National Association of Geoscience Teachers

Pacific Northwest Section

October 2005

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From the President

Another summer is past and another academic year has started. Last year (2004-2005) was a "stable" year for the Pacific Northwest Section. Our overall membership numbers dropped slightly from 137 members in 2004 to 130 members in 2005. Our budget also remained steady and we had another very successful conference in Coos Bay, Oregon. A total of 36 people registered for the conference and there were 13 presenters along with a day of talks and three days of field trips. A huge thank you from the section must go to Ron Metzger (Southwestern Oregon Community College) for the excellent job he did in organizing the 2005 conference.

Generally what happens at this point with regards to section activities is that we present our annual section report (exceptionally exciting reading available upon request) to the national executive committee at the annual GSA meeting in the fall (this year in Salt Lake City). Then there is typically little to no section activity other than the work done by a few section diehards helping to organize the annual section conference. The other primary activity throughout the winter months is to put out the winter newsletter. But because we are a much dispersed group (four states and two provinces), and folks are very busy with work duties throughout the academic year, it is difficult to organize any structured section activities, workshops, field trips, etc. Nonetheless, many of our members attend teaching conferences and workshops addressing earth science teaching and issues throughout the year. For the benefit of all our section members, we'd like to hear about upcoming events and what you may have learned at any of the events you attended during the year. Please send your comments to our Newsletter Editor, Cassandra Strickland. She's eager for your submissions. I also invite your comments regarding what you think our section needs more (or less) of. My best wishes to all of you and have a great 2005-06 academic year!

Andy Buddington, *Spokane Community College*

Section Elections

In the spring of 2006, the Pacific Northwest Section will be holding elections for section officers including the following positions:

- President
- Vice President
- Secretary/Treasurer
- Newsletter Editor
- OEST Coordinator
- State/Province Councilors

If you have any interest in becoming more involved with the Pacific Northwest Section of NAGT, please consider submitting your name for one of the positions available. We need your help to keep this section going and offer new ideas to keep the section fresh and active. Please feel free to email **Andy Buddington** (abuddington@scc.spokane.edu) for position descriptions and duties, as well as the section By-Laws. Stay tuned for further announcements in the winter newsletter regarding the deadline date for submitting candidate names.

New Earth Science Teaching Resources

A new set of Earth Science teaching resources is being offered to K-12 educators from the **Geological Society of America**. The *Explore* resources come in a series of 14 CD-ROMs presenting lesson plans, teaching notes, student activities, along with colorful images and graphics. The resources are designed specifically for K-12 grade levels and are moderately priced (with GSA member discounts). For more information, go to the GSA website at: http://www.geosociety.org/educate/.

People on the Move..

Pat Pringle joins the faculty at Centralia Community College (WA) this fall. Pat was a long time member of the WA Division of Geology and Earth Resources.

Eriks Puris has been hired at the Rock Creek campus of Portland Community College (OR). Eriks taught at Seattle Central and Green River Community Colleges prior to joining PCC-RC.

Thank You for Your Help!

Thank you to all of the outstanding geoscience educators who contributed to this lengthy newsletter. For the next issue, if you would like to submit a news item or article, post a response to our editorial, or write your own opinion piece, please send your submission to **Cassandra Strickland** at cstrickland@yvcc.edu, or 500 W. Main, Grandview, WA 98930. We welcome all contributions of interest to our geoscience community!

State-by-State

Yukon: *Nothing to Report*
Oregon: *Nothing to Report*
Washington: *Nothing to Report*

Alaska

Cathy Connor, State Councilor

2006 GSA/AAPG/SPE Joint Meeting. The Cordilleran Section, GSA, the Pacific Section, American Association of Petroleum Geologists, and the Alaska Section, Society of Petroleum Engineers will hold a joint meeting at the Hilton Hotel in **Anchorage Alaska**, **May 7-10th, 2006.** For session and field trip schedules and registration information, go to http://anchorage2006.com.

