

CSTE Workshop

May 18, 2021

Mobilizing Social Science and Public Health Researchers in Major Disasters

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converge.colorado.edu

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University of Colorado **Boulder**



NHERI



Post-disaster research can be classified as:



Early
Reconnaissance
(days to ~2 weeks)

Emergency
Response and
Early Recovery
(days to ~3 months)

Short-Term
Recovery
(3 months to
~2 years)

Longer-Term
Recovery and
Reconstruction
(2 to ~10 years)

Common Goal:
Collect Perishable Data

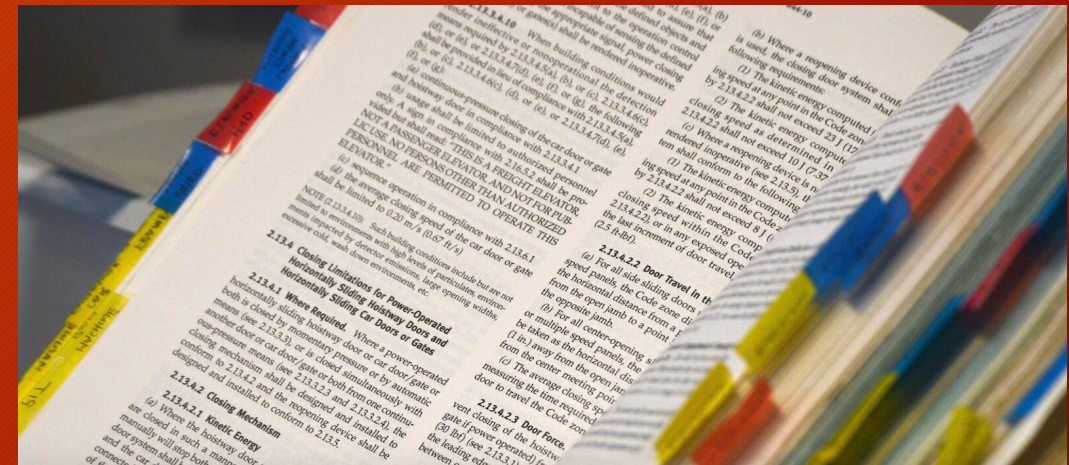
The Importance of Quick Response Research

1. 70+ years of post-disaster research has led to knowledge breakthroughs and a robust body of research evidence



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2. Those efforts—unapologetically applied—have led to fundamental changes in policy and practice



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2. Those efforts—unapologetically applied—have led to fundamental changes in policy and practice
3. This research, often funded through federal agencies, has helped develop multiple generations of the hazards and disaster workforce



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Quick Response Research Award Program

With the support of the [National Science Foundation](#), the Natural Hazards Center Quick Response Research Award Program provides funds and [training](#) for eligible researchers to collect data in the aftermath of extreme events to document disaster before memories fade and physical evidence is erased. Please explore the menu above for additional information regarding this program.

Funded researchers receive editorial support to publish brief abstracts and [reports](#) on the Natural Hazards Center website that make preliminary analyses of recent events available to the Center's multidisciplinary network of researchers, practitioners, and educators. The program promotes social science and interdisciplinary innovation in disaster research, prioritizes novel areas of study that require the collection of ephemeral data, and provides

Natural Hazards Center

hazards.colorado.edu/research/quick-response

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NATURAL HAZARDS CENTER

ABOUT US PUBLICATIONS TRAINING WORKSHOP AWARD PROGRAMS RESEARCH RESOURCES



- Established 35 years ago with funding from the National Science Foundation
- Administered by the Natural Hazards Center
- Small awards (\$2,000 - \$5,000) fund rapid collection of perishable data
- **323+** reports available at: hazards.colorado.edu/research/quick-response-report/archives
- Focus on students and early career researchers as well as more seasoned professionals
- Awards predominantly focus on advancing social and behavioral science research

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hazards.colorado.edu/research/quick-response

Award News

September 21, 2018

Hurricane Florence: A Special Call for Quick Response Grant Proposals



The U.S. Coast Guard rescues pets from floodwaters in Delco, North Carolina, after Hurricane Florence. ©Stephen Petty, U.S. Coast Guard, 2018.

