Christopher A. Williams, PhD

LEADERSHIP AND ADMINISTRATIVE EXPERIENCE

Clark University (since 2008)

Lead of School of Climate, Environment, and Society Strategic Initiative and Launch (2022–2025)
Led a strategic initiative to launch a new school that collects elements of strength at the university to achieve synergy and critical mass that promises to elevate the reputation and impact of our work in this area of critical importance.

Highlights:
- Led many stages of the process from ideation to socialization, proposal development, planning, implementation, and early operation.
- Highly consultative process, with a great number of meetings, presentations, and listening sessions.
- Led major curricular innovations and developments including a new undergraduate major/minor program in CES, a new Master's program in Climate and Society. Both involved interdepartmental teams.
- Fundraising presentations for University Advancement events (Board Presentations leading to $10M launch gift and a follow-on set of gifts contributing $6M; President's Table; Jonas Clark Fellows).

Lead of B.S. Degrees in STEM Initiative (2022–2024)
Led an ad hoc, grass-roots initiative to begin offering Bachelor of Science degrees in the university's STEM fields.

Highlights:
- Initiated the idea and led early socialization within the sciences.
- Developed interest and participation and then assembled a team of representatives from lead departments across STEM.
- Oversaw collaborative exploration of design options with close examination of practices by peer institutions ultimately leading to development of a formal proposal.
- Navigated university review and public discussion.
- Facilitated implementation by the dean of the college, undergraduate admissions, and the registrar.

Co-Chair of Clark Sustainability and Climate Action Plan (2022–2023)
Led a core strategic framework committee tasked with designing a sustainability and climate action plan as a major priority for the university.

Highlights:
- Reviewed plans by other universities and colleges and synthesized major findings for presentation to the team.
- Performed a formal analysis of emissions sources and end uses by sector
- Drafted plan of action with sector-specific priorities and options.
- Presented plan to President and Provost, leading to a commitment to follow through on leading priorities.

Member of COVID Response Committee (2020–2022)
Served on leading operational management and decision-making team tasked with navigating the crisis. We determined instructional modes, public health requirements, facilities assessments and improvements, and associated policies, practices and communications.

Highlights:
- Guided decisions about testing, in-person operations, and course modes.
- Designed the alert level system with ties to decision-making.
- Co-designed the dashboard of testing, cases, and vaccinations, receiving recognition.
- Participated in assessments of the health risks posed by individual classroom, athletic, dining, community spaces and other facilities, and consideration of associated improvements to mitigate risks where possible.

Co-Chair of Provost Search (2020–2021)
Led a diverse team of faculty, administration, and staff to conduct the search for a new Provost.

Highlights:
- Wrote the position prospectus, and assembled committee membership.
- Coordinated committee process for first stage of selection, brief online interviews, second stage of selection, on-site interviews, and final recommendation, with the support and guidance of an outside consulting firm.
- Communicated committee recommendations to President.

Vice Chair of the Faculty (2018–2021)
Served as Vice Chair of the university Steering Committee, a committee of shared responsibility between the faculty and administration with wide-ranging responsibility and oversight.

Highlights:
- Aided the work of university committees on planning and budgetary review, personnel and promotion, compensation, and undergraduate and graduate academic boards.
- Guided the agenda for Faculty Assembly.
- Interacted with the Board of Trustees through formal committees and more informally.
- Participated as a liaison and lead for various strategic initiatives including a President search (2019), and several strategic framework groups (2020-2022).
- Collaborated with the Provost and Chair of the Committee on Personnel to review cases and determine raises for post-tenure faculty eligible for our Scheduled Salary Increase.

Director of Environmental Sciences (2016–2024)
Directed interdepartmental program of study involving 30 faculty and 2 staff members, each reporting to other home departments but serving this shared program.

Highlights:
- Administered the ES program and directed its steering committee.

- Coordinated course coverages and facilitated curriculum development.
- Designed and implemented a new track of the major suited for students engaged in our 3/2 Engineering program, the ES-Engineering track.
- Established awards for our most deserving graduates.
- Initiated, planned and coordinated Practicing Environmental Science, an annual career awareness and career development initiative engaging alumni practitioners.
- Promoted the program with admissions.
- Activated position requests for faculty hiring.

Chair of North American Carbon Program Science Leadership Group (2018–2024)
Led a leadership team of scientists from across the continent to support NACP science and policy efforts. The NACP is a scientific research program and community of practice working alongside the Carbon Cycle Interagency Working Group of the U.S. Global Change Research Program that operated under the aegis of the White House OSTP.

Highlights:
- Hosted quarterly meetings of the Science Leadership Group to plan and coordinate scientific initiatives, innovations, and advancements.
- Lead coordinator and lead author of 2022 NACP Science Implementation Plan, a large community effort to outline the highest priority developments needed for advancing carbon cycle science for both theoretical and applied contexts.
- Member of the Executive Planning Committee for the NACP Open Science Meeting 2020/21.
- Collaborator supporting a major synthesis report on the State of the Carbon Cycle Report – 2 (SOCCR-2) facilitated by the USGCRP.

Director of Biogeosciences Research Group (2008–present)
Director of a research lab overseeing a staff of 1 to 2 postdoctoral research scientists, 1 to 3 PhD students, and 1 to 4 Master's and Bachelor's students, securing funding, executing projects, publishing research science, and communicating findings.

Highlights:
- $3.5M in research funding over 16 years from 23 funded projects.
- Manages all hiring, payroll, personnel development, and team building.
- Over 100 publications, 18,000 citations, 20 datasets, 10 reports and white papers.
- Top 2% most cited scientists worldwide according to Stanford/Elsevier analysis.
- More than 10 presentations per year at academic conferences and workshops and for outreach and extension with practitioners.
- Media spotlights in some major outlets from time-to-time.

EDUCATIONAL BACKGROUND

Ph.D. Summa Cum Laude, Environmental Sciences, Duke University, 2004
M.S. Summa Cum Laude, Watershed Science, Colorado State University, 2000
B.A. Cum Laude, Biology & Environmental Studies, Bucknell University, 1996

PROFESSIONAL APPOINTMENTS

Professor, Graduate School of Geography, Clark University, 2019-present
Associate Professor, Graduate School of Geography, Clark University, 2014-2019
Assistant Professor, Graduate School of Geography, Clark University, 2008-2014
Guest Professor, Dept Enviro. Systems Sci., ETH-Z, Zurich, Switzerland, 2019
Visiting Fellow, Hawkesbury Institute for the Environment, Univ. of Western Sydney, 2015-2016
Visiting Professor, Swiss Federal Institute of Technology, Lausanne, Switzerland, 2011
Research Scientist, NASA Goddard Earth Sciences and Technology Center, UMBC 2007-2008
Postdoctoral Research Scientist, Natural Resource Ecology Lab, Colorado State Univ., 2004-2007

RESEARCH HIGHLIGHTS

Research Themes: climate change science, mitigation, and natural climate solutions; societal decarbonization; terrestrial ecosystem ecology; land-atmosphere exchange; global carbon cycle; ecohydrology; evapotranspiration; ecological modeling; plant water and carbon relations; remote sensing of forest dynamics; ecological climatology in the Earth System.

Research Impact
Google Scholar *h-factor* = 52, citations = 18,029, *m-index* = *h-factor* / *scientific age* = 2.2 by August 2025.
Over 110 publications, 20 datasets, and 10 reports and white papers.

Grants and Contracts
$3.5M in extramural research funding over 16 years with 23 funded projects.

TEACHING AND MENTORING HIGHLIGHTS

Courses Taught
GEOG 102: Weather and Climate (Science Perspective, and ES core)
GEOG 156/CES356: Getting to Zero: Pathways for Decarbonization, (Formal Analysis, and ES core)
GEOG 205/305: Introduction to Hydrology, an upper-level course for ES majors and grad-students.
GEOG 283/333: Terrestrial Ecosystem Ecology and Global Change
GEOG 3XX: Seminars in Biogeosciences and in Remote Sensing of Global Environmental Change

Academic Mentoring
6 postdoctoral scientists; 20 PhD committees, 7 as chair; 12 MA/MS students
30+ BA/BS student research advisees; 20+ academic advisees per year

HONORS AND AWARDS

Gratitude Award from the Clark University Women in Business for serving Clark U. during the pandemic, 2021
Certificate of Recognition for Contributions to the SOCCR-2 Synthesis Report, USGCRP CCIWG, 2018
Excellence in Teaching, Scholarship, and University Engagement Award (Clark U. Hayden Fellowship), 2015
Excellence in Reviewing Award, Journal of Geophysical Research - Biogeosciences. 2013

Excellence in Reviewing Award, Biogeochemistry. 2013
Hodgkins Junior Faculty Award for Research and Teaching Excellence, Clark University 2013
Highlighted, & Most Accessed: WRR 2012, GBC 2012, CBM 2007
Robert Ellison Award for Excellence in Interdisciplinary Research, University of Virginia, 2002
Outstanding Paper Presentation Award, Student Water Symposium, Colorado State University, 1999
Sigma Xi Induction, Bucknell University, 1996
Most Outstanding RA, Bucknell University, 1996
Outstanding Service Award, Bucknell University, 1996

GRANTS AND CONTRACTS

Doris Duke Foundation via Open Space Institute (2025-2027, 3-year duration) **$201,420**
"*Activating Avoided Forest Conversion as a Conservation and Climate Strategy in the U.S.*"
Co-PI: CA Williams (subaward of $1M grant to PI Abigail Weinberg of OSI)

TNC Bezos Earth Fund (2023/24, 4-month duration) **$50,000**
"*Assessing Albedo Change from Agricultural Practices in the Upper Midwestern U.S.*"
PI: CA Williams

USFS Forest Legacy, Open Space Institute, Trust for Public Lands (2023/24, 12-month) **$132,646**
"*Updating the National Forest Carbon Monitoring System*"
PI: CA Williams

US Climate Alliance Natural and Working Lands (2022-2023, 1-year duration) **$94,800**
"*Climate solution from avoided forest conversion in the US*"
PI: CA Williams; Collaborator: Joe Fargione (TNC)

TNC Bezos Earth Fund Subaward (2021-2023, 3-year duration) **$402,940**
"*Decision Support Tools for Global Assessment of Albedo Impacts on Natural Climate Solutions from Reforestation and Avoided Deforestation*"
PI: CA Williams

US Climate Alliance Natural and Working Lands (2020-2021, 1-year duration) **$106,574**
"*Bringing forest carbon into focus: Improved estimates of carbon benefits from avoided forest conversion in New England*"
Co-PI: CA Williams; Co-PI: Laura Marx (TNC Mass Chapter)

Southern Environmental Law Center (2020, 1-year duration) **$40,000**
"*Forest Clearing Rates in the Sourcing Region of Enviva Pellet Mills in Virginia and North Carolina*"
PI: CA Williams

TNC Natural Climate Solutions for Canada (2019-2020, 1 year duration) **$81,500**
"*Albedo Impacts Analysis of Avoided Deforestation, Reforestation, and Increased Deciduousness*"
PI: CA Williams