K-12/CC Geoscience Workshop, Anchorage, AK, May 2006. This workshop will focus on creating classroom activities using real-time seismic data and webcam images to interpret geologic activity along Alaska's subduction zone. For more information, see the article later this issue, or contact **Cathy Connor**, at cathy.connor@uas.alaska.edu

British Columbia

Brett Gilley and Mary Lou Bevier, State Councilors

EdGeo Field Trip. There will be an EdGeo field trip for teachers of high school geology in the Vancouver area on **October 21st**. Anyone interested in more information can contact **Brett Gilley** at gilleyb@douglas.bc.ca. For information about the EdGeo program visit www.edgeo.org

Idaho

Shaun Willsey, State Councilor

GSA Field Trip: "Basaltic Volcanism of the Central and Western Snake River Plain and its Relation to the Yellowstone Plume". In conjunction with the annual Geological Society of America meeting in Salt Lake City, Utah, there is a pre-meeting field trip in south-central Idaho. The field trip will be held on **October 13-15**. See www.geosociety.org/meetings/2005/ for more details.

2005 Pacific NW Section Conference, Coos Bay, Oregon

***Andy Buddington**, Spokane Community College*

The 2005 Pacific Northwest Section annual conference was hosted by Southwestern Oregon Community College in beautiful Coos Bay, Oregon. An enormous thank you goes to **Ron Metzger**, the principle organizer for the 2005 conference. Ron did an exceptional job in putting together an exciting and educational conference along with great field trips, a day of talks and a wonderful conference dinner and keynote speaker. We would also like to thank all the presenters and all the folks at SOCC for their help and hospitality during the conference.

The field trips focused on the spectacular scenery and geology of the southwestern Oregon coast. Main topics of discussion included coastal geomorphology, neotectonics and uplift rates, pre-Teriary and Tertiary geology of the Klamath and Siletz terranes, and the Native American history of the region. We enjoyed four days of glorious weather along with wonderful beach walks and dune buggy adventures! Below is a list of the field trips and technical session presentations.

Field Trips

- The Klamath Province from Rainbow Rock to Cape Blanco, Ron Metzger and Don Ivy field trip leaders.
- Coastal Dunes, Terraces, and Middens of Southwestern Oregon: Coos Bay to Haceta Head, Ron Metzger and Don Ivy, field trip leaders.
- Coastal Geology and Native American Sites from Fossil Point & Cape Arago to Bandon Beach, Ron Metzger and Don Ivy field trip leaders.

Group shot at Shore Acres State Park. Photo by R. Metzger.

Conference Meeting and Technical Session Topics

- Following the Ice Age Floods: Our First National Geologic Trail? by **Gene Kiver**.
- Summer Field Course Offerings in Geology and Biology at Eastern Washington University and Beyond: **Jennifer Thomson**.
- Intelligent Design (the new creationism) and the Battle for the K-12 Science Curriculum: **Mark Terry** & **Scott Linneman**.
- Extreme Storms, El Ninos, and Human Impacts: The Changing Face of the Oregon Coast: **Jonathon Allan**
- Educational Opportunities at South Slough NERR: **Tom Gaskill.**
- Integrated Exploration Methods Applied to the Search for Natural Gas from Deeply Buried Coal Seams in Coos County, Oregon: **Steve Pappajohn**.
- Cascadia Earthquakes: An Overview of the Coastal Uplift Project: **Beth Wisely**.
- The 2004-2005 Eruption of Mount St. Helens: Growth of a Recumbent Dome: **Jim Vallance**.
- Oregon's Other Fossil Record: **Bill Orr**.
- National Parks as Classrooms: A Plate Tectonic Tour of the Pacific Northwest: **Robert Lillie**.

Coos Bay Meeting Well Designed, Implemented!

***Ralph Dawes,** Wenatchee Valley CC*

Ron Metzger gets credit for designing and conducting an excellent conference for the Pacific Northwest NAGT annual get-together. The field trips took advantage of spectacular coastal and coast range exposures of accreted terranes, Tertiary deltaic sediments and intrusions, and recent tectonic uplift and changes in sea level. On the pre-meeting field trip, we saw folded cherts that represented crumpling of a far-flung terrane that now resides in the Klamaths, and ultramafic rock also spelled out oceanic lithosphere.

On the meeting day, a morning session on so-called 'intelligent design' (ID) was run by **Mark Terry** (The Northwest School, Seattle) and **Scott Linneman** (Western Washington University). The session made clear the role and strategy of Seattle's Discovery Institute in trying to get the ID Trojan Horse through the gates of science education, when in fact there is no significant scientific research that supports ID.

