

5TH NATIONAL ADAPTATION FORUM

Baltimore, Maryland
October 25-27, 2022



www.NationalAdaptationForum.org/program

#NAF2022

 @ AdaptationForum

 @ Adaptation Forum

ACTION TODAY for
a **BETTER TOMORROW**

Schedule At-A-Glance

| Time | Monday, Oct. 24 | Tuesday, Oct. 25 | Wednesday, Oct. 26 | Thursday, Oct. 27 |
|----------|---|-----------------------------------|--|---|
| 7:00 AM | | Yoga with Ned | Yoga with Ned | Yoga with Ned |
| 7:45 AM | Forum Registration (11:00 am – 5:00 pm) | Registration & Coffee/Tea | Registration & Coffee/Tea | Registration & Coffee/Tea |
| 8:30 AM | | Forum Welcome and Opening Plenary | Concurrent Sessions 4 - Symposia | Concurrent Sessions 9 - Symposia |
| 9:00 AM | | | | |
| 9:30 AM | | | | |
| 10:00 AM | | | | |
| 10:15 AM | | Break | Break | |
| 11:00 AM | | | | |
| 11:15 AM | **** | Break | Break | |
| 11:30 AM | Pre-Forum Meetings (1:00 - 5:30 pm) | | | Concurrent Sessions 1 - Symposia |
| 1:00 PM | <i>Details on the Forum website</i> | Lunch | Lunch | EVENT ENDS Optional Field Trip – Baltimore Resiliency Hub |
| 2:30 PM | | Concurrent Sessions 2 - Trainings | Concurrent Sessions 7 – Solutions Room | Exhibitor Clean Up & Break Down |
| 3:30 PM | | Break | Break | |
| 4:00 PM | | Concurrent Sessions 3 - Symposia | Concurrent Sessions 8 - Symposia | |
| 5:30 PM | | | Margaret A. Davidson Networking Reception, Poster Session, and Tools Café (5:30 – 8:00 pm) | The Story Collider and National Adaptation Forum Event (5:45 – 7:00 pm) |

Welcome to the 5th National Adaptation Forum!

Welcome and Welcome Back!

Some of you are new to the Forum, while others are excited to be back after the long pause. We are happy to have you all! As the adaptation community grows (an unfortunate result of unchecked climate change), the range of topics and ideas we share at the Forum expands with each new member of the field. The result is the rich and diverse program you will enjoy over the next three days. We encourage you to take advantage of all the opportunities the Forum affords. Participate in sessions, talk to as many poster presenters as you can, have a conversation with a stranger who may become a great collaborator, and let new ideas form in your mind. Take all you learn and the networks you create back home and make the real work of adaptation happen—improving our collective path forward in the face of climate change.

The challenges of climate change are many (and growing) and you are some of the someones who are doing something about it.

We ask you to come to the Forum curious and leave committed to take action.

Action today for a better tomorrow.

On behalf of the team at EcoAdapt and the many wonderful people who serve on the steadfast committees to make it happen, thank you for joining us. We hope you have a great week.

Go forth and do good things,

Lara Hansen

Chief Scientist & Executive Director



P.S. Huge thanks in advance for everyone taking everyone's health and well-being to heart. We appreciate the commitment of all participants to masking up during sessions.

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A complete, searchable program is available online at: www.NationalAdaptationForum.org

5th National Adaptation Forum Planning Committees


KEY: SC: Steering Committee • PC: Program Committee • EWG: Equity & Climate Justice Working Group • PWG: Plenary Working Group

- Aimee Delach**, Defenders of Wildlife [SC]
Alex Basaraba, Adaptation International [EWG]
Allie Reilly, WSP [PC]
Amanda Farris, Climate Adaptation Partnership [PC Co-Chair]
Anna Marandi, The Pew Charitable Trusts [PC]
Arleen O'Donnell, Eastern Research Group [PC]
Aubrey Germ, Baltimore Office of Sustainability [SC]
Beth Gibbons, American Society of Adaptation Professionals [SC]
Breana Nehls, American Society of Adaptation Professionals [PC]
Camille Manning-Broome, Center for Planning Excellence [SC]
Cara Pike, Climate Access [SC]
Carolyn Gillette, Eastern Research Group [SC, PC]
Cynthia Naha, Picuris Pueblo [PC Co-Chair, EWG]
Diane Mas, Fuss & O'Neill [SC, PC]
Emily Carroll, Green the Church/Shady Grove UMC [EWG]
George Haddow, Tulane University Disaster Resilience Leadership Academy [PC Co-Chair]
Hailey Duncan, Mom's Clean Air Force [EWG Co-Chair]
Hans Schmitz, Purdue Extension [PC]
Heather Higinbotham Davies, Sustainability Consultant [PC]
Hoi-Fei Mok, City of San Leandro [EWG]
Janet Cushing, USGS Climate Adaptation Science Centers [SC, PC]
Jeffrey Meek, MN Department of Transportation [PC]
Jill Gambill, University of Georgia Marine Extension and Georgia Sea Grant [SC Co-Chair]
John Bolduc, City of Cambridge [SC]
John Moon, Wells Fargo Institute for Sustainable Finance [SC, PC]
John Wiener, University of Colorado [SC, PC]
Jordan West, US Environmental Protection Agency [SC]
Jose Payero, Clemson University [PC]
Joshua Behr, Virginia Modeling, Analysis and Simulation Center [SC]
Julie Conroy, Conroy Environmental [PC Co-Chair]
Karin Rogers, UNC Asheville's NEMAC [SC]
Kate McClure, University of Maryland Sea Grant Extension [PC]
Katie Spidalieri, Georgetown Climate Center & US EPA [SC, PC]
Katy Maher, Dewberry [PC]
Kim Hall, The Nature Conservancy [SC]
Kim Mikita Penn, NOAA's Office for Coastal Management [SC, PWG]
Kristiane Huber, The Pew Charitable Trusts [PC]
Lannette Rangel, USGS Climate Adaptation Science Centers [PC]
Lara Hansen, EcoAdapt [SC, PC, PWG]
Laura Hilberg, EcoAdapt [EWG]
Libby Carnahan, Florida Sea Grant [PC]
Lil Milagro Henriquez, Mycelium Youth Network [PC]
Lindy Lowe, Eastern Research Group [SC, EWG]
Lois Debacker, The Kresge Foundation [SC]
Marc Coudert, City of Austin Office of Sustainability [SC, PC]
Maryellen Hearn, Pathways Climate Institute [PC]
Megan Susman, US Environmental Protection Agency [PC]
Melissa Guardaro, Arizona State University [SC]
Melissa Ocana, University of Massachusetts Amherst [SC]
Michael Chang, Cascadia Consulting Group [EWG Co-Chair]
Michael Durglo Jr., Confederated Salish and Kootenai Tribes [PC]
Mona Arora, University of Arizona [PC]
Mona Behl, University of Georgia [EWG]
Montserrat Acosta-Morel, International Finance Corporation of the World Bank Group [PC]
Natalie Snider, Environmental Defense Fund [SC Co-Chair]
Nyssa Russell, Adaptation International [PC]
Penny Loeb, Author and Journalist [PC]
Queen Quet, Gullah/Geechee Sea Island Coalition [EWG]
Robert Newman, University of North Dakota [PC, EWG]
Roberta Groch, RI Division of Statewide Planning [PC]
Roy Thun, GHD [PC]
Samantha Shattuck, Pegasus Technical Services [EWG]
Sarah Skikne, Institute on the Environment [PC]
Sascha Petersen, Adaptation International [SC]
Shameika Hansen, The Nature Conservancy [EWG]
Shannon McNeeley, Pacific Institute [SC, EWG]
Sherry Stout, National Renewable Energy Laboratory [SC, PC]
Stephanie Bowman, Mothers Out Front [EWG]
Susan Asam, ICF [PC]
Susanne Moser, Susanne Moser Research & Consulting [SC]
Vidya Balasubramanyam, Coastal States Organization [PC]
Vijay Kesavan, Jacobs [PC, EWG]

Featured Programming

Equity and Climate Justice Programming

The Forum's Equity and Climate Justice Working Group ensures that all the work that Forum committees undertake is done so through a lens of climate equity. This year, the Working Group worked hard to ensure equity and climate justice themes were integrated into all aspects of Forum programming. As a result, the "Climate Justice & Equity" topic area was our second-most accepted topic area (coming in second only to "Implementation of Adaptation").

All presentations that self-identified with the "Climate Justice & Equity" topic area are denoted with a star. 

Topical Tracks

This year, we have five tracks focused on different topic areas. The purpose of these tracks is to allow attendees to prioritize sessions based on that specific topic area. Track lists are not all encompassing, so we encourage you to look beyond the tracks to see what else may be of interest!

Tracks: NOAA at NAF: Discussing the Science, Services, People, & Partnerships Needed to Build a Climate-Ready Nation (page 39), Natural Resources (page 40), Extreme Weather (pages 40-41), Financing Adaptation (Page 41), Moving from the Head to the Heart (page 41).

Featured Sessions from the Baltimore Office of Sustainability

We thank the Baltimore Office of Sustainability for their partnership in making this event a success. We encourage participants to learn more about the exciting adaptation work happening in our host city!

Tuesday, October 25: 11:30 am - 1:00 pm

Climate Adaptation through Collaboration in Baltimore City, MD

Tuesday, October 25: 4:00 - 5:30 pm

Resilience Hubs: A Collaborative Approach To Support Neighborhood-Based Resilience In Marginalized Communities

Thursday, October 27: 1:00 - 2:30 pm

Field Trip: Baltimore Community Resiliency Hub Site Visit





DAY 1: Tuesday, October 25

Schedule At-A-Glance

7:00 - 7:45 am: Yoga with Ned *Grand Foyer West*

7:00 am - 6:00 pm: Registration
Third floor registration desk

7:45 am - 6:00 pm: Speaker Ready Room *Atlantic*

7:45 am - 8:00 pm: Exhibits
Grand Ballroom

7:45 - 8:30 am: Coffee and Tea
Grand Foyer West and Harborside Foyer

8:30 - 11:00 am: Welcome and Opening Plenary
Harborside C-E

11:00 - 11:30 am: Break

11:30 am - 1:00 pm: Concurrent Sessions 1
Symposia

1:00 - 2:30 pm: Lunch
Harborside C-E, Harborside A, Harborside B

1:00 - 2:15 pm: Environmental Defense Fund Working Lunch

2:30 - 3:30 pm: Concurrent Sessions 2
Trainings

3:30 - 4:00 pm: The Nature Conservancy Break

4:00 - 5:30 pm: Concurrent Sessions 3
Symposia

5:30 - 8:00 pm: Margaret A. Davidson Networking Reception, CAKE Tools Café, and Poster Session

7:00 - 7:45 am: Yoga with Ned *Grand Foyer West*

7:00 am - 6:00 pm: Registration *Third floor registration desk*

7:45 am - 6:00 pm: Speaker Ready Room *Atlantic*

7:45 am - 8:00 pm: Exhibits *Grand Ballroom*

7:45 - 8:30 am: Coffee and Tea
Grand Foyer West and Harborside Foyer

8:30 - 11:00 am: Welcome and Opening Plenary
Harborside C-E

Welcome Remarks and Housekeeping

- Lara Hansen, EcoAdapt
- Dr. Suzanne Dorsey, Maryland Commission on Climate Change & Maryland Department of the Environment
- Ava Richardson, Baltimore Office of Sustainability, Director of Sustainability

Opening Plenary

Keynote: Secretary Deb Haaland, U.S. Department of the Interior
Secretary Deb Haaland made history when she became the first Native American to serve as a cabinet secretary. During her keynote address, she will discuss the Department of the Interior's climate adaptation work.

Panel Discussion: Federal Resources for Local Adaptation
Join us for a discussion on how federal resources can be leveraged for local adaptation. Panelists will include representatives from DOI, FEMA, HUD, and NOAA.

11:00 - 11:30 am: Break

11:30 am - 1:00 pm: Concurrent Sessions 1 *Symposia*

Growing Pains of Adaptation (*Grand Ballroom 7-8*)

Within the climate adaptation field, there is a broad desire to identify and share lessons learned and best practices. However, there is great value in creating a field-wide culture of sharing failures and challenges as well as successes in order to learn what works and what does not in adaptation practice. Identifying what led to failure may help us develop strategies for avoiding those same problems in the future or even eliminating a particularly ineffective strategy from the portfolio of approaches. The presentations in this session will discuss the challenges of working across departments, overcoming barriers to implementation, and how a lack of data collection has impacted American Samoa.

Presentations:

- Navigating to Resilience Through the Nation's Fastest Rate of Relative Sea Level Rise in American Samoa: Kelley Anderson Tagarino, American Samoa Community College and Hawaii Sea Grant ★
- Building Trust Among Siloed Departments for Adaptation: Sarah Church, Alameda County ★

- Beyond Barriers to Implementation: A Water Sector Perspective on Sea Level Rise Adaptation: Abby Sullivan, Philadelphia Water Department; Kathryn Braddock, EcoAdapt
- We Have a Plan, Now What? What We've Learned From Community Climate Action Plan Implementation (or Lack Thereof): P.J. Tillmann, Cascadia Consulting Group

Community-First Adaptation Innovations Part 1

(Grand Ballroom 9-10) ★

Collective community adaptation is critical to taking action on climate change. There are several examples of how communities implement transformative solutions. These communities and initiatives serve as working models for other local communities as well as state and federal entities. This session will highlight the ways in which communities have intentionally addressed climate change by taking a unique approach rather than continuing business-as-usual, and how these initiatives could be scaled to other communities and states.

Presentations:

- Community-Driven Water Solutions Using Citizen Data From Mobile Water App: Ann Baughman, Freshwater Future
- Heat Ready Neighborhoods: Melissa Guardaro, Arizona State University
- Amskapi Piikani Traditional Knowledges Meet Bench Science Towards Climate Change Response and Implementation of the Blackfeet Climate Adaptation Plan: Termaine Edmo, Blackfeet Environmental Office and Andrew Berger, Piikani Lodge Health Institute,
- In the Eye of the Hurricane: Habitat Restoration and Community Relief in Coastal Louisiana: Sofia Giordano, Coalition to Restore Coastal Louisiana

Shaping Flood Risk Resilience and Preparedness from the Bottom Up (Harborside Ballroom A)

Floods are complex phenomena for which planning occurs at the macro level, with the effects of such top-down planning percolating to the "ground level". Simultaneously, idiosyncrasies on the ground shape flood planning from the bottom up. Our session explores these dynamics by putting in conversation lessons that emerge from research projects across the world: from the US to Germany, the Philippines, Ecuador, and Brazil. On one hand, the session will address how flood preparedness is shaped from the bottom up when technology allows for fine-grained data collection at the street level on infrastructure vulnerability and on public perception on the ground. On the other hand, the panelists will discuss how different top-down approaches shape flood preparedness at the community level. This latter part of the conversation will address policy cohesiveness as a tool for flood resilience considering both green, and grey infrastructure as well as social infrastructure for preparedness. This session intends to constitute a bridge between cutting-edge research and the practical implications that such research can have for the work of practitioners. Hence, the format of the session intends to put all the lessons learned and perspectives in conversation engaging the audience in the dialogue. To do so each panelist will provide a brief outline of their findings and perspectives. This will be followed by a facilitated discussion exploring the dynamics of bottom-up and top-down approaches to flood preparedness and emerging opportunities for its improvement engaging panelists and the audience.

Presenters:

- Vincenzo Bollettino, Harvard University
- Andrew Kruckzewicz, Columbia University IRI
- Felix Dodds, Water Institute at the University of North Carolina
- Udo Nehren, TH Köln - University of Applied Sciences and University of Cologne Lidia Cano Pecharroman, Massachusetts Institute of Technology
- Emily Gvino, Clarion Associates

Approaches to Co-producing Science for Natural Resource Adaptation (Essex A-C)

Effective management of natural resources increasingly requires climate adaptation supported by timely and relevant science. Co-production of scientific information involves sustained collaboration between researchers and resource managers so that research is tailored to the most pressing management questions. In this symposium, speakers will present a variety of research projects from forests, grasslands, streams, and coastal ecosystems across eastern North America that have employed co-production to produce actionable science for natural resource management. Presentations focus on the differing perspectives and backgrounds of scientific researchers and natural resource managers as well as effective approaches for integrating these perspectives into a successful collaborative framework. Through a variety of case studies followed by collaborative group discussion, speakers from federal, Tribal, and academic institutions will describe how global-change processes present "wicked problems" for maintaining healthy ecosystems and how managers and researchers have teamed up to evaluate potential adaptation options. Collectively, these case studies highlight ways that cross-institutional collaboration can support decision-making to conserve species, natural communities, and the ecosystem services they provide.

Presentations:

- Climate change refugia conservation in the northeastern U.S: Toni Lyn Morelli, USGS
- Building stewardship capacity and protecting the Brown Ash of the northern forest: Tyler Everett, Aroostook Band of Micmacs
- Climate-adapted fish stocking: Amy Teffer, U. of Massachusetts
- Informing multi-scale climate adaptation strategies to shifts in phenology in coastal ecosystems: Michelle Staudinger, USGS
- Management of mangrove ecosystems undergoing sea-level rise: Ken Krauss, USGS
- Climate adaptation for southeastern grasslands: Jen Cartwright, USGS
- Research evaluation for better climate adaptation: Steph Courtney, Auburn University

Pulse Check 2022: Are We Adapting Well and Enough? — a Symposium on the State of the US Adaptation Field (Harborside Ballroom B)

CO₂, temperature and sea levels keep rising. The disasters keep coming. The rains come too hard or not enough. People – and some more than others – keep getting hurt. Non-human species vanish forever. Bridges and roads collapse. Racism, the pandemic, a hurting economy, and serious efforts to undermine democratic governance are not just backdrop but central tenets of what it means to work on adaptation in the 21st century.

Two years into adaptation work under more hopeful federal conditions, how is the adaptation field responding to this confluence of stressors and strains? In 2017, a first US adaptation field assessment (Moser, Coffee et al. 2017) introduced a framework – the 4Ps of field-building: Purpose, People, Practices and Pillars of Support. It was used to assess the evolving state of the field at NAF '18 and serves as the framework for this symposium. The panel of big-picture thinkers and field leaders will critically assess the state of the field, with invited panelists addressing the People (Willis), Practice (Baja and Gibbons), and Pillars of Support (Coffee and McGinn) dimensions, and all - together with the Moderator (Moser) – the Purpose dimension of this framework. Panelists will offer diverse perspectives on the state of adaptation from the local to federal levels and across sectors, critically assess quality and sufficiency, offer examples of innovations, explore trends and outlooks for the field as a whole. Equity, inclusion, and the anti-racist, transformative necessity of adaptation will be a thread through this moderated discussion.

Presenters:

- Joyce Coffee, Climate Resilience Consulting
- Susanne Moser, Susanne Moser Research and Consulting
- Kristin Baja, Urban Sustainability Directors Network
- Chauncia Willis, Institute for Diversity and Inclusion in Emergency Management Anne McGinn, Environmental and Energy Study Institute
- Beth Gibbons, American Society of Adaptation Professionals

Insights from Social Science (Laurel CD)

Insights from social science are essential for understanding the complexities of climate change impacts and how best to address them. Social science provides us with perspectives, methods, and data to iteratively improve adaptation strategies and best practices. This session will highlight projects that seek to better understand how adaptation is perceived and effective participatory practices to engage stakeholders.

Presentations:

- Understanding Americans' Attitudes Toward Climate Change Adaptation: Jennifer Carman, Yale Program on Climate Change Communication
- Integrating Community Input to Guide Meaningful Science Application: A Case Study From Crisfield, Maryland: Elizabeth Van Dolah, the Nature Conservancy MD/DC Chapter ★
- Metro-Boston Climate Adaptation Stakeholder Mapping: Rosalyn Negron, Sustainable Solutions Lab - UMass Boston ★
- Effective Practices in Climate Adaptation Workshops: Comparing Participant and Facilitator Perceptions: Caleb O'Brien, Virginia Tech

Climate Adaptation through Collaboration in Baltimore City, MD (Kent A-C) ★

Baltimore City's Sustainability and Resiliency Subcabinet (SRC) fosters inter-agency collaboration, consensus building and accountability to advance impactful climate change adaptation strategies. Lessons learned from Baltimore's SRC will offer attendees implementable approaches to embed sustainability and resiliency into government practices. This symposium will feature a panel of 4 city representatives leading adaptation programs. The session will be moderated by Baltimore Chief Administrative Officer, Christopher Shorter, who chairs the SRC and is an expert in good governance practices.

Presentations:

- Baltimore's Climate Action Plan: Organizing Urban CAP Updates through a Community Lens: Aubrey Germ, Baltimore Office of Sustainability
- Transportation: Transit and Beyond: Shayna Rose
- Connecting the Climate Crisis to Adverse Health Outcomes: Kim Eshelman
- Municipal Building Performance Standards: Where to Start?: Julia Kalloz

Special Session - Commission for Environmental Cooperation: North American collaboration for climate adaptation (Laurel AB)



COMMISSION FOR ENVIRONMENTAL COOPERATION

Changes in patterns and intensity of climate related phenomena know no boundaries and are often catastrophic. These changes can have widespread impacts on health and safety, welfare and livelihoods, ecosystems and food production. To address the impacts of climate change on communities, Canada, Mexico and the United States are working together, through the Commission for Environmental

Cooperation, to develop tools and implement initiatives, share knowledge and propose tangible and innovative solutions. In this symposium, representatives from government, non-governmental organizations, and the CEC will present innovative tools and resources. Renée MacPherson from the University of Oklahoma will present a Comprehensive Methodology for Evaluating Economic Impacts of Floods in Canada, Mexico and the United States, from the CEC, Orlando Cabrera will present CEC extreme events initiatives and the Climate Adaptation Toolkit for Marine and Coastal Protected Areas presented by Lucie Robidoux from the CEC. These resources were developed collaboratively to address the challenges posed by climate change in North America. Following their presentations, the panel of experts will discuss challenges and opportunities to share knowledge in North America and globally, and their vision on collaboration to strengthen our response to climate change. The session will be facilitated by Georgina O'Farrill.

Presenters:

- Orlando Cabrera, Commission for Environmental Cooperation
- Lucie Robidoux, Commission for Environmental Cooperation
- Renee McPherson, University of Oklahoma

1:00 - 2:30 pm: Lunch*(Harborside C-E, Harborside A, Harborside B)***1:00 - 2:15 pm: Environmental Defense Fund Working Lunch: From 100 Resilient Cities to All Resilient Communities (Laurel AB) ★**

As economies, environments, and communities face the growing risks from climate change, governance structures must adapt at all scales. The first establishment of city-level Chief Resilience Officers (CROs) has expanded to state-level CROs and proposed legislation at the federal level. CROs are innovating and leading a whole-of-government approach by building vertical and horizontal collaboration to facilitate collective action. From policy, planning, science and implementation, our speakers understand the need for a comprehensive approach to the challenges their constituents face today and into the future across a wide range of growing climate hazards.

Please join us over lunch to hear how various levels of government are leading and scaling adaptation and resilience, how they are engaging with their constituents and the key challenges and barriers they have encountered, overcome or are still tackling. We will highlight partnerships and collaborations that have led to transformative and catalytic adaptation at each scale. We will discuss how adaptation and resilience efforts can deliver key outcomes, specifically related to justice, diversity, equity, and inclusion.

Attendance:

This working lunch is open to all Forum attendees on a first-come-first-serve basis. Attendees will grab their lunch from the Harborside Foyer and then make their way to Laurel AB for the working lunch.

2:30 - 3:30 pm: Concurrent Sessions 2 (Trainings)**Self and Community Care for Adaptation Professionals: a Training in Adaptive Mind Skills (Grand Ballroom 7-8)**

The daily work of climate change and resilience professionals involves confronting accelerating natural disasters, ecological collapse, community trauma, including racism and poverty, and constant uncertainty to tackle the greatest challenge of our time. So where can the people doing this work turn for relief? The Adaptive Mind project addresses this growing need through better understanding and fostering the psychosocial capacities of people who work in the often traumatic, uncertain, and accelerating areas of climate change. In this restorative training session, Adaptive Mind Project team members will offer participants a safe space in which they can turn inward to acknowledge and sit with their heavy emotions while exploring and deepening their sense of connection with the self, each other, and the wild planet we share. This session will draw on creative and nourishing practice including art, movement, deep listening and sharing, and poetry to nourish ourselves and each other, while beginning to build the capacities necessary to prevent and recover from burnout while continuing to undertake the critical work of climate change professionals. Participants should expect to leave the session feeling heard and supported, encouraged by compelling research and

evidence that demonstrates that self- and community-care is not luxury, but a necessity in fostering resilience.

Presenters:

- Susanne Moser, Susanne Moser Research & Consulting
- Lily Swanbrow Becker, Council on the Uncertain Human Future
- Kristin "Baja" Baja, Urban Sustainability Directors Network
- Elizabeth Rohring, NOAA Sea Grant

Building Equity into Climate Adaptation Planning*(Grand Ballroom 9-10) ★*

While there is strong support for promoting equity in resilience and adaptation planning, there lacks consensus on how to integrate equity in methods for project evaluation. This session will show how standard approaches to project prioritization and decision-making, and specifically benefit cost analysis (BCA), can exacerbate existing inequities. This outcome stems from how the traditional BCA ignores socioeconomic differences and allocates more value to wealthier areas relative to areas with lower household incomes. By ignoring these differences, traditional BCA has the effect of potentially making worse off those who are most vulnerable while benefiting those who are already better equipped to adapt to climate change. This session will then illustrate how a slightly varied approach to BCA – an equity-weighted BCA – can help resolve this issue and lead to project planning decisions that successfully link enhanced resilience with positive equity outcomes. The key to equity-weighted BCA is the concept of marginal utility whereby a dollar held by a household with a lower income is more valuable than an identical amount held by a household with a higher income. This training session will discuss the value of equity weighted BCA, when it should be deployed, and how to develop and apply equity weights. To demonstrate this approach, real-world sea level rise adaptation projects will be used. The goal is to provide practitioners with a new, yet familiar tool, for approaching climate adaptation planning.

