

**CHRISTOPHER A. WILLIAMS, Ph.D.**

Graduate School of Geography, Clark University, 950 Main Street, Worcester, MA 01610 USA  
Phone: +1 508.793.7323; Email: cwilliams@clarku.edu

**EDUCATION**

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**Ph.D. Environmental Sciences (December 2004)**

**School of the Environment and Earth Sciences (Summa Cum Laude)**

**Duke University: Durham, North Carolina**

Dissertation title: *Hydrologic controls on vegetation function and structure in water-limited systems*

Committee: John D. Albertson, Howard E. Epstein (external), Gabriel Katul, Robert Jackson

Note: Ph.D. commenced Fall 2000 in Dept. of Environmental Sciences (Magna Cum Laude), U. of Virginia

**M.S. Watershed Science (May 2000)**

**Department of Watershed Science (Summa Cum Laude)**

**Colorado State University: Fort Collins, Colorado**

Thesis title: *Comparison of floodplain hydrology and cottonwood water relations between a regulated and an unregulated river in northwestern Colorado*

Committee: David J. Cooper, Lee MacDonald, Dan Binkley

**B.A. Biology / Environmental Studies (May 1996)**

**Biology and Environmental Studies double major (Cum Laude)**

**Bucknell University: Lewisburg, Pennsylvania**

**APPOINTMENT HISTORY**

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**Professor, Graduate School of Geography (Adjunct in Biology), Clark University (2019-present)**

**Associate Professor, Graduate School of Geography (Adjunct in Biology), Clark University (2014-2019)**

**Assistant Professor, Graduate School of Geography (Adjunct in Biology), Clark University (2008-2014)**

**Director, Environmental Sciences BA Program, Clark University (2016-present)**

**Guest Professor, Dept Enviro. Systems Sci., ETH-Z, Zurich, Switzerland (2019)**

Instit. of Grassland Science (Prof. Buchmann) & Instit. of Atmosphere and Climate Sciences (Prof. Seneviratne)

**Visiting Fellow, Hawkesbury Institute for the Environment, University of Western Sydney (2015-2016)**

Ecosystem Function and Global Change Lab of Prof. Belinda Medlyn

**Visiting Professor, Swiss Federal Institute of Technology, Lausanne, Switzerland (2011 Fall)**

Environmental Fluid Mechanics and Hydrology Lab of Prof. Marc Parlange

**Research Scientist, Goddard Earth Sciences and Technology Center, University of Maryland Baltimore**

**County**, based in the NASA Goddard Space Flight Center's Biospheric Sciences Branch (2007-2008), *Impacts of Disturbance History and Climate on Carbon Fluxes from North American Forests*, funded by a NASA award to G. James Collatz and Jeffrey Masek

**Research Scientist, Natural Resource Ecology Lab, Colorado State University (2004-2007)**

*African Carbon Exchange*, funded by NOAA and NASA awards to Niall P. Hanan

**Research Assistant, Civil and Environmental Engineering, Duke University (2002-2004)**

*Separating soil-atmosphere and canopy-atmosphere exchange of CO<sub>2</sub> by micrometeorological methods*, funded by DOE NIGEC award to John D. Albertson

**Research Assistant, Department of Environmental Studies, University of Virginia (2001-2002)**

*Separating soil-atmosphere and canopy-atmosphere exchange of CO<sub>2</sub> by micrometeorological methods*, funded by DOE NIGEC award to John D. Albertson

**Teaching Assistant, Department of Environmental Studies, University of Virginia (2000)**  
*Hydrological Transport Processes*, graduate-level Lecture / Lab

**Research Assistant, Department of Earth Resources, Colorado State University (1998-2000)**  
*Riparian vegetation studies on the Green and Yampa Rivers*, funded by the US Bureau of Reclamation award to David J. Cooper

**Wetlands Regulation Technician, hired by consultant David J. Cooper (1998)**  
*Summarizing local and state government regulations and policy practices to advise Larimer County, CO*

**Everglades Restoration and Forestry Issues Intern, Defenders of Wildlife (1997)**  
*Programmatic and organizational support staff and staff-writer for the Everglades Coalition*, Mary Munson

