

Meridian NW

Newsletter for the Pacific Northwest Chapter of the Geospatial Information & Technology Association
September 2007 Vol.8, No. 2

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PRESIDENT'S MESSAGE

As summer comes to a close (it has not been here long enough in this part of the country!), your chapter Board has been busy planning once again for our fall conference. It is hard to believe it's our 8th Annual Conference. We have had three conferences in Whistler, BC, two at Salishan on the Oregon coast, one at the Enzian Inn in Leavenworth, WA, and our first conference at Skamania Lodge, WA, in the Columbia River Gorge. As an international chapter, we try to alternate between BC and the US for our conference. This year we return to beautiful Whistler, BC, and the site of our first two conferences there: the Delta Whistler has now become the Hilton Whistler Resort and Spa.

The Board held a planning meeting at the conference hotel recently and I can report that the Hilton has upgraded the facility considerably. We were quite pleased to see that the hotel will be an even better venue for our conference. Our past visits to the Delta Whistler were well received and this promises to be just as successful. The earlier dates this year will hopefully mean good weather for us. The road from Vancouver (Sea to Sky Highway) is being improved in preparation of the 2010 winter Olympics and the drive is already better than in past years. They are doing a great job of keeping traffic moving during this construction.

I am extremely pleased with the program we have put together for this year's conference. Take a look at the next page and you'll see what I mean.

This conference is a great opportunity to network with peers and vendors in a relaxed atmosphere. Come to Whistler and join us for what will undoubtedly be a conference in a venue you will not soon forget.

Also, read on to discover an excellent article by one of our chapter Board members, Eric Hoogenraad, on data integrity issues for infrastructure management in local government, a very timely subject. This newsletter also contains a departure for us in the form of a non-geospatial article by Board member Dave Ward describing his experience building a wood-fired bread oven. Fun stuff.....hope you enjoy!

Steve Sherer, 2007 PNW GITA Chapter President



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The program for our 8th Annual Fall Conference September 24, 25 in Whistler is set!

Our keynote speaker:



Ward Chapin
Chief Information Officer,
Vancouver Organizing Committee for the 2010 Olympic and Paralympic Winter Games
(VANOC)

Will be followed by this wide range of presentations:

***Web-enabled Geospatial Environmental Monitoring
Tool for the Sea-to-Sky Highway: An Essential Part of
Vancouver and Whistler's Preparation for the 2010
Winter Olympics***

Grant Bruce, Vice President, Hatfield Consultants

***Integrated Cadastral Information Society (ICIS)
Tools for Sharing Spatial Data***

Laura Cassian, Technical Services Coordinator, ICIS

***Geospatial Business Intelligence Systems (GBIS)
The Future for Geospatial Information Science (GIS)***

Susan Romeo-Gilbert – President
SIBIS Consulting Services Inc.

Spatial Direct at Terasen Gas - Out of this GIS World

Ted Norcott, GIS Specialist, Terasen Gas Utility Ltd.
Mark Sedgwick, CDMS Consulting

Geospatial Applications Without GIS

Bob Forbes and Andy Padvorac, Puget Sound Energy

Virtual Earth and Beyond

Chris Longo, Microsoft Corporation

***How BPA Uses LiDAR to Gather Geospatial
Information***

Alan DeJong, Bonneville Power Administration

***Where Are My Trees? Case Study - San Francisco
Department of Public Works' Bureau of Urban
Forestry (BUF) and the Nonprofit Friends of the
Urban Forest***

Nicole Jung, ASCT, Global CADD Systems Corporation

***Building a Business Case for Geospatial Information
Technology: Financial Strategic Analysis***

Dan Shannon, Manager Operations, TELUS Geomatics
GITA National Board Member At-Large

Outage Management – 2007 Storm Season in Review

Ivor Block, Manager Business Support, BC Hydro

How to Efficiently Use and Share Geospatial Data

Richard A. Johnson, Business Team Lead, Information
Services
City of Vancouver, BC

Join us in Whistler for this event where we have gathered this exciting array of speakers. This is a great opportunity for networking among your geospatial industry peers in a relaxed setting.

