

# DISCOVERING THE WORLD THROUGH GIS

Join in the worldwide celebration of GIS Day, the annual salute to geospatial technology and its power to transform and better our lives.

## GISday

Wednesday, November 18th 2015

8:30 am to 4:00 pm

Legislative Building  
416 Sid Snyder Avenue SW  
Olympia, WA 98504



For more information please visit: <http://www.wsdot.wa.gov/mapsdata/gisday.htm>



Track	Time	COLUMBIA ROOM
		<b>Applications Path</b>
	8:30	Poster Gallery available on the Mezzanine all day
	9:00	Welcome Event Kick Off - <i>Rob St. John, Director Office of the Chief Information Officer (OCIO)</i>
	9:20	Keynote Address – <i>Nancy Tosta, City of Burien</i>
	9:50	Break
Roads and Trails	10:00	Marine Spatial Planning – <i>Libby Whiting, DNR</i>
	10:15	The End of the Trail? Statewide Trails Database Pilot Project Summary – <i>Jenny Konwinski, OCIO</i>
	10:30	Designing the Olympia Walk Map & Downtown Wayfinding Maps - <i>Michelle Swanson, City of Olympia</i>
	11:00	WSDOT Washington Public Road GIS Network - <i>Pat Whittaker and Allan Blake, DOT</i>
	11:30	Using Route Events to Display Sewer Lateral Locations - <i>Diane Utter, City of Olympia</i>
	12:00	Lunch
Geology and Landscape	1:30	Geothermal Potential of Three Sites in the Washington Cascade Range - <i>Corina Forson DGER</i>
	2:00	LiDAR Data Management and Derived Products <i>Chris Snyder, DNR</i>
	2:30	Mapping Washington State's Airsheds: A Unique GIS Challenge - <i>Jill Schulte, DOE</i>
	3:00	High Resolution Change Detection: Land Cover Change Around Puget Sound - <i>Matthew Muller, DFW</i>
	4:00	Presentations End

Track	Time	SENATE RULES ROOM
		<b>ArcGIS Desktop and Web Path</b>
	8:30	Poster Gallery available on the Mezzanine all day
	9:00	Welcome Address and Keynote Address (Columbia Room)
	9:20	
	9:50	Break
ArcGIS Desktop	10:00	Data Driven Pages: Map Book and Map Series Creation - <i>Marcy LaViollette, City of Olympia</i>
	10:30	Attribute Assistant: Automatic Data Entry - <i>Marcy LaViollette, City of Olympia</i>
	11:00	Integrating Office 365 and ArcGIS - <i>David Howes, David Howes LLC</i>
	12:00	Lunch
ArcGIS Desktop	1:30	ArcGIS Desktop Tips and Tricks - <i>Marcy LaViollette, City of Olympia</i>
Web Applications	2:30	Evaluating the Web Future of Our Desktop Application - <i>Elizabeth Lanzer and Julie (Fogde) Jackson, DOT</i>
	3:00	ESRI Web AppBuilder for ArcGIS - <i>Marc McCalmon, DFW</i>
	4:00	Presentations End

Track	Time	HOUSE RULES ROOM
		<b>Mobile GIS Path</b>
	8:30	Poster Gallery available on the Mezzanine all day
	9:00	Welcome Address and Keynote Address (Columbia Room)
	9:20	
	9:50	Break
Data Collection	10:00	iPads & Mobile Data Collection for Highway Maintenance – <i>Joe Schmit and Reed Hunter, DOT</i>
	11:00	Digitizing the Paper Trail: Making the Switch to Digital Field Notes – <i>Tyler Graham – DOT</i>
	11:30	Streamlining Water Quality Data Collection in the Field with GIS - <i>Martyn Quinn, DOE</i>
	12:00	Lunch
Mobile	1:30	GPS Accuracy with Mobile Devices - <i>Jeffrey Holden, DNR</i>
	2:00	An Open Data Approach to Mobile Apps: The Washington Water Cruiser, Phase 2 – <i>Greg Tudor RCO</i>
	2:30	Building ArcGIS Online Story Maps to Engage Audiences: Lessons from the 2015 Corridor Capacity Report - <i>Erica Bramlet and Bradley Bobbitt, DOT</i>
	3:00	Presentations End

## Keynote Address – Nancy Tosta Biography



Nancy Tosta spent more than twenty years working on the forefront of GIS. She brought GIS to California state government in the late 1970's and served as statewide GIS coordinator for the state in the 1980's. She helped launch the National Spatial Data Infrastructure under the US Federal Geographic Data Committee and Secretary of the Interior Bruce Babbitt in the early 1990's and as Director of GIS, Modelling, and Growth Strategies for the Puget Sound Regional Council in the late 1990's. She was inducted into the Urban and Regional Information System's (URISA) GIS Hall of Fame in 2005. For the last 16 years she has provided consulting services to public agencies and foundations working on environmental, health, and economic challenges.

