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*Scott Burns shares his enthusiasm for all things geologic at the 2011 Annual Conference in Oregon*



**From the President**

Now that fall term is in high gear, and we're into one of those beautiful coastal weather patterns - always good when that combines with the first intro exam... it's time for the fall newsletter. As I procrastinate, I've been thinking about going back to Spokane for the annual section conference in June, 2012. This led to some reflection and thought about the last time the conference was in Spokane-1999. That was my first NAGT conference, and coincided with the resurrection of the Pacific Northwest Section. It was an enlightening experience after receiving tenure at a rural community college with limited opportunities to interact with fellow geoscientists. NAGT provided a forum for a group of educators to get together and interact on a variety of levels. In many ways, these annual meetings have produced almost a family reunion feel to them.

I guess I'm a few years older now. I'm still at a rural community college and have found a few more fellow geoscientists locally to interact with. That said, as educators at all levels get stretched into doing much more with less, that level of interaction probably isn't as frequent as it should be. The Pacific Northwest section of NAGT still provides the opportunity for a group of dedicated geoscience educators to gather annually. Take a minute and check out the schedule for the 2012 meeting that Andy has put together: <http://www.scc.spokane.edu/?nagt2012>. More importantly, pencil those dates on your calendar. Here are a couple more things for your to do list as well: over the past few years we've recognized a number of K-12 educators with OEST awards. If you know any K-12 teachers that are making a difference, take a few minutes and nominate them. You can do this at: <http://nagt.org/nagt/programs/oest.html#nomination>. Also, if you enjoy editing, Kristen St. John is looking for reviewers and Associate Editors for NAGT - <http://nagt.org/nagt/news/58298.html>. Remember, the section is what you make it, if you have suggestions for improving what we do, please let me know.

I hope the academic year has started well for all of you. While we transition from fall into winter, I know that the annual conference will be rolling around sooner than any of us think. Hope to see you at the family reunion in Spokane.

---- Ron

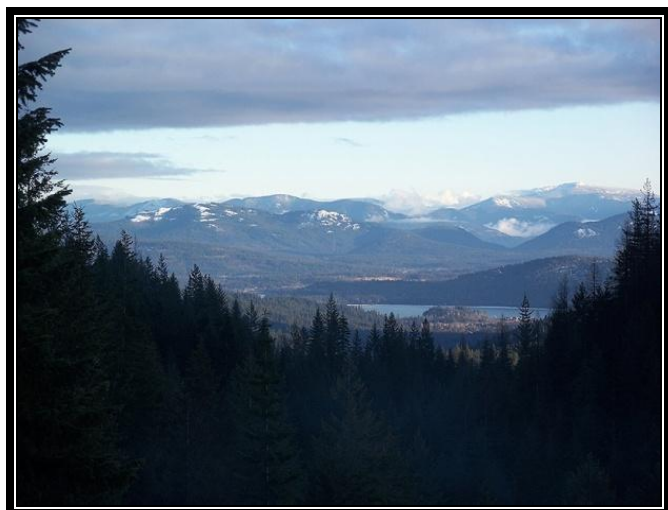
### 2012 Pacific Northwest Section Annual Conference – Save the Dates!

Spokane Community College  
Spokane, Washington  
June 22<sup>nd</sup>- 26<sup>th</sup>, 2012

The location and dates are set! Spokane Community College will host the 2012 section conference with a slate of great field trips and a day of informative talks. The schedule (see below) along with conference details can be viewed on the conference website at:

<http://www.scc.spokane.edu/?nagt2012>

- Friday, June 22<sup>nd</sup>:  
**Field Day: Glacial and Missoula Floods History in the Pend Oreille River Valley Area**  
Leader: Gene Kiver



**Fig. 1** Spectacular Scenery: The beautiful Pend Oreille River Valley of NE Washington!

- Saturday, June 23<sup>rd</sup>:  
**Conference Day Presentations** at Spokane Community College  
**Evening Social with Jack Nisbet**, writer and educator, (location to be announced)
- Sunday, June 24<sup>th</sup>:  
**Field Day: The Clarkia Lagerstätte**  
Lead by Bill Rember

