

State Capitol at Olympia, Washington

News From and For the Washington GIS Community

WAURISA: The Washington State Chapter of URISA  
 The Association for GIS Professionals  
[WWW.WAURISA.ORG](http://WWW.WAURISA.ORG)

Issue 52  
 Early Spring 2020

# THE SUMMIT

## WAURISA President's Message

By: Stephen Beimborn, WAURISA President

I recently traveled to the beautiful island of Oahu in Hawaii with a small group of close family members, two of whom are confined to wheel chairs. It took some logistical planning to execute our daily sight-seeing trips, but we managed to venture to all corners of the island, wonder at the skill of the surfers, tour the Arizona Memorial, and stroll along Waikiki, that most famous of beaches. We also chilled by the pool, barbecued our dinners, and gazed at the sunsets.

Those who have been there will know that the only thing that rivals the natural beauty of Hawaii is the friendly sense of caring and community that you feel wherever you go. Like anywhere in the States, people there work demanding jobs and have lofty ambitions, but perhaps more than anywhere I've been, there is always time for a smile, a greeting, and an offer of assistance to those who need it. Doors were held open for us, obstacles removed, seats offered, and shopping carts returned. One man in

a German sports car, upon seeing our handicap sticker, pulled out of a parking spot and waved us in. How often do you see that?

The corona virus outbreak was slowly leaking into everyone's consciousness while we traveled, and of course, on the plane ride home. Before we landed, Seattle was already in the news as cases of the virus emerged and the first fatality was recorded nearby. A few days later, the floor on which I work at the City of Seattle was nearly empty on a week day, with thousands of city staff working from home. Today my work day was consumed with the logistics of ensuring those same city staff had, at home, the same GIS tools they depend



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## WA GIS Conference & COVID 19

By: WAURISA Board of Directors

WAURISA is taking all developments concerning the coronavirus (COVID19) very seriously and will continue to closely monitor the situation. As of March 11th, Governor Jay Inslee instituted a ban on large gatherings and events of 250 people or more in King, Pierce, and Snohomish Counties for the remainder of March. Unless the ban is extended on large events into April and May, **WAURISA has no plans to postpone or cancel the Washington GIS Conference** scheduled May 18-21st at the Hotel Murano.

*(Continued on page 12)*

*(President's Column; continued from page 1)*

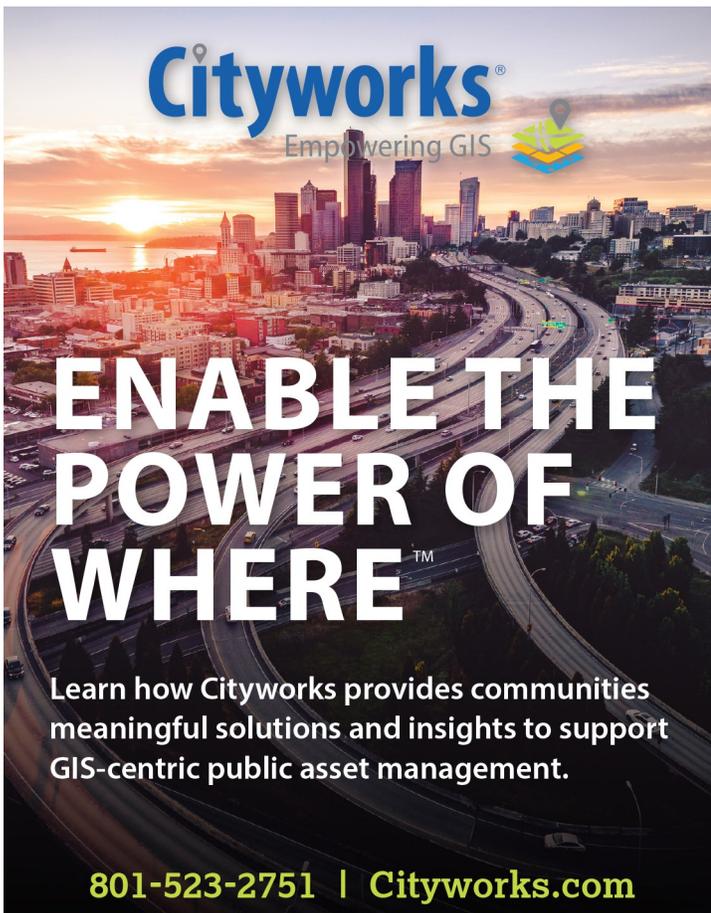
upon at work. The community depends on civil servants for so many services, and they in turn rely on my team. If you are reading this, as a professional in the GIS field, very likely people are depending on you, as well.

People still have places to go and things to accomplish, but it is hard not to sense that life is slowing down as we focus on what is most important – the health and well-being of those around us, particularly the most vulnerable. Some professionals, like the courageous health care workers, cannot provide care from home, so they don their masks and gloves and head toward the crisis, rather than away from it. Many people cannot afford to take time off, so they venture onto the buses and report to work, keeping stores and offices open for essential business. It would seem that this novel concept of “social distancing” might strain our societal cohesion, yet it has not, from what I have seen.

We have entered a time of uncertainty, but so far, I have been reassured and inspired by the many examples I’ve seen of the community pulling together. Of people looking out for each other, carrying a load, lending a hand. This isn’t a new phenomenon. After all, I started off this article describing how this approach seems to be a way of life in Hawaii. I’ve also seen it in our professional GIS community, where the nature of our interactions

leans more toward cooperative and away from competitive. And I see it every day in my work place, where collaboration is an expectation, not an exception. Examples are everywhere, I suppose, but I appreciate it more in times like these. When we need each other a bit more than usual.

