prescott@mthighaviation.com](mailto:thomas.prescott@mthighaviation.com)

In support of the Comprehensive Site Evaluation (CSE) model adopted by the US Army Corps of Engineers (USACE), high density aerial LiDAR data was collected at current and Formerly Used Defense Sites (FUDS) to help identify impact areas. Impact areas are thought to have a high likelihood of containing Unexploded Ordnance (UXO). A test plot was constructed for "proof of concept" with before and after image data. Eventually, over 1.5 million acres of data were collected at sites throughout North America.

At every site, processes such as IMU calibration, kinematic GPS positioning, and feature classification were carefully refined through iteration to remove the

effects of bias and minor residual errors that could impede the detection of micro-topographic features. The effects of vegetation and terrain on feature detection were soon realized as additional sites were surveyed and collection procedures were adjusted accordingly. Analysis results from each site were submitted to the USACE and in many instances validated with a post-collection ground truth survey.

Pacific Northwest. We will explore the preliminary results from the Sandy River, OR with a focus on the ability to accurately map depth, underwater structure, and riparian zones in a classic Northwest River.

### LiDAR Documentation - Rediscovering Metrology

Paul Tice, i-TEN Associates, [paul.tice@i10assoc.com](mailto:paul.tice@i10assoc.com)

We've collectively come a long way in the mapping and CAD industries with our ability to leverage LiDAR, terrestrial laser scanning and photogrammetric methods to generate surface and 3D architectural models. In this presentation, i-TEN Associates (i-TEN) will showcase several projects that involved LiDAR technology to provide our clients with existing, measurable conditions for a variety of applications to include remodels, historical preservation, marketing, and orthophoto mosaic development.

### Bathymetric Lidar

Russ Faux, Co-Chief Executive Officer, WSI,  
[faux@wsidata.com](mailto:faux@wsidata.com)

Amar Nayegandhi, Manager of Elevation Technologies,  
Dewberry, [anayegandhi@Dewberry.com](mailto:anayegandhi@Dewberry.com)

Colin Cooper, Senior Analyst, WSI,  
[ccooper@wsidata.com](mailto:ccooper@wsidata.com)

The demand for bathymetric mapping for inland water bodies and coastal regions has increased over the past decade due to concerns over climate change, flooding, water quality, and the sustainability of aquatic ecosystems. A new suite of commercial small-footprint, green-wavelength airborne LiDAR systems are being developed to enable topobathymetric mapping in coastal and riverine environments. These sensors can provide seamless topography across the land-water interface at very high spatial resolution (5-6 points per square meter). In cooperation with OR DOGAMI and the Bureau of Land Management, we tested the new Riegl VQ-820-G airborne hydrographic laser scanner to map topobathymetry in various riverine environments in the

## Tuesday, April 30, Evening

### Monday

Morning Workshops

Afternoon Workshops

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**5:00-7:00 Social and Vendor Exhibit**

**6:30-8:00 Bridge Walk**

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3:30-5:00 Closing Keynote Speaker

5:30-9:30 Evening Social Events

### Thursday

All Day Unconference

## Social and Vendor Exhibit

Room: Ballroom  
5:00-7:00

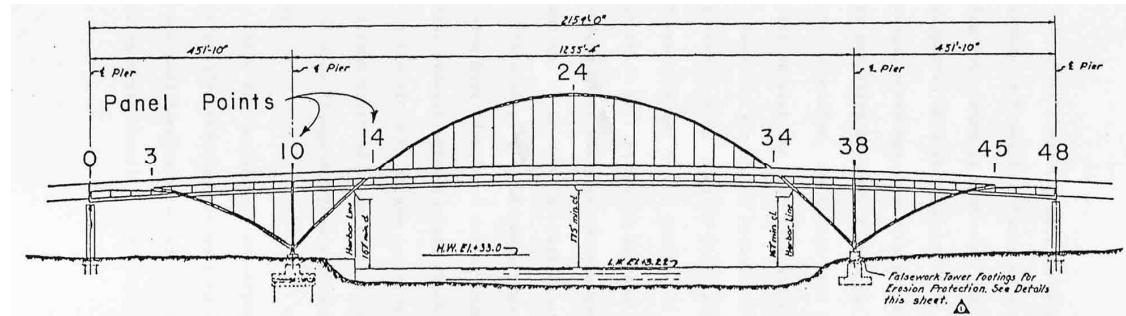
The Social and Vendor Exhibit is an excellent opportunity for attendees to interact with the vendors and discover more about their valuable services and products. Two free drink tickets and light appetizers are provided with registration. Socialize with the vendors and your fellow attendees in the Smith Ballroom while you listen to the Cleveland High School Jazz Band.

## Bridge Walk

Meet at the front of the Main Ballroom at 6:20 PM if you have signed up for the not-to-be-missed Bridge Walk. You must have registered on GIS in Action website in order to participate!

Leave PSU at 6:30 p.m. to visit the operator's tower and bascule pit of the Morrison Bridge--see gears 36 feet tall and a 960-ton concrete counterweight in action. Return about 8 PM or so. Includes a ride on MAX across the Steel Bridge--the only bridge of its kind in the world, and a visit to the Oregon Department of Transportation's Region 1 Bridge Museum.

Guides: Sharon Wood Wortman and Ed Wortman, authors of *The Portland Bridge Book*. Proceeds from the walk benefit *The Big & Awesome Bridges of Portland & Vancouver-A Book for Young Readers*, the first book about the local bridges for elementary students. Sharon was the keynote speaker earlier in the morning.

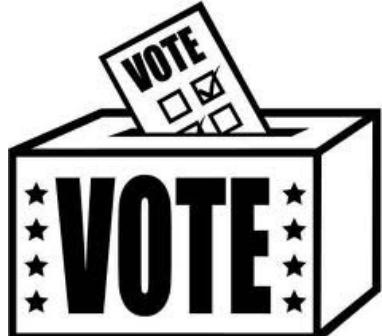


## Poster Session

Room: Ballroom

[http://www.orurisa.org/poster\\_session](http://www.orurisa.org/poster_session)

A poster contest will be held for people to showcase their creative mapmaking work to their fellow peers. The maps are on display at Smith Center 3rd Floor ballroom. In addition, the authors of the posters will be on hand at the Tuesday Social to describe to conference attendees the motivation and interest in creating their poster. If you have any questions or comments on the map or project this is the time to do that.



You have a chance to vote for your favorite poster!

As part of your GIS in Action registration packet, you have a ballot to vote for the following categories:

- **Technical merit:** advanced GIS application
- **Cartography:** the quality of the visual display
- **Real world problems solving:** application of GIS to a practical problem facing society
- **Spatial choice award:** all participants will have a choice to vote on their favorite poster.

When voting, consider fundamentals visual communication, which includes logical flow, scaling for legibility, balancing text, graphics, and white space.



Ballots will be accepted until the end of lunch on Wednesday, May 1, 2013 at 1:30. The ballot box will be located at the poster display area.

### Poster Contest

#

The Poster Session Awards will be announced on Wednesday after the closing keynote speaker. The winner of each category will receive a \$50 gift certificate sponsored by URISA. In addition, the winner of the Cartography category will also receive a copy of *The Cartographer's Toolkit* by Gretchen Peterson, who generously donated the book.

Your vote matters!

