

April 2017 NHMA Newsletter



A Few Words From Our President

HI!

April had been an incredibly busy and productive month for the many volunteers at NHMA. Under the capable leadership of NHMA Board Members Dr. John Wiener and Jim Mullen and several other NHMA volunteers, we submitted detailed comments on the proposed concept of a deductible for the Public Assistance Program. While the details need to be worked out, such a program could be designed to help in the transformation of current development practices which all too often permit and even encourage the externalization of the true costs of safe development to society at large through the costs of cleaning up after foreseeable natural events. If good development practices are rewarded financially, and poor development practices are financially discouraged, we could really encourage sound hazard mitigation, disaster risk reduction and climate adaptation. The NHMA Comments will be posted online soon. John Wiener's excellent article about this effort is published below and can also be found on the NHMA website [here](#).

April also marked the roll-out of a significant portion of the NHMA Disaster Risk Reduction Curriculum in Harrisburg, Pennsylvania in the splendid new Operations Center of the Pennsylvania State Emergency Management Agency. Much more information on the DRR Curriculum will be posted on the NHMA website soon.

We would very much like to get real world practitioners like all of you involved in developing the remaining Modules of the Disaster Risk Reduction Curriculum, additional publications and workshops, and the ABA Book mentioned below, plus other opportunities we will have to present in workshops and webinars around the country. Any volunteers? [Please let us know what you would like to contribute and how you would like to be involved!](#)

In addition, I would like to bring all of you up-to-date on some more things we are doing at the Natural Hazard Mitigation Association (NHMA), as well as with the

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About NHMA
(JOIN NHMA)

American Bar Association (ABA), on resilience and disaster risk reduction:

I. The American Bar Association (ABA) and Resilience: An ABA Resilience Resolution and Report was unanimously approved last month, after literally years of discussion and development. We will be posting the Resolution and accompanying Report online shortly. We think that this Resolution and Report is a huge opportunity for those of us who care about disaster risk reduction and floodplain management. **We need to work with you and others to spread the word.** If you have, or know of, any attorneys who are interested in learning more about disaster risk reduction, please let us know.

II. Background on Other Educational Efforts on Resilience and Disaster Risk Reduction:

A) NHMA: As you are all aware, the Natural Hazard Mitigation Association is working to develop a Disaster Risk Reduction (DRR) Curriculum. This Curriculum includes floodplain management, planning, and legally orientated training. Many NHMA volunteers, particularly those from the Resilient Neighbors Network (RNN), and a contractor are heavily involved in developing the DRR Curriculum. **We did a partial roll out of the Curriculum on April 17-18, 2017 in Harrisburg, PA.** These sessions were recorded and will soon be available through the web. Updated information will also soon be posted on our website at www.nhma.info.

Importantly and in addition, our DRR Curriculum contains extensive hazards planning components. Under the leadership of NHMA Board Member Shannon Burke, we are working with the American Planning Association to schedule a webinar to discuss this material, tentatively scheduled for July 21, 2017.

B) Attorneys: As mentioned above, there are several ABA and other Resilience educational efforts for attorneys underway:

i) The Utah Bar Association Workshop on disasters is part of this overall effort. This workshop is still in formulation, but it is scheduled to be held September 13-14, 2017, and will involve discussions about what attorneys can do ahead of time to prepare for disasters. George Huff, Esq., of the Continuity Project, Erin Capps, Esq., and I are all involved. We hope that both the State and Local Government Law Section of the ABA and the ABA Committee on Disaster Response and Preparedness will be interested in what we develop for Utah and think it could be a model for use elsewhere.

