

Curriculum Vitae

**RACHEL L. LAMB**

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1150 Samuel J. LeFrak Hall  
Department of Geographical Sciences  
University of Maryland, College Park  
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**EDUCATION**

- 2016-Present      Ph.D. Candidate, Geographical Sciences  
University of Maryland, College Park, MD
- 2015                M.P.P. Public Policy, Environmental Policy Specialization  
University of Maryland, College Park, MD
- M.S. Sustainable Development & Conservation Biology  
University of Maryland, College Park, MD
- 2012                B.A. International Relations, Spanish Minor, Wheaton College, IL  
B.S. Environmental Studies, Wheaton College, IL

**ACADEMIC PROGRAM CERTIFICATES**

- 2015                Practitioner Certificate, University Teaching and Learning Program  
Teaching and Learning Transformation Center, University of Maryland
- 2012                Certificate in Development Studies  
Human Needs and Global Resources Program, Wheaton College, IL

**PROFESSIONAL APPOINTMENTS**

- 2019-2020        Session Director  
Au Sable Institute of Environmental Studies, Chicago Campus, Illinois
- 2015-Present     Assistant Professor  
Au Sable Institute of Environmental Studies, Mancelona, Michigan

**PUBLICATIONS**

**Refereed Journal Articles**

- Hurt, G., Zhao, M., Sahajpal, R., Armstrong, A., Birdsey, R., Campbell, E., Dolan, K., Dubayah, R., Fisk, J. P., Flanagan, S., Huang, C., Huang, W., Johnson, K., **Lamb, R.**, Ma, L., Marks, R., O'Leary, D., O'Neil-Dunne, J., Swatantran, A., & Tang, H. (2019). Beyond MRV: High-resolution forest carbon modeling for climate mitigation planning over Maryland, USA. *Environmental Research Letters*, 14(4), 045013. <https://doi.org/10.1088/1748-9326/ab0bbe>

Van Dyke, F., Berthel, A., Harju, S. M., **Lamb, R.**, Thompson, D., Ryan, J., Pyne, E., & Dreyer, G. (2017). Amphibians in forest pools: Does habitat clustering affect community diversity and dynamics? *Ecosphere*, 8(2), e01671. <https://doi.org/10.1002/ecs2.1671>

### Manuscripts Under Review

**Lamb, R.**, Hurtt, G., Boudreau, T.J., Campbell, E., Sepúlveda Carlo, E., Chu, H., de Mooy, J., Dubayah, R., Gonsalves, D., Guy, M., Hultman, N., Lehman, S., Leon, B., Lister, A., Lynch, C., Martin, C., Ma, L., Robbins, N., Rudee, A., Silva, C.E., Skoglund, C., & Tang, H. (2020). Context and Future Directions for Integrating Forest Carbon into Sub-National Climate Mitigation Planning in the RGGI Region of the U.S. *Environmental Research Letters*.

Ma, L., Hurtt, G., Tang, H., **Lamb, R.**, Campbell, E., Dubayah, R., Guy, M., Huang, W., Lister, A., Lu, J., O'Neil-Dunne, J., Rudee, A., Shen, Q., & Silva, C. (2020). High-resolution forest carbon modeling for climate mitigation planning over the RGGI region, USA. *Environmental Research Letters*.

Tang, H., Ma, L., Lister, A., O'Neil-Dunne, J., Lu, J., **Lamb, R.**, Dubayah, R., & Hurtt, G. (2020). High-resolution forest carbon mapping for climate mitigation baselines over the RGGI Region, USA. *Environmental Research Letters*.

### Manuscripts in Preparation

**Lamb, R.**, Ma, L., Sahajpal, R., Hultman, N., Edmonds, J., Dubayah, R., & Hurtt, G. Geospatial assessment of the economic opportunity for reforestation in Maryland (USA). *Environmental Research Letters*.

**Lamb, R.**, & Lowe, B. The Importance of Reconciling Conservation and Development in an Era of Global Environmental Change. *Christian Relief, Development, and Advocacy*.

Klasic, M., **Lamb, R.**, Vargas-Nguyen, V., Leonard, K., Nagasi Isaac, B., & Siman, K. A social-ecological network analysis of Lake Erie harmful algal bloom management. *Ecology and Society*.

Gedan, K., **Lamb, R.**, Wimp, G., Thompson, K., & Ries, L. Bringing data-intensive research into the undergraduate ecology classroom. *PeerJ*.

O'Leary, D., Ma, L., **Lamb, R.**, Dubayah, R., Huang, C., Inouye, D., & Hurtt, G. Climate Fetch: the coming invasion and exodus of climate space for the national parks of the conterminous USA. *Global Change Biology*.

### Books and Book Chapters

Lowe, B., **Lamb, R.**, & Toly, N. (2021). Climate Scepticism, Politics and the Bible. In H. Marlow & M. Harris (Eds.) *The Oxford Handbook of Bible and Ecology*. Oxford: Oxford University Press. Forthcoming.

