



THE  
SUMMIT

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News From and For the Washington GIS Community

## Working with the AP Human Geography Classes at Squalicum High School

By: *Chris Behee* — Sr. GIS Analyst, City of Bellingham

**AP** Human Geography is the most popular Advanced Placement class offered to freshmen at [Squalicum High School in Bellingham](#). Squalicum offers a wide variety of AP classes covering the arts, sciences, math, language, and history. These classes provide students a more rigorous academic environment, and opportunities for college credit. The Geography class is a popular first AP class with freshmen because it focuses on teaching the study habits, and skills needed for more difficult AP offerings. Human Geography is also a topic ideally suited for freshmen because it provides the contextual geo-political, physical, and cultural fabric for students to place what they will learn throughout high school and college in their history, language, art, and science classes.



Conceptual Development Model - Bellingham Waterfront

Reed Richardson and Chad Herman are the two Social Studies teachers at Squalicum that teach a total 5 periods

*(Continued on page 2)*

### President's Column: Tacoma 2016

By: *Josh Greenberg* — Senior GIS/Remote Sensing Analyst, Skagit County

**A**s the weather warms I can feel my anticipation grow both for summer and our [upcoming WA GIS conference](#). Every year I look forward to this meeting and not just because of the numerous learning opportunities. And although you would be partly right by guessing the social events

are my favorite part of the conference...the truth is I particularly enjoy being surrounded by fellow GIS enthusiasts. There is something very difficult to quantify about the benefits of bringing this many GIS people together. The

*(Continued on page 3)*

Also In This Issue:

ArcGIS Maps for Adobe Creative Cloud Extension	5
WAURISA Conference 2016—GIS Evolved: Transforming Our World	7
3D Printing—From the Basement to the Boardroom	12
The Editors	16

# Working with the AP Human Geography Classes at Squalicum High School

*(Continued from page 1)*

(about 140 students) of AP Human Geography each semester. In addition to covering the national AP standard curriculum, they add a host of current events, local geography, and related material to keep students interested and engaged in the topic. As the holder of a Geography degree from Western Washington University (1990) I was very happy when my oldest son Ethan decided to take the AP Geography class in 2012, and again when my youngest son Mark enrolled in the class last year. They both thoroughly enjoyed the topic and the myriad ways Mr. Richardson enhanced their classroom experience.

My involvement with the class began when Mark asked if I would be a guest lecturer as part of an extra-credit assignment for his class. I was asked to speak on the variety of potential careers and fields open to Geographers, and specifically about my job as a GIS Analyst at the City of Bellingham. As you might imagine, the most difficult part of the whole exercise was condensing the multitude of possible career options and my experience at the City into something close to a 45 minute talk. I managed to cover the highlights of a sampler of Geography jobs both locally, and around the world – including urban planning, resource management, agri-business, transportation, health care, utilities, marketing, energy development, climate change, emergency management, and the diplomatic corps. For the second part of the talk I dove into my involvement providing GIS support for Bellingham's efforts planning urban villages, the Waterfront redevelopment project, providing services to homeless populations, using LiDAR and color-infrared remote sensing data, tracking rental housing, and developing bicycle and pedestrian infrastructure plans.

The class was excited about the talk, the GIS technology, and the glimpse it provided into the real world beyond the Geography textbook. This past April, Mr. Richardson and Mr. Herman asked me back to spend a full day presenting to all 5 of their classes. I fine-tuned the presentation and updated a few things from the previous year's material. It was a long, but fun day talking to each of the classes. What struck me most was how perceptive the comments and questions from the students were. It was clear that after being in the class for 6 months, the students had a sophisticated understanding of broad socio-economic concepts, stages of cultural development, and demographics. They asked relevant questions about Bellingham's neighborhood planning efforts, how gentrification is affecting housing choices, and how sustainable our transportation systems are. I was encouraged that even if only a few of these students go on to careers in Geography, they will all have a basic understanding of how the world works and how inter-related the choices they will make are for all of our futures.

If any of you have opportunities to share your work experiences with local classrooms I would encourage you to do so. It's a great way to enrich their lives and your own.

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## President's Column: Tacoma 2016

*(Continued from page 1)*

combination of people just learning about GIS with those that have been practicing for more years than they care to admit, from the people who steal away from their current jobs to learn some new tidbits to those looking to find their first job or make the final push to finish their formal education, all this brings an energy that is inspiring and invigorating.

