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Oh yes...and more!*



From the President

Do you teach, or do you “facilitate learning outcomes”? That is arguably a false dichotomy. Nonetheless, if your school is like mine and wants to call itself “student-centered,” then “facilitating learning outcomes” may be how some of your key administrators describe what you do, whether or not you use that terminology yourself.

Just how widespread is the expectation that we facilitate and assess learning outcomes? Well, for colleges and universities, our national accrediting agencies expect it. For the last couple of years, led by Secretary of Education Margaret Spellings, the US Department of Education has been pressuring accrediting agencies to provide more measurements of outcomes using more widely agreed-upon standards. This practice has been likened to moving the “No Student Left Behind” act up to the college level, and has been warned against as a threat to academic freedom. Although the accrediting agencies have so far not agreed to all the “greater accountability” requests from the Bush administration, I know the agency that accredits my college places outcomes assessment very high on its list of criteria when deciding whether or not to approve us as a legitimate institution of higher education.

Another source of expectation is the National Science Foundation (NSF) which has infused much of the language in science education grant descriptions with outcomes assessment lingo. To successfully solicit a science education grant from the NSF, you must spell out what the outcomes of your educational endeavor will be, and how you will assess them.

To summarize, if college-level geoscience educators want to avoid outcomes assessment, they are going to have to stay off the radar screen of their accrediting agencies and not apply for funding from the NSF. Add to that the legislation which many of the 50 states have enacted, and the fact that many other educational support agencies, such as superintendents of public instruction and private charities, want outcomes assessment in projects they support. Those who just want to teach instead of facilitate outcomes seem to be increasingly hemmed in on all sides.

One way to consider this dichotomy is to argue that facilitating learning outcomes is simply another way of describing what our geoscience teaching group frequently discusses—ways to advance the learning of each student with hands-on learning experiences that build critical thinking skills.

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On the other hand, I have tried applying some of the ideas of learning outcomes and outcomes assessment and would like to relate some positive results that have arisen in my experience. Like most college teachers, I was not trained as a teacher; I was trained as a geologist. When I started teaching, I simulated what my professors had done and taught the topics they had taught me. After taking some workshops in learning outcomes, I rethought everything I did in terms of what I wanted my students to be able to do after they were done taking a class from me. I found that some of what I had been teaching was unnecessary and when I increased the number of “practicum” assessments that took place in my classes—less show and tell and more evaluating students’ abilities to figure out a rock or field stop themselves—more levels and types of learning occurred. I have also found that having students work in groups on bigger projects helps keep them interested and stimulated, as do shared activities that prompt them to relate their own life experiences as a basis for discussion and learning.

All these things could take place, and do take place, without calling the results “learning outcomes” and without calling the progress measurements “assessment.” In my case, however, using those terms in my thinking helped me improve my classes for the sake of the students. So I am okay with outcomes assessment terminology and some of its implications. The key may be to keep in mind that many of the good things we already do as teachers can be expressed in terms of outcomes assessment lingo. It can serve us well to think and communicate in those terms.

Dr. Ralph Dawes, Wenatchee Valley College

State by State

British Columbia, Yukon, Alaska, Idaho, Oregon & Washington

Alaska

State Councilor: *Cathy Connor*

- **Jan 28-31, Juneau Alaska Water Resources Association** conference. Visit the website for more information: www.awra.org/state/alaska/ameetings/2008am/2008am.html
- **January-February, Science for Alaska Lecture Series**, sponsored by University Alaska Geophysical Institute. **Science for Alaska** is a series of free public lectures held mid-week during January and February in Fairbanks, Anchorage and Juneau. UA scientists from around the state will present research on various topics, including Pluto, Polar Dinosaurs, Sea Ice Loss, Science Writing, and The Economics of Climate Change. For weekly dates and locations, go to: www.scienceforalaska.com.
- **January-March, USFS Fireside Lecture Series** at the **Mendenhall Visitor Center, Juneau**. This public lecture series will be held Friday evenings, January through March. Scheduled lectures include: Alaskan Volcanoes, Greenland

Ice Sheet Change, and Current Research on the Mendenhall Glacier. For more information, go to:

www.fs.fed.us/r10/tongass/districts/mendenhall/firesides.html

- **March 28-30, NSF-Sponsored EDGE Symposium**, Juneau, 2008. More info: www.uas.alaska.edu/envs/edge.
- **April Lunch & Lecture, Alaska Geological Society**, Anchorage. Monthly lunch/lectures and the April Technology Conference. Visit www.alaskageology.org for details.
- **Alaska Science and Engineering Fair, K-12, April 11-13th, Anchorage**. For registration and attendance details and forms, please go to www.alaskasciencefair.org. These dates are recently updated; please tell anyone you know who is planning to attend the science fair.