Presenters:

- Emily Schwimmer, AECOM
- Katie Wholey, Arup

Getting to the Root of Adaptation: the Values that Shape Our Work (Harborside Ballroom A)

While we know climate change adaptation science, policy, and actions have always been guided by values, the content and influence of these values have rarely been made explicit. Contemporary research paradigms that drive climate adaptation often ignore multiple values systems, local knowledges, or Indigenous community planning techniques – leaving out important opportunities to co-define, co-produce, and follow local needs and values for adaptation actions. To this end, we ask – what values live in your adaptation work?

Values-based processes, such as the Living with Water (LWW) project located along British Columbia's South Coast, offer important lessons to incorporate into adaptation planning. The LWW multidisciplinary research project supports communities preparing for sea level rise and flooding – from urban Vancouver to smaller towns – located on the unceded and traditional territories of the Musqueam, Squamish, and Tsleil-Waututh Nations. LWW builds capacity to work from local values

and Indigenous knowledge and seeks to inspire further dialogue on values-based climate adaptation.

This workshop is designed for anyone who is working in the adaptation space to understand how values shape their work and decision-making. Using LWW as a case study, the training will utilize storytelling and small group discussion to provide necessary context for integrating values in adaptation. Through this workshop, participants will:

Recognize the values influencing adaptation processes; Enable reflection on what and whose values are prioritized in adaptation; Start designing a process for a collaborative values statement.

We invite you to uncover the implicit values shaping adaptation processes.

Presenters:

- Tira Okamoto, Simon Fraser University
- Vanessa Lueck, Pacific Institute for Climate Solutions; Global Institute of Sustainability and Innovation, ASU
- Julia Kidder, University of British Columbia

Ecosystem Adaptation - a Quick Guide to Getting Started (Harborside Ballroom B)

Adapting to climate change is a challenging task, and there is no single answer for how to prepare. We developed the Adaptation Workbook to make adaptation planning less overwhelming by providing a 5-step process to help integrate climate change considerations into project-level planning. The Workbook provides a structured yet flexible approach that simplifies adaptation planning through a series of short, digestible steps. We've used the Workbook successfully with thousands of natural resources practitioners working in a variety of ecosystems and natural resources management topics, including forests, urban forests, coastal ecosystems, forested watersheds, agriculture, recreation, carbon management, and more.

Now it's your turn! This training will provide a fast-paced, interactive introduction to the Adaptation Workbook. Participants will use a streamlined version of the Adaptation Workbook to consider their own real-world climate challenges and adaptation options. Recognizing the expertise and enthusiasm of the NAF crowd, we will challenge you to create your own adaptation project and share your ideas in this condensed training.

Presenters:

- Maria Janowiak, Northern Institute of Applied Climate Science

Lead with Listening - a Guidebook to Facilitate Community Conversations for Equitable Relocation

(Laurel AB) ★

"Managed retreat" seems to be everywhere in the adaptation world these days, and is increasingly appearing outside of climate adaptation discussions. The option of relocation is unavoidable in a widening range of communities. All too often, however, discussions and implementation of relocation can reproduce existing power dynamics, perpetuating the marginalization of historically disadvantaged populations. The Climigration Network's mission is to bring community leaders and practitioners together to co-create equitable, just, community-led approaches to climate-induced relocation.

In 2021, the Network published "Lead with Listening," a guidebook to facilitate community conversations for equitable relocation. The guidebook is being piloted in partnership with community leaders in Oklahoma, Louisiana and Puerto Rico, with assistance from other partners and community leaders on the front lines of relocation.

Key insights from the guidebook include:

- The importance of aligning the pace of decision-making and implementation with a community's expressed needs and goals; - The necessity of centering community members as experts;
- The importance of practitioners earning trust and approaching the work in a trauma-informed way;
- Fully integrating diversity, equity and inclusion principles into every aspect of the work

In addition to providing insights, the guidebook outlines specific tools for community engagement that can facilitate putting these principles into practice. This training will introduce the guidebook to attendees and invite them to provide feedback that will help inform future iterations. The presenters seek to actively engage practitioners and community members in attendance concerning the promise and pitfalls of the proposed tools for community conversations.

Presenters:

- Patrick Marchman, Stantec
- Hannah Teicher, Harvard University Graduate School of Design

Transformational Climate Finance Training and Certification Introductory Session (Laurel CD) ★

As social impact investing, community-control, diversity, and environmental and climate justice become common parlance, navigating the world of equitable climate adaptation finance is a difficult endeavor especially with traditional partners and funding sources. This training will start to equip you to transition out of the practices of the extractive economy, as well as fund and build solidarity models that concurrently build social resilience and measurable adaptation benefits.

Informed by the Just Transition framework and principles, we aim to put into practice the ideas that can address health and wealth gaps from the ground up. We learn from leading examples in frontline and fenceline communities, as well as leaders in the field of transforming the relationship between money and movement work. From theoretical work done by allied organizations, to the models of groundbreaking climate and economic progress like PUSH Buffalo, East Bay Permanent Real Estate Cooperative and the Ujima Project, we dare to dream of a new economy that works for all and responds to the harm caused by the climate crisis.

Through the course of this session, we'll introduce The Chisholm Legacy Project's Transformational Climate Finance training and certification program as well as key concepts in the Just Transition framework and social investment landscapes. This session will not be a substitute for any specific component of the certification program but will cover key topics and give an overview of the syllabus and value for interested professionals or organizations.

Presenter:

- Vick Mohanka, the Chisholm Legacy Project

Water You Gonna Do? - a Game for Managing Flood Risk

(Kent A-C)

The need to shift water management from political to watershed boundaries is a crucial step to reduce flood risks and manage land use. However, there exists an education gap on what watershed management is, how it differs from floodplain management, and the tools available for managing water at multiple scales. To that end, the Center for Planning Excellence designed an educational game for anyone from local officials to stakeholders in a public meeting setting. The game promotes understanding of water management and land use decisions; the programs, policies, and projects available for a watershed approach to manage stormwater and their benefits and tradeoffs; and introduces the potential for multi-jurisdictional coordination and collaboration to more effectively and cost-efficiently manage water. The game has built-in flexibility to adapt to different watersheds, it promotes discussion of priorities and trade-offs associated with various options, and is general enough to be relevant to a wide range of interests.

Presenters:

- Jeannette Dubinin, the Center for Planning Excellence
- Camille Broome, Center for Planning Excellence

Community Solar+Storage Resilience Hubs (Essex A-C) ★

Solar and battery storage (solar+storage) resilience hubs can provide communities with critical services (e.g., cell phone charging, refrigeration for medicines, cooling, and filtered air on hot or smoky days) during human-caused, natural, and climate disasters. By equipping these centers with solar+storage, hubs can provide power when the grid is unreliable and support the transition to a renewable-based energy system all year round. The design of resilient community sites, however, encompasses far more than backup power, and includes features that will provide resources and resilience to the community during emergency and non-emergency periods. In this session, we will begin with an overview of resilience hubs design considerations, discussing how to answer questions such as: What does resilience mean for your community? How do you identify and prioritize the critical design features needed for a resilience hub? This conversation will be informed by our research on the design and development of solar+storage resilience hubs at schools and community centers across California, including case studies in Richmond and Wilmington, two Environmental Justice communities impacted by the oil industry that are organizing community-led solutions. Our training will include individual small group discussion sessions to walk through 1) community engagement, surveys, outreach, and approaches to ensure sites provide year-round resilience; 2) solar+storage design considerations to ensure critical loads are met in various emergency scenarios; and 3) strategies to analyze regional deployment of resilience hubs to ensure populations in the most climate-vulnerable or underserved areas have access to resilient sites.

Presenters:

- Laura Gracia, Communities for a Better Environment
- Shina Robinson, Asian Pacific Environmental Network
- Patrick Murphy, Physicians, Scientists, and Engineers for Healthy Energy
- Yunus Kinkhabwala, Physicians, Scientists, and Engineers for Healthy Energy

3:30 - 4:00 pm: The Nature Conservancy Break

Refreshments provided by The Nature Conservancy

4:00 - 5:30 pm: Concurrent Sessions 3 (Symposia)

Monitoring and Evaluation of Adaptation Progress and Successes (Laurel AB)

Monitoring and evaluation (M&E) is a key step in every climate adaptation planning process, but is frequently underrepresented at the National Adaptation Forum. This session creates intentional space for the presentation and discussion of methods and tools for tracking both progress and challenges in implementing adaptation measures. This session will highlight M&E case studies with a focus on the natural environment and public health.

Presentations:

- Using Performance Measures for Climate and Health Program Improvement At the US Centers for Disease Control and Prevention: Kat Sisler, Centers for Disease Control
- Evaluating Climate and Health Adaptation: Challenges and Opportunities From CDC's Climate Ready States and Cities Initiative: Heather Joseph, Centers for Disease Control and Prevention
- Development and Results of a Novel Coastal Adaptation Report Card: Katie May Laumann, University of Maryland Center for Environmental Science, IAN
- State Flood Resilience and Adaptation Planning: Challenges and Opportunities: Mathew Sanders, the Pew Charitable Trusts

Regional Adaptation Successes: the Critical Role of the MPO (Laurel CD) ★

Metropolitan Planning Organizations (MPOs) play a critical, if often overlooked role in facilitating climate change adaptation at a regional scale. MPOs can help coordinate activities across multiple jurisdictions, provide resources to their partner agencies, and help facilitate the pursuit of implementation programs. This session will explore different ways that MPOs around the country have and can contribute to regional adaptation efforts. For example, the Baltimore Metropolitan Council (BMC) has created a "climate change resource guide" to help local public works and transportation departments adapt to climate change. The Southeast Michigan Council of Governments (SEMCOG) in Detroit has created a regional Flood Risk Tool, is integrating the results into their long range planning processes, and also coordinating efforts across jurisdictions to incorporate changing rainfall into drainage practices. Hillsborough MPO in Tampa, FL has led adaptation efforts in the region for several years, including recent work to integrate climate resilience into their 2045 Long Range Transportation Plan.

The session will include presentations from three MPOs active in adaptation efforts, and facilitated discussion about how Forum participants can engage the MPO(s) in their area to be part of the adaptation conversation. In addition, the session will enable peer-to-peer conversation and learning across MPOs (from the presenters, plus any other MPO representatives in the room) about different opportunities MPOs have to advance climate resilience in their regions.

Presenters:

- Cassandra Bhat, ICF
- Eileen Singleton, Baltimore Metropolitan Council
- Rachael Barlock, Southeast Michigan Council of Governments
- Allison Yeh, Hillsborough Metropolitan Planning Organization

Climate Trauma and Healing (*Grand Ballroom 7-8*)

Climate change poses significant threats to the mental and emotional health of individuals and communities. People are suffering experienced or anticipated climate-related losses of important social, cultural, and ecological identities, features, and places. This session will focus on communication, planning, research, and policy related to identifying and addressing the psychological impacts of climate change.

Presentations:

- Assessing Mental Health Professionals Needs for Addressing Climate-Related Impacts with their Clients: Brenda Hoppe, University of Minnesota Climate Adaptation Partnership
- The Resilience for All Act: Funding Community-Based Initiatives for Mental Wellness and Resilience in the Face of the Climate Crisis: Katherine Catalano, American Public Health Association ★
- Climate Displacement and Migration After Hurricane Maria: Implications for Puerto Ricans' Mental Health: Rosalyn Negron, UMass Boston ★
- The Adaptive Mind Project: Preparing for the Gathering Storm of Convergent Crises: Lily Swanbrow Becker, Council on the Uncertain Human Future

Nature-Based Solutions (*Harborside Ballroom B*)

Nature-based solutions are increasingly recognized as a key component of climate adaptation, allowing practitioners to work with nature, rather than against it. Despite this fact, acceptance and implementation of nature-based adaptation solutions still lag behind traditional "gray" infrastructure implementation, in part due to systemic and institutional barriers, as well as a lack of awareness. This session will highlight approaches and policies that may aid in the implementation of nature-based solutions and discussions of the co-benefits of these features.

Presentations:

- Innovative Adaptation Approaches in Canada's Coastal Regions: Dominique Auger, Natural Resources Canada
- The Role of Urban Parks as Nature-Based Climate Solutions: Taj Schottland, Trust for Public Land
- Exploring Community-Centered Governance Structures for Achieving Equitable, Long-Term, Nature-Based, Climate Adaptation: Sadie Wilson, Greenbelt Alliance ★
- Adapting with Nature: Implementing and Funding Nature-Based Solutions to Hazard Mitigation: Kristin Tremain Davis, AECOM
- Accelerating the Acceptance of Natural and Nature-Based Solutions for Adaptation - Overview - Part I of II: Diane Mas, Fuss & O'Neill, Inc.

Adaptation on the Frontline: 100 Communities Fighting for Resilience (*Harborside Ballroom A*) ★

There are hundreds of American communities increasingly impacted by flooding, wildfires, drought and heat. The consequences are broken lives and a ravaged environment. Led by the Anthropocene Alliance, communities are creating solutions and fighting back. Come hear stories from the frontline - low-income, Black, Latinx, Native American

and other underserved communities - on how organizing support, scientific and technical guidance, and better access to foundation and government funding is transforming devastation into resilience. A2 leaders have successfully halted developments in climate-vulnerable areas; implemented nature-based hazard mitigation strategies; and organized home buyouts. There is also a need for expert practitioners and consultants to support community visions and the barriers our current disaster response and adaptation systems put in the way of community-led adaptation.

By learning about institutional innovation, like the Vision/Action 2025 initiative, aiming to direct more than \$60 million of federal, state and foundation support to 30, low-income, Black, Latinx, and Native American communities to mitigate the impacts climate change and Frontline360, a collaboration to build bridges between nonprofits, you will be inspired to be an institutional changemaker. You may be better able to match adaptation resources to community needs, make connections between government and communities, further adaptation funding and amplify community voices.

Presenters:

- AR Siders, Disaster Research Center, Biden School of Public Policy and Administration, University of Delaware
- Omar Muhammad, Lowcountry Alliance for Model Communities (LAMC)
- Rebecca Jim, Local Environmental Action Demanded and a Member of the Cherokee
- T. Jonathan Lee, Climate Resilience Consulting

Empowering Young People in Climate Adaptation and Resilience (*Kent A-C*) ★

Young people are likely to experience the greatest burden of climate change, while also standing to benefit the most from climate adaptation. It is therefore vital to authentically engage young people in understanding climate adaptation, prioritizing community efforts, and leading on change. We will explore five youth climate programs, four funded by NOAA, from across the United States. Programs represent a variety of organizations, serve geographically diverse communities, and offer opportunities in and out of the classroom.

The Wild Center partners with the NYS Office of Climate Change and Climate Smart Communities programs for youth to work alongside adults on rural climate resilience. The Cumberland River Compact connects civically-minded young people to climate education and citywide adaptation projects on urban heat and tree canopy equity. The Nurture Nature Center uses art and storytelling to engage students in natural hazards, climate change, and resilience, and to create an exhibit for community discussion on resiliency. Sea-Level Rise in the Classroom is a science and social studies curriculum that introduces high school students to sea-level rise and highlights paths to community resilience. The SEMIS Coalition leads a place-based education strategy that engages youth, educators, scientists, residents, community organizations, and municipalities in southeast Michigan to increase climate resilience in vulnerable communities. NOAA's Environmental Literacy Program supports youth action for climate resilience.

Attendees will hear about each approach, participate in a moderated discussion, and engage with presenters to learn actionable ways to

get started in empowering youth in climate adaptation and resilience in their community.

Presenters:

- Catherine Price, Cumberland River Compact
- Jen Kretser, the Wild Center
- Carrie McDougall, NOAA Office of Education
- Kathryn Semmens, Nurture Nature Center
- Laura Florence, Southeast Michigan Stewardship Coalition (SEMIS)
- Ali Rellinger, Program for Local Adaptation to Climate Effects: Sea-Level Rise

Financing Equitable Climate Adaptation: the Power of the Capital Absorption Framework *(Grand Ballroom 9-10)* ★

Climate resilience requires strategies that cut across silos of expertise, the scale and scope of which cannot be funded by grants and programs alone. Financing projects through investment allows more dollars to flow toward long-term changes and makes a greater variety of projects possible. Projects financed through investment have also opened new lending markets by proving the viability of innovative investments, clearing a path for continued adaptation efforts.

The Center for Community Investment's (CCI) capital absorption framework provides concrete tools that leaders can use to deploy their resources—financial and otherwise—to develop investment ecosystems that enable capital to flow to equitable efforts toward climate adaptation and mitigation. This moderated discussion will introduce climate equity leaders to the tools of capital absorption—fitting initiatives to a community's shared priorities, creating a pipeline of deals, and shifting policy to create an enabling environment that maximizes initiatives' impacts.

Panelist Saneta deVuono-powell will share her research on this topic, which is presented in depth in CCI's recent publication, *Seeding Climate Resilience Through Equitable Investment*. Saneta's case studies of successful climate resilience investments surface a set of strategies that take aim at the systems underlying the inequitable distribution of risk.

Panelist Damon Burns will discuss his experience leading Finance New Orleans through a shift to center climate adaptation and resilience. The development finance agency has helped finance energy efficiency, stormwater management, and green infrastructure projects for homeowners, businesses and local governments that improve the quality of life of residents in New Orleans.

Presenters:

- Omar Carrillo Tinajero, Center for Community Investment
- Saneta deVuono-powell, GroundWorks Consulting
- Damon Burns, Finance New Orleans

Resilience Hubs: a Collaborative Approach to Support Neighborhood-Based Resilience in Marginalized Communities *(Dover A-C)* ★

Resilience Hubs are a collaborative way for local governments and community-based partners to support holistic neighborhood-based resilience in marginalized communities that disproportionately face

worse impacts from disruptions like extreme weather events, power outages, and public health crises like COVID-19. Resilience Hubs are well-trusted, community-serving facilities augmented to support residents, coordinate communication, distribute resources, and provide access to safe and reliable clean power. As local governments face increasingly severe weather due to climate change and rising economic and public health challenges, Resilience Hubs are an approach to increase and improve neighborhood resilience before, during, and after disruptions.

This symposium will share lessons learned from local governments that are actively working with their communities to develop Resilience Hubs. The session will be moderated by RMI's Urban Transformation program. Speakers from Baltimore, Austin, and Ann Arbor will share an overview of their approach to resilience hubs followed by a moderated discussion and audience Q&A.

Baltimore's Community Resiliency Hub (CRH) Program is cultivating partnerships with existing service-based community organizations that are trusted by and well-connected to vulnerable residents that face drastically disproportionate impacts from climate change. There are currently seventeen CRH partners in the Program.

Austin is working to pilot six Resilience Hubs in Austin's Eastern Crescent, with plans to build a future network of Hubs to serve the greater community. By 2025, the team hopes to grow the network to 30 Hubs.

Ann Arbor is looking to develop a resilience hub in each of the five wards of the city. The city is adding solar and storage to existing community centers to serve as the first resilience hubs.

To complement this session, the City of Baltimore is hosting a Community Resiliency Hub site tour on Thursday, October 27th at the Stillmeadow Community Fellowship (5110 Frederick Avenue) immediately following the close of the Forum.

Presenters:

- Mia Reback, RMI
- Aubrey Germ, City of Baltimore
- Marc Coudert, City of Austin
- Missy Stults, City of Ann Arbor
- Pastor Michael Martin, Stillmeadow Community Fellowship
- Brad Boston, Suncatch Energy

A Rising Bay: Regional and Sub-Regional Approaches to Sea Level Rise Adaptation in San Francisco Bay

(Essex A-C) ★

Sea level rise is no longer a distant threat, and the San Francisco Bay Area stands to be one of the hardest hit places in North America. This symposium includes discussion of regional and sub-regional approaches to adaptation, including important environmental justice issues.

On the regional scale, the Bay Adapt Joint Platform, led by the Bay Conservation and Development Commission (BCDC), is a consensus-driven, regional roadmap for how the Bay Area will adapt faster, better, and more equitably to a rising Bay.

In Oakland, historically marginalized residents have been at the frontlines of environmental injustice for generations. The Oakland Shoreline Leadership Academy (OSLA) was created to educate community members on climate adaptation and shoreline restoration, and by putting the voices of frontline communities at the forefront of the planning process.

In San Francisco, City agencies are working together to develop adaptation strategies to address urgent and long-term risks while improving the daily lives of our diverse communities and incorporating natural and nature-based features in this highly urban environment.

In the East Bay, the Hayward Regional Shoreline Adaptation Master Plan was developed by the Hayward Area Shoreline Planning Agency (HASPA), an interjurisdictional authority, to guide the phased implementation of projects and policies to prepare for sea level rise.

On the Peninsula, the City of Burlingame has been coordinating with the county flood and sea level rise district on the simultaneous development of regional sea level rise protection together with zoning standards intended to address sea level rise in new development projects.

Presenters:

- Kevin Gardiner, City of Burlingame
- Jessica Fain, San Francisco Bay Conservation and Development Commission (BCDC)
- Phoenix Armenta, San Francisco Bay Conservation and Development Commission (BCDC)
- Luiz Barata, San Francisco Planning Department
- Mary Kimball, Arcadis

5:30 - 8:00 pm: Margaret A. Davidson Networking Reception, CAKE Tools Café, and Poster Session *(Grand Ballroom)*



Margaret A. Davidson Networking Reception

Networking is the added value of any in-person meeting and few people knew how to network better than Margaret A. Davidson. Not only was Margaret a leader in the field of adaptation, but also a consummate networker. In 2017, when we heard Margaret would be unable to attend the Forum, we wanted to make sure she was here in spirit, so we named the Tuesday Night Networking Reception in her honor — The Margaret A. Davidson Networking Reception. We continue to cherish her leadership, friendship, and vision and encourage every Forum participant to honor her memory by moving climate adaptation forward.

This honor for Margaret is even more fitting as she is one of the founders of the Forum. She joined the first planning call to create the Forum, signed on to the Steering Committee and helped guide the process forward, helping to make the event what it is today. Thank you, Margaret. Tuesday night we will network in your honor and hopefully live up to your example.