A lot of the work we do in our field is behind the scenes, under the hood. Yet, for emergency vehicles to make it to the scene as swiftly as possible, someone has to ensure the addresses and streets are recorded accurately. When a member of the public refers to a map to see what human services are nearby, they likely do not understand all the effort it takes to make that information available. Like a dial tone, our work is not always noticed, until it’s not there. Then it’s noticed! On behalf of all those people who may not know you exist, I want to thank you for keeping that dial tone going!



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Do you know what is missing from the Summit Newsletter? Your contribution!

We seek to publish a variety of viewpoints for news, trends and activities in the geospatial industry. Let us know what is influencing your work.

Contact us at [summit@waurisa.org](mailto:summit@waurisa.org)

# Creating Tumwater’s Interactive Snow and Ice Response Map

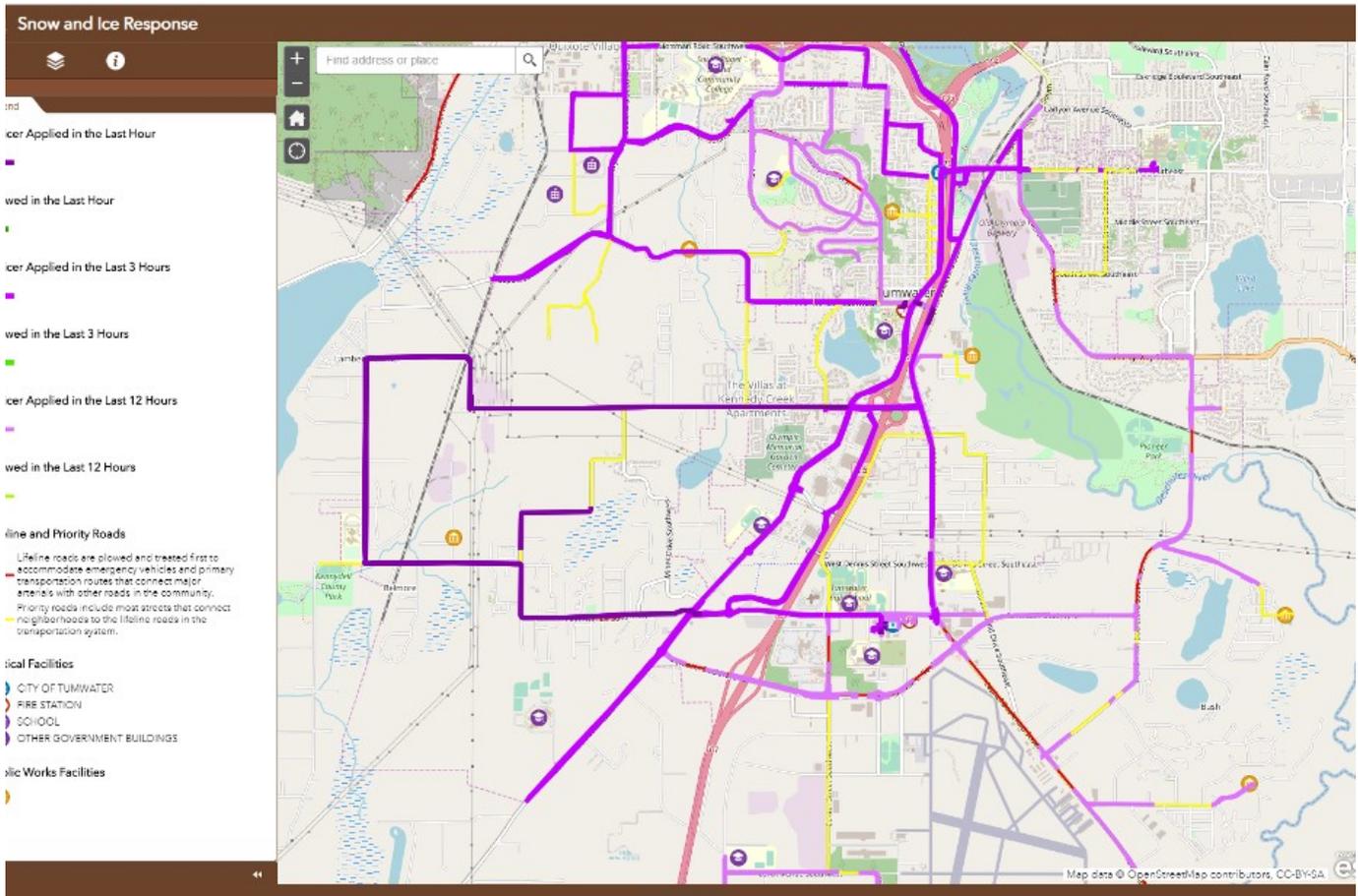
By: Jennifer Radcliff, City of Tumwater

The City of Tumwater’s Operations staff perform two critical functions when a winter storm hits; they apply deicer to roads ahead of the storm and run snowplows when the snow accumulates. For several years now the City’s plows and deicer trucks have been equipped with GPS units that send information to Marshall GIS’ LiGO system, but that information had only been available to Operations supervisors until recently.

In 2019, the Tumwater Operations, GIS, IT, and Communications groups collaborated with Marshall GIS to create an interactive map available to residents on the City website. The map shows streets that have been plowed or de-iced in the past hour, six hours, and twelve hours and is updated twice an hour.

