

LILIANA CAUGHMAN, PH.D.

Postdoctoral Scholar | Arizona State University | School of Life Sciences, Tempe, AZ 85287
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EDUCATION

Portland State University

Doctor of Philosophy, Earth, Environment, & Society, 2020

“Collaboration and Evaluation in Urban Sustainability and Resilience Transformations: The Keys to a Just Transition?”

Evergreen State College

Master of Environmental Studies, 2017

“Tribal College Student Perspectives: Sustainability Education Curriculum in STEM”

University of California, Berkeley

Bachelor of Arts, Physics, 2014

Santa Barbara City College

Associate of Science and Mathematics, 2012

CURRENT ACADEMIC APPOINTMENTS

Postdoctoral Scholar, Earth Systems Science for the Anthropocene, School of Life Sciences, Arizona State University

Senior Global Futures Scholar, Julie Ann Wrigley Global Futures Laboratory, Arizona State University

Research Associate, Institute for Sustainable Solutions, Portland State University

PREVIOUS ACADEMIC APPOINTMENTS

2015 – 2021 **Instructional Faculty**, Department of Native Environmental Science, Northwest Indian College

PROFESSIONAL EXPERIENCE

2017 – 2020 **Graduate Research Assistant**, Institute for Sustainable Solutions, Portland State University

2018 – 2020 **Climate Policy Research & Planning Aide**, City of Portland Bureau of Planning and Sustainability

2015 – 2017 **Graduate Research Assistant**, Sustainability in Prisons Project, Evergreen State College

2016 – 2017 **Food Sovereignty Assessment Consultant**, Nisqually Indian Tribe

2014 – 2015 **Wind Energy Analyst**, DNV GL – Renewable Energy North America

2013 – 2014 **Research Fellow**, Atmospheric Physics, Scripps Institution of Oceanography, UC San Diego

2012 – 2014 **Program Assistant**, NSF Center for Energy Efficient Electronics Science, UC Berkeley

PUBLICATIONS

Thesis & Dissertation

[Caughman, L. E.](#) (2020). Collaboration and Evaluation in Urban Sustainability and Resilience Transformations: The Keys to a Just Transition? (Doctoral Dissertation, Portland State University)

[Caughman, L. E.](#) (2017). Tribal College Student Perspectives: Sustainability Education Curriculum in STEM (Master’s Thesis, Evergreen State College).

Refereed Articles

Leal Filho, W., [Caughman, L.](#), Pimenta Dinis, M. A., Frankenberger, F., Azul, A. M., & Salvia, A. L. (2022). Towards symbiotic approaches between universities, sustainable development, and cities. *Scientific Reports*, 12(1), 1-8.

Lerback, J. C., Holt, M. M., St Pierre, G. A. E., Putman, A., Tulley-Cordova, C. L., Caughman, L. Smith, W. A., & Alvarez, S. (2022). Community voices: Achieving real diversity in STEM requires the ability to transform institutions. *Nature Communications*, 13(1), 1-3.

Lerback, J. C., Bowen, B. B., Macfarlan, S. J., Schniter, E., Garcia, J. J., & Caughman, L. (2022). Development of a graphical resilience framework to understand a coupled human-natural system in a remote arid highland of Baja California Sur. *Sustainability science*, 17(3), 1059-1076.

Caughman, L., Withycombe Keeler, L., & Beaudoin, F. (2020). Real-time Evaluation of City-University Partnerships for Sustainability and Resilience. *Sustainability*.

Shandas, V., Matsler, A. M., Caughman, L., & Harris, A. (2020). Towards the implementation of green stormwater infrastructure: perspectives from municipal managers in the Pacific Northwest. *Journal of Environmental Planning and Management*, 63(6), 959-980.

Caughman, L. E. (2017). Sustainability education: how evolving STEM benefits underserved populations. *Interdisciplinary Environmental Review*, 18(3-4), 203-219.

Book Chapters

Caughman, L., Shandas, S. (2019). Integrating Environmental Assessments and Scenarios into Municipal Planning: The role of resilience workshops. Book chapter. *Environmental Assessments – Scenarios, Modeling, and Policy*. (in press)

Trivett, J. R., Pinderhughes, R., Bush, K., Caughman, L., & LeRoy, C. J. (2017). Sustainability Education in Prisons: Transforming Lives, Transforming the World. In *EarthEd* (pp. 237-247). Island Press, Washington, DC.

