

Curriculum Vitae

RACHEL L. LAMB

January 06, 2024

Maryland Department of the Environment
Office of the Secretary
Baltimore, Maryland
Email: rachel.lamb@maryland.gov
Google Scholar: <https://go.umd.edu/cXx>

EDUCATION

- | | |
|------|---|
| 2021 | Ph.D. Geographical Sciences
University of Maryland, College Park, MD |
| 2015 | M.P.P. Environmental Policy Concentration
University of Maryland, College Park, MD |
| 2015 | M.S. Sustainable Development and Conservation Biology
University of Maryland, College Park, MD |
| 2012 | B.A. International Relations, Spanish Minor, Wheaton College, IL |
| 2012 | 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

- | | |
|--------------|--|
| 2023-Present | Senior Designated Administrative Manager, Political Special Appointment
Maryland Department of the Environment, Baltimore Maryland |
| 2022-Present | Adjunct Assistant Professor, Department of Geographical Sciences
Appointment to the Graduate Faculty (2023-Present)
University of Maryland, College Park, Maryland |
| 2022-2023 | Designated Administrative Manager, Political Special Appointment
Maryland Department of the Environment, Baltimore Maryland |
| 2021-2023 | Associate Professor
Au Sable Institute of Environmental Studies, Mancelona, Michigan |
| 2021-2022 | Maryland Sea Grant State Science Policy Fellow
Maryland Department of the Environment, Baltimore, Maryland |

2021-2022	Postdoctoral Associate, Department of Geographical Sciences University of Maryland, College Park, Maryland
2015-2021	Assistant Professor (Chicago Campus Session Director, 2019-2020) Au Sable Institute of Environmental Studies, Mancelona, Michigan

PUBLICATIONS

Refereed Journal Articles

1. Ma, L., Hurtt, G., Tang, H., **Lamb, R.**, Lister, A., Chini, L., Dubayah, R., Armston, J., Campbell, E., Duncanson, L., Healey, S., O’Neil-Dunne, J., Ott, L., Poulter, B., & Shen, Q. (2023). Spatial heterogeneity of global forest aboveground carbon stocks and fluxes constrained by spaceborne lidar data and mechanistic modeling. *Global Change Biology*, 29, 3378–3394. <https://doi.org/10.1111/gcb.16682>
2. Ma, L., Hurtt, G., Ott, L., Sahajpal, R., Fisk, J., **Lamb, R.**, Tang, H., Flanagan, S., Chini, L., Chatterjee, A., & Sullivan, J. (2022). Global evaluation of the Ecosystem Demography Model (ED v3.0). *Geosci. Model Dev.* 15, 1971–1994. <https://doi.org/10.5194/gmd-15-1971-2022>
3. **Lamb, R.**, Ma, L., Sahajpal, R., Edmonds, J., Hultman, N., Dubayah, R., Kennedy, J., & Hurtt, G. (2021). Geospatial assessment of the economic opportunity for reforestation in Maryland, USA. *Environmental Research Letters*, 16(8), 084012. <https://doi.org/10.1088/1748-9326/ac109a>
4. **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. (2021). 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*, 16(6), 063001. <https://doi.org/10.1088/1748-9326/abe6c2>
5. 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. (2021). High-resolution forest carbon modelling for climate mitigation planning over the RGGI region, USA. *Environmental Research Letters*, 16(4), 045014. <https://doi.org/10.1088/1748-9326/abe4f4>
6. Lowe, B., **Lamb, R.**, & Padilla-DeBorst, R. (2021). Reconciling conservation and development in an era of global environmental change: a theocentric approach. *Christian Relief, Development, and Advocacy: The Journal of the Accord Network*, 2(2): 49-54. <https://crdajournal.org/index.php/crda/article/view/463>
7. **Lamb, R.**, & Schmidt, J. (2021). Nature-Based Climate Solutions Require Us to Answer the “Where” and the “Who.” *Journal of Science Policy & Governance*, 18(2). <https://doi.org/10.38126/JSPG180206>
8. Tang, H., Ma, L., Lister, A., O’Neil-Dunne, J., Lu, J., **Lamb, R.**, Dubayah, R., & Hurtt, G. (2021). High-resolution forest carbon mapping for climate mitigation baselines over the RGGI Region, USA. *Environmental Research Letters*, 16(3), 035011. <https://doi.org/10.1088/1748-9326/abd2ef>

9. 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.**..., & 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>
10. 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 in Press

Manuscripts in Review

1. Shen, Q., Hurtt, G., Ma, L., **Lamb, R.**, Dubayah, R., O’Neil-Dunne, J., Hansen, M., Huang, C., Campbell, E., Hannuan, R., Harris, N., and S. Minnemeyer. Remote Sensing for Forest Dynamics and Its Implications for Tree Outside Forest over Maryland, U.S.A. *Environmental Research Communications*.

