

CONVERGE: NHERI's Social Science Facility

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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:

- translating and sharing hazards and disaster research and information;
- 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 researchers;
- educating and training researchers;
- setting a convergence research agenda that is problem-focused and solutions-based;
- connecting researchers and coordinating functionally and demographically diverse research teams; and
- supporting and funding convergence research, data collection, data sharing, and solutions implementation.







CONVERGE

- In 2020 we published an article on CONVERGE in Frontiers in Built Environment
- This article synthesizes 20 years of convergence research in an effort to bring that framework to the natural hazards field
- Access the article for free online at:

https://www.frontiersin.org/articles/10.3389/fbuil.2020.00110/full



ORIGINAL RESEARCH published: 07 July 2020 doi: 10.3389/fbuil.2020.00110



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

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¹ Department of Sociology, Natural Hazards Center and COWERGE, University of Colorado Boulder, Boulder, CO, United States, ³ Natural Hazards Center and COWERGE, University of Colorado Boulder, Boulder, CO, United States, ³ Faculty of Health, School of Social Work, Dalhousie University, Halfax, NS, Canada, ⁴ Geographical Sciences and Urban Planning, Arizona State University, Tempa, AZ, United States

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Pook L, Tobin J, Adams PM, Wu H and Mathews MC (2020) A Framework for Convergence Research in the Hazards and Disaster Floid: The Natural Hazards Engineering Research Infrastructure CONVERGE Facility. Front. Built Environ. 6:110. doi:10.3898/hujii.2020.00110. 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

Frontiers in Built Environment | www.frontiersin.org

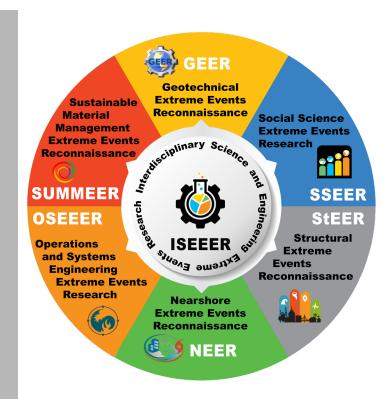
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NSF Extreme Events Reconnaissance / Research (EER) Networks

- 1. Geotechnical Engineering (GEER)
- 2. Social Sciences (SSEER)
- 3. Structural Engineering (StEER)
- 4. Nearshore Systems (NEER)
- Operations and Systems Engineering (OSEEER)
- 6. Sustainable Material Management Engineering (SUMMEER)
- 7. Interdisciplinary Science and Engineering (ISEEER)