Accepted Articles

Caughman, L. (2022). Integrating a Sustainability Education Model into STEM Courses at a Tribal College: Building Diverse Scientists via Science Identity Development. *Theory & Practice in Rural Education*. Accepted.

Caughman, L. (2022). Characterization of Partnerships and Collaborations in US Cities' Urban Resilience Plans. *RAUSP Management Journal*. Accepted.

Submitted Articles

Caughman, L., Withycombe Keeler, L., & Beaudoin, F. (2021). Optimizing city-university partnerships for knowledge co-production, capacity-building, and urban transformation. *Current Research in Environmental Sustainability*. In review.

Manuscripts in Preparation

Caughman, L., Morrison, D., Miller, T. (2022). Tensions in Urban Resilience: A Method for Comparing City and Community Priorities and Framings. *Cleaner Production*.

Caughman, L. (2022). Equity Analysis & Community Priorities for Climate Action and Resilience Planning in Portland, Oregon. *Urban Geographies*.

Caughman, L. (2022). Just Transformative Capacity: Implementing and Activating Urban Just Transitions. *Ambio*.

Caughman, L. (2022). The Role of Public Parks and Green Spaces: Lessons from Infrastructure Planning in Portland Oregon.

Conference Proceedings

Caughman, L., Lerback, J., Clark, M. (2022) Co-developing an Ethic of Equity and Justice in Hydrological Research: A Practical How-to Guide for Water Scientists, Social Scientists, and Everyone In-between. AGU Frontiers in Hydrology.

John, B., Bernert, P., Beecroft, R., Caughman, L., Beaudoin, F., Keeler, L. (2019). Formative Evaluation of City- University Partnerships for Sustainability: International - Intercultural perspectives. Leverage Points 2019 International conference on sustainability research and transformation.

Caughman, L., Beaudoin, F., Keeler, L., John, B., & Bernert, P. (2018). Panel: Building effective city-university partnerships for accelerating resilience implementation. IFoU 2018: Reframing Urban Resilience Implementation: Aligning Sustainability and Resilience session Climate Resilience Governance and Planning

Beaudoin, F., & Caughman, L. (2018). City-university Partnerships and Capacity Building: Integrated resilience planning in Portland, Oregon. IFoU 2018: Reframing Urban Resilience Implementation: Aligning Sustainability and Resilience session Climate Resilience Governance and Planning

Caughman, L., Evan, A., & Dehaan, L. (2013). Sahara Heat Low Perturbations and Water Vapor in the Sahel: A Positive Feedback System. *AGUFM, 2013*, ED33D-0817.

White Papers & Policy Reports

Caughman, L. (2020). Innovative Climate Action Planning: A Review. Completed for the Clackamas County Climate Action Team, January 2020.

Caughman, L. (2019). A Just Transition Framework for Portland Climate Action Planning. Completed for the Portland Bureau of Planning and Sustainability, November 2019.

Caughman, L (2019). Analysis: Community Equity Priorities in Climate Planning. Completed for the Portland Bureau of Planning and Sustainability, January 2019.

Caughman, L. (2018). Deep Direct Thermal Energy Storage Environmental Regulations Report. Completed for the Bureau of Planning and Sustainability, USGS, and DOE, July 2018.

Caughman, L. et al. (2018). Resilience Infrastructure Planning Exercise (RIPE) Summary of Findings. Report prepared for City of Portland, June 2018.

https://www.pdx.edu/sustainability/sites/www.pdx.edu.sustainability/files/iss/ripe-report_web-final.pdf

Caughman, L. et al. (2017). City of Portland 2016 Building Energy Performance Reporting Results. Report prepared for Portland Bureau of Planning and Sustainability, October 2017.

<https://www.portlandoregon.gov/bps/article/656939>

Caughman, L. (2017). The Value of Parks in Post-Disaster Recovery. Literature review prepared for the Portland Bureau of Parks and Recreation, October 2017).