Later that day, talks included the continuing evidence of strain (and inferred stress) accumulating in coastal Oregon and Washington, now tracked in part by ongoing GPS measurements. The data suggest that the Cascadia subduction zone continues to increase its odds of another megathrust earthquake, the last one having occurred 300 years ago. After what happened with Hurricane Katrina on the Gulf Coast in August 2005, it seems clear that it is our job as geoscience educators to raise peoples' awareness of the fact that catastrophic earthquakes, with attendant tsunamis, have occurred on the PNW coast before and will again.

Other highlights of the presentations included:

- The natural gas reservoir associated with Eocene coal beds beneath the Coos Bay area.
- Storm and erosion patterns on the Oregon coast (the Gulf Coast is not the only place where real estate in harm's way fetches a high price due to the short-sighted desire to live on a beach).

- A slough in a syncline (or is it a thrust fault, as more recent mapping suggests?) south of Coos Bay, which serves as an environmental research site that tries to gain respect for mud and and brackish zones, and the things that live there.
- Build-up of the lava dome in Mt. St. Helens since fall 2004 (that toothpaste keeps getting squeezed out of its tube, which is less drama than the news media wants, but fascinating in geological terms).
- Oregon's fascinating fossils, which are quite a variegated and represent many periods of geologic time, as reported by the sage **William Orr**.

The conference dinner took place at a restaurant in Coos Bay, where we ate buffet-style while watching a presentation on using food as geologic metaphors.

Field trips the following two days started out with the wind-and-sand in the face, stomach-in-the-throat experience of attacking oblique sand dunes from various angles while riding in giant dune buggies. Lunch on a beach took place at Ona Beach. Along that and other beaches we saw excellent exposures of Eocene to recent rock and sediment layers, some dikes and sills that generated good relative dating discussions, and uplifted marine terraces representing recent tectonic activity. The weather cooperated with warm sunshine mixed with cool ocean breezes, the low tides came at just the right time for access to fossil-bearing beds (part of Ron's excellent plan), and we all came back invigorated by the salt air, the seafood, and the great sharing of geological knowledge.

Field trip participants enjoy geology-by-dune buggy. Photo by R. Metzger

Plan for 2006 Now!
Pacific NW Section Conference, Bellingham, WA

The Pacific Northwest section meeting will be held at Western Washington University in Bellingham in June, 2006! **Bob Christman**, emeritus professor at Western Washington University and our reliable Secretary/Treasurer, is still putting together the details. He is looking for people to help arrange and collect the documentation for the field trips. Please contact him (**xman@cc.wwu.edu**) if you would be willing to help. Stand by for the meeting dates and scheduling details as they become available.

Geoscience Workshop for Teachers
GSA/AAPG/SPE Joint Meeting, Anchorage
Using Real-Time Data to Interpret Alaskan Geology

The 2006 annual meetings of the Cordilleran Section, GSA, the Pacific Section, American Association of Petroleum Geologists, and the Alaska Section, Society of Petroleum Engineers will be held jointly at the Hilton Hotel in **Anchorage Alaska**, **May 7-10th, 2006**. The GSA Cordilleran Section meeting is offering a geoscience education session and poster opportunities (abstract deadline is Feb. 7, 2006; undergraduate submissions welcome, also), and a NAGT-sponsored geoscience workshop for teachers of K-12 or community college level.

During the geoscience workshop, teachers will learn how to create classroom activities that show how real-time measurements of an active subduction zone are made and what they tell earth scientists. We will combine volcanic seismic data available from the USGS's Alaska Volcano Observatory (AVO), webcam imagery of various Alaska volcanoes from on-site cameras, and seismic data from throughout Alaska obtained from the Alaska Earthquake Information Center (AEIC). Participants will also tour the AVO facilities in Gould Hall to get a sense of the science habitat and instrumentation in use. Co-organizers **Jennifer Adleman** (AVO) and **Dr. Cathy Connor** (University of Alaska Southeast) would also like to invite volunteers to man the NAGT booth during the meeting.

Need another reason to attend the workshop? The city of Anchorage, located in a natural setting of unparalleled beauty, is nestled between the wilderness of the Chugach Mountains and the two arms of upper Cook Inlet. Several field trips will be offered as part of the regular joint-meeting schedule; however, you don't have to participate to enjoy Anchorage's five mountain ranges and many active volcanoes, all easily viewed from the city.