ETH-Zurich Visiting Professor Fellowship (2019, 6-month duration) **$53,000**

NASA Earth and Space Science Fellowship (2017-2020, 3-year duration) **$135,000**
"*Vegetation Decline and Recovery from the Millennium Drought in Australia: Novel Quantitative Analysis with Multi-Sensor and Higher Resolution Data*"
PI: CA Williams, Student: T Jiao

NASA Carbon Monitoring System (2016-2019, 3-year duration) $1,098,754
"*Tools to Bridge the Gap Between Static CMS Maps, Models, and Stakeholders*"
PI: R Kennedy (OSU); Co-I: CA Williams (Clark, **$144,608**), D Bachelet (CBI), D Huntzinger (NAU), J Fisher (JPL), Z Yang (OSU)

NASA JPL Subaward for Graduate Student (2016-2017, 1 year duration) **$23,922**
"*ECOSTRESS: Assessment of Water Resources for Agricultural Productivity in Costa Rica*"
PI: CA Williams; Co-I: S Cooley

NASA EVS-2: ACT-America (2016-2020, 4-year duration) **$305,449**
"*Surface Biogenic Carbon Flux Priors from CASA: Priors, Error Structures and Reducing Parameter Uncertainties*"
PI: CA Williams; Lead Science PI for ACT-America: K Davis (Penn State U)

UWS HIE Research Exchange Visitation (2015-2016, 1-year duration) **$36,000**
"*Identifying Hierarchical Drought Responses of Ecosystems with Integration and Synthesis of Experiments and Monitoring Sites to Improve Treatment in Ecosystem - Climate Models*"
PI: CA Williams, Hosts: B Medlyn, R Duursma (UWS HIE)

NASA Carbon Monitoring System (2014-2016, 3-year duration) **$858,000**
"*Translating Forest Change to Carbon Emissions and Removals for Tier 3 MRV*"
PI: CA Williams (Clark, **$552,861**), Co-PIs: G James Collatz, J Masek (NASA GSFC); G Moisen (USFS)

NASA Carbon Cycle Science (2014-2016, 3-year duration) $1,305,904
"*Quantification of the regional impact of terrestrial processes on the carbon cycle using atmospheric inversions*"
PI: K Davis (Penn State U), Co-Is: T Lauvaux & N Miles & S Richardson (PSU), A Jacobson & A Andrews (NOAA ESRL), A Schuh & S Ogle (CSU), J Collatz (NASA GSFC), C Williams (Clark portion **$74,000**), D Hollinger (USDA-FS)

NSF, Long-Term Ecological Research V Site Grant (2012-2017, 5-year duration) $6,000,000
"*HFR LTER V: New Science, Synthesis, Scholarship, and Strategic Vision for Society*"
PI: D Foster (Harvard), Co-I's: many including CA Williams (Clark, **$10,000**)

NASA Earth and Space Science Fellowship (2011-2014, 3-year duration) **$90,000**
"*Albedo and Evapotranspiration Consequences of Bark Beetle Outbreaks as Detected by Remote Sensing in Coniferous Forests, Rocky Mountains, USA*"
PI: CA Williams, Student: M Vanderhoof

NASA, ROSES, Science of Terra and Aqua (2011-2014, 3-year duration) $866,082
"*Albedo Trends Related to Land Cover Change and Disturbance: A Multi-sensor Approach*"
PI: J Masek, Co-I's: F Gao, Y Shuai, CA Williams (Clark portion **$180,381**), C Schaaf

NASA GSFC, Biospheric Sciences Graduate Student Support (2010, 3-month duration) **$5,814**
"*Biogeochemical and Biophysical Consequences of Disturbances in Forests of the Western United States*"
PI: CA Williams, Student: B Ghimire

NASA, ROSES, Terrestrial Ecology Program (2010-2013, 3-year duration) $654,918
"*Impacts of Disturbance History and Climate on Carbon Fluxes from North American Forests*"
PI: GJ Collatz, Co-I's: J Masek, CA Williams (Clark portion **$183,932**)

NSF, Research Experience for Undergraduates Supplement (2009-2010) **$11,919**
"*Carbon Dioxide and Water Flux Responses to Extreme Weather and Climate Anomalies: A Fluxnet Synthesis*"
PI: CA Williams

NSF, Carbon and Water in the Earth System Program (2007-2011, 4-year duration) $539,840
"*Carbon Dioxide and Water Flux Responses to Extreme Weather and Climate Anomalies: A Fluxnet Synthesis*"
PI: CA Williams

PEER-REVIEWED RESEARCH PAPERS

[Google Scholar *h-factor* = 52; Citations = 18,029; *m-index = h-factor / scientific age* = 2.2]
|Contribution Codes |: **C**onceived of work; **A**nalysis performed; **I**deas for analysis; **W**riting; **E**dited text; **D**ata provider**;** *Williams Lab Undergraduate; **Williams Lab Graduate Student; ***Williams Lab Postdoctoral Researcher

112. Wang, X., Barnes, M., Yoder, L., **Williams, C.**, Tank, J., Royer, T., Suttles, S., & Novick, K. (2025). The potential for albedo-induced climate mitigation using no-till management in midwestern U.S. croplands. *Communications Earth & Environment*, *6*(1), 580. https://doi.org/10.1038/s43247-025-02549-x |I,W,E,D|

111. Anderegg, W. R. L., Blanchard, L., Anderson, C., Badgley, G., Cullenward, D., Gao, P., Goulden, M. L., Haya, B., Holm, J. A., Hurteau, M. D., Lague, M., Liu, M., Novick, K. A., Randerson, J., Trugman, A. T., Wang, J. A., **Williams, C. A**., Wu, C., & Yang, L. (2025). Towards more effective nature-based climate solutions in global forests. *Nature*, *643*(8074), 1214-1222. https://doi.org/10.1038/s41586-025-09116-6 |I,W,E,D|

110. Reis Ely, C. R., Perakis, S. S., Cleveland, C. C., Menge, D. N. L., Reed, S. C., Taylor, B. N., Batterman, S. A., Clark, C. M., Crews, T. E., Dynarski, K. A., Gei, M., Gundale, M. J., Herridge, D. F., Jovan, S. E., Kou-Giesbrecht, S., Peoples, M. B., Piipponen, J., Rodríguez-Caballero, E., Salmon, V. G., . . . Wurzburger, N. (2025). Global terrestrial nitrogen fixation and its modification by agriculture. *Nature*, *643*(8072), 705-711. https://doi.org/10.1038/s41586-025-09201-w |I,E,D|

109. Fesenmyer, K. A., Poor, E. E., Terasaki Hart, D. E., Veldman, J. W., Fleischman, F., Choksi, P., Archibald, S., Armani, M., Fagan, M. E., Fricke, E. C., Terrer, C., Hasler, N***, **Williams, C. A**., Ellis, P. W., & Cook-Patton, S. C. (2025). Addressing critiques refines global estimates of reforestation potential for climate change mitigation. *Nature Communications*, *16*(1), 4572. https://doi.org/10.1038/s41467-025-59799-8 |I,E,D|

108. Zhou, Y.**, & **Williams, C. A.** (2025). Forest carbon modeling improved through hierarchical assimilation of pool-based measurements. *Journal of Advances in Modeling Earth Systems*, *17*(3), e2024MS004622. https://doi.org/10.1029/2024MS004622 |C,A,I,W,E,D|

107. Poulter, B., Murray-Tortarolo, G., Hayes, D. J., Ciais, P., Andrew, R. M., Bastos, A., Byrne, B., Butman, D., Canadell, J. G., & Chatterjee, A., Domke, G., Feldman, A., Foster, K., Hunka, N., Jackson, R. B., Kurz, W. A., Lindquist, A., Liu, M., Luijkx, I., . . . **Williams, C.A.**, Zhang, Z. (2025). The North American Greenhouse Gas Budget: Emissions, Removals, and Integration for CO_2, CH_4, and N_2O (2010–2019): Results from the Second REgional Carbon Cycle Assessment and Processes Study (RECCAP2). *Global Biogeochemical Cycles*, *39*(4), e2024GB008310. https://doi.org/https://doi.org/10.1029/2024GB008310 |I,E,D|

106. Duncanson, L., Hunka, N., Jucker, T., Armston, J., Harris, N., Fatoyinbo, L., **Williams, C. A.**, Atkins, J. W., Raczka, B., & Serbin, S. (2025). Spatial resolution for forest carbon maps. *Science*, *387*(6732), 370-371. https://www.science.org/doi/abs/10.1126/science.adt6811. |I,W,E|

105. Blanchard, L., Haya, B. K., Anderson, C., Badgley, G., Cullenward, D., Gao, P., Goulden, M. L., Holm, J. A., Novick, K. A., Trugman, A. T., Wang, J. A., **Williams, C. A.**, Wu, C., Yang, L., & Anderegg, W. R. L. (2024). Funding forests' climate potential without carbon offsets. *One Earth*, *7*(7), 1147-1150. https://www.cell.com/one-earth/abstract/S2590-3322(24)00298-7 |I,W,E|

104. Shrestha, S.**, **Williams, C. A.,** Rogers, B. M., Rogan, J., & Kulakowski, D. (2024). Divergent biophysical responses of western United States forests to wildfire driven by eco-climatic gradients. *Biogeosciences*, *21*(9), 2207-2226. https://bg.copernicus.org/articles/21/2207/2024/ |C,A,I,W,E,D|

103. Novick, K. A., Keenan, T. F., Anderegg, W. R. L., Normile, C. P., Runkle, B. R. K., Oldfield, E. E., Shrestha, G., Baldocchi, D. D., Evans, M. E. K., Randerson, J. T., Sanderman, J., Torn, M. S., Trugman, A. T., & **Williams, C. A**. (2024). We need a solid scientific basis for nature-based climate solutions in the United States.

