

Cristina Muñoz

Department of Geographical & Sustainability Sciences, University of Iowa
216 Jessup Hall, Iowa City, Iowa 52242 • Cell: 213-284-2538
Email: cristina-munoz@uiowa.edu • Web: [linkedin.com/in/cristinamunoz](https://www.linkedin.com/in/cristinamunoz)

RESEARCH INTEREST

Disaster recovery, social vulnerability, resilience indicators, flood hazards, geospatial modeling, social network analysis

EDUCATION

University of Iowa (UI), Iowa City, IA. **Expected May, 2018**
Ph.D. in Geography, Advisor Dr. Eric Tate

Bryn Mawr College, Bryn Mawr, PA. **May 2012**
B.A. in Growth & Structure of Cities & Environmental Studies

RESEARCH

Department of Geographical & Sustainability Science, UI **2013 - 2015**

Flood Recovery, Property Acquisition and Equity: The Geography of Federal Disaster Aid

Investigates how federal aid is distributed post a flood disaster to determine levels of recovery both across space and varying populations with regards to social vulnerability. Research results indicate that two federal programs providing aid for property acquisitions (home buyouts of flooded properties) distribute aid differently across space and time, which results to inequitable distribution of aid for low-income and Hispanic populations.

Department of Geographical & Sustainability Science, UI **2012- 2014**

Uncertainty and Sensitivity Analysis of the HAZUS-MH Flood Model, PI. Dr. Eric Tate

HAZUS-MH is a GIS-based program to predict the flood damage cost given a flood stage scenario. This study evaluates the reliability of this prediction through the method of global uncertainty analysis. Our results show that data investments on the model are not equal. I created and ran the 36 HAZUS-Models for the sensitivity analysis, created figures and contributed to the manuscript development.

PUBLICATIONS

Muñoz, C. E., Tate, E. (2016). *Unequal Recovery? Property Acquisition and Federal Disaster Recovery Funds*. Manuscript submitted for publication.

Tate, E., **C. Muñoz**, and J. Suchan (2014). "Uncertainty and Sensitivity Analysis of the HAZUS-MH Flood Model." *Natural Hazards Review*: 04014030. doi:10.1061/(ASCE)NH.1527-6996.0000167.

TEACHING

- Teaching Assistant, Contemporary Environmental Issues, (GEOG:1070) Spring 2015-2016
- Teaching Assistant, People and the Environment, (ANTH:1046) Fall 2014

PUBLIC SCHOLARSHIP

Relief & Resilience Midwest Disaster Program, Margaret A. Cargill Foundation 2015-2016

Social Network Analysis of Interorganizational Collaboration for Disaster Resilience

Philanthropic programming for emergency response and disaster preparedness is an important component of community resilience. Measuring the impact of these programs can help develop community resilience and resilience indicators. In this study, interorganizational collaboration and coordination relationships are measured across disaster response and relief programs. I developed the survey and conducted the social network analysis required for understanding current relationships of these programs and find network gaps.

Geoinformatics for Environmental & Energy Modeling & Prediction (GEEMaP), UI 2014-2015

Modeling and Predicting Mine Sites for Hydraulic Fracking Silica Sand in North Eastern Iowa

This research aimed to determine potential locations of frac-sand mining sites in Winneshiek County, Iowa. We collaborated with the Iowa Initiative for Sustainable Communities (IISC). Our research findings contributed to a broader effort to support our community partner, Winneshiek County make informed decisions about frac-sand mining. Within this project, my contribution involved the creation of the GIS model that integrates and curates geospatial data for both Wisconsin and Iowa. GEEMaP is a UI interdisciplinary research team funded by NSF through the Integrative Graduate Education & Research Traineeship (IGERT).

