

Megan K. Walsh

Central Washington University
Department of Geography
308 Dean Hall, 400 E University Way
Ellensburg, WA USA 98926-7420

Phone: 509.963.3699
Fax: 509.963.1047
Email: walshme@cwu.edu

EDUCATION

Ph.D.	Geography	University of Oregon	December 2008
M.Sc.	Geography	University of Utah	May 2002
B.S. (Cum Laude)	Environmental Science	University of Denver	June 1999

Minors: Geography, French

DISSERTATION

Natural and Anthropogenic Influences on the Holocene Fire and Vegetation History of the Willamette Valley, Northwest Oregon and Southwest Washington.

Co-Advisors: Drs. Cathy Whitlock and Patrick J. Bartlein

PROFESSIONAL EXPERIENCE

2010-Present	Assistant Professor , Department of Geography, Central Washington University
2009- 2010	Postdoctoral Research Assistant , Department of Anthropology, University of Oregon Adjunct Instructor , Department of Geography, University of Oregon
2002- 2008	Graduate Student, Research Assistant, Teaching Assistant , Department of Geography, University of Oregon
1999-2001	Graduate Student, Research Assistant, Teaching Assistant , Department of Geography, University of Utah
1998	Environmental Protection Assistant , Air Resources Division, National Park Service, Department of the Interior, Denver, CO

GRANTS AND AWARDS

CWU SEED Grant, \$2000, *Post-Glacial Fire Regimes and Vegetation Patterns in the Blue Mountains and their Relationship to Future Climate Change in the Interior Pacific Northwest*, Central Washington University, Summer 2014

CWU Cascadia Hazards Institute Award, \$5114, *Funding to write an NSF Proposal: A Long-Term Perspective on Wildfire Hazard in the Pacific Northwest: Linkages to Past, Present, and Future Climate Variability and Human Activity*, Central Washington University, Summer 2014

CWU College of the Sciences Faculty Summer Research Grant, \$3000, *Fire activity in the Pacific*

Northwest during the last 3500 years: climate or human-driven?, Central Washington University, Summer 2011

Association of American Geographers Research Grant, \$990, Fire and Vegetation History of the Sinlahekin Wildlife Area, *Okanogan County, Washington*, February 2011

CWU SEED Grant, \$880, *Fire History of the Sinlahekin Wildlife Area, Okanogan County, Washington*, November 2010

Student Travel Award to attend Association of American Geographers conference, Boston, MA, Department of Geography, University of Oregon, April 2008

Student Travel Award to attend Association of American Geographers conference, San Francisco, CA, Department of Geography, University of Oregon, April 2007

Denise Gaudreau Award for Excellence in Quaternary Studies, Honorable Mention, American Quaternary Association, August 2006

Student Travel Award to attend American Quaternary Association conference, Bozeman, MT, August 2006

Student Travel Award to attend Pacific Climate conference, Monterrey, CA, March 2006

Student Travel Award to attend Fire/Climate conference, Flagstaff, AZ, May 2005

Student Travel Award to attend American Quaternary Association conference, Lawrence, KS, June 2004

Summer Research Grant (\$500), Department of Geography, University of Oregon, 2003

Outstanding Geography Graduate Student, University of Utah, 1999-2000

Freshman Woman of the Year, University of Denver, 1995-1996

FELLOWSHIPS AND SCHOLARSHIPS

2007-2008 **Research Assistant Fellowships, Departments of Geography and Anthropology, University of Oregon**

- Worked with Dr. Patrick Bartlein (University of Oregon, Geography) on a National Science Foundation grant, PIs C. Whitlock (Montana State University) and P.J. Bartlein, "Collaborative Research: Holocene Fire-Climate Linkages In Southern South America: Explaining Regional Responses To Large-scale Climate Forcing."
- Worked with Dr. Douglas Kennett (University of Oregon, Anthropology) to reconstruct the fire history of study sites in Central American; carried out charcoal, pollen, and sedimentological analyses and radiocarbon date pre-processing; a publication is in review at *Quaternary Research* (Walsh et al., in review)

2004-2007 **Research Assistant Fellowship, Department of Geography, University of Oregon**

