

Ellen Considine

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Skills

- Synthesis of quantitative and qualitative information → idea generation, study design
 - Expertise in environmental and social applications of data science; foci include air pollution / extreme heat / climate change-related exposures and public health / social justice
- Statistical analysis (technical toolbox includes R, Python; GitHub, AWS, Linux; ArcGIS, QGIS)
 - Advanced spatial / longitudinal analysis methods, causal inference, Bayesian methods
 - Machine learning (including reinforcement learning) with large observational data sets
 - Processing diverse environmental and social data, including remotely sensed imagery
- Written and oral communication / presentation, formal and informal
- Interdisciplinary collaboration and leadership

Education

Ph.D. in Biostatistics | 5th Year (class of 2025) | Harvard T.H. Chan School of Public Health (HSPH)

- [National Science Foundation Graduate Research Fellow](#) (2020-2025)
- M.A. in Biostatistics, May 2022
- Thesis (working title): Advancing the use of statistical / data science methods in environmental health policy design

B.S. in Applied Mathematics | 2020 | University of Colorado (CU) Boulder

- Outstanding Graduate of the College of Engineering & Applied Science, May 2020
- Minors: Statistics, Economics, Geography
- Emphases: Global Public Health, Remote Sensing & GIS, International Development

Other Awards & Recognition

- Winner in the Joint Statistical Meetings (JSM) Student Paper Competition | American Statistical Association, Section on Statistical Learning and Data Science (SLDS) Applied Track | Jan. 2024
- Astronaut Scholar | Astronaut Scholarship Foundation | May 2019
- Goldwater Scholar | Barry Goldwater Foundation | Apr. 2019
- Norlin Scholar | CU Boulder Special Undergraduate Enrichment Programs | Aug. 2018 – May 2020
- Engineering Honors Program (EHP) | CU Boulder | Aug. 2016 – May 2020

Research / Data Science Experience

- Biostatistics Researcher | [National Studies on Air Pollution & Health Group](#), HSPH | Jan. 2021 – present
- Environmental Health Data Science Intern | CU [Earth Lab](#) | Sept. 2017 – Jul. 2020
- Research Consultant | Denver Department of Public Health & Environment | May 2019 – Jul. 2020
- Statistical Collaborator | CU Laboratory for Interdisciplinary Statistical Analysis | Jan. 2020 – May 2020
- International Mathematical / Interdisciplinary Contest in Modeling | COMAP | Jan. 2017, 2018, 2019
 - “Outstanding” paper (top 0.1%) on modeling the spread of the opioid epidemic | 2019
 - “Finalist” paper (top 1%) on balancing economic growth & happiness through taxation | 2017

- Drone Mapping Team | CU Engineers Without Borders Nepal Team | May 2017 – Dec. 2018
- Independent research project modeling the long-term economic outcomes of college choice | May 2016 – Aug. 2016

List of peer-reviewed scientific publications can be found on [my Google Scholar page](#).

Select Presentations

- **Considine EM.** [“Heat Alert Reinforcement Learning: Bridging AI and Environmental Health.”](#) [Start at minute 41.] CAFÉ (Climate & Health Research Coordinating Center) webinar, titled “Research to Inform Optimization of Heat Health Early Warning Systems”. April 26, 2024.
- deSouza P and **Considine EM.** “Investigating Use of Low-Cost Sensors to Increase Accuracy and Equity of Real-Time Air Quality Information.” Air Sensors International Conference (hybrid). May 11, 2022.
- **Considine EM.** [“The Promise of Blue Skies: Air Pollution, Health, and Data Science.”](#) Harvard Science in the News (SITN) Speaker Series (virtual). March 30, 2022.
- **Considine EM.** “Investigating the Health Impacts of Air Pollution from Wildfires.” Astronaut Scholarship Foundation Technical Conference. Washington DC. August 24, 2019.

Extracurricular Experience

Writing:

- Review Editor for the [Fifth National Climate Assessment, Focus on Western Wildfires](#) | U.S. Global Change Research Program | Nov. 2022 – May 2023
- Columnist / Fellow: [“Breathing Data” blog](#) on air pollution, health, and data science | *HPRH Journal* (formerly the *Harvard Public Health Review*) | May 2021 – Sept. 2021
- Reflections on Professional Experiences | [Personal website / blog](#) | Oct. 2020 – present

Service / Leadership / Teaching:

- Peer Reviewer | *Environ. Sci. Technol., Environ. Res.: Health* | Apr. 2023 – present
- Alumni Mentor | Goldwater Foundation Diversity, Equity, & Inclusion Program | Jan. 2021 – present
- Vice-President / E-board | Harvard Griffin GSAS Science Policy Group | Sept. 2022 – May 2024
 - During academic year 2023-2024, co-organized an event series on multiple dimensions of climate & health, prioritizing translation of research into policy
- Teaching Fellow for graduate-level biostatistics courses | HSPH | Fall 2021, Fall 2023, Spring 2024
- Founding Member | HSPH Spatial Methods in Public Health Journal Club | Feb. 2023 – May 2024
- Pedagogy Fellow for the Biostatistics Department | HSPH | Aug. 2022 – May 2023
 - Developed curriculum for PhD-level (bio)statistical consulting / collaboration course
 - Created [online short course “Overview of Data Science Tools for Climate & Health”](#)
- Data Science Instructor | Camps (for grades 9-12) to increase diversity in STEM | Jul. 2019, 2022
- Member | Environmental Justice Student Organization at HSPH | 2021
- Science Manager | CU Engineers Without Borders Chapter Board | Jan. 2019 – May 2020
- Sustainability Lead | CU Engineers Without Borders Nepal Team | Jan. 2017 – Jan. 2019
- CU Diversity in Engineering Programs (BOLD Center, AWM, SWE) | Aug. 2016 – Mar. 2020