

49TH ANNUAL

NATURAL HAZARDS RESEARCH AND APPLICATIONS WORKSHOP

THE STORIES WE TELL


CREATIVE STRATEGIES FOR UNDERSTANDING AND COMMUNICATING DISASTER RISK



JULY 14-17, 2024

OMNI INTERLOCKEN HOTEL
BROOMFIELD, COLORADO



 University of Colorado
Boulder

**49TH ANNUAL
NATURAL HAZARDS RESEARCH AND APPLICATIONS WORKSHOP**

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NATURAL HAZARDS WORKSHOP

JULY 14 - 17, 2024

RESEARCHERS MEETING

JULY 17 - 18, 2024

PRACTITIONERS MEETING

JULY 18, 2024

Omni Interlocken Hotel
Broomfield, Colorado



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UNIVERSITY OF COLORADO BOULDER LAND ACKNOWLEDGMENT

The University of Colorado Boulder, Colorado's flagship university, honors and recognizes the many contributions of Indigenous peoples in our state. CU Boulder acknowledges that it is located on the traditional territories and ancestral homelands of the Cheyenne, Arapaho, Ute, and many other Native American nations. Their forced removal from these territories has caused devastating and lasting impacts. While the University of Colorado Boulder can never undo or rectify the devastation wrought on Indigenous peoples, we commit to improving and enhancing engagement with Indigenous peoples and issues locally and globally.

We will do this by:

- Recognizing and amplifying the voices of Indigenous CU Boulder students, staff, and faculty and their work.
- Educating, conducting research, supporting student success, and integrating Indigenous knowledge.
- Consulting, engaging, and working collaboratively with tribal nations to enhance our ability to provide access and culturally sensitive support and to recruit, retain, and graduate Native American students in a climate that is inclusive and respectful.

The CU Boulder Land Acknowledgment and supplemental information is available at the following website: colorado.edu/cnais/resources/land-acknowledgment.

BEYOND LAND ACKNOWLEDGMENT

The Center for Native American and Indigenous Studies (CNAIS) at the University of Colorado Boulder believes that a meaningful land acknowledgment statement should include information about how you plan to address historical wrongs and inequities.

For instance, if you are a non-Indigenous person, you might consider acknowledging the benefits you have received in exchange for the unjust ways that lands were occupied and acquired with commitments of time, money, or service to organizations that serve Indigenous peoples in your area. CNAIS suggests that these contributions be significant, such as giving one percent of your annual salary or dedicating a little more than 1.5 hours of service per week (the equivalent of one percent of a 40-hour work week).

For more information about crafting a personal land acknowledgment and other considerations for action, visit the CNAIS website at: colorado.edu/cnais.



WORKSHOP THEME

THE STORIES WE TELL: CREATIVE STRATEGIES FOR UNDERSTANDING AND COMMUNICATING DISASTER RISK

Stories are powerful. They convey important messages across generations in simple, memorable ways. When told well, stories shape our values and inspire us. When grounded in science, they can inform our actions when danger looms.

As disasters unfold in rapid succession worldwide, people are looking for narratives that can help them understand these crises and find solutions. At this year's 49th Annual Natural Hazards Workshop, we will take stock of advances in the hazards and disaster field as we share strategies for creatively communicating about risk.

The study of risk and risk communication has long been a focus in our community, and we have learned an enormous amount about how humans behave under extreme duress. But we are now confronted with an extraordinary array of challenges posed by the rapidly changing climate, decaying built environments, increasing economic inequality, and widening social divisions.

The proliferation of new platforms for communicating risk makes it possible to quickly share data and complex information about these shifting circumstances. Technological advancements, however, have also allowed misinformation to spread at increasing speed. Public distrust of science and government officials further complicates the matter. As many recent examples demonstrate, even when the evidence is sound, messages can be disputed, distorted, or disregarded altogether.

These risk communication challenges are real and urgent. In response, hazards and disaster professionals and our partners have developed new strategies to convey imminent threats, as well as longer-term—even existential—risks to society. Emergency management agencies and artists are working together to help people in eroding coastal areas envision disaster-resilient futures. Indigenous and earth scientists are collaborating to strengthen knowledge systems while addressing socio-environmental problems. Researchers who study racial inequities in disaster response and recovery are collaborating with professional communicators to press for policy change. Comedy shows now communicate climate science, pop music provokes preparedness, and games encourage players to think seriously about managing risk.

These actions, when viewed as a whole, can shape public discourse and galvanize action to reduce disaster harm and suffering. To better understand novel efforts in risk and risk



communication, the 2024 Natural Hazards Workshop will feature thematic sessions that explore questions such as:

- What have we learned about shifting risks from wildfires, floods, hurricanes, tornados, earthquakes, drought, heat, and other natural hazards?
- What steps are institutions and decision-makers taking to ensure that diverse members of the public receive, trust, and can act on risk information?
- How are hazards and disaster professionals responding to the spread of misinformation?
- What new partnerships have been formed to improve disaster risk research and clarify best practices for equitable risk communication?
- What creative, multi-directional approaches are being used to communicate about different phases of the disaster cycle?
- Are hazard-specific alerts and warnings—as well as broader risk communication campaigns—reaching intended audiences, creating desired behavioral responses, and ultimately reducing disaster impacts?

In addition to thematic sessions, we will also host panels and networking events that highlight progress in natural hazards research, practice, and policy.

One of our core beliefs at the Natural Hazards Center is that every participant has valuable expertise to share. We also know that everyone has an important story to tell. The Natural Hazards Center team is thrilled at the prospect of learning from each of you at the Workshop. Thank you for all that you do.

Please take care of yourself and others,

Lori Peek, Director
Natural Hazards Center



GUIDE TO THE PROGRAM

Our goals in creating this program for the 49th Annual Natural Hazards Research and Applications Workshop are to help you get where you want to go and to encourage interaction among Workshop participants who might not otherwise connect.

The Workshop website (hazards.colorado.edu/workshop/2024) complements this print program with the latest updates and individual web pages containing background information on the moderators and presenters, poster abstracts, research and practice highlights, and much more. Scan the QR code below to be taken directly to the website.

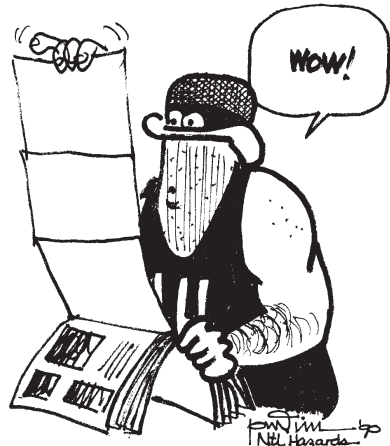


There are two ways to view the schedule of events in this program. There is a color-coded foldout program just inside the front cover and there is a detailed Workshop program containing session descriptions under the Sessions and Events tab.

WIRELESS INTERNET

Wireless internet is available in all the Workshop meeting areas in the hotel. Login information to access the internet is listed below and will be displayed on social media screens in the Interlocken Foyer.

Network Name: Natural Hazards Workshop
Password: 2024Workshop





PROGRAM STRUCTURE

OUR HISTORY AND PHILOSOPHY

Gilbert F. White—the founding director of the Natural Hazards Center—and a small team of staff and students convened the first Workshop in 1975 at his ranch in Sunshine Canyon outside of Boulder. He wrote then that “Workshops provide a ready opportunity to exchange detailed information and to argue the merits of various perspectives, but they need to be attended by professionals from the full range of disciplines and by policymakers from the various levels of government.”

Since that first meeting, the Workshop has been designed to encourage maximum interaction among diverse participants. The goal is to enhance the transfer of knowledge across the different disciplines and sectors of the hazards and disaster community. The structure of the Workshop is meant to spark conversation and recognizes that every participant has important information and experiences to share.

THE PROGRAM

The Workshop agenda provides a forum for the exchange of ideas and vigorous debate on issues critical to the hazards and disaster community.

Facilitating connections is a major goal of the Workshop. Long lunches, breaks, and social events, such as the Tuesday evening barbecue, provide ample opportunities to network and get to know other attendees.

Sessions start and end on time—really! Please be in your seat at the time sessions begin.

WELCOME AND SELF-INTRODUCTIONS

On Monday morning, Natural Hazards Center Director Lori Peek will open the 49th Annual Workshop and moderate self-introductions. This is the time when every participant in the room gives their name and affiliation. Yes, you read that correctly—every participant! This is a long-standing Workshop tradition that originates in our goal to have Workshop participants connect with one another.

LISTENING SESSIONS

Sunday afternoon listening sessions provide an overview of federal policy updates or ongoing research and practice efforts. Facilitators will use all remaining time to gather feedback from attendees. These sessions invite participants to have a voice in shaping policies, tools, and other outcomes.



TRAINING SESSIONS

Sunday training sessions focus on creating awareness about specific topics and increasing professional skills.

KEYNOTE ADDRESS

Immediately after the self-introductions, Global Indigenous Consultant James Rattling Leaf will deliver the keynote address. His talk, *Using Indigenous Storytelling to Advance Resilience*, will focus on the many facets of story that help us understand disaster and how—using an Indigenous lens combined with modern science—we can create holistic approaches to better withstand it.

PLENARY SESSIONS

Plenary sessions on Monday, Tuesday, and Wednesday mornings will focus on a variety of ways that those working with disasters use stories and novel communication methods to drive collaboration and change. Plenary speakers will share how these experiences have helped to build trust and empathy, connect communities, and heal trauma.

CONCURRENT SESSIONS

Monday and Tuesday afternoons will feature a variety of 90-minute concurrent sessions organized around this year's Workshop theme and in response to recent developments in the hazards and disaster field. Moderators in each session will engage the panelists on recent disaster events and ongoing research, practice, and policy applications. Panelists will have about 10 minutes each to respond and provoke further conversation.

Approximately 30 minutes of each concurrent session will be reserved for open discussion between the audience and the panelists. PowerPoint is not used in the Monday and Tuesday concurrent sessions, as the goal is to maximize dialogue and interaction.

NETWORKING ROUNDTABLES

Networking roundtables provide an opportunity for Workshop attendees to have informal conversations on distinct topics of importance in the field. These sessions, which take place on Tuesday morning, are guided by conveners but largely driven by the interests, experiences, and curiosity of the attendees.

NEW RESEARCH, POLICY, AND PRACTICE SESSIONS

On Wednesday morning, panelists will participate in a series of 60-minute sessions designed to share information on recently completed or ongoing research, programs, projects, and initiatives.



POSTER SESSIONS

We will host two waves of poster sessions. The first round of presenters will be available to discuss their posters on Sunday evening and the second round will present on Monday evening. Posters will be available to view throughout the Workshop on video displays located in the Interlocken and Centennial Foyers. They will also be available to view or download in a PDF format on the Natural Hazards Center website.

WRAP-UP AND A CALL TO ACTION

As is tradition, the Natural Hazards Center director will close the Workshop on Wednesday with a summary of the highlights of the event and a discussion of opportunities for the future.

GETTING THE MOST OUT OF YOUR WORKSHOP

The information below is intended to help you navigate the Workshop.

GETTING HELP

If you need assistance or have questions during the Workshop, please do not hesitate to ask any member of the Natural Hazards Center team or one of the Workshop volunteers. Staff and volunteers can be identified by ribbons on their name badges. You can also get help at the registration desk in the Atrium on the main floor of the Omni Interlocken Hotel. Questions or concerns about your hotel room should be directed to the hotel staff.

FIRST-TIMERS' ORIENTATION

There is an orientation for first-time attendees on Sunday at 6:00 p.m. in Centennial E. If this is your first time at the Workshop, or if you have not attended in a while, we recommend this session.

STUDENT ORIENTATION

All undergraduate and graduate students are invited to attend this orientation and discussion, which will be held on Sunday at 6:00 p.m. in Centennial F. The session will focus on research opportunities, professional development, and networking. If you are a student and a first-timer, please plan to attend this orientation rather than the First-Timers' Orientation.

CAREER KICKSTARTER

Those who are hiring and those who are seeking jobs will have a chance to connect during the Career Kickstarter event in Interlocken C room at 12:15 p.m. on Monday. This informal gathering immediately follows the Monday morning plenary session, so quickly grab your lunch and head over to Interlocken C with those resumes and business cards!



MEALS

Tickets for lunches at the outdoor pavilion and the Tuesday evening barbecue at Avanti in Boulder should have been purchased when you registered for the Workshop. If you do not have a ticket and would still like to join, please see the staff at the registration desk in the Atrium of the hotel to see if there are any tickets still available for purchase.

If you purchased meals in advance, your name badge will have stickers indicating which ones you can attend. Badges will be checked by registration staff when entering Avanti and the pavilion, so please wear them to all events.

The cash bar and appetizers on Sunday evening, hosted reception on Monday evening, morning coffee, and afternoon breaks are open to all participants. Please scan the QR code below for additional meal and dining options near the Omni Hotel.



PARTICIPANT LIST

A list of participants and their contact information is included under the last tab in this program. We compiled this list of Workshop attendees to ensure that you can find and follow up with people that you meet here. Please be courteous and refrain from sending product or service solicitations to participants.

FOR THE MOST RECENT PROGRAM UPDATES, VISIT:
HAZARDS.COLORADO.EDU/WORKSHOP/2024



AN INCLUSIVE WORKSHOP, AN INCLUSIVE COMMUNITY

The Natural Hazards Center is a part of the University of Colorado Boulder, which is an institution committed to providing an inclusive environment where all individuals can achieve their academic and professional aspirations free from discrimination, harassment, and/or related retaliation based on race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation, or political philosophy. We ask that all Workshop attendees be respectful and supportive of one another. Should an issue arise that violates these ideals, please report it to staff members at the registration desk so appropriate action can be taken.

COVID-19 SAFETY PROTOCOLS

We are excited to again return to an in-person Natural Hazards Workshop and to co-host several associated add-on meetings here in Broomfield, Colorado. Please know that while we are thrilled to be together, our top priority is to keep all members of our community safe and respect those concerned about COVID-19 or other infections.

In recognition of our commitment, we strongly encourage you to take the following precautions for the health and safety of all participants:

- Ensure your vaccinations are current before traveling to the Workshop.
- Take a COVID-19 test at least 24 hours before traveling to the Workshop.
- Do not attend any sessions or events if you are COVID-19 positive or otherwise feeling ill.
- Consider wearing a mask in all public areas, maintain a reasonable distance from others whenever possible, and frequently sanitize your hands.

Complimentary Natural Hazards Center masks can be picked up at the registration table as needed. Hand sanitizer is available in each meeting room.





CONTINUING EDUCATION CREDITS

The Natural Hazards Workshop is pleased to offer pre-approved education credits for Certified Floodplain Managers and Certified or Associate Emergency Managers (CEM/AEM). Continuing education can be used for certification renewal by each organization. Those aspiring to attain their CEM or AEM status can also use the contact hours to count towards their initial qualification.

Certified Floodplain Manager Education Credits

Workshop attendance will count as 12 pre-approved continuing education credits under the Association of State Floodplain Managers Certified Floodplain Manager Program.