- Dissertation research: reconstructed the Holocene fire and vegetation history of the Willamette Valley using macroscopic charcoal, pollen, and other analyses
- Joint Fire Sciences Program grant, PIs C. Whitlock (Montana State University), E. Heyerdahl (US Forest Service), J. Kertis (US Forest Service): "Historical Fire Regimes of the Willamette Valley, OR: Providing a Long-Term, Regional Context for Fire and Fuels Management"
- Lead author on papers in *Quaternary Research* (Walsh et al., 2008), *Quaternary Science Reviews* (Walsh et al., 2010a), and *Palaeogeography, Palaeoclimatology, Palaeoecology* (Walsh et al., 2010b)

- 2003-2004 **Teaching Assistant Fellowship, Department of Geography, University of Oregon**
Research Assistant Fellowship, Department of Geography, University of Oregon
- Worked with Dr. Cathy Whitlock (Montana State University) on a high-resolution macroscopic charcoal analysis of lake-sediment cores from Argentina
 - National Science Foundation grant, PIs C. Whitlock (Montana State University) and P.J. Bartlein (University of Oregon): "Holocene Fire-Climate-Vegetation Linkages in the Western Mid-Latitude Forests of North and South America"
 - Co-authorship on a paper in *Quaternary Research* (Whitlock et al., 2006).
- 1999-2001 **Teaching Assistant Fellowship, Department of Geography, University of Utah**
1995-1999 **Provost Scholarship, Four Year Merit Scholarship, University of Denver**

GRADUATE STUDENT ADVISING

Thesis Committee Chair-

- Michael Lukens, 2010-2013 (completed), "Mountain Ablaze: Fire History of the Sunrise Ridge, Mount Rainier National Park, Washington."
- Tamara Cox, 2011-present (active), "Role of Anthropogenic Fire as a Driver of Plant Succession and Forest Ecology in Meadow Environments, Willamette National Forest, Oregon."
- Kevin Haydon, 2011-present (active), Holocene Fire and Vegetation History of the Sinlahekin Wildlife Area, Okanogan County, Washington."
- Serafina Ferri, 2013-present, thesis title TBD
- Christopher Goodner, 2013-present, thesis title TBD
- Zoe Rushton, 2014-present, thesis title TBD
- Dusty Pilkington, 2014-present, thesis title TBD

Thesis Committee Member-

- Jamie Cannon, 2010-2012 (completed), "Using Decision Support and Geospatial Analysis to Prioritize Forest Restoration Treatments Areas on the Okanogan-Wenatchee National Forest."
- Erin Kreutz, 2010-2011 (completed), "Naneum Ridge State Forest: A feasibility study to market forest carbon to supplement Washington State timber losses."
- Zoe Rushton, 2012-present, "Climatic Factors Influencing the Growth of Whitebark Pine near Quartz Mountain, WA.
- Tia Beavert, 2012-present
- Mike Skaar, 2012-present
- Jessie Walling-Phillips, 2014-present
- Anne Gustafson, 2015-present

2011-2012, WATERS Program Graduate Student Mentor for Kelsey Johnson

Graduate Student Awards-

- Christopher Goodner, 2014, CWU Master's Research Fellowship, \$700
- Michael Lukens, 2012, George Melendez Wright Climate Change Fellowship Recipient, \$17,980
- Kevin Haydon, 2012, CWU Master's Research Fellowship, \$700
- Kevin Haydon, 2012, CWU Graduate Student Summer Research Fellowship, \$2800
- Tami Cox, 2012, CWU Master's Research Fellowship, \$700

Co-Authored Graduate Student Research Presentations-

- Christopher Goodner, May 2014, poster presented at CWU SOURCE Research Symposium, Ellensburg, WA; “Vegetation Classification and Fire Activity in the Blue Mountains of Oregon.”
- Christopher Goodner, March 2014, poster presented at the Northwest Science Association annual conference, Missoula, MT; “Vegetation Classification as a Fire Predictor and Post-Glacial Fire History for the Blue Mountains of Oregon, USA.”
- Tami Cox, May 2013, poster presented at CWU SOURCE Research Symposium, Ellensburg, WA; “The Role of Fire in the Persistence of Montane Meadow Environments in the Willamette National Forest, OR.”
- Michael Lukens, April 2012, Paper presented to the Northwest Science Association Meeting in Boise, ID; “The Role of Humans and Climatic Variations on the Fire and Vegetation History of Subalpine Meadows-Mt Rainier National Park (Washington).”
- Kevin Haydon, April 2012, Poster presented to the Northwest Science Association Meeting in Boise, ID; “Past and Current Wildfire Trends in the Okanogan-Wenatchee National Forest: An Analysis using GIS and Paleoecological Methods.”
- Kevin Haydon, May 2012, Poster presented at CWU SOURCE Research Symposium, Ellensburg, WA; “Past and Current Wildfire Trends in the Okanogan-Wenatchee National Forest: An Analysis using GIS and Paleoecological Methods.”
- Tami Cox, May 2012, Poster presented at CWU SOURCE Research Symposium, Ellensburg, WA, “Fire and Vegetation History of Upland Meadows, Willamette National Forest, Oregon.”

