2012 PLSO and GIS in Action Joint Conference

March 13th - 16th

From Points to Polygons, Bridging the Gap

PROFESSIONAL LAND SURVEYORS OF OREGON INC

COLUMBIA RIVER REGION asprs THE IMAGING & GEOSPATIAL INFORMATION SOCIETY

OREGON & SOUTHWEST WASHINGTON URISA

TUESDAY schedule

TUESDAY schedule

START TIME		MULTNOMAH	CLACKAMAS	CLARK	WASHINGTON	SALON EAST (1&4)	SALON WEST (2&3)	TIMBERLINE	GLISAN	OVERTON	PETTYGROVE	HAYDEN
0830		**Welcome and Introductions by Keith Massie**										
0900	1.5 Hours	Open Source Smackdown	Lidar Technologies and Accuracies	Real-world GIS	Esri Applications for Local Governments	Poster Session Set-Up		NSPS Student Competition				
1030	0.25 Hours	Break					Break					
1045	1.5 Hours	The Pacific Northwest: The New Frontier for Open Source Software and Open Data	Automated Point Cloud Generation & Feature Extraction from Imagery	Mapping the Community				NSPS Student Competition (continued)				PLSO Board Meeting
1215	1 Hour	Lunch with Oregon URISA Annual Meeting Salon East										
1315	1.5 Hours	Mobile GIS Applications	GIS for Fisheries and Natural Resources	GIS Management	Web Applications for GIS	Poster Session Display		NSPS Student Competition (continued)				PLSO Board Meeting (continued)
1445	0.25 Hours	Break					Break					
1500	1.5 Hours	Open Source/Esri Integration	GIS for Fisheries and Natural Resources	Addressing	Lidar Applications and Feature Extraction			NSPS Student Competition (continued)				PLSO Board Meeting (continued)

Additional Activities: 0700 to 1600 Registration
1630 to 1830 Women in GIS/Nerd Girls Social in Salon East
1800 Exhibitor Set-up in Salon West

WEDNESDAY schedule

START TIME		MULTNOMAH	CLACKAMAS	CLARK	WASHINGTON	SALON EAST (1&4)	SALON WEST (2&3)	TIMBERLINE	GLISAN	OVERTON	PETTYGROVE	HAYDEN
0800	1.5 Hours	Open Source Geospatial (OSGEO) Live-DVD Demo	Photo-grammetry and Lidar	Innovations in Mobile Mapping and GIS	Bathymetric Data Collection and Applications			Understanding Area and GIS Parcels	Technologies for GIS Data Collection and Workflow			Auction Item Receiving and Viewing
0930	0.5 Hours	Break						Break				
1000	1.5 Hours					Plenary Session “Bridging the Gap “					Vendor Rodeo	Auction Item Receiving and Viewing
1130	1.5 Hours	Box Lunch with Exhibitors and NSPS Student Competition Awards Salon West					Exhibits and Survey Olympics OPEN and Viewing of Map/Plat Competition	Box Lunch with Exhibitors and NSPS Student Competition Awards Salon West				
1315	1.5 Hours	Automated Point Cloud Generation and Feature Extraction from Imagery (repeat)	Geodesy, Coordinates and Datums for GIS	BLM Geographic Coordinate Data Base (GCDB) Program	Changing Times, Changing Places: Opportunities for Surveying Beyond Surveying			Creating Online Maps Using ArcGIS.com	GIS Solutions	GIS Maturity Modeling	Vendor Rodeo	Auction Item Receiving and Viewing
1445	0.25 Hours	Break						Break				
1500	1.5 Hours					Thought Leader Panel Session and Closing Remarks					Vendor Rodeo	Auction Item Receiving and Viewing (closes at 17:00)

Additional Activities: 0700 to 1600 Registration
1630 to 1800 Exhibitor’s Social (food and drink) in Salon East and West

WEDNESDAY schedule

THURSDAY schedule

START TIME		MULTNOMAH	CLACKAMAS	CLARK	WASHINGTON	SALON EAST (1&4)	SALON WEST (2&3)	TIMBERLINE	GLISAN	OVERTON	PETTYGROVE	HAYDEN
0830	1.5 Hours	Charm School for Professional Surveyors		Remedies to Resolve Property Line Problems			Exhibits and Survey Olympics Open	GIS and Google Earth	Certified Surveying Technician Program	Perspectives on the Future of the Surveying Profession	Vendor Rodeo	PLSO Silent Auction and Viewing
0930	0.5 Hours	Break						Break				
1000	1.5 Hours	Charm School for Professional Surveyors (continued)		Remedies to Resolve Property Line Problems (continued)				Scanning Projects	Error Propagation	Perspectives on the Future of the Surveying Profession (continued)	Vendor Rodeo	PLSO Silent Auction and Viewing
1130	1.5 Hours	Lunch Salon East with PLSO Annual Meeting and Awards						Lunch Salon East with PLSO Annual Meeting and Awards				
1300	1.5 Hours	NO CLASSES - EXHIBITS OPEN						NO CLASSES - EXHIBITS OPEN				
1430	0.5 Hours	Break						Break				
1500	1.5 Hours	Light ^{2} Update		The 2011 David Thompson Columbia Brigade and the Evolution of the Oregon Territory	Columbia River Crossing			Fraud/ Embezzlement and IRS Update	Resurveys of Simultaneous Conveyances	Machine Control	Using a VRS for High Accuracy Positioning	PLSO Silent Auction and Viewing (Auction Closes at 1700)

Additional Activities:

0700 to 1600 Registration
1500 Exhibits tear down in Salon West
1630 to 1745 Oregon State University Alumni Gathering in Jantzen Room
1630 to 1745 Oregon Institute Of Technology Alumni Gathering in White Stag Room
1645 to 1745 Cocktails in Salon East
1745 to 1945 PLSO Oral Scholarship Auction, Dinner and Entertainment in Salon East

THURSDAY schedule

FRIDAY schedule

START TIME		MULTNOMAH	CLACKAMAS	CLARK	WASHINGTON	SALON EAST (1&4)	SALON WEST (2&3)	TIMBERLINE	GLISAN	OVERTON	PETTYGROVE	HAYDEN
0800	1.5 Hours	Basic Logic for the Land Surveyor		The Surveyor's Role in Conflict Resolution			High School Student Program and Survey Olympics	BLM Surveying and Land Status Records System	Roberts Rules for Associations	GIS for the Surveyor	PLSO Web Google Apps	OGUG Meeting
0930	0.5 Hours	Break						Break				
1000	1.5 Hours	Basic Logic for the Land Surveyor (continued)		The Surveyor's Role in Conflict Resolution (continued)				Taming the Wild Loxodrome	Fraud/ Embezzlement and IRS Update (repeat)	GIS Tools for Surveyors	Top Ten Things You Should Be Doing To Market And Grow Your Business	OGUG Meeting (continued)
1130	1.5 Hours	Lunch with College Presentations and Survey Olympic and Map Competition Awards										
1300	1.5 Hours	Water Ways and Water Boundaries		Survey Plat Narratives	'Intelligence' and 'Meaning' in Measurement Processes			BLM Surveying and Land Status Records System (repeat)	2012 NGS Products and Services Update	GIS Tools for Surveyors (repeat)	PLSO Web Google Apps (repeat)	Million Points per Second - Mobile Laser Scanning at ODOT
1430	0.5 Hours	Break						Break				
1500	1.5 Hours	Water Ways and Water Boundaries (continued)		OSBEELS- Navigating the Law Enforcement Process	Instrument Calibration: New Needs, Directions and Solutions			Taming the Wild Loxodrome (repeat)	Error Propagation (repeat)	GIS for the Surveyor (repeat)	Top Ten Things You Should Be Doing To Market And Grow Your Business (repeat)	Oregon Real-time GPS Network

Additional Activities: 0700 to 1600 Registration
0700 to 0800 PLSO Past President's Breakfast in Hayden Room

FRIDAY schedule

Session One, 0900 to 1030

Open Source Smackdown - Web Mapping Edition

Room: Multnomah
Moderator: Rafa Gutierrez; Owner, Grafa LLC

2011 brought about many new advances in web mapping libraries. This session demonstrates the three most popular web map libraries to date: OpenLayers, Leaflet, and Google Maps. The smackdown consists of challenging the presenters with some basic mapping problems including but not limited to constructing a basic interface, live editing, customizations, and Mapbox tile layer inclusion. A brief demonstration of Tilemill will set the stage for the data used in the presentations.

Presenter: Rafa Gutierrez; Owner, Grafa LLC
Topic: Tilemill
Abstract: Tilemill is an open source local application used for styling maps for the web and tile generation. Tilemill can use a wide variety of data sources including shapefiles, PostGIS, and SQLite. The interface uses basic CSS styling so managing data is easy with a text editor or the Tilemill application. Tiles can be output and hosted on Mapbox's hosting site or alternate servers.

Presenter: Rafa Gutierrez; Owner, Grafa LLC
Topic: OpenLayers
Abstract: OpenLayers is a pure JavaScript library for displaying map data in most modern web browsers, with no server-side dependencies. OpenLayers implements a JavaScript API for building rich web-based geographic applications. OpenLayers is Free Software, developed for and by the Open Source software community.

Presenter: Edwin Knuth
Topic: Leaflet

Presenter: Christian Schumann-Curtis; Blue Sky GIS

Lidar Technologies and Accuracies

Room: Clackamas
Moderator: Chris Aldridge; Professional Photogrammetrist

Presenter: Ron Singh; Chief of Surveys/Geometronics Manager, Oregon Department of Transportation
Topic: Lidar Fundamentals - From Acquisition to Application
Abstract: Learn about, or get current on the latest information on this rapidly advancing remote sensing technology operated from various airborne and terrestrial platforms. The presenter will discuss methods of data capture, processing, feature extraction and visualization and explain how you may introduce it in your segment (surveying, design, construction, historic preservation, asset management and more) of a transportation engineering/ infrastructure management workflow.

Presenter: John English; Lidar Specialist, DOGAMI
Topic: DOGAMI Lidar Quality Assurance Procedures and Findings

Real-world GIS

Room: Clark
Moderator: Dean Anderson; GIS Manager, Polk County

Presenter: J. Scott Parker; Retired Engineer
Topic: Walkway Network Analysis
Abstract: This paper describes the development of new geospatial analysis tools intended to help communities choose where to invest in infrastructure improvements to support walking. The tools use network distance as opposed to geometric (as-the-crow-flies) distance and weighting of network segments according to their attractiveness or impedance.

Key to the analysis is the creation of a walkway network that represents the topology of the network used by pedestrians. This network is different from the street centerline network in having a separate line segment for each side of the street and line segments representing crosswalks. Many types of analysis may be done, including: individual shortest-effective-distance walking routes, quality scores, network utilization by segment, service areas, surfaces of difference, and slope shaded maps that highlight opportunities for walkway network improvement. Visualizing the surface of difference for a proposed project illustrates the geographic extent and magnitude of benefit of an improvement.

Presenter: Marwa Waseem A Halmy; PhD Student, University of Idaho
Topic: Assessing the Effectiveness of Ensemble-based Techniques in Classifying Land use/Land Cover in Arid Lands: A case study in the northwestern coastal deserts of Egypt
Abstract: The land use/land cover classification of desert areas based on spectral data only is not always achievable, due to the spectral similarity of features in such areas. Multiple classifier systems as boosting, bagging, and random forests that could be applied to multisource data including spectral and other geographic data are of great importance in such circumstances. The applications of boosted multilayer artificial neural networks and random forest methods to multispectral data have been shown to significantly improve classification accuracy over conventional methods and other machine learning approaches. However, these two approaches have not been compared and are rarely applied to classification of land cover in semi-desert areas. In this study, we assess the utility of these two ensemble-based classifiers; the boosted three-layer feed forward artificial neural network and random forests, for classification of land use/land cover of a semi-desert landscape in the northwestern coastal desert of Egypt using Landsat 5 TM data and other

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ancillary data. The assessment includes the standard accuracy measures, the computational requirements, algorithm stability, and sensitivity to noise. Both methods performed comparably and produced high classification accuracy compared to conventional methods using spectral data only. Their performance significantly improved using ancillary data, however random forest method was more robust to noise, fast, and required less computational resources. For classification of land use/land cover in arid lands, machine learning approaches using multisource data are very promising.

Presenter: Michael Christy; GIS Analyst, David Evans and Associates, Inc.
Topic: Fusing GIS and Hydrography for Search and Recovery Operations: Two Case Studies
Abstract: A unique application of hydrographic science is in waterborne search and recovery operations. This presentation will review two case studies of the application of a GIS to evaluate hydrographic data for search and recovery operations. During both of these case studies, the use of a geographic information system played a commanding role in the success of the projects.

David Evans and Associates, Inc. assisted in the search and recovery operations of two Marine F-18 fighter jets, which collided in midair over the Columbia River near Arlington, Oregon. Hydrographic data and other search activities were integrated into GIS, which played a vital role in coordinating search operations for the Command Center. A mobile processing lab was established on scene where all data compilation, analysis and interpretation were performed. Through the application of an integrated mapping effort to coordinate search activities and analyze findings, more than 98 percent of the wreckage was recovered.

Under agreement with the Pyramid Lake Paiute Tribe, the United States Navy used Pyramid Lake as a practice bombing range during the 1940's. As part of the cleanup of this formally used defense site it was necessary to locate ordnance and other remnants of the bombing practice. The project included: multibeam bathymetry collected over the entirety of the 158 square nautical mile lake bottom, investigations with a side scan sonar and magnetometer which were focused over the designated lease area, remote operated vehicle (ROV) investigations to identify priority sonar and magnetic contacts, and recovery of ordnance with a ROV and divers.