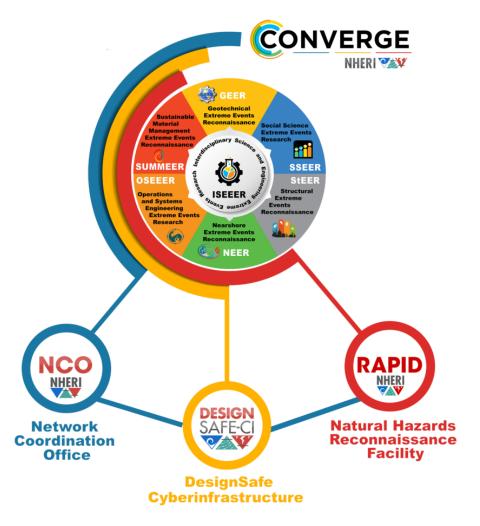






Leadership Corps for Natural Hazards

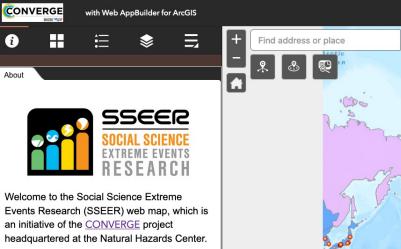
Research





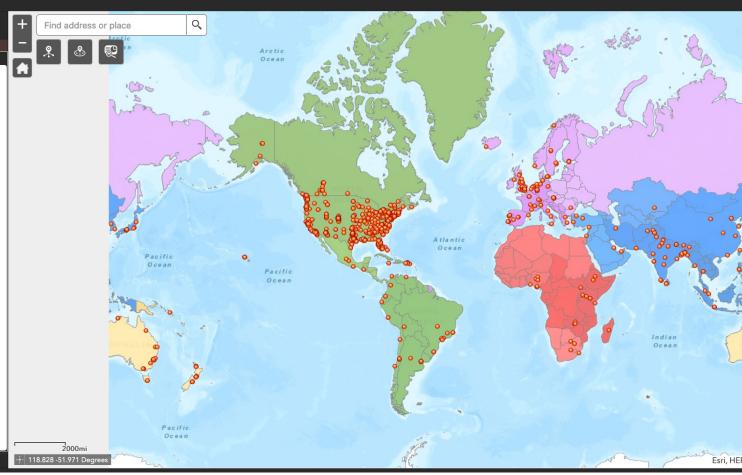


SSEER



SSEER is a National Science Foundationsupported network for social science hazards and disaster researchers. The purpose of SSEER is to identify and connect social science researchers to one another, to interdisciplinary teams, and to communities at risk to and affected by hazards and disasters.

The SSEER Researchers interactive web map highlights the location of SSEER researchers and includes information about them, including their organizational affiliations, job titles, disciplinary foci, methodological expertise, the types of hazards and disasters they study, the events they have researched, and other

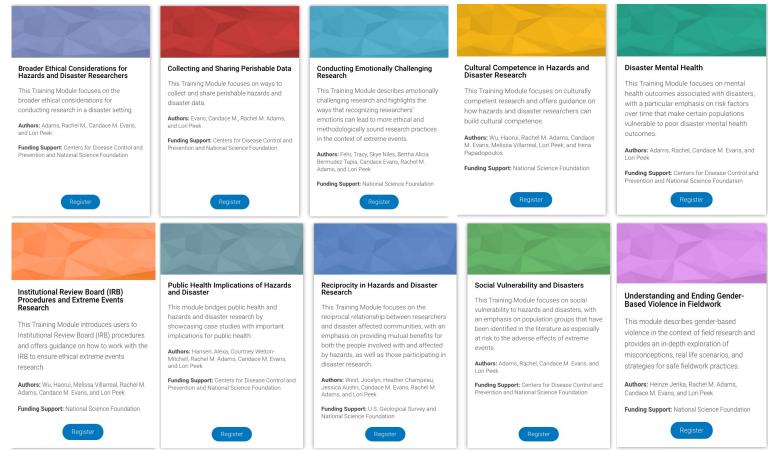






CONVERGE Training Modules

 Free, online courses designed to accelerate the training of diverse hazards and disaster researchers, including students and early career researchers







CONVERGE Training Modules

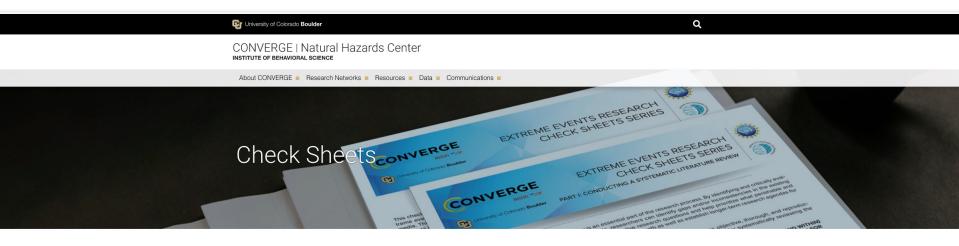
- Worth 1 contact hour of general management training through the International Association of Emergency Managers (IAEM) certification program.
- Assignment bank for course for instructors
- Annotated bibliographies to complement training module







Check Sheets



Resources / Check Sheets

Extreme Events Research Check Sheets Series

These short, graphical check sheets are meant to be used as researchers design their studies, prepare to enter the field, conduct field research, and exit the field. The series offers best practices for extreme events research and includes check sheets for free to the research community.





PART I: CONDUCTING A SYSTEMATIC LITERATURE REVIEW



PART II: SYSTEMATIC LITERATURE REVIEW TABLE



BRING TO THE FIELD

NSF Award #1841338





Data Ambassadors

CONVERGE Data Ambassadors

CONVERGE Data Ambassadors have completed a National Science Foundation-supported <u>Publish Your Data</u> Training session. As Data Ambassadors, they have committed to publishing their own data and instruments on <u>DesignSafe</u>, to learning about the <u>CONVERGE</u> and <u>BAPID</u> 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
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D'Youville College

Research Instrument Repository

Clay, L. (2020). "COVID-19 and Social Determinants of Health Data Collection Instrument Repository." DesignSafe-Cl. 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-Cl. https://doi.org/10.1796/3462-7.0199-c.33.