Manuscripts in Preparation

1. Hurtt, G., Ma, L., **Lamb, R.**, Campbell, E., Leslie-Bole, H., Huang, C., Silva, C.E., Shen, Q., Lu, Jiaming, Rudee, A., Lister, A., O’Neil-Dunne, J. and R. Dubayah. Beyond forest carbon monitoring: integrating high-resolution remote sensing and ecosystem modeling for geospatial assessment and attribution of changes in forest carbon stocks over Maryland, USA. *Environmental Research Letters*.
2. **Lamb, R.**, Hurtt, G., Spivy, A., Ma, L., Campbell, E., Dubayah, R., Goetz, S., Hoffman Delett, C., Jantz, P., Panday, F.M., & Tang, H. High-resolution geospatial framework for future forest carbon storage and protected area expansion in Maryland, USA. *Environmental Research Letters*.
3. Ma, L., Hurtt, G., **Lamb, R.**, Tang, H., and Q. Shen. Projection of global forest carbon sequestration potential under changing climate. *Environmental Research Letters*.
4. Spivy, A., **Lamb, R.**, Rohrbaugh, L., Rauch, D., and J. Mullinax. Habitat Restoration to Improve Connectivity among Biodiversity Hotspots in District of Columbia, USA. *Journal of Urban Ecology*.

Books and Book Chapters

1. Lowe, B., **Lamb, R.**, & Toly, N. (2022). Climate Scepticism, Politics and the Bible. In H. Marlow & M. Harris (Eds.), *The Oxford Handbook of Bible and Ecology*. Oxford: Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780198845003.001.0001>
2. 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

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

Scholarly Communications (Editorial Review)

1. **Lamb, R.** (2022). Financing the Future: Climate Change Funding Options for Municipalities. *Municipal Maryland Magazine*, September/October Issue on Resilience (31). <https://www.mdmunicipal.org/>
2. Lowe, B., **Lamb, R.**, and Padilla DeBorst, R. (2021). Addressing the Climate Crisis with Faithfulness, The Gospel, and Care for Creation. *Wheaton College Magazine*, 25(4). <https://www.wheaton.edu/magazine/spring-2021/faithfulness-the-gospel-and-care-for-creation/>
3. **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. <https://www.asa3.org/ASA/PSCF/2019/PSCF3-19Lamb.pdf>
4. **Lamb, R.** (2018). Acting on Climate: A Faithful Response to a Defining Global Challenge. *Brethren Life & Thought* 62(2): 32-44.
5. **Lamb, R.** (2017). Mapping Opportunity. *Streetside Conversations* 3(1). <https://streetsideconversations.com/category/environment/>

Concept Papers, Technical Reports and Policy Memos

1. Parkhurst, R., Anderson, R., Williams, M., Amin, V., Mulkey, A., and **Lamb, R.** (2024). Quantifying and Growing Maryland's Agricultural Soil Carbon Sink. Forestry and Land Use Sector Modeling Appendix, Climate Pollution Reduction Plan. <https://mde.maryland.gov/programs/air/ClimateChange/Pages/Maryland's-Climate-Pollution-Reduction-Plan.aspx>
2. Hurtt, G., Ma, L., Shen, Q., Campbell, E., Marks, R., and **Lamb, R.** (2024). Potential Pathways for Growing the Forest Carbon Sink. Forestry and Land Use Sector Modeling Appendix, Climate Pollution Reduction Plan. <https://mde.maryland.gov/programs/air/ClimateChange/Pages/Maryland's-Climate-Pollution-Reduction-Plan.aspx>