If you are interested in attending the joint meeting, up-to-date information, including field trips and registration material, can be found at http://anchorage2006.com. If you would like to participate in the NAGT-sponsored workshop, or would like to volunteer, please contact **Cathy Connor** at (907) 796-6293 (cathy.connor@uas.alaska.edu) **or Jennifer Adleman** at jadleman@usgs.gov. Secondary science teachers in the local area (e.g. Anchorage, Fairbanks, Prince William Sound, Matanuska Valley et. al.) are particularly encouraged to join us!

OEST Awards, 2005

Ron Metzger, *Southwestern Oregon CC*

The **Outstanding Earth Science Teacher Awards** are bestowed upon exceptional teachers, such as our Washington State and Pacific Northwest Regional winners (see below), at the K-12 level. These prestigious awards continue to draw limited interest at both the sectional and national level. The Pacific Northwest section has been fortunate the last several years to be able to recognize several gifted educators, but the potential exists for our section to do better. I would like to propose a challenge to have at least one nomination from each state and province in our section for the 2006 OEST award. While we just presented the 2005 OEST awards, it isn't too early to start putting together nominations for 2006. If you know of a K-12 teacher in your area that should be recognized for their classroom accomplishments take the time to put together an application NOW. The **official application deadline for the 2006 OEST award will be March 15, 2006**, but let's get those nominations in by the end of the year. If you have any questions please contact **Ron Metzger** at rmetzger@socc.edu.

Pacific NW Section OEST Award Winner

The Pacific Northwest Section OEST award this year goes to **Lynda Sanders** of **Sunset Middle School** in Coos Bay, Oregon. Ms. Sanders has been teaching in the Coos Bay public school district for over 15 years. One of the highlights of her application is her participation in an American Geological Institute pilot study testing the CUES (Constructing Understanding of Earth Systems) curriculum. Lynda was one of nine teachers in the country selected to initially pilot this curriculum and is currently in her fourth year. Additionally, she is part of the team that is writing the teacher's edition for the CUES program. Teamwork with her co-workers is a common theme, as numerous teachers and administrators make reference to the fact that Lynda serves as a resource for technology, teaching methods, course content and science standards at the state and national levels. Lynda has participated in the National Science Teachers Association (and the state affiliate OSTA), presenting at several conferences as well as reviewing articles for the NSTA publication *Science Scope*. Ms. Sanders has been certified by the National Board for Professional Teaching Standards (NBPTS program). The students in her classes are actively exposed to the scientific method through hands on experimentation. She coordinates class field trips to the Oregon Museum of Science and Industry in Portland, Oregon. Lynda is also active in her community. The Pacific Northwest section is fortunate to be able to recognize Lynda Sanders as an outstanding educator that is devoted to science and her students.

Photo by R. Metzger

Washington State OEST Award Winner

The Washington State OEST Award this year recognizes **Mark Anderson** of **Housel Middle School** in Prosser, Washington. Mr. Anderson is recognized as an educator who not only gets his middle school students to understand earth sciences, but also gets them excited about the subject. Mark has taught in the Prosser school district for over six years. He utilizes his extensive field experiences as a geologist in mineral exploration, environmental geology and geotechnical engineering in conjunction with his Master's in Teaching to provide practical real world examples to his students. With Cascade volcanoes, Columbia River Flood Basalts and Lake Missoula flood deposits exposed in the area, Mark has been able to generate an awareness and excitement of the local geology that surrounds his students. Mr. Anderson has also spent recent summers participating in the Teacher Resource Participation Program through the Department of Energy's Pacific Northwest National Laboratory. Mark is also the Leadership and Assistance for Science Education Reform (LASER) representative at Housel Middle school. Most importantly Mark generates in his students an interest and enthusiasm in geology that lasts for years.


Photo by R. Metzger

Outstanding Teaching Assistant Award

Jennifer Perry of Spokane Community College will be receiving a **NAGT Outstanding Teaching Assistant Award** for her work as a teacher's assistant and earth science tutor at Spokane Community College. Jennifer, a single mom of two young boys, went back to college starting at Pierce CC taking an oceanography class. She loved the geology section so much she decided to major in geology. Upon completion of her AA degree at Spokane CC, she has been accepted into the Geology program at Central Washington University where she will enter as a junior in Fall 2005. Jennifer was nominated for her outstanding work as a TA and earth science tutor where she helped many students succeed in geology. All the students she worked with were incredibly appreciative of her energy and enthusiasm for geology along with her dedication to helping students succeed. Congratulations to Jennifer Perry!

