



**From Grassroots to Global:
Reducing Disaster Losses through Mitigation and Adaptation**

2013 International Hazard Mitigation Practitioners Symposium

July 16-17, 2013

**Omni Interlocken Resort
Broomfield, Colorado**

2013 PRACTITIONERS SYMPOSIUM SPONSORS AND SUPPORTING PARTNERS



The Natural Hazard Mitigation Association (NHMA) would like to thank the following sponsors and supporting partners:

RARE EARTH

Edward A. Thomas, Esq. LLC



VERMEIL



CRYSTAL



Dewberry

RenaissanceRe
RISK SCIENCES FOUNDATION, INC.

SILVER



BRONZE



SUPPORTING PARTNERS



nathazma@gmail.com

www.nhama.info

"Mitigation makes communities and people safer from disasters."

Program Theme

The theme of the 2013 International Hazard Mitigation Practitioners Symposium is *“From Grassroots to Global: Reducing Disaster Losses through Mitigation and Adaptation.”* This year’s theme is designed to provide insight into innovative best practices for mitigation. As such, the program sessions and training workshops will focus on fresh insights, broad visions, and inclusive management techniques that are fundamentally changing communities at home and abroad in terms of long-term resilience to embedded hazards such as climate change.

Grassroots mitigation means mitigating at the community level. Inherent in that is a need to increase participation or involve the “whole community.” Toward that end, the 2013 Symposium will include discussion of:

- participatory and broad-based approaches to mitigation;
- useful lessons learned at the individual and community levels;
- creative collaboration ideas that integrate bottom-up and top down-approaches to mitigation; and
- effective mitigation management techniques.

While mitigation begins at the local level, we can encourage shifts in focus and attitudes by learning from global success stories. Encouraging changes in practices locally requires education, awareness, and commitment, which is optimal when practices are globally accepted and inspired through effective and rational engagement.

Through the 2013 Symposium, the Natural Hazards Mitigation Association hopes to build on the momentum of mitigation through collaboration and networking. By sharing mitigation success stories, participants have the opportunity to learn from each other as well as from some of the nation’s brightest and best mitigation subject matter experts. Collectively we will work through difficult issues such as increasing risk awareness, adapting to environmental uncertainty during challenging economic times, and mobilizing a constituency for sustainable recovery that does not simply reconstruct but actually reduces future risk.

Program Organization and Logistics

This year's Symposium will feature four plenary sessions, one keynote address, and three concurrent breakout tracks—for a total of six additional sessions. The key themes from this year's workshop will be captured in a final working session where we identify and write-up a series of principles for mitigation success.

Registration:

- Registration information for the annual NHMA Symposium can be found here: <http://www.colorado.edu/hazards/workshop/2013/registration.html>.
- Symposium participants can pick up their name badge, program, and other registration materials outside of the Centennial E room on Tuesday afternoon, July 16, at 4:00 p.m.

Core Education Units:

- Symposium participants who are Certified Floodplain Managers (CFMs) can receive nine Core Education Units (CEUs) for attendance on Tuesday and Wednesday at the meetings. For more information, please contact Deborah Mills at dmills@dewberry.com.

Virtual Access to the Meetings via GoToWebinar:

- All plenary sessions, the luncheon keynote address, and several of the concurrent sessions will be available online via GoToWebinar. Those sessions are marked with a *star* below. Please visit the NHMA website for information on registering for remote participation at <http://nhma.info/practioners-workshops/2013-workshop/2013-remote-participation/>.

Proceedings:

- Proceedings from this year's Symposium will be available in the coming months from the NHMA website. Please visit the NHMA website to review the proceedings from prior years, and check back periodically for the 2013 materials at <http://nhma.info/practioners-workshops/>.

Special Thanks:

- This Symposium would not have been possible without the assistance of many people. NHMA Symposium Committee members dedicated countless hours to planning and organizing the sessions. In addition to their efforts, NHMA would also like to thank:
 - Jolie Breeden and Jaime Marso for the website updates.
 - Bette Collins for staffing the registration table.
 - Susan Garner for the technical assistance.
 - Emily Schemper for the graphic design assistance.
 - Diane Smith and Anne Watts for coordinating the participant registrations, hotel and meal accommodations, and many other important aspects of the program.
 - Stacia Sydoriak for editing the agenda and designing posters, flyers, and other promotional materials.

Program Agenda

Tuesday, July 16, 2013 – 4:00-8:30 p.m.

4:00 – 4:15 p.m. Registration Centennial Foyer

4:15 – 4:45 p.m. Welcome Centennial E
Overview of Natural Hazards Mitigation Association (NHMA)
Alessandra Jerolleman, NHMA
Edward A. Thomas, NHMA
Overview of the 2013 Program Agenda and Symposium Theme
Lori Peek, Colorado State University
J. Barry Hokanson, Urban Planning Consultant

4:45 – 6:15 p.m. *Available via GoToWebinar* Centennial E

Plenary 1: Identifying and Overcoming Impediments to Hazard Mitigation and Climate Adaptation

Moderator: Edward A. Thomas, NHMA

Speakers:

- Debra Ballen, Insurance Institute for Business and Home Safety
- Bob Gough, Intertribal Council on Utility Policy
- Glenn Pomeroy, California Earthquake Authority
- David Ropeik, Harvard University

Recorder: Rachel Sears, Federal Emergency Management Agency

Session Description: This session will continue—and expand—the conversation started as part of the closing panel at the 38th Annual Hazards Research and Applications Workshop. This particular panel will consider the central question of: Why has our society not been more successful in implementing safer, more sustainable development and redevelopment in the aftermath of disaster? This session is designed to (1) help participants understand why, despite the work of dedicated individuals and organizations and the investment of billions of dollars spent on hazards mitigation, nevertheless foreseeable hazard events continue to result in horrible disasters and suffering; and (2) present suggested paths towards building a safer, more just, and more sustainable society with less misery and suffering.

6:15 – 7:00 p.m. Joint Reception with NHMA Practitioners and Lobby Court
International Research Committee on Disasters Participants and Terrace

7:00 – 8:30 p.m. *Available via GoToWebinar* Centennial E

Plenary 2: Mitigation Options Affected by the Supreme Court in 2013: *Koontz* and Other Game Changers

Moderator: Barry Hokanson, Urban Planning Consultant

Speakers:

- Lisa Grow Sun, Brigham Young University Law School
- Edward A. Thomas, NHMA

Recorder: John Wiener, University of Colorado

Session Description: This session will explore the legal landscape for community development and hazard mitigation/climate adaptation. Specifically, there has been tremendous press coverage of many U.S. Supreme Court decisions this term. One of those cases, *Koontz vs. St. John's Water Management District*, reportedly will have a “devastating” effect on good planning. While the *Koontz* case directly involves development and mitigation, other cases this term also deal with “takings” issues, and related matters of law. Indeed, federal and interstate conflicts, and the “takings” were also highlighted in another case from this term of the U.S. Supreme Court: *Arkansas Game and Fish* ruling. Expert panelists will consider what’s happening in the current legal and policy environment and will address what the future may hold. What about your climate adaptation, hazard mitigation, or floodplain ordinances? Is it time to worry? Time to learn a new way to negotiate?

Wednesday, July 17, 2013 – 7:30 a.m.-5:00 p.m.

7:30 – 8:30 a.m. Continental Breakfast Centennial Foyer

7:30 – 8:15 a.m. Informal Meeting Time for NHMA Committees Centennial E

8:30 – 10:00 a.m. ***Available via GoToWebinar*** Centennial E

Plenary 3: Mitigation and Adaptation in the Aftermath of “Superstorms” Such as Sandy and the 2013 Midwest Tornadoes

Organizer: Lincoln Walther, CSA Ocean Sciences, Inc.

Moderator: Deborah Mills, Dewberry

Speakers:

- Margaret Davidson, National Oceanic and Atmospheric Administration
- David Miller, Federal Emergency Management Agency
- Megan O’Grady, Independent Scholar
- James Schwab, American Planning Association
- Matt Sitkowski, The Weather Channel

Recorder: Emily Wallace, National Oceanic and Atmospheric Administration

Session Description: This session will focus on long-term recovery in the aftermath of “Superstorms” such as Sandy and the 2013 Midwest tornadoes, with a particular emphasis on the implications of this recovery process at the local, state, and national levels. The session will address questions concerning leadership and decision-making in the recovery and what has, and has not, been done to “build back better” in terms of reducing the potential for future losses and adapting to climate change. The opening of this session will involve a presentation on catastrophic disasters past, present, and future. With the stage set, the discussion will shift and focus on long-term recovery at the local level with particular emphasis on the implications of how long-term recovery is affected by states and the federal government. Questions concerning leadership, decision making, and communication in recovery, obstacles that inhibit resiliency in the rebuilding process, and what has, and has not been done to promote building back stronger in order to achieve reduction in future losses and adapting to climate change will be addressed.

10:00 – 10:30 a.m. Break

10:30 a.m. – Noon Breakout Sessions

10:30 a.m. – Noon ***Available via GoToWebinar*** Spruce

Breakout Session Title: Resilient Neighbors Network (RNN): Grassroots Collaboration on Reducing Disaster Losses through Mitigation and Adaptation

Moderator: Tim Lovell, Tulsa Partners, Inc.