Certified or Associate Emergency Manager Contact Hours

Workshop attendance will count as 22.5 contact hours toward the Certified or Associate Emergency Manager contact hours under the International Association of Emergency Managers Certification Program.

How to Receive Continuing Education Credit

When signing in at registration in the Atrium of the Omni Interlocken Hotel, please inform the staff that you would like to document your attendance for continuing education credit. Please specify for what organization you wish to gain credit. Attendance certificates will be sent out via email within two weeks following the Workshop.

For questions about continuing education credits at the Workshop, please contact the Natural Hazards Center at: hazards.workshop@colorado.edu.





FREQUENTLY ASKED QUESTIONS

WHO REGISTERS FOR THE WORKSHOP?

The Workshop attracts federal, state, local, tribal, and territorial mitigation and emergency management and planning professionals; representatives of nonprofit, private sector, and humanitarian organizations; hazards and disaster researchers; and others dedicated to alleviating the impacts of disasters. About 90 percent of our participants are from U.S. states, territories, and North American tribal nations, while the remaining 10 percent join us from many other countries.

WHY IS THE WORKSHOP LIMITED TO 650 PEOPLE?

The Workshop size is limited by the capacity of the venue where we currently hold our meeting. In addition, we try to keep the Workshop size at about 650 people so that opportunities for interaction are maximized. At the present size, we attract a wonderful mix of people from different backgrounds and disciplines to share experiences, while offering a level of communication that leads to enduring relationships among participants.

WHY DOES EVERY PARTICIPANT INTRODUCE THEMSELVES ON THE FIRST DAY OF THE WORKSHOP?

This tradition dates to the first Workshop in 1975. It sets the tone for the rest of the week. From the very first major session, participants have the chance to put faces and voices to names. This opening session is also a great time to make a note of people you'd like to chat with during breaks, at lunch, or at the barbecue.

WHY ARE THERE NO POWERPOINT PRESENTATIONS IN THE CONCURRENT SESSIONS ON MONDAY AND TUESDAY AFTERNOONS?

The format of these panels is designed to encourage interaction between the panelists and the audience. We have long found that presenters best engage participants when they are actually speaking to them, rather than reading to them from slides. That said, we also understand that people's learning styles vary, and we encourage panelists to engage with materials in a variety of mediums for maximum audience participation.



HOW CAN I FIND PHOTOS AND BIOS FOR THE PANELISTS AND OTHERS WHO ARE INVOLVED WITH THE WORKSHOP?

Information for speakers and presenters who shared a bio and/or photo is linked from individual session pages in the online program and at: hazards.colorado.edu/workshop/2024/speakers.



WHY ARE PROFESSIONAL TITLES FOR PEOPLE NOT PROVIDED IN THE PROGRAM?

The variety and depth of experience embodied at the Workshop is immense. We refrain from using titles in the program because they don't always reflect the amount or type of information that a person has to share. The best way to find out about someone's experience is to introduce yourself and to start a conversation!

HOW ARE SESSIONS AND SPEAKERS CHOSEN FOR THE PROGRAM?

The 2024 Workshop is organized around the theme of *The Stories We Tell: Creative Strategies for Understanding and Communicating Disaster Risk*. That thematic statement drove the call for contributions. Late last year, we asked members of the hazards and disaster community to offer suggestions on effective ways to drive home lessons related to disasters and create understanding among diverse audiences.

We received an abundance of submissions. The Natural Hazards Center team took those submissions, read them multiple times, and then organized them into the Workshop program. Sessions were designed to ensure a wide range of topics would be addressed and a diverse array of voices represented. People were invited to participate based on their submissions and other activities throughout the year. Each year we work to integrate new people into the program so that participants hear fresh perspectives and outlooks. We also strive to provide content that helps keep participants up to date on new research projects, practical interventions, and policy changes.



WHY IS THE WORKSHOP NOT HELD IN BOULDER?

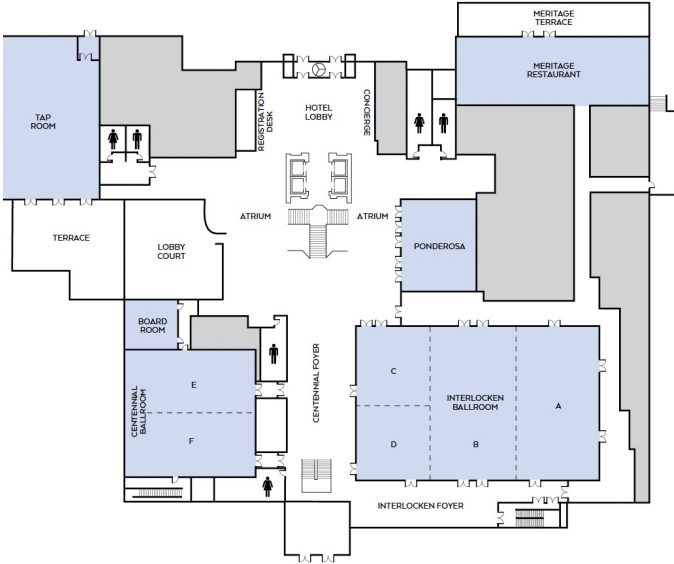
While we'd love to host the Workshop in the beautiful city where the Natural Hazards Center is based, our registration needs have outpaced the space that is available to accommodate a group of our size. While Boulder and the university are working on growing their meeting venues, we'll remain in Broomfield where we can offer relatively affordable rooms and registration rates. We are looking forward to our Tuesday evening barbecue at the rooftop patio of Avanti in downtown Boulder, which has a stunning view of the Flatirons.



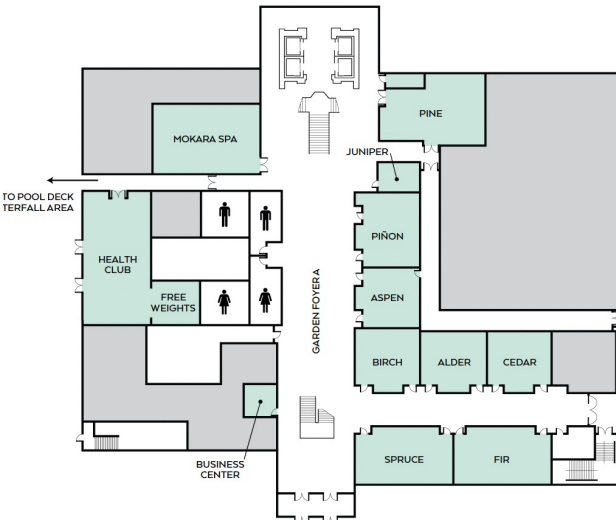


OMNI INTERLOCKEN HOTEL

LOBBY LEVEL



GARDEN LEVEL





NATURAL HAZARDS CENTER

STAFF



JOLIE BREEDEN
Lead Editor and Science
Communicator



CANDACE EVANS
Account Specialist and
Research Professional



JEFFREY GUNDERSON
Web and Data Manager



KATIE MURPHY
Administrative Associate and
Account Specialist



LORI PEEK
Director



JENNIFER TOBIN
Assistant Director



JASON VAN HORN
Senior Program Manager



RESEARCH ASSOCIATES



RACHEL ADAMS
Research Associate



NNENIA CAMPBELL
Research Associate



CARSON MACPHERSON-KRUTSKY
Research Associate



MEGHAN MORDY
Research Associate



MARY ANGELICA PAINTER
Research Associate

GRADUATE RESEARCH ASSISTANTS



MUSABBER ALI CHISTY
Graduate Research
Assistant



ZOE LEFKOWITZ
Graduate Research
Assistant



BRIGID MARK
Graduate Research
Assistant

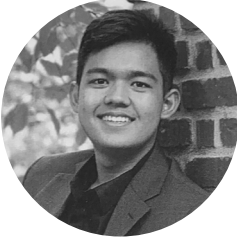


KATE MCNEELY
Graduate Research
Assistant



MELISSA VILLARREAL
Graduate Research
Assistant

UNDERGRADUATE RESEARCH ASSISTANTS



DAVID DOCTOR
Undergraduate Research
Assistant



CHANNIE SINGH
Undergraduate Research
Assistant



KATHERINE TEAGUE
Undergraduate Research
Assistant

NATIONAL SCIENCE FOUNDATION RESEARCH EXPERIENCE FOR UNDERGRADUATES (NSF-REU) STUDENTS



BAYLEY DICKINSON
NSF-REU Student



MARIA HUANG
NSF-REU Student



RESEARCH AFFILIATES



AMIR BEHZADAN
Faculty Research Affiliate



MINH ANH LY
Graduate Research Affiliate



COURTNEY WELTON-MITCHELL
Faculty Research Affiliate



JOCELYN WEST
Graduate Research Affiliate





DIRECTORS EMERITUS



GILBERT F. WHITE (1911-2006)
Founder and Director
1976-1984 and 1992-1994



WILLIAM TRAVIS
Director
1984-1992



DENNIS MILETI (1945-2021)
Director
1994-2003



KATHLEEN TIERNEY
Director
2003-2016





OUR VISION AND MISSION

VISION

At the Natural Hazards Center, we envision a just and equitable world where knowledge is applied to ensure that humans live in harmony with nature.

MISSION

We are the National Science Foundation's designated information clearinghouse for the societal dimensions of hazards and disasters. Our mission is dedicated to reducing disaster harm through:

- **Building connections** between researchers, nonprofit and private sector professionals, the media, policymakers, and state, local, tribal, territorial, and federal officials;
- **Translating and sharing** hazards and disaster research and information;
- **Advancing social science and interdisciplinary knowledge**, with a special emphasis on the most socially marginalized populations; and
- **Training and mentoring** a diverse next generation of hazards and disaster professionals.

Every day, we work to empower a culture where all people are educated and inspired to take positive action to mitigate hazards losses and to build stronger communities.

A BRIEF HISTORY

The Natural Hazards Research and Applications Information Center was founded in 1976, in response to the publication of the landmark *Assessment of Natural Hazards Research in the United States* (White and Haas, 1975). Among the recommendations included in what would come to be known as the *First Assessment* was that a national information clearinghouse be created to compile and share information as well as to connect academic hazards and disaster research, emergency management, and policy communities. Shortly after the *First Assessment* was published, Gilbert White, who was the primary author of the work, led the charge to do just that. He and his wife Anne—along with a small group of committed staff and students—began what is today's Natural Hazards Center at the University of Colorado Boulder.



The Center has been led by five directors over the years, who have involved teams of professional staff, research associates, graduate students, and undergraduate students who contribute to the vision and mission of the Center. While the projects that the Center has initiated and the publications that we have produced have evolved, our focus on reducing the harm and suffering from disasters by applying new knowledge has remained constant.

21ST CENTURY PURPOSE

The Natural Hazards Center remains committed to creating a center of gravity for the hazards and disaster community. We care deeply about facilitating scientific and practice-oriented connections because we recognize that we are all living at risk, we are all interconnected, and we all have a role to play in effectively responding to 21st century social and environmental challenges. Everything we do at the Center is informed by a justice and equity approach, and our core values are focused on our commitment to human dignity, collective well-being, scientific understanding, and sustainable hazards mitigation.



PUBLICATIONS PROGRAM

The Natural Hazards Center currently produces several publications that are available free and online including: *DR–Disaster Research News You Can Use*, *Research Counts*, and numerous research to practice publications. We also work with research teams to produce research award reports, research briefs, and community engagement briefs on many topics, including quick response research, mitigation, public health, and extreme weather. In addition, researchers at the Natural Hazards Center produce books, journal articles, book chapters, and other scholarly publications in collaboration with our partners. Interested readers can sign up for publication alerts at: hazards.colorado.edu/signup.

RESEARCH AWARD PROGRAMS

For nearly 40 years, the Center has administered the **Quick Response Research Award Program** with the support of the National Science Foundation (NSF) and other federal partners. This program provides awards to enable eligible researchers to rapidly collect perishable data in the aftermath of extreme events and to document disasters before memories fade and physical evidence is erased.

In 2019, with the support of the Federal Emergency Management Agency, the Center



launched a new award program called **Mitigation Matters**. This program advances mitigation research in communities exposed to natural hazards while enabling a diverse cadre of mitigation researchers.

In 2020, the Center added two more research programs—the **Public Health Disaster Research Award Program**, supported by the Centers for Disease Control and Prevention, and the **Weather Ready Research Award Program**, supported by the National Oceanic and Atmospheric Administration. As with our other programs, these awards support focused, interdisciplinary research to improve preparedness and increase resilience to disasters.

In 2023, with supplemental funding to the NSF from the National Institutes of Health, we launched a special call for quick response research focused on **Health Outcomes and Climate-Related Disaster Research**.

RESOURCES

The Center regularly shares information on jobs, new hazards-related grants, upcoming conferences, webinars, and trainings. We have compiled lists of hazards- and disaster-related scholarly journals, books, academic book series, podcasts, and documentaries. The Center also maintains a **Global Hazards and Disaster Research Centers List and Map**, which shows the location of 370 academic hazards and disaster research centers, laboratories, and institutes worldwide.

WEBINAR SERIES

The **Making Mitigation Work** webinar series—produced in partnership with the Federal Emergency Management Agency—features monthly, one-hour webinars highlighting progress in mitigation policy, practice, and research. Participants can receive continuing education credits for participating in these informative sessions.

TRAINING AND MENTORING ACTIVITIES

The Center administers the long-standing Disaster Grads listserv, where we share opportunities with students and emerging scholars and practitioners. In addition, we support efforts aimed at training and mentoring a diverse next generation of hazards and disaster researchers and practitioners. These include partnerships with the Bill Anderson Fund, the NSF Research Experience for Undergraduates Program, and the NSF Enabling Fellows Project.



CONVERGE

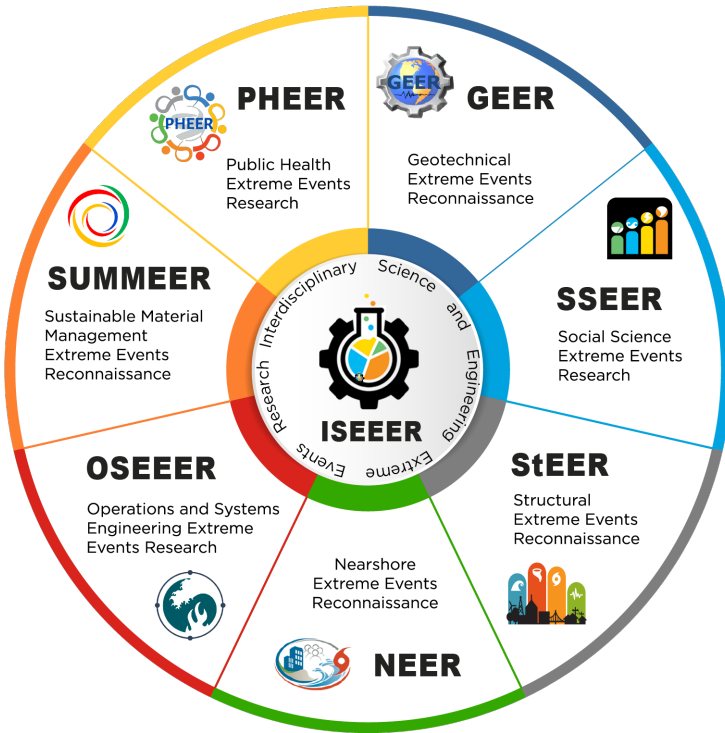
The National Science Foundation-supported CONVERGE facility was established in 2018 as the first social science-led component of the Natural Hazards Engineering Research Infrastructure (NHERI) for the nation. CONVERGE, which is headquartered at the Natural Hazards Center, brings together networks of hazards and disaster researchers across disciplinary boundaries to advance research that is problem-focused and solutions-based.