Esri Applications for Local Government

Room: Washington
Moderator: Keith Massie; GIS Manager, City of Medford

Presenters: Gena Vincent; GIS Manager, City of Grants Pass, Oregon
Don Burdick, Salish Coast Sciences, LLC
Topic: Migrating Legacy GIS to the Local Government Template
Abstract: What do a surly surveyor, a snarky GIS Analyst and a moonlighting GIS team have in common? They were inspired to modernize the City of Grants Pass GIS and envisioned the departure of the ArcView 3.x and CAD data maintenance days. The tools for the mission: sweat, tears and the Esri local government data model and templates which provided a comprehensive package for modeling, storing, editing, publishing and sharing GIS data.

The tactical plan was converting data following the Local Government Template data model. With this approach, the City was able to utilize the templates available for editing and publishing GIS data. The City wanted a web mapping application that made GIS data accessible to all users, but developing a custom application was cost prohibitive. The LGT made this possible with minimal cost in a relatively short time. Mission accomplished!

Presenter: Keith Massie; GIS Manager, City of Medford
Topic: Esri Map Services & ArcGIS.com: A Successful Implementation
Abstract: The City of Medford first dove into map services in 2009. David Renz, my programmer, was the impetus for creating map services. Since 2009, we have built a robust set of map services, and have successfully partnered our map services with ArcGIS.com to build several dozen web maps. With over 130 map services deployed, and over 25 web maps online, the City of Medford has fully embraced the utility and time saving features of map and web services.This presentation will detail where we are, how we got there, and our future plans.

Presenter: John Sharrard; GIS Solutions Engineer, Esri
Topic: Introduction to Esri City Engine – Procedural 3D Modeling
Abstract: Esri CityEngine is a stand-alone software product that provides professional users in architecture, urban planning, entertainment, GIS and general 3D content production with a unique conceptual design and modeling solution for the efficient creation of 3D cities and buildings. More specifically, it allows ArcGIS users to: 1) efficiently create 3D cities and buildings based on their existing GIS data and 2) do conceptual Geodesign in 3D based on GIS data and (urban planning) procedural rules.

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The Pacific Northwest: The New Frontier for Open Source Software and Open Data

Room: Multnomah
Moderator: Bibiana McHugh; IT Manager, Trimet GIS and Location-Based Services.

Presenter: Bibiana McHugh; IT Manager, Trimet GIS and Location-Based Services.
Topic: TriMet's New Regional Trip Planner, an open source, multi-modal trip planner

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Abstract: RTP uses the OpenTripPlanner (OTP), which is now an international open source, multi-modal trip planner that was seeded from a 2009-2011 Metro Regional Travel Options . OTP is entirely open: the development method, the software license, the architecture, and even the data. Worldwide contributions include active deployments in eight countries and translations into six languages.

Presenters: PJ Houser; TriMet GIS Intern
Grant Humphries; TriMet GIS Intern
Mele Sax-Barnett; TriMet GIS Intern
Topic: PDX OSM (OpenStreetMap) Improvement Project
Abstract: TriMet and Metro have put significant resources into improving OpenStreetMap using regional jurisdictional data as a reference. It now rivals commercial routable networks and supports applications including TriMet's new Regional Trip Planner (RTP), which plans transit, biking and walking trips.

Presenter: Rick Nixon; Program Manager, eGovernment, City of Portland
Topic: PDX CitySync Initiative
Abstract: The City of Portland is proud to partner with residents and local business to create a new, interactive online resource for and by the Greater Portland community. CitySync, an innovative, personalized web-based platform, aims to engage our community partners to help generate and build upon ideas, apps, and data to support increased civic awareness, participation, and collaboration among residents, local business, and regional government. CitySync is a platform for tools and services to help residents and local businesses, powered by government and community data.

Learn about CitySync's collaborative effort with the community to create componentized bits of functionality or "widgets" using some of today's leading technology, such as the Drupal 7 framework. Each "widget" or app will serve a limited and specific purpose to end users, which they are able to curate based on their own preference, locale and interest categories. Also learn about some of the best ideas, CitySync APIs, style guidelines, and a "sandbox" instance of the CitySync environment for the integration of others' work.

Automated Point Cloud Generation and Feature Extraction from Imagery

Room: Clackamas (repeated Wednesday)
Moderator: Doug Smith; Consulting Photogrammetrist, David Smith & Associates

Presenter: Aaron Reyna; GIS Analyst, Urban Robotics, Inc
Topic: Bridging the Lidar Gap. 2D to 3D, Computer Vision, Distributed Processing, and 3D Reconstruction in GIS.
Abstract: In today's market, lidar has improved many projects requiring highly accurate data/ However, the industry has felt the lag from lidar gap. Urban Robotics recently completed a Dense 3D Extraction of Mount St. Helens using aerial imagery. The effort was investigatory and intended to demonstrate the ability to extract dense lidar-like 3D datasets from nothing but standard overlapping aerial imagery. Using proprietary software and hardware, a complete 2D and 3D orthographic dataset was produced in a few hours time. Along the way, there are many places where lidar and 3D reconstruction can coexist and potentially benefit from each other.

Presenter: Gaylen Kovak-Lewis; Urban Robotics, Inc
Topic: 3D Terrestrial Extraction from 2D Imagery: Spatial accuracy in the palm of your hands.
Abstract: The world is an ever changing spatial puzzle filled with immense amounts of information. We are always looking for quicker and more efficient ways to quantify, exploit and communicate what is in the environment around us. The tools we have at hand can vary from a handheld camera phone to a multi-sensor aerial platform. The focus of this presentation will be 3D extraction in the GIS, remote sensing and Land Surveying market.

Presenter: Aaron Reyna; Gaylen Kovak-Lewis
Topic: Unmanned Aerial Vehicle (UAV) Drone on Display for Questions and Answers
Abstract: Urban Robotics will bring one of the UAV's to display for a brief discussion, questions and answers.

Mapping the Community

Room: Clark
Moderator: Clint Chiavarini; Senior GIS Specialist, Metro

Presenters: Leila Aman; Senior Planner, Metro's Transit-oriented Development Program
Clint Chiavarini; Senior GIS Specialist, Metro
Topic: Metro's Context Tool and its use in Metro Programs.
Abstract: The Context Tool is a web-based visualization tool currently under development by the Data Resource Center. It allows a user to map various physical characteristics to describe the built environment and then evaluate the performance of chosen areas based on those characteristics. Planners, partners, community groups, decision makers and others can use the tool to help identify opportunities and prioritize resources to address those opportunities. Its use in Metro's transit oriented development (TOD) Program Strategic Plan and State of the Centers Report will be highlighted.

Presenter: Kris Smock; Consultant, Coalition for a Livable Future
Topic: Coalition for a Livable Future's Regional Equity Atlas 2.0
Abstract: The Regional Equity Atlas 2.0 is an online mapping tool that will examine how well different populations across the Portland metro region are able to access the resources and opportunities necessary for meeting their basic needs and advancing their health and well-being. It will also provide a visual depiction of how the benefits and burdens of growth and change

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are distributed across the region. By illuminating the region's "geography of opportunity", the project will provide a tool for promoting greater regional equity through policy and planning.
Presenter: Rebecca McLain; Senior Social Scientist, Institute for Culture and Ecology
Topic: Human Ecology Mapping on the Olympic Peninsula: A Pilot Project for Integrating Sociocultural Values Data into Natural Resource Planning
Abstract: This presentation describes the Human Ecology Mapping Project, a pilot project implemented on the Olympic Peninsula in 2010-2011 and aimed at developing a GIS-based methodology for mapping and analyzing social values and uses relevant to natural resource management. Most landscape values mapping studies rely on point-based data; our project advances this body of work by allowing community participants to depict spatial locations of key values and activities using points, lines and polygons.

While data gathered in this way more accurately represents the spatial dimensions of areas valued by participants, the use of multiple feature types greatly increases the complexity of data aggregation and analysis. We describe our data collection approach, as well as the techniques used to analyze sociocultural values data collected from residents of 8 communities on the Olympic Peninsula. We present preliminary findings depicting the spatial distribution of special places and important activities for participants in the mapping project. We end with a discussion of key methodological and conceptual challenges land use planners need to be aware of when undertaking efforts to integrate sociocultural values data into ecosystem-based planning.

Session Three, 1315 to 1445

Mobile GIS Applications

Room: Multnomah
Moderator: Keith Massie; GIS Manager, City of Medford

Presenter: Kerry Haligan; Senior Geospatial Specialist, Mason Bruce and Girard
Topic: A Prototype Mobile GIS Application for Highway Maintenance
Abstract: Transportation, oil and gas, power and telecom industries commonly utilize linear reference systems to manage and store asset information. However, field crews rely on GPS to navigate to resources and to collect spatial data. Often, users (and software developers) are forced to choose one spatial reference system or another, or use both systems for different activities. Why choose? It is possible to use both systems and to carefully integrate them to maximize the benefits of each. Mason, Bruce and Girard developed a prototype in-vehicle map application for Oregon Department of Transportation that leverages ESRI's ArcGIS Mobile and ArcObjects technologies. This application combines planimetric data (e.g., imagery, highways, sensitive habitats, bridges) with linear reference data representing highway assets such as guard rails, signs and culverts. We use a range of techniques to display and link these datasets including a typical map interface, dynamic segmentation of linear reference data, and on-the-fly custom graphic generation with dynamic overlays to indicate GPS derived location on a linear graphic. This presentation will cover a range of topics including the application that was developed, methods for linking GPS and linear reference data, lessons learned regarding GPS connectivity and data management challenges and more.

Presenters: Ken Kato; Associate Director, InfoGraphics Lab, University of Oregon
Justin White, Senior Systems Analyst, City of Eugene, Oregon
Topic: Public Participation GIS Mobile Applications for Transportation Planning and Maintenance. Mobile apps that enable citizens to contribute real-time spatial information for transportation projects or maintenance issues
Abstract: The UO InfoGraphics Lab will demonstrate three iPhone/Android applications they've recently developed that connect mobile users directly into back-end GIS systems. Each application demonstration will also present individual methods used to create the applications and the GIS products and techniques that deliver, analyze, and visualize the data.

"MakeItSo!" is an iPhone application, utilizing Esri's iOS API, that provides citizens with a Public Participation GIS tool to submit spatial observations and imagery about their biking and pedestrian transportation environment. Transportation planners can visualize and analyze real-time spatial data as it's being collected.

"JLA Involve" is also an iPhone application, utilizing Esri's iOS API, that focused similar technology for specific use by a Public Involvement Firm (JLA), in support of an individual project, the Transportation System Plan update for the City of Tualatin, Oregon.

"iBikeEugene" is a native app for both iPhone and Android, designed and written collaboratively with staff from the City of Eugene's Public Works Maintenance Division, that allows citizens of Eugene to submit specific bike path/lane maintenance issues directly to the City's work ticket system (MMS). This direct connection instantly alerts Public Works of potential maintenance needs and increases the efficiency and effectiveness for Public Works to respond to service requests.

Presenter: John Sharrard; GIS Solutions Engineer, Esri
Topic: Accessing Online Maps Using the Esri App on Your Smart phone (please download the app before this presentation)
Abstract: ArcGIS for smart phone platforms extends the reach of ArcGIS to a broad range of mobile devices— iPads, iPhones and iPod Touch devices, Android phones and tablets and Windows Phone devices. You can use a native ESRI App GIS solution on these platforms to view, collect, and update your

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geographic information.
Before attending the presentation, please download and install the appropriate app for your Smartphone platform. You can find instructions and links to the ArcGIS app downloads here:

iOS Platform - http://resources.arcgis.com/content/iphone/application

Android Platform - http://resources.arcgis.com/content/arcgis-android/application

Windows Phone - http://help.arcgis.com/en/arcgismobile/10.0/apis/windowsphone/index_application.html

GIS for Fisheries and Natural Resources

Room: Clackamas
Moderator: Erik Brewster; GIS Consultant

Presenter: John Bauer; GIS analyst, The Wetlands Conservancy
Topic: Development of a Conservation Plan for Oregon's Yaquina Estuary
Abstract: Conservation planning – the assessment of current conditions, threats, and opportunities – often lacks consistent, spatially explicit analyses conducted at watershed or landscape scales. Further, conservation plans are often single-species focused, which may not be optimal for all species. For our Yaquina Estuary Conservation Plan, we assessed four estuarine ecological processes (estuarine circulation, sedimentation, water quality and habitat). Each process had several key ecological attributes, which were quantified with indicators at the sub-watershed levels. We generated new geodata as needed, synthesizing information from diverse sources. To evaluate the impacts of sea level rise, we used lidar elevation data, coupled to a local tidal datum, to understand potential loss of estuarine habitat and opportunities for landward migration zones. To better direct future restoration activities, we compiled information from several sources to identify potentially underrepresented areas. Our findings were enhanced by feedback from watershed councils, non-governmental organizations (NGOs), consultants, and researchers. A 38-page atlas complements our final report, and is a fundamental component to our outreach effort.