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-xs40.



Alex Greer
Associate Professor, College of Emergency Preparedness, Homeland Security, and Cybersecurity
University at Albany

Research Instruments and Data

Greer, A., T. Wu, H. Murphy, and R. Chang. (2020). "Survey of Students and Households and Interviews with Key Stakeholders in Oklahoma," in Earthquake Adjustment in Oklahoma. DesignSafe-Cl. https://doi.org/10.17603/ds2-dn02-0111.



Betty Lai Buehler Sesquicentennial Assistant Professor, Department of Counseling, Developmental, and Educational Psychology Boston College

Interview Protocol:

Hoskova, B. J. Medzhitova, C. Colgan, B. Liang, and B. Lai. [2020]. 'Time 1 Interview Protocol on Colleges and COVID-19,' in Colleges and the COVID-19 Crisis. DesignSafe-CL. https://doi.org/10.37603/ds2-erzs-j690.



LOTI PEEK
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Dataset:

Peek, L., E. Hines, M. Mathews, J. Gunderson, and H. Wu. (2020). "Global Academic Hazards and Disaster Research Centers Data." DesignSafe-Cl. https://doi.org/10.17603/e9wq-qz57.

Research Instruments

Peacock, W., N. Rosenheim, D. Gu, S. Van Zandt, L. Peek, M. Dillard, J. Toblin, and S. Hamideh, [2020]. "Household Survey Instrument, November 26, 2016. Wave I," in A Longitudinal Community Resilience Focused Technical Investigation of the Lumberton, North Carolina Flood of 2016. Design 5afe-Ct. https://doi.org/10/1760/3462-pmt9-1453.

Sutley, E., M. Dillard, S. Hamideh, W. Peacock, J. Tobin, L. Peek, K. Seong, A. Barbosa, T. Tomiczek, J. van de Lindt, and D. Gu. (2020).

"Household Survey Instrument, January 19, 2018: Wave 2." in A. Longitudinal Community Resilience Focused Technical Investigation of the Lumberton, North Carolina Flood of 2016. DesigniSafe: C. https://doi.org/10.1765/dise2-16.3bb...go/28

Scoping Literature Review

Wu, H., L. Peek, M. Mathews, and N. Mattson. (2020). "A Scoping Literature Review: Cultural Competence for Hazards and Disaster Research." DesignSafe-Cl. https://doi.org/10.17603/ds2-9vz8-7/76.



Nathanael Rosenheim Associate Research Scientist and Director of Research, Hazard Reduction & Recovery Center Forum ABM University

Research Instruments:

Peacock, W., N. Rosenheim, D. Gu, S. Van Zandt, L. Peek, M. Dillard, J. Tobin, and S. Hamideh. (2020). "Household Survey Instrument, November 26, 2016. Wave!" in A Longitudinal Community Resilience Focused Technical Investigation of the Lumberton, North Carolina Flood of 2016. Design5afs-CL Hare; 26doi.org/00.17603/ds-2-ems5-833.

Rosenheim, N., W. Peacock, M. Perez, and G. Lane. (2020). "Food Retail Survey Instrument," in Food Access Impact Survey for Southeast Texas and Harris County, Texas after Hurricane Harvey. DesignSafe-Cl. https://doi.org/10.17603/ds2-aq2k-dy92.

oolkit:

Rosenheim, N., M. Stanley, C. Goodman, A. Berd, S. Hayes, E. Millard, J. Korukonda, and M. Watson. (2020). "Systematic Literature Review Toolkit." DesignSafe-Cl. https://doi.org/10.17603/ds2-3fnS-4b44.



Gavin Smith
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North Carolina State University

Pacaarch Instrument

Smith, G., O. Vila, and G. Caverly. (2020). "A National Evaluation of State Roles in Hazard Mitigation: Building Local Capacity to Implement FEMA Hazard Mitigation Assistance Grants." DesignSafe-CI. https://doi.org/10.17603/ds2-sjbv-eg87.

Maria Watson Research Assistant Professor, Department of Landscape Architecture and Urban Planning Texas ABM University

esearch Instruments

Sutley, E. M. Olilard, S. Hamideh, W. Peacock, J. Tobin, L. Peek, K. Seong, A. Barbosa, T. Tomiczek, J. van de Lindt, and D. Gu. (2020).

