

THE FOSSIL RECORD

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Field Trip:
THE HISTORY OF THE NORTHWEST

Portland Geologic History

Date: Sunday, October 13, 9 am to 3 pm

Cost: \$15 for non-members, Free for members.

Call: (503) 358-9030 or

Email: blitz124@comcast.net

Trip leader: Dave Taylor

This field trip will include an overview of the geology of the Portland metro area. As well as the history of the earth, we will discuss ancient life forms, not seen today, that roamed the area.

Evidence of mammoths and giant ground sloths, creatures who literally lived in our backyards just 15,000 thousand years ago, will show up in the fossil record. Our series of interpretative roadside stops will culminate at Lake Oswego Winery for debriefing.

40 Million Years of Fire & Ice

Portland's oldest rocks are the 40 million year old lavas (basalts) which are exposed along the Willamette River around Waverly Heights and the Tryon Creek area. While the lavas appeared to have flowed out over land, there are marine sediments associated with these indicating an oceanic environment as well. Could there be beach front property in Portland?

After a long hiatus, these basalts were covered by what has become known as The Columbia River basalts, about 15 – 17 million years ago. These are flood lavas that poured from gashes in the

earth's crust in parts of eastern Oregon, Idaho and Washington. The successive flows, up to 700 feet thick in Portland, scourged the area leaving it a wasteland.

Now imagine this rather uniform landscape that begins to fold and fault to form an uplift and a corresponding downwarp, and our current geography begins to take form. The Portland Hills and the Portland Basin are ready for the next forces of erosion and fill. Add in 40 or more "recent" volcanoes less than three million years old, and we complete the basic canvas of the Portland landscape.

The Ice Age ending 13,000 years ago, finished molding the land we see today. Continental glaciers, advancing as far south as Tacoma, picked up rocks and ground them into the silts, which were then wind driven into our area. About the same time, the Missoula Floods inundated the Portland basin up to 400 feet creating landforms, such as the Alameda Ridge and giant scour channels, like the one through which the Banfield Freeway runs.

Through fire, ice and flood, we come to the 21st century. We invite you to join us on our trip. We will see evidence of the Columbia River Basalts. We will drive across the surface of a thick section of gravels, sands and silts on which our City now sits. Mammoth bones will be our traveling companions. And we can admire our local volcanoes such as Rocky Butte, Mt. Tabor, and Mt. Sylvania.