Presenter: Lynnae Sutton; IT Database Management Specialist, Fish Passage Center
Topic: Development of an online hatchery release data mapping application
Abstract: The Fish Passage Center (FPC) maintains a hatchery database of anadromous salmonid species released from State, Federal, and Tribal hatcheries in the Columbia River Basin. The location of the hatchery release sites were mapped and an online mapping application was developed to allow the users a spatial view of where hatcheries have released anadromous salmonids throughout the basin since 1979. Application users spatially query for and select a specific hatchery and the map selects all of the locations where the salmonids have been released by that hatchery. The map then zooms to the spatial extent of the selected sites and a table with release data is opened and made available for download. There are other spatial queries available including: selecting release sites by watershed, river or river zone. The release data provide regional Salmon Managers with the information needed to assess the current year's migration of juvenile hatchery fish through the hydrosystem. In addition, the release data have been used to access present and historical production releases, timing and magnitude of salmon runs, population estimates and the proportion of hatchery fish that are tagged. The open source software used for the FPC Hatchery Mapping Application includes: MapServer, PostgreSQL and p.mapper.

Presenter: Nathaniel Herold; Physical Scientist, NOAA Coastal Services Center
Topic: Coastal Land Cover Change Analysis
Abstract: Land use and land cover play a significant role as drivers of environmental change. Information on what land covers are changing and where those changes are occurring is essential to improving our understanding of past management practices, and in effectively responding to those environmental and human induced changes now and in the future.

NOAA's Coastal Change Analysis Program (C-CAP) produces nationally standardized land cover and land change information for the coastal regions of the U.S. These products provide inventories of coastal intertidal areas, wetlands, and adjacent uplands (using documented, repeatable procedures) with the goal of monitoring these habitats every five years. This program has been in existence since the mid 90's, and now has three dates of land cover information available (1996, 2001, and 2006) for all the coastal areas of the lower 48 states.

This presentation will summarize some of the major changes and trends observed between 1996 and 2006, both nationally and regionally. It will discuss the various ways that users can access C-CAP data, including a demonstration of the flex based Land Cover Atlas (an online viewer that provides user-friendly access to the change information that can be derived from C-CAP data), will highlight the status of C-CAP's 2011 update in the Pacific Northwest and efforts to map wetlands in the state of Washington, and will highlight potential partnership opportunities on adding dates of land cover or higher resolution product development.

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GIS Management

Room: Clark
Moderator: Amy Esnard; State of Oregon Office of Emergency Management

Presenter: Greg Babinski; Finance & Marketing Manager, King County GIS Center
Topic: Measuring Return On Investment (ROI)
Abstract: Enterprise GIS is expensive to develop, maintain, and operate. GIS is often implemented only after a cost-benefit analysis justifies the financial investment. Rarely do agencies look back after their GIS has been put into operation to analyze and measure their actual ROI.
This paper discusses the challenges and benefits of an after-the-fact GIS ROI analysis. The King County GIS ROI study, recently completed by a team from the University of Washington, Evans School of Public Policy, Cost-Benefit Analysis Center, will be described. The methodology used for the King County GIS ROI analysis will be outlined and the results summarized. Lessons learned from the KCGIS study will be presented and recommendations made for a standardized GIS ROI measurement approach.

This presentation will be of value to agencies to measure the benefits realized from their GIS investment and to help enhance confidence in projected ROI for future GIS investments.

Presenter: Cy Smith; GIS Coordinator, State of Oregon
Topic: Data Sharing

Presenter: Juston Manville; GIS Manager, City of Beaverton
Topic: GIS-Centric Policy, a Case for Interoperability
Abstract: Problem Statement: While looking into how technology can help Citizen Response in Henrico County, VA, a committee of executive officers (including the GIS Coordinator) realized the following: 1) Back - office systems were not integrated, 2) Work order management applications varied across departments, 3) Inconsistent departmental approaches to data input and sharing, 4) GIS was seen as an integral Enterprise Business System, and, 5) The Asset Management System was the GIS. The problem was how to integrate these systems that were predominately “location aware”.

Approach: Develop a “GIS - Centric” policy that will integrate back office systems. This policy would help eliminate duplicate data while making sure that all new software purchases had both and open architecture and were “GIS - Centric”.

Results: The result of this policy has been software purchases and in - house development has considered GIS Integration. The goal of a common operating picture is being achieved at Henrico County, VA.

Web Applications for GIS

Room: Washington
Moderator: James Manzione; Physical Scientist, Portland District USACE

Presenters: Eric Bohard; Clackamas County GIS
Paul Ferro; GIS Analyst, DOGAMI
James Manzione; Physical Scientist, Portland District USACE
Keith Legg; Programming Manager / Artistic Director, Metro Planning, Inc.
Topic: Case studies with ArcGIS APIs , ArcGIS Server, Google Earth, Google Maps, KML, MapServer and Web Maps
Abstract: GIS is awesome! But have you ever wanted to take your data to the next level? This seminar is designed to show you the different methods and technologies available to publish your GIS data online. Through case studies, we will be discussing the core components of the most popular web-mapping products (ArcGIS Server, MapServer, and Google Maps), and demonstrating products built on these platforms. So check us out!

Session Four, 1500 to 1630

Open Source/Esri Integration

Room: Multnomah
Moderator: Dave Percy; GIS Instructor, Portland State University

Presenter: Dean Anderson; GIS Coordinator, Polk County
Topic: ORTools
Abstract: Oregon counties are currently working together in partnership with the Oregon Department of Revenue (DOR) to build a state-wide taxmap. This effort is called ORMAP and is funded jointly by monies collected through the recording process and distributed by DOR. Many counties are constructing their taxmaps using ESRI software. This session will review how the counties over the past several years have been using an open source development model to standardize data structures and build customized tools with ESRI ArcObjects. The open source process used to manage, develop and distribute the tools will be discussed. Examples of the tools will be presented.

Presenter: Darrel Fuhriman; Systems & Data Engineering Manager, Renewable Funding, LLC
Topic: PostGIS and Sextante with ArcMap
Abstract: Looking to integrate open source GIS tools into your Esri environment? I will demonstrate some of the options, including accessing and editing data stored in PostGIS, and integrating Sextante suite of spatial analysis tools into ArcToolbox.

Presenter: Cress Bates; GIS Coordinator, Metro Planning, Inc.

TUESDAY presentations

Session Four, 1500 to 1630

Topic: Metro Maps – Scaleable Open Source solutions for local government
Abstract: Metro Planning, Inc. has designed a GIS Web application to meet the mapping needs of small, local government agencies. The application is quick, simple to use and is a full Open Source stack. Metro Maps was developed in response to a need by local government agencies to share collected sets of GIS data as part of regional, multi- jurisdictional, planning efforts. Data gathered from a variety of sources, along with the GIS analytical output created during the project, would often remain locked away from stake holders. Metro Planning recognized that a browser-based solution for providing GIS data to the end user was a viable solution to this problem.

Metro Planning's goal in creating a GIS Web Mapping application is that it be simple to use and allow a maximum area for the map display. Metro Maps includes the ability to integrate client data in an organized fashion within a user-defined, interactive layer tree. Familiar tools, along with collapsible panels, and tabbed functional groups, allow the user to create the best mapping experience for themselves.

GIS for Fisheries and Natural Resources

Room: Clackamas
Moderator: Ken Pearrow; Clark County GIS Coordinator

Presenter: Rod O'Conner; Fisheries Biologist, Blue Leaf Environmental
Topic: Using GIS to Evaluate the Approach and Passage Behavior of Salmonid Smolts at a Hydroelectric Project on the Mid-Columbia River, Washington
Abstract: Behavioral studies have been conducted over the last several years to assess juvenile steelhead, Chinook, and sockeye approach and passage behavior through Wanapum and Priest Rapids dams on the Mid-Columbia River in Washington State. Acoustic transmitters were surgically implanted into run-of-river fish and systematically released throughout the project. Hydrophone arrays were configured in the forebay, the area immediately upstream, of both dams to detect and track acoustically tagged smolts in three dimensions. In 2011 piscivorous fishes including Northern pikeminnow, smallmouth bass, and walleye, were also surgically implanted with acoustic transmitters and interactions between juvenile salmonids and these potential predators were monitored. GIS analysis of approach and passage of juvenile salmonids has provided valuable information to hydropower engineers to modify operational configurations to increase passage rates. GIS analysis included the evaluation of passage route efficiency, relative percent passage densities, approach elevations and top-spill non-selection. All GIS analyses have been examined for trends between years and species and have led to operational configuration modifications at the Project to provide increased successful smolt passage through the fish bypass at Wanapum Dam and the prototype top-spill at Priest Rapids Dam. The GIS analyses used at the hydroelectric Project will be presented.

Presenter: Eric Butler; GIS Program, Portland Community College
Topic: A GIS assessment of beaver activity in urban parks and open spaces in the Tualatin Hills Park and Recreation District
Abstract: I collected GIS data on the presence of beaver (Castor canadensis) in properties of the Tualatin Hills Park and Recreation District, Washington County, OR, in the spring of 2011. These data, including both stream conditions (including streambank condition, vegetation cover, large woody debris, beaver and nutria presence, and major canopy and shrub spp.) and points of classified beaver sign (including dams, lodges, chews, and human mitigation installations), were used to produce weighted activity density estimates, statistical correlations, and spatial statistics for activity clusters, in pursuit of the development of a predictive habitat model for beaver in the urban ecosystem. While statistical analysis failed to isolate any habitat-selection criteria for beaver activity, the data set produced by this survey has much unexploited potential for analysis, and also serves as a prototype for a more comprehensive study

Presenter: Chris Robinson; Remote Sensing Analyst, IM Systems Group at the NOAA Coastal Service Center
Topic: High Resolution Land Cover Partnership and Data Development in the Lower Columbia River
Abstract: The lower Columbia River and estuary is a complex ecosystem that supports hundreds of species of animals and is home to hundreds of thousands of people. The Lower Columbia River Estuary Partnership (LCREP) works to protect this nationally significant estuary through ecosystem monitoring, habitat restoration, and educational programs. Up-to-date, detailed land cover data, that accurately identifies wetland vegetation and other estuarine features, is vital to support these activities. When the Estuary Partnership was interested in developing such land cover data, they began discussions with NOAA's Coastal Change Analysis Program (C-CAP) and, by partnering with NOAA, were able to capitalize on C-CAP's national mapping framework. Through this partnership, and the approaches used in this mapping project, LCREP and NOAA were able to produce a high resolution land cover that met both group's needs, within a limited budget. This presentation will discuss the use of image segmentation and object based classification techniques to improve high resolution classification, use of multiple resolution imagery and lidar data, the classification scheme used and challenges encountered, the resulting classification and accuracy assessment, and initial feedback concerning the use of the data.

TUESDAY presentations

Session Four, 1500 to 1630

Addressing

Room: Clark
Moderator: Amy Esnard; State of Oregon Office of Emergency Management

Presenter: Cy Smith; GIS Coordinator, State of Oregon
Topic: Statewide Address Points, Cy Smith

Presenter: Zac Christensen, Metro
Topic: Metro Master Address File: Associated Processes And Geocoding Tools.

Presenter: Ian Crawford; WCCCA 9-1-1
Topic: Addressing for emergency management and CAD systems.

Lidar Applications and Feature Extraction

Room: Washington
Moderator: Doug Smith; Consulting Photogrammetrist, David Smith & Associates

Presenters: Sabrina Turner; Data Processing Lead, Watershed Sciences, Inc.
Dominique Schmidt; Data Processing Lead, Watershed Sciences, Inc.
Topic: Power Line Mapping using Lidar Point Cloud Classification
Abstract: All utility companies in North America must have their as-built circuits mapped and rated in accordance with NERC reliability standards over a three year period. A fully classified, high-density lidar point cloud provides the data necessary for detecting clearance violations, including proximity to ground surfaces, crossing wires, vegetation and other aerial obstructions. Classifications indicate wire and structure types, substations, vegetation, buildings, roads, fences, walls, and other structures. Reporting critical and potential problem areas with the rapid turn-around time of this technology enables a quick response on site and reduces extensive and often inaccurate field surveying costs. Using lidar data in conjunction with engineering software, any circuit can be modeled under conditions of maximum sag and sway in various weather conditions. The detailed classification scheme that is applied to the point cloud, along with RGB colors extracted from high resolution orthophotos, provides the user with valuable and detailed 3D perspectives of the mapped power lines and proximate areas. WSI has developed a custom methodology that leverages automated processing to provide a scalable framework for feature extraction that meets the challenging demands of this market.

Presenter: Josh McLaughlin; Data Processing Lead, Watershed Sciences, Inc.
Topic: Generating Hydraulic Breaklines With Lidar Data
Abstract: High resolution lidar data has the ability to accurately map surfaces with centimeter accuracy. When mapping at this scale and resolution, some water surfaces will appear to undulate; wind ripples, waterfalls, and white-water all contribute to a surface with a degree of variability. Occasionally, in raster surface models, it is desired to remove the variability present in water surfaces in order to represent the hydraulic features with a static elevation, through a process called Hydro-Flattening. Watershed Sciences removes surface roughness by generating water boundary breaklines entirely from the native point cloud and point cloud derived datasets. Creating hydraulic breaklines from a lidar dataset has the potential to be a highly accurate, automated, production-scale method available to represent water bodies with uniform elevations. This presentation will give an overview of WSI's methods for water identification and representation as well as depict some of the unique challenges implicit with this method.