Wednesday, May 1, 8:30-10:00

## Monday

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5:30-9:30 Evening Social Events

## Thursday

All Day Unconference

## TRACK A

### Open Source GIS I

Room: Browsing Lounge

Moderator: Keith Massie

### OpenSource Technologies for providing GIS WEB Mapping Applications for Local Government

*Keith Legg & Cress Bates, Metro Planning,  
[Cress.Bates@co.lane.or.us](mailto:Cress.Bates@co.lane.or.us)*

Metro Planning, Inc. is a Mitigation Planning, 3D Visualization and GIS service provider located in Springfield, OR. One of Metro Planning's specialties is creating Hazard Mitigation Plans (HMP's) for various levels of local government. Stakeholders in the HMP process have often wanted to continue looking at and working with the GIS data once the planning component is completed. As a response, Metro Planning has employed Open Source technologies to build GIS web applications that are easy to use, robust, and capable of consuming a variety of GIS data. Recently Metro Planning has partnered with the City of Springfield, OR to create a GIS web application for public consumption. A featured component of this application is the use of a Postgresql data base to perform queries and searches on the data. This presentation will focus on the concepts, goals, and advantages of using Open Source technologies for local government.

### UrbanFootprint

*Garlynn Woodsong, Calthorpe Associates,  
[Garlynn@calthorpe.com](mailto:Garlynn@calthorpe.com)*

Calthorpe Associates has developed a novel and powerful open source geo-spatial planning tool called UrbanFootprint, built for use in places like Oregon and California that have adopted legislation to require regions to take steps to reduce the GHG impacts of land use and transportation. UrbanFootprint has great utility for urban planning and research at multiple scales, from general plans, to project assessments, to regional and state-wide scenario development and analysis.

UrbanFootprint is built entirely with open source software as a powerful and dynamic web and mobile-

enabled scenario creation and modeling tool with full co-benefits analysis capacity.

This presentation will describe the UrbanFootprint model, demonstrate its interface and capability, and present scenarios and results. It will also discuss UrbanFootprint's role as a hub of open source innovation, fostering informed planning and integrating concepts and functionality from the planning, design, and technology communities.

UrbanFootprint is in the final stages of pre-release development to be launched as an open source project and made available to the world.

### OS Technology supporting local Public Works Needs

*Brandt Melick, Oregon Elevation Framework Implementation Team Lead, Technical Services Division Manager, Public Works Department, City of Springfield*

Collaborative efforts between the City of Springfield Public Works Department and NASA Ames Research Center are resulting in the rapid development of advanced Open Source technologies to expand distribution and usage of valuable remote sensing information. Please join us as we showcase elements under development to infuse, extract, analyze and navigate through dense LiDAR point clouds, real time in 3D. Session provides a great opportunity to inform this development process and hopefully become involved.

Please note that these efforts are well aligned with the Executive and Congressional mandate for a National Spatial Data Infrastructure, NSDI (<http://www.fgdc.gov/nsdi/nsdi.html>) and include Oregon's coordination with key agencies across the Pacific Northwest and World Wind coordination with National Labs and US Defense Agencies and DoD contractors.

## TRACK B Asset Management Tools

Room: Cascade

Moderator: Bob Pool

### Linear Referencing for Asset Management

*Maurice Johns, GIS Technician, City of Beaverton,  
[mjohns@beavertonoregon.gov](mailto:mjohns@beavertonoregon.gov)*

A Linear Referencing System (LRS) is a method of storing geographic event data along existing line features. At this presentation, you will learn about the City of Beaverton's use of ArcGIS and asset management software to create and use a LRS for managing events such as speed limits, street pavement schedules, sidewalk ownership and much more. Additional topics include the use of ArcGIS Online and the collection of attributes for LRS events using mobile devices.

### Asset Condition Monitoring with ArcPad

*Kirk McEwen, GIS Technician, City of Portland, Bureau of Transportation, [kirk.mcewen@portlandoregon.gov](mailto:kirk.mcewen@portlandoregon.gov)*

*Craig Greenwald, GeoMobile Innovations Inc,  
[craig@geomobileinnovations.com](mailto:craig@geomobileinnovations.com)*

The Portland Bureau of Transportation manages more than \$8 billion in infrastructure from the aerial tram to the pavement on city streets. A shrinking budget has compelled Bureau managers to be more strategic about maintenance and capital investments. Those investment strategies demand a lot of reliable asset data. While the Bureau maintains a comprehensive asset inventory, we don't have complete asset condition data. To fill that gap, the Bureau's GIS staff has collaborated with GeoMobile Innovations over the last year to develop and deploy custom ArcPad tools for collecting condition data. We'll talk about the mobile solutions developed for pavement and guardrail assets.

## Emerging Technologies for Field Data Capture

*Bill Timmins, Director GIS Services,  
[director@giservices.net](mailto:director@giservices.net)*

The presentation will provide examples of GIS/GPS cameras and digital pen solutions that provide inexpensive and easy to use solutions. These can eliminate technology boundaries for public works, planning and code departments as well as emergency responders and operational managers and support personnel - many who have no GIS training. Immediate access to field data can improve input into GIS workflow requirements and can provide critical information to help in time of emergency response to help save lives and property.

## TRACK C Communicating GIS and Cartography

Room: Room 328

Moderator: Jim Luke

### Communicating complex science for a broad audience: Visualizing data in the Atlas of Yellowstone

*James E. Meacham, InfoGraphics Lab, Department of Geography, University of Oregon,  
[jmeacham@uoregon.edu](mailto:jmeacham@uoregon.edu)*

The recently published *Atlas of Yellowstone* is the first comprehensive atlas of a U.S. national park, and provides a data rich, authoritative reference volume for the Greater Yellowstone Area. The atlas contains over 800 maps, images, and data graphics. The atlas uses nearly every thematic mapping and graphing methodology available in print publication, ranging from raster hydrographs to visualize 100-years of daily flows to kernel density techniques for portraying wolf pack distributions to temporal small multiples to understand variations in long-term climate. This presentation will cover the breadth of design approaches used to communicate the remarkable diversity, complexity, richness, and global importance of the Yellowstone

region. The *Atlas* serves to educate the public, inform park staff, and help build a constituency for the park through its persuasive blend of science and art.

### Fresh tiles, local data – the cartographic design of a wholesome basemap

*Matt Hampton, Senior Geodesigner, Oregon Metro*

A great map often starts with a great basemap. It's the canvas upon which we paint our operational layers, providing context and bringing them to life. Metro has redesigned its Metro Map application using a new basemap that leverages the strengths of ArcMap's advanced cartographic toolset. This new multi-scale set of map tiles include tapered streams, multiple direction oblique weighted hillshading, highest-hit LiDAR shading, vegetation coloring, mixed-case labels and more. Multi-scale Maplex rules provide an elegant set of labels that can be layered effectively over operational layers resulting in a properly designed map service. Using RLIS data that is updated quarterly, Metro's new map service provides a visually appealing and authoritative basemap for your data. This presentation will focus on the cartographic workflow and tools used to create this multi-scale map of our region.

### X Maps Spot: Using GIS to Help At-Risk Dog and Cat Populations

*Greg Miller, GISP, AICP, GIS Analyst, ASPCA Shelter Research and Development, [greg.miller@aspca.org](mailto:greg.miller@aspca.org)*

Millions of dogs and cats enter animal shelters annually; in many communities more than half are euthanized. The ASPCA, through a new project funded by PetSmart Charities®, is utilizing GIS to analyze the geographic distribution of animal shelter intake.

The ASPCA team is currently working throughout the country with Portland (OR), Cleveland (OH), and Southeast Florida to better understand where hot spots for intake are occurring and where targeted interventions should be implemented. Once targeted programs are put in place, GIS analysis techniques are also used to track progress, monitor pattern changes, and develop outreach tools to ensure program success.