Proceedings of the National Academy of Sciences, *121*(14), e2318505121. https://doi.org/doi:10.1073/pnas.2318505121 |I,W,E|

102. Hasler, N.****, **Williams, C. A.**, Denney, V. C., Ellis, P. W., Shrestha, S.**, Terasaki Hart, D. E., Wolff, N. H., Yeo, S., Crowther, T. W., Werden, L. K., & Cook-Patton, S. C. (2024). Accounting for albedo change to identify climate-positive tree cover restoration. *Nature Communications*, *15*(1), 2275. https://doi.org/10.1038/s41467-024-46577-1. |C,A,I,W,E,D|

101. Ruehr, S., Keenan, T. F., **Williams, C.,** Zhou, Y.**, Lu, X., Bastos, A., Canadell, J. G., Prentice, I. C., Sitch, S., & Terrer, C. (2023). Evidence and attribution of the enhanced land carbon sink. *Nature Reviews Earth & Environment*, *4*(8), 518-534. https://doi.org/10.1038/s43017-023-00456-3 |C,A,I,W,E,D|

100. Shrestha, S.**, **Williams, C. A.**, Rogers, B. M., Rogan, J., & Kulakowski, D. (2024). Divergent biophysical responses of western United States forests to wildfire driven by eco-climatic gradients. *Biogeosciences*, *21*(9), 2207-2226. https://doi.org/10.5194/bg-21-2207-2024. |C,A,I,W,E,D|

99. Jiao, T.**, **Williams, C. A.**, De Kauwe, M. G., & Medlyn, B. E. (2023). Limited Evidence of Cumulative Effects From Recurrent Droughts in Vegetation Responses to Australia's Millennium Drought. *Journal of Geophysical Research: Biogeosciences*, *128*(5), e2022JG006818. https://doi.org/https://doi.org/10.1029/2022JG006818. |C,A,I,W,E,D|

98. **Williams, C. A.** (Lead and Contributing Author), Andrews, A., Brown, M., Davis, K. J., Hoffman, F., Larson, L., . . . Wei, Y. (2023). 2022 North American Carbon Program Science Implementation Plan, A Report of the North American Carbon Program. Washington, DC: US Carbon Cycle Science Program; http://dx.doi.org/10.5065/kwe1-w815. |C,A,I,W,E,D|

97. Hou, E., Ma, S., Huang, Y., Zhou, Y.**, Kim, H.-S., López-Blanco, E., . . . **Williams, C.A.**, . . . Luo, Y. (2023). Across-model spread and shrinking in predicting peatland carbon dynamics under global change. *Global Change Biology, 29*(10), 2759-2775. https://doi.org/10.1111/gcb.16643 |I,W,E,D|

96. Ouyang, Z., Sciusco, P., Jiao, T.**, Feron, S., Lei, C., Li, F., . . . **Williams, C. A.** (2022). Albedo changes caused by future urbanization contribute to global warming. *Nature Communications, 13*(1), 1-9. |A,I,W,E,D|

95. Novick, K., **Williams, C**., Runkle, B., Anderegg, W., Hollinger, D., Litvak, M., . . . Anderson, C. (2022). The science needed for robust, scalable, and credible nature-based climate solutions in the United States: Full Report. In: [Bloomington, Ind.]: Indiana University. |I,W,E|

94. Murray-Tortarolo, G., Poulter, B., Vargas, R., Hayes, D., Michalak, A. M., **Williams, C**., . . . Butman, D. (2022). A process-model perspective on recent changes in the carbon cycle of North America. *Journal of Geophysical Research: Biogeosciences*, e2022JG006904. |A,I,E,D|

93. Shrestha, S.**, **Williams, C. A.**, Rogers, B. M., Rogan, J., & Kulakowski, D. (2022). "*Wildfire controls on land surface properties in mixed conifer and ponderosa pine forests of Sierra Nevada and Klamath mountains, Western US*". Agricultural and Forest Meteorology, 320, 108939. |C,A,I,W,E,D|

92. **Williams, C. A.,** Gu, H.***, & Jiao, T.** (2021). "*Climate impacts of US forest loss span net warming to net cooling*". Science Advances, 7(7), eaax8859. |C,A,I,W,E,D|

91. **Williams, C. A.**, Hasler, N.***, Gu, H.***, & Zhou, Y.** (2021). "*Forest Carbon Stocks and Fluxes from the NFCMS, Conterminous USA, 1990-2010*". ORNL DAAC, Oak Ridge, Tennessee, USA. https://doi.org/10.3334/ORNLDAAC/1829. |C,A,I,W,E,D|

90. **Williams, C. A.**, Hasler, N.***, & Xi, L.** (2021). "*Avoided Deforestation: A Climate Mitigation Opportunity in New England and New York*". Report prepared for the United States Climate Alliance Natural and Working Lands Research Program, pp. 1-42; https://tnc.app.box.com/s/apncszy7yrsknl. |C,A,I,W,E,D|

89. **Williams, C. A.**, & Xi, L.** (2021). "*Forest Clearing Rates in the Sourcing Region for Enviva Pellet Mills in Virginia and North Carolina, U.S.A.*" Report prepared for the Southern Environmental Law Center; https://southernenvironment.sharefile.com/share/view/s322e5dc731984235ab391a16115a7d21. |C,A,I,W,E,D|

88. Davis, K. J., Browell, E. V., Feng, S., Lauvaux, T., Obland, M. D., Pal, S., (and others including **Williams, C.A.**), . . . Barkley, Z. R. (2021). "*The Atmospheric Carbon and Transport (ACT)–America Mission*". Bulletin of the American Meteorological Society, 1-54. |E,D|

87. Drever, C. R., Cook-Patton, S. C., Akhter, F., Badiou, P. H., Chmura, G. L., Davidson, S. J., (and others including **Williams, C.A.**), … Fellows, M. (2021). "*Natural climate solutions for Canada*". Science Advances, 7(23), eabd6034. |A,I,W,E,D|

86. Feng, S., Lauvaux, T., **Williams, C. A.**, Davis, K. J., Zhou, Y.**, Baker, I., . . . Wesloh, D. (2021). "*Joint CO_2 Mole Fraction and Flux Analysis Confirms Missing Processes in CASA Terrestrial Carbon Uptake over North America*". Global Biogeochemical Cycles, e2020GB006914. |I,W,E,D|

85. Gourdji, S. M., Karion, A., Lopez-Coto, I., Ghosh, S., Mueller, K., Zhou, Y.**, **Williams C. A.**, … Whetstone, J. (2021). "*A modified Vegetation Photosynthesis and Respiration Model (VPRM) for the eastern USA and Canada, evaluated with comparison to atmospheric observations and other biospheric models*". Journal of Geophysical Research: Biogeosciences, e2021JG006290. |I,W,E,D|

84. Jiao, T.**, **Williams, C. A.**, De Kauwe, M. G., Schwalm, C. R., & Medlyn, B. E. (2021). "*Patterns of post-drought recovery are strongly influenced by drought duration, frequency, post-drought wetness, and bioclimatic setting"*. Global Change Biology. doi:DOI:10.1111/gcb.15788. |C,I,W,E,D|

83. Wei, Y., Shrestha, R., Pal, S., Gerken, T., Feng, S., McNelis, J., (and others including **Williams, C.A.**), . . . Shook, M. A. (2021). "*Atmospheric Carbon and Transport–America (ACT-America) Datasets: Description, Management, and Delivery*". Earth and Space Science, e2020EA001634. |E,D|

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6. **Williams CA**, Albertson JD (2004) "*Soil moisture controls on canopy-scale water and carbon fluxes in an African savanna*", Water Resources Research, 40, W09302, doi:10.1029/2004WR003208.

5. **Williams CA** (2004) "*Hydrologic controls on vegetation function and structure in water-limited systems*", Ph.D.Dissertation, Duke University, pp. 205.

4. Binkley, D., Ice GG, Kaye J, and **Williams CA** (2004) "*Nitrogen and phosphorus concentrations in forest streams of the United States*", Journal of the American Water Resources Association, 40(5):1277-1291. |I,D|

3. Scanlon, TM, Albertson JD, Caylor KK, and **Williams CA** (2002) "*Determining land surface fractional cover from NDVI and rainfall time series for a savanna ecosystem*", Remote Sensing of Environment, 82(2-3): 376-388. |I,E,D|

2. Prueger JH, Kustas WP, Hipps LE, Hatfield JL, Cahill A, **Williams C**, MacPherson JI, Wolde M, Albertson J, Eichinger WE, Cooper DI, Brunsell N, and Gillies R (2003) "*Spatial variability of turbulent fluxes across a corn/soybean production region in central Iowa*", Abstract published, American Meteorological Society 17th Conference on Hydrology. |D|

1. **Williams CA** (2000) "*Comparison of floodplain hydrology and cottonwood water relations between a regulated and an unregulated river in northwestern Colorado*", MS Thesis, Colorado State University.

PEER-REVIEWED BOOK CHAPTERS

3. Hanan NP, Boulain N, **Williams CA**, Scholes RJ, Archibald S (2010) "*Functional convergence in ecosystem carbon exchange in adjacent savanna vegetation types of the Kruger National Park, South Africa*", In: Ecosystem Function in Global Savannas: Measurement and Modeling at Landscape to Global Scales, Ed. M.J. Hill and N.P. Hanan, CRC Taylor and Francis. |I,W,E,D|

2. **Williams CA** (2010) "*Integration of remote sensing and modeling to understand carbon fluxes and climate interactions in Africa*", In: Ecosystem Function in Global Savannas: Measurement and Modeling at Landscape to Global Scales, Ed. M.J. Hill and N.P. Hanan, CRC Taylor and Francis.

1. Albertson JD, **Williams CA**, Scanlon TM, and Montaldo N (2006) "*Soil moisture controls on water and carbon fluxes in semi-arid regions*", In: Dryland Ecohydrology, eds. P. D'Odorico, A. Porporato, Springer, Netherlands, pp. 67-83. |A,I,W,E,D|

CONFERENCE PRESENTATIONS & RESEARCH SEMINARS (primary presenter since 2008)

Williams CA (invited speaker) "*Getting to Zero: Bridging from ClimateTech to Climate Action with Planners, Managers, Businesses, and Trades*", Worcester Polytechnic Institute Summit on Climatech in Central Massachusetts, Worcester, MA, April 2025.

Williams CA (invited speaker) "*Forest Carbon Uptake and Storage by 2050 in the United States*", U.S. Climate Alliance Natural and Working Lands Learning Lab, Washington, D.C., March 2025.

Williams CA (invited speaker) "*Accounting for Albedo Change to Identify Climate Positive Tree Cover Restoration*", American Geophysical Union Fall Meeting, Washington, D.C., December 2024.

Williams CA (invited speaker) "*Introducing the NFCMS: A Decision Support Platform for Forest-Sector Carbon Accounting*", U.S. Climate Alliance Natural and Working Lands Learning Lab, Washington, D.C., March 2025.

Williams CA (invited speaker) "*Update to the NFCMS: Data and Tools for Forest Carbon and Climate Applications*", U.S. Nature4Climate Webinar, Online, December 2024.

Williams CA (invited speaker) "*Biophysics and Natural Climate Solutions: Working Toward Holistic Assessment of Net Climate Impacts*", University of Utah, Wilkes Climate Science and Policy Center, Workshop on Forest NCS, March 2024.

Williams CA (invited keynote and panelist) "*Making Sense of Forest Carbon Dynamics: Young, Old, and Everything In-Between*", New York State, Department of Environmental Conservation, Webinar, December 2023.

Williams CA "*Climate Finance and Pathways to Decarbonization*", Clark University, School of Management Conference, April 2023.

Williams CA (invited keynote), "*Conservation Carbon and Climate Protection: Assessing Opportunities and Limitations*", Natural Areas Association symposium on Nature's Front Line: The Role of Natural Areas in Climate Resilience in Central Appalachian Forests, March 2022.

Williams CA (invited speaker), "*Biophysics and NCS: Sorting Mitigation and Adaptation at Local and Global Scales*", Natural Climate Solutions Workshop hosted by Indiana University in Washington D.C., June 2022.

Williams CA, et al., "*Forests as Climate Solution: Writing the Playbook from Pathways to Pixels to Policy*", University of Connecticut, Geography Colloquium, March 2022.

