

MITIGATION MATTERS:

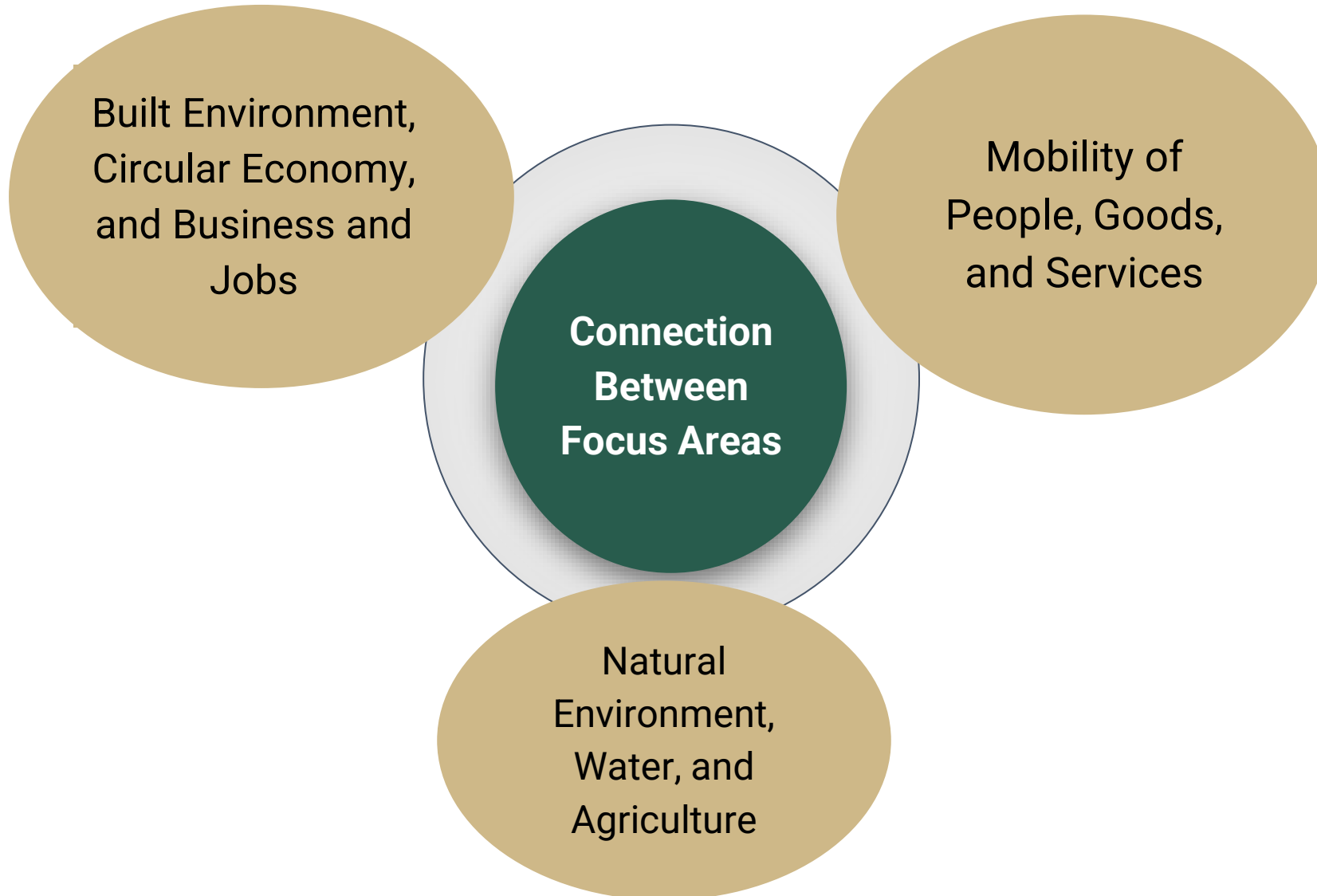
Reducing Disaster Risk in Larimer County

Knowledge Break
October 15, 2025



CLIMATE SMART FUTURE *Ready*

FOCUS AREAS



What is the County's Approach and Role?

- Zoom out and look beyond local government boundaries to what is happening in our County and region
- Consider sustainable (environmental, economic, and social) needs and impacts
- Discover gaps and overlaps
- Nurture and enhance partnerships
- Align priorities as much as possible

Partners Making It Happen!!





www.larimer.gov/csfr

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EM Program: Defined

The Office of Emergency Management (OEM) is the managerial function within Larimer County government that is charged with creating and maintaining **the framework within which our community reduces vulnerability to hazards and copes with disaster.**

*Pursuant to Chapter 18 of the Larimer County Code of Ordinances,
Colorado Disaster Emergency Act (C.R.S. § 24-33.5-707),
Robert T. Stafford Disaster Relief Act (as amended),
and other local, State and Federal authorities as applicable.*



