

Lauren E Parker

USDA California Climate Hub
Institute of the Environment
University of California Davis
One Shields Ave. | Davis, CA 95616

leparker@ucdavis.edu
laureneparker.weebly.com
pronouns: she/her

EDUCATION

- Ph.D. University of Idaho, Moscow, ID** 2017
Department of Geography, advisor: Dr. John Abatzoglou
Certificate in Environmental Water Science, Environmental Science Program, May 2016
- M.S. Oregon State University, Corvallis, OR** 2009
Department of Geoscience, advisor: Dr. Anne Nolin
Graduate Certificate in GIS and Remote Sensing, Geosciences Department, June 2009
- A.B. Mount Holyoke College, South Hadley, MA** 2006
Department of Earth and Environment

PROFESSIONAL EXPERIENCE

- Project Scientist** 2023-present
Research Program Manager 2022-present
Coordinator 2020-2021, 2022-present
Postdoctoral Fellow 2018-present
USDA-ARS California Climate Hub
Institute of the Environment, University of California Davis
- Grant Writer (independent contractor)** 2020-2021
- Scientific Researcher (independent contractor)** 2018
USFS Pacific Northwest Research Station
- Postdoctoral Fellow** 2017-2018
Climatology Lab, Department of Geography
University of Idaho
- Conference Coordinator** 2015
6th Annual Northwest Climate Conference
- Assistant Professor of Geoscience** 2013
Lecturer in Geoscience (Tenure Track) 2010-2012
Department of Geoscience
Salt Lake Community College
- GIS and Natural Resources Specialist** 2009
Sperry Ridge, Inc.

REFEREED PUBLICATIONS

21. Jha PK, Zhang N, Rijal JP, **Parker LE**, Ostoja S, Pathak TB (2023) Climate change impacts on insect pests for high value specialty crops in California. *Science of the Total Environment*. doi.org/10.1016/j.scitotenv.2023.167605
20. Johnson D, Almaraz M, Rudnick J, **Parker LE**, Ostoja SM, Khalsa SDS (2023). Farmer adoption of climate smart practices is driven by farm characteristics, information sources, and practice benefits and challenges. *Sustainability* 15(10). doi.org/10.3390/su15108083
19. Johnson D*, **Parker LE**⁺, Crothers L, Pathak TB, Ostoja SM (2023). Technical assistance providers identify climate change adaptation practices and barriers to adoption among California agricultural producers. *Sustainability* 15(7). doi.org/10.3390/su15075973
18. Zakowski E*, **Parker L**, Johnson D*, Aguirre J, Ostoja S (2023). California winegrape growers need support to manage risks from wildfire and smoke. *California Agriculture*. doi.org/10.3733/ca.2023a0006
17. Eaton W, Robertson T, Arbuckle J, Brasier K, and co-authors including **Parker LE** (2022) Advancing the scholarship and practice of stakeholder engagement in working landscapes: A co-produced research agenda. *Socio-Ecological Practice Research*. doi: 10.1007/s42532-022-00132-8
16. Sofaer HR, Jarnevich CS, Buchholtz EK, Cade BS, Abatzoglou JT, Aldridge CL, Comer PJ, Manier D, **Parker LE**, Heinrichs JA (2022) Potential cheatgrass abundance within lightly invaded areas of the Great Basin. *Landscape Ecology*. doi: 10.1007/s10980-022-01487-9
15. **Parker LE**⁺, Zhang N, Abatzoglou JT, Ostoja SM, Pathak TB (2022) Observed changes in agroclimate metrics relevant for specialty crop production in California. *Agronomy* 12(1). doi:10.3390/agronomy12010205
14. Zhang N, Pathak TB, **Parker LE**, Ostoja SM (2021) Impacts of large-scale teleconnection indices on chill accumulation for specialty crops in California. *Science of the Total Environment*. doi: 10.1016/j.scitotenv.2021.148025
13. **Parker L**⁺, Pathak T, Ostoja S (2021) Climate change reduces frost exposure for high-value California orchard crops. *Science of the Total Environment*. 762:143971. doi: 10.1016/j.scitotenv.2020.143971
12. Prev y JS, **Parker LE**, Harrington CA. (2020) Predicted impacts of climate change on three culturally-important shrub species of the Pacific Northwest. *PLOS One*. 15(5):e0232537. doi: 10.1371/journal.pone.0232537
11. **Parker LE**⁺, McElrone AJ, Ostoja SM, Forrestel EJ (2020) Extreme heat effects on perennial crops and strategies for sustaining future production. *Plant Science*. 295:110397. doi: 10.1016/j.plantsci.2019.110397
10. Reyes J, Elias E, Haacker E, Kremen A, **Parker L**, Rottler C (2020) Assessing agricultural risk management using historic crop insurance loss data over the Ogallala Aquifer. *Agricultural Water Management*. 232:106000. doi: 10.1016/j.agwat.2020.106000
9. Prev y J, **Parker L**, Harrington C, Lamb C, Proctor M (2020) Climate change shifts the habitat suitability and phenology of black huckleberry. *Agricultural and Forest Meteorology* 280:107803. doi: 10.1016/j.agrformet.2019.107803
8. **Parker LE**⁺, Abatzoglou JT (2019) Warming winters reduce chill accumulation for peach production in the southeastern United States. *Climate* 7(8):94. doi: 10.3390/cli7080094
7. Abatzoglou JT, **Parker LE** (2018) Climate change and the American West. *Idaho Law Review Natural Resources and Environmental Law Edition* 54(256).
6. **Parker LE**⁺, Abatzoglou JT (2017) Shifts in the thermal niche of almond under climate change. *Climatic Change* 147(1):211-224. doi: 10.1007/s10584-017-2118-6
5. **Parker LE**⁺, Abatzoglou JT (2017) Comparing mechanistic and empirical approaches to modeling the thermal niche of almond. *International Journal of Biometeorology* 61(9):1593.

