National Association of Geoscience Teachers

Pacific Northwest Section

Spring 2010

This Issue Includes:
2010 PNW Section Annual Meeting, Twin Falls, ID
PNW Section Election Ballot
Ron Kahle Travel Grants for K-12 teachers- apply

From the President

As I hand over the Pacific Northwest section presidency to Ron Metzger, there are three things I want to leave you with.

First, this is the century of earth science, not just for knowledge, but for our future on planet earth. Together, we humans are measurably changing the earth and altering the course of earth history. The decisions we make and the actions we take during this century will determine how many people will be able to live on planet earth in the future, and how they live. To shape this future, we will have to solve problems such as limits on energy and material resources; reduced biodiversity and its effect on survival of remaining species; climate change; and increased human exposure to earthquakes, eruptions, floods, storms, wildfires, landslides, and more. Solving these problems will require the special methods of gaining and refining knowledge that we have as earth scientists. The more people understand the earth in geological terms, the more they will be able to control their own destiny and the better our chance for a sustainable, and in some sense prosperous, future.

Second, information technology will continue to change how the geosciences are learned and taught. Despite commonly expressed concerns, it is not about replacing teachers with computers. How information technology is used to create knowledge in students reflects the knowledge, personality and passion of the teacher. Just as with an in-person class, teaching via the Internet requires a teacher to design and conduct the class, communicate with the students, provide them with advice and encouragement, and give them feedback and guidance. Because it is certain that in the future there will be more use of information technology to learn and teach geoscience, it is our responsibility as geoscience educators to step forward and make sure that it is done accurately, effectively, and with inspiration.

Third, the success of our section of the NAGT depends on you and your colleagues. By being a member, you support the teaching of geoscience and the spread of geoscience knowledge. This is a volunteer, cooperative organization. None of what we do happens unless we get together, work together, and play together. Our success also depends on the work done behind the scenes by people such as our vice-president and our newsletter editor, our treasurer and our web site manager. I am very grateful to Ron Metzger, Cassie Strickland, Bob Christman and Jennifer Thomson for all they have done during my tenure, and to Andy Buddington, our previous president, who continues to help out at various levels. Deron Carter is doing a great job as our OEST coordinator, and we were very lucky to get the generous donation from Ron Kahle which we now use to help fund OEST winners who attend our annual meeting. Our state and province councilors continue to send us important information and share our information back out. Another realm in which many of you have excelled lately, raising the profile of our section, is in proposing, running, and participating in geoscience education sessions at GSA meetings.

Just being a member is the most basic and most important contribution. You are all contributors to our success. I thank you all, and look forward to more good meetings and good times with you. I hope you keep studying the earth, and keep showing others how to do the same. ---- *Ralph*

PNW Annual Field Conference
Twin Falls, Idaho
June 22 – 26, 2010

www.csi.edu/NAGTconference/index.asp
Shawn Willsey, College of Southern Idaho

This year's annual meeting for the Pacific Northwest section will be hosted by the **College of Southern Idaho** (CSI) in picturesque **Twin Falls, Idaho**. In addition to driving, flights arrive at the Twin Falls airport (via Salt Lake City) or you can fly to Boise and drive (~1.5 hours.) Lodging is available at area hotels or at the CSI dorms.

The scenic and deep Snake River Canyon forms the primary attraction in Twin Falls. At 486 feet, the Perrine Bridge is the tallest bridge in the Pacific Northwest and a popular spot for BASE jumpers. Area attractions include Shoshone Falls ("the Niagara of the West") located just four miles east of Twin Falls, Craters of the Moon National Monument, the rugged Sawtooth Mountains, Thousand Springs, Balanced Rock, and City of Rocks Natural Reserve. Outdoor activities include rock climbing, fishing, hiking, boating, whitewater rafting, spelunking, mountain biking, and rockhounding. For more tourist information, visit **www.visitsouthidaho.com/cake/** or **www.visitidaho.org/placestogo/southcentral.aspx**

