

Resume

WESTON THELEN

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Areas of Expertise

VOLCANIC GEOLOGY
GEOPHYSICS
SEISMOLOGY
FIELD LOGISTICS

Summary

Experience in applied geophysics

Experience in volcanic seismology

Experience in budget and logistics planning of seismic experiments

Education

University of Washington- Seattle, WA

PhD Candidate

General Exam: Passed December 2006

Dissertation Title: A Seismic Comparison of Mount St. Helens and Bezymianny Volcanoes

Overall GPA: 3.60

University of Nevada, Reno- Reno, NV

B.S. in Geophysics with high distinction

B.S. in Geology with high distinction

Overall GPA: 3.90

Geology GPA: 3.98

Awards

2003 Outstanding Geophysics Senior: Mackay School of Mines

2002 Outstanding Field Camp Student: Mackay School of Mines

Relevant Work Experience

University of Nevada Reno

Position: Undergraduate research assistant

Dates of Employment: Summer 2001

Responsibilities: Assessing the landslide hazard of Mt. Shasta, California

Contact: Robert Watters (775) 784-6069

Nevada Seismological Laboratory

Position: Undergraduate research assistant

Dates of Employment: Summer 2002-Summer 2004

Responsibilities: Analytic and field work specializing in applied geophysics and seismic hazard mapping

Contact: John Louie (775) 784-4219

Pacific Northwest Seismograph Network

Position: Graduate research assistant

Dates of Employment: Summer 2004-present

Responsibilities: Network operations, instrumentation maintenance, earthquake location and

web design

Contact: Steve Malone (206) 685-3811

University of Alaska Geophysical Institute

Position: Graduate research assistant

Dates of Employment: Summer 2006, summer 2007

Responsibilities: Design and installation of a 9-station broadband seismic network at Bezymianny Volcano, Russia

Contact: Michael West (907) 474-6977

Sponsored Research

Geophysical Imaging to Determine Subsurface Structure at Mt. St. Helens, Washington, sponsored by University of Nevada, Reno/EpsCoR, 10/02-5/04 for \$6,500.

Responsibilities: Logistics planning, budgeting, data reduction, data presentation, expenditure of funds.

Professional Presentations

Thelen, W. A., Smith, S. B., Louie, J. N., and Concha-Dimas, A. (2002), Developing a Geothermal Indicator Index From Crustal Geophysical Data for the Western Great Basin, *EOS Trans. Amer. Geophys. Union*, 83(47) Fall Meet. Suppl., Abstract F1241. (*Presenter*)

Concha-Dimas, A., Rasmussen T., Louie, J. N., Smith, S. B., Thelen, W. A., Pancha, A., and Anderson, J. G. (2002), Las Vegas Basin Seismic Response Project: Developing a Community Velocity Model for NTS and Las Vegas, *EOS Trans. Amer. Geophys. Union*, 83(47) Fall Meet. Suppl., Abstract F1055. (*Co-Author*)

Louie, J. N., Smith, S., Thelen, W. A., Scott, J. B., and Clark, M. (2002), The northern Walker Lane seismic refraction experiment, *EOS Trans. Amer. Geophys. Union*, 83(47), Fall Meet. Suppl., Abstract F992. (*Co-Author*)

Louie, J.N., Smith, S., Thelen, W. A., Scott, J.B., and Clark, M., and Pullammanappallil, S. (2003), The northern Walker Lane seismic refraction experiment: poster presented at the 10th International Symposium on Deep Seismic Profiling of the Continents and Their Margins (Seismix2003), Jan. 5-10, Taupo, New Zealand. (*Co-Author*)

Thelen, W.A., Louie, J.N., Scott, J.B., and Clark, M. (2003), Geophysics and paleoseismology: the signature of active faults in the Great Basin, XVI INQUA Congress; Shaping the Earth, A Quaternary perspective, Reno, Nevada, July 23-30, 16, p.107.