She is currently serving her first term on the Burien City Council, acting in the capacity of Deputy Mayor. Her passion these days is building a more sustainable and healthy food system.

## Applications Path

### [Marine Spatial Planning](#)

*Libby Whiting - Department of Natural Resources*

An introduction to the Washington Marine Spatial Planning mapping application and data analysis. Why is planning for the ocean important? What tools has DNR developed to view data? Why should you care?

### [The End of the Trail? Statewide Trails Database Pilot Project Summary](#)

*Jenny Konwinski - Office of Chief Information Officer*

The first phase of the trails pilot project has been completed. A mapping application and services have been published to ArcGIS Online and are now available through the project page. Highlights as well as possible next steps will be discussed.

### [Designing the Olympia Walk Map & Downtown Wayfinding Maps](#)

*Michelle Swanson - City of Olympia, Public Works Transportation*

Using Network Analyst to re-design the Olympia Walk Map in house was an opportunity to consider a new design that would be scale-able to other projects. This included the new pedestrian wayfinding maps that will be printed on vinyl and installed on 10 signal control boxes in downtown Olympia. This presentation will cover the design decisions made and lessons learned during the process.

[Back to Agenda](#)

## Applications Path continued

### Geothermal Potential of Three Sites in the Washington Cascade Range

*Corina Forson - Department of Natural Resources*

Using existing public data and GIS modeling to determine geothermal potential and data uncertainty of three prospects in Washington State: Mount St. Helens seismic zone, Wind River valley, and Mount Baker.

### LiDAR Data Management and Derived Products

*Chris Snyder – Department of Natural Resources*

Discussion of LiDAR data management and creation of products derived from Lidar like hill shading, elevation models

### Mapping Washington State's Airsheds: A Unique GIS Challenge

*Jill Schulte - Department of Ecology*

Washington State benefits from one of the nation's most sophisticated air quality forecast models, which provides daily predictions of air pollution levels in a dynamic map. The Department of Ecology's Air Quality Program mined 4 years of spatial data from this model in order to map the elusive boundaries of the state's air sheds. We linked air quality data to census data in each air shed, opening the door to further research on air pollution epidemiology and environmental justice.

### High Resolution Change Detection: Land Cover Change around Puget Sound

*Matthew Muller – Fish and Wildlife*

Tracking and understanding how land cover changes through time can provide planners with valuable insight to the effectiveness of land use management practices. WDFW has compiled a Puget Sound-wide data set, High Resolution Change Detection (HRCd), which quantifies canopy loss and impervious gain since 2006. Working with a number of local jurisdictions, the utility and limitations of this versatile data set are evaluated. This talk will also explore the near- and long-term future of the HRCd.

### WSDOT Washington Public Road GIS Network

*Pat Whittaker and Allan Blake – Department of Transportation*

In response to the FHWA ARNOLD (All Roads Network Of Linear Referenced Data) requirement for all states to create a spatial network of their public roads, Washington DOT has completed the initial steps for the WAPR (Washington All Public Roads) network. WSDOT's Transportation Data and GIS Office (TDGO) is engaging with other agencies towards the goal of stewarding a GIS web service where cities and counties, and other public road owners can view and update WSDOT's required public road network.

### Using Route Events to Display Sewer Lateral Locations

*Diane Utter, P.E. – City of Olympia*

Have you even wondered how to display tabular data points (such as cracks along a pipe or signs along a roadway) in ArcMap? Come and learn about using route events. This presentation will demonstrate how the City of Olympia uses route events to display the locations of sewer laterals along a sewer main using data collected with CCTV pipe inspection software.

[Back to Agenda](#)

## ArcGIS Desktop and Web Path

### Data Driven Pages: Map Book and Map Series Creation

*Marcy LaViollette – City of Olympia*

Create a map book or a map series all from a single MXD file using Data Driven Pages (available at the ArcView license level). Just tell the computer the extents you want or the map center points, set up your dynamic text and your static layout elements, then let the computer do all the processing to create a series of PDFs.

### Attribute Assistant: Automatic Data Entry

*Marcy LaViollette – City of Olympia*

Why fill in mundane attribute fields when you can have the computer do it for you? Attribute Assistant is a free Desktop add-in that can follow custom complex rules to fill in attributes, including spatial relationships and geometric networks. It can be configured to work automatically while you're editing or adding new features and will save you time!