FEMA

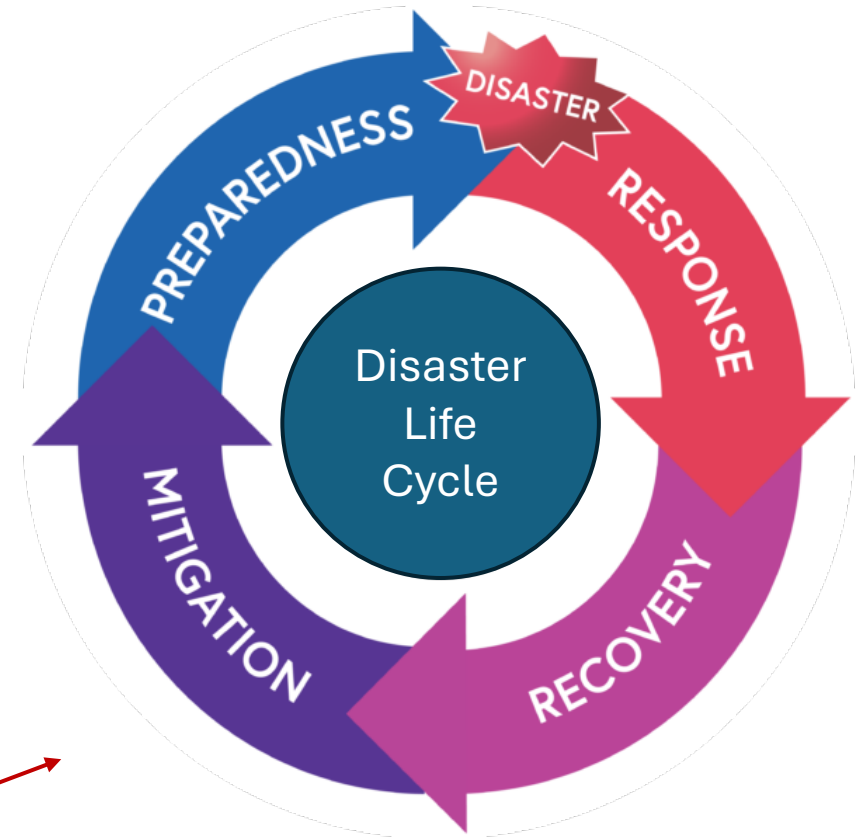


OEM Vision & the Disaster Life Cycle



A connected and resilient community.

OEM is responsible for ensuring the creation of programs and management of services related to all phases of the disaster life cycle:
mitigation, preparedness, response & recovery.



Oversimplified? Disasters are complex, non-linear.

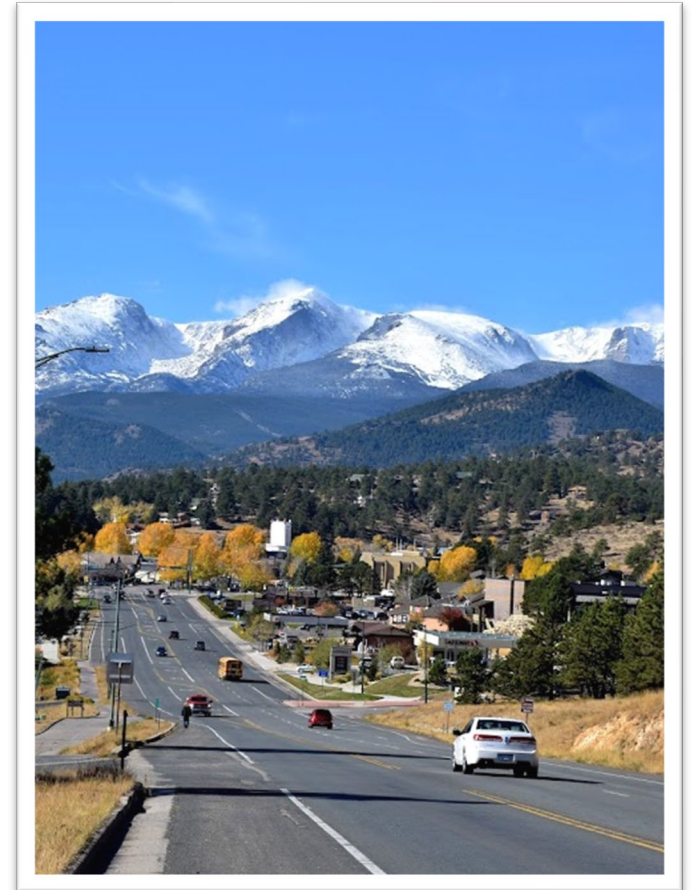
OEM: The “Why”



A connected and resilient community.

Why do we do what we do?

- ☐ Save lives and protect from injury.
- ☐ Minimize property damage and economic loss.
- ☐ Protect the environment & natural resources.
- ☐ Elevate the community to a state of existence that makes it more resilient than before.



Agenda

- What is “Mitigation”?
- The Case for Mitigation: Why It’s Worth It
- Shared Stewardship
- Q&A

What is “Mitigation”?

