A Few Words From Our President

HI!

We are extremely pleased to report to all of you that NHMA has concluded its Cooperating Technical Partners Project funded with FEMA FY 15 funding. As a result of a tremendous commitment of literally thousands of hours of volunteer time coupled with tremendous financial support from FEMA, we are well on our way towards making a transformative change in educating and inspiring decision makers and grass roots folk on what is necessary to achieve the Disaster Risk Reduction elements of Resilience.

This is an update on what NHMA has been doing to make highly leveraged use of enormously valued FEMA CTP funds, together with links to a selection of documents which are the product of those efforts.

I. The Disaster Risk Reduction Curriculum

The Natural Hazard Mitigation Association, with welcome financial support from the FEMA CTP Grant which helped fund excellent support from a contractor, Wightman Associates, coupled with literally thousands of hours of volunteer time, has continued to develop the Disaster Risk Reduction Curriculum. We had a successful Pilot at the Pennsylvania State Emergency Management Agency Operations Center in Harrisburg on April 17-18, 2017.
We have a considerable amount of materials developed including 16 Modules as well as a revised and updated reworking of the venerable *Patchwork Quilt* White Paper, which has been used around the nation for over 20 years. The updated paper is called *Building Your Roadmap to a Disaster Resilient Future*.

Here are links to the DRR Curriculum Plan as well as the new Roadmap White Paper.

Note that the Curriculum includes considerable legal, as well as Architectural, Engineering, Planning, Policy and other materials designed to inform, inspire and motivate grassroots action to build a safer, more just and resilient nation.

Updated information is now available on line at [http://nhma.info/](http://nhma.info/)

A more complete, maybe not-quite-ready-for-prime-time set of materials is at: [http://fancyfrog.com/NHMA/](http://fancyfrog.com/NHMA/)

We would very much like to work with all of you to make the widest and most synergistic possible use of the DRR Curriculum & the Roadmap.

II. Other NHMA Resilience and Disaster Risk Reduction Activity

We are also working with the American Bar Association and many other organizations on a Whole Community based Resilience and Disaster Risk Reduction effort.

**A.) The American Bar Association (ABA) and Resilience**

The ABA Resilience Resolution and Report was unanimously approved last February, after about seven years of discussion and development.

We think that this Resolution and Report is a huge opportunity for those of us who care about Disaster Risk Reduction and Floodplain Management.

**B.) Resilience and Disaster Risk Reduction Task Force**

Incoming Chair of the ABA State and Local Government Law Section, Rob Thomas, has approved the formation of a Task Force of the State and Local Government Law Section on Resilience and Disaster Risk Reduction.

This is the current proposed TF description:

**SLGL Section Task Force (TF) on Resilience & Disaster Risk Reduction**

“This TF will have an emphasis on practical steps for State and Local government to take to protect the property and rights of all within a community by reducing disaster risk and improving disaster preparedness, response and long-term recovery. This would be a group designed to inspire, educate and inform folks throughout our Section and through the Section leadership the entire ABA of methods which can be used to better prepare for, recover from and reduce the risk of harm to people, places and the environment.”

We hope to use this TF to deal with issues such as...

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Toronto, Canada, (July 15-21, 2018) - **Call for Abstracts** (Submissions Deadline 9/30/17)

**RECENT EVENTS RECAP:**
- NHMA Hosts Two Events at the Natural Hazards Workshop (July 10 & 12, 2017)

**ARTICLES:**
- "Emergency Preparedness Rule Provides Opportunity To Introduce Mitigation Options" (7-29-17), by Rebecca Joyce, NHMA Board Member
- "Measuring Up US Infrastructure Against Other Countries" (July 28, 2017) *The Conversation*, by Hiba Baroud
- Blog Link: "Wildfires, Health and Climate Change: Research and Resources" (July 18, 2017), *The Harvard Journalist's Resource Blog*, by David Trilling

**REFERENCE / RESOURCES:**
- NAS Free Resources for Disaster Resilience
- EPA Launches Water Finance Clearinghouse (July 26, 2017)
- Urban Street Stormwater Guide by the National Association of City Transportation Officials

**About NHMA**
(JOIN NHMA)
What You Can Do
(Volunteer for NHMA)

**RNN COMMUNITY**
Coastal risks, Wetland risks/preservation, Disaster Risk insurance and other aspects of Disaster Risk Reduction.

One of our goals is cross-silo recognition of the need for inclusion of all aspects of Disaster Management (Response, Recovery, Preparedness and Hazard Mitigation [a/k/a Climate Adaptation]) in local and state government activities.

This TF description is, of course, a DRAFT, subject to the input of all the TF Members.

We will be soliciting membership from both within the Section and ABA as well as outside the section from folks in FEMA, Sea Grant, FEMA, NOAA, etc.

We are anxious to work with all of you to take full advantage of this transformative opportunity.

III. Background on Other Ongoing and Future Educational Efforts on Resilience and Disaster Risk Reduction

A brief summary of our ongoing partnership efforts:

1.) Attorneys

There are several ABA and other Resilience educational efforts for Attorneys underway, which have been sparked by the ABA Resilience Resolution:

a.) The Utah Governor’s Office of Homeland Security and Emergency Management & Salt Lake County, Utah District Attorney's Workshop on Legal Aspects of Disasters

The Workshop is scheduled to be held September 13-14, 2017, and involve discussions about what Attorneys can do ahead of time to prepare for disasters. NHMA members George Huff, Esq., of the Continuity Project, Erin Capps, Esq., and Ed Thomas are all involved.