Speakers:

- Alessandra Jerolleman, NHMA
- Ed Thomas, NHMA
- Lincoln Walther, CSA Ocean Sciences, Inc.
- Ann Patton, NHMA (participating remotely)
- Graham Brannin, RNN Network, Tulsa, Oklahoma (participating remotely)
- Daya Dayananda, RNN Network, Pasadena, Texas (participating remotely)
- Brad Holcomb, RNN Network, Rockford, Illinois (participating remotely)
- Rebecca Joyce, RNN Network, Central Shenandoah Valley, Virginia (participating remotely)
- Terry Mehling, RNN Network, Jefferson County, West Virginia (participating remotely)
- Barbara Miller, RNN Network, Jefferson County, West Virginia (participating remotely)
- Tim Trautman, RNN Network, Charlotte-Mecklenburg, North Carolina (participating remotely)
- Terri Turner, RNN Network, Augusta, Georgia (participating remotely)
- Charles Wallace, RNN Network, Grays Harbor County, Washington (participating remotely)
- Nancy Witty, RNN Network, Hillsborough County, Florida (participating remotely)

Recorder: Jeffrey B. Ray, JEO Consulting Group, Inc.

Session Description: This session will describe the development and current activities of the Resilient Neighbors Network (RNN), which consists of a network of communities and advisors that support mitigation and adaptation work. The RNN connects closely with work done through the Federal Emergency Management Agency (FEMA) on incentivizing mitigation at the local level. Speakers will provide an overview of the ten pilot communities; explain the role that expert advisors play in the communities and as part of the RNN process; and describe how webinars are utilized to educate all communities on grassroots models and activities. Those involved in the RNN in the audience will be asked to share their experiences with other participants. The session will conclude with a discussion of next steps in the RNN project. Participants will be asked for their advice on how RNN can serve our local communities in developing strategies to reduce disaster losses.

10:30 a.m. – Noon

Available via GoToWebinar

Centennial E

Breakout Session Title: The Overlap Between Hazard Mitigation and Adaptation

Moderator: Kelly Klima, Carnegie Mellon University

Speakers:

- Michael Cohen, Renaissance Reinsurance
- Karen Campbell, World Economic Forum Risk Response Network and Wharton Risk Management and Decision Process Center
- Abby Hall, U.S. Environmental Protection Agency Office of Sustainable Communities (participating remotely)
- Jessica Grannis, Georgetown Climate Center
- Lynne Carter, Southern Climate Impacts Planning Program (SCIPP), Louisiana State University

Recorder: Christa Rabenold, National Oceanic and Atmospheric Administration

Session Description: This session will discuss the merits of fostering connections between hazard mitigation and adaptation communities of practice. Presenters will describe hazard mitigation, its overlap with adaptation, the development of new climate information for use by hazard mitigation professionals, the economic benefits of combining adaptation and hazard mitigation, and insurance.

10:30 a.m. – Noon

Alder

Breakout Session Title: Expanding Mitigation: Incorporating Ideas, Partnerships, and Programs to Promote Resiliency

Co-Moderators: Erin Capps, H2O Partners, Inc. and Jane Bachick, H2O Partners, Inc.

Potential Speakers:

- Michael McMahon, HDR Engineering, Inc.
- Beth Ellison, Southern Illinois University-Carbondale
- Thom Robison, NHMA
- David Mallory, Urban Drainage and Flood Control District, Denver, Colorado

Recorder: Karen Amrhein, Atkins/STARR

Session Description: This session will feature a multitude of topics on various aspects of mitigation from climate adaptation to pilot programs and flood insurance, to illustrate how creative ideas, unique partnerships, and the use of other federal programs can lead to successful mitigation results.

Noon – 1:00 p.m.

Lunch

Outdoor Pavilion

1:00 – 1:45 p.m.

Available via GoToWebinar

Centennial E

Keynote Address: Planning for a Stronger, More Resilient Queensland

Keynote Speaker: Brendan Nelson, MWH Global

Recorder: Michèle Companian, University of Colorado-Colorado Springs

Presentation Overview: During summer 2010-11, the State of Queensland, Australia, experienced unprecedented weather events that not only affected more than 130,000 homes, but also resulted in approximately 480,000 residences and businesses losing power during this time. The series of natural disasters (flooding and tropical cyclones) resulted in the entire State (all 73 Local Government Areas) being disaster declared for the first time in Queensland's history. Queensland has an area greater than 1.8m km² (715,000 mi²) and is almost 10% bigger than the State of Alaska. Further flooding and natural disasters caused further damage during the summer of 2011 / 2012, with 65 Local Government Areas (approx 90%) again being disaster declared. In the middle of Australia's largest

ever reconstruction program, further flooding and tropical cyclones caused more damage in January 2013 with 54 Local Government Areas again being disaster activated for the third time in as many years, with many communities recording the highest ever recorded flood level (> 0.5% or 1 in 200 year event).

This keynote presentation will provide an overview of the disaster timeline, scale, and context of the flooding and cyclone events and the associated reconstruction program. The presentation will also focus on a number of key resilience and mitigation projects that have been delivered in response to the natural disasters, and will describe how planning is playing a crucial role in making Queensland stronger and more resilient.

1:45 – 3:15 p.m. Breakout Sessions

1:45 – 3:15 p.m.

Alder

Breakout Session Title: Ignored No More? Preparing our Families to Survive by Including Children and Animals in our Plans

Moderator: Michele Steinberg, National Fire Protection Association

Speakers:

- Dana M. Greene, University of North Carolina-Chapel Hill
- Tamara Gull, Oklahoma State University
- Cathy Prudhomme, National Fire Protection Association
- Briony Towers, Children and Disasters Community of Practice, National Climate Change Adaptation Research Facility, RMIT University, Australia

Recorder: Lori Peek, Colorado State University

Session Description: The impact of natural hazards and other emergencies on youth and families is an area of disaster research that is only beginning to emerge globally. Long ignored, the reality of what happens to children and their families during and after disasters is becoming clearer as more entities, including the United Nations, examine the facts. Despite our highly organized and well-distributed government systems of preparedness and response in the U.S. and Australia, many important aspects of true preparedness at the individual and household level have traditionally been ignored and discounted. This session will explore what it means for families to take the steps that government recommends, such as evacuation – and what happens when people need to move their pets and livestock as well as themselves out of harm’s way. It will provide an overview of what is known about children and disasters, and how empowering youth to prepare themselves can actually benefit all those impacted by disaster in a given community. Current research by the National Fire Protection Association on youth and wildfire, by RMIT University on children and disasters, and by Oklahoma State University on emergency evacuation will be presented.

1:45 – 3:15 p.m.

Available via GoToWebinar

Centennial E

Breakout Session Title: Incorporating Hazard Mitigation and Adaptation into Local Planning

Moderator: Kelly Klima, Carnegie Mellon University

Speakers:

- Melanie Gall, University of South Carolina
- Kathy Smith, Federal Emergency Management Agency
- Ryan Towell, The Climate Reality Project (participating remotely)
- Michael McCormick, California Governor’s Office of Planning and Outreach (participating remotely)
- Tim Lovell, Tulsa Partners, Inc.

Recorder: Brad Case, City of New Orleans (invited)

Session Description: This session will focus on communicating adaptation and hazard mitigation to communities, businesses, and individuals and provide insights from local, state, and federal groups that have successfully integrated adaptation and hazard mitigation. The moderator will then hold an open discussion on ways to improve and advance the methodology behind hazard mitigation plans.

1:45 – 3:15 p.m.

Spruce

Breakout Session Title: Resources and Technologies for the Practitioner’s Toolbox

Moderator: Darrin Punchard, AECOM

Speakers:

- Tashya Allen, The Baldwin Group at NOAA Coastal Services Center
- Christina Randall, Colorado Springs Fire Department, Colorado
- Adam Whelchel, The Nature Conservancy

Recorder: Lawrence Frank, URS Corporation

Session Description: This session will showcase some readily available (and free!) online resources for hazard mitigation and climate adaptation practitioners, including NOAA’s *Digital Coast* and The Nature Conservancy’s *Coastal Resiliency Tool*. These resources provide visualization and analysis capabilities without the need for GIS software. The session will also demonstrate the power of applying local data and technology in planning and implementing community mitigation activities, as well as tracking success stories and lessons learned following disaster events.

3:15 – 3:30 p.m.

Break

Centennial Foyer

3:30 – 5:00 p.m.

Available via GoToWebinar

Centennial E

Plenary 4: From (Practical) Research to (Informed) Action: Fostering New Partnerships and Encouraging Innovation across Borders

Moderator: Shirley Laska, University of New Orleans

Speakers:

- Miriam Belblidia, Water Works, L3C
- Jacqui Patterson, National Association for the Advancement of Colored People (NAACP)
- Kristina Peterson, Center for Hazards Assessment, Response, and Technology, University of New Orleans and the Lowlander Center

Recorder: Elizabeth English, University of Waterloo

Session Description: This final plenary session will demonstrate through presentations and discussion how bridging boundaries of all kinds can promote sustainable recovery and mitigation, with the goal of helping communities to adapt to climate hazards arising from global warming. Presenters will explain how and why they come to this work and what is most needed to sustain and deepen their efforts. They will also suggest specific strategies for collaboration, leading to a broader, more diverse, and ultimately a more effective mitigation and adaptation community. The session will focus on critical research questions as well as opportunities for new and innovative ways of implementing change.

5:00 – 5:30 p.m.