Caughman, L. et al. (2017). Green Building Policy Cost Assessment. Report prepared for the Portland Housing Bureau and Portland City Council, December 2017.

Caughman, L. et al. (2017). Nisqually Food Sovereignty Assessment. Report prepared for Nisqually Indian Tribe, July 2017. [http://www.nisqually-](http://www.nisqually-nsn.gov/files/5815/1076/7612/NisquallyFoodSovereigntyAssessmentReport2017.pdf)

[nsn.gov/files/5815/1076/7612/NisquallyFoodSovereigntyAssessmentReport2017.pdf](http://www.nisqually-nsn.gov/files/5815/1076/7612/NisquallyFoodSovereigntyAssessmentReport2017.pdf)

Caughman, L (2017). Sustainability in Prisons Project Environmental Education Program Assessment. Completed for the Washington Department of Corrections (WDOC) and SPP, April 2017.

<http://sustainabilityinprisons.org/blog/2017/04/17/what-do-the-students-get-from-spp-lectures-part-three/>

Non-refereed and Popular Publications

Caughman, L (2017). Portland Urban Landscapes: then and now. Blog post, 2017.
<https://lilianacaughman.com/2017/11/18/portland-landscapes-then-and-now/>

Caughman, L (2017). Sustainability in Prisons Project Environmental Education Blog Series. Completed for the Washington Department of Corrections (WDOC) and SPP, 2016-2017.
<http://sustainabilityinprisons.org/blog/author/caughmal/>

GRANTS

Awarded

PI: Amy Snover (UW). Co-PI: Jennifer Allen (PSU); Russel Callender, Meade Krosby, Guillaume Mauger, Crystal Raymond, Jason Vogel (UW); Patricia Hernandez (Headwaters Economics); Katrina Running (ISU); Chad Kruger (WSU); Marco Hatch (WWU). Senior Personnel: **Liliana Caughman**, Vivek Shandas (PSU); Addie Candib (American Farmland Trust); Esther Min (Front and Centered); Kackson Blalock, Melissa Poe (Washington Sea Grant); Sonia Hall, Georgine Yorgey (WSU); Bernadita Sallato (Center for Sustaining Agriculture and Natural Resources). The Northwest Climate Resilience Collaborative: Centering Frontline Communities in Climate Adaptation Science, Assessments and Solutions. NOAA's Northwest RISA Program (Competition #292548). **Award \$5.6 million.**

Co-PI: **Liliana Caughman**, Nancy Grimm, Michele Clark, Michelle Hale (ASU). Healthy Urban Rivers Grant, Arizona Department of Forestry and Fire Management. Rio Reimagined Healthy Ecosystems and Immersive Team Science. **Award \$66,000.**

Project PI and ASU PI: Lauren Withycombe Keeler. PSU Collaborators: Fletcher Beaudoin; Liliana Caughman. Global Consortium for Sustainability Outcomes. CapaCity: Building CapaCity for Climate Resilience and Sustainability in Cities. Award \$100,000.

Co-PI: Lauren Withycombe Keeler, PI Fletcher Beaudoin. Collaborator: Liliana Caughman. CapaCity – Building Sustainability Implementation Capacity in City Staff and Leadership. Award: \$125,000.

Submitted & Pending

PI: Melissa Nelson (ASU). Co-PI: **Liliana Caughman**, Michele Clark (ASU). NSF EHR Racial Equity in STEM Grant. Racial Equity: Immersive, Interdisciplinary, Identity-based Team Science Experiences for Indigenous Graduate Scholars. **Award \$1.6 million.**

Co-PI: **Liliana Caughman**, Nancy Grimm, Michele Clark, Michelle Hale (ASU). Women & Philanthropy Grant Program. Immersive, Interdisciplinary, and Identity-based Team Science Experience. **Award \$40,000.**

Co-PI: **Liliana Caughman**, Mahmud Farooque (ASU). ASU Collaborators: David Morrison, Michelle Hale, City-University Exchange. External Collaborators: Chicanos Por La Causa. NOAA Environmental Literacy Program: Increasing community resilience to extreme weather and climate change. Rio Reimagined: Innovative and equitable visioning for the Salt River. **Award \$500,000.**