British Columbia

State Councilors: *Brett Gilley & Mary Lou Bevier*

- **EdGEO Workshop, April 2008**. On **April 18th** an EdGEO workshop (www.edgeo.org) for science educators will be held in **Coquitlam, BC**. This one day workshop will cover techniques and ideas for teaching the prescribed learning outcomes of the BC grade 10 Earth Science units including: plate tectonics, earthquakes, volcanoes, geological time, fossils, minerals and the rock cycle. It also includes many resources for teachers such as posters, and rock, mineral, and fossil kits. For more information, contact **Erica Williams** at ewilliams@sd43.bc.ca. This workshop is sponsored by the Cordilleran Section of the Geological Association of Canada.

Idaho

State Councilor: *Shawn Willsey*

- **33rd Annual Tobacco Root Field Conference in Red Lodge, Montana, July 31- Aug 3, 2008**. The Tobacco Root Geological Society is a private, nonprofit organization dedicated to the study of geology of the Northern Rocky Mountain Province. Deadline for papers and road logs is June 1, 2008. More information can be found at: www.trgs.org

Our People, Coming and Going and Promoting

Patty Burns, formerly of the Alaskan Geological Survey, has joined the Geophysical Institute at the University of Alaska, Fairbanks. She will, in addition, continue her geoscience outreach work with the MapTEACH (Mapping Technology Experiences with Alaska’s Cultural Heritage) project.

University of Idaho geology professor **Dr. Judy Parrish** was recently elected vice president of the Geological Society of America on July 1, 2007. She will serve one year as vice president, then as president of the society in 2008.

Congratulations to both Patty Burns and Judy Parrish on their recent news!

CALLING ALL OUTSTANDING EARTH SCIENCE EDUCATORS!

Deron Carter, Linn Benton CC

Do you know any outstanding K-12 Earth Science educators? If so, please consider nominating them for the Outstanding Earth Science Teacher Award. **Nominations are due February 1st**. I consider K-12 Earth Science teachers the "heart and soul" of the geoscience education community; in many cases, they provide one of the only earth science educational experiences students receive in their education. K-12 science teachers are among the hardest workers out there (believe me, I know, since I'm married to one!), so I encourage you to recognize one.

Nomination forms are available at the OEST website (www.nagt.org/nagt/programs/oest.html). Please forward them to Deron Carter, at Linn Benton Community College, Physical Science Department, 6500 Pacific Blvd. SW, Albany, OR 97321.

GeoVentures Hawaii, August 2008

Dr. Jenny Thomson, Eastern Washington University

Announce to your geology students! GeoVentures Hawaii 2008- Geology on an Active Hot Spot, Big Island, HI- A Geological Society of America-sponsored field trip, **Aug.1-10, 2008**, designed especially for students! Instructors are **Dr. Jennifer 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 students 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, lava tubes, fault scarps, rifts,



craters and calderas and active lava flows. The learning sites are located on the Big Island of Hawaii primarily within the boundaries of Hawaii Volcanoes National Park. Sites to visit may include, but are not limited to: Kilauea Caldera, Thurston Lava Tubes, Crater Rim Drive, Halema'uma'u, Chain of Craters Road, Steaming Bluffs and Sulphur Banks, Devastation Trail, Kilauea Iki, Mauna Ulu and Pu'u Huluhulu, Pu'u Loa Petroglyphs, Ka'u Desert, Mauna Iki, South Point, Green Sand beach, Lava Tree State Park, Kalapana. A trip to the Mauna Kea KECK observatory is also included. Space is limited to 20 participants. Please check www.geosociety.org/GeoVentures for information as it becomes available.

Study the geology of the Jurassic Coast in southwest England

Dr. Davies-Vollum, University of Washington

England is the undisputed birthplace of geology with a rich history of geological discovery dating back to the 19th Century. The geological exposures along the Dorset and east Devon coast have been particularly important for the development of the science; it is here that the first paleontologists gained insight into ancient life on earth and that early cartographers undertook some of the first geological mapping. The remarkably exposed geology of this part of England and its contribution to science was recently recognized when it was designated as a UN World Heritage Site. The Jurassic Coastline, as the site has come to be known, is named for its spectacular rock and fossil record of the Jurassic period, a time when dinosaurs ruled the earth and the super-continent of Pangaea dominated the earth's geography. With its rich historical and cultural connections to the natural world this locale also represents a unique opportunity to study the broader social contexts of the geological sciences.