Closing, Next Steps, and Acknowledgements

Centennial E

Participant Names and Email Addresses

First Name	Last Name	Organization	Email
Tashya	Allen	The Baldwin Group at the NOAA Coastal Services Center	tashya.allen@noaa.gov
Karen	Amrhein	Atkins/STARR	Karen.amrhein@atkinsglobal.com
Jane	Bachick	H2O Partners	jane@h2opartnersusa.com
Debra	Ballen	Insurance Institute for Business & Home Safety	dballen@ibhs.org
Miriam	Belblidia	Water Works, L3C	mbelblidia@gmail.com
Karen	Campbell	Wharton Risk Management and Decision Process Center	karenca@wharton.upenn.edu
Erin	Capps	H2O Partners, Inc.	ecapps@h2opartnersusa.com
Bradford	Case	City of New Orleans	bwcase@nola.gov
Kate	Cochrane	Durham University/Newcastle City Council	kate.cochrane@newcastle.gov.uk
Michèle	Companion	University of Colorado at Colorado Springs	mcompani@uccs.edu
William	DeGroot	Urban Drainage & Flood Control District	bdegroot@udfcd.org
Beth	Ellison	Southern Illinois University	beth.ellison@siu.edu
Elaine	Enarson	Independent Scholar	enarson@gmail.com
Elizabeth	English	University of Waterloo	english@ecenglish.ca
Lawrence	Frank	URS	lawrence.frank@urs.com
Melanie	Gall	Louisiana State University	gallm@lsu.edu
Michael	Garner	Michael Baker Corporation	MGarner@mbakercorp.com
Susan	Garner	Natural Hazards Mitigation Association	slgarner@uno.edu
Patricia	Gavelda	Colorado Office of Emergency Management	Patricia.Gavelda@state.co.us
Bob	Gough	Intertribal Council on Utility Policy	gough.bob@gmail.com
Jessica	Grannis	Georgetown Climate Center	jcg68@law.georgetown.edu
Tamara	Gull	Oklahoma State University	tgull@okstate.edu
Sarah	Henly-Shepard	Disaster Resilience, L.L.C.	s.henly.shepard@gmail.com
Laura	Herbert	Florida Division of Emergency Management	laura.herbert@em.myflorida.com
Barry	Hokanson	PLN Associates	barryhokan@yahoo.com
William	Hooke	American Meteorological Society	hooke@ametsoc.org
Alessandra	Jerolleman	Natural Hazard Mitigation Association	agazzo@gmail.com
Laura	Kelliher	CDM Smith	kelliherle@cdmsmith.com
Kelly	Klima	Carnegie Mellon University	kelly.klima@gmail.com
Richard	Krajeski	Natural Hazard Mitigation Association	krajeskipeterson@msn.com
Shirley	Laska	University of New Orleans	slaska@uno.edu
Timothy	Lovell	Tulsa Partners, Inc.	tulsapartners@gmail.com
David	Mallory	Urban Drainage and Flood Control District	dmallory@udfcd.org
Cristina	Martinez	ISO	Cristina.Martinez@verisk.com
David	Maurstad	STARR	dmaurstad@ostglobal.com
Samantha	Medlock	Association of State Floodplain Managers	sam@floods.org
David	Miller	Federal Emergency Management Agency	david.miller@fema.dhs.gov
Deborah	Mills	Dewberry	dmills@dewberry.com
Jim	Murphy	URS Corporation	jim.murphy@urs.com

First Name	Last Name	Organization	Email
Brendan	Nelson	MWH Global	brendan.nelson@mwhglobal.com
Hari Krishna	Nibanupudi	International Center for Integrated Mountain Development	hari_2068@yahoo.com
Lori	Peek	Colorado State University	lori.peek@colostate.edu
RoseMarie	Perez Foster	University of Colorado Natural Hazards Center	Rosemarie.Foster@colorado.edu
Kristina	Peterson	Lowlanders Center	krajeskipeterson@msn.com
Aaron	Pfannenstiel	Pacific Municipal Consultants	apfannenstiel@PMCWorld.com
Glenn	Pomeroy	California Earthquake Authority	gpomeroy@CalQuake.com
Cathy	Prudhomme	National Fire Protection Association	cprudhomme@nfpa.org
Darrin	Punchard	AECOM	darrin.punchard@aecom.com
Christa	Rabenold	National Oceanic and Atmospheric Administration	christa.rabenold@noaa.gov
Jeffrey	Ray	JEO Consulting Group, Inc.	jray@jeo.com
Jennifer	Roberts	Louisiana Water Works	jennifer@waterworksla.com
Lillian	Robison	Accenture Federal Services	lillian.p.robison@accenturefederal.com
Thom	Robison	NHMA	thomas.l.robison@accenturefederal.com
David	Ropeik	Ropeik & Associates	dpr@dropeik.com
Wendy	Saunders	GNS Science	w.saunders@gns.cri.nz
James	Schwab	American Planning Association	jschwab@planning.org
Rachel	Sears	Federal Emergency Management Agency	rachel.sears@dhs.gov
Wesley	Shaw	Blue Urchin	wes@blueurchin.com
Kathleen	Smith	Federal Emergency Management Agency	Kathleen.Smith2@fema.dhs.gov
Michele	Steinberg	National Fire Protection Association	msteinberg@nfpa.org
Lisa	Sun	Brigham Young University Law School	sunl@law.byu.edu
Edward	Thomas	Natural Hazard Mitigation Association	edwathomas@aol.com
Ken	Topping	California State Polytechnic University at San Luis Obispo	kentopping@aol.com
Emily	Wallace	National Oceanic and Atmospheric Administration	Emily.lehr.wallace@gmail.com
Lincoln	Walther	CSA Ocean Sciences Inc.	lwalther@conshelf.com
Adam	Whelchel	The Nature Conservancy	awhelchel@tnc.org
John	Wiener	University of Colorado at Boulder	john.wiener@colorado.edu

Session Organizer, Moderator, Speaker, and Recorder Bios

Tashya Allen is a Coastal Hazards Specialist working for The Baldwin Group at the NOAA Coastal Services Center. Her background is in community-based risk and vulnerability assessments. She also specializes in the development of decision support tools for hazards management and community resilience planning. Ms. Allen holds a B.S. in Geology from the College of Charleston and has been at the Coastal Services Center for 15 years.

Karen Amrhein of Atkins/STARR, provides risk communication and map production support for FEMA through a PTS contract. Working out of her home office, Karen leads STARR's community engagement program, supporting FEMA Regions I, V, VII, and X in developing implementation strategies to support Risk MAP goals of community resilience and local mitigation action. She has provided trainings and workshops at many venues including ASFP, CTP trainings, and state floodplain conferences and workshop tours on such topics as Discovery, Resilience Meetings, Mapping Needs Assessment, Risk MAP Engagement, and Meeting Facilitation. Karen lives in Castle Rock, Colorado, with her partner, two fabulous boys, the dog, the cat, and the vegetable garden.

Jane Bachick is a Business Manager and Associate for H2O Partners, Inc. In this capacity, she provides continual support for H2O marketing and business management and day-to-day operations, including responding to local, state, and federal RFPs, contract negotiations, and government contract pricing. Ms. Bachick oversees all staffing requirements and ensures contract deliverables are being met. She maintains all H2O certifications, including GSA Federal Schedule, Texas HUB and WBE/DBEs. As Associate, Ms. Bachick assists with the development of Hazard Mitigation Plans and provides support for floodplain ordinance and environmental work. She is also responsible for planning and managing NFIP Adjuster Certification Training under the NFIP training contract. This includes tracking session requests, securing sponsorships, finalizing sponsorship agreements, identifying and securing site locations, and setting up workshops. She oversees registration, both prior to and the day of workshop, creates roster spreadsheets and assists in CE processing. Ms. Bachick is also the training equipment and materials manager. Ms. Bachick holds a Bachelor of Science degree in Criminal Justice from the University of North Texas.

Debra Ballen joined IBHS in 2008 as the general counsel and senior vice president of public policy. In this capacity, she is responsible for managing all of the organization's legal matters and overseeing IBHS' public policy efforts, including building codes. She has testified before Congress and at the state level in support of mitigation initiatives. Prior to her work with IBHS, Ms. Ballen was the executive vice president of public policy management for the American Insurance Association (AIA) in Washington, D.C. She developed and implemented policy for AIA's priority federal and state public policy issues. She also has served on the Organization for Economic Cooperation and Development (OECD) High Level Advisory Board on Financial Management of Large Scale Catastrophes, which includes a heavy emphasis on mitigation measures. Ms. Ballen graduated with a juris doctorate degree from Harvard Law School and an A.B. degree from Princeton University.

Miriam Belblidia is the founding partner of Louisiana Water Works, L3C, a social entrepreneurship focused on linking flood mitigation and water quality planning. Previously, she worked as a Hazard Mitigation Specialist for the City of New Orleans, where she helped administer federal hazard mitigation grants, coordinated the 2010 Orleans Parish Hazard Mitigation Plan update, and led efforts to develop the City's Stormwater Management Program. Miriam received the 2010-11 Fulbright Fellowship in Water Management to conduct research at the Technical University of Delft's Hydraulic Engineering Department. She is a Certified Floodplain Manager (CFM) and received her MPA degree from the University of Pittsburgh, focusing on civil security and disaster management. Miriam has published research on the role of information technology in community resiliency.

Karen Campbell is a senior economist at the World Economic Forum and a research fellow at the Wharton Risk Management and Decision Processes Center. Her team at the Forum — the risk response network — produces the annual global risk report, now in its eighth year. The Forum also gauges global confidence on a quarterly basis and constructs an Index of Global Confidence.

