

State of Montana

2020 Floodplain Resource Seminar

A decorative graphic consisting of several horizontal lines of varying lengths and colors (blue and white) extending from the left edge of the slide towards the right.

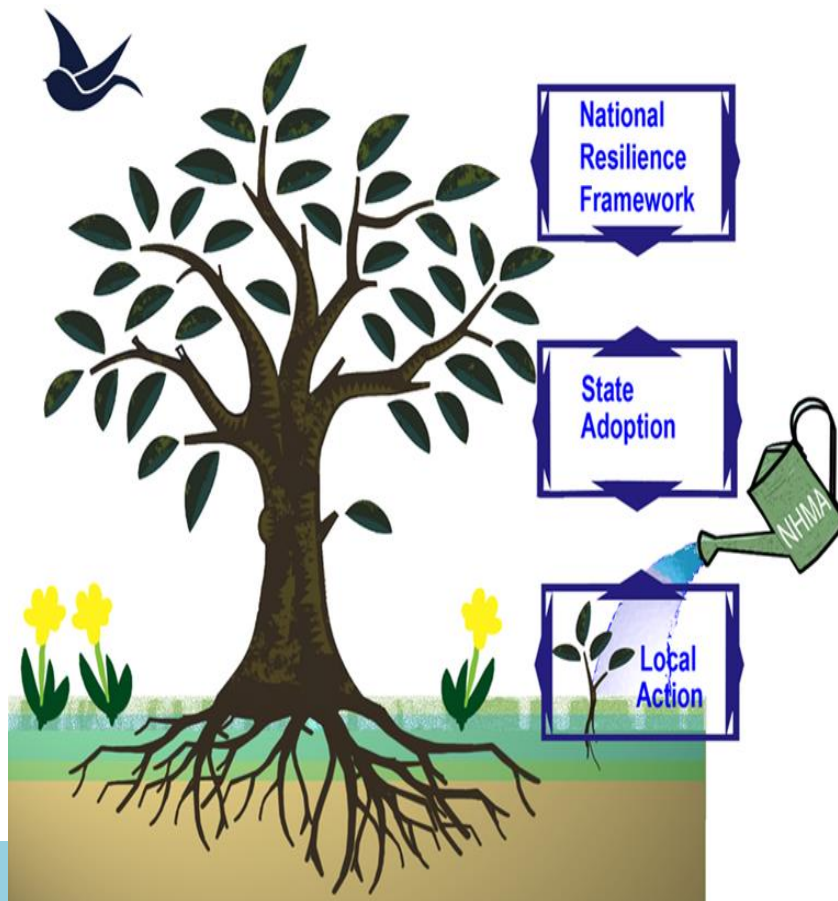
DISASTER
RISK REDUCTION
Ambassador Curriculum

Welcome!

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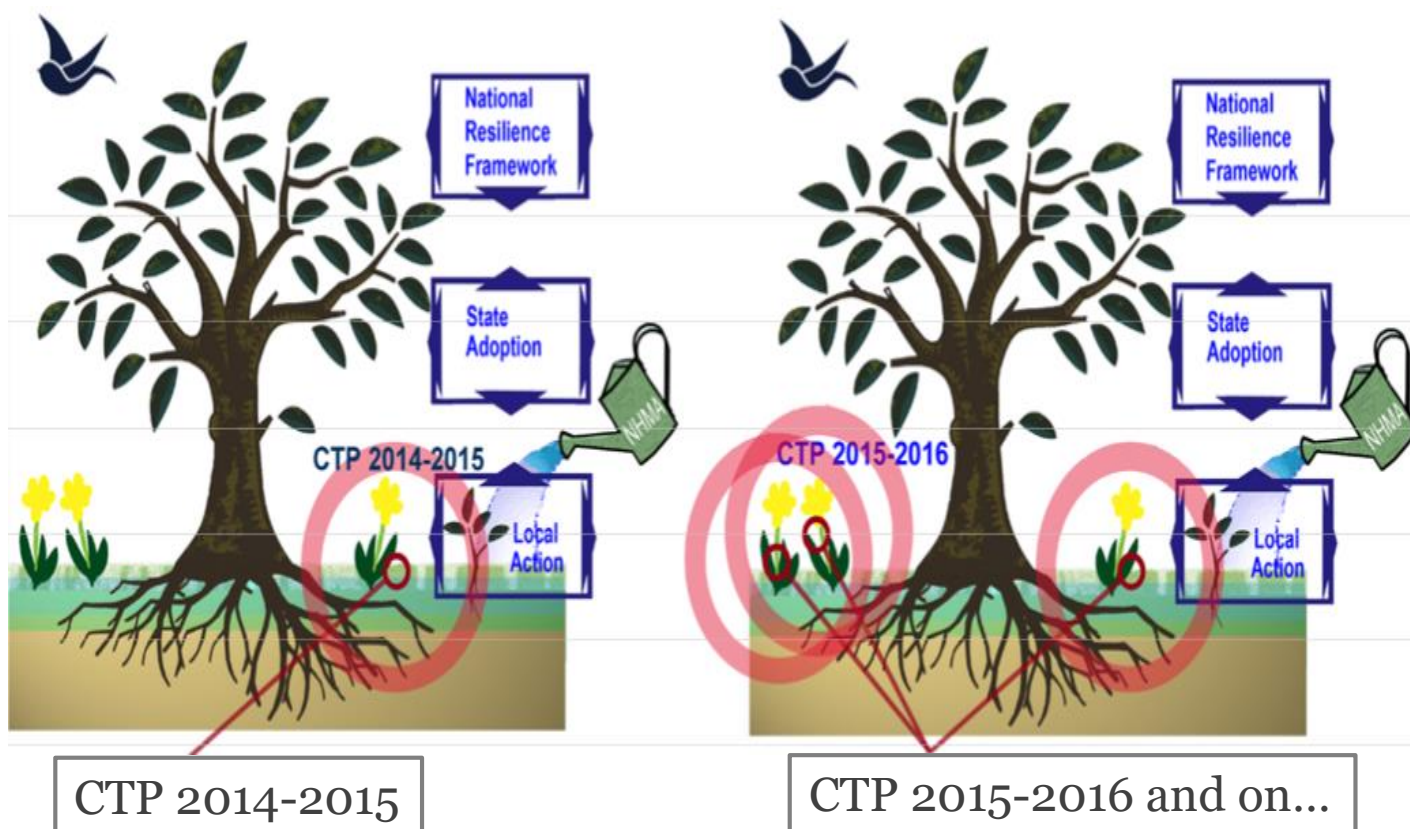
Natural Hazard Mitigation Association (NHMA)