CONVERGE supports research that is conceptually integrative by: (a) identifying researchers; (b) educating and training researchers; (c) setting a community-driven convergence research agenda; (d) connecting researchers and coordinating functionally and demographically diverse research teams; and (e) supporting and funding convergence research, data collection, data sharing, and solutions implementation.





CONVERGE serves as the leadership hub for eight Extreme Events Reconnaissance and Research (EER) networks focused on geotechnical engineering, social sciences, structural engineering, nearshore research, operations and systems engineering, sustainable materials management, public health, and interdisciplinary research. This EER ecosystem connects and coordinates disciplinary communities and encourages interdisciplinary data collection and information sharing.



CONVERGE also offers free online resources including a series of interactive training modules. These web-based trainings cover a range of foundational and advanced topics in hazards and disaster research. The modules take an all-hazards approach and draw on case examples from natural hazards, technological disasters, public health emergencies, and willful human-caused disasters. Each module takes between 30 and 60 minutes to complete. At the end of the module, users can take a 10-question quiz worth one contact hour of emergency management training through a partnership with the International Association of Emergency Managers (IAEM) certification program. To date, we have trained more than 10,000 students and early career professionals through these modules. More information on CONVERGE is available at: converge.colorado.edu.



SUBSCRIBE NOW

Scan the QR codes below to subscribe to Natural Hazards Center and CONVERGE publications, activities, and updates.



Natural Hazards Center



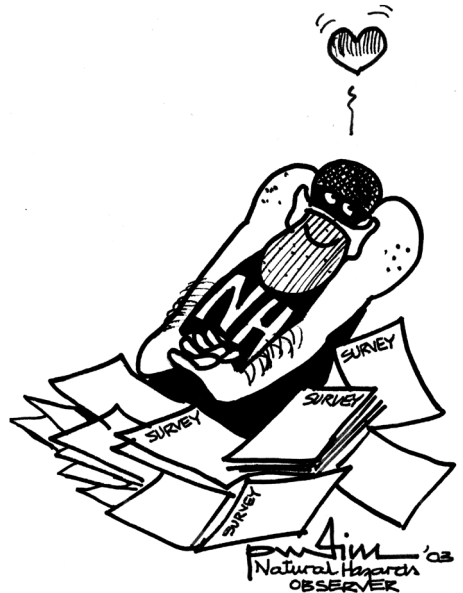
CONVERGE

WORKSHOP SURVEY

We hope you will share your feedback so we can continue to improve the Workshop!

Please follow this link or scan the QR code below to complete a short survey:

hazards.colorado.edu/workshop/2024/workshop-survey.





SAVE THE DATES!

50TH ANNUAL NATURAL HAZARDS WORKSHOP

Sunday, July 13 to Wednesday, July 16, 2025

RESEARCHERS MEETING

Wednesday, July 16 to Thursday, July 17, 2025

PRACTITIONERS MEETING

Thursday, July 17, 2025

OMNI INTERLOCKEN HOTEL | | BROOMFIELD, COLORADO

51ST ANNUAL NATURAL HAZARDS WORKSHOP

Sunday, June 21 to Wednesday, June 24, 2026

RESEARCHERS MEETING

Wednesday, June 24 to Thursday, June 25, 2026

PRACTITIONERS MEETING

Thursday, June 25, 2026

OMNI INTERLOCKEN HOTEL | | BROOMFIELD, COLORADO







SESSIONS AND EVENTS

SUNDAY, JULY 14

CYBERTRAINING: BROADENING ADOPTION OF CYBERINFRASTRUCTURE IN DISASTER MANAGEMENT

8:00 a.m. to 1:45 p.m. MDT

Location: Fir

Join this add-on training session organized to coincide with the annual Natural Hazards Workshop. This training is offered as part of a National Science Foundation-funded [International CyberTraining for Disaster Management Network](#). The project was designed to support students and professionals who wish to broaden their computational knowledge and data skills. Participants in this training session will gain cyberinfrastructure and geospatial analytic capabilities for observing and monitoring disaster events.

Training Modules

The expert-led training modules will focus on:

- Fundamental concepts and skills of Cyberinfrastructure (CI) and High-Performance Computing systems (e.g., [National Science Foundation ACCESS](#)) to enhance CI use in disaster management research
- Scientific programming in Python using Jupyter Lab
- Disaster data types and processing techniques
- Essential concepts of Geospatial Artificial Intelligence (GeoAI) and how to apply spatial analysis and GeoAI to disaster management

Facilitators:

Honggao Liu, Texas A&M University

Zhuping Sheng, Morgan State University

Shaowen Wang, University of Illinois Urbana-Champaign

Zhe Zhang, Texas A&M University



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ADD-ON MEETING: EQUITABLE WILDFIRE EMERGENCY MANAGEMENT AND CRITICAL INFRASTRUCTURE SYSTEMS

8:30 a.m. to 1:45 p.m. MDT

Location: Pine

This meeting will offer an opportunity for participants to establish a shared understanding of the gaps and challenges in equitable and efficient wildfire Emergency Management of Critical Infrastructure Systems (EM-CIS). This meeting is designed to engage stakeholders from government agencies, the private sector, and academia who are involved with interdependent critical infrastructure systems and communities in the face of a wildfire. The meeting will involve facilitated discussions that will inform the creation of theoretical/computational decision models to be used by wildfire practitioners.

Planned Activities

The meeting facilitators will:

- Provide an overview of the research project and its intended applications
- Conduct facilitated brainstorming sessions and identify themes of challenges, concerns, and suggestions related to equitable wildfire emergency management and critical infrastructure systems
- Organize small roundtable discussions on key themes

Participants will help to:

- Pilot a household survey designed to assess the social burden of wildfire-induced critical infrastructure system disruptions
- Validate household focus group interview questions
- Validate in-depth interview questions
- Identify next steps and future activities for this network

Facilitators:

Susan Clark, State University of New York at Buffalo

Sayanti Mukherjee, State University of New York at Buffalo

Jose Walteros, State University of New York at Buffalo

Jungwon Yeo, University of Central Florida



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REGISTRATION

10:00 a.m. to 7:00 p.m. MDT

Location: Atrium

FILM SCREENING: QUAKE HEROES

11:30 a.m. to 1:30 p.m. MDT

Location: Interlocken A

Join us for this special screening of *Quake Heroes*, a unique blend of storytelling and real-life heroism designed to inspire resilience and preparation for the next big quake. Based on true stories of the 1994 Northridge Earthquake, this is more than just a captivating movie—it's a strategic tool that drives preparedness by helping the audience empathize with the protagonists as they overcome challenges and learn lessons.

The 55-minute film gives a glimpse into the experiences of multiple Northridge survivors. You'll hear the stories of Mike Kubeisy, a photographer who rescues his neighbors and finds love amidst the rubble; Ana Zamora, a nurse who battles the odds to save patients in a flooded hospital; Joe Rico, a news reporter who is the first on the airwaves after the earthquake; and Buffy Grenier-Fitch, a counselor who helps her neighbors and reminds us of the importance of community. The film also features firefighters, earthquake scientists, and engineers.

We hope you'll enjoy this special event and the discussion that follows. Please note that lunch will not be provided but can be brought in. You can learn about local meal options at: hazards.colorado.edu/workshop/2024/meals.

Discussion:

Motivating Preparedness Behavior Using Storytelling and Social Science

Following the screening, film creators will delve deeper into the making of the *Quake Heroes* and what inspired them to use the medium as a way to drive earthquake preparedness. They will also discuss how individuals and organizations can use the film to spur their own communities to action by pairing screenings with opportunities to take immediate preparedness steps, such as signing up for alerts, purchasing supplies, or enrolling in life-saving skills courses.

Discussants:

Mark Benthien, Southern California Earthquake Center
Michele Wood, California State University, Fullerton



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FILM SCREENING: ELEMENTAL

11:30 a.m. to 1:30 p.m. MDT

Location: Interlocken B

Join us for this special screening of *Elemental: Reimagine Wildfire*. This award-winning film takes viewers on a journey with top experts and survivors to better understand how homes and communities ignite in fast moving wildfires and what steps we can take to prevent these disasters. Learn about the harrowing escape from Paradise, California; research examining why some homes burn and others don't; and Native American practices that have long used fire to restore landscapes and increase safety. *Elemental* explores the complicated relationship humans have with fire and how we can prepare our communities.

We hope you'll enjoy this special event and the discussion that follows. Please note that lunch will not be provided but can be brought in. You can learn about local meal options at: hazards.colorado.edu/workshop/2024/meals.

Discussion:

Transforming Wildfire Attitudes and Solutions

Homes lost to wildfires have increased markedly in the past decade. Most are lost to fast-moving fires that skip over vegetation treatments and fuel breaks. These homes are ignited by burning embers well ahead of the flame front and communities continue burning long after the flame front has passed. After the film, join the the executive producer and fire experts for a discussion about redefining wildfire challenges and how to scale solutions that will work, as well as opportunities to give your hot take on the film, ask burning questions, or even share an incendiary remark.

Discussants:

Ralph Bloemers, Green Oregon

Angie Davlyn, Roaring Fork Wildfire Collaborative

Danielle McNutt, City of Boulder Fire-Rescue

BREAK

1:30 to 2:00 p.m. MDT

LISTENING SESSION: CONNECTING WITH COMMUNITIES—MOVING FEDERAL SCIENCE INTO ACTION



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2:00 to 3:15 p.m. MDT

Location: Centennial E

Community engagement is key to moving natural hazard science and information into action. Facilitators in this session will use the National Oceanic and Atmospheric Administration's National Water Models and the National Aeronautics and Space Administration's Earth observation data to prompt a discussion about what success might look like when connecting natural hazard information to communities that face severe flooding and hurricane impacts. The audience will be invited to discuss community engagement approaches, and how to build relationships between researchers, community members, and those who produce natural hazard resources.

Facilitators:

María G. Méndez Guijarro, Puerto Rico Science, Technology, & Research Trust

Sydney Neugebauer, National Aeronautics and Space Administration

Kristin Raub, Consortium of Universities for the Advancement of Hydrologic Science, Inc.

Brenna Sweetman, National Oceanic and Atmospheric Administration

TRAINING SESSION: CHANGEMAKERS—BUILDING SKILLS TO CREATE ENVIRONMENTAL CHANGE

2:00 to 3:15 p.m. MDT

Location: Centennial F

This training will present creative strategies that use the power of stories to bring about lasting environmental change. Using an interactive exercise focused on personal narratives, attendees will develop storytelling, visioning, coalition building, and communication skills that can be used in their day-to-day work. Join this training to learn more about Changemakers and the ideas, tools, and resources available to help you be the change you want to see in the world.

Facilitators:

Tony Passino, Change the Chamber* Lobby for Climate

Manushi Sharma, Change the Chamber* Lobby for Climate

LISTENING SESSION: HAZARDS ACCOUNT IMPLEMENTATION PLAN

2:00 to 3:15 p.m. MDT

Location: Interlocken A

The United States is developing the first "Hazards Account" on hazards, extreme weather, and climate events to improve understanding of hazard mitigation and recovery costs. This Account will expand the monitoring of U.S. disaster loss and impacts and will inform



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the National Strategy to Develop Statistics for Environmental-Economic Decisions. Facilitators in this session will introduce the Hazards Account and discuss its system for tracking the value of natural assets to disaster risk reduction, the impact of hazards on the loss of natural assets, and the interactions between hazards, physical assets, natural assets, and resilience. The goal of this work is to provide a fuller understanding of linkages between the U.S. economy and the cost of hazard mitigation and recovery. Audience members will be invited to provide feedback and discuss these issues.

Facilitators:

Kristin Ludwig, White House Office of Science and Technology Policy

Andrew Martinez, U.S. Department of the Treasury

Adam Smith, National Oceanic and Atmospheric Administration

John Voorheis, U.S. Census Bureau

TRAINING SESSION: TELLING DISASTER STORIES WITH ARCGIS STORYMAPS

2:00 to 3:15 p.m. MDT

Location: Interlocken B

Combining maps with text, photos, and videos can help visualize disasters in a way that adds depth and furthers understanding. ArcGIS StoryMaps makes it easy to tell disaster-related stories using a variety of data sources and media. This session will train attendees on the basics of building StoryMaps, sharing examples from across the disaster community for inspiration. The training, resources, and materials received in this session will support attendees' map-based story telling long into the future.

Facilitator:

Shelby Hines, Esri

LISTENING SESSION: DESIGNED TO PROTECT—HUMAN DIMENSIONS OF SHELTERING

2:00 to 3:15 p.m. MDT

Location: Interlocken C

Although safe rooms and storm shelters provide *physical* protection and save lives, there is potential to improve the practice of sheltering by carefully considering social factors, such as organizational leadership, emergency planning, and population characteristics. This session will open with a brief presentation on the state of engineering practice and social science research concerning sheltering in response to multiple hazards. Attendees will provide feedback related to shelter construction and ways that operations and design can work together to address human factors pertaining to sheltering.



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Facilitators:

Daniel Bass, Federal Emergency Management Agency
Carson MacPherson-Krutsky, Natural Hazards Center
Pataya Scott, Federal Emergency Management Agency
Camila Espina Young, National Institute of Standards and Technology

TRAINING SESSION: TRAUMA-INFORMED STORYTELLING ACTIVITIES FOR COMMUNITY ENGAGEMENT

2:00 to 3:15 p.m. MDT

Location: Interlocken D

Stories create connection and shared understanding that are foundational for increasing community resilience. However, it is important that this work is based on trauma-informed approaches for engaging with community members who have experienced disasters. In this training session, participants will learn how to develop and facilitate resilience planning and community engagement using a structured storytelling activity that can be customized. Attendees will also learn about the Equitable Resilience Builder—an application developed by the U.S. Environmental Protection Agency for equitable engagement in assessing hazards, vulnerability, and resilience.

