

Mariah Danielle Caballero

Assistant Professor
Wellesley College
Department of Environmental Studies
106 Central Street, Wellesley, MA 02481
☎ +1-781-283-7126
✉ mc152@wellesley.edu

Academic Appointments

2025 - Present **Wellesley College**, Wellesley, MA
Assistant Professor, Environmental Studies

Education

Ph.D. Community Research & Action, Vanderbilt University	2020 - 2025
<i>Dissertation: Prioritizing Rural Communities for Reasonably Achievable Emissions Reductions</i> <i>Graduate Certificate in College Teaching, Center for Teaching</i>	
M.S. Community Research & Action, Vanderbilt University	2020 - 2023
B.A. Biology and Geography (Double Major), Vassar College	2015 - 2019

Research Interests

- **Community-Defined Decarbonization:** Identify the challenges and opportunities for clean energy transitions at the community-level.
- **Federal and State Climate Policy:** Explore the impacts of federal and state climate policies on rural and coastal communities.
- **Energy Justice:** Translate energy justice theory into praxis for scholars and community-level stakeholders.
- **Meaningful Energy Development:** Create actionable policy suggestions for renewable energy development to prioritize long-term community benefits.

Teaching Interests

- **Community-Engaged Data Science:** Open-ended projects co-designed with community partners to support student learning outcomes using R programming and Posit products, including data visualization and spatial analysis.
- **Geospatial Information Systems:** Project-based learning using R programming and Esri products to promote spatial analysis, visualization, and communication skills.
- **Critical Service Learning:** Immersive learning opportunities on topics of clean energy and policy development, with ongoing critical reflection.

Publications

A. Articles

1. Flores, A., Burgess, M.G., **Caballero, M.D.**, Carrico, A.R., Miller, J.E., Suarez, C., & Vandenberg, M.P. (2025) Americans are Polarized about Electric Vehicles, but not Teslas. *Nature Humanities and Social Sciences*. 12(1193). DOI: <https://doi.org/10.1057/s41599-025-05242-8>
2. **Caballero, M.D.**, Vandenberg, M.P., & *Thorpe, E. (2025) Information for Environmental Governance: The Value of State of the Environment Reports in a Polarized Era. *The George Washington Journal of Energy and Environmental Law*. 16(2).
3. **Caballero, M.D.**, Vandenberg, M.P., Gilligan, J.M., & Currier, E.O. (2024) Incentivizing household action: Exploring the behavioral wedge in the 2021 Infrastructure Investment and Jobs Act and the 2022 Inflation Reduction Act. *Energy Policy*. 186. DOI: [10.1016/j.enpol.2024.113992](https://doi.org/10.1016/j.enpol.2024.113992)
4. **Caballero, M.D.**, Gunda, T., & McDonald, Y.J. (2023) Energy justice & coastal communities: The case for Meaningful Marine Renewable Energy Development. *Renewable and Sustainable Energy Reviews*. 184. DOI: [10.1016/j.rser.2023.113491](https://doi.org/10.1016/j.rser.2023.113491)
5. McDonald, Y.J., Anderson, K.M., **Caballero, M.D.**, Ding, K.J., Fisher, D.H., Morkel, C.P., & Hill, E.L. (2022) A systematic review of geospatial representation of United States community water systems. *AWWA Water Science*. 4(1). DOI: [10.1002/aws2.1266](https://doi.org/10.1002/aws2.1266)
6. **Caballero, M.D.**, Gunda, T., & McDonald, Y.J. (2022) Pollution in the Press: Employing Text Analytics to Understand Regional Water Quality Narratives. *Frontiers in Environmental Science*. 10. DOI: [10.3389/fenvs.2022.770812](https://doi.org/10.3389/fenvs.2022.770812)
7. **Caballero, M.D.**, Amiri, S., Denney, J.T., Monsivais, P., Hystad, P., & Amram, O. (2018) Estimated Residential Exposure to Agricultural Chemicals and Premature Mortality by Parkinson's Disease in Washington State. *International Journal of Environmental Research and Public Health*. 15(12). DOI: [10.3390/ijerph15122885](https://doi.org/10.3390/ijerph15122885)

