PRESIDENT’S COLUMN

GIS Colleagues,

You’ve been at those professional events, or in my case, a church with my grandmother years ago, where the leader in the room says, “Now turn to your neighbor and introduce yourself”. It used to strike terror in me as a kid and I can’t say I’m much better at it even 30 years later. But here I am saying it now:

It’s the perfect time of year to step up, get out and get involved. Go introduce yourself to someone new! There are so many ways for us to express ourselves, whether it’s at an Occupy SomeCity event, rally at a Save Our GPS event, present at a local GIS user group meeting, be a mentor to a junior GIS person or just start your own GIS lunchtime brownbag group at your office. And each way offers you not only the opportunity to reach out to others but also to learn from others. It’s easy for us introverted computer types to sit with our heads down and work on our task day after day. We might bang our head on a problem all day (I’m looking at you PYTHON) only to find out that there was another way to look at the problem entirely by talking with someone else who has a fresh, different, or more experienced take on the issue. Heck, they might even make you see the “problem” as an opportunity. Stand up, take a look around, and see how you can reach out. There are numerous ways.

Speaking of getting out and involved, the conference committee is back in action and looking for volunteers as we prepare for our upcoming annual event to be held in May. Take a look at the “job ads” here in the Summit to see if there is a place for you on this or another committee. We have several responsibilities that need to be shepherded by a person each year and they are so important we are advertising early to get people on board and working on them. Even if you don’t find a fit there I’m sure Dana Trethewy, our conference committee chairperson, has a list of jobs that need doing. Just speak up and we will get you busy with a task. Are you good with numbers? Good with colors? Good with entertaining 300 people in a room? Good with audio visual thing-a-ma-bobs? Good with creating free conference planner iPhone apps? (Hey, just tossing it out there in case…) Speak up! Remember that volunteering on a committee earns you GISP points! And it counts as introducing yourself! (So does presenting at the conference - start thinking about that now!)

-Ann Stark, president@waurisa.org @StarkAnn
GAVIN SCHROCK GPS INTERVIEW
Continued from page 1

Summit Contributing Editor Effie “FE” Moody (FEM) interviewed Gavin Schrock about the issues.

FEM. Gavin, can you tell me a little background in non-technical language to help me understand the problem?

Gavin: Harbinger, the parent company, a hedge fund of sorts, acquired a company called Sky Terra, which had rights to satellite bandwidth. Sky Terra was acquired by Harbinger at a relatively low cost (than if it was a terrestrial communications company). Back in 2003, Sky Terra asked the FCC to allow them to do terrestrial (i.e. ground tower) transmissions where satellite was not traditionally going to work too well. At the time, this modest proposal was not considered a threat by the other federal and non-federal agencies regarding HP GPS. In 2010, Harbinger formed Light Squared to create a nationwide 4G network. The new proposal was for 40,000 high powered transmitters. The problem is the dramatic change from the 2003 proposal for modest ancillary terrestrial fast forward to 2010 when Light Squared went to the FCC for approval for a full terrestrial signal in the satellite band. For example, this is along the same idea as a developer wanting to build a large apartment building in a quiet suburban neighborhood where zoning prohibits that. It is common practice for someone to go before a city council and ask for a zoning waiver or variance, which are not always granted.

FEM. So, did the FCC grant approval of this plan by Light Squared? How is this different from other Broadband proposals or plans?

Gavin: In January 2011, FCC granted a provisional waiver to go ahead with the full proposal - conditional upon certain tests. There have been national calls for more broadband including from the president; the call is for 500MHz of new broadband (http://www.whitehouse.gov/the-press-office/2011/02/10/president-obama-details-plan-win-future-through-expanded-wireless-access).

FEM: The Light Squared proposal is for only 10-20MHz of this goal, and arguably the only proposal that is potentially “toxic” to GPS. There are other broadband efforts in the works in other parts of the radio spectrum, far from GPS.

Gavin: The results of July 2011 tests showed that interference from the proposed Light Squared transmissions in the original plan could be experienced in some cases up to 20 miles from the towers, and differing levels of interference were experienced across the board, which strongly interferes with HP GPS.

See: Gavin Schrock GPS Interview, Page 3
**The Summit**

**Autumn 2011**

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**Gavin Schrock GPS Interview**

Continued from page 2

**FEM:** Can you tell me a little more about how HP GPS is used in this country?

**Gavin:** There are four major uses for High Precision GPS:
1. Aviation
2. Public Safety
3. Survey/Construction
4. Precision Agriculture

**FEM:** Why is this proposed use of 10-20 MHz by Light Squared considered "toxic" and is the proposal for a Broadband and 4G network in the U.S.A. a good thing?

**Gavin:** Broadband is a good thing for America but not at this price. Neither the general media nor the public is aware of this proposal's effect. The rallies held Thursday in Seattle and Texas on September 22nd were to help the public become aware without the protesters speaking on behalf of some agenda other than their own potential loss of productivity or other costs incurred.

**FEM:** What are some other adverse effects besides the fast tracking that prevents adequate testing do you and others professionals see?

**Gavin:** Even digital TV conversion from Analog took over 10 years of warning to consumers: To prevent negative financial impacts; vouchers were given for converters for equipment made obsolete by this conversion. In contrast, apart from a symbolic offer of $50M for some military receiver upgrades, NONE of the Harbinger proposals account for the incredible costs that could be incurred in the wake of this fast track effort.

**FEM:** What are some other adverse effects besides the fast tracking that prevents adequate testing do you and other professionals see?

**Gavin:** Jobs will be lost and certain elements of High Precision GPS industry and expertise could be lost to countries not having this broadband interference issue with their equipment. Other countries with Satellite navigation systems such as China, Russia, India, and European nations using the GNSS or Global Navigation Satellite Systems will not be affected quite in the same manner as the United States of America (U.S.A.) with this Light Squared proposal. While these required tests are strict, the tests are performed under certain assumptions, which may not completely address possible performance losses for high precision GPS even if some new filtering technologies are tried. The CGSIC (the Civilian GPS Service Interface Committee) held an annual conference this year in Portland, OR. The annual meeting was held recently and the DOD, State Dept, FAA and other Federal agencies were all there discussing this Light Squared proposal and the adverse effects. This was the hot topic of the annual gathering. Also, it was noted that this proposal has become a political fight and has been fast tracked through the normal systems for test within the FCC, which many view does not allow enough time to study all the adverse effects or enough time to inform those affected and to correct those effects.