Following the tradition of high class conferences, this year looks to be another successful event brought together by a hard working conference committee and all the contributors that make these conferences so wonderful. The conference returns to Tacoma which has been an ever improving location and a convention center that works perfectly for conferences of our size. The increase in high quality restaurants in the vicinity have made it even easier to find good spots for our evening socials.

The annual conference also marks the time that WAURISA holds the membership meeting where we all have a chance to

sit together over lunch and talk about opportunities to volunteer with WAURISA as well as hear ideas for new directions for the organization.

Our conference theme is about evolving and I can think of no better time to look at how WAURISA has changed in the past and where we would like to see it go in the future. This organization is nothing without its members and volunteers and there are numerous opportunities to get involved.

I hope that all of you are able to make it to the conference and partake in the learning, sharing and comradery that is so prevalent at these events. Check out the new online schedule app to get a sense of all the good things that are in store.

I look forward to seeing you in Tacoma!!

*Josh Greenberg—Ph.D.*

*Senior GIS/Remote Sensing Analyst*

*Skagit County*

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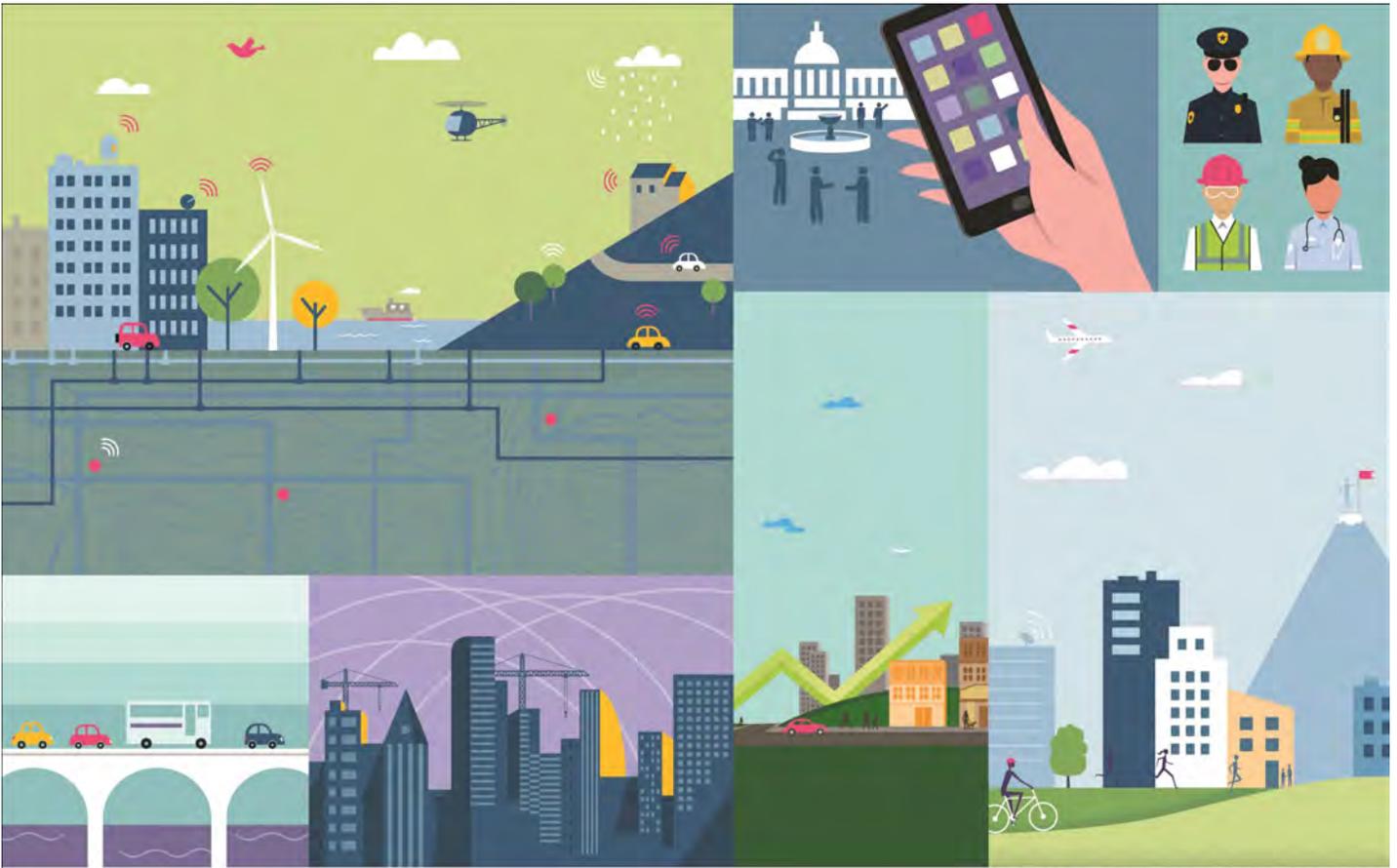