For registration information and more, please visit:

<http://www.gita.org/chapters/pacific/pacific.asp>



Top Things to See & Do in Whistler, BC

Carolle Bruce
PNW GITA Chapter Board Member-at-Large

With sunny days and cooler evenings, September is a great time to visit Whistler, BC. Whistler is renowned for its world class skiing and snowboarding but did you know that Whistler attracts visitors all year round? There is plenty to do without snow! If you are planning to spend some extra time in Whistler while you're visiting for the conference, try some of these activities:

Bear Viewing

Take a guided tour of bear country with bear expert Michael Allen. He will lead you on a tour to remember. He'll take you to high elevation timber-shrub forests where you will see black bears feeding on huckleberries in preparation for hibernation.

Dining

There are lots of options. For fine dining, try Araxi in Whistler Village or venture north to the Edgewater Lodge – one of Whistler's best kept secrets. For casual dining, try dining al fresco on any of the heated patios in Whistler.

Golfing

There are some spectacular courses in and around the Whistler area. On Tuesday, join your GITA colleagues for an afternoon of golf.

Hiking

Plan your own hike with a Whistler hiking map or join a guided tour. Either way, you will enjoy some of the finest scenery in British Columbia. Garibaldi Provincial Park offers some of the best hiking in the area.

Shopping

There are over 100 shops to explore in Whistler Village. However, if you only have time to visit a few, try Mount Cashmere, Roots, or any of the Fine Art dealers.

Sightseeing

Take a ride up the Whistler Gondola. Don't forget your camera!

Spa Living

Whistler boasts many spas including one right in the Hilton. Treat yourself!

Zip Lining

For a thrilling adventure, zip between Whistler and Blackcomb mountains across rushing creeks, valleys, and old growth forests on a Zip Trek eco-tour.

For more information about any of the activities described above, check out these sites:

www.whistler.com

<http://www.tourismwhistler.com/>

<http://www.whistlerbcbritishcolumbia.com/>

or your favorite travel site.

Data Integrity Issues for Infrastructure Management in Local Government

Eric Hoogenraad (AScT, GISP)
Mapping and Survey Manager
City of Abbotsford

With the ever-increasing appetite for access to current data on the World Wide Web, infrastructure data, among other geospatial features, is expected to be accurate, complete and delivered in a timely manner. It must reflect the most recent construction details and contain geospatial features embedded with all the relevant and sometimes crucial attribute data. The growing internet "GeoWeb" community makes the immediate availability of this data in a shared environment paramount for the GIS professional as well as the emerging sector of casual geospatial information users.

The early GIS infrastructure layers or coverages built by local government and utility companies that we use in our GIS today were derived from legacy as-built construction drawings. Considering the recent discussions in the engineering world comparing the terminology of "as-built" vs. "record drawing" and the associated liabilities incurred by using the incorrect certification, one wonders if the original source for this critical data is indeed dependable.

As-built records have historically been difficult to obtain and are not always verified to be the factual record of the physical engineering and construction work performed.

The inherent errors embedded in this compiled data give rise to GIS analysis and thematic cartography riddled with an unacceptable margin of error. Furthermore, any digital modeling of the infrastructure network is made difficult considering the possible discrepancies in the data.

This inconsistent source for accurate and complete record drawings stems from the

economic booms that have occurred in the past and that we are indeed experiencing in the construction industry today. There simply is no time to "follow up" on completed projects. Any financial "hold backs" on the part of local government are not substantial enough to deter the developers and engineering consultants from absorbing the loss. It is more cost effective (or indeed lucrative) to utilize technical staff to start a new project than to have them pursue as-built data for already completed work, usually already paid for.