Williams CA, et al., "*Plots to Pixels to Policy with a Wall-to-Wall Forest Carbon Monitoring and Assessment System*", NASA Carbon Monitoring System, Biomass Working Group, February 2022.

Williams CA, et al., "*Bringing Forest Carbon into Focus: Improved Estimates of the Carbon Benefits from Avoided Forest Conversion in New England and New York*", US Climate Alliance: Natural and Working Lands Webinar, October 2021.

Williams CA, et al., "*Climate impacts of U.S. forest loss*", NASA CMS Science Team Meeting, April 2021.

Williams CA, et al., "*Plots to Pixels to Policy: Journey of a Wall-to-Wall Forest Carbon Monitoring and Assessment System*", Forest Ecosystem Monitoring Cooperative Annual Conference, December 2020.

Williams CA, et al., "*Forest Carbon Opportunities for Climate Protection*", Harvard Forest Workshop on Forest Carbon, Climate, and New England Landscape Futures, April 2020.

Williams CA, et al., "*CASA Model Ensemble of Surface Biogenic Fluxes: Analysis and Uncertainty Attribution*", NASA ACT-America Science PI Meeting, April 2020.

Williams CA, et al., "*Albedo Offsets to Carbon Mitigation Activities in the Forest Sector of Canada*", Canada Natural Climate Solutions Working Group, April 2020.

Williams CA, et al., "*Forest Carbon Opportunities for Climate Protection*", Presented Several Times to Diverse State Government Offices across New England and National NGOs in the US, February to May 2020.

Williams CA, et al., "*Carbon, Climate, and US Forests: Synthesis of Harvesting, Wood Products, Deforestation, Reforestation, and Natural Disturbance Impacts*", American Geophysical Union 2019 Fall Meeting, Dec 2019.

Williams CA, et al., "*Forest Carbon Monitoring System for U.S. National and Regional Assessment*", NASA Carbon Monitoring System Science PI Meeting, October 2019.

Williams CA, et al., "*National Forest Carbon Monitoring and Reporting System for the US*", USFS-NASA Joint Workshop, Geospatial Technology and Applications Center, Salt Lake City, UT, May 2019.

Williams CA, et al., "*Moving Carbon Cycle Models Forward: Strategies for Improving Assessment and Prediction*", AGU Fall Meeting, Washington, DC, December 2018.

Williams CA, et al., "*Climate Benefits of Avoided Forest Conversion: Assessing Opportunities*", ForestSAT, College Park, MD, October 2018.

Williams CA, et al., "*Climate Benefits of Potential Avoided Emissions from Forest Conversion Diminished by Albedo Warming: Comprehensive, Data-Driven Assessment for the US and Beyond*", AGU Fall Meeting, New Orleans, LA, December 2017.

Williams CA, et al., "*High resolution US forest carbon stock and flux estimation for large area assessment based on FIA data, a carbon cycle model, and remote sensing of biomass and disturbances*", FIA Science Meeting, Park City, UT, October 2017.

Williams CA, et al., "*Evidence and attribution of enhanced terrestrial carbon uptake at two scales: Global lands and North American forests*", International Carbon Dioxide Conference, Interlaken, Switzerland, September 2017.

Williams CA, et al., "*Carbon in US Forests: Dynamics from Natural Disturbances, Management, and Enhanced Growth*", Association of American Geographers Annual Meeting, Boston, MA, April 2017.

Williams CA, et al., "*Drivers, Trends, and Management of Forest Carbon: Draft SOCCR2 Synthesis for North America*", North American Carbon Program / AmeriFlux Meeting, Bethesda, MD, April 2017.

Williams CA, et al., "*Carbon Dynamics with Forest Regrowth After Clearing at the Harvard Forest LTER*", Harvard Forest Research Symposium, Petersham, MA, March 2017.

Williams CA, et al. "*A Forest Carbon Monitoring System*", NASA CMS-Williams-14 Project Meeting, Clark Univ., Worcester, MA, February 2017.

Williams CA, et al., "*Carbon Sources/Sinks of US Forests: Estimation with Remote Sensing, Inventory Data, and a C Cycle Model*", American Geophysical Union Fall Meeting, San Francisco, CA, December 2016.

Williams CA (invited talk), "*Forest Dynamics and the Climate System: Forcings and Feedbacks of Disturbances and the Changing Climate*", Department of Environmental Sciences, Univ. of Basel, October 2016.

Williams CA, et al. "*Surface Biogenic Carbon Flux Priors from CASA*", NASA ACT-America Project Meeting, Penn State Univ., October 2016.

Williams CA (invited talk), "*Carbon Dynamics of US Forests: Current Rates, Drivers, Trends, and Emerging Methods*", AmeriFlux PI Meeting, Golden, CO, September 2016.

Williams CA (invited talk), "*Cutting Trees Cools?: Carbon, Water, and Energy Fluxes and Radiative Forcing Following Temperate Forest Clearing*", Sydney Plant Ecophysiologists Group Meeting, University of Technology Sydney, Sydney, NSW, March 2016.

Williams CA (invited talk), "*Evaporation, Surface Conductance, and Stomatal Behavior for Global Forests, Grasslands, and Savannas* ", OzFlux Annual Meeting, Hobart, Tasmania, November 2015.

Williams CA (invited lecture), "*Ecosystem Responses to Droughts: Collecting Observational Anecdotes to Improve Assessment of Large-Scale Carbon Cycle Impacts of Global Changes* ", Hawkesbury Institute for the Environment, Western Sydney University, Richmond, NSW, October 2015.

Williams CA (invited lecture), "*The Truth About Climate Change and Pathways to a Safer Future*", Climate Change Teach-In, Clark University, Worcester, MA, April 2015.

Williams CA (invited seminar), "*A U.S. Forest Carbon Monitoring System: Inventories, Remote Sensing and Modelling to Assess Patterns and Processes*", Global Institute of Sustainable Forestry, School of Forestry and Environmental Studies,Yale University, New Haven, CT, February 2015.

Williams CA (invited talk), "*Insights About Stomatal Behavior and Surface Conductance from Global Grasslands, Forests, and Savannas*", American Geophysical Union Annual Fall Meeting 2014, San Francisco, CA.

Williams CA, "*What Matters Most for Future Land Carbon Storage*", ICOS Open Science Conference, Brussels, Belgium, September 2014

Williams CA, et al. "*Ecosystem Physiology Post-Clearing in a Deciduous Forest Environment of New England*", Harvard Forest Research Symposium, Harvard Forest, Petersham MA, March 2014

Williams CA, et al. "*Long-lasting Legacies from Fire, Beetles, and Drought Expanding Across the Western US: Implications for Carbon, Water, and Climate*", Biology Department Speaker Series, University of New Mexico, Albuquerque, NM, March 2014

Williams CA, et al. "*Climate and Disturbance Drivers of the Terrestrial Biosphere and Feedbacks to Climate*", New England and St Lawrence Valley Conference of the American Association of Geographers, October 2013

Williams CA, et al. "*Post-clearcut Dynamics of Vegetation and Carbon, Water, and Energy Exchanges in a Temperate, Deciduous Broadleaf Forest Environment*", New England and St Lawrence Valley Conference of the American Association of Geographers, October 2013

Williams CA, et al. "*The Water-Carbon-Climate Nexus Affecting Ecosystems Across the Western US*", New England and St Lawrence Valley Conference of the American Association of Geographers, October 2013

Williams CA (invited keynote), et al. "*Biospheric Feedbacks from Climate Extremes and Disturbances: Looking to Large Scale Impacts*", Climate Extremes and Biogeochemical Cycles 2013, Seefeld, Austria, April 2013

Williams CA, et al. "*Continental-Scale Carbon Budget Impacts of Forest Disturbances by Fires, Insects, and Harvests in the western US: Mean, Variability, Uncertainty, and Trend*", North American Carbon Program All Investigators Meeting, Albuquerque, NM, February 2013

Williams CA (presenting on behalf of Schwalm CR, et al.) "*Carbon and Water Impacts of the Turn of the Century Drought in Western North America 2000-2004*", North American Carbon Program All Investigators Meeting, Albuquerque, NM, February 2013

Williams CA (invited keynote) "*Down to the Last Drop: Climate Change and Water Resources in the American Southwest*", Darwin Festival Keynote, Salem State University, Salem, MA, February 2013

Williams CA (invited talk) "*Fire Induced Carbon Emissions and Regrowth Uptake in Western US Forests: Variation across Forest Types, Fire Severity, and Climate Regions*", American Geophysical Union Annual Fall Meeting 2012, San Francisco, CA.

Williams CA (invited talk) "*Carbon Consequences of Western US Droughts, Fires, Bark Beetles, and Harvests: Comparative Analysis and Synthesis*", American Geophysical Union Fall Meeting 2012, San Francisco, CA.

Williams CA (invited seminar), et al. "*Widespread Enhancement of Forest Growth: Evidence and Underlying Causes*", Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA, November 2012

Williams CA (invited seminar), et al. "*Drought and the American West: Biophysical and Water Resource Impacts*", Yale Climate and Energy Institute, New Haven, CT, November 2012

Williams CA, et al. "*Carbon Legacies from Forest Disturbances by Fires, Insects, and Harvests in the US*", ForestSAT, Corvallis, OR, September 2012

Williams CA, et al. "*Ecosystem Physiology in a Post-Clearcut Environment of New England*", ForestSAT, Corvallis, OR, September 2012

Williams CA (invited seminar), et al. "*Carbon Sequestration in Forests: Current Rates and Attribution*", Biology Seminar, College of the Holy Cross, Worcester, MA, April 2012

Williams CA, et al. "*Carbon Legacies of Forest Disturbances by Fires, Insects, and Harvests*", American Association of Geographers Annual Meeting, New York City, NY, February 2012

Williams CA (invited seminar), et al. "*Droughts and the Carbon Cycle: Tails from the Last Century*", LSCE, Gif-sur-Yvette, France, December 2011

Williams CA (invited seminar), et al. "*Droughts and the Carbon Cycle: Tails from the Last Century*", ETH-Z, Zurich, Switzerland, December 2011

Williams CA (invited seminar), et al. "*Carbon Sinks from Growth Enhancements in Forests*", ETH-Z, Zurich, Switzerland, November 2011

Williams CA (invited seminar), et al. "*Critical Appraisal of the US Forest Carbon Sink: Inferring Magnitudes and Mechanisms*", Max Planck Institute for Biogeochemistry, Jena, Germany, September 2011.

