



#### Inside the Newsletter

- 1 Editor's Corner
- 1 Message from the President
- 3 Recent Chapter Events:  
Portland Geology
- 5 Science Fair Winners
- 7 Upcoming Chapter Events
- 8 Chapter Contacts
- 9 Member Spotlight
- 10. Pictures, Please!

October 17, 2009

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#### **ELECTION RESULTS:**

**PRESIDENT**  
**HEATHER VICK**

**VICE PRESIDENT**  
**MARCIA KNADLE**

**TREASURER**  
**KELLEY WARD**

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#### Editor's Corner

As the sunny summer sunshine washes away into fall, I'm pleased to present another edition of the newsletter. We had a fabulous field trip through Portland in May in which the intrepid attendees surveyed the area from atop a cinder cone and saw CRBs from the bottom up. We also enjoyed a site featuring one of Nature's little jokes, a reversal of topography. Weather can't stop us.

Encouraging education is one of our goals and we did it well this year, as members volunteered as judges at three science fairs. Cheers to the judges who gave their time and to the kids who put their ideas to the test. We found outstanding student projects and recognized them with the SAGE Award from our chapter. Don't be surprised if you meet some of these students as colleagues in the future.

**Holly Glaser, Publications Chair**

#### **Greetings from your AWG-PNW Chapter President**

After a summer of long, warm and sunny days, we are finally getting back to what feels like a normal weather pattern here in Seattle.

This spring's field trip, held on the weekend of May 2-4, was *An Introduction to Portland Basin Geology* expertly organized and led by Oregon geologists and AWG members Lina Ma, Jill Betts and Heidi Yantz, who are shown on the next page standing on a 2006 debris flow near Mount Hood).

The field trip was attended by many enthusiastic participants. The Saturday field trip started with an overview of the area from Rocky Butte and the stops included good examples of the Boring Volcanics, Troutdale Formation and the Columbia River Basalts. The final stop was a walk on the Missoula Floods Interpretative Trail, the end of which was punctuated by the biggest downpour of rain you can imagine!



## President's Message

Thank You To:

Wendy Gerstal, the outgoing chapter Treasurer, for keeping AWG-PNW in the black for the past four years.

Kirsten Nickolaysen, 2009 Science Fair Chair.

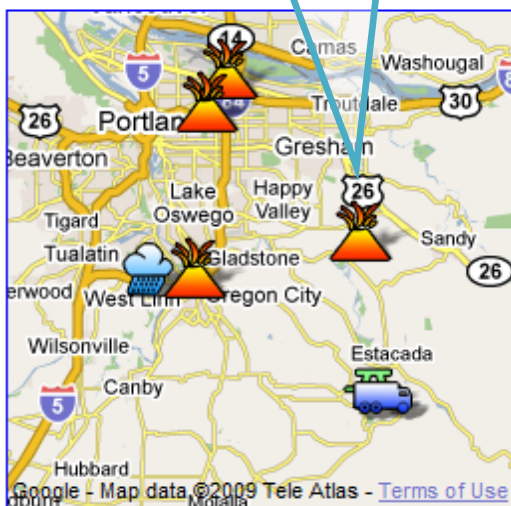


**Out, Standing in the Debris Field**

Left to right: Lina Ma, Jill Betts and Heidi Yantz

### Field Trips for Free? It's true.

Virtually explore the Geology of the Portland Basin without lifting a foot- by zooming in to Google Maps' "AWG-PNW Field Trip to Portland Basin 5/2/2009"



[View Larger Map](#)

The AWG-PNW chapter board met on May 17, 2009. In addition to regular chapter business, we discussed possible events for 2009-2010 including a fall field trip, the 2009 AWG scholarship and science fair judging for Spring 2010.

**After serving a maximum term of 4 years, Wendy Gerstel, AWG-PNW treasurer, will be stepping down as of September 30, 2009.**

The chapter's **2009 Janet Cullen Tanaka \$1000 Geosciences Undergraduate Scholarship** Announcement will be sent out in late September.

**We have a new AWG PNW Scholarship Chairwoman, Pat Reed, who will be coordinating the scholarship competition.** Please consider making a tax-deductible donation to the AWG-PNW scholarship fund. More information on how to do this is available at [http://www.awg-ps.org/scholarship\\_PNW.html](http://www.awg-ps.org/scholarship_PNW.html).