3. Hurtt, G., Ma, L., **Lamb, R.**, Campbell, E., Leslie-Bole, H., Silva, C.E., Shen, Q., Rudee, A., Marks, R., Amin, V., and A. Mohammed. (2023). Maryland Tree and Forest Carbon Flux: Data and Methodology Documentation. Maryland 2020 Greenhouse Gas Emissions Inventory. https://mde.maryland.gov/programs/air/ClimateChange/Documents/VIMAL/MD_ForestCarbon_Flux_Methodology_01.06.23.pdf
4. Hurtt, G., Ma, L., **Lamb, R.**, Campbell, E., Leslie-Bole, H., Silva, C.E., Shen, Q., Rudee, A., Marks, R., Amin, V., and A. Mohammed. (2023). Maryland Blue Carbon Flux: Estuarine Wetlands and Submerged Aquatic Vegetation Data and Methodology Documentation. Maryland 2020 Greenhouse Gas Emissions Inventory. https://mde.maryland.gov/programs/air/ClimateChange/Documents/VIMAL/MD_BlueCarbon_Flux_Methodology_01.06.23.pdf
5. Novick, K., Williams, C., Runkle, B., Anderegg, W.R.L., Hollinger, D., Litvak, M., Normile, C. Shrestha, G., Almaraz, M., Anderson, C., Barnes, M., Baldocchi, D., Colburn, L., Cullenward, D., Evans, M., Guan, K., Keenan, T., **Lamb, R.**, Larson, L., Oldfield, E., Poulter, B., Reyes, J., Sanderman, J., Selmants, P., Sepulveda Carlo, E., Torn, M.S., Trugman, A., and Woodall, C. (2022). The science needed for robust, scalable, and credible nature-based climate solutions in the United States: Summary for Policymakers. <https://doi.org/10.5967/AQY9-YV49>.
6. Novick, K., Williams, C., Runkle, B., Anderegg, W.R.L., Hollinger, D., Litvak, M., Normile, C. Shrestha, G., Almaraz, M., Anderson, C., Barnes, M., Baldocchi, D., Colburn, L., Cullenward, D., Evans, M., Guan, K., Keenan, T., **Lamb, R.**, Larson, E., Oldfield, E., Poulter, B., Reyes, J., Sanderman, J., Selmants, P., Sepulveda Carlo, E., Torn, M.S., Trugman, A., & Woodall, C. (2022). “The Science needed for robust, scalable, and credible nature-based climate solutions in the United States: Full Report” <https://doi.org/10.5967/n7r9-7j83>.
7. Novick, K., Williams, C., Runkle, B., Anderegg, W.R.L., Hollinger, D., Litvak, M., Normile, C. Shrestha, G., Almaraz, M., Anderson, C., Barnes, M., Baldocchi, D., Colburn, L., Cullenward, D., Evans, M., Guan, K., Keenan, T., **Lamb, R.**, Larson, L., Oldfield, E., Poulter, B., Reyes, J., Sanderman, J., Selmants, P., Sepulveda Carlo, E., Torn, M.S., Trugman, A., & Woodall, C. The science needed for robust, scalable, and credible nature-based climate solutions in the United States: Summary Report. <https://doi.org/10.5967/8rgp-tc11>.
8. Razafindrambinina, P.N., Dubey, A., Ellis, P.B., **Lamb, R.**, and Ravan, S. (2021). “Boosting Minority Teacher Recruitment and Retention for a Diverse Future STEM Workforce.” *Journal of Science Policy & Governance* 18(4). <https://doi.org/10.38126/JSPG180414>
9. 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* 17(2). <https://doi.org/10.38126/JSPG170203>
10. 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>
11. 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.

12. 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
13. 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.
14. **Lamb, R.** (2012). *Conservation and community development: Lomas of Lima, Peru*. (Human Needs and Global Resources Project Papers 2012). Wheaton College. https://i-share-whe.primo.exlibrisgroup.com/permalink/01CARLI_WHE/u36ljs/alma9986485313405903
15. **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

1. Ma, L., G.C. Hurtt, H. Tang, **R. Lamb**, A.J. Lister, L.P. Chini, R.O. Dubayah, J. Armston, E. Campbell, L. Duncanson, S.P. Healey, J. O'Neil-Dunne, L. Ott, B. Poulter, and Q. Shen. 2023. Global Forest Aboveground Carbon Stocks and Fluxes from GEDI and ICESat-2, 2018-2021. ORNL DAAC, Oak Ridge, Tennessee, USA. <https://doi.org/10.3334/ORNLDAAC/2180>
2. 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. <https://doi.org/10.3334/ORNLDAAC/1922>
3. Tang, H., L. Ma, A.J. Lister, J. O'Neil-Dunne, J. Lu, **R. Lamb**, R.O. Dubayah, and G.C. Hurtt. 2021. LiDAR Derived Biomass, Canopy Height, and Cover for New England Region, USA, 2015. ORNL DAAC, Oak Ridge, Tennessee, USA. <https://doi.org/10.3334/ORNLDAAC/1854>
4. 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

- | | |
|------|---|
| 2023 | Project Grant for Maryland Department of the Environment's Tracking and Accounting of Maryland's 5 Million Trees Initiative, Primary Grant Manager, Chesapeake and Atlantic Coastal Bays Trust Fund, <i>second year renewal</i> (\$240,000) |
|------|---|

