Elinor Benami

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Appointments

Assistant Professor, Virginia Tech *Aug. 2020 - present*
Agricultural and Applied Economics Department

Faculty Affiliate *Summer 2020 - present*
Stanford Regulation, Evaluation, and Governance Lab

Faculty Affiliate *Spring 2021 - present*
VT Remote Sensing & Global Change Center Interdisciplinary Graduate Education Programs;
Center for Advanced Innovation in Agriculture

Impact Area Co-Lead for Insurance & Climate Finance *Fall 2022 - present*
NASA Harvest (NASA Global Food Security and Agriculture Consortium)

Education & Training

Postdoctoral Scholar, University of California Davis *Nov. 2018 - Aug. 2020*
Agricultural and Resource Economics and Innovation Lab for Markets, Risk, and Resilience
Mentor: Michael Carter

Ph.D., Stanford University *Aug. 2013 - Oct. 2018*
Emmett Interdisciplinary Program in Environment & Resources
Co-Advisors: Marshall Burke and Eric Lambin
Fields: Production Economics and Land System Science

B.A., The University of North Carolina at Chapel Hill *Aug. 2006 - May 2010*
Economics major, Environmental Studies & Sciences minor
Honors and Distinction, Phi Beta Kappa

Publications & Presentations

Academic Manuscripts

Benami, E., Bovay, J., Zhang, W., Ta, C.. (*in prep*). "How and Where Do Financial Incentives Promote Adoption of Climate Smart Agricultural Practices? A $54 million experiment among US Producers." [*Preanalysis Plan in prep for submission to the AEA RCT Registry*]

Benami, E., Becker-Reshef, I., Kirchner, E., Cecil, M.J., Chautems, M. (*in prep*). "Opportunities for EO to help derisk the transition to sustainable agricultural systems."

Benami, E., Cecil, M., Josephson, A., Maskell, G., Michler, J., (*under review, AidData textbook on Geospatial Impact Evaluation*). "Integrating Weather and Land Cover Data into Geospatial Impact Evaluations."

D'Agostino, A., Usmani, F., **Benami, E.,**. (*under review, AidData textbook on Geospatial Impact Evaluation*). "Causal Inference and Counterfactuals in Earth Observation Research."

Kirchner, E.*, **Benami, E.***, Hobbs, A.W., Carter M.R., Zhenong J., (2026) "Get in the Zone: The Risk-Adjusted Welfare Effects of Using Machine Learning vs. Administrative Borders to Define Agricultural Index Insurance Zones." *Journal of Development Economics* *Joint first authors.

Benami, E., Jo, N. Ragnauth, B., Ho. D.E. (*conditionally accepted, Journal of the Association of Environmental and Resource Economists*) "Drop a Line, Submit on Time? Evidence from a Randomized Control Trial on the Effect of Pre-Deadline Reminders on Pollution Discharge Reporting."

Benami, E., Bell, A., Messer, K., Cecil, M., Zhang, W. 2025. *Agricultural Economics.* "Seeding Change to Manage Climate Change: Growing Insights from Four USDA Programs to Support Climate-Smart Agriculture."

Saunders, A., Tellman, B., **Benami, E.,** Anchukaitis, K., Bennett, A., Hossain, S., Islam, A.K.M. Saiful, Giezendanner, J. 2025.*Earth's Future.* "Sensitivity to Data Choice Across Scales for Index-Based Flood Insurance."

Benami, E., Ramanujan, R., Cecil, M. 2025. *Agricultural and Resource Economics Review.* "Rain Check: Examining How Fine-Scale Precipitation Data Affects Payouts in a U.S. Weather Index Insurance Program."
Lin, C., Zhou, J., Yin, L., Bouabid, R., Mulla, D. **Benami, E.,** Jin, Z. 2024. *ISPRS Journal of Photogrammetry and Remote Sensing.* "Sub-national scale mapping of individual olive trees integrating Earth observation and deep learning". Fisher, C., **Benami, E.**, Dolk, E., Baldwin, J., Becker-Reshef, I., Cuppari, R.I., Dalhaus, T., Hobbs, A.,

Leckebusch, G., Lacovara, P., Sobel, A.H., and Tellman, B. 2024. *Journal of Catastrophe Risk and Resilience* "Bridging Science and Practice to En(in)sure Resilience in a Changing Climate."