In addition, the team is developing how-to guides

## Wednesday, May 1, 8:30-10:00 Continued

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### Thursday

All Day	Unconference
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and tools that will be available to shelters all across the country. These tools will assist communities and organizations learn why and how to use GIS technology and will ultimately allow them to pinpoint where their most at-risk animals are coming from.

## TRACK D GIS Body of Knowledge and Perspectives

Room: Room 333

Moderator: Nadia Jones

### Portland State University's Graduate Certificate Program in Geographic Information Systems

*David Banis, Department of Geography, Portland State University, [dbanis@pdx.edu](mailto:dbanis@pdx.edu)*

Portland State University (PSU) created a Graduate Certificate Program in Geographic Information Systems starting in the 2003/2004 academic year. The certificate program provides introductory and in-depth study into the design and application of geographic information systems technology. Reflecting the multidisciplinary nature of GIS, the certificate consists of core introductory classes, advanced topics, and applications development courses drawn from the Geography, Urban Studies and Planning, and Geology departments at PSU. The Department of Geography administers the certificate program and has graduated about 250 students since its inception. This presentation provides details about the program, and discusses the challenges and opportunities we face, both now and in the future. In addition, it describes how the program integrates with the Geographic Information Science and Technology Body of Knowledge, an inventory of what aspiring geospatial professionals need to know and be able to do that has been developed by the University Consortium for Geographic Information Science.

### Portland Community College's Certificate in Geographic Information Systems

*Christina Friedle, [christina.friedle@pcc.edu](mailto:christina.friedle@pcc.edu)*

Portland Community College began offering a (less than) one-year certificate in Geographic Information Systems in 2010/11. The GIS certificate program provides students with a practical, hands-on, educational experience. The program prepares students to apply GIS with a solid theoretical foundation through 44 credits hours in human geography, GIS, geospatial concepts, speech, and several elective credits.

This presentation will focus on current structure of PCC's GIS certificate program, as well as reflections, challenges, and future goals. It will put the program into context using the Geospatial Technology Competency Model (GTMC) developed by the Department of Labor for the GIS and Remote Sensing workforce.

### Hiring and Employment of GIS Professionals at WSI

*Logan McConnell, Utilities Modeling Division Leader / Project Manager at WSI*

WSI (Watershed Sciences, Inc.) has a tradition of hiring recent graduates from the natural sciences and engineering fields. We look specifically for individuals who have a certain level of knowledge to build upon, but are also in some ways "blank slates." In addition to the requisite skills such as knowledge of ArcGIS 10.x, Python, CADD experience, and familiarity working in 3D environments, we also look for the individual who is flexible and ready to toss their preconceived notions out the door. A willingness to be completely indoctrinated in the ways of WSI is imperative. We have found many such individuals and have watched them thrive in our fast-paced environment. Often our greatest innovators have started out as technicians with only limited remote sensing experience. WSI's hiring methods can be seen as both unorthodox and highly effective.

**Wednesday, May 1, 10:00-10:30 Break**

### **Lightning Talks**

*ORURISA Young Professionals*

*Dirk Kinsey, Jordan Fanning, Lyzi Diamond, Kate Clark,  
Betsy Breyer, Meara Butler*

**Wednesday 10:00-10:30  
Break**

Wednesday, May 1, 10:30-noon

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- Morning Workshops  
Afternoon Workshops

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## Thursday

Unconference

## TRACK A

### Open Source GIS II

Room: Browsing Lounge  
Moderator: Dean Anderson

#### Evaluating open source GIS techniques for addressing database, analysis and visualization aspects of spatiotemporal information

*N. Lynnae Sutton and Jacqueline Olson,  
[naefish@aol.com](mailto:naefish@aol.com)*

Most GIS were not specifically designed to manage dynamic spatiotemporal data. Spatiotemporal mapping is the representation of changes in geographical phenomena. By identifying the characteristics of the spatial, temporal, and attributional dimensions, we evaluate OSGIS techniques for data storage, retrieval, pattern analysis and visualization. Spatial change components include: shape, location, presence and size. Temporal change components include: states, rate, duration and intervals. Attributes include qualitative and quantitative descriptors. Combinations of changes are evaluated in dimensional components: attribute change (i.e. land-use), spatial attribute change (i.e. national boundaries), moving objects (i.e. hurricane paths), rate of change (i.e. populations of invasive species), temporal aggregation (i.e. precipitation) and spatial aggregations (i.e. voting results). In addition, visualization methods are explored: static (single and multiple snapshots), dynamic display (animation) and symbolic temporal representation. Results of the evaluations are presented. Some of the software evaluated: Weave, timemap.js, Dojo.js, QGIS temporal extension, OpenLayers Tracking and i2maps.

#### Spread and Page Rank for Maps

*Wm Leler, Flightstats, [wmleler@gmail.com](mailto:wmleler@gmail.com)*

When you are designing a map, how do you decide which objects to display? For example, which cities, or which airports, or which restaurants or hotels. If you pick the top cities by population, you will often get a bunch of cities that are clumped too close to each other, and lots of wide open space with no cities. If your map is

interactive, this problem is even worse. This talk presents a very simple algorithm that is a combination of the Google Page Rank algorithm plus a new measure called "spread" that solves this problem beautifully and flexibly.

## Open Source Data Visualizations on the web with Weave

*David Percy, Portland State University, [percy@pdx.edu](mailto:percy@pdx.edu)*

Weave is a client-server based data visualization system that allows non-programmers to create stunning interactive web-based visualizations that link data from multiple sources.

The Greater Portland Pulse ([portlandpulse.org](http://portlandpulse.org)) is a regional indicators program that is similar in vision to other initiatives in the National Neighborhood Indicators Program (NNIP). Several NNIP partners have joined fiscal forces along with the University of Massachusetts Lowell Institute for Visual and Perceptual Research to fund this open source visualization platform.

This presentation will demonstrate how data can be easily linked from maps to histograms to four-dimensional scatterplots, where each visualization is linked even when sweeping over the three. It requires no programming knowledge, and the administrative setup is fairly easy. Custom basemaps, or those from OpenStreetMap or Stamen, can be used. <http://oicweave.org/>

## TRACK B

### Data Management for Decision Makers

Room: Cascade  
Moderator: Bob Pool

#### Paper Paper Every Where...

*Preston Beck, GIS Coordinator, City of Tigard, OR  
Bryce Gartrell, Principal, The Gartrell Group*

Through the course of daily operations, the City of Tigard engages in thousands of transactions involving reams of documents: permits, leases, agreements, licenses, plans, studies, manuals, and more. While

varied in their origins and purposes, documents tend to share a common attribute: a reference location. This alone is sufficient to inspire the geographically-minded to consider the map as a way to rationalize and simplify the means of storing, organizing, and accessing documents. But where to begin? How does one 'map' documents? This is one City's approach...

With the aid of an established enterprise GIS and a newly purchased document management system, the City set out to innovate a means of integrating GIS with Laserfiche. Our objectives: develop and maintain an accurate and current spatial representation of key business documents, allow easy intuitive look up of these documents to end users, and employ automation techniques to minimize intervention by limited staff resources.