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# ArcGIS Maps for Adobe Creative Cloud Extension

by: Sarah Bell— Cartography Lab, ESRI Professional Services

For the past year or so, I've been part of a team at Esri that is developing the [ArcGIS Maps for Adobe Creative Cloud extension](#). Our goal is that this extension will provide Adobe Creative Cloud users with web maps so that they can download these maps directly into their Adobe design environment from ArcGIS Online. For example, with this extension, a user can sign into their ArcGIS Online account directly from Illustrator, find geographic content that fits their map requirements, and download this content into their Adobe Illustrator file. It is a seamless workflow since cartographers and designers can create a map with spatial data without having to leave Adobe Illustrator. The result is a vector map containing specifications that are set by the user in the extension. Designers and cartographers can then leverage Illustrator's graphic editing power to design their map as they desire.

There are a lot of mapping and GIS organizations and companies who have a GIS analyst or team and a designer or team of designers. These two groups, GIS analysts and



ArcGIS Maps for Adobe Creative Cloud Extension Logo



Sarah Bell, ESRI

graphic designers, often have different priorities during their map-making process, and this extension we've been developing provides a collaborative tool for analysts and designers to work together in their organization's map-production workflow. GIS analysts can add their well-prepared and precisely analyzed map data to their organization's ArcGIS Online account, and designers can easily access this data from Adobe Creative Cloud applications. Allowing designers the opportunity to create their maps in a graphic design tool that they are familiar with greatly improves the map editing workflow efficiency and results. Of course there is the third type of user – the person who is skilled at both GIS and graphic design. The ArcGIS for Adobe Creative Cloud extension is a great tool for these users as well.

*(Continued on page 6)*

## ArcGIS Maps for Adobe Creative Cloud Extension

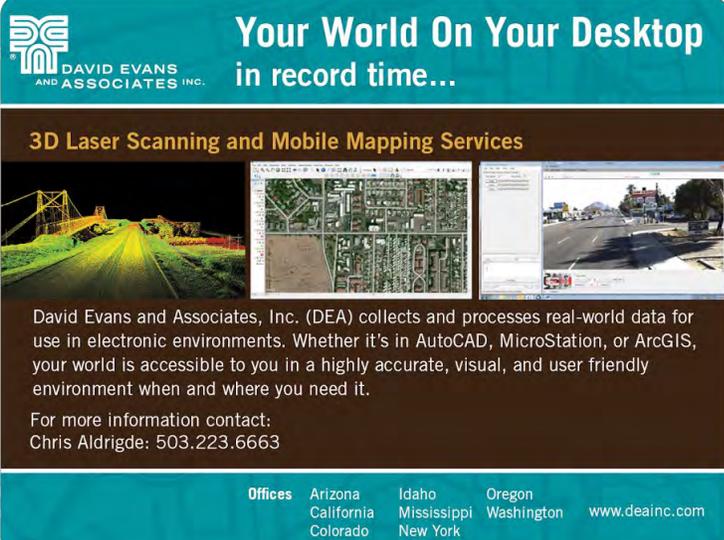
*(Continued from page 5)*

The development team that I am part of at Esri knows that a lot of static mapping is completed in Adobe Illustrator. In fact, as a cartographer myself, this is how I create most of my static maps as well. The GIS-export-to-Adobe Illustrator workflow is the one I was trained to follow at the University of Wisconsin-Madison, and after I was hired as a cartographer at Kulshan Cartographic Services in Bellingham I soon discovered that this workflow is a very common practice in the professional cartography world. Now that I am at Esri, it very exciting to be part of a team that is making this process a lot easier and reproducible.