TUESDAY presentations

Session One, 0800 to 0930

Open Source GeoSpatial Foundation (OSGEO) Live-DVD Demo

Room: Multnomah
Presenter: Skip Cody; Member, OSGEOPDX User Group
Abstract: A walk through lightning presentation of the OSGeo Live project, originally compiled by Cameron Shorter, GeoSpatial Programs Manager at LISAsoft, and one of the coordinators of the OSGeo-Live Project. The OSGeo Live Project is a self-contained bootable DVD, based on the Xubuntu linux distribution, that is pre-installed and pre-configured with close to 50 of the best GeoSpatial Open Source applications along with sample datasets. This presentation will give you an overview of the project, what it contains and how to get started. After the OSGeo lightning presentation we will open up QGIS and PostGIS software and show you how to get started.

Photogrammetry and Lidar

Room: Clackamas
Moderator: Chris Aldridge; Professional Photogrammetrist

Presenter: Chris Aldridge; Professional Photogrammetrist
Topic: Comparison of mapping results from film versus direct digital imagery
Abstract: A recent project presented an opportunity to map the same area with both film derived imagery and direct digital imagery. Numerous confidence points had been collected for the project and we were able to utilize those as well as the same ground control with both sets of imagery. Imagery was initially collected with a standard 6" aerial camera and later captured with an UltraCAM X, direct digital sensor. Using standard photogrammetric mapping processes, we compiled DTM from both sets of imagery and were able to perform a direct confidence points comparison between the two.

Presenter: Doug Smith; Consulting Photogrammetrist, David Smith & Associates
Topic: Photogrammetry and Lidar: Integrating the two technologies
Abstract: This presentation will include a brief overview of some of the practical differences between lidar and photogrammetry and will discuss how the two technologies can be combined for enhanced and higher quality elevation data sets. Photogrammetry can be used to enhance lidar data sets, using either a separate aerial photography flight or by generating pseudo stereo images as derived from the lidar intensity data (often call "lidargrammetry"). Findings using both methods will be discussed.

Presenter: Bret Hazell; President, 3Di West
Topic: Lidar vs. photogrammetry – And the Winner is?
Abstract: This session will provide a project to project technical comparison utilizing lidar and / or photogrammetry to provide mapping for large project areas. Presentation will review resources, mobilization, scheduling, data formats, accuracy, technical challenges, and cost to arrive at recommended methodology for projects in the Northwest.

Innovations in Mobile Mapping and GIS: Connecting Enterprise GIS Data, Analysis, and High Quality Custom Cartography to Smart Phone Users

Room: Clark
Moderator: Amy Esnard; State of Oregon Office of Emergency Management

The UO InfoGraphics Lab will cover three topics (below) by demonstrating individual functionalities within their award-winning UOregon iPhone and Android mobile apps that utilize Esri's mobile APIs. Each topic section will follow the same structure: a live demonstration of particular app functionality, we'll then show how ArcGIS Desktop (mxd's, ArcCatalog, etc) is used to package the data/maps/etc, followed by a demonstration of the ArcGIS Server methods used to publish the web services, and concluding with an overview of the insights and lessons we learned along the way.

Presenters: Ken Kato; Associate Director, InfoGraphics Lab, University of Oregon
Jacob Bartruff; Programmer, InfoGraphics Lab, University of Oregon

Topic: Using ArcGIS Server to deliver high quality custom cartography to iOS and Android devices.
Abstract: The Lab will demonstrate the use of Tiled Services and Dynamic Services to render custom cartography. Small screens, less than optimal 3G data connectivity, accommodating a range of zoom scales, are some of the challenges to adapting traditional print or web maps to mobile phones.

Topic: Delivering advanced GIS functionality to mobile devices
Abstract: The Lab will demonstrate the methods they used to provide network solving and routing and custom geocoding. Their apps make use of a custom walking network for the campus by which users can quickly solve routes between their current location and any other location or an array of locations or tour stops and returns estimated travel time. Users can also take advantage of a custom geocoder to locate any room, building, event, etc on campus.

Topic: Integrating non-GIS data into your mobile app services
Abstract: The Lab will demonstrate how to combine a variety of datasets to enhance app functionality such as: pulling in RSS or XML feeds and combined with geocoders to provide a spatial component; By writing against the WorldCat book search API to allow UOregon app users to locate their book in the precise stack in the Knight Library; enhancing GIS point data with photography from Flikr or Videos from YouTube: also integrating lidar and photos to generate interior maps and location services.

WEDNESDAY presentations

Session One, 0800 to 0930

Bathymetric Data Collection and Applications

Room: Washington
Moderator: Jacob Macdonald; U.S. Army Corps of Engineers, Portland District

Presenter: John Gerhard, CP; Senior Associate, Woolpert, LLP
Topics: Introduction to Bathymetric Lidar: Sensors, Capabilities, and Project Limitations
Abstracts: This presentation will provide an introduction to bathymetric lidar. There will be a brief discussion of the development history, existing sensors, and future sensors to be released soon. In addition the capabilities of the technology will be discussed, along with key parameters which must be analyzed to assess suitability of the technology for any given project.

Presenters: John Staly; Senior Hydrographer, David Evans and Associates, Inc.
Topics: Application of Scanning Sonars for Mapping and Positioning
Abstracts: This presentation will cover the application of side scan and sector scanning sonars for underwater mapping and positioning. Side scan sonars have been the primary tool for broad area imaging of the seafloor. Sector scanning sonars have brought this technology to smaller areas with improved resolution and ability to provide real-time underwater positioning. Recent improvements in scanning sonar technology have included the addition of acquiring 3-D data for mapping of submerged structures. The presentation will include the application of side scan sonars for nautical charting, use of a 2-D scanning sonar to navigate Navy divers for ordnance recovery in Pyramid Lake, Nevada and use of a 3-D scanning sonar to map the stilling basin at Green Peter Dam for the Portland District, US Army Corps of Engineers.

Presenters: Jon Dasler, PE, PLS, CH; Vice President Marine Services Division, David Evans and Associates, Inc.
Topics: Inertially Aided PPK GNSS for Hydrographic Surveys
Abstracts: This presentation will cover the application of tightly coupled GNSS and inertial positioning and motion reference systems to improve vertical accuracies of hydrographic surveys. Both real-time kinematic (RTK) and post processed kinematic (PPK) methods will be reviewed and case studies will be presented that apply a single base solution and a network solution. The presentation will also review validation of NOAA VDatum models and their application to hydrographic surveys.

Understanding Area and GIS Parcels

Room: Timberline
Moderator: Bob Pool; GIS Manager, Clark County

Presenter: Bob Pool; GIS Manager, Clark County
Topic: Understanding Area
Abstract: A taxlot can have many different values for area. The different area values for a taxlot might include the GIS area, legal area, Assessor area, Surveyed area, and surface area. For a given taxlot these values can be very different, yet each is still correct. How can these different values be represented on a map? How can different area types be compared and used in geospatial analysis? This presentation will look at understanding the different types of area. It will also demonstrate a practical application performing GIS analysis with mixed area types.

Presenter: Tim Hodson; Software Product Engineer, Esri
Topic: Esri Parcel Fabric Applications
Abstract: Parcel data is the foundation of a local government's land records database. Esri's ArcGIS 10 introduced a new data model, workflow, templates, and tools to efficiently create and manage parcel data more effectively than ever before. Applying survey information technology in a geographic information system presents many interesting challenges. Field and airborne survey technologies that provide accurate coordinate data are driving a desire for improved spatial accuracy within GIS. Data such as GPS control points, and survey records can be maintained and applied using the ArcGIS 10 Parcel Editor to build an accurate GIS parcel base-map.

Technologies for GIS Data Collection and Workflow

Room: Glisan
Moderator: Paul Newman; Clark County GIS Analyst

Presenter: Richard Hill; Laser Scanning Sales & Support, The PPI Group
Topic: Asset management and inventory with TOPCON mobile scanning system
Abstract: In the world of GIS and Survey there is a wealth of information that still needs to be collected. More and more everyday that would help us better understand the world around us. In this session we will be covering the fundamentals of 3D mobile scanning and imaging.

Presenter: Linda Lang; Regional Software Consultant, SIRE Technologies
Topic: Electronic plan submittal and automation – E-Portal Automation using Forms and Workflow
Abstract: This presentation will provide insight to the electronic e-portal and how the once paper review process is dynamically changed when changed to electronic reviews. An overview of the SIRE's Active Review, with robust forms and workflow tools can provide extreme efficiencies to many areas of the daily work place. Providing a means for electronic submission of documents streamlines many activities that used to require physical time at a city or county front counter.

See how the e-portal can provide:
- Providing a web based portal allows for a virtual "24 x 7" front counter. City and County offices become accessible even though the building is closed the

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Session One, 0800 to 0930

portal allows your public users to complete tasks.

- Eliminating the paper definitely helps the environment and helps the city eliminate some of the storage issues that are being faced
- The ability to work collaboratively, either in succession or jointly via the application is a big time saver.
- The ability to integrate with current city applications. Easily use information or meta data stored in your current applications. This provides for consistency and integrity of data across all systems.
- Specific to GIS, SIRE has the ability to capture meta data that can be used in a spatial GIS layer. Associating an X / Y coordinate, API # or street addresses to documents and or projects submitted to the system can then be linked to your GIS system.

Presenter: Jim Lahm; Electronic Data Solutions
Topic: How to connect a Mapping Grade GPS unit running ArcPad and GPScorrect to a VRS (Virtual Reference Station) to obtain 10cm horizontal accuracy in real time
Abstract: A Real Time GPS Network consists of many survey-grade GPS receivers and antennae placed throughout the state, all streaming their data to a central computer. While using GPS in the field, if you can connect to either a cell tower or a WiFi network, you can access this computer via its IP address. Once connected, the GPS unit sends an uncorrected GPS position back to the computer. When the computer receives that location, it knows where you are and begins to transmit a customized data correction stream to your GPS unit. Those corrections are applied to the raw GPS position resulting in removal of error so significant, that the user can achieve 10cm (4 inches) of horizontal accuracy with a GPS handheld.

This presentation will provide an overview of the Washington State VRS, called the WSRN, and the Oregon State SpiderNet, called the ORGN. We will show how it works and provide a slideshow that explains its operation. Using Esri ArcPad 10 and Trimble GPScorrect Extension for ArcPad, we will show how to configure both software programs to connect to these systems. We will explore the wireless options available that provide the connection necessary to receive corrections, in addition to discussing signal ranges, signal strengths and issues that can degrade accuracy.

Plenary Session, 1000 to 1130

“Bridging the Gap”

Government and Industrial leaders discuss the symbiotic relationship of the GIS, surveying and photogrammetry professions. Jim Plasker will speak towards licensure issues, past, present, and avoiding future problems. Curt Sumner will speak to the view of the survey community towards GIS in general and present the need to embrace one another’s technology. Randy Johnson will speak to how to get policy makers to get behind and to fund geospatial activities and a summary of NGAC. Donny Sosa will cover experiences where the technologies have come together, be that a blend or a collision.

Speaker: Jim R. Plasker; Executive Director, American Society for Photogrammetry and Remote Sensing (ASPRS)
Biography: James R. (Jim) Plasker is the Executive Director of ASPRS: The Imaging and Geospatial Information Society, headquartered in Bethesda, Maryland. ASPRS is a 6,500 member professional and scientific non-profit organization focused on the development and exchange of information about photogrammetry, remote sensing, geographic information systems, and related cutting edge geospatial information technologies.

Jim joined the ASPRS staff as Executive Director in 1998 after retiring from the Federal Senior Executive Service, having spent 26 years in surveying and mapping with the U.S. Geological Survey (USGS). He served as the Associate Chief of the USGS National Mapping Division (NMD) from 1994-1996 and as the Associate Chief Geologist, from 1996-1998.

While serving with USGS, Mr. Plasker was responsible for the development of the National Aerial Photography and the National Digital Orthophotoquad Programs, both collaborative efforts with colleagues from the U.S. Department of Agriculture. He was also responsible for the development of the USGS Digital Raster Graphic Program through close cooperation with the private sector.

Jim holds a B.S. in Civil Engineering (1971) and M.S. in Engineering Surveys (1973) from Oregon State University, is a registered professional engineer in Colorado, a Fellow Member of both the American Society of Civil Engineers (ASCE) and the American Congress on Surveying and Mapping (ACSM), and an Emeritus Member of ASPRS. He served as President of ACSM from 1996-97, and chaired a landmark multi-organizational task force on the National Council of Examiners for Engineers and Surveyors (NCEES) Model Law for Surveying from 1997 to 2004. He has been active in ABET since the early 1990s, serving as Chair of the Applied Science Accreditation Commission from 2002 - 2003 on the Board of Directors representing ACSM from 2005 - 2010.

Jim was the recipient of the U.S. Department of the Interior’s highest award, the Distinguished Service Award, in 1994. He was named to the Oregon State University Academy of Distinguished Engineers in 1998. He is married, has one son, two step daughters, four grandchildren, and just completed his 40th year officiating high school and college football.

Speaker: Curt Sumner; Executive Director, National Society of Professional Surveyor’s (NSPS)
Biography: Curtis W. (Curt) Sumner is the Executive Director of the National Society of Professional Surveyors (NSPS) and the American Congress on Surveying and Mapping (ACSM), collectively serving the interests of professional

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Plenary Session, 1000 to 1130

surveyors nationwide, and internationally.

He is a primary point of contact and liaison for the surveying profession with numerous national and state organizations in the geospatial community and the U. S. Congress, and is a member of the ACSM Delegation to the International Federation of Surveyors (FIG). He also serves on the Surveying Curriculum Advisory Committee at Troy University in Alabama.