Poster Session

Adaptation Planning

1. **Resilient Fairfax: A Leading Climate Adaptation and Resilience Plan at the County Scale:** Matthew Meyers, Fairfax County Office of Environmental and Energy Coordination
2. **Virginia Coastal Resilience Master Plan:** Johanna Greenspan-Johnston, Dewberry
3. **Local Climate Activation: Lessons and Best Practices from the Prepare Louisville Climate Adaptation Plan:** Cara Pike, Climate Access
4. **Regional and Local Resilience Planning: a "Layer Cake" of Change:** Meg Cavanagh, New Jersey Department of Environmental Protection ★

Agriculture and Food Security

5. **Understanding Coastal Farmers' Land Management Decisions Regarding Sea-Level Rise Stresses in the Chesapeake Bay:** Jenna Clark, Maryland Sea Grant

Biodiversity, Ecosystems, and Natural Resources

6. **Using Ecological Forestry to Prepare Northwest Forests for Hotter, Drier Times:** Rowan Braybrook, Northwest Natural Resource Group
7. **Adaptive Restoration and Reforestation Case Study At Stossel Creek:** Rowan Braybrook, Northwest Natural Resource Group
8. **Advancing Climate Change Adaptation in the Santa Cruz Mountains Region:** Laura Hilberg, EcoAdapt

CAKE Tools Café



1. **Hungry to Help Build Community Climate Resiliency? Learn How Technology Can Help Serve Up Satisfying Strategies Using the Community Climate Resilience Menu!** Anna Haines, University of Wisconsin - Stevens Point ★
2. **Building the Business Case for Nature-Based Solutions: Introducing the Nbs Benefits Explorer Tool:** Gregg Brill, Pacific Institute
3. **Tools and Visualizations for Communicating Sea Level Rise and Coastal Flood Risk:** Dan Rizza, Climate Central ★
4. **Cool It with Art: A How-to Guide for Tackling Rising Temperatures with Art in Our Communities:** Jeanette Pantoja, Metropolitan Area Planning Council
5. **Adapting to Climate Impacts: Risk Assessment for Drinking Water and Wastewater Utilities:** Wesley Wiggins, U.S. Environmental Protection Agency
6. **The Climate Toolbox:** Katherine Hegewisch, University of California Merced
7. **Resilience Playbook: Your Guide to Local Climate Action:** Sadie Wilson, Greenbelt Alliance ★
8. **Parkserve® Provides Nationwide Access to Parks, Health, Climate, and Equity Data to Support Greenspace Investment:** Kristen Weil, Trust for Public Land ★
9. **Agrisk Viewer: Empowering Climate-Smart Agricultural Risk Management:** Julian Reyes, USDA
10. **Tree Equity Score: Two Tools with Many Applications:** Chris David, American Forests ★
11. **Metrolink's in-House Climate Vulnerability Dashboard:** Lisa Colicchio, SCRRA/Metrolink
12. **Providing Usable and Useful Great Lakes Data and Information Through the Great Lakes Adaptation Data Suite (glads):** Omar Gates, Great Lakes Integrated Sciences and Assessments
13. **Flood Funding Finder Interactive Web Tool:** Matthew Rowland, American Flood Coalition
14. **The Resilience Action Database - Adaptation Strategies At Your Fingertips:** Sascha Petersen, Adaptation International
15. **Applying a Racial Equity Amplification Tool to County Climate Action:** Sarah Church, Alameda County ★
16. **Too Hot to Work: Using Climate Science Research to Advocate for Outdoor Worker Protections:** Astrid Caldas, Union of Concerned Scientists
17. **The Southeast Conservation Blueprint:** Alex Lamle, Southeast Conservation Adaptation Strategy ★
18. **Climate Change Tree and Bird Atlas:** Danielle Shannon, Michigan Tech, Northern Institute of Applied Climate Science, USDA Climate Hubs
19. **All Are Welcome: Implementing Inclusive Adaptation Planning with the Resilience Science Information Network (resin) Portal of the Upper Texas Gulf Coast:** Stephanie Glenn, Houston Advanced Research Center (HARC) ★
20. **Shoreline Flood Risk and Adaptation Explorer – Port of San Francisco Decision Support Dashboard:** Michael Mak, Pathways Climate Institute
21. **Climate Adaptation Knowledge Exchange (CAKEx.org):** Eric Mielbrecht, EcoAdapt

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| <ol style="list-style-type: none"> 9. Voluntary Guidance for States to Incorporate Climate Change Into State Wildlife Action Plans and Other Management Plans: Jacob Blandford, Association of Fish and Wildlife Agencies 10. Shoreline Adaptation Project Mapping Program: Tracking Shoreline Resilience in SF Bay: Todd Hallenbeck, SF Bay Conservation and Development Commission ★ 11. Agency Plans Are Inadequate to Conserve Us Endangered and Threatened Species Under Climate Change: Aimee Delach, Defenders of Wildlife | <ol style="list-style-type: none"> 13. Advancing Climate Resilience in Defense Communities Through Natural Infrastructure and Equitable Engagement: Michelle Covi, University of Georgia Marine Extension and Georgia Sea Grant 14. Application of a Novel Living Shoreline Model to Compute Ecosystem Restoration Benefits: Emma Dodsworth, Virginia Institute of Marine Science 15. Shaping the Future of Delmarva: Erik Meyers, the Conservation Fund |
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- Built Environment**
16. **Using Spatial Assessments to Address Physical and Social Vulnerabilities Within Resilience Initiatives At the City of Tallahassee, FL:** Kim Rhodes, Fernleaf
- Nature-Based Solutions**
12. **City of Virginia Beach's Innovative Network of March Terraces:** Ashley Gordon, Dewberry

- 17. **Flood Resilience Case Studies - Pairing Needs with the Right Solution:** John Bishop, Straughan Environmental
- 18. **Increasing Heat Resilience in the Built Environment with Cool Roofs, Cool Walls, and Cool Pavements:** Sarah Schneider, Cool Roof Rating Council

Climate Adaptation and Mitigation Intersection

- 19. **Climate Ready Communities - Adaptation and Mitigation Support for Local Leaders:** Tonya Graham, Geos Institute
- 20. **Bold Action and Innovation Helps Phoenix Adapt to Rising Temperatures:** Maria Koetter, Global Cool Cities Alliance
- 21. **All-Electric Buildings: Merging Resilience, Equity, and Climate:** Ryan Gardner, Rincon Consultants ★
- 22. **Clean Energy, Community Microgrids:** Sari Kayyali, GreenRoots and Chinatown Power ★

Climate Displacement and Gentrification ★

- 23. **Community-Led Solutions to Climate Displacement in Puerto Rico, Texas, and Oklahoma:** Osamu Kumasaka, Buy-in Community Planning
- 24. **Using Behavioral Science Insights to Design Environmentally Just Climate Adaptation Policy:** Melissa Tier, Princeton University, School of Public and International Affairs

Climate Justice and Equity ★

- 25. **Procedural Inequity - Informed Communities:** Juliana Richards, Kimley-Horn
- 26. **Tribal Transportation Climate Adaptation Planning:** Juliana Richards, Kimley-Horn
- 27. **County Climate Collaborative for Coordinated and Equitable Climate Change Planning:** Magdalena Sta Maria, County of Santa Clara
- 28. **Successes and Pitfalls on the Path to Optimizing Equity in Regional Shoreline Adaptation:** Jackie Mandoske, Bay Conservation and Development Commission
- 29. **Social Equity in Community Resilience - an Assessment of Planning and Measurement Methods:** Md Muhib Kabir, Morgan State University
- 30. **Using Human-Centered Design to Create Equitable Resilience Building Resources:** Emily Eisenhauer, U.S. EPA
- 31. **Equity in Resilience: Lessons From DC:** Julia Nassar, the Cadmus Group

Communications and Stakeholder Engagement

- 32. **Innovative Engagement Tools and Techniques in National Assessment Processes: Successes and Lessons Learned from Canada in a Changing Climate:** Advancing Our Knowledge for Action: Fiona Warren, Natural Resources Canada
- 33. **Identifying Drivers of Learning and Action in Community Adaptation Workshops:** Lara Hansen, EcoAdapt
- 34. **Leveraging the Fema National Exercise Program's Climate Adaptation Exercise Series to Meet the Challenge of Climate Change in Your Community:** Kristen Fish, FEMA National Exercise Division
- 35. **Facilitators' Perspectives on Effective Climate Adaptation Workshop Practices:** Marc Stern, Virginia Tech

Decision-Making Tools, Technology, and Resources

- 36. **Combatting Urban Heat Islands Through Public Parks: a New National Analysis and Decision Support Tool:** Pete Aniello, the Trust for Public Land

- 37. **North Atlantic Coast Comprehensive Study: a Framework for Shared Results:** Amy Guise, US Army Corps of Engineers, Baltimore District
- 38. **A Decision-Support Tool for Evaluating Regional Land Use Policies in the Context of Natural Hazard Risk:** Caroline Williams, University of Delaware
- 39. **A New Climate Resilience Playbook for States and Regions:** Jenn Phillips, US Climate Alliance
- 40. **Using Exercises to Support Community Climate Adaptation Planning:** Catherine Welker, FEMA National Exercise Division
- 41. **Flood Resilience Solutions for Communities of All Sizes:** Gian Tavares, American Flood Coalition ★

Extreme Events, Disasters, and Emergency Management

- 42. **Mainstreaming Adaptation to Extreme Precipitation at a West Coast Water Utility by Engaging Precipitation First-Responders:** Katerina Gonzales, University of Minnesota - Twin Cities
- 43. **Learning Our Lessons with a National Disaster Safety Board:** Anna Weber, Natural Resources Defense Council
- 44. **Surviving the Storm – Evolution of Atmospheric Rivers From Past to Future Climates:** James Neher, Pathways Climate Institute
- 45. **Addressing Burntfields™ Risks: Movement Strategies for Wildfires:** Roy Thun, GHD
- 46. **Adaptation Lessons From Rural Communities in Puerto Rico and the Us Virgin Islands After Hurricanes Irma and Maria: Summarizing Challenges and Strategies in Agriculture and Forestry Working Landscapes:** Nora Alvarez-Berrios, USDA Forest Service International Institute of Tropical Forestry

Faith-Focused Adaptation ★

- 47. **Faith Community Steps Up to Provide Dignity-Centered Extreme Heat Services:** Melissa Guardaro, Arizona State University
- 48. **How Faith Communities Are Key to Climate Resilience:** Avery Lamb, Creation Justice Ministries

Financing Adaptation, Workforce Development, and Green Jobs

- 49. **The Actual Bottom Line: Ready-to-Fund Resilience for Small-Medium Communities:** T. Jonathan Lee, Climate Resilience Consulting
- 50. **Community Climate Resilience: State Support & Stories of Local Resilience Initiatives Through the Massachusetts Municipal Vulnerability Preparedness (mvp) Program:** Courtney Rocha, MA Executive Office of Energy & Environmental Affairs
- 51. **Upskilling the Adaptation Workforce: Innovative Approaches and Tools From Canada:** Dominique Auger, Natural Resources Canada
- 52. **Building Capabilities for Climate Resilience and Adaptation: Equitably and Effectively:** Shubha Shrivastava, Federal Emergency Management Agency

Implementation of Adaptation

- 53. **Planning to Implementation: Climate Ready DC:** Farrah Andersen, Cadmus
- 54. **Climate Adaptation on Great Lakes Coasts: Collaborating on Tool Development and Action:** Kristen Schmitt, Northern Institute of Applied Climate Science
- 55. **Implementing Future Climate Restoration for Red Spruce Across the Appalachians:** Kathryn Shallows, The Nature Conservancy

Infrastructure, Transportation, and Land-Use Planning

56. **Assessing Combined Climate Risk of Urban Water Utilities:** Zia Lyle, Carnegie Mellon University
57. **Creative Solutions for Critical Infrastructure: Integrating Wastewater Into Multi-Benefit Shoreline Adaptation Strategies:** Ellen Plane, San Francisco Estuary Institute
58. **Integrating Resilience Into Local Infrastructure Planning and Design:** Samantha Heitsch, ICF
59. **Wastewater Resiliency in Virginia's Northern Neck:** Molly Mitchell, Virginia Institute of Marine Science
60. **Learning From Pilot Practices to Develop a Framework for Adapting Coastal Park Infrastructure to Climate Change Impacts:** Amanda Babson, National Park Service
61. **California Water Service's Multi-Hazard, Multi-Scale Climate Risk Assessment and Adaptation Framework:** Maggie Messerschmidt, ICF
62. **Mainstreaming Climate-Related Decision Making: Case Studies From U.s. Water Utilities:** Kim Grubert, WSP

Monitoring, Evaluation, and Adaptive Management

63. **Marking Progress in Community Resilience- Methods and Indicators for Meaningful, Actionable, and Inclusive Assessment:** Laura Stargel, EPA Office of Research and Development, Center for Public Health and Environmental Assessment ★
64. **A National Index of Development and Land Use to Guide Climate-Smart Growth:** Armen Agopian, University of Miami

Network Building

65. **Climate Ready America - a Nationwide Network of State Specific Climate Resilience Services:** Kim Adams, Geos Institute
66. **National Extension Climate Initiative Expands Climate Adaptation Outreach:** David Kay, National Extension Climate Initiative (Cornell University)
67. **Towards a Coordinated Climate Resilience Extension Program:** Heidi Roop, University of Minnesota Climate Adaptation Partnership
68. **Regional Collaboration Frameworks to Advance Climate Change Solutions:** Julia Nassar, Cadmus Group

Politics of Climate Change Adaptation and Adaptation Policy

69. **Evolving Governance: Advancing Equity and Environmental Justice and Financing Resilience through the Connecticut Governor's Council on Climate Change:** Alanis Allen, CT DEEP ★
70. **Americans' Willingness to Prepare for 'Climate Change' Versus 'Extreme Weather':** Jennifer Carman, Yale Program on Climate Change Communication
71. **Bay Adapt: Collective Impact in Action:** Dana Brechwald, San Francisco Bay Conservation and Development Commission

Public and Private Sector Partnerships ★

72. **Collaborating for Climate Resilience:** Ann Goodman, CUNY Advanced Science Research Center, Environmental Sciences Initiative
73. **The Integrated Climate Adaptation and Resiliency Program: California's Hub for Adaptation and Resiliency Planning, Partnerships, and Practice:** Sloane Viola, Governor's Office of Planning and Research

Public Health in Adaptation

74. **Barriers and Facilitators to Local Heat Planning and Response: Connecticut Case Study:** Laura Bozzi, Yale Center on Climate Change and Health

75. **Opportunities to Advance Climate-Informed Health Activities:** Marissa Ramirez, Natural Resources Defense Council
76. **Public Health - Seattle & King County Community Clean Air Ambassadors Program: Improving Indoor Air Quality to Increase Climate Resilience:** Addison Houston, AICP, Public Health - Seattle & King County

Research and Science of Adaptation

77. **The National Adaptation Forum through Time: Analyzing Trends in Adaptation from 2013 to 2022:** Carey Schafer, EcoAdapt
78. **The Climate and Fisheries Adaptation Program: Promoting Resilience of the Nation's Fisheries and Fishing Dependent Communities:** Jennifer Dopkowski, NOAA
79. **How Well are U.S. Communities Planning for Resilience, Adaptation, and Sustainability—and What Else is Needed? Results of a National Survey of Local Staff and Officials:** Matthew Malecha, National Institute of Standards and Technology (NIST) Community Resilience Program
80. **Merging Research and Practice: The Floodwise Communities Experience:** Erica Goto, University of Michigan
81. **Improving Climate Services for Tribes: Recommendations from a National Survey of Service Users and Providers:** Kimberly Yazzie, Stanford University

Rural and Island Communities

82. **Exploring Impacts and Potential Adaptations to Weather Variability and Changes in Climate in Vulnerable Wyoming Communities:** Emily Peters, University of Wyoming
83. **The Other 2022 Olympics: Multi-Jurisdictional Coordination Across the Rural North Olympic Peninsula (wa) for Regional Climate Resiliency:** Karen Affeld, North Olympic Peninsula Resource Conservation & Development Council
84. **Community Resilience Training: Building Knowledge, Skills, and Relationships for Climate Planning:** Gayle Bowness, Gulf of Maine Research Institute
85. **A High Tide Raises All Houses: Organizing Homeowners for Elevation in the Florida Keys:** Alison Higgins, City of Key West
86. **Sea Level Rise Impacts Beneath Our Feet: Exploring Municipal Services System Failures to Help Develop Science-Based Decision-Points:** Amanda G. Guthrie, South Carolina Sea Grant Consortium
87. **The Social Resilience Project: Strengthening Social Infrastructure in Rural Coastal Communities:** Eileen Johnson, Bowdoin College

Youth Engagement

88. **Engaging Youth in Climate Resilient Education:** Lil Milagro Henriquez, Mycelium Youth Network
89. **Young Black Climate Leaders:** Michelle Gabrieloff-Parish



DAY 2: Wednesday, October 26

Schedule At-A-Glance

- 7:00 - 7:45 am: Yoga with Ned** *Grand Foyer West*
- 7:00 am - 5:45 pm: Registration**
Third floor registration desk
- 7:45 am - 5:45 pm: Speaker Ready Room** *Atlantic*
- 7:45 am - 5:30 pm: Exhibits** *Grand Ballroom*
- 7:45 - 8:30 am: Coffee and Tea**
Grand Foyer West and Harborside Foyer
- 8:30 - 10:00 am: Concurrent Sessions 4** *Symposia*
- 10:00 - 10:15 am: Break**
- 10:15 - 11:15 am: Concurrent Sessions 5**
Working Groups
- 11:15 - 11:30 am: Break**
- 11:30 am - 1:00 pm Concurrent Sessions 6** *Symposia*
- 1:00 - 2:30 pm: Lunch**
Harborside C-E, Harborside A, Harborside B
- 1:00 - 2:15 pm: WSP Working Lunch**
- 1:00 - 2:15 pm: MITRE Working Lunch**
- 2:30 - 3:30 pm: Concurrent Sessions 7**
Solutions Rooms
- 3:30 - 4:00 pm: NOAA Break**
- 4:00 - 5:30 pm: Concurrent Sessions 8** *Symposia*
- 5:45 - 7:00 pm: The Story Collider Event:
An Introduction to the Power of Personal Storytelling**
Harborside C-E

7:00 - 7:45 am: Yoga with Ned *Grand Foyer West*

7:00 am - 5:45 pm: Registration *Third floor registration desk*

7:45 am - 5:45 pm: Speaker Ready Room *Atlantic*

7:45 am - 5:30 pm: Exhibits *Grand Ballroom*

7:45 - 8:30 am: Coffee and Tea
Grand Foyer West and Harborside Foyer

8:30 - 10:00 am: Concurrent Sessions 4 *Symposia*

Equitable Climate Adaptation *(Grand Ballroom 7-8)* ★

Climate change is impacting and will continue to impact society's most vulnerable communities. Equitable climate adaptation requires that we acknowledge the disproportionate burden climate change places on frontline communities, particularly Black, Indigenous, and people of color and low income communities. Presentations in this session will explore the status of equitable adaptation across the US and discuss methods for integrating equity into adaptation work through a variety of case studies.

Presentations:

- Equity's Role in Climate Adaptation Planning: A Lead Actor Or Background Character?: Jennifer Brousseau, Virginia Tech
- Methods for Addressing Climate Injustice Throughout the Adaptation Planning Process: Adam Parris, ICF
- Boosting Adaptive Capacity in the Pacific Islands Through Sustained and Inclusive Climate Assessment: Zena Grecni, East-West Center
- Beyond an "Equity Lens"—integrating Equity Metrics Throughout Virginia's Coastal Resilience Master Plan: Johanna Greenspan-Johnston, Dewberry

Bridging the Urban-Rural-Natural System Divide

(Dover A-C)

The inter-relationship between urban, rural, and natural systems is often not part of decision-making calculus. Cities rely on agricultural systems for food and natural systems for water, rural regions rely on markets in urban centers and ecosystem services from natural systems, and natural system health and functionality is affected by the decisions made in the other two systems. Presentations in this session will share examples of cross-landscape thinking to protect the resources that keep societies and natural systems working.

Presentations:

- The Adaptation Roadmap: Building Equitable and Collaborative Adaptation Pathways Across Urban and Natural Systems for Sea Level Rise with Two Case Studies in Practice: Jaclyn Mandoske, San Francisco Bay Conservation and Development Commission
- Developing and Deploying a Framework for Rural Resilience: Travis Klondike, NC State University: Coastal Dynamics Design Lab
- A Tale of Two Cities and Their River: Danielle Swallow, Delaware Sea Grant
- Strategies for Industry Participation in the Coastal Resilience and Adaptation Economy in Coastal Virginia: Carol Considine, Old Dominion University

A Deep Dive on Shallow Groundwater *(Laurel AB)*

Coastal communities nationwide grapple with current and future impacts of sea level rise. If they aren't yet experiencing more frequent, intense storms and extreme tides directly, they're hard at work helping neighboring communities respond and rebound. Yet there is another, less conspicuous component of sea level rise that lies beneath the surface. In low-lying communities adjacent to the shoreline, shallow groundwater tables are rising in response to sea level rise. How fast the groundwater table rises depends on many factors, including soil characteristics and nearby tributaries and drainage networks that can limit groundwater rise in the near term. This often-overlooked component of the hydrological system, under the influence of rising seas, is expected to flood communities from below, damaging buried infrastructure, flooding below grade structures, mobilizing contaminants, and can ultimately emerging aboveground as an urban flood hazard even before coastal floodwaters overtop the shoreline. This critical issue is gaining attention from community members and public officials, and new research is underway to better understand the potential consequences and to brainstorm solutions. This symposium will present four aspects of this critical issue in the San Francisco Bay Area: 1) why coastal communities should be concerned about rising groundwater; 2) strategies for mapping projected impacts and understanding exposure; 3) the grim truth that, like other climate change impacts, vulnerable communities are on the front line of rising groundwater impacts; and 4) how mainstreaming this information into policies and plans can make a difference and provide relevant lessons for communities facing this threat.

Presenters:

- Kris (Christine) May, PhD, Pathways Climate Institute
- Abby Mohan, Pathways Climate Institute
- Ellen Plane, San Francisco Estuary Institute

Innovative Communications to Improve Natural Resource Adaptation to Climate Change *(Harborside Ballroom B)*

Climate change is not only a threat to humankind but also has huge impacts on natural resources. Science agencies can provide natural resource managers with valuable insights for adapting to climate change, but they must compete for attention among other more urgent threats, bureaucratic challenges, and a flood of other information. Thus, it is important that science agencies innovate in their communication efforts to ensure their messages are packaged in easily digestible forms that communicate effectively and capture attention among today's plethora of sources. This symposium will provide examples of innovative and effective approaches that can be duplicated elsewhere. These presentations will be followed by a question and answer session focused on "How-to" explanations. 1. Collaborative Conservation and Adaptation Strategy Toolbox (CCAST), Matthew Grabau (US Fish and Wildlife Service) 2. Come Rain or Shine Podcast, Carolyn Enquist (Southwest Climate Adaptation Science Center) 3. Science Storytelling: Engaging Partners Through Video, Ulyana Nadia Horodyskyj (North Central Climate Adaptation Science Center) and Cari Furiness (Southeast Climate Adaptation Science Center) 4. Closing the Loop: Innovative Approaches to Providing Science to Stakeholders,

Codie Winn (South Central Climate Adaptation Science Center) 5. Using story maps to communicate effectively with broad audiences. Carolyn Enquist (Southwest Climate Adaptation Science Center)

Presenters:

- Michael Langston, South Central CASC, USGS
- Matthew Grabau, Science Applications, US Fish and Wildlife Service
- Ulyana Horodyskyj, University of Colorado & North Central Climate Adaptation Science Center
- Cari Furiness, North Carolina State University & South East Climate Adaptation Science Center
- Codie Winn, South Central Climate Adaptation Science Center
- Carolyn Enquist, Southwest Climate Adaptation Science Center

Adaptation in the National Climate Assessment: National and Regional Perspectives *(Grand Ballroom 9-10)*

The National Climate Assessment (NCA), led by the U.S. Global Change Research Program, is the preeminent source of climate information for the United States. The report captures the current knowledge on climate science, impacts of climate change, and vulnerabilities in the United States, with the goal of supporting decision-making across a range of sectors. The fifth assessment, NCA5, which is currently being developed, will highlight advancements in scientific understanding of human-induced and natural processes of climate change and the resulting implications. Considering the importance of providing useful and usable information for adaptation planning, NCA5 will also assess opportunities for adaptation across the country. In this session, NCA Director Allison Crimmins will share the latest updates on the assessment development process as well as ongoing and future opportunities for engagement. Following that, a panel of authors from different chapters will discuss how adaptation is considered in NCA5: Emily Wasley (Adaptation), Ernesto Diaz (U.S. Caribbean), Jessica Whitehead (Northeast) and Corrine Knapp (Northern Great Plains). Together the symposium will provide perspectives on the unique adaptation challenges faced by communities in different regions of the country. Attendees will be able to ask questions of and provide feedback to the authors and offer their perspective on user needs to inform the development of the report.

Presenters:

- Allison Crimmins, U.S. Global Change Research Program
- Emily Wasley, WSP USA
- Ernesto Diaz, Tetra Tech, Inc.
- Jessica Whitehead, Old Dominion University
- Corrine Knapp, University of Wyoming

Coordination of Effort Across Governments to Address Extreme Heat *(Laurel CD)* ★

Extreme heat causes more deaths than any other weather-related hazard, and as climate change causes temperatures to rise, more deaths can be expected. Due to historical inequities, discriminatory redlining practices, and long-term lack of investment in their communities, people of color in urban areas are disproportionately exposed to high temperatures and suffer greater consequences. Across the country, local governments are beginning to implement policies and programs that help frontline community residents stay cool during periods

of extreme heat. But more needs to be done, especially at the state and federal levels. This panel will provide an overview of many of the current programs and policies being implemented in cities across the United States to help their residents “beat the heat” as well as a discussion of the Biden Administration’s Extreme Heat Interagency Working Group’s efforts to support state and local efforts to engage directly with the frontline communities disproportionately impacted by high heat. The panel will also address potential areas for federal and state governmental agencies to add expertise, assistance, and resources. Extreme heat is quickly emerging as a major public health crisis. Addressing its impacts and helping people stay cool is going to require an all-hands-on-deck approach, from every level of government.

Presenters:

- Mark Rupp, Georgetown Climate Center
- Erin Garnaas-Holmes, DC Department of Energy and Environment
- Victoria Ludwig, US EPA
- Kathy Dolan, Association of State and Territorial Health Officials

Building Climate Resilience and Justice into Social Philanthropy (Kent A-C) ★

Billions of dollars are given away each year in the name of philanthropy. At the same time, significant investment is required to help organizations develop projects that are resilient to climate change impacts. Without such intentional focus on resilience, the people and places served by philanthropic projects, especially those in underserved communities, are often underprepared for the threats of measurable and increasing climate change effects.

To help protect against and avoid the worst effects of climate change, the William Penn Foundation (WPF) wanted to explore the climate change risks its investments in physical infrastructure in the Greater Philadelphia area face and identify potential entry points to advance climate resilience and climate justice. The resulting tools and associated practice guide, “Climate Risk, Climate Resilience, and Climate Justice,” enables Foundation staff and grantees to identify the key climate hazards and risks inherent to a project’s location and consider different approaches for adapting to those risks and help build the community’s climate resilience.

This symposium will showcase how philanthropic organizations can include resilience and justice in their processes. Presentations will include entry points for philanthropy to advance climate resilience and justice and the Philadelphia Rapid Climate Risk Assessment tool created as part of WPF’s exploration. In addition, speakers will discuss ongoing efforts to increase grantee knowledge, skills, and capacity to build resilience and sustainability into their capital projects.

