



THE GEOLOGICAL NEWSLETTER

"NEWS OF THE GEOLOGICAL SOCIETY OF THE OREGON COUNTRY"

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The Geological Society of the Oregon Country

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www.gsoc.org

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VISITORS WELCOME AT ALL MEETINGS

SEPTEMBER/OCTOBER ACTIVITIES

GSOC Friday night lectures will be closed for September!

Friday Night Lecture, October 9, 2015: Dr. Marli Miller, University of Oregon and author of the New Edition of Roadside Geology of Oregon (2014) will speak.

Dr. Miller's research emphasizes the use of small-scale structures to reconstruct the structural and kinematic histories of high strain zones. She is especially interested in the transition from brittle to ductile behavior in these zones at meso- to microscopic scales. Much of Marli's work is in Death Valley, California, where she is also involved with tectonic interpretations.

Join GSOC members at **Pizzicato Pizza, 1708 SW 6th Ave.**, at **6:00 p.m.** before the lectures for an informal dinner and conversation.

Free parking is available at Portland State University **Friday** nights after 5 p.m. in Parking Structure 2 on Broadway Ave. directly across from Cramer Hall, and on level one of Parking Structure 1, bounded by Broadway and 6th Aves. and Harrison and Hall Streets.

FUTURE ACTIVITIES

Future 2015 field trips and outdoor events are as follows:

- President's Field Trip – September 8-13 – "Geologic Wonders of Southeast Oregon" –

Registration for this trip has closed, please check with field trip leader Janet Rasmussen jkayerocks@yahoo.com for updates if you are a participant. Janet also wants PFT participants to have a copy of Marli Miller's new 2014 edition of Roadside Geology of Oregon. Miller's diagrams and maps are wonderful. People who don't often drive across Oregon will enjoy having it to interpret the landscape along the way. Janet says she got her copy via Amazon for about \$25 w/ shipping.

- Portland Geology Field Trip - Saturday, September 12, 2015, 9:00am 3:00pm, will be led by GSOC Past President Sheila Alfsen. Please check the September/October edition of the newsletter and the website for updates to this field trip.

NOTE: You must be a GSOC member or guest of a member to attend most GSOC field trips. You may join GSOC at any time, for \$25.

Check the GSOC website (www.gsoc.org) for more information and updates to the calendar.

IN MEMORIAM

Two notable GSOC members have died recently, Walter Allen Sunderland and Ralph Eugene Pratt. Walt was the 1990 GSOC President and Ralph was very active in the club for many years.

Walt Sunderland died June 15th of this year at age 85. He was a pediatric physician and was on the faculty at Oregon Health & Sciences University. His obituary listed his many interests which included doing the New York Times crossword puzzles in ink, the Oregon Shell Club, the Geological Society of the Oregon Country and compiling a lexicon of malacology (seashell) terms.

Ralph Pratt died June 5th, just a few hours after celebrating his 90th birthday. He was a gentle soul who enjoyed coffee, beer, folk dancing, liberal politics and the wonders of his native state Oregon. He served in the navy during WWII, and was

married in 1953. His wife of 62 years, GSOC Past President Evelyn Pratt, survives him, as well as 2 daughters and 3 grandchildren.

BOARD MEETING NOTES

August 2, 2015

President Janet Rasmussen called the meeting to order at the Guy Talbot State Park picnic shelter. Other board members in attendance were Dawn Juliano, Kirben Smoody, Marty Muncie, and John Piccinnini. Also in attendance were GSOC members Anne O'Neill and Dave Olcott. The minutes of the June 13, 2015, board meeting were approved.

Treasurer's Report was reviewed by the board.

EVENTS

The board discussed increasing our donation to PSU and asking about getting a larger room for our lectures.

Friday Night Lectures: Marli Miller is coming in October. Marty Muncie has volunteers lined up for snacks at October and November meetings. She will pass around sign up soon for January meeting.

Field Trips

Mt. Hood Field Trip: Attending members said that the trip was great!

PDX Building Tour August 13th pre-run, August 22nd PDX tour, August 29 **PDX geology tour** pre-run and future events all deferred since no one present has been involved in the planning of these events.

President's Field Trip to Steens Mountain: Janet discussed plans to improve logistics due to large number of participants. She will send out email to all registered persons in the next week or so.



