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Education

- Ph.D., 2011 Geography, Oregon State University. “Simulating Past, Present, and Future Changes in ENSO: a Model Evaluation and Data-model Comparison.”
- M.S., 2009 Geography, Oregon State University.
- B.S., 2004 Environmental Science, University of California, Riverside.
- B.S., 2004 Computer Science, University of California, Riverside.

Employment

- 2012-present Physical Scientist, U.S. Geological Survey, Corvallis, Oregon.
- 2012-present Courtesy Research Associate, College of Earth, Ocean, and Atmospheric Sciences, Oregon State University, Corvallis, Oregon.
- 2011-2012 Research Associate, College of Oceanic and Atmospheric Sciences, Oregon State University, Corvallis, Oregon.
- 2009-2011 Student Services, U.S. Geological Survey, Corvallis, Oregon.
- 2004-2008 Software Developer, Environmental Systems Research Institute, Redlands, California.

Manuscripts in Progress

1. **Alder, J. R.** and Hostetler, S.W. Finding robust changes in hydroclimate in uncertain projections, *in prep.*
2. Hostetler, S.W. and **J.R. Alder.** Implementation and evaluation of a monthly water balance model over the Contiguous US on an 800-m grid, *in prep.*
3. Hostetler, S.W., P.J. Bartlein, **J.R. Alder.** Atmospheric and surface climate variability associated with 1986–2013 wildfire activity in North America, *in prep.*

Publications (number of citations in parenthesis)

1. **Alder, J.R.** and S.W. Hostetler, 2015. Global climate simulations at 3000-year intervals for the last 21 000 years with the GENMOM coupled atmosphere–ocean model, *Climate of the Past*, 11(3), 449–471, doi:10.5194/cp-11-449-2015. (1)
2. **Alder, J. R.** and Hostetler, S.W., 2015. Web based visualization of large climate data sets, *Environmental Modelling & Software*, 68, 175–180, doi:10.1016/j.envsoft.2015.02.016.

3. Bartlein, P.J., S.W. Hostetler, **J.R. Alder**, 2014. Paleoclimate, in: Ohring, G. (Ed.), *Climate Change in North America, Regional Climate Studies*. Springer International Publishing, pp. 1–51. (3)
4. Clark, J., J.X. Mitrovica, **J.R. Alder**, 2014. Coastal Paleogeography of the California-Oregon-Washington and Bering Sea Continental Shelves During the Latest Pleistocene and Holocene. *Journal of Archaeological Science*, 52, 12–23, doi:10.1016/j.jas.2014.07.030. (4)
5. Clark, J., J.X. Mitrovica, **J.R. Alder**, 2014. Regional Variability in Latest Pleistocene and Holocene Sea-Level Rise Across the California-Oregon-Washington and Bering Sea Continental Shelves, in: Stanford, D.J., Stenger, A.T. (Eds.), *Pre-Clovis in the Americas: International Science Conference Proceedings*. CreateSpace Independent Publishing Platform; Smithsonian Institution edition (March 4, 2014), pp. 49–62. (1)
6. **Alder, J.R.**, S.W. Hostetler, and D. Williams, 2013. An Interactive Web Application for Visualizing Climate Data, *Eos Trans. AGU*, 94(22), 197. (3)
7. Al-Chokhachy, R., **J.R. Alder**, S.W. Hostetler, B. Gresswell, B. Shepard, 2013. Thermal controls of Yellowstone cutthroat trout and invasive fishes under climate change, *Global Change Biology*, 19, 3069–3081, doi:10.1111/gcb.12262. (7)
8. Allan, A.M., S.W. Hostetler, **J.R. Alder**, 2013. Analysis of the present and future winter Pacific-North American teleconnection in the ECHAM5 global and nested RegCM3 regional climate models. *Climate Dynamics*, doi:10.1007/s00382-013-1910-x. (2)
9. **Alder, J.R.**, S.W. Hostetler, D. Pollard, A. Schmittner, 2011. Evaluation of a present day climate simulation with a new coupled atmosphere-ocean model GENMOM. *Geosci. Model Dev.*, 4, 69– 83, doi:10.5194/gmd-4-69-2011. (18)
10. Hostetler, S.W., **J.R. Alder**, A.M. Allan, 2011. Dynamically downscaled climate simulations over North America: Methods, evaluation and supporting documentation for users: *U.S. Geological Survey Open-File Report 2011-1238*, 64 p. (26)
11. Amrhein, C., **J.R. Alder**, R.C. Graham, V.K. Housel, 2004. Can chemical oxidation improve the permeability of infiltration basins? *Water Environment Research* Vol. 76. No. 3 (May-June issue) pg 268-271. (5)