Williams CA, et al. "*Biospheric Response to Incipient Megadrought in Western North America: The New Normal?*", Plenary Oral Presentation, International Land-Ecosystem-Atmosphere Processes Study (iLEAPS) Conference 2011, Garmisch, Germany, September 2011

Williams CA (invited lecture), "*Africa's Carbon Cycle and Connections to Hydroclimatic Variability*", GeoVisualization Course at EPFL, Lausanne, Switzerland, September 2011

Williams CA, Vanderhoof M, Munger JW, Hadley J, "*Fluxes Between the Forest & Atmosphere: Comparisons Among Tower Sites At Harvard Forest*" 2011 Harvard Forest Ecology Symposium, Petersham, MA, March 2011

Williams CA (invited seminar), Collatz GJ, Masek J, "*Current Estimates of the US Forest Carbon Sink: Inferring Magnitudes and Mechanisms*" Harvard University Herbarium, Harvard University, Cambridge, MA, March 2011

Williams CA, Collatz GJ, Masek J, Jacobson AR, Goward SN, Cohen W, Houghton RA, Schaefer K, "*Current Estimates of the US Forest Carbon Sink: Inferring Magnitudes and Mechanisms*" 2011 NACP All-Investigators Meeting, New Orleans, LA, February 2011

Williams CA, Vanderhoof M, Munger JW, Hadley J, Fitzjarrald DR, "*Comparative Analysis of Carbon, Water, and Energy Exchanges in co-located mid-latitude forests at various stages of development*" American Geophysical Union, San Francisco, CA, December 2010

Williams CA (invited seminar), Vanderhoof M, Munger JW, Hadley J, Fitzjarrald DR, "*Comparative Analysis of Carbon, Water, and Energy Exchanges in co-located mid-latitude forests at various stages of development*" Biology Speaker Series, Clark University, December 2010

Williams CA (invited seminar), "*Climate and Disturbance Drivers of Terrestrial Carbon, Water, and Energy Balances*" Penn State University, University Park, PA, November 2010

Williams CA, "*Post-Disturbance Carbon, Water, and Energy Dynamics in an Early Succession New England Landscape*" Harvard Forest, Petersham, MA, July 2010

Williams CA, "*Climate and Vegetation Controls on the Surface Water Balance: A FLUXNET Synthesis*" Association of American Geographers, Washington, DC, April 2010

Williams CA (invited seminar), "*Patterns of carbon sequestration in US forests diagnosed from integration of Landsat, FIA, and CASA*" Boston University, Geography Speaker Series, Boston, MA, April 2010

Williams CA, "*El Niño Southern Oscillation and the Global Carbon Cycle*" Clark University Graduate School of Geography Research Series, Worcester, MA, December 2009

Williams CA (invited seminar), Collatz GJ, Masek J, "*Carbon consequences of forest disturbances across North America*", Harvard Forest Seminar Series, Petersham, MA, November 2009

Williams CA, Schwalm CR, Schaefer K, Baker I, Collatz GJ, "*What causes ENSO-induced anomalies of atmospheric CO_2?*", International Carbon Dioxide Conference 8, Jena, Germany, September 2009

Williams CA (invited talk), Schwalm CR, Schaefer K, "*Climatic Controls on Land-Atmosphere Exchanges of Carbon and Water: Drought, ENSO, and Budyko*", Ameriflux PI Meeting, Washington DC, September 2009

Williams CA (invited talk), "*Challenges in quantifying global net primary productivity: rates, states, fates*", and "*Resource Limitation in Production Efficiency Models (PEMs)*", Global Climate Observing System Inter-panel Workshop on Global Net Primary Production, JRC, Ispra, Italy June 2009

Williams CA (invited seminar), "*Carbon consequences of forest disturbance and recovery across North America*", Marsh Institute Speaker Series, Clark University, March 2009

Williams, CA, GJ Collatz, J Masek, "*Forest disturbances as a driver of carbon sources and sinks*", AAG Spring Meeting, Las Vegas, 2009.

Williams CA, GJ Collatz, J Masek, "*Carbon consequences of forest disturbance and recovery across North America*", AGU Fall Meeting, San Francisco, 2008.

FIELD EXPERIENCE

Annual 2018: take down of eddy flux installation, Harvard Forest, Petersham, MA
Annual 2017: eddy flux work, Harvard Forest, Petersham, MA
Annual 2016: eddy flux, hyperspectral tram field work, Harvard Forest, Petersham, MA
Annual 2015: eddy flux, hyperspectral tram, & ecology field work, Harvard Forest, Petersham, MA
Annual 2014: eddy flux & ecology field work, mentor 2 NSF REUs, Harvard Forest, Petersham, MA
Annual 2013: eddy flux & ecology field work, mentor 2 NSF REUs, Harvard Forest, Petersham, MA
Annual 2012: eddy flux & ecology field work, mentor 2 NSF REUs, Harvard Forest, Petersham, MA
Annual 2011: eddy flux & ecology field work, mentor 2 NSF REUs, Harvard Forest, Petersham, MA
Annual 2010: eddy flux & ecology field work, mentor 2 NSF REUs, Harvard Forest, Petersham, MA
Annual 2009: eddy flux tower deployment/maintenance, Harvard Forest, Petersham, MA
Spring 2006: micrometeorological and ecological field work, flux tower data analysis, Skukuza, South Africa
Summer 2003: eddy flux tower deployment coupled to soil moisture remote sensing, Sardinia, Italy
Spring 2002: eddy flux tower deployment, vegetation surveys, leaf-scale ecophysiology, Ghanzi, Botswana
Summer 2001: eddy flux technician, USDA Soil Moisture-Atmosphere Coupling EXperiment, Ames, IA
Fall 2000: eddy flux experiment measuring above and within canopy fluxes, Charlottesville, VA
Summer 1999: floodplain hydrology, plant water relations, vegetation structural assessments, Browns Park, CO
Summer 1998: floodplain hydrology, plant water relations, vegetation structural assessments, Browns Park, CO
Fall 1996: ecological restoration, plant community surveys, Bandelier National Monument, New Mexico

PROFESSIONAL AFFILIATIONS (variably maintained)

American Geophysical Union; American Association of Geographer; Ecological Society of America; Sigma Xi Scientific Research Society; US NSF/NCAR Earth System Scientist Early Career Network; National Center for Atmospheric Research Junior Faculty Forum; FLUXNET, Ameriflux; North American Carbon Program; Global Carbon Project, REgional Carbon Cycle Assessment Project; NASA Carbon Monitoring System; NASA Pre-Decadal Survey TECLUB; NASA Pre-Decadal Survey Carbon-Climate; SOCCR-2; TNC Natural Climate Solutions work with support to the US Climate Alliance; International Boreal Forest Research Association

MEDIA & PUBLIC RELATIONS (not updated since 2022)

Wall Street Journal, Carbon Offsets and Combatting Climate Change, https://www.wsj.com/articles/carbon-offsets-climate-change-explained-11658347808?st=oc134dj7uqpio3f&reflink=desktopwebshare_permalink , July 2022

WBUR, Climate Friendly Forest Management, https://www.wbur.org/news/2022/07/13/family-forest-carbon-program-massachusetts, July 2022

Worcester T&G, Critique of National Grid's Clean Energy Vision https://www.wbur.org/news/2022/07/13/family-forest-carbon-program-massachusetts, June 2022

Science, The Forest Forecast: forest response to climate change and feedback effect on climate, https://www.science.org/content/article/trees-help-curb-climate-change-can-also-contribute-warming-reducing-earths-reflectivity, 19 May 2022

Mongabay, Beyond CO_2, tropical forests as climate solution https://news.mongabay.com/2022/04/beyond-co2-tropical-forests-a-cool-solution-to-climate-crisis-study-finds/, April 22, 2022

EOS Science News by AGU, Forest edges more productive than interior, https://eos.org/articles/forest-edges-are-more-not-less-productive-than-interior-forest, March 3, 2022

McMaster University Science Writeup, Why fighting climate change is not as simple as planting some trees, https://mailchi.mp/mcmaster/sciencelongread5, February 2022

7 News Boston, Deforestation in New England and Climate Impacts, https://whdh.com/news/report-forest-losses-hampering-carbon-fight-in-northeast/, September 14, 2021

Clark Press Release, Carbon Hotspots in US for Climate Protection, https://clarknow.clarku.edu/2021/09/16/scientists-identify-forest-carbon-hotspots-across-us-with-greatest-potential-to-fight-climate-change/ , September 2021

The Globe and Mail, Canada's Natural Climate Solutions, https://www.theglobeandmail.com/business/article-new-study-offers-canada-natural-solutions-to-combat-climate-change/, June 4, 2021

WIRED, The Great Danger of the Tiny Bark Beetle, https://www.wired.com/story/the-great-danger-of-the-tiny-bark-beetle/, December 17, 2021

Popular Science, Caterpillars and climate change, https://www.popsci.com/science/caterpillar-poop-waste-carbon-emissions/, November 3, 2021

YahooNews, Why tree planting doesn't necessarily help fight climate change, https://uk.news.yahoo.com/why-planting-trees-doesnt-necessarily-help-fight-climate-change-155438567.html?guccounter=1&guce_referrer=aHR0cHM%E2%80%A6, November 1, 2021

WBUR, New England forests slowing climate change, https://www.wbur.org/news/2021/09/14/deforestation-new-england-carbon-sequestration-climate-change, September 14, 2021

Patch, Deforestation in New England is big CO2 problem, https://patch.com/massachusetts/worcester/deforestation-new-england-big-co2-problem-study-finds, September 16, 2021

The Washington Post, Climate and Environment focus on land sector forest carbon accounting in country level UNFCCC reporting, April 26, 2021 (also in MSN, other)

Worcester T&G, EuroNews, ScienceDaily, Phys.org on climate impacts of U.S. deforestation, 12 February 2021

Clark Research Highlight and Press Release on US deforestation and climate, 12 Feburary, 2021
https://clarknow.clarku.edu/2021/02/12/clark-geographer-christopher-williams-more-trees-do-not-always-create-a-cooler-planet/

The Washington Post, "*Gone in a Generation*" focus on impacts of US forest disturbances, 29 January 2019

Nature, News Feature "*How much can forests fight climate change*?", 15 January 2019

Agency Free Press, The Economic Times India, Daily Nation, Malaysian Reserve, Iran Daily, Centre Daily Times Kenya, and many others, "*Ten ways climate change can make wildfires worse*", 11 November 2018

Worcester T&G, "*New Study on Climate Change Solutions*", 14 November 2018

Clark Press Release on *Natural Climate Solutions study*, 14 November 2018
https://clarknow.clarku.edu/2018/11/14/natural-climate-solutions-reduce-...1

May Street School 5th Grade Presenter: *Water on Earth*, Worcester, MA November 2018

March for Science - Boston: *Why I March for Science*, posted by Clark U on Facebook, April 2017

Nashua River Watershed Association Keynote: *Forests and Climate*, Devens, MA November 2016

May Street School 6th Grade Presenter: *Clean Water Scarcity and Access*, Worcester, MA November 2016

Clark Research Highlight on *Ecosystems Slow Rising CO2 Concentration*, 8 November 2016
http://www.clarku.edu/articles/study-ecosystems-slow-rate-rising-co2-concentration

Clark Research Highlight on *Plant Stress from Dry Air Increases with Global Warming*, 6 September 2016
https://www.clarku.edu/articles/clark-university-research-new-study-global-warming-pushes-plants-deeper-dry-air-stress-zone

