Jennifer C. Bowen

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School of Earth & Atmospheric Sciences
Georgia Institute of Technology
311 Ferst Drive, Atlanta, GA 30332 USA
www.bowenbiogeochemistry.com

Email: jenniferbowen@gatech.edu
ORCID: 0000-0002-3085-3229

EDUCATION

University of Michigan Ph.D., Earth & Environmental Science	Ann Arbor, MI	2021
Chapman University B.S., Chemistry, Environmental Science & Policy	Orange, CA	2015

PROFESSIONAL POSITIONS

2025 – current	Assistant Professor, School of Earth & Atmospheric Sciences, Georgia Institute of Technology
2025 – current	Adjunct, School of Chemistry & Biochemistry, Georgia Institute of Technology
2023 – 2025	Postdoctoral Scholar, Earth System Science, Stanford University
2021 – 2023	Institutional Postdoctoral Fellow, Scripps Institution of Oceanography

AWARDS

UCSD Certificate in Evidence-based Equitable Teaching, 2022.
Scripps Postdoctoral Institutional Fellowship, Scripps Institution of Oceanography, 2021.
Rackham Predoctoral Fellowship, University of Michigan, 2020.
NOSAMS Graduate Student Fellowship, Woods Hole Oceanographic Institution, 2019.
Susan Lipschutz Award for the Support of Women in Academia, University of Michigan, 2018.
Henry N. Pollack Fellowship, University of Michigan, 2017.
NSF Graduate Research Fellowship Honorable Mention, 2015, 2016, 2017.

PUBLICATIONS

(* student mentee)

17. Sullivan, S.N.*****, **J.C. Bowen**, L.A. Kaplan, R.M. Cory, P.G. Hatcher (2025). Seasonal and longitudinal dynamics of dissolved organic matter within headwater streams of a tropical evergreen forest. *Water Research*, 281, 123668.
16. Rush, J.E., E.S. Kane, J.K. Keller, **J.C. Bowen**, C.A. Zalman, E.S. Euskirchen, K.H. Wyatt, A.R. Rober, E.S. Hinckley (2025). Direct and indirect effects of water-table levels on redox-active organic matter reduction in an Alaskan rich fen. *JGR Biogeosciences,* 130, e2025JG009000.
15. Dayanti, E.*, G.Z. Anshari, E. Gusmayanti, Y. Andriyani*, D. Silviani P.A.B.*, **J.C. Bowen**, R. Gates, C.R. Perryman, A.M. Hoyt. The effect of canal blocks on several physical and chemical properties in degraded peat drainage canal water. *Jurnal Immu Lungkungan,* 23 (5), 1155-1161.
14. **Bowen, J.C**., P.J. Wahyudio*****, G.Z. Anshari, L.I. Aluwihare, A.M. Hoyt (2024). Canal networks regulate aquatic losses of carbon from degraded tropical peatlands. *Nature Geoscience,* 7, 213-218.
13. **Bowen, J.C**., A.M. Hoyt, X. Xu, M. Nuriman, G.Z. Anshari, P.J. Wahyudio*****, L.I. Aluwihare (2024). Aquatic processing enhances the loss of aged carbon from drained and burned peatlands. *Global*

Change Biology, 30 (7), e17394.

12. Perryman, C.R., **J.C. Bowen**, J. Shahan, D. Silvani P.A.B., E. Dayanti, Y. Andriyani, A. Asyhari, A. Gangga, N. Novita, G.Z. Anshari, A.M. Hoyt (2024). Fate of methane in canals draining tropical peatlands. *Nature Communications*, 15, 9766.
11. Novita, N., A. Asyhari, R.P. Ritonga, A. Gangga, G.Z. Anshari, J. Jupesta, **J.C. Bowen**, et al. (2024). Strong climate mitigation potential of rewetting oil palm plantations on tropical peatlands. *Science of the Total Environment*, 175829.
10. Asyhari, A., A. Gangga, C.A.S. Putra, R.P. Ritonga, R.A. Candra, G.Z. Anshari, **J.C. Bowen**, C.R. Perryman, N. Novita (2024). Quantifying the fluxes of carbon loss from an undrained tropical peatland ecosystem in Indonesia. *Scientific Reports,* 14, 11459.
9. Ward, C.P., **J.C. Bowen**, D.H. Freeman, C.M. Sharpless (2021). Rapid and reproducible characterization of the wavelength dependence of aquatic photochemical reactions using light emitting diodes (LEDs). *Environmental Science & Technology Letters,* 8(5): 437 – 442.
8. **Bowen, J.C**., C.P. Ward, G.W. Kling, R.M. Cory (2020). Arctic amplification of warming strengthened by sunlight oxidation of permafrost carbon to CO_2. *Geophysical Research Letters*, 47, e2020GL087085.
7. **Bowen, J.C**., L.A. Kaplan, R.M. Cory (2020). Photodegradation disproportionately impacts biodegradation of semi-labile DOM in streams. *Limnology and Oceanography*, 65: 13 – 26.
6. Li, A., J.D. Drummond, **J.C**. **Bowen**, R.M. Cory, L.A. Kaplan, A.I. Packman (2020). Effect of decreasing biological lability on dissolved organic matter dynamics in streams. *Water Resources Research,* 2020WR027918.
5. Clark, C.D., **J.C**. **Bowen**, W.J. De Bruyn, J.K. Keller (2019). Optical characterization of chromophoric dissolved organic matter (CDOM) and Fe(II) concentrations in soil porewaters along a channel-bank transect in a salt marsh. *Estuaries and Coasts*, 42: 1297 – 1307.
4. **Bowen, J.C**., C.D. Clark, W.J. De Bruyn, J.K. Keller (2017). Optical properties of chromophoric dissolved organic matter (CDOM) in surface and pore waters adjacent to an oil well in a southern California salt marsh. *Marine Pollution Bulletin*, 114: 157 – 168.