Meeting Schedule

June 22 – **Trip 1**: City of Rocks National Reserve and Albion Range
June 23– **Conference Day** at College of Southern Idaho. Keynote by **Dr. John Shervais** on Snake River Plain deep drilling project.
June 24 – **Trip 2:** Effects of Volcanism and the Bonneville Flood in the central Snake River Plain, Part I
June 25 – **Trip 3:** Effects of Volcanism and the Bonneville Flood in the central Snake River Plain, Part II
June 26 – **Trip 4:** Hagerman Fossil Beds and Snake River whitewater trip

Call for submissions – Talks and Posters

Your participation on conference day is requested. If you are interested in presenting a talk, workshop, poster or panel discussion on conference day, please send a title and 250-word abstract to **Shawn Willsey** (**swillsey@csi.edu**). Submissions should focus on geoscience education or relevant geologic topics. Talks should be 15 minutes in length and posters should be no more than 3 feet tall by 4 feet wide. **The deadline for submissions is May 28th, 2010.**

More information about this year's meeting can be found at the conference website: **www.csi.edu/NAGTconference/index.asp**

Field Trips

Trip 1: City of Rocks National Reserve and Albion Range
Leader: ***Kevin Pogue****, Whitman College*

From Twin Falls, we'll drive southeast to the Albion Mountains, a north-trending metamorphic core complex that is host to the Almo pluton, an Oligocene granite that forms the incredible domes and

Figure 1. *City of Rocks National Reserve, photo by Kevin Pogue.*

spires of the City of Rocks National Reserve and Castle Rocks State Park (**See Figure 1**.) We'll spend the morning in the parks viewing textbook examples of granite landforms and discussing the evolution of this spectacular landscape. After lunch, we'll head north along the range where we'll visit outcrops of Tertiary vitrophyre, Ordovician marble, Archean granite, and Proterozoic quartzite and schist. Weather and snow pack permitting, we'll end the trip by driving above timberline to the 9265 ft. glacially-carved summit of Mt. Harrison that features overturned quartzite beds and an amazing panoramic view that encompasses broad swathes of the Snake River Plain and Basin and Range provinces.

This trip involved moderate hikes of up to two miles. Participants are encouraged to bring sunscreen, a hat, and water. A light jacket may be necessary for the high elevation portion of the trip. Lunch and snacks will be provided.

Trips 2 and 3: Effects of Volcanism and the Bonneville Flood in the central Snake River Plain
Leaders: ***Kurt Othberg*** *&* ***Dean Garwood****, Idaho Geological Survey*

The Snake River Plain of south-central Idaho records episodes of explosive Miocene rhyolitic volcanism associated with passage of the North American plate over the Yellowstone hot spot as well as Plio-Pleistocene basalt volcanism. This two-day trip includes stops to observe basaltic and rhyolitic rocks that form the **central Snake River Plain, evidence of volcanic events** and their effect on landscapes and stream dynamics, and depositional/erosional evidence of the Bonneville Flood (**See Figure 2**.)

The first day (Trip #2) will begin at the summit of a large shield volcano just north of Twin Falls where the development of the central Snake River Plain and the course of the Bonneville Flood will be observed and discussed. From there, we will move downstream investigating basalt flows, changes in depositional energy from the Bonneville Flood, lava-dammed lake deposits, pillow deltas, and young mass wasting deposits in the Snake River Canyon.

The second day (Trip #3) will begin at the 212-foot Shoshone Falls to examine exposed rhyolite along with the erosional evidence carved by the Bonneville Flood. The trip will then visit Balanced Rock (**see Figure 3**) and paleosols and recent mass wasting in Salmon

Figure 2. *Giant gravel bar deposited during the Bonneville floods. Photo by Kurth Othberg.*

Falls Creek canyon. We will then travel to the confluence between Salmon Falls Creek and the Snake River where dramatic landform changes have occurred as a result of interactions between volcanism and fluvial processes. The trip will conclude by examining two amphitheater-shaped box canyons that feed into the Snake River.