- **“Mitigation”** : Any activities that eliminate or reduce the probability of occurrence of disaster.
- Sec. 18-82, Larimer County Code of Ordinances
- **“Mitigation”** : Sustained action to reduce or eliminate risk to people and property from hazards and their effects.
- C.R.S. § 24-33.5-703
- **[Hazard] “Mitigation”** : Any sustained action taken to reduce or eliminate long-term risk to people and property from natural hazard events and their effects.
- FEMA Hazard Mitigation Assistance Program & Policy Guide (2025)

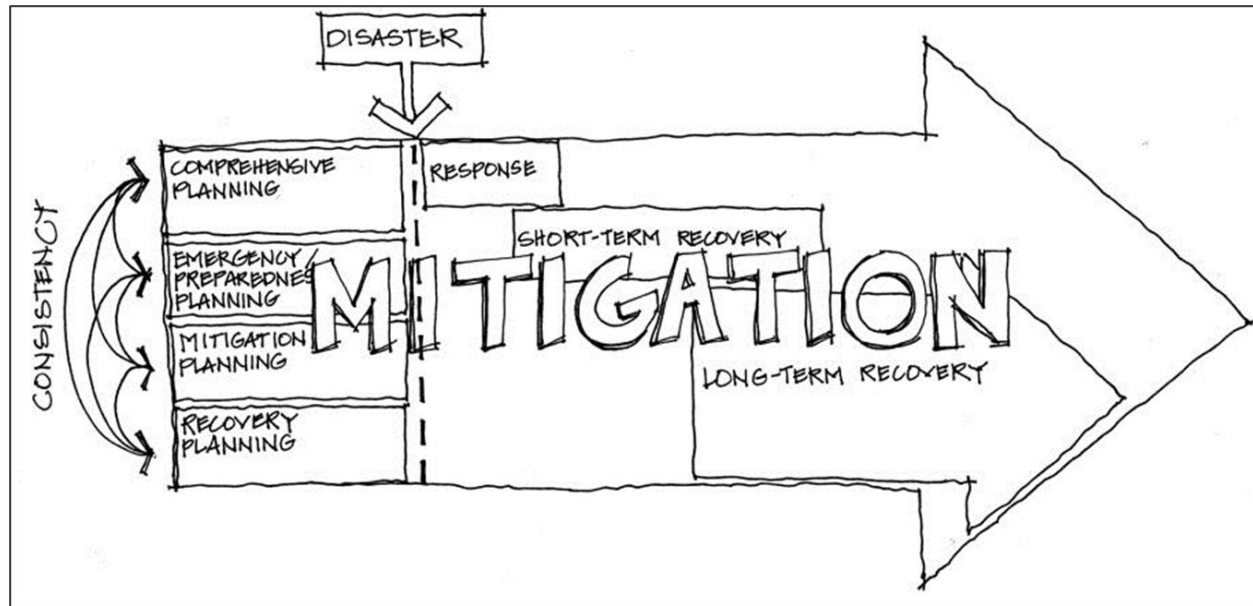
What is “Mitigation”?

- **[Natural Hazard] “Mitigation”** : Advance action taken to reduce or eliminate the long-term risk to human life and property from natural hazards.
- *“Natural Hazard Mitigation: Recasting Disaster Policy and Planning”, Godschalk et al. (1999)*
- **[Climate Change] “Mitigation”** : Human intervention to reduce emissions or enhance the sinks of greenhouse gases.
- *Intergovernmental Panel on Climate Change (IPCC)*
- **[Environmental] “Mitigation”** : Measures addressing adverse environmental impacts by (a) avoiding them, (b) minimizing their effects, (c) rectifying or repairing the affected environment, (d) reducing or eliminating them over time, and (e) compensating for them by replacing or providing substitute resources or environments.
- *[White House] Council on Environmental Quality (CEQ), re: the National Environmental Policy Act (NEPA)*

What is “Mitigation”?

“Mitigation” : Advance action that reduces unacceptable, long-term disaster risk and future demand for response & recovery to adverse impacts.

- *Yours Truly (continually evolving!)*



same difference

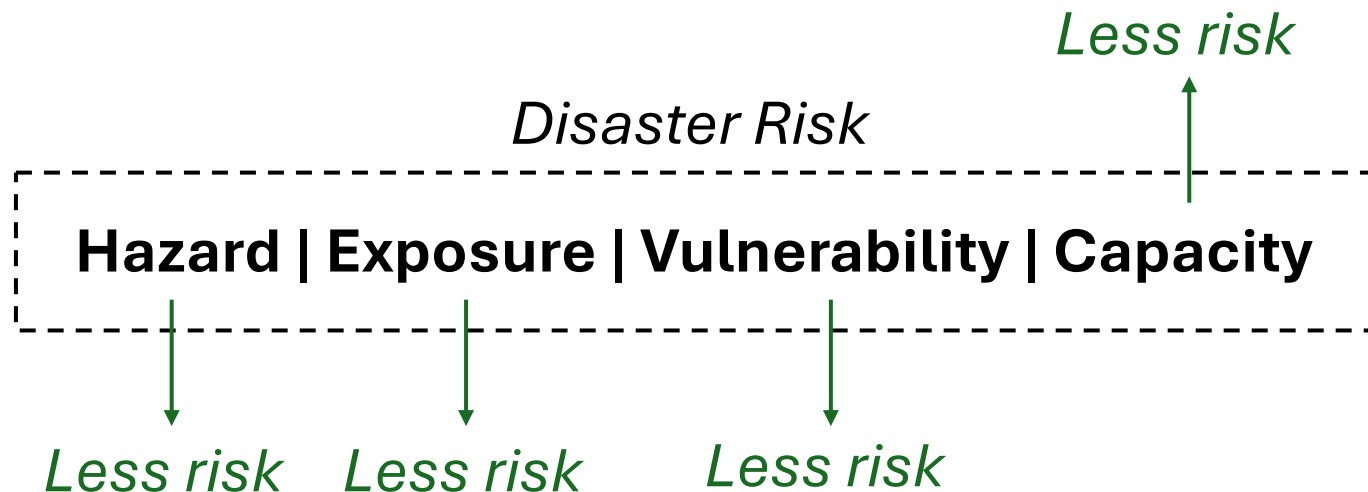
Another way of saying "whatever". It is often confused with "same thing", but you're really saying "OK, I admit that they're not the same thing, but they're not different enough for me to really care about it."