Van Dyke, F., & **Lamb, R.** (2020). *Conservation biology: Foundations, concepts, applications* (Third ed.). Cham: Springer Nature Switzerland. <https://doi.org/10.1007/978-3-030-39534-6>

## Encyclopedia Entries

- Lamb, R.** (2018). Climate Change and Human Health. In R. Crume (Ed.), *Environmental Health in the 21<sup>st</sup> Century: From Air Pollution to Zoonotic Diseases*. (Vol. 1, pp. 108-113). Santa Barbara, California: ABC-CLIO/Greenwood.
- Lamb, R.** (2018). Health Consequences of Drought and Desertification. In R. Crume (Ed.), *Environmental Health in the 21<sup>st</sup> Century: From Air Pollution to Zoonotic Diseases*. (Vol. 1, pp. 172-174). Santa Barbara, California: ABC-CLIO/Greenwood.
- Lamb, R.** (2018). Environmental Impact Assessment. In R. Crume (Ed.), *Environmental Health in the 21<sup>st</sup> Century: From Air Pollution to Zoonotic Diseases*. (Vol. 1, pp. 206-208). Santa Barbara, California: ABC-CLIO/Greenwood.
- Lamb, R.** (2018). Great Lakes Pollution. In R. Crume (Ed.), *Environmental Health in the 21<sup>st</sup> Century: From Air Pollution to Zoonotic Diseases*. (Vol. 1, pp. 268-269). Santa Barbara, California: ABC-CLIO/Greenwood.
- Lamb, R.** (2018). Human Ecology and Health. In R. Crume (Ed.), *Environmental Health in the 21<sup>st</sup> Century: From Air Pollution to Zoonotic Diseases*. (Vol. 1, pp. 297-299). Santa Barbara, California: ABC-CLIO/Greenwood.

## Scholarly Communications

- Lamb, R.,** Lowe, B., & Meyaard-Schaap K. (2019). Renewing evangelical engagement on climate change: the birth and growth of Young Evangelicals for Climate Action. *Perspectives on Science and Christian Faith*, 71(1): 50-54.
- Lamb, R.** (2018). Acting on Climate: A Faithful Response to a Defining Global Challenge. *Brethren Life & Thought* 62(2): 32-44.
- Lamb, R.** (2017). Mapping Opportunity. *Streetside Conversations* 3(1).  
<https://streetsideconversations.com/category/environment/>

## White Papers, Technical Reports and Policy Memos

- Benish, S., Reid, G., Deshpande, A., Shantam, R., & **Lamb, R.** (2020). "The Impact of Emerging 5G Technology on U.S. Weather Prediction." *Journal of Science Policy & Governance*. *Accepted*.
- Gazenski, K., Krehbiel, R., & **Lamb, R.** (2014). *Using Spatial Data to Improve Recovery Under the Endangered Species Act* [White paper]. Defenders of Wildlife and the University of Maryland, College Park. <http://hdl.handle.net/1903/20175>
- Mawdsely, J., & **Lamb, R.** (2013). *Wildlife Monitoring and Performance Measures for the State Wildlife Action Plans: BLM Project Series in the Western United States* (Research report). H. John Heinz III Center for Science, Economics, and the Environment.
- Mawdsely, J., & **Lamb, R.** (2013). *Climate Change Vulnerability Assessment for Priority Wildlife Species: Navajo Nation* (Research report). H. John Heinz III Center for Science, Economics, and the Environment. [https://conbio.org/images/content\\_publications/Final\\_Navajo\\_Vulnerability\\_Assessment\\_Report\\_2.pdf](https://conbio.org/images/content_publications/Final_Navajo_Vulnerability_Assessment_Report_2.pdf)
- SurrIDGE, M., Mawdsley, J., & **Lamb, R.** (2013). *Southern Rockies Landscape Conservation Cooperative Strategic Synthesis, Part One: Identification of Shared Conservation*

*Priorities* (Research report). H. John Heinz II Center for Science, Economics, and the Environment.

**Lamb, R.** (2012). *Conservation and Community Development: Lomas of Lima, Peru* [White paper]. A Rocha Peru and the Department of Politics and International Relations, Wheaton College (IL).

**Lamb, R., & Davis, M.V.** (2011). *Promoting Generations of Self-Reliance: Stories and Examples of Tribal Adaptation to Change* [White paper]. Region 10: Pacific Northwest Tribal Programs, U.S. Environmental Protection Agency. <https://data.globalchange.gov/report/epa-stories-2011>

### Published Datasets

Tang, H., Ma, L., Lister, A., O’Neil-Dunne, J., Lu, J., **Lamb, R.**, Dubayah, R., & Hurtt, G. (2020). High-resolution forest carbon mapping for climate mitigation baselines over the 11-State RGGI+ Region, USA, ORNL DAAC, Oak Ridge, Tennessee, USA. *Pending*.