Special Calls for Major Disasters

Award News

November 16, 2018

California Wildfires: A Special Call for Quick Response Grant Proposals



Devastation in Paradise, California, from the Camp Fire which burned through most of the town, destroying thousands of structures since it began November 8. ©California National Guard, 2018.

Award News

March 16, 2020

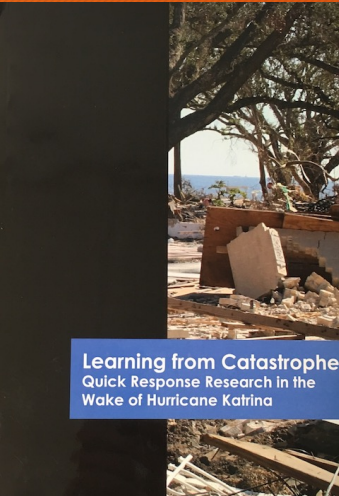
Special Call for Quick Response Grant Proposals: COVID-19



Beyond September 11th: AN ACCOUNT OF POST-DISASTER RESEARCH



Learning from Catastrophe Quick Response Research in the Wake of Hurricane Katrina





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Home Special Call Reports Awards Research Resources

Special Call 1: Research in U.S. Territories

Call Now Closed!

The U.S. territories of American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands are subject to various natural hazards threats and have experienced multiple disasters in recent years. Devastating hurricanes, typhoons, flooding,

2020 – Special Call for Research in U.S. Territories in Partnership with the CDC and NSF

- 15 projects - \$25,000 - \$50,000
- 50+ public health and social science researchers from Puerto Rico, U.S. Virgin Islands, Guam, and the mainland U.S.
- 2 virtual convenings
- Final research reports w/ actionable summaries focused on public health implications

hazards.colorado.edu/research/quick-response-in-us-territories/funded-proposals



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Weather Ready Research Award Program

The National Oceanic and Atmospheric Administration (NOAA) [Weather Ready Nation](#) (WRN) initiative readies communities for extreme weather, water, and climate events. Taking advanced action to prepare people and places for extreme events can reduce the most devastating impacts from tornadoes, hurricanes, flooding, wildfires, and blizzards.

While NOAA is taking major steps towards building a weather ready nation, the agency cannot do this work alone. With this in mind, the Natural Hazards Center—with support from the National Science Foundation and the NOAA Weather Program Office, and in partnership with the National Severe Storms Laboratory and the National Weather Service—is issuing **four special calls for proposals** for social, behavioral, and economic sciences

2020-22 – 4 Special Calls for Weather Ready Research in Partnership with the NOAA and NSF

- 100 projects - \$2,500 - \$7,500
- Focus on weather-focused research as defined in the Weather Act
- Striving to build a social science Weather Ready Research Community
- Final research reports and data publications

hazards.colorado.edu/research/weather-ready-research/index

Resources > COVID-19 > Working Groups

COVID-19 Working Groups for Public Health and Social Sciences Research



POPULATION GROUPS, ORGANIZATIONS, AND SOCIAL INSTITUTIONS



ISSUES, IMPACTS, AND RECOVERY



COMPOUND HAZARDS AND CASCADING DISASTERS



RESEARCH NETWORKS, METHODS, AND ETHICS

CONVERGE COVID-19 Working Groups for Public Health and Social Sciences Research

- 1 Special Call - \$1,000 per Group
- Funded **90 Working Groups** involving over **1,300 Researchers** Globally
- **(1)** Population Groups, Organizations, and Social Institutions; **(2)** Issues, Impacts, and Recovery; **(3)** Compound Hazards and Cascading Disasters; **(4)** Research Networks, Methods, and Ethics
- Final Research Agenda Paper

converge.colorado.edu/resources/covid-19/working-groups

CONVERGE COVID-19 Working Groups for Public Health and Social Sciences Research

Research Agenda-Setting Paper

This paper was written to help advance convergence-oriented research in the hazards and disaster field. It highlights areas where additional research could contribute new knowledge to the response to and recovery from the pandemic and other disasters yet to come. Questions about the research topics and ethical and methodological issues highlighted here should be directed to the authors who contributed to this paper.