In Spring, 2010, the chapter will be providing judges for three Washington Science Fairs this spring, including the Mid-Columbia Science and Engineering Fair in Kennewick, the South Sound Regional Science Fair in Tacoma and the State Science and Engineering Fair in Bremerton. If you would like to volunteer to judge a science fair event next spring, please send an email to [nicolakp@whitman.edu](mailto:nicolakp@whitman.edu).



## President's Message

### *THIS IS WHAT GEOLOGY LOOKS LIKE – YOUR VIEW*

*THANKS TO LINA, JILL AND  
HEIDI FOR SENDING IN THE  
DEBRIS FLOW PICTURE FROM  
MT HOOD.*

*THE MASTHEAD FEATURES A  
VIEW OF THE BASE OF A CRB  
FLOW AT ONE OF THE SITES ON  
THE SPRING FIELD TRIP. ODDLY  
ENOUGH IT LOOKS LIKE THIS  
FLOW WENT INTO WATER THAT  
WAS DEEP ENOUGH TO  
ALLOW PILLOW LAVA TO  
FORM.*

*PLEASE SEND YOUR PICTURES TO  
[EDITOR@AWG-PS.ORG](mailto:EDITOR@AWG-PS.ORG)*

### **Portland Basin Field Trip May 2009**

**Stop 1: Rocky Butte, above  
the Columbia River and  
remnant cinder cones.**

Pictured from right to  
left:

Marcia, Brita  
Johnson, Lina Ma,  
Sande Wilson  
Meser, Leslie  
Lischka, Mary Anne  
Poole, Lynn Moses,  
Jill Betts, Heather  
Vick, Paul Edison-  
Lahm

**AWG-PNW will be co-sponsoring with the Association of Engineering Geologists (AEG) a spring 2010 field trip on the Olympic Peninsula that will be co-led by geologists Wendy Gerstel and Tom Badger.**

The trip dates will be announced in late October and will feature an option of camping or staying at the Kalaloch Lodge.

**On November 10, AWG-PNW will also be co-sponsoring a meeting with the Northwest Geological Society featuring Charlotte Sullivan of Pacific Northwest National Laboratory on the topic of CO<sub>2</sub> sequestration in Columbia River Basalts.**

Our chapter posts job announcements to our member email list. If you have a job that you would like posted, or hear of a position announcement, please let the chapter know by choosing the Send In News link on the chapter web page to send an email with the information.

As always, we are making updates to our webpage for our members and prospective members. We are very appreciative of the efforts of our publications chair and web mistress Holly Glaser, GISP. If there are suggestions on improving the webpage or how the organization can better serve you, please let us know.

Sincerely,  
Heather Vick  
President, AWG-PNW  
September 6, 2009





# Portland Basin Geology Field Trip

Field Trip Stop 2: Mt Tabor, a popular recreational area, had a fiery past as a cinder volcano.

In quieter times, cinders excavated from this old cone were spread on roads during snowy weather.

Right: Jan Kem, Mary Anne Poole



Field Trip Stop 3: The Troutdale Formation has flattened quartzite cobbles transported from somewhere in the east

Lina Ma , Left, holds some quartzite

The relic streambed, in an interesting reversal of topography, is high above the neighboring valley.

Lunch Stop

We jumped over the suspension bridge to see wildflowers and erratic and the slumped sandy layers along the stream.

Heidi Yantz, Left, inspects the geology





Sports teams get cheerleaders and team jerseys  
 Geoscientists get the respect and admiration of their peers....  
 And the SAGE Awards

Submitted by Marcia Knadle

On April 3<sup>rd</sup> and 4<sup>th</sup>, Holly Glaser and Marcia Knadle, volunteer judges at the 2009 Washington State Science and Engineering Fair, recognized Marlene Iredale, Kathryn Virden and Talia Sheinkopf for their outstanding projects with the Association for Women Geoscientists Student Award for Geosciences Excellence. .

Each winner received an AWG tote bag and a geology book. In addition, first and second place winners received gift cards for Powells Books in Portland, OR.

**The First Place AWG SAGE Award went to Marlene Iredale, a junior at Sequim High School, who swept the WSSEF with 11 awards, including the fair's Grand Prize Gold medal.**

**Kathryn Virden** was awarded the **SAGE Second Prize**, and also received a **Discovery Youth Science Challenge award**. She is in the seventh grade at **CHRIST THE KING SCHOOL** in Richland WA.

