

Emma Krasovich Southworth, MPH

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EDUCATION

- Stanford University, Doerr School of Sustainability** *In progress*
Ph.D. in Environment and Resources (E-IPER)
Advanced to candidacy in June 2024
Co-advisors: Dr. Erin Mordecai, Dr. Marshall Burke
Committee: Stephen Luby (chair), Scott Fendorf, Solomon Hsiang
- University of California, Berkeley** 2019 – 2022
Continuing education coursework
- Columbia University, Mailman School of Public Health** 2015 – 2017
M.P.H. in Environmental Health Sciences; Global Health certificate
Thesis: Downstream Impacts from Upstream Actions: The Toll of Food Production on Water Quality and Health Outcomes in Sub-Saharan Africa
- Colgate University** 2011 – 2015
B.A. in Behavioral Neuroscience, Biology minor
Thesis: Behavioral Effects of Chronic Low-Dose Exposure to the Environmental Water Pollutant Venlafaxine (Effexor) on the crayfish species *Orconectus rusticus*

RESEARCH INTERESTS

planetary health; natural disasters; global environmental change; environmental pollution and toxic exposures; disease ecology; environmental data science; causal inference

PEER REVIEWED PUBLICATIONS

*Indicates corresponding author

†Indicates that authors contributed equally

1. **Krasovich Southworth, E. ***, Qiu, M., Gould, C.F., Kawano, A., Wen, J., Heft-Neal, S., Kilpatrick Voss, K., Lopez, A., Fendorf, S., Burney, B., and Burke, M. “The Influence of Wildfire Smoke on Ambient PM_{2.5} Chemical Species Concentrations in the Contiguous US.” *Environmental Science & Technology* (2025). ([Link](#))
2. **Krasovich, E. ***, Lau, P., Tseng, J., Longmate, J., Bell, K., Hsiang, S. “Harmonized nitrogen and phosphorous concentrations in the Mississippi/Atchafalaya River Basin from 1980 to 2018.” *Scientific Data* 9, no. 1 (2022): 1-17. ([Link](#))
3. Hsiang, S.^{†*}, Allen, D.[†], Annan-Phan, S.[†], Bell, K.[†], Bolliger, I.[†], Chong, T.[†], Druckenmiller, H.[†], Huang, L.Y.[†], Hultgren, A.[†], **Krasovich, E. †** and Lau, P.[†], 2020. “The effect of large-scale anti-contagion policies on the COVID-19 pandemic.” *Nature* 584, no. 7820 (2020): 262-267. ([Link](#))

WORKS IN PROGRESS

1. The impact of tropical cyclones on global dengue burden. **Krasovich Southworth, E.**, Singleton, A., Jing, R., Childs, M., Lyberger, K., Bendavid, E., Burke, M., Mordecai, E.
2. Honeyman, A., Qiu, M., Nguyen, N., Namayandeh, A., **Krasovich Southworth, E.**, Burke, M., Fendorf, S. Invisible and Far-Reaching Threat of Metal Toxins from Wildfire Smoke. *In review.*
3. Glidden, C., Krasovich Southworth, E., Shragai, T., Rojas-Araya, D., Troyo, A., Chaves-González, L. E., Marin, R., Vargas, I., Mordecai, E. Rural dengue dynamics: the interplay of climate, built environment, and agriculture in Costa Rica. *In prep.*
4. The health impacts of monoculture expansion in Costa Rica. **Krasovich Southworth, E.**, Glidden, C., Vargas, I., Troyo Rodriguez, A., Rojas Araya, D., and Mordecai, E.
5. Who is responsible for damaging the commons? Identifying nonpoint source polluters in national-scale river networks. Lau, P., Longmate, J., **Krasovich Southworth, E.**, Tseng, J., Bell, K., Sum, S., and Hsiang, S.
6. The efficacy of vector control intervention on dengue burden in Guatemala. Lamm-Perez, J., **Krasovich Southworth, E.**, Glidden, C., and Mordecai, E.