We are also working to discuss the possibility of broadcasting one or more of the modules from the Utah Workshop as ABA-sponsored webinars; hopefully co-sponsored by related community development professional organizations, including Architects and Engineers.

ii) A Summer 2017 ABA-wide webinar on Attorneys and Disasters: Primary sponsors of this event are the ABA Committee on Disaster Response and

What You Can Do
(Volunteer for NHMA)

RNN COMMUNITY NEWS

About the RNN
Communities

UPCOMING EVENT!
- 2017 Resilient
Virginia Conference

Join our RNN Community

Follow us on: [Twitter](#) /
[Facebook](#) / [LinkedIn](#)

FOOTER



About NHMA:

The Natural Hazard Mitigation Association (NHMA) is a member supported 501(c)(3) educational & charitable organization composed of mitigation professionals. We continuously work to promote risk reduction and reduce the consequences of natural events, especially among the most vulnerable populations in our communities. Our voice in the realm of hazard mitigation is unique, reaching out to include the contributions of educators, engineers, planners, architects, legal professionals, community members, and elected officials at all levels into our hazard mitigation and community resilience efforts. We are engaged in educating and supporting communities and individuals in their roles of hazard mitigation. For more information about

Preparedness, and the State and Local Government Law Section. We hope that other disaster risk reduction organizations, such as APA, NHMA, ASAP and others might support this important event by distributing information. The session will be designed as a follow-up to **Representing Disaster Survivors: Challenges to Survivors AND Lawyers (On-Demand CLE)**, an introduction to the Attorneys and Disasters Webinar held 6/22/16. I would like to follow this webinar by looking at the questions/comments left over from the June webinar and reviewing more closely the resources available to attorneys, and all involved in disaster recovery. There may be more than one webinar desired by the ABA on this topic.

iii) An in-person presentation and webinar is scheduled to be presented at the Annual Meeting of ABA in NYC in August 2017 entitled: "Engaged in Resilience But Flirting With Disaster." This is part of the implementation effort for the ABA Resilience Resolution and Report, and we have secured a slot at the ABA Annual Meeting in New York City on August 10, 2017 at 2:30 -p.m. to 3:45 p.m. to discuss real world challenges to disaster risk reduction. For more information, please see details in our EVENTS listings below.

iv) Savannah Meeting October 5-8, 2017: Planning is underway of a program for the ABA in the Fall 2017 State and Local Government Law Section Meeting in Savannah, Georgia. The meeting is planned to focus, at least in part, on coastal issues – shoreline retreat, property rights, etc., to highlight the Resilience Resolution and other things on which the ABA is working. I am currently working with the Savannah Floodplain Manager to obtain suggestions as to possible tours as well as speakers.

v) Vancouver January-February 2018: Planning is also underway for a Resilience, Renewal Energy and Disaster Risk Reduction session and tour at the January 31 to February 4, 2018 ABA mid-year meeting in Vancouver, Canada. Vancouver is one of the most excellent examples of resilience in terms of energy and disaster risk reduction in North America. We very much hope to partner with others to make this a splendid event for resilience & disaster risk reduction.

C) American Bar Association Proposed Resilience Book: NHMA Members George Huff Esq. of the Continuity Project, Donna Boyce JD, from Solix [who is also a National Institute of Standards and Technology Fellow, working on the NIST *Community Resilience Guide* effort] and I have already begun to discuss a potential ABA publication on Resilience, involving not just attorneys, but allied affected professions including insurance, local, federal and state government, architecture, engineering and emergency management. Our proposed emphasis will be on the Disaster Risk Reduction Aspects of Resilience. We anticipate that this book will be of great interest and value to other ABA groups and sections, in addition to the State and Local Government Law Section and the Disaster Response and Preparedness Committee. Certainly the content should appeal to multiple silos within ABA and the related community development professions.

We have determined that we would like the proposed book to be coordinated in

Neighbors Network (RNN), visit nhma.info.

Interested in Joining?

[Join NHMA](#)

[Donate](#)



NHMA is essentially an all-volunteer organization. All any of us can do to support the organization's efforts are to donate some combination of:

**Time
Talent
Treasure**

For those of you who cannot donate much time and talent, please consider donating Treasure: money-appreciated stocks. Donations can be made online at

<http://nhma.info/>.

