# Ryan K. Vaughn, PhD | Strategy | Economics | Climate Risk

## Summary

I bridge the worlds of climate risk modeling, economics, insurance, and finance. I've built my career translating complex climate analytics into simple and compelling visual stories for clients, executives, regulators, and product teams. My comparative advantage lies in approaching problems like a teacher. I excel at communicating technical climate data within narratives and visualizations that help drive understanding and action. I thrive when leading quantitative teams to deliver high-ROI analytical solutions in environments where data needs to inform strategy quickly.

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## Technical Skills

- Model Development and Analytics: Python, R, SQL, Tableau
- Scenario Analysis
- Catastrophe (CAT) Modeling: KatRisk, Verisk, RMS
- Climate Models: First Street Foundation, Jupiter Intelligence
- Spatial Data Analytics: Python, QGIS, ArcGIS
- Agile Project Management
- Econometrics

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## Professional Experience

### Climate Risk Director (08/2025 - Present), USAA, P&C

- Charted the strategic course for climate risk management that directly powered business initiatives with practical, implementable solutions.
- We are just getting started, more to come soon….

### Climate Risk Director (06/2022 - 08/2025), Freddie Mac, Single-Family

- Architected and deployed Freddie Mac's physical climate risk scenario analysis from the ground up, spanning multiple perils and time horizons to create a comprehensive risk landscape.
- Crafted quantitative and qualitative climate risk assessments for business initiatives that balanced technical precision with strategic relevance
- Unified disparate catastrophe models (KatRisk, RMS, and Verisk) and climate models (Jupiter, First Street) into a coherent analytics framework, developing robust model selection criteria and governance protocols that withstood executive scrutiny.
- Identified critical data blindspots in climate and catastrophe modeling for real estate portfolios and developed practical solutions to close these gaps.
- Served as the primary bridge between Freddie Mac and FHFA, ensuring transparent communication and compliance while advancing our climate-risk analytics capabilities.

### Technical Product Manager, Climate Finance, (04/2021 - 06/2022), Jupiter Intelligence

- Utilized Jupiter's climate data combined with client and third-party datasets to model the financial impacts of climate change for a diverse set of clients.
- Developed tailored climate risk dashboards using Python and Tableau. My efforts in data visualization and storytelling were responsible for securing the firm's largest contract at the time.
- Led multiple ad-hoc projects, including studies of strategic grape placement for wineries, heat stress in Sierra Leone, and drought risks in Colombia.

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- Worked with technology and research teams in an agile framework to translate prototype econometric models into production, scalable, cloud-based models.

**SVP, Collateral Valuations (01/2011 - 06/2022), Credit Risk, Bank of America**

- Led a quantitative team responsible for model development for predictive valuation models using R, Python, SQL, C++, and C#
- Provided economic insights and expertise on real estate market trends and valuation questions.
- Brought multiple applications through the entire lifecycle management process, including oversight from federal regulators, internal model governance, model development (IT), and quality assurance (QA).
- Responsible for creating ROI timelines for new/revised models.
- Championed bringing climate risk assessments into real estate collateral evaluations.
- Supported efforts to prepare a framework for effective TCFD reporting and Climate Risk mitigation.

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**Education & Certifications**

- University of Maryland - Climate Finance and Risk Management Certificate, 03/2025
- CEEM (Verisk), 03/2024
- GARP SCR certification, 10/2021
- PhD, Environmental and Urban Economics, UCLA
- MA, Economics, San Francisco State University
- BA, Economics & Mathematics, UC San Diego

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**References available upon request**

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