**Restoration Ecology Technician, Bandelier National Monument (1996)**  
*Monitoring vegetation change and soil erosion in response to restoration treatments in Pinyon-Juniper ecosystems*, Directed by National Park Service employees Brian Jacobs and Richard Gatewood

**Teaching Assistant, Department of Biology, Bucknell University (1994)**  
*Population and Evolutionary Biology*, undergraduate-level Lecture/Lab

## RESEARCH INTERESTS

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terrestrial ecosystem ecology; land-atmosphere exchange; global carbon cycle; ecohydrology; evapotranspiration; ecological modeling; global change; plant water and carbon relations; integrating remote sensing, field observations, and ecological modeling; biophysical and biogeochemical interactions in the Earth System

## GRANTS AND FELLOWSHIPS

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**TNC Earth Bezos Fund Subaward (2021-2023, 3 year duration) \$377,595**

*“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)

**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

**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)

<b>NASA JPL Subaward for Graduate Student (2016-2017, 1 year duration)</b>	<b>\$23,922</b>
<i>“ECOSTRESS: Assessment of Water Resources for Agricultural Productivity in Costa Rica”</i>	
PI: CA Williams; Co-I: S Cooley	
<b>NASA EVS-2: ACT-America (2016-2020, 4 year duration)</b>	<b>\$305,449</b>
<i>“Surface Biogenic Carbon Flux Priors from CASA: Priors, Error Structures and Reducing Parameter Uncertainties”</i>	
PI: CA Williams; Lead Science PI for ACT-America: K Davis (Penn State U)	
<b>UWS HIE Research Exchange Visitation (2015-2016, 1 year duration)</b>	<b>\$36,000</b>
<i>“Identifying Hierarchical Drought Responses of Ecosystems with Integration and Synthesis of Experiments and Monitoring Sites to Improve Treatment in Ecosystem - Climate Models”</i>	
PI: CA Williams, Hosts: B Medlyn, R Duursma (UWS HIE)	
<b>NASA Carbon Monitoring System (2014-2016, 3 year duration)</b>	<b>\$858,000</b>
<i>“Translating Forest Change to Carbon Emissions and Removals for Tier 3 MRV”</i>	
PI: CA Williams (Clark, <b>\$552,861</b> ), Co-PIs: G James Collatz, J Masek (NASA GSFC); G Moisen (USFS)	
<b>NASA Carbon Cycle Science (2014-2016, 3 year duration)</b>	<b>\$1,305,904</b>
<i>“Quantification of the regional impact of terrestrial processes on the carbon cycle using atmospheric inversions”</i>	
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 <b>\$74,000</b> ), D Hollinger (USDA-FS)	
<b>NSF, Long-Term Ecological Research V Site Grant (2012-2017, 5 year duration)</b>	<b>\$6,000,000</b>
<i>“HFR LTER V: New Science, Synthesis, Scholarship, and Strategic Vision for Society”</i>	
PI: D Foster (Harvard), Co-I’s: many including CA Williams (Clark, <b>\$10,000</b> )	
<b>NASA Earth and Space Science Fellowship (2011-2014, 3 year duration)</b>	<b>\$90,000</b>
<i>“Albedo and Evapotranspiration Consequences of Bark Beetle Outbreaks as Detected by Remote Sensing in Coniferous Forests, Rocky Mountains, USA”</i>	
PI: CA Williams, Student: M Vanderhoof	
<b>NASA, ROSES, Science of Terra and Aqua (2011-2014, 3 year duration)</b>	<b>\$866,082</b>
<i>“Albedo Trends Related to Land Cover Change and Disturbance: A Multi-sensor Approach”</i>	
PI: J Masek, Co-I’s: F Gao, Y Shuai, CA Williams (Clark portion <b>\$180,381</b> ), C Schaaf	
<b>NASA GSFC, Biospheric Sciences Graduate Student Support (2010, 3 month duration)</b>	<b>\$5,814</b>
<i>“Biogeochemical and Biophysical Consequences of Disturbances in Forests of the Western United States”</i>	
PI: CA Williams, Student: B Ghimire	
<b>NASA, ROSES, Terrestrial Ecology Program (2010-2013, 3 year duration)</b>	<b>\$654,918</b>
<i>“Impacts of Disturbance History and Climate on Carbon Fluxes from North American Forests”</i>	
PI: GJ Collatz, Co-I’s: J Masek, CA Williams (Clark portion <b>\$183,932</b> )	
<b>NSF, Research Experience for Undergraduates Supplement (2009-2010)</b>	<b>\$11,919</b>
<i>“Carbon Dioxide and Water Flux Responses to Extreme Weather and Climate Anomalies: A Fluxnet Synthesis”</i>	
PI: CA Williams	
<b>NSF, Carbon and Water in the Earth System Program (2007-2011)</b>	<b>\$539,840</b>
<i>“Carbon Dioxide and Water Flux Responses to Extreme Weather and Climate Anomalies: A Fluxnet Synthesis”</i>	
PI: CA Williams	