We hope that both the State and Local Government Law Section and the ABA Committee on Disaster Response and Preparedness will be interested in what we develop for Utah, and think it might be a model for use elsewhere. A DRAFT description of the Workshop is available if you are interested.

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.

NHMA Vice President, Erin Capps, Esq., is currently working with the Executive Director of the Texas Floodplain Managers Association to discuss the possibilities of putting on a training session on Resilience Disaster Risk Reduction and Hazard Mitigation for local Emergency Managers and other local officials. Will keep you informed as this progresses. If we are putting on a workshop for local folks, it would be possible to develop another session for Attorneys modeled on the Utah Workshop, but particularized to your locale.

In any case, I hope we can include all of you in whatever we do, especially from the perspective of the Whole Community & No Adverse Impact approach to Resilience and Disaster Risk Management and Reduction.

b.) The July 11, 2017 ABA-wide Webinar on Attorneys and Disasters

NEWS
About the RNN Comunities
REMINDER: HAPPENING THIS WEEK:
- 2017 Resilient Virginia Conference

Join our RNN Community
Follow us on: Twitter / Facebook / LinkedIn

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 NHMA and its Resilient Neighbors Network (RNN), visit nhma.info.

Interested in Joining?
Primary sponsors of this excellent webinar were the ABA Committee on Disaster Response and Preparedness & the Young Lawyers. The session was designed to be a follow-up to Representing Disaster Survivors: Challenges to Survivors AND Lawyers (On-Demand CLE) an introduction to Attorneys and Disasters Webinar held 6/22/16. [That webinar is currently available on the ABA website.]

We hope to have this latest webinar on-line soon.

c.) 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”.

As part of our implementation effort for the ABA Resilience Resolution and Report, we have secured a slot at the ABA Annual Meeting in New York City next August to discuss real world challenges to Disaster Risk Reduction.

That panel is scheduled for August 10 at 2:30 p.m. to 3:45 p.m. and is described as follows:

“Engaged in Resilience, but Flirting With Disaster
The panel will explore how communities can deal with the vagaries of Mother Nature, and become Resilient towards a safer, better and more just future. Floods and other disasters are not as predicable neither as to magnitude nor as to location as we might like them to be. Recent inland floods have been devastating to many areas considerably outside areas mapped by FEMA as Special Flood Hazard Areas.”

Moderator: Edward Thomas, Esq.
Speakers:  
Dr. Jennifer Jurado, Chief Resilience Officer Broward County, FL  
Rick Sacbibit, PE, FEMA National Floodplain Mapping Program Manager  
John Marshall, Esq., Georgia State Law Professor

2.) Planners
Our DRR curriculum contains extensive hazards planning components; we have conducted a splendid webinar in conjunction with the American Planning Association to discuss this material in a webinar held July 21, 2017. For those of you who missed this excellent webinar conducted by NHMA members Shannon Burke, Allison Hardin and Lawrence Frank, the materials will soon be available on the APA and NHMA websites.

3.) Wetlands and Flood
In conjunction with the Natural Floodplains Function Alliance and the Association of State Wetland Managers (ASWM), we are planning a webinar on Government Liability for Flooding, Date: TBD:

Draft Agenda:

- Introduction by Jeanne Christie, ASWM Executive Director
• Government Liability and Climate Change: Selected Issues for Wetland and Floodplain Managers
  ○ An overview of Dr. Jon Kusler, Esq.’s work in this area of policy and law by Dr. John D. Wiener, Esq.
  ○ The American Bar Association’s Resolution on Resiliency
  ○ An overview of the ABA’s Feb. 6, 2017 resolution on resiliency by speaker TBD

• Clean Water Act and Floods/Natural Hazard Management
  ○ Can Clean Water Act programs address floods and natural hazards as part of meeting the goals of the Act? By speaker TBD

• Turning Koontz into an Opportunity for More Resilient Communities
  ○ An overview of Edward A. Thomas, Esq.’s work on the legal implications of the Koontz case for resiliency planning and policy by Edward A. Thomas, Esq.

I hope that this overall report helps you see what we are trying to do as part of a vastly larger, and much needed effort.

In the May 2017 issue of the NHMA Newsletter, I explained how our overall efforts fit into the approach, pioneered by Dr. Denis Mileti, Director Emeritus of the Hazards Center, to change the public perception of risk and the individual conduct of actions to reduce risk. That edition of our Newsletter is available at: http://nhma.info/wp-content/uploads/2017/05/NHMA_May_2017_Newsletter.pdf

Cheers!

Ed

Edward Thomas Esq.
President
Natural Hazard Mitigation Association
617-515-3849
edwathomas@aol.com
Ed Thomas, President

ANNOUNCEMENT!

UPCOMING
NAI Lunch & Learn Webinar

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. RNN will also 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
Presentation by
NHMA President, Ed Thomas, Esquire

The Georgia Association of Floodplain Managers (GAFM) No Adverse Impact (NAI) Committee, in conjunction with the ASFPM NAI Committee, is pleased to announce our next Webinar:

Overcoming Impediments to Flood Resilience: Paths Forward

HOST: Michael Baker International, Inc.