Facilitators:

Emily Eisenhauer, U.S. Environmental Protection Agency
Amelia Hertzberg, U.S. Environmental Protection Agency
Marcus Martin, Institute for Diversity and Inclusion in Emergency Management
Raven Nee, U.S. Environmental Protection Agency

BREAK

3:15 to 3:45 p.m. MDT

LISTENING SESSION: TOOL TIME—EQUIP YOURSELF TO MANAGE DISASTER

3:45 to 5:00 p.m. MDT

Location: Centennial E

This listening session will provide an opportunity to learn about and provide feedback on tools to help manage disaster preparedness, response, and recovery. Featured tools include user-friendly, open-access climate datasets, an open-source tool to pinpoint household-level fire risk, tools for protective action and risk communication, and a system for rapidly triaging mental health interventions. Facilitators will briefly introduce each tool and then turn to the audience for feedback and a lively discussion on how they can be



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incorporated into daily disaster management.

Moderator:

Jonathan Godt, U.S. Geological Survey

Facilitators:

Jordan Branham, Argonne National Laboratory

Leah De Hoet, Federal Emergency Management Agency

Monica Owens Doyle, American Red Cross

Merritt D. Schreiber, University of California, Los Angeles

TRAINING SESSION: LEVELING THE PLAYING FIELD—LEGAL SERVICES FOR MARGINALIZED COMMUNITIES

3:45 to 5:00 p.m. MDT

Location: Centennial F

Disaster survivors may require legal assistance to establish equitable recovery. Marginalized communities, however, can face barriers to accessing these services. This training will feature a new resource—[Heartland Disaster Help](#)—that empowers residents who face significant flooding, windstorms, extreme heat, and wildfires across the Midwest. Attendees will learn about legal issues that arise during disasters, how communities can resolve or avoid them, and how resources and legal assistance can be accessed for those who need it the most.

Facilitators:

John Eidleman, Legal Services Corporation

Dayo Kadree, Legal Services Corporation

Shrushti Kothari, Legal Services Corporation

LISTENING SESSION: COMMUNITY DISASTER RESILIENCE ZONES—SHAPING PROJECT CERTIFICATION AND EXAMINING IMPLEMENTATION

3:45 to 5:00 p.m. MDT

Location: Interlocken A

Community Disaster Resilience Zones—census tracts that have been identified as those most at risk to hazards and climate change—were designated in September 2023 and tribal and territorial areas have also been added. Now that the initial designations have been made, the Federal Emergency Management Agency would like feedback on connecting communities to technical assistance, working with federal agencies, and detailing the experiences of private and philanthropic organizations. Additionally, the



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agency would like guidance on establishing a certification process for projects that are within or primarily benefit from a resilience zone. Join this listening session to contribute your thoughts on the ongoing work being done in this area.

Facilitators:

Shayla Anderson, Federal Emergency Management Agency
Michael Godesky, Federal Emergency Management Agency
Samantha Medlock, Federal Emergency Management Agency
Casey Zuzak, Federal Emergency Management Agency

LISTENING SESSION: PLAYING WITH DISASTER—GAMES TO REDUCE RISK

3:45 to 5:00 p.m. MDT

Location: Interlocken B

Games offer an interactive and experiential storytelling medium that can enhance risk awareness, motivate disaster preparedness, and help practice decision-making during disasters. This listening session will provide an opportunity for attendees to play disaster risk reduction games, watch demonstrations, and provide developers and researchers with feedback.

Facilitators:

Yolanda Lin, University of New Mexico
Elizabeth Safran, Lewis & Clark College
Anne Wein, U.S. Geological Survey

Presenters:

Evalyna Bogdan, York University
MJ Johns, University of California, Santa Cruz
David Schwartz, Rochester Institute of Technology
Lauren Traczykowski, Aston University
Jeff Underwood, California State University, Chico

TRAINING SESSION: STORYTELLING FOR EFFECTIVE SCIENCE COMMUNICATION

3:45 to 5:00 p.m. MDT

Location: Interlocken C

Effectively communicating science to the broader public has important implications for hazards and disaster research and practice. This training session will break down the elements of storytelling for effective science communication and share best practices for using video as a communication tool. Facilitators will highlight lessons learned from interviews with public scholars, systematic reviews, and data analysis. The interactive



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session will provide opportunities for practice and allow time for networking and reflection.

Facilitators:

Kyle Breen, Dalhousie University
Betty Lai, Boston College
Haorui Wu, Dalhousie University

LISTENING SESSION: THE RISKPACC PROJECT—CLOSING RISK PERCEPTION AND ACTION GAPS

3:45 to 5:00 p.m. MDT
Location: Interlocken D

The RiskPACC Project was created to close the gap between perceptions of risk management and actions taken by the public and disaster professionals. To achieve this goal, the RiskPACC project and partners are developing resources to support two-way communication and engagement. Facilitators will share the four-module framework—understanding, sharing, relating, and building—and gather audience feedback to inform the project's finalization.

Facilitators:

Maureen Fordham, University College London
Christina Gatsogianni, Center for Security Studies
Femke Mulder, University College London

BREAK

5:00 to 5:30 p.m. MDT

POSTER SESSION AND WELCOME RECEPTION

5:30 to 7:00 p.m. MDT
Location: Interlocken and Centennial Foyers and Interlocken B/C

Please join us for this welcome event! There will be posters for viewing, appetizers for eating, and drinks for purchase.

Due to the large number of submissions, we are offering two distinct poster sessions. Please join us on Sunday night to hear from the first round of presenters before they remove their posters for the Monday night session!



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FIRST-TIMERS' ORIENTATION

6:00 to 7:00 p.m. MDT

Location: Centennial E

Are you new to the Workshop this year? If so, please attend this orientation to learn how the event is organized and to receive suggestions for getting the most out of your time here. This is also a great opportunity to network with fellow first-timers and ask any questions you may have.

Conveners:

Michelle Annette Meyer, Texas A&M University

H. Tristan Wu, University of North Texas

STUDENT ORIENTATION

6:00 to 7:00 p.m. MDT

Location: Centennial F

All students are encouraged to attend this orientation and take advantage of the opportunity to network and learn how to get the most out of your Natural Hazards Workshop. Discussion will focus on research opportunities, publication outlets, and professional development. If you are a student and a first-timer, please plan to attend this session, rather than the First-Timers' Orientation.

All Workshop participants are welcome to drop by at 6:00 p.m. to share handouts or other materials specifically for students.

Conveners:

Nnenia Campbell, Natural Hazards Center

Louise Comfort, University of California, Berkeley

Melissa Villarreal, Natural Hazards Center



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THE BILL ANDERSON FUND 10TH ANNIVERSARY CELEBRATION: STORIES OF THE PAST, PRESENT, AND FUTURE

7:00 to 8:30 p.m. MDT

Location: Interlocken B/C

Please join us in celebrating the [Bill Anderson Fund](#) (BAF) and a decade of cultivating leaders in disaster research and practice from underrepresented groups. The Fund's dedicated support has empowered members of the BAF community to make meaningful contributions to scholarly discourse, policy, and practice related to hazards and disasters in marginalized communities.

The event will kick off with speakers reflecting on the journey of the BAF—formally known as the William Averette Anderson Fund—and its future directions. Founders, doctoral student fellows, and alumni will discuss the organization's history and mission, current programs and initiatives, and its vision for the next 10 years. The many contributions of time, funds, and guidance that have helped the Fund achieve its goals throughout the years and into the future will also be highlighted.

Initial remarks will be followed by an informal networking session where attendees can chat with members of the BAF community and celebrate the transformative impact that its network has had on the hazards and disaster field. There will be cake and plenty of time to learn about how you, too, can contribute to the legacy of Bill Anderson by supporting emerging scholars and practitioners.

Moderator:

Nnenia Campbell, Natural Hazards Center

Speakers:

Norma Anderson, The Bill Anderson Fund

Yajaira Ayala, University of Delaware

Santina Contreras, University of Southern California

Diamond Joelle Cunningham, Tulane University

Felicia Henry, University of Delaware

Joshua McDuffie, Vanderbilt University

————— END OF DAY —————



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REGISTRATION

7:00 a.m. to 5:30 p.m. MDT

Location: Atrium

WELCOME AND SELF-INTRODUCTIONS

8:00 to 9:15 a.m. MDT

Location: Interlocken A/B

This session officially opens the 49th Annual Natural Hazards Workshop. This is the time when every participant says their name and affiliation. Yes, you read that correctly! This is a Workshop tradition that originates in our mission to facilitate connections. Please join us for this session so that you can wave hello to old friends and colleagues and meet new ones.

Facilitator:

Lori Peek, Natural Hazards Center

KEYNOTE ADDRESS—USING INDIGENOUS STORYTELLING TO ADVANCE RESILIENCE

9:15 to 10:00 a.m. MDT

Location: Interlocken A/B

Indigenous storytelling is not merely a cultural act, it involves a dynamic repository of knowledge, wisdom, and practices that have enabled Indigenous communities to thrive and survive in diverse environments. This keynote address will explore how Indigenous storytelling can be leveraged to advance resilience in the face of contemporary challenges, including climate change, environmental degradation, and social upheaval. By analyzing various rituals and forms of storytelling—such as oral histories and mythological narratives—the embedded lessons of disaster risk management, environmental stewardship, and community solidarity will become clear. Strategies for combining Indigenous storytelling with modern scientific knowledge will also be discussed, showing a path for creating holistic approaches to building resilience. Through this exploration, this keynote presentation will highlight the relevance of Indigenous knowledge systems in contemporary resilience discourse and advocate for their inclusion in policy and practice.



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JAMES RATTLING LEAF

Global Indigenous Consultant and Principal of the Wolakota Lab, LLC

James Rattling Leaf guides and inspires organizations to work more effectively with Indigenous peoples for a more equitable world.

Rattling Leaf has more than 25 years of experience working with the U.S. federal government, institutions of higher education, and nonprofit organizations to develop and maintain effective working relationships with American Indian tribes, tribal colleges and universities, and tribal communities. He specializes in developing programs that use the interface between Indigenous people's traditional knowledge and Western science. He sees a greater vision of human knowledge that incorporates the many insights of human cultures and provides a context for better understanding the world.

Currently, Rattling Leaf holds co-leadership roles at the Environmental Science Data Innovation and Inclusion Lab; North Central Climate Adaptation Science Center; Rosebud Sioux Tribe; Groups on Earth Observations Indigenous Alliance; and Cooperative Institute for Research in Environmental Sciences at the University of Colorado Boulder.

He is a citizen of the Rosebud Sioux Tribe and has a Lakota Studies degree from Sinte Gleska University.

Introduction:

Benny Shendo, Jr., University of Colorado Boulder

Recorder:

Felicia Henry, University of Delaware

BREAK

10:00 to 10:30 a.m. MDT

PLENARY: CHANGING THE MESSAGE—EFFECTIVE COMMUNICATION IN A CHANGING CLIMATE

10:30 a.m. to 12:00 p.m. MDT

Location: Interlocken A/B

Rigorous social science research has long informed emergency management risk communication strategies. But we are in a new era—one marked by cascading and



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compounding disasters and public mistrust in officials. This changing atmosphere calls for a recommitment to time-proven risk communication principles as well as new and creative strategies for reaching a disaster-weary public.

We hope you will join this plenary session, which will open with remarks from the 12th Administrator of the Federal Emergency Management Agency, Deanne Criswell. She will be joined on stage by a panel of experts who will speak about their novel communication efforts after recent disasters. They will also highlight new strategies designed to reach diverse populations and ensure that they have the information they need to prepare for, respond to, and recover from all hazards.



Introduction:

Karl Kim
University of Hawaii at Manoa



Panelist:

Lori Moore-Merrell
U.S. Fire Administration



Panelist:

Brandy Bishop
Confederated Tribes of
Grand Ronde



Panelist:

Summer Sylva,
U.S. Department of
the Interior



Panelist:

Deanne Criswell
Federal Emergency
Management Agency



Panelist:

Michelle Wood
California State University,
Fullerton

Recorders:

Yajaira Ayala, University of Delaware
Judanne Lennox-Morrison, Texas A&M University

LUNCH

12:00 to 1:30 p.m. MDT - Outdoor Pavilion

(Also in this time slot: Career Kickstarter in Interlocken C from 12:15 to 1:30 p.m.)



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CAREER KICKSTARTER

12:15 to 1:30 p.m. MDT

Location: Interlocken C

This year's Career Kickstarter has a new format! We invite those interested to grab their lunch and head to Interlocken C to make connections during this semi-structured meet-up. Please look for the designated seats and tables for "job seekers" and "jobs to share" so everyone can quickly learn about available opportunities and have plenty of time to network.

Those with job opportunities to share will participate in a rapid round-robin of available or forthcoming positions during the first half of the session while everyone is enjoying their lunch. We encourage job seekers to remember the individuals they are interested in speaking with, because during the second half of this session, attendees will have the opportunity to mingle informally, follow up with questions, and exchange contact information. Those highlighting jobs are welcome to bring advertisements/descriptions to share, while those looking for new opportunities may want to bring resumes. Everyone is encouraged to bring business cards to easily connect after the Workshop.

In addition to this session, a resource table will be available for the duration of the Workshop where participants can leave flyers and other materials that might be of use to job seekers or employers. Please bring plenty of copies to share.

Facilitator:

Lindsay Davis, U.S. Geological Survey

CONCURRENT SESSIONS BEGIN

THE LANGUAGE OF DISASTERS

1:30 to 3:00 p.m. MDT

Location: Centennial E

When we communicate about disasters, the language we use matters. More than just semantics, words can convey a range of overt and contextual meanings. Some will build trust and understanding, while others will erode it. Speakers in this session will discuss how to use language that recognizes identity, communicates meaning, and speaks to your audience rather than your peers.



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Moderator:

Felicia Henry, University of Delaware

Panelists:

Beth Bartel, U.S. Geological Survey

Phil Berke, University of North Carolina at Chapel Hill

John Thomas Cooper, Jr., Texas A&M University

Cassandra R. Davis, University of North Carolina at Chapel Hill

Marcus Martin, Institute for Diversity and Inclusion in Emergency Management

Recorder:

Yajaira Ayala, University of Delaware

ART AND DISASTERS: CRAFTING RESILIENCE AND RECOVERY

1:30 to 3:00 p.m. MDT

Location: Centennial F

Art can play a vital role in disaster resilience and recovery. Whether working through trauma by creating art, communicating recovery processes, or documenting events, art is a powerful medium through which the stories of disaster are told. This session will look at how art can powerfully convey disaster knowledge and enhance resilience, as well as the way traditional disaster data can be visualized artistically.

Moderator:

Marcie Washington, Florida International University

Panelists:

Rebecca Friedman, Florida International University

Christine Gaynes, Federal Emergency Management Agency

Carl-Philippe Juste, Little Haiti Cultural Center

Yolanda Lin, University of New Mexico

Tricia Wachtendorf, University of Delaware

Recorder:

Gabriela Yáñez González, University of Nebraska—Lincoln

WHAT'S IN THE BOX: DESIGNING TOOLS TO BE USED

1:30 to 3:00 p.m. MDT

Location: Ponderosa

Emergency professionals have a myriad of resources to address disaster issues and facilitate effective decision-making, but are they useful? Several problems exist—



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emergency managers may not have the financial resources or staff to integrate new tools and technology, the technologies might not meet actual needs, and tools that do provide value can sometimes lack the guidance necessary to ensure they are used effectively. Speakers will discuss these issues and offer examples of solutions that frontline agencies can implement with ease.