Benami, E., Carter, M. R. 2021. *Applied Economic Perspectives and Policy.* "Can Digital Technologies Reshape Rural Finance? Implications for Credit, Insurance, and Saving"

Benami, E.*, Zhenong J.*, Carter M.R., Kenduiywo, B., Ghosh A., Hobbs, A.W., Hijmans R., and Lobell, D. 2021. *Nature Reviews Earth & Environment* "Uniting Advances in Remote Sensing, Crop Modeling, & Economics for Agricultural Risk Management." *Joint first authors.

Benami, E., Whitaker, R., Anderson, B., Ho D.E., La, V., Lin, H. 2021. *Peer-reviewed proceedings of the ACM Conference on Fairness, Accountability, and Transparency (FAccT).* "The Distributive Effects of Risk Prediction in Environmental Compliance: Algorithmic Design, Environmental Justice, and Public Policy."

Hino, M.*, **Benami, E.*,** Brooks, N. 2018. "Machine learning for environmental monitoring." *Nature Sustainability.* *Joint first authors

Benami, E., Curran, L.M., Cochrane, M., Venturieri, A., Swartos, A., Moraes Franco R., Kneipp, J.. 2018. "Oil palm land conversion in Pará, Brazil, 2006-2014: Evaluating the 2010 Brazilian Sustainable Palm Oil Production Program." *Environmental Research Letters.* 13(3): 1-12

Carley, S., Lawrence, S., Brown, A. Nourafshan, A., **Benami, E.** 2010. "Energy-Based Economic Development." *Renewable and Sustainable Energy Reviews* 15(1): 282-295.

Reports & Other Publications
Becker-Reshef, I., Whitcraft, A., Justice, C., Benami, E., Humber, M., Rejesus. R. 2026. Public Comment in Reesponse to Request for Information on Opportunities, Challenges, and Emerging Areas in Statistical Data, Analysis, and Research at the U.S. Department of Agriculture with NASA Harvest/Acres.

Rodolfa, K., Ho, D.E., Honigsberg, C., Benami E. (2023). Public Comment on U.S. EPA's Draft National Enforcement and Compliance Initiatives for Fiscal Years 2024–2027.

Benami, E., Ho, D.E., McDonough, A. (2020). *Stanford Institute for Economic Policy Research: Policy Brief.* Innovations for environmental compliance: emerging evidence and opportunities.

J. Zuckerman, J. Deason, E. Benami. (2013). "Targeting Proposition 39 to Help California's Schools Save Energy and Money" Climate Policy Initiative report

B. Pierpont, U. Varadarajan, A. Hobbs, E. Benami. (2013). "Improving Solar Policy: Lessons from the solar leasing boom in California" Climate Policy Initiative report

Selected Invited Presentations
2025: VT Global Change Center Spring Forward, University of Michigan, University of Tennessee-Knoxville Baker Policy Center, James Madison University Economics Seminar Series

2024: International Conference of Agricultural Economists (New Delhi, Keynote), Northeastern Agricultural and Resource Economics Association (Workshop Keynote, Measuring and Enhancing Resilience of United States Rural

Communities in the Context of Climate Variability), Kansas State University, Virginia Cooperative Extension, University of Göttingen (Germany), University of Warwick (Data, Information, and the Environment Workshop), American Geophysical Union Fall Meeting (invited speaker)

2023: Arizona State University, University of Minnesota, Agricultural & Applied Economics Association (AAEA) Annual Meeting, Association of Environmental and Resource Economists (AERE) Annual Meeting, Southeastern Workshop on Energy & Environmental Economics and Policy (SWEEEP) at Georgia Tech, Property and Environment Research Center (PERC), Virginia Cooperative Extension, EPA's Office of Compliance National Targeting Center (EPA-State Clean Water Act Joint Community of Practice)

2022: University of Chicago Machine Learning in Economics Workshop, American Geophysical Union (AGU), Online Agricultural and Resource Economics Seminar (OARES), NC Center for Environmental and Resource Economic Policy (CEnREP), Appalachian Power, Virginia Tech CNRE Geography Colloquium, VT Ecological Forecast Project Inaugural Fest and Feast