Created in 2008 to bring together individuals and organizations interested in

- **Hazard Mitigation**
- **Climate Adaptation**

NHMA is a Cooperating Technical Partner (CTP) with FEMA & All Hazards “Little Sister” of ASFPM



NHMA

Natural Hazard Mitigation Association



Linkage photos: nrmr.org/pvc

DISASTER RISK REDUCTION

The **Natural Hazard Mitigation Association's** mission is to affect societal change by elevating hazard mitigation so that natural hazards do not cause suffering, damages, environmental degradation, and taxpayer costs.

The **Resilient Neighbors Network** is a special NHMA peer-to-peer co-networking program which strengthens and expands local hazard mitigation programs through shared information, mutual support, and vital training and resources. Thanks to a FEMA Cooperating Technical Partners grant, NHMA has been able to formalize and disseminate extraordinary contributions to community DRR stakeholders, including:

- **The DRR Ambassador Curriculum**—facilitates DRR efforts across the whole community by discussing of how disasters can be reduced through local action, sharing insights among local leaders and technical experts to develop cross-functional solutions, and acquiring best-available information, practices, and analytic tools for better-informed decisions.
- **Building Your Roadmap to a Disaster Resilient Future**—assists community stakeholders navigating through the varied and at times bewildering array of pre- and post-disaster risk reduction programs.
- **The Post-Disaster Resource Series**—A collection of short topics identified by disaster-experienced RNN communities which are significant for resilient recovery.

Resilience and Disaster Risk Reduction

Resilience and climate adaptation are moving targets due to:

- Climate
- Population
- Type of development
- Other factors

Think of the arrows being shot at the target as development resources

DISASTER RISK REDUCTION

Building Your Roadmap to a Disaster Resilient Future

Next Generation of the Pathwork Quiz Approach

NHMA

www.nhmap.org

NHMA Local Initiative: Resilient Neighbors Network (RNN)

- Cornerstone of the NHMA
- State of Montana is an active member
- Encourages peer-to-peer networking
- RNN website: www.resilientneighbors.com



The screenshot shows the top portion of the Resilient Neighbors Network website. At the top left, the text "RESILIENT NEIGHBORS NETWORK" is displayed in a bold, black, sans-serif font. To the right of this text, in a smaller, italicized font, is "Resilient Neighbors Website (RNN)". Below the text is a large, horizontal photograph of a forest with sunlight filtering through the trees. Overlaid on the left side of the photograph is the text "Community Resilience to Natural Hazards" in a white, serif font. At the bottom of the screenshot is a dark navigation bar with white text links: "Home", "About", "Advisory Team", "Charter Communities", "Partner Organizations", "Resource Page", "Presentations", and "Contact Us".

NHMA Local Initiative: Disaster Risk Reduction (DRR) Ambassador Curriculum

- Focuses on supporting community leaders from the private and public sector to engage and lead community-level DRR dialogue by providing:



- Educational resources
- Self-study curricula
- Training workshops
- Webinars

Important Considerations as We Move Forward Together



Community development decision makers need to know where to start and how to proceed

- Provide **clear, consistent information** from multiple, various sources, distributed by diverse media sources frequently and over time
- Provide **specific, action-oriented information** on what to do before, during, and after a disaster
- Support and encourage **information sharing**

Hide from the Wind: Tornado Safe Rooms in Central Oklahoma (NHMA Report) and Dr. Dennis Mileti

Important Considerations as We Move Forward Together



Assessing needs, accessing help, and identifying funding sources require creativity, vision, leadership, and time

Citizens can be:

- The leaders to create a **community leadership** in disaster risk reduction
- Crucial **support for elected, appointed leaders** that address disaster risk reduction

Important Considerations as We Move Forward Together



Any time is the best time to **change development practices** from developing in a manner which will cause harm to individuals, businesses, the economy, and the environment

- To implement a “**Do No Harm**” or “**No Adverse Impact**” approach, which emphasizes the need for **safe development** and a **sustainable future**

Important Considerations as We Move Forward Together



- The best time to develop safely and properly is **before natural processes** cause devastation, which could have been **avoided with proper planning**
- As a community picks up the pieces after a disaster and begins to rebuild, there is a **window of opportunity**

Part II: Overcoming Impediments: Paths Forward

Promoting solutions to rise in flood losses

Understanding how much morality, the law, and equity support safe development

Understanding the need for current, actionable, understandable information on risk

Educating on true risk

Influencing transformative behavior change through higher standards of care, litigation, and inspiration

Our Main Message:

Even if We Perfectly Implement Current Standards, Damages Will Increase

“Following only the minimum standards of the Flood Insurance Program guarantees worse future flood disasters.”