CONFERENCES & OTHER PRESENTATIONS

** indicates poster presentation; otherwise talk was given*

- 2025** Stanford Data Science Conference*; TWEEDS; Sustainability Data Science Conference; University of Costa Rica Vector Symposium
- 2024** Big Earth Hackathon: Wildland Fire Challenge*; Stanford Data Science Conference*; NASA AMES Biospheric Sciences; Ecology and Evolution of Infectious Diseases Conference*
- 2023** Stanford Data Science 4 Sustainability Conference; Exploring Intersections in Health, Sustainability, and Data Science Conference; AGU

MEDIA COVERAGE OF RESEARCH

Ordner, Niamh. "L.A.'s Fires Reshaped the City. They May Also Have Triggered Changes in Our Bodies." **Los Angeles Times**, August 7, 2025. [Link](#). *Featured for work on wildfire health impacts.*

GRANTS, FELLOWSHIPS, HONORS & AWARDS

NSF Graduate Research Fellowship Program (3-year tuition stipend)

2022 – 2027

The Graduate Research Fellowship Program (GRFP) is a National Science Foundation-wide program that provides Fellowships to individuals selected early in their graduate careers based on their demonstrated potential for significant research achievements in science, technology, engineering or mathematics or in STEM education.

Stanford Data Science Scholars (2-year tuition stipend at 50%) 2023-2025

Data Science Scholars are a select group of interdisciplinary Stanford PhD students who are contributing to data-intensive science, whether through discoveries using data science or through computational, statistical or mathematical data science techniques.

Enhancing Diversity in Graduate Education (EDGE) Fellowship (\$12,000) 2022 – 2025

EDGE Doctoral Fellowships are awarded to incoming doctoral students, who are nominated by their degree program after they are admitted.

E-IPER Summer Research Grant (\$6,500) 2023, 2025

Casper Mills Scholarship (\$12,000) 2022 – 2026

Jewish Vocational Services Scholarship (\$19,000) 2015 – 2017, 2022 – 2026

2nd Place Poster, Big Earth Hackathon (\$75) 2024

1st Place, Data for Sustainability Conference Best Student Presentation Award (\$750) 2023

Dean's Award, Colgate University 2014 – 2015

Beta Beta Beta Biological Honor Society 2013 – 2015

TEACHING EXPERIENCE

Stanford University, Disease Ecology 2024

Stanford University, Global Change and Emerging Infectious Diseases 2023

Columbia University, Risk Assessment & Environmental Chemistry 2017

Columbia University, Environmental Determinants of Health 2017

Hospital Universitario de Canarias (Tenerife), ESL Instructor 2014

Colgate University, General Chemistry Laboratory 2012 – 2013

SELECTED PROFESSIONAL EXPERIENCE

Global Policy Lab, Goldman School of Public Policy, UC Berkeley 2019 – 2022

Research Analyst, Quantitative Sustainable Development Project

Hazen and Sawyer 2018 – 2019

Environmental Scientist/Proposal Coordinator

Pure Earth, formerly Blacksmith Institute 2017

Environmental Health Research and Programs Intern

Project Concern International (MPH Practicum) 2016

Water, Sanitation and Hygiene (WASH) Fellow, Njira Project, USAID

Agriculture & Food Security Center, Earth Institute, Columbia University 2016
Agriculture and Food Security Research Intern

Dept. of Environmental Health Sciences, Columbia University 2015 – 2016
Graduate Research Assistant under Dr. Norman Kleiman
REFEREE SERVICE

Science of The Total Environment; Environmental Pollution; Journal of Epidemiology and
Population Health

UNIVERSITY SERVICE & EXTRACURRICULAR INVOLVEMENT

Mentor, Stanford King Center Undergraduate Fellow, Stanford University 2024 – present
- Mentees: Julieta Lamm-Perez
E-IPER Social Committee - Student Leadership Council, Stanford University 2024 – 2025
Mentor, Biology Summer Undergraduate Research Program, Stanford University 2024
- Mentees: Aspen Singh; Izzy Riley
E-IPER Admissions Committee - Student Leadership Council, Stanford University 2023 – 2024
Project: Planet Speaker Series, Stanford University (co-founder) 2022 – 2024
LeadX Fellow, Stanford University 2023
E-IPER Alumni Liaison - Student Leadership Council, Stanford University 2022 – 2024
UC Berkeley Equity Training Series, Participant 2021 – 2022
aeroTRIV (aerotriv.com), Co-Founder & Co-host 2020 – present
GirLAB, Running team captain 2020 – 2024
Strawberry Canyon Track Club, Board Member; DEI Committee; Editor 2019 – 2020
EcoWomen; Member 2018 – 2020

TECHNICAL SKILLS

R, Google Earth Engine, Python, Matlab, Git, QGIS/ArcGIS, LaTeX

REFERENCES

Dr. Marshall Burke

Associate Professor, Doerr School of
Sustainability
PI, Environmental Change and Human
Outcomes Lab
Stanford University
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Dr. Erin Mordecai

Associate Professor, Biology
Senior Fellow, Woods Institute for the
Environment
PI, Mordecai Lab
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