2020: EPA E-Enterprise for the Environment National Meeting ECOS Webinar For Practitioners, Virginia Tech

2019: The Workshop in Environmental Economics and/or Data Science (TWEEDS), American Geophysical Union (AGU), University of Maryland, UC Berkeley Course on Data, Environment, and Society; California Water Data Science Symposium; UC Davis

2018: University of Leicester, UK; American Geophysical Union (AGU), Association of Tropical Biology and Conservation Annual Meeting, Brazilian Agricultural Research Corporation (EMBRAPA - *in Portuguese*), Federal University of Lavras, Minas Gerais, Brazil (*in Portuguese*)

2016: Brazilian National Institute for Space Research (INPE) in Belém do Pará (*in Portuguese*)

Selected Grants, Fellowships, & Honors

VT Early Career Scholarly Impact Award Nominee	*2025*
Insurance and Climate Finance Co-Lead for NASA Harvest, Co-PI	*2023 - 2028*
VT Alliance for Climate Smart Agriculture, Co-PI (∼$550k share of $80mil grant)	*2023 - 2026*
VT CALS Strategic Plan Integrated Internal Competitive Seed Grants Program, PI ($75,000)	*2023 - 2026*
NASA Land-Cover and Land-Use Change Early Career Scientist Grant, Co-Lead PI (∼$212k of $449,560)	*2020 - 2023*
Stanford Impact Labs Grant for Modernizing Environmental Compliance, Co-PI	*2020 - 2022*
PERC Lone Mountain Summer Fellow	*2023*
Association of Environmental and Resource Economists (AERE) Scholar	*2022*
Rising Environmental Leaders Program, Stanford University	*2018*
Preparing Future Professors Program, Stanford University & Foothill College	*2018*
NSF Dissertation Improvement Grant ($15,945)	*2017*
E-IPER Summer Graduate Research Grant, Stanford University (total $12,000)	*2014 - 2017*
McGee Levorsen Grant, Stanford School of Earth, Energy, & Environmental Sciences ($6,000)	*2014 - 2015*
NSF Graduate Research Fellowship ($96,000 + 3 years tuition)	*2013 - 2017*
Teresa Elms and Robert D. Lindsay IPER Fellowship (total $64,000 + tuition)	*2013 - 2014*
UNC-Chapel Hill Order of the Golden Fleece	*2009*
Eve Marie Carson Scholar, UNC-Chapel Hill (One Year of Tuition and $5,000 of Summer Funding Support)	*2009*
Morris K. and Stewart L. Udall Scholar ($5,000)	*2008*

Selected Professional Experience

Consultant, *Climate Policy Initiative* *06/2016 - 09/2016*
Evaluated strategic opportunities for sustainable land use finance investments for philanthropic partners that have disbursed over $200mil. to address social and environmental impacts of land uses.

Analyst, *Climate Policy Initiative* *12/2010 - 07/2013*

- Conducted interviews and co-wrote report on ways that California public schools can target a newly authorized $2.75bil. state fund for energy efficiency to save energy & money.
- Co-authored report on the role of the leasing model on California's solar deployment and costs.
- Contributed to development of organization's new tropical resource productivity program in Indonesia:
  - Wrote briefs on international tropical forest conservation programs, the eligibility of oil palm as a feedstock under the U.S. Renewable Fuel Standard, and ecosystem assessment processes.
  - Co-drafted $2mil. grant on joint agricultural production and ecosystem protection project in Indonesia.

Teaching

Remote Sensing in the Social Sciences *Fall 2021, 2022, 2024*
Instructor of Record, Masters/PhD Graduate Course, Virginia Tech

Climate Risk Management *Fall 2023*
Instructor of Record, Upper Level Undergraduate Course, Virginia Tech

Environmental and Sustainable Development Economics *Spring 2021 & 2022*
Instructor of Record, Undergraduate Course, Virginia Tech

The Economics of Index Insurance *Summer 2019*
Co-Instructor of Short Course for Remote Sensing Specialists in Nairobi, Kenya

Environmental Governance *Spring 2018*
Teaching Assistant, Stanford University

ECON/ESS 106/206: World Food Economy *Spring 2016*
Teaching Assistant, Stanford University

Honors Seminar on Energy in Transition: De-Carbonizing America *Spring 2010*
Teaching Assistant, UNC - Chapel Hill

