

Adam X. Andresen
111 Academy Street, Newark, DE, 19716
andresen@udel.edu

Education

Expected May 2025 **Ph.D.** Disaster Science and Management, Joseph R. Biden Jr. School of Public Policy and Administration, University of Delaware

Co-Chairs: Dr. James Kendra and Dr. Rachel Davidson

2020 **M.S. Sustainability**, Arizona State University, *Summa Cum Laude*

Scientific Paper: “Understanding the Social Impacts of Power Outages: A Case Study Comparison across U.S. Cities”

Committee: Dr. David Hondula (chair), Dr. Sara Meerow, and Dr. Melanie Gall

2018 **B.S. Earth Sciences: Meteorology**

B.S. Science & Technology Multidisciplinary Studies, *Summa Cum Laude*

Minor in GIS/Emergency Management

California University of Pennsylvania

Honors Thesis: “A Hazard Vulnerability Assessment for the State of Ohio from 1960-2016”

Chair: Dr. Chad Kauffman

Research Interests

Natural hazards

Societal impacts of infrastructure failures

Adaptation

Household decision-making

Publications

Andresen, A., Kurtz, L. C., Hondula, D., Meerow, S., & Gall, M. (2023). Understanding the social impacts of power outages in North America: A systematic review. *Environmental Research Letters*. <https://doi.org/10.1088/1748-9326/acc7b9>

Andresen, A., Kurtz, L. C., Chakalian, P.M., Hondula, D., Meerow, S., & Gall, M. (Under review). Understanding Household Power Outage Experiences: A Case Study Comparison across U.S. Cities. *Energy Research & Social Science*.

Publications (In Progress)

Texans Strong Social Capital and the Perceived Lack of Leadership during Winter Storm Uri
When Water Infrastructure Fails: Insights from Water System Stakeholders

Fellowships and Grants Awarded

2021 Corlett Nagel Family Disaster Research Center Enrichment Fund Fellowship (\$3,500)

- Funding awarded to complete an internship with the Disaster Research Center as a Research Assistant.

2019 Culminating Experience Grant (\$280)

- Funding used to attend the American Meteorological Society meeting in Phoenix, AZ.

Graduate Grant for Research in Urban Resilience Program (\$2,000)

- Funding used for compensating workers that completed a survey through Amazon’s Mechanical Turk service to understand individual and household power outage experiences.

Conferences (*italics* indicates presenter if I did not present)

Adam X. Andresen. “In the Bleak Midwinter: The Effects of Power Outages Caused by Winter Storm Elliott.” A presentation given at the 104th Annual Meeting of the American Meteorological Society, January 2024.

Adam X. Andresen. “The Impacts of Power Outages on an Electricity Dependent Society: A Systematic Review.” A poster presentation given at the American Society for Civil Engineers INSPIRE conference, November 2023.

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Adam X. Andresen, James Kendra, Rachel Davidson. “When Infrastructure Fails: Insights from Critical Infrastructure Emergency Managers.” Paper presented at the annual meeting of the Association for Public Policy Analysis and Management, November 2023.

Adam X. Andresen. “Texans Strong Social Capital and the Perceived Absence of Leadership during Winter Storm Uri.” Paper presented at the annual meeting of the American Association of Geographers, March 2023 (Sponsored by the Hazards, Risks, and Disasters Specialty Group).

Adam X. Andresen. “Texans Strong Social Capital in the Perceived Absence of Leadership in the Face of Winter Storm Uri”. A presentation at the annual meeting of the Middle States Division of the American Association of Geographers, October 2022.

Adam X. Andresen, Liza Kurtz, Paul Chakalian, David Hondula, Sara Meerow, Melanie Gall. “Understanding Household Experiences During Power Outages in the United States.” A poster presentation presented at the Natural Hazards Workshop, June 2021.

Adam X. Andresen, Liza Kurtz, David Hondula, Sara Meerow, Melanie Gall. “Impacts of Power Outages on an Electricity Dependent Society: A Systematic Review of the Literature” A presentation at the annual meeting of the Association of Environmental Social Sciences, June 2021.

Adam X. Andresen, Liza Kurtz, David Hondula, Sara Meerow, Melanie Gall. “Understanding Household Experiences During Power Outages in the United States.” Paper presented at the Natural Hazards Workshop, June 2021.

David M Hondula, Matthew C Roach, Lynn Harlow-Smith, Hana Putnam, **Adam X. Andresen**, Mary Orta, Carmen Tirdea, Kaitlyn Snyder. A Triangulated Evaluation of Cooling Center Effectiveness for Protecting Public Health in Yuma, Arizona. Paper presented at the annual meeting of the American Meteorological Society, January 2020.