B. Working Papers & Papers Under Review

Note: "*" denotes undergraduate co-authorship

1. **Caballero M.D.**, Alvarez-Carrascal M.F.V., Gilligan, J.M., & McDonald, Y.J., (2025) Understanding and Prioritizing Latinx Household Needs for A Just Energy Transition: A Pilot Study in Washington State and Tennessee. *Under Review*.
2. Caiola, M.A., Wyman, S.P., *Crone, E.W., Robbins, N.N., **Caballero, M.D.**, & McDonald, Y.J., (2025) Community-based Participatory Geographic Information Systems: Informing a Geospatial Drinking Water Research Agenda. *Under Review*.
3. Anderson, K.M., **Caballero, M.D.**, Podraza, A., *Caiola, M.A., & McDonald, Y.J. (2025) Spatializing Water Justice: Using Community Water System Estimated Service Area Boundaries to Understand Drinking Water Violations.. *Working Paper*.

B. Book Chapters

1. **Caballero, M.D.**, Peplinski, W.J., & McDonald, Y.J., (2025) Wave Energy. *Encyclopedia for Environmental Justice*.

C. Technical Reports

1. **Caballero, M.D.**, *Thorpe, E.I., & Vandenberg, M.P. (2024) Tennessee State of the Environment Annual Report. *Vanderbilt Law School*. Nashville, TN.

2. **Caballero, M.D.**, Bansal, A., Moore-Bloom, R., & Quigley, E.V. (2022) Community-Defined Decarbonization: Reflecting Rural Desires for an Equitable Clean Energy Transition in Washington. *Clean Energy Transition Institute*. Seattle, WA.
3. Tidwell, V., Gunda, T., **Caballero, M.D.**, Xu, P., Xu, X., Bernknopf, R., Broadbent, C., Malczynski, L., & Jacobson, J. (2022) Produced Water-Economic, Socio, Environmental Simulation Model (PW-ESEim) Model: Proof-of-Concept for Southeastern New Mexico. *Sandia National Laboratories*. Albuquerque, NM. DOI: [10.2172/1868149](https://doi.org/10.2172/1868149)
4. Blackmon, G., Celt, S., Pressler, S., Stephanie Celt, Quigley, E.V., Moore-Bloom, R., **Caballero, M.D.**, MacArthur, K., Hargreaves, J., & Pickrell, K. (2024) Green Electrolytic Hydrogen and Renewable Fuels: Recommendations for Deployment in Washington State. *Report Pursuant to Chapter 292, Laws of 2022 (Contract #: 23-52231-001)*. Olympia, WA.

D. Other

1. Ruhl, J.B. & **Caballero, M.D.** (2024) Podcast: Mariah Caballero- Doctoral Student in Vanderbilt's Community Research and Action Program. *Climate at Vanderbilt*.

Grants and Fellowships

1. Vanderbilt Law School. "Energy Environment & Land Use Graduate Research Fellowship". \$24,000. Aug. 2024 - May 2025
2. Vanderbilt Law School. "Rural Democracy Research Grant". \$7,000. May 2024 - May 2025
3. Vanderbilt Graduate School Lacey-Fischer Interdisciplinary Research Grant. "[Understanding and Prioritizing Latinx Household Needs for a Just Energy Transition: A Pilot Study in Tennessee and Washington State](#)". Alvarez-Carrascal F., Gilligan, J.M., & McDonald, Y.J.. \$7,500. May 2024 - Aug 2024
4. Vanderbilt Law School. "Energy Environment & Land Use Graduate Research Fellowship". \$18,000. Aug. 2023 - May 2024
5. Vanderbilt Graduate School. "[Russell G. Hamilton Scholarship](#)". \$50,000. Aug. 2020 - May 2025
6. Vassar College. "Environmental Research Initiative". \$500. Oct. 2018 - Feb. 2019
7. Vassar College. "Engaged Pluralism Initiative". \$500. Oct. 2018 - Feb. 2019