Curt serves as the ACSM Delegate to the Coalition of Geospatial Organizations (COGO) whose purpose is to increase dialog among a variety of interest groups, and diminish discord among them on issues affecting them respectively. He served as COGO Chair in 2010.

As a long-time member representing NSPS on the ALTA/ACSM Land Title Survey Requirements Committee, he has joined his fellow committee members in the development of upgrades made to these standards, including the 2011 version.

In 2006, he was named by Professional Surveyor Magazine to be among the Top 25 Most Influential individuals in the surveying profession during the first 25 years of the magazine's existence.

He is a licensed professional surveyor in Virginia and Maryland.

Speaker: Randy Johnson; Commissioner, Hennepin County, Minnesota
Biography: Commissioner Randy Johnson's district includes 160,000 people who live in the cities of Richfield, Bloomington, and Eden Prairie, Minnesota. He chaired the Hennepin County Board in 2004-2008 and in 1997-2001.

He was elected in 1978 and re-elected nine successive times. He chaired the 1998 and 2002 Republican State Conventions and has been endorsed by the Republican party and almost every major labor union.

In 1997-1998 Commissioner Johnson was president of the National Association of Counties (NACo). As President of NACo, Commissioner Johnson stressed the importance of helping counties become more "global, digital, and sustainable". He accepted the first invitation ever offered by the Chinese Government to lead a delegation of locally elected county officials as guests of the People's Republic of China.

Commissioner Johnson has been invited to testify before Congress more often and on more issues than any elected county official in history.

Commissioner Johnson is a strong advocate of geo-spatial information systems (GIS) and serves on the National Geo-Spatial Advisory Committee for the Department of Interior.

In Washington, D.C., Commissioner Johnson has served on various advisory committees for EPA, HUD, FCC, OMB, Interior and the National Academy of Sciences. Commissioner Johnson is one of the few elected county officials to be named one of the 500 Fellows of the Congressionally Chartered National Academy for Public Administration in Washington, D.C.

Commissioner Johnson received a J.D. degree "cum laude" from the University of Minnesota Law School where he was a member of the Law Review; and a B.A. degree in Political Science from Macalester College in St. Paul.

Speaker: Donny Sosa; Surveying Industry Specialist, Esri
Biography: Donny has been working in the surveying and GIS industry for over 13 years. Donny's surveying experience includes many types of survey experience, but he mostly worked with GPS networks, construction, and hydrographic surveys. As a GIS professional, Donny has served as a Project Manager and Consultant. For the past 8 years, Donny has worked at Esri as the Surveying Industry Specialist where he supports the global marketing efforts in land surveying.

Donny graduated from Texas A&M University-Corpus Christi with a Bachelors of Science in GIS, emphasis in Geomatics. His teaching experience includes GIS Workshops for surveyors at state survey meetings around the country and Satellite Positioning at Texas A&M University-Corpus Christi.

Session 2, 1300 to 1430

Automated Point Cloud Generation and Feature Extraction from Imagery

Room: Multnomah (repeat from Tuesday)
Moderator: Doug Smith; Consulting Photogrammetrist, David Smith & Associates

Geodesy, Datum and Coordinate Systems for GIS

Room: Clackamas
Moderator: John Putnam; Orion Geomatics

Presenter: Ron Singh; Chief of Surveys/Geometronics Manager, Oregon Department of Transportation
Topic: Oregon Coordinate Reference System – New Options for Oregon
Abstract: The Oregon State Plane Coordinate System was developed in the 1930s and for decades has served the surveying and engineering community well. However, the need for higher accuracy, inclusion of geodetic surveying in our everyday work, combination of terrestrial total station and GPS positioning,

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and blending of survey/engineering and GIS data created the need to develop an improved coordinate system. During 2009, a multi-disciplinary Technical Development Team was formed to create this modern system which has been named the Oregon Coordinate Reference System (OCRS).

This topic will review the basics of the OCRS, inform you of new laws relating to coordinate systems in Oregon, and describe how you could make it work for you.

Presenter: John Putnam; Orion Geomatics
Topic: Coordinate System Realizations and Implementations

BLM Geographic Coordinate Data Base (GCDB) Program

Room: Clark
Presenter: Tim Keck; Land Surveyor, BLM Oregon
Biography: Mr. Keck began his career with the Forest Service in 1974. During the course of his career, he became involved with Forest road engineering & design and moved on to Route Design with the Federal Highway Administration. Also during that time, he acquired his Surveyors License in Oregon & Washington. Today he works with the BLM as a Land Surveyor, managing the GCDB program and he is heavily involved with incorporating the PLSS into the BLM's GIS.
Abstract: Today Mr. Keck will talk about what GCDB is, how it is made, and how it impacts the GIS community.

Changing Times, Changing Places: Opportunities for Surveying Professionals Beyond Surveying

Room: Washington
Presenter: Bill Hazelton; Faculty, Geomatics Department at the University of Alaska, Anchorage
Biography: Bill Hazelton holds Bachelor of Surveying and Ph.D. degrees from the University of Melbourne, Australia, and is licensed as a surveyor in Australia. He worked for the Rural Water Commission and ANARE in Australia, before moving into academia. He spent almost 10 years at The Ohio State University, where he developed their Geomatics Engineering program, and has also worked at Columbus State Community College and St. Cloud State University. He is currently an Associate Professor in the Geomatics Department at the University of Alaska Anchorage. Bill's interests cover the full breadth of geomatics, including professional, theoretical and technical issues. At UAA, Bill teaches geodesy, geopositioning, adjustment, land development, construction surveying, deformation surveying, and GIS analysis courses
Abstract: Changing circumstances for the surveying industry, including reductions in the number of employees and the wider availability of measurement technologies, mean that surveying enterprises need to look beyond traditional surveying work if they want to experience both long-term growth and long-term security. In this presentation, a range of possible lines of development for surveying enterprises are outlined, with a focus on taking traditional surveying skills and deploying them and the enterprise into new markets. New skills must be learned and incorporated to make each line of development work, but the potential to develop more diverse enterprises, serving a much wider client base, at a more advanced level, has the advantage of adding protection against future recessions, while allowing greater growth during boom periods.

Creating Online Maps Using ArcGIS.com

Room: Timberline
Presenter: John Sharrard; GIS Solutions Engineer, Esri
Abstract: During the last year, the capabilities of the ArcGIS Online mapping system have been greatly extended. The presentation will show how to accomplish the following:

- Upload CSV, Shapefile, GPX and KML data sources into the ArcGIS Online Cloud and publish them in an online map.
- Embed maps into a personal or organization's website. Deploy maps to mobile devices including iOS, Android, and Windows Phone 7 devices.
- Mash up ArcGIS Server & ArcGIS Online hosted services, WMS services, and KML services into intelligent maps and applications that offer great performance, excellent cartography, and interactive query and reporting capability.
- Build web destinations personalized with "Maps and Apps".

GIS Solutions

Room: Glisan
Moderator: Eric Bohard; Clackamas County GIS

Presenter: Russ Michel; Pacific Northwest Regional Manager, Pictometry International
Topic: Adding value to your GIS with Intelligent Oblique Imagery
Abstract: The Geospatial industry is continuing to evolve and mature. More and more GIS end users are requiring enhanced visualization. This session will discuss how oblique imagery is filling that need and enhancing how many are utilizing GIS. Deployment options as well as case studies will be presented.

Presenter: Skip Cody; Product Manager, Digital Map Products
Topic: The Cloud GIS Revolution: The City of Longview Washington's Path to the Cloud
Abstract: The City of Longview Washington recently joined the cloud revolution with Digital Map Products' CityGIS™ solution, a cost-effective and easy-to-use alternative to traditional enterprise systems. Because CityGIS™ is Software-as-a-Service, there are no maintenance hassles or hidden costs, and cities achieve

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immediate efficiency gains with no added burden to IT; all critical factors in this budget constrained time. CommunityView™, the public facing site of CityGIS™, lets cities publish community and property information to enhance residents' community awareness. In this session, we'll explore recent developments in Cloud GIS, illustrate how the City of Longview embraced this transformative technology, and provide tips for how local government can get started with the cloud.

Presenter: Chris Gardner; Western US Regional Manager at Pacific Alliance
Topic: iVAULT for ArcGIS Streamlines Government Services in Canada's North
Abstract: The City of Whitehorse had stored its financial and asset information in separate databases and GIS data was only available on a few desktops throughout the municipality. By standardizing on the ESRI platform, the City was able to consolidate all of its data into a central geodatabase. Using the ArcGIS for Microsoft Silverlight API, Pacific Alliance Technologies then implemented iVAULT ArcGIS to enable GIS, asset and financial data to be linked and published through the Web. This transition has significantly streamlined infrastructure maintenance, enabling the City to minimize disruptions and provide more reliable customer service. City staff can now click on any asset and pull up the corresponding work order. This enables municipal staff to see which work orders should be prioritized based on urgency, as well as identify the status of ongoing projects. Public Works Supervisors can also directly edit work orders and share information with employees.

GIS Maturity Modeling

Room: Overton
Moderator: Amy Esnard; State of Oregon Office of Emergency Management

Presenter: Greg Babinski; Finance & Marketing Manager, King County GIS Center
Topic: Geospatial Management Competency Model (GMCM)
Abstract: Enterprise GIS is expensive to develop, maintain, and operate. Many small to medium sized cities and counties have invested more than $1 million to develop their GIS, with annual operating budgets in excess of $250,000. However, the return on investment (ROI) for these agencies is variable - depending on the maturity of their GIS management.

In 2009 the USDOL published the Geospatial Technology Competency Model (GTCM). This 9-tier model describes the competencies required for a successful career in the geospatial technology field. However, the GTCM Tier 9 (Management) was not completed.

This paper describes the URISA-led initiative to develop the Tier 9 Geospatial Management Competency Model (GMCM). This initiative began in 2011 with the development of a 'strawman' draft GMCM during the 2011 Washington GIS Conference in Lynnwood, WA. During the 2011 URISA GIS-Pro Conference in Indianapolis, an international panel further refined the model in cooperation with the USDOL.

The draft GMCM will be described, along with its relationship to the GTCM. The current development status of the GMCM will be discussed and possible future uses and activities outlined. This presentation will be of value to those interested in the development of GIS management professional standards and best practices.

Presenter: Juston Manville; GIS Manager, City of Beaverton
Topic: GIS Maturity Model
Abstract: Problem Statement: In both the government and in the private sector growth is rarely linear. A "GIS Maturity Model" that allows for opportunistic growth in Governance, Data Maintenance / Sharing, Technical Architecture and Technical Use is a smarter way to measure an organizations maturity and growth potential. Approach: The development and adoption of a GIS specific maturity model based on the software Capacity Maturity Model used by the Department of Defense. The model uses 5 stages of maturity for each of 4 opportunities for growth in the GIS sector. Results: The GIS Maturity model has worked effectively to perform needs assessments and chart a path for growth take advantage of dynamic opportunities for advancement.

Closing Session, 1500 to 1630

Thought Leaders Panel

The four speakers from the morning plenary session (Jim Plasker, Curt Sumner, Randy Johnson, and Donny Sosa) will reconvene as a panel to answer questions generated from the morning session. This is an opportunity to have your question answered from leaders representing each of the sectors of the geospatial industry. Come with your questions, comments, and an open mind.

Closing Remarks - The Future of Mapping? How the cloud and new browsers could change the nature of maps

Presenter: Mano Marks; Lead Developer Advocate, Google's GEO API's
Biography: In 2006, Mano became the founding member of Google's Geo Developer Relations team. Now he is the lead Developer Advocate for Google's Geo APIs. He has travelled the world helping individuals, corporations, governments and aid organizations use Google's mapping technologies to communicate their message to the world. Before Google, Mano had an eclectic career that involved getting a Masters in History, a Masters in Information Management and Systems, and working as a data manager in NGOs for over a decade.

WEDNESDAY presentations

Session One, 0800 to 0930

Charm School for Professional Land Surveyors

Room: Multnomah/Clackamas
Presenter: Dennis Mouland, PLS; Witness Tree Consulting
Biography: Dennis is a registered professional surveyor in Arizona, New Mexico, and Colorado. He has a Bachelor of Arts degree in Organizational Management, and has been in the surveying profession since 1972. His experience is evenly split between the private sector, including his own surveying firm, and federal government employment.

Dennis has been an instructor and course manager for the BLM/Forest Service "Advanced Cadastral School" and most recently served as the National Cadastral Training Coordinator for BLM in Phoenix, AZ. In that position he developed the Certified Federal Surveyors Program for the Department of the Interior. In addition to having over 250 technical articles published in the U.S. and Canada, Dennis is a contributing author to the textbook "The Surveying Handbook", and authored "Ethics for the Professional Surveyor" in 1996, now in it's third printing. He has conducted seminars for the surveying and real estate professions since 1984. To date, Dennis has instructed over 70,000 students on boundary survey subjects.

Dennis has taught boundary law subjects in higher education institutions since 1995, and is currently a Surveying Instructor at the University of Wyoming and Oklahoma State University. He lives near Prescott, Arizona, about 100 miles north of Phoenix.
Abstract: A half day course on how our appearance, attitudes, and communication skills impact our profession as a whole, and our own business success. At time humorous, at other times very pointed, this course will challenge your world view of how you impact the rest of the profession as well as yourself.

