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abpoll
Adam Pollack

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research interests

Flood risk management
Multisector dynamics
Decision analysis
Wicked problems

appointments

University of Iowa
Adjunct Assistant Professor, School of Earth, Environment, and Sustainability, 2025–present.

Dartmouth College
Lecturer, Thayer School of Engineering, 2025–present.
Research Scientist, Thayer School of Engineering, 2024–present.
Postdoctoral Research Associate, Thayer School of Engineering, 2022–2024.
adviser: Klaus Keller

education

Boston University
Ph.D, Earth & Environment, 2022.
dissertation: Flood Risk Valuation and Estimation from County to Continental Scales
advisers: Christoph Nolte and Ian Sue Wing

Stony Brook University
M.S., Applied Mathematics and Statistics, 2017.
B.S., Applied Mathematics and Statistics, 2016.

grants and contracts

Co-Principal Investigator, "Contribute to the Integrated Coastal Modeling (ICoM) project, Subaward to Dartmouth College from Battelle". PI: Klaus Keller. DOE-Prime, $231,794. 2023–2025.

journal articles

Bhaduri, P., **Pollack, A. B.**, Yoon, J., Roy Chowdhury, P. K., Wan, H., Judi, D., Daniel, B., and Srikrishnan, V. **2025**. *Uncertainty in household behavior drives large variation in the size of the levee effect. J. Flood Risk Manag.* 18 4, e70131. DOI: 10.1111/jfr3.70131.

Pollack, A. B., Santamaria-Aguilar, S., Maduwantha, P., Helgeson, C., Wahl, T., and Keller, K. **2025**. *Funding rules that promote equity in climate adaptation outcomes. Proceedings of the National Academy of Sciences* 122 2, e2418711121. DOI: 10.1073/pnas.2418711121.

Pollack, A. B., Helgeson, C., Kousky, C., and Keller, K. **2024**. *Developing more useful equity measurements for flood-risk management. Nature Sustainability*, pp. 1–10. DOI: 10.1038/s41893-024-01345-3.

Gourevitch, J. D., Kousky, C., Liao, Y., Nolte, C., **Pollack, A. B.**, Porter, J. R., and Weill, J. A. **2023**. *Unpriced climate risk and the potential consequences of overvaluation in US housing markets. Nat. Clim. Chang.*, pp. 1–8. DOI: 10.1038/s41558-023-01594-8.

Hennighausen, H., Liao, Y., Nolte, C., and **Pollack, A. 2023**. *Flood insurance reforms, housing market dynamics, and adaptation to climate risks. J. Hous. Econ.* 62, p. 101953. DOI: 10.1016/j.jhe.2023.101953.

Nolte, C., Boyle, K. J., Chaudhry, A., Clapp, C., Guignet, D., Hennighausen, H., Kushner, I., Liao, Y., Mamun, S., **Pollack, A.**, Richardson, J., Sundquist, S., Swedberg, K., and Uhl, J. H. **2023**. *Data Practices for Studying the Impacts of Environmental Amenities and Hazards with Nationwide Property Data. Land Econ.* DOI: 10.3368/le.100.1.102122-0090R.

Pollack, A. B., Wrenn, D. H., Nolte, C., and Wing, I. S. **2023**. *Potential Benefits in Remapping the Special Flood Hazard Area: Evidence from the U.S. Housing Market. J. Hous. Econ.* 61, p. 101956. DOI: 10.1016/j.jhe.2023.101956.

Pollack, A. B. and Kaufmann, R. K. **2022**. *Increasing storm risk, structural defense, and house prices in the Florida Keys. Ecol. Econ.* 194 C. DOI: 10.1016/j.ecolecon.2022.107350.

Pollack, A. B., Sue Wing, I., and Nolte, C. **2022**. *Aggregation bias and its drivers in large scale flood loss estimation: A Massachusetts case study. J. Flood Risk Manag.* 15 4. DOI: 10.1111/jfr3.12851.