Clark Research Highlight on *Research in Australia: Droughts and Tree Mortality*, 8 July 2016
https://www.clarku.edu/articles/clark-geographer-australia-study-climate-change-drought-and-death-trees

Christian Science Monitor Article on *CA Drought*, 19 March 2015

CNBC.com Article on *CA Drought and Unsafe Drinking Water*, 24 October 2014

Clark Research Highlight on *NASA Forest Carbon grant*: http://news.clarku.edu/news/2014/10/23/clark-u-geographer-awarded-nasa-grants-to-study-carbon-release-and-uptake-in-u-s-forests/

Christian Science Monitor Article on *CA Drought and Fires*, 2 May 2014

Christian Science Monitor Article on *CA Drought*, 14 January 2014

CNBC.com Article on *US Drought in 2013*, 26 November 2013

Clark Research Highlight on *Albedo Impacts of Global Land Change*, 5 December 2013

Clark Research Highlight on *Carbon and Water Flux Impacts of Clearcut Disturbance*, 18 October 2013

Harvard Forest LTER Highlight *Carbon and Water Flux Impacts of Clearcut Disturbance*, 18 October 2013

CNBC.com Article on *Watershed Stress Index and Future Water Resources*, 30 September 2013

KBOO Community Radio, 1-hr Discussion on *Drought and Water Resources in the Western US*, 20 May 2013

NPR WBEZ's The Morning Shift with Tony Sarabia, *Weather Extremes and Climate Change*, 8 March 2013

CNBC.com Article on *Drought and Food Prices*, 11 January 2013

AGU's Eos Transactions Feature on *Fire and Climate Change*, 8 January 2013

AGU & NASA Press Briefing on *Fire and Climate Change*, 4 December 2012

Clark Research Highlight on *Fire and Climate Change*: http://news.clarku.edu/news/2012/12/11/geographer-briefs-media-on-fire-activity-in-a-changing-climate/

New York Times, Opinion Piece on *Drought and the Western US* in Sunday Review, 11 August 2012

New England Cable News, *Climate Variability in New England*, 14 August, 2012

NPR's On-Point with Tom Ashbrook, *Megadroughts in the American West*, 14 August 2012

New York Times, contribution to Dot Earth Blog by Andrew Revkin on *Megadroughts and the American West*, 13 August 2012

Clark Research Highlight & Press Release for Nature-Geoscience paper on *Carbon and Water Impacts of Drought in the American West*, 31 July 2012, http://news.clarku.edu/news/2012/07/31/study-2000-04-extreme-drought-points-toward-dry-new-normal/

AGU's Eos Transactions Feature on *Climate and Vegetation Controls on River Runoff* paper published in Water Resources Research, 31 July 2012

The Christian Science Monitor article on *Drought and Food Prices*, 16 July 2012

Clark Research Highlight & Press Release for publication in Nature on *Water Limitation of Global Evaporation*, 10 October 2010

Clark Press Release for Science paper on global gross primary productivity from flux towers, June 2010

SCIENCE OUTREACH, ADVISING & CONSULTING

WA Dept. of Ecology, Climate Pollution Reduction Program, statewide forest carbon dynamics, 2025

US Climate Alliance states, guidance on forests as a climate solution in natural and working lands, 2025

Trust for Public Land, Enhanced Carbon Easement Advisory Board, 2022 - 2024

Open Space Institute, advising on assessing forest carbon loss risk in land conservation efforts, 2023 - ongoing

Upstream Carbon, extension support to consultant working on forest carbon and natural climate solutions, 2024

Graphyte, advising on forest carbon mapping in region of interest, 2024

Trust for Public Land, Board Advisory Committee for Land and People Lab, 2023 - ongoing

US Nature4Climate, guidance on natural climate solutions pathways and uncertainty, 2024

Amazon Worldwide Sustainability, guidance on forest carbon offset protocols and albedo change, 2024

Upstream Carbon, conversation about forest carbon mapping and monitoring for offset projects, 2024

Climate Action Reserve, guidance on remote sensing of forest carbon for baselines and monitoring, 2024

NYS Dept. of Environmental Conservation, state of the science on mature and old growth forest carbon, 2023

Conservation International NCS Roadmap, conversation about albedo and biophysics in NCS, 2023

(Carbon)Plan, advising on albedo offsets to carbon sequestration of reforestation in Canada, 2023

CarbonDirect, review of wood harvest and storage carbon offset project standard protocol, 2023

Trust for Public Lands, advising and data provision for forest carbon decision support and visualization, 2021/23

Open Space Institute, advising on assessing forest carbon loss risk in land conservation efforts, 2020/23

CarbonLockdown, review of wood vault as a carbon offset project protocol, 2022

Natural Areas Association, advising and data provision for forest carbon decision support and visualization, 2022

NY Office of Climate Change, Advising on forest carbon emissions and uptake, April 2021

Webinars for State Environment and Conservation Offices, advising on avoided deforestation and carbon assessment in the forest sector (NY, ME, VT, NH, MA, CT, RI), October 2020

CT Governor's Council on Climate Change, advising on forest carbon accounting in land sector climate assessment, May 2020

MA Energy & Environmental Affairs, advising on forest carbon accounting in land sector climate assessment, March 2020, January 2021, November 2021, March 2022

Co-Host of Workshop on Forests, Climate, and Landscape Futures of New England for States, April 2020
Webinars for State Environment and Conservation Offices, advising on avoided deforestation and carbon assessment in the forest sector (NY, ME, VT, NH, MA, CT, RI), January 2020 and Fall 2021
US Climate Alliance Learning Lab on Natural and Working Lands, Science Advising (numerous) 2019 – 2022
USFS-NASA Joint Workshop, Geospatial Technology and Applications Center, Salt Lake City, UT, May 2019

PROFESSIONAL SERVICE

Publication Reviewer (since 2020, about 20 per year)

Advances in Water Resources
Agricultural and Forest Meteorology
Biogeochemistry, **Assoc. Editor ('10-'15)**
Biogeosciences, **Assoc. Editor ('13 – '18)**
Carbon Balance and Management
Ecological Monographs *Guest Editor*
Ecosphere
Environmental Research Letters
Forest Ecology and Management
Global Biogeochemical Cycles
Global Change Biology
Global and Planetary Change
Geophysical Research Letters
Journal of Climate
Journal of Geophysical Research – Atmospheres
Journal of Geophysical Research – Biogeosciences
Journal of Hydrology
Landscape Ecology
Nature
Nature Climate Change, Nature Geoscience
Nature Communications
New Phytologist
Plant and Soil
PNAS
Remote Sensing of Environment
Science
Science Advances
Water Resources Research
Book Chapter Reviews

Proposal Reviewer

Austria Science Foundation
Belgian Science and Policy Office, Earth Observation (STEREO IV)
Canada First Research Fund, Global Water Futures (multiple times)
NASA ABoVE (panelist)
NASA Carbon Cycle Science (panelist)
NASA Terrestrial Ecology Program (including panelist x 2)
National Science Foundation, Division of Earth Sciences, Hydrologic Sciences (including panelist x 2)
National Science Foundation, Division of Environmental Biology, Ecosystem Studies
National Science Foundation, Frontiers in Earth System Dynamics
National Science Foundation, Geography and Regional Science
National Science Foundation, Geography and Spatial Sciences
National Science Foundation, Geomorphology and Land Use Dynamics
National Science Foundation, Critical Zone Observatory
Department of Energy, National Institute for Climate Change Research
Department for International Development and Natural Environment Research Council ESPM, UK
Netherlands Organization for Scientific Research, Council for Earth and Life Sciences
Netherlands Organization for Scientific Research, Earth Observation Research
Swiss National Science Foundation, Interdisciplinary Projects in Environmental Sciences
Swiss National Science Foundation, Professorship
Swiss, ETH-Zurich, Internal Research Funds (multiple times)
Swiss Forest Lab
UK Natural Environment Research Council, Understanding and Sustaining Brazilin Biome Resources

External Reviewer of Personnel and Programs

Promotion Case, National Snow and Ice Data Center, University of Colorado Boulder
Promotion Case, Boston University
Promotion Case, Indiana University
Promotion Case, Montana State University

Science Planning and Advising

US Climate Alliance, Natural and Working Lands, Workshop Participant, 2025
North American Carbon Program, Science Leadership Group, member 2017, Co-Chair 2018-2024
North American Carbon Program, Science Implementation Plan, Chair, 2017-2023
US Climate Alliance, Natural and Working Lands, Workshop Participant, 2021
NACP Open Science Meeting Breakout Sessions (multiple), 2021
Harvard Forest Workshop on New England Landscape Futures and Forest Carbon, 2020, Co-Chair, Keynote
TNC and Nature United Natural Climate Solutions for Canada Workshop Participant, 2019
US Climate Alliance, Natural and Working Lands, Workshop Participant, 2018
International Boreal Forest Research Association, Workshop Participant, 2018
US State of the Carbon Cycle Report – 2, Lead Author, Chapter on Forests, 2016-2019
Harvard Forest LTER-VI Science PI and Planning Member, 2016-17
NASA Carbon-Climate Pre-Decadal Survey Workshop Participant, 2014-2015
NASA Carbon Monitoring System Science Team, 2014-present
NASA Terrestrial Ecosystems, Carbon Cycle, Land Use, Biodiversity Workshop, 2014-2015
Harvard Forest Research Planning, various from 2010-present
Global Carbon Project, Regional Carbon Cycle Attribution and Processes Workshop, May 2011
NASA Scoping Workshop, Savanna Remote Sensing, Fort Collins, CO, March 2010
Global Climate Observing System Workshop on Global Net Primary Production, JRC, Ispra, Italy, June 2009
EU – CarboAfrica Model Intercomparison Project Advising, Jena, Germany, April 2007
FLUXNET Workshop, La Thuile, Italy, February 2007
NSF International Programs, Research Science Planning in Sub-Saharan Africa, February 2006

Meeting Coordination and Judging

Science Meeting Planning Committee, Session Chair, Keynote Organizer, NACP Open Science Meeting 2021
Science Meeting Chair, Harvard Forest Workshop on New England Landscape Futures and Forest Carbon, 2020
Science Meeting Planning Committee and Session Chair, NACP Open Science Meeting 2020
Science Meeting Planning Committee and Session Chair, NACP & AmeriFlux PIM 2017
Session Chair, American Geophysical Union Annual Meeting 2014
Session Chair, North American Carbon Program All Investigators Meeting 2013
Session Chair, American Geophysical Union Annual Meeting 2012
Judged Poster Presentations, American Geophysical Union Annual Meeting 2012
Session Chair, ForestSAT Conference 2012
Session Chair, Association of American Geographers Annual Meeting 2012
Session Chair, FLUXNET-SPECNET Workshop, Berkeley, CA 2011
Session Chair, American Geophysical Union Fall Meeting 2010
Judged Poster and Oral Presentations, American Geophysical Union Annual Meeting 2010
Session Chair, American Geophysical Union Fall Meeting 2009
Session Chair, Association of American Geographers Annual Meeting 2009
Session Chair, American Geophysical Union Fall Meeting 2008