doi: 10.1007/s00484-017-1338-9

4. Hicke JA, Abatzoglou JT, Daley-Laursen S, Esler J, **Parker L** (2016) Using scientific conferences to engage the public on climate change. *The Bulletin of the American Meteorological Society* 98(2):225.

doi: 10.1175/BAMS-D-15-00304.1

3. **Parker LE**⁺, Abatzoglou JT (2016) Projected changes in cold hardiness zones over CONUS. *Environmental Research Letters* 11(3):034001. doi: 10.1088/1748-9326/11/3/034001

2. **Parker LE**⁺, Abatzoglou JT (2015) Spatial coherence of extreme precipitation events in the Northwestern United States. *International Journal of Climatology* 36(6):2451. doi: 10.1002/joc.4504

1. Edwards LM, Bunkers MJ, Abatzoglou JT, Todey DP, **Parker LE** (2014) October 2013 Blizzard in Western South Dakota. *Bulletin of the American Meteorological Society* 95(9):S23

Manuscripts in Review

Parker LE⁺, Zhang N, Abatzoglou JT, Kisekka I, McElrone AJ, Ostojica SM (*in revision*) A variety-specific analysis of climate change effects on California winegrapes. *International Journal of Biometeorology*.

Zhang N, Parker LE, Ostojica S, Kisekka I (*in review*) Assessing the impact of crop water, precipitation, and soil moisture on the estimation of evapotranspiration of applied water. *Agricultural Water Management*.

Egea JA, **Parker LE**, Lopez-Alcolea J, Dicenta F (*in review*) Viability of extra-late almond cultivars from CEBAS-CSIC in cold areas of the western US in future climate scenarios. *Acta Horticulturae*.

Silber-Coats N, Elias E, Steele C, Fernald K, Gagliardi M, Hrozencik A, Levers L, Ostojica S, **Parker L**, Williamson J, Yao Yiqing (*in review*) The water adaptation techniques atlas: A new interactive geospatial atlas of solutions to water scarcity in the Western US. *PLOS Water*.

*Indicates intern or mentee. ⁺Indicates corresponding author role.