## Integrating GIS with Key Business Information and Workflows

*Kerry Halligan, Ph.D., Senior Geospatial Specialist, Mason Bruce & Girard, Inc.*

GIS data, including field data collected with GPS units, represent the core business information for a range of organizations in industries such as natural resources, oil and gas, transportation, asset management and defense. Despite their key role, however, GIS data only provide a portion of an organization's total business information. Non-spatial content, including documents, photos and links to online resources, are often equally important business data. While GIS systems excel at storing and organizing spatial data, they often are not well suited for managing other business workflows such as authoring and publishing content, search and query, subscriptions and notifications. Content management systems (CMS), on the other hand, have been developed specifically to address these other types of business data and workflows. When GIS and CMS are combined, the result is an enterprise information management system that can meet the full range of content management requirements for spatial and non-spatial data. In this presentation, we will discuss Mason, Bruce & Girard's Spatial CMS framework and show an example of it that is currently in use for managing mitigation and monitoring projects for the Oregon Department of

Transportation's (ODOT) bridge construction projects. The Mitigation and Monitoring Reporting System (MMRS) provides a web map interface for search and display of geospatial data as well as documents and photos, and provides robust authoring workflows for tracking projects and generating reports.

## Utilizing ArcSDE and MicroStation interoperability on large civil engineering road design projects

*Ryan Reise, Senior GIS Analyst, HDR Engineering, Inc., [ryan.reise@hrdinc.com](mailto:ryan.reise@hrdinc.com)*

As geospatial technology continues to grow and becomes the standard for many organizations and agencies, there is an important need to incorporate GIS into engineering disciplines and large infrastructure projects. Today in the road industry engineers are faced with many new challenges such as safety, congestion, land use, environmental, and economic issues. With a large amount of accessible geospatial data and the power of GIS applications, why wouldn't engineering firms working on large projects want to harness the power of this information?

CAD and GIS interoperability has never been an easy task and moving data between the two platforms usually takes some creativity and time developing work flows and integration processes. Tracking a multitude of database attributes pertaining to a design feature is not usually an option in CAD packages. Whereas in GIS it is the norm and database functionality has grown over the last 10 years with the advent of Esri's SDE platform.

As a GIS Analyst in the A&E industry I am often faced with the task of converting and attributing CAD data into GIS formats as well as providing data to designers for reference. Over the years I have used many methods, but currently my company HDR is utilizing Bentley's ProjectWise Connector for ArcGIS, which enables interoperability with Esri's enterprise databases. This allows designers to access and edit GIS data directly and creates highly productive work flows and capabilities changing the way we look at GIS and CAD interoperability.

## TRACK C

### Crowd Sourcing and Participatory GIS

Room: Room 328

Moderator: Jill Roman

## Using LiDAR and participatory mapping to capture spatial and management information about dikes and tide gates in Oregon Estuaries

*Laura Mattison, Randy Dana, Oregon Coastal Management Program, [laura.mattison@state.or.us](mailto:laura.mattison@state.or.us)*

The Oregon Coastal Management Program has recently completed a dikes and levees inventory of Oregon's estuaries as part of the Program's Climate Change Adaptation Strategy. The inventory is a geo-spatial tool that assists local planners in planning for sea-level rise risks such as "coastal squeeze" and infrastructure vulnerable to storms and floods. The inventory consists of four datasets. One contains information on dikes and levees, the second contains information on areas protected from flooding by those dikes and levees, the third includes information on diking and drainage districts, and the fourth contains information on tide gates. The geographic scope includes all estuaries of the Oregon Coast, including the Columbia River up to Bonneville Dam. These datasets were created using LiDAR interpretation and greatly assisted by field visits and consultation with knowledgeable people including landowners. This presentation will discuss both the methodology used to create the inventory as well as some of its current uses in estuarine and climate change planning.

## Quantifying the qualitative: GIS analysis of sociocultural values from participatory mapping.

*Alexa Todd, Portland State University, [alexatodd@gmail.com](mailto:alexatodd@gmail.com)*

*David Banis, Portland State University, [dbanis@pdx.edu](mailto:dbanis@pdx.edu)*

Several participatory mapping projects in the Olympic Peninsula, Washington have explored ways to

## Wednesday, May 1, 10:30-noon continued

<b>Monday</b>	
Morning	Workshops
Afternoon	Workshops
<b>Tuesday</b>	
8:30-10:00	Opening Keynote Speaker
10:00-10:30	Break
10:30-12:00	Late Morning Sessions
12:00-1:30	Lunch w/ Lightning Talks
1:30-3:00	Early Afternoon Sessions
3:00-3:30	Break
3:30-5:00	Late Afternoon Sessions
5:00-7:00	Social and Vendor Exhibit
6:30-8:00	Bridge Walk
<b>Wednesday</b>	
8:30-10:00	Early Morning Session
10:00-10:30	Break
<b>10:30-12:00 Late Morning Sessions</b>	
12:00-1:30	Lunch w/ Meeting
1:30-3:00	Early Afternoon Sessions
3:00-3:30	Break
3:30-5:00	Closing Keynote Speaker
5:30-9:30	Evening Social Events
<b>Thursday</b>	
Unconference	

gather sociocultural data for use in public land management. Mapping intangible concepts such as human values is challenging and raises a number of questions: What meanings, values, and emotional connections do humans assign to a particular landscape? How do values and meanings associated with different landscapes vary among different public land-users? Whose values are being mapped? We address these issues by assessing a variety of methods to quantitatively analyze qualitative sociocultural data using GIS. Some of these methods include density and diversity calculations, integration of biophysical data, and analysis of polygon geometries. This mixed methods approach provides a nuanced understanding of the complex way that humans interact with their environment and attach meaning to landscapes.

### **Using Geographic Crowdsourcing for Public Involvement**

*Adam Roberts*

Public Involvement is a key component of public works projects. However there are often hurdles - how does one reach a large, diverse group? How can the public's feedback and suggestions be compiled into actionable data? Crowdsourcing is gaining traction in the planning community as an inexpensive and effective way to tap into the ideas and knowledge of the general public. Adding geography to crowdsourcing allows the collection of data that informs the planning process itself, while at the same time making the public feel like they have a voice in the matter. Packaged, hosted solutions exist, but for smaller projects (with smaller budgets,) the costs can be prohibitive if customization or design elements are required. We will explore how open-source GIS and web tools can enable an affordable, modular, and scalable solution for multiple implementations.

## **TRACK D Panel Discussion**

Room: Room 333

Moderators: David Banis and Christina Friedle

### **GIS & Education: Experiences and Challenges**

**Panelists:**

*Sandra Convey,*

*Chris Bone, University of Oregon*

*Nadia Jones, Young Professional: US Fish & Wildlife & PSU Adjunct*

*Lorene Becker, Oregon State University*

*Dirk Kinsey, Student: Portland Community College*

*Kuuipo Walsh, Oregon State University*

*Lynn Songer, Lane Community College*

*John Ritter, OIT*

The GIS industry can be difficult to navigate, both for hiring employers and recent grads seeking work. This panel will discuss the experiences and challenges that face professionals, recent grads, and students looking to their future employment. Members on the panel come from these 3 backgrounds, but the goal of this session is to include the entire audience in the discussion. This is a follow-up to the presentations during the earlier session in this track, but everyone is encouraged to come participate and voice their experiences with hiring and education in the GIS industry.