Presenters:

- Hilary Rhodes, William Penn Foundation
- Sophia Winston, Green Building United
- Michelle Perch, William Penn Foundation
- Cara Ferrentino, William Penn Foundation

NOAA Symposium #1: Filling in the Gaps: How Updated Federal Sea Level Rise Projections Support Decision Making for All Coastal Communities (Haborside Ballroom A)

Coastal decision makers increasingly understand the need to apply sea level rise (SLR) information in local planning and adaptation decisions. Recognizing a gap between federal SLR science and on-the-ground application, a team of cross-agency federal scientists and multi-disciplinary and geographically diverse SLR resilience practitioners co-produced the Application Guide for the 2022 Sea Level Rise Technical Report. The guide is designed to assist decision makers and coastal professionals in understanding the essential technical information in order to apply and integrate it into local SLR planning and adaptation decisions. This effort represents a unique collaboration of NOAA’s National Ocean Service, Sea Grant programs (Georgia, Florida, Mississippi/Alabama, California, Washington and Hawaii), Mississippi State University, EcoAdapt, and the Jacques Cousteau National Estuarine Research Reserve. The writing team brought sea level rise planning experience from a diverse range of geographies, and worked closely with authors of the 2022 Sea Level Rise Technical Report to ensure scientific accuracy. The result is practical guidance on where to start with sea level rise planning, how to consider the updated information provided in the Technical Report, and best practices for decision-making in the face of uncertainty. During this moderated symposium, two Technical Report authors will review the latest advances in SLR science, and join two SLR resilience practitioners to discuss the process of creating the Application Guide, the necessity of cross-disciplinary collaboration, and the challenges associated with collaboration. Live Q&A will be used to answer questions from the audience who may be interested in undertaking similar work.



Presenters:

- Mark Osler, NOAA • Ben Hamlington, NASA Jet Propulsion Laboratory • William Sweet, NOAA
- Jamie Carter, NOAA • Jill Gambill, Georgia Sea Grant • Heidi Stiller, NOAA • Renee Collini, PLACE: SLR

Dibaginjigaadeg Anishinaabe Ezhitwaad: Lessons from the Tribal Climate Adaptation Menu *(Essex A-C)* ★

Dibaginjigaadeg Anishinaabe Ezhitwaad - a Tribal Climate Adaptation Menu was published in April of 2019 and was created in response to a need to integrate tribal and indigenous perspectives, culture, language and history into the climate adaptation planning process for indigenous communities, tribal natural resource agencies and their non-tribal partners. Since the release of the Menu several workshops have been hosted by tribal communities in the Midwest and Northeast regions of the US. These workshops, based on a model created by the Northern Institute of Applied Climate Science (NIACS), were facilitated by members of the author team and brought together tribal and non-tribal adaptation practitioners to plan real-world climate adaptation projects using the Tribal Climate Adaptation Menu. This session will bring together members of the Menu author team and workshop participants in a moderated discussion panel to share perspectives on the creation and use of the Menu, how their approach to climate adaptation has changed based on their work with the Menu, and offer a glimpse into the future as tribal and indigenous knowledges and perspectives become more broadly accepted as a critical component of climate adaptation planning.

Presenters:

- Robert Croll, Great Lakes Indian Fish & Wildlife Commission (GLIFWC)
- Sara Smith, College of Menominee Nation/Midwest Climate Adaptation Science Center
- Cathy Techtmann, Community Development Institute, University of Wisconsin Madison - Division of Extension
- Bazile Panek, Great Lakes Indian Fish & Wildlife Commission (GLIFWC)
- Katy Bresette, Dynamite Hill Farms
- Kristen Schmitt, Northern Institute of Applied Climate Science (NIACS)

10:00 - 10:15 am: Break

10:15 - 11:15 am: Concurrent Sessions 5 *(Working Groups)*

Co-development of a U.S. Earth Observation Enterprise Engagement Strategy with Tribal Nations for Addressing Climate Change *(Grand Ballroom 7-8)* ★

The United States Group on Earth Observations (USGEO) is the interagency coordination mechanism for Departments and Federal Agencies' civil Earth observations (EO) activities. As part of USGEO's commitment to decision-making for the benefit of humankind that is informed by coordinated, comprehensive and sustained EO and information, and to engage all domestic stakeholders as USGEO coordinates and plans EO activities, USGEO envisions strengthening engagement with tribes and Indigenous communities. A co-developed strategy will enable effective, respectful, and reciprocal relationship building among USGEO member institutions and tribal nations. Tribal engagement is essential in the creation of this strategy to incorporate a shared understanding of free, prior, and informed consent to effectively engage with tribal leaders and communities who seek to use EO alongside Indigenous knowledge systems for addressing

the challenges of climate adaptation, mitigation, and equity. NASA, NOAA, and USGS represent agencies that seek to collaborate with tribal nations on co-development of a strategy for meaningful engagement with tribes in the U.S. EO enterprise. The goal of this working session, open to all interested parties, is to present, discuss, and identify initial concepts for a USGEO Tribal Engagement Strategy to be co-developed between federal partners and tribal nations. This strategy intends to be reflective of the needs of tribes for increasing accessibility and use of EO and decision-making tools, inclusion of relevant partners in moving forward, youth engagement, and defining a concrete action plan for engagement.

Presenters:

- Amber Jean McCullum, Bay Area Environmental Research Institute, NASA Ames Research Center
- Justyna Nicinska, NOAA/ NESDIS International and Interagency Affairs Division
- Virginia Burkett, U.S. Geological Survey, Office of the Director, International Programs
- James Rattling Leaf Sr., Rosebud Sioux Tribe, North Central Climate Adaptation Science Center at the University of Colorado, Boulder

Defining Adaptation and Resilience Jobs and Career Pathways to Build the Workforce We Need

(Harborside Ballroom A)

Climate change adaptation and climate resilience (CCA/CR) jobs are rapidly expanding, as is interest in CCA/CR workforce development. CCA/CR jobs and skills are emerging in many industries in every sector and geography. However, the field lacks formal definitions for what constitutes a CCA/CR job and career pathway guidance for pursuing a job in climate change adaptation. The result is a lack of knowledge of the wide range of CCA/CR jobs, inequitable access to jobs, and inadequate training for workers. A path forward includes ensuring that these emerging occupations are recognized by the US Department of Labor's Bureau of Labor Statistics (BLS) and developing model career pathways for young people and educational institutions. In this working group, participants will analyze existing information about adaptation and resilience jobs and create draft work products to advance workforce definition and workforce development. Group One will examine funded climate resilience grant programs to explore how to identify competency, skill, and certification bottlenecks for adaptation and resilience jobs. Group Two will review draft adaptation job profiles for the public and private sectors and share insights from their own career pathway experiences. The two groups will then come back together to plan for the next steps. Tangible Outputs: 1) an outline of recommendations for potential climate resilience workforce identification process 2) Job profiles for entry level, mid-level, and senior-level adaptation professionals.

Presenters:

- Rachel Jacobson, American Society of Adaptation Professionals
- Anna McGinn, Environmental and Energy Study Institute
- Frank Niepold, National Oceanic and Atmospheric Administration
- Maria Viteri Hart, Nomad Planners, LLC
- Savannah Bertrand, Environmental and Energy Study Institute

HUD Supporting Low- and Moderate-Income Communities to Build Resilient Futures

(Grand Ballroom 9-10)

The U.S. Department of Housing and Urban Development's (HUD) Community Planning and Development (CPD) programs work to develop viable communities and expand economic opportunities, distributing billions of dollars annually to thousands of communities. Recognizing the risk climate change poses to this mission, especially for community members with low- and moderate-incomes, HUD now requires grantees to consider resilience in their planning. To support grantees in this work, HUD created resources on how to use HUD funding to build more resilient communities, including the Community Resilience Toolkit and six Resilience Implementation Guides. These resources profile communities throughout the United States who have implemented a resilience action. In this working group, HUD will introduce its resources and discuss how communities can use HUD funding to implement resilience activities. Then several communities will share their experience implementing resilience actions in their communities, focusing on the challenges and lessons they learned and offering tips for other communities. For the last 30 minutes of our working group, we will divide the session into small groups centered around hazards or size of the communities. The HUD team will facilitate active discussions within these small peer groups to discuss the challenges the communities face and possible resilience actions they can consider implementing to address those challenges. During these peer group discussions, we will also focus on the barriers and opportunities communities are facing in implementing resilience actions (e.g., funding barriers and the use of HUD or other funding sources to implement resilience actions).

Presenters:

- Heather Hosterman, Abt Associates
- Colleen Moore, Abt Associates
- Luke Mojtaszek, GRID Alternatives
- Missy Stults, City of Ann Arbor

Fostering Collaboration Among Conservation Organizations to Deal More Efficiently and Effectively with the Challenges of Climate Change

(Harborside Ballroom B)

The goal of this working group is to unite the Climate Change and Sustainability Committee and the Climate Change and Wildlife Working Group of the Wildlife Society with peer organizations and related NGOs (e.g., Association of Fish and Wildlife Agencies, American Fisheries Society, The Ecological Society of America, Society for Conservation Biology, EcoAdapt, Defenders of Wildlife, Wildlife Conservation Society) to share, learn, leverage, and collaborate on the challenges of climate change, including adaptation, mitigation, and sustainability. In particular, we intend to 1) create an opportunity for major professional societies with a focus on ecology and conservation to share their actions and priorities relative to climate change and sustainability, and 2) discuss opportunities for collaboration and leveraging of ideas and resources. Each organization/society participating in the working group will be represented either by a staff member or others involved in society governance or policy. Each organization will briefly report

what their organization is currently engaged in/working on relative to climate change and sustainability. The main goal of this working group is for participants to highlight successes that could potentially be implemented by others, as well as challenges that may commonly be encountered. Following the presentations, a facilitated discussion will help identify opportunities for collaboration and to amplify our efforts. The main tangible output of this working group will be an article submitted for publication in the Wildlife Professional, a publication of the Wildlife Society.

Presenters:

- Don White, Jr., University of Arkansas Division of Agriculture
- Robert Newman, University of North Dakota
- Grant Hilderbrand, the Wildlife Society

Building Consensus and Urgency for a National Climate Resilience Strategy **WITHDRAWN**

President Biden has put the full strength of the federal government behind a "whole of government" approach to reducing U.S. GHG emissions and building resiliency to climate change. To achieve the promise of this vision and build broad-scale, long-term resilience, however, will take a more concrete national resilience strategy with specific goals and actions, and clear cross- government and private sector partnerships.

A coalition of prominent research and non-profit institutions, including the American Geophysical Union, the American Society for Adaptation Professionals, Nicholas Institute for Energy, Environment and Sustainability, EcoAdapt, and Stanford Woods Institute for the Environment have come together to build momentum for a national resilience strategy and to develop and promote a "whole of society" approach to resilience.

This coalition will host a series of stakeholder dialogues throughout 2022 to foster cooperation and coordination with government efforts and to identify and help provide missing elements in the federal government's abilities to build resilience. For example, already identified needs include technical training, community level data translation, co-development of solutions, and sharing of best practices. The coalition seeks to serve as a boundary organization to bridge science and policy with communities and others.

Ultimately, the coalition intends to bring together resilience experts and practitioners to make recommendations and build further consensus and support from the adaptation community to communicate the urgency of the need for a national resilience strategy. The NAF Working Group session will provide a venue to test the progress of the group and further refine its ideas.

Presenters:

- Chris Field, Stanford Woods Institute for the Environment
- Lexi Shultz, American Geophysical Union
- Lara Hansen, EcoAdapt
- Lea Rosenbohm, Stanford Woods Institute for the Environment

See the online program for additional information on how to participate in an online survey for this session

Community Leadership in Ocean, Coastal, and Great Lakes Policy *(Kent A-C)* ★

For thriving people and nature in ocean communities, we need to dismantle the current systemic injustices that reduce access to resources that healthy oceans and coasts provide us with. To confront these challenges, the Ocean Justice Advocacy Group (OJAG) works together to build more just and equitable ocean, coastal, and Great Lakes policy outcomes, with a particular focus on frontline and underserved communities. OJAG works together to incorporate the perspectives of BIPOC communities, increase representation, and create stronger and more equitable outcomes. During this session, we will bring together a broad range of perspectives to co-create recommendations that support on-the-ground efforts and influence ocean and coastal policy at the local, regional, and federal levels. The discussion will feature local groups and justice-and-equity-focused organizations to identify a framework for community-centered and locally led ocean, coastal, and Great Lakes policymaking to shape and influence federal and state policy.

Presenters:

- Queen Quet, Gullah/Geechee Nation
- Helen Smith, Creation Justice Ministries
- Russell Smith, Flen Consulting
- Kevin Bryan, Meridian Institute
- Meghan Massaua, Meridian Institute
- Liana Quiñones, Meridian Institute

Co-producing Climate Justice Best Principles for City Adaptation Plans *(Laurel AB)* ★

As more and more cities create climate adaptation plans, many are thinking about how to ensure their climate adaptation efforts avoid injustices and inequities. Climate change disproportionately affects low-income and communities of color, and avoiding inequities takes concerted effort, with backing from city strategic plans and local policy. Given the heterogeneous nature of climate impacts and city environments across the country, this working group will create broad principles to guide a wide array of cities as they pursue justice in their climate adaptation plans. The purpose of this working group is to brainstorm how to overcome common climate injustice scenarios. The authors will briefly present some of the common climate injustices based on prior research, followed by participants sharing their own experiences. The group will then answer a set of discussion prompts designed to find common problems faced and potential solutions. The output of this collaborative working group will be a set of best principles for practitioners in multiple roles (e.g., elected and appointed officials, sustainability/climate offices, and natural resource managers) to guide climate adaptation in their home city. This session will be hosted by academic researchers but will welcome and target practitioners in the public and private sectors. The best principles produced in this session will advance growing efforts to achieve justice through climate adaptation planning.

Presenters:

- Olivia VanBuskirk, University of Oklahoma
- Lauren Mullenbach, University of Oklahoma

Methods for Valuing Boundary Work in Climate Adaptation *(Essex A-C)*

This working group will bring together a diverse group of applied adaptation social scientists, climate adaptation evaluation experts, and boundary spanners to discuss methods and approaches that improve our ability to assess the economic and social values of boundary spanning climate organizations. Climate boundary spanners broker interactions between climate information producers and 'end-users' to ensure relevant and trusted climate information is used in planning and decision-making for climate adaptation. Systematic, credible evidence that illustrates the value of boundary spanning and guides effective design of boundary spanning efforts is lacking. Demonstrating the value and improving the practice is essential for guiding investment in boundary spanning services.

We are interested in advancing approaches and methods for: • How to design climate boundary spanning efforts that inform adaptation and effectively advance equitable adaptation for different population groups and in different contexts? • What do networks of climate research and services contribute to climate adaptation planning and implementation? • What is the socio-economic value of climate boundary spanning work in different contexts?

Workshop Goal: Share ideas that advance our ability to value boundary work, and build the community working together on these ideas.

This working group builds on a multi-year engagement of federal and non-federal staff on this topic, inviting new voices into the discussion. Participants will help shape, or contribute to, the outline for a white paper. In addition, the working group will refine identified opportunities for collaborative products to help advance this topic through follow-up work. Professional development credits aren't provided.

Presenter:

- Chelsea Combest-Friedman, NOAA

11:15 - 11:30 am: Break

11:30 am - 1:00 pm: Concurrent Sessions 6 *(Symposia)*

Transportation Infrastructure: Addressing Climate Resilience and Inequities *(Grand Ballroom 7-8)*

This symposium will be a series of presentations and a discussion on how transportation agencies are addressing (or trying to address) climate resilience, vulnerability, and equity. Each of the presenters will share how their organization is approaching climate resilience (e.g. prioritization through assessed vulnerability, etc.), provide examples of projects that increase climate resilience, and how they are addressing inequities. Three key discussion topics are outlined below with the goal to create space for sharing new ideas and challenges to learn from others in the climate adaptation field. • Prioritizing Equity – How is equity reflected in resilience efforts, if at all. How could it be? (e.g. SoVI, etc.). There is a lot of money that will go to resilience – how are we being more equitable in determining how to spend it? • Metrics and Measures – How are you measuring climate resilience/adaptation, and what database systems are you using to track? How does one evaluate transportation

climate resilience? Is there a risk of over-focusing on measures and exacerbating inequities or missing opportunities to reduce inequities?

- Federal Resilience Programs/Funds – with the recent passing of the IIJA there are new transportation resilience resources available (e.g. PROTECT program) and the creation of transportation Centers of Excellence on Resilience and Adaptation. How is your organization engaged with each of these? How do you see your organization advancing equitable outcomes through the funding?

Presenters:

- Cassie Bhat, ICF
- Leah Fisher, Caltrans
- Joshua DeFlorio, PANYNJ

It Just Makes Cents: Insurance and Finance of Climate Adaptation *(Grand Ballroom 9-10)*

Despite upfront costs to address the impacts of climate change, the benefits of climate adaptation far outweigh the costs of inaction. Demonstrating the direct and indirect economic benefits of climate adaptation is key to building support for taking action now. Through case studies, this session will describe the costs of inaction, the financial benefits of adaptation, and how the world's first nature-based insurance policy could help to protect our natural ecosystems.

Presentations:

- Economic Assessment of Heat in the Phoenix Metro Area: Anne deBoer, AECOM
- Creating an Economic Analysis to Support Climate Action in Delaware: Kristen Thornton, Delaware Department of Natural Resources and Environmental Control
- The Business Case for Stormwater Resilience Investments in Miami Beach: Juanita Ballesteros, City of Miami Beach
- Nature-Based Coastal Resilience and Insurance: Protecting Nature to Protect People: Eric Roberts, The Nature Conservancy

Climate Change and Health *(Dover A-C)*

Climate change poses many threats to human health, including more severe storms, extreme heat, and the spread of insect-borne diseases, among others. Tackling these challenges requires a cross-disciplinary approach that integrates aspects of climate science, adaptation, and public health. Presentations in this session will discuss the development and implementation of local climate change and health programs, highlight a model for public engagement to assess resilience to extreme precipitation events, and examine heat-reduction initiatives.

Presentations:

- Your Local Health Department Is Inadequate. Rethinking How Local Health Departments Can Lead Community Resilience: Marc Coudert, City of Austin Office of Sustainability ★
- Saving More Lives: Heat Resilience: Ida Sami, Climate Resilience Consulting ★
- Building Community Health Resilience to Extreme Precipitation Events: Insights From a Collaborative Pilot Study: Jason Rhoades, Antioch University New England Center for Climate Preparedness & Community Resilience
- Local Public Health Department: Implementing a Climate Change + Health Equity Initiative: Bradley Kramer, Public Health — Seattle & King County ★

Status of Tribes and Climate Change (STACC) Report

(Harborside Ballroom B) ★

The Status of Tribes and Climate Change (STACC) Report was convened by the Institute for Tribal Environmental Professionals (ITEP) and written by a working group. Released in August 2021, the report honors the voices of Indigenous peoples across the U.S. to increase understanding of Tribal lifeways, cultures, and worldviews, the climate change impacts Tribes are experiencing, the solutions being implemented, and ways that all of us can support Tribes in adapting to our changing world. The STACC Report was written for diverse audiences including Tribal managers, leaders, and community members, the authors of future National Climate Assessments (NCA); federal and state agencies and decision makers; and non-governmental organizations. Over 90 authors representing diverse entities and perspectives contributed to this report, including the authors of 34 personal narratives and author teams who wrote topic reviews using elements from their own experiences and knowledge as well as information from the most current peer reviewed literature.

Each of the 14 chapters and conclusion contains key messages and recommendations that are interdependent and can be distilled into two themes: 1) respect and uphold Tribal sovereignty and 2) self-determination and integrate holistic responses in line with Tribal values. Each chapter begins with the words of those who contributed personal narratives about climate impacts and resilience efforts from their own communities. In this way, the STACC Report sought to put Indigenous peoples first. Authors will cover their contributions to their respective chapters and narratives including Indigenous and Traditional knowledges, water, relocation, ecosystems and biodiversity.

Presenters:

- Nikki Cooley, Institute for Tribal Environmental Professionals (ITEP) Tribes & Climate Change Program
- Karen Cozzetto, Institute for Tribal Environmental Professionals (ITEP) Tribes & Climate Change Program
- April Taylor, South Central Climate Adaptation Science Center
- Stefan Tangen, Great Plains Tribal Water Alliance/ North Central Climate Adaptation Science Center
- Kelsey Morales, Institute for Tribal Environmental Professionals (ITEP) Tribes & Climate Change Program
- Alyssa Samoy, Office of Trust Services
- Julie Maldonado, LIKEN (Livelihoods Knowledge Exchange Network)

Bridging the Bridges: Opportunities Between Federal Boundary Spanners *(Laurel AB)*

Many divisions, sectors, and line offices across federal agencies are increasingly undertaking critical boundary spanning work in the field of climate adaptation. These entities include but are not limited to Climate Adaptation Science Centers, National Wildlife Refuges, National Park Service, Water Resource Research Centers, National Estuarine Research Reserves, the Regional Integrated Sciences and Assessments Program, US Department of Agriculture Climate Hubs, and Sea Grant Programs. Boundary spanners operate at the intersection of researchers and decision-makers supporting collaborative climate adaptation science and services. These organizations foster robust dialogue between stakeholders and researchers to identify science

gaps and needs, translate and apply research findings, and serve place-based adaptation efforts. As national attention has become more focused and explicit regarding the urgent need for climate adaptation there has been an increase in available resources. It is critical that the range of experiences across these institutions be shared and enhanced through collaboration to maximize impact. This symposium will provide a forum to share successful examples of partnership across federal boundary spanners with particular focus on transferable lessons learned. Case studies from across diverse geographies and adaptation themes will set the stage for a working session to increase collaboration.

Presenters:

- Katy Hintzen, Pacific Islands Climate Adaptation Science Center
- Renee Collini, Program for Local Adaptation to Climate Effects | Sea Level Rise
- Lannette Rangel, National Climate Adaptation Science Center
- Mike Langston, South Central Climate Adaptation Science Center
- Sean Bath, NOAA RISA Program

Climate Impacts and Adaptation Strategies for Marine and Coastal Resources *(Laurel CD)*

As our oceans continue to warm and acidify as water levels continue to rise, impacts to our coastal and marine resources are already revealing themselves through habitat and species loss and changes in species distribution. This session will focus on strategies to reduce impacts and conserve and restore vital coastal and marine resources. Speakers will share strategies for marine conservation and restoration, innovative approaches to support species migration, and new management strategies to sustain coastal and marine resources for future generations.

Presentations:

- Pursuing Climate-Smart Restoration of Coral Reef Coastal Protection Services Using “a Manager’s Guide to Coral Reef Restoration Planning & Design”: Jordan West, U.S. Environmental Protection Agency
- Coastal and Marine Connectivity as an Adaptation Tool: Mary Collins, Center for Large Landscape Conservation
- Developing Usable Science to Help Managers Address Climate Impacts on Fisheries – the Lenfest Ocean Program Ideas Lab Approach: Sarah Close,

Lenfest Ocean Program, the Pew Charitable Trusts

- Connecting Biodiversity and Climate Adaptation Through Resilient Marine & Coastal Areas: Lauren Wenzel, NOAA Marine Protected Areas Center

Moving from Facts and Fear to Storytelling: Changing the Climate Narrative *(Kent A-C)*

A growing body of research suggests that instead of bombarding a community with numbers and facts, climate change science and vulnerabilities can be communicated using narratives and emotions that resonate with the audience in order to motivate them to take action. The interest in effective climate science communication is quickly growing, and the best practices for communicating climate science, projections, vulnerabilities, and adaptation strategies are shifting from a one-directional flow of facts and numbers to a more fluid and dynamic narrative and conversation driven more by the intended audience than by the scientists. Some of the main pillars in climate science communication require getting to know the audience and speaking to their understanding and what they care about. Effective communication of the impacts and risks of climate change requires reframing how uncertainty in projections is discussed by focusing on the positives if action is taken. And essential to connecting with communities and motivating action is leaning into storytelling and narratives that can help people make sense of the challenges and opportunities. Presentations will include discussion of key pillars of communication including: knowing your audience, reframing uncertainties, and telling a human story; the final presentation will bring it all together by presenting a framework for transformative communication to engage communities in climate discussions.

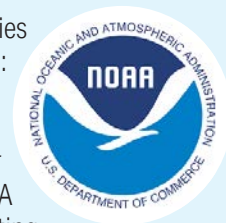
Presenters:

- Katharine Hayhoe, The Nature Conservancy
- Susanne Moser, Susanne Moser Research & Consulting
- Sascha Petersen, Adaptation International
- Maka Monture, Native Movement
- Nyssa Russell, Alaska Conservation Foundation

NOAA Symposium #2 - Federal Resources, Data, and Engagement Networks to Help the Nation Build Back Better *(Harborside Ballroom A)* ★

A 2015 Government Accountability Office report noted that climate data was fragmented, and data processing activities poorly coordinated across Federal agencies. Executive Order 14008 directed the National Climate Task Force to: “facilitate the planning and implementation of key Federal actions... to increase resilience to the impacts of climate change” and to “ensure federal infrastructure investment[s] reduce climate pollution.” For example, the Infrastructure Investment and Jobs Act (IIJA) of 2021 represents \$1.2 trillion in infrastructure spending, \$47 billion of which is for climate resilience. Per OMB Guidance, agencies are encouraged to provide technical assistance to applicants for IIJA funds, including tools to help quantify the benefits of infrastructure projects that address climate hazards while promoting equity. In response to these and other guiding motivations, Federal agencies launched a new collaborative initiative in 2022 to build a Climate Resilience Information System (CRIS). The first CRIS deliverable, published in August 2022, was the new REsilience and ADaptation Information (READI) Portal, designed to support IIJA applicants in assessing their exposure to climate-related hazards. This session will feature a series of short presentations by White House and agency personnel describing the overarching vision for how we’re aligning Federal resources, data and engagement networks to support local communities’ and government offices’ resilience planning. Specific efforts to work with and through regional and local engagement networks will be highlighted. The session will provide time for questions and discussion and will use a crowd-sourcing tool to solicit feedback from participants.

Organizer: David Herring, NOAA



Youth Empowerment and Leadership in Climate Adaptation *(Essex A-C)* ★

How are youth relating to, communicating about, and leading on climate change adaptation? For years, youth have been at the forefront of activism from the Greensboro lunch counter sit-ins to the Parkland, Florida student-led gun safety movement to the mass mobilizations across the globe for climate action. Presentations in this session will share examples of youth climate activism and engagement in school and student networks, local communities, and national initiatives.