Working Group Name:

Cumulative Effects of Successive Disasters

Working Group Description:

This Working Group is motivated by the belief that research can actively contribute to the reduction of unnecessary suffering during and after disasters. In enacting this research, our purpose will be to understand how successive disasters change awareness and capacities for people across various domains of life and work (such as their awareness of organizations, preparedness behaviors, resources, potential roadblocks, etc.). We will approach this overarching goal through an integrative, ethnographic methodology for studying past experiences of disaster and present experiences of COVID-19. Our research will focus on learning from survivors, civic actors, disaster response professionals, and other agents of recovery whose roles may overlap.

Priority Research Topics and Specific Research Questions:

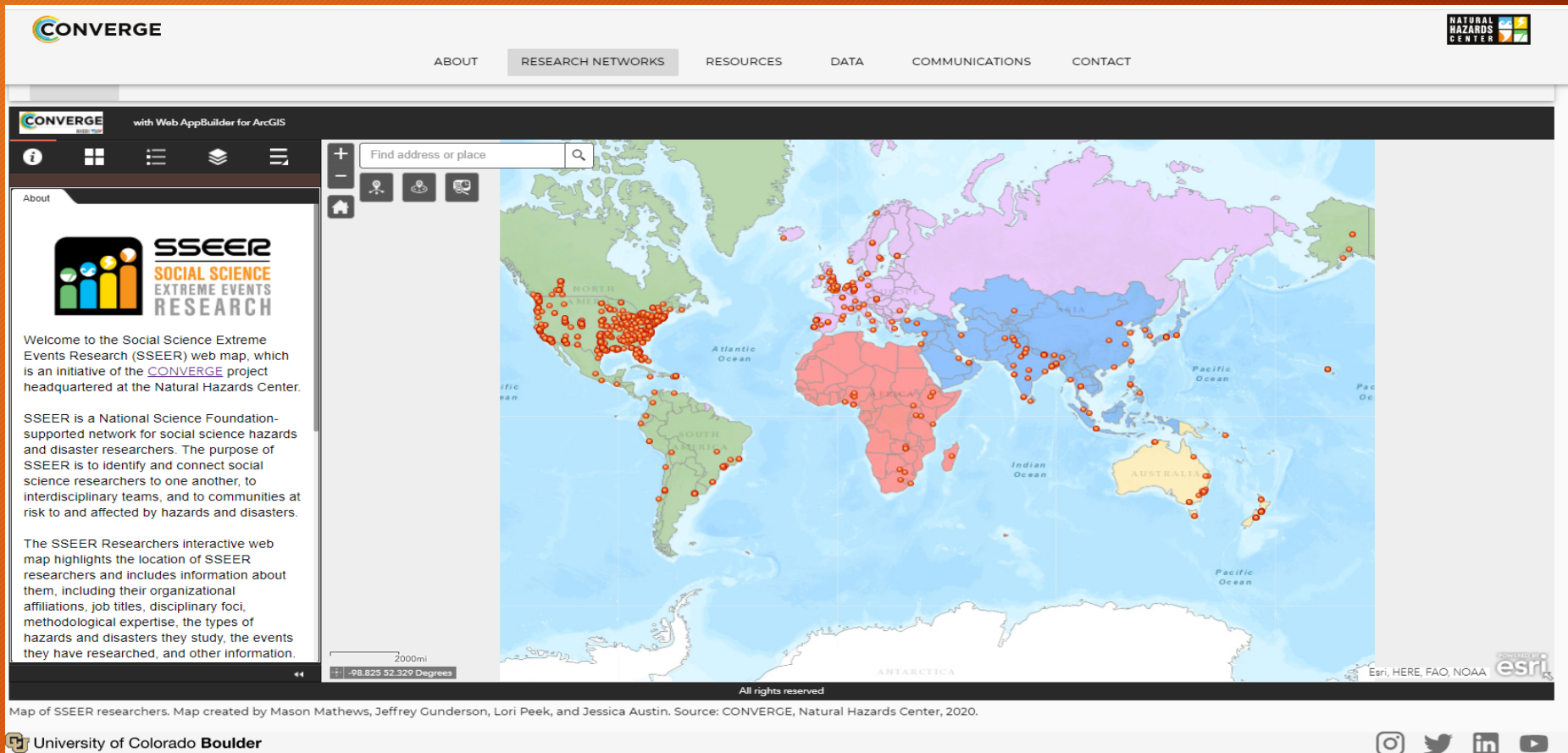
We propose to address empirical gaps in disaster studies using a research framework organized around the investigation of (1) how changes in awareness are brought about by past disaster experiences; (2) how new awareness may or may not lead to new capacities, strategies, and skills; (3) how these new capacities, strategies, or skills do or do not translate into responses to the current pandemic; and (4) how civic actors, disaster response professionals, and other agents of recovery understand their own roles and are aware of the roles of other groups. The work will proceed in two phases, ultimately informing comparisons across communities, across cumulative disaster experiences, and across types of actors.