Remedies to Resolve Property Line Problems

Room: Clark/Washington
Presenter: John Stahl, PLS; Cornerstone Professional Land Surveys
Biography: John is a registered professional land surveyor in the states of Utah and Montana, currently owning and operating Cornerstone Professional Land Surveys, Inc. in Salt Lake City. Mr. Stahl specializes in surveying land boundaries, resolving boundary conflicts, performing title and historical research, land boundary consultation services, mediations and dispute resolution. Mr. Stahl has authored numerous articles and publications covering topics on boundary laws, research, and resolving conflict of evidence.
Abstract: Surveyors are often the first to discover a boundary problem. When the surveyor discloses the problem and walks away, what other remedies are available to the surveyor? What knowledge, skills and expertise can the surveyor bring to the resolution table? We will discuss the various remedies which can be used to deal with property line problems, whether caused by a failure in the title documentation or a failure in the location of the boundary. We will discuss the surveyor's role in applying the laws designed to assist in the resolution process from mediation to litigation.

GIS and Google Earth

Room: Timberline
Presenter: Mano Marks; Lead Developer Advocate, Google's GEO API's
Biography: In 2006, Mano became the founding member of Google's Geo Developer Relations team. Now he is the lead Developer Advocate for Google's Geo APIs. He has travelled the world helping individuals, corporations, governments and aid organizations use Google's mapping technologies to communicate their message to the world. Before Google, Mano had an eclectic career that involved getting a Masters in History, a Masters in Information Management and Systems, and working as a data manager in NGOs for over a decade.

Certified Surveyor Technician Program

Room: Glisan
Presenter: Curt Sumner; Executive Director, National Society of Professional Surveyor's (NSPS)
Biography: Curtis W. (Curt) Sumner is the Executive Director of the National Society of Professional Surveyors (NSPS) and the American Congress on Surveying and Mapping (ACSM), collectively serving the interests of professional surveyors nationwide, and internationally.

He is a primary point of contact and liaison for the surveying profession with numerous national and state organizations in the geospatial community and the U. S. Congress, and is a member of the ACSM Delegation to the International Federation of Surveyors (FIG). He also serves on the Surveying Curriculum Advisory Committee at Troy University in Alabama.

Curt serves as the ACSM Delegate to the Coalition of Geospatial Organizations (COGO) whose purpose is to increase dialog among a variety of interest groups, and diminish discord among them on issues affecting them respectively. He served as COGO Chair in 2010.

As a long-time member representing NSPS on the ALTA/ACSM Land Title Survey Requirements Committee, he has joined his fellow committee members in the development of upgrades made to these standards, including the 2011 version.

In 2006, he was named by Professional Surveyor Magazine to be among the Top 25 Most Influential individuals in the surveying profession during the first 25 years of the magazine's existence.

He is a licensed professional surveyor in Virginia and Maryland.
Abstract: A review of the program's characteristics, procedures, participation levels, and how surveyors can/should become involved for their benefit and the benefit of the profession.

THURSDAY presentations

Session One, 0800 to 0930

Perspectives on the Future of the Surveying Profession

Room: Overton
Presenter: Rich Vannozzi – Assistant Professor – University of New Hampshire
Biography: Mr. Vannozzi is a graduate of the University of Maine with a BS in Forestry with High Honors with concentrations in both Forest Management and Surveying in 1984 and an MS in Forestry (with a surveying emphasis) in 2006. He is a doctoral candidate in the Department of Natural Resources (NRE) at the University of Connecticut. His research is focused on GIS Applications and Education for Land Surveyors. He is registered as a Professional Land Surveyor in Massachusetts. He is currently an Assistant Professor in the Civil Technology program at the University of New Hampshire's Thompson School of Applied Science where he teaches various courses in Surveying, Mapping and GIS.

Before reorienting his career to focus on surveying education in 2003, Mr. Vannozzi worked in private practice for 19 years specializing in ancient boundary retracement, boundary dispute resolution and title, boundary and zoning litigation.
Abstract: Beginning with an examination of the role of the surveyor in society, this presentation will explore the most significant paradigm shift in the history of the surveying profession. Specifically: GPS and GIS technology are combining to fulfill the destiny of the profession on the one hand while rendering obsolete those reluctant to change.

Through an examination of practice trends and the impact of emerging technologies, new pathways for practitioners to remain relevant and leverage technology will be presented. Specific trends in the areas of Data Accumulation, Construction Layout, Land Title and Cadastral (Boundary) Surveys will be discussed. Specific strategic changes which need to be implemented by individual practitioners, their businesses and the surveying profession as a whole will also be presented.

The presentation will conclude with the demonstration of a GIS workflow that can significantly reduce time and effort on certain site mapping projects.

Session Two, 1000 to 1130

Charm School for Professional Land Surveyors (continued)

Room: Multnomah/Clackamas

Remedies to Resolve Property Line Problems (continued)

Room: Clark/Washington

Scanning Projects

Room: Timberline
Presenter: Doug Devine; Owner, Pacific Survey Supply

Error Propagation

Room: Glisan (repeated Friday @ 1500)
Presenter: Jack Walker; Professor, Oregon Institute of Technology
Biography: Jack Walker is Professor and Chair of the Oregon Tech Geomatics Department. He holds a MS in Geodesy from Purdue University, and currently teaches GME 451 Geodesy, GME 425 Remote Sensing, GME 452 Map Projections, and GME 444 Least Squares Adjustment. He has worked to introduce ever-changing geospatial technologies into the curriculum. Jack was instrumental in developing the BS GIS degree option, a GIS minor, and recently a Surveying minor.
Abstract: Surveyors are defined as "experts in the art and science of measurement". Error propagation is the foundation of measurement science, and the basis of the least squares data adjustment method. This presentation will show that the formulas for the standard error of a sum, a series, the mean, a product, etc. are simply special cases of the general law of covariance propagation. Applications of error propagation in computed area, construction layout, and industrial alignment will be discussed. This presentation provides a broad overview of error propagation as an indispensable tool and integral part of modern technology.

Perspectives on the Future of the Surveying Profession (continued)

Room: Overton

Session Three, 1500 to 1630

Light Squared Update

Room: Multnomah/Clackamas
Presenter: Curt Sumner; Executive Director, National Society of Professional Surveyor's (NSPS)
Biography: Curtis W. (Curt) Sumner is the Executive Director of the National Society of Professional Surveyors (NSPS) and the American Congress on Surveying and Mapping (ACSM), collectively serving the interests of professional surveyors nationwide, and internationally.

He is a primary point of contact and liaison for the surveying profession with numerous national and state organizations in the geospatial community and the U. S. Congress, and is a member of the ACSM Delegation to the International Federation of Surveyors (FIG). He also serves on the Surveying Curriculum

THURSDAY presentations

Session Three, 1500 to 1630

Advisory Committee at Troy University in Alabama.

Curt serves as the ACSM Delegate to the Coalition of Geospatial Organizations (COGO) whose purpose is to increase dialog among a variety of interest groups, and diminish discord among them on issues affecting them respectively. He served as COGO Chair in 2010.

As a long-time member representing NSPS on the ALTA/ACSM Land Title Survey Requirements Committee, he has joined his fellow committee members in the development of upgrades made to these standards, including the 2011 version.

In 2006, he was named by Professional Surveyor Magazine to be among the Top 25 Most Influential individuals in the surveying profession during the first 25 years of the magazine's existence.

He is a licensed professional surveyor in Virginia and Maryland.
Abstract: A discussion of how the LightSquared application to FCC came about, the firestorm of debate about it, the recent action by the FCC, and what lies ahead.

2011 David Thompson Columbia Brigade and the Evolution of the Oregon Territory

Room: Clark
Presenter: Denny DeMeyer, PLS; NW Surveying and GPS
Biography: Denny DeMeyer is a licensed surveyor and owner of a private surveying firm in Lynden, Washington. Denny and his wife Delores share a passion for surveying history. He is also team captain of the North American Land Surveyors.
Abstract: 2011 David Thompson Columbia Brigade:

- 45 minute DVD "Tracing the Columbia"; a documentary produced by the 2011 David Thompson Columbia Brigade about the voyage by ten Voyageur Canoes from Invermere, BC on a 1,100 mile, 6 week trip to Astoria, Oregon via the Kootenai, Clark Fork, Pend Oreille and Columbia Rivers. Two of these canoes were crewed by members of the North American Land Surveyors representing the surveying societies of British Columbia, Alberta, Montana, Idaho and Oregon, arriving in Astoria on July 15, 2011, 200 years to the day after David Thompson's arrival in 1811.
- 15 minute Power Point presentation with background and pictures taken of our canoe teams along the route featuring Oregon surveyor and other participants.

The Evolution of the Oregon Territory:

- A 30 minute power point presentation featuring detailed maps on how the many different proposals and negations between the British and American plenipotentiaries between 1807 and 1846 could have resulted in a much (much) different Oregon, Washington and British Columbia. We will trace these negotiations that at various times almost agreed to the fictitious "Caledonia River" as the boundary and the United States offering to give up much of Puget Sound but retaining the Olympic Peninsula. Practically all of this information researched by the author will be shown for the first time.

Columbia River Crossing Update

Room: Washington
Presenter: Casel Liles; Engineering Manager, Columbia River Crossing
Mike Nichols, Survey Manager, Columbia River Crossing.

Fraud/Embezzlement & IRS Update

Room: Timberline (repeated Friday @ 1000)
Presenter: Michael Gordon, CPA; Michael A. Gordon, CPA, LLC
Biography: Michael A. Gordon has been teaching tax seminars for over 25 years. He has a medium sized tax practice in Coos Bay, Oregon, and primarily serves businesses and business owners, including rental owners.

Michael is married, has 4 children, 2 llamas, 1 alpaca, 4 sheep, 1 dog and 1 cat. He enjoys river rafting and riding his Harley-Davidson motorcycle.

Michael is part of an elite team of seminar instructors working for the largest producer of tax seminars in the U.S.. This takes him all over the country where he speaks to thousands of fellow tax professionals about tax laws. Obviously, this forces him to keep up on the latest tax laws and the latest IRS rumors!

Mike's presentations are always fun and lively, with lots of horror stories.
Abstract: Fraud/Embezzlement
There are 2 things to understand before we get into any details. FIRST: you CANNOT eliminate 100% of the risk. It can't be done. I don't care how many controls you put into place…..you will NEVER reduce the risk down to zero. So, the objective is to MINIMIZE the risk. SECOND: you MUST be prepared to take immediate action. It's not good enough to just read about this! You must take action….now...this week. Do it while it is fresh in your mind.

IRS Update
On December 31, 2011, the National Taxpayer Advocate, Nina Olson, released her annual report to Congress. She is required, by law, to submit this report each year to identify at least 20 of the most serious problems encountered by taxpayers and to make administrative and legislative recommendations to mitigate those problems. There are some really good issues brought up. It is actually well worth reading.
You can access the actual report (it's only 68 pages long) at:
http://www.irs.gov/pub/irs-utl/irs_tas_arc2011_exec_summary.pdf

THURSDAY presentations

Session Three, 1500 to 1630

Resurveys of Simultaneous Conveyances

Room: Glisan
Presenter: Pat Beehler, PLS; Senior Professional Land Surveyor, David Evans & Associates
Biography: Mr. Beehler has over 43 years experience as a Land Surveyor, both in the public and the private sector. He has lived in west Olympia, Washington for 41 years. Mr. Beehler began employment with David Evans & Associates in January 2011, and serves as a senior professional land surveyor working out of the Olympia, WA office. He was the President of the Land Surveyors Association of Washington (LSAW) in 1998. He also has been very active in his local LSAW Chapter, serving as Chapter President twice, Chairman of the Chapter's annual refresher workshop three times, and helping to host several state workshops and conventions for surveyors. He also served as the President of the National Society of Professional Surveyors (NSPS) in 2008.
Abstract: The class will cover the following issues to acquaint the participants in how to approach doing a resurvey in an old plat. Reference material that is used in determining the boundary lines in old plats, historical plats before State Platting Law, what makes a plat a legal subdivision? (ORS Chapter 92), what a plat created, evidence to look for, resurvey methodology, how to deal with errors in the original plat, who gets the vacated street and what to do about unrecorded plats.

Machine Control

Room: Overton
Presenter: Randy Stuart; Sales Engineer, SITECH-NorCal
Biography: Randy Stuart is a construction sales engineer for SITECH Oregon in Portland. His responsibilities include sales, training and support for the positioning products into the construction market. SITECH Oregon is the area dealer for Trimble Navigation's Machine Control and Construction Positioning Products. Randy has been involved in the Surveying and Construction industry since 1976. He worked for a local land surveying company for 14 years, then in 1990, he started his career in sales and support in the survey industry. He has been involved in the sales and support of machine control systems into the construction industry since 2002.
Abstract: This presentation will give surveyors a better understanding of how machine control on a construction site works. We will explain the different types of machine control systems that are available today, the components used on the machines and how they interact with each other. We will discuss the data and services that can be provided by surveyors that can make contractors more productive and more accurate with their machine control systems and generate new business opportunities for your surveying firm.