Presentations:

- Youth-Led Collaboration to Identify Best Practices in Climate Communication: Erica Larner, Belchertown Conservation Commission
- Achieving Resilient Communities with Farmworkers and Youth in Ventura County CA: Ariadne Villegas Gomez, Public Health Institute/Tracking California
- Youth At the Planning Table: Shaping Local Climate Change Policies: Blanca Escobedo, Greenbelt Alliance
- The Future Is Resilient: Climate Resilience in Classrooms: Lil Milagro Henriquez, Mycelium Youth Network

1:00 - 2:30 pm: Lunch

(Harborside C-E, Harborside A, Harborside B)

1:00 - 2:15 pm: WSP Working Lunch: Justifying Investments in Climate Adaptation *(Laurel AB)*

Obtaining funding for climate adaptation projects often requires demonstrating their cost effectiveness. Part of this process includes determining the benefits associated with such projects. Since benefits are often quantified in terms of avoided climate change impacts, the estimation of these impacts under different adaptation scenarios is a critical step. Please join us over lunch to learn to justify investments in climate adaptation through the estimate of benefits. Click here to learn more: <https://discover.wsp.com/NAFWorkingGroupLunch>

Working Lunch Facilitators:

Juan Carlos Lam, PhD, Angie Garcia, Allison Reilly, Naomi Batzer, DJ Rasmussen, PhD, Maya Buchanan, PhD, Don Park

Attendance:

This working lunch is limited to select participants. Please see the online program to apply to attend. Attendees will grab their lunch from the Harborside Foyer and then make their way to Laurel AB for the working lunch.

1:00 - 2:15 pm: MITRE Working Lunch: Equity in Climate Resilience Planning and Investments *(Laurel CD)* ★

MITRE reviewed and synthesized the quantitative accounting of social equity using metrics, indicators, indices, and weights both within and external to economic analyses commonly used to assess cost effectiveness of proposed climate resilience investments. The purpose of this work is to identify the methods and data that can contribute useful information to the formulation of alternatives for the prioritization of funding and tracking impact after implementation, while also recognizing limitations and potential improvements. Our intention during the working group is to gather feedback and vet our recommendations with subject matter experts, practitioners, and

government and community representatives to reach a consensus on a path towards greater understanding of how we might equitably and intentionally direct funding towards the communities who need it most.

Attendance:

Register at: <https://forms.office.com/g/QjMRrJXVQ3>

Attendees will grab their lunch from the Harborside Foyer and then make their way to Laurel CD for the working lunch.

2:30 - 3:30 pm: Concurrent Sessions 7 *(Solutions Rooms)*

How Do We Democratize the Ownership of Adaptation? *(Grand Ballroom 7-8)*

Governments in the U.S. are spending billions of dollars on adaptation to reduce risk. Historically adaptation spending has exacerbated wealth and income inequalities. The benefits of this spending flow to property owners in the form of increased property value or reduced insurance, businesses in the form of government contracts, and the general public in the form of reduced risk. Large portions of the population do not experience the direct financial benefits of adaptation investments, including renters, businesses that do not receive government contracts, and historically marginalized groups who pay taxes but are more likely to be displaced by large infrastructure projects and buyouts. This session opens up a space to ask, how can we democratize ownership of adaptation so everyone benefits? It invites participants to dream about new solutions and schemes that enable all community members to benefit economically from financial investments in adaptation.

Presenter:

- Galen Treuer, Miami-Dade County

Fostering Meaningful Cross-Sectoral Exchange for Adaptation Practitioners *(Essex A-C)*

Adaptation to climate change and its impacts is one of today's most critical societal challenges. The practice of community-based adaptation engages practitioners from diverse sectors and disciplines, contributing to a nascent and growing body of knowledge and experience. Thus, an increasingly important part of adaptation practice is the documentation, examination, and evolution of practitioner thinking. It is crucial that lessons learned, personal stories, best practices but also malpractices are shared widely between practitioners and citizens engaged in adaptation work. Meaningful exchange is a key component of collective capacity building, which ultimately leads to adaptation solutions and practices which help to adapt our social and natural systems in an equitable, inclusive and just way. This session seeks to explore and collaboratively reflect on effective, inclusive, just and impactful strategies that enable knowledge exchange through virtual formats, in support of practitioners from all disciplines and sectors working on climate adaptation at the community level. Beginning with a brief presentation on models of knowledge exchange to ground the discussion, we will prompt participants to reflect on personal experience in small groups and then reconvene to share findings and outline best practices for knowledge exchange that contributes to professional and personal development and ultimately can lead to better community adaptation outcomes (more inclusive, equitable, forward looking programs, processes, and projects). The

goal is to better understand what experiences, stories, and ways of knowledge exchange have led to sustained exchange and engagement, higher and meaningful impacts, more transformative action and personal development of adaptation practitioners.

Presenters:

- Justine Shapiro-Kline, One Architecture & Urbanism
- Sebastian Malter, CDM Smith
- Yilin Lai, Montgomery County Planning Department
- Joyce Coffee, Climate Resilience Consulting

Re-imagining Service in Public Service: How Internal State Partnerships Can Help Accelerate Local Action

(Harborside Ballroom A)

Over the last three years, a small team of women at the State of Colorado led a theory of change to empower any state employee working on climate to build cross-sectoral relationships and an interagency vision. With a simple, early objective to share and centralize climate resources and unite disconnected staff with a web of support not provided by traditional agency structures, this collaboration effort grew into a highly effective and agile team of 60+ staff from 15+ agencies – all with the central value to better aid local government leaders with the support they need to accelerate climate action in their communities. We quickly learned that, even in a climate-progressive state, many in authority positions are still resistant to new paradigms of collaboration and partnership. If those in public service ask communities what their barriers and roadblocks are to action, we must be willing to go beyond historic governance structures and close those gaps, service those bottlenecks, and build capacity where capacity is needed.

This Solution Room session will invite local and state public servants to reimagine how we can better support one another as individuals and teams united under a collective vision of resilient communities. Mitigation and adaptation require fundamental changes to our social landscapes, systems, and behavior. This is a time for interdisciplinary teaming and deep democracy. Where are our own structures holding us back?

Presenter:

- Megan Holcomb, ourplanet.app

Integrating Equity into Climate Resilience Decision-Making for Infrastructure *(Harborside Ballroom B)* ★

In recent years, equity has been emphasized during climate adaptation infrastructure investment decisions due to changes to federal policies and programs, as well as, thought leadership and practice. However, there is still much to learn and grow in centering equity when planning and designing infrastructure (transportation, utilities, and other critical facilities). And, infrastructure agencies contend with how to effectively make equitable infrastructure adaptation investments through effective decision-making processes.

The presenters will begin this solutions room using example infrastructure adaptation projects that aimed to integrate equity, including: 1) Complete Streets/Multi-modal Street design, considering the risk of market and climate induced gentrification; 2) Developing Resilient Facility Design Criteria for a Transit Authority. Then, the

solutions room participants will break-out into facilitated discussion “How should equity be integrated into climate adaptation investment decision-making for infrastructure systems?”

Facilitated group discussions with a design-thinking approach will explore the barriers to integrating equity, and the potential strategies that can impact effective change within agencies overseeing planning and design of infrastructure. This solution room session aims to investigate with participants the current state of practice through an equity lens and identify potential solutions together. Anyone interested in equity and infrastructure—engineers, planners, equity, and resilience practitioners—are invited to participate. Together, we will explore and advance equity in infrastructure thought leadership and practice.

Presenters:

- Allie Reilly, WSP USA
- Juan Carlos Lam, WSP USA
- Catherine Prince, WSP USA
- Naomi Batzer, WSP USA

Creating Broader Understanding of Challenges and Opportunities for Increasing Adaptation in Climate-Impacted Communities: a Conversation with Local Leaders on the Frontlines of Climate Impacts *(Laurel AB)* ★

In this Solutions Room, we bring together the voices, ideas, and solutions from leaders in local communities on the frontlines of climate change impacts and adaptation across the United States and its territories. Community leaders will discuss their communities’ pressing challenges in building resilience in their communities, how effective the role of public and private actors has been, and the role of existing funding opportunities and policies in promoting or hampering adaptation action. They will also provide recommendations on the most important actions that public and private actors should take to aid local communities’ efforts to increase adaptation and build resilience.

By bringing impacted communities together we aim to create broader understanding of the unique and common challenges and opportunities to better build resilience in frontline communities, support community efforts to obtain funding and other adaptation resources, and ultimately use the information to improve advocacy and access to adaptation resources in the public and private sectors.

Presenters:

- Juan Declet-Barreto, Union of Concerned Scientists
- Astrid Caldas, Union of Concerned Scientists
- Tania Rosario Méndez, Taller Salud
- Eva Olivas, Phoenix Revitalization Corporation Lanor Curole, United Houma Nation
- Rev. Leo Woodberry, New Alpha Community Development Corporation
- Hilton Kelley, Community in- Power and Development Association Incorporated (CIDA, Inc.)

Climate Projections for Stormwater and Wastewater Resilience Planning *(Laurel CD)*

Climate change impacts such as flooding due to extreme precipitation events are increasingly affecting wastewater and stormwater utility infrastructure, operations, and customers throughout the United

States. We want to brainstorm solutions to address the fundamental gap between climate change modeling (and scientific understanding of how extreme storms will change under a warming climate), and how this information is and could be applied among utility service providers. What climate projections should a utility consider when conducting long-range planning or evaluating future level of service goals? How can utilities, governments, and other stakeholders overcome barriers such as: the lack of clear policies or guidance, uncertainties in using future condition products, funding scarcity, and more? This session builds on a highly collaborative effort led by the Water Utility Climate Alliance in partnership with Pathways Climate Institute, to understand best practices and lessons learned for utilities adapting to extreme events and planning for future climate change. The conference coincides with the conclusion of the first stage of research, providing a foundation for an active discussion. This solutions room will benefit from participants interested in combining best practices from peer agencies, and contributing additional perspectives, with an eye towards a unified resilience approach. Collaborative development of solutions is crucial for utility providers serving their communities, and for the individuals and communities nationwide relying on them. No two utilities are the same, just as no two communities are identical, but we can learn from one another. The time is now to learn, plan, and act!

Presenters:

- Kris May, Pathways Climate Institute
- Julia Rockwell, Philadelphia Water Department
- Alan Cohn, Integrated Water Management, New York City
- Juliette Hart, Pathways Climate Institute
- Mike Mak, Pathways Climate Institute
- Yanna Badet, Pathways Climate Institute
- Daisy Ramirez Lopez, Pathways Climate Institute
- Katie Riles, Pathways Climate Institute
- Lindsay Luchinsky, Pathways Climate Institute

Rural Resilience Matters! Overcome Obstacles, Accelerate and Scale-Up *(Kent A-C)*

The Resilient Rural America Project (RRAP) invites climate professionals and the rural leaders they serve to explore how to accelerate rural resilience to extreme weather. Learn about RRAP resources and guide the race against escalating storms, floods, and fires devastating rural lands and waters. Building climate resilience in rural America is a critical goal. Every rural location is upstream of an urban community that depends on rural natural resources for air, water, food, and fiber. Rural resilience also needs a different approach for underserved rural and tribal communities facing sprawl, low capacity, and cultural resistance. This session introduces two RRAP training modules designed to address rural extreme weather risks. The focus is on pathways to large landscape resilience for forests, farms, ranches, watersheds, and small communities. Module 1 guides integration of resilience into updating rural comprehensive plans. Module 2 supports action steps for rural flood mitigation using resilient land use strategies. After brief module reviews, a facilitated discussion explores how to maximize the spread of rural resilience widely across at-risk rural lands and waters to head-off extreme weather impacts. Climate practitioners will expand their

tools to facilitate rural adaptation. Participants will understand the roles and constraints of Cathy County Commissioner, Frank Floodplain Manager, Ellen Extension-Educator; and more. Questions to explore: 1) How can climate professionals help rural leaders overcome obstacles to rural resilience? 2) How can RRAP facilitated cohort trainings scale-up and accelerate resilient land use practices that benefit rural and urban alike?

Presenter:

- Gwen Griffith, Model Forest Policy Program

Queer and Present Danger: Climate Adaptation for LGBTQIA+ Communities *(Grand Ballroom 9-10)*

This workshop aims to 1) inform adaptation professionals about unique LGBTQIA+ vulnerabilities and risks before, during, and after climate-related disasters and 2) collectively brainstorm actions (small or large) that can be taken in the climate adaptation space to mitigate these risks through an intersectional lens. This event will accomplish three goals:

- Inform adaptation professionals about unique impacts on LGBTQIA+ communities from climate-related disasters
- Identify potential adaptation measures that without LGBTQIA+ inclusion could further harm rather than help the population
- Brainstorm how adaptation professionals can incorporate sexual orientation and gender identity considerations within their programs, tools, or data.

Presenter:

- Leo Goldsmith, ICF/USGCRP

3:30 - 4:00 pm: NOAA Break

Refreshments provided by the National Oceanic and Atmospheric Administration (NOAA)

4:00 - 5:30 pm: Concurrent Sessions 8 *(Symposia)*

Stop Asking Us to Be Resilient: Community Perspectives on the "Resilience" Myth *(Laurel CD)* ★

Among climate planners, "resilience" has become nearly synonymous with "adaptation." Just as the meaning of "equity" has spurred debate and self-reflection across institutions, the goal of resilience also requires scrutiny for how it has been applied – and perhaps taken for granted – by adaptation practitioners.

Resilience may feel like a nebulous and disingenuous goal in communities that are forced to experience cyclical, cumulative, and escalating impacts from climate change, pandemics, and racial violence. In 2021, Ashley Shelton challenged the ways in which the ideals of resilience have become distorted. "Resilience is a short term condition," she wrote. "The idea that resilience is a permanent state is a myth supported by white supremacy. Failing to address structural problems while labeling the people enduring such problems as resilient is gaslighting." (Stop Asking Us to Be Resilient: On Hurricane Ida, COVID-19, and Trauma in Louisiana, *Essence Magazine*).

This session will feature a panel of frontline experts, including Ms. Shelton, who will each deconstruct what “resilience” truly means to their respective communities, representing perspectives that span across cultural backgrounds, generations, and geographic regions. Does “resilience” accurately reflect individual/community goals? What resources are needed to pivot the focus from “resilience” as a stopgap toward more permanent solutions? What should be prioritized during post-disaster recovery to make their communities whole, not just restored? What do their communities need to thrive in steady-state times, between the storms? The session will conclude with a discussion with participants: Are adaptation practitioners asking the right questions? Are we listening?

Presenters:

- Jennifer Li, Harrison Institute for Public Law, Georgetown University Law Center
- Ashley Shelton, Power Coalition for Equity and Justice (Louisiana)
- Dennis Chestnut, Groundwork Anacostia (retired)
- Asti Davis, Deep South Center for Environmental Justice

Urban Parklands as Resilience; a Case Study from South Los Angeles *(Essex A-C)*

The Baldwin Hills Conservancy (BHC) is working with South Los Angeles Transit Empowerment Zone (SLATE-Z), Climate Resolve, Sumire Gant Consulting, and Adam Wheeler Design to develop an inclusive Community Resilience and Access Plan for the Baldwin Hills Parklands. The project objective is for the Parklands to become an innovative community resource and resilience center, with a focus on building climate resilience and increasing access to park benefits for South Los Angeles residents. This project may serve as a model for other urban parks across the country – and show that by investing in nature-based resilience in communities that need it most – we can increase adaptive capacity while yielding other important co-benefits.

In this Symposium, we will feature three presenters who serve as key drivers of the project - Natalie Hernandez, Director of Climate Planning and Resilience at Climate Resolve, Sulma Hernandez, Director of Policy and Partnerships at SLATE-Z, and David McNeill, Executive Officer at the Baldwin Hills Conservancy. Their presentations will focus on three topic areas:

Climate Resolve - Building Resilience in Urban Parks: A Case Study in Los Angeles' Baldwin Hills Parklands SLATE-Z - Designing and Facilitating Community-Based Engagement Processes for Resilience BHC - The Role of Nature Conservancies in Supporting Climate Resilience and Social Equity.

To actively engage participants, we will share strategies, stories, and lessons learned, and run a session-wide Q&A with our panelists to provide individualized feedback to attendees. If time and space allow, we will invite attendees to join facilitated small group discussions about their own experiences.

Presenters:

- Natalie Hernandez, Climate Resolve
- Sulma Hernandez, South Los Angeles Transit Empowerment Zone (SLATE-Z)
- David McNeill, Baldwin Hills Conservancy
- Jonathan Parfrey, Climate Resolve

Climate Equity Indicators - What are They? How do You Develop Them? How Can They Be Woven Into the Process of Sustainable Adaptation? *(Dover A-C)* ★

The increasing focus on centering racial and social equity in climate adaptation has been critical to ensuring that codevelopment of actionable knowledge is truly collaborative; incorporates the vision, voices, and experience of local community members; and ultimately informs the creation of holistic community resilience strategies and actions. Co-developing and analyzing locally relevant equity indicators can (if done well) help elevate the most pressing community needs, build social cohesion, and improve the overall process of working to address social inequities and the vulnerabilities they create. Yet, questions remain. What can and should be an indicator? How are they truly co-developed? How are they best used as part of efforts to break from the historically inequitable systems of power that shape them?

This multi-disciplinary session brings together people and perspectives from municipal sustainability departments (Cincinnati); national equity focused non-profits (I-DIEM and USDN); racial justice leaders (Justice Alchemy- Invited); and adaptation practitioners (Adaptation International) to discuss the philosophy, theory, and practice of informing climate equity indicators work along with the nuts and bolts of effective collaborations. The interactive session will have a variety of audience engagement opportunities from interactive voting to question and answers. The session will highlight examples from across the United States and delve into the still messy but real work of merging equity into adaptation.

Presenters:

- Trevor Even, Adaptation International LLC
- Kristin “Baja” Baja, Urban Sustainability Directors Network
- Chauncia Willis, Institute for Diversity and Inclusion in Emergency Management
- Oliver “Ollie” Kroner, City of Cincinnati
- Carlie Trott, University of Cincinnati

The Role of Boundary Organizations in Addressing Climate Induced Human Mobility and Migration

(Laurel AB) ★

Why do people move or don't move? Where do they move to? Who gets to move? What is the impact of human mobility on communities that send and receive people? How can mobility and migration be used as a strategy to build community resilience? To address these questions and more, boundary organizations such as NOAA's Sea Grant program and the American Society of Adaptation Professionals (ASAP) are working with diverse experts and stakeholders to facilitate knowledge exchange, foster collaboration, and generate solutions to address climate induced human mobility and migration. The purpose of this symposium is to explore ways in which researchers and practitioners can work with boundary organizations to support local communities to proactively manage the impacts of climate induced mobility and migration, and build resilience. Through a facilitated panel discussion, we will engage speakers to create a shared understanding of climate induced human mobility and migration, highlight research/data/policy needs, and explore ways in which researchers and practitioners can

collaborate with boundary organizations to provide assistance and build capacity of local communities to advance their climate resilience efforts. Knowledge generated from this symposium will be synthesized in the form of a summary report that will be shared with all registered participants. We have identified the following speakers to participate in the panel discussion.

Presenters:

- Jenna Jorns, Great Lakes Integrated Sciences and Assessments (GLISA)
- Osamu Kumasaka, Buy-In Community Planning
- Kristin Marcell, Climigration Network
- Mona Behl, University of Georgia
- Rachel Jacobson, American Society of Adaptation Professionals

Scaling Up Resilience Ecosystem Priorities

(Grand Ballroom 9-10)

Open conversations hosted by the Climate Resilience Fund (CRF) and NOAA in recent years have highlighted some of the crucial investments needed to scale up and accelerate climate resilience planning for communities across our nation. During 2021 and 2022, separate teams spelled out tested practices in four of these crucial areas: centering equity in adaptation efforts, producing “funding-ready” resilience plans, advancing nature-based solutions, and establishing guidance for monitoring and evaluating resilience efforts.

We will present results on these topics and establish the need to incorporate them into standardized guidance for climate resilience. We will also introduce the Practitioner’s Guide to Building Resilience, an innovative enhancement to the U.S. Climate Resilience Toolkit that incorporates these results and provides a systematic approach to implementing the Toolkit’s Steps to Resilience.

At this symposium, personnel from NOAA will describe the Climate-Smart Communities Initiative (CSCI), a four-year effort to facilitate resilience planning in up to 300 communities across the United States. The prime awardee of the CSCI competition will describe plans to launch a training program built around the Practitioner’s Guide.

Adaptation professionals contributing to this symposium span multiple organizations and many practical as well as theoretical perspectives. Their work was produced at the request of a broad community of practitioners. As such, the group represents a unique example of cooperation and collaboration, orchestrated through a combination of community interaction and program management by CRF and NOAA’s Climate Program Office.

Presenters:

- Ned Gardiner, NOAA
- John Nordgren, Climate Resilience Fund
- Matt Hutchins, Fernleaf
- Dr. Jennie Hoffman, Adaptation Insight
- Dr. Arsum Pathak, National Wildlife Federation
- Joyce Coffee, Climate Resilience Consulting
- Dr. Abigail Abrash Walton, Antioch University

Ecological Transformations in a Changing Climate

(Harborside Ballroom B)

Disturbance regimes such as fire, drought, and pest outbreaks have shaped ecosystems for millennia. Increases in the frequency and severity of various disturbances due to climate change are triggering ecosystem and community shifts—in some cases, causing full transformation of systems—leading to potential losses in biodiversity, ecosystem services, and cultural values. These shifts require managers and practitioners to reconsider whether technical and financial resources are best deployed for prevention, recovery, or facilitation of ecological transformation. This session will focus on the strategies and tools available to natural resource managers and practitioners to address ecological transformation.

Presentations:

- Responding to Ecosystem Transformation: Resist, Accept, Or Direct?: Laura Thompson, USGS National Climate Adaptation Science Center
- Social Science Is Rad: the Social Factors That Shape Decisions About Transformation: Wylie Carr, National Park Service
- Climate-Informed Restoration in Non-Forest Habitats: Resources for Adaptation, Mitigation, and Biodiversity Goals: Adrienne Keller, Northern Institute of Applied Climate Science
- People Benefitting From Nature: Exploring How Conservation Impacts Local Communities Through a Climate Adaptation Lens: Alison Long, the Nature Conservancy ★
- Making Your Work “Climate-Smart”: Resources and Examples From the Climate Adaptation Fund: Molly Cross, Wildlife Conservation Society

The Many Dimensions of Floodplain Management

(Kent A-C)

Floodplains are complex and dynamic systems with many factors that must be considered in their management. This session will describe new floodplain mapping efforts, policies and frameworks to manage the impacts of flooding, and a new tool to understand and improve resilience against flood events.

Presentations:

- Floodplains for the Future: A National Action Plan to Protect and Restore Floodplains: Eileen Shader, American Rivers
- Water, Water, Everywhere: Insights and Policy Prescriptions for Stormwater Flooding: Anne Herbst, Metropolitan Area Planning Council
- A New Flood Adaptation Framework: Flood Adaptation Hierarchy: Alison Branco, The Nature Conservancy
- A Regional Approach to Flood Resilience: Julie Wood, Charles River Watershed Association

Tribal Perspective on the Challenges and Opportunities in Implementing Adaptation Actions *(Grand Ballroom 7-8)* ★

Climate change has disproportionate impacts on indigenous peoples, and Tribal communities in the US are already facing severe climate impacts and challenges in responding to those impacts. Tribes are bound to particular places due to reservation boundaries and place-based cultures, and this results in greater vulnerability to climate change impacts than the general public. In addition, many Tribal Nations hold traditional knowledge and kincentric relationships with the natural world that can help to advance climate adaptation science and strategies. This symposium seeks to bring a tribal and indigenous perspective on the challenges and opportunities to implementing adaptation actions.

The 1854 Treaty Authority, an inter-Tribal natural resource management agency for the Grand Portage and Bois Forte bands, will describe challenges they are facing in monitoring and adaptively managing natural resources due to altered habitat ranges of walleye, cisco, and moose under climate change, and the cultural impact of climate change on bands who are tied to their ancestral lands. The Pueblo de San Ildefonso will describe their community-focused approach to develop climate resilience actions that preserve and sustain key aspects of their community's life for future generations and describe challenges and opportunities in pursuing various funding opportunities to implement actions. The Navajo Nation will focus on the potential impact of climate change on contaminants, such as uranium, at the nearly 500 orphan abandoned uranium sites across Navajo land.

The ABT team will facilitate, introducing participants and providing space for active participation and learning; encouraging symposium participants to engage with the speakers through brainstorming solutions, and for tribal participants to share their experiences implementing adaptation actions.

