



# Operationalizing Hazard Mitigation Plans for the Middle Delaware



FEMA



pennsylvania  
EMERGENCY MANAGEMENT AGENCY



January 18, 2024  
County Intro Meeting

DRBC, PEMA, Potential Attendees



# Introductions



Welcome





# Middle Delaware River Watershed

**2024 Building Resilient Infrastructure and Communities (BRIC)**

**2024 Flood Mitigation Assistance (FMA)**

**Upcoming Hazard Mitigation Grant Program,**

**Community Direct Spending (CDS) Pre-Disaster Mitigation (PDM)**

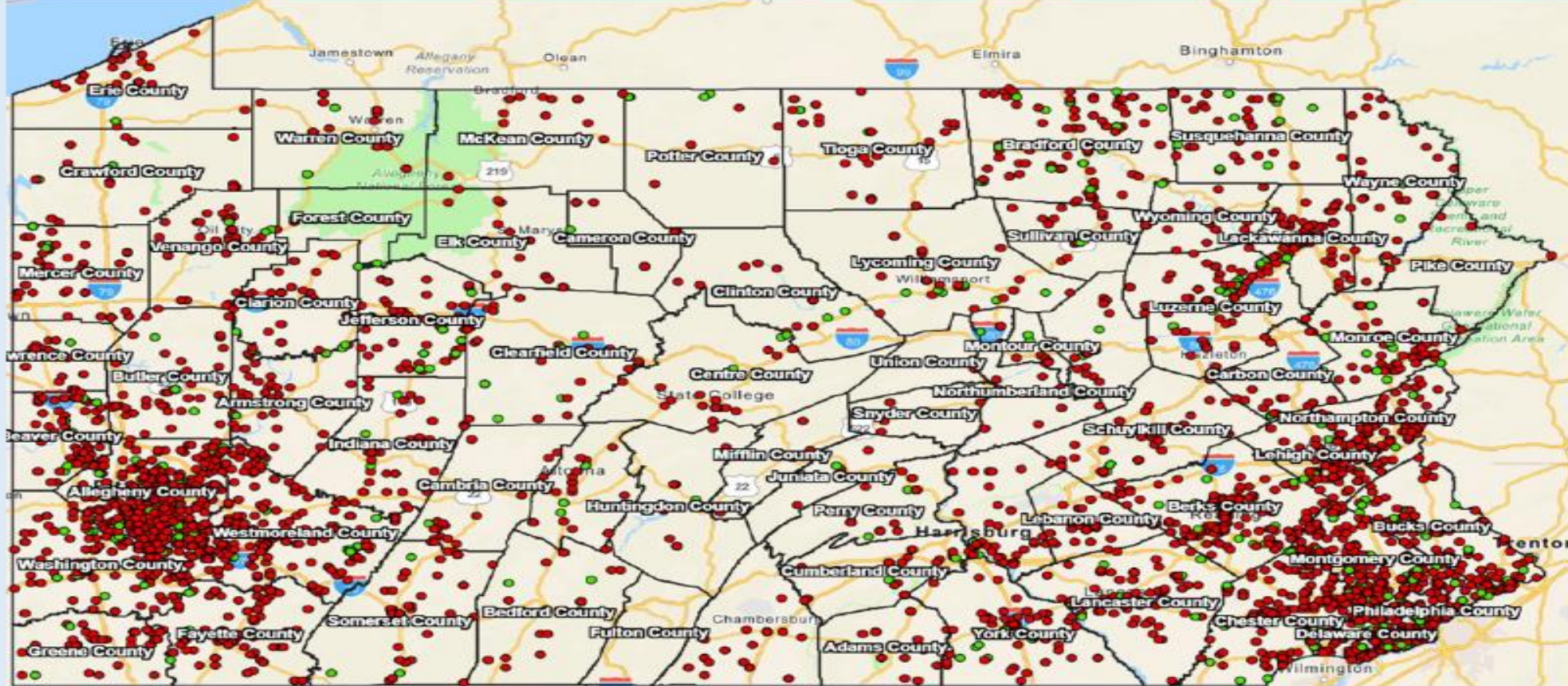


# Where it can rain, it can flood



## DID YOU KNOW?

Roughly 9 out of 10 flood reports made to the National Weather Service were outside the FEMA 100-year floodplain.



Locations of flood reports made to NWS between 1993 and 2021. Flood reports over one half mile outside the floodplain area are in **red**. Flood reports within a half mile of the FEMA 100-year floodplain are in **green**.

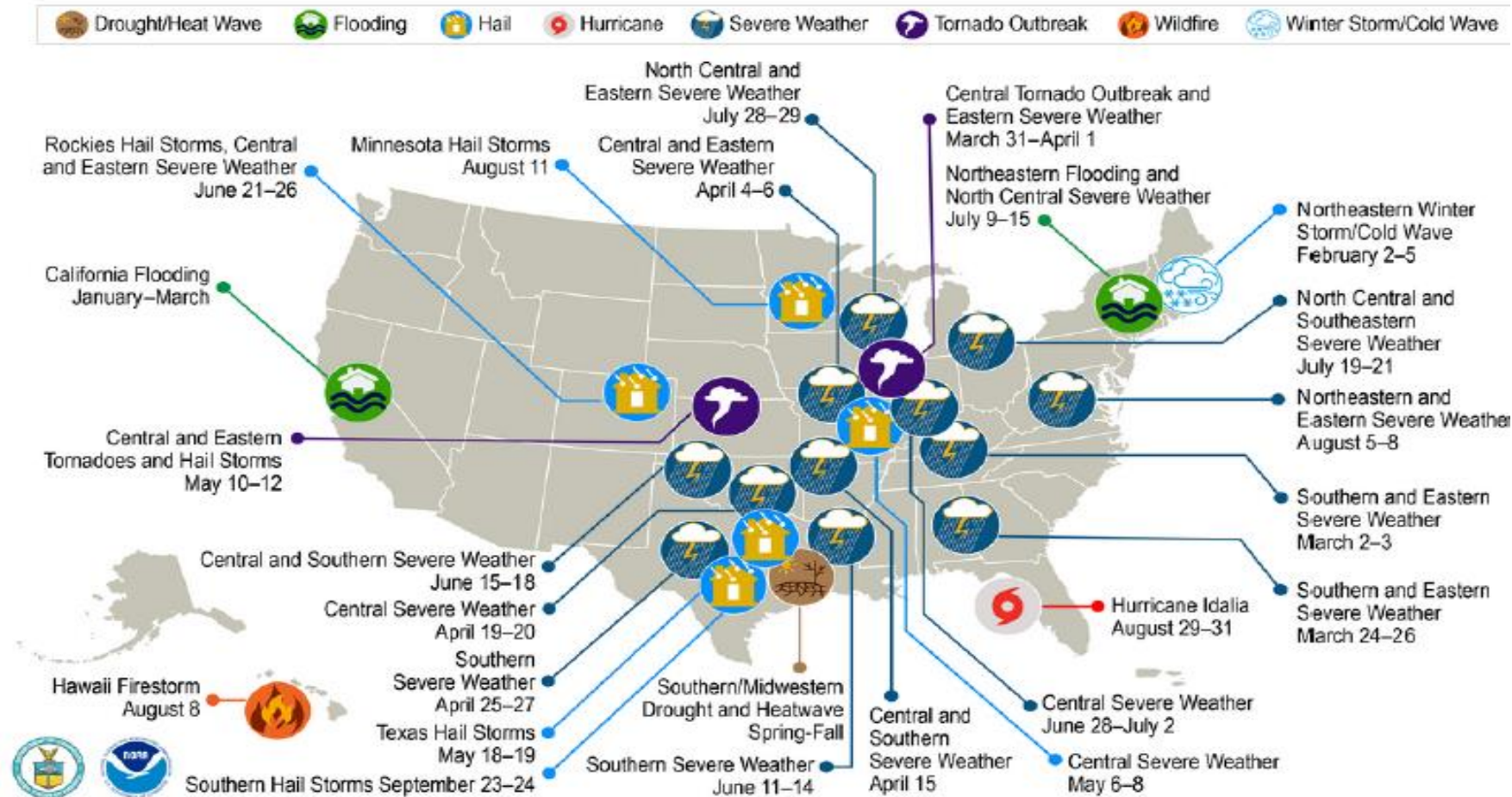


[www.pema.pa.gov](http://www.pema.pa.gov)

Just one inch of floodwater can cause up to \$25,000 in damage. Most homeowner and renter insurance does not cover flood damage. Flood insurance is a separate policy that can cover buildings, the contents in a building, or both.