Data sets and Applications

1. **Alder, J. R.** and S. W. Hostetler, 2013. NEX-DCP30 Climate Downscaling Viewer. U.S. Geological Survey
http://www.usgs.gov/climate_landuse/clu_rd/nccv.asp doi:10.5066/F7W9575T

Press Releases

1. U.S. Department of the Interior, 2014. “National Climate Change Viewer” Enables Focus on Future Climate-Driven Changes for U.S. Watersheds at Local Levels [Press Release] Retrieved from
<https://www.doi.gov/news/pressreleases/national-climate-change-viewer->

[enables-focus-on-future-climate-driven-changes-for-us-watersheds-at-local-levels](#)

2. U.S. Geological Survey, 2013. What are Future Climate Projections for Precipitation and Temperature for Your County? [Press Release] Retrieved from <http://www.usgs.gov/newsroom/article.asp?ID=3745>

Conference Abstracts

1. Hostetler, S.W., R. Reker, T. Loveland, C. Bernhardt, R. Thompson, E. Sundquist, D. Willard, **J.R. Alder**. Modeling Regional Climate Responses to 17th-20th Century Land Use Change over the Southeastern United States. *American Geophysical Union Fall Meeting*, San Francisco, California, Dec 14-18, 2015.
2. Treat, C., M. Jones, S. Frolking, **J.R. Alder**. Here Today, Gone Tomorrow? Using Contrasting Peatland Histories To Determine Fate Of Permafrost Carbon With Future Climate Change And Permafrost Thaw. *American Geophysical Union Fall Meeting*, San Francisco, California, Dec 14-18, 2015.
3. Pederson G.T., **J.R. Alder**, E. Cook, N. Devineni, J. Friedman, S. Hostetler, U. Lall, C. Leland, J. Martin, G. McCabe, P. Norton, S. St. George, J. St. Jacques, D. Sauchyn, J. Stamm, E. Wise, C. Woodhouse. Collaborative Research: Multi-century perspectives on current and future streamflow in the Missouri River Basin. *2015 PACLIM Workshop*, Pacific Grove, California, March 8-11th, 2015.
4. **J.R. Alder**, J. Cuzzzone, S.W Hostetler, P.U. Clark. Constraining Last Glacial Maximum simulations using a simple positive-degree-day ice sheet model. *Geological Society of America: Rocky Mountain (66th Annual) and Cordilleran (110th Annual) Joint Meeting*, Bozeman, Montana, May 19-21, 2014.
5. Hostetler, S.W., **J.R. Alder**^{*}, P. Bartlein. Toward simulating Mid-Holocene time slices with the Regcm4 regional climate model. *Geological Society of America: Rocky Mountain (66th Annual) and Cordilleran (110th Annual) Joint Meeting*, Bozeman, Montana, May 19-21, 2014. ^{*} presenter
6. Risley, J, N. Buccola, S.W. Hostetler, **J.R. Alder**, Headwater hydrologic and energy responses to climate change--North Santiam River in Western Oregon. *American Water Resources Association Annual Conference*, Portland, Oregon, November, 2013.
7. **Alder, J.R.**, R. Al-Chokhachy, S.W. Hostetler. Projecting future stream temperature in the Greater Yellowstone Ecosystem using observations and regional climate models. *11th Biennial Scientific Conference on the Greater Yellowstone Ecosystem*, Mammoth Hot Springs, Yellowstone National Park, October, 2012.
8. Al-Chokhachy, R., **J.R. Alder**, S.W. Hostetler, B. Gresswell, B. Shepard. Thermal controls of Yellowstone cutthroat trout and invasive fishes under climate change. *11th Biennial Scientific Conference on the Greater Yellowstone Ecosystem*, Mammoth Hot Springs, Yellowstone National Park, October, 2012.