UNDERGRADUATE STUDENT MENTORING

- Haley Duke, Winter 2011-Winter 2012, GEOG 493: Geography Field Experience
- Garrett Scheuerman, Spring 2011, GEOG 493: Geography Field Experience
- Toni Christen, Spring 2011, GEOG 496: Individual Study, Forest Environments
- Mary Eidmann, Summer 2011, ENST 490: Cooperative Education Internship
- Helen Mockel, Fall 2011-Fall 2014, GEOG 493: Geography Field Experience
- Jeff Bortner, Spring 2012 and Fall 2012, GEOG 493: Geography Field Experience
- Lillian Luk, Fall 2012-Spring 2013, GEOG 493: Geography Field Experience
- April Burleson, Fall 2012 and Spring 2013, GEOG 493: Geography Field Experience
- Christian Blanchard, Fall 2012-Spring 2013, GEOG 493: Geography Field Experience
- Taylor Steele, Winter 2013, GEOG 493: Geography Field Experience
- Serafina Ferri, Spring 2013, GEOG 493: Geography Field Experience
- Tim Bauer, Spring 2013, GEOG 493: Geography Field Experience
- Emilia Henrichs, Spring 2013, GEOG 493: Geography Field Experience
- Savannah Bommarito, Spring 2013, GEOG 493: Geography Field Experience
- Nick Noble, Summer 2013, GEOG 493: Geography Field Experience
- Gaines Williams, Summer 2013-Spring 2014, GEOG 493: Geography Field Experience
- Devin Dykes, Fall 2013-Spring 2014, ENST 495: Senior Research
- James Lilly, Fall 2013, GEOG 493: Geography Field Experience
- Kylie Ishimitsu, Fall 2013-Spring 2014, GEOG 493: Geography Field Experience
- Grant Clifton, Winter 2014-Fall 2014, GEOG 493: Geography Field Experience
- Michael Garcia, Spring 2014, GEOG 493: Geography Field Experience

Co-Authored Undergraduate Research Presentations-

Devin Dykes, May 2014, poster presented at CWU SOURCE Research Symposium, “Variability in Charcoal Deposition into Lake Basins within the Taylor Bridge Fire, Washington.”

Helen Mockel, May 2013, poster presented at the Association of Washington Geographers annual conference and at SOURCE, Ellensburg, WA; “Analysis of Cascadian Forest Resilience Following Volcanic Ash Fall.”

Savannah Bommarito, May 2013, poster presented at SOURCE, Ellensburg, WA; “Reconstructing the Fire History of the Last 6000 Years at Mount Rainier National Park.”

Lillian Luk, May 2013, poster presented at the Association of Washington Geographers Annual Conference and at SOURCE, Ellensburg, WA; “Fire History in the Eastern Cascades, Washington.”

Haley Duke, Feb. 2012, poster presented at the Association of American Geographers Annual Conference, New York City, NY; “A Reconstruction of Fire History Using Macroscopic Charcoal Analysis: Pothole 3, Sinlahekin Wildlife Area, North Central Washington, USA.”

Haley Duke, May 2012, poster presented CWU SOURCE Research Symposium, Ellensburg, WA, “A Reconstruction of Fire History Using Macroscopic Charcoal Analysis: Fish Lake, Sinlahekin Wildlife Area, North Central Washington, USA.”