The map also shows which roads are lifeline or priority roads (those which are important for emergency vehicles and that connect major arterials with other roads in the area), as well as critical facilities such as schools, fire stations, City Hall, and other City infrastructure.

Marshall GIS captures GPS data in their system and creates tracks based on vehicle location and function. For example, when a plow is lowered a “plowDown” flag is triggered and is attached to the GPS points coming in from that truck until the plow is raised and the “plowUp” flag is triggered. Marshall’s system combines all of the GPS points showing that plowDown flag in sequence and creates a “track” for that plow down event for that truck. All of the “plowDown” and “sprayerOn” tracks are then pushed into a feature service the City has opened to Marshall GIS via a secure ArcGIS Server sign-in, and these tracks are stored in an ArcGIS Enterprise geodatabase on a City server. The City’s GIS team created a python script that automates the process of uploading the most recent tracks to ArcGIS Online. The script performs several functions, starting with pulling the most recent tracks from the enterprise geodatabase and placing them into a file geodatabase. Erroneous tracks in the Operations yard are erased, and the file geodatabase is zipped and up-



(Continued on page 7)

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## Silvertips Mappy Hour

*By: Joshua Greenberg*

GIS users and family from Snohomish, Skagit and Whatcom counties got together for the first Mappy Hockey event in Everett Washington February 19<sup>th</sup>. Joshua Greenberg and Melody Ovard joined forces, and email lists, to gather 20 people to watch the Silvertips hockey team from the comfort of a box suite. The Silvertips played great and had a thumping of a win, and everyone who participated had a great time. These social events are a great way to catch up with your fellow GIS colleagues and meet some new people. Sometimes all it takes is a good idea to bring people together! There was already talk about doing it again next year, or maybe even having a Mappy Baseball gathering.



*Photos by:  
David Parnicky*

# Participate. Volunteer. It's FUN!

By: Conference Volunteer Sub-Committee

The Washington GIS Conference owes its success each year to the involvement of its many volunteers. These cheerful folk work before the event, getting the word out, developing the schedule and workshops, contacting vendors, securing the venue, and landing the keynote speaker. In addition to helping before the conference, volunteers are also needed on-site during the 4-day event. With the 2020 conference approaching, the Volunteer Sub-Committee would love to have your participation! Here are some of the opportunities available:

- Session Moderators
- Registration Desk
- General Set up
- Resume Helper
- All around helper
- Photographer

Volunteers can indicate their daily availability, length of hours and job preference through the online sign up form, located at <https://www.waurisa.org/Participate>, or email volunteer@waurisa.org directly.

Volunteering not only contributes to the success of the conference, but also has many benefits including conference registration waivers and WAURISA membership. More importantly, you will be part of an engaging event, meeting and working along side other GIS professionals.

Make your participation at this year's WA GIS Conference an especially rewarding one by joining the volunteer efforts. See you at the conference!

#### Benefits of Volunteering

Volunteers that provide at least a half-day of support during the conference:

- May sit in on conference sessions for the day they volunteer
- Will receive a year-long membership to WAURISA
- Eligibility for GISP certification points
- Networking
- Professional Development
- Fun



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# Leadership

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February 26, 2020

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(Continued from page 3)

loaded into our ArcGIS Online account. From there, the information in the map is automatically updated.

While trying to automate this process we ran into a few challenges. First, we only wanted to upload a subset of the data (only information for the past five days). To solve this we used the following code:

```
arcpy.SelectLayerByAttribute_management ("lyr", "New_Selection", "EndTime > (Getdate() - 5)")
```

Second, not wanting to display any tracks in the Operations yard (where the equipment is often tested and where the trucks are fueled and park), a shapefile of the yard area is used in code to isolate and remove the erroneous data.

```
arcpy.Erase_analysis("lyr", Yard, outFC)
```

The main problem we encountered was zipping the file geodatabase. We tried two different examples we found online, but couldn't get either of them to work. The City of Tumwater IT department suggested the following resolution.

```
import os
```

```
from zipfile import ZipFile
```

```
basedir = path to the base directory minus the file geodatabase
```

```
Folder = name of file geodatabase and .gdb
```

```
zipfl = full path of zip file, including zip file and extension
```

```
zf = ZipFile(zipfl,'w')
```

```
dirs = os.listdir(basedir)
```

```
for f in dirs:
```

```
    #print((basedir + '\\ ' + f)) #debug line
```

```
    zf.write((basedir + '\\ ' + f),(Folder + f))
```

```
zf.close()
```

A python script runs every 30 minutes using Windows Task Scheduler on the GIS server. An ArcGIS Online web map that uses filters to display tracks based on age and function feeds into a simple Web App created using Web AppBuilder. The app was embedded in a web page by our Communications department.

The application is only made visible on the website during winter, but it is available on the City's ArcGIS Online page year-round via this link: <https://arcg.is/1Kmfuu>.

If you would like additional information on how the app was created or if you would like a copy of the python script, contact Jen Radcliff at [jradcliff@ci.tumwater.us](mailto:jradcliff@ci.tumwater.us).



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# Washington Women In GIS & Technology

By: Tonya Kauhi, Port of Tacoma

The Washington Women in GIS and Technology (WWGT) group started 2020 off strong by planning for the year ahead. In January we asked our members to provide feedback on meeting topics, meeting and social hour locations, poster topics and more. Based on the survey, here are the top 3 meeting topics members would like to focus on this year.