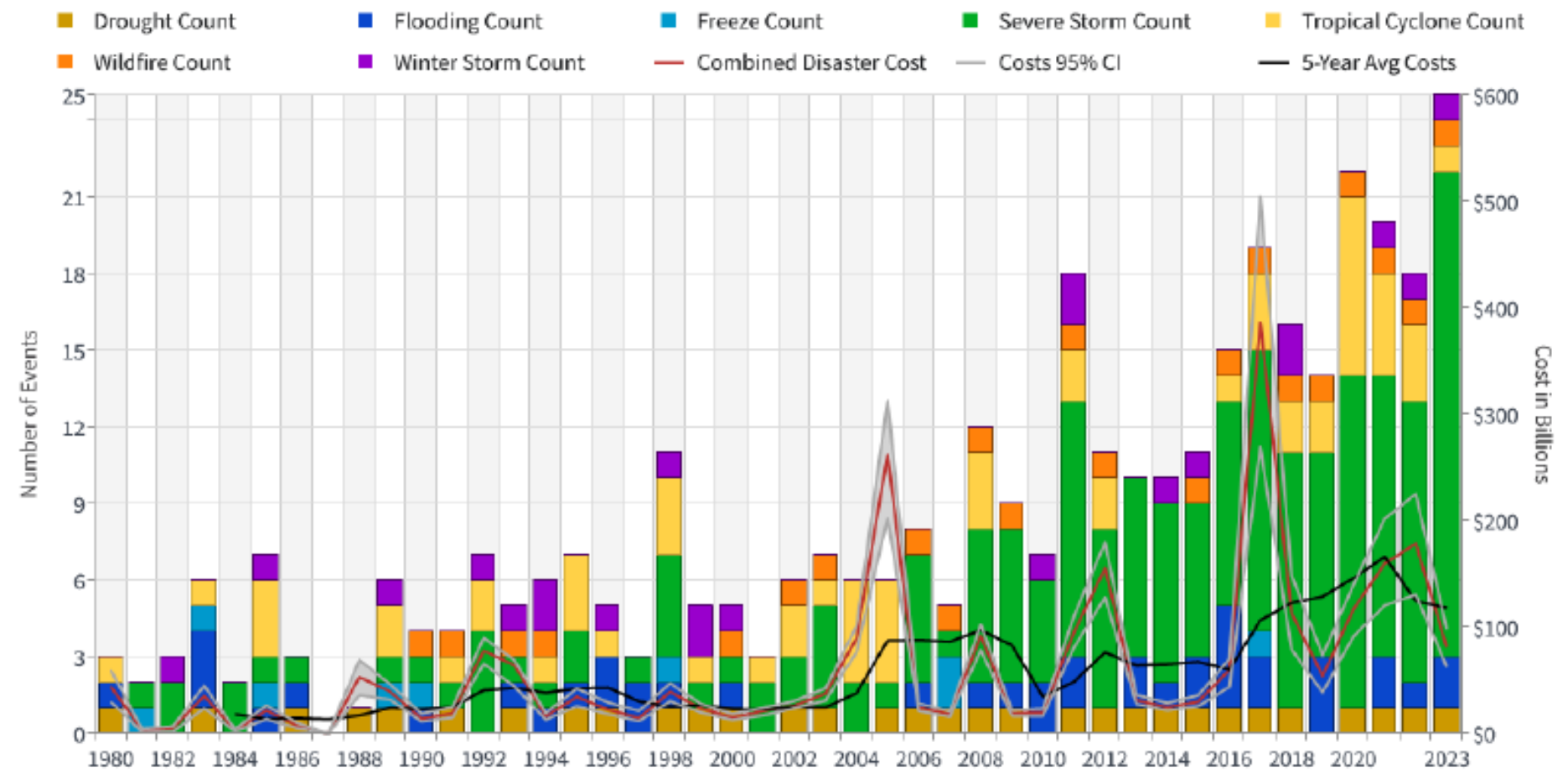
# Billion-dollar WX & Climate Disasters in US, 2023



This map denotes the approximate location for each of the 25 separate billion-dollar weather and climate disasters that impacted the United States through November 2023.

# Billion-dollar disaster events in the US, 1980-2023

## Billion-dollar disaster events in the USA, 1980 -2023



Updated: December 8, 2023





# ▶ OVERALL Goal for the PIGDs from the on-set

Create high-quality grant applications.

Move the needle on mitigation actions in the plan.

Build relationships with local communities and give direct support to subapplicants.

Offer training on specialized topics like Benefit Cost Analysis (BCA), green infrastructure, etc.

Focus on a special geographic area.

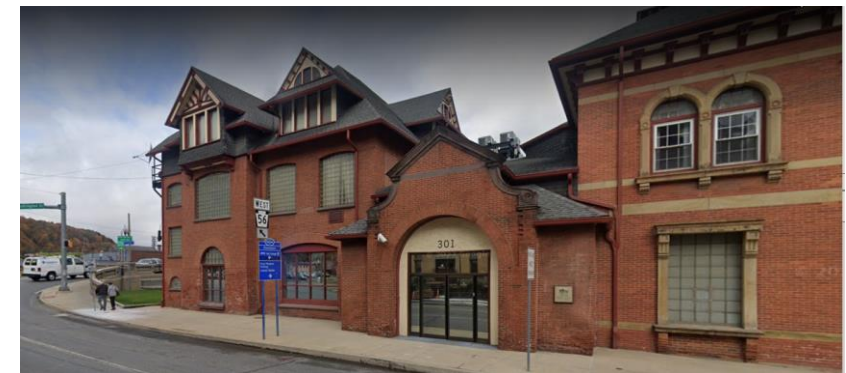
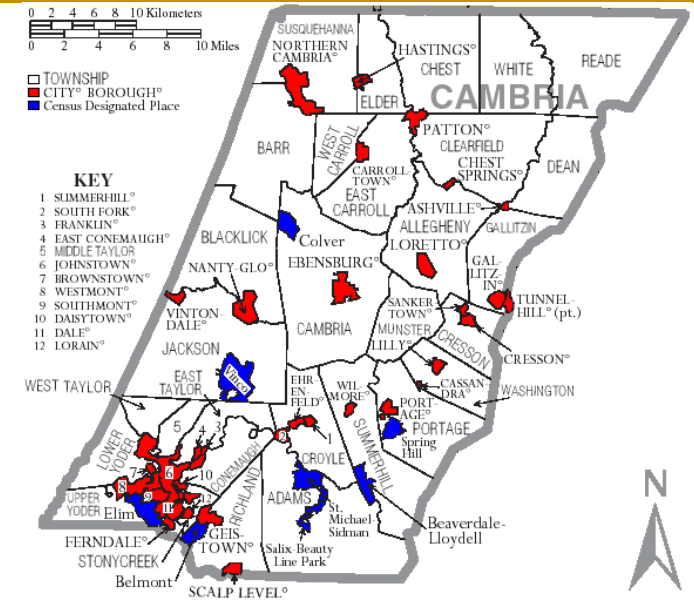




# Local Target Strategy

- First pilot run in Cambria County: planned as face-to-face, but Covid-19 dictated that we go virtual.
- Ran for all 24 counties/1025 municipalities in Western PA for Day 1 and Day 2.
- Used the Community Engagement Prioritization Tool (CEPT) that the FEMA Floodplain Management & Insurance used at the time.