~ Bill Robison, City of Tulsa, OK

“The National Flood Insurance Program is the most cost effective program of Disaster Risk Reduction in the history of the United States.”

~ Ed Thomas, NHMA President *Emeritus*

Adapting to Increasing Climate Impacts



- **Stop** making things worse as investments and populations inevitably increase
- **Participate** in opportunities to change legislation
- **Remove** perverse incentives
- **Reward** good planning, safe building, and safe reconstruction

Saving Money on Flood Insurance

FEMA has programs to help owners reduce their risk and save money on flood insurance



FEMA

- Community-wide discounts through the **Community Rating System (CRS)**
- FEMA grant programs support rebuilding and relocating
- Use of higher deductibles to lower premium costs

The smartest way to save is to build higher!
However, higher building has severe limitations, especially in mountainous areas

Webinar on Floodplain Management & Development in Terrain with Steep Slopes

Preventing Flood Disasters from Becoming Disastrous

- Brian Varrella, Chair, Colorado Association of Stormwater and Floodplain Managers



[click to access webinar]



New York Federal Reserve Study: *How Will We Pay for Superstorm Sandy?*

“With this expansion of federal disaster assistance, payments from private insurance companies and the federal government exceeded the total economic cost of events since Katrina by about 25 percent.”



Liberty Street Economics

« The Impact of Superstorm Sandy on New York City School Closures and Attendance | Main | The Path of Economic Recovery from Superstorm Sandy »

DECEMBER 20, 2012

How Will We Pay For Superstorm Sandy?

Jaison R. Abel, Jason Bram, Richard Deitz, and James Orr

While the full extent of the harm caused by superstorm Sandy is still unknown, it's clear that the region sustained significant damage and disruption, particularly along the coastal areas of New York, New Jersey, and Connecticut. As we describe earlier in this series, the economic costs associated with natural disasters are generally thought to arise from the damage and destruction of physical assets and the loss of economic activity. These costs can be substantial, running into the tens of billions, and impose significant stress on the affected communities. In this post, we assess who will ultimately pay the economic costs imposed by the storm. Based on data from recent hurricane events, it is likely that the federal government and private insurance companies will more than cover the aggregate costs. In the short run, though, there may be strains on state and local governments as well as on individuals and businesses as they await reimbursement.



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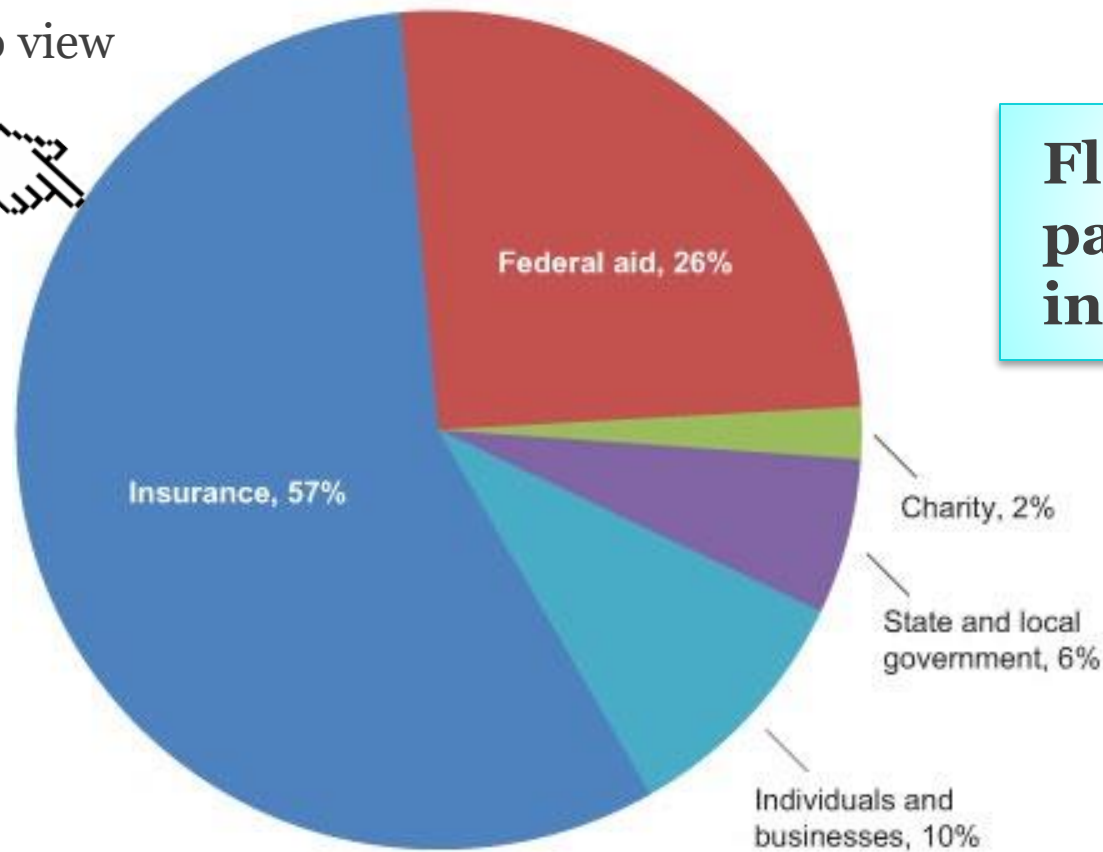
[How Will We Pay for Superstorm Sandy?](#)