Often shortened to **same diff.**

"Same difference" and "same thing" are not the same thing, but hey, same difference.

A little more about “Disaster Risk”...

- **Disaster Risk:** The potential loss of life, injury, or destroyed or damaged assets which could occur to a system, society or a community in a specific period of time, determined probabilistically as a function of hazard, exposure, vulnerability and capacity. *- United Nations Office for Disaster Risk Reduction*



Examples of Mitigation



Elevated home on the coast in the FL Keys
Mitigation



Trinity River levee in Dallas, TX
Mitigation

Examples of Mitigation



Buy-out homes in landslide danger, southern CA
Mitigation



Safe room in tornado country
Mitigation

Examples of Mitigation



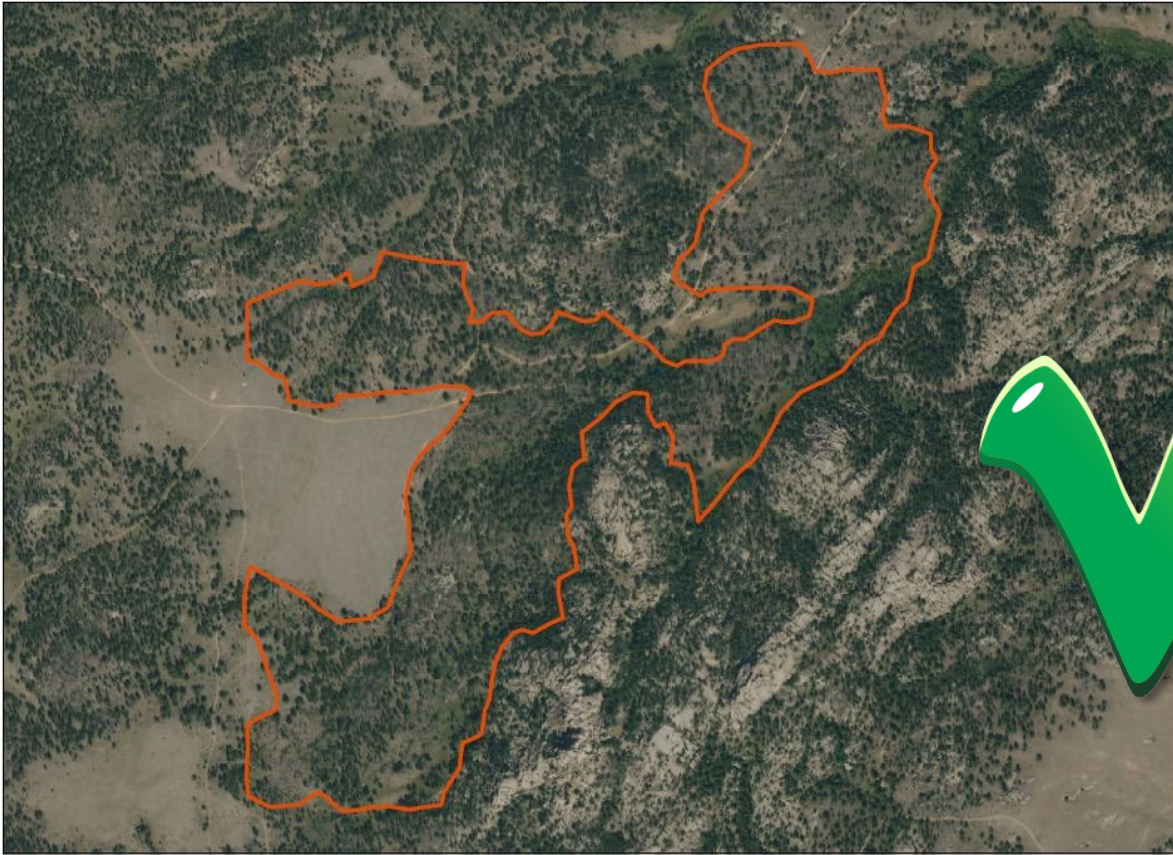
Acquiring new command vehicle for response agency coordination
Preparedness, not mitigation



Training & exercise for crews
Preparedness, not mitigation

Examples of Mitigation

BEFORE TREATMENT



AFTER TREATMENT



*Larimer Conservation District (LCD) forest restoration treatment.
Aerial imagery shows treatment footprint prior to treatment (left) and 1 year post-treatment (right).*