EXTERNAL FUNDING

Current

NIFA-AFRI, Senior Collaborator (\$1.5M; Ostojica (Co-PI) & Parker (Sr. collaborator) portion: \$435,726) 2021-
Multifaceted pathways to climate-smart agriculture through integrated participatory program development and delivery

NIFA-AFRI, Senior Collaborator (\$10M; Ostojica (Co-PI) & Parker (Sr. collaborator) portion: \$360,207) 2021-
Sustaining Groundwater and Irrigated Agriculture in the Southwestern United States Under a Changing Climate

University of California Davis Center for Global Affairs, Senior Collaborator (\$19,890) 2020-
Developing an international initiative for advancing the adaptive capacity of viticulture to climate change

California Department of Food and Agriculture, Co-I (\$427,763) 2019-
Informing vineyard irrigation practices through improved understanding of grapevine physiological responses to heat extremes

Completed

USDA OCE, Co-PI (\$50,000) 2022-2023
A water sensitivity analysis for sustaining irrigated agriculture in the Southwest

USDA OCE, Co-PI (\$50,000) 2020-2022
Translating the USDA Climate Indicators for Assessing Agriculture report into region-specific, actionable information for California's economically-important agrisystems

USDA Northwest Climate Hub, Co-I (\$40,000) 2017-2019
Mapping the current and future suitability of specialty crop cultivation in the Northwest

USGS Northwest Climate Science Center , Collaborator (\$70,464, Year 1)	2017-2018
<i>Will climate warming affect locations or timing of availability of food sources from native Northwestern shrubs?</i>	
The Mazamas , Co-I (\$1,000)	2008
<i>Climatic and geomorphic triggering mechanisms of Cascadian periglacial debris flows</i>	

Under Review

INVITED TALKS

Adaptive Silviculture for Climate Change Taylor Park Workshop	2022
<i>Setting the climate context for adaptive silviculture treatments of lodgepole pine sites in the Taylor Park area of the Gunnison National Forest</i>	
Western Colorado Food and Farm Forum	2022
<i>Climate-Ready Farms and Ranches for the New Not Normal</i>	
California Agriculture Labor Relations Board Meeting	2021
<i>Changes in climate and extreme heat and implications for agriculture in California</i>	
RTF Turf Producers Association National Conference	2016
<i>Will the grass always be greener? Climate change impacts on agricultural industries</i>	
Turf, Tree, and Landscape Conference	2016
<i>Climate change and Northwest agriculture: Boom or bust?</i>	
Coeur d'Alene Rotary Club	2015
<i>Climate change and Northwest agriculture</i>	
Shittennoji University IBU	2011
<i>(1) Public perception on US nuclear policy after the Fukushima Disaster</i>	
<i>(2) GIS and earthquake preparedness: A case study of Salt Lake City, Utah</i>	

CONFERENCE AND WORKSHOP SESSIONS FACILITATED AND CONVENED

<i>Climate-Ready Farms and Ranches for the New Not Normal</i>	2022
<i>Changes in climate and implications for agriculture in California's Central and Southern Coast Regions</i>	2021
<i>Women for the Land Learning Circle Climate Stressors and Solutions: Your Land, Your Leadership</i>	2020
<i>Approaches and strategies for adapting to and mitigating climate change in California agriculture. Session at Farming in the New Normal: A workshop on agriculture and climate.</i>	2020
<i>Linking climate information with CSA decisions and planning: Effects of climate change on agriculture and ecosystems. USDA Foreign Agricultural Service Landscape Climate Smart Agriculture Training.</i>	2019
<i>Linking climate information with CSA decisions and planning: Understanding climate change and using climate information. USDA Foreign Agricultural Service Landscape Climate Smart Agriculture Training.</i>	2019