- 2022 Project Grant for Maryland Department of the Environment’s Tracking and Accounting of Maryland’s 5 Million Trees Initiative, Primary Grant Manager, Chesapeake and Atlantic Coastal Bays Trust Fund (\$240,000)
- 2022 Technical Assistance Grant for Maryland Department of the Environment’s Agricultural Soil Carbon Accounting, Primary Grant Manager, U.S. Climate Alliance (\$80,000)
- 2021 Sustainability Fund Grant, Faculty Advisor, Office of Sustainability, University of Maryland, College Park, *third year renewal* (\$56,603)
- 2020 Sustainability Fund Grant, Graduate Student PI, Office of Sustainability, University of Maryland, College Park, *second year renewal* (\$49,471)
- 2020 Science for Public Good Fund Grant, Union of Concerned Scientists (\$1,000)
- 2019 Sustainability Fund Grant, Graduate Student PI, Office of Sustainability, University of Maryland, College Park (\$53,648)
- 2018 Harvey Fellowship, Mustard Seed Foundation (\$48,000)
- 2017 Graduate Pursuits Research Grant, Co-PI, NSF National Socio-Environmental Synthesis Center (c. \$20,000 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

- 2023 Employee of the Year Award, Runner-up, Maryland Department of the Environment
- 2022 Semi-Annual Award for Excellent Performance, Maryland Department of the Environment
- 2021 Excellence in Graduate Research, 2nd Place, Department of Geographical Sciences, University of Maryland
- 2021 Outstanding Student Presentation Award, American Geophysical Union
- 2020 Outstanding Graduate Teaching Assistant Award, Department of Geographical Sciences, University of Maryland, *second-time winner*
- 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 Nominee, 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, 1st place, College of Behavioral and Social Sciences (BSOS), University of Maryland, College Park
- 2018 Best Student Presentation Award, 1st 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, 2nd 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, 2nd 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

- 2023 “The Dynamic Future of Maryland’s Natural Carbon Sinks: Leveraging CMS Data to Chart a Policy Pathway to Net Zero.” Keynote Address, Science Team Meeting and Applications Workshop, NASA Carbon Monitoring System, California, September.
- 2023 “Harmonizing the Science Needed for Climate Action Planning and Impact Assessment across Maryland's Natural and Working Lands.” Special Session on Natural Climate Solutions from Concepts to Practice – Bridging the Gap

- between Science and Action, Annual Meeting of the Ecological Society of America, Oregon, August.
- 2023 “Climate Action as a Christian Practice of Faith, Hope, and Love.” Keynote Address, Compelling and Credible Witness: The Church and Climate Change, Denver Theological Seminary, Colorado, May.
- 2022 “Ecosystem Restoration as a Tool for Climate Change Mitigation: Quantifying the Carbon Benefits of Our Natural and Working Lands.” Carhart Science Lectureship, Dakota Wesleyan University, South Dakota March.
- 2022 “Climate Action as a Christian Practice of Faith, Hope, and Love.” Keynote Address, McGovern Center for Leadership and Public Service, Dakota Wesleyan University, South Dakota, March.
- 2021 “Filling a Science-Policy Gap around Natural Climate Solutions with High-Resolution Forest Carbon Science.” Special Session on Carbon Monitoring Systems and Applications, Annual Meeting of the American Geophysical Union, Louisiana, December.
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/807208>
- 2021 “Meeting the Need for Strategic Reforestation Planning: High-Resolution Geospatial Framework for Future Forest Carbon Storage and Protected Area Expansion.” Student Engagement to Enhance Development: Outstanding Student Presentation Award Winners From Fall Meeting 2020, Annual Meeting of the American Geophysical Union, Louisiana, December.
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/834696>
- 2020 “Conversations on Climate, Conservation and Christian Vocation.” Speaker Series on Environmental Stewardship, Andrews University, Michigan, *Virtual Session*, April.
- 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

- 2023 **Lamb, R.**, Hurtt, G., Ma, L., Campbell, E., Panday, F.M., Shen, Q., Amin, V., and Stewart, M. “Coupling Forest Carbon Science to Policy to Advance Maryland’s Net Zero Emissions Goal.” Special Innovations Session on Carbon Monitoring Systems Research and Applications, Annual Meeting of the American Geophysical Union (AGU), December 11-15.
- 2022 **Lamb, R.**, Hurtt, G., Ma, L., Campbell, E., Shen, Q., Panday, F.M., and Stewart, M. “Leveraging High-Resolution Forest Carbon Science to Support Maryland’s Net-Zero GHG Reduction Goal.” Special Innovations Session on Carbon Monitoring Systems Research and Applications, Annual Meeting of the American Geophysical Union (AGU), December 12-16.
- 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