UNIVERSITY & DEPARTMENTAL SERVICE

Clark University

Implementation and Operation of School of Climate, Environment, and Society 2024 – 2025
Lead, CES Major/Minor Proposal and Implementation, Clark University 2024 - 2025
Co-Lead, CES MS Climate & Society Proposal, Promotion, Operation, Admissions, Clark University 2024 - 2025
Co-Chair, Academic Programs for School of Climate, Environment, and Society 2023 – 2024
Administration of School of Climate, Environment, and Society 2023 – 2024
Lead, Co-Chair, Proposal and Planning for School of Climate, Environment, and Society 2022 – 2024
Lead, B.S. Degrees Initiative 2022 – 2024
Director, Environmental Sciences BA Program 2016 – 2024
George Perkins Marsh Institute Steering Committee, 2015 – 2025
Clark Climate Action and Sustainability Strategic Planning and Implementation, Clark University 2023/24
COVID-19 Response Team (CRC) 2020 – 2023
Chair of Strategic Framework Committee on Climate and Global Change, Clark University 2022/23
Chair of B.S. Degree Initiative, Clark University 2021/23
Clark Sustainability Action Plan Strategic Framework Committee, Clark University 2022/23
Lead and Primary Author of Clark Climate Action Plan, Clark University 2022/23
Clark Labs Director Search, Clark University 2021/22
Vice Chair of the Faculty 2018 – 2021
CRC Facilities Subcommittee 2020 – 2021
Provost Search Committee, Co-Chair 2020/21
Student Sustainability Fund Reviewer, 2019 – 2021
Inclusive Excellence Award Selection Committee, 2020
Global Change at Clark Strategic Planning Committee, 2021
STEM Visioning Committee, 2020
New Faculty Mentor, Alex Petroff, Physics, 2018
Faculty Search Committee, Environmental Science & Policy 2016/17
New Faculty Mentor, John Gibbons, Biology, 2014/15
Environmental Science Steering Committee, School of Geography, Clark University 2014/15
Graduate Judicial Board (no cases heard), 2014
Environmental Science Steering Committee, School of Geography, Clark University 2013/14
Graduate Board Member (elected, 3-year term), Clark University, 2010/11, 2011/12, 2012/13
Graduate Board Chair, Clark University 2012/13
Higgins School / Presidential Lecture Event Participant, Dan Schrag Discussion & Lecture, 2014
Environmental Science Steering Committee, School of Geography, Clark University 2012/13
Task Force on Graduate Education, Clark University, 2012/13, 2013/14
Liberal Education and Effective Practice (LEEP) Faculty Facilitator, 2011/12, 2012/13
LEEP Campus Network, Clark University, 2012/13
LEEP Center Director Search Participation, Fall 2012
Academic Open House, Major's Fair, Clark University, Spring 2011, 2012, 2013, 2014 (+)
Academic Open House, Mini-Course, Clark University, Spring 2013, 2014, 2015 (+)
Admissions Course Preview for Prospective Undergraduate Students, Spring 2012, 2013, 2014, 2015 (+)
Sciences Preview Day presenter/speaker, Clark University, October 2009
Difficult Dialogues Participant, Session on Climate Change, Fall 2012
Earth System Science curriculum development, Clark University, 2008 – present

Poster Session Judge for Academic Spree Day 2009

Clark University, School of Geography
Undergraduate Studies Committee, School of Geography, Clark University 2025
Chair Undergraduate Studies Committee, School of Geography, Clark University 2023 – 2024
Undergraduate Studies Committee, School of Geography, Clark University 2014 – 2022
Personnel Reappointment Committee (Abby Frazier), School of Geography, Clark University 2023
Earth System Science Major Track Director, School of Geography, Clark University 2012 – present
Faculty Liaison, Clark Environmental Action Student Club, 2022-present
Personnel Tenure Committee, Chair (Clark Labs Director), School of Geography, Clark University 2022
Faculty Search (Earth System Science), School of Geography, Clark University 2020/21
Personnel Promotion Committee (Karen Frey), School of Geography, Clark University 2019/20
Clark Labs and Geospatial Sciences Future Committee, 2019 – 2022
Personnel Tenure Committee (Mark Davidson), School of Geography, Clark University 2014/15
Postdoctoral Researcher Search (Williams Lab), School of Geography, Clark University 2014/15
Personnel Tenure Committee (Karen Frey), School of Geography, Clark University 2012/13
Profile & Visibility Strategic Planning Committee, School of Geography, Clark University 2012
Earth System Science Strategic Planning Committee, School of Geography, Clark University 2012
Postdoctoral Researcher Search (Williams Lab), School of Geography, Clark University 2011/12
Earth Transformed 25 Years Planning Committee, School of Geography, Clark University 2011/12
PhD Professional Development Workshop Lead, School of Geography, Clark University 2011/12
Faculty Search (Human-Environment), School of Geography, Clark University 2010/11
Personnel Promotion Review (Robert Pontius), School of Geography, Clark University 2010/11
Environmental Science Steering Committee, School of Geography, Clark University 2010/11
Earth System Science Major Track Director, School of Geography, Clark University 2010/11
Graduate Studies Committee, School of Geography, Clark University 2009/10
Personnel Reappointment Committee (Karen Frey), School of Geography, Clark University Fall 2009/10
Graduate Admissions Committee, School of Geography, Clark University 2008/09
Atwood Event Committee, School of Geography, Clark University 2008/09
Poster Session Judge Geography Undergraduate Research 2009
Postdoctoral Researcher Search (Williams Lab), School of Geography, Clark University 2008

University of Virginia, Department of Environmental Sciences
Graduate Student Association Chair 2001/02

COURSES TAUGHT

Weather and Climate (GEOG102) introduces the basic physical processes that control weather (insolation and heating; evaporation, condensation and precipitation; air pressure and winds) and explains the climates that result. Students are also introduced to fundamentals of scientific inquiry and knowledge with exposure to observational methods, data analysis, and forecasting. It fulfills the undergraduate Natural Science breadth requirement.

Getting to Zero: Clean Energy for a Climate Safe Future (GEOG 156/CES356) examines the technical potential of a range of clean energy technologies that could support the transition to a zero-carbon society. Students take a quantitative approach to sizing up energy consumption and production in search of scalable solutions for carbon neutrality. It fulfills the undergraduate Formal Analysis breadth requirement, and the FYI for some first-years.

Introduction to Hydrology (GEOG 205/305) presents an overview of what governs the hydrological cycle's major components of precipitation, evapotranspiration, soil moisture, surface water, and groundwater. Core principles of physical hydrology are introduced including rainfall-runoff processes, surface and subsurface storage

and flows, and land-atmosphere exchanges. Students also learn about human influences on the water cycle, and consider management of water resources at field to watershed scales.

Terrestrial Ecosystems and Global Change (GEOG 283/333) explores ecosystem responses to global environmental changes and how they feedback on the Earth System. Students learn about biophysical controls on energy, water, and carbon cycles, and examine how biogeography, vegetation physiology, and local to global climates influence surface-atmosphere exchanges and then feedback on biogeography and climate. The course introduces the theory, remote sensing, and computational modeling of biophysical, biogeochemical, and ecosystem dynamical processes active in shaping the terrestrial biosphere.

Remote Sensing of Global Environmental Change (GEOG 392) is a graduate-level seminar that investigates how satellite and aircraft remote sensing are used to monitor and understand the human and natural forces profoundly altering Earth's surface and function today. Specific topics include desertification, longer growing seasons, loss of snow and ice cover, forest disturbances, fire detection, famine early warning, boreal forest migration, carbon cycle assessments, climate variability and change, and other topics selected by students.

Advanced Topics in Biogeosciences (GEOG 395) is a graduate-level seminar focused on biogeosciences of the Earth system in the past, present, and future. The course explores frontier topics in this emerging field that spans the intellectual interface between Biology and the Geosciences in an attempt to understand the functions of the Earth system across multiple spatial and temporal scales. Topics span process-based theoretical, experimental, and field studies of biogeochemistry, biogeophysics, and land-atmosphere interactions.

Fall 2008	GEOG115 *Introduction to Hydrology*, Lecture (1 unit) GEOG115 Lab *Introduction to Hydrology* (0.5 units)
Spring 2009	GEOG102 *Weather and Climate*, Lecture (1 unit) GEOG392 *Remote Sensing of Global Environmental Change*, Seminar (1 unit)
Fall 2009	GEOG115 *Introduction to Hydrology*, Lecture (1 unit) GEOG115 Lab *Introduction to Hydrology* (0.5 units) GEOG283/333 *Land-Atmosphere Interactions*, Lecture (1 unit)
Spring 2010	GEOG102 *Weather and Climate*, Lecture (1 unit) GEOG102 Lab *Weather and Climate* (0.5 units) GEOG392 *Remote Sensing of Global Environmental Change*, Seminar (1 unit)
Fall 2010	GEOG283/333 *Terrestrial Ecosystem Ecology and the Atmosphere*, Lecture (1 unit)
Spring 2011	GEOG102 *Weather and Climate*, Lecture (1 unit) GEOG102 Lab *Weather and Climate* (0.5 units) GEOG395 *Advanced Topics in Biogeosciences*, Seminar (1 unit)
Fall 2011	Pre-tenure Sabbatical
Spring 2012	GEOG102 *Weather and Climate*, Lecture (1 unit) GEOG102 Lab *Weather and Climate* (0.5 units) GEOG392 *Remote Sensing of Global Environmental Change*, Seminar (1 unit)
Fall 2012	GEOG115 *Introduction to Hydrology*, Lecture (1 unit) GEOG115 Lab *Introduction to Hydrology* (0.5 units)
Spring 2013	GEOG102 *Weather and Climate*, Lecture (1 unit) GEOG102 Lab *Weather and Climate* (0.5 units) GEOG283/333 *Terrestrial Ecosystems and Global Change*, Lecture (1 unit) GEOG283/333 Lab *Terrestrial Ecosystems and Global Change* (0.5 units)
Fall 2013	GEOG392 *Remote Sensing of Global Environmental Change*, Seminar (1 unit)