Ma, L., Hurtt, G., Tang, H., **Lamb, R.**, Campbell, E., Dubayah, R., Guy, M., Huang, W., Lister, A., Lu, J., O’Neil-Dunne, J., Rudee, A., Shen, Q., & Silva, C. (2020). Forest Aboveground Biomass and Carbon Sequestration Potential for 11-state RGGI+ region, USA. ORNL DAAC, Oak Ridge, Tennessee, USA. *Pending*.

Hurtt, G., Zhao, M., Sahajpal, R., Armstrong, A., Birdsey, R., Campbell, E., Dolan, K., Dubayah, R., Fisk, J. P., Flanagan, S., Huang, C., Huang, W., Johnson, K., **Lamb, R.**, Ma, L., Marks, R., O’Leary, D., O’Neil-Dunne, J., Swatantran, A., & Tang, H. (2019). Forest Aboveground Biomass and Carbon Sequestration Potential for Maryland, USA. ORNL DAAC, Oak Ridge, Tennessee, USA. Retrieved from: <https://doi.org/10.3334/ORNLDAAC/1660>

### GRANTS & FELLOWSHIPS

2020	Science for Public Good Fund Grant, Union of Concerned Scientists (\$1,000)
2019	Sustainability Fund Grant, PI, Office of Sustainability, University of Maryland, College Park (\$53,000)
2018	Harvey Fellowship, Mustard Seed Foundation (\$48,000)
2017	Graduate Pursuits Research Grant, Co-PI, NSF National Socio-Environmental Synthesis Center (c. \$20,000 in research expenses; \$2000 stipend)
2016	University Flagship Fellowship, University of Maryland, College Park Graduate School (\$50,000)
2016	Dean’s Fellowship, University of Maryland, College Park, Graduate School (\$10,000)
2014	Graduate Fellowship for Environmental Stewardship, Au Sable Institute of Environmental Studies (\$1,000)
2010	Greater Research Opportunities (GRO) Fellowship for Undergraduates in Environmental Study, U.S. Environmental Protection Agency (\$50,000)

## AWARDS & HONORS

- 2020 Outstanding Graduate Teaching Assistant Award, Department of Geographical Sciences, University of Maryland
- 2019 AGU Data Visualization and Storytelling Competition, Runner-Up Winner, with teammates Donal O’Leary and Lei Ma
- 2019 O.E. Baker Award for Outstanding Academic and Service Performance, Department of Geographical Sciences, University of Maryland, College Park
- 2019 Outstanding Graduate Teaching Assistant Award, Department of Geographical Sciences, University of Maryland, College Park
- 2019 TerpWoman of Influence Nomination, Adele’s Circle of Women, University of Maryland, College Park
- 2018 Outstanding Graduate Student Government Assembly Member Award, University of Maryland, College Park
- 2018 Enlightening Talk Competition, 1<sup>st</sup> place, College of Behavioral and Social Sciences (BSOS), University of Maryland, College Park
- 2018 Best Student Presentation Award, 1<sup>st</sup> place, Landscape Specialty Group, American Association of Geographers
- 2015 White House Champion of Change: Faith Leader for Climate Action
- 2015 Emerging Young Leader Award, Lausanne Movement
- 2015 Outstanding Graduate Assistant Award, The Graduate School, University of Maryland, College Park
- 2015 Pi Alpha Alpha National Honor Society for Public Affairs & Administration
- 2012 J. Richard Chase Distinguished Award of Merit, Wheaton College
- 2012 Wheaton College Scholastic Honor Society
- 2012 James G. Jameson Critical Essay Contest, 2<sup>nd</sup> Place, Natural and Social Sciences Division, Wheaton College, Second-time winner
- 2012 Invited American Delegate, Global Engagement Summit, Northwestern University
- 2011 John Muir Award for Exemplary Leadership, Environmental Studies Department, Wheaton College
- 2011 James G. Jameson Critical Essay Contest, 2<sup>nd</sup> Place, Natural and Social Sciences Division, Wheaton College
- 2011 Pi Sigma Alpha National Political Science Honor Society
- 2011 Intern Award for Excellence in International Political Economy, Wheaton College Center for Faith, Politics and Economics
- 2010 Mickey Leland Environmental Internship Award, Texas Commission on Environmental Quality

## INVITED TALKS

- 2020 “Conversations on Climate, Conservation and Christian Vocation.” Speaker Series on Environmental Stewardship, Andrews University, Michigan, April. *Virtual Session.*
- 2020 “#ActOnClimate with a Love That Binds.” Plenary Address, 2020 Frank Conference, University of Florida, Florida, February.
- 2017 “Acting on Climate: A Faithful Response to a Defining Global Challenge.” Plenary Address, 2017 Presidential Forum, Bethany Theological Seminary, Indiana, March.
- 2016 “Missional Integrity: Implications for Church, Society, and Creation.” Keynote Address, Creation Care Emphasis Week, Wayland Baptist University, Texas, November.
- 2016 “Creating Cross-Disciplinary Connections: Drawing Non-Biology Faculty and Students to an Environmental Major.” Academic Advisory Council Meeting, Au Sable Institute of Environmental Studies, Michigan, September.
- 2016 “The Biblical Roots of Creation Care & Climate Action.” Keynote Address, Creation Care Emphasis Week, Greenville University, Illinois, April.
- 2015 “What Got Us Here, Won’t Get Us There: Economics, Environment and Our Hope for a New Paradigm,” Keynote Address, Sustainability Summit, Merry Lea Environmental Learning Center of Goshen College, Indiana, February.
- 2015 “Tough Mind, Tender Heart: Becoming a Cultural Broker in the Climate Change Context,” Keynote Address, Graduate Fellows Leadership Conference, Au Sable Institute of Environmental Studies, Michigan, January.