Mitigation

Examples of Mitigation



Home hardening and creation of defensible space, Boulder County

Mitigation

Examples of Mitigation

BEFORE



AFTER



Flood mitigation project in Boulder County

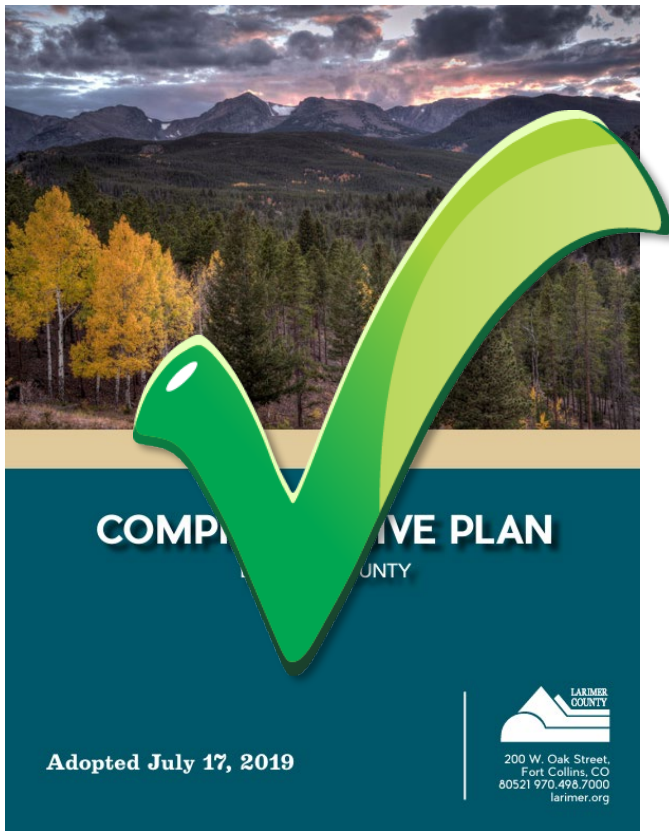
Mitigation

Examples of Mitigation



Elevation of road in Fort Collins
Mitigation

Examples of Mitigation



*Adoption of Land Use Plan &
Building Codes*
Mitigation



Grant program for community mitigation projects
Mitigation

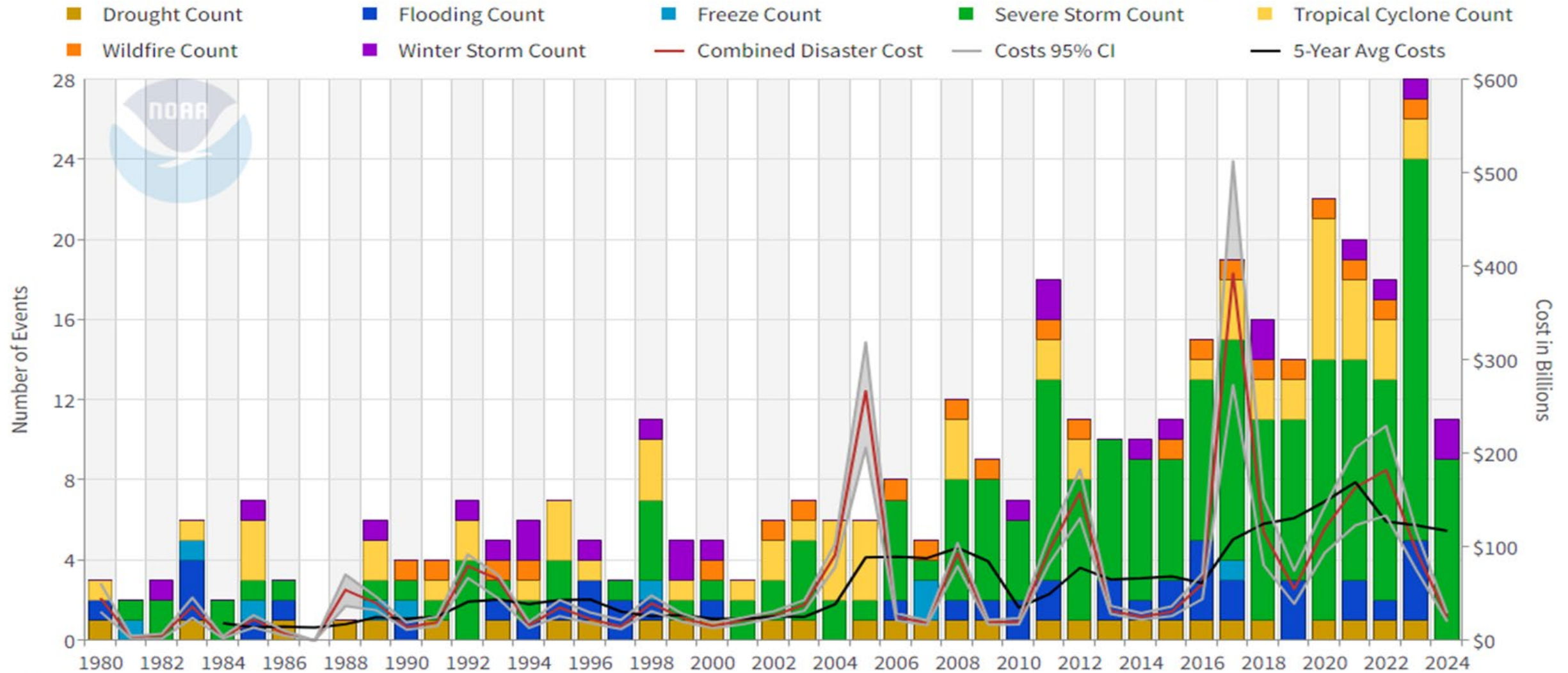
The Case for Mitigation: Why It's Worth It

The frequency and intensity of disasters are increasing.