*On May 31, 1889, a neglected dam and a phenomenal storm led to a catastrophe in which 2,209 people died. It's a story of great tragedy, but also of triumphant recovery.*

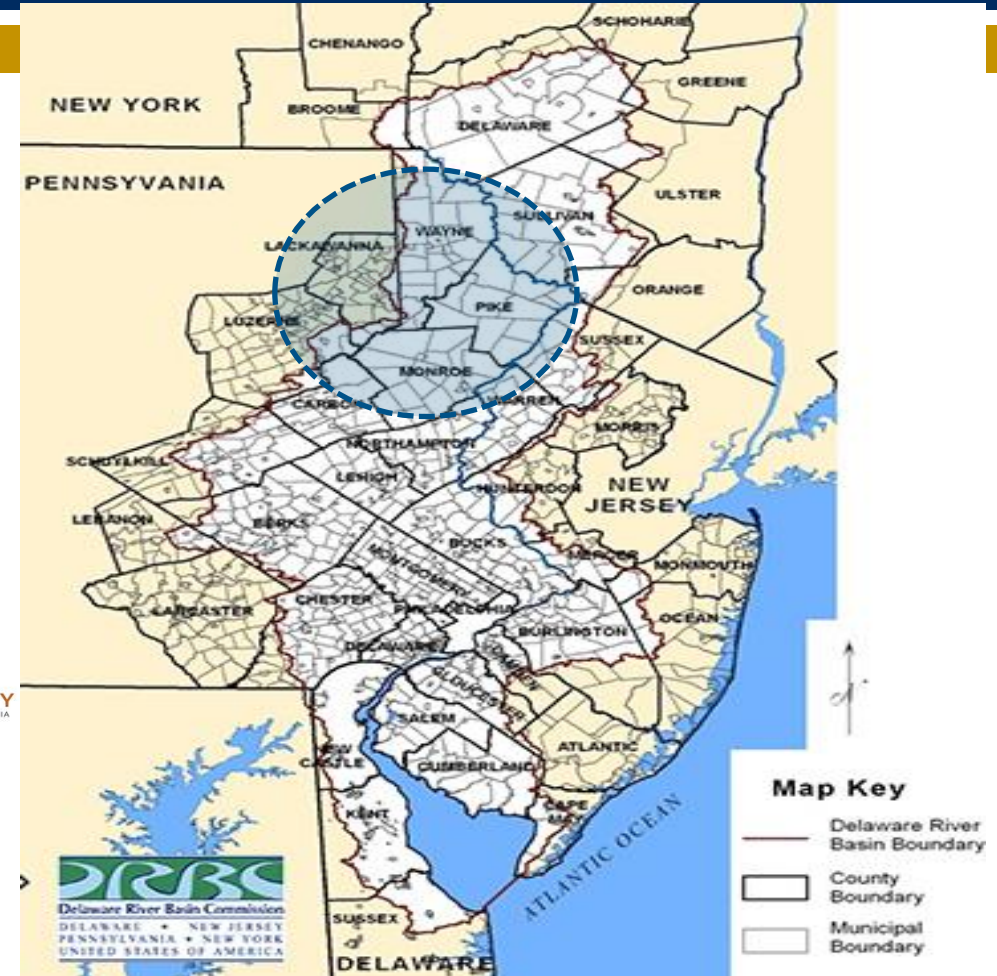


# Local Target Strategy

- Second was run in Northeastern PA/Upper Delaware River Basin: Targeted there as they had gone through flood mapping, had history of flooding. Chose Monroe, Lackawanna, Pike, and Wayne Counties.
- Partnered with EMA and Delaware River Basin Commission (DRBC), funded by 2018 FMA and PDM Advance Assistance Grants. State picked up 25% Cost Share.



FEMA

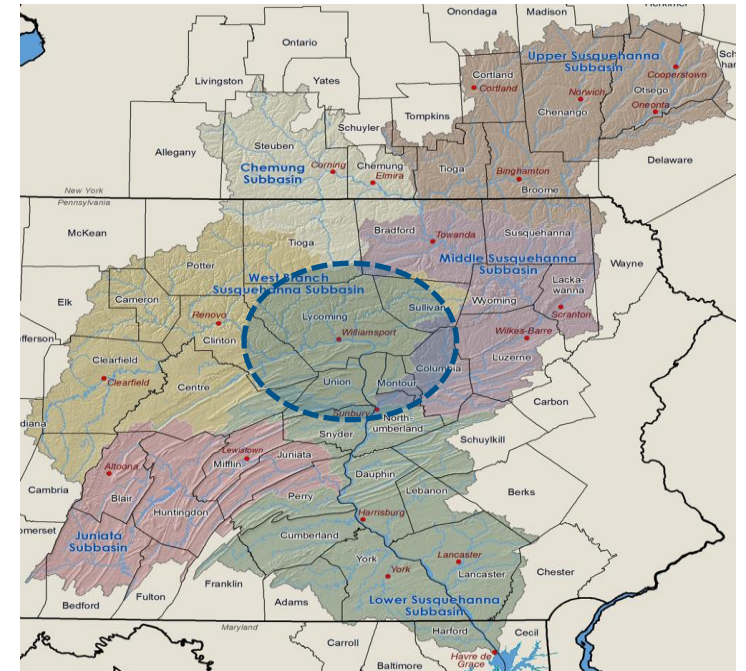




# Local Target Strategy



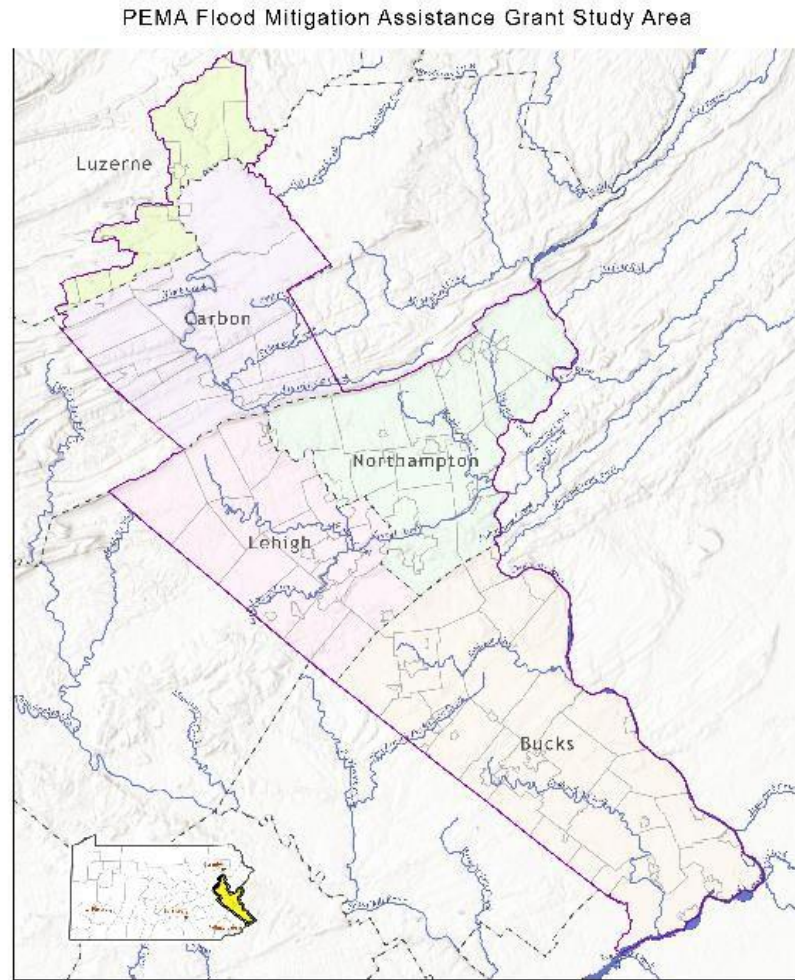
- Fourth run in Upper Susquehanna River Basin for 14 rural communities.
- Partnered with EMA offices in Lycoming, Montour and Wyoming counties where face-to-face meetings were held at the Susquehanna River Basin Commission.
- State picked up 25% cost share.