Castigliego, J. R., **Pollack, A.**, Cleveland, C. J., and Walsh, M. J. **2021**. *Evaluating emissions reductions from zero waste strategies under dynamic conditions: A case study from Boston. Waste Manag.* 126, pp. 170–179. DOI: 10.1016/j.wasman.2021.02.026.

preprints & in review

Hegde, P., **Pollack, A.**, Vaze, V., and Keller, K. **2025**. *Timing managed retreat for robust coastal adaptation strategies*. DOI: 10.2139/ssrn.5410803.

Pollack, A., Doss-Gollin, J., Srikrishnan, V., and Keller, K. **2024**. *UNSAFE: An UNcertain Structure And Fragility Ensemble framework for property-level flood risk estimation*. In Review. DOI: 10.31219/osf.io/jb9ta.

Pollack, A., Auermuller, L., Burleyson, C., Campbell, J. E., Condon, M., Cooper, C., Coronese, M., Dangendorf, S., Doss-Gollin, J., Hegde, P., Helgeson, C., Kopp, R., Kwakkel, J., Leaf, A., Lesk, C., Mankin, J., Nicholas, R., Roth, S., Rice, J., Srikrishnan, V., Scheeler, M., Tuana, N., Vernon, C., Zhao, M., and Keller, K. **2023**. *Investing in open and FAIR practices for more usable and equitable climate-risk research*. In Review.

Pollack, A., Wing, I. S., Pinter, N., and Nolte, C. **2022**. *New Empirical Models for Flood Loss Prediction and Implications for the Coterminous United States.*

technical reports

Castigliego, J. R., Walsh, M. J., **Pollack, A.**, and Cleveland, C. J. **2019**. *Carbon free Boston: waste technical report*. Tech. rep.

Hatchadorian, R., Best, R., Wholey, K., Calven, A., Levine, E., and **Pollack, A. 2019**. *Carbon Free Boston: Buildings Technical Report*. Tech. rep.

Walsh, M. J., Fox-Penner, P., Zheng, K., **Pollack, A.**, and Cleveland, C. J. **2019**. *Carbon Free Boston: Energy Technical Report*. Tech. rep.

Walsh, M. J., Kinney, P. L., Levy, J. I., Tallon, L., Skipper, N., Russell, A., Castigliego, J. R., **Pollack, A.**, Zheng, K., and Cleveland, C. J. **2019**. *Carbon Free Boston: Technical Summary*. Tech. rep.

science translation

Kopp, R., Auermuller, L., Gilmore, E., Keller, K., Oppenheimer, M., **Pollack, A.**, Bennett Gayle, D., Lorenzo-Trueba, J., Geronimo, L., and Santamaria Aguilar, S. **2023**. *Comment on Army Corps of Engineers New York and New Jersey Harbor & Tributaries Focus Area Feasibility Study (HATS).*

invited talks

"**Research insights for Pennsylvania's proposed flood disclosure law**", Pennsylvania Natural Hazards Legal and Planning Aspects Workshop, *Pennsylvania Emergency Management Agency*. Harrisburg, Pennsylvania, 2026.

"**Quantifying and managing climate risks and inequitable outcomes**", River-Coastal Science & Engineering Invited Seminar, *Tulane University*. New Orleans, Louisiana, 2025.

"**Quantifying and managing climate risks and inequitable outcomes**", Fletcher Lab Group Invited Seminar, *Stanford University*. Online, 2025.

"**Quantifying and managing climate risks and inequitable outcomes**", School of Earth, Environment and Sustainability Invited Seminar, *University of Iowa*. Iowa City, Iowa, 2024.

"**Improving equity considerations in multisector dynamics research**", 2024 Energy Modeling Forum Snowmass Workshop, *Department of Energy, Biological and Environmental Research*. Snowmass, Colorado, 2024.

"**Funding rules that promote equity in climate adaptation outomces**", Faculty Seminar Series Talk, *The Arthur L. Irving Institute for Energy and Society at Dartmouth*. Hanover, New Hampshire, 2024.

"**Funding rules that promote equity in climate adaptation outomces**", University of Rhode Island Spring 2024 Seminar, *Department of Environmental and Natural Resource Economics*. Kingston, Rhode Island, 2024.