9. Allan, A.M., S.W. Hostetler, **J.R. Alder**. Analyzing the present and future Pacific-North American teleconnection and its relationship to climate using the ECHAM5 global and RegCM3 regional climate models. *American Geophysical Union Fall Meeting*, San Francisco, California, Dec 5-9, 2012.
10. **Alder, J.R.**, S.W. Hostetler, A. Allan, S.C. Soileau. Providing high-resolution climate model data for GIS users. *ESRI User Conference*. San Diego, CA. 2011.
11. Allan, Andrea, Hostetler, Steven, **Alder, Jay**. Analyzing the Pacific-North American teleconnection pattern and its relationship to climate using RegCM3, a high-resolution regional climate model. *World Climate Research Programme Open Science Conference*, Denver, Colorado October, 24-28, 2011.
12. Clark, Jori, Mitrovica, Jerry X., **Alder, Jay R.** Regional Variability in Deglacial Sea-Level Rise Across the Oregon-Washington Continental Shelf: Implications for the Archaeological Record. *International Union for Quaternary Research*, Bern, Switzerland. July 21-27, 2011.
13. Hostetler, S.W., **Alder, J.R.**, Allan, A.M. Regional climate simulations for North America. *AFS Annual Meeting*, Seattle, WA. September, 2011.
14. Hostetler, S.W., **Alder, J.R.**, Allan, A.M. Dynamically downscaled climate simulations over North America: Climate analysis, climate reconstruction and guidance for management decisions. *10th Biennial Scientific Conference on the Greater Yellowstone Ecosystem*, Mammoth Hot Springs, Yellowstone National Park. October, 2011.
15. Hostetler, S.W., P. Bartlein, **J.R. Alder**. Use of dynamically downscaled climate simulations to decompose the historical and possible future climatology of wildfire in western North America. *Seminar for Climate Impacts Group, University of Victoria*, Victoria, BC, November 15, 2011.
16. Marcott, Shaun A., Clark, Peter U., Hostetler, Steven W., Shakun, Jeremy D., Brook, Edward J., **Alder, Jay R.**, Novak, Anthony M., Caffee, Mark W., and Davis, P. Thompson. 10Be-Based Chronologies of Cirque Glaciation Across Western North America. *International Union for Quaternary Research*, Bern, Switzerland. July 21-27, 2011.
17. **Alder, J.R.**, S.W. Hostetler, and A.M. Schuetz. A web-based application for regional climate simulations. *USGS Global Climate Change Conference*, Denver, Colorado. March 2010.
18. Hostetler, S.W., **J.R. Alder**, P. Bartlein, A.M. Schuetz, S. Shafer, R. Thompson, K. Izumi, P. Clark, and D. Pollard. Dynamically downscaled climate simulations over North America from 21ka to 2100: Climate analysis, climate reconstruction and guidance for management decisions. *USGS Global Climate Change Conference*, Denver, Colorado. March 2010.
19. Marcott, Shaun A., Clark, Peter U., Hostetler, Steven W., Shakun, Jeremy D., **Alder, Jay R.**, Brook, Edward J., Novak, Anthony M., Caffee, Mark W., and Davis, P. Thompson. 10Be-Based Chronologies of Cirque Glaciation Across Western North America. *American Quaternary Association Biannual meeting*, Laramie, Wyoming. August 12-16, 2010.