Presenters:

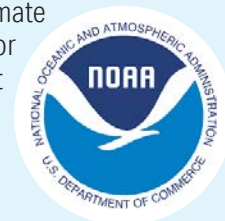
- Heather Hosterman, Abt Associates, Inc.
- Tyler Kaspar, 1854 Treaty Authority
- Raymond Martinez, Pueblo de San Ildefonso

NOAA Symposium #3 - Adaptation Tools and Strategies for Marine Resources and Resource-dependent Communities *(Harborside Ballroom A)*

Climate change is having significant impacts on the nation's valuable marine life, ecosystems and the many businesses, communities and economies that depend on them. Warming oceans, rising seas, extreme events and ocean acidification are expected to increase with continued shifts in the planet's climate system. Changes in ocean physical conditions are driving rapid shifts in the distribution, abundance and function of species and habitats with impacts on coastal communities. There is much at risk - U.S. coastal communities depend on marine resources for economic activity, protection from storms, and/or cultural heritage. For example, U.S. marine fisheries support more than 1.7 million jobs and \$244 billion in economic activity every year. Coastal habitats provide important services including nursery areas for fish and protected species, carbon storage and protection for people and property from storms and flooding. Action is urgently needed to help decision makers prepare for and adapt to changing marine ecosystems. This session will explore the key challenges, strategies and tools to support adaptation of marine resources and the many communities that depend on them. The session will focus on strategies and tools for climate-informed fisheries management, fishing community adaptation and the use of coastal habitats and nature-based solutions to help sequester carbon and protect coastal communities from growing climate stressors. The session is designed for interaction with short presentations to set the stage for questions and discussion.

Organizer:

- Roger Griffis, NOAA National Marine Fisheries Service



5:45 - 7:00 pm: The Story Collider and National Adaptation Forum Event: An Introduction to the Power of Personal Storytelling *(Harborside C-E)*

We invite you to join us for a special National Adaptation Forum & Story Collider event after Tuesday's programming. The Story Collider's (storycollider.org) mission is to reveal the vibrant role that science plays in all of our lives through the art of personal storytelling. This event will explore how storytelling works, why it matters, and how you can get started telling your own stories. For the past twelve years, The Story Collider has been coaching scientists, journalists, comedians, and storytellers from all walks of life to share their true, personal stories about science on stages around the world. Story Collider executive director and cofounder Erin Barker will share an introduction to the storytelling expertise they've developed over the years.





DAY 3: Thursday, October 27

Schedule At-A-Glance

7:00 - 7:45 am: Yoga with Ned

Grand Foyer West

7:00 - 11:30 am: Registration

Third floor registration desk

7:45 - 11:15 am: Speaker Ready Room

Atlantic

7:45 am - 1:00 pm: Exhibits

Grand Ballroom

7:45 - 8:30 am: Coffee and Tea

Grand Foyer West and Harborside Foyer

8:30 - 10:00 am: Concurrent Sessions 9

Symposia

10:00 - 10:15 am: Break

10:15 - 11:15 am: Concurrent Sessions 10

Trainings, Working Groups, Solutions Rooms

11:15 - 11:30 am: Break

11:30 am - 1:00 pm: Concurrent Sessions 11

Symposia

1:00 - 2:30 pm: Optional Field Trip - Baltimore Resiliency Hub

7:00 - 7:45 am: Yoga with Ned

Grand Foyer West

7:00 - 11:30 am: Registration

Third floor registration desk

7:45 - 11:15 am: Speaker Ready Room *Atlantic*

7:45 am - 1:00 pm: Exhibits

Grand Ballroom

7:45 - 8:30 am: Coffee and Tea

Grand Foyer West and Harborside Foyer

8:30 - 10:00 am: Concurrent Sessions 9 *Symposia*

Resilience Metrics - How States Are Quantifying Adaptation Success *(Grand Ballroom 7-8)*

Building off a series of three resilience metrics workshops sponsored by the U.S. Climate Alliance (USCA) last summer, the symposium will describe ongoing work of Minnesota, Colorado and Oregon in developing resilience metrics, and will identify the challenges and potential solutions states are working with to measure, track progress, and guide future adaptation strategies, policies and funding.

The USCA's resilience workshops in May and June 2021 focused on how states may develop and prioritize their resilience metrics. The symposium will also provide key results from the workshop series that include (1) using of resilience priorities to inform metrics development; (2) how to leverage existing metrics; (3) process versus outcome based metrics; and (4) how to center equity when measuring resilience

The symposium would start with Jennifer Phillips, USCA Senior Policy Advisor to review the purpose and summary of the three resilience metrics workshops. Minnesota, Colorado and Oregon will each share their approach to identifying resilience metrics specific to their region. We would then be joined by two scientists nationally known for their work in advancing resilience metrics and climate adaptation (Dr. Melissa Kenney and Dr. Heidi Roop) who will offer insight into how states may best develop a series of resilience metrics that reflect their specific concerns and regional priorities. At least half an hour of the symposium will be set aside so that conference participants may ask questions of symposium panelists.

Presenters:

- Sharon Stephens, Minnesota Pollution Control Agency
- Anne Miller, Colorado Department of Local Affairs
- Chris Shirley, Department of Land Conservation and Development
- Jennifer Phillips, U.S. Climate Alliance
- Melissa Kenney, University of Minnesota - Institute on the Environment
- Heidi Roop, University of Minnesota

Fostering Neighborhood Resilience through Cross-Sectoral Projects *(Grand Ballroom 9-10)*

Resilience hubs are physical spaces that enhance a community's capacity to adapt to climate shocks and to access resources and services year round. In leveraging a community's existing infrastructure, these spaces are trusted assets that fulfill a myriad of programmatic efforts, ranging from disaster preparedness to neighborhood events. By bridging the physical and human infrastructure, hubs can increase a community's social cohesion, thereby building more resilient neighborhoods that are better able to withstand disruptions and chronic stresses.

Through collaborating with community-based organizations to advance resilience-building efforts, nonprofit organizations Resilient Cities Catalyst (RCC) and Climate Resolve are supporting the development of two resilience hub network models-- the Boyle Heights Arts Conservatory in Boyle Heights, Los Angeles and a Resilience Hub in Kashmere Gardens, Houston, respectively. Both projects seek to use the hubs as connective networks of existing community assets and services, and are working with partner organizations to integrate communications between spaces for residents to easily access necessary information before, during, and after emergencies. Drawing on diverse perspectives from each project, this interactive discussion will share: -Tangible examples of how these distinct models are helping to strengthen community cohesion and amplify community voices -the resilience hub model's role in bridging the prevailing gaps between municipal government agencies and respective communities -Applications of the hub in fostering resilience against increasing climate risks -How to co-design hubs in partnership with communities -Challenges encountered in each project, and any lessons learned

Presenters:

- Chase Engelhardt, Climate Resolve
- Huey Wilson, Northeast Houston Redevelopment Council
- Corinne LeTourneau, Resilient Cities Catalyst
- Carmelita Sanchez, Boyle Heights Arts Conservatory
- Jock Gilchrist, JP Morgan Chase

Art As Witness, Art as Transformation *(Laurel CD)* ★

In the face of a rapidly accelerating climate crisis, it is critical that scientists and practitioners effectively cultivate and communicate a clear vision for what a more just, equitable, and transformative future for all could look like. Art and storytelling can serve as a powerful witness to social, environmental, and climate injustices. It can also be a powerful vehicle for resilience, hope, and transformation - by moving from the head to the heart, it can weave a vision that ties us all together. Community ownership is crucial to developing and implementing transformative climate resilience solutions and artists should be collaborators in that process. Art as Witness, Art as Transformation will feature individual short presentations and a moderated discussion to explore how art can help us define a vision for a more just, equitable, and transformative world in our climate resilience planning and implementation work. It will also integrate research and tools on art as a vehicle for transformative change to support practitioners in their work moving forward. Join Art as Witness, Art as Transformation to

understand, learn, and contribute to the conversation on cultivating and communicating a clear vision for a more just, equitable, and transformative future.

Presenters:

- Alex Basaraba, Adaptation International
- Vidya Balasubramanyam, Coastal States Organization
- Nadia Nazar, Zero Hour
- Amir Khadar, Independent Artist

Natural Resource Management *(Harborside Ballroom B)*

The Earth's natural resources - land, water, and wildlife - are vital to our health and well-being. As such, their management under climate change is critical for building resilience. This session will focus on the strategies and tools available to natural resource managers and practitioners to address the management of natural resources in a changing climate.

Presentations:

- Aanii-Bimaadiziimagak O'ow Aki (the World Is Changing): Rob Croll, Great Lakes Indian Fish and Wildlife Commission
- Adaptation Checklist for Climate Smart Natural Resource Management Projects: A Multi-State Approach: Lara Hansen, EcoAdapt
- Building Capacity for Responding to Drought Impacts on Ecosystems: Kimberly Hall, The Nature Conservancy
- Collaborating to Provide Climate Adaptation Guidance for State Wildlife Action Plans: Jacob Blandford, Association of Fish and Wildlife Agencies

Community-First Adaptation Innovations Part 2 *(Kent A-C)*

Collective community adaptation is critical to taking action on climate change. There are several examples of how communities implement transformative solutions. These communities and initiatives serve as working models for other local communities as well as state and federal entities. This session will highlight the ways in which communities have intentionally addressed climate change by taking a unique approach rather than continuing business-as-usual, and how these initiatives could be scaled to other communities and states.

Presentations:

- "Who Stands to Lose the Most?": A Regional Equity-Based Climate Assessment for Greater Boston: Katie Wholey, Arup ★
- North Carolina's Adaptation Journey to Flood Resilience: Michelle Lovejoy, Environmental Defense Fund
- Regional to Local Climate Adaptation Planning in the Baltimore-washington Metropolitan Area: Samantha Heitsch, ICF
- Island Challenges and Opportunities in Community Resilience: Case Study From Kaula`i, Hawai`i: Ruby Pap, University of Hawai`i Sea Grant College Program ★

Inclusive Insurance for Climate Disasters *(Harborside Ballroom A)* ★

The economic shocks from climate-related disasters disproportionately affect low-income households, who often lack access to the savings, credit, or sufficient aid needed to recover post-disaster. Economic resilience for low-income and socially vulnerable households is key to preventing negative financial impacts, with potentially long-term consequences. Insurance is one tool to manage financial risk, but for

many low-income households, insurance is inaccessible, unaffordable, and not structured for their needs. At the same time, the changing frequency and severity of disasters due to climate change is causing private insurers to withdraw from some of the most climate-vulnerable markets. How do we make insurance inclusive and useful for adapting to climate impacts? This symposium panel explores what inclusive insurance for climate adaptation might look like in the U.S. context, the role of the public sector and public-private partnerships, and innovations in insurance product designs.

Presenters:

- Carolyn Kousky, Environmental Defense Fund
- Karina French, Environmental Defense Fund
- Laurie Schoeman, Enterprise
- Jonathan Gonzalez, Raincoat
- Tallant Burley, NYC Mayor's Office of Climate and Environmental Justice

Climate Adaptation and Mitigation Intersection *(Laurel AB)*

Mitigation, the curbing of greenhouse gas emissions (GHG), and adaptation, adjustments made to life in a changing climate, both play vital roles in the fight against climate change. Importantly, adaptation efforts should seek to actively mitigate GHG emissions, so as to not exacerbate the conditions that make adaptation necessary. Presentations in this session will describe projects that both increase our resilience to the impacts of climate change while simultaneously capturing or reducing GHG emissions through technological innovation, conservation, and policy development.

Presentations:

- Contribution of the America's Red Rock Wilderness Act to Climate Change Adaptation and Mitigation Efforts: Laura Hilberg, EcoAdapt
- Breaking Down the Siloed Approach – Where Adaptation and Ghg Reduction Pathways Intersect for Optimal and Equitable Solutions: Deb Harris, ICF ★
- Blue Carbon: A Tool for Adaptation and Mitigation: Zachary Cannizzo, NOAA Office of National Marine Sanctuaries - National Marine Protected Areas Center
- Adapting Historically Variable and Ecotone Grassland Ecosystems for Climate Change in the Northern Great Plains: Marissa Ahlering, the Nature Conservancy
- Driving Climate Resilience in Southern Nevada: Regional Collaboration for Regional Impacts: Kate Galbo, Kim Lundgren Associates, Inc. ★

Uncharted Waters: Using Uncommon Approaches in Adaptation *(Essex A-C)*

Climate change poses unique and unprecedented challenges to human and natural systems, requiring creative and innovative adaptation approaches. This session will highlight case studies or projects that are testing out unusual or out-of-the-box approaches to adaptation, including applying methodologies or tools that are not typically used, pursuing novel funding sources, or establishing unexpected partnerships to solve a particularly challenging problem.

Presentations:

- Leveraging Stormwater Marketplace for Climate Adaptation: Aileen Craig, The Nature Conservancy
- Holding Back the Snowpack: Adaptation to Drought in Rural SW Montana: Pedro Marques, Big Hole Watershed Committee

- Systemic Vulnerability: Cascading Impacts in Los Angeles County: Jessica Ruvinsky, Bellwether Collaboratory
- Amphibious Architecture: an Innovative Strategy for Flood Resilience and Climate Change Adaptation: Elizabeth English, University of Waterloo

10:00 - 10:15 am: Break

10:15 - 11:15 am: Concurrent Sessions 10

(Working Groups, Trainings, Solutions Rooms)

Incorporating the Arts and Stories Into Your Adaptation Practice *(Laurel AB)*

Participants will articulate their adaptation landscape through a facilitated process that will include different forms of artistic expression (eg., sketching, storytelling, writing, journaling, etc). Through this exercise, they will develop a deeper connection with their values and motivations, articulate a personal connection with climate change, and be able to link those connections to non-tangible feelings and emotions via colors or patterns. This session is intended to decolonize traditional ways of perceiving and relating to climate change adaptation. No prior art experience is necessary. Any type of art material can be used. This session is designed to accommodate the most basic materials: pencil, paper, open mind and heart.

Presenters:

- Vidya Balasubramanyam, Coastal States Organization
- Alex Basaraba, Adaptation International

Supporting FEMA's Efforts for Place-Based and Targeted Technical Assistance for Community Resilience

WITHDRAWN

There are many different funding sources currently available for building community resilience, including significant increased funding through the Infrastructure Investment and Jobs Act. While this is an amazing opportunity to infuse mitigation and resilience into all of the investments that will be made and help communities take significant strides in meeting their resilience goals, communities are currently struggling to build the essential capabilities and capacities to advance climate resilience so they can be prepared to access these funds and resources.

The Federal Emergency Management Agency (FEMA) is working to build community capability and capacity for climate adaptation and resilience, including supporting disadvantaged and underserved communities that are most vulnerable to the impacts of climate change. FEMA's efforts include targeted technical assistance, supporting capability- and capacity-building, leveraging partnerships, and outreach and engagement to communities.

In this session, FEMA will begin by providing an overview of their strategies and efforts to provide place-based and targeted technical assistance to communities. This will include a discussion of how equity considerations are being incorporated to reach disadvantaged and underserved communities.

Following this overview, FEMA will solicit feedback from participants on how to improve technical assistance and best support communities as they work to address climate adaptation. This information will be used to help FEMA as they continue to build community capacity across their programs, including developing and improving place-based and targeted technical assistance for community resilience.

Presenter:

- Kirsten Roth, FEMA

Equity-First Approach to Climate Adaptation

(Harborside Ballroom A) ★

In 2020, a Regional Adaptation Needs Assessment (NA) was conducted by the San Diego Association of Governments (SANDAG) and the San Diego Regional Climate Collaborative (SDRCC), which concluded San Diego practitioners need continued guidance and accessibility to best climate adaptation planning practices, particularly how to approach an economic assessment and integrate equity. As a result, SANDAG initiated the Holistic Implementation of Adaptation and Transportation Resilience Strategies (HIATRS) to measure the existing status of equity and economic considerations in local adaptation planning. Based on the NA, SDRCC developed an Equity-First Approach to Climate Adaptation guidance document and a curriculum-based framework that trains practitioners to apply equitable climate adaptation. The Guidance synthesizes latest academic literature, equity-focused climate reports, and regional/national adaptation reports providing high-level guidance for practitioners to engage communities, identify inequities related to climate impacts, and advance equitable adaptation initiatives. The document provides best-practices for planning and implementing equitable adaptation strategies. Equity is not an add on, but a fundamental part of building a climate adapted future.

This training session will be led by Darbi Berry, Director of SDRCC and Dr. Nichole Wissman, Assistant Professor of Management at the University of San Diego. Berry and Wissman will provide an overview of the Equity-Guidance, how the document was developed then facilitate an interactive training of one of the modules from the document's curriculum. Intended learning outcomes from this training include: identify and execute equitable implementation opportunities and utilize emerging practices by identifying trends, assumptions and indicators of successful equity-first climate adaptation approaches.

Presenters:

- Darbi Berry, the San Diego Regional Climate Collaborative
- Nichole Wissman, University of San Diego

Accelerating the Acceptance of Natural and Nature-Based Solutions for Adaptation — White Paper Development - Part II of II *(Harborside Ballroom B)*

Part II of the Accelerating the Acceptance of NNBS series is designed to allow what participants of Part I have learned, as well as their own experiences, to generate actionable next steps to build greater acceptance of NNBS for climate adaptation. The session will begin with a panel "re-cap" of issues presented during Part I, and brief discussions about additional examples of positive experiences (Mastic Beach Marsh Migration, Town of Brookhaven, e.g., Long Island, NY, RI marsh

restoration) and challenges (e.g., New Jersey Back Bays program/ Resilient LBI planning project). Working Group facilitators will then lead participants through break-out discussions with to generate ideas for how to overcome described challenges. Ideas generated at each table will be recorded and the audience will be reassembled for a group discussion aimed at the development of a white paper on policy, education, and regulatory changes required to accelerate the acceptance of NBS and innovative adaptation approaches. The white paper will ultimately be shared with participants for further commentary if authors agree, the white paper will then submit to several relevant organizations including those represented in the Symposium (USACE), and the American Planning Association, Association of Climate Change Officers, American Society of Civil Engineers, and the American Society of Landscape Architects, and the Ecological Society of America.

Presenters:

- Burton Suedel, USACE Engineering with Nature
- Josh Human, FEMA
- Randy Mandel, Ramboll
- Julie Conroy, AICP, Conroy Environmental
- Diane Mas, Fuss & O'Neill, Inc.
- Sara Morrison, MLA, WEDG, Fuss & O'Neill, Inc.
- Sarah Watling, FEMA
- Bhaskar Subramanian, NOAA, Climate Program Office - Adaptation Science

Be a Better Adaptation Practitioner with Behavior Change Skills *(Kent A-C)*

Climate adaptation efforts are often missing one key ingredient: behavior change. Yet human behavior and cognitive biases underlie the drivers of climate change and are critical to the success of our response (APA, 2009). The goal of this engaging and interactive training session is to help practitioners improve their adaptation projects by learning how to incorporate behavior change into their work. Specifically, adaptation practitioners will learn how to identify behavioral barriers to the institutional, political, and societal changes needed for climate adaptation. They will understand how to strengthen climate coping responses by reducing fear of change and eco-anxiety (Clayton, 2020), and how to overcome cognitive biases such as motivated reasoning, present bias, and future discounting to increase support of adaptation measures. They will learn how to apply messaging techniques to reach selective or broad audiences, and how to create productive stakeholder engagement. They will learn how to increase response efficacy and problem-solving abilities in youth through civic action, pairing youth with educators and community leaders.

This workshop is designed for any climate adaptation practitioner, educator, or student who wants to apply behavior change to their work. The trans-disciplinary and inter-disciplinary workshop format includes talks from three presenters, small-group exercises, and facilitated discussion. Case studies demonstrate the impact of each behavioral tool; group exercises and discussion give attendees the chance to practice what they learn. Expected outcomes are increased understanding of how to apply behavior change skills to adaptation efforts and increased awareness of the resources available to bolster those skills.

Presenters:

- Caroly Shumway, Center for Behavior and Climate
- Thomas Doherty, Sustainable Self
- Vince Meldrum, EarthForce

Planning for the Future: Best Practices for Using Climate Projections in Adaptation Planning *(Grand Ballroom 7-8)*

Effective climate adaptation planning often requires the use of model-based future climate projections to make well-founded management decisions, but many practitioners struggle with balancing the choice of the most useful information for a particular application and the need to have a scientifically robust set of projections.

This training will walk attendees through the process of selecting and interpreting climate projections to make a climate-informed decision for a real-world management challenge. Our team will facilitate small breakout groups and highlight the strengths and weaknesses of climate projections as groups come to a final decision on the challenge. Attendees will leave the training feeling more confident in their understanding of climate projections and the resources available to help them include this type of information in their future planning efforts.

Presenters:

- Derek Rosendahl, South Central Climate Adaptation Science Center
- Emma Kuster, South Central Climate Adaptation Science Center
- Jenifer Henslee-Peck, South Central Climate Adaptation Science Center
- Renee McPherson, South Central Climate Adaptation Science Center

Promoting Innovation and Creativity in Climate Adaptation *(Essex A-C)*

Biodiversity and ecosystems are changing at an accelerating pace in response to climate change, reducing the effectiveness of many long-standing conservation approaches. Although natural resource managers increasingly are adopting climate adaptation as a framework, adaptation and resilience measures being proposed and implemented are often incremental in nature and mostly repurpose existing techniques and practices. Addressing the challenge of swiftly transforming ecosystems will require far more creativity and innovation than current norms. Join us for a workgroup session focused on promoting innovation and creativity for biodiversity and ecosystem adaptation under climate change. This session seeks engagement with conference attendees in an ongoing National Wildlife Federation/U.S. Geological Survey project on innovation in adaptation. The session provides participants with opportunity to suggest and highlight examples of innovative adaptation approaches and projects for inclusion in a library of case studies. "Innovation" can include truly new and novel approaches, transfer of new techniques from other sectors or regions, as well as new applications drawing on local or indigenous knowledge. Participants will also help identify enabling conditions and best practices for crafting innovative adaptation strategies and techniques, and for overcoming barriers to implementation. Finally, participants will have the opportunity to offer input on frameworks for evaluating the benefits, risks, and outcomes of adaptation options that are outside historical practice. Although this session and broader

project are focused on biodiversity and ecosystem adaptation, the findings and published outputs should have broad relevance for other sectors, including design and application of nature-based solutions in community adaptation.

Presenters:

- Bruce Stein, National Wildlife Federation
- Stephen Jackson, U.S. Geological Survey
- Janet Cushing, U.S. Geological Survey

11:15 - 11:30 am: Break

11:30 am - 1:00 pm: Concurrent Sessions 11 *(Symposia)*

Adaptation Alliances: Connecting Climate Networks to Drive Change *(Kent A-C)*

This session is devoted to peer learning and partnership-building across climate adaptation networks and collaboratives. Impactful and effective climate adaptation requires cross-sectoral collaboration. At the same time, climate change is incredibly urgent and we don't have time to reinvent the wheel with every new initiative. Because of this, it's essential to work together to have any hope of responding quickly enough to climate impacts. Climate adaptation networks provide much needed space to build trusted relationships among practitioners, foster knowledge exchange, and build on each other's work.

The goals of this session are to: increase awareness and understanding about existing adaptation networks, share resources for network managers and enthusiasts, provide space for relationship building and connecting across networks, and brainstorm about future collaborations. We will set the stage with four short (4-8 minute) presentations by leaders of some of the major "networks of networks" in our country: the ASAP Network of Networks Group, Regional Collaboratives Forum, the Department of Interior Climate Adaptation Science Centers, the Department of Agriculture Climate Hubs, and the NOAA Regional Integrated Sciences and Assessments. The bulk of the session will be dedicated to a facilitated small-group discussion and networking activity to reflect on shared goals and experiences. Discussion topics will include strengthening justice and equity in networks and how to better coordinate across networks, with additional options such as messaging and communicating the value of networks. At the end of the session, participants will walk away with new knowledge about networks, ideas for their own adaptation practice, and potential future collaborators.

Presenters:

- Melissa Ocana, University of Massachusetts Extension
- Annie Bennett, Georgetown Climate Center
- Janet Cushing, National Climate Adaptation Science Center, USGS
- Sean Bath, Regional Integrated Sciences and Assessments (RISA), NOAA
- Amanda Leinberger, Center for Climate Adaptation Science and Solutions, University of Arizona

Climate Ready America – Adaptation and Mitigation Services for All Communities *(Grand Ballroom 9-10)* ★

Climate adaptation and mitigation efforts are underway in all fifty states.

In the absence of climate leadership from the Trump Administration, state governments, academic institutions, and nonprofit organizations have stepped forward and worked with federal agencies to directly support communities.

Achieving the climate outcomes needed by 2030 requires that these diverse state level efforts be brought together in a nationwide, scalable, effective, and equitable system that supports community-based climate adaptation and mitigation efforts. But there is not currently a clear or established national infrastructure to align these efforts, attract investment, and leverage emerging tools and resources.

Climate Ready America is such an infrastructure. Built on the 10 guiding principles ([a-Call-for-a-Nationwide-System-of-Climate-Services.pdf](#) ([geosinstitute.org](#)) for climate services developed in collaboration with adaptation leaders, the Climate Ready America framework aims to strengthen organizations working in states, fill existing gaps in services, and connect communities to the resources they need.

This system will bring together myriad capacities, including training, financing, technical support, and service programs to ensure that all communities, regardless of location, size, or wealth, can access the help they need to build climate resilience in ways that are socially equitable and ecologically sound.

This session will convene several organizations involved in the climate services field that are engaging with the Climate Ready America effort. Presenters will share perspectives on climate service needs and opportunities, details about this climate services model, expansion plans for all fifty states, and how climate organizations and practitioners can get involved.

Attendees will have an opportunity to share their climate service needs and offer feedback about how such a system can best serve their communities.

Presenters:

- Tonya Graham, Geos Institute
- Jenn Phillips, US Climate Alliance
- David Kay, National Extension Climate Initiative
- Michael McCormick, Farallon Strategies

Beyond the Vulnerability Assessment: Experiences of Local Governments in the Southeast Using the Steps to Resilience *(Harborside Ballroom A)*

This panel includes representatives from six local governments across the Southeast who have completed a vulnerability assessment or resilience plan using the U.S. Climate Resilience Toolkit (CRT) Steps to Resilience framework. The panelists will speak about identifying actions, prioritizing, and taking action (Steps 3-5 in the Steps to Resilience). Panelists will share approaches and lessons learned in the ongoing implementation of their resilience programs. The panelists will address four needs identified during user research of the CRT, such as building capacity for implementation, advancing equity and climate justice,

supporting municipal planning efforts, and aligning with regions and states. Organized by Fernleaf and UNC Asheville's NEMAC, experiences shared are relevant to local and regional government practitioners and professionals supporting them.