Erin Capps is a licensed attorney with expertise in Stafford Act compliance and interpreting the 44 Code of Federal Regulations. As Vice President of Operations at H2O Partners, Inc., Erin oversees the development of FEMA Hazard Mitigation Assistance (HMA) plans and grants as well as Public Assistance (PA) recovery efforts and helps develop and manage Community Development Block Grants (CDBG). She has worked closely with cities, counties, regional groups, non-profits, states, and federal agencies with planning and recovery efforts to help build resilient communities. Her legal background and broad experience has helped shape her understanding of compliance statutes and how they can be leveraged to maximize funding for various entities. As the Co-Chair of the Hazard Mitigation Planning Committee for the NHMA, Ms. Capps has created conference panels on the challenges of making mitigation matter and co-authored a white paper on how to improve mitigation planning. She has also conducted outreach and presentations for state and national groups on a variety of topics, including: No Adverse Impact, legal and policy issues surrounding floodplain management, higher standards for floodplain management, source water quality and protection, and FEMA assistance programs.

Lynne Carter is Associate Director and Program Manager, Southern Climate Impacts Planning Program (SCIPP) –serving the adaptation and climate information needs of the south-central and Associate Director for the Coastal Sustainability Studio also at Louisiana State University, an effort to bring together designers with engineers and coastal scientists to contribute to a resilient coast. She has organized conferences and workshops on various aspects of climate change, including around natural resource adaptations for the New England Governors/ Eastern Canadian Premiers. She was the Regional Liaison to the 19 regions for the first *U.S. National Assessment*. She has developed and taught semester long and short courses (including at the Environmental Change program at Oxford), delivered more than 60 public presentations on climate change, written and contributed to articles and reports on climate change for a variety of audiences, including all three U.S. National Climate Assessments. Among other things, Lynne is an appointed member of the Federal Advisory Committee for the 2013 US National Climate Assessment and a convening lead author for the SE and a lead author for the Adaptation chapter.

Michael Cohen is the Vice President of Government Affairs for RenaissanceRe, a global provider of reinsurance and insurance to cover the risk of natural and man-made catastrophes. He also serves as a Director of the RenaissanceRe Risks Sciences Foundation which supports advanced scientific research in atmospheric risks, the development of risk mitigation techniques to safeguard communities, efforts that reduce the economic turmoil following disasters, and organizations that preserve coastal habitats. Prior to his current position, Mr. Cohen was a Director of Industry and State Relations at Freddie Mac. He also served as the Deputy Chief of Staff of the White House Community Empowerment Board in the Clinton White House and was a political appointee at the U.S. Department of Housing and Urban Development.

Michèle Companion is an Associate Professor of Sociology at the University of Colorado-Colorado Springs and a food/livelihood security consultant. She has worked as a humanitarian aid response coordinator for international aid organizations such as Save the Children Federation, USAID, Global Food and Nutrition Inc., Counterpart International, and International Relief and Development. Her current research focuses on the role of local markets as food security indicators, indigenous rights, Native American health, Native American food traditions, the food sovereignty movement, and urban food security. She is the co-chair of the International Activities Committee of the Natural Hazard Mitigation Association.

Margaret Davidson has worked for over 15 years for the National Oceanic and Atmospheric Administration (NOAA), and is now Acting Director of their Office of Ocean and Coastal Resource Management. Before joining NOAA, Margaret was executive director of the South Carolina Sea Grant Consortium from 1983 to 1995. She also served as special counsel and assistant attorney general for the Louisiana Department of Justice.

An active participant in coastal resource management issues since 1978, Davidson earned her juris doctorate (J.D. degree) in natural resources law from Louisiana State University. She later earned a master's degree in marine policy and resource economics from the University of Rhode Island. She has served on numerous local, state, and federal committees and has provided leadership for national professional societies. She has focused her professional work on environmentally sustainable aquaculture, mitigation of coastal hazards, and impacts of climate variability on coastal resources. Davidson served as the acting assistant administrator for NOAA's National Ocean Service from 2000 to 2002.

She is known as a government official who takes complex findings and turns them into practical tools. The center takes complex results from computer models, for example, and uses geographic information systems (GIS) to portray them as maps. This helps make the information understandable to planners and policy makers, who have to decide among complex options.

Elizabeth (Beth) Ellison received her Bachelor of Arts in International Studies from The University of Wisconsin-Eau Claire and completed her Master of Arts in Geography at Miami University with an emphasis on Environmental Hydrology and Geographic Information Systems (GIS). In 2010, Beth joined The Natural Hazards Research and Mitigation Group (NHRMG) at Southern Illinois University – Carbondale. Her expertise within the group is geospatial applications and community outreach through mitigation planning across Illinois. The NHRMG previously worked with over 30 communities to write FEMA approved Multi-Hazard Mitigation Plans and continues to work with a number of communities on plan updates and new plans. Beth also oversees mitigation efforts with the Olive Branch Area Community Development Corporation (OBACDC) on community recovery and rebuilding efforts after the spring 2011 flooding along the Mississippi River.

Elaine Enarson is an independent sociologist in Boulder, Colorado. She has conducted field studies in the United States, Canada, India, and Indonesia exploring such concerns as gendered disaster impacts, women's political mobilization and leadership, gender-based violence, women's economic recovery, and gender and evacuation. Her 2012 book, *Women Confronting Natural Disaster: From Vulnerability to Resilience*, focused on the United States while recent book chapters examine gender, climate, and disaster, and cross-cultural patterns in gendered recovery. Currently, teaching emergency management students online, Elaine is finalizing practical tools for gender-responsive emergency management, planning a woman-to-woman national resilience project, and writing a-book on disaster quilting.

Elizabeth English is Associate Professor of Architecture at the University of Waterloo in Ontario, Canada. Her experience in education, practice, teaching, and research is in both the fields of Architecture and Civil Engineering. She is the founder and director of the Buoyant Foundation Project, a not-for-profit organization based in Louisiana that works on the development of amphibious foundation systems as a flood mitigation strategy that supports the preservation of traditional housing forms and cultural practices. Her current focus is on projects in south Louisiana, the Canadian north, Nicaragua, and coastal New York/New Jersey. She is also the founder of the annual Building Resilience Workshops in New Orleans. Dr. English holds a BA in Architecture and Urban Planning from Princeton University, a MS in Civil Engineering from MIT, and a PhD in Architectural Theory from the University of Pennsylvania.

Lawrence Frank is a professional planner and certified floodplain manager with 19 years of applied experience in hazard mitigation planning, floodplain management, and FEMA mitigation grant programs. He is the National Planning Technical Coordinator for the RAMPP Joint Venture Risk MAP program for URS. Mr. Frank led the development of the nation's first Enhanced Local Mitigation Strategy in Broward County, Florida, and was the Project Manager for the City of Savannah, Georgia's CRS Flood Mitigation Plan that received near maximum credit points. Prior to joining URS in 2004, Mr. Frank worked in FEMA Region IV, managing the HMGP in Florida and assisting Florida's hazard mitigation planning council. Mr. Frank earned a Master's degree in City and Regional Planning from the University of North Carolina.

Melanie Gall is a hazards geographer and certified floodplain manager (CFM) with expertise in the quantification of disaster losses, social vulnerability, flood insurance, hazard mitigation planning, and impact assessments. She combines quantitative and qualitative methods with geospatial technologies to answer pertinent questions in disaster risk management. Her publications can be found in journals such as *Natural Hazards Review*, *Disasters*, *Bulletin of the American Meteorological Society*, *Leadership and Management in Engineering*. Her experience includes post-disaster research in Haiti, Mozambique, and the U.S. Gulf Coast. She serves on the Hazard Mitigation and Adaptation Committee of the Natural Hazard Mitigation Association and as Adjunct Faculty in the Emergency Management and Homeland Security Leadership Program at Portland State University. She received her B.S. from the University of Heidelberg (1998), M.S. from the University of Salzburg (2002), and Ph.D. from the University of South Carolina (2007).

Bob Gough is an attorney with graduate degrees in sociology and cultural ecology. He has over 35 years of experience in tribal cultural and natural resource issues, and is the secretary of the Intertribal Council On Utility Policy, which is composed of 15 Tribes in the Northern Great Plains. As first director of the Rosebud Sioux Tribal Utility Commission, Gough participated in WAPA negotiations for tribal allocations of federal hydroelectric power. He co-chaired the national assessment's Native Peoples/Native Homelands Climate Change Workshop, and is an author for the National Climate Assessment for the Great Plains and Tribal Chapters. A member of the Western Governors' Clean and Diversified Energy Advisory Committee, Gough worked with the Department of Energy's Wind Powering Native America Initiative, and through Intertribal COUP supports tribal interests in building sustainable homeland economies based upon efficient and future proofed homes and renewable energy generation. The COUP plan for tribal wind development across the West was awarded the inaugural World Clean Energy Award for Courage, in Basel, Switzerland.

Jessica Grannis is a staff attorney and adjunct professor at the Harrison Institute at Georgetown University Law Center. She works with state and local governments to help them adapt to sea-level rise in coordination with the Georgetown Climate Center. Her recent publications include an *Adaptation Tool Kit for Sea Level Rise* (2012); *Coastal Retreat Measures*, and a book chapter on *Coastal Retreat in the Law of Climate Change: U.S. and International Aspects* (2012, with Peter Byrne). Prior to joining the Harrison Institute, she was staff counsel for the California State Coastal Conservancy and the Ocean Protection Council.