1. Developer Training (for example, learning python, open source, Leaflet).
2. Soft Skills Presentations and Speakers (for example, networking, elevator pitch, negotiating, personal branding, etc.).
3. Volunteering with local schools or organizations (for example, Girls Who Code class, AAUW Tech Trek STEM camp for girls).



Our February social hour was held at Stroup Brewing in Seattle where we had a great turnout and welcomed several new faces.

At our upcoming gathering, date TBD, we are excited to offer a session on effective meeting facilitation (soft skills presentation). This session will provide tools and concepts to enhance your facilitation skills no matter where you are in your career. We also invited another women's networking group, Women in Environment (WIE), to join us for our March meeting at the Pioneer Collective in Tacoma. This should be a fun event and we hope you will join.

To view upcoming WWGT events, refer to our website: <https://www.wawomeningis.com/>. For more information contact Tonya Kauhi ([wawomeningis@gmail.com](mailto:wawomeningis@gmail.com)) or follow us on Facebook: <https://www.facebook.com/WashingtonWomeninGISandTechnology/>

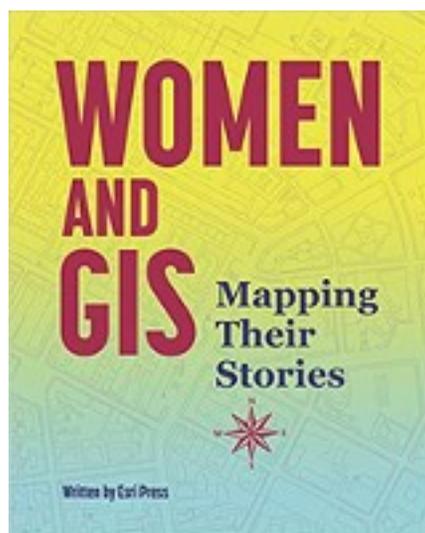
The WWGT group was created for women working in GIS and technology to meet, network, brainstorm and learn from one another. The group includes GIS students and professionals across all skills levels and disciplines. We meet monthly around Puget Sound to network and share ideas, industry information, experience, and advice. The group is open to join, and we welcome new faces.



# Reading Nook: A Book In Review

Reviewed by: Miranda Brewer, GISP, GIS Specialist, King County Sheriff's Office

**W**omen and GIS is a collection of profiles, each one highlighting a woman who works in a scientific capacity, utilizes GIS, and has made significant contributions to her field. Did you know URISA's GISCorps was established by a woman? Or that the women's record for solo dive depth was set by Sylvia Earle? You will learn these and other interesting tidbits in this book. In addition to learning about the women, the reader gains insight into their inspirations and the people who supported them along the way. Their journeys were



not always easy, but it's clear that the women learned invaluable lessons from their ups and downs. For this review I created three categories and then called out a few of the women who fit into those categories. Naturally, some women fit into multiple categories but I tried to identify the one that seemed best-suited to that individual.

Esri Press, 2019

Paperback: 232 pages

ISBN: 9781589485280

The first category is one I am calling "Environmental Champions." Wan-Hwa Cheng followed in her father's footsteps to study sea turtles but took it a step further by applying GIS technology to her research. She is a data analyst for the

International Union for Conservation of Nature Species Survival Commission (Marine Turtle Specialist Group) in Taiwan. Another woman who has dedicated her time to environmental causes is Sylvia Earle. Earle is an ocean pioneer whose deep sea missions have contributed to our understanding of the thriving ecosystem in countless ways. She spends much of her time at speaking engagements, and her work is the subject of a Netflix Documentary, *Mission Blue*. She now focuses on creating marine sanctuaries, known as Hope Spots, all over the world. This category wouldn't be complete without mentioning Breece Robertson, a VP of The Trust for Public Land. She and her team have used GIS to develop ParkScore, ParkServe, and Access Impact Mapping, or AIM. She enjoys giving keynote speeches (including the keynote at the 2014

WAURISA Conference). She also emphasizes the importance of leadership skills and soft-skill development in one's career.

Several of the women mentioned in the book have important roles at government agencies or have retired from one, so I am calling the second category "Government Go-Getters." Deidre Bishop has spent her career working in various capacities for the US Census Bureau. From tackling TIGER files to advising others as a deputy division chief, she has played a critical role in each census from 2000 to 2020. Another example of a government employee making an impact is Shoreh Elhami. She grew up in Tehran, Iran and is now a GIS lead for the City of Columbus Department of Technology. Her county was an early adopter of open data and interactive mapping in the mid-1990s. She is an active member of URISA and founded GISCorps, and mentors high school girls. Kathryn Sullivan has served as Chief Scientist at NOAA and has completed three space shuttle missions (1984, 1990, and 1992). Through her work for nonprofits and government organizations, she has discovered that the abundance of data collected calls for more resources to analyze it. And finally, Nancy Tosta currently serves as a councilmember in Burien, WA. She spent her career working as staff director of the Federal Geographic Data Committee. In this role, she helped institutionalize data sharing and metadata standards.

The third and final category I identified is "Rising Stars" or young professionals in the GIS world. Kate Chapman has applied GIS to many fields and currently owns Cascadia Technical Mentorship in Winlock, WA. She also cofounded the Humanitarian OpenStreetMap team, and broadly supports the use of crowdsourced geographic information. Rising star number two is Natalia Ocampo-Penuela. She is currently a postdoctoral fellow at ETH Zurich. Her research focuses on the intersection of oil palm plantations, biodiversity, and birds. Looking toward the future, she is focused on conservation ecology and hopes to inspire young scientists in Colombia and beyond. Lastly, Madison Vorva is the "Girl Scout cookie girl" who has been working toward environmental justice since she was 6 years old. She was inspired by Jane Goodall and used her perseverance to rally others behind important causes, such as sustainable palm oil production. She also works with Roots & Shoots, and is earning a master's in environmental policy and development at the University of Cambridge.