- Hazard occurrence and severity **increasing**.
- Exposure is **increasing** (i.e., population, living in hazard areas).
- Vulnerability is **increasing** (i.e., dependence).
- Capacity may be **increasing**, but **not at a commensurate rate**.
- Disaster response and recovery costs are **increasing**.



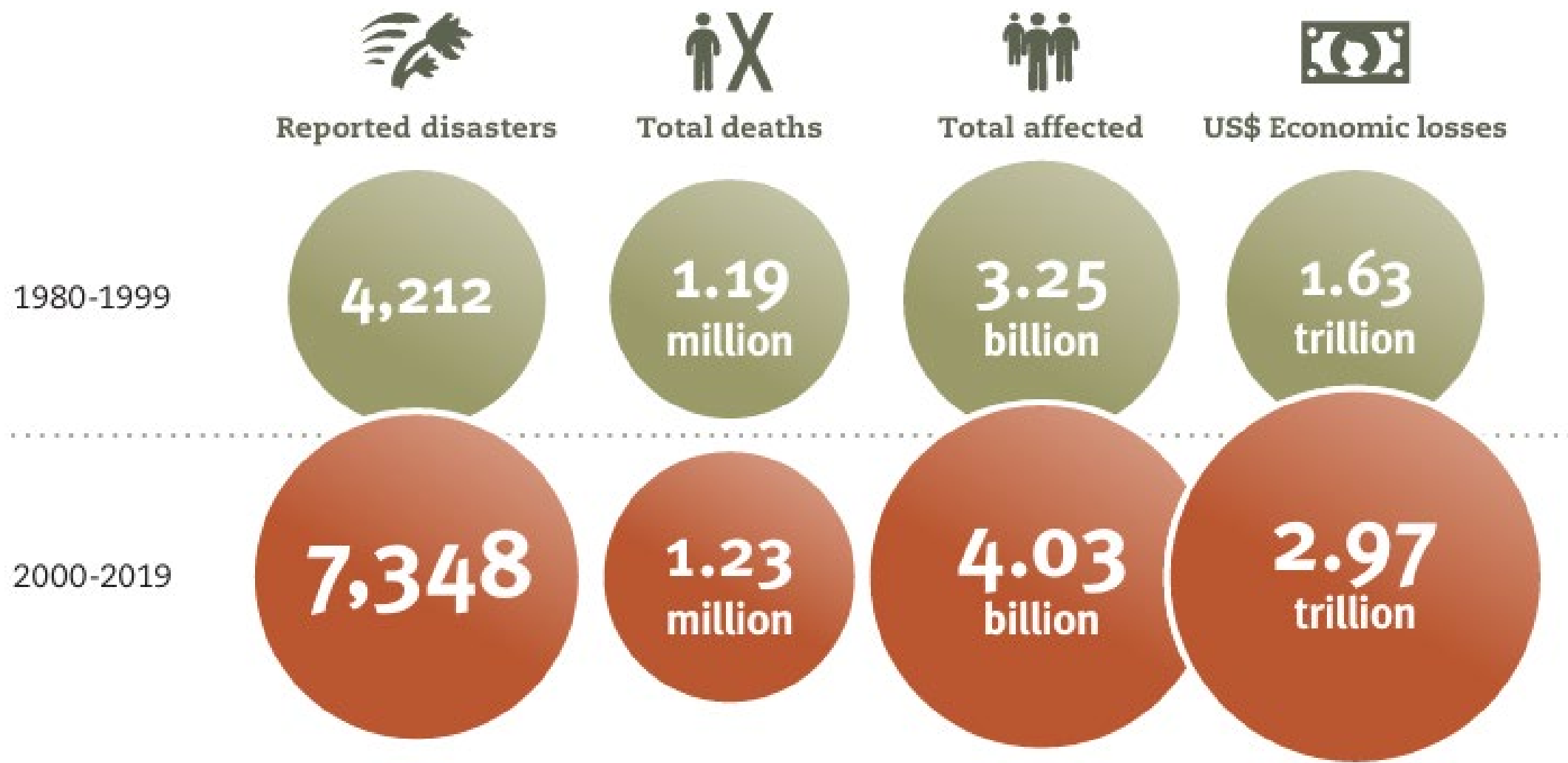
United States Billion-Dollar Disaster Events 1980-2024 (CPI-Adjusted)