By Jaison R. Abel, Jason Bram, Richard Deitz, and James Orr

System of Disaster Relief

Share of Costs Paid for Major U.S. Hurricane Events, 1989-2004

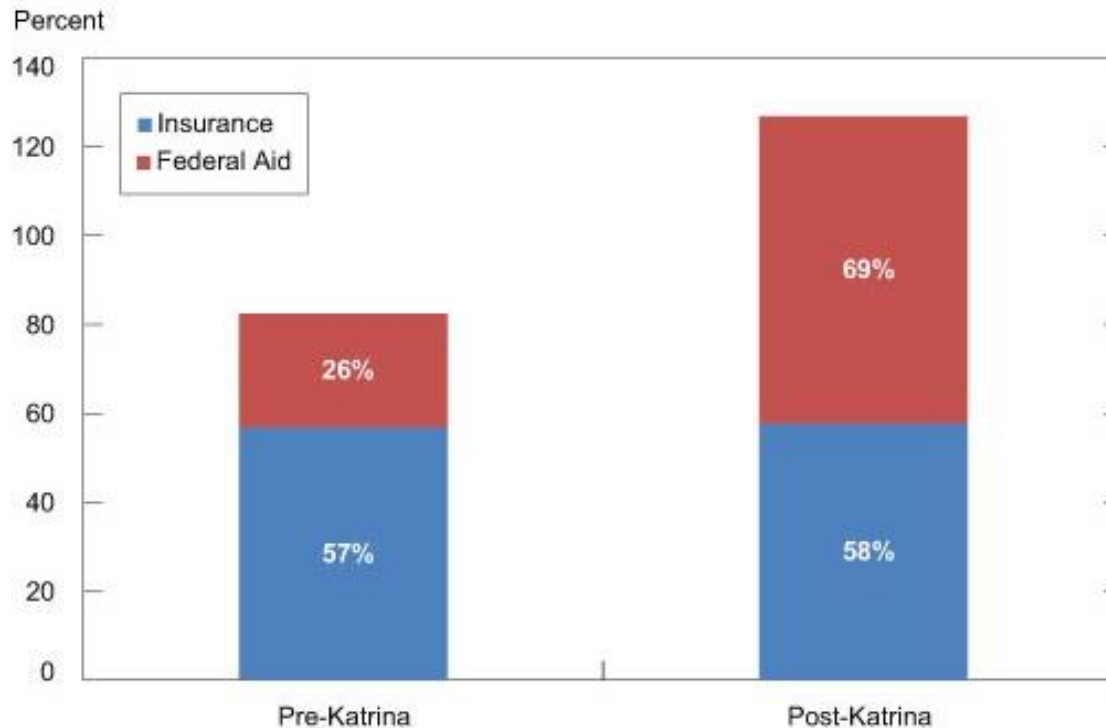
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**Flood insurance
payments not
included**

Assistance Not Including Flood Insurance Payments

Share of Costs Paid by Insurance and Federal Aid for Major Hurricane Events Before and After Katrina



How Can We Accomplish Disaster Risk Reduction?

***“Well begun is
half done”***

~ Aristotle

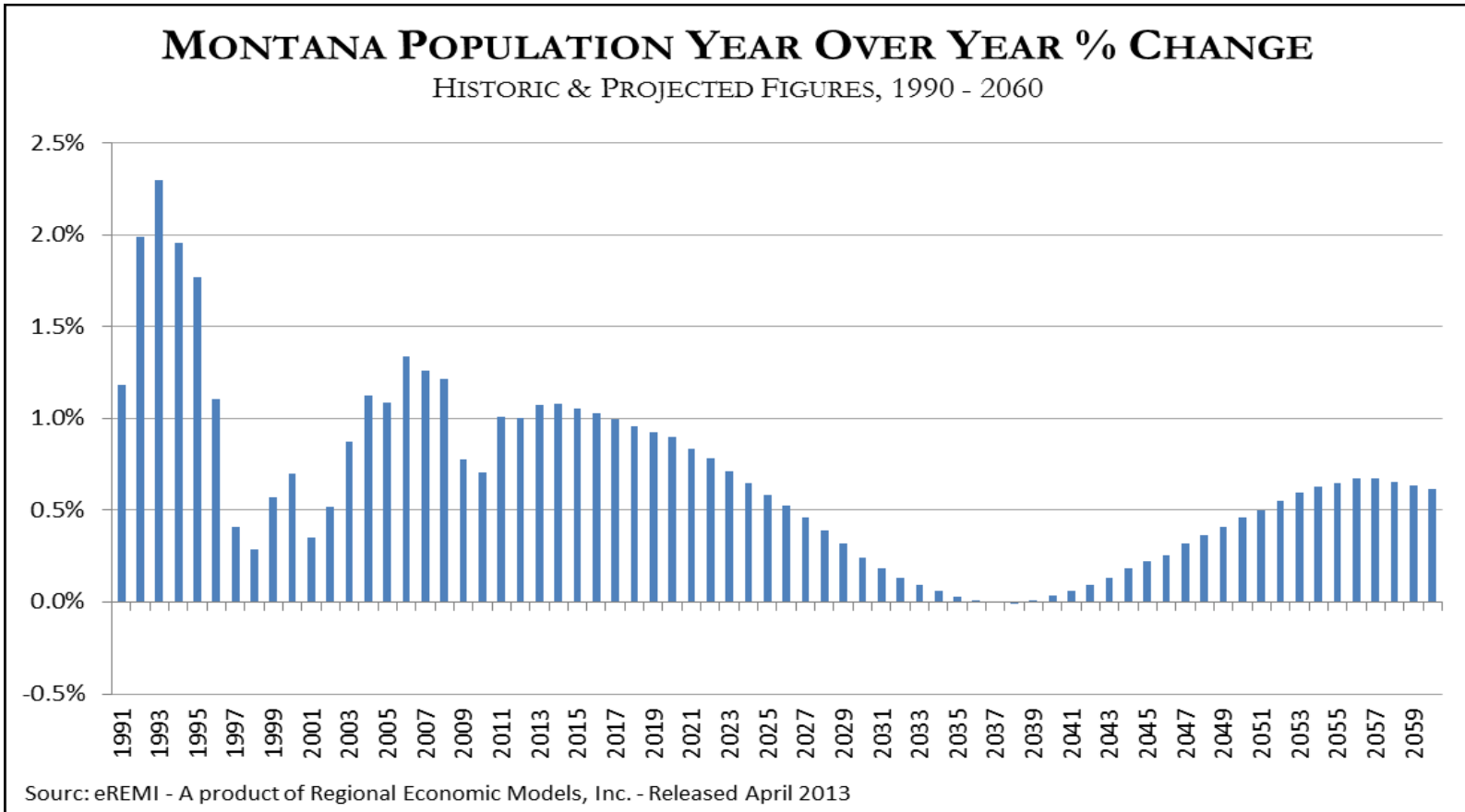
Seizing the Opportunity to Build a Safer Future