AWARDS, HONORS, AND FELLOWSHIPS

2021 Global Futures Laboratory, Postdoctoral Fellow
 2020 Graduate Sustainability Honors, Portland State University
 2020 Sustainability Inspiring Student Award – Finalist, Portland State University
 2019 Sustainability Fellow, Portland State University
 2017 Graduate Sustainability Fellowship, Evergreen State College
 2016 Emory Pyle Scholarship Award, Evergreen State College
 2016 NSF Graduate Research Fellowship Program – Honorable Mention

- 2014 Shinryo-en Fellow, University of California, Berkeley
- 2013 NSF Undergraduate Research Fellow, Scripps Institution of Oceanography
- 2012 Laurie Converse Scholar for Excellence in STEM, Santa Barbara City College

INVITED TALKS

- 2022 – Climate Reality Project, speaker series. “Reciprocity, Relevance, Respect, and Responsibility: Partnering with Indigenous Communities on Complex Sustainability and Resilience Initiatives”
- 2021 – University of Utah, Global Change and Sustainability Center, Seminar Series. “From Climate Action to Climate Justice: How scenarios, partnerships, and community priorities are driving equitable urban sustainability and resilience planning in Portland, Oregon”
- 2020 – Portland Bureau of Planning and Sustainability, Climate Action Team. *Climate Action Planning: Evaluation Results and Future Approaches.*
- 2019 – Urban Sustainability Directors Network, *Integrating Community Equity Priorities into Climate Action Planning.*
- 2019 – Portland Bureau of Planning and Sustainability, Portland Clean Energy Fund. *From Environmental Justice to Just Transitions.*
- 2019 – Oregon Department of Energy, Zero Emission Vehicle Interagency Work Group and Oregon EV Collaborative. *Community Equity Priorities and a Just Transition to EV Adoption.*
- 2018 – Portland Bureau of Planning and Sustainability, Climate Action Team and Sustainability Department. *Community Equity Priorities for Climate Action Planning and Implementation.*
- 2018 – Washington State Department of Corrections. *What is Just Sustainability?*
- 2017 – Portland Bureau of Parks and Recreation. *The Role of Parks in Community Resilience and Recovery.*
- 2016 – Washington State Department of Corrections. *The Sustainability in Prisons Project Lecture Series: Lesson Learned*
- 2015 – Washington State Department of Ecology. *Sustainability in Prisons Project: Unlikely Partnerships.*

CONFERENCE, SYMPOSIA, & WORKSHOP ACTIVITY

Organized & Facilitated

- 2021 – Earth Systems Science for the Anthropocene Annual Symposium, Arizona State University, School of Life Science and Global Futures Lab
- 2019 – Resilience Governance Planning Workshop, City of Portland, Urban Resilience to Extremes Sustainability Research Network.
- 2019 – Resilience Visioning Workshop, City of Portland, Urban Resilience to Extremes Sustainability Research Network.
- 2019 – Practitioner Led Urban Sustainability Research Symposium, Aspen Global Change Institute, University of Michigan.
- 2019 – CapaCities Workshop 3 – International work group on city-university partnerships for sustainability and resilience. Global Consortium for Sustainability Outcomes. Portland State University.

2018 – CapaCities Workshop 2 – International work group on city-university partnerships for sustainability and resilience. Global Consortium for Sustainability Outcomes. Barcelona, Spain.

2018 – CapaCities Workshop 1 – International work group on city-university partnerships for sustainability and resilience. Global Consortium for Sustainability Outcomes. Leuphana University, Germany.

2018 – Oregon Washington Sustainability in Higher Education Conference. Portland State University.

2017 – Resilience Infrastructure Planning Exercise, City of Portland. Portland State University.