## CONFERENCE & WORKSHOP PARTICIPATION

### Oral Presentations – Presenting Author

- 2020 **Lamb, R.,** Hurtt, G., Auger, R., Hoffman Delett, C., Nicolette, J., Sandborn, H., and Guy, M. “Coupling Advanced Forest Carbon Science with University Climate Action Planning” SY041. Science to Action: Transformative partnerships to advance decision-relevant science, Annual Meeting of the American Geophysical Union (AGU), December 7-11. *Submitted.*
- 2020 **Lamb, R.,** Hurtt, G., Campbell, E., Sepúlveda Carlo, E., Guy, M., Hultman, N., Lister, A., Rudee, A., and Silva, C.E. “Context and Future Directions for Integrating Forest Carbon into Sub-National Climate Mitigation Planning in the RGG+ Region of the U.S.” B016: Carbon Monitoring Systems Research and Applications, Annual Meeting of the American Geophysical Union (AGU), December 7-11. *Submitted.*
- 2019 **Lamb, R.,** Hurtt, G., Sepulveda, E., Campbell, E., and Hultman, N. “Socio-economic opportunities for afforestation across the RGGI domain using high-resolution NASA CMS products” B027: Carbon Monitoring Systems

- Research and Applications, Annual Meeting of the American Geophysical Union (AGU), December 9-13.
- 2019 **Lamb, R.**, Klasic, M., Vargas-Nguyen, V., and Leonard, K. “Moving from Random to Resilient: The role of watershed governance in shaping ecological restoration across Lake Erie.” Special Session on Geographic Research on Harmful Algae Blooms (HABs), Annual Meeting of the American Association of Geographers (AAG), April 10-14.
- 2018 **Lamb, R.**, Hurtt, G.C., Dubayah, R., Hultman, N., Sahajpal, R., and Edmonds, J. “Quantifying the economic opportunity of afforestation and reforestation in Maryland (USA) using high resolution carbon monitoring products.” B41A-01: Carbon Monitoring Systems Research and Applications, Annual Meeting of the American Geophysical Union (AGU), December 10-14.
- 2018 **Lamb, R.** & Hurtt, G.C. “Application of remote sensing and ecosystem modeling products to inform land-use decisions.” Session on Model Data Integration, Annual Meeting of the Association for Forest Spatial Analysis Technologies (ForestSAT), October 2-5.
- 2018 **Lamb, R.** & Hurtt, G.C. “Geographies of management opportunity: Incorporating the co-benefits of afforestation into climate policy and planning.” Landscape Specialty Group Session-Student Oral Presentation Competition, Annual Meeting of the American Association of Geographers (AAG), April 10-14.
- 2018 Klasic, M., **Lamb, R.**, Vargas-Nguyen, V., Siman, K., Nagasi Isaac, B., and Leonard, K. “Social-Ecological Network Structures of Lake Erie Water Quality Management.” Special Session on Network Perspectives on Adaptation and Resilience in Social-ecological Systems, Annual Meeting of the American Association of Geographers (AAG), April 10-14.
- 2017 **Lamb, R.** “Evaluating the Strategic Use of Climate Velocity in Climate-integrated Conservation Strategies,” Graduate Student Paper Competition, Middle Atlantic Regional Division Fall Meeting, American Association of Geographers (AAG), November 3-4.
- 2015 Gedan, K., Thompson, K., **Lamb, R.**, and Ries, L. “Teaching Data Intensive Science in Conservation Biology,” Innovations in Teaching and Learning Conference, University System of Maryland, April 24.

#### **Oral Presentations - Contributing Author**

- 2020 Hurtt, G., Shen, Q., Silva, C.E., Ma, L., and **Lamb, R.** “High-resolution monitoring of forest carbon sequestration to meet climate goals” B016: Carbon Monitoring Systems Research and Applications, Annual Meeting of the American Geophysical Union (AGU), December 7-11. *Submitted.*
- 2020 Ma, L., Hurtt, G., Tang, H., Campbell, E., Dubayah, R., Huang, W., **Lamb, R.**, Lister, A., and O’Neil-Dunne “High-resolution forest carbon modeling for climate mitigation planning over the 11-state RGGI+ region, USA” B016: Carbon Monitoring Systems Research and Applications, Annual Meeting of the American Geophysical Union (AGU), December 7-11. *Submitted.*