Adam X. Andresen. “A Hazard Vulnerability Climatology for the state of Ohio from 1985-2014.” Poster presented at the annual meeting of the American Meteorological Society, January 2018.

Adam X. Andresen. “A Climatology of Air Mass Types in Pittsburgh, PA from 1951-2010.” Poster presented at the annual meeting of the National Weather Association, September 2016.

Adam X. Andresen. “A Descriptive Climatology of Nocturnal Tornadoes in Ohio, 1950-2012.” Poster presented at the annual meeting of the National Collegiate Honors Council, November 2015.

Teaching and Student Supervision

Teaching Assistant, University of Delaware, Joseph R. Biden Jr. School Public Policy and Administration (2020 - 2021)

- Intro to Sociology instructed by Dr. Sarah DeYoung
- Disasters, Vulnerability, and Development instructed by Dr. Sarah DeYoung
- Public Policy Analysis instructed by Dr. A.R. Siders

Teaching Assistant, Arizona State University, School of Sustainability (2018-2019)

- Sustainable Cities instructed by Dr. Sara Meerow
- Community of Scholars instructed by Dr. Jennifer Vanos

Service

2023 Biden School Student Association – President

Reviewer: Natural Hazards

Reviewer: International Journal of Disaster Risk Reduction

2022 Biden School Student Association – President

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Biden School Space Committee (appointed by the Dean)

International Association of Emergency Managers, University of Delaware chapter – Vice President

- Chapter was awarded Student Chapter of the Year 2022-2023

2021 Reviewer: International Journal of Biometeorology

Biden School Student Association – Disaster Science and Management Ph.D. Program Representative

Disaster Research Center – Space Committee

2020 Reviewer: Graduate Grant for Research in Urban Resilience Program

Campus or Departmental Talks and Guest Lectures

2023 “Disasters and Politics.” Guest lecture for ENEP 426 “Climate Change Policy” instructed by Dr. A.R. Siders.

2022 “Hospitals and Water Outages: How do they Adapt?” Guest lecture for DISA 670 “Issues in Disaster Response” instructed by Dr. James Kendra.

2021 “The Societal Impacts of Power Outages”. Guest lecture for SOCI 471 “Disasters, Vulnerability and Development” instructed by Dr. Sarah DeYoung.

“Heat, Infrastructure, and Adaptation in Phoenix, AZ”. Guest lecture for SPPA 419/619 and GEOG 419/619 “Climate Change Adaptation Policy & Practice” instructed by Dr. A.R. Siders.

2020 “Understanding the Social Impacts of Power Outages: A Case Study Comparison across U.S. Cities”. April 8. Julie Ann Wrigley Institute of Sustainability Seminar Series.

2018 “What does the process of completing an undergraduate honors thesis look like?” October 17. Guest presentation for Honors Recitation students registered in SOS 111/PUP 190 “Sustainable Cities”.

“United States of Disaster Guestimates.” Sustainability Series, Julie Ann Wrigley Institute of Sustainability. Tempe, AZ, November 16. Panelists: **Adam Andresen**, Melanie Gall (Co-Director: Center for Emergency Management and Homeland Security, ASU), Sara Meerow (Assistant Professor, ASU), Ken Waters (Warning Coordination Meteorologist, National Weather Service, Phoenix, AZ)

Project/Research Experience

University of Delaware, Newark, DE

Research Assistant

LEAP-HI: Embedding Regional Hurricane Risk Management in the Life of a Community: A Computational Framework

Large-scale CoPe: Coastal Hazards, Equity, Economic prosperity, and Resilience (CHEER)

Fall 2023-Spring 2024

- Supervised by Dr. Joseph Trainor
- Created synthesis of knowledge generated about human behavior from the project’s history
- Worked in an interdisciplinary team of over 70 people
- Creating household survey to understand the role of timing of insurance payout and the consequences of delayed payment.

CRISP Type 2/Collaborative Research: Defining and Optimizing Societal Objectives for the Earthquake Risk Management of Critical Infrastructure

Spring 2023-Summer 2023

- Supervised by Dr. James Kendra and Dr. Rachel Davidson
- Created survey in Qualtrics
- Collaborated with Qualtrics on survey deployment.