20. Shafer, Sarah L., Patrick J. Bartlein, Robert S. Thompson, Laura E. Strickland, Steve Hostetler, and **Jay Alder**. Evaluation of paleovegetation data-model agreement in the western United States for 0 ka, 6 ka, and 21 ka. *PMIP 3 Workshop*, Kyoto, Japan. December 6-10, 2010.
21. **Alder, J.R.**, S.W. Hostetler, and D. Pollard. Simulating ENSO During the Last Glacial Maximum and Holocene. *EOS, Transactions, American Geophysical Union*, 90(52), Fall Meeting Suppl. 2009.
22. **Alder, J.R.**, S.W. Hostetler, and D. Pollard. Modeling past, present and future multi-decadal changes in ENSO variability. *PAGES: 3rd Open Science Meeting*, Corvallis, OR. 2009.
23. **Alder, J.R.**, S.W. Hostetler, and D. Pollard. Modeling past, present and future multi-decadal changes in ENSO variability. *PAGES: 1st Young Scientist Meeting*, Corvallis, OR. 2009.
24. Schutez, A.M., **J.R. Alder**, and S.W. Hostetler. Preliminary results of analyzing the surface hydrology of North America under a doubling of CO₂. *2009 Western Division American Fisheries Society Annual Meeting*. 2009.
25. **Alder, J.R.**, S.W. Hostetler, and D. Pollard. Investigating multi-decadal scale changes in ENSO variability using a coupled A/OGCM. *EOS, Transactions, American Geophysical Union*, 89(53), Fall Meeting Suppl. 2008.
26. **Alder, J.R.**, A. van Griensven, and T. Meixner. Web-Based Model Visualization Tools to Aid in Model Optimization and Uncertainty Analysis. *EOS, Transactions, American Geophysical Union*, 84(47), Fall Meeting Suppl. 2003.

Invited Speaker

1. 2014, 8/26/2014, USGS 2014 Water Mission Area Lecture Series, Tucson, AZ.
2. 2014, 8/28/2014, USGS 2014 Water Mission Area Lecture Series, Flagstaff, AZ.
3. 2014, 9/8/2014, USGS 2014 Water Mission Area Lecture Series, Norcross, GA.
4. 2014, 9/9/2014, USGS 2014 Water Mission Area Lecture Series, Davie, FL.
5. 2014, 10/21/2014, USGS 2014 Water Mission Area Lecture Series, Denver, CO.
6. 2014, 10/23/2014, USGS 2014 Water Mission Area Lecture Series, Reston, VA.
7. 2014, 11/3/2014, USGS 2014 Water Mission Area Lecture Series, Northborough, MA.
8. 2014, 11/5/2014, USGS 2014 Water Mission Area Lecture Series, Lawrenceville, NJ.
9. 2014, 11/7/2014, USGS 2014 Water Mission Area Lecture Series, Iowa City, IA.
10. 2014, May 14, Northeast Climate Science Center Webinar, "Introducing the USGS National Climate Change Viewer", web presentation.
11. 2013, Dec. 6, PMIP Ocean Workshop 2013: Understanding Changes since the Last Glacial Maximum, Oregon State University, Corvallis, OR.

Journal Reviews

2015 Geoscientific Model Development
Nature Communications

2014 Quaternary Science Reviews

2013 EOS, Transactions, American Geophysical Union
Hydrological Sciences Journal

Student Advisory Committee

| Name | Major | Degree | Date Entered Program | Graduation Date |
|---------------------|-------------------------|--------|----------------------|-----------------|
| John Hammond | Water Resources Science | MS | Fall 2012 | Summer 2014 |
| Alexandra Savotkina | Geography | PhD | Fall 2013 | Expected 2016 |