# Government Helping Government GIS Recognition Award— Peter Keum Interview

By: Eadie Kaltenbacher, Kitsap 911

In the last issue of *The Summit*, we noted that Peter Keum was this year’s recipient of the “Government Helping Government GIS Recognition” Award. For this issue, we spoke with Peter to learn a little more about the kinds of projects in which he is involved, and the effort he puts in to help government agencies in Washington State. Special thanks to Clifford Snow, who shared his nomination form with *The Summit*, of which details are included below.

Peter, a Senior GIS Specialist, has been employed with King County for 24 years, the last 22 of which have been in the Wastewater Treatment Division. Peter has been using Esri technology for over 20 years and is also a strong geospatial open source advocate and enthusiast. He believes strongly in breaking down silos to share information. He described three of his projects that are a result of this unique combination.

## Drone Program Setup with Lummi Nation

Peter collaborated with Gerry Gabrisch, GIS Manager at Lummi Indian Business Council, to establish a program for small unmanned aerial vehicles (sUAVs or drones). The drones are used to monitor environmental conditions, such as river channel migration, forest cover, and even salmon detection. In one example, Gerry wanted to investigate the extent of mortality in clam beds after harsh winter conditions. Within one month, Peter had brought his drone to Lummi beach and conducted test flights, inspiring Gerry and his organization to implement a drone program.

## Formal Presentations on Drones for GIS

For the 2019 WAURISA GIS Conference, Peter developed and conducted a workshop on the topic of drones for GIS along with Greg Lang (Pierce County). This workshop was well-attended with audience members from various city and state agencies. One of the outcomes of this workshop was the clear need for further gatherings to share information. Along with Greg Lang (Pierce County) and David Rohde (City of Edmonds), Peter co-founded a group called “Western Washington Local Public Agency Drone Workgroup” for further collaboration. This group had their kick-off meeting in the fall of 2019, and plans to continue regular meetings. Their website is: <https://westwadrone.github.io/>

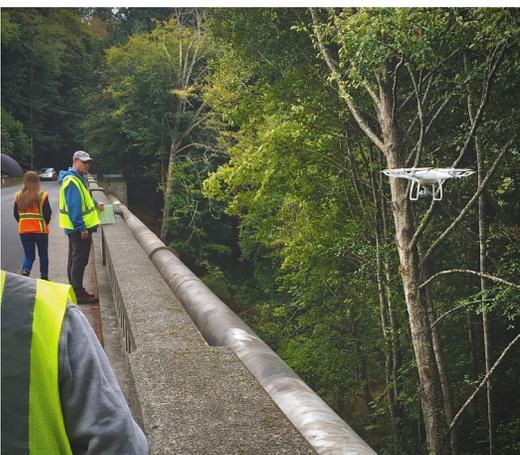
## CUGOS Involvement

CUGOS (Cascadia Users of Geospatial Open Source) is a group for anyone interested in open source software specific to GIS technology. Peter has been an active contributor for the last twelve years and was a key organizer for the CUGOS 2019 Fall Fling, the annual free full-day event, which attracts academics, software developers, public agency employees, and many more diverse specialists.

Peter explained that his “soapbox” is sharing information: not just data, but also the ideas behind solving problems. He explained that delving into the open-source world gave him a new perspective on how to approach problems in an

organizational sense. There are many ways to accomplish tasks, and often we get stuck in our methodology. This can

be especially true with governmental organizations where we are regularly exposed to the same groups of people and ideas. But by attending different events and participating in educational workshops, we can be exposed to new trends, tools and technologies to better serve the public.



If the event is cancelled or postponed due to an extended ban our policy will be to issue full refunds to all participants. Health and safety are of the utmost importance to us so we will continue to keep you updated as we gain more information regarding measures taken to keep our members safe. We will update this message with any new developments or information.



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# WGGL Sponsors Portal Summit In Seattle

By: Josh Greenberg, Skagit County GIS and Heather Glock, ESRI

Over eighty-five GIS professionals and users gathered in Seattle at the King Street Center on February 3 to share their knowledge and experience implementing Esri's ArcGIS Enterprise portal. Many organizations have prioritized the implementation of "the Portal" as a way to organize their GIS data and share it throughout their organizations.

For many organizations, this has been a daunting process. Recognizing this challenge, the Washington Local Government GIS Leaders group (or "WGGL"), a special interest group of WAURISA, organized the Portal Summit to provide a forum for attendees to discuss their experiences, identify contacts at nearby agencies, and share ideas on best practices.

Panelists from King County, Snohomish County, and the Cities of Kent and Seattle made brief presentations and answered questions. Staff from Esri were also on hand to contribute to the conversations and offer advice. The discussions were organized around four areas:

- Enterprise Portal Architecture
- Collaboration Portal-to-Portal and Portal-to-ArcGIS Online
- Governance, Security and Authentication
- Data Management and Metadata

The organizers were overwhelmed with the response to the event, which sold out quickly. This highlights what a great GIS community we have in Washington State, where people are eager to share information and educate each other to keep up in a rapidly evolving field.