In Review:

3. **Bowen, J.C**., G.W. Kling, R.M. Cory. Photochemical production of ammonium from dissolved organic nitrogen in arctic surface waters. *Arctic Science*
2. von Fromm, S.F., R.S. Winton, D.R. Vaughn, **J.C. Bowen**, S. Trumbore, K. Jandová, J. Shahan, O. Vindušková, S.W. Stoner, M. Chitsaz, A. Malhotra, A.W. Wackett, A.M. Hoyt, K. Heckman, K. Georgiou, D. Wasner, L.I. Minich, K.E. Grant, C.E. Hicks Pries, K.J. McFarlane, A. Abramova, C. Lawrence, J. Beem-Miller. The International Soil Radiocarbon Database (ISRaD) version 2: Synthesis, data gaps, and future directions of soil radiocarbon data. *Earth System Science Data*
1. Perryman, C.R., D. Silvani P.A.B., E. Dayanti, Y. Andriyani, **J.C. Bowen**, G.Z. Anshari, A.M. Hoyt. Methane emissions from canals draining tropical peatlands: Constraining temporal variability and emissions pathways. *Limnology & Oceanography Letters*

Prepared for Submission:

- Cancelada, L., **J.C. Bowen**, G.Z. Anshari, I. Koester, P.C. Dorrestein, A.M. Hoyt, L.I. Aluwihare. Enhancing molecular change: Fe-mediated photochemistry increases DOM transformation in tropical peatland canals. *(Environmental Science & Technology)*

PRESENTATIONS

- American Geophysical Union, New Orleans, LA, Dec 2025 (*invited*)
- AsiaFlux Conference, Riau, Indonesia, Oct 2025 (*award for best early career presentation*)

- Peatlands and National Climate Solutions: Science, Progress, and Partnerships for Indonesia, Jakarta, Indonesia, Aug 2025 (*invited*)
- Ocean Carbon Biogeochemistry Workshop, Land-Ocean Connectivity, Jun 2025 (*invited*)
- Association for the Sciences of Limnology & Oceanography, Charlotte, NC, Mar 2025
- School of Chemistry & Biochemistry, Georgia Tech, Atlanta, GA, Mar 2025 (*invited*)
- Goldschmidt Conference, Chicago, IL, Aug 2024
- Department of Geology & Geophysics, University of Utah, Salt Lake City, UT, Jun 2024 (*invited*)
- School of Earth & Atmospheric Science, Georgia Tech, Atlanta, GA, Mar 2024 (*invited*)
- Department of Earth Science, Dartmouth College, Hanover, NH, Feb 2024 (*invited*)
- Joint Hydrology Seminar, Stanford University, Stanford, CA, Jan 2024
- American Geophysical Union, San Francisco, CA, Dec 2023
- C-PEAT Workshop, San Francisco, CA, Dec 2023 *(group presentation)*
- C-PEAT Annual Meeting, Pontianak, Indonesia, May 2023
- Department of Earth System Science, University of California, Irvine, CA, Mar 2023 (*invited*)
- American Geophysical Union, Chicago, IL, Dec 2022
- Summertime Talks from Oceanography Postdocs, Scripps Institution of Oceanography, La Jolla, CA, Jul 2022
- Marine Chemistry & Geochemistry Seminar, Scripps Institution of Oceanography, La Jolla, CA, Jan 2022 (*invited*)
- Joint BioEnergy Institute (JBEI), Sandia National Laboratory, Emeryville, CA, Jan 2021 (*invited*)
- American Geophysical Union, San Francisco, CA, Dec 2019
- Arctic LTER Annual Meeting, Woods Hole, MA, Feb 2019
- Society of Wetland Scientists, Providence, RI, Jun 2015
- American Chemical Society, Denver, CO, Mar 2015
- Society of Environmental Toxicology and Chemistry, Nashville, TN, Nov 2013
- EuCheMS Conference, Barcelona, Spain, Jun 2013
- American Chemical Society, New Orleans, LA, Apr 2013