- 2023 Shen, Q., Hurtt, G., Hannun, R., Ma, L., Blanock, K., **Lamb, R.**, Wolfe, G., and Kawa, S. "Linking Top-down and Bottom-up Estimates on Forest Carbon Flux: A Case Study in Maryland, USA." Special Innovations Session on Carbon Monitoring Systems Research and Applications, Annual Meeting of the American Geophysical Union (AGU), December 11-15.
- 2022 Shen, Q., Hurtt, G., Ma, L., **Lamb, R.**, O'Neil-Dunne, J., Hansen, M., and Huang, C. "Assessing Remote Sensing for Forest Carbon Monitoring and Its Implications for Tree Outside Forest in Maryland." Special Innovations Session on Carbon Monitoring Systems Research and Applications, Annual Meeting of the American Geophysical Union (AGU), December 12-16.
- 2022 Ma, L., Hurtt, G., **Lamb, R.**, Tang, H., and Shen, Q. "Projection of global forest carbon sequestration potential under changing climate." Special Innovations Session on Carbon Monitoring Systems Research and Applications, Annual Meeting of the American Geophysical Union (AGU), December 12-16.
- 2022 Panday, F.M., **Lamb, R.**, Hurtt, G., and Ma, L. "A Multi-state Evaluation of the Climate Change Preparedness of Terrestrial Protected Regions." Special Innovations Session on Climate and Natural Disaster Risk Management for Human-Natural Systems, Annual Meeting of the American Geophysical Union (AGU), December 12-16.
- 2022 Ma, L., Hurtt, G., **Lamb, R.**, and Q., Shen. "Advancing global forest carbon modeling with spaceborne lidar observations: integrating data on forest structure with an advanced ecosystem model for improving carbon stock mapping." Session on Large Area Forest Biomass Monitoring from Space, Annual Meeting of the Association for Forest Spatial Analysis Technologies (ForestSAT), August 29-September 3.
- 2022 Klasic, M., **Lamb, R.**, Leonard, K., and Vargas-Nguyen, V. "(HAB)itual challenges: how does social-ecological risk influence Lake Erie harmful algal bloom management approaches?" Special Section on Institutions, Politics &

- Environmental Policy. Annual Midwest Political Science Association Conference, April 7-10.
- 2021 **Lamb, R.**, Hoffman Delett, C., Albee, M., Panday, F.M.S., Hurtt, G., and DeLeon, S. “Innovating Reforestation Protocols for Carbon Markets with High-Resolution Forest Carbon Science.” SY34A: Accessing Broader User Communities for Earth Observations of Terrestrial Systems, Annual Meeting of the American Geophysical Union (AGU), December 13-17. <https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/832546>
- 2021 Ma, L., Hurtt, G., Campbell, E., Dubayah, R., Hultman, N., **Lamb, R.**, Lister, A., O’Neil-Dunne, J., Sepulveda Carlo, E., & Tang, H. “Beyond MRV: High-Resolution Forest Carbon Monitoring and Modeling for the 11 State RGGI+ Region and National Prototype” 7th Open Science Meeting, North American Carbon Program, March 2021.
- 2020 Hurtt, G., Silva, C.E., **Lamb, R.**, Ma, L., and Shen, Q. “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 1-17. *ePoster*, doi.org/10.1002/essoar.10505479.1
- 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

- 2021 **Lamb, R.**, Spivy, A., Dubayah, R., Sahajpal, R., Hultman, N., Edmonds, J., & Hurtt, G. "Mapping optimized future carbon stock corridors for climate and biodiversity" Environment and Ecology Poster Category, Annual Meeting of the American Association for the Advancement of Science (AAAS), February 8-11. *ePoster*. doi.org/10.1002/essoar.10506283.1
- 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 1-17. *ePoster*, doi.org/10.1002/essoar.10505329.1
- 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 1-17. *ePoster*, doi.org/10.1002/essoar.10505328.1
- 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. https://cce.nasa.gov/files/te2019_ab_presentations/TE2019_Poster_Lamb_66_90.pdf
- 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. [doi/10.1002/essoar.10500782.1](https://doi.org/10.1002/essoar.10500782.1)
- 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

