Helping Coastal Communities Prepare for Climate Change

Using role-play simulations to build the capacity of at-risk towns and cities to adapt to climate change risks.

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Preparing for climate change presents a largely unprecedented and increasingly urgent planning challenge for communities throughout the world. This is particularly true for towns and cities along coastlines, which are likely to experience some of the earliest and most severe effects of a changing climate.

Large cities, such as New York, Boston, and San Francisco, have begun to take climate change risks seriously. However, most towns and cities in New England and throughout the U.S. have hardly begun the conversation about what climate change impacts might mean and how to prepare for them. There are a number of possible reasons for this. Municipalities have a lot of other issues to think about and concerns to juggle. Many local officials, whether or not they are concerned about how climate change will affect their towns and cities, don't feel climate change adaptation is a priority for their citizens. Decision-makers and agency personnel often feel constrained by budget limitations or lack of technical capacity. Even where there is commitment to addressing climate change risks and capacity to take on the challenge, planning for an uncertain climatic future amid differing ideas about whether and how to adapt remains a daunting task—one that will likely require new, more flexible approaches to planning, development, and ecosystem management.

How can we support at-risk communities in effectively planning and preparing for climate change? CBI doesn't have a silver bullet, but we do have some ideas about how we can help.

The New England Climate Adaptation Project—Using Role-Play Games to Get the Adaptation Conversation Started

Decision-makers are unlikely to gain support for the investments, tough choices, and trade-offs that adaptation will likely entail without widespread public concern about climate change risks. Therefore, raising awareness about climate change threats and building public support for managing these risks is a key first step in supporting effective climate change adaptation. A second, and related, step is to introduce tools and resources that at-risk communities can use to move forward with adaptation despite the many challenges they may face in doing so.

CBI is currently working with partners from the MIT Science Impact Collaborative and the National Estuarine Research Reserve System (NERRS) to test an innovative public engagement technique for generating widespread awareness of climate change threats and introducing possible ways of moving forward with adaptation. Building on CBI's use of role-play simulations in a variety of other complex decision-making contexts as well as a growing body of research indicating that "serious games" can provide a powerful way of educating and engaging adult learners, we believe that science-based climate change adaptation role-play simulations, when run with a large and diverse cross-section of decision-makers and the general public in at-risk coastal towns and cities, can stimulate conversation around climate change risks and catalyze adaptation action.

To test this hypothesis, we have undertaken a two-year research effort, known as the New England Climate Adaptation Project (NECAP). Funded by the NERRS Science Collaborative and led by Professor Lawrence Susskind from MIT and Patrick Field from CBI, NECAP was explicitly designed to include the "intended users" of our research—local officials, decision-makers, and others working on climate change adaptation outreach and education—in developing and implementing the study. To achieve this goal, we are working closely with the NERRS Coastal Training Program and have partnered with four coastal New England towns and cities: Barnstable, Massachusetts; Cranston, Rhode Island; Dover, New Hampshire; and Wells, Maine. Another key intent of the project is to do "action research:" we are not only conducting research on the effectiveness of our public engagement approach, but are also actively trying to stimulate adaptation action on the ground in our partner municipalities throughout the process.

During the first year of the project, which began in September 2012, our NECAP team worked with climate change consultants at the University of New Hampshire to generate localized climate change projections for our four partner municipalities and to translate these projections into Summary Risk Assessments. At the same time, CBI staff worked with MIT graduate students to conduct a stakeholder assessment in each town, using in-depth interviews with key stakeholder to develop an understanding of local attitudes about climate change risks and perceived opportunities and barriers for adaptation.

The findings from our risk assessments and stakeholder assessments for each municipality were then used to create a tailored, science-based role-play simulation game for each site. Each game focuses on climate change risks most relevant to that site. For example, the game for Wells, Maine, focuses on risks related to sea level rise and coastal storms. The game for Dover, New Hampshire, centers on stormwater-related risks. Each game is

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also designed to reflect stakeholder dynamics and the political context of its town or city.

Additionally, our adaptation simulations were created with the intent of getting participants thinking and talking about some key ideas, including:

- Decisions communities make today will affect their resilience to climate change in the future. Shortsighted decisions that don't take into account climate change could have considerable long-term costs.
- Credible scientific and technical information about climate change risks and possible adaptation strategies is available and should influence the decisions communities make today.
- We can't predict what the climate will be like in the future with certainty, but there are "no-regrets" actions towns and cities can take that are likely to be beneficial no matter what the climate brings.
- Climate change is a collective risk problem that requires collective problem solving and coordination among different stakeholders, groups, agencies, and jurisdictions.
- Stakeholders have different interests, levels of risk tolerance, and ideas about what, if anything, should be done to address climate change risks.
- There is no "right" or "best" way to adapt. At-risk communities will have to work together to decide what adaptation strategies they want to pursue.

LEARN MORE:
New England Climate Adaptation Project: necap.mit.edu/necap/
MIT Science Impact Collaborative: scienceimpact.mit.edu
National Estuarine Research Reserve System: www.nerrs.noaa.gov
Collective Climate Adaptation: Can Games Make a Difference? http://thesolutionsjournal.com/node/2021

- The consensus building approach might help at-risk communities move forward with collectively planning and preparing for climate change despite uncertainty, resource constraints, and differing perspectives about what should be done.

As we enter the second year of the project, we are in the midst of running role-play simulation workshops in our four partner towns. Working with our MIT, NERRS, and municipal partners, our goal is to engage 150 to 200 people in each town through roughly ten workshops by the end of this year. We will also hold debriefing sessions with our town partners and other key stakeholders in each site later this year and again toward the end of the project to assess whether our workshops are generating greater public awareness and concern about climate change risks and to explore ways of helping our partner towns move forward in actually implementing adaptation.

Will our role-play simulations and related efforts help our partner communities begin a conversation about managing climate change risks and catalyze collaborative adaptation efforts? That remains to be seen—we'll have a better answer next summer, once our MIT partners have finished collecting and processing research data.

In the meantime, CBI will continue to use our skills in capacity building, stakeholder engagement, and consensus building to help at-risk communities in New England and elsewhere plan and prepare for climate change.

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New Faces at CBI

CBI is pleased to welcome these talented practitioners to our growing staff!

Catherine Morris joins us as a Senior Mediator in our Washington DC office. Catherine specializes in climate change, air quality, energy production and planning, and renewable energy. She holds an M.RP. in Environmental Planning from the University of North Carolina-Chapel Hill, and a B.A. from the College of William and Mary.

Doug Thompson, a Senior Mediator in our Cambridge office, specializes in water quality issues, regulatory policy issues, interagency negotiations, and wetland issues, among many others. Doug received his Master's in Biology and his and a B.S. from Northwestern University.

Carri Hulet joins our team as a Senior Associate in Cambridge. Carri previously consulted with CBI and specializes in climate change adaptation, energy, transportation, and water resource issues. Carri holds a Master's in Urban Studies and Planning from MIT and a B.A. from Tufts University.