## Included Community Lifelines

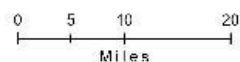


# Middle Delaware Study Area



## Legend

- PEMA Study Area, Lower Delaware
- County Boundary
- Major Tributaries



- ❖ Carbon County
- ❖ Lehigh County
- ❖ Northampton County
- ❖ Bucks County
- ❖ Portions of Luzerne County within the Delaware River Basin





# Project Purpose / Goals / Scope

**Purpose:** Use this development program as a conduit to move Mitigation Actions to Mitigation Projects

**Goal:** To work with stakeholders in low-capacity communities to assist THEM in the development of viable mitigation projects through the use of THEIR County Hazard Mitigation Plan

**Scope:** Implement a series of virtual and hybrid Hazard Mitigation (HM) Planning Implementation and Grant Development (PIGD) workshops for the Middle Delaware Study Area. Provide application technical assistance.



# Project Schedule

- Introduced project to key county contacts (Dec 2023)
- **Introductory webinar for all – EMCs, FPMs, elected officials, conservation districts, county planning, engineers (Jan 2024)**
- PIGD Workshop Day 1 (multiple webinar and hybrid sessions)  
– Feb 2024
- PIGD Workshop Day 2 (multiple webinar and hybrid sessions)  
– Apr 2024



# Overview

- Today we will discuss the use of FEMA approved community Hazard Mitigation Plans and moving mitigation actions into viable mitigation projects, whether it be a FEMA funding stream or others.
- Session will discuss the use of Mitigation Hazard Mitigation Plans, Mapping products to include CJEST, SVI, Discovery Reports, National Risk Index (NRI), Building Code Adoption Tracker (BCAT) and other FEMA resources.



# Session Objectives

- Become familiar with aligning mitigation actions in mitigation plans.
- Have a better working knowledge of FEMA and other Resources to provide community mitigation process needs (this is not a G318/393 course).
- Provide tools to assist with creating a narrative and support documentation for the required FEMA or a starting point for other funding streams' and required Scopes of Work or equivalent.



# Successful Outcome



Photo: Charter members of the Resilient Neighbors Network Steering Committee

- Session will provide at least one methodology for engaging locals on moving the Hazard Mitigation Plan from a resource document to a mitigation project, whether it be with FEMA or with another local, state, federal, Special District or private/non-profit or NGO funding stream.



# Setting the Stage



Photo by David Valdez/FEMA - Jul 20, 2011 - Location: Minot, ND

# Future Conditions/DEI SJ & EJ

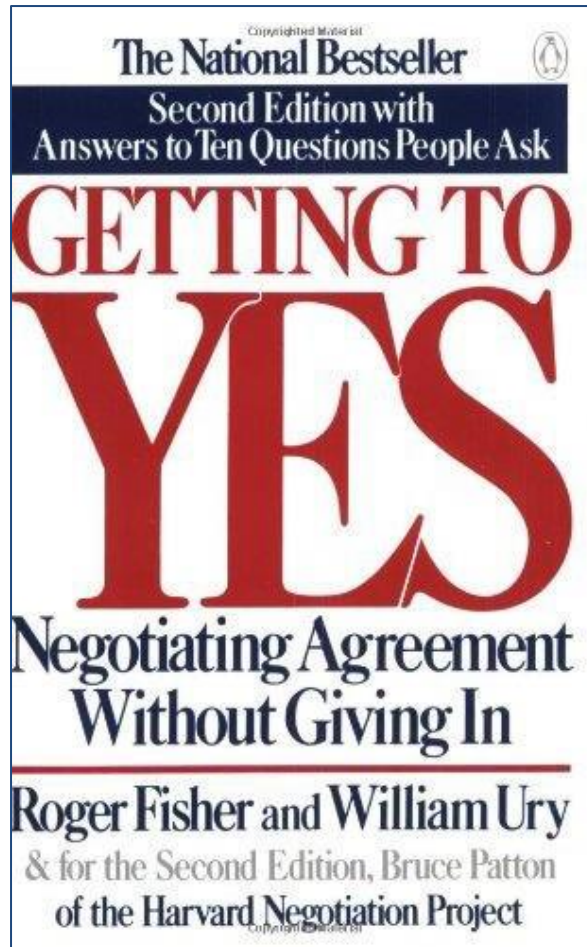
## Future Desired Impacts

The Federal Insurance and Mitigation Administration (FIMA) has two overarching principles that influence all goals and objectives:

- Deliver our programs with **equity**
- Incorporate **future conditions** in all of our work



# Getting to Yes



- By Roger Fisher and William Ury (1991, Second Edition has additional material by Bruce Patton)
- Focuses on “Getting to Yes” through principled negotiations
- From our perspective we want the principle to be...



# Work on Finding a “Yes”

- Working with this group, over the next few months we will ask clarifying questions.
- Acknowledge the other party – this does not mean agreeing, just trying to understand what they are trying to mitigate.

***Can you please help me understand why you need this? How is this a long-term solution?***

# The Power of Kindness

*"I am sorry... that we cannot do what you want exactly as you want it..."*

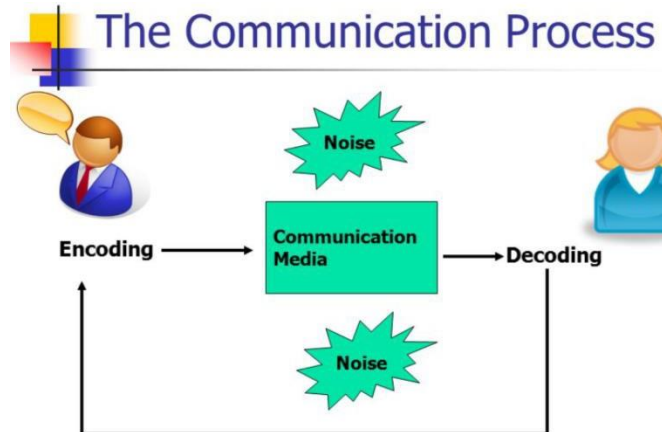
*"This is a lovely proposal... however..."*

*"I feel your pain..."*

# Want assistance in researching your audience



- Listen at every stage
- Discuss
- Talk
- Learn
- We care, as you do, about what concerns and issues the county and the local communities have and how can we help??





# Disaster Reduction Message

What is  
Resiliency?



- Resiliency is attained through better, safer design for which messaging must be prepared for delivery to your many audiences.
- To find out and understand what the community cares about, so an effective message can be developed which is rooted in economics and safety that their residents, businesses, non-profits, renters, etc., all will care about.