Dana M. Greene holds a doctorate in Sociology from the University of Michigan. She is currently a Research Fellow in the Institute for the Environment at the University of North Carolina, Chapel Hill. Her research interests include social vulnerabilities to disasters, animals in disasters, and strategies for emergency management for compromised populations and the environment. Dana's work focuses on examining key environmental issues in disaster zones, and maintaining a specific spotlight on the social impact of disasters on underrepresented groups. A second and important goal of her work is to engage qualitative, quantitative, and social network analysis to analyze and validate environmental, sociological, and epidemiological data on the impact of natural and technological disasters on human and livestock populations in disaster zones.

Tamara Gull has a DVM from Tufts University and a Ph.D. from Texas A&M University. She is board-certified in Large Animal Internal Medicine, Veterinary Preventive Medicine and Veterinary Microbiology. A Lieutenant Colonel, U.S. Army Reserve Veterinary Corps, Tamara is also Assistant Professor, Oklahoma State University Center for Veterinary Health Sciences, Department of Veterinary Pathobiology. Tamara's research interests include infectious respiratory diseases of livestock and horses, salmonellosis in livestock, vaccine development, animal emergency management, and animals in disasters.

Abby Hall is a Policy Analyst for the United States Environmental Protection Agency (EPA) Office of Sustainable Communities. She manages direct assistance programs for states and communities, including EPA's Greening America's Capitals program and the Smart Growth Implementation Assistance program. Ms. Hall serves as a staff expert on green infrastructure policies for water management, and focuses on climate change adaptation approaches that meet near-term community goals while providing long-term disaster protection. Ms. Hall initiated a formal EPA partnership with FEMA's disaster recovery and mitigation programs. Ms. Hall earned both her BA and MA in Anthropological Sciences from Stanford University.

Barry Hokanson has more than 45 years of comprehensive urban planning experience in California, Texas, Kansas, Iowa, and Illinois, with responsibility for environmental and development regulations, building codes, transportation planning, strategic planning, community development, economic development, stormwater and floodplain management, emergency response planning, and post-disaster recovery planning in urban and suburban areas. Prior to subcontractor work in FEMA's recovery planning for Louisiana, Texas, Tennessee, and New York (2005 to 2013), Mr. Hokanson held executive and consulting positions in regions such as Kansas City, Chicago, and Dallas. He is active in organizations such as the American Planning Association and the Natural Hazard Mitigation Association. He holds a master's degree in urban and regional planning from the University of Iowa.

Alessandra Jerolleman is the founder and Executive Director of the Natural Hazard Mitigation Association (NHMA). Dr. Jerolleman is a Senior Emergency Management and Hazard Mitigation Planner for JEO Consulting Group Inc. She currently serves as one of the Tri-Chairs for the National Hazard Mitigation Collaborative Alliance, sits on the board of the Greater New Orleans Disaster Recovery Partnership, and sits on the Executive Committee of the American Society of Public Administration's Section on Emergency and Crisis Management. She is the co-author of a textbook, *Natural Hazard Mitigation*, as well the co-author of "What Has Been Done? Louisiana After Katrina," to be published in a forthcoming book. She completed her dissertation, "The Privatization of Hazard Mitigation: A Case Study of the Creation and Implementation of a Federal Program" at the University of New Orleans in 2013.

Dr. Jerolleman has acquired wide-ranging experience in the private, non-profit, and academic sectors, including: serving as a Program Specialist in the Gulf Coast with Save the Children USA, working on a resilience initiative around children's needs in emergencies; hazard mitigation planning at the local, state, and campus level; community education and outreach regarding mitigation measures and preparedness; development of collaborative networks and information sharing avenues among practitioners; and, delivery of training and education to various stakeholders. She is involved in various aspects of planning and policy at the national and local level, including participation in several workshops each year. Dr. Jerolleman speaks on many topics including: hazard mitigation and climate change; campus planning; threat, hazard and vulnerability assessments; hazard mitigation planning; protecting children in disasters; and, public/private partnerships.

Kelly Klima is a Research Scientist at the Department of Engineering and Public Policy of Carnegie Mellon University focusing on climate, extreme weather, adaptation, and risk communication. Dr. Klima completed her doctoral research on a decision analytic assessment of different methods to reduce hurricane damages. She is an active member of 10 professional societies, and serves on the American Geophysical Union Executive Council and the Natural Hazard Mitigation Association Board of Directors. Dr. Klima also has an M.S. in Earth, Atmosphere, and Planetary Science (MIT), an M.S. in Aeronautics and Astronautics (MIT), and a B.S. in Mechanical Engineering (Caltech).

Shirley Laska is Professor Emerita of Sociology and Founding Past Director of the Center for Hazards Assessment, Response, and Technology at the University of New Orleans (*UNO-CHART*). Her specialties include hazard mitigation, long-term recovery, and enhancement of community resiliency through community engagement processes. Multiple powerful hurricanes, the catastrophic BP oil spill, and massive coastal land loss all occurring in the coastal Louisiana area occupy her applied research time as has the tornado which struck her Massachusetts hometown in 2011. She is currently completing research on a project to introduce Traditional Ecological Knowledge to scientific coastal restoration decision-making; on an analysis of the role of live talk-show hosted radio in disaster recovery and response (Google 'Laska citizen responders' for the e-report); 'ground zero' Katrina social science researchers; the question of whether the BP oil spill created corrosive communities as occurred after the Exxon Valdez; and the impact of the BP spill on Gulf coast residents three years after. She is beginning a project on the enhancement of interdisciplinary collaborative research capacity by environmental and disaster graduate students and has created an applied non-profit organization, the *Lowlander Center*, with Kristina Peterson, focusing on social dynamics of coastal, climate-change impacts of sea level rise, especially the adaptation needed for quality of community life before relocation is required. She is a member of the Advisory Committee of the Natural Hazards Mitigation Association.

Tim Lovell has been the Executive Director of Tulsa Partners, Inc. since 2004. He was recruited by the City of Tulsa Project Impact office in May 2000, and helped create Tulsa Partners, Inc., a 501(c) (3) non-profit agency designed to support the building of a safe and sustainable community. Mr. Lovell serves as a founding Board Member and current Secretary of the Natural Hazard Mitigation Association (NHMA). He has a Master of Management degree in Nonprofit Administration and serves on Oklahoma's State Citizen Corps Council. He participated with others at NHMA in the development of the Resilient Neighbors Network.

David Mallory is a graduate of Colorado State University and has over 35 years of floodplain management experience in the Denver Metropolitan Area. He currently serves as the Senior Project Engineer in the Floodplain Management Program of the Urban Drainage and Flood Control. David is involved in many aspects of the program, including the review of development proposals adjacent to major drainageways, master plan implementation, and the Cooperating Technical Partnership (CTP) program with the Federal Emergency Management Agency (FEMA). David is active in the American Public Works Association (APWA), the Association of State Floodplain Managers (ASFPM), the Colorado Association of Stormwater and Floodplain Managers (CASFM), the National Association of Flood and Stormwater Management Agencies (NAFSMA) and the Natural Hazards Mitigation Association (NHMA). David maintains a high level of interest in traditional floodplain management issues, such as floodplain mapping, as well as emerging sustainability and low impact development topics as they relate to floodplain preservation and protection of the natural and beneficial stream and river functions.

Michael McCormick serves as an appointee of Governor Jerry Brown as a Local and Regional Affairs Policy Advisor and Senior Planner with the Governor's Office of Planning and Research (OPR). His focus is at the nexus of local government and State policy, where he works on climate change, sustainability, tools/resource development, and communication issues. He has experience working in academic, local government, and consulting capacities and has been on the boards of several nonprofits, including those of the Sustainability Academy, the American Planning Association, and the Association of Environmental Professionals.

Mike McMahan is a Senior Hydro-meteorologist at HDR Engineering, Inc. His experience is focused in atmospheric science services, including climate change impact analysis and quantification, flood warning and response, short-term heavy precipitation forecasting, post-storm event analyses and floodplain/design storm issues. He has specific expertise in risk analysis as it pertains to meteorological phenomena including climate change. He has an active role in the climate science community as part of the Western States Water Council, Western Governor's Association and California DWR workshops on climate change and extreme weather events, as well as work with the AWWA's National Climate Assessment Development and Advisory Committee guidance documentation.

David L. Miller has served as FEMA's Associate Administrator for the Federal Insurance and Mitigation Administration (FIMA) since late September 2011. Prior to that, David served as the Administrator of the Iowa Homeland Security and Emergency Management Division from 2004-2011. During his tenure he served as the Governor's Authorized Representative for eleven President-declared major disasters, including the 2008 flooding disaster that historically was the largest disaster to occur in the State of Iowa and, at that time, was the fifth largest disaster in the United States. Total federal dollars obligated topped \$1.2 billion and included more than \$350 million in hazard mitigation funding. Under Miller's leadership, Iowa was one of only 12 states to achieve national accreditation under the Emergency Management Accreditation Program, allowing for increased funding under FEMA's Hazard Mitigation Grant Program (HMGP).

Prior to becoming Iowa Homeland Security and Emergency Management Division Administrator, Miller served in a number of roles while being employed by the Division during the period of 1989 and 2004. Roles included being the State of Iowa E911 Program Manager, the Division Legislative Liaison, Special Projects Coordinator, and serving as the Division Chief of Staff. During this period he acted as the Alternate Governor's Authorized Representative or Alternate State Coordinating Officer in 15 President-declared major disasters. Miller has served as a member or leader in a number of State and national groups, including terms as the Vice President and President of the National Emergency Management Association, and as a member of the National Advisory Council. He is a graduate of the Naval Postgraduate School's Executive Leadership Program.