Presented

2019 – Practitioner Led Urban Sustainability Research Symposium, Aspen Global Change Institute, University of Michigan. *Formative evaluation and adaptive management of city-university partnerships for sustainability and resilience.*

2019 – Graduate Education for a New Sustainable Urban Systems Science: Integrating Sustainability Science and Urban Science. Arizona State University. *Climate Action Planning in Portland, Oregon.*

2017 – Teaching in an Age of Climate Consequences Conference, Washington Center Curriculum for the Bioregion. *Interdisciplinary Problem-Solving Project for the Diverse Science Classroom.*

2016 – Just Sustainability Conference, Seattle University. *Diversity in STEM and Sustainability Education.*

2013 – American Geophysical Union Conference. *The Sahel Region of Africa: A Positive Feedback System.*

Participant

2021 – SACNAS National Diversity in STEM (NDiSTEM) Digital Conference

2020 – National Tribal and Indigenous Climate Change Conference (NTICC)

2020 – Urban Resilience to Extremes Sustainability Research Network (UREX SRN) All-Hands Meeting

2020 – National Energy & Utility Affordability Coalition Conference (NEUAC)

2019 – Oregon Washington Sustainability in Higher Education Conference. University of Washington

Campus and Departmental Talks

2019 – Joint Campus Research Colloquium, Portland State University. *Infrastructure Resilience and Recovery Planning in Portland, Oregon.*

2018 – Environmental Science and Management Department Seminar. *Portland RIPE: Lessons from the Resilience Infrastructure Planning Exercise*

SERVICE TO PROFESSION

2022 – Justice in Geosciences AGU Chapman Conference, Participant

2022 – Co-editor, Special Issue on Social and Environmental Justice, Hydrological Sciences Journal

2022 – Session convener, Co-developing an Ethic of Equity and Justice in Hydrological Research, AGU Frontiers in Hydrology,

2022 – Poster Judge WAESO Student Research Conference

2021 – Interviewer, Presidential Postdoctoral Fellowship, School of Life Sciences, Arizona State University

2021 – Earth Systems Science for the Anthropocene graduate student mentor, Arizona State University

2019 – Co-wrote response to NSF’s Sustainable Urban Systems Solicitation summarizing recommendations on future urban sustainability research, co-production, and convergence. (PLUS Symposium results)

2019 – Co-wrote response to NSF’s Sustainable Urban Systems Solicitation summarizing recommendations on the future urban sustainability science research and graduate education. (Graduate Education for a New Sustainable Urban Systems Science meeting results)

2019 – Peer Review of Journal Manuscripts. *Geography Compass*.

2018 – Peer Review of Book Chapter Manuscript. *Environmental Assessments: Scenarios, Modelling and Policy*

2018 – Invited Guest: Student Sustainability Fellows Social Hour Talk and Q&A, Portland State University.

2017 – Panel participant for incoming graduate students, Environmental Studies department, Evergreen State College.

STUDENT ADVISING & MENTORING

Arizona State University:

2022- Mentoring two Research Experience for Undergraduates (REU) students through the Central Arizona Phoenix Long-term Ecological Research (CAP LTER) program

2022 – Mentoring undergraduate researcher from Barrett Honors College

Northwest Indian College:

2021 – Committee Chair, Henry, BA in Native Environmental Science. Capstone: “Climate Change: Nisqually Fisheries and Wildlife Management”

2021 – Committee Member, Alisa, BA in Native Environmental Science. Capstone: “Mapping the Cascade Red Fox: Uniting Tradition, Culture, and Future Management”

2020 – Committee Chair, Jessica Jack, BA in Native Environmental Science. “Climate Change Impacts on Traditional and Accustomed Huckleberries Harvesting Locations”

Portland State University:

2019 – Mentor & Supervisor, Virginia Saraswati, Master of Urban and Regional Planning. Project: “Portland Parks and Recreation Employee Perspectives on Resiliency Planning and Implementation”

2019 – Mentor & Supervisor, Devin Wark, Master of Science in Economics, 2019. Project: “Economic Impact Assessment for East Portland Community Center Earthquake Resilience”

2018 – Mentor & Supervisor, Ellen Palmquist, Master of Urban and Regional Planning. Project: “Portland Parks and Recreation Employee Perspectives on Resiliency Planning and Implementation”

TEACHING EXPERIENCE

Arizona State University

Earth Systems Science for the Anthropocene Graduate Reading and Reflection Seminar (BIO 591, ELS 591, SOS 591; Fall 2021, Spring 2022)