PRESENTER: Edward A. Thomas, Esq., Natural Hazard Mitigation Association

Date and Time: Thursday August 3, 2017 from 12-1:00pm DST

Event Password: event1

**ASFPM has approved this webinar for (1) Continuing Education Credit (CEC).

***Don’t forget, please indicate your CFM status on the registration page title block (i.e., Your Name, CFM)**

**Note you must register in advance to participate and attend through the entire presentation to receive CEC credit.**

Please click on the link below and follow the instructions to register for the webinar:

1. Go to OVERCOMING IMPEDIMENTS TO FLOOD RESILIENCE
2. Click "Register"

ARTICLE:

This article is a must-read for all of us who support higher standards of building to prevent natural events from becoming Disasters:

Building Codes Pay for Themselves in Disaster-Prone Regions

blog from Harvard's Kennedy School of Government: Journalist's Resource
June 26, 2017
By David Trilling

Damage from Hurricane Charley, 2004. (FEMA.gov)

It can be expensive making your home or business conform to local building codes. Ensuring a building does not get blown
3. On the registration form, please enter your information in the title block (including CFM status) and then click "Submit"

Once registered you will receive a confirmation email with the call-in number and web link to participate in the webinar. Registered participants will also receive a copy of the presentation via email the day of the event.

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**Presentations from Third Adaptation Forum Now Available Online!**

*A quick note from NHMA Board Member John Wiener*

The presentations and posters from the Third National Adaptation Forum, held in May, 2017, are now available with indexing across sectors, through the Forum’s website: [http://www.nationaladaptationforum.org/](http://www.nationaladaptationforum.org/). A pdf of the full program is downloadable, with session and paper abstracts; it is informative by itself (at 52 pp). There were roughly 82 sessions. The plenary presentations are also available; they were varied across sectors and topics.

One of the emerging themes is the overlap between hazard mitigation and climate adaptation; many find the distinction quite vague and some disregard it in favor of engaging with the discussions and interests at hand. One of the unusual features was a full day of sessions on Minnesota (the meeting was in St. Paul) by a wide variety of groups and agencies; it may warrant consideration for issues such as plan integration.

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In Florida, Hurricane Andrew in 1992 was a wake-up call. The single costliest natural disaster in history at the time, Andrew destroyed 25,000 homes, damaged four times as many, and cost $28 billion in today’s dollars. It put 11 insurance companies out of business.

In response, Florida moved to adopt one of the strictest codes in the nation, the Florida Building Code (FBC), which became law in 2001 and is designed specifically for extreme wind storms like hurricanes. It applies to all new homes in the state.

**A new study analyzes the FBC and finds it saves far more than it costs to implement.**


Study summary: The authors, led by Kevin Simmons — an economist at Austin College in Texas — use data from insurance policy claims and losses across the state between 2001 and 2010 from Insurances Services Office.
Access the presentations and abstracts through the program on-line. There is a huge range of coverage here by hundreds of presenters. Their contact information is also provided. Enjoy!

John Wiener

Presentations from Third Adaptation Forum Now Available Online!
A quick note from NHMA Board Member John Wiener

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National Adaptation Forum Vitals | National Adaptation Forum
www.nationaladaptationforum.org

The National Adaptation Forum is the gathering of the adaptation minded. Since the Forum is created by and for the members of the adaptation community, the meeting …

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Access the presentations and abstracts through the (ISO), a private actuary and statistical company serving the insurance industry. With data covering approximately 12.5 percent of all homes in Florida, Simmons and his colleagues review 593,663 property loss claims totaling over $8 billion across 10 years.

They also look at the date when a home was constructed, allowing them to compare how structures built before and after the FBC fare in a hurricane. (Owners of older homes are not required to retrofit their residences to meet the latest code. But with Florida among the fastest-growing states, every year new homes comprise a larger share of the state’s overall housing supply.)

Of course, the authors cannot recreate a megastorm like Hurricane Andrew to test the new FBC. But they use data on wind speeds and duration for 18 tropical cyclones (including hurricanes) between 2001 and 2010 to isolate the effect of the FBC. Finally, to measure the economic effectiveness of the FBC, they compare loss data across the 10 years with the cost of complying with the new regulations.

**Key takeaways:**

* Across the study period, the authors found that homes built after the year 2000 suffer between 47 and 72 percent less in losses than homes built before 2000.

* Better construction
program on-line. There is a huge range of coverage here by hundreds of presenters. Their contact information is also provided. Enjoy!

All presentations from NAF 2017 are linked through the online program!

Thank you to all our session and poster presenters for providing such a wealth of information at the National Adaptation Forum! If you could not attend the Forum or you missed a presentation, Forum Staff have uploaded all presentations and posters that were saved throughout the week. The presentations are accessible through the online program, as PDF attachments. Keep in mind, some sessions did not have PowerPoint presentations.

If you do not see your presentation or poster, please email info@nationaladaptationforum.org with your presentation file.

appears to reduce losses in two ways: by lowering the number of insurance claims and lowering the size of those claims.

* The FBC added a cost of approximately $1.66 per square foot, on average, to new homes under construction throughout Florida (in 2010 dollars). Since Florida’s average new home size is 1,960 square feet, this means the FBC increases the cost of building a home by $3,254, on average.

* Houses built to the FBC experience $10,093 less in damage within 10 years, on average. That means $3.10 is saved for every $1 invested in adhering to the FBC. Projecting over 50 years, and considering the effects of inflation, the authors find a benefit-cost ratio of 2.37 (meaning that $2.37 is saved for every $1 extra spent).

* In lower insurance premiums (lower risk means lower premiums) and less deductibles paid, the higher upfront costs required by the FBC pay for themselves within 10 years. “This is important for gauging potential political support, or non-support, for enactment of the new codes. Payback periods that approach the typical mortgage term, 30 years, would in theory be difficult to achieve and that is not what our analysis indicates for the FBC.”