(http://www.inqua2003.dri.edu/inqua03_abstracts_p101-124.pdf) (*Presenter*)

Louie, J.N., Smith, S., Thelen, W. A., Scott, J.B., and Clark, M., and Pullammanappallil, S., (2003), The northern Walker Lane seismic refraction experiment: poster presented at the IRIS/UNAVCO Joint Workshop, June 19-21, Fish Camp, Calif. (*Co-Author*)

Thelen, W. A., Louie, J. N., Watters, R. J., and Katzenstein, K. (2003), Shallow Geophysical Characterization of the Mt. St. Helens Edifice. *Abstracts with Programs-Geol. Soc. Amer.*, 35(6), p. 142. (*Presenter*)

Rasmussen, T., Smith, S. B., Clark, M., Lopez, C., Loughner, C., Park, H., Scott, J.B., Thelen, W. A., Greschke, B., and Louie, J. N. (2003), Shallow Shear Velocity and Seismic Microzonation of the Las Vegas Urban Basin, *EOS Trans. Amer. Geophys. Union*, 84(46),),

Fall Meet. Suppl., Abstract F987. (Co-Author)

Thelen, W. A., Clark, M., Lopez, C., Loughner, C., Park, H., Scott, J. B., Smith, S. B., Greschke, B., and Louie, J. N. (2003), A Transect of 200 Shallow Shear-Velocity Profiles Across the Los Angeles Basin, *EOS Trans. Amer. Geophys. Union*, 84(46),), Fall Meet. Suppl., Abstract F1108. (Oral Presenter)

Thelen, W. A., Clark, M., Lopez, C. T., Loughner, C., Park, H., Scott, J. B., Smith, S. B., Greschke, B., and Louie, J. N. (2004), A transect of 200 shallow shear-velocity profiles across the Los Angeles basin, *Seismol. Res. Lett.*, 75(2), p. 259. (Oral Presenter)

Louie, J.N., Scott, J.B., Rasmussen, T., Thelen, W.A., Pancha, A., Clark, M., Park, H., and Lopez, C.T. (2004), Shallow shear-velocity transects of urban areas, and seismic-hazard mapping, *Seismol. Res. Lett.*, 75(2), p. 259. (Co-Author)

Scott, J. B., Louie, J. N., Rasmussen, T., Thelen, W. A., Pancha, A., Clark, M., Park, H., and Lopez, C. T. (2004), Three urban shear-velocity transects using the refraction Microtremor method, *Expanded Abstracts*, Soc. of Explor. Geophys. 74th Annual Internat. Meeting, Oct. 10-15, Denver, Colorado. (Co-Author)

Louie, J. N., Pancha, A., Biasi, G. P., Thelen, W. A., Scott, J. B., Coolbaugh, M. F., and Larsen, S. (2004), Tests and applications of 3-d geophysical model assembly, presented at *Great Basin and Range Evolution and Kinematics Workshop*, Tahoe City, Calif., June 20-23. (Co-Author)

Scott, J. B., Clark, M., Lopez, C. T., Pancha, A., Rasmussen, T., Smith, S. B., Thelen, W. A. and Louie, J. N. (2004), Three Urban Transect of Shallow Shear-Velocity Using the Refraction Microtremor Method, *EOS Trans. Amer. Geophys. Union*, 85(47), Fall Meet. Suppl., Abstract S43A-0980. (Co-author)

Pei, D., Thelen, W., Louie J. N., Smith, K. D., Biasi, G., and Anderson, J. G. (2005), Receiver Function Study of Seismic Array Data From Lake Tahoe, Nevada, *Seismol. Res. Lett.*, 76(2). (Co-Author)

Heimgartner, M., Scott, J. B., Thelen, W. A., Louie, J. N. (2005). The Idaho-Nevada-California Refraction Experiment: Developing a Central Walker Lane and Sierra Nevada Crustal Model, *Seismol. Res. Lett.*, 76(2). (Co-Author)

Thelen, W. A. and Malone, S. D. (2005). Azimuthal Patterns in High Frequency Energy Observed at Mount St. Helens, Washington: Implications for Near-surface Structure, *Seismol. Res. Lett.*, 76(2). (Author)