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**FEM:** Can you give me an example of enough time needed to test the effect this broadband proposal would have on HP GPS?

**Gavin:** As I said earlier, only the Light Squared proposal affects the HP GPS and L bandwidth in this manner so far. No one hates broadband, but we cannot accept every proposal that comes along if it does harm.

**Gavin:** The Dept. of Defense (DOD), Federal Aviation Association (FAA), Dept. of Transportation (DOT), and the National Telecommunications Industry Agency (NTIA) all weighed in on the second counter offer/proposal from Light Squared and were against it without further testing. Now the FCC is going to require tests of this counter proposal of Light Squared. While these required tests are strict, the tests are performed under certain assumptions, which may not completely address possible performance losses for high precision GPS even if some new filtering technologies are tried. The CGSIC (the Civilian GPS Service Interface Committee) held an annual conference this year in Portland, OR. The annual meeting was held recently and the DOD, State Dept, FAA and other Federal agencies were all there discussing this Light Squared proposal and the adverse effects. This was the hot topic of the annual gathering. Also, it was noted that this proposal has become a political fight and has been fast tracked through the normal systems for test within the FCC, which many view does not allow enough time to study all the adverse effects or enough time to inform those affected and to correct those effects.

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See: Gavin Schrock GPS Interview, Page 7
**MOBILIZING GIS FOR A CITY ANNEXATION CAMPAIGN**

*By Karl Johansen*

**Plan ahead; plan carefully...**

...is excellent advice for any individual or team embarking on a municipal annexation project. Even in the most simplistic scenario, these events take on a life of their own and consume a surprising amount of an organization’s time and resources. Annexation in Washington state is a highly prescribed process of timelines, deliverables, and approvals, largely through the oversight authority of the Washington State Boundary Review Board and other state and county agencies. But it is more than that: each proposed action is a major corporate initiative that must be planned, designed, implemented, and pursued as a defensible business decision. Financial factors are primary drivers, such as revenue sources, indebtedness, property transfer, growth potential, infrastructure maintenance responsibility, etc. Most of these factors revolve around geographic phenomena, so not surprisingly GIS is an indispensable tool in the annexation decision-making process.

Annexations to cities (and other corporate entities with defined boundaries) are an ongoing occurrence nationally as well as in the Pacific Northwest region. Central Puget Sound examples underway or already implemented include the cities of Burien, Renton, and Kirkland, among others. In the latter instance, the June 1, 2011 Finn Hill/North Juanita/Kingsgate annexation enlarged Kirkland’s area by 70% and increased its population by almost as much. The city went from a 19th place ranking to 12th in Washington state overnight. Clearly, for any community to succeed at this level of expansion requires well-thought-out and focused groundwork planning by many people inside and outside of the city government.

What part do GIS professionals play in this planning? Are there lessons to be learned from their successes, and what could be done better in the future?

**Annexation Fundamentals 101**

Since its passage in 1990, the Washington Growth Management Act remains the predominant legislation controlling Washington State urban and municipal growth.1 The Municipal Research and Services Center has published a detailed user manual to help local governments understand relevant state legislation including timelines and other requirements.2 Effective GIS support for an organization’s annexation initiative requires that the GIS professional becomes engaged early in the process, and is regarded as a key player at the decision-making table. This is obviously a much larger and different role than merely producing map displays (not to diminish the importance of that function in the whole process). At a minimum, the GIS team member must understand the business and political context, the terminology, the players and their roles, what specific functions GIS may be called on to support, and the need for a game plan to provide that support. And, the GIS professional needs to make this happen proactively, and function as not only an on-call resource, but also as an aggressive investigative reporter keeping ahead of the organization’s annexation needs.

**What part do GIS professionals play in this planning?**

GIS staff who have participated in even one municipal annexation are impressed by the details and many regulatory and collaborating participants, such as federal, state, regional, county, municipal, and numerous taxing districts. At the grassroots level are the affected neighborhoods and citizens, and the prudent annexing organization promotes outreach and informational efforts to inform the community, collect public response, and document issues and solutions as the annexation process proceeds. All of this involves rapid and effective GIS responses.

**The GIS-Annexation Connection**

At a minimum, a new annexation requires buildout of n GIS data layers to include the geographic acquisition. If there are 200 data layers, this is obviously not a trivial undertaking, even with a small annexation. But it is more than that. In all likelihood, established map products (map books, map series, standard thematic maps, published data CDs, etc.) all need to be retooled, and in some cases, redesigned. What worked fine before must now be at a different scale, a different sheet format, different labeling or annotation treatments, new or revised symbology, or a combination of all of these. Redesign may also be needed for custom products as well as any Internet GIS browser presentation of the GIS data. Analyses and cartography supporting mandated planning products must be revised as well to include the new geographic extents. The technical and workload implications of all of this should be apparent to any GIS professional.

See: GIS for City Annexation, Page 5
But let us return to the very beginning of the annexation process, the organization’s planning and strategizing stage. This is where the business case becomes front and center, visible, and top priority. Decision makers – an organization’s staff as well as their elected officials - will request and consider the following, among many possible themes: historic electoral results on tax levies and similar ballot measures; what-if scenarios based on property tax assessments; zoning differences before/after annexation; historic utility complaints and resolutions; public safety response patterns; census projections; distribution and viability of businesses; and so on. The GIS team member must be prepared to respond to these requests, many of which will be iterative in nature, quickly.