* In case there was any doubt, the authors found that, as expected, higher wind speeds increase
UPCOMING EVENTS:

The Science, Business and Education of Sustainable Infrastructure Recording Access
See Higher Education Offer below

Closing the Environmental Literacy Gap Webinar
August 2, 2017

The 4th Webinar in SSF's "Closing the Environmental Literacy Gap" Series

Earth Ed - Rethinking Education on a Changing Planet

losses to homeowners.

Helpful resources:

The International Code Council (ICC) is a non-profit that develops the building code recommendations that often serve as the basis for states’ own codes. Massachusetts’s building code, for example, is based on the ICC’s 2009 International Building Code. Most state and local codes can be found online; Florida’s is here.

The National Hurricane Center, run by the National Oceanic and Atmospheric Administration (NOAA), has the latest data on tropical storms as well as historical resources.

The Florida Catastrophic Storm Risk Management Center at Florida State University helps the state respond to major storms.

In May 2016, the White House hosted a conference "to highlight the critical role of building codes in furthering community resilience and the importance of incorporating resilience and the future impacts of climate change in the codes and standards development process."

The Miami Herald’s coverage of Hurricane Andrew’s devastation, and how Florida’s building code had become too lax in the years running up to the storm, won the paper a Pulitzer Prize for Public Service Journalism. See the series here.
EarthEd World Watch Institute Registration is open for another Closing the Environmental Literacy Gap webinar, this one in collaboration with the World Watch Institute and Island Press. This new webinar features contributors to World Watch Institute's latest State of the World publication, "EarthEd - Rethinking Education on a Changing Planet".

EarthEd addresses applying a systems approach to environmental learning at all levels of development, from preschool to professional. Its guidance can inform teachers, policy makers, school administrators, community leaders, parents and students alike. Its vision will inspire anyone who wants to prepare students not only for the storms ahead, but to become the next generation of sustainability leaders.

Registration is open.

Other research:

For their model, the authors assumed that the wind hazard as measured between 2001 and 2010 would not substantively change over the next 50 years. But researchers project that hurricanes are likely to grow more violent due to climate change.

Building codes can save electricity, a 2013 study in the Review of Economics and Statistics finds.

A relaxation of coastal building standards before Hurricane Charley hit Florida in 2004 is linked to greater damage to homes near the coast, according to this 2013 paper in Land Economics.

We have profiled research on community adaptation to climate change, predicting where the seas are rising fastest and estimating future hurricane damage. We’ve also published a tip sheet on housing-price data.

ARTICLE:

Wildfires,
SSF convenes global experts in free educational webinars about critical climate risk topics such as urban resilience, the food-water-energy nexus, droughts and flooding, green infrastructure, public health, renewable energy and global climate security, among others.


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**Health and Climate Change: Research and Resources**

As we think of wildfires, and Disaster Risk Reduction, we should also think about the Public Health/Air Quality impacts of wildfires. Here are some articles on the topic from the excellent blog from Harvard's Kennedy School of Government: [Journalist's Resource](http://securityandsustainabilityforum.org/archives/webinars)

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**ARTICLE:**

**Emergency Managers' Weekly Report:**

**FEMA Announces New Hydraulic Fracturing Policy**

July 15, 2017

FEMA published a new policy to provide Hazard Mitigation Assistance (HMA) program guidance on fracking (subsurface hydraulic fracturing and horizontal directional drilling) designating such activity as a compatible use when it occurs at the subsurface level, or below-ground, for properties acquired for open space with HMA funds.

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Edward Saltzberg, Ph.D.
Managing Director
Security and Sustainability Forum

Thank you to the 740 people who registered for the National Council for Science and the Environment webinar, and especially to those who attended.

It was a great experience to learn about trends in sustainability education and specifically the application of systems thinking to sustainable infrastructure planning.
If you missed the webinar, click the slide to watch the recording. Download the slides here. You can also download the one page definition of "Sustainable Infrastructure". Please forward to a colleague and ask them to register for SSF webinar alerts.

Special NCSE Offer to Higher Education Faculty and Staff

NCSE is seeking more higher education members. The organization invites non-NCSE members of the HE community who attended the webinar to register for membership and receive:

• Two complimentary tickets to the 18th National Conference and Global Forum on The Science, Business, and Education of Sustainable Infrastructure and all surrounding events
• A one-hour consultation with one of four NCSE leaders on an educational topic of your choice: (Click here for bios.)

To participate in this offer, email conference@ncseglobal.org with "SSF Webinar" in the subject line. Then join NCSE for the 2017-2018 year at www.ncseglobal.org/join. You will be contacted by NCSE staff about the tickets and consultation.

If you want more information about membership contact Ellen Levine ELevine@ncseglobal.org.

www.ncseconference.org

In this policy, FEMA considered the practice of hydraulic fracturing activities and determined that based on the available information, the actions occurring in subsurface layers to extract natural gas or oil are uses that are generally compatible with open space. These actions generally do not increase flood risk or present an obstruction in the floodplain. Additionally, they generally do not obstruct the natural and beneficial floodplain functions.

With regard to surface level activities, FEMA determined that related accessory items, equipment, and/or wastewater disposal associated with hydraulic fracturing/HDD are not compatible uses with open space and they are not allowed on acquired land parcels.


RESOURCE:
RECENT EVENTS - RECAP

NHMA HOSTS TWO EVENTS AT THE NATURAL HAZARDS WORKSHOP
July 10 & July 12, 2017
Broomfield, CO

A huge "Thank You!" to our sponsors who made both events possible! Pictured by our sponsorship poster are NHMA Vice Presidents Erin Capps and Tom Hughes along with guest speaker and NHMA member David Alamia.