*Wednesday, May 1, 10:30-noon continued*

Wednesday, May 1, noon-1:30 Lunch

### Monday

Morning Workshops

Afternoon Workshops

### Tuesday

8:30-10:00 Opening Keynote Speaker

10:00-10:30 Break

10:30-12:00 Late Morning Sessions

12:00-1:30 Lunch w/ Lightning Talks

1:30-3:00 Early Afternoon Sessions

3:00-3:30 Break

3:30-5:00 Late Afternoon Sessions

5:00-7:00 Social and Vendor Exhibit

6:30-8:00 Bridge Walk

### Wednesday

8:30-10:00 Early Morning Session

10:00-10:30 Break

10:30-12:00 Late Morning Sessions

### 12:00-1:30 Lunch w/ Meeting

1:30-3:00 Early Afternoon Sessions

3:00-3:30 Break

3:30-5:00 Closing Keynote Speaker

5:30-9:30 Evening Social Events

### Thursday

Unconference

## Lunch:

### ORURISA Annual Meeting Board of Directors

Room: Ballroom

<http://www.orurisa.org/Board>

"No one can be the best at everything. But when all of us combine our talents, we can be the best at virtually anything." - Don Ward

The local chapter of OR-URISA is guided by a Board of Directors. Members of the Board are drawn from the local chapter's membership, Special Interest Groups, and Sections. Board Officers and At Large Members are elected at the chapters annual meeting.

The Board of Directors meets approximately every six weeks. The meetings are open to any interested individual. The meetings are informal and usually deal with business related issues as well as setting policy for the local chapter.

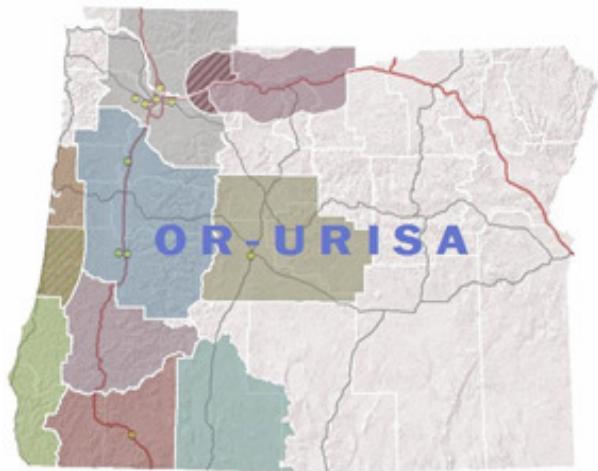
### Officers:

President: Amy Esnard, City of Portland

Treasurer: Paul Couey, Metro

Past Co-President and Outreach Coordinator:  
Bob Haas, Deschutes County

Past Co-President: Bob Pool, Clark County



### Section Board Members

Eli Adam, Central Coast GIS Users Group  
<http://www.orurisa.org/ccgisug>

Colleen Miller, Central Oregon GIS Users Group  
<http://www.orurisa.org/COGIS>

Mark Scott, Columbia Pacific GIS Users Group  
<http://www.orurisa.org/CPGIS>

Mike Schrankel, Gorge Area GIS Users Group  
<http://www.orurisa.org/GAGIS>

Chris Wayne, Klamath Basin Users Group  
<http://www.orurisa.org/KBUG>

Nels Michaelson, Portland Area GIS Users Group  
<http://www.orurisa.org/PAGIS>

Jeff Stump, South Coast Users Group  
<http://www.orurisa.org/SCUG>

Keith Massie, Southern Oregon GIS Users Group  
<http://www.orurisa.org/SOGIS>

**Wednesday, May 1, noon-1:30 Lunch**

Vacant, Umpqua Basin Users Group

<http://www.orurisa.org/UBUG>

Lesley Hegewald, Willamette Valley GIS  
Users Group  
<http://www.orurisa.org/WVUG>

### **Special Interest Group Board Members**

Dean Anderson, Oregon GIS Association

<http://www.orurisa.org/OGISA>

Kelly Neumeier, Women in GIS

<http://www.orurisa.org/WomenInGIS>

David Percy, Portland Open Source

Geospatial User Group

<http://www.orurisa.org/PDXOSGIS>

Dorothy Mortenson, Oregon ArcGIS Server  
and API User Group

<http://www.orurisa.org/ORAPI>

Lyzi Diamond, Young Professionals

<http://www.orurisa.org/ORURISAYP>

### **At Large Board Members**

John Sharrard, ESRI

Cy Smith, State of Oregon GEO

Molly Vogt, Metro

Eric Bohard, Clackamas County

Remember to cast your vote for the Poster Session awards by the end of lunch at 1:30. Details are on page 19. The awards will be presented at the closing session today.

Wednesday, May 1, 1:30-3:30

## Monday

- Morning Workshops  
Afternoon Workshops

## Tuesday

- 8:30-10:00 Opening Keynote Speaker  
10:00-10:30 Break  
10:30-12:00 Late Morning Sessions  
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## Wednesday

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12:00-1:30 Lunch w/ Meeting

### 1:30-3:00 Early Afternoon Sessions

### 3:00-3:30 Break

- 3:30-5:00 Closing Keynote Speaker  
5:30-9:30 Evening Social Events

## Thursday

Unconference

## TRACK A Web Mapping

Room: Browsing Lounge  
Moderator: Jeff Harmon

### Understanding Tile Map Services

*Grant Miller-Francisco, GIS Analyst/Developer, HDR Inc, [grant.francisco@hdrinc.com](mailto:grant.francisco@hdrinc.com)*

Tile-based mapping has been used for years by major map service providers like Google Maps and OpenStreetMap to quickly serve large map datasets. More recently, TileMill and MapBox have pushed custom tileset production into the mainstream, leading to a proliferation of tools for creating and working with tilesets. This presentation will give a guided tour of the often bewildering array of options for creating and working with tile-based maps. Topics will include a comparison with WMS, custom tile creation and cutting (TileMill, Mapnik, gdal2tiles.py, and MapTiler), tools for format conversion (MBUtil, MBPipe), tile hosting and serving (MapBox, GeoWebCache, TileStache, TileStream) and client-side tile consumption (Modest Maps, Leaflet, OpenLayers). Additional topics may include vector tiles, tile interaction (UTFGrid, Wax), proxying WMS tiles, and offline tiles for mobile use. The emphasis will be on open-source software, but with an eye towards integration with Esri products.

### Spatial data and the public: To map, or not to map

*Kevin Martin, Technical Services Manager, City of Portland Bureau of Planning and Sustainability  
Derek Miller, GIS Analyst, City of Portland Bureau of Planning and Sustainability  
Julie Hernandez, Web Designer, City of Portland Bureau of Planning and Sustainability*

Sometimes a map helps communicate, sometimes it does not. The City of Portland Bureau of Planning and Sustainability will present two case studies of maps/apps developed in-house that communicate geographic data to the general public. First, an overview of simple, single-topic web maps developed using esri's JavaScript API. The discussion will focus on designing maps that

are usable, acknowledge user expectations, and deliver information as clearly (and succinctly) as possible. Second, a mobile "curbside collection" web app that notifies customers when residential curbside collection -- compost, recycling, garbage -- occurs for a particular property, and allows people to sign up for address-driven weekly notification. The backend of this app is GIS services and data, but the information is presented in a map-free mobile web interface that focuses on clean, simple design and usability. Technical aspects of creating and designing both the web maps and the mobile web app will be touched on as well.

## Base Maps Smackdown!

*Wm Leler, Mele Sax-Barnett, David Percy and assorted members of the PDXOSGEO community*

Join us for the annual GIS in Action *Smackdown!* session hosted by members of PDXOSGEO. This year, the topic is *Base Maps Smackdown!* with a focus on publicly accessible tiled base maps for use in web mapping applications.

