John M. Morehouse, Ph.D.

Contact: : 541-556-6704 | : john.morehouse7@gmail.com | : Personal Website
Technical Skills: R, Python, SQL, Policy Development, Climate Risk Analysis

EMPLOYMENT

Freddie Mac August 2023 - June 2025
Quantitative Analyst Technical Lead (Climate Risk) *Promoted from Senior in Sept. 2024*

- Led cross-divisional climate risk initiatives and served as technical subject matter expert on natural disaster risk assessment, translating complex catastrophe modeling insights into actionable policy recommendations for executive leadership.
- Designed and implemented comprehensive methodology integrating flood, hurricane, and wildfire risk data with financial models to assess regional impacts across diverse geographic contexts, directly informing risk management strategies for properties nationwide.
- Developed scalable risk assessment frameworks for natural disaster impacts on financial outcomes, collaborating with business and modeling teams to integrate findings into enterprise-wide credit risk models affecting multi-trillion dollar portfolio.
- Conducted analysis of energy efficiency building codes and their impacts on borrower financial outcomes and property valuations, demonstrating ability to bridge technical analysis with policy implementation considerations.
- Managed technical workstreams and mentored junior analysts while ensuring quality delivery of complex projects, including deployment of cloud computing infrastructure and version control systems for team of 10+ people.

Freddie Mac August 2022 - August 2023
Senior Quantitative Analyst (Model Risk Management)

- Conducted independent validation and audit of mission-critical financial models affecting over $2 trillion in assets, ensuring regulatory compliance and identifying policy implementation gaps.
- Collaborated with expert model developers and senior management to provide technical guidance on model-related issues, translating complex technical concepts into practical recommendations for diverse stakeholder audiences.

University of Oregon September 2017 - June 2022
Graduate Employee

- Taught undergraduate courses in urban economics and econometrics (course materials), developing ability to communicate complex technical concepts to diverse audiences.
- Conducted research on spatial economics, climate policy, and environmental regulation with a focus on heterogeneity in policy impacts across geographic contexts.

Federal Reserve Bank of San Francisco July 2021 - August 2021
Thomas J. Sargent Dissertation Intern

- Conducted policy-focused research on climate economics and presented findings to economists.

Vivid Economics (acquired by McKinsey in 2021) July 2020 - December 2020
Intern → Freelance Economist

- Led development of global and regional energy demand projections for first version of Vivid's energy systems model.
- Developed cost estimation strategy for the UN's Sustainable Development Goals using a CGE model.

RESEARCH PAPERS

Publications

- Downwind and Out: The Strategic Dispersion of Power Plants and Their Pollution
  with Ed Rubin Paper, Slides, Replication Package
  Journal of the Association of Environmental and Resource Economists, 2025

- The Environmental Cost of Land-Use Restrictions
  with Mark Colas Paper, Minneapolis Fed Coverage
  Quantitative Economics, 2022. 13(1): 179-223.

Working Papers

- Labor Market Power in a Spatial Equilibrium
  with Claudio Luccioletti and Sophie Mathes Draft

- The Distributional Impacts of Climate Changes Across US Local Labor Markets
  with Emmett Reynier Draft

- Carbon Taxes in Spatial Equilibrium
  Won "Best Graduate Student Research Paper" award (University of Oregon) Draft

- In Search of Peace and Quiet: The Heterogeneous Impacts of Short-Term Rentals on Housing Prices
  with Brett Garcia and Keaton Miller Draft, Slides

EDUCATION

University of Oregon

Ph.D., Economics (Specialization: Environmental & Urban Economics)	*June 2022*
M.S., Economics	*December 2018*
B.S., Economics & Minor in Mathematics	*June 2016*

TECHNICAL COMPETENCIES

Catastrophe Risk Modeling: Probabilistic modeling, hazard exposure analysis, Probable Maximum Loss (PML) assessments, climate scenario modeling

Programming & Analysis: R, Python, SQL, Julia, SAS, GIS analysis, statistical modeling, machine learning

Industry Knowledge: Insurance portfolio analysis, regulatory compliance (model risk management), financial risk assessment, climate-related financial disclosures

Communication: Technical report writing, client presentations, cross-functional collaboration, business development support