Since the annexation process typically involves transfer of assets from a county government to a municipality, an important step is to review and document asset condition and status. Examples of transferable assets include road infrastructure (including utilities), real property (parks, open space, surface water drainage properties), and easements. The annexing entity will base its assessment on whatever inventory exists; lacking this, an inventory must be created. At a minimum, this involves field mapping and follow-up analysis to determine costs, risks, opportunities, etc. that accompany the asset transfer. For the GIS team member, supporting this task can be a sizable effort.

Initial submittals to regulatory agencies must include a detailed legal description of the full extent of the proposed annexation. Compiling this description is a critical step that should be assigned to a competent land surveyor who will consult available evidence down to the sub-parcel level. In the event that other agencies need clarification of the legal description, the surveyor is best qualified to explain boundary nuances, governing statutes, and terminology. It is well worth an agency’s investment in such a resource to have this important detail handled professionally and correctly.

It is a state requirement that the annexing entity develop a current population census, which may involve a door-to-door canvassing of the annexation area, or in certain cases a selective update of a federal census. GIS support for this includes analyses, map products, data management, and documentation.

Finally, annexations usually result in transfer of large quantities of public records, not necessarily in any organized fashion or format. These may range from hard copy documents to scanned records to GIS data. Of course, a large percentage of these records is spatial in nature. The annexing entity’s GIS team member is likely to become immersed in this effort, and assigned responsibility to collect, catalog, evaluate, and document some or all of the transferred source materials.

A Post-annexation Reality Check...

This discussion began with reference to “...any individual or team embarking on a municipal annexation project.” For most organizations, a team is the more effective way to navigate the many challenges and requirements that accompany such a major corporate expansion. To be successful, the team needs clear and firm leadership, coordinated roles and responsibilities, excellent communication, and a work plan (including realistic timeline and resource allocation). There is one other premier ingredient in keeping a municipal annexation effort on track, which is fostering robust partnering relationships with all other participating organizations. Why is this?

Not only does the annexation process prescribe timelines, it also contains timeline dependencies. For example, annexations can trigger U. S. Postal Service ZIP code changes, but USPS operates under its own boundary revision cycle. Unless carefully orchestrated among all affected parties, this can result in confusion, misdirected mail, incorrectly assigned emergency responses, etc., an outcome that should be avoided. Similarly, if an annexing entity has not updated its zoning code to address the new area’s requirements by the effective date of the annexation, the existing (county) zoning applies for an extended period. Interlocal agreements relating to law enforcement, mass transit, franchises, and infrastructure maintenance must be discussed, revised, and resolved among all affected parties in a timely way for a smooth transition to occur and community service levels to be maintained.

GIS professionals need to position themselves to facilitate and support these interagency relationships. Such coordination enhances GIS support for annexation initiatives with streamlined work flows and tools, analysis, map displays, and data management. With a robust GIS element, everyone’s ideal outcome – a (mostly) trouble-free annexation – is the result.

Contact Karl at KJohansen@kirklandwa.gov

1 See RCW Chapter 36.70a: (http://apps.leg.wa.gov/RCW/default.aspx?cite=36.70A&full=true)


THE CPS GIS LISTSERV

CPS-GIS is an email list for the Central Puget Sound GIS User Group. The list is used for meeting announcements, job postings, and general GIS-related questions and communications.

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Using CPS GIS

To post a message to all the list members, send an email to cps-gis@u.washington.edu.

Subscribed members are also able to access the archived collection of all past postings to CPS GIS.

Thanks to Mike Onzay for his service as CPS-GIS administrator.
2011 Summit Award Winner, Tom Nolan

By Effie “FE” Moody

2011 Summit Award Winner Tom Nolan was previously interviewed for The Summit in 2006 (Summit, An Interview With…Tom Nolan, 3:5-6). In October, Summit Contributing Editor Effie ‘FE’ Moody (FEM) caught up with Tom to discuss his reflections on the past five years.

FEM: In our last interview in 2006, you mentioned that you were inspired into GIS by USGS topo maps and city street maps when you explored new places. What inspires your continued excitement about GIS today?

Tom Nolan: At this point in many of our GIS careers, it is very satisfying, and inspiring to see how the foundational work we did twenty years ago is leveraged so many different ways, to help analyze or just display a huge variety of interesting and relevant issues and solutions. I also continue to be inspired by all the great people that work in, or with GIS, from the customers with the business needs, to our co-workers and peers as well as the folks who teach GIS to students and professionals alike.

Speaking of which, I also continue to be inspired to instruct in the University of Washington’s (UW) GIS Certificate Program just by having the opportunity to introduce students to the continuing eye-opening technologies related to mapping, survey, remote sensing, and GIS. I still get excited about helping people from all backgrounds and have come to understand the value of GIS as a huge and rich data repository to be ever improved and refined. GIS is a great venue for doing awesome cartography but most of all is a connecting technology that ties information from other non-spatial systems together for easy and meaningful access and use.

FEM: What are some of the challenges you face in your GIS work today?

Tom Nolan: Like everyone, shrinking budget and finding ways to do more with less as well as deciding what not to do, are probably our biggest challenges today. Better tools compensate somewhat for fewer resources but we still have to make a lot of choices. Improved governance to help prioritize and make decisions is helpful, but we must always be careful too much governance process does not choke us as well. In particular, there is always a challenge to sustain adequate resources in order to maintain and improve data. The speed of change in technology (rapid obsolescence of software, keeping up with paradigm shifts) is also a challenge these days, but of course also an opportunity. Good example is the need and desire for web-based GIS. Though huge strides have been made, we are still a long ways from being able to retire our desktop GIS tools.

FEM: Have you thought about using Cloud computing at the City of Seattle/Office 365? Enterprise solutions for the City?

Tom Nolan: The cloud offers some significant advantages; handling capacity peaks, cheap redundancy and back-up, high availability options, to name a few. On the other hand, this cloud technology is still relatively new and it is not likely that we will migrate to a leading edge technology ’til we’re convinced it’s more tried and true. There is also the question of “How much should government agencies and utilities rely on ‘external’ services?” I will note the City’s GIS has already migrated most of its servers to virtual machines, enabling us to achieve many of the cloud-computing benefits in-house. Bottom line is that we will continue to look at cloud hosting models and costs and re-evaluate as things stabilize in this market.