## HONORS AND AWARDS

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Gratitude Award from the Clark University Women in Business for serving Clark U. during the pandemic, 2021  
 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

## INVITED PRESENTATIONS

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NASA CMS Science Team Meeting, April 2021  
 Forest Ecosystem Monitoring Cooperative (FEMC) Annual Conference, December 2020  
 NASA ACT-America Science PI Meeting, April 2020  
 Harvard Forest Workshop on Forests, Climate, and Landscape Futures of New England, April 2020  
 NASA CMS Science PI Meeting, October 2019  
 USFS-NASA Joint Workshop, Geospatial Technology and Applications Center, Salt Lake City, UT, May 2019  
 Institute of Atmosphere and Climate Science, ETH-Z, March 2019  
 Institute of Grassland Science, ETH-Z, March 2019  
 USFS FIA Science and Stakeholder Meeting, November 2017  
 Nashua River Watershed Association, Keynote at Annual Meeting, November 2016  
 Department of Environmental Sciences, University of Basel, Basel, Switzerland, October 2016  
 AmeriFlux Science Meeting, Golden, CO, September 2016  
 Sydney Plant Ecophysiology Group Meeting, University of Technology Sydney, Sydney, NSW, March 2016  
 Hawkesbury Institute for the Environment, Western Sydney University, Richmond, NSW, October 2015  
 OzFlux Science Meeting, Hobart, TAS, November 2015  
 Clark University Climate Change Teach-In, Worcester, MA, February 2015  
 Yale School of Forestry & Environmental Studies, New Haven, CT, March 2015  
 Emergent Patterns in Catchment Water, Energy, and Carbon Balances (H43L), AGU Fall Meeting, Dec 2014  
 Harvard Forest Symposium, Petersham, MA, March 2014  
 Biology Seminar Series, University of New Mexico, Albuquerque, NM, March 2014  
 Climate Extremes and Biogeochemical Cycles, Seefeld, Austria, April 2013  
 Darwin Festival, Salem State University, Salem, MA, February 2013  
 Climate and Disturbance Extremes, AGU Fall Meeting, San Francisco, CA, December 2012  
 Fire and Biogeochemistry in the Earth System, AGU Fall Meeting, San Francisco, CA, December 2012  
 Marine Biological Lab, Ecosystem Science Speaker Series, Woods Hole, MA, November 2012  
 Yale Climate and Energy Institute Speaker Series, New Haven, CT, November 2012  
 Biology Seminar Series, College of the Holy Cross, April 2012  
 Eidgenössische Technische Hochschule - Zurich, Zurich, Switzerland, December 2011  
 Laboratoire des Sciences du Climat et l'Environnement, Gif sur Yvette, France, December 2011