Remember that NHMA is a 501(c)(3) charitable organization and all contributions are tax deductible. Thank you and please give generously.

content with other ABA resilience-related efforts such as the Ernie Abbott-edited upcoming *ABA Homeland Security and Emergency Management*, 3rd edition; the new book on Cybersecurity in which George Huff is an author; as well as the Personal Resilience Webinar presented by ABA.

We would also like to coordinate this book with a proposed *ABA Disaster Law Handbook*. In turn, we would like to coordinate the NHMA publication *Building Your Roadmap to a Disaster Resilient Future*, with the *Disaster Law Handbook*. The soon-to-be updated *Roadmap* is online now, although we expect to have an update available within the next few days.

We would also like to consider the possibility of coordinating this effort with the Kresge Foundation-funded Resilience publication series being published by Island Press.

Cheers!

Ed Thomas, President

UPCOMING EVENTS:

Silver Jackets Webinar Series **Partnering Opportunities No. 1 -** **Rockefeller Foundation** **(100 Resilient Cities)**

On **May 8 at 2 pm EDT**, IWR SilverJackets will host the first of a six-part Silver Jackets webinar series about Partnering Opportunities.

Information to access is below:

100 RESILIENT CITIES

Please join Lynn Seirup and Mariane Jang from 100 Resilient Cities (100RC) and learn how 100RC works and which cities in the United



NHMA is always looking for volunteers to help with many important ongoing projects. From planning committees to publications contributions to fundraising, there are many, many tasks that need doing, which can only be done by you - our member volunteers.

If you are a member of NHMA and would like to help, we encourage you to visit our [Volunteers Page](#) and jump on board! If you are not yet a member of NHMA but would like to help, we invite you to [join NHMA](#) and visit our [Volunteers Page](#).



RESILIENT NEIGHBORS NETWORK (RNN)

RNN Mission: To increase resilience in existing and developing communities at the grass roots level by documenting and actively sharing best practices, through education, peer to peer collaboration and mentoring.

RNN Vision: RNN will be a source for a compilation of community-driven hazard resilience best practices that can serve as a resource to people and communities before, during and after a disaster.

States are part of the 100RC network.

The Rockefeller Foundation pioneered 100RC to help cities worldwide build resilience to the growing physical, social and economic challenges of the 21st century. By understanding how existing challenges are connected, and by planning not just for potential shocks—like fires, floods and earthquakes—but also for everyday stresses—such as chronic water shortages, crime, violence, economic inequality and inefficient public transportation—cities can make themselves better in both good times and bad, for all their citizens.

Cities in the 100RC network are provided with the resources necessary to develop a roadmap to resilience along four main pathways:

1. Financial and logistical guidance for establishing an innovative new position in city government, a [Chief Resilience Officer](#), who will lead the city’s resilience efforts
2. Expert support for development of a robust [Resilience Strategy](#)
3. Access to solutions, service providers, and [partners from the private, public and NGO sectors](#) who can help them develop and implement their Resilience Strategies
4. Membership of a global [network of member cities](#) who can learn from and help each other.

Member 100RC cities in the United States total 24 and 18 of these have identified rainfall flooding or hurricanes as a potential shock.

100RC has staff and offices in New York, Mexico City, London, and Singapore to support the work in cities across regions. Lynn Seirup and Mariane Jang play key roles on the New York staff. Lynn is the Associate Director for City Solutions, Innovation in Urban Data and Technology. Mariane is the Partnership Lead for Urban Planning, Mobility, and Governance.

WEB MEETING AND AUDIO ACCESS INFORMATION:

AUDIO

* Meeting Number: 1-888-240-3210

* Access Code: 2248412

actively bring ground-truth and grassroots enlightenment to policy makers, researchers, regulators and journalists.

If you or someone you know would like more information about NHMA’s Resilient Neighbors Network or are interested in becoming involved, [please let us know!](#)



SHOUT OUT!