NON-REFEREED PUBLICATIONS

Parker L. , Johnson D*, Pathak T, Wolff M, Jameson V, Ostojka S Adaptation Resources Workbook for California Specialty Crops . USDA California Climate Hub	2023
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- Eaton W, Robertson T, and co-authors including **Parker, L** *Advancing the Scholarship and Practice of Stakeholder Engagement in Working Landscapes: 34 Co-produced Research Opportunities*. Advancing Scholarship and Practice of Stakeholder Engagement in Working Landscapes Engagement Workshop Series Report 2022
- Winfield E*, **Parker L**, Ostoja S *Adaptation Resources for Agriculture, A Case Study: Full Belly Farm*. 2020
USDA California Climate Hub
- Parker L**, Ostoja S *California agriculture fact sheet series*. USDA California Climate Hub 2020
- Parker L** *What Specialty Crops Might Thrive in the Northwest in the Future?* 2019
Agricultural Climate Network, agclimate.net
- Parker L**, Abatzoglou J, Prendeville H, Edwards P. [Crop Suitability Tool Summary](#). 2019
USDA Northwest Climate Hub
- Parker L**, ed. [Partner Spotlights](#). USDA California Climate Hub 2019-2020
- Parker L**, Ostoja S., Smith J., Johnson D. [Newsletter from the California Climate Hub](#) 2018-2022
USDA California Climate Hub
- Parker LE**. *New perennial crops may be possible in Northwest under climate change*. 2018
Agriculture Climate Network, agclimate.net
- Parker LE**. *Modeling the thermal niche for perennial agriculture under current and future climate*. 2017
Doctoral Dissertation, University of Idaho
- Parker LE**. *Meteorological conditions associated with rain-related periglacial debris flows on Mount Hood, Oregon and Mount Rainier, Washington*. MS Thesis, Oregon State University 2009

CONFERENCE AND WEBINAR PRESENTATIONS

- Parker L**, Zhang N, Abatzoglou J, Kisekka I, McElrone A, Ostoja S. *Climate exposure and adaptive management opportunities for agriculture in the southwestern United States*. Second International Conference on Water Resources Management in Arid Regions 2024
- Parker L**, Santos N, Hegewisch K, Amidi-Abraham G, Burns J. *Emerging digital tools for effective water management in water scarce regions*. American Water Resources Association 2023
- Zhang N, **Parker L**, Abatzoglou J, Kisekka I, McElrone A, Ostoja S. *Climate change effects on California winegrapes and implications for water resources*. UCOWR Annual Conference 2023
- Parker L**, Pathak B, Grimm R. *California agriculture in a changing climate: Resources for Resilience* 2023
California Resource Conservation Districts Annual Conference
- Parker L**. *Irrigated agriculture's future climate suitability over key Southwestern groundwater basins* 2022
Southwest Groundwater NIFA SAS CAP Annual Symposium
- Parker L**. *Climate change and agriculture in California's Central Coast* 2021
Webinar presentation for the CAN Seminar Series
- Parker L**. *The USDA Climate Hubs: Actionable climate information for farmers, ranchers, and foresters* 2021
Soil and Water Conservation Society Annual Meeting
- Parker L**. *Climate change and California agriculture: Trends, impacts, and adaptation* 2020
American Farmland Trust Women for the Land Central Coast Learning Circle
- Prevéy J, Harrington C, **Parker L**, Brodie L. *Climate impacts on important food-producing shrubs: predicting change and disseminating results*. American Geophysical Union Annual Meeting 2019
- Parker L**, Jagannathan K, Reyes J. *Frost damage in specialty crops: current concerns, future risks, and implications for water resources*. American Geophysical Union Annual Meeting 2019
- Parker L**, Hegewisch K, Abatzoglou JT. *Opportunities and Obstacles for Northwest Specialty Crops in a Changing Climate*. Northwest Climate Conference 2019
- Parker L**, Abatzoglou JT. *Climate tools for specialty crop growers in the Northwest*. 2019
USDA Northwest Climate Hub and National Drought Mitigation Center
- Parker L** *From research to tools: How the California Climate Hub supports climate-smart agriculture*. 2019
California Climate and Agriculture Network Summit
- Prevéy JS, Harrington CA, **Parker LE**. *Changing ranges and phenology of culturally-important shrubs of the Pacific Northwest*. Ecological Society of America Annual Meeting 2018

Parker L. *Climate Mapper: A web-based tool for climate-informed decision making.* UC Extension outreach. 2018

Parker LE, Abatzoglou JT. *The Next California? Projected shifts in the climatological niche for perennial fruit and nut crops under climate change.* Northwest Climate Conference 2016

Parker LE, Abatzoglou JT. *Projected changes in cold hardiness zones and implications for Northwest agriculture.* Northwest Climate Conference 2015