Deborah Mills has served for more than four years in Dewberry Consultants, initially supporting the floodplain mapping program followed by three years in the Emergency Management Disaster Mitigation (EMDM) business unit focusing on FEMA Hazard Mitigation Technical Assistance task order management along with state and local hazard mitigation planning services nationwide. She also leads the Dewberry Mitigation Grant Support team which fosters hazard mitigation solutions and FEMA Hazard Mitigation Assistance grant support for local governments. Deborah has served on the ASFPM Board of Directors as the Mitigation Committee Co-chair for the past seven years. She retired from the Commonwealth of Virginia following 30 years of service. She was the Director of the Recovery and Mitigation Division of the Department of Emergency Management where she managed a staff of recovery project and planning specialists that manage Commonwealth disaster recovery operations. She also served as State Hazard Mitigation Officer. Her degree is in Forest Resource Management and Forest Engineering from West Virginia University. She served the Virginia Department of Forestry for 10 years, supported the Department of Conservation and Recreation's nonpoint water pollution grant programs for 13 years and then worked in the state floodplain management program prior to joining the Virginia Department of Emergency Management. She assisted the Mississippi Emergency Management Agency Mitigation Program for a month in Biloxi following Hurricane Katrina through the Emergency Management Assistance compact and supported 16 other FEMA-State Joint Field Office operations following Presidential declarations of major disaster. Deborah is active in her downtown Richmond neighborhood, gardens and builds disaster resistant Lego structures with her god children.

Brendan Nelson has recently commenced as the Asia Pacific Director for the Financial, Risk and Commercial practice of MWH Global. Prior to commencing this role, Brendan was the General Manager, Land Use Planning with the Queensland Reconstruction Authority (in Australia) overseeing a number of significant resilience projects for which he was very honoured to be named as the inaugural “Queensland Planner of the Year” in 2011 and the inaugural “Australian Planner of the Year” in 2012 by the Planning Institute of Australia.

Brendan has been a private consultant, worked internationally and has held various planning positions with Queensland local and state governments during his 20 years in planning. Brendan holds a Bachelor of Environmental Science (Griffith) and Graduate Diploma of Urban and Regional Planning (with Distinction) from QUT. Brendan is a Corporate Member and Certified Practising Planner with the Planning Institute of Australia, member of the American Planning Association, member of the Natural Hazards Mitigation Association and member of the Queensland Environmental Law Association. Brendan was also appointed as an Adjunct Senior Lecturer in the Faculty of Engineering and Surveying by the University of Southern Queensland in April 2013. In his role with the Queensland Reconstruction Authority, Brendan oversaw many land use planning projects, including the Development Scheme for the Grantham Reconstruction Area, guidelines for reconstruction following Tropical Cyclone Yasi and the Queensland Flood Mapping Program which received a 2012 Queensland Award for Planning Excellence and 2013 National Award for Planning Excellence from the Planning Institute of Australia.

Megan O’Grady served as the Project Manager for the New York City Panel on Climate Change and ClimAID: Responding to Climate Change in New York State. She works directly with scientists and stakeholders to develop feasible climate change adaptation strategies, and to mainstream adaptation thinking into decision making. Megan has a BA in International Environmental Policy from Saint Olaf College, and an MPA in Environmental Policy from Columbia University’s School of International and Public Affairs. Before moving back to Colorado, she was the Project Manager at the Center for Climate Systems Research (CCSR) and the NASA Goddard Institute for Space Studies.

Jacqueline Patterson is the Director of the NAACP Environmental and Climate Justice Program. Since 2007, she has served as coordinator and co-founder of Women of Color United. Recently a global women’s rights consultant, Jacqui has worked as a researcher, program manager, coordinator, advocate, and activist working on women’s rights, violence against women, HIV&AIDS, racial justice, economic justice, and environmental and climate justice. She served as a Senior Women’s Rights Policy Analyst for ActionAid where she integrated a women’s rights lens for the issues of food rights, macroeconomics, and climate change as well as the intersection of violence against women and HIV&AIDS. Previously, she served as Assistant Vice-President of HIV/AIDS Programs for IMA World Health providing management and technical assistance to medical facilities and programs in 23 countries in Africa and the Caribbean. She also served as the Outreach Project Associate for the Center on Budget and Policy Priorities, and Research Coordinator for Johns Hopkins University. She was also a U.S. Peace Corps Jamaica volunteer. Patterson’s publications/articles include: “Jobs vs. Health: An Unnecessary Dilemma,” “Climate Change is a Civil Rights Issue,” “Gulf Oil Drilling Disaster: Gendered Layers of Impact,” “Disasters, Climate Change Uproot Women of Color” and an upcoming book chapter, “Equity in Disasters: Civil and Human Rights Challenges in the Context of Emergency Events.” She holds a master’s degree in social work from the University of Maryland and a master’s degree in public health from Johns Hopkins University. She currently serves on the Executive Committee for the Congressional Black Caucus Fellows Alumni Network, The Coordination Team of the Gender Justice Working Group of the US Social Forum, the Advisory Committee for The Grandmothers’ Project, the Steering Committee of interfaith Moral Action on Climate Change, as well as serves on the Board of Directors for the Institute of the Black World and U.S. Climate Action Network.

Lori Peek is spending the 2012-13 academic year as a Visiting Research Scientist at the National Center for Disaster Preparedness at the Earth Institute at Columbia University. She is also Associate Professor of Sociology and Co-Director of the Center for Disaster and Risk Analysis at Colorado State University. Lori studies vulnerable populations in disaster, and she is currently involved in several research projects, including a study of risk perception and evacuation behavior in hurricane-prone communities along the U.S. Gulf and Atlantic Coasts; a global examination of earthquake risk reduction activities; a state-wide survey of disaster preparedness among childcare providers in Colorado; a participatory project on children’s recovery after the Joplin tornado; and a five-year project on the potential mental and physical health effects of the BP Oil Spill on children. She is author of the award-winning book *Behind the Backlash: Muslim Americans after 9/11*, co-author of *Children of Katrina*, and co-editor of *Displaced: Life in the Katrina Diaspora*.

Kristina Peterson, Ph.D., is a senior researcher at CHART-UNO. She has conducted research on historic and contemporary efforts of successful community relocation. She has helped create safe venues for participation and discourse on coastal issues with and for traditional and indigenous Louisiana high-risk coastal communities in Southeast Louisiana. Her research projects include a NOAA resiliency project in the Jean Lafitte region, a citizen led democratic planning process in Plaquemines Parish, and a summer project with NSF and NCAR that enabled the placement of three physical science students in community-based projects to help build knowledge in addressing land and cultural loss. She conducted a recent study on the social impacts of the BP oil disaster.

Glenn Pomeroy is the Chief Executive Officer for the California Earthquake Authority (CEA) since April 2008. CEA is dedicated to helping California homeowners prepare for damaging earthquakes through education, mitigation and, insurance. During his first five years as CEO, he led a bipartisan legislative effort before the U.S. Congress to reduce the cost of earthquake insurance, and further diversify and expand its claim-paying resources through the first earthquake-only catastrophe bond issued without involvement of traditional reinsurers. He also facilitated the introduction of CEA's new Homeowners Choice product line, offering consumers greater control over their earthquake premium, implementation of a statewide average rate reduction, and the creation of research-based marketing and mitigation programs.

Glenn earned his law degree in his home state of North Dakota and began his career in public service when he was elected to the North Dakota House of Representatives at age 22. Following six years of legislative service, Glenn served the state as County Prosecutor, Assistant Attorney General, and North Dakota Securities Commissioner. In 1992, Glenn was elected North Dakota Insurance Commissioner and re-elected to the post four years later. His colleagues in the National Association of Insurance Commissioners also selected Glenn to serve as its President, and he guided a number of initiatives on behalf of the nation's insurance commissioners. Glenn began work in the private sector in 2001 when he became head of Government and Regulatory Affairs for GE Insurance Solutions.

Cathy Prudhomme is an Associate Project Manager with the National Fire Protection Association's Wildland Fire Operations Division, based in their Denver field office. She works on developing Firewise[®] and wildfire safety educational programs and products for a variety of audiences. Cathy has more than 15 years of experience developing and implementing safety education and preparedness programs for the Colorado Department of Public Safety, the City of Colorado Springs Fire Department, and home safety product manufacturer Kidde. Cathy earned her B.A. in communications and marketing from the University of Colorado.

Darrin Punchard, Senior Project Manager at AECOM, is an urban planner and floodplain manager who has spent his entire career working with local communities to become more resilient to disaster. Since 2001 he has served as a consultant to clients across the United States to assess and reduce their vulnerability to natural hazards. This includes preparing some of the nation's first FEMA-approved local hazard mitigation plans. Darrin's public service career includes serving as the State Hazard Mitigation Officer for North Carolina, and as a local and state emergency management planner in Florida. He currently serves on the NHMA Board of Directors and on the Executive Committee for the American Planning Association's Hazard Mitigation and Disaster Recovery Planning Interest Group.

Christa Rabenold is a coastal management and hazards specialist with NOAA's Office of Ocean and Coastal Resource Management (JHT Contractor). In this role she provides support to state coastal management programs and is the author of "Adapting to Climate Change: A Planning Guide for State Coastal Managers." Prior to her work with NOAA, she was involved in state and local hazard mitigation planning for AMEC Earth and Environmental and served as the editor of the *Observer* at the Natural Hazards Center. Christa has a master's degree in public administration with an emphasis on hazards and emergency management.