Moderator:

Janna Wilkinson, Utah Division of Emergency Management

Panelists:

Joshua Barnes, National Aeronautics and Space Administration

Mike Chard, Boulder Office of Disaster Management

Daniel Green, Federal Emergency Management Agency

Amanda Savitt, Argonne National Laboratory

Recorder:

TyKeara Mims, Texas A&M University

CONTINUOUS PROGRESS: IMPLEMENTING EQUITY IN FEDERAL PROGRAMS

1:30 to 3:00 p.m. MDT

Location: Interlocken A

Three years ago, a presidential initiative directed federal agencies to ensure that at least 40 percent of their investments in climate, sustainable housing, infrastructure, and similar efforts addressed inequity. Since then, many federal programs have worked to make sure services are easier to access and communicated more broadly. They have collected data that better captures community character and strived to identify gaps in offerings, address vulnerabilities, and enhance decision-making after disasters. Panelists will describe successes in incorporating equitable and just practices in their programs, as well as consider what needs to happen next.

Moderator:

Alessandra Jerolleman, Jacksonville State University

Panelists:

Bradford Case, Federal Emergency Management Agency

Ali Nejat, Texas Tech University

Megan Nibley, U.S. Department of Housing and Urban Development

Walter Peacock, Texas A&M University

Recorder:

Mason Alexander-Hawk, Texas A&M University



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COMMUNICATING DISASTER DOWN UNDER: LESSONS FROM AUSTRALIA AND NEW ZEALAND

1:30 to 3:00 p.m. MDT

Location: Interlocken B

Because diverse audiences understand disaster risk in different ways, researchers and practitioners in Australia and New Zealand have reimagined how they approach risk communication. Too often, agendas focus on what the communicator cares about, rather than an audience's understanding or how they'll receive the message. This panel presents examples that highlight how organizational practices down under are changing to address these misalignments and improve disaster communication.

Moderator:

Kate Brady, University of New South Wales

Panelists:

Mary Anne Clive, GNS Science

Claire Leppard, University of Melbourne

Jolie Wills, Hummingly

Recorder:

Teye Yevuyibor, Louisiana State University

NEW HOME, NEW RISK: PREPAREDNESS AND RESILIENCE FOR IMMIGRANT COMMUNITIES

1:30 to 3:00 p.m. MDT

Location: Pine

Immigrating to another country can create a variety of vulnerabilities, including being unaware of the disaster risks and resources in one's new home. It's not necessarily easy to gain such knowledge—immigrants and refugees might have to navigate language issues, cultural factors, and systemic obstacles to be ready to face disasters. This session will look at immigrant perspectives and social influences that affect household risk reduction behavior, risk understanding, and the ability to build disaster resilience.

Moderator:

Fernando Rivera, University of Central Florida

Panelists:

Himanshu Grover, University of Washington

Szymon Parzniewski, Dalhousie University



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Manuela Sifuentes, City of Boulder
Ming Xie, University of Maryland, Baltimore County

Recorder:

Latasha Allen, Indiana University–Purdue University Indianapolis

BREAK

3:00 to 3:30 p.m. MDT

KNOWING THROUGH STORY: INDIGENOUS DISASTER COMMUNICATION AND KNOWLEDGE

3:30 to 5:00 p.m. MDT

Location: Centennial E

Traditional ecological knowledge and other Indigenous knowledge systems can use the past to inform and shape the future. After generations of marginalization, cultural assimilation, and genocide, governments around the globe are finally beginning to recognize these visual and oral forms of knowledge, although not yet in a way equal to Western knowledge systems. Many national- and subnational-level agencies, however, are beginning to incorporate them into policy, climate adaptation planning, and disaster risk reduction strategies. Speakers will discuss Indigenous modes of transmitting knowledge, how they are applied, and how disaster programs have benefited, including strengthened response to climate-induced extreme weather.

Moderator:

Michèle Companion, University of Colorado Colorado Springs

Panelists:

Cynthia R. Harris, National Congress of American Indians

Shirley Laska, Lowlander Center

Kristina Peterson, Lowlander Center

Rosina Philippe, First Peoples' Conservation Council

Recorder:

Judanne Lennox-Morrison, Texas A&M University

LAUGHING MATTERS: HUMOR, SATIRE, AND COMEDY IN DISASTER

3:30 to 5:00 p.m. MDT

Location: Centennial F



SESSIONS AND EVENTS: MONDAY, JULY 15

Although disasters aren't funny, the way we communicate about them doesn't have to be entirely somber. Because humor creates connection and spurs empathy, it can be an effective way to relate information that helps people understand disasters—what causes them and how to prepare—as well as a way to lighten some of the sadness that follows. Comedy and satire can also inspire the change necessary to break down systems that lead to hazards becoming disasters. This session will explore the ways humor can help a world reeling from the impacts of climate change and ever-increasing catastrophes.

Moderator:

Lauren Alexander Augustine, The National Academies

Panelists:

Max Boykoff, Cooperative Institute for Research in Environmental Sciences

Sara K. McBride, U.S. Geological Survey

Rob Pudim, Independent Cartoonist

Jason von Meding, University of Florida

Recorder:

Diamond Joelle Cunningham, Tulane University

PREPAREDNESS IN YOUR POCKET: DEVELOPING APPS FOR DISASTER AWARENESS

3:30 to 5:00 p.m. MDT

Location: Ponderosa

In an era where many people have a smartphone close at hand, mobile apps can help community members engage, communicate, and gather relevant information for disaster preparedness and awareness. In this session, panelists will explore processes for developing and testing disaster apps and discuss how they are used to help people get ready and act when hazards occur.

Moderator:

Hamilton Bean, University of Colorado Denver

Panelists:

Zuben Bastani, ReachWell

Elizabeth Bubel, American Red Cross

Ginny Katz, HazAdapt

Danielle Sumy, National Science Foundation

Recorder:

Tiffany Cousins, Virginia Tech



SESSIONS AND EVENTS: MONDAY, JULY 15

FINDING FUNDS AND FILLING GAPS: IMPROVING DISASTER ASSISTANCE

3:30 to 5:00 p.m. MDT

Location: Interlocken A

Nonprofit organizations and federal governments have a variety of funding mechanisms available to assist those who have experienced a disaster. Still, gaps persist in available funding, how it's allocated, and who receives funds and when. This session will discuss improvements that are making disaster funds more accessible and equitable, as well as the data, processes, relationships, and technical assistance needed to spur even greater progress.

Moderator:

Jeffrey Lusk, U.S. Small Business Administration

Panelists:

Frank Matranga, Federal Emergency Management Agency

Shannon Rhoten, U.S. Small Business Administration

Austin Snowbarger, Center for Disaster Philanthropy

Aaron Titus, Crisis Cleanup

April Wood, National Voluntary Organizations Active in Disaster

Recorder:

Joseph Karanja, Arizona State University

PARTNERING TO REDUCE DISASTER RISK: THE U.S.-JAPAN COLLABORATION

3:30 to 5:00 p.m. MDT

Location: Interlocken B

Climate-induced disaster risk is increasing worldwide, and disaster risk reduction investments are not keeping pace. The Sendai Framework for Disaster Risk Reduction emphasizes the importance of investment in this area, but more human-centered, data-based approaches are needed, as are traditional hazard-centered or engineering approaches. This led the Japan Science and Technology Agency and the National Science Foundation to issue a call for joint U.S.-Japan projects to address these needs. This session introduces three of the funded projects and discusses action necessary in the future.

Moderators:

Jacqueline Meszaros, National Science Foundation

Yuichi Ono, Tohoku University



SESSIONS AND EVENTS: MONDAY, JULY 15

Panelists:

Yoshio Kajitani, Kagawa University
Shunichi Koshimura, Tohoku University
Alka Sapat, Florida Atlantic University
Tomohiro Tanaka, Kyoto University
Yi-Chen Yang, Lehigh University

Recorder:

Carlo Chunga Pizarro, University of California, Irvine

RETHINKING RESILIENCE: DESIGNING DISASTER-AWARE COMMUNITIES

3:30 to 5:00 p.m. MDT

Location: Pine

The intensity and severity of recent disasters are putting new pressures on community infrastructure and the built environment. In this era, designing communities that can withstand disaster will require a holistic approach that encompasses local culture, history, landscapes, traditions, economics, and more. This session will explore how communities can improve their resilience through design, architecture, and housing interventions. Panelists will discuss projects, possibilities, and priorities that ensure community members can take the lead in making where they live resilient.

Moderator:

Santina Contreras, University of Southern California

Panelists:

Maria Dillard, National Institute of Standards and Technology
Sarah Konradi, Design Workshop Foundation
Paul Kovacs, Institute for Catastrophic Loss Reduction
Joseph Kunkel, MASS Design Group

Recorder:

Annika Doneghy, Case Western Reserve University

BREAK

5:00 to 5:10 p.m. MDT



SESSIONS AND EVENTS: MONDAY, JULY 15

AWARDS CEREMONY

5:10 to 5:30 p.m. MDT

Location: Centennial E

Please join us for a festive celebration of the winners of the [Mary Fran Myers Scholarship](#), the [Disability and Disasters Award](#), and the [Hazards and Disaster Student Paper Competition](#). The award selection committee chairs will briefly describe each award and introduce the recipients. We hope that all Workshop participants will take a moment to meet and congratulate the award recipients during this special session and throughout the duration of the Workshop.

MARY FRAN MYERS SCHOLARSHIP

Co-Chairs:

Ray Chang, Embry-Riddle Aeronautical University

Lisa Jackson, Emergency Management Victoria

2024 Winner:

Olasunkanmi Habeeb Okunola, United Nations University

DISABILITY AND DISASTERS AWARD

Chair:

Candace Evans, Natural Hazards Center

2024 Winners:

Elizabeth Davis, EAD & Associates

Annika Doneghy, Case Western Reserve University

STUDENT PAPER COMPETITION

Chair:

Melissa Villarreal, Natural Hazards Center

2024 Undergraduate Winner:

Gabriella Bellows, Tulane University

After the Earthquake: Institutional Trust and Governmental Performance in Chile and Haiti

2024 Graduate Winner:

Gardiner Brown, University of California, Berkeley

Vulnerable Populations/Responsible Individuals: Disability and Hurricane Harvey



SESSIONS AND EVENTS: MONDAY, JULY 15

POSTER SESSION AND HOSTED RECEPTION

5:30 to 7:00 p.m. MDT

Location: Interlocken and Centennial Foyers and Interlocken B/C

Please join us for the second and final round of poster presentations. Nonalcoholic beverages and complimentary beer, wine, hazard-themed cocktails, and tasty appetizers will be served.

BRIEFING ON THE LAUNCH OF THE THIRD ASSESSMENT OF NATURAL HAZARDS

7:00 to 8:00 p.m. MDT

Location: Interlocken A

After the poster session, please join us for this special briefing on the launch of the *Third Assessment of Natural Hazards*.

The last national assessment of natural hazards and disaster research appeared in print in 1999. Since then, the threats that we face as a nation have multiplied, the number of people affected by natural hazards is at an all-time high, and the amount of research produced has grown dramatically. It is time to take stock of what is known in this field.

In this session, Natural Hazards Center Director Lori Peek will describe the purpose and scope of the upcoming Third Assessment. Participants will learn about the structure, the planned approach, and the audiences the assessment will serve. We will review the working outline and participants will hear more about how they can contribute.

This will be the first large-scale update of the state of hazards and disaster research in the United States since [Disasters by Design](#) and the [companion volumes](#) were produced as part of the Second Assessment. We hope you will join us to learn more and hear how you can be involved in this important effort.



Speaker:

Lori Peek, Natural Hazards Center

————— END OF DAY —————



SESSIONS AND EVENTS: TUESDAY, JULY 16

TUESDAY, JULY 16

COFFEE

7:00 to 8:30 a.m. MDT

NETWORKING ROUNDTABLE: INTERSECTING INEQUALITIES AND CLIMATE-RELATED DISASTERS

7:15 to 8:15 a.m. MDT

Location: Centennial E

This networking roundtable will focus on inequities that can influence people's experience with climate-related disasters. Attendees will discuss how gender, race, social class, sexual orientation, age, family structure, and other social factors can result in disparate outcomes for those on the front lines of climate change.

Conveners:

Maureen Fordham, University College London

Femke Mulder, University College London

NETWORKING ROUNDTABLE: PARTNERING WITH PRACTITIONERS

7:15 to 8:15 a.m. MDT

Location: Centennial F

Hazards researchers and emergency management practitioners often work together across organizational boundaries. Join this networking roundtable to learn and discuss how such collaborations are formed and sustained and, ultimately, how they can lead to better outcomes for communities working to mitigate hazards, prepare for disaster, and recover from their impacts.

Conveners:

Marcelo Ferreira, Arkansas State University

Josh Roberts, Larimer County Office of Emergency Management

NETWORKING ROUNDTABLE: COMMUNITY, DISASTERS, AND OLDER ADULTS

7:15 to 8:15 a.m. MDT

Location: Ponderosa



SESSIONS AND EVENTS: TUESDAY, JULY 16

As people age, circles of support change and social capital plays an increasingly important role. This roundtable will explore the state of community surrounding older adults, their perceived value within their community, and how that impacts their disaster resilience. Topics such as social isolation, risk perception and understanding, caregiving, and other factors related to navigating disaster as an older person will be discussed.

Conveners:

June Gin, U.S. Department of Veterans Affairs
Cynthia R. Harris, National Congress of American Indians
Matthew Van, University of Delaware
Tamar Wyte-Lake, Veterans Emergency Management Evaluation Center

REGISTRATION

7:30 a.m. to 5:00 p.m. MDT
Location: Atrium

BREAK

8:15 to 8:30 a.m. MDT

PLENARY: DEVELOPING RESEARCH-TO-ACTION PARTNERSHIPS—STORIES FROM THE PANDEMIC

8:30 to 10:00 a.m. MDT
Location: Interlocken A/B

When a COVID-19 vaccine first became available, it was clear that an effective vaccine communication and delivery strategy would need to be hyperlocal and aligned with the core values of communities, their material circumstances, and their unique cultures and histories. To address this challenge, a national rapid research-to-action coalition—CommuniVax—was launched. The effort brought social scientists, community advocates, and public health experts together into teams who worked to boost vaccine equity in Black and Hispanic/Latino communities in Alabama, California, Idaho, Maryland, and Virginia. This plenary will feature researcher-community partner pairs from three CommuniVax states. They will share stories of the bonds created through equitable partnership while also offering lessons regarding the ongoing impacts of their work. Ultimately, the panel will emphasize how—regardless of the disaster and the diversity of the community—we can work together to achieve authentic connection and respectful collaborations.