Undergraduate Student Awards-

Lillian Luk, 2013, COTS Undergraduate Research Grant, Central Washington University, \$500

Lillian Luk, 2013, Best Poster Presented by a Undergraduate Student, Association of Washington Geographers Annual Conference, Central Washington University

RESEARCH INTERESTS

Specific Interests:

Late Quaternary paleoecology and paleoclimatology; fire in low- to mid-elevation ecosystems of the western United States and Central America; (paleo)human/environment interactions; biogeographical impact of global climate change; application of paleoecological data to land-management policy

Ongoing Research Projects:

Climatic and human influences on the fire and vegetation history of subalpine meadows- Mount Rainier National Park (Washington)-

- Working to reconstruct past vegetation change and fire activity through lake sediment cores recovered from three subalpine lakes in summer 2011 and six in 2012
- Collaborating with park archaeologist Greg Burtchard and CWU archaeologist Dr. Pat McCutcheon to integrate information gained with that learned through archaeological projects in the park
- Research involves numerous undergraduate students and one masters student (Michael Lukens) from the REM program at CWU; a co-authored publication (Walsh, Lukens, McCutcheon, and Burtchard) is in preparation and will be submitted to the journal *Quaternary Science Reviews*

Fire History of the Sinlahekin Wildlife Area, Okanogan County, Washington, and its Application to Forest Management-

- Working to reconstruct past vegetation change and fire activity through lake sediment cores recovered from lakes in summer 2011, 2012, and 2013
- Will combine sediment records with tree-ring records of past fire activity and historical and archaeological records of human activity
- Research involves numerous undergraduate students and one masters student (Kevin Haydon) from the REM program at CWU; a co-authored publication (Walsh, Haydon, Duke) is in preparation and will be submitted to the journal *Progress in Physical Geography*

Historical fire regimes of the Willamette Valley, Oregon: providing a long-term, regional context for fire and fuels management-

- Working to reconstruct lake-sediment records in order to understand historical vegetation shifts arising from changes in climate and fire regimes
- Work has resulted in three peer-reviewed publications in the journals *Quaternary Research* (2008), *Quaternary Science Reviews* (2010), and *Palaeogeography, Palaeoclimatology, Palaeoecology* (2010); additional publications forthcoming

Coupled natural and human systems in the tropical lowlands of southern Belize-

- National Science Foundation-funded postdoctoral research position (2009-2010)
- Reconstruction of paleoenvironmental records from the Maya lowlands of the Toledo district using macroscopic charcoal, pollen, and sedimentological analyses
- Part of a larger interdisciplinary project led by Dr. Douglas Kennett (Penn State University, Anthropology), which seeks to combine archaeological, archival, ethnographic, paleoclimatic, and paleoenvironmental evidence to explore the rise and fall of the Maya civilization
- Work resulted in a publication in the journal *Quaternary Research* in March 2014; additional publications forthcoming

RESEARCH PUBLICATIONS

Walsh, M.K., Marlon, J.R., Goring, S., Brown, K.J., Gavin, D.G. (forthcoming). Climatic and human drivers of Holocene fire activity in the Pacific Northwest. *Annals of the Association of American Geographers*.

Walsh, M.K., Prufer, K.M, Culleton, B.J., and Kennett, D.J. (2014). A late Holocene paleoenvironmental reconstruction from Agua Caliente, southern Belize, linked to regional climate variability and cultural change at the Maya polity of Uxbenká. *Quaternary Research* 82, 38-50.

Walsh, M.K. (2014). Teaching geographic field methods using paleoecology. *Journal of Geography* 113, 97-106.

Marlon, J.R., Bartlein, P.J., Long, C., Gavin, D., Anderson, R.S., Briles, C.E., Colombaroli, D., Brown, K.J., Hallett, D.J., Power, M.J., Scharf, E., Walsh, M.K. (2012). A long-term perspective on wildfires in the western US. *Proceedings of the National Academy of Sciences* 109, 3203-3205.

Power, M.J., Mayle, F.E., Bartlein, P.J., Marlon, J.R., Anderson, R.S., Behling, H., Brown, K.J., Carcaillet, C., Colombaroli, D., Gavin, D.G., Hallett, D.J., Horn, S.P., Kennedy, L.M., Lane, C., Long,

C., Moreno, P.I., Paitre, C., Robinson, G., Taylor, Z., Walsh, M. 2012. Climatic control of the biomass-burning decline in the Americas after AD 1500. *The Holocene*, 23: 3-13.

Marlon, J.R., Cui, Q., Gaillard, M. -J., McWethy, D., Walsh, M. (2010). Humans and fire: Consequences of anthropogenic burning during the past 2 ka. *PAGES News* 18, 80-82.

Walsh, M.K., Whitlock, C., Bartlein, P.J. (2010). 1200 years of fire and vegetation history in the Willamette Valley, Oregon and Washington, reconstructed using high-resolution macroscopic charcoal and pollen analysis. *Palaeogeography, Palaeoclimatology, Palaeoecology* 297, 273-289.