Developing Identity-based, Interdisciplinary, and Integrated Team Science Experiences (Session B, Spring 2022)

Portland State University

Urban Resilience Internship Cohort (2018-2020)

Climate Action Internship (2017-2018)

Native Environmental Science Specialty Courses:

Encounters in Sustainability Science (Fall 2020)

Environmental Storytelling Through Imaging (Spring 2021)

Finding things out in Sustainability & Earth Science (Fall 2016, Winter 2017)

Finding things out in Sustainability & Life Sciences (Summer 2016)

Food Sovereignty Systems (Spring 2017)

Native Environmental Science Core Courses:

Biostatistics (Fall 2020)

Chemistry (Spring 2020)

Ecology (Winter 2021)

General Biology Series (Winter 2019, Fall 2020, Winter 2021, Spring 2021)

Intro to Earth Science (Spring 2020)

Northwest Plants (Spring 2019)

Native Environmental Science Seminar Series – Indigenous Research (Spring 2019, Fall 2019)

Advanced Native Environmental Science Seminar Series - Indigenous Theory & Methods (Winter 2020)

MEDIA COVERAGE

Interview. *Sustainable Women Series: Fostering Sustainability in Prisons*. Renewable Energy World, 2016.

<https://www.renewableenergyworld.com/2016/09/07/sustainable-women-series-fostering-sustainability-in-prisons/>

Article. Sustainability in Prisons Project, Allies, and Friends: Thank you and Goodbye. Sustainability in Prisons blog series, 2017. <http://sustainabilityinprisons.org/blog/2017/07/25/spp-allies-and-friends-thank-you-and-goodbye/>

Video. Integrated resilience planning in Portland. Urban Resilience Research Network, 2018.

<https://www.facebook.com/urbanresilienceresearch/videos/310640176447852>

Article. CapaCity: Building Capacity for Climate Resilience. Global Consortium for Sustainability Outcomes, 2018. <https://sustainabilityoutcomes.org/capacity-building-capacity-for-climate-resilience-and-sustainability-in-cities/>

COMMUNITY INVOLVEMENT

Portland Bureau of Planning and Sustainability Budget Advisory Committee Member. FY 2019-2020.

<https://www.portlandoregon.gov/bps/article/704532>

Sunrise Movement PDX. Just Transition organizer and research committee member.

<https://www.sunrisepdx.org/>

MEMBERSHIPS & AFFILIATIONS

Global Consortium for Sustainability Outcomes | UREx Sustainability Research Network | Pacific Northwest Tribal Climate Change Network

REFERENCES

Nancy Grimm, Regents Professor; Virginia M. Ullman Professor of Ecology; Distinguished Sustainability Scientist, Julie Ann Wrigley Global Institute of Sustainability. 4501, School of Life Sciences, 427 E Tyler Mall, LSA316, Tempe, AZ 85287, nbgrimm@asu.edu, +480-965-4735

Vivek Shandas, Associate Professor of Urban Studies and Planning, Nohad A. Toulan School of Urban Studies and Planning, and Department of Environmental Science and Management. Director, Sustaining Urban Places Research (SUPR) Lab. Chair, Urban Forestry Commission - City of Portland. Urban Center, Room 350, 506 SW Mill St. Portland, Oregon 97201, vshandas@pdx.edu, +1(503) 725-5222

Thaddeus Miller, Associate Professor, School of Public Policy, University of Massachusetts Amherst. 626 Thompson Hall, 200 Hicks Way Thompson Hall Amherst, MA 01003, thaddeusmill@umass.edu, +1(413) 545-3940

Lauren Withycombe Keeler, Assistant Research Professor, School for the Future of Innovation in Society, Arizona State University. PO Box 875603, Tempe, AZ 85287-5603, Lauren.Withycombe@asu.edu, +1(480) 290-5172

Jean MacGregor, Faculty Emeritus, Environmental Studies, the Evergreen State College. Founder and Director, The Washington Center, Curriculum for the Bioregion, the Evergreen State College. JeanMacg@thurston.com

Michele Crim, Former Chief Sustainability Officer, City of Portland, Oregon, Bureau of Planning and Sustainability. michele@crimdom.net