

Charlotte Cockburn

cockburn.charlotte@gmail.com | linkedin.com/in/charlotte-cockburn | +1 646-262-7254

EDUCATION

Columbia University – Graduate School of Arts & Sciences

Doctor of Philosophy, Earth and Environmental Science

Advisor: Radley Horton

September 2024 – present

New York, New York

Dartmouth College – Guarini School of Graduate & Advanced Studies

Master of Science, Earth Science

Advisor: Jonathan Winter

September 2019 – August 2021

Hanover, New Hampshire

McGill University

Bachelor of Science, Honours Earth System Science

First class honours and at top of program (David Harrigan Memorial Prize) with distinction (cGPA 3.91/4.0)

Advisor: Bernhard Lehner

September 2015 – May 2019

Montreal, Quebec

EXPERIENCE

Columbia University

Research Assistant

September 2024 – present

New York, New York

- Improving global projections of climate-driven energy demand

Environment and Climate Change Canada

Data Analyst, Greenhouse Gas Reporting Program; Nov 2023 – Aug 2024

September 2021 – August 2024

Montreal, Quebec

- Data analytics for Canada's GHG reporting program, quality insurance and analysis of international reporting regulations
- Generated Canada's Overview of Reported Emissions (2023) outlining emissions trends across various industry sectors, providing valuable insights for policymakers and stakeholders

Physical Scientist, Meteorological Service; Sept 2021 – Nov 2023

Montreal, Quebec

- Optimized design of the atmospheric monitoring network through statistical data analysis using R, Python, VBA, and ArcGIS—increased network monitoring capacity by over 15%
- Researched and lead the implementation of new atmospheric monitoring techniques across Canada

Dartmouth College

Research Assistant / Teaching Assistant

September 2019 – August 2021

Hanover, New Hampshire

- Simulated hydrologic and atmospheric processes using regional climate models and machine learning to predict future flood risk in New England
- Worked with large datasets on remote computing clusters and synthesized results into key [findings](#)
- Taught advanced undergraduate courses in geology and recruited and on-boarded students to lab group

McGill University

Research Assistant

September 2018 – August 2019

Montreal, Quebec

- Applied novel machine learning techniques to create the first-ever global map of intermittent rivers
- Published findings in [Nature](#) in 2021

Carleton University

Research Assistant

May 2018 – August 2018

Ottawa, Ontario

- Assessed the environmental impact of road salt contamination in Southern Ontario lakes, including data collection, laboratory analysis, statistical analysis, and interpretation and [publication](#) of results

ADDITIONAL EXPERIENCE

Letters to a Pre-Scientist <i>STEM outreach</i>	September 2025 – Present
Dartmouth Alumni Association <i>Admissions Ambassador (Volunteer)</i>	January 2022 – Present <i>Remote</i>
Sustinere Global <i>Climate Scientist (Volunteer)</i>	March 2022 – January 2023 <i>Remote</i>
Best Buddies Canada <i>President (Volunteer)</i>	September 2017 – May 2019 <i>Montreal, Quebec</i>

PUBLICATIONS

- Picard, C.J., Winter, J.M., **Cockburn, C.** et al. Twenty-first century increases in total and extreme precipitation across the Northeastern USA. *Climatic Change* **176**, 72 (2023). <https://doi.org/10.1007/s10584-023-03545-w>
- Cockburn, C.***, Winter, J.M., Osterberg, E.C. and Magilligan, F.J. Drivers of future streamflow changes in watersheds across the Northeastern United States. *JAWRA Journal of the American Water Resources Association* **00**, 1– 19 (2023). <https://doi.org/10.1111/1752-1688.13120>.
- Messenger, M.L., Lehner, B., **Cockburn, C.** et al. Global prevalence of non-perennial rivers and streams. *Nature* **594**, 391–397 (2021). <https://doi.org/10.1038/s41586-021-03565-5>
- Cockburn, C.***, Gregory, B.R.B., Nasser, N.A. et al. Intra-Lake Arcellinida (Testate Lobose Amoebae) Response to Winter De-icing Contamination in an Eastern Canada Road-Side “Salt Belt” Lake. *Microb Ecol* **80**, 366–383 (2020). <https://doi.org/10.1007/s00248-020-01513-w>

HONOURS AND AWARDS

Frontiers Planet Prize – German co-champion (as co-author)	May 2023
David Harrigan Memorial Prize	May 2019
Tri-Agency Canada Graduate Scholarship – Masters (declined)	February 2019
FRQNT Supplement for NSERC USRA	July 2018, 2019
NSERC Undergraduate Student Research Award	May 2018, 2019
Tomlinson Engagement Award for Mentoring	September 2016, 2017, 2018
Osisko Scholarship in Earth and Planetary Sciences	September 2017

PRESENTATIONS

- Picard, C., Winter, J.M., **Cockburn, C.**, Hanrahan, J., Teale, N.G., Clemins, P.J., Beckage, B. Twenty-first century increases in total and extreme precipitation across the Northeastern United States. American Geophysical Union Fall Meeting, Chicago, USA, 15 December 2022.
- Messenger, M.L., Lehner, B., **Cockburn, C.** et al. Building the Data Foundation for Global Non-Perennial River Science and Management. American Geophysical Union Fall Meeting, New Orleans, USA, December 2021.
- Picard, C., Winter, J.M., **Cockburn, C.**, Hanrahan, J., Teale, N.G., Clemins, P.J., Beckage, B. Twenty-first century increases in total and extreme precipitation across the Northeastern United States. American Association of Geographers Annual Meeting, Virtual, 10 April 2021.

Cockburn, C.*, Winter, J.M., Osterberg, E.C., Magilligan, F.J. Assessing the Impacts of Extreme Precipitation Change on Flooding in the Northeastern United States. American Geophysical Union Fall Meeting, Virtual, 15 December 2020.

Cockburn, C.*, Winter, J.M., Osterberg, E.C., Magilligan, F.J. Assessing the Impacts of Extreme Precipitation Change on Flooding in the Northeastern United States. Graduate Climate Conference, Virtual, 30 October 2020.

COMMUNITY OUTREACH

Let's Talk Science, classroom presentations, October 2023 – June 2024

Let's Talk Science, career profile, June 2023

Upper Valley Adaptation Workgroup, oral presentation, April 2021

Vermont Teen Science Café, oral presentations, January – May 2021