

# Lexie Gardner

lexie.gardner@berkeley.edu

## EDUCATION

**PhD in Environmental Science, Policy, & Management**  
University of California, Berkeley, Berkeley, CA

**In Progress, Estimated 2030**

**BS in Environmental Engineering**  
**BS in Earth & Planetary Sciences**  
Yale University, New Haven, CT

**May 2023**

**May 2023**

## RESEARCH EXPERIENCE

### Graduate Student Researcher

**August 2025 - Present**

*UC Berkeley College of Natural Resources, Keenan Lab*

- Synthesizing literature, US Forest Inventory and Analysis (FIA), and remote sensing data to investigate drivers of aboveground carbon storage and growth rates across US forests, with implications for conservation, restoration, and ecosystem health under varying climate and management conditions.

### Bonnie Reiss Climate Action Research Fellow

**September 2025 - Present**

*University of California, Berkeley, Dr. Trevor Keenan*

- Identifying avenues for increased decarbonization through land management practices across University of California owned working landscapes. Working with field collected biomass data and remote sensing data to determine land management impacts on aboveground carbon storage across forest, range, and chaparral ecosystems in California.

### Undergraduate Researcher

**January 2021 – May 2023**

*Yale School of Engineering and Applied Science, Gentner Lab*

- Developed and executed bench scale experiments to identify potential sources of I/SVOC emissions from tailings management practices in the Athabasca oil sands region.
- Worked closely with lab members to analyze the data as part of a broader study on petrochemical emissions reporting gaps, resulting in a published paper.
- Analyzed VOCUS time of flight data from the Yale Coastal Field Station to investigate the ocean-atmosphere flux of nitrogen and sulfur containing species in coastal environments.

### Research Intern

**September 2021 - January 2022**

*Yale Carbon Containment Lab*

- Performed a literature review of post wildfire reforestation techniques with a focus on soil amendments for increased carbon storage, optimal tree species, and planting arrangements to reduce the chances of re-burning.
- Presented literature review and data analyzed using ArcGIS to Carbon Containment Lab staff to inform next steps of the project.

### Research Intern

**September 2021-December 2021**

*The Conservation Alliance*

- Researched technology companies with a focus on environmental impact and sustainability and gathered a list of the top 100 companies that fit the criteria of The Conservation Alliance partnership to increase monetary value of grants given to grassroots environmental organizations. Met with the Executive Director on a weekly basis to refine my approach and discuss progress.

## PROFESSIONAL EXPERIENCE

### Environmental Engineer 2

August 2023 - June 2025

*CDM Smith*

- Through cross-discipline collaboration, aided in design of water treatment facilities beginning from conceptual phase through 3-D modeling and piloting efforts, including performing necessary hydraulic and chemical demand calculations.
- Researched emerging treatment technologies and their potential applications for increasing climate change resiliency in drinking water facilities with the goal of presenting to clients during the conceptual design phase to decrease potential risk associated with climate events.

### Environmental Engineering Intern

June 2022 - August 2022

*CDM Smith*

- Carried out calculations and assisted with the design process for water treatment facilities by completing markups and back checks of drawings at different phases of design.
- Performed cost analyses and created graphics for a report to present to a client regarding future water treatment projects.
- Collaborated with two team members to write an Operations and Maintenance Manual for a newly designed and built drinking water facility.

## VOLUNTEER EXPERIENCE

### Mentor

August 2025 - Present

*Real Talk Buddies*

- Mentor two undergraduate students in UC Berkeley's ESPM department, providing guidance on course selection, extracurricular involvement, and research and career development during monthly meetings.

### Program Team Lead

August 2024 - May 2025

*Minds Matter Colorado*

- Facilitate activities for 15 high school mentees and their mentors once per week using a prepared curriculum to guide high school seniors through the college application process.
- Coordinate and manage group dynamics, ensuring a productive and inclusive atmosphere for everyone involved as well as monitor and assess program effectiveness, adapting approaches as needed to ensure effective engagement and progress.

### College Advising Fellow

November 2019 - May 2023

*Matriculate*

- Mentored four high school students as they navigated the college application process using a prepared curriculum to help them gain admission and full scholarship to top universities in their chosen fields of study.
- Regularly met with other advising fellows to support each other with challenges faced in the mentorship role as well as to discuss the efficacy of the curriculum and suggest improvements to the program.

## PUBLICATIONS

He M. et al. (2024). Total organic carbon measurements reveal major gaps in petrochemical emissions reporting. *Science*, 375(6581), 1234-1238. <https://doi.org/10.1126/science.adj6233>

Rynders, T., Cerreta, C., & Gardner, A. (2025, March). Designing Resilient Water Systems in the Face of Climate Change: Addressing Droughts, Wildfires, and Water Quality Challenges. *Rocky Mountain Water*, 57(2). [https://issuu.com/kelmanonline/docs/rocky\\_mountain\\_water\\_issue\\_2\\_2025](https://issuu.com/kelmanonline/docs/rocky_mountain_water_issue_2_2025)

Liu Q., et al. (9th of 10 authors, under review 2026). High oxidative potential observed in secondary organic aerosol derived from oil sands emissions. *Environmental Science & Technology Letters*.

**FELLOWSHIPS & AWARDS**

University of California Bonnie Reiss Climate Action Fellowship	2025
Yale University Morse College Richter Fellowship	2021
Yale Summer Environmental Fellowship	2021
Yale College Dean's Research Fellowship	2021
Michele Dufault Scholar	2021

**SKILLS**

- Computer Software: ArcGIS, Google Earth Engine, GitHub, R, and MatLab; remote sensing and geospatial analysis, statistical modeling, data visualization; Masshunter, Igor
- Laboratory: Gas chromatography, mass spectrometry, air quality sampling via adsorbent tubes