"Household Survey Instrument, January 19, 2018: Wave 2," in A. Longitudinal Community Resilience Focused Technical Investigation of the Lumberton, North Carolina Flood of 2016. Design-Safe-Ct. https://doi.org/10.1760/3482-db.3h-gy28.

Xiao, Y., M. Watson, J. Helgeson, K. Farokhnia, J. van de Lindt, J. Mitrani-Teelier, E. Sutley, D. Deniz, T. Tomiczek, A. Barbosa, J. Fung, O. Nofal, and M. Kollou, (2020). "Business Survey Instrument, January 19, 2018: Wave 2," in A Longitudinal Community Resilience Focused Technical Investigation of the Lumberton, North Carolina Flood of 2016. DesignSafe-CL. https://doi.org/10.1760/dsiz-918t-t1m93.



Haorui Wu
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Dalhousie University

Dataset:

Peek, L., E. Hines, M. Mathews, J. Gunderson, and H. Wu. (2020). "Global Academic Hazards and Disaster Research Centers Data." DesignSafe-Cl. https://doi.org/10.17603/e9wq-qz57.

Scoping Literature Review:

Wu, H., L. Peek, M. Mathews, and N. Mattson. (2020). "A Scoping Literature Review: Cultural Competence for Hazards and Disaster Research."

DesignSafe-Cl. https://doi.org/10.17603/ds2-9vz8-7r76.



H. Tristan Wu Associate Professor, Department of Emergency Management and Disaster Science University of North Texas

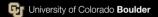
Research Instrument

Wu, T., S. Huang, and M. Lindell. (2020). "Household Mail Survey," in 2011 New Zealand and Japan Earthquake Household Response Survey. DesignSafe-Cl. https://doi.org/10.17603/ds2-st68-6b42.





COVID-19 Resources



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INSTITUTE OF BEHAVIORAL SCIENCE





COVID-19 Virtual Forums

CONVERGE virtual forums bring together researchers to coordinate and collaborate after major events. Please check here for upcoming virtual forums and recordings of past forums.





COVID-19 Quick Response Research Grants

This is a list of recently funded COVID-19 Quick Response Research. These were awarded by the Natural Hazards Center as part of two distinct special calls for research on this global crisis. Within three months of completing data collection, researchers submit an abstract and 10-page report detailing their preliminary findings. Completed reports are available on the Quick Response Reports page.







Webinars





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About CONVERGE Research Networks Resources Data Communications

CONVERGE Webinar Series



CONVERGE Collecting and Sharing Perishable Data Training Module: A Demonstration Webinar

Aug 6, 2021 - 12 to 12:30 pm MT



Make CONVERGE Training Modules Part of Your College/University Course

Jul 15, 2021 - 2 to 3:15 pm MT



CONVERGE Extreme Events Research Check Sheets

Jun 15, 2021 - 10 to 10:30 am MT



Mobile Data Collection via RApp: Advanced Ouestionnaires

Dec 11, 2020 - 11 to 11:30 am MT



Coordinating After Natural Hazards to Document the Performance of the Built Environment: The Structural Extreme Events Reconnaissance (StEER)

Oct 23, 2020 - 1 to 1:30 pm MT



CONVERGE Conducting Emotionally Challenging Research Training Module: A Demonstration Webinar

Oct 8, 2020 - 2 to 2:30 pm MT



CONVERGE Broader Ethical Considerations for Hazards and Disaster Researchers Training Module: A Demonstration Webinar

Apr 15, 2021 - 10 to 10:30 am MT



CONVERGE Understanding and Ending Gender-Based Violence in Fieldwork Training Module: A Demonstration

Mar 16, 2021 - 3 to 3:30 pm MT



Publish Your Data! Learn How to Use DesignSafe and Meet the CONVERGE

Jan 29, 2021 - 1 to 1:30 pm MT



Collaborating to Learn from Hurricanes: The Nearshore Extreme Events Reconnaissance (NEER) Association

Aug 11, 2020 - 2:30 to 3 pm MT



CONVERGE Institutional Review Board (IRB) Procedures and Extreme Events Research Training Module: A Demonstration Webinar

Jun 25, 2020 - 12 to 12:30 pm MT



CONVERGE Federal Briefing - Rapid Response Disaster Research: NSF-

May 20, 2020 - 10 am to 12 pm MT







Thank you!

Contact Us at: converge@colorado.edu

Sign Up at: converge.colorado.edu/signup