We have been conducting usability testing, and our current goal is to have the beta version of the ArcGIS for Adobe Creative Cloud extension released around the same time as our Esri User Conference this June. The very talented team I am part of that is working towards this date includes the following: Clint Loveman, Wendy Kallio, Steven Moore, Xingdong Zhang, Madhura Phaterpekar, Sarah Musa, Praveen Srivastava, Yash Gupta, Joseph Munyao, and several others who have contributed to the successful development of this new piece of Esri software.

For more information on beta for this product:  
<http://www.esri.com/adobecc>

Sarah Bell  
Cartography Lab  
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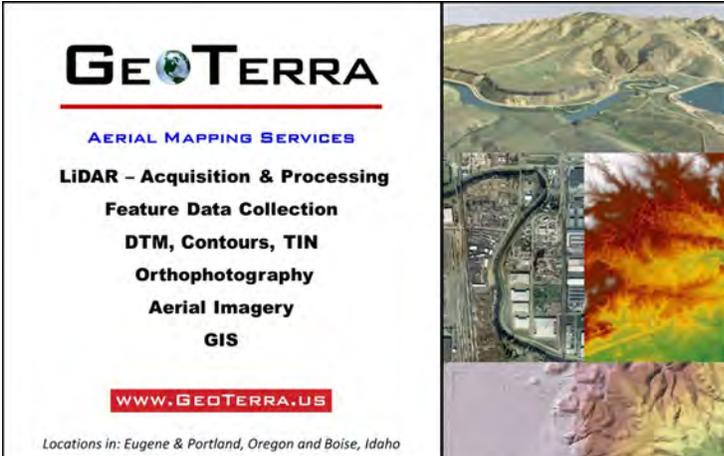
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# WAURISA Conference 2016— GIS Evolved: Transforming Our World

By: Sarah M. Meyers, WAURISA Conference Chair, Peninsula Light Company

Are you ready to join us for the [premiere 2016 Washington GIS conference](#), May 23-25? If not, you need to hurry! We are returning to Tacoma Convention Center and are excited for our lineup, we know you will be too!

Workshop seats on the 23rd are filling quickly; sign up for Cy Smith daylong Program Management class, join Jim Lahm for some hands on Trimble training, or many other exciting classes. Not only is Monday a day to learn, you can reconnect with others during lunch in the city. At the end of the day all workshop attendees and volunteers will be hanging out at the Social Bar, unwinding with complementary appetizers and great company!

New this year, and free for any government leader is our new half day summit. All too often city and county GIS managers have to make decisions isolated from their peers. The purpose of this free half day work session is to break down those silos and explore ways to better support our local GIS managers and leaders in their work goals. This session is intended for GIS department heads and managers who work at County and City offices. We will start with some presentations that introduce current resources available to



GIS managers. These include presentations from our State GIS Coordinator, the Chair of the WA Geographic Information Council (WAGIC), the Past Executive Board Member of the Association of County & City Information

***The participation of our City and County GIS leaders is crucial to building this community cooperation and involvement.***

Systems (ACCIS), and the creator of the URISA GIS Capability Maturity Model. The rest of the afternoon will be a working session to discuss goals and objectives, and to brainstorm to identify how we can leverage our GIS network across the state. The participation of our City and County GIS leaders is crucial to building this community cooperation and involvement.

Our theme this year is “GIS Evolved: Transforming our world” to help kick off our conference we will be joined by Josh Howell. He regularly consults with organizations on

*(Continued on page 8)*

# WAURISA Conference 2016 – GIS Evolved: Transforming Our World

(Continued from page 7)



Josh Howell, Opening Keynote Speaker  
Digital Business Lead & Field CTO

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strategy around digital transformation and technology needs. Mobile applications, digital marketing, IoT devices, and big data analytics are reshaping every industry, and promise to be more impactful than the internet has been to date. Josh works to distill high-level digital business best practices and strategies down to actionable, low-cost, and effective ways to get started, and deliver rapid results. Next, our presentations will range from lightning talks on teaching GIS in the developing world, or panels on GIS Professional Development, plus many others.

Our volunteers are working hard to bring you the best conference yet. There is still time to submit a poster for our contest. We love seeing all the hard work you are doing, so don't be afraid to share! We ask entrants to discuss how their submission relates to the theme. Maps and posters will be accepted for display only, depending on space availability. Entrants do not have to attend the conference; however, there is no guarantee their entry will be displayed. You can get to

the submission page here: [http://www.waurisa.org/conferences/Abstract\\_submissions/PosterContest.php](http://www.waurisa.org/conferences/Abstract_submissions/PosterContest.php)

Our hotel accommodations are offered at the Hotel Murano, across the street from the convention center. Rooms are filling fast, so don't wait reserve your space!