SESSIONS AND EVENTS: TUESDAY, JULY 16



Moderator:
Monica Schoch-Spana
Johns Hopkins University



Panelist:
Rachel Morineau
City of Chula Vista



Panelist:
Mike Brown
The Shop Hair Spa



Panelist:
Katrina Randolph
Tre Shadez Hair Studio



Panelist:
Noé Crespo
San Diego State University



Panelist:
Stephen Thomas
University of Maryland



Panelist:
Stephanie McClure
The University of Alabama



Panelist:
Ada Webb
The University of Alabama
at Birmingham

Recorders:

Mojeed Bello, Morgan State University
Diamond Joelle Cunningham, Tulane University

BREAK

10:00 to 10:30 a.m. MDT

PLENARY: TEMPO—USING MUSIC TO COMMUNICATE RISK AND DRIVE CLIMATE ACTION

10:30 a.m. to 12:00 p.m. MDT

Location: Interlocken A/B

Music makes our hearts beat together, synchronizes our brain waves, and deepens our emotional connection to stories. In this plenary session, physical scientists, social scientists, and musicians will share their stories—from preparing for hurricane season



SESSIONS AND EVENTS: TUESDAY, JULY 16

in the Caribbean, to searching for a climate anthem, to using music to connect cultures and build resilience—that exemplify how music and sound scientific principles can be combined to influence risk perception and drive climate action. The session will close with a short musical documentary, “Creating Change Through Music,” which showcases how music can be used to change the emotional climate about climate change, educate people about climate crisis solutions, and motivate effective action.

In addition to this session, participants who are registered for the [Tuesday evening barbecue](#) will be invited to join an interactive musical performance. Everyone will be able to listen and sing along to music created with Tempo principles, based in social science, that motivate action by invoking hope and pride in community.



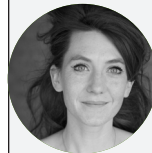
Moderator:
John Bwarie
Stratiscopie



Panelist:
Jonathan Beard
University of California,
Los Angeles



Panelist:
Shawn Kirchner
Los Angeles Master Chorale



Panelist:
Sarah Dryhurst
University College London



Panelist:
Emiliano Rodriguez Nuesch
Pacifico Risk
Communications



Panelist:
Lucy Jones
Dr. Lucy Jones Center
for Science and Society



Panelist:
Luke Wallace
Tempo Music

Recorders:
Melissa Villarreal, Natural Hazards Center
Chandler Wilkins, Texas A&M University

LUNCH

12:00 to 1:30 p.m. MDT - Outdoor Pavilion



SESSIONS AND EVENTS: TUESDAY, JULY 16

CONCURRENT SESSIONS BEGIN

SAYS WHO? STRATEGIES TO COMBAT DISASTER MISINFORMATION

1:30 to 3:00 p.m. MDT

Location: Centennial E

Disaster misinformation flourished long before AI, social media, and the always-connected world we now live in. Still, there is no denying that these elements make it easier for falsities to take hold and mislead more people than ever before. There are ways to fight misinformation though and the panelists in this session will outline a few—the power of data to combat mythmaking, the use of prebunking to help familiarize people with misleading tactics, best practices in social media crisis communications, and the strategies journalists use to identify and avoid perpetuating false information.

Moderator:

Anke Wellmann, University of Stuttgart

Panelists:

Jamie Biglow, CNA Corporation

Angela Lindsey, University of Florida

Tammy Terwelp, KUNC Radio

Bethany Van Brown, Sacred Heart University

Recorder:

Chandler Wilkins, Texas A&M University

NOW STREAMING: REPRESENTATIONS OF DISASTERS IN FILM AND TELEVISION

1:30 to 3:00 p.m. MDT

Location: Centennial F

From blockbusters to documentaries, disasters have long been a favorite topic of the film industry, but what do they teach us? Hollywood often takes lots of poetic license when depicting disasters and documentaries sometimes can't fully explore events in time allotted to the average film—but that doesn't mean these formats don't have a lot to offer. This session will focus on the how disaster films and television can be informative, promote understanding of risk and response, and help keep disaster issues in the public eye.

Moderator:

James Kendra, University of Delaware



SESSIONS AND EVENTS: TUESDAY, JULY 16

Panelists:

Ralph Bloemers, Green Oregon
John Carr, Argonne National Laboratory
Samantha Montano, Massachusetts Maritime Academy
Jack Rozdilsky, York University

Recorder:

Terry Cooper, University of New Haven

MAKING MAPS MEANINGFUL

1:30 to 3:00 p.m. MDT

Location: Ponderosa

Maps are an important risk communication tool that help audiences understand their risk, get prepared, and take action. However, varying formats and levels of map literacy can create challenges for audiences trying to gather information. Speakers in this session will explore cartographic fundamentals and the elements necessary to make maps more coherent, informative, and memorable for those they are meant to serve. Efforts required to maintain databases and other backend environments will also be discussed.

Moderator:

Divya Chandrasekhar, University of Utah

Panelists:

Tyler Barton, Federal Emergency Management Agency
Thomas Hughes, Pennsylvania Emergency Management Agency
Aaron Parker, National Oceanic and Atmospheric Administration
Eric Tate, Princeton University

Recorder:

Tiffany Cousins, Virginia Tech

EVIDENCE AND EVALUATION IN DISASTER PLANS AND PROGRAMS

1:30 to 3:00 p.m. MDT

Location: Interlocken A

Evidence-based solutions help those planning for disasters to better manage utilities, build sound infrastructure, and improve programs that serve affected communities. Not all disaster plans and programs, however, integrate evidence or evaluate outcomes. This panel will focus on incorporating lessons learned into programs, ways to understand and



SESSIONS AND EVENTS: TUESDAY, JULY 16

apply findings, and using assessments to increase understanding, equity, and better serve communities.

Moderators:

Sharon Kushnir, Federal Emergency Management Agency
Amanda Snook, Federal Emergency Management Agency

Panelists:

Nicole Nation, Federal Emergency Management Agency
Katelyn Noland, U.S. Army Corps of Engineers
Victoria Salinas, Federal Emergency Management Agency
Rachel Steratore, RAND Corporation
Amber Topoleski-Richards, Southern California Edison

Recorder:

Amidu Kalokoh, Virginia Commonwealth University

NEW WILDFIRE NARRATIVES: PARTNERING WITH AT-RISK COMMUNITIES

1:30 to 3:00 p.m. MDT

Location: Interlocken B

As wildfires become more frequent and intense, frontline communities and responders must learn to navigate risk in new ways—and that means old narratives about living with wildfire must change. This session will explore how we can more effectively communicate wildfire and smoke risk, help communities plan and prepare for current realities, and come together to overcome differing perspectives that stymie effective research, product development, and fire services.

Moderator:

Michael Byrne, Deloitte

Panelists:

Christopher Dunn, Oregon State University
Heidi Huber-Stearns, University of Oregon
Hollie Smith, University of Oregon
Zach Tolby, National Oceanic and Atmospheric Administration

Recorder:

Rosie Sanchez, University of California, Irvine

BEYOND BUYOUTS: STORIES OF COMMUNITY-DRIVEN RELOCATION

1:30 to 3:00 p.m. MDT



SESSIONS AND EVENTS: TUESDAY, JULY 16

Location: Pine

Implementing relocation plans that are equitable, culturally appropriate, adaptive, and resilient to future climate conditions is impossible without input from impacted communities. That's why a recent National Academies effort that assessed managed retreat in the Gulf Coast region used stories from places that are contemplating or undertaking retreat—as well as those from places they might retreat to—to guide the recommendations in their subsequent report. Speakers will detail the accounts of these communities' barriers, needs, and risks while also highlighting how federal, state, and local policies and programs can improve and expand existing systems to assist those most likely to be displaced by climate change.

Moderator:

John Ben Soileau, The National Academies

Panelists:

Chad Berginnis, Association of State Floodplain Managers

Debra Maria Butler-Ulloa, American Society of Adaptation Professionals

Jane Nguyen, Boat People SOS

Gavin Smith, North Carolina State University

Courtney Wald-Wittkop, New Jersey Department of Environmental Protection

Recorder:

Kayode Nelson Adeniji, East Carolina University

————— BREAK —————

3:00 to 3:30 p.m. MDT

EMERGENCY MESSAGING FOR ALL: MAKING ALERT SYSTEMS INCLUSIVE

3:30 to 5:00 p.m. MDT

Location: Centennial E

This panel will examine inclusive alert systems and provide insights into how emergency alerts function in the United States. Speakers will discuss barriers faced by specific populations—such as those who are deaf or who have limited English proficiency—and explore concrete recommendations for enhancing systems to meet the diverse needs of communities nationwide.

Moderator:

Joseph Trujillo-Falcón, National Oceanic and Atmospheric Administration



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Panelists:

Garry Briese, Colorado State Fire Chiefs
Giovanna Carriero-Contreras, Cesco Linguistic Services
Carson MacPherson-Krutsky, Natural Hazards Center
Marja Possner, DOVE
Elizabeth Velasco, Colorado House of Representatives

Recorder:

Melissa Villarreal, Natural Hazards Center

SERIOUS GAMES: BUILDING DISASTER SKILLS IN PLAYFUL WAYS

3:30 to 5:00 p.m. MDT

Location: Centennial F

Games can be powerful tools for learning, inspiring action, and practicing skills that we might not often use in day-to-day life—like responding to disaster situations. Even when dealing with serious content, games are inherently playful and can provide incentives to prepare for low-probability events. This panel will explore the value of games, elements of their design, and examples of how they've been used to increase understanding about disasters and community engagement.

Moderator:

Elizabeth Safran, Lewis & Clark College

Panelists:

MJ Johns, University of California, Santa Cruz
Matt Lyttle, Guidehouse
Hunter Merritt, U.S. Army Corps of Engineers

Recorder:

Ruby Hernandez, Texas A&M University

CROSS-SECTOR CLIMATE TOOLS: COLLABORATING FOR PLANNING AND RESILIENCE

3:30 to 5:00 p.m. MDT

Location: Ponderosa

Communities everywhere are grappling with how to fully understand and manage climate-related disaster risk. Many organizations—including universities, nongovernmental organizations, and corporations—are working to create tools and resources needed to address these challenges, especially at the community level. Join speakers in this session



SESSIONS AND EVENTS: TUESDAY, JULY 16

to learn more about how these collaborations are producing forward-looking, actionable climate data that can be integrated into resilience strategies, assist in building resilience plans, and transform our ability to adapt to a changing climate.

Moderator:

Eric Letvin, Federal Emergency Management Agency

Panelists:

Amy Bailey, Center for Climate and Energy Solutions

Blythe Johnston, Colorado State University

Michael Newman, Insurance Institute for Business & Home Safety

Roy Torbert, Third Derivative

Recorder:

Maribel Sandoval Contreras, University of California, Irvine

TAILORED RESILIENCE: CREATING COMMUNITY-ENGAGED CLIMATE AND HAZARD PLANS

3:30 to 5:00 p.m. MDT

Location: Interlocken A

Climate change and increasing hazards mean that communities now, more than ever, need to be prepared to withstand weather risks. To ensure resilience planning is effective, we need to know what works—as well as what doesn't. Capturing practitioner and community knowledge around areas that need improvement is a crucial step, as is providing tools that can help them understand local vulnerability, communicate goals to funders, and integrate resilience into daily operations. This session will discuss how we can integrate lessons learned (and not learned) into planning and showcase several resources to help communities create plans that are a perfect fit.

Moderator:

Derrick Hiebert, Federal Emergency Management Agency

Panelists:

Jennifer Helgeson, National Institute of Standards and Technology

Shannon McLachlan, Federal Emergency Management Agency

Kristin Raub, Consortium of Universities for the Advancement of Hydrologic Science, Inc.

Siyu Yu, Texas A&M University

Recorder:

Joshua McDuffie, Vanderbilt University



SESSIONS AND EVENTS: TUESDAY, JULY 16

LEAVE NO ONE BEHIND: LESSONS FOR A MORE INCLUSIVE DISASTER RESPONSE

3:30 to 5:00 p.m. MDT

Location: Interlocken B

If we truly aspire to leave no one behind in disasters, it's critical that we incorporate the lessons of past events into existing emergency response. This requires a comprehensive and nuanced understanding of gaps in risk communication, evacuation planning, response systems, organizational networks, and cultural competence. Speakers in this session will use stories from three disasters—the Lahaina and Caldor Wildfires and Hurricane Harvey—to discuss planning for at-risk communities and what it takes to build sustainable emergency response collaborations that serve all members of a community.

Moderator:

Liesel Ritchie, Virginia Tech

Panelists:

Tara Goddard, Texas A&M University

Chanel Jones, Lioness: Justice Impacted Women's Alliance

Karl Kim, University of Hawaii at Manoa

Cee Cee Molineaux-Burrows, IEM International, Inc.

Recorder:

Nicholas Humphrey, North Dakota State University

SAFE HAVENS: ENSURING HOUSING RECOVERY FOR THOSE AT-RISK

3:30 to 5:00 p.m. MDT

Location: Pine

Recovery timelines for both homes and people after disaster can depend on structure type, severity of damage, and resident characteristics. At-risk groups such as renters and those living in manufactured homes often face serious hurdles in accessing mitigation resources, receiving assistance, and recovering after disasters. Speakers in this session will explore the dynamics that create barriers for these populations, mitigation measures that can make homes safer, and efforts to ensure more equitable and just recoveries for everyone.

Moderator:

Shannon Van Zandt, Texas A&M University



SESSIONS AND EVENTS: TUESDAY, JULY 16

Panelists:

Joshua G. Behr, Old Dominion University

Patty Hernandez, Headwaters Economics

Jagruti Rekhi, U.S. Department of Housing and Urban Development

Andrew Rumbach, Urban Institute

Elaina Sutley, University of Kansas

Recorder:

Afeez Badmus, University of Kansas

BARBECUE

5:30 to 9:00 p.m. MDT

Location: Avanti Boulder

Those who purchased tickets* can join us for our annual barbecue on Tuesday evening of the Workshop. We will gather to enjoy food, beverages, and an amazing view from the rooftop deck of [Avanti Boulder](#). This collective eatery is located in the heart of downtown Boulder on Pearl Street, and has beautiful views of the awe-inspiring Flatirons.

This year, the barbecue will also feature an interactive musical performance by panelists from the Tuesday plenary session, [Tempo—Using Music to Communicate Risk and Drive Climate Action](#). Everyone will be able to listen and sing along to music created with Tempo principles, based in social science, that motivate action by invoking hope and pride in community.

On Tuesday, University of Colorado buses will pick up participants going to the barbecue promptly at **5:30 p.m.** in front of both the Renaissance and Omni hotels. After the barbecue, buses will leave at staggered intervals as needed. The last bus will leave Avanti Boulder for the Renaissance and Omni hotels by **9:00 p.m.**

** Barbecue tickets were sold out at the time of this printing. You can inquire at the registration desk in the Atrium to see if any spaces are available.*

————— END OF DAY —————



SESSIONS AND EVENTS: WEDNESDAY, JULY 17

WEDNESDAY, JULY 17

THE BILL ANDERSON FUND DISASTER DASH

6:00 to 7:45 a.m. MDT

Location: Meet in the Omni Hotel Lobby

Registration: \$45 per Runner

We hope you'll join us for the [10th Annual Bill Anderson Fund Disaster Dash](#), which will be held in concurrence with the 49th Annual Natural Hazards Research and Applications Workshop. It doesn't matter if you want to contribute to a good cause or just stretch your legs, this fun run will help you do both.