Both trips involve light to moderate hiking of up to two miles. Participants are encouraged to bring sunscreen, a hat, and water. Lunch and snacks will be provided.

Trip 4: Hagerman Fossil Beds National Monument and Snake River Whitewater
Leader: ***Phil Gensler****, Hagerman Fossil Beds NM*

Hagerman Fossil Beds National Monument is located along the Snake River about 35 miles west of Twin Falls. The monument was set apart in 1988 and consists of 4,300 acres of Glenns Ferry Formation that preserves the world's richest known Pliocene-aged fossil deposit. In the Hagerman area, the Glenns Ferry Formation largely represents a deltaic environment of ancient Lake Idaho where the remains of over 100 species of fossil vertebrates have been identified. The monument is perhaps best noted for the Hagerman Horse Quarry from which over 200 individual horses (*Equus simplicidens*) have been recovered.

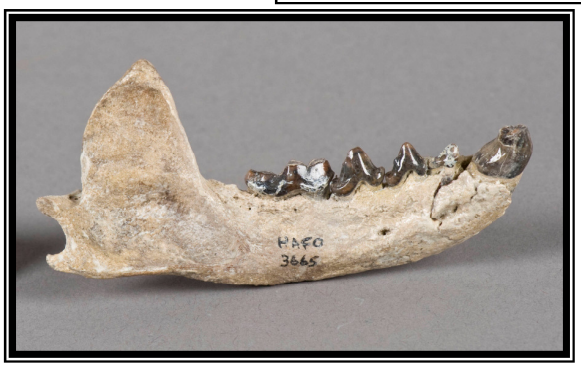
This field trip will include stops at the Hagerman Fossil Beds Visitors Center in downtown Hagerman, the monument paleontology lab, and a trip to one of the monument's fossil localities (**See Figure 4**.) Topics covered include the history, geology and paleontology of this National Park Service unit.

After lunch, we will travel on guided rafts down the Hagerman stretch of the Snake River, a six mile section of amazing scenery, flat water, and whitewater (up to Class III.) In addition to abundant wildlife, the river provides great exposures of recent volcanism and hydrovolcanism, Bonneville Flood deposits, and recent mass wasting features.

The morning portion of this trip will include a hike of up to half a mile in an open, exposed region. Participants are encouraged to bring sunscreen, a hat, and water. For the afternoon river trip,

Figure 3, right. *Balanced Rock. Photo by Kurt Othberg*

Figure 4, bottom. *Trigonictis* jaw, *Photo by Phil Gensler.*



participants should also bring Teva or similar sandals and quick drying shorts/swimsuits. Dry bags and life jackets will be provided by the guides. Lunch and snacks will be provided.

For registration materials and submitting talk and poster information, please go to the conference website: **www.csi.edu/NAGTconference/index.asp**
As there are several other events and conferences in Twin Falls in late June, NAGT conference participants are encouraged to make lodging and travel accommodations early. Comfort Inn (208-734-7494) is offering a reduced rate of $90/night (be sure to mention that you are in town for the NAGT conference).

Malheur Field Station, Burns, Oregon

2011 Pacific NW NAGT Section Meeting

Mike Cummings, Portland State University

The **2011 Section meeting** will take place at **Malheur Field Station** located near Burns, Oregon. Malheur Field Station is located on the Malheur National Wildlife Refuge established by President Theodore Roosevelt in 1908. The technical program will include field excursions in the High Lava Plains and north Basin-and-Range Provinces and will focus on high desert hydrogeology, including Malheur National Wildlife Refuge (coordinated with Refuge staff), Miocene age widespread pyroclastic flows (Rattlesnake and Devine Canyon welded tuffs), late Holocene basalt flows at Diamond Craters, and geothermal systems of the Alvord Desert. Days will be spent in the field exploring this high desert landscape. Evening sessions will consist of presentations/poster sessions. Meals and lodging will be provided at the Malheur Field Station. Bring your own bedding! Round trip transportation from Portland by state vans is available. For information, contact **Michael Cummings**, Department of Geology, Portland State University (**CummingsM@pdx.edu**.)