- 2020 Klasic, M., **Lamb, R.**, Leonard, K., and Vargas-Nguyen, V. “The mis(alignment) of harmful algal bloom social-ecological networks and key water quality parameters in Lake Erie.” Special Session on Socio-spatial network perspectives on environmental hazards and risk, Annual Meeting of the American Association of Geographers (AAG), April 6-10, *Accepted and Postponed due to COVID-19*.
- 2019 Tang, H., Lister, A., O’Neil-Dunne, J., Sahajpal, R., Ma Lei, **Lamb, R.**, Dubayah, R., and Hurtt, G. “High-resolution mapping of forest above ground carbon storage over the 11 state RGGI+ domain.” Carbon Monitoring Systems Research and Applications, Annual Meeting of the American Geophysical Union (AGU), December 9-13.
- 2019 Klasic, M., **Lamb, R.**, Vargas-Nguyen, V., and Leonard, K. “Exploring the role of social-ecological network structures in explaining Lake Erie water quality governance.” Special Session on Understanding resilience and adaptation using social-ecological network analysis, Annual Meeting of the American Association of Geographers (AAG), April 10-14.
- 2018 Hurtt, G., Campbell, E., Dolan, K., Dubayah, R., Escobar, V., Ganguly, S., Huang, W., Hultman, N., Johnson, K., **Lamb, R.**, Lister, A., Ma, L., Nemani, R., O’Neill, J., O’Leary, D., Ott, L., Poulter, B., Sahajpal, R., Sepulveda, E., Tang, H., and Zhao, M. “Beyond MRV: High-Resolution Forest Carbon Monitoring and Modeling at Regional-National Scales” Annual Meeting of ForestSAT, October 2-5.
- 2018 Vargas-Nguyen, V., Klasic, M., **Lamb, R.**, Siman, K., Nagasi Isaac, B., and Leonard, K. "Social-Ecological Network Structure of Western Lake Erie Water Quality Management." Special Session on Network Approaches for Understanding Collaborative Environmental Governance, Sunbelt Conference of the International Network for Social Network Analysis, June 26-July 1.
- 2018 Siman, K., Klasic, M., **Lamb, R.**, Vargas-Nguyen, V., Nagasi Isaac, B., and Leonard, K. "Social-Ecological Network Structures of Lake Erie Water Quality Management." Special Session on the Science and Policy Interface in Great Lakes Research," Annual Conference of the International Association for Great Lakes Research (IAGLR), June 18-22.
- 2015 Ries, L., **Lamb, R.**, Thompson, K., Wimp, G., and Gedan, K. “Teaching Data Intensive Science in Environmental Biology.” Mathematics of Planet Earth Workshop, University of Tennessee, October 1-2.

### Poster Presentations

- 2020 **Lamb, R.**, Hurtt, G., Campbell, E., Dolan, K., Dubayah, R., Escobar, V., Ganguly, S., Huang, W., Hultman, N., Johnson, K., Lister, A., Ma, L., Nemani, R., O’Neill, J., O’Leary, D., Ott, L., Poulter, B., Sahajpal, R., Sepulveda, E., Tang, H., and Zhao, M. “Strategic Reforestation in Maryland using NASA High Resolution Carbon Monitoring and Modelling.” Maryland General Assembly Science Policy Poster Session, March 3.



- 2019 **Lamb, R.,** Hurtt, G.C., Sahajpal, R., Edmonds, J., Hultman, N., Dubayah, R., and Ma, L. “Geospatial Assessment of the Economic Opportunity for Forest Restoration in MD (USA).” NASA Terrestrial Ecology Science Team Meeting, September 23-25.
- 2019 **Lamb, R.,** Hurtt, G.C., Dubayah, R., Hultman, N., Sahajpal, R., and Edmonds, J. “Pricing Forest Carbon: Economic Opportunities for Afforestation at Landowner Scales.” Environment and Ecology Poster Category, Annual Meeting of the American Association for the Advancement of Science (AAAS), February 14-17.
- 2018 **Lamb, R.** “Communicating climate change science and solutions among communities of faith.” PA42C-04: Strategies for Climate Communication Across Contexts, eLightning. Annual Meeting of the American Geophysical Union (AGU), December 10-14.
- 2017 **Lamb, R. &** Hurtt, G.C. “Framework for Identifying Social-Ecological Hotspots.” Environment and Ecology Poster Category, Annual Meeting of the American Association for the Advancement of Science (AAAS), February 16-20.