+ 11 first-author presentations at local meetings

MEDIA HIGHLIGHTS

- Light on dark waters, Nature News and Views, 2024
- Drainage canals for peatlands are major source of carbon emissions, study finds, The Strait Times, 2024
- Peatland canals are hidden hotspots for carbon emissions, Earth.com, 2024
- Understanding an overlooked hotspot for carbon emissions, Stanford University, 2024
- Canals used to drain peatlands are underappreciated hotspots for carbon emissions, Scripps Institution of Oceanography, 2024
- Experiments reveal how permafrost carbon becomes carbon dioxide, EOS, 2020
- Arctic forecast: Sunny with a higher chance of carbon emissions, Grist, 2020
- Warmer, Greener Arctic Becoming a Source of Heat-Trapping Gas, Yale E360, 2020
- Carbon emission from permafrost soils underestimated by 14%, University of Michigan, 2020

ACADEMIC SERVICE

Scientific community

- **Session Convener**, American Geophysical Union, 2025. Co-conveners: A. Hoyt (Stanford), J. Loisel (UNR), C. Perryman (Stanford), W. Zhang (Univ. Glascow) "*Carbon cycling in global wetlands and peatlands*"

- **Workshop Organizer**, AsiaFlux Conference, Indonesia, 2025. "*Synthesizing aquatic carbon export estimates from Southeast Asian wetlands*"
- **Session Chair**, Association for the Sciences of Limnology and Oceanography Meeting, 2025. Co-conveners: B. Granzow (UCSD) & M. White (ETH) "*Advancing the chemical and isotopic characterization of dissolved organic matter across the land–ocean aquatic continuum*"
- **Workshop Co-organizer**, Stanford University, 2024. Co-organizers: A. Hoyt (Stanford) & C. Perryman (Stanford) "*Wetland Restoration for Climate Change Mitigation*"
- **Session Co-convener**, American Geophysical Union, 2023. Co-conveners: K. Heckmann (USDA), C.R. Lawrence (USGS), C. Hicks Pries (Dartmouth), J. Rush (CU Boulder), M. Tfaily (U. Arizona), & S. von Fromm (MPI-BGC) "*Advances in characterization of soil carbon pools and transformations*"
- **Peer Reviewer**: PNAS, Environmental Science & Technology, Global Change Biology, Global Biogeochemical Cycles, Limnology & Oceanography Letters, Geophysical Research Letters, Environmental Science: Processes & Impacts, Limnology & Oceanography, Biogeosciences, Journal of Hydrology, Organic Geochemistry, Journal of Geophysical Research: Biogeosciences, Journal of Geophysical Research: Oceans, Biogeochemistry

Academic Institutions:

- **Member**, Earth & Atmospheric Sciences Graduate Admissions Committee, Georgia Tech, 2025
- **Seminar Co-organizer**, Scripps Institution of Oceanography, 2022. Co-organizers: E. Brasseale (U-W), M. Freilich (Brown), L. Keppler (Vycarb), A. Sanchez-Rios (UCSD) "*Summertime talks from oceanography postdocs*"
- **Founder & Organizer**, STEM Ph.D. Alumni Network, Chapman University, 2020 – 2022.
- **Director of Mentorship**, Association for Women in Science, University of Michigan, 2016 – 2018.

MENTORING

(* student with first-author presentation)

Georgia Tech

- Parson Chan, Chemistry & Biochemistry non-thesis MS student (2026 – current)
- Kody Barone, Earth & Atmospheric Sciences PhD student (2025 – current)

Stanford University (co-advised)

- *Conner Breyer, Summer SURGE REU student, Kansas State University (2025)
- *Rasis Putra Ritonga, Data Manager, Yayasan Konservasi Alam Nusantara (2023 – 2025)
- *Erin Dayani, Soil Science MS student, Tanjungpura University (2023 – 2025)
- *Yulita Andriyani, Post Baccalaureate researcher, Tanjungpura University (2023 – 2025)
- *Desi Silviani P.A.B., Soil Science BS student & Post Baccalaureate researcher, Tanjungpura University (2022 – 2025)
- *Jevan Yu, Computational Sciences BS student, Stanford University (2022 – 2023)
- Putri Juliandini Wahyudio, Soil Science MS student, Tanjungpura University (2021 – 2023)
- Eleanor Walker, Civil & Environmental Engineering MS student, Stanford University (2021 – 2022)