Intelligent Design: Gaining Support in Public Schools or Just Another Fad?

By now, most of you are well aware that the idea of intelligent design (ID) is being strongly promoted in schools across this country. Intelligent design is the repackaged version of creationism with a different twist. Because it isn't religion-specific and allows the possibility that the earth is billions of years old, it can theoretically avoid any judicial battles regarding the mixing of church and state in the nation's public schools. During an insightful two-hour session at the Coos Bay conference last June, presenters **Mark Terry** (Northwest School, Seattle) and **Scott Linneman** (Western Washington University) discussed just some of the ideas and strategies that ID proponents are using to convince politicians and the public that ID deserves an equal place along side the teaching of natural selection in the public school science curriculum.

..should college-level .. instructors even care about .. the ID movement in K-12 public education?

An interesting thought occurred to me during this session: how do life science instructors incorporate ID into the lab curriculum? ID has rapidly become a mainstream topic in this country. This summer President Bush opined that ID should be taught along side evolution in the public school science curriculum. Articles dealing with ID have recently occurred in *Newsweek* (February, 2005), *Nature* (April 2005), and *Time* (August 2005) just to name a few and ID has been dinner hour news on most of the network news programs.

The recent strategy by the science and teaching community in Kansas was to not show up for the state school board hearings on revising the state science curriculum to allow for ID in the Kansas classroom. The idea was to not give credibility to the subject of ID in the science classroom. Is this the right strategy? Will it be an overall effective one as more and more states across the country consider the concept of teaching ID along with evolution in the science classroom?

As was made clear in the session at Coos Bay meeting in June, Seattle's Discovery Institute is leading the ID charge with a slick website and a well-packaged, persuasive message that includes a list of so-called accomplished scientists that support ID as the viable alternative to evolution (1). It seems that many ID proponents focus on the "problems" with evolution rather than the "science" of ID. Well, that's no surprise since ID is not a science as defined and practiced by the vast majority of scientists. For an interesting discussion regarding the Discovery Institute, see the Chris Mooney article "Inferior Design" (2).

During the Coos Bay meeting, Terry and Linneman presented a comprehensive list of suggested readings on the subject of ID from both sides of the aisle. We hope to have that list of references posted to the Pacific Northwest section website in the near future. For an excellent discussion on the so-called wedge strategy by ID proponents, see Terry's "One Nation, Under the Designer" (3). For another insightful discussion (and solid list of references) of where ID is going in public education, see Terry's "Intelligent Design or Not: Dr. Strangescience, or How I Learned to Stop Worrying and Love the Wedge" in New Horizons for Learning (4).

Finally, an important question to ask is, should college-level earth science instructors even care about the hoopla surrounding the ID movement in K-12 public education? After all, it can't possibly affect us with all the "academic freedom" rights we possess at the college level, right? We teach to a higher intellectual level and that our students know the difference between what is or isn't truly science, right? Wrong, dead wrong! Note the recent lawsuit against the University of California system by the Association of Christian Schools International (5). The suit charges that the institution's high school course requirements for applicants violate the constitutional rights of students from religious schools. This legal outcome may become another wedge for ID against higher education.

The main reason I personally think we should be concerned is because it is the present generation of K-12 students that we (at the college-level) will be receiving down the road. College earth science instructors often remark that many of their students are unprepared, and this lack of preparedness may mean those students are not able to see that ID lacks scientific validity. I am not opposed at all with having ID as a subject taught in a philosophy-based curriculum on comparative religions and beliefs. But clearly, ID doesn't meet the criteria of a physical or life science and should not be taking up time or space in the science curriculum, or at least no more time than astrology commonly takes up in astronomy classes, where it is characterized briefly as a pseudoscience and set aside.

..clearly, ID doesn't meet the criteria of a physical or life science and should not be taking up time or space in the science curriculum..

So, what is the science education community going to do about ID? It is time that you and your science colleagues start discussing this question before it is forced upon you by administrators, judges, and a politically (and ideologically) based educational agenda.

Andy Buddington, *Spokane Community College*

Web Site References

1. http://www.discovery.org/
2. http://www.prospect.org/web/page.ww?section=root&name=ViewWeb&articleId=10084
3. http://www.pdkintl.org/kappan/k_v86/k0412ter.htm
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5. http://www.edweek.org/ew/articles/2005/09/07/02credit.h25.html