#### **Workshops & Seminars**

- 2019 **Lamb, R.** “Engaging Conservatives on Climate Change through the Leadership of Young Evangelicals” The Scott Center for Religious Life, Middlebury College, Washington DC Headquarters, March 25.
- 2018 **Lamb, R.** “How planting trees makes us climate-smart and economic savvy,” Enlightening Talk Competition, College of Behavioral and Social Sciences (BSOS), Research Interaction Days for Graduate Students, University of Maryland, College Park, May 3.
- 2016 **Lamb, R.** and Meyaard-Schaap, K. “Advancing Climate Science Communication Among Faith-based Communities.” American Association for the Advancement of Science, Climate Science Working Group Meeting, Washington DC, September 21.
- 2016 **Lamb, R.** “Environmental Sustainability 101,” Issachar Foundation -IDEA Generators Conference, Chicago, Illinois, May 27-30.
- 2015 Van Dyke, F. & **Lamb, R.** “Research as Service: Loving our Neighbors Through Creation Care,” Lausanne Creation Care Network Regional Conference, Boston, Massachusetts, July 27-31.

#### **Invited Panel Leader & Participant**

- 2019 “Improving Forest Monitoring for Climate Action,” The Global Forest Watch Summit, George Washington University, June.
- 2018 “Common Ground on Climate Policy: How Congress is Answering the Call to Dialogue in *Laudato Si*.” U.S. Conference of Catholic Bishops, Catholic Social Ministry Gathering, Washington DC, February.
- 2017 “Faith and Advocacy.” Friends Committee on National Legislation Leadership Conference, Washington DC, August.

- 2016 “Climate and Faith.” Citizens’ Climate Lobby Conference, Washington DC, June.
- 2015 “Coming Together in Faith on Climate.” National Faith & Climate Leadership Summit, Washington National Cathedral, Washington DC, September.
- 2015 “Faith Advocacy for Climate.” Champions of Change Event, White House, Washington DC, July.
- 2015 “Advocacy Changes the World,” Jubilee Conference, Pittsburgh, Pennsylvania, February.
- 2014 "Voices from the Fields: Social Movements and Soil Improvement," Human Needs and Global Resources Symposium, Wheaton College, February.
- 2012 “Facing the Facts: The Power of Research to Combat Poverty and Hunger," Human Needs and Global Resources Symposium, Wheaton College, February.
- 2012 “Youth Advocacy Panel,” Al Gore’s Climate Reality Project, New York, New York, November.

**RESEARCH EXPERIENCE**

Dissertation: Using high-resolution NASA CMS forest carbon products, the objectives are to 1) quantify the economic potential of afforestation and reforestation relative to other land uses in Maryland, 2) map viable future carbon stock corridors for climate mitigation and biodiversity protection in Maryland, and 3) evaluate the current science and policy context for forming a cohesive carbon monitoring system that could advance strategic forest restoration across the United States. (Committee: Drs. G. Hurtt, R. Dubayah, J. Edmonds, R. Sahajpal, N. Hultman).

- 2020-Present Graduate Research Assistant: US Climate Alliance and the University of Maryland, College Park. Develop monitoring strategy for annual forest carbon change (carbon flux) based on advanced NASA Carbon Monitoring System products, with relevance to state GHG inventories. In collaboration with World Resources Institute and the state governments of Maryland and Delaware.
- 2020-Present Principal Investigator: UMD Office of Sustainability and Department of Geographical Sciences, University of Maryland, College Park. Advance University of Maryland’s goal to become climate neutral by developing method and approach for including land-based carbon in the campus GHG inventory and climate action plan; Further science applications among all signatories of the American College and University Presidents’ Carbon Commitment. Lead team of undergraduate researchers and collaborate with UMD Office of Sustainability.
- 2018-Present Graduate Research Assistant: NASA Carbon Monitoring System and the University of Maryland, College Park. Support stakeholder engagement efforts, including to state agency representatives and NGOs, across the mid-Atlantic and northeastern United States to aid in the adoption of high-

- resolution forest carbon tools for baseline mapping and reforestation planning.
- 2017-2019 Co-Principal Investigator: NSF National Socio-Environmental Synthesis Center (SESYNC), Annapolis, MD. A case comparison between the US and Canadian water quality management of Lake Erie. Primary research components include a social-ecological network analysis and spatial analysis of coupled social-ecological systems at the watershed level, showcasing areas of management opportunity.
- 2016-2017 Independent Study Research: Department of Geographical Sciences, University of Maryland, College Park (research adviser: Dr. G. Hurtt). Assess the value of incorporating climate change velocity calculations into conservation management strategies within National Park Service units. Includes literature review and initial applications to East Coast parks.
- 2014-2016 Independent Study Research: Department of Geographical Sciences, University of Maryland, College Park (research adviser: Dr. G. Hurtt). Develop and apply three-tiered analytical framework and methodology for identifying global “hotspots,” areas of highest social and environmental vulnerability to projected climate and land-use change, using ArcGIS.
- 2015 Research Associate: Department of Biology, University of Maryland, College Park (research colleagues: Dr. K. Gedan and Dr. L. Ries). Co-led study to evaluate student responses to teaching data-intensive science within an upper-level undergraduate Conservation Biology course. Assessed most effective engagement strategies to improve student interest and skills in using large ecological datasets.
- 2014-2015 Graduate Research Assistant & Consultant: National Socio-Environmental Synthesis Center, Annapolis, MD, and the Helmholtz Centre for Environmental Research, Leipzig, Germany (research colleague: Dr. K. Powell). Co-led analysis of 10,000 published literature abstracts to quantitatively estimate trade-offs between agricultural production and biodiversity conservation as part of a large-scale meta-analysis.
- 2014 Research Consultant: Defenders of Wildlife, Washington, DC and Sustainable Development and Conservation Biology Program, University of Maryland, College Park (research adviser: Dr. K. Lips and Ms. M. Surridge). Co-directed research project to assess the role of spatial tools in improving species recovery under the Endangered Species Act (ESA). Reviewed 150 USFWS Recovery plans and created proof-of-concept spatial tool.
- 2012-2013 Graduate Research Assistant: H. John Heinz III Center for Science, Economics & the Environment, Washington DC (research advisers: Dr. J. Mawdsley and Ms. M. Surridge). Analyzed and synthesized data from over 45 strategic planning documents as part of a two-year, \$150,000 grant with the Southern Rockies Landscape Conservation Cooperative (SRLCC) to identify conservation priorities in the region.