Kiera Bulan, Sustainability Program Manager, City of Asheville, NC will share the City's Climate Justice Initiative and Municipal Climate Action Plan to help identify and prioritize actions for building resilience.

Natalie Freundberg, Resilience & Sustainability Analyst, Palm Beach County, FL will share experiences leading the Southeast Palm Beach County Coastal Resilience Partnership and aligning local work with the statewide Resilient Florida program.

Mary Roderick, Regional Planner, Land of Sky Regional Council, NC will share a Regional Resilience Assessment being used to support jurisdictions across five counties.

Matt Schelly, Interim Development Services Director, City of New Bern, NC will share a fantastic grant critical to implementation of the City's Resiliency and Hazard Mitigation Plan.

Beth Schrader, Director, State Energy Office, NC DEQ will share work at the State of North Carolina on community and energy resilience.

Dale Morris, Chief Resilience Officer, City of Charleston, SC will share progress driven by the City's All Hazards Vulnerability Assessment

Presenters:

- Aashka Patel, Fernleaf
- Karin Rogers, UNC Asheville's NEMAC
- Matt Hutchins, Fernleaf
- Kiera Bulan, City of Asheville, NC
- Mary Roderick, Land of Sky Regional Council, NC
- Beth Shrader, State Energy Office of NC, NC DEQ
- Matt Schelly, City of New Bern, NC
- Natalie Freundberg, Palm Beach County, FL
- Rebecca Harvey, Boynton Beach, FL
- Dale Morris, City of Charleston, SC

Nature-Based Climate Solutions Initiative: Creating Community-Based, Equity-Centered Partnerships to Deliver Natural Climate Solutions *(Harborside Ballroom B)*

The Nature-based Climate Solutions (NCS, visit [nature based climate solutions](#)) is building a movement among local governments, community partners and national supporters to deliver climate sustainability and justice using innovative tools, research, and collaboration. NCS collaborators are accelerating implementation of natural climate solutions that simultaneously sequester carbon and create more equitable, vibrant, and resilient communities--regenerative practices including urban forestry, organic waste-to-compost, local agriculture, green stormwater infrastructure, and bionenergy + biochar. This symposium will highlight NCS's work with 10 pilot cities and a learning group of more than 50 cities and counties in the Urban Sustainability Directors Network (USDN) to quantify measurable benefits of cooler neighborhoods, access to healthier more nutrient dense food, capture and management of intense rainfall, and the economic opportunities that flow from building this ecosystem services/green infrastructure

sector. Speakers will explore their experience co-creating community-based, equity-centered approaches to natural climate solutions. This includes using community-based science to build community understanding and commitment and using data-driven approaches to assess risk and opportunity. Local partners from Cleveland and Boulder will highlight using green infrastructure to protect communities from increasing disruptions through urban forestry, agriculture, and parks and natural areas. NCS leaders will review guidance and tools for local government and community partners to spur nature-based community development and transform urban landscapes. Symposium participants will leave with case studies of engaging community with nature, resources and tools available to local government and community-based partners, and examples of building community support for local climate action.

Presenters:

- Brendan Shane, Trust for Public Land
- Sean Terry, Trust for Public Land
- Marc White, Rid-All Green Partnership
- Ellena Ignacio, Nature-based Climate Solutions
- Jeremy Hoffman, Science Museum of Virginia
- Brett KenCairn, City of Boulder

Climate Displacement, Managed Retreat, and Relocation (*Grand Ballroom 7-8*)

Climate change is playing a bigger role in determining where and how we live, and increasingly displacing individuals, families, and communities. The improvements made to communities to help them adapt to climate change and mitigate its causes may, in some cases, exacerbate existing social and economic inequities and lead to displacement, retreat, and relocation. In addition, natural and societal stressors linked to climate change are shifting the way we build, plan for, and live in our communities. This session will focus on strategies, tools, and research that address climate-related displacement, retreat, and relocation as well as the roles individuals, communities, governments, and nongovernmental actors play in these events.

Presentations:

- Case Studies of Indigenous-Led Climate Displacement Response in the Absence of a Federal Policy in Canada: Sarah Kamal, Fraser Canyon Emergency Services Society/Kanaka Bar Indian Band
- What Drives Urban Coastal Residents to Consider Relocation? Insights from the U.S. East Coast Flood-Prone Areas: Anamaria Bukvic, Virginia Tech
- Building Capacity to Receive: How Four Communities in the U.S. are Preparing for Climate Driven in-Migration: Fern Hickey, University of North Carolina at Chapel Hill
- Timelines and Thresholds: Starting Tough Conversations with Communities to Enable Better Investments: Stephanie Dalke, University of Maryland Environmental Finance Center

Making Climate Science Usable and Useful (*Laurel AB*)

Making climate-informed decisions requires access to relevant, credible, and legitimate climate information. Access includes the ability to identify, obtain, understand, and apply climate science in decision-making. This session will focus on the variety of tools, technologies, and approaches to climate data translation and how they are most effectively being used.

Presentations:

- Timing Is Everything: Developing and Sharing Information On Changing Seasons: Alyssa Rosemartin, USA National Phenology Network
- Data From The Drain: Community-Focused Analysis and Communication of Chronic Coastal Flooding Events: Thomas Thelen, North Carolina State University, Department of Civil, Construction, and Environmental Engineering
- USDA Climate Hubs: Translating Climate Science Into Action On Natural and Workinglands: Julian Reyes, USDA Office of the Chief Economist
- A Parcel-Scale Quantitative Sea Level Rise Vulnerability Analysis For Puget Sound, Washington State: Ian Miller, Washington Sea Grant

Green and Gray Flooding Solutions (*Laurel CD*)

When it comes to flooding, there is no one-size-fits all solution. Specific stakeholder, budgetary, geographic, and cultural considerations must be taken into account for each project. This session will highlight four approaches to flooding resilience, including both green and gray solutions.

Presentations:

- Green Infrastructure Design and Best Practices Toolkit: Bill Schleizer, Delta Institute
- The Pocasset River Plan: Hybrid Design Approaches For A Resilient Urban Watershed: Sara Morrison, MLA, WEDG, Fuss & O'Neill
- Shaping A City-Community Vision For Climate Resilience In Lower Manhattan: Amina Rahill-Marier, Arcadis
- An Adaptation Design Success Story In A Historic Urban Neighborhood: Mujde Erten-Unal, Old Dominion University, Civil and Environmental Engineering Department

Diverse Communication Approaches to Reach Diverse Audiences (*Essex A-C*)

Applied science is meant to be used. And yet scientists and users (like refuge and forest managers) often operate independently from each other - working in different institutions, using different jargon, and relying on different tools. For science to reach more diverse and inclusive audiences, science communication efforts must evolve to meet people where they are. In this session, speakers will discuss the creative ways they build connections between scientists and non-scientific audiences. Some develop innovative communication products, using stories, data, visuals, and more to foster engagement with unique audiences. Others use data-driven approaches to revolutionize the user experience for tools audiences already rely on. Altogether, this session will ask how far communication efforts can go to make science useful and usable for the people who most need it.

Presenters:

- Jordan Bush, USGS National Climate Adaptation Science Center
- Robert Bolton, University of Alaska Fairbanks
- Jessie Young-Robertson, University of Alaska Fairbanks
- Sara Smith, Midwest Climate Adaptation Science Center
- Christina Stone, U.S. Fish and Wildlife Service
- Steph Courtney, United South and Eastern Tribes

1:00 - 2:30 pm: Optional Field Trip - Baltimore Community Resiliency Hub Site Visit

Come visit and learn from Stillmeadow Community Fellowship, one of Baltimore's amazing Community Resiliency Hub partners. While serving as a community anchor and advocate for change in the aftermath of a devastating flood in 2018, Stillmeadow has become a pillar of resilience for their Southwest Baltimore community. Hand-in-hand with numerous City, State, Federal, and community partners, and with a vision toward cultivating resilience in as many ways as possible over the last 4 years, Stillmeadow now has solar power + battery back-up capabilities, energy efficiency upgrades, emergency preparedness equipment, cisterns and rain barrels for stormwater capture, enhanced broadband and communications networks, an adult and youth learning center, a native tree nursery, pollinator gardens, and a honey-producing apiary. They are currently in the process of restoring their 10-acres of land to become a PeacePark that supports youth environmental education, meditative healing, stormwater capture, and a healthy native ecosystem

Address: 5110 Frederick Avenue, Baltimore, MD 21229

Transportation: The Forum will not provide organized transportation to this field trip. Attendees are encouraged to meet outside of the third floor registration desk after programming ends for the day and carpool to the location.

Special Tracks

Special Track: NOAA at NAF: Discussing the Science, Services, People, & Partnerships Needed to Build a Climate-Ready Nation



Americans in every region and economic sector are touched by some aspect of NOAA's mission, whether it's checking the daily weather forecast, purchasing healthy, sustainable seafood — guided by NOAA's world-class fisheries management — or enjoying pristine waters and lands protected for the benefit of current and future generations. At the same time, faced with a looming climate crisis, NOAA is meeting the moment in engaging with communities and businesses to get vital weather, water, and climate information and data into their hands to reduce the impacts of climate change. At the 2022 National Adaptation Forum, NOAA is pleased to participate in over a dozen sessions in which we will summarize our ongoing efforts, working together with our partners, to build a Climate-Ready Nation. Visit NOAA's Exhibit Booth at NAF to learn more and share your feedback.

Tuesday, October 25

Concurrent Session 2 (Trainings) - 2:30 - 3:30 pm

- Self and Community Care for Adaptation Professionals: A Training in Adaptive Mind Skills (*Grand Ballroom 7-8*)

Concurrent Session 3 (Symposia) - 4:00 - 5:30 pm

- Empowering Young People In Climate Adaptation and Resilience (*Kent A-C*)
- The Adaptive Mind Project: Preparing for the Gathering Storm of Convergent Crises (*Grand Ballroom 7-8; Climate Trauma and Healing Session*)

Wednesday, October 26

Concurrent Sessions 4 (Symposia) - 8:30 - 10:00 am

- NOAA Symposium #1: Filling in the Gaps: How Updated Federal Sea Level Rise Projections Support Decision Making for All Coastal Communities (*Harborside Ballroom A*)

Concurrent Sessions 5 (Working Groups) - 10:15 - 11:15 am

- Co-Development of A U.S. Earth Observation Enterprise Engagement Strategy with Tribal Nations for Addressing Climate Change (*Grand Ballroom 7-8*)
- Methods for Valuing Boundary Work in Climate Adaptation (*Essex A-C*)

Concurrent Sessions 6 (Symposia) - 11:30 am - 1:00 pm

- NOAA Symposium #2: Federal Resources, Data, & Engagement Networks to Help the Nation Build Back Better (*Harborside Ballroom A*)
- Bridging The Bridges: Opportunities Between Federal Boundary Spanners (*Laurel AB*)
- Connecting Biodiversity and Climate Adaptation Through Resilient Marine & Coastal Areas (*Laurel CD*)

Concurrent Sessions 8 (Symposia) - 4:00 - 5:30 pm

- NOAA Symposium #3 - Adaptation Tools and Strategies for Marine Resources and Resource-dependent Communities (*Harborside Ballroom A*)
- Scaling Up Resilience Ecosystem Priorities (*Grand Ballroom 9-10*)

Thursday, October 27

Concurrent Sessions 9 (Symposia) - 8:30 - 10:00 am

- Blue Carbon: A Tool For Adaptation and Mitigation (*Laurel AB; Climate Adaptation and Mitigation Intersection Session*)

Concurrent Session 11 (Symposia) - 11:30 am - 1:00 pm

- Adaptation Alliances: Connecting Climate Networks To Drive Change (*Kent A-C*)

Special Track: Natural Resources

The Earth's natural resources - land, water, and wildlife - are vital to our health and well-being. As such, their management under climate change is critical for building resilience. This track features sessions on natural resources, ecosystems, and nature-based solutions. This track is not an exhaustive list of sessions on these topics - we encourage you to explore sessions beyond this track!

Tuesday, October 25

Concurrent Sessions 1 (Symposia) - 11:30 am - 1:00 pm

- Approaches to Co-producing Science for Natural Resource Adaptation (*Essex A-C*)
- Commission for Environmental Cooperation Special Session: North American collaboration for climate adaptation (*Laurel AB*)

Concurrent Session 2 (Trainings) - 2:30 - 3:30 pm

- Ecosystem Adaptation - A Quick Guide to Getting Started (*Harborside Ballroom B*)

Concurrent Session 3 (Symposia) - 4:00 - 5:30 pm

- Nature-Based Solutions (*Harborside Ballroom B*)

CAKE Tools Café - 5:30 - 8:00 pm

- Building The Business Case For Nature-Based Solutions: Introducing The NBS Benefits Explorer Tool
- The Southeast Conservation Blueprint
- Climate Change Tree and Bird Atlas

Poster Session - 5:30 - 8:00 pm

- See "Biodiversity, Ecosystems, & Natural Resources" section
- See "Nature-Based Solutions" section

Wednesday, October 26

Concurrent Sessions 4 (Symposia) - 8:30 - 10:00 am

- Innovative Communications to Improve Natural Resource Adaptation to Climate Change (*Harborside Ballroom B*)
- Dibaginjigaadeg Anishinaabe Ezhitwaad: Lessons from the Tribal Climate Adaptation Menu (*Essex A-C*)

Concurrent Sessions 5 (Working Groups) - 10:15 - 11:15 am

- Co-development of a U.S. Earth observation enterprise engagement strategy with tribal nations for addressing climate change (*Grand Ballroom 7-8*)
- Fostering collaboration among conservation organizations to deal more efficiently and effectively with the challenges of climate change (*Harborside Ballroom B*)

Concurrent Sessions 6 (Symposia) - 11:30 am - 1:00 pm

- Climate Impacts and Adaptation Strategies for Marine and Coastal Resources (*Laurel CD*)
- Status of Tribes and Climate Change (STACC) Report (*Harborside Ballroom B*)

Concurrent Sessions 8 (Symposia) - 4:00 - 5:30 pm

- Ecological Transformations in a Changing Climate (*Harborside Ballroom B*)

Thursday, October 27

Concurrent Sessions 9 (Symposia) - 8:30 - 10:00 am

- Natural Resource Management (*Harborside Ballroom B*)

Concurrent Session 10 (Working Groups) - 10:15 - 11:15 am

- Accelerating the Acceptance of Natural and Nature-based Solutions for Adaptation (*Harborside Ballroom B*)
- Promoting Innovation and Creativity In Climate Adaptation (*Essex A-C*)

Concurrent Session 11 (Symposia) - 11:30 am - 1:00 pm

- Nature-based Climate Initiative: creating community-based, equity-centered partnerships to deliver natural climate solutions (*Harborside Ballroom B*)

Special Track: Extreme Weather



Climate change is increasingly acknowledged as one of, if not the, greatest threat facing society. This threat includes more frequent climate-amplified extreme weather events, which means that preparedness and responses to these events must be critical elements of our country's climate change adaptation strategy. This track features sessions focused on the impacts of climate change on extreme weather frequency and severity, planning and operational approaches to climate-exacerbated disasters, and building community resilience to disasters. This track is not an exhaustive list of sessions on these topics - we encourage you to explore sessions beyond this track!

We thank the CO2 Foundation for their generous support of this programming.

Tuesday, October 25

Concurrent Sessions 1 (Symposia) - 11:30 am - 1:00 pm

- Shaping flood risk resilience and preparedness from the bottom up (*Harborside Ballroom A*)
- North American Collaboration For Climate Adaptation (*Laurel AB*)

Concurrent Session 2 (Trainings) - 2:30 - 3:30 pm

- Water you Gonna Do? - a game for managing flood risk (*Kent A-C*)
- Community Solar+Storage Resilience Hubs (*Essex A-C*)

Concurrent Session 3 (Symposia) - 4:00 - 5:30 pm

- Adaptation on the Frontline: 100 Communities Fighting for Resilience (*Harborside Ballroom A*)
- Resilience Hubs: A Collaborative Approach to Support Neighborhood-Based Resilience in Marginalized Communities (*Dover A-C*)

CAKE Tools Café - 5:30 - 8:00 pm

- Too Hot to Work: Using Climate Science Research to Advocate for Outdoor Worker Protections

Poster Session - 5:30 - 8:00 pm

- See "Extreme Events, Disasters, and Emergency Management" section
- Americans' willingness to prepare for 'climate change' versus 'extreme weather' (Politics of Climate Change Adaptation & Adaptation Policy section)
- A Decision-Support Tool For Evaluating Regional Land Use Policies In The Context of Natural Hazard Risk (Decision-Making Tools, Technology, and Resources section)

Wednesday, October 26

Concurrent Sessions 4 (Symposia) - 8:30 - 10:00 am

- Coordination of Effort Across Governments to Address Extreme Heat (*Laurel CD*)

Concurrent Sessions 7 (Solutions Rooms) - 2:30 - 3:30 pm

- Climate Projections For Stormwater and Wastewater Resilience Planning (*Laurel CD*)
- Rural Resilience Matters! Overcome Obstacles, Accelerate & Scale-Up (*Kent A-C*)

Concurrent Sessions 8 (Symposia) - 4:00 - 5:30 pm

- Stop Asking Us to Be Resilient: Community Perspectives on the "Resilience" Myth (*Laurel CD*)

Thursday, October 27**Concurrent Sessions 9 (Symposia) - 8:30 - 10:00 am**

- Fostering neighborhood resilience through cross-sectoral projects (*Grand Ballroom 9-10*)
- Inclusive Insurance for Climate Disasters (*Harborside Ballroom A*)

Concurrent Session 10 (Working Groups) - 10:15 - 11:15 am

- Supporting FEMA's Efforts for Place-based and Targeted Technical Assistance for Community Resilience (*Grand Ballroom 9-10*)
- Planning For The Future: Best Practices For Using Climate Projections In Adaptation Planning (*Grand Ballroom 7-8*)

Special Track: Financing Adaptation

Despite upfront costs to address the impacts of climate change, the benefits of climate adaptation far outweigh the costs of inaction. Demonstrating the direct and indirect economic benefits of climate adaptation is key to building support for taking action now. This track features sessions on adaptation financing, workforce development, insurance, and more. This track is not an exhaustive list of sessions on these topics - we encourage you to explore sessions beyond this track!



We thank the Wells Fargo Institute for Sustainable Finance for their generous support of this programming.

Tuesday, October 25**Concurrent Session 2 (Trainings) - 2:30 - 3:30 pm**

- Transformational Climate Finance Training and Certification Introductory Session (*Laurel CD*)

Concurrent Session 3 (Symposia) - 4:00 - 5:30 pm

- Financing Equitable Climate Adaptation: The Power of the Capital Absorption Framework (*Grand Ballroom 9-10*)

CAKE Tools Café - 5:30 - 8:00 pm

- Building The Business Case For Nature-Based Solutions: Introducing The NBS Benefits Explorer Tool

Poster Session - 5:30 - 8:00 pm

- See "Financing Adaptation, Workforce Development, & Green Jobs" section

Wednesday, October 26**Concurrent Sessions 4 (Symposia) - 8:30 - 10:00 am**

- Building Climate Resilience and Justice into Social Philanthropy (*Kent A-C*)

Concurrent Sessions 5 (Working Groups) - 10:15 - 11:15 am

- Defining adaptation and resilience jobs and career pathways to build the workforce we need (*Harborside Ballroom A*)

Concurrent Sessions 6 (Symposia) - 11:30 am - 1:00 pm

- It Just Makes Cents: Insurance and Finance of Climate Adaptation (*Grand Ballroom 9-10*)
- NOAA Symposium #2 - Federal Resources, Data, & Engagement Networks To Help The Nation Build Back Better (*Harborside Ballroom A*)

Working Lunches - 1:00 - 2:15 pm

- WSP Working Lunch: Justifications of investments in climate adaptation (*Laurel AB*)
- MITRE Working Lunch: Equity in Climate Resilience Planning and Investments (*Laurel CD*)

Thursday, October 27**Concurrent Sessions 9 (Symposia) - 8:30 - 10:00 am**

- Inclusive Insurance for Climate Disasters (*Harborside Ballroom A*)

Special Track: Moving from the Head to the Heart

As adaptation practitioners, how can we move beyond the physical and practical to connect to the human side of the climate crisis? And how could this enhance our ability to create a better, more just future for all? The sessions in this track explore artistic, self-reflective, and creative ways to approach climate change adaptation that challenges our ways of thinking about, and developing solutions for, the climate crisis. Join us in these unique sessions to move beyond your head to your heart to find new ways to overcome challenges, approach your work, and connect with colleagues.

Tuesday, October 25**Concurrent Sessions 2 (Trainings) - 2:30 - 3:30 pm**

- Self and Community Care for Adaptation Professionals: A Training in Adaptive Mind Skills (*Grand Ballroom 7-8*)
- Water you Gonna Do? - a game for managing flood risk (*Kent A-C*)

Concurrent Sessions 3 (Symposia) - 4:00 - 5:30 pm

- Climate Trauma and Healing (*Grand Ballroom 7-8*)

CAKE Tools Café - 5:30 - 8:00 pm

- Cool It With Art: A How-to Guide for Tackling Rising Temperatures with Art in Our Communities

Wednesday, October 26**Concurrent Session 6 (Symposia) - 11:30 am - 1:00 pm**

- Moving from Facts and Fear to Storytelling: Changing the Climate Narrative (*Kent A-C*)

Thursday, October 27**Concurrent Session 9 (Symposia) - 8:30 - 10:00 am**

- Art as Witness, Art as Transformation (*Laurel CD*)

Concurrent Session 10 (Training) - 10:15 - 11:15 am

- Incorporating the arts into your adaptation practice (*Laurel AB*)

Concurrent Session 11 (Symposia) - 11:30 am - 1:00 pm

- Diverse Communication Approaches to Reach Diverse Audiences (*Essex A-C*)

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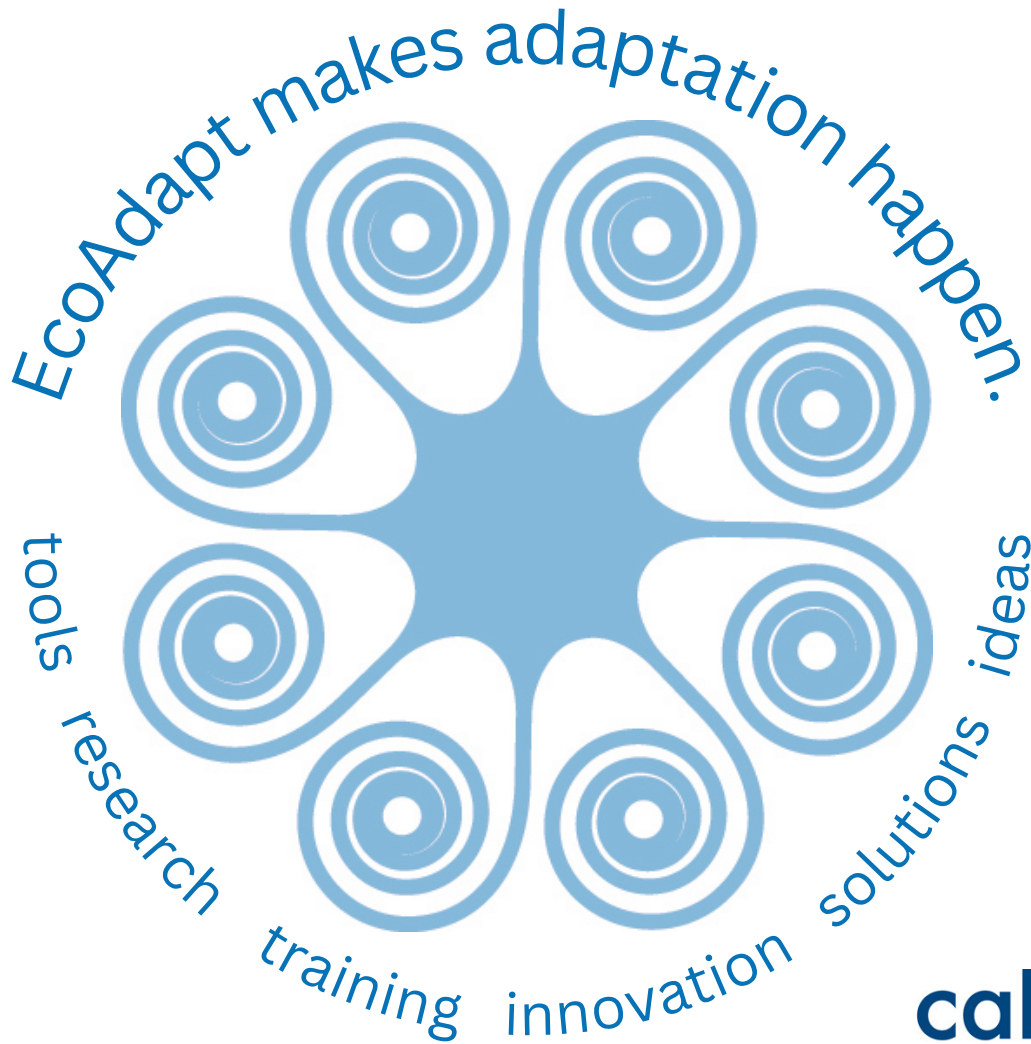
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FIELD BUILDER

EcoAdapt

Contact: Carey Schafer, carey.schafer@ecoadapt.org

EcoAdapt, founded by a team of some of the earliest adaptation thinkers and practitioners in the field, has one goal - creating a robust future in the face of climate change. We bring together diverse players to reshape planning and management in response to rapid climate change. The National Adaptation Forum has been coordinated by EcoAdapt since its inception in 2013. In addition to the Forum, EcoAdapt heads a number of key programs including Awareness to Action, the State of Adaptation, and the Climate Adaptation Knowledge Exchange (CAKEx.org).