Using a VRS for High Accuracy Positioning

Room: Pettygrove
Presenter: Jim Lahm; Electronic Data Solutions
Biography: Jim Lahm has been in the Global Positioning System (GPS) industry for 23 years. He began by selling Trimble Navigation products for a local survey supply dealer in Oregon in 1987. Within two years he became the GPS sales specialist, focusing on selling and supporting GPS hardware and software, including all survey and mapping products. Responsibilities consisted of contacting potential customers, providing field demonstrations and conducting seminars, assessing customer's equipment needs, providing procurement proposals, installing the equipment and providing hardware/software support and installation training.
Abstract: GPS users in the Pacific Northwest are very fortunate in that we have access to Real Time GPS Networks in both Oregon and Washington. A Real Time GPS Network consists of many survey-grade GPS receivers and antennae placed throughout the state, all streaming their data to a central computer. While using GPS in the field, if you can connect to either a cell tower or a WiFi network, you can access this computer via its IP address. Once connected, the GPS unit sends an uncorrected GPS position back to the computer. When the computer receives that location, it knows where you are and begins to transmit a customized data correction stream to your GPS unit. Those corrections are applied to the raw GPS position resulting in removal of error so significant, that the user can achieve 10cm (4 inches) of horizontal accuracy with a GPS handheld.

This presentation will provide an overview of the Washington State VRS, called the WSRN, and the Oregon State SpiderNet, called the ORGN. We will show how it works and provide a slideshow that explains its operation. Using Esri ArcPad 10 and Trimble GPScorrect Extension for ArcPad, we will show how to configure both software programs to connect to these systems. It's important to know to which data stream to connect from the server table that appears. Selecting the correct server is dependent on the location of your project site. We will explore the wireless options available that provide the connection necessary to receive corrections, in addition to discussing signal ranges, signal strengths and issues that can degrade accuracy.

Questions and comments will be encouraged throughout this presentation to stimulate participation and to insure that all questions relating to this process are answered. Using this real time correction service is recommended and most beneficial to the user if they are using a very high accuracy GPS mapping system. This service will connect to any brand professional-grade GPS mapping system that provides support for such a connection in the field data collection software.

THURSDAY presentations

Session One, 0800 to 0930

Basic Logic for the Land Surveyor

Room: Multnomah/Clackamas
Presenter: Dennis Mouland; Land Surveyor, Witness Tree Consulting
Biography: Dennis has been an instructor and course manager for the BLM/ Forest Service “Advanced Cadastral School” and most recently served as the National Cadastral Training Coordinator for BLM in Phoenix, AZ. In that position he developed the Certified Federal Surveyors Program for the Department of the Interior. In addition to having over 250 technical articles published in the U.S. and Canada, Dennis is a contributing author to the textbook “The Surveying Handbook”, and authored “Ethics for the Professional Surveyor” in 1996, now in it’s third printing. He has conducted seminars for the surveying and real estate professions since 1984. To date, Dennis has instructed over 70,000 students on boundary survey subjects.

Dennis has taught boundary law subjects in higher education institutions since 1995, and is currently a Surveying Instructor at the University of Wyoming and Oklahoma State University. He lives near Prescott, Arizona, about 100 miles north of Phoenix.
Abstract: A half day course that starts with some generally illogical thinking by our society, and ends with discussions of real boundary survey issues that are often not treated very logically by our very own profession.

The Surveyor’s Role in Conflict Resolution

Room: Clark/Washington
Presenter: John Stahl, PLS; Cornerstone Professional Land Surveys
Biography: John is a registered professional land surveyor in the states of Utah and Montana, currently owning and operating Cornerstone Professional Land Surveys, Inc. in Salt Lake City. Mr. Stahl specializes in surveying land boundaries, resolving boundary conflicts, performing title and historical research, land boundary consultation services, mediations and dispute resolution. Mr. Stahl has authored numerous articles and publications covering topics on boundary laws, research, and resolving conflict of evidence.
Abstract: We will begin with a review of the fundamental aspects of evidence relied upon by the surveyor to determine boundary locations. The court’s view of evidence will be examined and comparisons between the role of the surveyor and the role of the courts will be drawn. We will look at problems with deeds, common transcription mistakes, conflicts in writings, and conflicts in evidence. We will discuss the distinct differences between written conflicts, adjoiner conflicts, and occupational conflicts. Statutory and common law presumptions, rules and principles which provide direction to the surveyor for conflict resolution will be reviewed and discussed. We will discuss tips and techniques to assist the surveyor in contracting for resolution of unforeseen problems. We will also review some real life examples of projects and court cases involving deed interpretation and resolution of conflicting terms.

BLM Surveying & Land Status Records System

Room: Timberline (repeated @ 1300)
Presenter: Tim Keck; Land Surveyor, BLM Oregon
Byron Clayton; Geographer, Land Records Team Supervisor, BLM
Royce Hill; Land Surveyor, BLM Oregon
Biography: Mr. Keck began his career with the Forest Service in 1974. During the course of his career, he became involved with Forest road engineering & design and moved on to Route Design with the Federal Highway Administration. Also during that time, he acquired his Surveyors License in Oregon & Washington. Today he works with the BLM as a Land Surveyor, managing the GCDB program and he is heavily involved with incorporating the PLSS into the BLM’s GIS.

Robert’s Rules for Associations

Room: Glisan
Presenter: Pat Beehler; Senior Professional Land Surveyor, David Evans & Associates
Biography: Mr. Beehler has over 43 years experience as a Land Surveyor, both in the public and the private sector. He has lived in west Olympia, Washington for 41 years. Mr. Beehler began employment with David Evans & Associates in January 2011, and serves as a senior professional land surveyor working out of the Olympia, WA office. He was the President of the Land Surveyors Association of Washington (LSAW) in 1998. He also has been very active in his local LSAW Chapter, serving as Chapter President twice, Chairman of the Chapter’s annual refresher workshop three times, and helping to host several state workshops and conventions for surveyors. He also served as the President of the National Society of Professional Surveyors (NSPS) in 2008.
Abstract:

- How the correct agenda will become a contract with the attendees on what is going to be covered.
- The importance of setting a schedule and then sticking to it. (Begin on time and end on time)
- Proper ways to approve the Minutes of previous meetings and the Treasurer’s report.
- Giving a notice of “reports due” and the necessity of written reports from committees and officers.
- Conducting the business of the group in and orderly manner.
- Setting the time and place of the next meeting.
- What is considered “good of the order” and announcements.
- How to successfully adjourn the meeting.
- Why use them and who benefits?
- The hierarchy of motions
- The most commonly used motions.
- What do they mean and what are they used for.
- Finally, a role playing exercise.

FRIDAY presentations

Session One, 0800 to 0930

GIS for the Surveyor

Room: Overton (repeated @ 1500)
Presenter: Jim Luke, PLS; CartoGraph Inc.
Biography: James H. Luke, PLS CO#14115 is also a United States Mineral Surveyor. His experience is diversified including: forestry, mining, oil & gas, transportation, boundary and topo as well as ownership in several engineering firms. Mr. Luke has served as Chapter Officer, Newsletter Editor, Speaker and LS Review course Instructor for surveying associations. Currently Jim is the Northwest Regional Manager of CartoGraph Inc. His goal is to bring GIS capability to medium and small agencies and businesses who now can't afford the GIS they need. The Cloud GIS provides collaboration opportunities not previously available. Jim works with his clients to be sure they are able to accomplish their goals with GIS. He wants to show surveyors how easy it can be.
Abstract: The benefits of GIS for the surveyor are too great to pass up even when you can't afford the big software. We will step you through setting up a GIS project with a low cost, online system: including the base map, your horizontal control points, bench marks and projects. Now your research is easy to see where you have projects and where you have control.

Small surveying and engineering companies can have their own GIS to meet their own needs without spending the big bucks for the big systems. Wouldn't it be nice to see on the map where each control point and each project is located? What about being able to pull off the coordinates and elevations from your smart phone? We can do that. How about a photo of the monument and maybe even the surroundings? Done. Oh, look there is the job number from several years ago so we can pull the job folder and use that data. This surveyor uses an Cloud GIS system which shows the aerial map, Street ROWs, parcel lines, Control Points, Bench Marks and Projects. This online system includes a database that is updated by your lowest paid tech and the update is immediately available to everyone. Access can be limited as appropriate.

This workshop will follow the steps through the creation of this system using CartoGraph software. No one had to go to weeks and weeks of training to learn the software. With a small budget, you can still create your GIS system and keep it up-to-date.

PLSO Web Google Apps

Room: Pettygrove (repeated @ 1300)
Presenter: Wendell Harness; Land Surveyor, Harness Technology

Oregon GPS Users Group (OGUG) Meeting

Room: Hayden
Moderator: Dan Hoekstra

Session Two, 1000 to 1130

Basic Logic for the Land Surveyor (continued)

Room: Multnomah/Clackamas

The Surveyor's Role in Conflict Resolution (continued)

Room: Clark/Washington

Taming the Wild Loxodrome

Room: Timberline (repeated @ 1500)
Presenter: Rich Dieckmann; Land Surveyor, BLM Oregon
Biography: Rich began his career at Yorkanis and White Inc., Surveyors, in August of 1996. Shortly after, he enrolled in Middlesex County College and completed his A.S. degree at night school. Upon graduation in December of 2000, Rich moved west to attend New Mexico State University, in January of 2001.

After his first semester at NMSU, Rich attained a summer position at Sentec Inc, based in Ketchikan, AK. He worked on a crew which performed Cadastral Survey Contracts, for the Cape Fox Corporation, in the Tongas National Forest.

Rich began his career in the BLM through the Student Temporary Employment Program (STEP) in May 2002 and was converted to the Student Career Experience Program (SCEP) in September 2002. After graduating from NMSU in January of 2005, he was hired full time and performed surveys in Southwestern Oregon to promote timber resource management and establish lease sites on BLM managed lands. In November 2006, he transferred to the Oregon State Office.

Since then, Rich has been a field surveyor for the Oregon State Office, which services both Oregon and Washington. In that time he has performed many types of surveys including: dependent resurveys, original surveys, water boundaries, small non-aliquot part surveys for Tribal lands, and reacquired lands for several Federal Agencies.
Abstract: This course will discuss portions of Chapter 2 of the 2009 Manual of Surveying Instructions. Calculations in the Public Land Survey System (PLSS) Datum will be addressed. The problems with the use of State Plane Coordinates for these calculations will be discussed.

Fraud/Embezzlement and IRS Update

Room: Glisan (repeat from Thursday @ 1500)
Presenter: Michael Gordon, CPA; Michael A. Gordon, CPA, LLCS

FRIDAY presentations

Session Two, 1000 to 1130

GIS Tools for Surveyors

Room: Overton (repeated @ 1300)
Presenter: Mason Marker; Professor, Oregon Institute of Technology
Biography: Mason is an Assistant Professor in the Department of Geomatics at the Oregon Institute of Technology in Klamath Falls, Oregon. He instructs GPS, GIS, and construction surveying courses. Prior to teaching at OIT, Mr. Marker worked eight years for a private company that specialized in land development and civil engineering.
Abstract: Free GIS tools for the surveyor. Most surveyors are currently using Google Earth, but there are many other GIS products available on the web that are free and provide powerful GIS tools for anyone wanting to use them. This presentation would introduce the surveyor to the more common, free, web based GIS products such as ESRI's ArcExplorer. In addition to ArcExplorer, other products such as GRASS, DiVa, and Quantum GIS provide powerful GIS tools at no cost. One of the hurdles that practicing surveyors have when trying to become familiar with GIS is the cost and complexity of the ESRI ArcGIS software. These alternatives provide inexpensive and powerful alternatives to ArcGIS that allow a potential GIS user to get started without investing in expensive software.

The Top Ten Things You Should Be Doing To Market and Grow Your Business

Room: Pettygrove (repeated @ 1500)
Presenters: David Souza; PowerCompass Business Solutions
Wendell Harness; Land Surveyor, Harness Technology
Trudy McKinnell; PageWorks Graphic Design
Eric Bey; Bey Promotional Products

Oregon GPS Users Group (OGUG) Meeting (continued)

Room: Hayden

Session Three, 1300 to 1430

Water Ways and Water Boundaries

Room: Multnomah/Clackamas
Presenter: Jennie Bricker
Biography: Jennie Bricker practices natural resources law at Stoel Rives LLP in Portland, Oregon, with a focus on water law, waterways, and wetlands. Before joining Stoel Rives in 1998, she served as a judicial clerk for the Honorable Otto R. Skopil, Jr., Ninth Circuit Court of Appeals. She has also worked as an editor, a college instructor, and a pizza delivery driver. Jennie received her J.D. degree from Northwestern School of Law, Lewis & Clark College, and her M.A. and B.A. degrees from the University of Oregon. She is admitted to practice law in Oregon, Washington, and Nevada.
Abstract: The ownership of land adjacent to and underneath waterways is frequently uncertain, either because the bed and banks may be state-owned despite record title, or because the waterway's boundaries have shifted, or both. This presentation explains public versus private ownership and the doctrine of title navigability, a creature of federal law. Drawing upon illustrious and infamous case studies and interstate border disputes, the author then describes the variations of state property law that govern changes in waterway boundaries and their effect on the legal boundaries of ownership.

Survey Plat Narratives

Room: Clark
Presenter: Sue Newstetter, PLS; EOPS
Lloyd Tolbert, PLS; Tolbert & Associates
Biography: Susan received her Oregon Professional Land Surveyor license in 1989 and has been a member of PLSO for 29 years including serving as State Chair in 2005. Susan is currently a member of OSBEELS, serving her second term, representing land surveyors. Susan is the President of Eastern Oregon Professional Services, Inc., specializing in technical assistance on surveying projects; infrastructure project management; rural community administrative assistance; land use planning/boundary identification; communications; grant preparation/administration; and strategic planning.