Moran, S. C., Malone, S. D., Qamar, A. I., Thelen, W., Waite, G., Horton, S., Lahusen, R. G., Major, J. J. (2005), Overview of seismicity associated with the 2004-2005 eruption of Mount St. Helens, *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., Abstract V52B-02 INVITED. (Co-Author)

Thelen, W. A., Malone, S. D., Qamar, A., and Pulammanappallil, S. (2006), Improvements to Absolute Locations from an Updated Velocity Model at Mount St. Helens, Washington, *Seismol. Res. Lett.*, 77(2), p. 238-239. (Oral presenter)

Louie, J. N., Heimgartner, M. N., Pancha, A., Thelen, W. A., Scott, J. B., and Lopez, C. T. (2006), A matter of scale; understanding Nevada's sedimentary basins for seismic hazard

assessment, *Seismol. Res. Lett.*, 77(2), p. 295. (Co-Author)

Thelen, W. A., and PIRE Team (2006), Twins Across the Pacific: A Comparison of Bezimianny Volcano, Russia and Mount St. Helens, USA, *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract V11B-0577. (Presenter)

Heimgartner, M. N., Louie, J. N., Scott, J. B., Thelen, W., Pullammanappallil, S., Lopez, C. T., and Coolbaugh, M. F. (2006), Using Seismic Refraction to Assess the Crustal Thickness of the Great Basin and Sierra Nevada, *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract V11B-0577. (Co-author)

Thelen, W. A., and Malone, S. D. (2007), High or Low? Frequency Games at Mount St. Helens., *Seismol. Res. Lett.*, 78(2). (Presenter)

Papers

Watters, R. J., Katzenstein, K. W., and Thelen, W.A. (2003), Calibration and Accuracy of Rockfall Simulation Programs, *Proceeding of the 54th Annual Highway Geology Symposium*, Vermont D.O.T., pp. 196-207.

Louie J. N., Thelen W. A., Smith, S. B., Scott J. B., and Clark M. (2004), The northern Walker Lane refraction experiment: Pn arrivals and the northern Sierra Nevada root: *Tectonophysics*, 388, no. 1-4, 253-269.

Thelen, W. A., Clark, M., Lopez, C. T., Loughner, C., Park, H., Scott, J. B., Smith, S. B., Greschke, B., Louie, J. N. (2006), A transect of 200 shallow shear velocity profiles across the Los Angeles Basin: *Bull. Seismol. Soc. Amer.*, v. 96, pp. 1055-1067.

Thelen, W. A., Crosson R. S. and Creager K. C. (2008, *in press*), Absolute and relative locations for earthquakes at Mount St. Helens, Washington using continuous data: implications for magmatic processes, chap.4 in Sherrod, D. R., Scott, W. E., and Stauffer, P. H., eds., A volcano rekindled: the renewed eruption of Mount St. Helens, 2004-2006: U.S. Geological Survey Professional Paper..

Moran, S. C., Malone S. D., Qamar A. I., Thelen W. A., Wright A. K., and Caplan-Auerbach J. (2008, *in press*), Seismicity associated with the renewed dome-building eruption of Mount St. Helens 2004-2005, chap.2 in Sherrod, D. R., Scott, W. E., and Stauffer, P. H., eds., A volcano rekindled: the renewed eruption of Mount St. Helens, 2004-2006: U.S. Geological Survey Professional Paper.

Qamar, A. I., Malone S. D., Moran S. C., Steele, W. P., and Thelen, W. A. (2008, *in press*), Near-real-time information products for Mount St. Helens-tracking the ongoing eruption, chap. 3 in Sherrod, D. R., Scott, W. E., and Stauffer, P. H., eds., A volcano rekindled: the renewed eruption of Mount St. Helens, 2004-2006: U.S. Geological Survey Professional Paper.

Thelen, W. A., Scott, J. B., Clark, M., Depolo, C. M., and Louie J. N. (*in prep*), Geophysical investigation of recent faulting in the east Gardnerville Basin.

Thelen, W. A., Louie, J. N., and Pullammanappallil, S. (*in prep*), Shallow shear velocity structure of the edifice of Mount St. Helens through the use of Refraction Microtremor.