Unfortunately, there are no easy answers to rectify this increasing problem. However, if the issue is not resolved, infrastructure GIS data integrity will diminish at an alarming rate. This could result in faulty analysis in utility modeling and the creation of mapping products that do not reflect reality. Critical decisions will be made based on the faulty information displayed. Infrastructure construction project costs will increase as utilities may not be located as shown on GIS sources and construction crews will duplicate their efforts digging trenches more than once for the same utility. In some cases they may be forced to dig by hand for safety reasons, not knowing the exact location of the critical infrastructure and the possibility of causing physical damage to infrastructure. Ultimately, accidental transmission main breaks will occur more frequently and in the case of gas, electrical or oil pipelines, human life could be in danger. Additionally, any modeling and capacity analysis will be questionable and could result in undersized trunk mains and possible infrastructure failure. If this occurs regularly, consultants and contractors will feel they can not rely on the GIS data provided and indeed make the data capture and maintenance by local government redundant. There is no point entering data that is not reliable and certainly any future efforts to build

on this unreliable GIS infrastructure data is pointless.

Of course, the obvious solution is to have consultants and contractors provide accurate and complete as-built records, certified with their professional engineering seal and signature. In an ideal world, this would seem logical and indeed the right thing to do from a professional and ethical perspective. Unfortunately, we can not ignore the facts.

As mentioned before, engineering consultants, like most other players in the construction industry today, are driven by increased profits and indeed focus their efforts on new projects, with new contracts and inherent required efforts to maximize their profit margins. The historically required as-built process is a very low priority and easily forgotten about or simply ignored. At best, a quick duplicate copy of the original design drawing with a "record drawing" note added in the revision block will be submitted to appease local government requirements. This incomplete and sometimes incorrect data is usually what is entered in the local and regional GIS systems and used for future infrastructure design and analysis. The data integrity problem is obvious; "garbage in, garbage out".

To address this problem, local governments have to come up with innovative solutions for the acquisition of data for constructed infrastructure. The choices are limited.

Local governments can continue using the historical "as-built" drawings for infrastructure data input with the knowledge that this data is not always reliable or complete. As mentioned before, this would result in a GIS infrastructure database that does not accurately reflect the exact locations or correct attributes for various infrastructure components. The resulting GIS infrastructure data could be verified by future construction work in the applicable area and old as-built records on file and current GIS data revised to reflect current findings in the field.

Of course, this option would not result in any improvements to the current situation and possibly invoke infrastructure decisions that are based on incorrect information. The consequences of this action could cause catastrophic infrastructure failures and in worst case scenarios environmental disasters and possible loss of life.

Alternatively, local governments may want to verify all submitted as-built records by internal or contracted survey crews performing topographical survey pick up for completed projects. As-built records could then be revised based on survey data and information would not be entered into the GIS until verified. However, this would result in substantial delays in data entry from the time the project construction is complete to the time it is available in GIS. These delays result in GIS users not being confident about the currency of data provided. Infrastructure already constructed may not be shown when determining infrastructure requirements for subsequent developments.

With today's tight budgets in local government, the hiring of additional survey staff to expedite this data collection or the choice of out-sourcing this work is not an option. Ideally, this survey work should be performed by the engineering consultant prior to submission to local government whereby inherent costs would be born by the developer. Of course that brings us back to the issues of consultant profit margins and financial priorities.

Unfortunately, there are no easy answers to the ongoing "infrastructure as-built problem". However, the development industry and local governments have to collectively identify that there is a problem and assume the professional responsibility to provide accurate data for all constructed infrastructure to sustain a successful and safe future for all.

Tasty Low Tech

David Ward
Regional Manager
Terrapoint USA

Dealing with technology day in and day out for years can be exciting but can also provide an occasional temptation to dip one's toe in the technology of previous centuries. The pallet of bricks alongside my house presented an outlet to one of those temptations. They had come from the removal of an old chimney that had become a seismic hazard. The other piece of this puzzle came in the form of a dinner where we were able to sample a number of different hand made rustic breads and wood oven pizza. The breads and pizza were wonderful, tasty, chewy and flavorful.