The Kresge Foundation—Attendance Support Sponsor

Kresge's Environment Program helps cities combat and adapt to climate change while advancing racial and economic equity. The Environment Program advocates that cities address climate change mitigation and adaptation concurrently. The Environment Program supports efforts to reduce greenhouse gas emissions, prepare for the effects of climate that cannot be avoided, and advance social cohesion and equity.

Wells Fargo Institute for Sustainable Finance

Contact: John Moon (Climate-Aligned Philanthropy Lead), john.moon@wellsfargo.com

The Wells Fargo Foundation is focused on building a more equitable and sustainable future for all. Our giving strategy focuses on four key areas, which all have a lens to advancing racial equity: (1) Financial Health – opening pathways to economic advancement, (2) Housing Affordability – championing safe, affordable homes, (3) Small Business Growth – empowering small business to thrive, and (4) Sustainability – enabling a just, low-carbon future.

LEADER

Doris Duke Charitable Foundation

Contact: Sacha Spector, sspector@ddcf.org

The mission of the foundation's Environment Program is to ensure a thriving, resilient environment for wildlife and people, and foster an inclusive, effective conservation movement. The Environment Program supports initiatives that increase the pace and scale of land conservation and stewardship across the United States to protect biodiversity, bolster the resilience of natural areas and advance climate change mitigation. It also focuses on conservation efforts that advance equity, in particular for communities that identify as Black, Indigenous and people of color.

National Oceanic and Atmospheric Administration (NOAA)

Contact: David Herring, david.herring@noaa.gov

NOAA is an agency that enriches life through science. Our mission is to advance scientific understanding and prediction of weather, water, and climate changes for societal benefit. Our reach goes from the surface of the sun to the depths of the ocean floor as we work to keep the public informed of the changing environment around them.

CATALYZER

CO2 Foundation

Contact: Karen Wolfgang, karen@co2foundation.org

The mission of the CO2 Foundation is to execute impactful grant-making and communication about the urgent societal risks from extreme weather and the urgent need for evidence-based and effective carbon removal approaches that create a safe, just, and resilient future for all.

Wilburforce Foundation

Contact: Lisa Weinstein, lisa@wilburforce.org

Wilburforce Foundation is a private philanthropic organization that supports land, water, and wildlife conservation efforts in western North America by supporting organizations and leaders advancing strategic solutions.

PARTNER

The Barr Foundation—Attendance Support Sponsor

The goal of the Barr Foundation's Climate Resilience Program is to increase capacity in Metro Boston to prepare for and adapt to the impacts of climate change. The Climate Resilience Program focuses on three main priorities: 1) building awareness and mobilizing a diverse constituency for action on climate risks, impacts, and resilience strategies, 2) mobilizing key stakeholders to advance equitable policies and resilience plans, and 3) catalyzing momentum through demonstration projects that integrate resilience into the fabric of cities.

Natural Resources Defense Council

Contact: Rob Moore, rmoore@nrdc.org

NRDC advocates to increase the resilience of communities to the unavoidable impacts of climate change, safeguard human health, and address the root causes of climate change.

The Nature Conservancy

Contact: Kim Hall, kimberly.hall@tnc.com

The Nature Conservancy is a global environmental nonprofit working to create a world where people and nature can thrive.

The Pew Charitable Trusts

Contact: Anna Marandi, amarandi@pewtrusts.org

The Pew Charitable Trusts is a global nongovernmental organization, driven by the power of knowledge to solve today's most challenging problems. We apply a rigorous, analytical approach to improve public policy, inform the public, and invigorate civic life. Pew's flood-prepared communities initiative works to improve U.S. policies and planning at the federal and state levels to equitably enhance community resilience to flooding and storms, expand the use of nature-based solutions to reduce flood risks, modernize federal flood insurance, and lower disaster costs for taxpayers.

ADVOCATE

Azavea, Inc.

Contact: Zoe Cohen, zcohen@azavea.com

Azavea is a software development firm that designs and develops award-winning geospatial web applications. Established in 2000, we

create technologically advanced solutions for geospatial data visualization and analysis that support a broad range of government, academic, commercial, and nonprofit clients. Azavea is a certified B Corporation that advances the state-of-the-art in geospatial technology and applies it for civic, social, and environmental good. Today we are particularly focused on building technology to support climate resilience, water management and sustainability initiatives.

Cascadia Consulting Group

Contact: Andrea Martin, andream@cascadiaconsulting.com

Cascadia Consulting Group is a certified small, women-owned consulting firm working to foster sustainability in communities, businesses, and organizations. We support early research and decision-making and provide on-the-ground implementation in diverse, multicultural communities. Our broad, interdisciplinary skillset is tailored to meet today's complex challenges.

Commission for Environmental Cooperation

Contact: Georgina O'Farrill, gofarrill@cec.org

The Commission for Environmental Cooperation (CEC) was established in 1994 by the governments of Canada, Mexico and the United States through the North American Agreement on Environmental Cooperation, a parallel environmental agreement to NAFTA. As of 2020, the CEC is recognized and maintained by the Environmental Cooperation Agreement parallel to the new Free Trade Agreement of North America. The CEC brings together a wide range of stakeholders, including the general public, Indigenous People, youth, nongovernmental organizations, academia, and the business sector, to seek solutions to protect North America's shared environment while supporting sustainable development for the benefit of present and future generations. Find out more at: www.cec.org. The CEC is governed and funded equally by the Government of Canada through Environment and Climate Change Canada, the Government of the United States of Mexico through the Secretaría de Medio Ambiente y Recursos Naturales, and the Government of the United States of America through the Environmental Protection Agency.

Environmental Defense Fund

Contact: Bobbie Green, bgreen@edf.org; mkent@edf.org

One of the world's leading international nonprofit organizations, Environmental Defense Fund (edf.org) creates transformational solutions to the most serious environmental problems. To do so, EDF links science, economics, law, and innovative private-sector partnerships. With more than 3 million members and offices in the United States, China, Mexico, Indonesia and the European Union, EDF's scientists, economists, attorneys and policy experts are working in 28 countries to turn our solutions into action.

The MITRE Corporation

Contact: Andrea Bohmholdt, abohmholdt@mitre.org

MITRE's mission-driven teams are dedicated to solving problems for a safer world. Through our public-private partnerships and federally funded R&D centers, we work across government and in partnership with industry to tackle challenges to the safety, stability, and well-being of our nation.

National League of Cities—Attendance Support Sponsor

Contact: Lena Geraghty, geraghty@nlc.org

The National League of Cities is an organization comprised of city, town and village leaders that are focused on improving the quality of life for their current and future constituents.

With over 90 years of dedication to the strength, health and advancement of local governments, NLC has gained the trust and support of more than 2,000 cities across the nation. Together, our mission is to strengthen local leadership, influence federal policy and drive innovative solutions.

National Park Service Climate Change Response Program

Contact: Cat Hoffman, cat_hawkins_hoffman@nps.gov

Established in 2010, the National Park Service Climate Change Response Program (CCRP) advances efforts to address the effects of climate change across the breadth of the National Park System. The Program works across directorates and program areas to support parks through technical expertise and research, guidance and training, project and planning support, and provision of communication products. The Program works with other agencies, organizations, and stakeholder groups—nationally and internationally—to maximize information sharing, support, learning, and project effectiveness.

National Wildlife Federation

Contact: Bruce Stein, steinb@nwf.org

The National Wildlife Federation, America's largest and most trusted conservation organization, works across the country to unite Americans from all walks of life in giving wildlife a voice. We've been on the front lines for wildlife since 1936, fighting for the conservation values that are woven into the fabric of our nation's collective heritage.

Pathways Climate Institute

Contact: Kris May, kris.may@pathwaysclimate.com

We Help Communities Create Pathways to Climate Resilience. We integrate science, engineering, policy, and community engagement into adaptation pathways that address today's climate hazards and tomorrow's uncertainties.

Streetbond

Contact: Lindsay Naylor, lindsay.naylor@gaf.com

Transform pavement into possibilities. STREETBOND develops colorful and cooling solutions for public and private spaces. We understand the emotional and physical impact a cooler and nicer-looking space can make. That understanding sparked the desire to invent high-quality products that help preserve, cool, and beautify city and residential surfaces. With our coatings, we help you bring space to life.

U.S. Forest Service

Contact: Krizia Campbell, krizia.campbell@usda.gov

The U.S. Forest Service is continuing to increase capacity to integrate climate considerations into priority setting, planning, and management through the development of: vulnerability assessments, mitigation and adaptation strategies, forest carbon tools and templates, online information and data delivery systems, partnerships, and broad-scale monitoring considerations.

USGS Climate Adaptation Science Centers

Contact: Janet Cushing, jcushing@usgs.gov

The USGS National and Regional Climate Adaptation Science Centers (CASCs) is a partnership-driven program that teams scientists with natural and cultural resource managers and local communities to help fish, wildlife, water, land, and people adapt to a changing climate.

The USGS monitors, analyzes, and predicts current and evolving Earth-system interactions and delivers actionable information at scales and timeframes relevant to decision makers. The USGS provides science about natural hazards, natural resources, ecosystems and environmental health, and the effects of climate and land-use change.

WSP

Contact: Laura Elfe, laura.elfe@wsp.com

WSP is one of the world's leading engineering professional services firms, with 37,000 talented people, based in more than 500 offices, across 40 countries. We are technical experts who design comprehensive and sustainable solutions and engineer projects that will help societies grow for lifetimes to come.

FRIEND

Adaptation International

Contact: Sascha Petersen, sascha@adaptationinternational.com

Adaptation International is a woman-owned small business focused on helping communities build resilience. We use collaborative approaches to connect the best available science and tools with local knowledge to empower communities to be holistic, equitable, and adaptive. We believe in the power of communities to look to the future, respond to the challenges of a changing climate, and thrive in the 21st century and beyond.

American Society of Adaptation Professionals

Contact: Beth Gibbons, bgibbons@adaptpros.org

ASAP connects and supports climate adaptation professionals.

Cadmus

Contact: Elizabeth Lewan, elizabeth.lewan@cadmusgroup.com

Cadmus is a strategic and technical consultancy compelled to help solve the world's most challenging problems. We assemble outstanding teams of leading experts leveraging transformative technologies to work seamlessly across disciplines to help you achieve extraordinary results. From energy, water, and transportation to safety, security, and resilience—together, we are strengthening society and the natural world.

Climate Resilience Consulting

Contact: Joyce Coffee, joyce@climateresilienceconsulting.com

Climate Resilience Consulting is a certified WBE women owned small business and social enterprise that aims to create a more equitable world with more lives saved and livelihoods enhanced in the face of climate disruption. Our mission is to enable communities, governments, and corporations to avoid, prepare for, and resist the global and local impacts of climate change.

The UN has identified four components of adaptation for resilience: assessment, planning, implementation, and monitoring. We work with our clients to obtain success in each component, enhancing communities and markets through adaptation. We excel at creating resilience strategies, increasing resilience finance, and building resilience tools for our public, private, and nonprofit clients.

Defenders of Wildlife—Attendance Support Sponsor

Contact: Aimee Delach, adelach@defenders.org

Defenders of Wildlife is dedicated to the protection of all native animals and plants in their natural communities.

Eastern Research Group

Contact: Adriane Garnreiter, adriane.garnreiter@pgenv.com

ERG's climate and hazard resilience team supports multi sector adaptation and mitigation projects for federal, state, regional, local, and nonprofit clients, following an approach built on equity and sustainability.

Fernleaf

Contact: Sealy Chipley, schiple@fernleaf.us

Fernleaf provides climate resilience planning support and tools to communities, industries, and partners who want to understand risk and build resilience. We use data to help communities and companies to make informed investments for effective resilience and adaptation.

Georgetown Climate Center

Contact: Mark Rupp, mark.rupp@georgetown.edu

The nonpartisan Georgetown Climate Center (GCC) seeks to advance effective climate and energy policies in the United States and serves as a resource to state and local communities that are working to cut carbon pollution and prepare for climate change.

ICF

Contact: Susan Asam, susan.asam@icf.com

World's largest and longest-serving climate consultancy.

Land Trust Alliance

Contact: Kelly Watkinson, kwatkinson@lta.org

The Land Trust Alliance's mission is to save the places people need and love. We accomplish this by empowering and mobilizing land trusts in communities across America to conserve land — and connect people to the land — for the benefit of all.

Northern Institute of Applied Climate Science

Contact: Danielle Shannon, dshannon@mtu.edu

The Northern Institute of Applied Climate Science (NIACS) develops synthesis products, fosters communication, and pursues science in climate change and carbon cycling and management.

PaleBLUEdot LLC

Contact: Ted Redmond, tredmond@palebluedot.llc

paleBLUEdot, a Minnesota LLC and S/WBE Certified Business, is a sustainability, climate action, carbon management, and renewable energy consultancy firm established in 2014. Our mission is to support the transition to a low-carbon economy through an array of

sustainability assessment, consultancy, and planning services, and through education that increases awareness and enhances public dialogue.

Parametrix

Contact: John Phillips, jmphilips@parametrix.com

Parametrix helps our clients deliver some of their most significant projects. Whether it's improving our region's infrastructure, restoring natural habitat, or designing a vision for the future, people depend on us for innovative ideas — engineering, planning, and environmental solutions that make a positive, lasting difference. From offices throughout the western United States, we provide multidisciplinary services in transportation, environmental planning and compliance, water, and community building. As a 100-percent employee-owned firm, our people have a vested interest in strong performance and exceptional client service. Individually and as a team, we are committed to providing high quality, cost-effective solutions that enable our clients to make informed decisions.

PlaceWorks

Contact: Katie Hollenbaugh, khollenbaugh@placeworks.com

PlaceWorks is one of the West's preeminent planning, design, and environmental consulting firms. With offices throughout California, our history dates back over 45 years. PlaceWorks serves both public- and private-sector clients in the fields of climate action and resiliency planning, housing, comprehensive planning, environmental review, urban design, landscape architecture, community outreach, and Geographic Information Systems (GIS). Our talented, multidisciplinary team thrives on working with communities to tackle complex problems and develop workable solutions.

RAND Corporation

Contact: Susan Arick, sarick@rand.org

The RAND Corporation is a nonprofit institution that helps improve policy and decision making through research and analysis. RAND focuses on the issues that matter most such as health, education, national security, international affairs, law and business, the environment, and more. With a research staff consisting of some of the world's preeminent minds, RAND has been expanding the boundaries of human knowledge for more than 70 years.

The Trust for Public Land

Contact: Taj Schottland, taj.schottland@tpl.org

Trust for Public Land creates parks and protects land for people, ensuring healthy, livable communities for generations to come.

Wildlife Conservation Society

Contact: Liz Tully, etully@wcs.org

WCS saves wildlife and wild places worldwide through science, conservation action, education, and inspiring people to value nature.

Worcester Polytechnic Institute

Contact: Sarah Strauss, sstrauss@wpi.edu

Worcester Polytechnic Institute was founded in 1865 to create and convey the latest science and engineering knowledge in ways that are most beneficial to society. Today, WPI holds firm to its founding mission to provide an education that balances theory with practice.

ADDITIONAL CONTRIBUTORS

BIA Branch of Tribal Climate Resilience— Attendance Support Sponsor

Contact: Crystal Keys, crystal.keys@bia.gov

The Branch of Tribal Climate Resilience (TCR) partners with Tribal Nations and Bureau of Indian Affairs (BIA) agencies to incorporate climate considerations into their programs and policies by providing funding, training, technical assistance and organizational support.

Center for Leadership in Global Sustainability

Contact: Amy Hubbard, ahubb09@vt.edu

Founded in 2014, the Center for Leadership in Global Sustainability (CLiGS) equips current and aspiring environmental and sustainability professionals with the credentials, competencies, connections, and confidence to become more effective leaders, now and in the future.

Environmental Protection Agency

Contact: Jordan West, west.jordan@epa.gov

The mission of EPA is to protect human health and the environment.

Kim Lundgren Associates • Accessibility Services

Contact: Kim Lundgren, kim@kimlundgrenassociates.com

KLA is a small, woman-owned, benefit corporation that partners with cities, towns and counties across the US to design and implement aggressive, equitable climate action and adaptation solutions. From vulnerability assessments and extreme heat plans to community engagement and resilience hubs, KLA's resilience portfolio includes work with Clark County, NV; Cambridge, MA; Rochester, NY; the Environmental Protection Agency and more. Equity and accessibility are embedded in every step of KLA's approach.

Union of Concerned Scientists • Accessibility Services

Contact: Alicia Race, arace@ucsusa.org

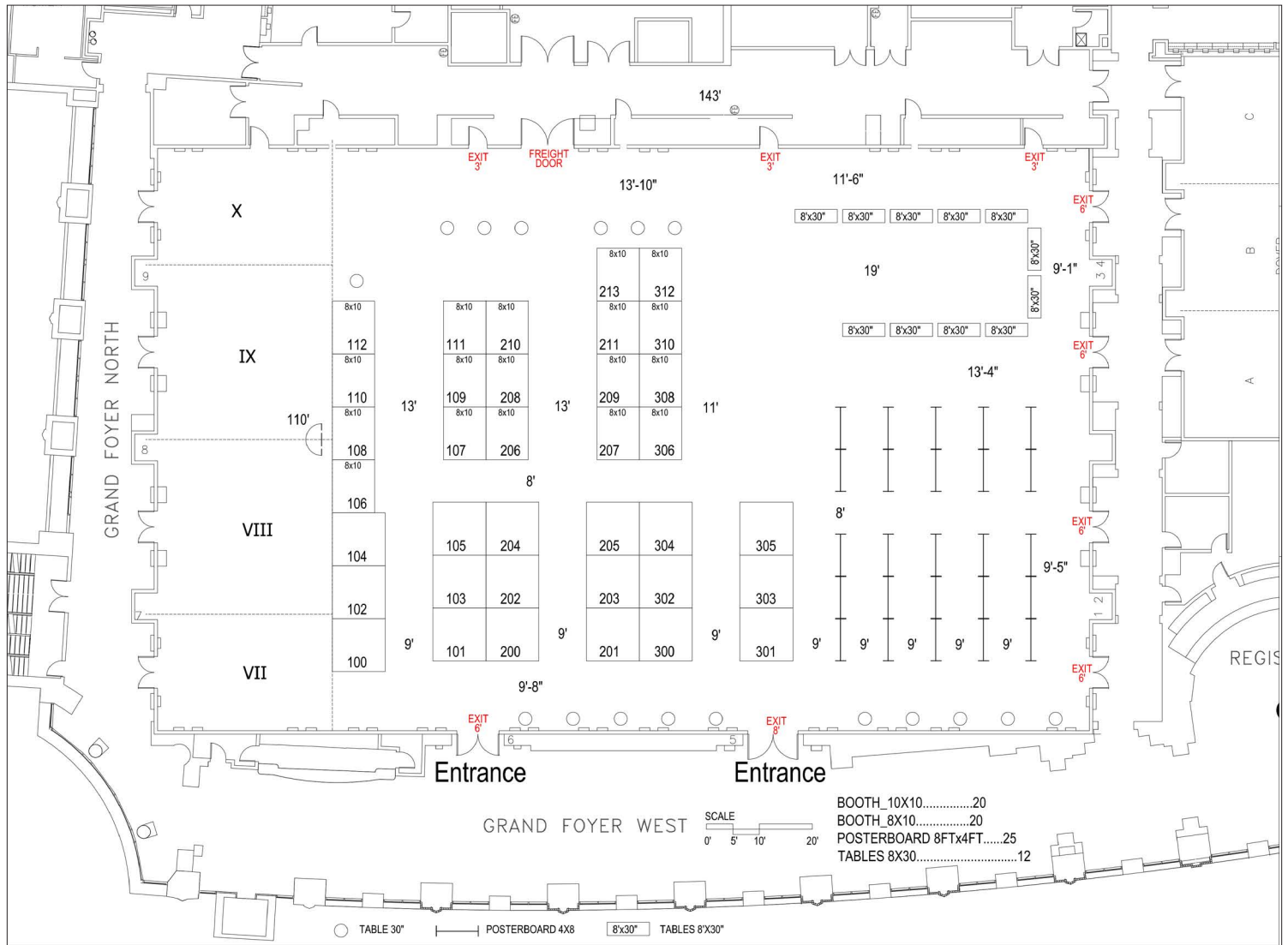
The Union of Concerned Scientists puts rigorous, independent science to work to solve our planet's most pressing problems. Joining with people across the country, we combine technical analysis and effective advocacy to create innovative, practical solutions for a healthy, safe, and sustainable future. For more information, go to www.ucsusa.org.

USDA Climate Hubs

Contact: Bill Gould, william.a.gould@usda.gov

Ten Regional USDA Climate Hubs are led and hosted by the Agricultural Research Service and Forest Service with contributions from many USDA agencies, including the Natural Resources Conservation Service, Farm Service Agency, Animal and Plant Health Inspection Service, and the Risk Management Agency. The Climate Hubs link USDA research and program agencies in their regional delivery of timely and authoritative tools and information to agriculture and forestry professionals.

Exhibitor Floor Plan

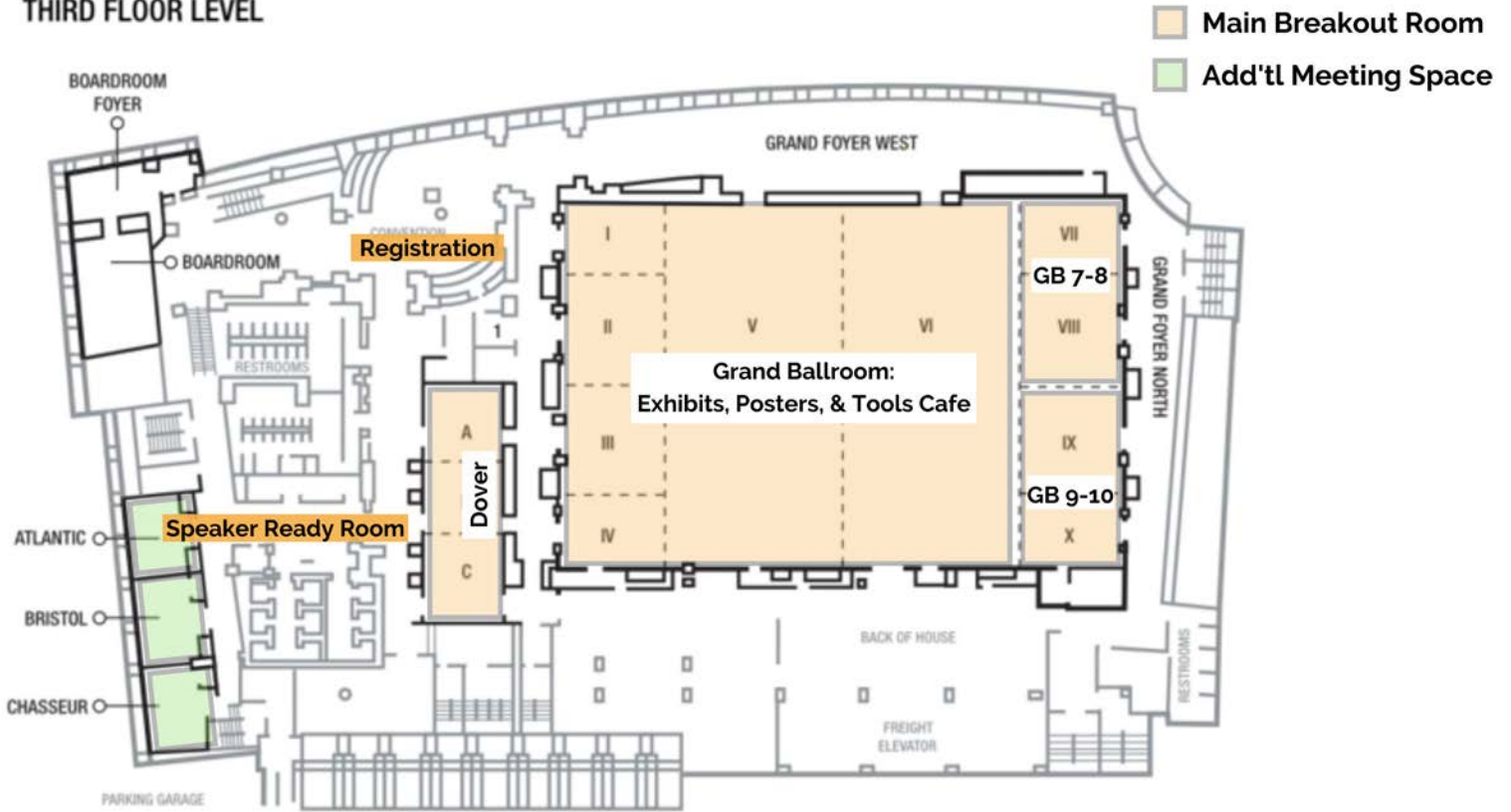


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Venue Maps

THIRD FLOOR LEVEL



FOURTH FLOOR LEVEL

