Mapping Public Values about Climate Adaptation & Resilience Using Deliberative Forums
Nicholas Weller¹, David Sittenfeld², Emily Hostetler², & Katie Todd² ¹School of Sustainability, Arizona State University; ²Museum of Science, Boston.

Public forums for climate resilience
Communities must confront difficult and complex decisions to prepare for climate change impacts. Those decisions involve assimilating a wide variety of community priorities with technical information and uncertainty about future hazards.

Museum of Science, Boston and Arizona State University led community forums with partner science centers across eight US cities in 2017-18. Forums were designed to engage laypeople in learning and making decisions about resilience; communicate hazard vulnerabilities, resilience strategies, and tradeoffs; promote informed and respectful civic dialogue among diverse groups in a replicable way; and collect and analyze informed public opinion.

Informed public opinion
Forum activities were designed for extreme heat, extreme precipitation, drought, and sea level rise. Activities balanced informing participants about hazards and resilience strategies with fostering conversation about how participants thought communities should prepare.

This project demonstrates the ability of lay participants to learn about climate resilience and contribute substantive and informed opinions on the topic. Forums provide one mechanism to better involve communities in preparing for uncertain climate futures.

Participants reported knowing more about climate hazards & resilience strategies

How much did you know about the following topics before the forum, and how much do you know after?

The impacts of resilience strategies on different community members a

Strategies for reducing the impacts of climate related hazards b

The climate-related hazards that could affect my local community c

Participants reported knowing more about climate hazards and resilience strategies. The impacts of resilience strategies on different community members increased from 7% to 31% before and after the forum. Strategies for reducing the impacts of climate-related hazards increased from 10% to 36% before and after the forum. The climate-related hazards that could affect participants' local community increased from 20% to 49% before and after the forum.

Preferences for addressing extreme heat varied across sites
For the extreme heat exercise, tables of 4-8 participants could choose to invest a lot (2 coins), some (1 coin), or no resources in three resilience strategies: Measures to reduce outdoor temperatures, measures to strengthen infrastructure, and public safety programs.

Phoenix, AZ
- 1 coin: Infrastructure upgrades
- 1 coin: Safety programs
- 2 coins: Cool the city

Portland, OR
- 2 coins: Cool the city
- 1 coin: Infrastructure upgrades
- 1 coin: Safety programs

St. Paul, MN
- 1 coin: Safety programs
- 2 coins: Cool the city
- 1 coin: Infrastructure upgrades

Participants discussed a wide variety of values, including efficacy, safety, & equity
Conversations from three tables at each site were coded to identify dominant themes in conversations.

Categories coded
- Effectiveness & Timing
- Cost
- Equity
- Electricity & Transport
- Reduce Outdoor Temps
- Environment
- Health & Safety

Illustrative examples
"We can end up putting in all those trees and all that plant life but...we're just assuming that all those trees are going to survive...Which is why I'm still reallocating the extra money to [infrastructure upgrades]." - Phoenix

"If we're looking at the people that wouldn't necessarily have the resources to be able to put up [shade] structures on their own or put up shade on their own, we're protecting them; we're protecting the community." - Phoenix

"I think just based off of personal experiences. I have been to communities where there's heat zones... I do believe that having more green spaces and trees does make a difference outside. If people can't be in community centers, at least they can be outside." - Portland

Acknowledgements: Thank you to partner science museums, forum participants, and the ECAST network. Analysis supported by the Central Arizona-Phoenix Long Term Ecological Research Association (No. NA15SEC0080005). Analysis supported by the Central Arizona-Phoenix Long Term Ecological Research Association (No. DEB-1637590) and ASU's Graduate and Professional Student Association.