Honorable Mentions

1. National Academies. "Ford Foundation Pre-Doctoral Fellowship". \$81,000. 2021
2. National Academies. "Ford Foundation Pre-Doctoral Fellowship". \$81,000. 2022
3. Robert Wood Johnson Foundation. "Health Policy Research Fellowship". \$120,000. 2021

Honors & Awards

- 2024: Provost's Pathbreaking Scholar Award.
- 2024: First Runner-Up, AI Team Showcase, Data Science Institute, Vanderbilt University.
- 2023: COP28 Youth Delegate, United Nations Conference of the Parties.
- 2022: Behavior, Energy, and Climate Change Student Fellow.
- 2022: Three Minute Thesis Competition Finalist, Vanderbilt University.
- 2021: Doctoral Student Poster Award, Yale New Horizons in Conservation Conference.
- 2019: Kate Roberts Prize for Excellence in Biology, Vassar College.

Presentations

A. Conference Presentations

1. "Tennessee State of the Environment Report", with Thorpe, E.. Vanderbilt University Law School. Nashville, TN. Mar, 2025.
2. "Individual Action and Learning from Young Conservatives". Bypassing Climate Polarization Conference. Nashville, TN. Oct, 2024.
3. "Tennessee State of the Environment Report", with Thorpe, E.. Vanderbilt University Law School. Nashville, TN. Feb, 2024.
4. "Community-Defined Decarbonization: Reflecting Rural and Tribal Desires for an Equitable Clean Energy Transition in Washington State". American Association of Geographers. Denver, CO. Mar, 2023.
5. "Marine Renewable Energy: Identifying Opportunities to Promote Energy Justice and Community Buy-in", with Gunda, T., & McDonald, Y.J.. American Association of Geographers. Denver, CO. Mar, 2023.
6. "Risks of Reductionism: Comparing Climate & Equity Methodologies for Interdisciplinary Energy Justice Research", with Mott, J., Jackson, N. & Staid, A.. Society for Risk Analysis. Tampa, FL. Dec, 2022.
7. "Marine Renewable Energy: Identifying Opportunities to Promote Energy Justice and Community Buy-in", with Gunda, T., & McDonald, Y.J.. Behavior, Energy, and Climate Change. Washington, DC. Nov, 2022.
8. "An Empowerment Framework for Community-Engaged Research", with Haapanen, K.A., & Wiley, K.. All-in: Co-Creating Knowledge for Justice. Santa Barbara, CA. Oct, 2022.
9. "Community-Defined Decarbonization: Reflecting Rural and Tribal Desires for an Equitable Clean Energy Transition in Washington State". Washington State Solar Conference. Seattle, WA. Sep, 2022.
10. "Crude Oil Production and Regulation of BTEX in Drinking Water in the United States", with Anderson, K.M.. American Association of Geographers. virtual. Apr, 2021.
11. "Pollution in the Press: Employing Text Analytics to Understand Regional Water Quality Narratives", with Gunda, T., & McDonald, Y.J.. American Association of Geographers. virtual. Apr, 2020.

B. Posters

1. "Understanding and Prioritizing Latinx Household Needs for a Just Energy Transition", with Alvarez-Carrascal, F.V.. American Geophysical Union. Washington, DC. Dec, 2024.
2. "Exploring Drinking Water (In)justice at the Community-Level: Methodological Applications to Promote Change", with Anderson, K.M. & McDonald, Y.J.. Yale New Horizons in Conservation. virtual. Mar, 2022.
3. "Tennessee Private Well Project: Estimating Alternative Water Sources, Reliant Populations, and Contaminant Risk in Rural Tennessee", with Fernandez, A., Manners, J., Roark, E., & McDonald, Y.J.. Yale New Horizons in Conservation. virtual. Mar, 2022.
4. "Pollution in the Press: Employing Text Analytics to Understand Regional Water Quality Narratives", with Gunda, T., & McDonald, Y.J.. American Geophysical Union. virtual. Dec, 2020.
5. "Assessing Active Extramural Awards at NIOSH: An Overview of Research Outputs by the Top 7 States Receiving the Greatest Number of Grants in FY2018", with Lioce, M & Williams, D.. Annual CDC Undergraduate Public Health Scholars Conference. Atlanta, GA. Aug, 2019.