Fans of various web base maps will present their favorites based on map content and cartography, as well as considerations such as ease of access, license restrictions etc. All base map sources are eligible to contend for the *Smackdown!* crown: from proprietary commercial products, to personal custom map tile pyramids, to open access creative commons maps.

To nominate a base map for the *Smackdown!* in advance, please contact [wmleler@gmail.com](mailto:wmleler@gmail.com)

## TRACK B

### GIS Management and Frameworks

Room: Cascade  
Moderator: Rich L'Esperance

### Sharing Authoritative Data: What Is It and Why Does It Matter?

*Cy Smith, State of Oregon DAS Geospatial Enterprise Office (GEO), [cy.smith@state.or.us](mailto:cy.smith@state.or.us)*

You've probably all heard the term 'authoritative

data' and you may realize that there are many definitions of that term. If you're going to consume data, you probably want it to be the most authoritative data you can find. And if you're going to share data, it may be important to you that your data is considered authoritative by users. Various government organizations are 'authorized/mandated' to develop certain data sets. Those data sets are now often duplicated by private sector organizations that sell their version for a profit. There are liability considerations in all this. In this session, we'll have a facilitated discussion that will attempt to build consensus around a definition for 'authoritative data'.

#### **DLCD Focuses on Framework**

*Gail M. Ewart, Department of Land Conservation and Development, [gail.ewart@state.or.us](mailto:gail.ewart@state.or.us)*

In the past year, the Oregon Dep't of Land Conservation and Development has stepped up its contributions to Framework. Learn about the newest FIT--Coastal and Marine—and its work on Shoreline Framework. Hear about the exciting progress toward statewide Zoning and Comprehensive Plan Map data and understand the Urban Growth Boundary stewardship plan, both being advanced by the Planning Workgroup under the Administrative Boundaries FIT.

#### **Regional Coastal and Marine Data Framework activities for the West Coast**

*Tanya Haddad, Todd Hallenbeck, Andy Lanier, Oregon Coastal Management Program, [tanya.haddad@state.or.us](mailto:tanya.haddad@state.or.us)*

In September 2006, the Governors of Oregon, Washington and California signed the West Coast Governors Agreement on Ocean Health (WCGA). Under this agreement, the three states, together with federal agency leads and non-governmental stakeholders, coordinate their actions to improve the health of coastal and marine resources. In February 2012, the WCGA created the Regional Data Framework (RDF) ACT, the first new ACT since its inception. Comprised of data producers, data users, tool developers, and GIS practitioners, this new ACT is intended to improve access to accurate, current scientific and geospatial

information for coastal and marine planning, policy development, and resource management throughout the region. To accomplish these goals the RDF ACT relies on the coordinated action of institutions that collectively make up the "network" of data providers along the west coast. This presentation will describe the activities occurring in Oregon to build and participate in this emerging network.

### **TRACK C ArcGIS Online**

Room: Room 328  
Moderator: John Sharrard

#### **Strategies for Transforming your GIS with ArcGIS Online**

*John Sharrard, Esri Solutions Engineer*

It's no secret that the current economic and political climate has put increasing scrutiny and pressure on public agency budgets. The clear message is to "do more with less". GIS projects and programs are certainly not immune to this increased scrutiny and are often the target of the budgetary knife. The outdated, standalone "GIS Department" approach to GIS within an organization can often distance GIS efforts from the rest of an organization's larger IT efforts and thus make it a bigger "target" for budgetary trimming. As GIS professionals, we all understand how important and ubiquitous spatial data can be to an organization, but oftentimes we struggle to communicate that relevance to all stakeholders and decision makers in the organization.

A key strategy to meet these challenges is to make GIS technology and access to spatial data as easy as possible for all agency staff and (as appropriate) to the public. Advances in web, mobile, and cloud technologies have provided new platforms for GIS professionals to easily catalog and share their spatial data collections and to deploy them in a wide variety of focused applications deployed on all popular desktop, web browsers and mobile clients in use today. ArcGIS Online for organizations is essential for achieving this strategy. ArcGIS Online is a critical part of the ArcGIS platform

and will play an increasing role for deploying GIS technology and access to spatial data within organizations.

This presentation will move beyond an "Introduction to ArcGIS Online" and will delve into strategies and techniques for a successful deployment of ArcGIS Online on an organizational scale. Successful ArcGIS Online deployments will be demonstrated. Instructions on how to leverage your existing data and services to get started with ArcGIS Online will be given.

### **TRACK D ASPRS Student Chapter Career Panel**

Room: Room 333  
Moderator: Alexa Todd

#### **Panelists:**

*Rachel Smith, DOGAMI  
Molly Vogt and Paul Couey, Metro  
Erik Brewster, Kapala IT  
Gus Monteverde, The Freshwater Trust*

Local hiring managers coming from a state agency, private firm, regional government, and nonprofit share what they're looking for when filling GIS oriented positions and give advice to applicants. This session begins with presentations about their perspective of the GIS job market followed by time for questions. Possible topics include but are not limited to: GIS application, resumes, interviews, computer skills, experience, and personal strengths.

**Wednesday 3:00-3:30  
Break**

**Wednesday, May 1, 3:30-5:00**

**Monday**

Morning Workshops

Afternoon Workshops

**Tuesday**

8:30-10:00 Opening Keynote Speaker

10:00-10:30 Break

10:30-12:00 Late Morning Sessions

12:00-1:30 Lunch w/ Lightning Talks

1:30-3:00 Early Afternoon Sessions

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6:30-8:00 Bridge Walk

**Wednesday**

8:30-10:00 Early Morning Session

10:00-10:30 Break

10:30-12:00 Late Morning Sessions

12:00-1:30 Lunch w/ Meeting

1:30-3:00 Early Afternoon Sessions

3:00-3:30 Break

**3:30-5:00 Closing Keynote**

**5:30-9:30 Evening Social Events**

**Thursday**

Unconference

**Keynote Speaker**

Room: Ballroom

Moderator:

**Amber Case**

Amber Case is a researcher exploring the field of cyborg anthropology and the interaction between humans and technology. She has been featured in Forbes, WIRED, and many other publications, both in the United States and around the world. Her main focus is mobile software, non-visual augmented reality, the future of location, and reducing the amount of time and space it takes for people to connect. Case has spoken at TED on technology and humans and was featured in Fast Company 2010 as one of the Most Influential Women in Technology. She's worked with Fortune 500 companies at Wieden+Kennedy and on major applications at Vertigo Software. In 2012 she was named one of National Geographic's Emerging Explorers and made Inc Magazine's 30 under 30 with Geoloqi co-founder Aaron Parecki. In March 2013, she was added to the Lewis & Clark Board of Trustees, the youngest trustee in the college's history. She is [@caseorganic](#) on Twitter. Geoloqi was acquired by global mapping company Esri in October 2012.



**Closing and Poster Award Ceremony**

The results of the Poster Session voting will be announced and awarded along with a few other closing conference remarks.

**Thanks for attending!**

## ASPRS/GIS Student Org Social

Wednesday, May 1, 2013, , starting at 5:30

Gnarly Grey

1235 SW Jefferson St, Portland, OR

Join us after the GIS in Action Conference at Gnarly Grey restaurant and pub for some networking, socializing, and (ideally) a good time! The PSU student chapter of ASPRS is putting money towards communal snacks, so show up early to partake in the delicious grub. Gnarly Grey is a short walk from campus on 12th and Jefferson. This will be a great opportunity to connect with other GIS-minded folk, so don't miss it! See you there.

