How one state bridged the cultural divide on climate change to prepare for a stormier future

February 6 2018, by Cameron Wake

The year 2017 painted a grim picture of coastal storms in the eastern United States. Hurricanes Harvey, Irma and Maria were deadly and destructive harbingers of how climate change contributes to bigger storms with stronger winds, greater extreme precipitation, and higher storm surge due to rising seas.

Unfortunately, there's a long-standing cultural divide around climate change. On a political level, this has made it difficult for coastal states to act on – or even acknowledge – the growing risk of coastal flooding from climate change.

New Hampshire, however, is an exception. The state has passed legislation and made rule changes designed to better prepare the state for the damage from storm surge and rising seas. And several municipalities in coastal New Hampshire are integrating preparations for rising seas in their long-term master plans.

This progress occurred despite divisive political views on climate change in New Hampshire. As one of the scientists involved in reviewing the science related to coastal flooding, I discovered that this seemingly intractable cultural divide over climate change can be bridged – if scientists show up and build relationships with local decision-makers.

Challenge for municipalities

Some large coastal cities, including Boston, New York, Norfolk and Miami, have decided to act now to build resilience to current and future coastal flooding. Upgrades include installing flood walls, elevating roads, improving stormwater systems, and expanding open space.

Small coastal communities, meanwhile, tend to lack the financial and personnel resources to address the challenges presented by a changing climate, all while dealing with the cultural divide around the issue.

To address these challenges in New Hampshire's small coastal communities, concerned coastal citizens and politicians engaged a range of local voices in a state legislative process. It resulted in the 37-member NH Coastal Risk and Hazards Commission, which developed a set of unanimously agreed-upon recommendations in a report prepared by elected officials from both parties in the state legislature and representatives from the state's coastal municipalities. These recommendations provide guidance to prepare for projected increases in coastal flooding from storm surge, sea level rise and extreme precipitation.

Critically, early on the commission established a Science and Technical Advisory Panel (STAP) to review existing scientific understanding of coastal hazards and flood risk in a separate report. The STAP report reflected the extensive body of scientific evidence, including that global sea levels have been rising and will continue rising for centuries. Also, extreme precipitation events across the northeast U.S. have increased and are projected to become more frequent.

After the release of the STAP report, one of the state legislators on the commission publicly questioned the findings in an email to the Commission Steering Committee that suggested we "not get into a battle over peer review."

This attempt to discredit the science could have derailed the commission's objectives and hindered discussion of climate change preparation in coastal New Hampshire. In response, I explained that peer review is one of the foundations of scientific inquiry and is meant to maintain disciplinary standards. It is a process that works to separate opinion from logical conclusions.

Fortunately, the enabling legislation for the commission had clearly indicated that its members were to "review National Oceanic and Atmospheric Administration and other scientific agency projections." This language and the commission's broader desire to focus on the best available science were critical for working through this opposition. This stipulation that recommendations rely on federal agency research and peer-reviewed research helped ensure the recommendations were based on scientific analysis rather than individual beliefs.

Local control

The STAP report provided guidance on projected sea level rise that communities can use to inform local action. For example, the report notes that critical infrastructure, such as major roads, police stations, hospitals and power plants, should be designed to withstand a moderate-high sea level rise scenario of 3.9 feet by 2100 and be prepared for a high sea level rise scenario of 6.6 feet.

Based on the STAP report, the commission developed a suite of recommendations that ranged from improving our understanding of critical infrastructure vulnerability to amending state statutes and preparing businesses. There were also recommendations to acquire properties at risk of flooding.

Perhaps most importantly, the commission recommended that the STAP science summary be updated regularly to keep up with changing science.

The fact that we agreed to revisit the science regularly was a major reason commission members felt comfortable supporting the recommendations, as it allows subsequent action to reflect conditions on the coast as they unfold.

The recommendations largely represent common sense, flexible and "no-regrets" approaches to address coastal flood risk. The recommendations are also voluntary and reflect the strong New Hampshire value of local control. It is up to the municipalities and state agencies to decide how best to proceed.

Contingency plans

During the official release of the final report at a press conference, one state legislator who agreed to the report's recommendations, noted that he still did not believe the climate science.

However, he did believe that the recommendations represented a contingency plan in case there are destructive effects from climate change. And they served as important guidelines for seacoast municipalities to consider as they prepare for the future.

It has been over a year since the commission recommendations were released. Over that time, there has been action at the state and municipal levels.

There have been new laws, including ones that require state agencies to enable appropriate actions and to update coastal flooding trends. Several (but not all) coastal municipalities are addressing the growing risk of coastal flooding in various ways, including master plans, hazard mitigation plans, floodplain freeboard requirements, and stormwater management strategies. They are also upgrading infrastructure, installing living shorelines, and engaging in community outreach.

What worked?

How was the commission able to reach consensus in the climate change culture divide era? At least three reasons come to mind.

One – process matters. In July 2013 the state Legislature enacted bipartisan Senate Bill 163, which established the commission. The commission provided the urgency and critical mass to develop recommendations to address coastal risk and hazards in a structured effort with clear and consequential deliverables. Our process also included strong and balanced political leadership, especially from our two New Hampshire state senators.

Two – facts still matter. Much of the deliberation was based on science-based information and analysis (STAP report and vulnerability assessments for the Atlantic coast and Great Bay regions). The inclusion of several scientists on the commission also helped ensure that science remained a central tenet of our dialogue. Language in the enabling legislation was referenced on several occasions to restrict scientific analysis to federal agency reports and peer-reviewed science.

Three – relationships matter. Several individuals who served on the commission included current members of the Coastal Adaptation Workgroup (formed in 2010 following completion of New Hampshire's Climate Action Plan). The trust we developed over years of working together on coastal flood issues was critical for maintaining progress. Also, the commission's three-year term included sufficient time to get to know each other better and time for individuals with a variety of perspectives to share their concerns and respectfully listen to others. This time also allowed us to develop a shared vision for a resilient coast.

Several major challenges remain for building resilience to coastal flooding in New Hampshire and preparing for the next big hurricane or

nor'easter. However, the state has taken some important steps and made important strides. The acknowledgment of risk is bipartisan and rhetoric from the climate cultural divide is more muted. It's an encouraging level of activity and engagement, as we wrestle with what it means to be resilient.

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