- 2023 **Lamb, R.** “Growing and Supporting Maryland’s Natural Climate Solutions.” Building A Sustainable Future: Collaborative Climate Solutions for Rural Communities, Rural Maryland Summit, November 14.
- 2023 **Lamb, R.** “Growing and Supporting Maryland’s Natural Climate Solutions,” Conservation Finance, Finance & Carbon Market Solutions, Maryland Land Conservation Conference, October 3.
- 2023 **Lamb, R.** “Maryland Ocean Acidification Action Plan and Implementation.” Federal and State Ocean Acidification Initiatives and DEIJA Considerations, Mid-Atlantic Coastal Acidification Network (MACAN) Workshop, September 11.
- 2023 **Lamb, R.** “Growing 5m Trees and More in Maryland.” Environmental Justice and You: Tree Equity, Prince George’s County Sierra Club, May 20.
- 2023 **Lamb, R.** “Raising State Level Ambition: Role of Natural and Working Lands in Maryland Climate Action.” USCA Learning Lab, April 20.
- 2023 **Lamb, R.** “Growing 5m Trees and More in Maryland.” Branching out: Leveraging climate goals to achieve tree canopy outcomes, Chesapeake Bay Tree Canopy Funding and Policy Roundtable, March 13.
- 2022 **Lamb, R.** “Role of Innovative Carbon Offsets in Maryland State Climate Policy.” AmeriFlux and Indiana University Workshop on Natural Climate Solutions, Washington DC, June 28.
- 2022 **Lamb, R.** “Accounting for Maryland’s Natural Carbon Sinks.” Regular Meeting of the Maryland Coalition of Cities and Counties for Climate Action, Virtual Meeting, May 11.
- 2022 **Lamb, R.** “Growing and Supporting Maryland’s Natural Carbon Sinks: Forests, Agricultural Lands, and Wetlands.” Climate Change Speakers Series, Mercy Ridge Retirement Community, Baltimore, Maryland, April 18.
- 2022 **Lamb, R.** “Role of Carbon Offsets in Maryland State Climate Policy.” United States Climate Alliance Financing Natural Climate Solutions Series, Virtual Meeting, April 5.

- 2022 **Lamb, R.** “Growing 5 Million Trees and More in Maryland.” Regular Meeting of the University Park Women’s Club, University Park, Maryland April 4.
- 2022 **Lamb, R.** “Supporting Strategic Reforestation in Maryland with High-Resolution Forest Carbon Science.” Maryland-DC Chapter of the Nature Conservancy, Brown Bag Luncheon, Virtual Meeting, March 8.
- 2022 **Lamb, R.** “Growing Five Million Trees and More in Maryland.” Baltimore Urban Waters Partnership Meeting, Virtual Meeting, March 3.
- 2022 **Lamb, R.** “Living Shorelines in Practice - Enhancing Coastal Resilience.” Collaborative Activities on Blue Carbon in Maryland Webinar Series, Virtual Meeting, February 10.
- 2022 **Lamb, R.** “Environmental Finance Mechanisms for Enhancing Maryland’s Blue Carbon Sinks.” Collaborative Activities on Blue Carbon in Maryland Webinar Series, Virtual Meeting, January 20.
- 2021 **Lamb, R.** “Growing Five Million Trees in Maryland by 2030.” Chesapeake Water Environment Association Stormwater Committee Meeting, Virtual Meeting, December 9.
- 2021 **Lamb, R.** “Accounting for Maryland’s Blue Carbon.” Collaborative Activities on Blue Carbon in Maryland Webinar Series, Virtual Meeting, December 8.
- 2021 **Lamb, R.** “MDE Overview of HB99: Tree Solutions Now Act of 2021.” Urban Tree Listening Session, Chesapeake Bay Trust, Virtual Meeting, November 1.
- 2021 **Lamb, R.** “Maryland Ocean Acidification (OA) Action Plan and Implementation.” Supporting OA Action Planning and Implementation in the Mid-Atlantic, Mid Atlantic Coastal Acidification Network (MACAN) and OA Alliance Virtual Workshop, October 18.
- 2021 **Lamb, R.** “Growing our National Carbon Sinks in Maryland: Focus on Blue Carbon.” United States Climate Alliance Emissions Inventory and Natural and Working Lands Joint Workshop on Blue Carbon, Virtual Meeting, August 17.
- 2021 **Lamb, R.** “Growing our National Carbon Sinks in Maryland” Maryland Commission on Climate Change Mitigation Working Group, Virtual Meeting, August 17.
- 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

2023 “The Science Behind Carbon Markets.” Official COP28 Side Event, Environmental and Energy Study Institute, Dubai, UAE, December.

2023 “Expanding Our Community - Climate and Coastal Resilience.” Annual Meeting of the Mid-Atlantic Regional Association Coastal Ocean Observing System, September.

2022 “Resilience Metrics – How States Are Quantifying Adaptation Success.” National Adaptation Forum, Baltimore, MD, October.

2022 “Carbon Credits and the Future Impact of Agricultural Economics.” Maryland International Agriculture & Environment Conference, Odenton, MD, October.

2022 “Integrating Natural and Working Lands into State Climate Action.” U.S. Climate Alliance Natural and Working Lands Workshop Series, Virtual Panel, October.

2022 “Equitable and Inclusive Global Climate Change Solutions,” Global Council for Science and the Environment Conference, Virtual Panel, June.