I think that what we find most exciting about the internet is the ability to consume data from a wide variety of sources and mash these up fairly seamlessly with the City’s data in new and exciting (and reasonable cost) applications. A challenge for us is stepping up to supplying more data out to the internet ourselves. I think that use of external services seems very appropriate and full of possibilities for helping us to better share our data with the world. We are also very interested in ESRI’s Portal for ArcGIS and ArcGIS Online as a new way to deliver GIS maps to broad audiences.

FEM: What is your vision of GIS in the city’s future? Any plans to expand outside the City of Seattle?

Tom Nolan: The vision we have is for more omnipresent GIS (GIS to every desktop, GIS embedded into many non-GIS applications where it makes sense) as well as widespread access via mobile devices (reliable GIS access on hand-held computers, smart-phones, etc.). We continue to work to more seamlessly integrate GIS in our work management systems, location enable our public facing web applications, integrate it with our emergency management systems and generally make it easier for city departments to leverage the city’s great GIS data resources.

The vision also includes integrating systems and blurring the lines between data sets both internally to the city and with the other governments and utilities we work with. In regards to public access, our vision is the city continuing to be an authoritative data source for the public and sharing data via web services, while seeing more and more of the maps and apps being produced by end-user citizens and third party developers. A challenge will continue to be how we balance the need for privacy related to some important data sets (customer personal info, critical infrastructures, etc.) with open access and transparency for most data we maintain.

As for working outside Seattle’s utility service boundaries and our watersheds in the Cascades, I would note we continue to work with King County in a variety of ways. A good example -the efforts between multiple partners, including Seattle, the County, and the State to create a GIS-friendly, federated data portal that could enable users to access government data without necessarily having to know jurisdiction boundaries. It’s a work in progress though, and it may be years before we do it well.

See: Tom Nolan Interview, Page 7
**TOM NOLAN INTERVIEW**

Continued from page 6

*FEM:* If you could have any wish come true regarding the future of GIS, what would that be?

*Tom Nolan:* My wish has already come true: that GIS becomes a household word. Oh wait, that’s GPS! Well, same thing right? Just kidding!

Seriously, I guess I would focus on the framework of it all: The Data.

In many venues, I wish that customers and stakeholders would understand the centrality and importance of accurate, complete, well-maintained spatial data. In agencies and companies where stakeholders already get this, and I think there are many including the City of Seattle, my wish would then become that these organizations would work to take their very accurate/complete data to the point of near perfection. This point would be to where even our most discerning and demanding users are finally happy with the reliability of the information we are presenting through GIS and other related technologies.

A last note: I would like to thank Steve Beimborn, Harvey Arnone, Charlie Spear and Fred Rowley, all leaders in the City’s GIS team, for providing me great additional food for thought and discussion on these questions as I generated my answers.

Contact Effie Moody at Effie.moody@seattle.gov

**GAVIN SCHROCK GPS INTERVIEW**

Continued from page 3

Further losses from this change will come in the form of productivity losses while the industry and users have to research and develop alternatives and upgrade for fully functioning HP GPS (without interference). FAA could take up to 7 years to come up, test and certify an alternative – the development of the next generation of air traffic, landing, and collision avoidance systems has to go back to the drawing board. Legacy methods, all of a sudden become obsolete and it takes a lot of money and a certain period to come up with alternatives and face the unknowns.

The Air Force and Space command at the annual conference meeting of CGSIC stated that there are many unknowns regarding the adverse effects of this Light Squared proposal and this present compressed test schedule makes it almost impossible to test all of the effects. In addition, there are not enough resources to meet the fast tracked testing of perpetual counter proposals. In order to test accurately, typically there needs to be enough time with years of evaluations and alternatives devised to transition to before this is allowed. The FCC needs to completely protect this vital resource and keep the satellite spectrum safe for satellite signals.

**Further NOTES:** Gavin timed the rally marches for the week after the CGSIC. He said the state department is the entity that negotiates with the other countries on signals and interoperability of satellite systems, to agree on the different frequencies; this debacle makes it hard for the other parties to take our negotiating position seriously. Even the state department and other federal agencies are perplexed as to why the U.S.A. is allowing this Light Squared proposal to move forward at this pace given the potential adverse effects.

As viewed in American History, the FCC oversight has a flaw, as they do not seem to have to answer to anyone. Many decades ago, FDR once labeled the FCC “Lords of the Air” decrying that the FCC has the ability to act independently, almost unchecked.

While the U.S.A may envy other countries for having better broadband, ours is not as bad as we might think. Korea may have a four times faster broadband but the USA at10 times cheaper the cost and in addition, Korea makes broadband a national priority (having a much smaller, more densely populated country makes it easier to achieve). U.S. A. broadband is mostly comparable to European broadband with similar speeds and costs. It is evident that other countries have broadband without killing HP GPS so the question remains: Why is the USA so willing to sacrifice HP GPS for one private plan under the guise of improving all broadband?

Contact Effie Moody at Effie.moody@seattle.gov

Gavin Schrock speaks with reporter at GPS Rally (Cirt Yancy Photography)
5TH ANNUAL DICK THOMAS MEMORIAL STUDENT PRESENTATION COMPETITION & AWARDS AT THE 2011 WASHINGTON GIS CONFERENCE

By Amanda Taub

WAURISA, the Washington State Chapter of the Urban and Regional Information Systems Association, held the fifth annual Dick Thomas Memorial Award on May 11, 2011 at this year’s Washington GIS Conference (May 9 – 11, 2011) at the Lynnwood Convention Center in Lynnwood. WAURISA established this award to honor Washington State GIS pioneer and mentor, Richard ‘Dick’ Thomas by continuing his work of encouraging students to excel in their studies and transition successfully into GIS careers.

