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abpoll   
Adam Pollack 

# Adam Pollack

## 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.**, Doss-Gollin, J., Srikrishnan, V., and Keller, K. 2025. *UNSAFE: An UNcertain Structure And Fragility Ensemble framework for property-level flood risk estimation*. *J. Open Source Softw.* 10 115, p. 7527. DOI: 10.21105/joss.07527.
- Pollack, A. B.**, Santamaría-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.
- 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. B., Benedict, J. B., Deb, M., Doss-Gollin, J., Judi, D., Lehman, W., Lutz, N., Reesman, C., Sarazen, E., Son, Y., Sun, N., Srikrishnan, V., and Keller, K. 2025.** *Unrefined national building inventories can mislead risk assessments and decisions.*
- 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.*
- 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.
- Kopp, R., Auermuller, L., Gilmore, E., Keller, K., Oppenheimer, M., **Pollack, A.**, Bennett Gayle, D., Lorenzo-Trueba, J., Geronimo, L., and Santamaría Aguilar, S. 2023. *Comment on Army Corps of Engineers New York and New Jersey Harbor & Tributaries Focus Area Feasibility Study (HATS).*
- “**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 outcomes**”, 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 outcomes**”, 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., Santamaría-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).
- 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).

- 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.

**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.