We want to thank everyone for joining NHMA at two events at the Natural Hazards Workshop. In addition to a fantastic conference, we had the pleasure of hosting two events: a trivia night and a breakfast event. A very special thanks to our sponsors that made both events possible: H2O Partners, Inc.; CohnReznick LLP; Acclivity Associates; ESP Associates, PA; Michael Baker International; MPTX Associates; and Tetra Tech.

Trivia Night – Monday July 10, 2017

RESOURCE:

The Urban Street Stormwater Guide illustrates a vision of how cities can utilize one of their best assets—streets—to address resiliency and climate change while creating public spaces that are truly public, and nurturing streets that deliver social and economic value while protecting resources and reconnecting natural ecological processes.

Overview

The Urban Street Stormwater Guide is a first-of-its-kind collaboration between city transportation, public works,
The trivia night included two rounds of questions and one round of Pictionary all related to natural mitigation. A packed crowd put on their thinking caps to come up with the correct, or sometimes creative, answers. In the end, it was the “Doctors of Doom” who were victorious, although it was a close race to the finish.

The crowd listens intently as NHMA Vice President and Pennsylvania State Hazard Mitigation Officer Tom Hughes states the next question.

The victors – Doctors of Doom

and water departments to advance the discussion about how to design and construct sustainable streets. The *Urban Street Stormwater Guide* provides cities with national best practices for sustainable stormwater management in the public right-of-way, including core principles about the purpose of streets, strategies for building interdepartmental partnerships around sustainable infrastructure, technical design details for siting and building bioretention facilities, and a visual language for communicating the benefits of such projects. The guide sheds light on effective policy and programmatic approaches to starting and scaling up green infrastructure, provides insight on innovative street design strategies, and proposes a framework for measuring performance of streets comprehensively.

RESOURCE:

**ANNOUNCING**
The public launch of the **Water Finance Clearinghouse**

[View EPA Press Release](#)

Good information for locals regarding funding that might be available to them:

EPA's [Water Infrastructure](#)
Even if they didn’t win, it seemed like everyone had a good time and perhaps learned a bit about mitigation and NHMA.

Breakfast Session – Wednesday July 12, 2017

In addition to a delicious meal, the NHMA breakfast was a chance to hear guest speaker David Alamia, Mitigation Planner for the Harris County Texas Office of Homeland Security and Emergency Management. David presented to a standing-room only crowd about managing the scope of a mitigation plan with the challenge of meeting resilience, adaptation, and sometimes limited resources or support. His insight and best practice examples led to an excellent, thoughtful, and engaging discussion.

For those that missed the talk or would like to see the presentation, it is available here: https://www.preparingtexas.org/Resources/documents/2017%20Conference/Resilience%20Adaptation%20or%20Mitigation.pdf

We were also pleased that one of the founders of NHMA, Alessandra Jerolleman, was present to provide some excellent concluding remarks.

The Clearinghouse has developed a Water Finance Clearinghouse to give communities easy and efficient access to water infrastructure finance information. The Clearinghouse is an easily navigable web-based portal to help communities locate information and resources that will assist them in making informed decisions for their drinking water, wastewater, and stormwater infrastructure needs.

The Clearinghouse features two searchable data sets: one focused on available Federal, State, and local funding sources for water infrastructure and the second will contain Resources, such as reports, tools, webinars etc. on financing mechanisms and approaches.

The Clearinghouse is updated in real-time, following a crowdsourcing model. States, federal agencies, and other water sector stakeholders have the ability to suggest edits, new resources or funding options at any time through the Contributor Portal.

Stakeholders can use this interactive feature to manage how their programs and initiatives are displayed in the Clearinghouse.
It’s four months since the launch of Flood Forum USA, the first initiative of a new nonprofit, Anthropocene Alliance. And they have achieved a lot.

They are now 100 grassroots Flood Groups strong
Their goal is to help grassroots flood groups across the country get organized, heard and supported. Using their Facebook platform SPOUT! they’ve so far connected with over 100 groups in 29 states, representing more than 70,000 people. This video (two minutes long) shows what they do and the incredible bravery and resilience of their affected neighbors.

Partnering with the Thriving Earth Exchange (TEX), American Geophysical Union
Thanks to their partnership with TEX, nine Flood Groups from across the US are now benefiting (pro bono) from the services of hydrologists who will help them develop Flood Action Plans. The TEX folks draw upon the expertise of nearly 200,000 researchers to build teams of community leaders and scientists to advance local resilience, protect people from pollution, and encourage sustainability in an era of changing climate.

Bringing attention and visibility to Flood Groups
Flood Forum USA has been publicizing the impact of flooding on communities across the country, as well as the fortitude of Flood Groups. As an example, please see the following stories in The Huffington Post:

White Sulphur Springs, WA
By Rebecca Joyce, Community Program Manager, Central Shenandoah Planning District Commission and Member of the NHMA Board of Directors

The “Emergency Preparedness Rule for Medicare and Medicaid Participating Providers and Suppliers” was a Final Rule made by the Centers For Medicare and Medicaid Services (Department of Health and Human Services) that became effective on November 15, 2016. “This final rule establishes national preparedness requirements for Medicare- and Medicaid- participating providers and suppliers to plan adequately for both natural and man-made disasters, and coordinate with federal, state, tribal, regional, and local emergency preparedness systems. It will also assist providers and suppliers to adequately prepare to meet the needs of patients, residents, clients, and participants during disasters and emergency situations”. (Source: Federal Register; 81FR63859)

The Rule requires service providers who participate in Medicare/Medicaid programs to implement four major emergency preparedness components by November 15, 2017. These components include having an emergency plan that includes a risk assessment, enacting policies and procedures to prepare for emergencies and natural and man-made hazards, creating a communication plan for the organization, and providing staff training and exercises that test the emergency plan’s effectiveness and responsiveness. Organizations affected by this rule include hospitals, nursing facilities, organizations providing day support services, and many others.