- Monday-Tuesday, June 25<sup>th</sup>-26<sup>th</sup>:  
**Field Day: The Continental Margin Geology and Tectonic History of NE Washington Precambrian to Tertiary**  
Leaders = Eric Cheney (University of Washington) & Andy Buddington (SCC)

Here's a sneak-peek at the beauty of Eastern Washington and Idaho and the wonders you will encounter:



**Fig. 2** Incredible Imprints: Miocene fossils of the Clarkia!



**Fig. 3** Mind-boggling Metamorphics: Sheath folding in amphibolites of the Kettle Complex!

This promises to be an exciting conference! We hope to see you next June.

## PICTORIAL HIGHLIGHTS OF 2011

### NAGT Annual Meeting in Southeast Oregon – 2011!

Special thanks go to Mike Cummings, Portland State University for organizing this 4 day event that included 3 and ½ days in the field in beautiful Southeastern Oregon. Participants got to explore the fens created by the eruption of Mt. Mazama on the eastern side of the Cascades all the way to Steens Mountain and the Alvord Desert in the very eastern part of the state. Here are some of the memories in pictures.



Day 1 involves taking groundwater measurements near Jack Creek and several other fen sites. The groundwater lies in a shallow pumice layer deposited during eruptions of Mt. Mazama.



Fens, in addition to groundwater, have lots of mosquitos. They were out in full force in June with the very late but wet spring in the Cascades. Standing still in a fen (or even moving) meant you were quickly covered by hundreds of mosquitos. It was quite a biting adventure!



Scott Burns explores the Devin Canyon Tuff at Diamond Valley. The deposits are thought to be lacustrine-airfall beds.



Mike Cummings and Tark Hamilton (in his ever present utili-kilt) look into the depths of Mickey Hot Springs in the Alvord Valley. Steens Mountain is in the background.

Mike Cummings did a tremendous job leading all trips and we are grateful for the breadth of his knowledge about eastern Oregon and the seeming endless energy he has to share it with others.

Be sure to join us in 2012! The annual meeting is a great way to get energized and ready to bring new ideas into your teaching!



A breadcrust bomb!!!

## **Volcano Research Center offers public field trips to Mount Baker**

*By Dave Tucker, Geology Department, Western Washington University*

Mount Baker Volcano Research Center (MBVRC) offers educational geology field trips to the general public, earth science teachers, students and geology professionals. The independent nonprofit 501 (C) (3) corporation, based in Bellingham, seeks to broaden public understanding of Mount Baker's eruptive history and hazards as well as fund geoscience research at the volcano.

Public interest in volcanism in particular and geology in general is very high in the Pacific Northwest. Capacity crowds attend many of MBVRC's public presentations, which are held at museums, libraries, and at meetings of historical, natural history, and service clubs in Whatcom and Skagit Counties.

In an innovative approach to the dual purpose of education and fundraising, MBVRC sponsored four fund-raising geology field trips in 2011. Participants in the sold-out excursions included school teachers, professional geologists and hazard managers, university professors and students. The majority of participants were members of the general public who have an interest in geology in general and their backyard volcano in particular, but who have little to no formal education in these subjects. People came from Yakima to Victoria and everywhere in between, and ranged in age from 15 to well beyond retirement. MBVRC provides a trip leader, van transportation, and written field trip guides written for the intended audience. Trips invariably sell out.



*An intrepid group heads across Schreibers Meadow toward the cinder cone. Neil Gilham photo.*

This year's field trips visited Mount Baker lahar and tephra deposits, a basalt lava flow erupted onto the floor of a deep glacial lake, and a subglacial tuff cone. A popular trip, offered twice in 2011, featured a somewhat strenuous

cross-country hike to the forested rim of the 9500-year-old Schreibers Meadow cinder cone.

A descent into the twin craters visited the unusual ponds on the crater floor. The trip ended by examining road cuts in tephra and lava of the Schreibers eruption to learn about lava behavior and features such as stretched vesicles, basal breccia, and phenocrysts, as well as learning the difference between 'scoria' and 'pumice', 'lapilli' and 'ash'.