WAURISA’s goal with this award is to inspire students to present their original work related to GIS, geography, or geographic research in Washington State at the annual Washington GIS Conference. The competition comprised of two parts: the first was the selection of five (5) abstracts by the WAURISA Student Presentation Competition Committee. The second part was the judging of the 5 selected presentations during the Student Presentation Session at the 2011 Washington GIS Conference. Abstracts used a maximum of 300 words to describe the proposed presentations. The presentations were limited to 15 minutes, with an additional 5 minutes for questions.

The competition was limited to current students enrolled at least 6 hours in a relevant curriculum at a secondary school, community college, technical school, or university program. Entrants did not need to join WAURISA, but all students are encouraged to become WAURISA student members at a special student rate. Entries were the original work by the students, they conducted as school projects or under the supervision of a professor while enrolled in a GIS, geography, technology, or related academic program. Subjects for papers were related to geography, GIS, or an allied technology, as applied to natural resource, hazard mitigation, archaeology, animal habitats, energy, social, business, government, or other similar issues in Washington State.

Abstracts and presentations were judged on the following criteria:

- Demonstration of expertise and understanding of geographic concepts
- Demonstration of expertise and understanding of GIS, related technology, and its application
- Explanation of how the work presented relates to the topic and contributes to greater understanding or knowledge of the topic and GIS
- Demonstration of an innovative approach and/or critical thinking
- Quality of the written abstracts
- Quality of the public presentations

This year’s entries:

This year’s four entries presented an array of topics. Kristan Blackhart and Jon Medlin discussed their work in predicting impacts of sea level rise in the Puget Sound region. Robbie Andrus and Trevor Wong presented their work on assessing designated forestland market value using GIS. Korrie Holmes spoke about her work on analyzing Washington State’s geothermal potential. Alex Wallace, Suzanne Tomlinson, Kathryn Webb and Joseph Tetteh discussed their project on mapping restoration data in the Puget Sound for People for Puget Sound. Dave Schoenfeld was unable to attend at the last moment to present his work on creating a delineation model for watershed analysis. However, two of Dave’s classmates, Angelique Moser and Lee Emmett, did present his work.

See: 2011 Dick Thomas Competition, Page 9
First Place: Kristan Blackhart and Jon Medlin

Kristan Blackhart and Jon Medlin are students at the University of Washington GIS Certificate Program. Their project was done under the guidance of Harvey Arnone. Kristan and Jon’s presentation was “Predicting the Impacts of Sea Level Rise in the Puget Sound Region”. Here is their abstract:

Sea levels have risen an average of 8” globally since the industrial revolution. A majority of this increase was seen during the latter half of the 20th century, and levels are expected to continue rising at accelerating rates due to the impacts of global climate change. In the Puget Sound region, local predictions for sea level rise (SLR) range from 6” above current levels by 2050 to as much as 50” by 2100. Some global SLR models predict even more drastic SLR over the next century. Such increases in sea level, accompanied by predicted increases in coastal erosion, storm activity, and flooding, could drastically alter coastal habitats and strongly impact coastal communities and the 1.5 million people that live in them in the Puget Sound region. Predictions of the extent, spatial distribution, and potential impacts of SLR in the Puget Sound region is important information for resource managers and urban planners to have available in their efforts to plan for, minimize, and mitigate the effects of climate change on coastal communities. To that end, this project uses a digital elevation model (DEM) created from high-resolution LiDAR (light detection and ranging) data in combination with other available data to predict the potential impacts of SLR in the Puget Sound region. Specifically, this project will: 1) determine the total areal impact and spatial distribution of impacts of SLR across the Puget Sound region under a range of SLR scenarios; and 2) use Pierce County, WA as a test case to develop a repeatable method for analyzing specific impacts to economic, population, infrastructure, and ecological factors under a range of SLR scenarios at the county level.

Kristan and Jon’s awards included:
• 2011 Dick Thomas Award Plaque
• $1000 cash
• One year membership in WAURISA
• Free registration to the 2011 Washington GIS Conference
• Publication of his paper in The Summit (Washington GIS Newsletter)

In addition, their professor, Harvey Arnone, was awarded a cash prize of $500.

Second Place: Robbie Andrus and Trevor Wong

Robbie Andrus and Trevor Wong, with the University of Washington Extension, GIS Certificate Program, presented “Assessing Designated Forestland Market Value”. Their advisor was Joe Brentin. Here is their abstract:

Forestland parcels in Washington State under the Designated Forestland Program (DFL) (RCW 84.33.130) are currently assessed by one state wide average rather than being assessed individually. Annually, the Washington State Dept. of Revenue provides the county assessor with a schedule of per-acre values to determine land value for taxation. The land value is based upon three factors: Operability, Land grade, and Location. “Operability” refers to slope of the land and the ease of timber extraction. “Land grade” is assessed by the productivity of the land. “Location” or distance to a timber market influences the haul distance. Forestlands in close proximity to a timber market are assessed a higher value due reduced hauling costs. These three criteria are based on statewide averages.

Comparatively, conventional forestland is annually assessed based on two methods: the Cost Approach and the Market Approach. Both these methods assess individual parcels based on current market trends and replacement costs of a comparable parcel.

See: 2011 Dick Thomas Competition, Page 10
2011 Dick Thomas Competition
Continued from page 9

With data made available by the Rural Technology Initiative and counties in Washington State, we seek to address this issue by building a statistical model to better understand and assess market value of individual parcels enrolled in the Designated Forestland Program. The Rural Technology Initiative has been tracking the ownership of forestland and land use in an effort to provide data for rural forest resource based communities. Our model will provide additional assistance to the Rural Technology Initiative’s efforts to inform science, research, and public policy that help drive economic decisions in rural areas.

Robbie and Trevor’s awards included:
- Second Place Award Certificates
- $300 cash
- One year membership in WAURISA
- Free registration to 2012 Washington GIS Conference

Third Place: Korrie Holmes

Korrie Holmes is a student at the Green River Community College. Her advisor was Sabah Jabbouri. The presentation was on “Washington’s Geothermal Potential: A Comprehensive Analysis”. Here is her abstract:

With the cost of energy and heating today skyrocketing, more and more communities are looking to alternative energy sources to satisfy their energy needs. Geothermal energy is a clean, renewable, and virtually untapped energy source. Locating and developing new energy resources is a priority for Federal, State, and Commercial agencies.