Updated: June 10, 2024

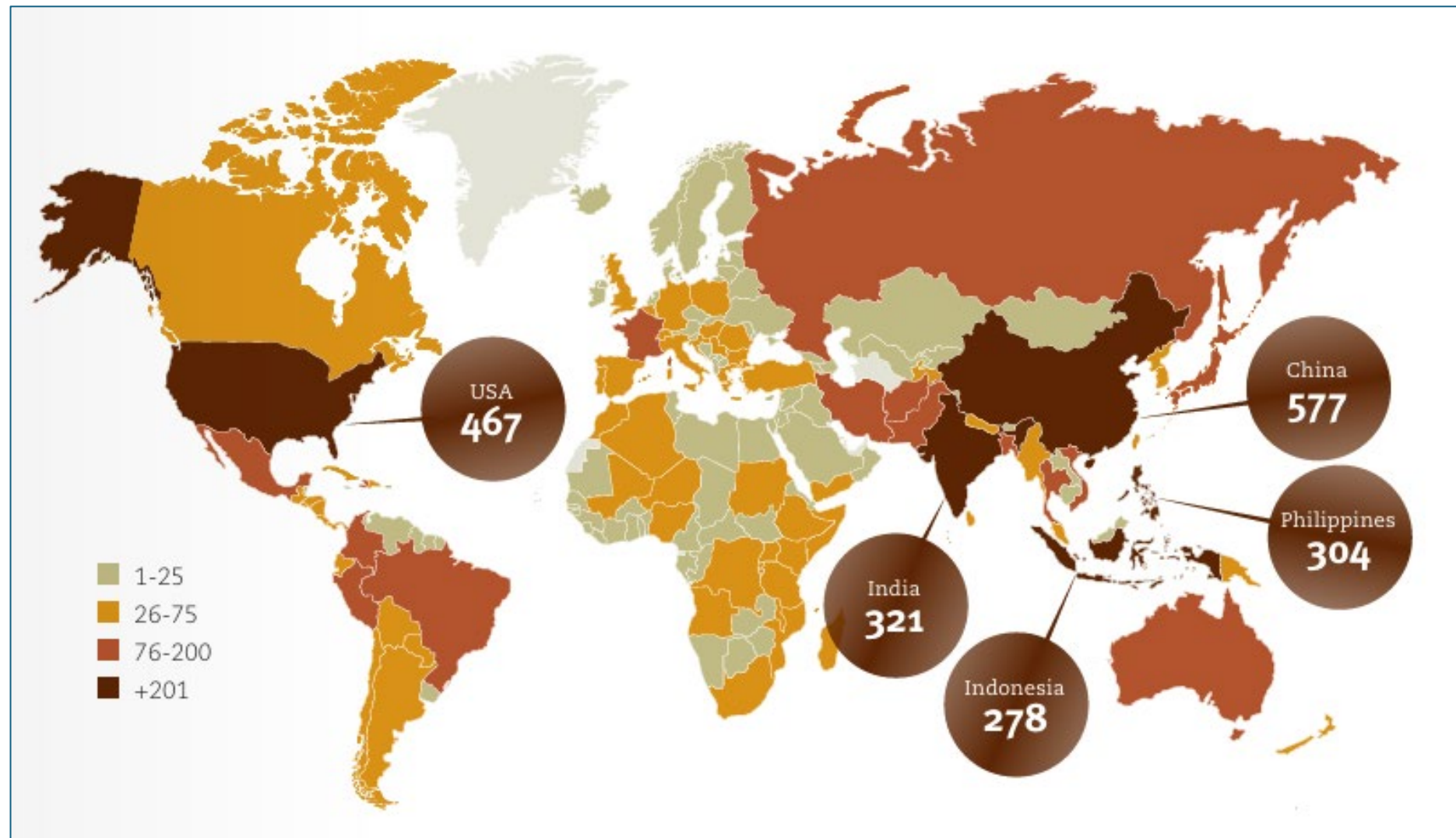
- National Oceanic and Atmospheric Administration (NOAA)

Disaster Impacts: 1980-1999 vs. 2000-2019



- “Human Cost of Disasters: An Overview of the Last 20 years (2020),
Centre for Research on the Epidemiology of Disasters (CRED) United Nations Office for Disaster Risk Reduction (UNDRR)

Number of Disasters Reported per Country / Territory (2000-2019)



- “Human Cost of Disasters: An Overview of the Last 20 years (2020),
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The Case for Mitigation: Why It's Worth It

Disasters are disruptions of the functioning of a community or a society due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to loss and impact.

Disaster are social constructs.

There is no such thing as a “**natural disaster**”.

Understanding this means...
WE CAN DO SOMETHING ABOUT IT!