“More than half of the built environment of the United States we will see in 2050 does not exist today.”

~ Dr. Arthur “Chris” Nelson,
FAICP at Rocky Mountain
Land Use Institute

Montana Demographics



Where is the Floodplain?



Other Limitations of Current NFIP Mapping

- 50% of all maps are **not recently validated** with even recent old data
- All maps are **based on past history** – not the future
- May **ignore stormwater management issues** (will ignore less than one square mile drainage areas)

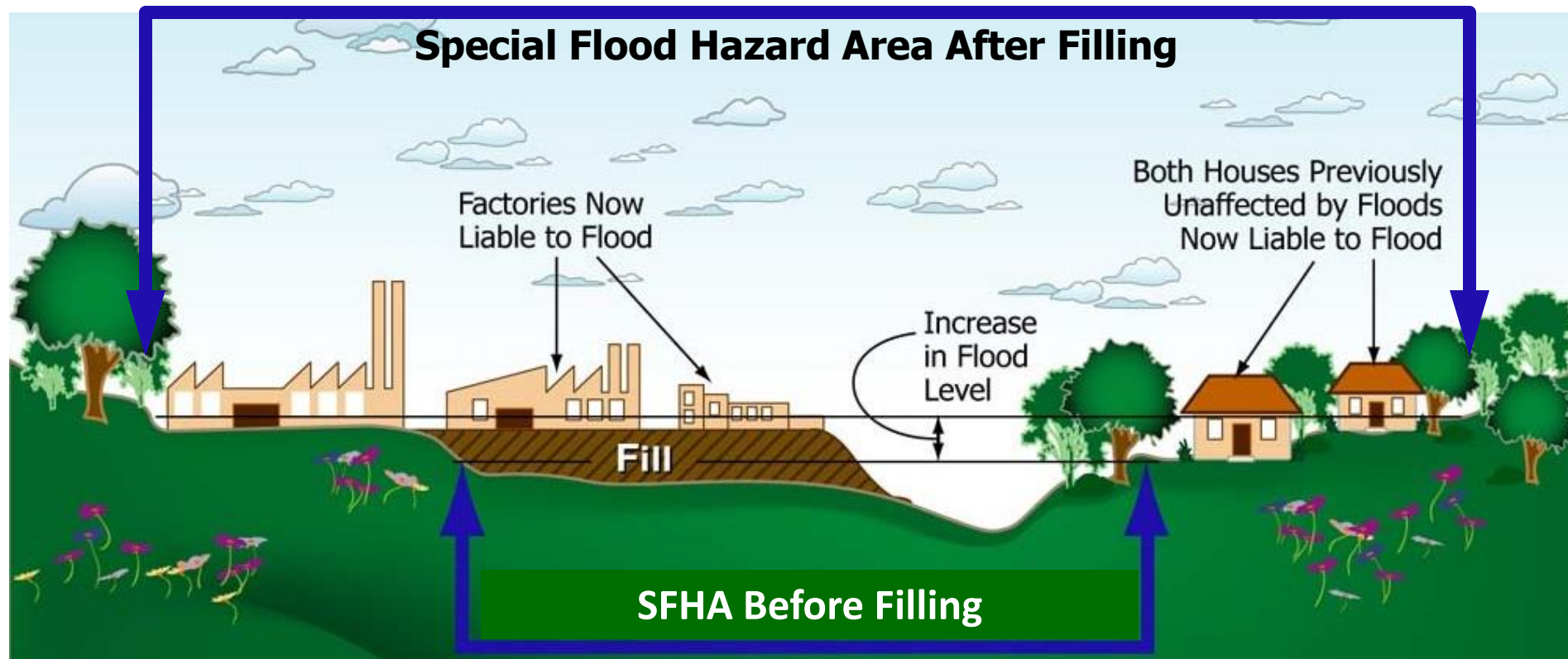
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[A Three-legged Stool on Two Legs: Recent Federal Law Related to Local Climate Resilience Planning And Zoning](#)