# FEMA & HUDs definition of Hazard Mitigation



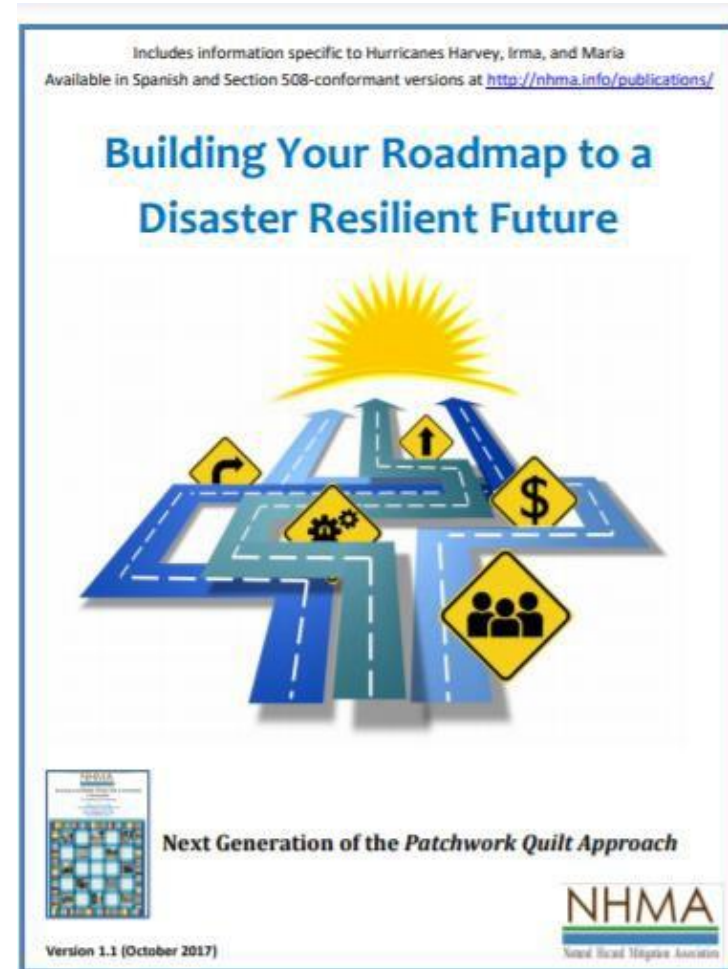
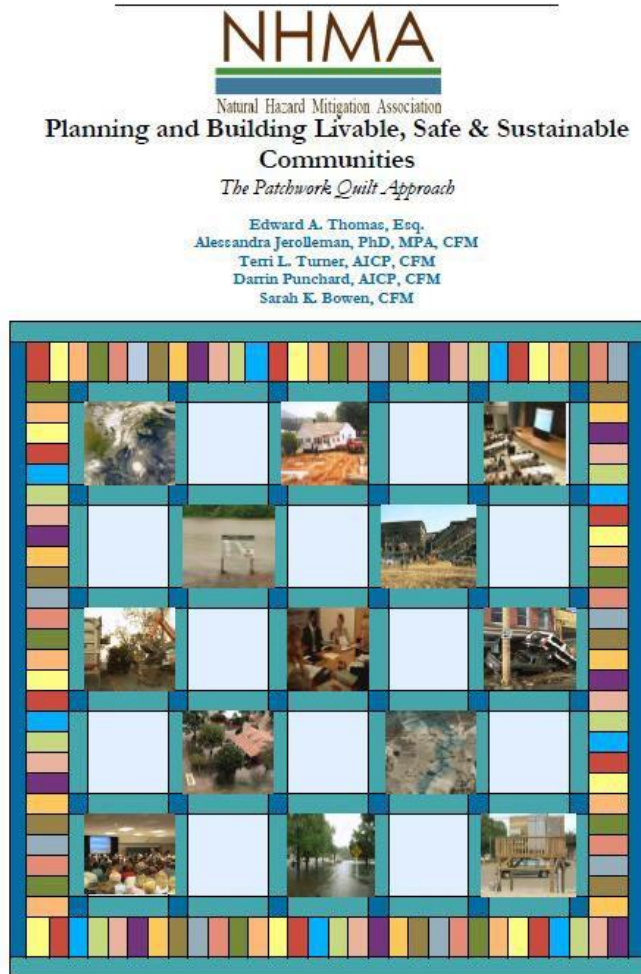
- **Mitigation is defined** as a sustained action to reduce or eliminate risk to people and property from **hazards** and their effects.
- **HUD's** definition (June 20, 2019) mitigation activities are defined as those activities that increase resilience to disasters and reduce or eliminate the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship, by lessening the impact of future disasters.

# HUD's Definition of Resilience



- Resilience is a community's ability to minimize damage and recover quickly from extreme events and changing conditions.
- HUD Toolkit offers resources that housing and community development professionals can use to:
  - identify climate-related natural hazard risks;
  - consider actions to enhance the resilience of housing, infrastructure, and residents to those hazards; and
  - implement resilience actions using HUD funds and other innovative financing options.

# Natural Hazard Mitigation Association's Resources

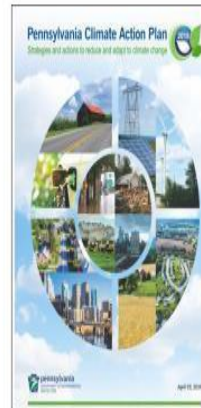




# Why do we have HM Plans anyway?

- To plan for better, safer design and as preparation of these ideas and thoughts for delivery to many audiences?
- How did this evolve – history please....
- Know and understand what a particular community/jurisdiction cares about, so we can develop a message and vision rooted in economics and safety that everyone should care about
- Just to access FEMA mulah????

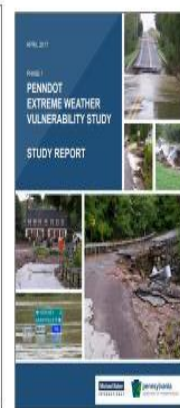
## Climate Adaptation/Future Conditions



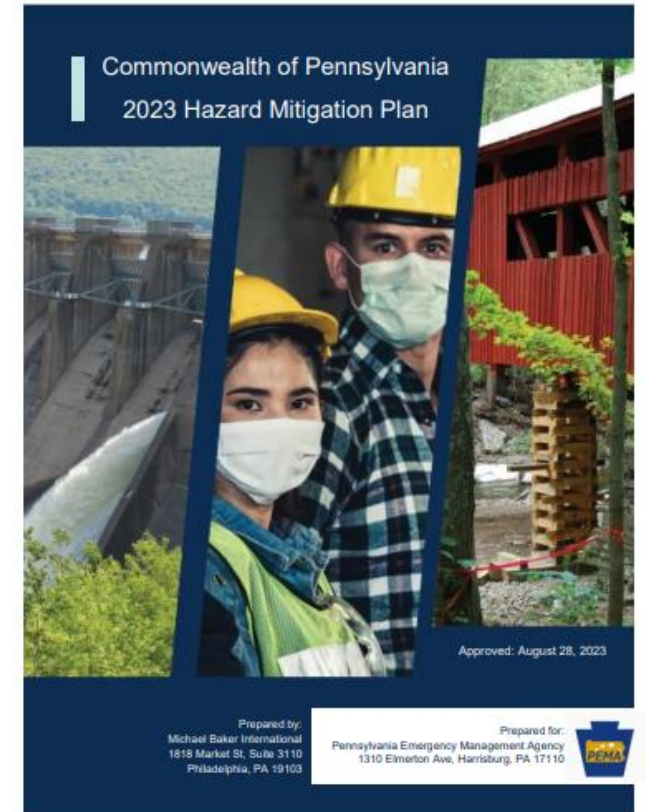
<https://www.dep.pa.gov/Citizens/climate/Pages/PA-Climate-Action-Plan.aspx>



<http://elibrary.dcnr.pa.gov/GetDocument?docid=1743769&DocName=Climate Change Adaptation Plan Final Aug2018.pdf>