College of Public Health: Community & Behavioral Health, UI

2013-2015

Housing and Health: A Community Based Participatory Research (CBPR)

This study was developed under the framework of CBPR, which entails equal partnership and collaboration among researchers and community partners. The purpose of the study was to understand the relationship between housing and health. I planned and conducted five community workshops where I led participatory activities that involved community members to list multiple health issues of interest and as a collective prioritize them. I also lead three focus groups called photovoice because of the use of photographs to elicit conversation. From this pilot study, we identified issues dealing with poverty, mobile housing, and citizenship status, which all contribute to low house quality and health concerns.

ASSOCIATIONS

- Association of American Geographers (AAG)
- The William Averette Anderson Fund (BAF)
- Mellon Mays Undergraduate Fellowship (MMUF)

EXTERNAL AWARDS

- J. X. Kasperson Student Paper Award Session at the AAG annual meeting, 2014.
- Ford Foundation Fellowship Program, Pre-doctoral Research (Honorable Mention), 2013.
- NSF-IGERT (Integrative Graduate Education and Research Traineeship), 2012-2014.
- CIC SROP (Summer Research Opportunities Program) Fellowship, 2011.

INTERNAL AWARDS

- Obermann Graduate Fellowship, Graduate Institute on Engagement and the Academy, 2015.
- CGRER (Center for Global & Regional Environmental Research) Travel Grant, 2013.
- Mellon Mays Undergraduate Fellowship, Bryn Mawr College, 2010-2012.

LEADERSHIP

Student Council Executive Board, The William Averette Anderson Fund 2015-present
Mentor, Big Brother Big Sister of Johnson County 2012-present
Consultant, Margaret A. Cargill Foundation - Midwest Disaster Response & Recovery 2015-2016

CONFERENCE PRESENTATIONS

Muñoz, Cristina. *Flood Mitigation, Property Acquisition, and Equity: The Geography of Federal Disaster Aid.* Annual Natural Hazards Research & Applications Workshop, Broomfield, CO. July 2015

Muñoz, Cristina. *Flood Mitigation, Property Acquisition, and Equity: The Geography of Federal Disaster Aid.* Annual Meeting of the Association of American Geographers, Chicago, IL. April, 2015.

Muñoz, Cristina. (included on 5 person GEEMaP working group). *Modeling and Predicting Mine Sites for Hydraulic Fracking Silica Sand in North Eastern Iowa.* Annual GEEMaP Workshop. October, 2014.

Muñoz, Cristina. *Uncertainty & Sensitivity Analysis of the HAZUS flood model.* Midwestern universities' GIScience graduate student symposium (MUGGS), Iowa City, IA. September, 2013.

Muñoz, Cristina. *Uncertainty & Sensitivity Analysis of the HAZUS flood model.* Annual GEEMaP Workshop. May, 2013.

Muñoz, Cristina. *Sensitivity Analysis on Economic Loss Estimation for Flood HAZUS Modeling.* Annual Meeting of the Association of American Geographers (AAG), Los Angeles, CA. April, 2013.

Muñoz, Cristina. *Environmental Justice & Intersecting Inequalities: A Los Angeles Case Study.* Annual Meeting of the Association of American Geographers (AAG), Manhattan, NY. Feb., 2012.

SERVICE

Panelist for *Developing Partnerships with the Community; Power & Privilege.* CBPR class at the Department of Community and Behavioral Health, University of Iowa. September, 2014.

Panelist for *Interdisciplinary Research and Geography.* University of Iowa Women in Science & Engineering (WISE). November, 2013.

Panelist for *Graduate School Round Table with Undergrads.* The University of Iowa Latino Graduate Student Association (LGSA). October, 2013.

Panelist for *Q&A on research and applying to graduate school.* The University of Iowa's Summer Research Opportunities Program (SROP). July, 2013.

Georgen, Jonathan and **Muñoz, Cristina.** *The Hazard of Heat: Exposure, Vulnerability, and Coping Capacity.* University of Iowa Lifetime Enrichment Adult Program (UI-LEAP), March, 2013.