On April 17th & 18th, 2017, the Resilient Neighbors Network Communities participated in the formal rollout of a significant portion of the NHMA Disaster Risk Reduction Curriculum in Harrisburg, Pennsylvania. RNN Community Members Barb Miller and Rebecca Joyce both participated and together made several excellent Community presentations.

We look forward to bringing you more information about this important Curriculum effort.

WEB MEETING

* Web Link: <https://www.webmeeting.att.com>

* Meeting Number: 888-240-3210

* Code: 2248412



FEMA Region III

Mitigation Coffee Breaks

FEMA Region III is hosting a series of webinars in 2017 for hazard mitigation planners and other partners interested in reducing risk in their communities. These “Coffee Breaks” are hour-long sessions hosted every other month to provide mitigation best practices and highlight the work happening at federal, regional, state, and community levels to reduce risk across the region.

The Coffee Breaks are open to everyone involved in hazard mitigation, resiliency, or risk reduction planning in the public and private sector. This includes community planners, emergency managers, floodplain managers, GIS technicians, government officials, contractors, and anyone involved in the development and implementation of hazard mitigation and risk reduction strategies.

RNN SPECIAL ANNOUNCEMENT!

On Tuesday, August 01, 2017 through Wednesday, August 02, 2017, the **2017 Resilient Virginia Conference** will be held in Richmond, Virginia.

This year’s theme, *Connecting Communities, Business, and Educators for Resilience Solutions*, builds on last year’s inaugural conference goals of broadening the capacity for resiliency planning in the state, and it serves as a forum to highlight the resiliency programs developed under Governor Terry McAuliffe’s administration.

The Conference will be held at:

Greater Richmond Convention Center
403 North 3rd Street
Richmond, Virginia 23219
United States

For more information, visit:
resilientvirginia.org

RESOURCES:

[Bill](#)



U.S. EPA:

Free Preparedness Resources for Water Utilities

May 3, 2017 @ 1:00 PM ET

June 7, 2017 @1:00 PM ET

WSD is hosting two preparedness webinars introducing the new Route to Resilience Tool to drinking water and wastewater utilities. Drinking water and wastewater utilities in 38 states will receive continuing education units for participating (additional states still reviewing). Register for the webinar using the following url:

<http://utilities3May2017/>

Water and Emergency Services Sector Webinar Series:

Improved Resilience Through Collaboration

May 10, 2017 @1:00 PM ET

technology transfers between the National Weather Service and private sector weather companies and universities to improve forecasting.

NOAA must complete and operationalize the Constellation Observing System for Meteorology, Ionosphere, and Climate (a weather satellite program which develops observational techniques using global navigation systems).

Additionally, NOAA may contract with the private sector to obtain data for weather forecasting.

NOAA must continue its Environmental Information Services Working Group, which advises NOAA on weather research and opportunities to improve communications between weather stakeholders.

[NATURALLY RESILIENT COMMUNITIES](#)

This is a very interesting guide on redevelopment after flooding.

[APA Naturally Resilient](#)

May 24, 2017 @ 1:00 PM ET

June 14, 2017 @ 1:00 PM ET

The Water Security Division is hosting a three-part webinar series for drinking water and wastewater utilities and emergency management agencies to learn how to increase resilience and improve emergency response efforts. The topics will feature emergency management agencies and utility speakers covering the following:

Webinar 1 – Why Should I Care About Collaboration?

<https://www.eventbrite.com/e/us-epa-water-and-emergency-services-webinar-1-why-should-i-coordinate-tickets-33213400174>

Webinar 2 – What Have Others Done?

<https://www.eventbrite.com/e/us-epa-water-and-emergency-services-webinar-2-what-have-others-done-tickets-33215084211>

Webinar 3 – Confronting Challenges – Access and Fuel Supply

Planning <https://www.eventbrite.com/e/us-epa-water-and-emergency-services-webinar-3-addressing-challenges-tickets-33215629843>

Please see the registration links above.