As organizations across the U.S. create or update their emergency plans, this is an excellent time to address hazard mitigation. While organizations evaluate their vulnerabilities to hazards, beginning the conversation of implementing mitigation strategies to reduce damage to their facility, enabling them to quickly resume "normal...

Call for Abstracts

Toronto, Canada
July 15-21, 2018

Deadline: September 30, 2017
operations” in their service provision can be meaningful. The emergency planning process allows organizations to gain a deeper understanding of the true hazards that may occur. This understanding can open the door for a discussion of how to make an organization more disaster-resistant and resilient. These new requirements provide an opportunity for local governments to discuss hazard mitigation with organizations that provide the most essential human services in the community.

For additional information, the Centers for Medicare and Medicaid Services website is http://www.cms.gov.

The 'Rewilding' of a Century-Old Cranberry Bog

By JESS BIDGOOD JULY 4, 2017
The New York Times

Scientists are turning a cranberry bog back into coastal wetland. The experiment is seen as a path for dormant bogs and another chance for vanishing habitat.

But they say this could also be a broader template for bringing back disappearing habitat that scientists say could be useful in an age of climate change.

“Lands like this can store floodwater or storm surges,” said Alex Hackman, a restoration specialist with the state who has overseen much of the work at Tidmarsh. “The ocean is going to push inland, and it’s lands like this — if we can protect them and re-naturalize them — that make for good places to

International Sociological Association’s World Congress of Sociology

Climate Change’s Role in Disasters and Disaster Risk Reduction

In several recent pieces, we describe the separation of climate change from wider topics and how to better integrate climate change into disaster research and disaster risk reduction:

1. The Routledge Handbook of Disaster Risk Reduction Including Climate Change
2. Emerald Insight
3. 21st Century Co.
4. Climate Change’s Role in Disaster Risk Reduction’s Future: Beyond Vulnerability and Resilience
5. Learning from the history of disaster vulnerability and resilience research and practice for climate change
6. Climate Change and the Sendai Framework for Disaster Risk Reduction

This work shows in principle how and why disaster risk reduction encompasses climate change adaptation and how climate change affects some hazards, but does not necessarily influence vulnerability. That is, climate change offers little new from previous disaster-related work (with a few exceptions). Consequently, opportunities exist to join forces and actions in order to tackle many on-the-ground challenges simultaneously, within wider development and sustainability contexts. With the notion of ‘disaster risk reduction including climate change adaptation’ now fully established and published, the question remains regarding its robustness and implementation in practice. This session solicits case studies demonstrating how much could be gained by placing climate change adaptation within disaster risk reduction and ensuring that climate change’s influences on hazards do not subsume the importance of vulnerability.
receive that water in the future.”

After more than a year of intensive work, including seven earthen dam removals and a project to rebuild the stream that had not flowed uninterrupted since the 1800s, new life is returning to Tidmarsh after a century of industrial use. A walk through the property is a stroll back in time. Tadpoles and kestrels are turning up. Cranberries are withering. And the changes offer clues to a crucial question: What does it take for nature to come back?

In 1989, this was a thriving cranberry bog that produced 1 percent of Ocean Spray’s entire harvest. But technological changes enabled more efficient farming to take place elsewhere, including on dry land, and southeastern Massachusetts is now dotted with struggling cranberry bogs. Some farmers are seeking tax credits to renovate their bogs; a state report suggested ways to take advantage of the green space for those who choose to leave the bogs behind.

The owners of this land — Glorianna Davenport, a visiting scientist at M.I.T. Media Lab, and her husband, Evan Schulman, a financial services entrepreneur — decided to end the farming operation in 2010. They had already begun the process of getting protections for the land and finding state resources and federal money to pay for restoration.

Yet they had no idea, Ms. Davenport said, “what it would take to restore this to a natural, functioning wetland.”

In Europe, there have been efforts to bring back much older landscapes, called “rewilding.” And in the United States, the 1988 farm bill created incentives for preserving and restoring wetlands on former farmland. But Jeanne Christie, the executive director of the Association of State Wetland Managers, a nonprofit organization based in Maine, said it had been a difficult learning process.

Projects like the one at Tidmarsh, Ms. Christie said, could not come at a better time. Coastal wetlands — which she called “natural infrastructure” — have disappeared quickly under the pressures of development and agriculture.

But climate change has raised new questions about what precisely land should be restored to. A bevy of research unfolding here, through a project called the Living Observatory that has put sensors on the property to gather climate and environmental data, could help answer them.

“With changing average temperatures and precipitation, species moving in that weren’t there historically, folks are often wrestling with and pretty divided about, ‘How do we figure out what to do?’” Ms. Christie said.

Restoring nature, it turns out, is not as simple as letting wild vegetation take over. A team had to hunt for signs in the peat deposits far below ground for clues about where water used to move through the site. For a year, heavy equipment was used to reconstruct the stream, remove dams, break up the bog mat and create divots and mounds in the ground, called micro-topography, where water pools and birds alight.