Eidgenössische Technische Hochschule - Zurich, Zurich, Switzerland, November 2011  
 École Polytechnique Fédérale du Lausanne, Lausanne, Switzerland, September 2011  
 Max Planck Institute for Biogeochemistry, Jena Germany, September 2011  
 Harvard University, Herbarium Speaker Series, Cambridge, MA, March 2011  
 Clark University, Department of Biology Speaker Series, Worcester, MA, December 2010  
 Penn State University, Earth and Environmental Systems Institute, State College, PA, November 2010  
 Boston University, Geography and Environment Speaker Series, Boston, MA, April 2010  
 Harvard Forest Speaker Series, Petersham, MA, November 2009  
 Ameriflux Principal Investigators Meeting, Washington, DC, September 2009  
 Global Climate Observing System Workshop on Global Net Primary Production, JRC, Ispra, Italy, June 2009  
 Clark University, George Perkins Marsh Institute, Worcester, MA, April 2009  
 American Geophysical Union Fall Meeting, San Francisco, CA, December 2007  
 American Geophysical Union Fall Meeting, San Francisco, CA, December 2007  
 University of Maryland, College Park, Department of Atmospheric and Oceanic Sciences, October 2007  
 Swiss NCCR Climate Summer School, Grindelwald, Switzerland, August 2007  
 Max Planck Institute for Biogeochemistry, Jena, Germany, April 2007  
 Georgia Institute of Technology, School of Earth and Atmospheric Sciences, Atlanta, GA January 2007  
 ETH Zürich, Department of Environmental Sciences, August 2006  
 University of California, Santa Barbara, Bren School of the Environment, February 2006  
 Ecological Society of America Meeting, Montreal, Canada, August 2005

## PEER-REVIEWED RESEARCH PAPERS

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[Google Scholar *h-factor* = 40; Citations = 9,598; *m-index* = *h-factor* / *scientific age* = 2.0]  
 [Contribution Codes |: Conceived of work; Analysis performed; Ideas for analysis; Writing; Edited text; Data provider; \*Williams Lab Undergraduate; \*\*Williams Lab Graduate Student; \*\*\*Williams Lab Postdoctoral Researcher

### PUBLISHED

82. Zhou Y\*\*, **Williams CA**, Hasler N\*\*\*, Gu H\*\*, Kennedy RE (2021) “*Beyond biomass to carbon fluxes: application and evaluation of a comprehensive forest carbon monitoring system*”, [Environmental Research Letters](https://doi.org/10.1088/1748-9326/abf06d), 16:055026, <https://doi.org/10.1088/1748-9326/abf06d>. [C,A,I,W,E,D]
81. **Williams CA**, Gu H\*\*, Jiao T\*\* (2021) “*Climate impacts of U.S. forest loss span net warming to net cooling*” [Science Advances](https://doi.org/10.1126/sciadv.aax8859), 7:eaax8859, DOI: 10.1126/sciadv.aax8859. [C,A,I,W,E,D]
79. Finzi AC, Giasson M-A, Barker Plotkin AA, Aber JD, Boose ER, Davidson EA, Dietze MC, Ellison AM, Frey SD, Goldman E, Keenan TF, Melillo JM, Munger JW, Nadelhoffer KJ, Ollinger SV, Orwig DA, Pederson N, Richardson AD, Savage K, Tang J, Thompson JR, **Williams CA**, Wofsy SC, Zhou Z, and Foster D R (2020) “*Carbon budget of the Harvard Forest Long-Term Ecological Research site: pattern, process, and response to global change*”, [Ecological Monographs](https://doi.org/10.1002/ecm.1423) 90(4):e01423. [10.1002/ecm.1423](https://doi.org/10.1002/ecm.1423) [A,I,E,D]
78. Feng S, Lauvaux T, Davis K, Keller K, Zhou Y\*\*, **Williams CA**, Schuh A, Liu J, Baker I (2020) “*Seasonal characteristics of model uncertainties from biogenic fluxes, transport, and large-scale boundary inflow in atmospheric CO<sub>2</sub> simulations over North America*”, [Journal of Geophysical Research – Atmospheres](https://doi.org/10.1029/2019JD031165), 124, DOI: 10.1029/2019JD031165. [I,A,E,D]
77. Zhou Y\*\*, **Williams CA**, Lauvaux T, Davis K, Feng S, Baker I, Denning S, Wei Y (2020) “*ACT-America: Gridded Ensembles of Surface Biogenic Carbon Fluxes for North America and the Conterminous United States, 2003-2017*”, Dataset: ORNL DAAC, Oak Ridge, Tennessee, USA. <https://doi.org/10.3334/ORNLDAAC/1675>. [C,A,I,W,E,D]

