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Rising Sea Levels Challenge Flood Insurance Management

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LOCAL VOICES

Waves splash against a seawall and onto houses along the Atlantic coast Dec. 9 in Scituate, Mass. AP PHOTO/STEVEN SENNE

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Editor's Note: This is the first in a four-part series on climate change written by UMass Dartmouth associate professor Chad J. McGuire. Part 1 focuses on sea-level rise and flood insurance. Part 2 looks at public and private aspects of protecting the environment. Part 3 discusses environmental policy in relation to the voting public. Part 4 explores the role of economics in environmental protection. Look for them in this space over the coming weeks.

CHAD MCGUIRE

Our climate is changing. And the trend of this climate change shows the earth is, on average, getting warmer. We in New England emerged from a very cold winter in 2014 making it hard for us to see (and thus believe) the earth is getting warmer. But this is the trick of climate change: The pattern of overall warming is hard to see on a day-to-day basis. We tend to judge our climate through experiencing our local weather patterns: When the weather is cold like it has been in our region over the past winter, it is hard for us to connect that experience to an overall trend of a warming earth.

Scientists use a different lens when studying our climate. Rather than rely on the day-to-day changes in the weather in a certain area, scientists measure temperatures over a long period of time and across many different areas of the globe. When daily temperatures are viewed over periods of years, decades and centuries, a trend emerges that shows a warming climate. Other evidence is viewed, such as melting glaciers and sea ice. When combined through many different studies that are critically tested by other scientists to ensure their validity, a reality different from our daily perspective becomes apparent: Our earth is getting warmer.

Sea levels and good science

The same kind of scientific method used to measure our earth getting warmer has been employed to determine if ocean levels are rising. Again, science works to employ a method that observes the entire earth system, not simply focusing on a specific area or a specific time, to protect against bias. For example, a sinking land mass might show seas encroaching onto the land, but the cause is the land sinking and not the seas rising. Scientific observations of many different areas of the earth over a long period of time show our oceans are rising. The causes of sea-level rise are primarily due to the melting of ice (such as glaciers and sea ice) as well as the thermal expansion of the oceans, that is, as the earth warms more ice melts and, as a consequence, the oceans also warm. A relationship is born between climate change and rising seas: As the earth warms we should expect seas to continue to rise.

Again, it is hard for us to see the relationship between an average warming of our planet over time and the rise in average ocean levels. The process can seem deceptively slow, particularly when we experience an especially cold winter as we did here in New England in 2014. Moreover, because the process of sea-level rise moves somewhat slowly, we can be lulled into a false sense of security about how we approach it. For example, what should government be doing today, if anything, about rising seas? Should it take a wait-and-see approach, or should it be more proactive in helping to protect the future of our coastlines? No doubt many of us recall the events of 2013 and 2014, when Congress enacted the Briggert-Waters Act. That law attempted to change long-standing approaches in how the federal government helped us coastal citizens "see" our relationship to our coastline.

Operationally, Briggert-Waters attempted to change how the federal government provided and administered coastal flood insurance protection. The law altered its subsidies for flood insurance, attempted to update flood mapping to better reflect newly understood risks (like sea level rise), and placed greater responsibility on the homeowner in protecting against the risk of living in flood-prone areas. For many coastal communities in Massachusetts, some of the proposed changes seemed harsh. Folks who had never been located in a flood zone were now identified to be living in a flood zone. Some who did not carry flood insurance were told flood insurance was now required. Others who did have flood insurance saw premium increases that caused "sticker shock." The collective changes contained in Briggert-Waters went too far, too fast. The end result was a moratorium passed on most of these provisions by Congress in the first half of 2014.

A house on the Plum Island seacoast in Newbury, Mass., sits partially collapsed into the churning surf, driven by winds from a slow-moving storm centered far out in the Atlantic Ocean, at high tide on March 8, 2013. AP PHOTO/NEWBURYPORT DAILY NEWS, JIM VAIKNORAS

Flood insurance needed change

While many feel Briggert-Waters was too much of a change, we might consider why Congress felt compelled to alter its longstanding coastal flood insurance policy in the first place. Since 1968 our federal government has been in the business of providing national flood insurance. The National Flood Insurance Program, or NFIP, was created in large part to help deal with the costs of flooding disasters. Disasters were expensive and occurring more often, and the federal government historically took responsibility through federal disaster relief efforts. Taxpayer money was paying the full cost for those living in flood-prone areas. The NFIP was created to help in the sharing of those costs. Citizens living in flood-prone areas would take on some of the risk with the federal government subsidizing the remaining risk through reduced premiums and federal disaster relief.

Probably the strongest impetus for Briggert-Waters has occurred in the past decade or so. Flood-related losses have far exceeded the premiums brought in under the NFIP. As the scientists have noted, flooding events are becoming more frequent and intense. This has led to greater losses than anticipated, requiring the NFIP to borrow more and more taxpayer money from the federal government to cover these losses. Briggert-Waters was an attempt to shift some of that evolving risk onto those owning coastal properties. One can certainly argue with the fairness, or lack thereof, inherent in Briggert-Waters. But underlying any argument about fairness is the fact that risk is increasing along our coastlines: We may not see that risk increasing day-to-day, but the trend is clear. How we decide to deal with that risk is an open question, but an important part of any meaningful dialogue is accepting the underlying fact that risk is, in fact, increasing. In other words, we all need to start thinking a little more like scientists.

The bigger picture

Questions about how government should act toward sea-level rise are hard to answer, particularly in areas of our country where we have committed ourselves to seaside living with the expectation that the oceans will not rise and cause trouble. However we, as a society, ultimately decide such questions, it is important we use the lens of scientists, how they understand climate change and rising seas, to inform our decisions. If we focus only on what we see today, we are likely to miss the larger trends that help us see what will come tomorrow. And if tomorrow promises rising seas, then our ability to make informed decisions today will make all the difference.

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