

Zach Ploskey

Ploskey Technical
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Education

PhD Student, Earth and Space Sciences, University of Washington, 2009-2016.

BS, Earth and Space Sciences, *with Distinction*, University of Washington, 2009.

BA, Anthropology, University of Washington, 2009.

Experience

Skills

Software Development, Data Analysis, Inverse Methods, Statistics, Database Administration (DBA), Computer System Administration

Technologies

Programming Languages: Python, PHP, Matlab, Java, C#, C, C++, SQL, HTML, Javascript, CSS, LaTeX

Software: Linux (Red Hat, Debian, Ubuntu, others), Git, SVN, MySQL/MariaDB, PostgreSQL, Apache, nginx, NumPy, SciPy, Matplotlib, Pandas, Excel

Employment

Ploskey Technical

Owner and Principal Consultant, June 2015-Present

I work with businesses, researchers, and individuals to solve their technology problems. I develop and maintain custom software and offer support for open source web technologies, servers and databases for our customers.

University of Washington, Dept. of Earth and Space Sciences

Research/Teaching Assistant, August 2009-August 2016

Developed *Cosmogenic* (<https://github.com/cosmolab/cosmogenic>), an open-source Python library for simulation of cosmogenic isotope production during landscape evolution and statistical inference from cosmogenic nuclide data. Explored the use of cosmogenic nuclide depth profiles to infer erosion rates in formerly glaciated regions. Exposure dating of glacial moraine boulders in the Sierra Nevada and outburst flood deposits in eastern Washington. Taught lab sections in Earth & Space Sciences courses on geology, geomechanics, geochemistry and climate. Chemically prepared cosmogenic nuclide measurements and trained lab technicians. Ported the CRONUS Calculator (<http://hess.ess.washington.edu>) from MATLAB/Matlab Web Server to Octave CGI.

Research Assistant, John Stone, Cosmogenic Nuclide Laboratory, Summer 2008-Summer 2009.

Prepared rock samples for cosmogenic nuclide measurements (^{10}Be and ^{26}Al). Redesigned and normalized the lab MySQL database and web application, CHEM-DB. Refactored existing PHP scripts

to build a web application front-end for the database using a Model View Controller (MVC) framework. Added new data entry forms, input sanitization, error handling and autocompletion. Integrated CHEM-DB with the CRONUS Calculator.

Laboratory Technician, Alecia Spooner, Palynology Laboratory, March 2007-December 2008.

Isolated pollen from lake core sediment for pollen counts and radiocarbon dating. Described and photographed lake sediment cores.

University of Washington, School of Oceanography

Computer Support Technician, Eric Lundquist, February 2007-October 2008.

Managed web, email, and backup servers running Linux and Windows Server. Provided computer and technical support.

Pacific Northwest National Laboratory, Portland, OR

Technical Intern, Gary E. Johnson, Marine Sciences Laboratory, Summer 2006.

Data entry, processing and visualization. Developed data processing software tools in C#.NET.

BAE Systems, North Bonneville, WA

Fisheries Data Processing Technician, Peter Johnson, Fisheries Engineering Team, Summer 2004.

Processed sonar data of fish passage through dams on the Columbia River.

Conference Presentations

Ploskey, Z.T. and J.O. Stone. Glacial Erosion Rates from Bayesian Inversion of Cosmogenic Nuclide Concentrations in a Bedrock Core, Streaked Mtn., ME. *AGU Fall Meeting 2014*, EP53A-3627, 19 December 2014. (Poster)

Gillespie, A., **Z. Ploskey** and J. Batbaatar. Pleistocene ELA depression along the Pacific coast of North America. *American Quaternary Association Meeting*, 9 August 2014. (Poster)

Ploskey, Z., J.O. Stone, T.W. Swanson and C. Johnson. Ice retreat timing and bedrock erosion of the Puget Lobe of the Cordilleran ice sheet. *American Quaternary Association Meeting*, 8 August 2014. (Poster)

Ploskey, Z.T. and J.O. Stone. Measuring glacial erosion of bedrock landforms with cosmogenic nuclide depth profiles. *AGU Fall Meeting 2013*, EP41A-0794, 12 December 2013. (Poster)

Ploskey, Z.T. and J.O. Stone. Cosmogenic nuclide depth profiles as a signal of Pleistocene glacial erosion. *AGU Annual Meeting 2012*, EP13B-0837, 3 December 2012. (Poster)

Stone, J., **Ploskey, Z.**, Hallet, B., and Jaffrey, M. Cosmogenic nuclide measurements of Pleistocene glacial erosion. *Goldschmidt 2011*, 1949, 17 August 2011.

Ploskey, Z.T. and J.O. Stone. Recovering Pleistocene glacial erosion rates with cosmogenic nuclide methods. *ESF-LFUI Conference on Cosmogenic Nuclides*. Universitätszentrum Obergurgl, Obergurgl, Austria, 9 August 2011.

Ploskey, Z.T. and J.O. Stone. Quantifying bedrock erosion by ice sheets. *Earth and Space Sciences Research Gala*, University of Washington, Seattle, WA, 28-29 March 2011.

Ploskey, Z.T., Gillespie, A.G., Stone, J.O. and D. Clark. Glacial Chronology of Convict Creek, Eastern Sierra Nevada, CA. University of Washington, *Earth and Space Sciences Research Gala*. Seattle, WA, 2010.

Ploskey, Z.T., Swanson, T.W. and J.O. Stone. Landscape evolution beneath the Cordilleran Ice Sheet: A bedrock erosion study using cosmogenic ^{10}Be . (Poster)

Northwest Geological Society Meeting. University of Washington, Seattle, WA, 18 March 2010.

Proceedings of the Undergraduate Research Symposium. University of Washington, Seattle, WA, 2009.

Awards

Peter Misch Award, Earth and Space Sciences, University of Washington, 2013.

George Edward Goodspeed Geology Scholarship, Earth and Space Sciences, University of Washington, 2012.

Peter Misch Fellowship, Earth and Space Sciences, University of Washington, 2011.

Graduate Student Research Grant, Geological Society of America, 2010.

Courses Taught

University of Washington, Earth and Space Sciences (ESS), Teaching Assistant

ESS 101: Introduction to Geological Sciences, for Terry Swanson, Spring 2016.

ESS 212: Earth Materials, for Mike Brown, Winter 2016.

ESS 312: Geochemistry, for John Stone, Spring 2015.

ESS 311: Geomechanics, for George Bergantz, Winter 2014.

ESS 311: Geomechanics, for George Bergantz, Winter 2013.

ESS 312: Geochemistry, for John Stone and Mark Ghiorso, Spring 2012.

ESS 311: Geomechanics, for George Bergantz, Winter 2012.

ESS 101: Introduction to Geological Sciences, for Terry Swanson, Spring 2011.

ESS 201: Earth System and Climate, for Eric Steig, Winter 2011.

ESS 203: Glaciers and Global Change, for Ed Waddington, Winter 2011.

ESS 211: Physical Processes of the Earth, for John Stone and Darrel Cowan, Fall 2010.

ESS 101: Introduction to Geological Sciences, for Terry Swanson, Winter-Spring 2010.

Service

Graduate Representative to the Faculty, UW ESS, 2013-2014

Professional Activities

Member, Northwest Geological Society, 2008-Present

Member, Association of Environmental and Engineering Geologists, 2009-Present.