"**Reproducible science is a foundation of convergence research**", MACH Seminar Series, *Megalopolitan Coastal Transformation Hub (MACH)*. Online, 2024.

"**Transparency on underlying values is needed for useful equity measurements**", Working Group on Social-Science Water Research Invited Seminar Talk, *Helmholtz Centre for Environmental Research GmbH - UFZ*. Online, 2024.

"**An Uncertain Structure and Fragility Ensemble (UNSAFE) for Flood Risk Assessments**", Bi-Monthly ICoM-MSD Seminar Series, *Integrated Coastal Modeling project, Pacific Northwest National Laboratory*. Online, 2024.

"**CoPe Cross-Hub Community of Practice: Successes and struggles on the path to convergence research**", CoPe Cross-Hub Community of Practice Seminar, *National Science Foundation*. Online, 2023.

"**Equity and Deep Uncertainty in Benefit Cost-Analyses Deep Dive**", Annual Meeting of the Megalopolitan Coastal Transformation Hub, *Rutgers University-Camden*. Camden, New Jersey, 2023.

"**Supporting Integration Through MACH Prototype Decision-Analyses**", Integration Meeting of the Megalopolitan Coastal Transformation Hub, *Rutgers University*. Online, 2022.

"**Using Toy Problems to Improve Intuition, Convergent Research Designs, and Decision-Support**", Seminar Meeting of the Megalopolitan Coastal Transformation Hub, *Rutgers University*. Online, 2022.

"**Do markets price weather-related risks?**", Climate Econometrics Seminar Series, *Climate Econometrics, Nuffield College, University of Oxford*. Online, 2021.

"**Can property level flood losses be reliably predicted?**", First Street Foundation Flood Lab Workshop, *First Street Foundation*. Online, 2021.

"**Flood Loss Risk and Its Drivers: Evidence from Massachusetts Residential Properties**", 2020 Climate and Health Seminar, *Boston University School of Public Health*. Online, 2020.

"**Parcel level flood risk and interventions in Massachusetts**", Cloud to Street Lab Meeting, *Cloud to Street*. Online, 2020.

conference presentations

Bhaduri, P., **Pollack, A.**, and Srikrishnan, V. **2024**. *Modeling Household Responses to Coastal Urban Flooding*. Department of Energy Earth and Environmental Systems Modeling (Bethesda, MD).

Bhaduri, P., **Pollack, A.**, Yoon, Y., Roy Chowdhury, P., Wan, H., Judi, D., Daniel, B., and Srikrishnan, V. **2024**. *Unraveling the Levee Effect: Understanding the Interplay between Levee Construction and Household Behavior in Coastal Cities*. 2024 American Geophysical Union Fall Meeting (Washington DC).

Pollack, A., Helgeson, C., Kousky, C., and Keller, K. **2024**. *Developing more useful equity measurements for flood-risk management (Invited)*. 2024 American Geophysical Union Fall Meeting (Washington DC).

Pollack, A., Santamaria-Aguilar, S., Maduwantha, P., Helgeson, C., Wahl, T., and Keller, K. **2024**. *Funding rules that promote equity in climate adaptation outcomes*. Annual Conference of the Society of Decision Making Under Deep Uncertainty (Denver, CO).

Xu, D., Keller, K., **Pollack, A.**, and Snyder, H. **2024**. *Improving Uncertainty Characterization in Home Energy Projections*. Home Energy Decarbonization Workshop (Hanover, NH).

Pollack, A., Wrenn, D., Sue Wing, I., and Nolte, C. **2022**. *Flood risk signals in the property market and implications for flood risk management*. 2022 ZTRAX Special Issue Workshop (Remote).

Pollack, A., Sue Wing, I., Pinter, N., and Nolte, C. **2021**. *Can property level losses be reliably predicted?* 2021 PLACES Webinar: Land, Water, and ZTRAX (Remote).

Pollack, A. and Kaufmann, R. **2020**. *Market prices for weather-related risk: Hurricane Irma and house prices in the Florida Keys*. 2020 American Geophysical Union Fall Meeting (Remote).