Kennett, D.J., Piperno, D.R., Jones, J.G., Neff, H., Voorhies, B., Walsh, M.K., Culleton, B.J. (2010). Pre-pottery agriculturalists on the Pacific Coast of Southwest Mexico. *Journal of Archaeological Science* 37, 3401-3411.

Walsh, M.K., Pearl, C.A., Whitlock, C., Bartlein, P.J., Worona, M. (2010). An 11,000-year-long fire and vegetation history from Beaver Lake, central Willamette Valley, Oregon. *Quaternary Science Reviews* 29, 1093-1106.

Reynolds, R.L., Mordecai, J.S., Rosenbaum, J.G., Ketterer, M.E., Walsh, M.K., Moser, K.A. (2010). Compositional changes in sediments of subalpine lakes, Uinta Mountains (Utah): evidence for the effect of human activity on atmospheric dust inputs. *Journal of Paleolimnology* 44, 161-175.

Marlon, J.R., Bartlein, P.J., Walsh, M.K., Harrison, S.P., Brown, K.J., Edwards, M.E., Higuera, P.E., Power, M.J., Anderson, R.S., Briles, C., Brunelle, A., Carcaillet, C., Daniels, M., Hu, F.S., Lavoie, M., Long, C., Minckley, T., Richard, P.J.H., Shafer, D.S., Tinner, W., Umbanhowar, Jr., C.E., Whitlock, C. (2009). Wildfire responses to abrupt climate change in North America. *Proceedings of the National Academy of Science* 106, 2519-2524.

Power M.J., et al. (2008). Changes in Fire Regimes Since the Last Glacial Maximum: An Assessment Based on a Global Synthesis and Analysis of Charcoal Data. *Climate Dynamics* 30, 887-907.

Walsh, M.K. (2008). Natural and Anthropogenic Influences on the Holocene Fire and Vegetation History of the Willamette Valley, Northwest Oregon and Southwest Washington. PhD Dissertation, University of Oregon, Eugene.

Walsh, M.K., Whitlock, C., Bartlein, P.J. (2008). A 14,300-year-long record of fire-vegetation-climate linkages at Battle Ground Lake, southwestern Washington. *Quaternary Research* 70, 251-264.

Whitlock, C., Bianchi, M.M., Bartlein, P.J., Markgraf, V., Marlon, J., Walsh, M., McCoy, N. (2006). Postglacial vegetation, climate, and fire history along the east side of the Andes (lat 41-42.5°S), Argentina. *Quaternary Research* 66, 187-201.

Walsh, M.K. (2005). Vegetation history of the southern Willamette Valley. In: Mount Pisgah Arboretum Guidebook: A Natural History of the Southern Willamette Valley, Oregon, 11th Edition, (Rhoda M. Love, ed.), pp. 140-146.

Whitlock, C., Bartlein, P.J., Bianchi, M.M., Briles, C., Brunelle, A., Long, C., Markgraf, V., Marlon, J., Meeker, C., Power, M., Walsh, M. (2003). Disturbance frequency changes in western North and South America during the Holocene. *EOS Transactions* 84.

Walsh, M.K. (2002). Fire History of Two Selected Sites in the Spruce-Fir Life Zone of the Uinta Mountains, Utah, Determined Using Macroscopic Charcoal Analysis. Master's Thesis, University of Utah, Salt Lake City, Utah.

CONFERENCE PAPERS AND POSTERS

“A late Holocene Paleoenvironmental Reconstruction from Agua Caliente, Southern Belize, Linked to Regional Climate Variability and Cultural Change at the Maya Polity of Uxbenká.” Paper presented at the Association of American Geographers Annual Conference, Tampa, FL, April, 2014.

“The Post Glacial Fire and Vegetation History of Sunrise Ridge, Mount Rainier National Park, Washington.” Paper presented at the Northwest Science Association annual meeting, Missoula, MT, March, 2014.

“East versus West: Climatic and Human Influences on the Fire and Vegetation History of Two Low-Elevation Sites in the Pacific Northwest?” Paper presented at the Association of American Geographers Annual Meeting, Los Angeles, CA, April, 2013.

“A Paleoperspective on the Role of Fire in Low-Elevation Ecosystems of the Pacific Northwest.” Paper presented at the Northwest Science Association annual meeting, Portland, OR, March, 2013.