Phase One of our research agenda, therefore, involves generating a COVID-19 Question Bank and Research Protocols that will provide researchers with a well-considered path for investigating individuals' experiences with the pandemic in relation to their experiences with prior disasters. *Phase Two* involves data collection. We will interview participants using questions from the COVID-19 Question Bank in accordance with the associated Research Protocols (see Outcomes below).

A small green seedling with two leaves is growing out of a patch of dry, cracked earth. The background is a bright, hazy sky. The seedling is positioned on the right side of the frame. The ground is brown and cracked, indicating a dry environment. The sky is a mix of light blue and white, suggesting a bright day.

Advancements in the Quick Response Research Program

(1) Identifying and Mobilizing Researchers



(2) Educating and Training Researchers



Completed

Cultural Competence in Hazards and Disaster Research

This Training Module focuses on culturally competent research and offers guidance on how hazards and disaster researchers can build cultural competence.

[VIEW MODULE](#)

100% COMPLETE

Completed

Disaster Mental Health

This Training Module focuses on mental health outcomes associated with disasters, with a particular emphasis on risk factors over time that make certain populations vulnerable to poor disaster mental health outcomes.

[VIEW MODULE](#)

100% COMPLETE

Completed

Social Vulnerability and Disasters

This Training Module focuses on social vulnerability to hazards and disasters, with an emphasis on population groups that have been identified in the literature as especially at risk to the adverse effects of extreme events.

[VIEW MODULE](#)

100% COMPLETE

CONVERGE Training Modules

CONVERGE

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PREPARING TO CONDUCT EXTREME EVENTS RESEARCH

IRB AND ETHICAL CONSIDERATIONS

SOCIAL SCIENCE METHODS AND APPROACHES

TRAINING, MENTORING, AND BUILDING TEAMS

COLLECTING DATA AND CONDUCTING FIELDWORK

DATA MANAGEMENT AND DATA USE

DATA ANALYSIS AND DATA PUBLICATION

SHARING AND COMMUNICATING RESULTS

Extreme Events Research Check Sheets

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REGISTRY FOR COVID-19 PUBLIC HEALTH AND SOCIAL SCIENCES RESEARCH

COVID-19 RESEARCH WORKING GROUPS

COVID-19 VIRTUAL FORUMS

COVID-19 QUESTIONS

COVID-19 QUICK RESPONSE RESEARCH

COVID-19 RAPID AWARDS

COVID-19 INFORMATION PAGES

Webinars, Workshops, and Event-Specific Resources

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SOCIAL VULNERABILITY AND
DISASTERS