[Communities](#)

This site allows you to choose the hazard types that impact your community and also sort through an array of natural solutions that can protect communities from those hazards.

[A Green Infrastructure Guidebook for City Planners](#)

This new online resource showcases how communities across the country have successfully mitigated the effects of extreme weather by relying on green infrastructure.

ARTICLES:

Note to NHMA on the Disaster Deductible Proposal from FEMA

By John Wiener, J.D., Ph.D.

HEADLINE FOR THOSE PRESSED FOR TIME (Who isn't?)

GOOD IDEA, BUT A LOT OF ISSUES IN HOW TO DO IT.

There is considerable pressure to reduce Federal spending on disaster relief, (e.g. the Heritage Foundation has short postings on their website and a long report as well, urging cuts). They follow the GAO reports which are said to call for changing the threshold for a disaster declaration by increasing the measure of capacity of states to pay. FEMA has instead proposed a "DISASTER DEDUCTIBLE" which would be an incentive to mitigate risks. This was in 2016 and again in 2017 with a much more detailed model.

If the deductible has been met, there would be no reduction in the Public Assistance pay-out. If the deductible has not been met, then part of what is needed in the event of declaration would have to be state or non-federal funding. The model has a lot of detail, and a lot of decisions that elicited some very detailed responses. NHMA comments were based on Lawrence Frank's work in 2016 and advice from Jim Mullen and others in and out of NHMA.

They approve the idea but raise concerns with a lot of the model; in essence, fairness in estimating the deductible is a rat nest of issues and so is the calculation of risks, which FEMA modeled as an adjustment to the deductible. As Larry Larson said, if this goes anywhere, it will be through more rule-making, so this is preliminary.

The best outcome, many think, is a bigger discussion of how to make states invest more. There are also serious problems with the idea of cost-reduction at the Federal level which may simply shift costs to states and local governments. Given the self-crippling fiscal policies many governments have adopted, there is reason to fear that costs would simply not be paid adequately.

Two points on cost: it may be systematically underestimated because of cost-shifting to other long-term programs such as social security, disability supports (Deryugina 2016 paper), and there is evidence that delayed and poor recovery drags down the regional economy – so far, for a decade of measurement. On the other hand, if any government actually goes for fiscal conservatism, the very high benefit to cost paybacks for mitigation make it an investment with extraordinary returns. A third interesting point on total costs is that taking out Hurricane Katrina, "Superstorm" Sandy and 9-11 takes out half the total payout in recent times, as shown by Resources for the Future in a policy briefing from 2016, available on their website. But that report had no information on the future costs and what they will do to everyone's budgets without taking mitigation seriously.

For the full detail, the docket for the Supplemental Advance Notice of Proposed Rule-making (SANPRM) 463 results for comments from the 2016 Advance Notice and the 2017 Supplemental Advance Notice.

<https://www.regulations.gov/docketBrowser?rpp=25&so=DESC&sb=commentDueDat>

The comments are quite varied, from individuals to NGOs and associations, and they are not at all uniform. Recommended for NHMA folks: The Nature Conservancy, 2016 and 2017, Union of Concerned Scientists, 2016 and 2017, NRDC-American Rivers 2017, University of Pennsylvania Law School, and of course, ASFPM, from 2016 and 2017. NHMA did not orient comments to climate change, because of the conviction that mitigation is critical regardless of climate. The TNC, UCS and NRDC-AR comments refer to issues of climate change and the 2016 UCS and TNC comments, as well as 2017 comments are very good sources for work on “green infrastructure”, or nature-based non-structural mitigation measures. NHMA took a somewhat generalized approach on the issues.

The GAO and others have urged that the Stafford Act has not been faithfully followed because the threshold for a federal disaster declaration has only relatively recently been escalated for inflation, and has not been escalated to account for increased personal income. The discussion of these issues in FEMA’s SANPRM is good, but the discussion (in the opinion of your correspondent) does not adequately address the increasing disparity in income, the housing cost increases, and the issues of social equity.