Washington needs to better understand how utilizing its abundant geothermal resources can contribute to meeting the increasing demands for cheaper electricity and clean, sustainable energy.

Current industry standards classify Geothermal Reservoirs as Low-Temperature (<150°Celsius) or High-Temperature (>150°Celsius). High-Temperature reservoirs are suitable for commercial production of electricity, while Low-Temperature reservoirs support many Direct-Use applications, such as heating and cooling of homes and businesses, as well as applications in agriculture and horticulture that require temperatures of only 50°C. Previous studies have shown that along the Cascade Range, Washington’s geothermal systems have the best potential for high-temperature development; and exploitable low-temperature thermal water underlies large areas at shallow depths of less than 1,000 meters.

The project will compile the most recent data on Washington’s geothermal resources to create a geothermal database and interactive map containing existing thermal wells; Thermal Springs, potential locations for High and Low temperature reservoirs; as well as counties with communities located near existing thermal wells, current populations and number of housing units, energy consumption rates, and projected population growth.

See: 2011 Dick Thomas Competition, Page 12
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2011 Dick Thomas Competition
Continued from page 10

Project goals: Use spatial and statistical analysis to establish a database of the State’s geothermal resources and the communities that could benefit most from them, possible locations for implementation of various geothermal technologies and power generation sites.

To promote future investment in providing clean renewable energy sources for Washington’s residents. Geothermal power can become an integral part of dependable, cost saving energy resources.

Korrie’s Awards included:
- Third Place Award Certificates
- $200 cash
- One year membership in WAURISA

Korrie Holmes presenting her work.

Honorable Mention: Alex Wallace, Suzanne Tomlinson, Kathryn Webb and Joseph Tetteh

Alex Wallace, Suzanne Tomlinson, Kathryn Webb and Joseph Tetteh were students at the University of Washington, Geography Department. Their advisor was Jaime Crawford. They presented their work on “Mapping Restoration in the Puget Sound”. Here is their abstract:

The Puget Sound is at a turning point. Toxic soils and polluted waters are causing decreased wildlife populations, reproductive issues, and negatively impacting our health and economy. Our project sponsor People for Puget Sound (PPS) has collected several gigabytes of restoration site data over the years, yet does not have a database built to query and visualize relationships in their data. Our team is transforming PPS datasets into a relational geodatabase, developing a data management template to be used in partnership with Environmental Science Research Institute (ESRI) and Restore Americas Estuaries (RAE) for development of a nationwide online geographic information systems (GIS) database. Making PPS datasets widely available and easily accessible will guide Puget Sound-wide restoration professionals and policymakers to the development of comprehensive restoration strategies.

PPS currently uses ESRI software solely for cartographic representation of their 26 restoration sites. Datasets are stored locally on a server in a file structure that is difficult to navigate and impossible to analyze for spatial relationships. Our project addresses data management and editing concerns by creating a Microsoft Access linked geodatabase model, utilizing Access as an entry form for attribute editing and data transfers from the field. PPS staff will be able to perform sophisticated analysis on their restoration sites, querying spatial data to gain quantitative and historical information on ecological management, education and fundraising use. PPS will also use this database to track the progress of their 26 restoration projects and assess their impact on the greater Puget Sound area.

Through an easy to use GIS, People for Puget Sound will contribute more effectively to Puget Sound’s rehabilitation. Our team leverages a strong background in ecology, database management, and natural resource policy to make PPS’s restoration data more accessible within their organization and as a data model for estuaries nationwide.

Their award was an Honorable Mention Certificate.

Honorable Mention: Alex Wallace, Suzanne Tomlinson, Kathryn Webb and Joseph Tetteh
Honorable Mention: Dave Schoenfeld

Dave Schoenfeld was a student at the Green River Community College. His advisor was Sabah Jabbouri. His classmates, Angelique Moser and Lee Emmett, presented his work for him when he was unable to attend. They presented his work on “A Delineation Model for Watershed Analysis”. Here is Dave's abstract:

Water resources are important to agencies for stream and wetland preservation, flood control and assessment, solving conflicts over water rights, and rapid response to disasters. It is important that a GIS professional has access to all the data that is needed for any specific assessment that may arise.

The project started as building a model for watershed analysis for GIS 194, Special Topics. The model allowed a user to click anywhere on the map and create a watershed above that point, provided a flow accumulation raster and flow direction raster existed. Now, using Python 2.6, the project expanded to add more functionality to the model.

See: 2011 Dick Thomas Competition, Page 13
2011 Dick Thomas Competition
Continued from page 12

The model uses USGS stream gages as pour points for watershed analysis. The user needs only a DEM and the Stream gage points as inputs for the model. The output is an ArcMap document that the user opens. On this map document the user will find a filled a symbolized DEM, hillshade with transparency set to 40%, streams that are smoothed and symbolized, and a stream gage shapefile that contains the station ID number. The map document also has watersheds above the gages that are smoothed and symbolized. The acreages and square miles of the watershed are in the attributes. With the Identify tool, the user is able to click on any watershed and get all the stream gage information for that watershed, including a hyperlink to the USGS website that the user can use to get real-time data for that stream gage.

This project shows the results for a 10m DEM of the Green River watershed. It could benefit anyone working with watershed management, hydrology, natural resources, or other closely related fields.

Dave's award was an Honorable Mention Certificate.

I would like to thank the judges, Marty Balkov with ESRI, Holly Glaser with Mappa Mundi, Walker Willingham with Earth Walker GIS, Dana Trethewy with City of Seattle, Steve Savage with Critigen and Rick Lortz with the Lakehaven Utility District for their work judging the abstracts and presentations.