Somehow, these diverse thoughts and interests came together in the form of a plan to build a wood-fired bread and pizza oven off the end of our new patio. Calculations showed that I had enough bricks and a friend provided the name of a local fellow who would help with the construction.

Ovens of the design I wanted to build have been around for centuries. A local baker would serve a neighborhood, or in some cases an oven would be shared among several families in a neighborhood. I actually saw the ruins of a Roman oven in England and it was not a whole lot different than the design we were going to use.

Things moved forward quickly and a concrete slab was soon poured off the patio. Concrete blocks formed the basic platform for the structure. We then built the base for the firebox by suspending a concrete slab using rebar across the concrete blocks. This was cast in place. Once this cured for a couple of days and the form was removed, it actually stayed in place.

Now the fun part began. We used fire brick to construct the actual interior of the oven. Using a curved plywood form each arch of brick was carefully placed and allowed to dry. Five of these arches, each a brick deep, form the interior of the oven. We then built another form around this and cast a large concrete mass around the oven chamber itself. It was starting to look like something resembling an oven.

The next step was to use the pallet of used bricks from the old chimney to build the surrounding structure and a chimney. This would provide a decorative façade as well as an exterior structure around the oven chamber. The space in between the two is insulated to hold in the heat. A small roof over the insulated area keeps the insulation dry.

Waiting a week for the whole thing to cure was painful for a basically impatient person, but I survived. A small fire was built and gradually increased in size to slowly drive the moisture from the new structure. The oven survived this without cracking.

The next day was the big test. Wood fired pizza. I chose pizza because it can be done in a shorter time than bread and I needed to eat something from my creation. A fire was built in the box with a pile of hardwood from the recently deceased cherry tree and the oven warmed up. Yeasty pizza dough was mixed and allowed to rise. The oven took about 7 hours to reach cooking temperature. For bread you completely remove the fire from the box and cook with the residual heat. For pizza you push the fire to one side and leave it burning. The ashes are shoveled out with my wife's favorite gardening shovel and the oven surface was mopped with a wet clean towel on a stick.

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We were ready. The yeasty pizza dough was ready. The oven was ready. The first pizza was placed on the wooden peel and the toppings added. Semolina on the surface of the peel insured it would not stick. More semolina was spread on the now hot oven floor. It browned quickly, just like the book said it was supposed to do. The pizza was inserted and a wrist flip left it on the oven floor. The edges started to brown, the cheese started to bubble, and it was looking like pizza. Another wrist flick got the peel back in so the pizza could be rotated as the fire side tends to cook more quickly than the other. In about 6 minutes it was done.

I carefully placed it on a board and added a little pepper and a sprinkling of cheese. Cut into pie shaped wedges it was distributed to the friends and family who had gathered to see if the brick monster in the back yard actually worked. The pizza received rave reviews from all present. The oven had

imparted a wonderful smoked flavor that the same dough and toppings lacked from the gas oven in the kitchen. It was pronounced a success.

Since that time the oven has done one wedding, two graduations, and numerous parties. People enjoy seeing it in action and the pizza continues to get very positive comments because of the smoky flavor. I can only enjoy the smell these days as I discovered I was allergic to wheat a couple of years after the oven was built. The latest project is finding a good gluten free pizza dough recipe.

The food allergy aside, the oven was a fun project. It continues to provide a great deal of enjoyment. It's possibly the world's most inefficient way to cook a meal but efficiency and technology should not always be the goals of a project.



2007 Spring Speaker Program Report

Date: Friday, April 20, 2007

TIME: 9:15 am to 3:00 pm

LOCATION: BC Hydro Dunsmuir Auditorium
2nd Floor Meeting Room
333 Dunsmuir Street
Vancouver, B.C.

COST: FREE Registration – No Host Lunch

The Pacific Northwest Chapter of the Geospatial Information and Technology Association (GITA) held a successful speaker meeting on this day.