- 2012 Research Assistant: Amphibian Research and Education Project, Wheaton College, Illinois. (research adviser: Dr. F. Van Dyke). Developed data collection methodologies to assess amphibian community diversity and species persistence in vernal pools and freshwater marshes in temperate deciduous forest preserves; assisted in field assessments.
- 2011-2012 Independent Study Research: Department of Politics and International Relations, Wheaton College, Illinois and A Rocha Peru, Lima, Peru (research advisers: Dr. N. Toly and Dr. S. Mathez-Stiefel). Developed governance model, conducted baseline research, and designed a multi-component research plan for a community-based conservation project within the *lomas* ecosystem on-site in Lima, Peru.
- 2011 Research Fellow: Tribal Trust and Assistance Unit, U.S. Environmental Protection Agency, Seattle, WA (research advisers: Ms. S. Thomas and Ms. M. Davis). Developed synthesis report showcasing a collection of Tribal best practices for climate change adaptation in Alaska and the Pacific Northwest. Completed in conversation with Tribes, governmental agencies, and regional NGOs.

#### **UNDERGRADUATE RESEARCH ADVISOR AND MENTOR**

- 2020-Present Rieley Auger, Camille Hoffman Delett, Jordan Nicolette, and Hilary Sandborn, Research Assistants, “Including estimates of campus forest carbon in UMD’s Climate Action Plan,” University of Maryland, College Park
- Undergraduate Independent Research Award from Department of Geographical Sciences
- 2020-Present Quan Shen, Research Assistant, “High-resolution monitoring of forest carbon sequestration to meet climate goals” University of Maryland, College Park
- 2018-2019 Katie DeVoss, Research and Editorial Assistant, “*Conservation biology: foundations, concepts, applications,*” Maryland Center for Undergraduate Research, University of Maryland, College Park
- 2017 Six undergraduate research teams consulting for Montgomery County Department of Parks, Partnership for Action Learning in Sustainability (PALS) program, University of Maryland, College Park (Fall)
- Excellence in Sustainability Certificate from Maryland Sustainable Growth Commission

#### **TEACHING EXPERIENCE**

##### **Au Sable Institute of Environmental Studies - Assistant Professor**

Environmental Law & Policy (Summer 2016, 2018-2020, *in-person and online*)

Land Resources Policy (Summer 2015, 2017-2020)

##### **University of Maryland, College Park – Instructor-of-Record**

Society and Sustainability in a Time of Great Change (Summer and Winter 2019 & 2020, *online*)

Developing Countries (Fall 2019)

Capstone in Environmental Science and Policy (Fall 2017)

**University of Maryland, College Park - Graduate Teaching Assistant**

Developing Countries, Head-TA, Co-designer (Fall 2016, 2018, Spring 2017-2019)  
Introduction to Environmental Policy (Spring 2014, 2015 & 2017)  
Capstone in Environmental Science and Policy, Co-designer (Fall 2014 & Spring 2015)  
Introduction to Environmental Science (Fall 2013 & 2014)  
Conservation Biology Lab (Spring 2013)  
Principles of Organismal, Ecological and Evolutionary Biology (Fall 2012 & Summer 2013)

**University of Maryland, College Park – Regular Guest Lecturer**

Biogeography and Environmental Change (Fall 2017-2019)  
Land Use, Climate Change, and Sustainability (Spring 2018-2019)

**Wheaton College, Illinois – Undergraduate Teaching Assistant**

Conservation Biology (Spring 2012)

**English as a Second Language – Instructor**

World Relief In-Home Tutoring Program, Glen Ellyn, Illinois (Fall 2010 & Spring 2011)  
Casa Marianella Refugee Home, Austin, Texas (Summer 2010)  
Casa Bernabe Orphanage, Guatemala City, Guatemala (Summer 2009)

