



We envision a just and equitable world where knowledge is applied to ensure that humans live in harmony with nature.

2019 NSF WORKSHOP

Connecting Large Facilities and Cyberinfrastructure

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NSF Award #1841338



The Natural Hazards Center

Mission: We are the National Science Foundation-designated information clearinghouse for the societal dimensions of hazards and disasters. We are dedicated to reducing disaster harm through:

1. translating and sharing hazards and disaster research and information;
2. building connections between researchers, non-profit and private sector professionals, the media, policy makers, and local, state, and federal officials;
3. advancing social science and interdisciplinary knowledge, with a special emphasis on the most vulnerable populations and places; and
4. training and mentoring the diverse next generation of hazards and disaster professionals.



CONVERGE

CONVERGE is a new National Science Foundation-Natural Hazards Engineering Research Infrastructure (NSF-NHERI) facility dedicated to:

- *identifying* and *coordinating* researchers and research teams;
- *advancing* hazards and disaster research;
- *encouraging* the publication of data and data collection instruments and protocols (DesignSafe Cyberinfrastructure + CONVERGE).
- *supporting* and *accelerating* training and mentoring;
- *funding* virtual reconnaissance, field research, and the development of novel research instruments and data collection protocols;
- *accelerating* the development of mobile applications for social science data collection (NHERI RAPID);



Workforce Development:

- NSF Enabling Program
<https://hazards.colorado.edu/resources/nsf-enabling-program>
- Nested mentoring among postdoctoral research associates, graduate research assistants, and undergraduate interns
- NHC's Annual Workshop and Researcher's Meeting



Workforce Development:

- The Bill Anderson Fund Fellows
<http://billandersonfund.org/baf-fellows/>
- NSF INCLUDES–Minority SURGE Capacity in Disasters <https://www.surgedisasters.com/>



CONVERGE Training Modules

- Free, online courses designed to accelerate the training of diverse hazards and disaster researchers, including students and early career researchers
- 30-60 minutes to complete and includes quiz and certificate of completion

Children

Children are dependent on adults for shelter, safety, and sustenance, and thus rely on others to prepare for, respond to, and recover from disasters.¹ In addition, their still-developing bodies and minds make them highly susceptible to dangerous infections and diseases that can result from exposure to hazardous conditions such as contaminated water, polluted air, and radiation.⁴ Children are at risk for a range of negative psychological outcomes⁵ and behavioral issues.^{4,6}

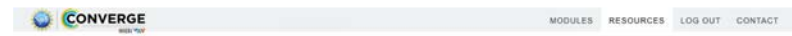


DID YOU KNOW?

4,909 children were missing or separated from their families during the first 3 months following Hurricane Katrina.⁷

Older Adults

Older adults experience higher rates of chronic health issues and disabilities,⁸ and are more likely to live in isolation, have little economic and social capital, require assistance in daily living, and have limited access to internet and social media, through which disaster-related information is commonly disseminated.^{9,10} Disastrous events can also trigger certain psychological and emotional reactions among the elderly, such as fear of the unknown and reluctance to leave pets, property, and other possessions.^{10,11}



Here are some additional resources that can be used to support hazards and disaster research on vulnerable populations.

These resources include key readings, standardized measures, secondary datasets, and other web resources.

Measures:

- CDC's Social Vulnerability Index (SVI)
- University of South Carolina's Social Vulnerability Index (SoVI)

Web Resources:

- Communicating Risk in Public Health Emergencies: A WHO Guideline for Emergency Risk Communication (ERC)
- Disaster Ready
- Emergency Preparedness and Response for Vulnerable Populations
- IASC Task Team on Inclusion of Persons with Disabilities in Humanitarian Action
- Understanding Older People and Their Needs in a Humanitarian Context

Secondary Datasets:

- CDC's Social Vulnerability Index (SVI)
- FEMA's Hazus
- Global Risk Data Platform
- The American Hotspots Project

Key Readings:

- Children
 - Children and Disasters
 - Children with Disabilities in the Context of Disaster: A Social Vulnerability Perspective

Cyberinfrastructure for Hazards and Disaster Data Publication

The screenshot shows the DesignSafe-CI Data Depot interface. At the top, the DesignSafe-CI logo is displayed with the tagline 'A NATURAL HAZARDS ENGINEERING RESEARCH INFRASTRUCTURE'. Below the logo, there are navigation links for 'Research Workbench', 'Learning Center', 'NHERI Facilities', 'NHERI Community', 'About', and 'Help'. A search bar is also present. A yellow notification box indicates that the current browser is unsupported and suggests switching to Chrome or Firefox. The main content area shows a dataset entry for 'PRJ-2289 | GLOBAL ACADEMIC HAZARDS AND DISASTER RESEARCH CENTERS DATA'. The entry includes the author 'Peek, Lori; Hines, Emmanuelle; Mathews, Mason; Gunderson, Jeffrey; Wu, Haoran', the data type 'Dataset', and a list of related work items with their respective URLs. The keywords listed are 'Natural Hazards, Disasters, Research Centers, GIS Interactive Web-Based Applications, Academic, Web Map, Social Science'. The date of publication is '05-28-2019'. The license is 'Open Data Commons Attribution'. A table at the bottom lists the files included in the dataset:

File Name	Size
GlobalResearchCentersData5-10-19.csv	176.7 kB
PRJ-2289_archive.zip	179.6 kB
README.txt	2.6 kB



Social Science and Interdisciplinary Data Model

DESIGNSAFE-CI
NHERI: A NATURAL HAZARDS ENGINEERING RESEARCH INFRASTRUCTURE

Welcome, Craig!

Research Workbench | Learning Center | NHERI Facilities | NHERI Community | About | Help

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PRJ-1234 | HURRICANE MICHAEL STRUCTURAL DAMAGE AND POPULATION RESILIENCE

Authors [Peek, Lori; Wartman, Joseph et al.](#)

Keywords Hurricane, Reconnaissance, Damage Assessment, Interviews, Children, Shelters

Publication Type Field Research | Reconnaissance, Social Science

Event Hurricane Michael | Florida | 10/7/2018 | Lat 30.455690 Long -97.813780

Event Type Hurricane, Storm Surge, Flood

Date of Publication 11/25/2016

DOI [10.17603/ds2-z4hp-nv28](#)

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NSF CMMI-1611820

Related Work [Quick Response Research after Hurricane Katrina: A Study of Families](#)
[Rapid Reconnaissance Engineering Investigations after Hurricane Harvey, Irma, and Maria](#)

This interdisciplinary social science and engineering data set includes damage assessment data collected five weeks after Hurricane Michael, as well as survey, interview, and observational data collected with parents and their children. This data may be of special interest to those seeking to understand the connections between damage to the built environment and associated social disruptions.

Reports | Virtual Reconnaissance

Mission / Wave | Mexico Beach - RAPID

Mission / Wave # 1

Date(s) of Collection 11/11/2018 - 11/15/2018

Data Collector(s) [Hamideh, Sara; Huang, Shih-Kai; Sutfey, Elaine; Fischer, Erica; Eanard, Ann-Margaret; Lyles, Ward; Merdjanoff, Alexis; Meyer, Michelle](#)

Site Location North Lake Estates | Lat 30.455690 Long -97.813780 Elevation 20'

During this initial wave, the research team collected damage assessment data in two neighborhoods, as well as surveyed and interviewed parents and children who were displaced from those neighborhoods. The intent is for the team to return for two to three more waves of data collection over the coming year.

- Planning Documents and Research Protocols
- Interview Guides, Questionnaires
- Audio Recordings
- Photos
- Data



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Thank you!

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