76. Zhou Y\*\*, **Williams CA**, Lauvaux T, Davis K, Feng S, Baker I, Denning S, Wei Y (2020) “*A multiyear gridded data ensemble of surface biogenic carbon fluxes for North America: evaluation and analysis of results*”, Journal of Geophysical Research – Biogeosciences, 125(2), e2019JG005314. |C,A,I,W,E,D|
75. Jiao T\*\*, **Williams CA**, Rogan J, Medlyn B (2020) “*Drought impacts on Australian vegetation during the Millennium Drought measured with multi-source spaceborne remote sensing*”, Journal of Geophysical Research – Biogeosciences, <https://doi.org/10.1029/2019JG005145>. |C,A,I,W,E,D|
74. Elmes AM, Healy M, Geron N, Andrews M, Rogan J, Martin D, Sangermano F, **Williams CA**, Weil B (2020) “*Mapping spatiotemporal variability of the urban heat island across an urban gradient in Worcester, Massachusetts using in-situ Thermochrons and Landsat-8 Thermal Infrared Sensor (TIRS) data*”, GIScience and Remote Sensing, 57(7), <https://doi.org/10.1080/15481603.2020.1818950>.
73. Gu H\*\*, **Williams CA**, Hasler N\*\*\*, Zhou Y\*\* (2019) “*The Carbon Balance of the Southeastern Forest Sector as Driven by Recent Disturbance Trends*”, Dataset: ORNL DAAC, Oak Ridge, Tennessee, USA. <https://doi.org/10.3334/ORNLDAAC/1728>. |C,A,I,W,E,D|
72. Gu H\*\*, **Williams CA**, Hasler N\*\*, Zhou Y\*\* (2019) “*The Carbon Balance of the Southeastern Forest Sector as Driven by Recent Disturbance Trends*”, Journal of Geophysical Research – Biogeosciences, 124, doi:10.1029/2018jg004841. |C,A,I,W,E,D|
71. Elmes A\*\*, Rogan J, **Williams CA**, Ratick S, Nowak D (2019) “*Modeling the potential dispersal of Asian Longhorned Beetle using circuit theory*”, The Professional Geographer, 1-15, doi:10.1080/00330124.2019.1611458. |C,A,I,W,E,D|
70. Zhou Y\*\*, Zhang L, Xiao J, **Williams CA**, Vitkovskaya I, Bao A (2019) “*Impacts of socioeconomic change on vegetation over the last three decades in Central Asia*”, Science of the Total Environment, 658, 922-935. |I,E|
69. Cooley SS\*\*, **Williams CA**, Fisher JB, Perret J, Halverson GH, Lee CM (2019) “*Improving drought assessment by examining landscape response: a case study in Guanacaste, Costa Rica*”, Ecological Applications, 29(2), e01834, doi:/10.1002/eap.1834. |A,I,W,E|
68. Keenan TF, **Williams CA** (2018) “*The Terrestrial Carbon Sink*”, Annual Review of Environment and Resources, v43,219-243, <https://doi.org/10.1146/annurev-environ-102017-030204>. |C,A,I,W,E,D|
67. Domke G, **Williams CA**, Lead Authors, and contributing authors (2018) “*Chapter 9: Forests.*” In: “Second State of the Carbon Cycle Report (SOCCR-2): A Sustained Assessment Report” [Cavallaro, N., G. Shrestha, R. Birdsey, M.A. Mayes, R.G. Najjar, S.C. Reed, P. Romero-Lankao, and Z. Zhu (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 365-398. |C,A,I,W,E,D|
66. Cuba N, Rogan J, Lawrence D, **Williams CA** (2018) “*Cross-scale correlation between in-situ measurements of canopy gap fraction and Landsat-derived vegetation indices, with implications for long-term monitoring of seasonal phenology in dry tropical forests using MODIS data*”, Remote Sensing, 10(7), 979. |I,E|
65. Fargione JE, and 38 co-authors including Gu H\*\*\*, and **Williams CA** (2018) “*Natural Climate Solutions for the United States*”, Science Advances, 4(11), eaat1869, DOI:10.1126/sciadv.aat1869. |A,I,W,E,D|
64. Renchon A, Griebel A, **Williams CA**, Medlyn B, Duursma R, Barton C, Maier C, Boer M, Isaac P, Tissue D, Resco de Dios V, Pendall E (2018) “*Upside-down fluxes Down Under: CO<sub>2</sub> net uptake in winter and net source in summer in a temperate evergreen broadleaf woodland*”, Biogeosciences, <https://doi.org/10.5194/bg-15-3703-2018>. |A,I,W,E|
63. Elmes A, Rogan J, Roman L, **Williams CA**, Ratick S, Nowak D, Martin D (2018) “*Predictors of mortality for juvenile trees in a residential urban-to-rural cohort in Worcester, MA*”, Urban Forestry and Urban Greening, <http://doi.org/10.1016/j.ufug.2018.01.024>. |I,E|
62. Cuba N, Lawrence D, Rogan J, **Williams CA** (2017) “*Local variability in the timing and intensity of tropical dry forest deciduousness is explained by differences in forest stand age*”, GIScience & Remote Sensing, DOI: 10.1080/15481603.2017.1403136. |I,E|