“The big story of change here — it’s going from dry to wet, essentially,” Mr. Hackman said, adding, “We like to remove the limiting factors and let nature heal herself over causing disasters.

1. Counterarguments to or flaws in the published pieces listed above.
2. The exceptions hinted at.
3. Flood or landslide risk and vulnerability reduction measures factoring in future climate change projections on hazards.
4. A hazard analysis which includes climate change as one weather driver amongst many, indicating how to use the analysis to reduce vulnerability.
5. Shoreline management or management of marine protected areas which addresses multiple hazards (including tsunamis, storm surges, and sea-level rise) and multiple vulnerabilities.
6. Gender-responsive and gender-based approaches for linking topics.
7. Ecosystem-based adaptation as part of ecosystem-based disaster risk reduction.
8. Community-based disaster risk reduction projects which incorporate dealing with climate change.
10. The role of migration, as a negative consequence and as an opportunity, within these discussions.
11. Reasons why climate change has separated itself in order to overcome the barriers.

Overall, what empirical evidence exists to affirm or refute notions of (i) disaster risk reduction including climate change adaptation and (ii) climate change influencing hazards, but people’s actions remaining responsible for disasters?

We will produce a special issue of “Disaster Prevention and Management” from this session’s papers.

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Over all, Mr. Hackman said, the restoration cost more than $3 million, much of which came from federal programs like the United States Department of Agriculture’s Wetlands Reserve Program. The state and the landowners also put in hundreds of thousands of dollars. A conservation organization called Mass Audubon plans to buy much of the property; the town of Plymouth purchased another section, which still holds part of the disused bog, and said it would restore that, too.

There is a push and pull between old and new on Tidmarsh, between nascent plants and those that are dying. The land is dotted with newly planted Atlantic white cedars, a native species that has become increasingly rare in this part of the state because so much of it was logged.

Meanwhile, pitch pines — small trees common in drier environments like Cape Cod that sprang up here when the bog was full of sand — are struggling. The scientists said that was a sign that the restoration was working.

“You’re starting to see some of them die off, as their feet get wet,” said Gene Albanese, a scientist with Mass Audubon.

But the most prominent feature here, by far, is the stream itself, which flows from a pond at one end of the property and curls gently through the land.

Because of the dam removals, there is now an open channel between the stream here and the ocean — and a path for herring to get from the ocean to here, and back.

“There are very few large wetlands left that have full functionality,” said Sara Grady, an ecologist who was counting herring running upstream on a cool morning earlier in the spring. (The count that morning was zero, but larger runs followed.)

As the herring returned, so too have the croaks of spring peepers, a kind of frog. New cattails and rushes sprouted from marshy-looking ground.

The vegetation has come from seed banks that were buried under sand and cranberry vines when the land was a farm.

“Much of this,” Mr. Albanese said, “has been laying in wait for over a century.”

PLYMOUTH, Mass. — The alewife, a type of river herring, wriggled against the current, a 10-inch streak that disappeared from view as it rounded a bend in the stream.

It was a normal springtime pilgrimage for the fish, which lives in the ocean but swims upstream to spawn. But this time it was happening in a surprising place — a waterway that was not here two years ago.

For more than a century, this place, called Tidmarsh Farms, was the site of a cranberry bog, a thick carpet of the fruit’s vines atop a bed of sand with straight water channels. But commercial cranberry farming, which began in Massachusetts, has flagged here in recent years as prices dropped and different farming methods emerged elsewhere. Unfolding here now is an ambitious project: turning a cranberry bog back into the coastal wetland it once was.

Economic shifts have left landowners and communities
around the country trying to figure out what to do with fallow industrial space, from abandoned farmland to empty factories and warehouses. Experts say the project here shows one path for dormant cranberry bogs; four similar, smaller efforts already are underway in Massachusetts.

For original article go here.

Measuring Up US Infrastructure Against Other Countries

July 28, 2017
by Hiba Baroud

How does infrastructure in the U.S. compare to that of the rest of the world? It depends on who you ask.

On the last two report cards from the American Society of Civil Engineers, U.S. infrastructure scored a D+. This year’s report urged the government and private sector to increase spending by US$2 trillion within the next 10 years, in order to improve not only the physical infrastructure, but the country’s economy overall.

Meanwhile, the country’s international rank in overall infrastructure quality jumped from 25th to 12th place out of 138 countries, according to the World Economic Forum.

The quality of infrastructure systems can be measured in different ways – including efficiency, safety and how much money is being invested. As a researcher in risk and resilience of infrastructure systems, I know that infrastructure assessment is far too complex to boil down into one metric. For instance, while the U.S. ranks second in road infrastructure spending, it falls in the 60th place for road safety, due to the high rate of deaths from road traffic.

But by many measures, the U.S. falls short of the rest of the world. Two of these characteristics are key to our infrastructure’s future: resilience and sustainability. A new class of solutions is emerging that, with the right funding, can help address these deficiencies.

RESILIENCE

Resilient infrastructures are able to effectively respond to and recover from disruptive events. The U.S. is still in the top 25 percent of countries with the most resilient infrastructure systems. But it falls behind many other developed countries because the country’s infrastructure is aging and increasingly vulnerable to disruptive events.
For example, the nation's inland waterway infrastructure has not been updated since it was first built in the 1950s. As a result, 70 percent of the 90,580 dams in the U.S. will be over 50 years old by 2025, which is beyond the average lifespan of dams.

![Image of vehicles surrounded by floodwaters from Hurricane Matthew](image)

Vehicles at a business are surrounded by floodwaters from 2016's Hurricane Matthew in Lumberton, North Carolina.