For more information:

WGGL ([www.waurisa.org/Washington-Local-Government-GIS-Leaders](http://www.waurisa.org/Washington-Local-Government-GIS-Leaders))

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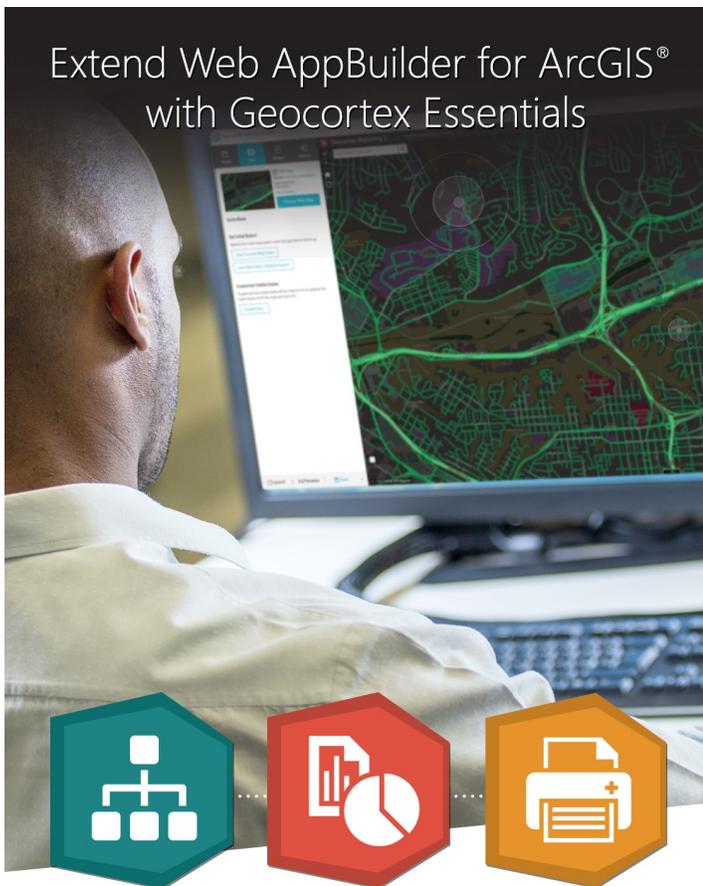
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# People on the Move...

**Christina Chelf** started January 6th as the **IT GIS Supervisor** at City of Tacoma. She is now managing 7 (soon to be 8) full time GIS staff. Christina has been with the City about 8 months and was instrumental in helping launch the City's replacement of govMe (gMap) with [taco-maMap \(tMap\)](http://tacomamap.com).

**Renee Optaz** just started her role as the **GIS/BI Supervisor** within the Business & Innovation Department at Metro Parks Tacoma (MPT). Renee has been with MPT since June of 2019. In her brief time with MPT she has been instrumental in the development and launch of the district's GIS/BI training program, required training for all staff.

Send announcements to [summit@waurisa.org](mailto:summit@waurisa.org)

Do you have an idea for a worthwhile article, but you don't want to be in charge of writing it? Let us know and we'll investigate it—we have willing writers that can turn your lead into a great story for the newsletter!

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# COVID 19 Resources for ESRI Customers

*Excerpt from Jack Dangermond email*

## Five Steps to Understanding the Potential COVID-19 Impact on Your Organization or Community

- 1 **Map the cases**—Map confirmed and active cases, deaths, and recoveries to identify where COVID-19 infections exist and have occurred.
- 2 **Map the spread**—Time-enabled maps can reveal how infections spread over time and where you may want to target interventions.
- 3 **Map vulnerable populations**—COVID-19 disproportionately impacts certain demographics such as the elderly and those with underlying health conditions. Mapping social vulnerability, age, and other factors help you monitor at-risk groups and regions you serve.
- 4 **Map your capability to respond**—Map facilities, employees or citizens, medical resources, equipment, goods, and services to understand and respond to current and potential impacts of COVID-19.
- 5 **Communicate with maps**—Use interactive Web maps, dashboard apps, and StoryMaps to help rapidly communicate your situation.

If you need assistance, Esri has set up a **focused support program** that can help you and your organization manage this crisis. We are making resources available at **no cost** that can help you prepare, manage, and deliver an effective response to COVID-19.

## Access the Esri COVID-19 GIS Hub

On the COVID-19 GIS Hub, you will find valuable and ready-to-use demographic and other data from authoritative sources, our user community, and business partners. You will also find practical apps that immediately aid better understanding and decision-making. This includes a collection of datasets, applications, and other useful content for your planning and response. These materials will be updated with new content as it becomes available.

## Build Your Own Hub Site with a Free ArcGIS Hub Template

To jump-start your own response, **we are providing you an ArcGIS Hub Coronavirus Response template at no cost**. The template includes examples, materials, and configurations to rapidly deploy your ArcGIS Hub environment. ArcGIS Hub is a framework to build your own website to visualize and analyze the crisis in the context of your organization's or community's population and assets.

**If you do not have ArcGIS Online**, Esri will donate ArcGIS Online with ArcGIS Hub Basic for six months. To activate your COVID-19 ArcGIS Online and Hub Donation, go to [https://go.esri.com/e/82202/disaster/mz9mmw/733693002?h=Lnoyt0gC1\\_HI8AgCHsJYtdpyCJ0I51QZNih5ZB2i16g](https://go.esri.com/e/82202/disaster/mz9mmw/733693002?h=Lnoyt0gC1_HI8AgCHsJYtdpyCJ0I51QZNih5ZB2i16g) and click Request Assistance.