61. De Kauwe MG, Medlyn BE, Knauer J, **Williams CA** (2017) "*Ideas and Perspectives: How coupled is vegetation to the atmospheric boundary layer?*", *Biogeosciences*, 14(19):4435-4453, DOI:10.5194/bg-14-4435-2017. [I,E,D]
60. Knauer J, Zaehle S, Medlyn BE, Reichstein M, **Williams CA**, Migliavacca M, De Kauwe MG, Werner C, Keitel C, Kolari P, Limousin J-M, Linderson M-L (2017) "*Towards physiologically meaningful water-use efficiency estimates from eddy covariance data*", *Global Change Biology*, DOI:10.1111/gcb.13893. [I,E,D]
59. Elmes A, Rogan J, **Williams CA**, Ratick S, Nowak D, Martin D (2017) "*Effects of urban tree canopy loss on land surface temperature magnitude and timing: Merging LiDAR and Landsat-8 Thermal Infrared Sensor (TIRS) data*", *ISPRS Journal of Photogrammetry and Remote Sensing*, 128:338-353, DOI: 10.1016/j.isprsjprs.2017.04.011. [I,E]
58. Medlyn BE, De Kauwe MG, Lin Y-S, Knauer J, Duursma RA, **Williams CA**, Arneth A, Clement R, Isaac P, Limousin J-M, Linderson M-L, Meir P, St Martin-Paul, N, van Gorsel E, Wingate L (2017) "*Discrepancies between leaf and ecosystem measures of water-use efficiency*", *New Phytologist*, DOI:10.1111/nph.14626. [I,E]
57. Jiao T\*\*, **Williams CA**, Ghimire B\*\*, Masek J, Gao F, Schaaf C (2017) "*Global Climate Forcing from Albedo Change Caused by Large-Scale Deforestation and Reforestation: Quantification and Attribution of Geographic Variation*", *Climatic Change*, DOI: 10.1007/s10584-017-1962-8. [C,A,I,W,E,D]
56. Kappel AP\*\*, Trotter RT, Keena M, Rogan J, **Williams CA** (2017) "*Mapping of the Asian Longhorned Beetle's Time to Maturity and Invasion Risk for the Contiguous United States*", *Biological Invasions*, DOI: 10.1007/s10530-017-1398-0. [A,I,W,E]
55. Keenan TF, Prentice IC, Canadell JG, **Williams CA**, Wang H, Raupach M, Collatz GJ (2016) "*Recent pause in the growth rate of atmospheric CO<sub>2</sub> associated with enhanced terrestrial uptake*", *Nature Communications*, doi: 10.1038/ncomms13428. [I,W,E,D]
54. Novick KA, Ficklin DL, Stoy PC, **Williams CA**, Bohrer G, Oishi AC, Papuga SA, Blanken PD, Noormets A, Sulman B, Scott RL, Wang L, Phillips RP (2016) "*On the rising importance of atmospheric demand as a constraint on ecosystem productivity and plant water use*", *Nature Climate Change*, 6(11), DOI: 10.1038/nclimate3114. [I,E]
53. Schimel D, Sellers P, Moore III B, and co-authors including **Williams CA** (2016) "*Observing the Carbon-Climate System*", arXiv preprint arXiv: 1604.02106. [I,E]
52. **Williams CA**, Gu H\*\*\*, MacLean R\*\*, Masek J, Collatz GJ (2016) "*Disturbance and the Carbon Balance of US Forests: A Quantitative Review of Impacts from Harvests, Fires, Insects, and Droughts*", *Global and Planetary Change*, 143: 66-80, doi:10.1016/j.gloplacha.2016.06.002. [C,A,I,W,E,D]
51. Gu H\*\*\*, **Williams CA**, Ghimire B, Zhao F, Huang C (2016) "*High-resolution mapping of time since disturbance and forest carbon flux from remote sensing and inventory data to assess harvest, fire, and beetle disturbance legacies in the Pacific Northwest*", *Biogeosciences*, 13(22):6321-6337, doi:10.5194/bg-13-6321-2016. [C,A,I,W,E,D]
50. van Dijk AIJM, Gash JH, van Gorsel E, and FLUXNET Synthesis Group members including **Williams CA** (2015) "*Rainfall interception and the coupled surface water and energy balance*", *Agricultural and Forest Meteorology*, 214-215: 402-415. [I,E]
49. Bahn M, Reichstein M, Guan K, Moreno JM, **Williams CA** (2015) "*Preface: Climate extremes and biogeochemical cycles in the terrestrial biosphere: impacts and feedbacks across scales*", *Biogeosciences*, 12(15): 4827-4830, doi: 10.5194/bg-12-4827-2015. [I,E]
48. Ghimire B\*\*, **Williams CA**, Collatz GJ, Vanderhoof M\*\*, Rogan J, Kulakowski D, Masek JG (2015) "*Large Carbon Release from Bark Beetle Outbreaks across Western United States Imposes Climate Feedback*", *Global Change Biology*, doi: 10.1111/gcb.12933. [7] [C,I,W,E,D]