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- Monitoring data collection to ensure high data quality
- Analyzed survey data

Applied Technology Council-150: A Framework to Establish Lifeline Infrastructure System Service Recovery Times for Seismic Resilience

Spring 2022-Fall 2022

- Supervised by Dr. James Kendra
- Recruited participants for Zoom interviews on how water failures would impact their organization's functioning.
- Created interview guide when discussing with participants
- Analyzed qualitative data from generated interview transcripts
- Assisted in drafting technical report submitted to funders

Arizona State University, Tempe, AZ

Research Assistant

Summer 2019, Spring 2020 – Summer 2020

- Co-supervision from Dr. David Hondula and Dr. Jennifer Vanos
- Created and disseminated an online survey in Qualtrics that surveys residents in Yuma County, Arizona and their knowledge of how to keep cool and where they can go to stay cool.
- Planning committee member for the organization of the 2020 Arizona State Heat meeting
- Worked with temperature instrumentation deployed in the field and ensuring quality assurance with the data
- Assisting with manuscript development and organization

National Weather Service, State College, PA

Research Assistant

Spring 2018 – Summer 2018

- Constructed database using archived Radar imagery over a 10-year period.
- Observed and noted any occurrences of snow squall events that occurred within the state of Pennsylvania.
- Maintained contact with the Meteorologist-in-Charge (MIC) and other staff members at the office.
 - Networked with the MIC from a contact that was created at a conference and expressed interest in the project there.
- Results presented at the International Association of Emergency Managers 2018 meeting in Grand Rapids, MI.

American Red Cross, Pittsburgh, PA

Spring 2017

- Created a new "high fire" index for the remainder of the Home Fire Campaign.
- Used GIS software to analyze and locate the areas, by their zip codes, where the greatest risk for fires occurred.
 - This was done based off a calculation using data from the American Red Cross Client Assistance System (CAS) and a zip code shapefile from the City of Pittsburgh Housing office.
- This project was completed to fulfill the requirements for the Environmental Applications in GIS class.

Pennsylvania Audubon Society

Fall 2016

- Created an index, using GIS software, to show members of the society where they should look into creating future "bird towns".
 - Bird towns are areas that are suitable for native birds to live.
- These indices were created per each group of students' thoughts with guidance provided by the society as to what qualifies as a "bird town".
- Findings were presented in PowerPoint presentations and sent to members of the Audubon Society for review.

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iStand

Spring 2016

- Completed to show awareness of international child abductions.
- Using GIS software, showed what states in the United States experienced the most cases of international child abductions.
 - Also showed what countries the children were taken to.
- Presented the findings of this research to members of Congress in Washington D.C.

Washington County Chamber of Commerce, Washington, PA

Spring 2016

- Assessed various areas throughout Washington County.
- Analyzed remote sensing imagery to identify the areas where recreational facilities exist.
- Verified the locations by physically traveling to the sites and taking images of the conditions of the equipment available at each site.
- Presented the findings to members of the Chamber of Commerce and the President of California University of Pennsylvania, also a member of the Chamber of Commerce.

Work Experience

2023 **University of Delaware Environmental Health and Safety, Office of Emergency Management, Newark, DE**
Emergency Management Specialist, June 2023 – Present

- Contribute to efforts of improving emergency preparedness at the University of Delaware
- Updated the University's Emergency Operations Plan
- Assisted with the University's Active Shooter exercise
- Certified the University as a StormReady University and a Weather Ready Nation Ambassador

2017 **Pittsburgh Office of Emergency Management and Homeland Security, Pittsburgh, PA**

Emergency Management Specialist Intern, June 2017 – August 2017

- Created and disseminated weather forecasts for upcoming special events
- Completed Protected Critical Infrastructure Information (PCII) and Chemical Vulnerability Information (CVI) trainings and several FEMA courses
 - IS-100.B: Introduction to Incident Command System
 - IS-200.B: ICS for Single Resources and Initial Action Incidents
 - IS-700.A: National Incident Management System (NIMS) An Introduction
 - IS-800.B: National Response Framework, An Introduction
 - IS-860.C: The National Infrastructure Protection Plan, An Introduction
 - IS-921.A: Implementing Critical Infrastructure Security and Resilience

2016 **American Red Cross, Pittsburgh, PA**

Disaster Cycle Services Intern & Home Fire Campaign Coordinator, June 2016-August 2016

- Established and maintained partnerships with fire departments in the Pittsburgh area.
- Maintained chapter inventory and completed orders when necessary.
- Organized events to spread the awareness of home fires in "high fire" areas.
- Recruited volunteers to assist with events.

2015 **California University Welcome Center, California, PA**

Student Ambassador, May 2015-May 2018

- Provided informative tours of campus to interested students
- Assisted with incoming students' registration and orientation process
- Performed various office duties to keep the Welcome Center running efficiently

Professional Memberships

American Meteorological Society (2014-current)

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National Weather Association (2015-2018)

International Society of Biometeorology (2020-2021)

International Association of Emergency Management (2020-2021, 2022-2023)

American Society of Civil Engineers, Student Member (2022-current)

Association of Public Policy, Analysis, and Management (2023-2024)