**Once you have your donation or if you already have ArcGIS Online**, go to the app launcher, navigate to ArcGIS Hub, click new site, browse the gallery, and activate the Coronavirus Response template.

## Request Additional Assistance from Esri's Disaster Response Program

If your organization's GIS capacity is exceeded, and you need emergency support, there are several ways we may be able to help. We provide free GIS technology and on-call technical experts. We can help you with data, software, configuration, and technical support for your applications. For more than 25 years, Esri has supported our community with active emergency response and relief efforts. Our team is ready to help.

If you need any assistance, please reach out to us at <https://go.esri.com/e/82202/disaster/mz9mmw/733693002?h=LnoytDpyCJ0I51QZNih5ZB2i16g> and click Request Assistance.

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**Aktivov** is an IT and GIS firm providing asset management, maintenance management, emergency management, permitting, business licensing, content management software and services. All software are cloud hosted, GIS based, app and web based deployed on mobile/ web/ laptop/ desktop.

**Ascent GIS, Inc.** is a professional GIS firm located in Spokane Washington specializing in GIS consulting, remote sensing, geospatial data acquisition and management, and implementing mappings systems at any level. For over 20 years Ascent GIS has provided professional GIS services to Federal, State and Local Government, Utility, Mining, Universities, Forestry, and Agriculture Organizations. Ascent GIS's technical staff is made up of Senior GIS analysts, Geophysicist, (PhD) and Remote Sensing Specialist. The Ascent GIS staff is dedicated to customer satisfaction.

Since 1996, **Cityworks®** has been helping organizations maintain smart, safe, and resilient communities by streamlining the care of public infrastructure, permitting, and property. Built exclusively on Esri's ArcGIS technology, Cityworks' GIS-centric platform combines the authoritative asset inventory in a geodatabase with business process applications for managing workflow, scheduling resources, and prioritizing activities. The success of our technology is a function of how we invest in our customers, our partners, and most importantly, our team. Promoting a positive and energetic environment in a culture of integrity and respect has produced a world-class team committed to ensuring Cityworks remain the solution of choice. Though competitive compensation packages and exciting career development opportunities are certainly a factor, we believe talents should be recognized and collaboration valued in order to hire and retain top talent. Time-tested and proven, Cityworks is Empowering GIS for thousands of people, saving time and money, while improving operational efficiencies. Visit us at [www.cityworks.com](http://www.cityworks.com)

**DATAMARK®**, the Public Safety GIS team of Michael Baker, consists of a skilled group of subject matter experts in Public Safety and GIS whose mission is to build trusted relationships by providing the necessary education, fact-finding, and solutions to ease the transition to and development of workflows for NG9-11. DATAMARK is the go-to authority on GIS data for NG9-1-1. Its data-forward, full-service but configurable NG9-1-1 solutions provide the highest levels of Public Safety GIS data completeness and accuracy that empower informed decision making. Michael Baker International is a national leader in advanced technology solutions supporting clients in local, state, and federal government.

Founded on April 1, 1976, **David Evans and Associates, Inc.** (DEA) is a multi-disciplinary consulting firm doing business in the energy, land development, transportation and water markets. Centered on the core purpose of improving the quality of life while demonstrating stewardship of the built and natural environment, more than 800 professional surveyors, engineers, planners, architects, landscape architects, natural resources scientists, and construction managers work together to understand client needs, provide creative thinking and technical excellence, and deliver extraordinary service that exceeds expectations. As an infrastructure planning and design firm, DEA was founded in Portland, Oregon, with 30 offices across the Western United States. DEA offers our clients a dedicated team of creative people working in a positive and caring environment that inspires well-designed solutions to complex problems.

**EagleView Technologies** offers GIS Software and Pictometry® Intelligent Images®: the highest-resolution oblique and ortho images- captured and processed with patented technology, delivered through innovative analytical tools to allow for the most accurate seamless blend of GIS and real-world visualization along with offerings such as WMS, WFS, 3D and software integrations. Dustin Walters, WA District Manager, at 541.325.3781 or [dustin.walters@eagleview.com](mailto:dustin.walters@eagleview.com) or [www.eagleview.com](http://www.eagleview.com)

**Esri**, the global market leader in geographic information systems (GIS), offers the most powerful mapping and spatial analytics technology available. Since 1969, Esri has helped customers use The Science of Where to unlock the full potential of data to improve operational and business results. Today, Esri software is deployed in more than 350,000 organizations including the world's largest cities, most national governments, 75% of the Fortune 500, and more than 7,000 colleges and universities. Esri engineers the most advanced solutions for digital transformation, IoT, and location analytics to create the maps that run the world. Visit us at [esri.com/news](http://esri.com/news)

**Flo Analytics** is intrinsically grounded in "place," and its relationship to people, the land, and the built environment. Whether you are a local government, school district, private business, or a mission-driven nonprofit, we are committed to helping you use GIS and data analytics to make informed decisions. [www.flo-analytics.com](http://www.flo-analytics.com)

**Frontier Precision** is the Trimble dealer for Oregon and Washington offering GNSS survey and mapping systems, UAS solutions, scanners, laser rangefinders, water quality instrumentation and comprehensive GIS Services.