47. Ghimire B\*\*\*, **Williams CA**, Masek J, Gao F, Wang Z, Schaaf C, He T (2015) “*Global albedo change and radiative cooling from anthropogenic land-cover change, 1700 to 2005 based on MODIS, land-use harmonization, radiative kernels, and reanalysis*”, Geophysical Research Letters, doi:10.1002/2014GL061671. |C,A,I,W,E,D|
46. Vanderhoof ME\*\*, **Williams CA** (2014) “*Persistence of evapotranspiration impacts from mountain pine beetle outbreaks in lodgepole pine forests, south-central Rocky Mountains*”, Agricultural and Forest Meteorology, 200, 78-91. |C,A,I,W,E,D|
45. **Williams CA** (2014) “*Heat and drought extremes likely to stress ecosystem productivity equally or more in a warmer, CO<sub>2</sub> rich future*”, Environmental Research Letters, 9, 101002, doi:10.1088/1748-9326/9/10/101002. |C,A,I,W,E,D|
44. Gao F, He T, Wang Z, Ghimire B\*\*\*, Shuai Y, Masek J, Schaaf C, **Williams CA** (2014) “*Multi-scale Climatological Albedo Look-up Maps Derived from MODIS BRDF/Albedo Products*”, Journal of Applied Remote Sensing, 8(1), 083532, doi:10.1117/1.JRS.8.083532. |I,W,E|
43. Liu L, Jafarov EE, Schaefer KM, Jones BM, Zebker HA, **Williams CA**, Rogan J, Zhang T (2014) “*InSAR detects increase in surface subsidence caused by an Arctic tundra fire*”, Geophysical Research Letters, doi:10.1002/2014GL060533. |I,W,E|
42. Khomik M\*\*\*, **Williams CA**, Vanderhoof MK\*\*, MacLean R\*\*, Dillen SY (2014) “*On the causes of rising gross ecosystem productivity in a regenerating clearcut environment: leaf area, species composition, or environmental conditions*”, Tree Physiology, doi:10.1093/treephys/tpu049. |C,A,I,W,E,D|
41. Vanderhoof ME\*\*, **Williams CA**, Shuai Y, Jarvis D, Kulakowski D, Masek J (2014) “*Albedo-induced radiative forcing from mountain pine beetle outbreaks in forests, south-central Rocky Mountains: magnitude, persistence, and relation to outbreak severity*”, Biogeosciences, 11, 563-575, doi:10.5194/bg-11-563-2014. |I,W,E|
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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