DISASTER MENTAL HEALTH



CULTURAL COMPETENCE IN
HAZARDS AND DISASTER
RESEARCH



INSTITUTIONAL REVIEW BOARD
(IRB) PROCEDURES AND EXTREME
EVENTS RESEARCH



CONDUCTING EMOTIONALLY
CHALLENGING RESEARCH



UNDERSTANDING AND ENDING GENDER-BASED
VIOLENCE IN FIELDWORK

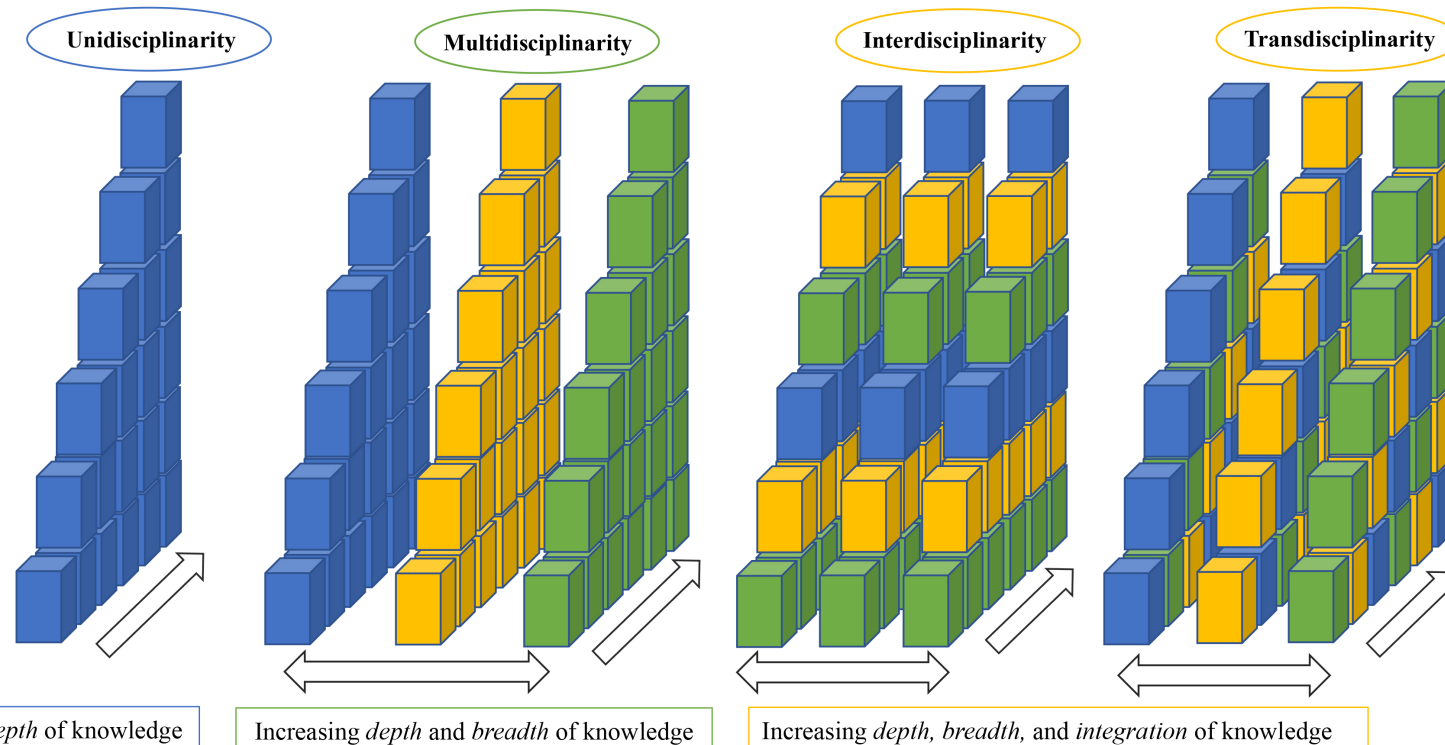


BROADER ETHICAL CONSIDERATIONS FOR
HAZARDS AND DISASTER RESEARCHERS

- ★ Free!
- ★ Online
- ★ 30-60 minutes to complete
- ★ 3,000+ registrants to date!