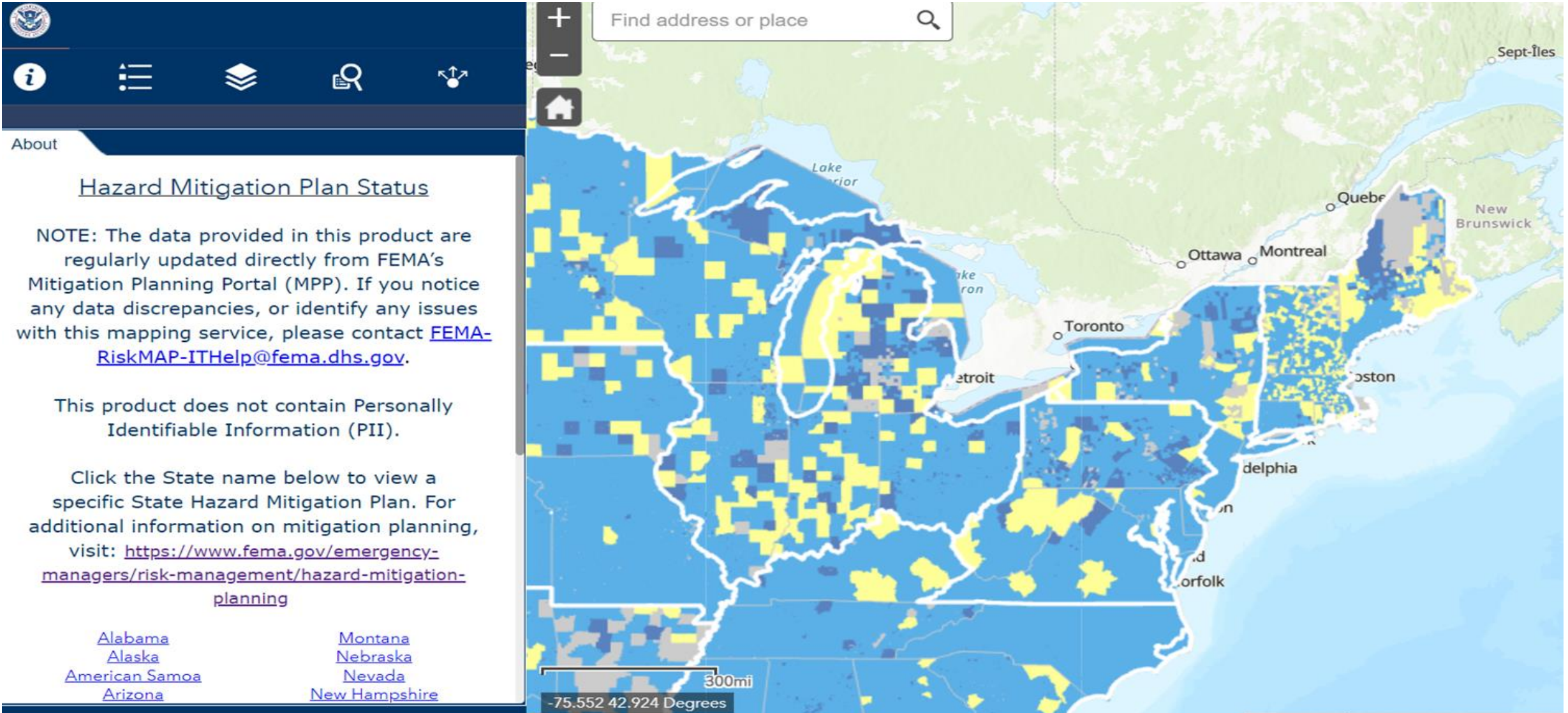
<http://s3.amazonaws.com/tmp-map/climate/doc/StudyReport-PaVulnerabilityStudy-ver040317.pdf>



<https://www.pema.pa.gov/Mitigation/Planning/Documents/2023%20Hazard%20Mitigation%20Plan.pdf>



# Hazard Mitigation Planning (State & Nationally)



**Hazard Mitigation Plan Status**

NOTE: The data provided in this product are regularly updated directly from FEMA's Mitigation Planning Portal (MPP). If you notice any data discrepancies, or identify any issues with this mapping service, please contact [FEMA-RiskMAP-ITHelp@fema.dhs.gov](mailto:FEMA-RiskMAP-ITHelp@fema.dhs.gov).

This product does not contain Personally Identifiable Information (PII).

Click the State name below to view a specific State Hazard Mitigation Plan. For additional information on mitigation planning, visit: <https://www.fema.gov/emergency-managers/risk-management/hazard-mitigation-planning>

<a href="#">Alabama</a>	<a href="#">Montana</a>
<a href="#">Alaska</a>	<a href="#">Nebraska</a>
<a href="#">American Samoa</a>	<a href="#">Nevada</a>
<a href="#">Arizona</a>	<a href="#">New Hampshire</a>

Map interface elements: Find address or place, +, -, Home, About, Lake Superior, Lake Michigan, Lake Huron, Detroit, Toronto, Ottawa, Montreal, Quebec, New Brunswick, Sept-Îles, Boston, Philadelphia, Norfolk, 300mi, -75.552 42.924 Degrees



# FEMA's Community Lifelines

## Definition

A lifeline enables the continuous operation of critical business and government functions and is essential to human health and safety or economic security.

## Purpose

Root Cause Analysis

Interdependencies

Prioritization

Ease of Communication

## Assessing

Status → What?

Impact → So What?

Actions → Now What?

Limiting Factors → What's the Gap?

## Stabilization

Occurs when basic lifeline services or capabilities are provided to survivors (may be temporary solutions)

COMPONENTS of Lifelines



Safety and Security



Law Enforcement/Security



Fire Services



Search and Rescue



Government Services



Community Safety



Food, Water, Shelter



Food



Water



Shelter



Agriculture



Health and Medical



Medical Care



Patient Movement



Public Health



Fatality Management



Medical Supply Chain



Energy (Power & Fuel)



Power (Grid)



Fuel



Communications



Infrastructure



Alerts, Warnings, and Messages



911 and Dispatch



Responder Communications



Finance



Transportation



Highway/Roadway



Mass Transit



Railway



Aviation



Maritime



Hazardous Materials



Facilities



HAZMAT, Pollutants, Contaminants

# Action: What we are here for today?

*We want good behavior actions to take place*

- 1) Do this in the correct cycle methodically
- 2) Community needs after a Disaster
- 3) Do this phased mix – immediate, intermediate, Long-Term
- 4) Mix of projects, shovel-ready, chunks, pieces, phased
- 5) Watershed or System-wide approaches that prevent or limit cascading events
- 6) Not to be daunted by enormity or imposed timelines and limited resources