Lloyd began his survey career in 1974 and received his Oregon Professional Land Surveyor license in 1997. He has been a member of PLSO for 15 years including service as a past State Chair and NSPS Governor. Lloyd currently serves on the Board of Directors for the Lane County Homebuilders Association. Lloyd opened his own survey firm, Tolbert Associates, in 2006 LLC, which specializes in boundary surveys, pre-engineering surveys, subdivisions & partitions including construction elements, along with preparation of land use applications.
Abstract: A roundtable discussion, with audience participation, on preparing Survey Narratives in accordance to ORS 209.250(2) and OSBEELS proposed rule making in regards to narratives.

'Intelligence' and 'Meaning' in Measurement Processes

Room: Washington
Presenter: Bill Hazelton; Faculty, Geomatics Department at the University of Alaska, Anchorage
Biography: Bill Hazelton holds Bachelor of Surveying and Ph.D. degrees from the University of Melbourne, Australia, and is licensed as a surveyor in Australia. He worked for the Rural Water Commission and ANARE in Australia, before moving into academia. He spent almost 10 years at The Ohio State University, where he developed their Geomatics Engineering program, and has also worked at Columbus State Community College and St. Cloud State University. He is currently an Associate Professor in the Geomatics Department at the University

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Session Three, 1300 to 1430

of Alaska Anchorage. Bill's interests cover the full breadth of geomatics, including professional, theoretical and technical issues. At UAA, Bill teaches geodesy, geopositioning, adjustment, land development, construction surveying, deformation surveying, and GIS analysis courses.
Abstract: Traditional measurement processes place much of the 'intelligence' in measurements up-front in the measurement process. More modern measurement technologies, such as photogrammetry, LiDAR, laser scanners and remote sensing, require the 'intelligence' to be placed after the measurement process. This is one of the core changes happening in the current surveying/ geospatial revolution. This presentation will explore the key changes that occurred in the previous surveying revolution (1550–1650) and bring lessons learned from that investigation to the current revolution (1950–?). How can we classify measurement processes to allow better understanding of the impact of this change? What directions will technology and techniques take in the future as a consequence of these changes? In particular, the presentation will focus on how the surveying/geospatial professions can deal with 'volunteer geographic information', 'crowdsourcing', and similarly named phenomena, where geospatial data is being created and widely disseminated by nonprofessionals.

BLM Surveying and Land Status Records System

Room: Timberline (repeat from 0800)
Presenter: Tim Keck; Land Surveyor, BLM Oregon
Byron Clayton; Geographer, Land Records Team Supervisor, BLM
Royce Hill; Land Surveyor, BLM Oregon

2012 NGS Products and Services Update

Room: Glisan
Presenter: Mark Armstrong, PLS; Geodesist, NOAA/NOS/NGS Oregon State Advisor
Biography: Mark is a graduate of the University of North Carolina and has been a resident of Oregon since 1980. He is a Professional Land Surveyor and Water Rights Examiner and worked as the Principal Surveyor and Geomatics Department Head for OBEC Consulting Engineers for 25 years before retiring at the end of 2008. Mark has now been appointed to the position of Geodesist and Oregon Advisor with the National Geodetic Survey. In this position he will provide technical advice to Federal, State and Local Agencies involved in geodesy, gravity, and height modernization, as it relates to the National Spatial Reference System.
Abstract: The new National Adjustment of 2011 as well as the details of the new reference frame NAD 83(2011) Epoch 2010.00 and the new GEOID12 model will be discussed in detail.

GIS Tools for Surveyors

Room: Overton (repeat from 1000)
Presenter: Mason Marker; Professor, Oregon Institute of Technology

PLSO Web Google Apps

Room: Pettygrove (repeat from 0800)
Presenter: Wendell Harness; Land Surveyor, Harness Technology

Million Points per Second - Mobile Laser Scanning at ODOT

Room: Hayden
Presenters: Ron Singh, PLS; Chief of Surveys/Geometronics Manager
Michael Olsen, PhD; Assistant Professor of Geomatics, OSU
Biography: Ron Singh is the Chief of Surveys and Geometronics Manager for the Oregon Department of Transportation. He directs the agency's surveying program which includes surveys for Project Development; Construction; Monumentation; Photogrammetry; Geodetic Control; and Right-of-Way Engineering. Ron has been with the Department for 35 years.

Michael Olsen is an Assistant Professor of Geomatics in the School of Civil and Construction Engineering at Oregon State University. He chairs the ASCE Geomatics Division's Spatial Data Applications Committee and is on the editorial board for the ASCE Journal of Survey Engineering. His current areas of research include terrestrial laser scanning, remote sensing, GIS, geotechnical engineering, earthquake engineering, hazard mitigation, and 3D visualization.
Abstract: The presenters will discuss concepts, applications, guidelines, best practises and ODOT's experiences with mobile laser scanning.

Session Four, 1500 to 1630

Water Ways and Water Boundaries (continued)

Room: Multnomah/Clackamas

OSBEELS-Navigating the Law Enforcement Process

Room: Clark
Presenters: James R. (JR) Wilkinson; Investigator, OSBEELS
Allen McCartt; Investigator, OSBEELS
Biography: Mr. Wilkinson joined the OSBEELS team in July 2004. He was previously employed as a private investigator with a background in litigation support and research and in hazardous waste sites investigations in Washington, Oregon, and Montana. Prior to this background, Mr. Wilkinson attended a two-year forestry program at a Montana technical school and was a survey crew

FRIDAY presentations

Session Four, 1500 to 1630

member for over ten years working throughout the West including Alaska and Saudi Arabia. His field experience includes cadastral surveys, power line right of ways, U.S. Forest Service roads, property and subdivision surveys, and Idaho Transportation Department highways.

Mr. McCartt joined the OSBEELS team in July 2008. He brings with him experience and knowledge in the construction field as well as personal experience in the permitting and building code process. Mr. McCartt has a background in law enforcement where he has spent the last seven years working as a Correctional Officer for the Department of Corrections. Mr. McCartt brings with him degrees in both Fire Science/Building Construction and General Education.
Abstract: The Oregon State Board of Examiners for Engineering and Land Surveying (OSBEELS) is charged to examine, register, and regulate professionals and unlicensed persons who engage in the practices of engineering, land surveying, and photogrammetry. The hour and half presentations will focus on the activities of the OSBEELS Law Enforcement Committee (LEC). Important topics to be discussed include right of entry violations, 45-day filing requirements, and continuing professional development. A question and answer period closes the session. OSBEELS employs two investigators who are responsible for investigating allegations of non-compliance with Oregon Revised Statutes (ORS) and Oregon Administrative Rules (OAR) with regard to the practices of engineering, land surveying, and photogrammetry.

Instrument Calibration: New Needs, Directions and Solutions

Room: Washington
Presenter: Bill Hazelton; Faculty, Geomatics Department at the University of Alaska, Anchorage
Biography: Bill Hazelton holds Bachelor of Surveying and Ph.D. degrees from the University of Melbourne, Australia, and is licensed as a surveyor in Australia. He worked for the Rural Water Commission and ANARE in Australia, before moving into academia. He spent almost 10 years at The Ohio State University, where he developed their Geomatics Engineering program, and has also worked at Columbus State Community College and St. Cloud State University. He is currently an Associate Professor in the Geomatics Department at the University of Alaska Anchorage. Bill's interests cover the full breadth of geomatics, including professional, theoretical and technical issues. At UAA, Bill teaches geodesy, geopositioning, adjustment, land development, construction surveying, deformation surveying, and GIS analysis courses.
Abstract: This presentation will give a brief overview of surveying instrument calibration in general, before moving on to the theory of EDM and laser scanner calibration in particular. The need for calibration is discussed, together with a quick look at available facilities. An overview of what is required to calibrate different types of instruments is provided. Calibration is a foundation of professional measurement practice, and an important differentiation point between professionals and amateurs. The rationale for calibration and its growing importance are highlighted.

Taming the Wild Loxodrome

Room: Timberline (repeat from 1000)
Presenter: Rich Dieckmann; Land Surveyor, BLM Oregon

Error Propagation

Room: Glisan (repeat from Thursday 1000)
Presenter: Jack Walker; Professor, Oregon Institute of Technology

GIS for the Surveyor

Room: Overton (repeat from 0800)
Presenter: Jim Luke, PLS; CartoGraph Inc.

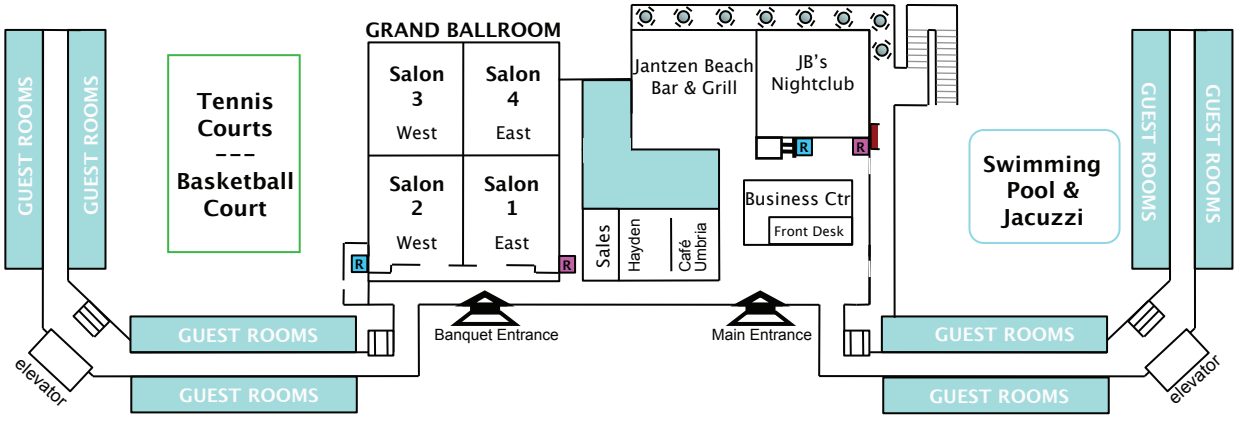
The Top Ten Things You Should Be Doing To Market and Grow Your Business

Room: Pettygrove (repeated from 1000)
Presenters: David Souza; PowerCompass Business Solutions
Wendell Harness; Land Surveyor, Harness Technology
Trudy McKinnell; PageWorks Graphic Design
Eric Bey; Bey Promotional Products

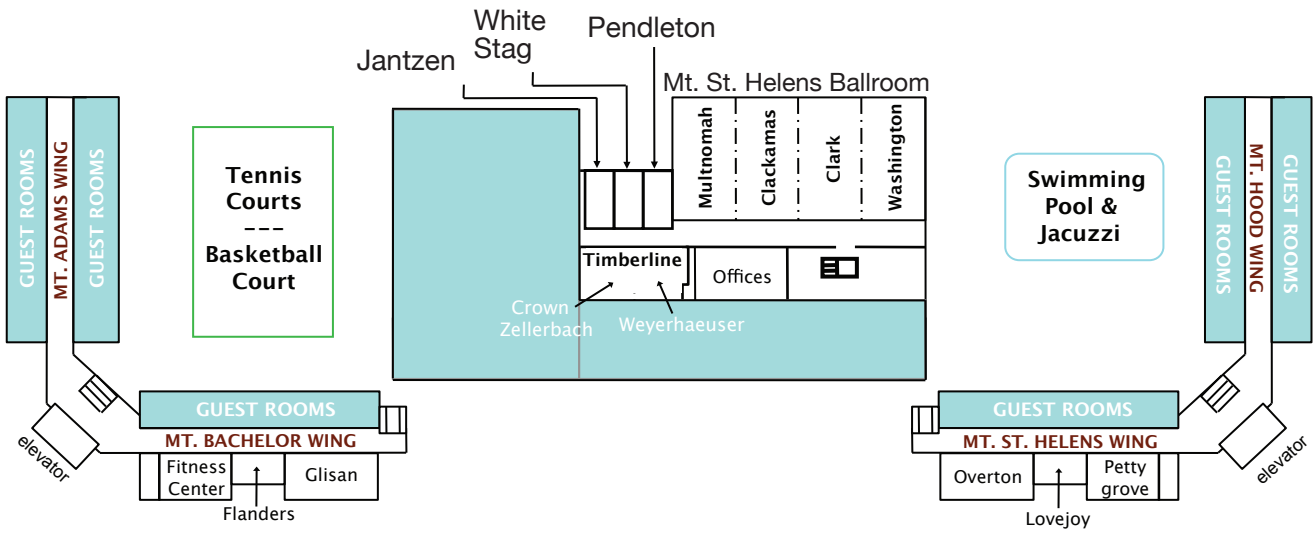
Oregon Real-time GPS Network Update

Room: Hayden
Presenter: Ken Bays; Lead Geodetic Surveyor, ODOT
Biography: Kenneth Bays, PLS, is the Lead Geodetic Surveyor for the Oregon Department of Transportation and the technical manager of the Oregon Real-time GPS Network. He is a registered professional land surveyor in Alaska and Oregon. Before starting with Oregon DOT in 2005, Ken had a 30 year career with the U.S. Bureau of Land Management as a land surveyor and geodesist working in Alaska, Arizona and Oregon.
Abstract: Ken will present an update on the status of the Oregon Real-time GPS Network, particularly on the schedule and methodology that will be used to update the network coordinates from the NAD83(CORS96)(Epoch 2002.0) datum realization to the NAD83(2011)(Epoch 2010.0) datum realization.

FRIDAY presentations



Lobby Level - 2nd Floor



Lower Level - 1st Floor

Lower level meeting rooms can only be accessed throught the 2nd floor wing elevators and stairs.

Red Lion on the River - Jantzen Beach