By Sarah J. Adams-Schoen and Edward A. Thomas, *The Urban Lawyer*, 47 URB. LAW. No. 3 (2015)

Today's Special Flood Hazard Area (SFHA) is Not Necessarily Tomorrow's Floodplain



If large areas of the SFHA are filled, then there will be an increase in the land area needed to store flood waters

This means your home or business may be impacted

Montana Has Higher Standards

- **Two Feet of Freeboard**
- **Floodway Calculated on a .5 Foot Rise Rather Than a 1 Foot Rise**

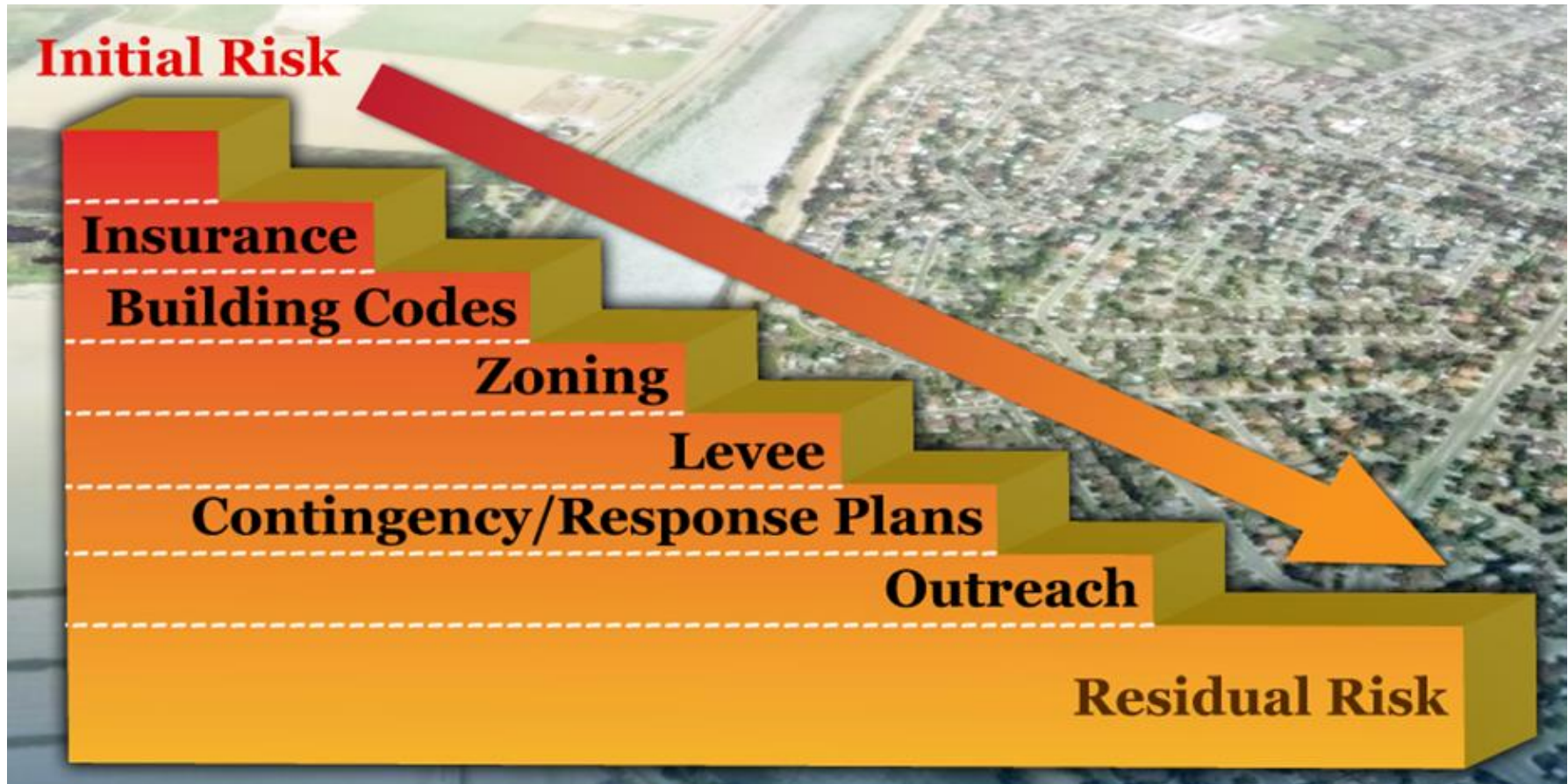
With Full Build-Out, Flood Heights May Increase Dramatically

No Adverse Impact: New Direction in Floodplain Management Policy

- Larry Larson PE, CFM and Doug Plasencia PE, CFM
- Published in Natural Hazards Review Nov. 2001, IAAN 1527-6988

All Stakeholders Can Contribute to DRR

Risk Reduction Actions (Cumulative)



Initial Risk

Stakeholders May Also Contribute to Increased Risk!