The course involves three days of pre-trip "immersion" classes at the University of Washington (Tacoma) campus, two weeks in England (August 1st-14th) and a follow up symposium at UWT in early September. The approximate cost for travel, accommodation, entrance fees and course fees for 12 credits is \$3,000 (air fare is additional). Students can earn 12 upper division credits for the course and prerequisites are not required. Application forms will be available from the UWT International Programs Office (www.tacoma.washington.edu/travel). An initial deposit of \$300 is due upon acceptance into the course.

Further information, contact **Professor Siân Davies-Vollum** (phone (253) 692-4624; email ksdavies@u.washington.edu). Further information about this course is available on the web page created for the course by students who took the class in 2006: <http://courses.washington.edu/uwtgeo06/>



Pacific Northwest NAGT Annual Meeting, Yakima, WA, June 17-20th

Yakima Valley Community College in Yakima, WA will be the venue for our section conference during the third week of June. Yakima is located on Washington's semi-arid eastern side. While we may not be lushly verdant like Washington's west side (interpret—we aren't wet 2/3 of the year), we do have our own unique attractions, namely the geologic kind. Yakima is bounded by several uniquely distinct geologic provinces: to the west, the south-central Cascades, including Mt. Rainier, dominate the skyline. To the east (and north and south), the numerous flows of Columbia River Basalt which build the Columbia Plateau are uplifted in the Yakima Fold and Thrust Belt. The Columbia Plateau landscape gives testimony to the catastrophic Pleistocene floods that later inundated Eastern Washington, ripping out enormous pieces of real estate and leaving behind flood features on a massive scale. The Yakima Valley is also renowned for producing world-class wines, and is ranked among the top wine regions in the world.

Field Trips

On **Tuesday, June 17th**, **Dr. Steve Reidel** of Washington State University will lead participants on a hard rock exploration of the Columbia River Basalts and the Yakima Fold Belt. This all-day trip will explore the flood lavas (~2 miles thick in the Yakima area!) that created the Columbia Plateau and their subsequent uplift along the thrust folds of the Yakima Fold Belt. The Columbia River basalts and the Yakima fold belt comprise a great example of a planetary wrinkle ridges, an important geologic feature found on the terrestrial planets and our moon. The active and lengthy



The Yakima River, an example of an incised meandering river, cuts through anticlines of the Yakima Fold and Thrust Belt.

Olympic - Wallowa lineament roughly bisects the province and, along with the other folds of the fold belt, form a seismic hazard not only for local residents, but also for the nearby Hanford Nuclear Reservation, currently the Department of Energy's largest storage facility for nuclear waste.

On **Wednesday, June 18th**, we will host another all-day field trip, this time heading west into the south-central Cascades. **Pat Pringle** of Centralia College, Centralia, WA, (**and others to be announced**) will showcase the tectonic and volcanic history of the White Pass and Bumping Lake areas on our way to Mount Rainier National Park. The Mount Rainier area has splendid scenery, but we will also be focusing on the complex geology in this area, including the abundant evidence of past volcanism, the potential of future volcanic activity, the recent flood damage that destroyed large portions of the tourist-

developed portions of the park, and the rapidly retreating glaciers that crown Rainier's 14,410 foot peak.

Friday, June 20th, will be the final day of the conference and the final field trip. **Dr. Alan Busacca**, emeritus professor in WSU's department of Crop and Soil Sciences and owner of Vinitas Vineyard Consultants, and **Dave Norman**, Deputy State Geologist, will lead us on a day trip to explore the terroir of the Yakima Valley. Participants will experience the contrasting physical characteristics of the region's wine appellations, as a function of soil differences that reflect the underlying geology and climatic differences. Yes, wine tasting is included, and yes, we'll have the chauffeured tour bus!

Talks, Posters & Workshops

Thursday, June 19th will be a day of classroom education. The morning will be devoted to talks. We invite you to submit an abstract! At noon we will break for lunch, followed by a poster session and additional talks. The latter portion of the afternoon will be devoted to workshops. Topics may include: 1) Computer-based Labs & Exercises for Earth Science; and 2) Methodologies for Teaching Climate Change. An open discussion concerning the challenges of teaching global warming in a geoscience classroom was originally broached at the 2007 annual meeting in Portland. Audience response was vigorous, and took the discussion in unexpected directions. This strong response has generated a Global Warming Part II discussion at the 2008 YVCC event. Workshops may include individual presentations and open discussion sessions. The meeting day will be followed by a banquet, held at the Yakima Arboretum.



Mt. Adams, a composite volcano of the south-central Cascades, looms over Yakima, Washington. Vineyards in foreground.