Many comments were thoughtful on weighting various kinds of mitigation, as suggested by FEMA; for instance, some recommend a 3 to 1 credit for investment in green infrastructure, and high weighting for social equity remediation projects, and lower weighting for ephemeral efforts such a rainy day fund for individual assistance and non-declaration emergency costs, because these funds tend to be redirected.

The comments on a much less detailed idea in the 2016 ANPRM issued by FEMA from NHMA were re-affirmed and we added some discussion on a range of issues. The most important may be that the NHMA supports efforts to provide incentives for mitigation, and for state efforts to provide stronger support for local governments mitigating risk. But, NHMA comments noted a variety of issues. Here are some of them:

- The Stafford Act creates a national risk pool and catastrophic insurance program but lacks incentives to reduce risk. The insurance model is appropriate, since there are national interests and the national economy is integrated, but the taxpayer as insurer is not following the private insurance model in either actuarial risk premiums or in incentives for improvement.
- Success in mitigation has been achieved in urban fire reduction, and in the National Flood Insurance Program Community Rating System, showing the value of incentives and the combination of financial tools and public safety regulations.
- There are serious concerns raised in the issues of cost-shifting from the federal level to the state level, and complex problems over whether the costs of disaster can be or would be reduced by any means other than genuine mitigation, risk avoidance, retrofitting and the menu that NHMA has always promoted.

- Relatively new evidence suggests that delayed and poor recovery from disasters can impose a very long-term drag on local and regional economies, and that shifted costs to social safety net programs can be, over the long term, perhaps as great a cost as the direct the difficulty disaster costs. Shifting costs that are not adequately addressed may therefore result in hidden but actually potentially substantially increased costs for all taxpayers at all levels.

- An additional issue is that the cost-effectiveness of mitigation may have been significantly underestimated, because of the difficulty of measuring lost chances for progress, the difficulty of measuring environmental and no-market values such as quality of life changes, and the difficulty of valuing human misery and loss. An additional issue is that as frequency and intensity of events which impose costs increase, the number of times will increase when a loss is avoided by good land use and design without additional cost, so the expected value of mitigation increases as the probability of potentially harmful events increases.

- The FEMA SANPRM describes (well and carefully) a model for establishing the deductible for each state, but it is based on historic public assistance awards with elaborate adjustments. NHMA has commented that there are many questionable aspects of using past PA awards as a basis, including uncertainties about why disaster losses have been incurred. We are concerned that state policies for and in discouragement of mitigation are important and highly varied and should not be the basis for future policy.

- The state deductible is adjusted by the risk estimation for a state, and NHMA comments suggest that there are problems with treating past events in isolation as good indicators, since future conditions may involve cumulative impacts which are qualitatively different risks for response and recovery capacity, while exposure to harmful events increases.

- The failure to exercise Stafford Act Sec. 423 authority to require adequate building codes and land use requirements was noted; the federal fisc has been used without much of a quid pro quo. States and others made many comments about the very large burdens already borne for what are often said to be 99% of emergency events. These comments seemed to overlook the unused capacity to reduce hazard exposures.

- The poor public information about hazards, including lack of good mapping and disclosure, was noted.

- The summary and points made by Lawrence Frank, for NHMA in 2016, were reaffirmed and reproduced.

The comment is easily found on the search function on the docket by looking for “Shannon Burke”, our Board member who formatted, edited, and submitted the comments on which there were good inputs by Jim Mullen, Barry Hokanson, and Ed Thomas, and drafting by John Wiener (who is responsible for mistakes and missing citations!). It was possible to do this with the help, also, of the large number of

comments from 2016, and some discussions and phone calls; big thanks to Shana Udvardy, Rachel Cletus, Larry Larson and others.