Finally, I would like to thank the professors who encouraged their students to enter the competition. These presentations would not have happened without your support.

Amanda Taub, GISP
Dick Thomas Award Coordinator
WAURISA Secretary

All competitor pictures were taken by Amanda Taub.

WAURISA Seeking New Volunteers!

Are you interested in learning new skills, meeting fellow professionals and giving back to the GIS community? WAURISA is looking for volunteers to fill the following positions:

Conference Social Event Organizer

Every conference has a special social event for all conference attendees after the vendor social on Tuesday evening. This position entails researching and determining activities that could be used for the social event, communicating these to the Conference Committee, finalizing the agreed upon event and coordinating as necessary on Tuesday night. This is a great opportunity if you live and/or work in the Tacoma area.

Map Gallery Coordinator

This is the organizer for the conference poster competition. This position entails soliciting entries for the competition, setting up the display area at the conference coordinating the voting and tallying process and acquiring and awarding prizes.

Online maps competition coordinator

The online map competition was new last year and is similar to the Map Gallery Coordinator. This position entails soliciting entries for the competition, setting up the logistics for the review, voting and tallying process and acquiring and awarding prizes.

See: WAURISA Volunteers Needed, Page 14
WAURISA SEEKING NEW VOLUNTEERS!
Continued from page 13

Catering coordinator understudy

This position will work under last year's catering coordinator with the anticipation of being the full catering coordinator for the 2013 conference. The position works with the venue manager and conference coordinator to select the food and beverages for lunch, breaks and vendor social that fits within the conference budget. The position coordinates the food quantities with the venue based on registration counts and coordinates any special need diets.

If you are interested in any of these positions or would like to volunteer for the 2012 conference or with WAURISA in general, please contact Dana Trethewy, dana.trethewy@seattle.gov.

Education Committee Volunteers

The Education Committee recruits and organizes the pre-conference Workshops in addition to running training classes throughout the year. This is ideal for someone who is interested in educational opportunities offered by WAURISA and would like to be involved on a year-round basis with WAURISA. In addition to coordinating workshop content, volunteers also work to identify and secure venue locations around the state and setup those venues for the workshops. We are in particular need for volunteers that can work to manage venue locations in the central and south Puget Sound area.

If you are interested in being involved in the WAURISA Education Committee, please contact Don Burdick, dburdick@cob.org.

PEOPLE ON THE MOVE

Jennifer Radcliff, GISP, has been hired as the GIS Coordinator for the Port of Tacoma. She brings over 15 years of experience to the position and will be managing and improving on the Port’s Enterprise GIS system.

For People on the Move or Seeking GIS Employment announcements in The Summit, see submission guidelines at: www.waurisa.org/thesummit

UPCOMING URISA EVENTS IN 2012

2012 GIS/CAMA Technologies Conference - The 16th Annual Conference for Professionals in Property Assessment, Tax Administration, Mapping and Information Technology
March 12-15, 2012
San Antonio, Texas
Presented in partnership with the International Association of Assessing Officers (IAAO)

URISA Leadership Academy
June 11-15, 2012
Savannah, Georgia

URISA/NENA Addressing Conference
August 6-9, 2012
Memphis, Tennessee
Presented in partnership with the National Emergency Number Association (NENA)

GIS-Pro 2012: URISA’s 50th Annual Conference for GIS Professionals
October 1-4, 2012
Portland, Oregon

URISA’s 6th Caribbean GIS Conference
November 12-16, 2012
Montego Bay, Jamaica

For updates and details about participation, sponsorship and registration, visit the URISA website, www.urisa.org.

The 2012 Washington GIS Conference is right around the corner.
Save the date – “Communicating Spatial Knowledge” will be held on May 7-9 at the Greater Tacoma Convention and Trade Center. Participate to get new ideas and show off some of your own GIS work. Early registration will start in mid-December. Register early to use end-of-year funds and tie down a spot at Washington’s most cost-effective conference. For more information see www.waurisa.org.
CALL FOR PAPERS

WAURISA — the Washington State Chapter of Urban and Regional Information Systems Association — has begun accepting presentation proposals for the 2012 Washington GIS Conference to be held May 7-9 at the Greater Tacoma Convention & Trade Center at Tacoma, Washington. The conference theme for 2011 is Communicating Spatial Knowledge.

WAURISA is seeking potential speakers to provide fresh, dynamic solutions to today’s challenges. Presentations are invited that address the broad subjects of interest to GIS practitioners such as:

- Communicating Spatial Knowledge
- Mapping in the Cloud
- GPS-enabled Mobile Devices and Apps
- Public Safety GIS for Fire and Police
- GIS Return on Investment
- GIS Management Competency Model
- Innovation on a Small Budget
- Managing Annexations with GIS
- Planning and Communication with the Public
- 3D Visualization
- Managing Utility Infrastructure with GIS
- Transportation Planning and Construction
- Environment and Wildlife Applications
- Surveying
- Cartography
- Go “Green” with GIS
- Open Source
- Getting More Bang for the Buck
- Government and Native American GIS Applications
- Propose Your Own Track

Four types of presentations are available:
- Student presentations, allotted 15 minutes — Enter the Dick Thomas Competition for a chance at a $1000 award.
- Individual presentations, allotted 30, 60, or 90 minutes
- Panel discussions, allotted 30 to 90 minutes
- Maps and Posters

Speakers: If your paper is chosen for presentation the lead presenter will receive a $60 discount from the 2-day or 3-day conference registration.

Please see additional details and guidelines on the following pages.
Abstracts must be limited to no more than 300 words, and must include: presentation title, type of presentation requested, and author information including complete contact information. A clear concise abstract is your best ticket to a logical track placement and a well-attended session.

Presenters at the 2012 Washington GIS Conference will earn 1 GISC Contribution Point for Conference Presentation or Conference Poster Display in addition to points earned for attending the conference and being a member of WAURISA.

Presentations may address any GIS topic of broad interest to the audience. Possible topics are not limited to the sample tracks listed above. A presentation should not be used to market a commercial product. Commercial presentations may be given by vendors reserving a vendor booth.