Pollack, A. and Kaufmann, R. **2020**. *Pricing weather-related risk mitigation in coastal housing markets: insights from the Florida Keys after Hurricane Irma*. 2020 Association of Environmental and Resource Economists Summer Conference (Remote).

Pollack, A., Sue Wing, I., and Nolte, C. **2020**. *High-resolution flood loss estimates are necessary for effective flood risk management*. 2021 Northeast Agricultural Regional Economics Association Annual Meeting (Remote).

Pollack, A. 2020. *Data Inputs to Hedonic Flood Risk Models*. 2020 PLACES Webinar (Remote).

Pollack, A. 2020. *Geo-location ZTRAX*. 2020 PLACES Webinar (Remote).

conference posters

Helgeson, C., **Pollack, A.**, Santamaria-Aguilar, S., Linder-Baptie, Z., Keller, K., and Tuana, N. **2024**. *Convergence Research for Coastal Climate Adaptation: A Case Study in Compounding Challenges for Early-Career Researchers*. 2024 American Geophysical Union Fall Meeting (Washington DC).

Pollack, A., Doss-Gollin, J., Srikrishnan, V., and Keller, K. **2024**. *An UNcertain Structure and Fragility Ensemble (UNSAFE) Framework for Property-Level Flood-Risk Estimation*. Department of Energy Earth and Environmental Systems Modeling (Bethesda, MD).

Pollack, A., Santamaria-Aguilar, S., Maduwantha, P., Helgeson, C., Wahl, T., and Keller, K. **2024**. *Funding rules that promote equity in climate adaptation outcomes*. 2024 Irving Institute at Dartmouth College Research Symposium.

Pollack, A., Santamaria-Aguilar, S., Maduwantha, P., Helgeson, C., Wahl, T., and Keller, K. **2024**. *Funding rules that promote equity in climate adaptation outcomes*. 2024 American Geophysical Union Fall Meeting (Washington DC).

Pollack, A., Helgeson, C., Kousky, C., and Keller, K. **2023**. *Transparency on underlying values is needed for useful equity measurements*. 2023 American Geophysical Meeting Fall Meeting (San Francisco, CA).

Pollack, A., Helgeson, C., Kousky, C., and Keller, K. **2023**. *Transparency on underlying values is needed for useful equity measurements*. Annual Conference of the Society of Decision Making Under Deep Uncertainty (Delft, NL).

Pollack, A., Helgeson, C., Kousky, C., and Keller, K. **2023**. *Transparency on underlying values is needed for useful equity measurements*. Advancing Complex Adaptive Human-Earth Systems Science in a World of Interconnected Risks (Davis, CA).

Pollack, A., Sue Wing, I., Pinter, N., Schaefer, K., and Nolte, C. **2021**. *Can property level flood losses be reliably predicted?* 2021 American Geophysical Meeting Fall Meeting (Remote).

Pollack, A., Sue Wing, I., and Nolte, C. **2020**. *Flood Loss Risk and Its Drivers: Evidence from Massachusetts Residential Properties*. 2020 American Geophysical Union Fall Meeting (Remote).

Pollack, A. 2016. *Panama Papers: Temporal and Spatial Trends in Entity Formation*. Symposium on Big Data, Human Health and Statistics (Ann Arbor, MI).

media coverage

How seriously should homebuyers take Zillow's climate risk data? Here's what experts say, *Jack Lee*, **San Francisco Chronicle**, 2025-02-16.

Building Bridges: From Theory to Practice, *Cate Homicki*, **The Arthur L. Irving Institute for Energy and Society Newsletter**, 2025-01-27.

Study Defines Equitable Approaches, *Catha Mayor*, **Dartmouth Engineer Magazine (Fall 2024)**, 2024-12-01.

MSD Research Spotlight: Adam Pollack, *Lillian Lau*, **MultiSector Dynamics Community newsletter**, 2024-07-19.

Accounting for flood risk would lower American house prices by $187bn, *Graphic detail*, **The Economist**, 2023-04-25.

Where U.S. house prices may be most overvalued as climate change worsens, *Brady Dennis*, **The Washington Post**, 2023-02-16.