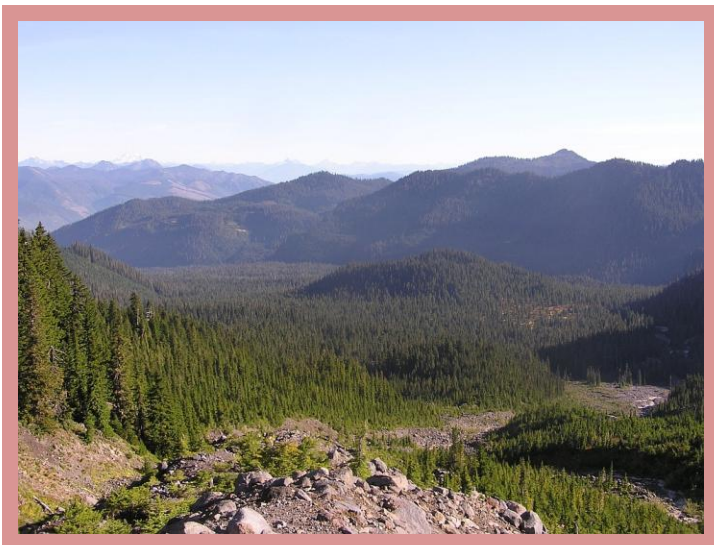
*Examining Middle Fork lahar sediments on the July field trip. Photo by Bob Mooers.*



*Winter drawdown of the Baker Lake Reservoir provides the only opportunity to investigate a lava flow that invaded lake sediments 9500 years ago. Photo by Kitty King.*

Continued from page 4

MBVRC maintains two websites. One is <http://mbvrc.wvu.edu>, provided by Western Washington University. This page includes a bibliographic list of all journal papers and abstracts written about Baker volcanism and glaciation, as well as many photos, videos of the many hundreds of fumaroles in Sherman Crater, geochemical data, and an eruptive history. The MBVRC blog is <http://mbvrc.wordpress.com>. This is a more general interest website, and includes information about the field trips, t-shirt sales, and volcano monitoring. Subscriptions via email bring updated reports on seismicity at the volcano, new research papers, upcoming presentations, and field trip registration.



*The Schreibers Meadow cinder cone rises only 100 feet above the meadow in this view from the Railroad Grade moraine. Photo by Dave Tucker.*

For more information, contact the Mount Baker Volcano Research Center at [research@mbvrc.wvu.edu](mailto:research@mbvrc.wvu.edu).

### Know An Outstanding Earth Science Teacher?

Each year NAGT honors K-12 educators with the Outstanding Earth Science Teacher award. Winners receive memberships to NAGT, GSA and a variety of geoscience-related curriculum. Sectional winners receive \$500 in travel funds and \$500 in classroom improvements from GSA. Our sections deadline is **March 15**. Nominating someone is quick and easy and online: [www.nagt.org/nagt/programs/oest.html](http://www.nagt.org/nagt/programs/oest.html).

### 2011 Outstanding Earth Science Teacher Awards



*Pacific Northwest Section President Ron Metzger presents an Outstanding Earth Science Teacher (OEST) Award to Oregon educator Frank Hladky at the October 14th, 2011 Annual Science Teachers Association held in Coos Bay.*

**This bio for Frank comes from the NAGT website:** Frank R. Hladky has taught Geology 201, 203, and 203 at Coquille High School for six years as a dual-enrollment course in cooperation with Southwestern Oregon Community College. Students benefit from exposure to college-level courses while still in high school. At the leading edge of the continent, the geology of the southern Oregon Coast provides access to the Coos Bay sedimentary basin with its energy minerals deposits, hillside mass wasting features, near shore processes, and evidence of recent magnitude 9 subduction zone earthquakes and related tsunamis. Mr. Hladky is a licensed Oregon "highly qualified teacher" in Integrated Science with additional endorsements in Business Education and Technology Education. He has taught courses in computer literacy, physics, chemistry, physical science, algebra 1 and 2, and calculus. His 22 years of professional experience includes stints at the U.S. Geological Survey, Idaho State University, Newmont Exploration Ltd., and the Oregon Department of Geology and Mineral Industries. He has more than 10,000 hours in the classroom and more than 1,000 field days conducting geologic studies. Mr. Hladky has more than 30 peer-reviewed geologic maps and publications, and he is an Oregon Registered Geologist.