The **Disaster Dash 5K** is an easy jog (or walk, if you prefer). Proceeds from the run support the [Bill Anderson Fund](#) mission to expand the number of professionals from historically underrepresented groups in the fields of hazards and disaster research and practice.

If you are not interested in running or walking the 5K, the Fund also offers the option to support individuals and teams who are in the race or donate directly to the organization.

Registration

Learn more and sign up to register, sponsor, or donate on the Disaster Dash website: hazards.colorado.edu/workshop/2024/disaster-dash.

What: A 5K Fun Run/Walk supporting the Bill Anderson Fund

Where: Meet in the Omni Interlocken Hotel Lobby at **6:00 a.m.** ready to dash!

When: Race begins on **July 17, 2024 at 6:30 a.m. sharp!**

COFFEE

8:00 to 8:30 a.m. MDT

REGISTRATION

8:00 a.m. to 5:00 p.m. MDT

Location: Atrium



SESSIONS AND EVENTS: WEDNESDAY, JULY 17

CREATING TRANSFORMATIVE CHANGE: THE DISASTER RESILIENCE NETWORK

8:30 to 9:30 a.m. MDT

Location: Centennial E

The Disaster Resilience Learning Network uses a transformative approach to support leaders of color in building community resilience. Historical trauma and structural oppression have systematically excluded community leaders of color in disaster resilience planning. By creating a fundamentally new system—one that integrates a social resilience framework, healing-centered practices, and culturally grounded, trauma-informed approaches—the Disaster Resilience Learning Network is a space that fosters connections and develops effective disaster response strategies.

Moderator:

Christine da Rosa, Trauma Informed Oregon

Presenters:

Carina Guzman, Oregon Health Authority

Erica Ledesma, Coalición Fortaleza

Cristy Morales Muñoz, United Way of the Columbia-Willamette

Jamila Wilson, United Way of the Columbia-Willamette

Recorder:

Wesam Mohamed, University of Illinois Urbana-Champaign

INTEGRATING PRACTITIONERS INTO PUBLIC HEALTH PREPAREDNESS RESEARCH

8:30 to 9:30 a.m. MDT

Location: Centennial F

Academic research centers can improve disaster risk reduction efforts by collaborating with practitioners to guide the focus, priorities, and action areas of center research. To flip the switch on the traditional investigator-driven approaches, the Centers for Disease Control and Prevention funded plans that would create regional coordinating bodies made up of public health practitioners, tribal government representatives, healthcare organizations, and K-12 schools. This session will provide academic and practitioner perspectives on lessons learned in Alaska, Oregon, Idaho, and Washington as they developed such a plan. Takeaways will inform future efforts to develop partnerships that center the needs and priorities of practitioners.

Moderator:

Nicole A. Errett, University of Washington



SESSIONS AND EVENTS: WEDNESDAY, JULY 17

Presenters:

Resham Patel, University of Washington
Robin Soler, Centers for Disease Control and Prevention
Nate Weed, Washington State Department of Health

Recorder:

Zoe Lefkowitz, University of Colorado Boulder

COMPOUNDING DISASTERS IN THE GULF: A NATIONAL ACADEMIES STUDY

8:30 to 9:30 a.m. MDT

Location: Ponderosa

In 2020 and 2021, communities in the Gulf Coast experienced numerous costly disasters and infrastructure failures, all while struggling with the impacts of COVID-19. These so-called compounding disasters and the prolonged, overlapping recovery processes that follow can increase vulnerability and exacerbate existing inequities. This session will present the findings and conclusions from a National Academies Gulf Research Program consensus study, *Compounding Disasters in Gulf Coast Communities, 2020-2021*. Speakers will discuss the study and present key takeaways to help researchers, decision-makers, and community stakeholders better understand and reduce future compounding disaster risk.

Moderator:

Daniel Burger, The National Academies

Presenters:

Craig Colten, Louisiana State University
Tracy Kijewski-Correa, University of Notre Dame
Jim Schultz, University of Miami
Roy Wright, Insurance Institute for Business & Home Safety

Recorder:

Hannah Friedrich, University of Arizona

SHAKEALERT: A FIVE-YEAR RETROSPECTIVE OF THE USGS SOCIAL SCIENCE WORKING GROUP

8:30 to 9:30 a.m. MDT

Location: Pine

Before the ShakeAlert® Earthquake Early Warning System was rolled out in Washington, Oregon, and California, the U.S. Geological Survey (USGS) coordinated a group of social scientists interested in earthquake early warning and the new system about to be



SESSIONS AND EVENTS: WEDNESDAY, JULY 17

implemented. This USGS Social Science Working Group explored questions related to the system—including what people understood about and expected from ShakeAlert® and if they knew what to do when an alert was received—as well as other earthquake early warning-related topics. This panel will discuss the extensive research produced by the group, as well as the benefits of applying social science research to implementation efforts.

Moderator:

Sara K. McBride, U.S. Geological Survey

Presenters:

Dare Baldwin, University of Oregon

William Chupp, U.S. Department of Transportation

Michele Cooke, University of Massachusetts Amherst

Robert M. de Groot, U.S. Geological Survey

James Goltz, University of Colorado Boulder

Recorder:

Shayan Razi, Stanford University

EARLY RECONNAISSANCE RESEARCH: THE 2024 NOTO PENINSULA EARTHQUAKE

8:30 to 9:30 a.m. MDT

Location: Interlocken A

The session will share early reconnaissance research from the 2024 Noto Peninsula Earthquake in Japan that examined local intergovernmental assistance processes and bottlenecks that impeded response in the Ishikawa, Niigata, and Toyama prefectures. Speakers will explain how local politics and a lack of coordination and response prevented government agencies from working together effectively. The ways that resources and accommodations were provided to aging populations, people with access and functional needs, and rural communities in Japan will also be discussed.

Moderator:

H. Tristan Wu, University of North Texas

Presenters:

Norio Maki, Kyoto University

Anna Matsukawa, University of Hyogo

Shingo Nagamatsu, Kansai University

Shigeo Tatsuki, Doshisha University

Recorder:



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Anamika Malla, Texas Tech University

HAZARDS AND DISASTER RESEARCH BY NEW PROFESSIONALS

8:30 to 9:30 a.m. MDT

Location: Interlocken B

This session features new research by students and recent graduates in the hazards and disaster field. Please join to learn more about cutting-edge work by new professionals.

Moderator:

Jacqueline Meszaros, National Science Foundation

Presenters:

Gabriella Bellows, Tulane University

After the Earthquake: Institutional Trust and Governmental Performance in Chile and Haiti

Gardiner Brown, University of California, Berkeley

Vulnerable Populations/Responsible Individuals: Disability and Hurricane Harvey

Margot Habets, University of South Carolina

Actionable and Place-Based Community Resilience Measurement

Julia C. Munsaka, Colorado State University

Engaging Traditional Leaders in Disaster Risk Reduction to Build More Resilient and Sustainable Rural Communities in Africa

Recorder:

Amber Spears, Onyx Enterprise

BREAK

9:30 to 9:45 a.m. MDT

A ROADMAP FOR CONNECTING DROUGHT AND PUBLIC HEALTH IMPACTS

9:45 to 10:45 a.m. MDT

Location: Centennial E

The Drought and Public Health Roadmap is a strategy to improve drought preparedness and the understanding of how drought impacts human health. Developed by the National Integrated Drought Information System and the University of Nebraska Medical Center, the Roadmap can be a powerful aid in developing mitigation tools and improving health outcomes. This interactive presentation will discuss the roadmap and a messaging framework that healthcare providers can use to communicate about these topics.

Attendees will participate in a drought scenario that will allow them to discuss and apply messaging maps.



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Presenters:

Rachel Lookadoo, University of Nebraska Medical Center
Sylvia Reeves, National Integrated Drought Information System

Facilitator:

Eleanor Hasenbeck, National Integrated Drought Information System

Recorder:

Shayan Razi, Stanford University

BUILDING COLORADO'S CLIMATE PREPAREDNESS ROADMAP

9:45 to 10:45 a.m. MDT

Location: Centennial F

The devastating Marshall Fire spurred the need to understand how climate change can impact natural hazard risks statewide and led to the state's first Climate Preparedness Roadmap—a collaborative effort that uses a data-driven analysis to drive state level action. Colorado's analysis assesses risk based on climate models, economic data, population projections, natural systems data, and maps of communities that are disproportionately impacted by disaster. Speakers will describe the state's process for working with diverse residents and stakeholders to develop actionable steps that can quickly move the needle on climate preparedness and catalyze long-term adaptation.

Presenters:

Jonathan Asher, Colorado Office of Climate Preparedness and Disaster Recovery
Katherine Keegan, Colorado Department of Labor and Employment
Henry Mitchell, Colorado Department of Public Health and the Environment
Marisol Rodriguez, Civic Consulting Collaborative
Carolina Van Horn, Colorado Office of Climate Preparedness and Disaster Recovery

Recorder:

Minh Anh Ly, Natural Hazards Center

IMPROVING COMMUNITIES AND ECOSYSTEMS: THE COASTLINES AND PEOPLE PROGRAM

9:45 to 10:45 a.m. MDT

Location: Ponderosa

The National Science Foundation's Coastlines and People program, or COPE, supports five large-scale research hubs that work to advance the understanding of coastal systems, processes, and hazards. In this session, hub members—practitioners, community members, and academics—will give an overview of their collaborative



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approach and share examples of work that has transformed scientific knowledge and influenced decision-making. Strengths and weaknesses of their methods and suggestions for sustaining involvement and future co-production efforts will also be discussed.

Moderator:

Robert O'Connor, National Science Foundation

Presenters:

Tiffany Brown, Lane County Emergency Management

Sarah DeYoung, University of Delaware

Krystina Dillard, North Carolina Community Action Association

Zoë Linder-Baptie, Rutgers University

Elaine Montes, City of Philadelphia

Organizer:

Jenna Tilt, Oregon State University

Recorder:

Amber Spears, Onyx Enterprise

THE FEDERAL SCIENCE BEHIND VOLCANO AND LANDSLIDE RISK REDUCTION

9:45 to 10:45 a.m. MDT

Location: Pine

The National Volcano Early Warning System and National Landslide Hazards Reduction Program are federal efforts to reduce risk and losses from domestic volcanoes and landslides. In this session co-organized by both programs, speakers will provide an overview of their efforts, share examples of effective multi-agency partnerships, discuss advances in federal science and community risk reduction, and present new nationwide science efforts to bridge gaps. The audience will be encouraged to provide feedback on the role of federal science in reducing risk in underserved and rural communities, as well as the information needed for local decision-making.

Moderator:

Jenny Riker, U.S. Geological Survey

Presenter:

Annette Patton, Sitka Sound Science Center

Dave Ramsey, U.S. Geological Survey

Katherine Rowden, U.S. Army Corps of Engineers

Alex Steely, Washington State Geological Survey

Recorder:

Zoe Lefkowitz, University of Colorado Boulder



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HAZARDAWARE: EFFECTIVE AND AFFORDABLE RISK MANAGEMENT AND MITIGATION SOLUTIONS

9:45 to 10:45 a.m. MDT

Location: Interlocken A

HazardAware is a web-based tool that helps residents and community planners make their homes and communities more resilient to natural hazards. Tools like HazardAware—along with breakthroughs in risk modeling and mitigation planning—can shape the policies and practices that reduce risk. This session will explore how cost and risk data can inform construction decisions and lead to improved mitigation and resident empowerment. Presenters will also discuss the importance of addressing barriers to resilient infrastructure and provide innovative strategies for new and retrofit construction.

Moderator:

Melanie Gall, Arizona State University

Presenters:

Christopher Emrich, University of Central Florida

Monica Farris, University of New Orleans

Carol Friedland, Louisiana State University

Jeffrey Giering, Louisiana Homeland Security and Emergency Preparedness

Pamela Jenkins, University of New Orleans

Recorder:

Hannah Friedrich, University of Arizona

THE BILL ANDERSON FUND LIGHTNING TALKS

9:45 to 10:45 a.m. MDT

Location: Interlocken B

This session will feature a series of short presentations showcasing the work being done in the hazards field by the [Bill Anderson Fund](#) fellows from a variety of disciplinary backgrounds. Each presenter will have 20 slides and seven minutes to share the story of their work.

Moderator:

Maggie León-Corwin, University of Oklahoma

Presenters:

Mason Alexander-Hawk, Texas A&M University

Resilience in Recovery? Understanding the Extent, Structure, and Operations of Nonprofits Meant to Address Disaster Survivors' Unmet Needs



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Annika Doneghy, Case Western Reserve University
Rethinking Disability in Disaster Cycles

Judanne Lennox-Morrison, Texas A&M University
Can it Get Any Worse? Low Attention Disasters in Rural Communities

Rosie Sanchez, University of California, Irvine
Disaster Ecologies: The Role of Dollar Stores in Los Angeles' South Bay

Teye Yevuyibor, Louisiana State University
Examining Flood-Related Decision-Making in the Aftermath of Hurricane Ida: Exploring the Alignment in the Perceptions of Different Stakeholders Regarding Appropriate Actions Post-Event

Recorder:

Anamika Malla, Texas Tech University

BREAK

10:45 to 11:15 a.m. MDT

PLENARY: FROM ASHES TO RESILIENCE—A STORY OF COLLABORATION AND CULTURE CHANGE

11:15 a.m. to 12:30 p.m. MDT

Location: Interlocken A/B

The 2018 Woolsey Fire in Southern California killed three people, destroyed more than 1,600 structures, and prompted the evacuation of nearly 300,000 residents from Los Angeles and Ventura Counties. In the aftermath, researchers, community members, and firefighters came together to form the Community Brigade Pilot Program, which was unanimously approved by the Los Angeles County Board of Supervisors and the Los Angeles County Fire Department. The program identified seven high fire-risk communities to pilot this effort, which is rooted in the need for proactive mitigation efforts and integrated response capabilities across the wildland urban interface. This plenary will tell the story of what it took to establish this program and examine the challenges and opportunities for building a culture of resilience that it has revealed.



Moderator:

Brent Woodworth

Los Angeles Emergency Preparedness Foundation



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Panelist:
Shirley Feldmann-Jensen
California State University,
Long Beach



Panelist:
Marianne Riggins, City of
Malibu



Panelist:
Keegan Gibbs
Community Brigade



Panelist:
Drew Smith, Los Angeles
County Fire Department



Panelist:
Steven Jensen
American Red Cross



Panelist:
Sophia Soudani, Los Angeles
County Board of Supervisors

Recorders:

Minh Anh Ly, University of Colorado Boulder
Chandler Wilkins, Texas A&M University

WRAP-UP AND CALL TO ACTION

12:30 to 12:45 p.m. MDT
Location: Interlocken A/B

As is tradition, during this closing session the Natural Hazards Center director will offer a summary of the highlights of the event and a discussion of opportunities for the future.