2022 “Ways of Knowing, Ways of Living: Exploring Faith and Conservation.” Smithsonian Earth Optimism x Folklife Festival, Washington DC, June.

2021 “How Can Christians Respond to Global Ecosystem Crisis?” Plant with Purpose – World Environment Day, Virtual Panel, June.

2021 “Celebrating Women Through Stories: International Women’s Day,” Congo Initiative - Université Chrétienne Bilingue du Congo (CI-UCBC), Virtual Panel, March.

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

- 2022-Present Research Collaborator: NASA Carbon Monitoring System (CMS) and the University of Maryland, College Park. Support stakeholder engagement and development of policy-relevant forest carbon science for state and national governments (Hurtt CMS 2020 project).
- 2020-2023 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. [Faculty Co-Advisor: 2021-2023]
- 2021-2022 Postdoctoral Associate: NASA Carbon Monitoring System (CMS) and the University of Maryland, College Park. Supported stakeholder engagement and development of policy-relevant forest carbon science for state and national governments. Primary affiliation with Hurtt CMS 2020 project focused on expanding applications of high-resolution forest carbon monitoring and modeling. Provide additional support and analysis for synthesis, reconciliation and assessment of CMS prototype products as part of the Chatterjee CMS 2018 project.
- 2020-2021 Graduate Research Assistant: US Climate Alliance and the University of Maryland, College Park (research advisor: Dr. G. Hurtt). Developed 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.

- 2018-2021 Graduate Research Assistant: NASA Carbon Monitoring System and the University of Maryland, College Park (research advisor: Dr. G. Hurtt). Supported 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. Associated with Hurtt CMS 2014 and CMS 2016 grants.
- 2017-2019 Co-Principal Investigator: NSF National Socio-Environmental Synthesis Center (SESYNC), Annapolis, MD (research colleagues: M. Klasic, V. Vargas-Nguyen, and K. Leonard). 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. Surrige). 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 AND GRADUATE RESEARCH ADVISOR AND MENTOR

- 2023-Present Michael Macon, “Revising Maryland’s Ecological Restoration Permitting and Advancing Nature-based Solutions,” Maryland Sea Grant State Science Policy Fellow, hosted at Maryland Department of the Environment [co-mentor].
- 2023-Present Christian Riordan, “Implementation of the Climate Pollution Reduction Grant Program,” Climate Chesapeake and Climate Corps Member, Chesapeake Bay Trust, hosted at Maryland Department of the Environment [co-mentor].
- 2023-Present Quan Shen, University of Maryland College Park [Doctoral Student Advisory Committee member].
- 2023-Present Amin M. Elamin, University of Maryland College Park [Doctoral Student Advisory Committee member].
- 2023 McKenzie Smith, Policy memo on “The Blue Carbon Potential of Coastal Natural Infrastructure in the Chesapeake Bay: A Comprehensive Synthesis,” Chesapeake Student Recruitment, Early Advisement, and Mentoring (C-StREAM) program, hosted at Maryland Department of the Environment [project mentor].
- 2023 Jac'ey Wynn Ogunbode, Policy memos on “Equitable Access to Electric Vehicles” and “Tackling PFAS in Maryland,” Governor’s Summer

- Internship Program, hosted at Maryland Department of the Environment [project mentor].
- 2020-2023 Eleven research assistants, “Including estimates of campus forest carbon in UMD’s Climate Action Plan,” University of Maryland, College Park [graduate student lead (2020-2021) and faculty co-advisor (2021-2023)].
- Madeleine Albee, Rieley Auger, Janna Chapman, Camille Hoffman Delett (undergraduate & graduate), Michael Howertown, Jarrett James, Katelyn Kopp, Jordan Nicolette, Frances Marie Panday (undergraduate & graduate), Amelia Patterson, and Hilary Sandborn.
 - Undergraduate Independent Research Award from Department of Geographical Sciences (2020 & 2021)
 - Project publications: <https://geog.umd.edu/project/campus-forest-carbon-project>
- 2022 Allison Sanzone, Master’s Capstone Project, “Projecting the Impact of Sea Level Rise on Wetland Carbon Sequestration in Maryland”, Department of Geographical Sciences, University of Maryland, College Park [project co-mentor].
- Story Map: <https://go.umd.edu/cRD>
- 2021-2022 Frances Marie Panday, Undergraduate Honors Thesis, “Historical and Future Tree Migration Rates and Their Relationship with Climate Velocity in the Mid-Atlantic region,” Department of Geographical Sciences (GEOG) and Environmental Science and Policy Program, University of Maryland, College Park [committee member].
- Received high honors and GEOG 2022 Undergraduate Independent Research Award
 - Authorea Preprint: https://d197for5662m48.cloudfront.net/documents/publicationstatus/133212/preprint_pdf/433336111e64720e89d290aafa55bbce.pdf
- 2021-2022 Camille Hoffman Delett, Master’s Thesis, “Potential for carbon sequestration on riparian buffer zones in Maryland,” Department of Geographical Sciences, University of Maryland, College Park [second reader].
- 2020-2021 Quan Shen, Research Assistant, “High-resolution monitoring of forest carbon sequestration to meet climate goals” University of Maryland, College Park [graduate student mentor].
- 2018-2019 Katie DeVoss, Research and Editorial Assistant, “*Conservation biology: foundations, concepts, applications*,” Maryland Center for Undergraduate Research, University of Maryland, College Park [advisor]
- 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) [advisor]
- Excellence in Sustainability Certificate from Maryland Sustainable Growth Commission (2017)