Christina Randall is the Wildfire Mitigation Administrator for the City of Colorado Springs Fire Department in the Division of the Fire Marshal. The Colorado Springs Wildfire Mitigation program addresses wildfire risk through education, outreach, development review, fuels management, volunteer program management, land stewardship, and grant administration. "Sharing the Responsibility" is more than a tagline, it is how program staff work with various groups including residents, homeowner associations, property management companies, insurance companies, non-profits, volunteer organizations, and local, state and federal agencies. Christina has a Bachelor of Science in Natural Resources Management from Colorado State University.

Jeffrey B. Ray, AICP, joined JEO Consulting Group in their Omaha, Nebraska office in June 2011, as the Planning Department Manager. Jeff came to JEO from the City of Fremont, Nebraska where he was the Community Development Director and was responsible for the planning, building and safety, city facilities, and code enforcement functions for the City. He has over 20 years of experience in both the public and private sector facilitating and managing projects in California, Iowa, Missouri, Nebraska, Nevada, and South Dakota. Jeff's planning career was inspired by rebuilding his family home and community after they were destroyed by an F4 tornado.

Thom Robison is the co-chair of the NHMA Policy and Public Affairs Committee. Mr. Robison's career is founded in serving the public good through his service to the United States Senate, the Office of the Mayor of Miami-Dade County, and the Office of Governors Christine Todd Whitman, Jeb Bush, and William Weld. Following the events of September 11, 2001, Thom supported the Executive Office of the President by assisting to craft the Patriot Act as well as to establish the then Office of Homeland Security (OHS), with responsibilities that included the development of key doctrine for the then OHS, now the Department of Homeland Security. Additionally, Mr. Robison assisted in the design followed by implementation of numerous Homeland Security Presidential Directives. His leadership and support to the Department and the White House spanned across the Directorates and Components helping to create policy such as the National Preparedness Goal, the National Infrastructure Protection Plan, and the Maritime Infrastructure Recovery Plan. He also supported the Office of the Secretary with the DHS reorganization in 2007-08.

His recent contributions to the homeland security doctrine include support to the Executive Office of the President's National Security Staff in the drafting of the National Strategy for Supply Chain Security. His contributions were directly related to applying the principles of risk management to the strategy as well as identifying opportunities to create a more resilient supply chain network. Thom continues to serve the Department in numerous ways related to the evolution of the mission of securing the homeland.

David Ropeik is an Instructor at Harvard University, an author, and an expert/consultant on risk perception, risk communication, and risk management. He is author of *How Risky Is It, Really? Why Our Fears Don't Always Match The Facts* and principal co-author of *RISK, A Practical Guide for Deciding What's Really Safe and What's Really Dangerous in the World Around You*. He blogs at BigThink.com, Psychology Today, Huffington Post, Scientific American, and Nature. David was a television reporter for WCVB-TV in Boston. He twice won the DuPont-Columbia Award, sometimes cited as the television equivalent of the Pulitzer Prize, and seven regional EMMY awards. He was a Knight Science Journalism Fellow at MIT 1994-95 and a member of the Board of Directors of the Society of Environmental Journalists from 1991-2000.

James Schwab, AICP, is a senior research associate for the American Planning Association (APA) and manager of its Hazards Planning Research Center. He is the project manager for "Planning for Post-Disaster Recovery: Next Generation," an ambitious three-year effort funded by the Federal Emergency Management Agency to rewrite *Planning for Post-Disaster Recovery and Redevelopment*, which the APA produced in 1998. Mr. Schwab was also project manager and general editor for the FEMA-funded APA Planning Advisory Service Report, *Hazard Mitigation: Integrating Best Practices into Planning*, released in May 2010. He has nearly 30 years of experience in the field of urban planning.

Matthew Sitkowski is the Science and Weather Content Coordinator at The Weather Channel. Dr. Sitkowski coordinates the production of the daily weather stories, researches past meteorological events, and assists in the analysis of extreme weather events. He received his Ph.D. in Atmospheric Science from the University of Wisconsin-Madison and has published several peer-reviewed articles with emphasis on hurricane intensity and structure changes. While earning his B.S. and M.S. degrees in Meteorology, he worked at the National Hurricane Center in Miami, Florida and the Honolulu Forecast Office/Central Pacific Hurricane Center in Honolulu, Hawaii. In August of 2011, he flew with hurricane hunters into the eye of Hurricane Irene.

Kathleen Smith is the national lead for FEMA's Mitigation Planning program, where she oversees program administration and national policy to 10 FEMA Regional offices, and to States, local communities, and Tribal entities that develop mitigation plans to reduce risk and increase disaster resilience. Ms. Smith has extensive experience over 12 years with FEMA in hazard mitigation programs under both the Stafford Act and the National Flood Insurance Program. Prior to joining FEMA, she provided local planning services, both as a city planner and as a private consultant. Ms. Smith has both her Bachelor and Master degrees in Community Planning from Iowa State University and the University of North Carolina at Chapel Hill, respectively.

Michele Steinberg is the Firewise® Communities Program manager for the National Fire Protection Association (NFPA) in Quincy, Massachusetts, where she has worked since 2002. She oversees the national Firewise Communities/USA® Recognition Program, which reaches more than a million residents of wildfire-prone communities around the nation. Michele has 20+ years of experience in the areas of natural hazards and land use planning, and disaster safety marketing and outreach. Prior to her work at NFPA, Michele held positions at the Insurance Institute for Business & Home Safety (IBHS), the Federal Emergency Management Agency, and the Massachusetts Department of Environmental Management, Flood Hazard Program. She is the author of numerous articles and technical documents on disaster safety and mitigation planning. Michele earned her bachelor's degree in English from Brandeis University and her master's degree in urban planning from Boston University.

Lisa Grow Sun graduated from Harvard Law School *summa cum laude*, the first woman ever to do so and the first person to do so in 15 years. After law school, she clerked for the Honorable J. Michael Luttig, United States Court of Appeals for the Fourth Circuit, and then for the Honorable Justice Anthony M. Kennedy, United States Supreme Court. Professor Sun now teaches disaster law, constitutional law, and torts at the J. Reuben Clark Law School, Brigham Young University. Her research centers on the intersection of law and natural disasters. She is a coauthor of the definitive disaster law textbook, *Disaster Law and Policy*, with Dan Farber, Jim Chen, and Rob Verchick.

Ed Thomas is a floodplain manager and a disaster response and recovery specialist. He is also an attorney. His primary concern is the prevention of misery to disaster victims, the public purse, and to the environment. Hazard mitigation and climate adaptation through the law is his chosen method of accomplishing this goal. Attorney Thomas is the President of the Natural Hazard Mitigation Association; and an elected member of the Council of the State and Local Government Section of the American Bar Association (ABA). He is also the Chair of the Hazards Sub-Committee of the Land Use Planning and Zoning Committee, of the ABA. In addition, Ed serves on the Advisory Committee of the Natural Hazards Center of the University of Colorado; and is an active member of both the American Planning Association and the American Geophysical Union.

Ryan Towell is a Climate Science Educator at The Climate Reality Project. He was formerly a project manager and meteorologist supporting Dewberry's Climate Change and Special Initiatives and hazard mitigation planning service lines. With over 15 years of professional experience, Ryan specializes in natural hazards identification, risk assessment and mitigation, and climate change adaptation. He examines the impacts of hazards on populations, facilities, infrastructure, and other assets and facilitates the development of strategies to mitigate them. Recent project involvement includes the North Carolina Sea Level Rise Impact Study, West Virginia and Maryland State Hazard Mitigation Plan updates, and Climate Change Vulnerability and Risk Assessment of New Jersey's Transportation Infrastructure.

Briony Towers is a Research Fellow at the Centre for Risk and Community Safety at RMIT University in Melbourne, Australia. Briony's research is focused on child-centered disaster risk reduction and climate change adaptation, which she has studied in a variety of socio-economic and cultural contexts in Australia, the Philippines, and Indonesia. Briony is also the founder and co-chair of the Australian Children and Disasters Community of Practice and is the co-editor of field reports for *Children, Youth and Environments*.

Emily Wallace is a contractor supporting Margaret Davidson, Acting Director, Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration (NOAA). She works for The Stiefel Group, a small, privately-held firm offering management and engineering consulting services to facilitate solutions for pressing problems in science and technology policy, including climate change adaptation and disaster reduction, product design, and software design.

Lincoln Walther has been an urban planner for 40+ years; however, for the past 15 he has focused his efforts in hazard planning. He works with local governments throughout the Southeast on issues related to flooding, surge, wind, sea level rise, and wildfire. He has served as FAPA's representative on the Florida State Hazard Mitigation Planning Advisory Team since 2004, and is a board member of the Natural Hazard Mitigation Association. He has been engaged with the Gulf of Mexico Alliance, Coastal Community Resilience subcommittee that focuses on issues associated with resiliency, sustainability, and climate adaptation.

Adam Whelchel has spent over two decades focusing on ecological restoration and climate preparedness while with federal agencies, ecological consulting firms, academic institutions, and non-profit organizations in the United States, the Caribbean, and Africa. As the Director of Science for The Nature Conservancy in Connecticut, Dr. Whelchel is currently responsible for overseeing climate impact assessment and responses with municipalities and states in Southern New England via the Conservancy's Coastal Resilience Network (www.coastalresilience.org). He is also serving as a key advisor for Puerto Rico Climate Adaptation Project and a Lead Author on the Northeast section of the U.S. National Climate Assessment.