The New York Time Magazine

When Rising Seas Transform Risk Into Certainty

Along parts of the East Coast, the entire system of insuring coastal property is beginning to break down.

by BROOK JARVIS | April 18, 2017

In 1909, a group of Virginia developers placed an ad in The Norfolk Ledger-Dispatch announcing the creation of a subdivision that — because it was built on a pair of peninsulas where the Lafayette and Elizabeth Rivers poured into Chesapeake Bay — came to be known as Larchmont-Edgewater. The developers set up private jitney service to downtown and advertised the area as “Norfolk’s only high-class suburb.” People flocked to live by the water’s edge.

Today the neighborhood is known for the venerable crepe myrtles that line its streets, for its fine houses and schools and water views and for the frequency with which it is not just edged by, but inundated with, water. Melting ice and warming water are raising sea levels everywhere. But because the land in the Hampton Roads area of Virginia (which includes Norfolk) is also sinking, relative sea levels there are rising faster than anywhere on the Atlantic coast. Water levels are already as much as 18 inches higher than they were when the developers created Larchmont-Edgewater a century ago, and they are still rising. As a result, it’s much easier for winds, storms and tides to push flood water into streets, yards and homes that once stood high and dry.

When Elisa Staton found a small house a block from the water in Larchmont-Edgewater in 2005, she was thinking of the neighborhood’s grand trees and Tudor-style houses, of the elementary school she hoped to send her kids to, once she had them. She wasn’t thinking much about flooding, though she knew the house was in a hundred-year flood zone, which meant that to get a federally backed mortgage, she was required to pay for flood insurance through the National Flood Insurance Program (N.F.I.P.), a government-subsidized system overseen by the Federal Emergency Management Agency. The insurance was reasonable, and

there was no record of the house ever being flooded before. She bought it for \$320,000.

A “hundred-year flood” sounds like a factor of time, as if the land were expected to flood only once every 100 years, but what it’s really meant to express is risk — the land has a 1 percent chance of flooding each year. As waters rise, though, flooding in low-lying places without sea walls, like Larchmont-Edgewater, will become more and more common until the presence of water is less about chance and more about certainty. And few insurers are willing to bet against a certainty.

Ten years later, Staton’s rec room had been flooded twice, and her insurance premiums, like those of many coastal property owners, had skyrocketed. She was seeing the effects not only of those local floods but also of rising waters elsewhere. As storm damage becomes more costly, it has left the N.F.I.P. tens of billions of dollars in debt and federal officials scrambling to bridge the divide between the rapidly growing expense of insuring these properties and the comparatively tiny, taxpayer-subsidized premiums that support it.

In 2012 and 2014, Congress responded to the N.F.I.P.’s troubles with bills known, thanks to the accidental aptness of their sponsors’ names, as Biggert-Waters and Grimm-Waters. The first law cut subsidies and phased out grandfathered rates so that premiums would start to reflect the true risk that properties like Staton’s face — reaching what the N.F.I.P. calls “actuarial soundness.” The second tried to slow the rate of those increases when it became clear how hard they would hit property owners.

Staton married and left Norfolk, renting out her house as she followed her husband’s job in the military. But eventually she was paying nearly \$6,000 in flood premiums on top of her mortgage every year, nearly always more than she could make in rent. “I decided to cut my losses and get out,” she said. “The flood insurance kept going up, and I was drowning in it.” A real estate agent she consulted told her that she’d be lucky to sell the house for \$180,000, barely more than half of what she paid for it and significantly less than what she still owed on the mortgage. Everyone looking at places near the river, the agent said, asked about flood insurance first. It wasn’t the risk of high waters that spooked buyers; it was the certainty of high premiums.

Staton lay awake at night wondering what to do. “I *hate* that house — that house has been my nightmare for 10 years,” she said last month, on a day when the dogwood and quince were bursting into flower in the front yard and the sun was sparkling off the calm, tidal river biding its time a block away. “I never got to get my head back above water.”