C. Invited Lectures

1. "Climate Research Spotlight". Vanderbilt University Chancellor's Dare to Grow Initiative. Los Angeles, CA. Oct, 2024.

2. "Tennessee Private Well Project: Estimating Alternative Water Sources, Reliant Populations, and Contaminant Risk in Rural Tennessee", with Fernandez, A., Manners, J., Roark, E., & McDonald, Y.J., National Environmental Health Association Webinar.. virtual. Mar, 2022.

Research & Lab Affiliations

Energy Environment & Land Use (EELU) Graduate Research Fellow	Aug 2023 - present
Pl: Michael Vandenberg, Vanderbilt University Law School, Nashville, TN	
Clean Energy Transition Institute Graduate Research Fellow	Jan 2022 - present
Executive Director: Eileen Quigley, CETI, Seattle, WA	
Drinking Water Justice Lab Graduate Research Assistant	May 2020 - present
Pl: Yolanda J. McDonald, Vanderbilt University, Nashville, TN	
Sandia National Laboratories Graduate Research and Development Intern	Apr 2020 - Nov 2023
Pls: Thushara Gunda and Nicole Jackson, Albuquerque, NM	
Oak Ridge Associated Universities Data Analyst	Aug 2019 - June 2020
Pl: Mike Schock, Environmental Protection Agency, Cincinnati, OH	
Project IMHOTEP Research Intern	Jun 2019 - Aug 2019
Mentor: Maria Lioce, Center for Disease Control (NIOSH), Atlanta, GA	
Community Health & Epidemiology Lab Undergraduate Research Fellow	Jun 2018 - Aug 2018
Pl: Ofer Amram, Washington State University Medical School, Spokane, WA	

Teaching & Mentorship

A. Workshops

1. "Meta-analysis in RStudio". Vanderbilt University, Peabody College. Nashville, TN. Nov, 2023.
2. "Mapping in RStudio". Vanderbilt University. Nashville, TN. Oct, 2023.

B. Guest Lectures

1. "Climate Justice & Healthy Homes". Portland State University. Portland, OR. May, 2025.
2. "Understanding and Prioritizing Latinx Household Needs for a Just Energy Transition". Vanderbilt University, Peabody College. Nashville, TN. Feb, 2025.
3. "Understanding and Prioritizing Latinx Household Needs for a Just Energy Transition". Vanderbilt University, Peabody College. Nashville, TN. Oct, 2024.
4. "IIJA, IRA & Justice40: Challenges & Opportunities for Implementation.". Yale University Law School. virtual. Apr, 2024.
5. "Climate Ready and Healthy Homes". Vanderbilt University, Peabody College. Nashville, TN. Mar, 2024.
6. "Decarbonization, Energy Justice, and Individual Action". Vanderbilt University, Peabody College. Nashville, TN. Oct, 2023.
7. "GIS and Drinking Water Justice", with McDonald, Y.J.. Vanderbilt University, School of Engineering. Nashville, TN. Oct, 2021.
8. "Essential Workers Advocacy: Acts of Resistance and Organizing to Build Healthier Fall 2020 Communities in the Wenatchee Valley, WA", with Zepeda, B.T.. Vanderbilt University, Peabody College. Nashville, TN. Sep, 2020.

C. Undergraduate Mentorship

Earth, Environment & Land Use

1. Ethan Thorpe

Drinking Water Justice Lab

1. Marie Caiola
2. Minoli Fernando
3. Bianca Castillo
4. Austin Fernandez
5. Eleanor Crone
6. Kyle Nevitt

Service

1. Executive Board, Community Research and Action Student Association (2021- 2023).
2. Member, Community Research and Action Admissions Committee (2021-2022).

Professional Affiliations

- American Geophysical Union
- American Association of Geographers

Skills

- **Modeling & Analysis:** Regression, Text Analytics, Geospatial Analysis, Census APIs.
- **Data Collection:** Community-Based Participatory Research, Qualitative Interviews, Focus Groups.
- **Programming:** R, Git, LaTeX.
- **Software:** ArcMap Pro, ArcGIS Online, Adobe Illustrator, Microsoft Office.