No or Inadequate Warning/Evacuation Plan

Sea Level Rise and Upstream Development Increases Flood Heights

Lack of Awareness of Flood Hazard, Absence of Flood, Business Interruption, and DIC Insurance

Critical Facilities Not Properly Protected From Flooding

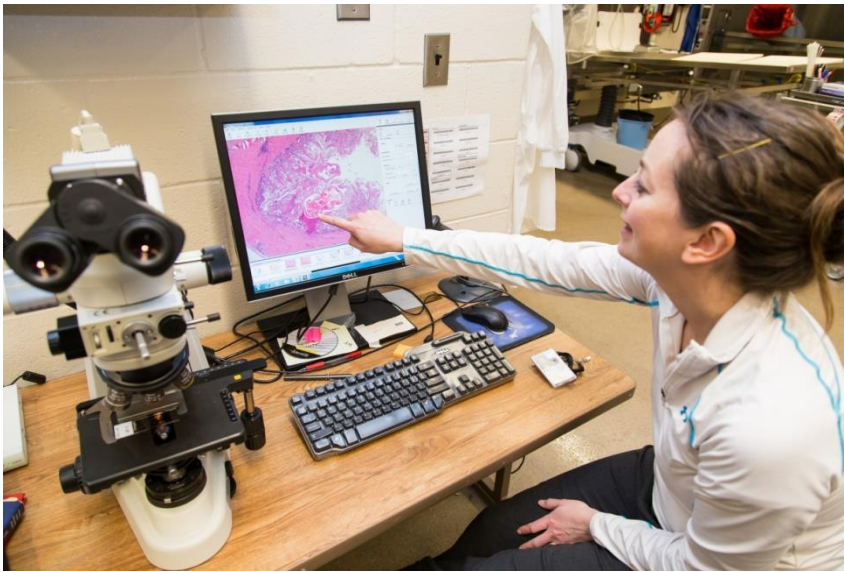
Increased Development: more people and more costly development

Buildings & Infrastructure Not Properly Designed or Maintained

Vastly Increased Residual Risk

RISK

Litigation for Claimed Harm is Easier Now than in Times Past



- Forensic hydrologists
- Forensic hydraulic engineers
- Forensic wildfire
- Other experts

New Trend in the Law

Increasingly, states are allowing lawsuits against communities for alleged “goofs” in permitting construction **OR** in conducting inspection

GOVERNMENT LIABILITY FOR FLOOD HAZARDS



By

Jon A. Kusler, Esq., Ph.D.

Association of State Wetland Managers

April 2017

Three Ways to Support Reconstruction Following Disaster Damage

Self Help

- Loans
- Savings
- Charity
- Neighbors

Insurance Disaster Relief

- A combination of social insurance and self help

Litigation

The preferred alternative is to have **NO DAMAGE** due to safe land use and hazard mitigation

The Good News

- The Supreme Court seems to agree with safe development based planning
- Justice Alito wrote in the majority opinion:

"Insisting that landowners internalize the negative externalities of their conduct is a hallmark of responsible land-use policy, and we have long sustained such regulations against constitutional attack.

See. KOONTZ v. ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, (2013)

No. 11-1447



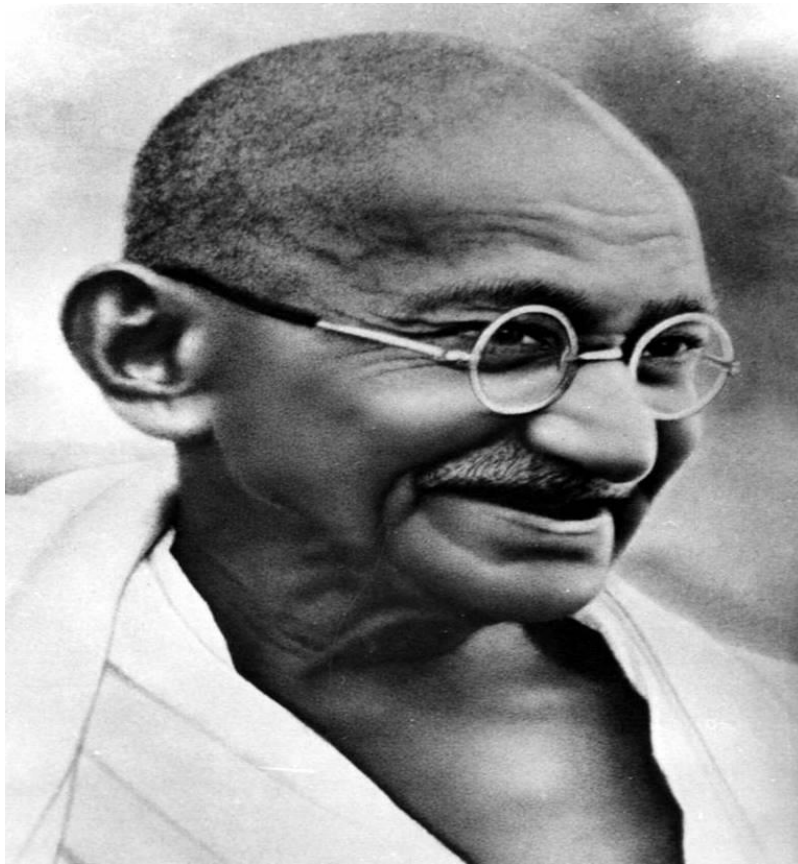
A Conservative, Property Rights View

The Cato Institute indicates that...

Compensation is not due when:

“... regulation prohibits wrongful uses, no compensation is required.”

Equity and Morality Support Safe Development



According to Gandhi's Writings

“Sic Utere Tuo Ut Alienum Non Laedas”

Use your property so you do not harm others is

*“A grand doctrine of life and the basis of (harmonious relationships)
between neighbors”*

Avoiding a Taking

- Avoid interfering with the owner's right to **exclude others**
- Avoid denial of all **economic use**
- In highly regulated areas, consider **transferable development rights** or similar residual right so the land has appropriate value
- **Clearly relate regulation to preventing a hazard**
See, Different result in Koontz-what harm was being prevented?
- Establish a fair **variance procedure**



A closer look

Speaking of Variances...