John Wiener has worked in many different areas in the hazards field, including serving as a student assistant at the Hazards Center in the late Pleistocene, working on the scientific assessment team for the Galloway Commission report on the Floods of 1993, with an article on that in *Policy Sciences* in 1996, and organizing the first panel at the Hazards Workshop addressing the social creation of vulnerability. Currently, he is working on agricultural water supply and sustainability, climate impacts, and some of the social issues involved. His degrees are in psychology, law, and geography, also from the late Pleistocene. His website is www.colorado.edu/ibs/eb/wiener/

NHMA Leadership

Executive Committee

Officers:

Alessandra Jerolleman, Executive Director
Ed Thomas, President
Jo Ann Howard, Vice President
Ann Patton, Vice President
David Mallory, Treasurer
Tim Lovell, Secretary

Board Members:

Bob Anderson, California Seismic Safety Commission
Tom Bennett, National Storm Shelter Association
J. Barry Hokanson, Urban Planning Consultant
Kelly Klima, Carnegie Mellon University
Richard Krajeski, NHMA
David Maurstad, OST
Deborah Mills, Dewberry
Jim Murphy, URS Corporation
Darrin Punchard, AECOM
Lincoln Walther, CSA Ocean Sciences, Inc.
Don Watson, Earthrise Design

Advisory Committee

Co-Chairs:

William H. Hooke, American Meteorological Society
Gavin Smith, University of North Carolina-Chapel Hill

Membership:

Leslie Chapman-Henderson, Federal Alliance for Safe Homes, Inc. – FLASH
Ernst Kiesling, Texas Tech University
Shirley Laska, University of New Orleans-CHART
Kristina Peterson, University of New Orleans-CHART
Kathleen Tierney, University of Colorado-Natural Hazards Center

Awards Committee

Membership:

Tom Bennett, KOTV, Tulsa, OK and Jim Giles Safe Rooms
Roger Faris, FEMA
Alessandra Jerolleman, NHMA
Ann Patton, NHMA
Jeffrey B. Ray, JEO Consulting Group, Inc.
Jasmin R. Ruback, Ruback Associates, LLC
Ed Thomas, NHMA

Education Committee

Chair:

Roger Faris, Hazard Mitigation Journalist and FEMA HM Reservist

Membership:

Jeni Farque, FEMA HM Reservist

Bob Freitag, Institute for Hazard Mitigation Planning and Research, University of Washington

Juliette Hayes, Hazard Mitigation Planning, FEMA Region IX

Gene Henry, Hazard Mitigation - Hillsborough County, FL

Alessandra Jerolleman, NHMA

Tom Malmay, Malmay & Associates

Virginia Morgan, Alabama Cooperative Extension System – Auburn University, AL

Ann Patton, Writer / Consultant; Tulsa Project Impact; Tulsa Partners; Tulsa Citizen Corps

Pat Skinner, Louisiana State University

Bill Steele, Pacific Northwest Seismographic Network, University of Washington

Hazard Mitigation and Adaptation Committee

Chair:

Kelly Klima, Carnegie Mellon University

Membership:

Lynne Carter, Southern Climate Impacts Planning Program and Coastal Sustainability Studio

Elizabeth English, University of Waterloo

Melanie Gall, University of South Carolina

Deborah Glaser, Council for Watershed Health

Alessandra Jerolleman, NHMA

Carolyn Kousky, Resources for the Future

Tim Lovell, Tulsa Partners, Inc.

Ed Thomas, NHMA

Shana Udvardy, Center for Clean Air Policy, Carnegie Mellon University

Hazard Mitigation Planning Committee

Co-Chairs:

Erin Capps, H2O Partners, Inc.

Brian Laughlin, Georgia Emergency Management Agency

Membership:

Caroline Cunningham, Louis-Berger Group

Ron Flanagan, Ron Flanagan & Associates

Lawrence Frank, URS Corporation

Marybeth Groff, Massachusetts Emergency Management Agency

Sherry Harper, Insurance Services Office, Inc.

Jo Ann Howard, H2O Partners, Inc.

Alessandra Jerolleman, NHMA

Andre Jones, Nine Echo Solutions, LLC

Mitch McDonald, Orleans Shoring

Luke Meyers, Bellevue Fire Department / Office of Emergency Management, Washington

Shanna Michael, AECOM

Deborah Mills, Dewberry

Jim Murphy, URS Corporation

Ponmile Olonilua, Texas Southern University

Steven Pardue, Antares Planning Group, LLC

Darrin Punchard, AECOM

Thomas Robison, NHMA

Deepa Srinivasan, Vision Planning and Consulting, LLC
Matt Stanley, Cumulus Lividus
David Stroud, AMEC
Kenneth Topping, California Polytechnic State University
Terri Turner, City of Augusta Planning and Development, Georgia
French Wetmore, French & Associates, Ltd.

International Activities Committee

Co-Chairs:

Miriam Belblidia, Water Works, L3C
Michèle Companion, University of Colorado-Colorado Springs

Membership:

Bob Anderson, California Seismic Safety Commission
Luke Bowman, Michigan Technical University
Barbara Carby, Disaster Risk Reduction Center, University of the West Indies, Mona Campus
Brad Case, City of New Orleans
Cyndi Castro, AECOM
Caroline Cunningham, Atkins Global
Jeni Farque, FEMA-Region VI
Eric Frost, Computer Visualization Center, San Diego State University
Sarah Henly-Shepard, University of Hawaii, Manoa
Alessandra Jerolleman, NHMA
Naim Kapucu, University of Central Florida
Dwikorita Karnawati, Gadjah Mada University, Indonesia
Molly Mowery, National Fire Protection Association
Larry Pearce, Canadian Risk and Hazards Network
Jessica Smith, Michigan Tech
Matt Stanley, Independent Consultant, New Orleans
Jamelyn Trucks, FEMA-Region VI

Marketing Committee

Chair:

Lincoln Walther, CSA Ocean Sciences, Inc.

Membership:

Bob Anderson, California Seismic Safety Commission
Darrin Punchard, AECOM
Jo Ann Howard, H2O Partners, Inc.
Alessandra Jerolleman, NHMA
Ed Thomas, NHMA
Terri Turner, City of Augusta Planning and Development, Augusta, Georgia

Membership Committee

Co-Chairs:

J. Barry Hokanson, Urban Planning Consultant
Bernard Usher, FEMA

Public Policy Committee

Co-Chairs:

Jim Murphy, URS Corporation
Thomas Robison, NHMA

Membership:

Bob Anderson, California Seismic Safety Commission
Tom Fahy, Capitol GR Group
Steve Pardue, Antares Planning Group, LLC
Lillian Robison, Accenture Federal Services
Dick Wild, Michael Baker, Jr., Inc.

Resilient Neighbors Network (RNN) Committee

Chair:

Tim Lovell, Tulsa Partners, Inc.

Membership:

Graham Brannin, RNN Network, Tulsa, Oklahoma
Daya Dayananda, RNN Network, Pasadena, Texas
Roger Faris, RNN Network, Grays Harbor County, Washington
Sharon Foote, RNN Network, Charlotte-Mecklenburg, North Carolina
Eugene Henry, RNN Network, Hillsborough County, Florida
Brad Holcomb, RNN Network, Rockford, Illinois
Rebecca Joyce, RNN Network, Central Shenandoah Valley, Virginia
Mike Kline, RNN Network, State of Vermont
Marcy Leach, RNN Network, Rockford, Illinois
Luz Locke, RNN Network, Pasadena, Texas
Terry Mehling, RNN Network, Jefferson County, West Virginia
Barbara Miller, RNN Network, Jefferson County, West Virginia
Bill Robison, RNN Network, Tulsa, Oklahoma
John Sherwood, RNN Network, Jefferson County, West Virginia
John Stout, RNN Network, Augusta, Georgia
Ned Swanberg, RNN Network, State of Vermont
Byron Taylor, RNN Network, Augusta, Georgia
Tim Trautman, RNN Network, Charlotte-Mecklenburg, North Carolina
Ryan Triplett, RNN Network, Central Shenandoah Valley, Virginia
Terri Turner, RNN Network, Augusta, Georgia
Charles Wallace, RNN Network, Grays Harbor County, Washington
Nancy Witty, RNN Network, Hillsborough County, Florida
Juliette Hayes, FEMA liaison
Alessandra Jerolleman, NHMA
Ann Patton, NHMA
Ed Thomas, NHMA

Symposium Planning Committee

Co-Chairs:

Lori Peek, Colorado State University
J. Barry Hokanson, Urban Planning Consultant

Membership:

Jane Bachick, H2O Partners, Inc.
Erin Capps, H2O Partners, Inc.
Elaine Enarson, Independent Scholar
Susan Garner, NHMA
Alessandra Jerolleman, NHMA
Kelly Klima, Carnegie Mellon University
Deborah Mills, Dewberry
Ann Patton, Ann Patton Company, LLC
Darrin Punchard, AECOM
Lillian Robison, Accenture Federal Services
Thom Robison, NHMA
Diane Smith, Natural Hazards Center, University of Colorado
Michele Steinberg, National Fire Protection Association
Ed Thomas, NHMA
Lincoln Walther, CSA Ocean Sciences, Inc.