*AP Photo/Chuck Burton*

In addition, since the 1980s, weather-related power outages in the U.S. have become as much as 10 times more frequent.

Several European countries – such as Switzerland, Germany, Norway and Finland – are ahead of the U.S. in the FM Global Resilience Index, a data-driven indicator of a country's ability to respond to and recover from disruptive events. Though these countries are exposed to natural hazards and cyber risks, their infrastructure’s stability and overall high standards allow them to effectively survive disruptive events.

The U.S. infrastructure was built according to high standards 50 years ago, but they are no longer enough to ensure protection from today's extreme weather. Such weather events are becoming more frequent and more extreme. That has a severe impact on our infrastructure, as cascading failures through interdependent systems such as transportation, energy and water will ultimately adversely impact our economy and society.

Take last year’s Hurricane Matthew, which was considered a 1,000-year flood event. The unexpectedly strong rainfalls broke records and caused damages equivalent to $15 billion. A better infrastructure that is modernized and well-maintained based on data-driven predictions of such events would have resulted in less impact and faster recovery, saving the society large
damages and losses.

As the country’s infrastructure ages, extreme weather events have a greater impact. That means the recovery is slower and less efficient, making the U.S. less resilient than its counterparts.

**SUSTAINABILITY**

In terms of sustainability practices designed to reduce impact on human health and the environment, the U.S. does not make it to the top 10, according to RobecoSAM, an investment specialist focused exclusively on sustainability investing.

Average CO₂ emissions per capita in the U.S. are double that of other industrialized countries and more than three times as high as those in France.

The infrastructure in most EU countries facilitates and encourages sustainable practices. For example, railroads are mostly dedicated to commuters, while the bulk of freight moves through waterways, which is considered the most cost-effective and fuel-efficient mode of transportation.

In the U.S., however, 76 percent of commuters drive their own cars. Reed Saxon/AP Photo

In the U.S., however, 76 percent of commuters drive their own cars, as railroads are mostly reserved for freight and public transit is not efficient compared to other countries. American cities do not show up in the top cities for internal transportation, as do cities such as Madrid, Hong Kong, Seoul and Vienna.

To promote sustainable practices, global initiatives such as the New Climate Economy and the Task Committee on Planning for Sustainable Infrastructure aim to guide governments and businesses toward sustainable decision-making, especially when planning new infrastructure.

**SMART INFRASTRUCTURE AS A SOLUTION**
To address challenges of resilience and sustainability, future infrastructure systems will have to embrace cyber-physical technologies and data-driven approaches. A smart city is a city that is efficient in providing services and managing assets using information and communication technology. For example, in Barcelona, a city park uses sensor technology to collect and transmit real-time data that can inform gardeners on plant needs. While there is no official benchmark to grade countries in this aspect, a number of American cities, such as Houston and Seattle, are considered among the world’s “smartest” cities, according to economic and environmental factors.

In order to prioritize dam restoration, the dam safety engineering practice is moving toward a data-driven process that would rank the dams based on how important they are to the rest of the waterway system. And last year, the U.S. Department of Transportation issued a call to action to improve road safety by releasing a large database on road fatalities, which researchers can study to answer important questions.

Similarly, worldwide initiatives are seeking smart solutions that integrate communication and information technology to improve the resilience of cities such as 100 Resilient Cities and Smart Resilience.

It's imperative that we pursue these types of new solutions, so U.S. infrastructure can better and more sustainably withstand future disruptions and deliver better quality of life to citizens, too. Perhaps, by addressing these needs, the U.S. can improve its score on its next report cards.

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Mark Your Calendar with these 2018 Climate Leadership Dates

APPLY FOR A 2018 CLIMATE LEADERSHIP AWARD

The 2018 Climate Leadership Awards application period will open on June 29 and close on September 26, 2017. Don’t miss your chance to showcase your leadership in response to climate change! Information and application forms are available HERE on the Climate Leadership Awards webpage.

This is the seventh year of the annual Climate Leadership Awards (CLA), which is co-sponsored
by the Center for Climate and Energy Solutions (C2ES), The Climate Registry (TCR), and the U.S. Environmental Protection Agency (EPA).

**LEARN MORE ABOUT THE 2018 CLIMATE LEADERSHIP AWARDS**

Join us for an informational webinar on **Thursday, July 13th from 11-12 PST/2-3 PM EST** to learn more about the awards and how to become a competitive applicant. Register **HERE** for the webinar.

If you have any questions about the awards, please contact **questions@climateleadershipawards.org**

We look forward to honoring the 2018 Climate Leadership Award recipients at a special ceremony held during the Climate Leadership Conference. The dates and location for the awards and conference will be announced shortly. Please direct any conference-related questions to **questions@climateleadershipconference.org**

**Follow us on Twitter @TheCLC2018**

**About the Climate Leadership Conference**

Your annual exchange for addressing climate change through policy, innovation, and business solutions, the Climate Leadership Conference is produced by C2ES and The Climate Registry, with EPA as the headline sponsor.

Conference details will be regularly updated at **http://www.climateleadershipconference.org**

**About the Climate Leadership Awards**

C2ES, TCR, and EPA co-sponsor the CLA, calling national attention to exemplary leadership in response to climate change. These awards recognize the outstanding voluntary work that organizations and individuals pursue in reducing greenhouse gas emissions and building resilience to climate change.
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. Your continued support makes our work possible.

If you have any questions or believe you are receiving this message in error, please contact us at nathazma@gmail.com.

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