- Administrative Rules of Montana
- TITLE 36: NATURAL RESOURCES AND CONSERVATION
 - **36.15.218 VARIANCES**

(1) The permit issuing authority may grant a variance for the new construction, substantial improvement or alteration of an artificial obstruction that is not in compliance with the minimum standards contained in these rules only if:

(a) the proposed use would not increase flood hazard either upstream or downstream in the area of insurable buildings;

(b) refusal of a variance would because of exceptional circumstances cause a unique or undue hardship on the applicant or community involved;

(c) the proposed use is adequately floodproofed;

(d) reasonable alternative locations outside the designated floodplain are not available.

Takings Law in Montana

- *Huftel v. Lewis*, 2008 Mont. Dist. LEXIS 437-very nice clear statement of Montana Taking law:
- “The Montana Supreme Court has stated that “a regulatory taking of property by a municipality is allowed even if the value of that property and its usefulness is diminished. . . . It is only when the owner of the real property [*4] has been called upon to sacrifice all economically beneficial use of that property in the name of the common good that a constitutionally-protected taking has occurred.”

Takings in Montana

- *Huftel v. Lewis*, 2008 Mont. Dist. LEXIS 437-continues a nice clear statement of Montana Taking law:
- “Therefore, to clarify this standard and further conform with the federal standard, we expressly state that the question to determine whether a land-use regulation is properly invoked is whether the regulation is substantially related to the legitimate State interest of protecting the health, safety, morals, or general welfare of the public, and utilizes the least restrictive means necessary to achieve this end without denying the owner economically viable use of his or her land.” [Quoting-*McElwain v. County of Flathead*, 248 Mont. 231, 235, 811 P.2d 1267, 1270 (1991)]

Variations

Virtually ALL State Zoning Enabling Statutes are specific that no variance can ever be granted when such variance would:

- Have a negative impact on public health or welfare; or
- Result in increased costs to public

Examples:

- Handicapped person wants to build below BFE or ease of access- Hardship-Yes? OK?
- Building must be built 20 feet above ground; height restriction in area is 20 feet? Hardship?

Resilience and Disaster Risk Reduction

Resilience and climate adaptation are moving targets due to:

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Need a Common DRR Message Delivered by Many People



- Enroll in the Community Rating System (CRS) Program
- Build with higher freeboard, generally 4 feet or more above Base Flood Elevation (BFE), in areas subject to floods
- Understand the limitations of flood frequency projections based on the past, which include many unrealistic assumptions

Common Message to Professionals

- Public Safety First Legally-Morally-Ethically
- The first Fundamental Canon of the American Society of Civil Engineer's (ASCE) Code of Ethics states that:

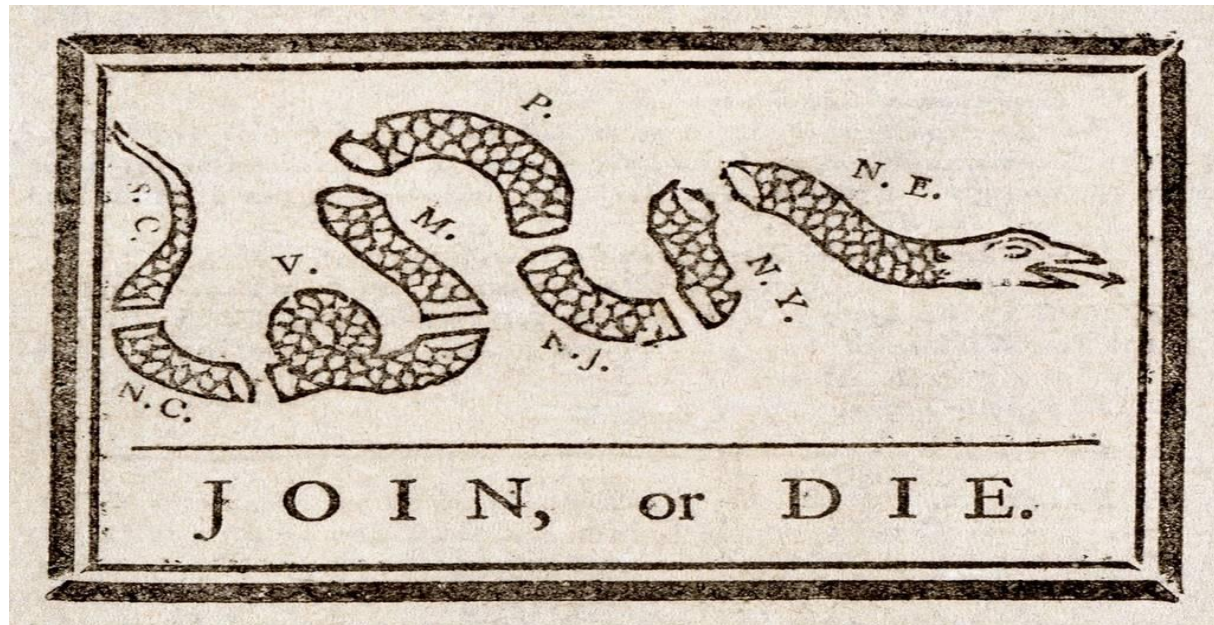
“Engineers shall hold paramount the safety, health, and welfare of the public....”

This canon must be the guiding principle for rebuilding the hurricane protection system in New Orleans.

And it must be applied with equal rigor to every aspect of an engineer's work – in New Orleans, in America, and throughout the world.”

Final Thought: Courtesy of Ben Franklin

**All of US Who Care About a Safer, Better Future
Need To Work Together**



Thank You!



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- **Questions and/or comments**
- **Contact information**

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