Spring 2014	GEOG102 *Weather and Climate*, Lecture (1 unit) GEOG102 Lab *Weather and Climate* (0.5 units)
Fall 2014	GEOG205/305 *Introduction to Hydrology*, Lecture (1 unit) GEOG205/305 Lab *Introduction to Hydrology* (0.5 units)
Spring 2015	GEOG102 *Weather and Climate*, Lecture (1 unit) GEOG102 Lab *Weather and Climate* (0.5 units) GEOG283/333 *Terrestrial Ecosystems and Global Change*, Lecture (1 unit) GEOG283/333 Lab *Terrestrial Ecosystems and Global Change* (0.5 units)
Fall 2015	Post-tenure sabbatical
Spring 2016	Post-tenure sabbatical
Fall 2016	GEOG205/305 *Introduction to Hydrology*, Lecture (1 unit) GEOG205/305 Lab *Introduction to Hydrology* (0.5 units)
Spring 2017	GEOG102 *Weather and Climate*, Lecture (1 unit) GEOG102 Lab *Weather and Climate* (0.5 units) GEOG395 *Advanced Topics in Biogeosciences*, Seminar (1 unit)
Fall 2017	GEOG392 *Remote Sensing of Global Environmental Change*, Seminar (1 unit)
Spring 2018	GEOG283/333 *Terrestrial Ecosystems and Global Change*, Lecture (1 unit) GEOG283/333 Lab *Terrestrial Ecosystems and Global Change* (0.5 units)
Fall 2018	GEOG102 *Weather and Climate*, Lecture (1 unit) GEOG102 Lab *Weather and Climate* (0.5 units) GEOG205/305 *Introduction to Hydrology*, Lecture (1 unit) GEOG205/305 Lab *Introduction to Hydrology* (0.5 units)
Spring 2019	Sabbatical
Fall 2019	GEOG395 *Advanced Topics in Biogeosciences*, Seminar (1 unit)
Spring 2020	GEOG283/333 *Terrestrial Ecosystems and Global Change*, Lecture (1 unit) GEOG283/333 Lab *Terrestrial Ecosystems and Global Change* (0.5 units)
Fall 2020	GEOG205/305 *Introduction to Hydrology*, Lecture (1 unit) GEOG205/305 Lab *Introduction to Hydrology* (0.5 units)
Spring 2021	GEOG102 *Weather and Climate*, Lecture (1 unit) GEOG102 Lab *Weather and Climate* (0.5 units)
Fall 2021	GEOG156 *Getting to Zero*, Lecture and FYI (1 unit)
Spring 2022	GEOG102 *Weather and Climate*, Lecture (1 unit) GEOG102 Lab *Weather and Climate* (0.5 units) GEOG283/333 *Terrestrial Ecosystems and Global Change*, Lecture (1 unit) GEOG283/333 Lab *Terrestrial Ecosystems and Global Change* (0.5 units)

Fall 2022	GEOG205/305 *Introduction to Hydrology*, Lecture (1 unit) GEOG205/305 Lab *Introduction to Hydrology* (0.5 units)
Spring 2023	Sabbatical
Fall 2023	GEOG156 *Getting to Zero*, Lecture, Discussions, and FYI (1 unit)
Spring 2024	GEOG102 *Weather and Climate*, Lecture (1 unit) GEOG102 Lab *Weather and Climate* (0.5 units) GEOG283/333 *Terrestrial Ecosystems and Global Change*, Lecture (1 unit) GEOG283/333 Lab *Terrestrial Ecosystems and Global Change* (0.5 units)
Fall 2024	GEOG205/305 *Introduction to Hydrology*, Lecture (1 unit) GEOG205/305 Lab *Introduction to Hydrology* (0.5 units)
Spring 2025	GEOG102 *Weather and Climate*, Lecture (1 unit) GEOG102 Lab *Weather and Climate* (0.5 units) GEOG283/333 *Terrestrial Ecosystems and Global Change*, Lecture (1 unit) GEOG283/333 Lab *Terrestrial Ecosystems and Global Change* (0.5 units)

OTHER TEACHING EXPERIENCES

Research Mentor, NSF REUs, 12 students over 2008-2014
Research Mentor, Clark Undergraduates not in REU program, 11 students over 2009-2014
Keynote, "*Atmospheric Effects of Land Cover Change*", Swiss NCCR Climate Summer School, 2007
Lecturer, "*Advanced Hydrologic Transport Processes*" course, Duke University, 2004
Lecturer, "*Field Methods in Hydrology*" course, University of Virginia, 2002
Private Tutor, "*Physical Hydrology*" course (1 student), University of Virginia, 2002
Lecturer, "*Physical Hydrology*" course, University of Virginia, 2001
Teaching Assistant, "*Hydrological Transport Processes*" course, University of Virginia, 2000
Instructor, "*Ecology and Environment*" (3 week intensive), Exploration Program, Wellesley College, 1998
Teaching Assistant, "*Population and Evolutionary Biology*" course, Bucknell University, 1994
Co-curricular support of undergraduate studies in Environmental Sciences, Bucknell University, 1994

RESEARCH & ACADEMIC ADVISING

Research Scientist

Dr. Natalia Hasler, Clark University, 2016-present

Postdoctoral Scientist

Dr. Varun Tiwari, Clark University, 2025-present
Dr. Huan Gu, Clark University, 2015-2018
Dr. Myroslava Khomik, Clark University, 2012-2013
Dr. Bardan Ghimire, Clark University, 2012
Dr. Christopher Schwalm, Clark University, 2008-2011

Ph.D. Students

Kwabena Antwi, Chair and RA Advisor, Clark University (Ph.D. Geography, advised in 2023)
Ankit Sekhar, External Committee Member, ETH-Z (Ph.D. Environmental Systems Science, 2023)
Li Xi, Chair and RA Advisor, Clark University (Ph.D. Geography, exited program after 2 years)
Sitian Xiong, Committee, Clark University (Ph.D. Geography, expected 2024)

Surendra Shrestha, Chair and RA Advisor, Clark University (Ph.D. Geography, 2023)
Lei Song, Committee, Clark University (Ph.D. Geography, 2023)
Yu Zhou, Chair and RA Advisor, Clark University (Ph.D. Geography, 2022)
Tong Jiao, Chair and RA Advisor, Clark University (Ph.D. Geography, 2020)
Richard MacLean, Chair and RA Advisor, Clark University (Ph.D. Geography, exited program after 3 years)
Melanie Vanderhoof, Chair and RA Advisor, Clark University (Ph.D. Geography, 2014)
Bardan Ghimire, Chair and RA Advisor, Clark University (Ph.D. Geography, 2012)
Ali Santacruz-Delgado, Committee, Clark University (Ph.D. Geography, 2019)
Nate Mietkiewicz, Qualifying Exam Committee, Clark University (Ph.D. Geography, 2017)
Arthur Elmes, Committee, Clark University (Ph.D. Geography, 2017)
Rebecca Zengeni, Committee, Nelson Mandela Metropolitan University (Ph.D. Geosciences, 2013)
Dan Jarvis, Committee, Clark University (Ph.D. Geography, expected 2014)
Nick Cuba, Committee, Clark University (Ph.D. Geography, expected 2016)
Prajjwal Panday, Committee, Clark University (Ph.D. Geography, 2012)
Benoit Parmentier, Committee, Clark University (Ph.D. Geography, 2011)
Michael Marshall, Committee, UC Santa Barbara (Ph.D. Geography, 2010)

M.A./M.S. Students

Savannah Cooley, Chair, Clark University (M.S. Geographic Information Science, 2017)
Emily Sturdivant, Committee, Clark University (M.S. Geographic Information Science, 2015)
Alexander Kappel, Chair, Clark University (M.S. Geographic Information Science, 2014)
David Mayer, Committee, Clark University (M.A. Geography, 2014)
Marcus Pasay, Co-Advisor, Clark University (M.A. Environmental Science and Policy, 2013)
Chenyang Zhao, Co-Advisor, Clark University (M.A. GIS for Development and Environment, during 2012)
Dan Whitmore, Committee, Clark University, (M.S. Biology pursued 2010/11)
Jason Carmignani, Committee, Clark University (M.S. Biology, 2012)
Graham Twibell, Advisor, Clark University (M.A. Environmental Science and Policy, 2011)
Blaize Denfeld, Committee, Clark University (M.A. Geographic Information Science, 2011)
Nick Cuba, Committee, Clark University, (M.A. GIS for Development and Environment, 2011)
Prajna Regmi, Clark University, (M.A. GIS for Development and Environment 2009)

B.A. Students

Samuel Cooper, Thesis Advisor 2023-2024, Clark University (B.A. Environmental Science, 2024)
Leo Braun, Directed Study Mentor 2023, Clark University (B.A. Geography, 2023)
Apple Gould-Schultz, Thesis Committee 2022-2023, Clark University (B.A. Environmental Science, 2023)
Abby Beilman, Internship Advisor 2022, Clark University (B.A. Environmental Science, 2023)
Caroline Williams, Thesis Advisor 2019-2020, Clark University (B.A. Environmental Science, 2020)
Tyler Anderson, NOAA Fellowship Advisor 2017, Clark University (B.A. Environmental Science, 2018)
Spring Pillsbury, Honors Mentor & Committee 2017, Clark University (B.A. Environmental Science, 2017)
David O'Brien, Honors Committee 2017, Clark University (B.A. Geography, 2017)
Saira Khan, NOAA Fellowship Advisor 2015, Clark University (B.A. Geography, 2016)
Corey Dickinson, Geller Fellowship Advisor 2015, Clark University (B.A. Geography 2015)
Joshua Alaniz, NSF REU 2014, Univ of Northern Texas (B.A. Geography, 2015)
Alayna Johnson, NSF REU 2014, Univ Minnesota-Moris (B.A. Biology & Environmental Studies, 2015)
Melat Seyoum, Internship Advisor 2014, Clark University (Minor in Geography, 2015)
Evan Marshall, Internship Advisor 2014, Clark University (B.A. Geography, 2014)
Lucas Earl, NOAA Fellowship Advisor 2013, Clark University (B.A. Geography, expected 2014)
Lowell Chamberlain, NSF REU 2013, SUNY Envi. Sci. & Forestry (B.A. Forest Resource Management, 2013)

Rebecca Walker, NSF REU 2013, University of Virginia (B.A. Environmental Science & Anthropology, 2013)
Alexander Kappel, Honors Advisor & NSF REU 2012, Clark University (B.A. Environmental Science, 2013)
Thorsen Akerley, Research Advisee 2012/13, Clark University (B.A. Environmental Science, 2013)
Paul Quackenbush, NSF REU 2012, Middlebury College (expected 2014)
Marcus Pasay, NSF REU 2011, Clark University (B.A. Environmental Science, 2012)
Angela Marshall, Honors Advisor & NSF REU 2010, Clark University (B.A. Environmental Science, 2011)
Katharine Chute, NSF REU 2011, Harvard University (B.A. Organismic and Evolutionary Biology, 2011)
Blaize Denfeld, Honors Committee 2010, Clark University (B.A. Environmental Science, 2010)
Krittika Govil, Research Fellow 2010, Clark University (B.A. Environmental Science, 2011)
Crystal Garcia, NSF REU 2010, Baylor University (B.S. Environmental Science, 2011)
Graham Twibell, NSF REU 2009, Clark University (B.A. Environmental Science, 2010)
Michelle Smith, NSF REU 2009, Clark University (B.A. Geography, 2011)
Jason Carmignani, Clark University (B.A. Environmental Science, 2010)

Academic Advisor, Clark University, 2009/10 (7), 2010/11 (12), 2011/12 (8), 2012/13 (12), 2013/14 (13), 2013/14 (13), 2014/15 (15), 2015/16 (sabb.), 2016/17 (12), 2017/18 (21), 2018/19 (22), 2019/20 (20), 2020/21 (21), 2021/22 (38), 2022/23 (21), 2023/24 (21), 2024/25 (21+)