converge.colorado.edu/resources/training-modules

(3) Advancing Interdisciplinary, Convergence Research



A Framework for Convergence Research in the Hazards and Disaster Field: The Natural Hazards Engineering Research Infrastructure CONVERGE Facility

Lori Peek^{1*}, Jennifer Tobin², Rachel M. Adams³, Haoru Wu⁴ and Mason Clay Mathews⁴

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Front. Built Environ. 6:110.
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The goal of this article is twofold: to clarify the tenets of convergence research and to motivate such research in the hazards and disaster field. Here, convergence research is defined as an approach to knowledge production and action that involves diverse teams working together in novel ways – transcending disciplinary and organizational boundaries – to address vexing social, economic, environmental, and technical challenges in an effort to reduce disaster losses and promote collective well-being. The increasing frequency and intensity of disasters coupled with the growth of the field suggests an urgent need for a more coherent approach to help guide what we study, who we study, how we conduct studies, and who is involved in the research process itself. This article is written through the lens of the activities of the National Science Foundation-supported CONVERGE facility, which was established in 2018 as the first social science-led component of the Natural Hazards Engineering Research Infrastructure (NHERI). Convergence principles and the Science of Team Science undergird the work of CONVERGE, which brings together networks of researchers from geotechnical engineering, the social sciences, structural engineering, nearshore systems, operations and systems engineering, sustainable material management, and interdisciplinary science and engineering. CONVERGE supports and advances research that is conceptually integrative, and this article describes a convergence framework that includes the following elements: (1) identifying researchers; (2) educating and training researchers; (3) setting a convergence research agenda that is problem-focused and solutions-based; (4) connecting researchers and coordinating functionally and demographically diverse research teams; and (5) supporting and funding convergence research, data collection, data sharing, and solutions implementation.

Keywords: convergence research, natural hazards, disasters, interdisciplinary, transdisciplinary, training, Science of Team Science, research coordination networks

(4) Publishing Findings and Research Instruments, Protocols, and Data



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[Data](#) > [Publish Your Data](#) > CONVERGE Data Ambassadors

CONVERGE Data Ambassadors

CONVERGE Data Ambassadors have completed a National Science Foundation-supported [Publish Your Data!](#) training session. As Data Ambassadors, they have committed to publishing their own data and instruments on [DesignSafe](#), to learning about the [CONVERGE](#) and [RAPID](#) facilities and their resources, and to sharing their newly attained knowledge with other social and behavioral scientists and colleagues from other allied disciplines in the hazards and disaster field. CONVERGE Data Ambassadors will help usher in a culture shift toward data publication and data and instrument sharing across disciplines.

The following page includes a list of instruments, reports, protocols, and other research materials published by the CONVERGE Data Ambassadors via the DesignSafe Cyberinfrastructure.



Lauren Clay
Associate Professor, Health Administration and Public Health
D'Youville College

Research Instrument Repository:
Clay, L. (2020). "COVID-19 and Social Determinants of Health Data Collection Instrument Repository." DesignSafe-CI.
<https://doi.org/10.17603/ds2-nay0-j518>

Research Brief:
Clay, L. S. Penta, and A. Silver. (2020). "Risk Perception, Information Seeking, and Protective Actions During COVID-19 Among New Yorkers (May-July 2020)," in A Multi-Wave Study of Risk Perception, Information Seeking, and Protective Action in COVID-19. DesignSafe-CI.
<https://doi.org/10.17603/ds2-7019-cs31>

Data Report:
Clay, L. S. Rogus, and P. Gadhoke. (2020). "Primary and Secondary Health Impacts of the COVID-19 Pandemic on New Yorkers (May-June 2020)," in National Food Access and COVID Research Team (NFACT) - New York. DesignSafe-CI. <https://doi.org/10.17603/ds2-xe2x-x540>



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Research Protocol:



Please sign up for updates and information for the
Natural Hazards Center and CONVERGE:



hazards.colorado.edu/signup
converge.colorado.edu/signup



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