### ArcGIS Desktop Tips and Tricks

*Marcy LaViollette – City of Olympia*

In ArcGIS Desktop, there are always more buttons than you have brain cells. This presentation will focus on some of the lesser-known functionality that can save you time and frustration.

### Integrating Office 365 and ArcGIS

*David Howes - David Howes, LLC*

This presentation will illustrate how the Office 365 productivity suite, one of Microsoft's fastest growing products, can be enhanced through integration with ArcGIS technology. By way of a basic species data example, an approach involving an Excel add-in, an ArcGIS Server object extension and an ArcGIS Online web map will be described to demonstrate how GIS users may leverage their existing infrastructure to provide what ESRI refers to as geo enrichment capabilities.

### Evaluating the Web Future of Our Desktop Application

*Elizabeth Lanzer and Julie (Fogde) Jackson – Department of Transportation*

In order to evaluate how a web application might "replace" our custom desktop ArcMap application, we undertook a pilot project to deliver some desktop-like functionality via a web application. We pushed over 60 datasets into one application and added user tools for custom graphics and labeling. We will discuss the overall findings and next steps.

### ESRI Web App Builder for ArcGIS

*Marc McCalmon – Department of Fish and Wildlife*

The ESRI Web App Builder for ArcGIS supports rapid GIS application development. WDFW is developing a Fish Passage Barrier web application using this technology. The presentation will demonstrate standing up a simple web app without any coding and demonstrate the current Fish Passage web application which is being developed using Web App Builder Developer in order to include greater customization.

## Mobile GIS Path

### [iPads & Mobile Data Collection for Highway Maintenance](#)

*Joe Schmit and Reed Hunter – Department of Transportation*

The WSDOT maintenance division made a leap forward this past year in building a more efficient and effective workforce through a large scale deployment of iPads for field data collection. This presentation will outline the lessons learned and current field use of GIS on a mobile device as well as an app demo.

### [Digitizing the Paper Trail: Making the Switch to Digital Field Notes](#)

*Tyler Graham - Department of Transportation*

WSDOT Megaprojects Cultural Resources has transitioned from paper forms to an ArcGIS Online geodatabase as a tool for recording field notes. Managing the extensive collections of paper forms and searching for data contained within is a laborious task. Entering field notes directly into a geodatabase eliminates transcription errors and allows for rapid searches using SQL queries. This talk will cover the steps used to make the transition and challenges encountered during the process.

### [Streamlining water quality data collection in the field with GIS](#)

*Martyn Quinn – Department of Ecology*

Ecology's eastern regional staff conducts annual watershed evaluations to document non-point impacts and improvements to water quality. The multi-step process exposed staff to potential errors, in addition to consuming staff time. Using ArcGIS online, we streamlined the process greatly, allowing efficient data collection with less room for error, and less demand on time. The improvements in efficiency allow for field data to be collected over a greater geographical area in a limited time window.

### [GPS Accuracy with Mobile Devices](#)

*Jeffrey Holden - Department of Natural Resources*

We tested various GPS devices for gathering points using Collector in Capitol Forest including iPads, Androids, and Garmin GPSs. We added Bluetooth GPS devices that add accuracy including the Trimble R1 GNSS Receiver, Bad Elf Surveyor and Garmin GLO. Jeff will discuss the results.

### [An Open Data Approach to Mobile Apps – The Washington Water Cruiser, Phase 2](#)

*Greg Tudor - Resource Conservation Office*

In 2013, the Washington Recreation and Conservation Office published the Washington Water Cruiser mobile app. The current app combined the boating facilities data from DFW, Parks, and RCO through an extract, transform, and load process. The public provides updates through an iOS interface. In the next phase of the project, agencies will provide Open Data feature services in a recreation facilities data content standard that is consumable by this app and others.

### [Building ArcGIS Online Story Maps to Engage Audiences: Lessons from the 2015 Corridor Capacity Report](#)

*Erica Bramlet and Bradley Bobbitt – Washington Department of Transportation*

A growing trend in online interactive mapping is the use of story maps that use multiple types of media along with maps to walk audiences through spatial content. WSDOTS's Office of Strategic Assessment and Performance Analysis has been creating story maps as part of the *Gray Notebook*, the agency's quarterly performance report for a little over a year. Most recently the office created a series of interconnected story maps that help tell the state's highway system performance story as part of the *2015 Corridor Capacity Report*. This talk will cover lessons learned from building these story maps including technical considerations, current capabilities of story maps, building a narrative, and resources for mappers.

[Back to Agenda](#)