We had a great group of speakers at this morning's session including the following:

Richard Johnson, City of Vancouver, spoke about a case study of implementing data collaboration between departments and outside contractors dealing with the city of Vancouver as well as submitting electronic drawings into the city for approvals, etc.

Karen Stewart, ESRI Canada, spoke on PS3150, a federal initiative for municipalities reporting on assets and infrastructure and the relationship to GIS databases and how it can help with the new reporting process for local governments.

Stephanie Hinkson, BC Hydro, spoke on a case study of data realignment inside a GIS and their associated problems with data accuracies.

Dan Bowditch, Ubisense, spoke on a method of realigning data within a GIS and the methodology to do that. No one solution is available at the moment, but the issues involved were well presented.

During the business meeting Les Giles, GITA spoke on the fall conference and announced that Ward Chapin, Chief Information Officer, Vancouver Organizing Committee for the 2010 Olympic and Paralympics Winter Games (VANOC), will be the keynote speaker at the PNW GITA Fall Conference Sept. 24-25, 2007 in Whistler, BC.

There were 15 attendees at the speakers meeting and due to other commitments the session closed at 12:30. The talks were wonderful and each followed with a very lively Q&A of each of the presenters.

Les Giles, AScT, Manager Photogrammetry Services, BC Hydro Transmission Engineering, was the meeting organizer and master of ceremonies.

Scholarship Opportunity

The Pacific Northwest chapter of GITA is pleased to announce that applications are now being accepted for scholarships for undergraduate or graduate students with a focus on geographic information systems (GIS). The program is designed to encourage interest in GIS-related fields of study and to assist in the education of future professionals. Providing these scholarships emphasizes our commitment to maintain focus on the present, while embracing our vision of the future. Recipients from 2006 were **Sabrina Sasaki** from BCIT and **Amy Louten** from UW. For 2007, a \$1000 scholarship was awarded to **Nicole Lucas**, also from BCIT.

Additional information, and the application form, can be found on our web site:

<http://gita.org/chapters/pacific/pacific.asp>.

Applications must be submitted by April 30, 2008 for the spring scholarships.

Membership Report

The Pacific Northwest Chapter remains the only chapter with an international mix. Along with the states of Washington, Oregon, and Idaho, our chapter includes British Columbia. Current membership in the Pacific Northwest Chapter of GITA stands at 125 individuals. Please stay involved in GITA and support your local chapter.

Chapter Board

Your chapter board plays an important role in the operation of GITA as a whole. Current or past board members will attest that it is an interesting and rewarding endeavor. Please contact any of the board members to indicate your interest in becoming a chapter board member. Elections will be held at the fall conference in Whistler.

A Reminder

Passports are now required for **air** travel between the US and Canada. **Ground** travel will not require passports until next year, but you will need a birth certificate and drivers license. See this [link](#). For those traveling to Vancouver from the US for our fall conference at Whistler, please keep that in mind.

As always, we want to hear from you. Please let any of the board members know if you have suggestions on how we can continue to improve our conference and membership offerings. We look forward to hearing from you!

Upcoming Events

**Sept. 10-14, 2007 - ESRI NW Users Conference
Tacoma, WA**

**Sept. 17-19, 2007 - GITA Oil and Gas Conference
Houston, TX**

**Sept. 23-27, 2007 - NSGIC Annual Conference
Madison, WI**

**Sept. 24-25, 2007 – PNW GITA 8th Annual Conference
Whistler, BC**

**Oct. 3-5, 2007 - APA OR, WA Regional Conference
Tacoma, WA**

**Oct. 9, 2007 WAURISA Asset Management workshop
Issaquah, WA**

http://www.waurisa.org/Workshops/Asset_Management_2007/Asset_Mgmt_2007.pdf

**March 9-12, [GITA Geospatial Infrastructure Solutions Conference 31](#)
Seattle, WA**

Pacific Northwest Chapter of GITA - Board of Directors - 2007

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