## Esri Dev Meet Up - Helping to Keep Portland on the Edge

Wednesday, May 1, 2013, 5:30-9:30

Portland City Grill

111 SW 5th Ave. 30th Floor, Portland, OR

In coordination with the Oregon and Southwest Washington URISA GIS in Action conference, there is a Esri Dev Meet Up Wednesday, May 1st. Food and beverages will be provided at the meet up.

The Esri Dev Meet Up is a social gathering for developers to discuss geospatial technologies, complementary third-party tools, and development platforms (e.g., Silverlight, Java, Flex, JavaScript) that are supported by Esri. Presentations run the gamut of our community: from Web development to mobile location development for iOS, Android and Windows Phone 7 to automating tasks with Python.

Developers of all levels of expertise are welcome, from seasoned GIS professionals to those new to geospatial development.

At these meet ups, you can:

Demonstrate your application or framework.

Share your experiences.

Present an interesting concept or idea.

Connect with other developers.

Meet Up Schedule:

6:00 - 7:00: Registration and Social (Appetizers and Beverages served)

7:00 - 7:30: Keynote Speaker

7:30 - 8:30: PM Lightning talks

8:30 - 9:30: PM Raffle, Networking and Social. Two great prizes: 12-month EDN Subscription and DevSummit Registration

For more information and to RSVP, go to:

[http://www.meetup.com/DevMeetUpOregon/events/112474822/?a=ea1\\_grp&rv=ea1](http://www.meetup.com/DevMeetUpOregon/events/112474822/?a=ea1_grp&rv=ea1)

## Thursday, May 2, Unconference

### Monday

Morning Workshops

Afternoon Workshops

### Tuesday

8:30-10:00 Opening Keynote Speaker

10:00-10:30 Break

10:30-12:00 Late Morning Sessions

12:00-1:30 Lunch w/ Lightning Talks

1:30-3:00 Early Afternoon Sessions

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12:00-1:30 Lunch w/ Meeting

1:30-3:00 Early Afternoon Sessions

3:00-3:30 Break

3:30-5:00 Closing Keynote

5:30-9:30 Evening Social Events

### Thursday

#### Unconference

## Unconference

Rooms: 298, 329, and 323

This is a free Open Source Geospatial Unconference put on by the Portland OS-Geo User Group on Thursday, May 2. To assist with planning, registration is requested by going to <http://pdxosgeo2013.eventbrite.com/>.

The unconference will be in PSU's Smith Memorial Student Union building around the same rooms that were used for the GIS in Action Workshops. It will begin with a morning registration at 9:00am and end at 5:00pm. Coffee, tea, and water will be provided, however participants are on their own for lunch. There are lots of great food cart options in the area; bring cash for lunch on your own.

This is a participant-driven event! If you've never been to an unconference before, the format and sessions are determined on the day of the unconference by the people attending. No idea is too big or too small. Everyone gathers in the morning and decides how to organize it. If you want to present, you throw your idea up on the board, sessions get arranged and rearranged and rooms assigned by the crowd and it just sort of all happens. You have to experience it to understand how well this can work. You are expected to interact with the presenter.

More information, presentation ideas, and other goodness is available at the wiki page:  
[http://wiki.osgeo.org/wiki/PDX-OSGEO#2013\\_Unconference](http://wiki.osgeo.org/wiki/PDX-OSGEO#2013_Unconference)

Please feel free to contact the PDX OS-Geo User Group (Google group) with any questions.



## Accommodations

### Travel: MAX

The Smith Center is at the corner of Harrison and Broadway. The closest Light Rail Stop is the PSU Urban Center. Additional information about public transportation to the conference can be found at <http://www.trimet.org/>

### Parking

For information about parking at PSU, go to <http://transportation.pdx.edu/visitors/parking>.

Parking rates start at \$3/hour. The Parking Three structure has the largest number of guest parking, but other parking can be found nearby. See <http://portland.bestparking.com/>

### Hotel

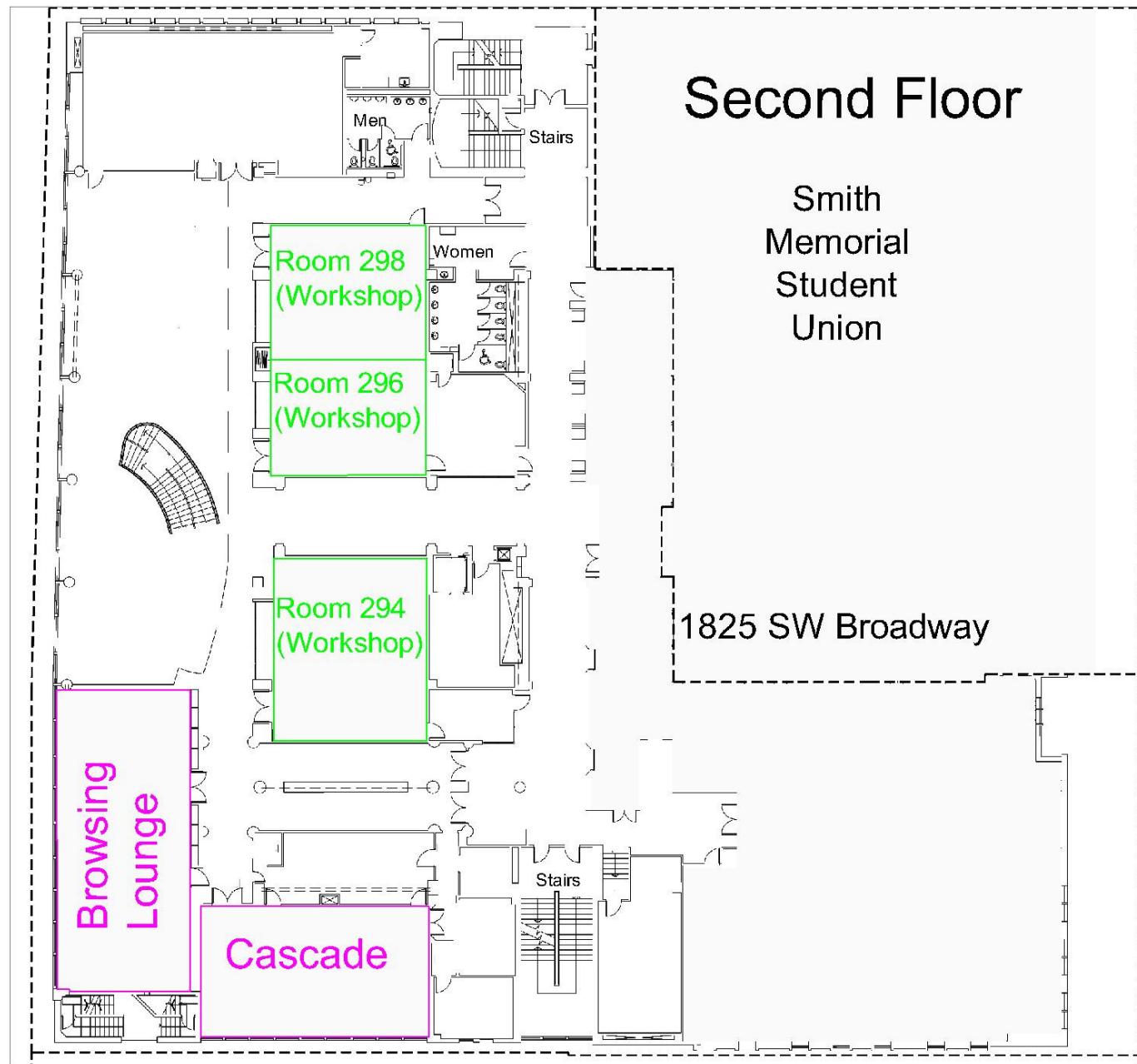
Hotel accommodations can be made at two nearby facilities. University Place is located at 301 SW Lincoln Street. You can reach the hotel at 503-221-0140 or at <http://cegs.pdx.edu/stay/upl>. Hotel Madera is located at 515 SW Clay Street. You can reach the hotel at 877-484-1084 or at <http://www.hotelmodera.com>.

