

Sean O'Connor, Ph.D.

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SUMMARY

Senior climate risk economist with 9+ years of experience in quantitative analytics, demographic modeling, and climate risk assessment frameworks. Proven expertise in developing forward-looking exposure models, cohort-based analytical approaches, and translating complex climate risk analytics into strategic business intelligence for senior leadership. Deep technical proficiency in Python, R, and SQL with extensive experience in regulatory-compliant risk modeling and cross-functional stakeholder management.

EXPERIENCE

Senior Economist June 2021 — Present
Federal Housing Finance Agency *Boston, MA*

- Led development of comprehensive climate risk exposure models integrating physical and transition risk metrics across diverse geographic portfolios, directly applicable to P&C exposure forecasting and demographic analysis.
- Designed cohort-based climate risk models (PD, LGD) with regulatory compliance frameworks, establishing senior-level risk governance processes aligned with federal banking supervision standards.
- Built forward-looking climate scenario models using Python and advanced econometric techniques, enabling real-time risk assessment and supporting C-suite decision-making across multiple business units.
- Developed geospatial risk visualization dashboards incorporating climate-adjusted scenarios and demographic projections, translating complex quantitative analytics into actionable insights for executive leadership.
- Managed cross-functional regulatory examination processes with federal agencies, leading senior teams in delivering comprehensive climate risk documentation and strategic recommendations.
- Applied innovative quantitative analytical approaches to large-scale climate risk problems with significant impact on current and future enterprise risk strategy.

Research Assistant and Lecturer Aug 2016 — May 2021
University of Oklahoma *Norman, OK*

- Conducted advanced econometric modeling on climate risk exposure using R and large demographic datasets, focusing on real estate climate risk and population migration patterns under varying economic scenarios.
- Developed curriculum for quantitative risk management, demonstrating ability to translate complex analytical methodologies for diverse audiences.
- Authored peer-reviewed publications in climate economics, showcasing expertise in demographic analysis and population studies applied to climate risk.

Financial Analyst Jul 2014 — Jan 2016
Bob Moore Auto Group, L.L.C. *Oklahoma City, OK*

- Designed data-driven forecasting models using SQL and advanced analytics, optimizing inventory strategies and improving operational efficiency by 15%
- Developed automated risk reporting workflows incorporating data quality controls and validation procedures, supporting compliance requirements.

EDUCATION

University of Oklahoma Norman, OK
Doctor of Philosophy (Ph.D.), Economics Aug 2016 — May 2021

University of Massachusetts Amherst Amherst, MA
Bachelor of Arts, Economics Sep 2009 — May 2014

TECHNICAL SKILLS

- **Advanced Analytics:** Python, R, SQL, Statistical Modeling, Econometrics, Machine Learning
- **Climate Risk Modeling:** Physical Risk Assessment, Transition Risk Analytics, Scenario Analysis
- **Data Visualization:** Geospatial/GIS Technologies, Dashboard Development, Executive Reporting
- **Regulatory Compliance:** Model Risk Governance, Documentation Standards, Validation Frameworks