Speaker:
Lori Peek, Natural Hazards Center

————— ADJOURN —————

12:45 p.m. MDT



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LUNCH

12:45 to 2:00 p.m. MDT - Outdoor Pavilion

RESEARCHERS MEETING BEGINS

Wednesday, July 17, 2:00 p.m. to Thursday, July 18, 5:30 p.m. MDT

Scan the QR code to see the full schedule or visit: hazards.colorado.edu/workshop/2024/researchers-meeting/schedule.



PRACTITIONERS MEETING BEGINS

Thursday, July 18, 8:30 a.m. to 4:30 p.m. MDT

Scan the QR code to see the full schedule or visit: hazards.colorado.edu/workshop/2024/practitioners-meeting/schedule.





POSTER ABSTRACTS

You can make the most of the Sunday and Monday night poster sessions by reading abstracts and even viewing posters in advance! Visit hazards.colorado.edu/posters-2024 or scan the QR code below to access poster abstracts on our website. This is also where you will find PDFs of posters to view and download, even after the Workshop has concluded.



RESEARCH AND PRACTICE HIGHLIGHTS

Research and Practice Highlights are all about shining a bright light on new projects, programs, initiatives, policies, and noteworthy publications. These brief descriptions of recent and ongoing projects will help you make connections and maximize networking potential. Visit hazards.colorado.edu/workshop/2024/abstract/index/research-highlight or scan the QR code below to read about what other attendees are working on.







RECOGNITION

The Natural Hazards Center team is so pleased to welcome attendees to Colorado for the 49th Annual Natural Hazards Research and Applications Workshop. Thank you for the time, effort, and resources you have expended to join the diverse group of professionals who attend this meeting. It is our honor at the Natural Hazards Center to convene the Workshop, and we recognize that it is your active participation that helps make the meeting meaningful in so many ways. We offer much gratitude to each of you.

SPECIAL THANKS

NATURAL HAZARDS CENTER ADVISORY COMMITTEE

The Natural Hazards Center team receives regular guidance from the following Advisory Committee members. Their wisdom, thoughtful advice, and ongoing support is gratefully acknowledged.

William Anderson

Transportation Research Board of the National Academies of Sciences, Engineering, and Medicine

Lauren Alexander Augustine

Gulf Research Program of the National Academies of Sciences, Engineering, and Medicine

Jason Averill

National Institute of Standards and Technology

Chad Berginnis

Association of State Floodplain Managers

Michael Cohen

Renaissance Re

Aram Dobalian

U.S. Department of Veterans Affairs

Christopher Emrich

University of Central Florida

Gina Eosco

National Oceanic and Atmospheric Administration

Angela Gladwell

Federal Emergency Management Agency



Michael Grimm
U.S. Geological Survey

Michael Newman
Insurance Institute for Business & Home Safety

Gary O'Neal
National Hazard Mitigation Association

Russ Paulsen
UsAgainstAlzheimer's

Roger Pulwarty
National Oceanic and Atmospheric Administration

Nick Shufro
Federal Emergency Management Agency

We would also like to offer special thanks to David Applegate, director of the U.S. Geological Survey. He has served on the Committee for more than a decade, always with great patience, care, and grace. He completed his term of service in 2023, although his gentle advice continues to influence the vision and mission of the Center.





WORKSHOP VOLUNTEERS

The Natural Hazards Center invited students to apply to volunteer at the Natural Hazards Workshop. The students listed below were selected to assist at this year's event. Student volunteers attend sessions and provide support to panelists and moderators throughout the event. Participants are welcome to reach out to them for assistance while at the Workshop, and we gratefully acknowledge their service.

Special thanks to the 2024 Volunteer Coordinators, **Musabber Ali Chisty** and **Brigid Mark**.



ERIN BOYLE
Virginia Tech



MELANIE DICKSON
North Carolina State University



SYEDA ERENA ALAM DOLA
University of Tennessee, Knoxville



MUHAMMAD AWFA ISLAM
Virginia Tech



NESAR AHMED KHAN
University of Delaware



MICHELLE RUIZ
University of Florida



HARMAN SINGH
Pennsylvania State University



YURAN SUN
University of Florida



LINDSEY VAZQUEZ
University of Missouri



YIWEN WU
University of Kansas



ADDITIONAL SUPPORTERS

In planning this year's Workshop and add-on meetings, the Natural Hazards Center team has benefited tremendously from the generosity and assistance of many people and organizations. We would like to extend additional thanks to:

- All those who submitted ideas for panels and presentations during the planning stage for the Workshop. The program is made possible due to the contributions of the members of this community.
- The Department of Emergency, Disaster, and Global Security Studies, College of Arts and Sciences, at Embry-Riddle Aeronautical University for contributing financially to the Monday morning coffee fund. Cheers!
- Alece Birnbach of the Graphic Recording Studio for capturing live recordings at this year's Workshop.
- Chip Van Zandt of Van Zandt Visual for taking photos of the people and activities at this year's Workshop.
- The Office of Institutional Equity and Compliance at the University of Colorado Boulder for their support with sign language interpretation.
- Rodrigo Costa of the University of Waterloo and Alyssa Provencio of the University of Central Oklahoma who chaired the planning committee for the 2024 Researchers Meeting.
- Brad Bartholemew, Erin Capps, Caroline Cunningham, Melanie Gall, Marianne Knoy, Grace Olenzak, and Yelena Martinez of the National Hazard Mitigation Association, who led the planning for the 2024 Practitioners Meeting.
- Rob Pudim—who has contributed to the Natural Hazards Center since its founding in 1976—for the use of his illustrations.
- Kristina Peterson of the Lowlander Center, who has again organized a collection of beautiful jewelry for sale at the Workshop. Members of women's cooperatives are compensated for the purchase of their product, and all additional proceeds go to the Bill Anderson Fund, the Mary Fran Myers Scholarship Fund, and the Gilbert F. White Endowed Graduate Research Fellowship. Over many years at the Workshop, Kristina and her colleagues have raised more than \$40,000 for these scholarship programs and the displaced women whose jewelry components are part of some of the products. We thank all of you who have made a purchase, because you have made a tangible difference in people's lives and livelihoods.



AWARDS

MARY FRAN MYERS SCHOLARSHIP

The Mary Fran Myers Scholarship recognizes outstanding individuals who share Myers' commitment to disaster research and practice and have the potential to make a lasting contribution to reducing disaster vulnerability. At least one scholarship recipient each year receives financial support to attend the Annual Natural Hazards Workshop. Scholarships cover part or all of transportation, meals, and Workshop registration costs. Recipients are recognized at the Workshop and are asked to present a poster or serve as a panelist, where they can highlight their research or practical experiences with hazards and disasters.

Myers recognized that many of the people and organizations that could benefit from and contribute to the Workshop—including local practitioners, students, and international professionals—were among those least likely to afford it. The scholarship was established in 2003 to fulfill Myers' request that qualified and talented individuals receive support to attend, ensuring that representatives of all ages, professions, and communities be represented at the Workshop.

Myers served as co-director of the Center for 16 years until her death in 2004. Reducing disaster loss was her life's work. During her tenure, she helped to bring about fundamental changes in hazards perspectives and instituted farsighted and sustainable ways of dealing with extreme environmental events. In addition, she provided leadership, guidance, grace, and laughter and established a standard of excellence admired and emulated by her colleagues. She was an innovator, a mentor, and a creative spirit who touched many lives. Her legacy has had a lasting impact on the global hazards community.

2024 WINNER



OLASUNKANMI HABEEB OKUNOLA

Olasunkanmi Habeeb Okunola is a visiting scientist at the United Nations University-Institute for Environment and Human Security in Bonn, Germany. He developed a keen interest in disaster research following his firsthand experience with extreme flood events in Nigeria in 2011. After receiving the Alexander von Humboldt and DAAD Climate Change Research in Africa scholarships, he came to Germany to advance his research on climate change adaptation and community resilience to cascading flood risks. Currently, his research focuses on understanding the recovery pathways and resilient rebuilding processes of communities affected by extreme climate events in Germany and Nigeria.

With more than 10 years of experience in the private and public sectors, Okunola is an expert in disaster risk reduction and climate change adaptation. His previous work involved developing



and implementing comprehensive disaster management plans, conducting risk assessments, designing resilience-building initiatives, and providing capacity-building training on disaster preparedness, response, and inclusive education in informal settlements in Sub-Saharan Africa. Okunola holds a doctorate in urban and regional planning from Obafemi Awolowo University, Nigeria. His doctoral research focused on effective strategies for disaster risk reduction and their implementation in urban areas.

The 2024 Mary Fran Myers Scholarship selection committee included Co-Chairs **Ray Chang** and **Lisa Jackson** with Committee Members **Betty Lai** and **Ponmile Olonilua**.

The Mary Fran Myers Scholarship is made possible by generous contributions from numerous individual donors as well as recurring annual support from:

- The Association of State Floodplain Managers
- The Extension Disaster Education Network
- The Red River, North Dakota, High School Classroom Teachers Association
- The Lowlander Center
- The authors and editors of *Social Vulnerability to Disasters*
- The author of *Disasters by Design: A Reassessment of Natural Hazards in the United States*
- The author of *Hazards Analysis: Reducing the Impact of Disasters*

To learn more about the Mary Fran Myers Scholarship, visit: hazards.colorado.edu/awards/myers-scholarship.

DISABILITY AND DISASTERS AWARD

The Disability and Disasters Award supports people with disabilities working in disasters, as well as those who care for, study, or advocate on behalf of those with disabilities. Award funds allow the recipient to attend the Workshop and the Researchers or Practitioners Meetings that follow. People with disabilities have been identified as among the most vulnerable to disasters; however, research has shown that they also have tremendous capacity. This award was established through the generous contribution of an anonymous donor in order to recognize those who advance and support efforts in the area of disability and disasters.

2024 WINNERS



ELIZABETH DAVIS

Elizabeth Davis is an emergency management consultant focusing on inclusive emergency management, marginalized population planning, disaster human services, and related issues through her firm EAD & Associates, LLC, which employs a holistic, client-focused approach to providing quality services and real-world solutions.



An accomplished public speaker, Davis is considered one of the nation's "go-to" sources on the convergence of emergency management and disability access and functional needs. She began in public service at the New York City's Mayor's Office for People with Disabilities as assistant to counsel and senior policy advisor. She later became the first director of the National Organization on Disability Emergency Preparedness Initiative. Davis is an advisor to the Department of Homeland Security and the Federal Emergency Management Agency, sits on many research review boards and serves on several national advisory boards, including as an appointed voting member of the National Advisory Committee on Disability and Disaster to the Secretary of Health and Human Services, the chair of the National Hurricane Conference Accessibility and Health Care Topic Committee, and first chair of the International Association of Emergency Managers Accessibility Committee. Over the years, she has received many awards and honors for her work. Davis is an inaugural inductee into the International Women in Homeland Security and Emergency Management Hall of Fame.

Davis received her juris doctorate and Master of Education from Boston University, with a degree in the socio-bicultural study of deafness and American Sign Language. She holds an undergraduate degree with a major in sociology and a minor in political science from Barnard College at Columbia University.



ANNIKA DONEGHY

Annika Doneghy is a dual degree student at Case Western Reserve University. She is working towards a PhD in medical anthropology and a Master of Public Health degree concentrated on health policy and management. Her research uses an ethnographic approach to uncover firsthand narratives and experiences of individuals with disabilities and other health conditions as they navigate ongoing cycles of disaster and recovery. Her research reconceptualizes disability and recovery to consider wide-ranging human ability and diversity in disaster contexts, showing that many people with disabilities and other health conditions have different definitions and perspectives of recovery when compared to governmental and nongovernmental organizations. She aims to illustrate how traditional disaster practice and policy often fail to recognize these diverse and challenging experiences due to lack of inclusion and disability expertise. Doneghy received a master's in applied anthropology from the University of Kentucky and a bachelor's in anthropological sciences from the Ohio State University. She is also a Bill Anderson Fund Fellow.

We would like to extend thanks to the 2024 Disability and Disasters Award chair **Candace Evans**.

To learn more about the Disability and Disasters Award, visit: hazards.colorado.edu/awards/disability-and-disasters-award.



STUDENT PAPER COMPETITION

The Natural Hazards Center created the Annual Hazards and Disasters Student Paper Competition for undergraduate and graduate students in 2004 as a way to recognize and promote the next generation of hazards and disaster researchers.

Papers are judged on originality, writing quality, and knowledge of the topic. The undergraduate winner and graduate winner each receive a stipend, publication of their papers on the Natural Hazards Center website, and free registration to the Workshop and Researchers Meeting.

2024 UNDERGRADUATE WINNER



GABRIELLA BELLOWS

Gabriella Bellows is a May 2024 graduate of Tulane University with a Bachelor of Arts in homeland security and a minor in political science. She has been recognized for her academic achievements with prestigious honors, including the Tulane Leadership Award. Bellows has already garnered significant experience in the field, notably through her internship at Guidehouse. There, she played a key role in stakeholder engagement for the Federal Emergency Management Agency's (FEMA's) Integrated Public Alert and Warning System, demonstrating her ability to navigate complex communication networks and enhance emergency response mechanisms. Her hands-on experience extends to her time with JetBlue Airlines, where she contributed to emergency response initiatives, showcasing her skills in operational planning and crisis management. As Bellows steps into her professional career, she joins the incoming class of consultants at Guidehouse, ready to apply her expertise to support FEMA projects. Her future aspirations include pursuing a master's degree in disaster risk management, with a focus on advancing her knowledge in human-climate interactions and community resilience, underlining her commitment to making a significant impact in the field of emergency preparedness and disaster response.

Paper Title: *After the Earthquake: Institutional Trust and Governmental Performance in Chile and Haiti*

2024 GRADUATE WINNER



GARDINER BROWN

Gardiner Brown is a doctoral student in the University of California, Berkeley Department of Environmental Science, Policy, and Management. He also holds a master's in environmental humanities from the University of Utah. His research lies at the intersections of critical disaster studies and critical disability studies, and he's especially compelled by research projects that allow him to apply his experience as both a social scientist and a humanities scholar. His scholarly writing has previously been published in



Edge Effects, and his personal essays have appeared in *Blue Mesa Review* and *Burrow Press Review*.

Paper Title: *Vulnerable Populations/Responsible Individuals: Disability and Hurricane Harvey*

We would like to extend thanks to the 2024 Student Paper Competition chair **Melissa Villarreal**.

To learn more about the Student Paper Competition, visit: hazards.colorado.edu/awards/paper-competition.



49TH ANNUAL

NATURAL HAZARDS RESEARCH AND APPLICATIONS WORKSHOP



Natural Hazards Center
Institute of Behavioral Science
University of Colorado Boulder

1440 15th Street | Boulder, CO 80309-0483 USA
hazctr@colorado.edu | (303) 735-5844



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