Will BU Be Underwater in 30 Years?, *Rich Barlow*, **Boston University Today**, 2020-10-14.

advising

Undergraduate

Julian Gutierrez. Thayer School of Engineering. Research Co-Mentor (with Klaus Keller). 2023–present.

Rainwater Harvesting User Study and Instrumentation Design. Thayer School of Engineering. Engs 89/90 Capstone Project Advisor. 2024–2025.

Elaine Sarazen. Thayer School of Engineering. Research Co-Mentor (with Klaus Keller). 2023–2025.
Daniel Xu. Quantitative Social Science & Geography. Research Co-Mentor (with Klaus Keller). 2023–2025.
Camry Gach. Undeclared. WISP Research Internship Program Co-Mentor (with Klaus Keller). 2022–2023.
Carter (Street) Roberts. Quantitative Social Sciences & Environmental Studies. Research Co-Mentor (with Klaus Keller). 2022–2023.

peer review

Business & Economics
Climate Risk Management
Earth's Future
Economics of Disasters and Climate Change
Environmental Modelling & Software
Journal of Housing Economics
Land Economics
Natural Hazards
Natural Hazards and Earth System Sciences
Nature Communications
Royal Society Open Science
Water Resources Research

awards

Open Scholarship Commitment Award for Reproducible Research, Dartmouth College, 2025.
Research Fellowship, Boston University, 2022.
Research Fellowship, Boston University, 2021.
Teaching Fellowship, Boston University, 2021.
Research Fellowship, Boston University, 2020.
Teaching Fellowship, Boston University, 2020.
Research Fellowship, Boston University, 2019.
Dean's Fellowship, Boston University, 2019.

teaching

Boston University
Data, Models and Analysis in Earth and Environment. Teaching Fellow and Lab Instructor. Spring 2021.
Data, Models and Analysis in Earth and Environment. Teaching Fellow and Lab Instructor. Spring 2020.
Dartmouth College
How to produce FAIR analyses. Developed and Presented Teaching Module in Bayesian Statistical Modeling and Computation Course. Winter 2025.
How to produce FAIR analyses. Developed and Presented Teaching Module in Bayesian Statistical Modeling and Computation Course. Winter 2024.
Stony Brook University
Software Development Fundamentals. Teaching Assistant. Spring 2016.

service

Invited Subject Matter Expert at Pennsylvania Natural Hazards Legal and Planning Aspects Workshop, Pennsylvania Emergency Management Agency. 2025.
Designed and Ran Decision Making Under Deep Uncertainty Activities, Thayer School of Engineering Open House 2025 (K-12 Audience). 2025.
Student and Postdoc Leadership Council Career Panel, Megalopolitan Coastal Transformation Hub. 2025.
Member, NSF Cross CoPe Student and Postdoc Planning Committee. 2024–2025.
Social and Behavioral Research - Basic, CITI program. 2022–2025.
Record #48549028.

Session Co-convener: Advances in Quantifying and Attributing Climate Impacts and Damages to Inform Climate Risk Management and Litigation, 2024 American Geophysical Union Fall Meeting (Washington DC). 2024.

Technical Advisory Group Member, Massachusetts' Executive Office of Energy and Environmental Affairs Pluvial and Fluvial Flood Mapping. 2024.

Invited Panelist, Dartmouth Feldberg Library Open Data Panel. 2024.

Abstract Reviewer, Northeastern Agricultural Resource Economics Association. 2023–2024.

Invited Participant at Equity and Benefit Cost Analysis Workshop, Environmental Defense Fund. 2023.

Notetaker and Rapporteur, Multisectoral Dynamics Workshop Equity Breakout Sessions. 2023.

Co-Chair, Student Postdoc Leadership Council, Megalopolitan Coastal Transformation Hub. 2022–2023.

Lead, Data Integration Working Group, Megalopolitan Coastal Transformation Hub. 2022–2023.

Founder, Irving Institute Research Labs Seminar Group, Irving Institute for Energy & Society. 2022–2023.

Session Chair, Property Values (Flood Risk), Association of Environmental and Resource Economists 2020 Virtual Summer Conference. 2020.