

## Elizabeth Johnston, Ph.D.

Earth and Geospatial Scientist with over 10 years of research experience. Recent Stanford University graduate with a Ph.D. in Earth System Science. Previously served as an Energy Policy Analyst. Diverse technical skillset, including geospatial analysis, multivariate statistics, and causal inference.

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## Education

**Ph.D., Earth System Science** | Stanford University

**M.S., Marine Science** | University of San Diego

**B.S., Earth & Environmental Science** | Furman University

## Experience

**Doctoral Researcher** | Stanford University | September 2017 - April 2024

- Designed reproducible workflows for data modeling and visualization using high performance computing to improve efficiency
- Applied principles of econometrics to infer causality
- Analyzed complex datasets to understand patterns and trends
- Presented at international conferences and published peer-reviewed journal article that was selected for [press release](#)

**Instructor** | University of San Diego | August 2015 - May 2017

- Taught lab sections for Natural Hazards (104L; 4 semesters) and Environmental Geology (485L; 1 semester)
- Assisted with curriculum development by creating and leading lectures, practical exercises, and field trips

**Research Assistant** | University of San Diego | May 2015 - Aug. 2016

- Ensured proper safety protocol and data collection techniques, including quality assurance/quality control (i.e., QA/QC)
- Resolved technical problems with laboratory instrumentation (e.g., XRF) in the Environmental and Oceans Sciences Department

**Energy Policy Analyst** | University of San Diego | December 2013 - May 2015

- Developed greenhouse gas inventories to estimate emissions among the electricity, transportation, waste, water, and agricultural sectors
- Co-authored climate action plans that quantified potential emissions reductions and made recommendations for climate policies

## Computational skills

- **Programming Languages:** proficient in R, experience with C and MATLAB, beginner in Python
- **Data Visualization:** Adobe Creative Suite (e.g., Illustrator), Microsoft Office Suite (e.g., Excel), Google Suite (e.g., Sheets)
- **Geospatial Analysis & Remote Sensing:** ArcGIS, Google Earth/Engine

## **Publications**

Johnston, E.C. (2024) Impact of climate variability on landslide hazard in the western United States. Doctoral Dissertation. Stanford University. <https://searchworks.stanford.edu/view/in00000069376>

Johnston, E.C., Davenport, F.V., Wang, L., Caers, J.K., Muthukrishnan, S., Burke, M., & Diffenbaugh, N.S. (2021) Quantifying the effect of precipitation on landslide hazard in urbanized and non-urbanized areas. Geophysical Research Letters, 48, <https://doi.org/10.1029/2021GL094038>

## **Professional societies**

American Association for the Advancement of Science (AAAS), American Geophysical Union (AGU), Geological Society of America (GSA)

## **Conference presentations** (first-authored)

AGU Fall Meeting 2021 | "Effect of Wildfire Severity on the Longevity of Precipitation-Triggered Landslide Hazard" | Poster

AGU Fall Meeting 2020 | "Impact of urbanization on the relationship between antecedent precipitation and landslides: evidence from the San Francisco Bay" | Talk

AGU Fall Meeting 2019 | "The combined influence of antecedent rainfall and urbanization on landslides: an empirical approach based on data for the Pacific Coast of the United States" | Talk

AGU Fall Meeting 2018 | "Multi-scale signatures of climate change on landslide susceptibility: a case study for the Pacific Coast of the United States" | Poster

Climate Change Impacts and Responses 2015 | "Urban Climate Action Planning: Demonstration of GHG Mitigation Tool for Analysis of Local Energy and Climate Policies" | Talk

GSA Annual Southeastern Section Meeting 2013 | "Landslide Hazard Zonation in the Mountain Bridge Wilderness Area Using GIS-Based Modeling" | Poster

GSA Annual Southeastern Section Meeting 2011 | "Particulate organic carbon transport by headwater streams in the piedmont of South Carolina" | Poster

## **Outreach & service**

2023 | PhD Pathways Advisory Committee | Stanford Career Education

2022 | Mentor | Girls in STEM

2021 | Service Award for Diversity, Equity, and Inclusion | Stanford University

2019 | Organizing Committee | Women in Data Science @ Stanford Earth

2018 – 2019 | Executive Board | Stanford University Women in Earth Science

2016 | Instructor | National Ocean Sciences Bowl

2013 | Volunteer Research Assistant | Scripps Institution of Oceanography

2013 – 2015 | Research Assistant | Climate Education Partners