WCHStv.com



# OH, that continuum or that one?

- Natural Hazard Post-Event?
- Or the Pandemic one or both?
- Grant Cycles

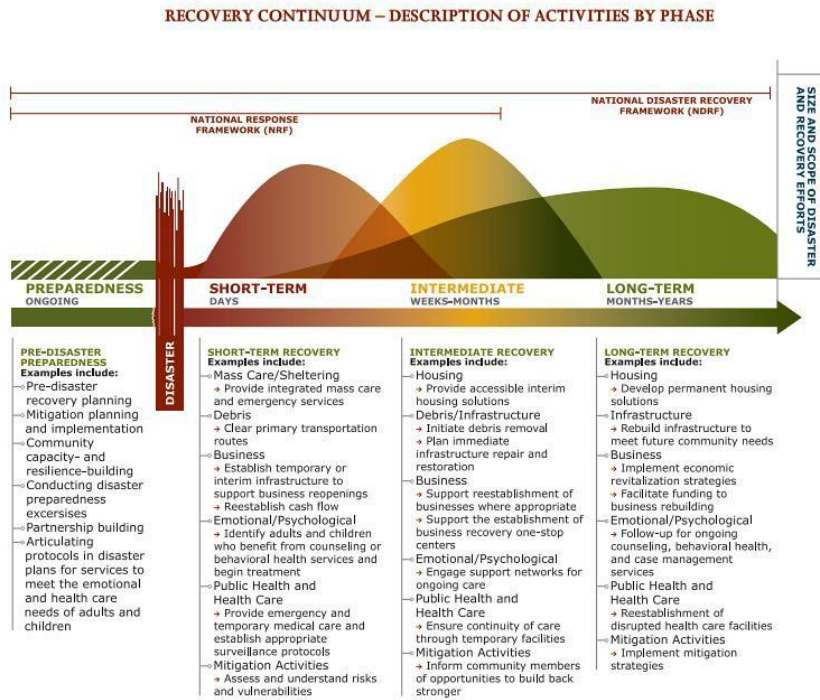
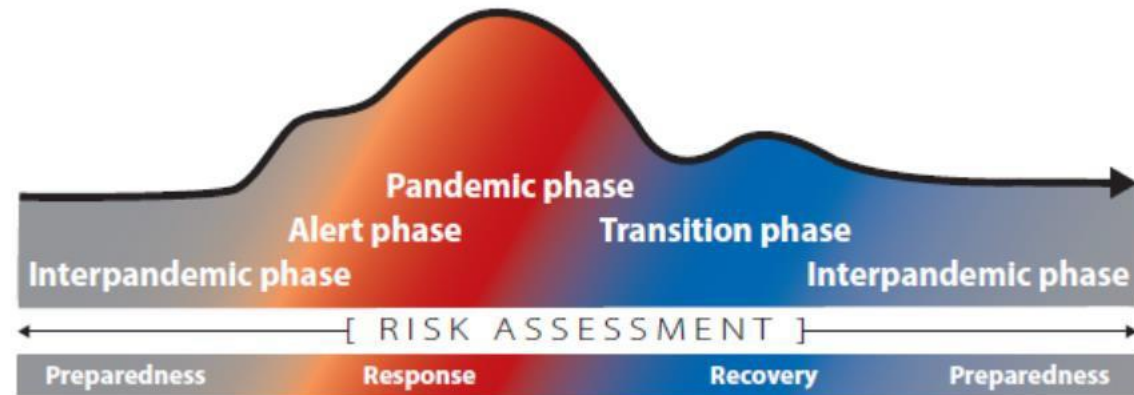


Diagram showing the Recovery Continuum timelines and tasks and considerable overlap among recovery tasks during the short term, intermediate term and long term phases of an incident. [National Disaster Recovery Framework](#) (PDF - 11 MB) (DHS/FEMA, September 2011) See page 8 Figure 1

Figure 1. The continuum of pandemic phases<sup>a</sup>



<sup>a</sup> This continuum is according to a "global average" of cases, over time, based on continued risk assessment and consistent with the broader emergency risk management continuum.

# What resource support is there to go after?

- Colleges/Universities?
- Private Sector?
- Regional Planning
- County Offices & Officials
- Municipal Officials – Know the issues
- HM Planning Team – Keep engaged – the plan is FEMA approved but now what!!
- And of course, paid contractors – SLTT funding for match for project & planning needs?
- Legislators can help?
- State BCA Contract?



*Always, always remember the WIFM – What's in it for me...*

# Ambassadors of Change – Who are they?



*Again WIFM !!!*

- Colleges/Universities?
- Private Sector?
- Regional Planning
- Local HM and Resilience Officer
- Municipal Officials wearing many hats, Managers, Code Enforcement, FPMs, Local Fire or Police Chief
- You may have found several during the HM Planning update – keep the fire going..
- Those who disagree with you – really?

# Plan Integration



- Did this in the planning process – found what plans need to be address and connect to – right?
- But have you also thought about the STAPLEE process for mitigation actions and projects in the HM Plan – Social, Technical, Administrative, Political, Legal, Economic & Environmental lenses
- Makes the grant writing so much easier
- Don't want to win a project award then only to give it back and have it de-obligated.



# Operationalizing the HM Plans (and County Recovery or Resiliency Plans)



Photo by David Valdez/FEMA - Jul 20, 2011 - Location: Minot, ND

# After a FEMA Declared Disaster – Clean-up Aisle 11

- FEMA Public Assistance (406/406 HM)
- FEMA Hazard Mitigation (if declared) HMGP
- HUD CDBG-DR
- DRRA 1206
- DRRA 1205
- FMAG (Fire)
- Post-Fire



# What Resilience Resources are Available?

- NOAA
- FEMA Discovery Reports
- National Risk Index
- Building Code Assessment Tool
- State & Federal Mapping Tools
- State or Local Landslide Tool
- FEMA CCO & Mitigation Meetings
- State Silver Jackets (Non-Structural Workshop)
- Annual State Risk Reduction Consultation Meeting
- Mitigation Federal Leadership Group
- FEMA HMA External Stakeholder Working Group
- FEMA Region & State
- Colleges & Universities
- Private Sector Subject Matter Experts
- Think Tanks
- List is endless – just need to white board it...stubby pencils work great!!



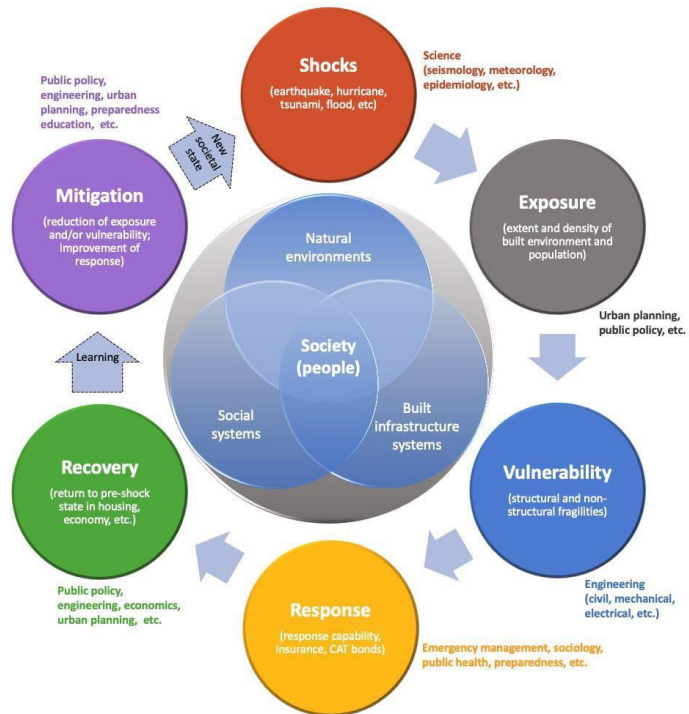
# Where/How do mitigation actions come into us?



- Governor or Commissioners Bat Phone
- State NFIP or SHMO/Tribal HMO
- County/Parish, Tribal, Territorial, Local Officials
- Resource Accounts set up
- Letters/Notice of Intent/Interest
- Private/Public Partnership/Working groups
- Networking
- PIGDs – *what is THAT??!!*



# Collaboration into Convergence



Schematic representation of the Societal Shock Resilience Framework elements.



# HM Plan Implementation & Grant Development (PIGD)



*What is the will and vision of the community?*

*How to move stagnation/inactivity into a project?*



**D**



**PIGD**



# Message: Commitment/Buy-In

Note: Not every community is ready for a PIGD – but maybe a check ride is in order?

*Depends on the prep/leg work done already by a community and also depends on its capacity or finding the capacity to get there*





# Decision 1: Mechanics & Successful Delivery

Some Virtual?