“Holocene Fire Regimes of the Pacific Northwest Reconstructed using Macroscopic Charcoal Analysis of Lake Sediments.” Paper presented at the Northwest Science Association annual meeting, Boise, ID, March, 2012.

“Late Holocene Fire Activity in the Pacific Northwest Determined from Charcoal Records: Climate or Human-Driven?” Paper presented at the Association of American Geographers Annual Meeting, NYC, NY, February, 2012.

“Holocene Fire Records of the Willamette Valley: Insights from Paleoecological Records.” Paper presented at the Traditional Ecological Knowledge in Ecosystem Sustainability Conference, Corvallis, OR, May, 2011.

“Paleoecological Reconstruction of Human-Landscape Interactions in the Uxbenká Region of Southern Belize, Central America.” Paper presented at the Association of American Geographers Annual Meeting, Seattle, WA, April, 2011.

“Did Native Americans Burn the Willamette Valley? Insight from the Paleoecological Record into Climatic and Anthropogenic Influences on Fire Activity over the Past 1200 Years.” Paper presented at the Northwest Scientific Association Annual Meeting, Centralia, WA, March 2010.

“Natural and Anthropogenic Influences on the Fire and Vegetation History of the Willamette Valley, Northwest Oregon and Southwest Washington.” Paper presented at the PAGES Young Scientist Meeting, Corvallis, OR, July 2009.

“Climatic Variability and the Fire and Vegetation History of the Pacific Northwest during the Last 2000 Years.” Paper presented at the Association of American Geographers Annual Meeting, Las Vegas, NV, March 2009.

“Reconstructing the Last 1000 Years of Fire History in the Willamette Valley of Oregon and Washington using High-Resolution Macroscopic Charcoal and Pollen Analysis.” Paper presented at the International Association of Wildland Fire 9th Biennial Scientific Conference on the Greater Yellowstone Ecosystem, Jackson Hole, WY, September 2008.

“From Native-American Habitation to European-American Settlement: Reconstructing the Last 5000 years of Landscape Change in the Willamette Valley, Oregon and Washington.” Paper presented at the Association of American Geographers Annual Meeting, Boston, MA, April 2008.

“Reconstructing the Holocene Fire and Vegetation History of the Willamette Valley, Oregon and Washington, Using High-Resolution Macroscopic Charcoal and Pollen Analysis.” Paper presented at the Association of American Geographers Annual Meeting, San Francisco, CA, April 2007.

“Using Macroscopic Charcoal to Reconstruct the Holocene Fire Activity of the Willamette Valley, Oregon and Washington.” Poster presented at the American Geophysical Union Meeting, San Francisco, CA, December 2006.

“The Holocene Landscapes of the Willamette Valley, Oregon: Reconstructing Prehistoric Fire Activity through Macroscopic Charcoal Analysis,” Poster presented at the Association of Pacific Coast Geographers 69th Annual Meeting, Eugene, OR, September 2006.

“The Holocene Fire and Vegetation History of the Willamette Valley: Results from Battle Ground Lake, Washington, Beaver Lake, Oregon, and Warner Lake, Oregon,” Poster presented at the American Quaternary Association 19th Biennial Meeting, Bozeman, MT, August 2006.

“An 11,000-Year-Long Record of Fire and Vegetation History from Battle Ground Lake, Washington,” Paper presented at the 22nd Biennial Pacific Climate Workshop, Monterey, CA, March 2006.

“Reconstructing the Holocene Fire Regimes of the Willamette Valley through the Use of Macroscopic Charcoal and Pollen Analysis,” Paper presented at the Oregon Academy of Science Annual Meeting, Eugene, OR, February 2006.

“Holocene Climate, Vegetation, and Fire History at Battle Ground Lake, Washington,” Paper presented at the Geological Society of America Annual Meeting, Salt Lake City, UT, October 2005.

“Natural and Anthropogenic Influences on the Holocene Fire Regimes of the Willamette Valley: Preliminary Results from Battle Ground Lake, Washington,” Poster presented at the Fire and Climate Conference, Flagstaff, AZ, May 2005.

“Natural and Anthropogenic Influences on the Holocene Fire and Vegetation Regimes of the Willamette Valley, Oregon: Study Overview,” Poster presented at the American Quaternary Association 18th Biennial Meeting, Lawrence, KS, June 2004.