**Marlene's work was recognized with WSSEF Special Awards: A Decade of Discovery, American Meteorological Society Certificate of Outstanding Achievement, BAE Systems Awards (Grades 9 - 12), NOAA's Taking the Pulse of the Planet Award, UQC Award for Excellence in the Physical Sciences and Engineering, and the Evergreen State College Natural and Physical Science Scholarship - Best of Show, the Ohio Wesleyan University Outstanding Achievement in Science Scholarships and the Whitman College Scholarship.** This gives Marlene a lot of choices to consider next year as a senior. She had some excellent mentors, including Tim Walsh (WA State DGER) and Brian Atwater (UW).

Her project was "**Evaluating Tsunami Risks in Discovery Bay, WA**" and demonstrated a very high level of understanding and competence in the Earth Sciences. Marlene built her research on the work of Dr. Harry Williams, a professor at University of North Texas who identified a series of tsunami deposits in an excavation pit face and a boring at the head of Discovery Bay near Port Angeles.



**Marlene Iredale (center) and Kathryn Virdal (right) as they accept their SAGE awards at the WSSEF.**

**The SAGE third place award went to Talia SHEINKOPF, a fourth grader at BELLINGHAM H C L P for her project "How Is Soil Affected by Pollution?"**



Please help AWG-PNW support science fair prizes and chapter judges' travel expenses such as lodging in Bremerton for the state science fair by making a tax-deductible donation to the **Science Fair** project. See the webpage for the details



Marlene used a hand-driven coring tool to collect 2.5 to 3 meter deep cores along a transect near Hill's investigations. the Jan. 26, 1700 deposit, she calculated a mud sedimentation rate, and plotted the tsunami deposits along a time line, with the **earliest deposit estimated to date back to around 400 BC. The number of tsunami sand deposits is about double the number of known Cascadia Subduction Zone earthquakes, and Marlene concludes that other processes, e.g., Puget Sound shoreline landslides, must account for the rest of the tsunami deposits.**

We invited Marlene (above) to bring her project poster to NWGS's student awards night, where we're sure it would garner high praise and prizes. We also recommended that her project be advanced to the International Science and Engineering Fair.

Her work was recognized there also and she was awarded several scholarships.

**Now, she has to decide what her next step will be.....**



( above) Kathryn's project was **"Carbon Dioxide, Ocean Acidification, and Coral Reefs."**

**Concerned that increasing levels of CO<sub>2</sub> in the atmosphere is acidifying the oceans and endangering coral reefs, Kathryn wondered how fast the reefs would dissolve.** She made seawater by adding sea salt to water, and then acidified her solutions to a range of pHs with vinegar (acetic acid). She then added a pre-weighed amount of ground-up coral to each solution, let them sit for 4 days, measured the end pH and filtered out the remaining coral. She dried and weighed the coral to see which solutions dissolved the most coral.

Upcoming Events

**AWG Pacific Northwest Chapter Officers**

Office	Person	Contact
<u>President</u>	Heather Vick	206-325-5955 president@awg-ps.org
<u>Vice President</u>	Marcia Knadle	253-266-2838 vpresident@awg-ps.org
<u>Secretary</u>	Suzanne Dudziak	206-553-1641 secretary@awg-ps.org
<u>Treasurer</u>	Kelley Ward	treasurer@awg-ps.org
<u>Past President</u>	Lynn Moses	ppresident@awg-ps.org
<u>Scholarship Committee Chair</u>	Pat Reed	scholarship@awg-ps.org
<u>Science Fair Committee Chair</u>	Heather Vick	See above
Publications Committee Chair	Holly Glaser	206-240-0613 editor@awg-ps.org webmistress@awg-ps.org
<u>WebMistress</u>		

**November 10, 2009  
AWG-PNW/NWGS meeting  
Featuring**

**Charlotte Sullivan of Pacific  
Northwest National  
Laboratory**

Presents

**CO<sub>2</sub> Sequestration In  
Columbia River Basalts.**

**Spring 2010 Field Trip:**

**AWG-PNW will be co-sponsoring with the Association of Engineering Geologists (AEG) a spring 2010 field trip on the Olympic Peninsula that will be co-led by geologists Wendy Gerstel and Tom Badger.**

**Additional information on each of these events will be sent out in November**