TEACHING EXPERIENCE

Au Sable Institute of Environmental Studies - Associate & Assistant Professor

Environmental Law & Policy (Summer 2016, 2018-2023, *in-person and online*)

Land Resources Policy (Summer 2015, 2017-2022)

University of Maryland, College Park – Adjunct Assistant Professor & Lecturer

Land Use, Climate Change, and Sustainability (Spring 2023)

Society and Sustainability in a Time of Great Change (Summer and Winter 2019-2024, *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

Introduction to Environmental Policy (Spring 2022-2023)

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

- | | |
|-----------|--|
| 2023-2024 | Iman Smith and Lindsay Holland, Undergraduate Teaching Assistants, “Society and Sustainability in a Time of Great Change Course,” Department of Geographical Sciences, University of Maryland, College Park (Winter). |
| 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

- | | |
|--------------|---|
| 2023-Present | Senior Climate Advisor, Maryland Department of the Environment, Baltimore, MD |
|--------------|---|

- 2022-2023 Natural Carbon Sequestration Administrator, Maryland Department of the Environment, Baltimore, MD
- 2021-2022 Maryland Sea Grant State Science Policy Fellow, Maryland Department of the Environment, Baltimore, MD
- 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

- 2022-Present Project Leadership Team, Maryland Agricultural Climate Change Assessment, University of Maryland and Harry R. Hughes Center for Agro-Ecology, Queenstown, MD
- 2023 Academic Advisory Panel, Maryland Sea Grant College, University of Maryland, College Park, MD
- 2022-2023 Technical Review Committee Member, Urban Trees Grant Program, Chesapeake Bay Trust, Annapolis, MD
- 2022 Invited Delegate, Addressing Today’s Greatest Forest Challenges, Women’s Forest Congress, Minneapolis, MN
- 2022 Advisory Committee Member, Maryland Forest Technical Study, Chesapeake Conservancy, Annapolis, MD
- 2022 Research Advisory Committee Member, Harry R. Hughes Center for Agro-Ecology, College of Agriculture and Natural Resources, University of Maryland, Queenstown, MD
- 2022 Advisory Committee Member, Natural and Working Lands and Net Zero Guide, U.S. Climate Alliance, Washington DC
- 2020-2022 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, Washington DC
- 2019-2021 Co-Founder and Convenor, Maryland Science, Technology, Engineering, and Health Policy (MSTEHP) Fellowship Program Initiative, College Park, MD
- 2019-2020 Working Group Co-Chair, Research Funding and Federal Funding Policies, Student Advocates for Graduate Students (SAGE) Coalition, Washington DC
- 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

2020-2021 Appointed Member and Vice Chair, Governance Committee, Graduate Student Government, University of Maryland, College Park

2019-2021 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 Board Director, A Rocha USA, Fredericksburg, Texas (Board Chair, 2021-)

2018-Present Advisory Council Member (Asociado), A Rocha Peru, Lima, Peru

2018-Present Senior Advisor, Young Evangelicals for Climate Action, Washington, DC

2021-2023 Board Director, Tearfund USA, Denver, Colorado

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

COMMUNITY INVOLVEMENT AND OUTREACH

2021 Prince George's County Climate Action Plan, Resident Advisory Group
2017-2021 Youth Mentor, DC Dream Center, Washington DC
2020 Instructor, Youth for Holistic Environmental Stewardship Program, Parkdale High School and Solid Rock Church, Riverdale, MD
2015 Co-Facilitator, Climate Action Leadership Intensive, YECA Climate Fellows, Mancelona, MI
2015 Lead Instructor, Environmental Conservation Intensive, 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
2008-2011 Tutor, After-School Program, Outreach Community Ministries, Carol Stream, Illinois

PEER REVIEW

Nature (2021)
Journal of Sustainable Forestry (2021)
Environmental Research Letters (2021, 2022)

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-)