OLD AND NEW BUSINESS

80th Birthday topic: This was not addressed as none present have been involved.

Community Outreach, Rice Museum, Media Committee, were also not addressed for the same reason.

Student Liaison: Kirben said he will try connecting with other students again in the fall, when he'll be attending PSU part-time. The board discussed posting announcements of our activities that the students will see. Kirben will work on this using the data & photos from the email announcements for upcoming speakers.

Picnic turnout was very good (25 people), and including several new members. Clay and Janet led a hike to Latourell Falls with an overview of the geology there. There was plenty of food available and the weather was very pleasant.

Dawn discovered a trove of **old GSOC songs**, many written by members using popular tunes to commemorate a field trip or to build camaraderie. Following the business meeting, which was unusually short, several members commenced to singing. Anne offered to choose and transcribe ten songs for the Steens Trip.

Offer from Courtyard Village in Raleigh Hills: We were enthusiastic about the possibility of having our holiday party at Courtyard Village. I included this info in my recent email to Sheila.

The next board meeting is 10:00 a.m., **October 10, 2015.** Location TBA.

Notes compiled from board meeting minutes submitted by GSOC President Janet Rasmussen.

WELCOME NEW MEMBERS FOR 2015!

More members have signed up this year! We wish you a warm welcome!

**Nicole Miller
Evelyn Bennett**

**Katie Zerzan
Brianna Young**

Janet's Journal: GSOC Mount Hood and Eliot Glacier Field Trip

by GSOC President Janet Rasmussen. *Editor's note: Please click on the title link to visit this trip on the GSOC website and view the many photos that were taken on the trip. This article is a compilation of the text excerpts from the website article edited for reading without the photos.*

On Saturday, July 11, 2015, Bo Nonn and Larry Purchase led GSOC members on a field trip to Mount Hood and Eliot Glacier.

We met at Panorama Point Overlook outside of Hood River and traveled to our first stop on the shoulder of Highway 35 beneath a railroad overpass. We looked at a cut bank of lahar sediments from Mount Hood, which are less than 38,000 years old.

Our next stop was the debris flow below the Middle Fork Hood River Bridge. Yes, we spent quite a bit of time beneath bridges. The one-lane bridge at this stop was replaced after the 1996 debris flow, caused by the failure of a lateral moraine at Eliot Glacier. It primarily served logging trucks. While scouting the trip, Bo had to leap over the railing to avoid being crushed by one of them.

Following Lava Bed Road took us to a colorful junkyard, and just beyond it, to the foot of the massive 7700 year-old Parkdale Lava Flow. The lower end of the flow loomed more than 300 feet above us.

Our next stop was where the 1996 debris flow came across the road to Mount Hood. We walked through the debris flow to the vent area at the top of the Parkdale Lava Flow. In the photo, Dawn stands for scale against an enormous boulder that was carried down the mountain by the power of the debris flow.

Next we began the long drive up to the Cloud Cap Inn campground, not far below Eliot Glacier. This is a part of Mount Hood I've never seen. There were

some outcrops of volcanic rock along the way that exhibited puzzling fracture patterns.

Finally we arrived at the campground! We all chose spaces near one another for ease of visiting. We had trouble understanding the posted rules for payment and usage, which were vague, contradictory, and certainly open to interpretation. Finally we chose a plan and stuck to it. We weren't ticketed anyway.

Now for the fun part: We took a great hike. I was walking slowly up the forested trail and suddenly came into the open. There was my group, far ahead on a narrow path along the ridge of a moraine.

It was exhilarating! Down below us was the toe of Eliot Glacier, where the meltwater is running out of the holes. The Glacier is covered with debris down here, so not the sparkling beauty we see farther up the mountain.

Bo and Ellen Nonn have climbed this mountain a number of times, and by a different route than most. While we were up there, some younger folks came down carrying skis. They had hiked up thousands of feet to ski on the snowfields!

Back at the campground, Bo drew my attention to the unusual assemblage of rocks on the hilltop nearby. We pondered how the lava forms curving cooling fractures and the significance of the red scoria caught between the smoother gray andesite on the rocks here.