Elections for the Section

Time has come to vote for your PNW NAGT section officers. Use the ballot at the end of this newsletter, or send your selections to Andy Buddington at: **abuddington@scc.spokane.edu**
Please send in your votes by June15th. A brief description of each position is listed below, in addition to the candidates. You can also nominate a write-in candidate. Because response to our request for officer volunteers was quite low, we appeal to you now. Vote, nominate yourself or another, and help our section stay active and strong. **Please see page 6 for nominees.**

- Vice President- The Vice President's main role is to support the President in section activities, as well as organize the details of our yearly conferences.
- Secretary/Treasurer- Keeps records of section business, including finances, as well as reporting annual finances to the National NAGT.
- Editor- Prepares a 3 section newsletters per academic year and is responsible for disseminating information to the Section membership.
- State Councilors for Yukon, BC, WA, ID, AK and OR (2 for each state) - Councilors are the local representatives for our section, and keep track of upcoming Earth Science opportunities for their home state. Councilors should actively encourage membership in the section, and communicate with the Editor to distribute information.

The Vice President is the presumptive next in line for the presidency, so the honorable **Ron Metzger** will be your next President. This is according to NAGT bylaws. More detailed descriptions for each position can be found at:
www.nagt.org/nagt/organization/section-guidelines.html
Officers will be announced at the 2010 Annual Section Conference in Twin Falls, Idaho.

Scablands to Islands: A Transect of WA

Summer Field Trip Opportunity through EWU

Jenny Thomson, Eastern Washington University

Scablands to Islands: A Transect of Washington – Instructors: Drs. Buchanan, **O'Quinn** and **Thomson**. This is an eight-day field class to explore the spectacular natural history of the Pasayten Wilderness, North Cascades National Park, Mt. Baker Wilderness and the San Juan Islands. The course will emphasize the varied and complex geology along a transect across the North Cascades that illustrates the assemblage of an active continental margin. We will also have the opportunity to examine the effects of climate, topography, fire history and elevation on vegetation as we travel from the dry shrub steppe of eastern Washington to the alpine meadows of the high Cascades to the lush forests of western Washington. **July 10 – 17, 2010**. For information and contact information please visit: **www.ewu.edu/x58597.xml**

GEOVENTURES for Students! 2010

Geology on an Active Hot Spot, Hawaii

Jenny Thomson, Eastern Washington University

Geology on an Active Hot Spot – Instructors: **Dr. Jenny Thomson**, Eastern Washington University and **Dr. Bart Martin**, Ohio Wesleyan University

This eight-day field course (excluding two travel days) on the Big Island of Hawaii will serve to introduce participants to plate tectonics, hot spot volcanism, and the geologic features and hazards associated with living on an active volcano. We will discuss volcanic edifices, eruption styles, magma evolution, and see features such as various types of lava flows, lava lakes, fault scarps, rifts, craters and calderas and active lava flows. The trip is designed for college-level students and/or those wishing for a continuing education experience who have had at least an introductory geology course or who may interested in pursuing a degree in geology. The primary learning goals for are: (1) to familiarize students with basic, introductory-level concepts and processes in geology and, in particular, volcanology; (2) for students to learn to make and record observations in the field and to understand the connectivity between geology and humans living on an active volcano. July 30 – August 8, 2010. GSA student members $985 (not including airfare to and from Hilo, HI). Trip sponsored by GSA and Subaru, Inc. For contact and registration information please visit **www.geoventures.org**

Ron Kahle Professional Development

Travel Grants for PNW NAGT K-12 Members
Apply by June 5th for first consideration

Thanks to a generous donation awarded to our section by **Mr. Ron Kahle** we will be awarding three grants up to $195.00 each for K-12 science teachers to attend the **2010Annual Pacific NW NAGT Section Conference**. This year's conference will be held in Twin Falls, Idaho. (See details, this newsletter.) The meeting web site (including the registration information) is online at
www.csi.edu/NAGTconference/index.asp
Each grant will cover the cost of meeting registration, including the conference day, banquet and field trips. To apply, follow this simple five-step email application process:

1. List the conference events costs (conference day, banquet, and any field trips) for which you intend to register.
2. State whether you are a NAGT member (membership is not required, but existing members will be given first preference during consideration.)
3. Indicate where and what your job in K-12 earth science education is.
4. List some of the professional development benefits you hope to gain from attending the conference.
5. Email to **Bob Christman**, Section Secretary and Treasurer, at **Bob.Christman@wwu.edu.**

And that's not all! -- If a person is not an NAGT member, but due to a small number of applicants (which is quite possible) wins a Ron Kahle grant, we will also award him or her with a one-year NAGT membership, gratis (that is, we will pay for it from the Ron Kahle fund)! This annual membership includes, of course, a one-year subscription to the Journal of Geoscience Teaching, a peer-reviewed journal, along with our own section newsletter.

The section officers together will decide the winners. Please apply soon; the conference is June 22-26th!
Apply by June 5th for first consideration.

REGISTRATION FORM

National Association of Geoscience Teachers – Pacific Northwest Section
Annual Meeting: June 22 – 26, 2010
College of Southern Idaho, Twin Falls, Idaho
www.csi.edu/NAGTconference/index.asp

Name:_____ **Email Address:** _____

Affiliation: _____

Mailing Address:_____

Phone: _____

Name (as you would like it to appear on your Name Tag):
Line 1 _____
Line 2 _____
Line 3 _____

Tuesday, June 22nd - Field Trip - City of Rocks and Albion Mountains ($40) $ _____
Includes copy of City of Rocks geology book, "Etched in Stone"

Wednesday, June 23rd - *Conference Day Registration* ($30) $ _____

Wednesday Evening, June 23rd – Conference Dinner ($30) $ _____

Thursday, June 24th Field Trip - Snake River Plain Trip #1 ($30) $ _____

Friday, June 25th Field Trip - Snake River Plain Trip #2 ($30) $ _____

Saturday, June 26th Field Trip - Hagerman Fossil Beds and afternoon Snake River whitewater trip ($60) $ _____

TOTAL: $ _____

Registration is due by JUNE 2, 2010
(Late registrations will be charged an extra 20%)

Please make enclosed checks payable to the ***College of Southern Idaho***
Mail this form and payment to:
Business Office
College of Southern Idaho
PO Box 1238
Twin Falls, ID 83303-1238
For more information, contact Shawn Willsey at swillsey@csi.edu or 208-732-6421

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Business Office Use Only:
01-1810-4655 G5Y

Pacific Northwest Section of the National Association of Geoscience Teachers
Election Ballot

Mail to: Andy Buddington (Past President)
abuddington@scc.spokane.edu
Please send in your votes by June 15th.

Vice President Candidates:
_____Cassandra Strickland, Columbia Basin College

_____Other:_____

Secretary/Treasurer Candidates:
_____Bob Christman, Western Washington U.

_____Other:_____

Newsletter Editor Candidates:
_____Cassandra Strickland, Columbia Basin College

_____Other:_____

State Councilors for Yukon, BC, WA, ID, AK and OR (2 for each state):

OR: Vote for 2 candidates.
_____Joe Graf, Southern Oregon University

_____Tom Lindsay, Portland State University

_____Other:_____

WA: Vote for 2 candidates.
_____Joe Hull, Seattle Central CC

_____Sian Davies-Vollum, University of Washington

_____Jeff Tepper, University of Puget Sound

_____Other:_____

ID: Vote for 2 candidates.
_____Shawn Willsey, College of Southern Idaho

_____Other:_____

BC: Vote for 2 candidates.
_____Brett Gilley, University of British Columbia

_____Other:_____

AK: Vote for 2 candidates.
_____Cathy Connor, University of Alaska, Southeast Juneau

_____Michael Collins

_____Other:_____

Yukon: Vote for 2 candidates.
_____Other:_____

_____Other:_____

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