NC Fellows Leadership Development Sophomore Seminar *Fall 2009*
Teaching Assistant, UNC - Chapel Hill

Student and Postdoc Advising

Postdoctoral Scholar Mentor
Ella Kirchner (2025-present, Virginia Tech Agricultural and Applied Economics, VT Presidential Postdoctoral Fellow)
Michael J. Cecil (2024-present, at University of Maryland, Geographical Sciences/NASA Harvest)

Co-advisor, Degree and Completion Date:
Anne Bell Carroll, PhD Agricultural and Applied Economics, Expected ∼2029
Armine Poghosyan, PhD Agricultural and Applied Economics, 2024
Ram Ramanujan, MS Computer Science, 2024

Committee Member, Degree and (Expected) Completion Date:
Alex Saunders, PhD Geography, Development, and Environment (University of Arizona), Expected ∼2027
Matthew Mair, PhD, Agricultural and Applied Economics, Expected May 2028
Nitheshnirmal Sadhasivam, PhD Geosciences, Expected ∼2027
Yuetong Zhang, PhD Agricultural and Applied Economics, August 2025
Kristen Swedberg, PhD Agricultural and Applied Economics, 2024
Maguette Sembene, MS Agricultural and Applied Economics, 2023

Service & Community Involvement

Journal Referee (selected): *Nature Communications; Journal of Environmental Economics and Management; Journal of Development Economics; American Journal of Agricultural Economics; Nature Communications Earth & Environment; Applied Economic Perspectives and Policy; Agricultural Economics; Global Food Security; Public Administration; NeurIPS, Land Use Policy; Climatic Change; QOpen; AGU Advances; Environmental Research Letters*

Grant Reviews: NSF; CGIAR; USAID Markets, Risk, & Resilience Innovation Lab; VT Global Change Center Graduate PhD Fellowship; VT Presidential Postdoc Fellowship

Abstract Submission Reviewer: Association of Environmental and Resource Economists (AERE), Agricultural & Applied Economics Assoc. (AAEA) & European Assoc. of Agricultural Economists (EAAE)

Co-convener at the American Geophysical Union (2019-2025)
Applications at the Intersection of Science, Practice, and Policy to Proactively Address Natural Hazard Risk (2025); Applications of Science, Practice, and Policy to In(en)sure Sustainable Development Through Risk Transfer (2023); Transferring Risk: Bridging science, practice and policy to in(en)sure sustainable natural peril risk transfer/financing applications (2022); Bridging the Gap Between Science & Practice to Improve Understanding of Natural Peril Risk For Risk Transfer & Risk Finance (2021); Innovations in Risk Transfer Solutions using Earth Observations, Weather Data, Physical Models, and Short to Long Term Forecasts (2020); Advances in remote sensing, machine learning, and economics to improve risk management and evaluate impacts in socio-environmental systems (2019)

University Service:
Search Committees:

1. VT College of Agricultural and Life Sciences Associate Research Dean and Director of the Virginia Agricultural Experiment Station (2022-2023)
2. AAEC Research Scientists, Alliance for Climate Smart Agriculture (2024-2025)
3. AAEC/NASA Harvest Research Associate/Postdoctoral Scholar (2023-2024) – Search Chair
4. AAEC Data Science for the Public Good Research Assistant Professor (2023)
5. AAEC Computational Economics Search Committee (2021-2022)

Department Committee Service: Diversity and Inclusion (2020-2021), Seminar Speakers (2021 - present), VT AAEC Graduate Advisory (2022-present); Communication (2022 - 2024)

Languages*

English, native; **German**, advanced (C1 - C2), scored "very good/sehr gut" on Zertifikat Deutsch für den Beruf (B2); **Brazilian Portuguese**, intermediate - advanced (B2); **Spanish** & **French**, basic - intermediate (A2 - B1)

**Letter scale corresponds to Common European Framework of Reference for Languages*

Professional Affiliations

Agricultural and Applied Economics Association, American Geophysical Union, Association of Environmental and Resource Economists, International Association of Agricultural Economists (IAAE)

Additional Skills

Proficient user of R, LaTeX, Google Earth Engine, GitHub, ArcGIS, Stata

Last updated: June 2026