In the morning, we all walked over to view nearby Cloud Cap Inn. I had watched an Oregon Field Guide episode about this wonderful old lodge, so I was excited to see it. It was locked up but Larry gave us an overview of its history.

The lodge is huge, and built sturdily of logs way back in 1889 by William Ladd of Portland. It's off the grid, and lit by lanterns and propane lights. There is a generator for a two-way radio.

Larry discussed the history of the Inn's ownership over the years. We regretted that the only tours would be later in the day and were by reservation only. As he wrapped up his presentation, though,

here came two rangers to open the lodge for the day's tours. They were kind enough to invite us in and we got a tour after all! It was wonderful!

A 1931 poster at the lodge illustrated a failed plan to put a tram up to the top of Mount Hood from a rebuilt Cloud Cap Inn. Another photo showed the gracious living achievable in the early days of the Inn. I could sit around reading in this environment!

One of the rangers pointed out the signatures written in pencil on some of the walls. I wouldn't have seen them, but my flash picked them up.

Climbers back in the day included women. Another photo shows climbers including women climbing Mt. Hood that were all hanging onto a rope...but not attached to it. I understand there was a secured rope at one time all the way up. That would help, or maybe just give false assurance.

Later, we took another short hike past some of the cottages which can be rented near Cloud Cap. We passed an A-Frame crowded with trees that have grown too big. Some were flagged to be taken out. We finally got on the right trail to see the headscarp of the 1980 landslide that caused a flood at Pollalie Creek downstream. Searching for more information about this event, I found United States Geologic Survey open-file report on the Christmas Day event. Here is an excerpt from the abstract of the above-mentioned report, written by Gary Gallino and Tom Pierson in 1984:

At approximately 9 p.m. on December 25, 1980, intense rainfall and extremely wet antecedent conditions combined to trigger a landslide of approximately 5,000 cubic yards at the head of Polallie Creek Canyon on the northeast flank of Mount Hood. The landslide was transformed rapidly into a debris flow, which surged down the channel at velocities between about 40 and 50 ft/s, eroding and incorporating large volumes of channel fill and uprooted vegetation. When it reached the debris fan at the confluence with the East Fork Hood River, the debris flow deposited approximately 100,000 cubic yards of saturated, poorly sorted debris to a maximum thickness of 35 ft, forming a 750-ft-long temporary dam across the

channel. Within approximately 12 minutes, a lake of 85 acre-feet formed behind the blockage, breached the dam, and sent a flood wave down the East Fork Hood River. The combined debris flow and flood resulted in one fatality and over \$13 million in damage to a highway, bridges, parks, and a water-supply pipeline.

Our last official stop was at White River Bridge. The White River has washed out bridges repeatedly in the last 100 years. The problem is that the glacier rests over geothermally active ground. It can melt at its contact and when certain threshold conditions arise, suddenly release a flood of pent-up water and debris, which incorporates more loose material farther down the canyon.

GSOC past President Rik Smoody had assisted in planning this trip for the past couple years while the road was being repaired. During his presidency, he lead an excellent field trip to Mount Rainer, focusing on the process of aggradation. Aggradation is the increase in land elevation due to the accumulation of sediment. We took 20 minutes or so to sit under the White River Bridge and observe this process close-up. Sometimes we helped it along by throwing another rock into the stream. As we sat, fascinated, I saw enough small rocks go by in the narrow, shallow, but rapid flow of one streamlet to fill the bed of a truck. Or at least a large wheelbarrow. Anyway, it was hard to pull away from it. Thanks, Rik!

And a huge thank you to Bo and Larry for several years of planning and leading this trip!!!

The Bellevue Erratic – Then and Now

by Clay Kelleher

The photo shows that visitors have NOT been recently removing significant pieces of the famous

Erratic Rock near Bellevue Oregon (as is alleged by others). After a GSOC meeting this spring, several of us were browsing through the scrapbooks in the GSOC library and found the 1950 black & white photo.

The Ice Age Floods Institute just happened to have a field trip planned that would include a stop there, so I sent them the photo and they re-staged the photo with the same number of people taken from the same angle. The people are dressed differently and nobody's holding a hammer, but the rock is the same.

The non-shrinking Bellevue Erratic



So while it might have been "mined" prior to 1950, possibly by locals for flat stones, I believe today's tourists are respectful.