Our vendors are lining up to show you their products and get you excited to attend a vendor presentation or two! Tuesday evening don't leave after the last presentation because we will socializing with our vendors, and of course, eating! Later we will be wandering a couple blocks down the road to Steel Creek Bar to enjoy more munchies and maybe a game of pool or a ride on the bull!

We are also very excited to welcome King's Books back as our book seller! They loved joining us in 2014, and are ordering new and classic books for you to check out in May.

On our website you will find all the information you need to register, write a justification letter for your boss, read about our different workshop offerings, or send us an email with questions. For more information please visit, [http://waurisa.org/conferences/2016\\_Conference\\_Index.php](http://waurisa.org/conferences/2016_Conference_Index.php)

*By: Sarah M. Meyers  
WAURISA Conference Chair  
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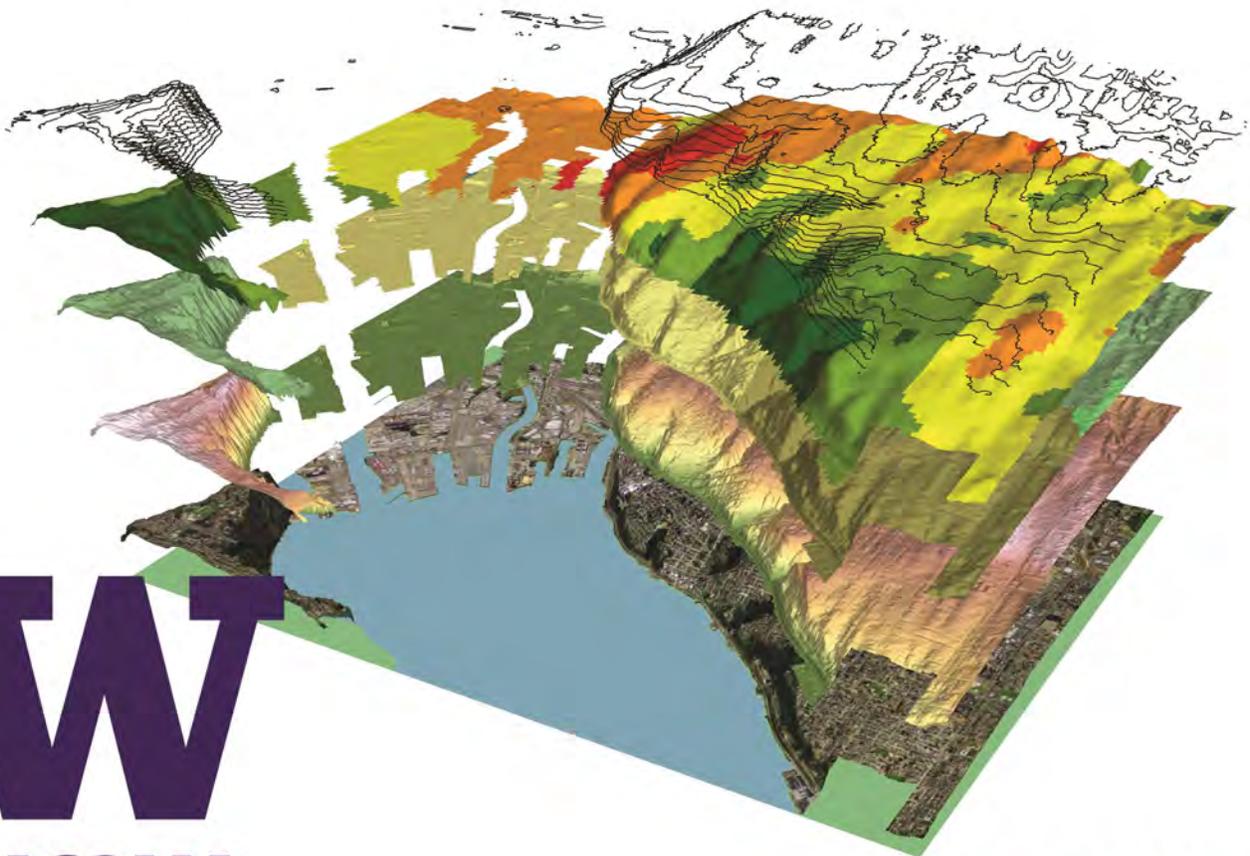
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## GIS User Groups in Washington