Abstracts for talks, posters and workshop sessions may be submitted **at any time**. Registration begins March 20th. Meeting costs will be posted on the meeting website as soon as they are available. Online registration, abstract/poster submittal forms and more in-depth information can also be found at the meeting website:

www.nagt.org/nagt/organization/northwest/meetings.html

A form for submitting an abstract can also be found on the last page of this newsletter. If you prefer to mail in registration materials, look for a form attached to the spring newsletter. For more information, please call or email **Cassandra Strickland** (509-542-4871; cstrickland@yvcc.edu) or **David Huycke** (509) 574-4817; dhuycke@yvcc.edu).

2008- ✓ 2009- ✓

Where Will We Meet in 2010?

Ron Metzger, *Southwestern Oregon CC*

Now that the New Year is almost a week old (*Editor's note: at time submitted*) and winter term classes start mere hours from now, I better put a few words to paper for the next section newsletter. If it's 2008....then we must be thinking about 2010, which, it turns out, is a good thing. Elsewhere in this newsletter you will see that the June 2008 Yakima section meeting arrangements are nearly complete.

2009...drum roll please...is on tap for Vancouver, BC...thanks to Brett Gilley and trust me, you won't regret it. Keep an eye out for some preliminary details regarding field trips and dates in the near future. So, those of you from the lower 48: apply now for those passports.... or whatever else we'll need a year from now for border crossings.

This leads me to think of 2010. We are slowly but surely planning section meetings a little farther out on the horizon, and it's not too early to consider hosting in 2010. So, be it Idaho, eastern Oregon or a location that hasn't made the radar yet, if you are interested in hosting in 2010, drop me a line at rmetzger@socc.edu. I'm looking forward to seeing you in Yakima in few months.

Fall 2007 Alaskan Meeting Re-Cap

Dr. Cathy Connor, *University of Alaska SE, Juneau*

To catch up on Fall 2007 meetings, please visit the following links:

OCTOBER, 2007

Successful Math and Science Teachers conference in Anchorage, featuring the introduction of geoscience-linked GIS education in secondary science classrooms.

<http://www.aksta.org/conference.html>

Alaska GeoScience Education Presentations and posters were featured at the Geological Society of America annual meeting, Denver, Colorado. www.uas.alaska.edu/envs/edge

DECEMBER 2007

From the American Geophysical Union, San Francisco.
www.robfatland.net/seamonster

GSA Cordilleran/Rocky Mountain Sections Joint Meeting, March 19-21

The Cordilleran Section of the Geological Society of America will be in Las Vegas, Nevada. This year's meeting will be a joint event with the Rocky Mountain Section. The early registration **deadline is February 18th**. Sessions that may be of special interest to our NAGT members include the following symposia (session # & title):

7. Geology in the K-12 Curriculum.

8. Importance of Outdoor Education to Earth Sciences.

9. New Developments in Earth Science Education.

For more information, visit:

www.geosociety.org/sectdiv/cord/08mtg

Announcing UBC Lecturer Position

Carl Wieman Science Education Initiative

Brett Gilley, *University of British Columbia*

The Department of Earth and Ocean Sciences (EOS) at the University of British Columbia invites applications for Lecturer for the Carl Wieman Science Education Initiative (CWSEI), an ongoing five-year initiative to reshape science education (www.cwsei.ubc.ca). The appointment will be for one year initially and may be renewable for up to three years.

We seek an individual to join an existing team in revising EOS courses to emphasize objective-based teaching, learning and assessment.

Responsibilities include working with EOS faculty and CWSEI staff to: (1) develop learning goals, assessments, and pedagogy for specific courses, (2) administer and evaluate assessments of student learning and of student attitudes toward science, (3) supervise and guide development and testing of teaching and learning materials, including web-based learning resources, and

(4) contribute to EOS curriculum development and to research efforts in pedagogy.

Candidates must have (1) a Masters degree or higher (PhD preferred) in Earth, Ocean, or Atmospheric Sciences, (2) undergraduate teaching experience, (3) excellent organizational, interpersonal, and communication skills, and (4) a strong personal commitment to science education. English fluency is also required. Experience in educational materials or curriculum development, on-line teaching, project management, and familiarity with current pedagogical research will be considered assets. Candidates with background in oceanography or atmospheric science are particularly encouraged to apply.

Applicants should submit a CV, statement of teaching philosophy, and the names and complete contact information (including phone, fax and e-mail) of three references to: **Dr. Sara Harris**, Department of Earth and Ocean Sciences, The University of British Columbia, 6339 Stores Road, Vancouver, BC, Canada, V6T 1Z4, email: WiemanLecturers@eos.ubc.ca. Review of applications will begin on **February 10, 2008**, and will continue until the position is filled.

UBC hires on the basis of merit and is committed to employment equity. We encourage all qualified persons to apply; however, Canadians and Permanent Residents of Canada will be given priority. The position is subject to final budgetary approval. Salary will be commensurate with qualifications and experience.