INVITED RESEARCH TALKS

- “Climatic and Human Influences on Post-Glacial Fire Activity of the Pacific Northwest.” Geology Department Speaker Series, Central Washington University, October 2014.
- “Forests, Fires, and Climate: 10,000 Years of Environmental Change in the Sinlahekin Wildlife Area.” Sinlahekin Wildlife Area 75th Anniversary Celebration, Loomis, WA, July 2014.
- “10,000 Years of Fire History and Vegetation Change in the Sinlahekin Wildlife Area.” Washington State DOT Cultural Resource Training, Central Washington University, April 2014.
- “Climatic and Human Influences on the Fire History of the Pacific Northwest.” Museum of Culture and Environment, Central Washington University, November 2013.
- “Fires, Forests and Climate Change: Understanding the Dynamic Landscapes of the Pacific Northwest,” *Science is Central*, Central Washington University, September 2013.
- “A 14,000-Year Record of Mt. Rainier Environmental and Fire History,” *Mt. Rainier Tribal Meeting*, Mt. Rainier National Park, June 2013.
- “Paleoenvironmental Research at Mt. Rainier National Park,” research update given to park staff and researchers, Mt. Rainier National Park, April 2013.
- “Holocene Fire and Vegetation History of the Pacific Northwest: Lessons from the Past,” *Biology Department Darwin Day*, Central Washington University, February 2011.
- “Vegetation Change and Fire History in the Pacific Northwest since the Missoula Floods,” *Ellensburg Ice Age Flood Society*, Central Washington University, December 2010.
- “Climate Variability and Anthropogenic Activity: Reconstructing the Holocene Fire History of the Willamette Valley Using Macroscopic Charcoal Analysis,” *Oregon Archaeology Month*, Portland State University, October 2006.

TEACHING EXPERIENCE

Course Instructor: (full-teaching responsibilities)

Geography of the Pacific Northwest (GEOG 355), Department of Geography, Central Washington University, Fall 2014

Introduction to Physical Geography (Online) (GEOG 107), Department of Geography, Central Washington University, Summer 2010,

Pyrogeography (GEOG 455), Department of Geography, Central Washington University, Fall 2013

Topics in Physical Geography Seminar: Methods in Paleoecology (GEOG 407), Department of Geography, Central Washington University, Spring 2013

Introduction to Graduate Research (REM 505), Resource Management Program, Central Washington University, Winter 2013

Geography Field Experience: Mt. Rainier (GEOG 493), Department of Geography, Central Washington University, Summer 2012

Forest Environments (GEOG 454), Department of Geography, Central Washington University, Spring 2012 and 2014

Biogeography (formerly Ecosystems Geography) (GEOG 389), Department of Geography, Central Washington University, Spring 2011-2015

Climate Change: Biophysical and Human Dimensions (GEOG 441), Department of Geography, Central Washington University, Fall 2011 and 2012

Field Methods in Geography (GEOG 425), Department of Geography, Central Washington University, Summer 2011, 2012, 2013

Resource Management Colloquium (REM 506), Department of Geography, Central Washington University, Spring 2011 and Fall 2013 and 2014

Weather and Climate (formerly Climatology) (GEOG 388), Department of Geography, Central Washington University, Winter 2011-2015

Introduction to Physical Geography (GEOG 107), Department of Geography, Central Washington University, Fall 2010, Winter 2011, Spring 2011, Fall 2011, Fall 2012, Fall 2013, Spring 2015

Global Environmental Change (GEOG 361), Department of Geography, University of Oregon, Spring 2010

Long-Term Environmental Change (GEOG 430/530), Department of Geography, University of Oregon, Winter 2010

Graduate Seminar: Paleoecology and Human-Environment Interactions (GEOG 607), Department of Geography, University of Oregon, Winter 2010

Climatology (GEOG 321), Department of Geography, University of Oregon, Fall 2009

Advances in Physical Geography (GEOG 410/510), Department of Geography, University of Oregon, Summer 2007

Biogeography (GEOG 323), Department of Geography, University of Oregon, Summer 2007

Global Environmental Change (GEOG 143), Department of Geography, University of Oregon, Spring 2005 and 2006

Introduction to Physical Geography: Natural Environments (GEOG 141), Department of Geography, University of Oregon, Summer 2003, 2004, 2006, Spring 2007, Spring 2010

World Regional Geography (GEOG 130), Department of Geography, University of Utah, Fall 1999, Winter and Fall 2000, Winter and Fall 2001

Teaching Assistant:

Biogeography (GEOG 323), Department of Geography, University of Oregon, Spring 2004

Geography of Oregon (GEOG 206), Department of Geography, University of Oregon, Winter 2004

Climatology (GEOG 321), Department of Geography, University of Oregon, Fall 2003

Guest Lecturer:

Environmental Archaeology (ANTH 427), Department of Anthropology, Central Washington University, Spring 2010

Quaternary Geology (GEOL 474), Department of Geology, Central Washington University, Fall 2010 and 2012

Forest Fires and Society (SOC 410), Department of Sociology, University of Oregon, Fall 2008

Fire in the Environment (GEOG 410), Department of Geography, University of Oregon, Fall 2007

Climatology (GEOG 321), Department of Geography, University of Oregon, Fall 2005-2008

Geography of Oregon (GEOG 206), Department of Geography, University of Oregon, Winter 2004

Biogeography (GEOG 327), Department of Geography, University of Utah, Spring 2001

ACADEMIC SERVICE AND COMMUNITY OUTREACH

Manuscript Reviewer, *The Holocene*, September 2014

Manuscript Reviewer, *Progress in Physical Geography*, October 2013 and May 2014

Compass 2 Campus Session Organizer/Presenter, Central Washington University, October 2014

Northwest Science Association Board Member, Spring 2014-present

Geography Department Scholarship Committee Chair, Central Washington University, Winter 2014-present

Environmental Studies Advisory Board Member, Central Washington University, Fall 2013-present

Geography Department Curriculum Committee Member, Central Washington University, Fall 2013-present

Veteran's Advisory Board Member, Central Washington University, Spring 2013-present

Associate Editor, Northwest Science Journal, Spring 2013-present

Expanding your Horizons Session Presenter, Central Washington University, May 2012-2015

SOURCE Judge and Mentor, Central Washington University, May 2012-2014

Field Trip Co-Organizer/Leader, Association of Washington Geographers annual conference hosted by CWU Geography Department, Ellensburg, WA, May 2013

Manuscript Reviewer, *Journal of Geography*, 2013

Manuscript Reviewer, *Progress in Physical Geography*, 2013

AAG Student Paper/Poster Competition Judge, Paleoenvironmental Change specialty group, 2013

Expanding your Horizons Presenter, Central Washington University, Winter 2012-2015

Guest Speaker, "A Paleo-Perspective on Climate Change," Ellensburg High School, February 2012-2014

Geography Department Search Committee Member, Department Chair, Central Washington University, Spring 2012

Session Co-Organizer, Association of American Geographers Annual Meeting, February 2012

Manuscript Reviewer, *Physical Geography*, 2011

Geography Club Faculty Advisor, Central Washington University, Fall 2011-present

Geography Department Search Committee Member, Energy Geographer, Central Washington University, Fall 2011-Winter 2012

Gamma Theta Upsilon (Geography Honor Society) Chapter Advisor, Winter 2011-present

Geography Department Search Committee Member, Planning Geographer, Central Washington University, Fall 2010-Winter 2011

Geography Club Faculty Co-Advisor, Central Washington University, 2010-2011

COTS Promotional Caravan Participant, Central Washington University, December 2010

Manuscript Reviewer, *Climate of the Past*, 2010

Proposal Reviewer, National Science Foundation, 2009

Field Trip Leader, Geography Awareness Week, Department of Geography, University of Oregon, November 2008

Manuscript Reviewer, *Quaternary International*, 2008

Invited Workshop Speaker, "A Paleo-Perspective on Global Climate Change", Thurston Middle School, Springfield, OR, November 2007

Field Trip Leader, "The Ecological History of the Southern Willamette Valley", Association of Pacific Coast Geographers 69th Annual Meeting, Eugene, OR, September 2006.

Graduate Student Representative, Biogeography Faculty Search Committee, Department of Geography, University of Oregon, 2005-2006

Graduate Student Representative, College of Social and Behavioral Science Dean Search Committee, University of Utah, 2001

Field Trip Co-Organizer, Death Valley Field Seminar (led by Dr. Don Currey), University of Utah, March 2000

Graduate Student Representative, College of Social and Behavioral Science Judiciary Committee, University of Utah, 2000-2001

PROFESSIONAL MEMBERSHIPS

Association of American Geographers

Northwest Science Association

Ecological Society of America

American Geophysical Union

American Quaternary Association

Association of Pacific Coast Geographers

International Association of Wildland Fire