Parker LE, Abatzoglou JT. *Projected changes in cold hardiness zones over CONUS.* REACCH Annual Conference *Awarded best poster at PhD level 2015

Parker LE, Abatzoglou JT. *Spatial coherence of extreme precipitation across the Northwestern United States.* Pacific Northwest Climate Science Conference 2014

Edwards LM, Bunkers MJ, Abatzoglou JT, Todey DP, **Parker LE.** *Climatological context of extreme events: The South Dakota blizzard of October 2013.* REACCH Annual Conference 2014

Abatzoglou JT, Farrell PD, **Parker LE.** *Characteristics of extreme precipitation events across the Pacific Northwest.* Center for Environmental Research Education and Outreach 2013

Parker L. *Bringing international collaboration into the classroom: The Salt Lake Community College faculty exchange program.* Utah International Higher Education Summit 2011

Iles, P. ed., and Coauthors including **L Parker.** *A multifaceted study of the condition of the Jordan River.* Spring Runoff Conference; Utah State University 2011

Grant GE, Nolin AW, and Coauthors including **L Parker.** *From atmospheric rivers to rivers of debris: Coupling extreme precipitation events, glacial retreat, debris flows, and channel changes on Mount Rainier, Washington.* MtnClim Consortium for Integrated Climate Research in Western Mountains; HJ Andrews Research Forest 2010

Parker L, Nolin AW. *Climatological and meteorological conditions associated with rain-induced periglacial debris flows in the Cascade Range, USA.* European Geophysical Union 2009

Nolin AW, **Parker L.** *Climatic and geomorphic triggering mechanisms of Cascadian periglacial debris flows.* Northwest Glaciologists 2008

CAMPUS AND DEPARTMENTAL TALKS

Convening, Synthesis, and Research in Support of California's Farmers and Ranchers 2022

Saving Eden: How climate change could impact California agriculture and what we can do about it 2021

Adapting California agriculture to climate change 2020

Adapting the food system to climate change: Opportunities and challenges 2020

2017

Adapting agriculture to climate change through perennial crop translocation 2018

A climate science primer 2017

Climate change impacts to agriculture 2017

Climate shapes our world 2016

The hydroclimate of the Northwest: Extremes, change, and implications for agriculture and water security 2015

TEACHING EXPERIENCE

Salt Lake Community College (Fall and Spring, 2010 - 2013)

Courses Taught Natural Hazards*

Earth Surface Environments* (Fall and Spring, 2010 - 2013)

Geospatial Technology (Fall, 2010 - 2012)
 Applied GIS I (Spring 2011 - 2013)
 Independent Studies (Spring 2011 - 2013)
Oregon State University
Labs and Recitations Taught (TA)
 Cartography (Fall 2007)

Physical Geography: Surface of the Earth (Spring
 2008; Lead TA, Fall 2008)
 Climatology (Spring 2009)

*Indicates classroom and online formats

RESEARCH EXPERIENCE

University of Idaho	2013-2017
Applied Climate Science Lab, Graduate Research Assistant	
Dissertation: <i>Modeling the niche for perennial agriculture under current and future climate</i>	
Oregon State University	2008
Mountain Hydrology Research Group, Graduate Research Assistant	
Thesis: <i>Meteorological conditions associated with rain-induced periglacial debris flows on Mount Hood, Oregon and Mount Rainier, Washington</i>	
National Park Service, Delaware Water Gap NRA	2006-2007
Conservation Intern, Division of Research and Resource Planning	

GRANT WRITING (2020-2021)

Total Awarded \$106,975

Details of grants (sponsors, awardees, titles, and amounts) have been removed from this online CV for confidentiality purposes. Please contact me for more information.