### Exploring the Past: Archaeology in the Upper Mississippi River Valley

*Contributed by Bonnie Jancik, Director of Public Education, Mississippi Valley Archaeology Center at the University of Wisconsin - La Crosse*

Walking beside thousand-year-old burial mounds, flaking raw stone into tools, learning how potsherds tell us about human behavior, and understanding how humans adapt to complex, ever-changing environments -- our 2012 NEH Summer Institute features all this and more.

The Mississippi Valley Archaeology Center at the University of Wisconsin-La Crosse will offer a three-week NEH Summer Institute on July 9–27, 2012. This dynamic learning experience for K-12 teachers will explore how Native Americans and Euro-Americans have adapted to the Upper Mississippi River Valley over the past 13,500 years, and how archaeology leads to an understanding of how human cultures change and adapt through time.

The Institute will feature a one-day excavation experience, field trips to archaeological sites, hands-on laboratory and workshop activities, demonstrations, and classroom activities. Individual projects will help participants tailor the content to their own teaching areas. NEH Summer Scholars receive a \$2,700 stipend to help offset their expenses.

Application and other information on the Institute will be available online at <http://www.uwlax.edu/mvac/neh.htm>. The deadline for applications is March 1, 2012.

### GeoVentures Field Trip to Hawaii!

*Jennifer Thomson, Eastern Washington University*

This field trip for K-12 instructors, teachers-in-training and college students will be held July 25 – August 1, 2012. Join an exciting and enthusiastic group of students and educators as they learn first-hand the wonders of active volcanism on the Big Island of Hawaii! This eight-day trip (excluding two travel days) will introduce you to plate tectonics, hot spot volcanism and the geologic features and hazards associated with living on an active volcano. The group will discuss volcanic edifices, eruption styles, magma evolution and see various types of lava flows, lava lakes, tree molds and lava trees, fault scarps, rifts, craters and calderas. Participants will use their observations and newfound knowledge to discuss methods on how to effectively communicate geologic concepts with peers, students, teachers and the general public. Field Trip Leaders: Gary Lewis (Senior Director for Education and Outreach, Geological Society of America) and Dr. Jenny Thomson (Professor of Geology, Eastern Washington University). For more information, visit <http://www.geoventures.org/>.

### NAGT Awards & Opportunities

It's not too early to start thinking about 2012 awards and program opportunities that NAGT has to offer! Be sure to check out the national NAGT website: <http://www.nagt.org/nagt/programs/index.html>

- **Outstanding TA Award:** community college instructors can (and should) nominate student TA's (workstudy, tutors, etc.) for recognition.
- **Dorothy LaLonde Professional Development Grants**
- Scholarships for **Field Studies:** student field camp assistance
- **OEST Award** for outstanding K-12 teachers
- **USGS/NAGT Cooperative Field Training Program** for teachers
- **Geoscience Teachers in the Parks**

These and many other programs are available to all NAGT members. Check 'em out!



## STATE BY STATE

### Idaho

State Councilor: Shawn Willsey

- **37<sup>th</sup> Annual Tobacco Root Geological Society Field Conference** will be held July 26–29, 2012 in West Yellowstone, MT. Website: <http://trgs.org/default.htm>
- **83<sup>rd</sup> Annual Meeting of the Northwest Scientific Association (NWSA)** at the Owyhee Plaza Hotel in Boise, Idaho, March 28-31, 2012. The theme this year is: **Networking Science: communication, collaboration, and conservation in a time of change.**

Dr. J. Michael Scott, Distinguished Professor Emeritus in the Department of Fish and Wildlife Resources at University of Idaho, will present a keynote address. Symposia include:

**Geo-Integration: Making sense of the overload of spatial data, portals, and analysis tools**  
**Sagebrush ecosystems: linking biophysical drivers and species change across trophic levels**  
**The role of citizen scientists in research and education**

Presentations will address a broad range of topics and issues in natural and applied sciences. Please consider attending the meeting to learn about scientific research in the Northwest and present a paper or poster to share the results of your ongoing work. In keeping with our theme, we encourage presentations that emphasize interdisciplinary research, incorporate a range of participants, or represent collaboration across agencies. The Northwest Scientific Association has a strong history of supporting student research and our meetings provide a great venue for students to interact with professionals. There are **reduced registration rates for students.**

Please visit the Society's web page ([www.northwestscience.org](http://www.northwestscience.org)) for more details on registration, abstract submission, and updates about the meeting.

### British Columbia

Councilor: Brett Gilley

Great ideas and useful resources for educators:

- The **Earth Learning Idea project** is a wonderful (and free!) resource: <http://www.earthlearningidea.com>. This global education project publishes an Earth-related activity every two weeks, and currently has more than 100 posted. You can subscribe and be notified of new activities as they are posted. The team that puts it together (Chris King, Peter Kennett, Elizabeth Devon) tells us that Canadians are the top users of this site. But the fun and engaging ideas team comes up with deserve to be used far and wide!
- Interested in helping scientists pinpoint where to look for signs of life on Mars? Now you can, with the recently launched **citizen-science website called MAPPER** at <http://getmapper.com>. It is part of the Pavilion Lake Research Project, which with support from NASA and the Canadian Space Agency, has been investigating the underwater environment of Pavilion and Kelly Lake in B.C. using submersible vehicles. Details about the research project are at: <http://www.pavilionlake.com/>
- Please promote the **4th annual WHERE Challenge** to all students, age 9-14 in your circle. Details and past winning entries are posted at: <http://www.earthsciencescanada.com/where/>. This is a wonderful opportunity for students to learn about the Earth's resources and how they are used in our daily lives. Promotional postcards, print or digital files, in English and French, are available from Laura Clinton at [lclinton@pdac.ca](mailto:lclinton@pdac.ca).
- Seven new **GeoFact Sheets on various aspects of earthquakes in Canada** have just been made available on the Earthquakes Canada website. All are free to download, in French or English: <http://earthquakescanada.nrcan.gc.ca/pprs-pprp/index-eng.php> and <http://seismescanada.nrcan.gc.ca/pprs-pprp/index-fra.php>

## STATE BY STATE

### British Columbia continued

Councilor: Brett Gilley

- **Earthquakes** are the subject of an article just published in the National Research Council's online magazine "Dimensions." It has links to some good resources and information sources.  
<http://www.nrc-cnrc.gc.ca/eng/dimensions/issue8/earthquakes.html>
- **Eight videos about careers in the earth sciences** have just been completed, funded by a generous grant from the Geological Survey of Canada. View them at:  
<http://careercrate.com/group/cgen/videos/24>.  
And stay tuned, the plan is to link them to the CGEN careers website at:  
<http://www.earthsciencescanada.com/careers/>
- The **International Polar Year Annual Conference** in Montreal, April 22-27, 2012 will include a **teachers' workshop** (April 20-22); full description at:  
[http://www.ipy2012montreal.ca/program/polar\\_educators.php](http://www.ipy2012montreal.ca/program/polar_educators.php) (note: application deadline is Nov. 14, and there may be partial assistance for travel costs). Participants will have full access to all conference events; see program overview at:  
<http://www.ipy2012montreal.ca/program/overview.php>
- The University of Waterloo is transforming one of its student passageways into a **replica of a historic mining tunnel**. Read about it at:  
<http://www.therecord.com/living/article/616452--uw-recreates-old-mining-tunnel-on-campus>. No doubt, local schools would be welcome to do a visit. Contact Peter Russell at [esmuseum@sciborg.uwaterloo.ca](mailto:esmuseum@sciborg.uwaterloo.ca)

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