### ACSM – Washington State Section

[www.wss-acsm.org](http://www.wss-acsm.org)

### Cascadia Users of Geospatial Open Source

[groups.google.com/group/cugos](http://groups.google.com/group/cugos)

Contact [Karsten Venneman](#)

### Central Puget Sound GIS User Group

Join Listserve [here](#)

### Central Washington GIS User Group

<https://www.linkedin.com/groups?home=&gid=8252704>

Meets the 2nd Wednesday of each month.

Contact [Amanda Taub](#)

### Cowlitz-Wahkiakum GIS User Group

Meets the first Wednesday of each month at 3:00 pm at the Cowlitz County Administration Building, general meeting room (GMR-3rd flr), 207 North 4th Ave, Kelso WA (*unless other location is announced*).

Contact [David Wallis](#)

### King County GIS User Group

[www.kingcounty.gov/operations/GIS/UserGroups.aspx](http://www.kingcounty.gov/operations/GIS/UserGroups.aspx)

Meets 1st Wednesday every other month at 11:00am at the KCGIS Center, 201 S. Jackson Street, Seattle WA, Conf Room 7044/7045.

### Northwest Washington GIS User Group

[www.wvu.edu/huxley/spatial/nwwgis/nwwgis\\_mtg.htm](http://www.wvu.edu/huxley/spatial/nwwgis/nwwgis_mtg.htm)

### Southeast Washington/Northwest Oregon GIS User Group

<http://gisgroup.wordpress.com>

### Washington Geographic Information Council (WAGIC)

[geography.wa.gov/wagic](http://geography.wa.gov/wagic)

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### Washington Hazus Users Group

<http://www.usehazus.com/wahug>

Contact [Kelly Stone](#)

To have your GIS-related group or event listed in future issues of *The Summit*, notify the editor at: [Summit@waurisa.org](mailto:Summit@waurisa.org)

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# 3D Printing—From the Basement to the Boardroom

By: Jacob Tully—GIS Coordinator, Swinomish Indian Tribal Community

Nestled in the hills of beautiful Tumbler Ridge, British Columbia, a new 3D printing venture is taking hold. Jody Mitchell, founder of [Filaprint](#) and mother of two launched the business idea 18 months ago when she ordered a 3D printer, and started making eco-friendly, made to order gadgets and gizmos in her basement. While the venture started with small trinkets, Mitchell began making terrain models when she was approached to make a model for the [Emperors Challenge ½ Marathon](#). Mitchell



Filaprint founder Jody Mitchell with finished model in the field.

uses a combination of publicly available geographic data augmented with [aerial drone photography](#) & drone derived point cloud data to develop the three-dimensional inputs for the printer. She then uses a four-step proprietary process to produce a finished product. While Mitchell couldn't give away details about every step of the process she did say that she uses [Simplify 3D](#) for the digital slicing and [a printer from Imagination Technology](#) to create tiled maps that she then fuses together and hand paints to create a realistic product. The medium used by the printer is biodegradable polylactic acid (PLA) and is derived from plant matter.

When asked about upcoming projects Mitchell couldn't comment, but did go on to say that the models are being

recognized for their ability to foster communication across diverse cultural, educational, and language barriers to deepen understanding about the land being discussed. She noted that when compared to the standard topographic map, the models leave little doubt about exactly what land is at issue in any discussion.

Due to the cost of manufacturing (a 2'x2' print retails for several thousand dollars), Filaprint is currently focused on legacy pieces for land owners, as well as industry and governmental clients. In addition, Filaprint also offers 3D printing setup and consultation services.

For more information about Filaprint, please visit: [www.filaprint.ca](http://www.filaprint.ca)

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A Filaprint Model

*The Summit* is the newsletter of WAURISA. To encourage the discussion of issues and ideas of importance to the Washington GIS community, we welcome letters to the editor or opinion essays. Letters should be a maximum of 100 words and essays should be limited to 500 words.