PROFESSIONAL AND INSTITUTIONAL SERVICE

Journal Reviewer: *Agriculture and Forest Meteorology, Atmosphere, Climate Research, Fire Ecology, Journal of Hydrometeorology, Nature, Physical Geography, PLOS One, Science of the Total Environment, Water, Nature Communications, Global Change Biology*

Professional Advisory and Review Committees

National Climate Change Road Map Horizon Scan Working Group	2023
USDA Plant Hardiness Zones Technical Review Committee	2022-2023
CalEPA OEHHA Indicators of Climate Change in California Report Technical Reviewer	2022
Climate Hubs Strategic Planning Process	2020
UCANR California Naturalist Program <i>Climate Stewards</i>	2019
Conference Sessions Moderated, Convened	
<i>Resilient Agroecosystems</i> (Co-Chair)	2020
American Geophysical Union Annual Meeting. Online.	
<i>More fruitful food systems: Production to consumption in a changing climate</i> (Moderator)	2018
Global Climate Action Summit, Affiliate Event; San Francisco, CA	

Conference, Workshop, and Meeting Committees

Southwest Groundwater Annual Symposium, Planning Committee	2022
Colorado Climate Summit & WERA102 Annual Meeting, Planning Committee	2019-2020
USDA-NRCS Solano County Producer Outreach Workshop, Planning Committee	2019-2020
WERA102 Annual Meeting, Co-Coordinator	2018
7 th Annual Northwest Climate Conference, Planning Committee	2016

6 th Annual Northwest Climate Conference, Coordinator and Planning Committees	2015
University of California Davis	
Climate Smart Agriculture Academic Coordinator I, Hiring Committee	2022
University of Idaho	
Progress and Tenure Committee	2017, 2014
Faculty Search Committee	2015, 2014
Salt Lake Community College	
<u>Committees</u>	
Faculty Senate	2010-2013
Academic Calendar Committee	2013
Faculty Search Committee	2012
Student Clubs Advisor	2010-2012
<u>Curriculum Design and Assessment</u>	
Online course development for Earth Surface Environments	2012
Assessment plan for Earth Surface Environments	2011-2012
Geospatial Sciences Professional Advisory Committee	2010-2012
Grant Editing	
UK Research and Innovation (UKRI) Future Leaders Fellowship. <i>Enhancing crops with C2 photosynthesis</i> . Line edit and copyedit	2019
CDFA Specialty Crop Multi-State Program. <i>Trait-based selective expansion of grapevine germplasm driven by adaptive potential for sustainable viticulture</i> . Line edit, copyedit, and budget review	2019

MEDIA COVERAGE AND SCIENCE COMMUNICATION

Media Coverage and Interviews: *National Geographic, Boise State Public Radio, InsideClimate News, Marin Independent Journal, Yale e360, Yale Climate Connections, Idaho Public Radio, Moscow-Pullman Daily News, The Argonaut, University of Idaho News, Environmental Research Web, AgClimate.net*

Science Communication

Science and History Interpretive Guide	2017
Letters, Op-Eds, Articles, Blog Posts	
<i>AgClimate.net</i> , New perennial crops may be possible in future	2018
Newspaper weekly series of scientist interviews*	2017

*Note that some information has been removed from this CV for privacy reasons. Please contact me if you need more information.

AWARDS AND HONORS

Research Awards

Mount Holyoke College, \$1000 <i>Climatic influences on Cascadian periglacial debris flows</i>	2008
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Additional Awards and Honors

University of Idaho

Diane Haynes Memorial Outstanding Graduate Student Award	2017
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Deans Graduate Student Award	2017
<u>Oregon State University</u>	
Muckleston Award	2009
<u>Mount Holyoke College</u>	
Claire Bates Davidson and Martha Godchaux Field Scholarships	2006

SELECTED COMMUNITY INVOLVEMENT (past 5 years)

*Note that this information has been removed for privacy reasons. Please contact me if you need more information.

AFFILIATIONS, CERTIFICATIONS, AND SKILL SETS

Affiliations

American Water Resources Association (current)
 National Extension Climate Initiative (current)
 American Geophysical Union (current)
 Association for International Agricultural and
 Extension Education (former)
 American Association of Geographers (former)

Certifications

Environmental Water Science,
 University of Idaho
Graduate Certificate in GIS and Remote Sensing,
 Oregon State University

Training

CITI Social & Behavioral Research Training

Specialized Software and Scripting

MATLAB
 ArcGIS suite

Products

Data and tool design for cold hardiness zones and
 crop suitability tools on the [Climate Toolbox](#)