Insurance serves as a bulwark, both financial and mental, against the fact that we live in a fundamentally uncertain and dangerous world. “The revolutionary idea that defines the boundary between modern times and the past,” the financial historian Peter L. Bernstein wrote in his 1996

book, “Against the Gods,” “is the mastery of risk: the notion that the future is more than a whim of the gods and that men and women are not passive before nature.” Calamity can come for us all, but by bundling enough separate peril together we manage to form a general stability, a collective hedge against helplessness. As climate insecurity mounts, though, that math will get harder.

Frank Nutter, president of the Reinsurance Association of America, put it in more direct terms: “Constant risk — that’s not what insurance is about.”

Flooding is the most common, and most expensive, natural disaster in the United States. Private insurers have long declined to cover it, leaving the government on the hook for disaster assistance after floods. (Hence the famous lawsuits after Hurricane Katrina, when people who came home to empty slabs were asked to prove that their losses were a result of wind and not waves.) Congress created the N.F.I.P. in the late 1960s in response to a series of expensive floods caused by hurricanes and overflowing rivers. It offers insurance coverage, some of it subsidized, to communities that meet floodplain-management requirements; requires people who want loans to buy houses in dangerous places to buy it; and also provides grants for mitigation projects meant to reduce flooding damage, like elevating houses or buying out the owners of flood-prone homes. Private insurers including Farmers, Allstate and 68 other companies also sell and administer the policy on the government’s behalf — and take a sizable cut of the premium. If floods do come, though, it’s still the government that’s on the hook.

The N.F.I.P. was meant to encourage safer building practices. Critics argue that instead it created a perverse incentive — a moral hazard — to build, and to stay, in flood-prone areas by bailing people out repeatedly and by spreading, and in that way hiding, the true costs of risk. (In 1998, “repetitive-loss properties,” buildings that flood over and over, accounted for 2 percent of N.F.I.P.’s insured properties but 40 percent of its losses; since then, such losses have only increased.) As Larry Filer, an economist at the Center for Economic Analysis and Policy at Norfolk’s Old Dominion University, explains, “Somebody on a mountain in Colorado is helping the person in Virginia Beach live on the waterfront.”

And then came Hurricanes Katrina, Wilma and Rita, which in 2005 left the N.F.I.P. with claims six times higher than it had seen in any previous year. To cover them, it borrowed \$17.3 billion from the Treasury. Hurricane Sandy in 2012 meant another \$6.25 billion in debt, along with allegations that insurance companies distributing FEMA funds were shorting policyholders; 2016, when there were floods in Louisiana, Texas, Virginia and elsewhere, managed to be the third-most-expensive year in the N.F.I.P.’s history even with no single standout catastrophe, deepening the hole further. Servicing the debt is expensive, but FEMA sees no way to repay it, Roy Wright, the N.F.I.P. administrator, told Congress last month.

More losses loom. A single major storm-and-flooding event could cause \$10 billion in damage in Hampton Roads alone, according to one planning report. AIR Worldwide, which models the risks of catastrophic events for insurance companies and governments, found that \$1.1 trillion in property assets along the Eastern Seaboard lie within the path of a hundred-year storm surge. “That’s a very staggering number,” says AIR’s chief research officer, Jayanta Guin — and it represents only the risk on that coast, and only under current sea levels. By the 2030s, according to a 2008 analysis by Risk Management Solutions (R.M.S.) and Lloyd’s of London, annual losses from storm surges in coastal areas around the world could double.

In 2015, the N.F.I.P. asked R.M.S. and AIR Worldwide to update its modeling by running thousands of computer simulations to show what possible storms might mean for the properties it insures, helping it to quantify its financial exposure across the country. In 2016 and 2017, the N.F.I.P. — in a first-of-its-kind action for a federal program — transferred some of its risk to large, private companies known as reinsurers, which pool risk on gigantic scales: insurance for insurance companies.

[To read the full article, go here.](#)

Resilience Built on Foundation of Data (12-27-16)



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