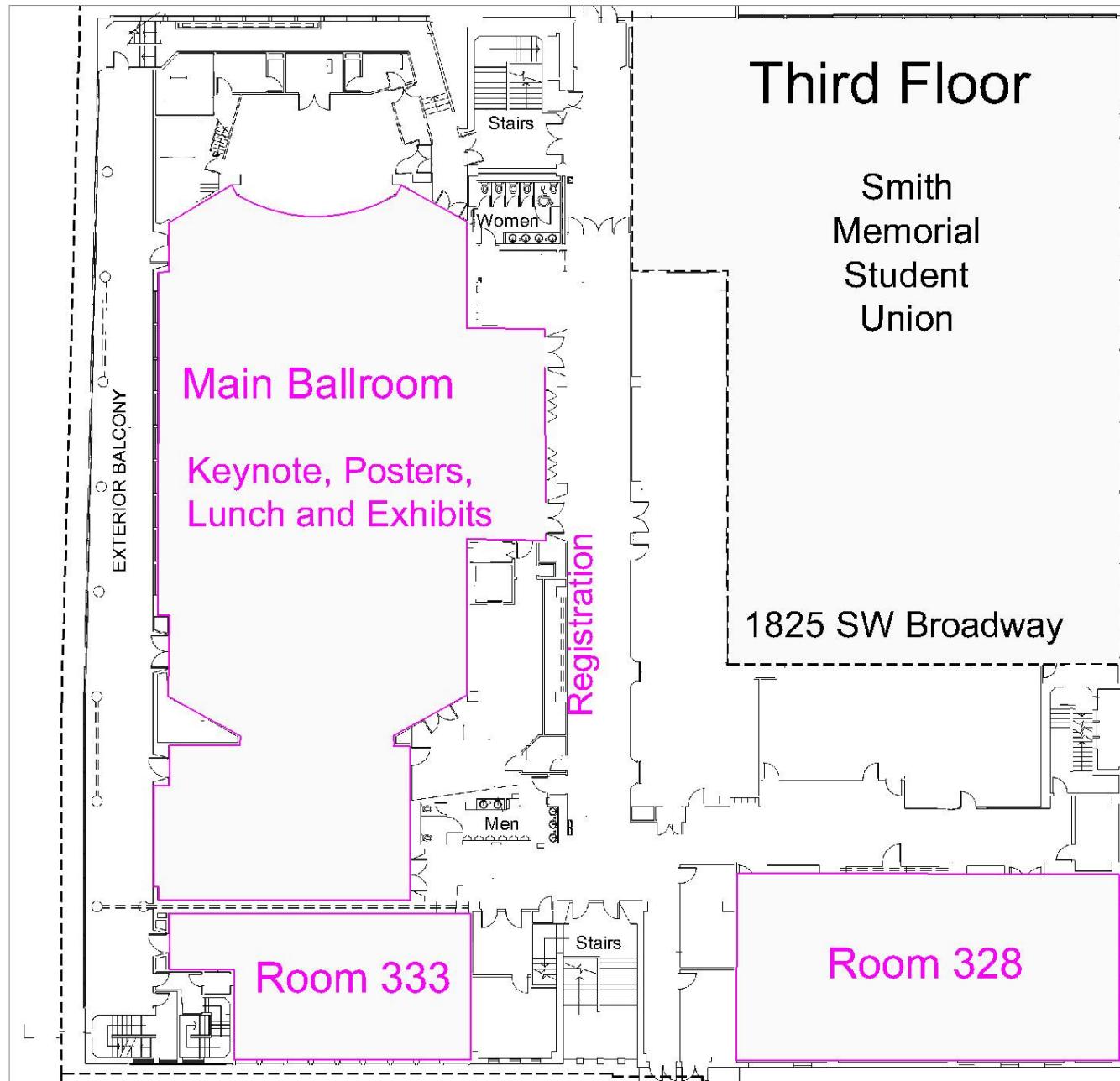
### Meals

Box lunches are provided Tuesday and Wednesday with registration. A continental breakfast is offered each morning. Also, light refreshments are provided at the Vendor Social on Tuesday.

A limited number of vegan and gluten free meals are available on request. Please check in at the registration desk if you have any special dietary needs.







# Conference At A Glance

Monday, April 29

## GIS in Action: At A Glance

Pre-Conference Workshops			
	Monday, April 29		
	Day 1	Track A Sessions	Track B Sessions
Rooms	Browsing	Cascade	Room 328
Morning	Mobile Applications for Natural Resource Management (9:30 AM - 12 PM)	Powerful Mapping Web Applications with Open Source (8 AM - 12 PM)	ArcGIS Online for Everyone: Analysis, Developers, and the General Public (8 AM - 5 PM)
Afternoon		State of the Art Web Mapping with Open Source Tile Mill (1 - 5 PM)	Lunch per Instructor's schedule

Tuesday, April 30

	Day 1	Track A Sessions	Track B Sessions	Track C Sessions	Track D Sessions
Rooms	Rooms	Browsing	Cascade	Registration	Room 328
7:30 AM - 2 PM		Welcome and Opening Session			
8:30 - 10 AM		Sharon Wood Wortman			
		Author of "The Portland Bridge Book"			
10 - 10:30 AM			Break		
10:30 AM - 12 PM	GIS for Natural Resources Applications	GIS and Mobile Technologies	Photogrammetry from automobiles, UAVs, and handheld cameras		
12 - 1:30 PM		Lunch w/ Lightning Talks			
1:30 - 3 PM	Conservation GIS	Mobile Imaging and Lidar for Asset Management	Photogrammetry and Lidar for Engineering Projects		
3 - 3:30 PM			Break		
3:30 - 5 PM	Data Management for Urban Resource Applications	Mobile LIDAR – Uses at Oregon DOT	Topographic and Bathymetric Lidar Applications		
5 - 7 PM		Social and Vendor Exhibit			
6 - 7 PM		Bridge Walk			

Wednesday, May 1

	Day 1	Track A Sessions	Track B Sessions	Track C Sessions	Track D Sessions
Rooms	Rooms	Browsing	Cascade	Registration	Room 333
7:30 AM - 2 PM					
8:30 - 10 AM	Open Source GIS I	Asset Management Tools	Communicating GIS & Cartography	GIS Body of Knowledge & Perspectives	
10 - 10:30 AM			Break		
10:30 AM - 12 PM	Open Source GIS II	Data Management for Decision Makers	Crowd Sourcing and Participatory GIS	GIS & Education: Experiences and Challenges	
12 - 1:30 PM		Lunch	ORURISA Annual Meeting		
1:30 - 3 PM	Web Mapping	GIS Management & Frameworks	ArcGIS Online	ASPRS Student Chapter Career Panel	
3 - 3:30 PM			Break		
3:30 - 5 PM		Closing Session			
5:30 - 9:30 PM		Amber Case			
		Geoloqi Co-founder and Cyborg Anthropologist			
		Evening Social Events			