**Chief Editor:** Jacob Tully

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Applied Imagery makes the Quick Terrain Modeler, a powerful LiDAR exploitation software optimized for both point clouds and Digital Elevation Models. In addition to interactive visualization and intuitive analysis of enormous 3D data sets, Quick Terrain Modeler provides visual and quantitative answers to difficult statistical questions. Applied Imagery's software is available in 32-bit and 64-bit versions.

GeoCue Group was founded in 2003 by a group of engineers with extensive experience in developing hardware and software solutions for primary remote-sensed data acquisition. Today GeoCue workflow management tools are used by a majority of North American geospatial production shops. In 2009 GeoCue acquired QCoherent Software LLC, the creator of the point cloud exploitation toolset, LP360. GeoCue is the largest supplier of kinematic LIDAR processing tools in North America and LP360 is the world's most widely used tool for exploiting point cloud data, from both LIDAR and sUAS systems, in an ArcGIS® environment. For more information visit [www.LP360.com](http://www.LP360.com).





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The Swinomish people live in the Skagit Valley of Washington State, rooted along the Salish Sea. We are the People of the Salmon and our way of life is sustained by our connection to the water and the lands where we have fished, gathered, and hunted since time immemorial. The Swinomish Indian Tribal Community is federally recognized and operates under Constitution and Bylaws adopted in 1936 pursuant to the Indian Reorganization Act of 1934.



Mason, Bruce & Girard, Inc. (MB&G) is a multidisciplinary consulting firm based in Portland, Oregon with expertise in environmental services, forestry and geographic information systems (GIS). MB&G has been in business since 1921 and provides services to a wide variety of public and private sector clients. Our dedicated staff is guided by our core values, focusing on providing collaborative results, sustainable solutions, and excellent service.

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Latitude Geographics helps organizations succeed with web-based geography by enabling them to make better decisions about the world around them. Geocortex software by Latitude Geographics transforms how organizations design, develop and maintain Esri ArcGIS Server and ArcGIS Online web mapping applications. They do more; faster, at less cost and risk, and with better results. ArcGIS by Esri is the world's leading GIS platform and Latitude has been an Esri Platinum Partner since 2010.



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Kroll Map Company - serving the northwest with over 100 years of maps and mapping services. We serve a broad range of organizations with services ranging from Custom Cartography to CAD/GIS Integration to digitizing and georeferencing. Current clientele includes utilities, telecommunications, recycling-waste industries, and general business/real estate. Kroll offers general mapping services and products through our affiliate - Metsker Maps of Seattle in the Pike Place Market and now also at Sea-Tac International Airport.



Sanborn offers a full suite of photogrammetric mapping and geographic information system (GIS) services backed by superior customer support. We are uniquely positioned to offer you local presence, extensive resources, quick responses, and exceptional value.



The Urban Studies Program offers a Master of Science in Geospatial Technologies degree. Admission is open during autumn quarter only and will be comprised of a 20 student cohort. The degree will provide advanced training in GIS, training students to use and apply geospatial hardware, software, and data in urban and environmental planning scenarios. It will also prepare students to become leaders in the management and utilization of geospatial technologies within the job market -- public, private, and not-for-profit sectors. It will also offer training in the development and deployment of location-based mobile applications and management of web-based geospatial data. This program will maintain a theoretical/critical focus on the application of these technologies to urban and environmental problem solving.

# The Editors

By: Jacob Tully, Editor-in-Chief & William Jonsson, Assistant Editor

We hope you have had as much fun reading this issue as we did putting it together. From hearing about an exciting new ArcMap extension to interviewing a young geography minded entrepreneur, to seeing about how GIS can help inspire the next generation of geo-thinkers and doers, the diversity of work going across the GIS spectrum is amazing. We look forward to hearing more of your successes, and occasional failures, at the upcoming WAURISA conference in Tacoma this month.

Jacob Tully is the GIS Coordinator at the Swinomish Indian Tribal Community. When he's not contemplating geodatabase design or working on *The Summit*, he can be found cooking, hiking, and spending time with his family in Bellingham, Washington.

William Jonsson has served as a medic in the U.S. Army and has also worked on the University of Washington Bothell Policy Journal

as an Editorial Board member. As a recent graduate, he sees contributing to *The Summit* as an excellent opportunity to become more familiar with work going on in the field of GIS and to see the innovative ways the strengths of GIS can be brought to our communities.



William Jonsson—  
Assistant Editor



Jacob Tully—  
Editor-in-Chief



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