A presentation should describe a project, process, experience, expertise, management, or best practices related to GIS. Specific tracks will be assigned after the abstract proposals have been received. The subjects will be generally divided into management or technical categories. There will be a track for presentations that relate to the conference theme, Mapping Washington’s Future.

Selection criteria will be based on the value of the proposed topic to the audience and the clarity of the abstract. Individuals chosen to present will gain recognition by their peers, raise awareness of critical issues and identify current trends in the industry. The presentations committee will select session presentations to represent a wide range of interests and levels of expertise.

Note: All accepted presenters must register for the conference for either the Tuesday-Wednesday or the Monday through Wednesday options. Acceptance as a presenter does not register you for the conference. Presenters must register by March 26, 2012.

Presenters at the 2012 Washington GIS Conference will earn 1 GISC Contribution Point for Conference Presentation or Conference Poster Display in addition to points earned for attending the conference and being a member of WAURISA. If your paper is chosen for presentation the lead presenter will receive a $60 discount from the registration fee.

Submit an abstract at http://www.waurisa.org/conferences/2012_Conference_Index.html

Abstract and Speaker Registration Deadline is March 26, 2012
Presentation Tips

There are a few things you can do to make your presentation as professional as possible. When using a PowerPoint, limit the number of bullets to 6 or fewer, and keep the number of words to a minimum. Use large fonts that can be seen from the back of the audience.

Rather than reading verbatim from the screen, expound from an outline. Illustrations and maps spice up a presentation, but do not go overboard on animation and sound effects. At the beginning of your presentation, state what your talk will cover, and at the end do a review of what was covered. Allow time for questions from the audience. Repeat questions for the audience before answering.

Practice the presentation with a test audience using a projector. Speak in a voice that projects well, stand up straight, and make eye contact with different individuals in the audience. If possible, step out from behind the podium, which can make you seem more approachable and personable.

Presenters should bring their own laptops. There will be projectors in the presentation rooms. Some applications work differently with a projector. Plan to come to the conference early to verify that your laptop works correctly with the projector. Bring the PC power adapter rather than depending on battery power during your presentation. Copy a backup presentation onto a CD and thumb drive. If bringing handouts, make sufficient copies and provide Internet links to the information.

Please bring a copy of your presentation in PDF format for publication on the WAURISA web site after the conference.

Submit an abstract at
http://www.waurisa.org/conferences/2012_Conference_Index.html

Abstract and Speaker Registration Deadline is March 26, 2012
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THE SUMMIT - EDITORIAL

GIS CAN HELP CHANGE THE IMAGE OF GOVERNMENT

The Spatial Roundtable (www.spatialroundtable.com), hosted by ESRI, poses interesting questions for the GIS Community. The most recent question, from ESRI’s Chris Thomas, asks ‘can government change its image?’

Every day stories appear in the media about government mismanagement, waste, and failure to deliver vital services that residents expect. Those who work in local government know that instances of real mismanagement are very rare. However we also know that valid cases result in justifiable outrage on the part of constituents.

Local media and politicians can easily harness citizen skepticism about the effectiveness of municipal agencies, by taking a kernel of truth to create a compelling headline for the evening news or an effective but negative campaign message.

Often government is caught flat-footed, trying to explain the valid logic of a decision or action that can be easily misinterpreted. But after-the-fact transparency is too little, too late to change citizens’ broad negative image of government.

What is an alternate approach? Instead of being reactive, what if municipalities were proactive in providing public access to the studies, reports, and analysis used to implement, monitor, and manage their services and programs? Local agency GIS might be an appropriate area to implement such a policy.

An ideal future would have citizens engage their government with GIS – in a collaborative, informed process. If we invite citizens to be observers and contributors to the process – to the degree that effective management will allow – we can change the image of government.

What if our GIS websites not only featured the typical web mapping applications, along with stock zoning, land use, and planning maps, but also examples of GIS analysis for planning, public works, parks, and police that the typical GIS office performs for municipal clients? In most jurisdictions, citizens have the right to these types of public documents anyway. Why not be proactive and make them available online as a matter of routine?

What if our municipal GIS held open evening training sessions to teach citizens how to leverage GIS data and online mapping tools to better understand their government agency and the challenges facing it? Citizens who understand and share in the decision making process will change their image of government from the perceived domain of sometimes incompetent insiders to an environment where competent managers openly collaborate with citizens in the decisions that impact their communities.

For more viewpoints on this question, and to share your opinions, visit the he Spatial Roundtable at www.spatialroundtable.com.

PUBLIC MAPS IN WASHINGTON

Historical Town of Tolt Map is located in the third floor elevator lobby of King County’s Chinook Administration Building. It depicts Native American sites, early settler farms and businesses, and railroad routes.

Do you know of a public map display in Washington? Send it to The Summit and we’ll include it in a future issue.

- Editor

THE SUMMIT – LITERARY CORNER

Don Quixote

‘Journey all over the universe in a map, without the expense and fatigue of traveling, without suffering the inconveniences of heat, cold, hunger, and thirst.’

Don Quixote, part 3, chapter 6 (1605-15).

- Miguel de Cervantes

The Summit is published by 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 to the editor should be a maximum of 100 words and essays should be limited to 500 words.

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Contact Karsten Venneman at: karsten@terragis.net

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**Central Washington GIS User Group**
Meets the 2nd Wednesday of each month.
For more information contact Amanda Taub at: ataub_gis@yahoo.com

**King County GIS User Group**
Meets 1st Wednesday every other month at 11:00am at the KC GIS Center, 201 S. Jackson Street, Seattle WA, Conf Room 7044/7045.

**Northwest Washington GIS User Group**
http://www.acadweb.wwu.edu/gis/nwgis_mtg.htm

**Southeast Washington/ Northwest Oregon GIS User Group**
For more information, contact Chris Owen: cowen@ci.walla-walla.wa.us

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Contact Cathy Walker at: c.walker@mil.wa.gov

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