**TEACHING MENTOR**

2018-2019 Emily Cheng, Carrie Lewey, Ashley Mangold, Kira Mercer, and Vanessa Reyes, and Thomas Wright, Undergraduate Teaching Assistants, “Developing Countries Course,” Department of Geographical Sciences, University of Maryland, College Park (Fall and Spring)

2017 Colleen Shipley, Graduate Teaching Assistant, “Capstone in Environmental Science and Policy Course,” Environmental Science and Policy Program, University of Maryland, College Park (Fall)

**PROFESSIONAL EXPERIENCE**

2015-2016 National Organizer and Spokesperson, Young Evangelicals for Climate Action, Washington, DC

2014 Project Consultant, Wildlife Conservation Program, Society for Conservation Biology, Washington, DC

2010 Mickey Leland Environmental Intern, Compliance and Enforcement Division, Texas Commission on Environmental Quality, Austin, TX

2008-2012 Special Projects Assistant, Environmental Studies Program, Wheaton College, Wheaton, IL

**SERVICE TO THE PROFESSION**

2020-Present Chapter Lead on Land Use Change Carbon Accounting, Land Sector Technical Working Group, Greenhouse Gas Protocol Standards/Guidance, World Resources Institute and World Business Council for Sustainable Development.

2019-Present Co-Founder and Convenor, Maryland Science, Technology, Engineering, and Health Policy (MSTEHP) Fellowship Program Initiative.

- 2019-2020 Working Group Co-Chair, Research Funding and Federal Funding Policies, Student Advocates for Graduate Students (SAGE) Coalition.
- 2017-2019 Senior Editor, *FERNS: The Graduate Journal on Environmental Stewardship*, Yale University, CT.
- 2018 Expert Judge, “Efficacy of current government regulatory proposals regarding climate change,” Data Driven Policy Debates, Wheaton Center for Faith, Politics and Economics, Wheaton, IL.

**UNIVERSITY SERVICE AND LEADERSHIP**

- 2019-Present Founding Member and Executive Officer, Graduate Science Policy at UMD, University of Maryland, College Park
- 2019-2020 Elected Member, University Research Council, University of Maryland Senate and Office of the Vice President of Research
- 2018-2020 Vice President of Governmental Affairs, Graduate Student Government, University of Maryland, College Park
- 2018-2020 Vice President, Geography Graduate Student Organization, University of Maryland, College Park
- 2018-2019 Ex-Officio Member, University System of Maryland Student Council
- 2017-2020 Graduate Student Representative, Student Honor Council, University Student Judiciary, University of Maryland, College Park
- 2017-2018 Chair, Academic Affairs Committee, Graduate Student Government, University of Maryland, College Park
- 2017 Member, Graduate Student Orientation Committee, Department of Geographical Sciences, University of Maryland College Park
- 2016-2018 Elected Departmental Representative, Graduate Student Government, University of Maryland, College Park
- 2011 Programs and Logistics Coordinator, Urban: Missions In Focus Conference, Wheaton College, IL
- 2009-2011 President, A Rocha Wheaton, University Chapter of A Rocha USA, Wheaton College, IL
- 2009-2011 Student Representative, President’s Environmental Stewardship and Advisory Committee, Wheaton College, IL

**ADVISORY BOARD SERVICE**

- 2020-Present Governance Board Member, A Rocha USA, Fredericksburg, Texas
- 2018-Present Advisory Council Member (Asociado), A Rocha Peru, Lima, Peru
- 2018-Present Senior Advisor, Young Evangelicals for Climate Action, Washington, DC
- 2012-2018 Steering Committee Member, Young Evangelicals for Climate Action, Washington, DC (Chair from 2013-2015; Organizational Representative to the U.S. Climate Action Network from 2016-2018)

- 2015-2017            Advisory Member, CreatureKind Project, The Sider Center at Palmer Seminary of Eastern University, PA
- 2013-2015            Advisory Member, Evangelical Environmental Network Women's Initiative, Washington, DC

**SELECT PHILANTHROPIC ACTIVITY**

- 2020                    Instructor, Youth for Holistic Environmental Stewardship Program, Parkdale High School and Solid Rock Church, Riverdale, MD, USA
- 2017-Present        Youth Mentor, DC Dream Center, Washington DC, USA
- 2015                    Lead Instructor, Natural Science Training, A Rocha Kenya, Watamu, Kenya
- 2014-2015            Lead Facilitator, Environmental Stewardship and Sustainability Conference and Trainings, Christian Bilingual University of Congo, Beni, Democratic Republic of Congo
- 2012                    Facilitator, Worldwide Views on Biodiversity Deliberation, Koshland Science Museum, Washington DC, USA
- 2008-2011            Tutor, After-School Program, Outreach Community Ministries, Carol Stream, Illinois, USA

**PROFESSIONAL MEMBERSHIPS**

- American Association for the Advancement of Science (2014- )
- American Association of Geographers (2016- )
- American Geophysical Union (2016- )
- American Scientific Affiliation (2017- )
- National Science Policy Network (2019-)
- Society for Conservation Biology (2014- )
- Society for Conservation GIS (2016- )