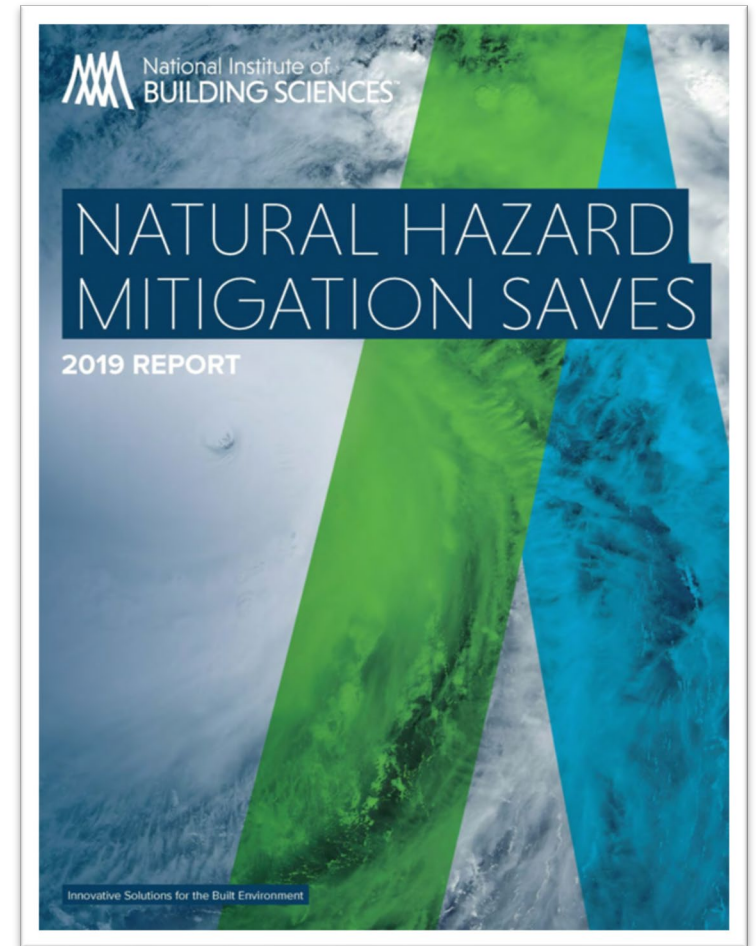


The Case for Mitigation: Why It's Worth It

Mitigation saves.

- **Mitigation saves** lives, prevents injury and protects our environment (built & natural).
- **Mitigation saves** money; it's a sound financial venture with a positive benefit-cost and an efficient return on investment.
- **Proven through peer reviewed science!**

If a tree falls in the forest and no one is around to hear it... does it make a sound?



The Case for Mitigation: Why It's Worth It

 National Institute of BUILDING SCIENCES™		ADOPT CODE	ABOVE CODE	BUILDING RETROFIT	LIFELINE RETROFIT	FEDERAL GRANTS
Overall Benefit-Cost Ratio		11:1	4:1	4:1	4:1	6:1
Cost (\$ billion)		\$1/year	\$4/year	\$520	\$0.6	\$27
Benefit (\$ billion)		\$13/year	\$16/year	\$2200	\$2.5	\$160
	Riverine Flood	6:1	5:1	6:1	8:1	7:1
	Hurricane Surge	not applicable	7:1	not applicable	not applicable	not applicable
	Wind	10:1	5:1	6:1	7:1	5:1
	Earthquake	12:1	4:1	13:1	3:1	3:1
	Wildland-Urban Interface Fire	not applicable	4:1	2:1	not applicable	3:1

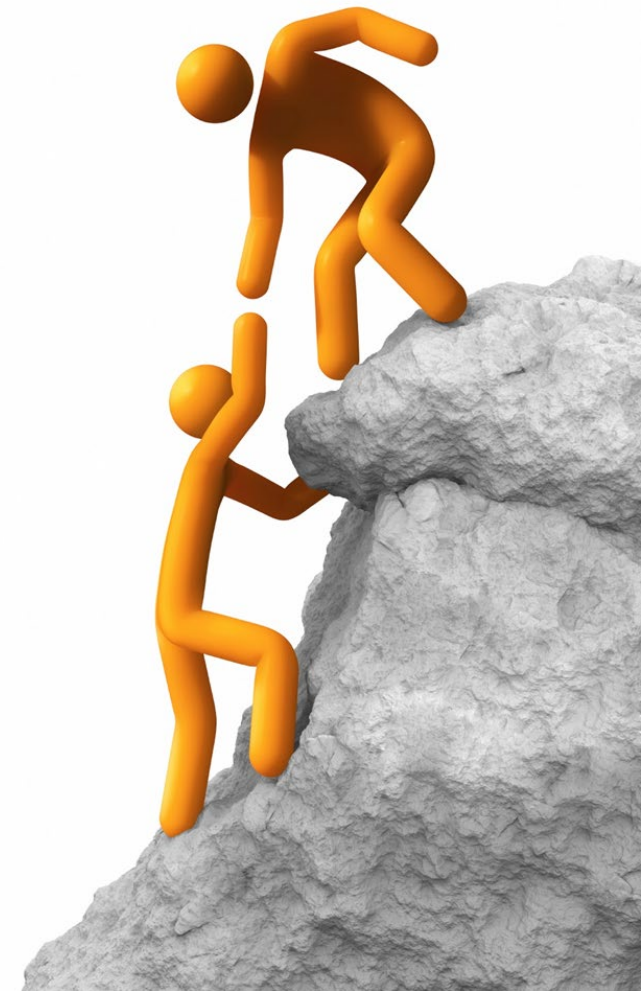
Shared Stewardship

**Mitigation saves lives & money, so...
WE SHOULD DO SOMETHING ABOUT IT!**

“Risk” is complex, non-linear. It involves systemic causality.

- It's not your fault. It's not my fault. It's **OUR** fault.
- We must get out of this mess the same way it was created –

TOGETHER!





Larimer County Multi-Jurisdictional Hazard Mitigation Plan Update FEMA Review

May 2021



Plan Integration for Resilience Scorecard™



Q & A

Questions?

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