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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**, 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 Ecophysiology 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<sub>2</sub>?*”, 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

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- 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

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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

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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 February, 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 5<sup>th</sup> 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 6<sup>th</sup> 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

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

Open Space Institute, advising on assessing forest carbon loss risk in land conservation efforts, 2020/21

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

MA Energy & Environmental Affairs, advising on forest carbon accounting in land sector climate assessment, January 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

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

US Climate Alliance Learning Lab on Natural and Working Lands, Science Advising, December 2019

USFS-NASA Joint Workshop, Geospatial Technology and Applications Center, Salt Lake City, UT, May 2019

## PROFESSIONAL SERVICE

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### Publication Reviewer (about 40 per year)

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

### Proposal Reviewer

Austria Science Foundation  
 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 Brazilian 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**

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  
Chair, Science Implementation Plan, North American Carbon Program, 2017-2019  
North American Carbon Program, Science Leadership Group, member 2017, Co-Chair 2018-present  
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**

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### **Clark University**

Vice Chair of the Faculty 2018 – 2021  
COVID-19 Response Team (CRC) 2020 – present

CRC Facilities Subcommittee 2020 – present  
 Provost Search Committee, Co-Chair 2020/21  
 Director, Environmental Sciences BA Program 2016 – present  
 George Perkins Marsh Institute Steering Committee, 2018 – present  
 Student Sustainability Fund Reviewer, 2019 – present  
 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  
 George Perkins Marsh Institute Steering Committee, 2016/17  
 George Perkins Marsh Institute Steering Committee, 2015/16  
 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**

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 – present  
 Undergraduate Studies Committee, School of Geography, Clark University 2014 – present  
 Earth System Science Major Track Director, School of Geography, Clark University 2012 – present  
 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

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**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.

**Introduction to Hydrology (GEOG 445/205/305)** 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 <i>Introduction to Hydrology</i> , Lecture (1 unit) GEOG115 Lab <i>Introduction to Hydrology</i> (0.5 units)
Spring 2009	GEOG102 <i>Weather and Climate</i> , Lecture (1 unit) GEOG392 <i>Remote Sensing of Global Environmental Change</i> , Seminar (1 unit)
Fall 2009	GEOG115 <i>Introduction to Hydrology</i> , 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 <i>Terrestrial Ecosystems and Global Change</i> (0.5 units)
Fall 2018	GEOG102 <i>Weather and Climate</i> , Lecture (1 unit) GEOG102 Lab <i>Weather and Climate</i> (0.5 units)
	GEOG205/305 <i>Introduction to Hydrology</i> , Lecture (1 unit) GEOG205/305 Lab <i>Introduction to Hydrology</i> (0.5 units)
Spring 2019	Sabbatical
Fall 2019	GEOG395 <i>Advanced Topics in Biogeosciences</i> , Seminar (1 unit)
Spring 2020	GEOG283/333 <i>Terrestrial Ecosystems and Global Change</i> , Lecture (1 unit) GEOG283/333 Lab <i>Terrestrial Ecosystems and Global Change</i> (0.5 units)
Fall 2020	GEOG205/305 <i>Introduction to Hydrology</i> , Lecture (1 unit) GEOG205/305 Lab <i>Introduction to Hydrology</i> (0.5 units)
Spring 2021	GEOG102 <i>Weather and Climate</i> , Lecture (1 unit) GEOG102 Lab <i>Weather and Climate</i> (0.5 units)

## OTHER TEACHING EXPERIENCES

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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

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### Research Scientist

Dr. Natalia Hasler, Clark University, 2016-present

### Postdoctoral

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.

Li Xi, Chair and RA Advisor, Clark University (Ph.D. Geography, expected 2023)  
 Surendra Shrestha, Chair and RA Advisor, Clark University (Ph.D. Geography, expected 2022)  
 Yu Zhou, Chair and RA Advisor, Clark University (Ph.D. Geography, expected 2021)

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)  
 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.**

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.**

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)