**GeoTerra, Inc.** is a leading provider of Aerial Acquisition, Mapping, and GIS Services for all types of projects requiring engineering quality mapping. Based in the Pacific Northwest, the Company focuses its efforts on geospatial data acquisition and processing to include; aerial imagery acquisition, GPS control surveying, feature data collection, terrain modeling, contour development, orthophoto generation, LiDAR data acquisition, processing & integration, and Geographic Information Systems (GIS.) The company is on the cutting edge for utilization of photogrammetric point clouds, 4-band orthophoto imagery, automated processing for aerial triangulation, and generation of GIS impervious surfaces. The U.S. based production staff is located in Eugene and Portland, as well as Boise.

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**Geocortex** web mapping software helps organizations accomplish even more with their investment in Esri technology. Whether you want to deploy a Geocortex viewer, or extend your Web AppBuilder for ArcGIS applications, Geocortex has tools that can help. More than 1500 organizations around the world use our configurable framework to help them operate more efficiently, communicate more effectively, improve decision making, and reduce the time and money spent building and maintaining their mapping applications.

**Innovate!** is more than a consulting company. A woman-owned, minority 8(a) company established in 2002, our success is built on trust earned from relationships with our clients and partners. Our talented staff identifies our client's needs and provides solutions that evolve and grow to help meet new challenges with confidence, agility, and speed. Our track record includes everything from highly complex, multi-phase engagements to quick-turn assignments that require immediate mobilization—all with the same commitment to superior outcomes. We are proud to assist clients ranging from private to public, federal, state, local and tribal organizations. As a green company, we set the standard for positively impacting health and environmental issues, which also is indicative of how we live our lives.

For 20 years, the **King County GIS Center** has been providing quality services and exceptional value with the most capable GIS organization in the Pacific Northwest. Unlike most consultants, our professional staff members are practicing users of the GIS solutions that cities, counties, utilities, tribes, and regional agencies require. Why do we offer our services to outside customers? We have a long-term interest in the success of GIS throughout the region. Our success depends on satisfied clients. We are committed to delivering quality GIS business solutions that provide value for our customers. Whenever you need GIS consulting, programming, data, mapping, or training let KCGIS help you put GIS to work!

**King's Books** is Tacoma's new and used, community-centered bookstore. We have books in all fields, from quirky map books to poignant children's books, a range of events weekly, and two bookstore cats. Our events include author talks, art festivals, poetry, community events, and fourteen very-specific book clubs. We supply books to organizations and businesses and sell book off-site at various events. Visit us at 218 St Helens Ave (meet our bookstore cat!) or online at kingsbookstore.com. Follow us as kingsbooks across social media.

**Sanborn** is a 21st century industry leader in geospatial solutions and technology, offering oblique, ortho, and lidar services, program management, and first rate customer support. For our clients we provide a national presence, extensive resources, quick responses, and exceptional value. For over a century, we have been a leader in the rapidly growing geospatial industry, with successful projects delivered worldwide. Sanborn also offers oblique imagery products and a robust viewing platform to aid in your assessments. For more information, visit us online at [www.sanborn.com](http://www.sanborn.com).

From small-town infrastructure to federal design-build projects, and from large mixed-use communities to urban in-fill projects, **Timmons Group** has proudly built a reputation of excellence since we first opened our doors in 1953. Our deep experience positions us as an industry leader with an unwavering commitment to forward-thinking, innovative design and complete solutions for client success. Recognized for nearly 20 years as one of Engineering News Record's Top 500 Design Firms, Timmons Group provides civil engineering, environmental, geotechnical, GIS/geospatial technology, landscape architecture and surveying services to a diverse client base. Our market-focused organization is structured to help fulfill our mission "to achieve unparalleled understanding of our clients, their businesses and their visions, resulting in unrivaled customer service and shared success."

The **School of Urban Studies at the University of Washington Tacoma** offers an Undergraduate GIS Certificate (25 Credits/5 courses) and a BA in Urban Studies degree with a concentration in GIS & Spatial Planning. In the BA, Graduates are well prepared to either compete for a variety of employment opportunities in technical, planning and policy-making domains or to pursue graduate study. The program also offers an 11-month MS in Geospatial Technologies (40 Credits/8 Courses). The MS degree provides advanced training in GIS, including the use and application of geospatial hardware, software, and data in urban and environmental planning scenarios as well as the development and deployment of location-based mobile and web applications. <https://www.tacoma.uw.edu/urban-studies/urban-studies-home>

Since 1988, **VESTRA Resources, Inc.** has been an industry leader in Enterprise GIS design, customization and implementation. As an Esri Certified Gold Partner, we are proud to hold several specialty designations including ArcGIS Online Specialty, ArcGIS for Local Government Specialty, and Federal Small Business Specialty. We offer products and services to clients of all sizes in federal, state, local government and private organizations, nationally.

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## GIS User Groups in Washington

### Cascadia Users of Geospatial Open Source

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

Contact [Karsten Vennemann](#)

### 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 Annex Building, CWCOG meeting room, 207 North 4th Ave, Kelso WA (*unless other location is announced*).

Contact [Ken Pearrow](#)

### 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\\_mtgs.htm](http://www.wvu.edu/huxley/spatial/nwwgis/nwwgis_mtgs.htm)

### Snohomish County GIS User Group

<http://www.arlingtonwa.gov/350/Snohomish-County-GIS-Users-Group>

### Southeast Washington/Northwest Oregon GIS User Group

<http://gisgroup.wordpress.com>

### Washington Geographic Information Council (WAGIC)

<http://ocio.wa.gov/boards-and-committees/washington-state-geographic-information-council-wagic-0>

Join Listserve [here](#)



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