Some Face-to-Face or Hybrid?

Passive/Informal Option – Office Hours

Day 1 and/or Day 2 Options – Place holder

*But it takes a multi-party commitment by those involved or it will unravel and quickly*





# Decision 2: Logistics & Delivery



**Virtual Platform and  
Accessibility and Comfort  
Level**

**Venues Available**

**Expected Stakeholders and  
Expectations**

**Anticipated Project Types –  
Structural/Non-Structural**



# Prep Work

- 1) Meet with the Disaster Risk Reduction Ambassador (SLTT, Private-Sector, VOAD, NGO)
- 2) Prep Meeting with Legal Jurisdiction to “host” event and for local buy-in
- 3) Provide and also record a webinar for those that couldn’t make it
- 4) Provide “alternate channel” for info that maybe folks didn’t want to put in the chat or bring up



# Prep Work (continued)

5) Mentorship/Paying it forward to underserved communities – Direct Technical Assistance by others who have done it and “got the T-Shirt”

6) Use of Project Triage Sheet for various projects, if developed locally

7) Need Feedback Mechanism – WWW & H of application project stages





# Example PIGD Day 1 Topics (9am-12pm)

**Welcome & Intro (Include Local Leaders)**

**How to Write HM Plans that are actionable (State/FEMA)**

**Environmental & Historic Preservation (FEMA & SHPO)**

**Inundating Mapping & Mapping Tools Discussion (State NFIP Coordinator & USACE District)**

**Hazard Mitigation Application Development Process (State & FEMA)**

**Pre-calculated Benefits & BCA (State & FEMA)**

**Homework Assignment for Day 2 – Eligible Project Types: Structural – Gray & Green Infrastructure, Generators, & Flood-proofing, Acquisition, Relocation, Elevation, Mitigation/Reconstruction, etc.**

**Wrap Up: Key Takeaways and Next Steps**





# Sample Day 1 Agenda from Upper Delaware Project

- 9:00-9:10am: Welcome & Introductions – Local Disaster Risk Reduction Ambassador
- 9:10-9:25am: Environmental and Historic Preservation (EHP) in Your Hazard Mitigation Plan -  
*Courtney Doyle & Michael Hufnagel, FEMA Region III, Environmental & Historic Preservation Office*
- 9:25-9:30am: Break
- 9:30-9:50am: Inundating Mapping & Mapping Tools Discussion  
*Bill Bradfield, PEMA NFIP Program Manager*
- 9:50-10:20am: The Hazard Mitigation Application Development Process  
*Tom Hughes, PA SHMO & Carolyn Benish, FEMA R3 HM Project Officer*
- 10:20-10:40am: How to Write Hazard Mitigation Plans that are Actionable  
*Mari Radford, FEMA Region III & Ernest Szabo, PEMA MIRC, HM Planners*
- 10:40-10:50am: Break
- 10:50-11:20am: Pre-Calculated Benefits & Benefit Cost Analysis (BCA)  
*Tom Hughes, PA SHMO, Angelique Gillette & Carolyn Benish, FEMA R3,*
- 11:20-11:45am: Homework Assignment Discussion  
Eligible Project Types: Structural, Grey Infrastructure, Green Infrastructure, Generators,  
& Floodproofing *Tom Hughes, PEMA*



# Example PIGD Day 2 Topics (9a-12p)

**Welcome – Again Local Champion**

**Application Design for FEMA HMA Grants & Cost Share Discussion (State SHMO/HM Project Officer & HM Planner)**

**FEMA Grant Outcomes (FEMA)**

**Environmental & Historic Preservation (FEMA & SHPO)**

**Permitting Process (State & USACE)**

**Tailored Discussions : BCA, EHP, Grant Application Development, Community & Capacity Building**

**Current Year Project Discussion/Grant Cycles & Milestone (State & FEMA)**

**Wrap-up: Key Takeaways and Next Step**



# Sample Day 2 Agenda from Upper Delaware Project

- 9:00am: Welcome
- 9:10am: Application Design for FEMA Hazard Mitigation Assistance (HMA) & Cost Share Discussion
- 10:00am: Break
- 10:05am: FEMA GO – FEMA Grant Outcomes
- 10:15am: The Environmental and Historic Preservation (EHP) Process
- 10:30am: USACE Case Study: Successful Mitigation & Resiliency Project
- 10:50am: Break
- 11:00am: PA Dept. of Environmental Protection (DEP) Grants/Permitting
- 11:15am: Panel Discussion / Q&A (BCA, EHP, Grant Application Development, Community Planning & Capacity Building (CPCB) & Floodplain Management
- 11:40am: Project Applications: 2021/22FEMA HMA Grant Cycle
- 11:55am: Wrap-Up



# Proactive Follow-up Steps 1-4



- 1) What Applicant Agents need assistance with?
- 2) Homework Assignments Completed?
- 3) Letters/Notices of Interest or Intent to get on the state tracking board?
- 4) Decisions made on Project Scoping, Partnership, Planning, Building Code applications (BRIC) or project types for other grants



# Proactive Follow-up Steps 5-9

5) Which Federal Grant or multiple – Use of State or Local Grant for Cost Share – may require another application in that funding stream or a letter to

6) Need to message – FEMA is NOT the only funding source

7) Partnership letters and Commitment Letters – start conversations early....

8) Mitigation or Resilience activities desired may need an update to the associated planning document and maybe another STAPLEE activity?

9) Training – Available and FREE?



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# Eligible HMGP Projects

## Hazard Mitigation Projects

- Property Acquisition and Structure Demolition
- Structure Relocation
- Dry Floodproofing of Historic Residential Structures
- Dry Floodproofing of Non-residential Structures
- Minor Localized Flood Reduction Projects
- Structural Retrofitting of Existing Buildings
- Non-structural Retrofitting of Existing Buildings and Facilities
- Safe Room Construction
- Infrastructure Retrofit
- Structure Elevation
- Soil Stabilization
- Wildfire Mitigation
- Post-disaster Code Enforcement
- 5% Initiative Projects
- Hazard Mitigation Planning (counties)



# Hazard Mitigation Assistance Grants

## Disaster Program

**(HMGP) – Hazard Mitigation Grant Program**

## Non-Disaster Programs

**(FMA) Flood Mitigation Assistance Grant – NFIP Funded (BRIC)**

**Building Resilient Infrastructure & Communities SWIFT**

**CURRENT – FMA/NFIP Funded RL/SRL**

**Community Direct Spending /LPDM – Congressional “Earmarks”**

**HUD/CDBG-DR – Community Development Block Grant**

**Overall Goal: Reduce vulnerability to natural hazards**



# Project Contacts

## Delaware River Basin Commission (DRBC)

- Kristen Bowman Kavanagh,  
Deputy Executive Director:  
[Kristen.B.Kavanagh@drbc.gov](mailto:Kristen.B.Kavanagh@drbc.gov)
- Beth Brown, Director of  
External Affairs &  
Communications:  
[Elizabeth.Brown@drbc.gov](mailto:Elizabeth.Brown@drbc.gov)

## Pennsylvania Emergency Management Agency (PEMA)

- Thomas Hughes, State Hazard  
Mitigation Officer:  
[thughes@pa.gov](mailto:thughes@pa.gov)
- Rick Deal, Deputy State Hazard  
Mitigation Officer: [rdeal@pa.gov](mailto:rdeal@pa.gov)
- Corey Davenport  
[cordavenpo@pa.gov](mailto:cordavenpo@pa.gov)





# Take-away - Choices and Roles

Fundamentally, our **society** must choose either:

- Better standards to protect resources and people, or
- Standards that inevitably will result in destruction and litigation

As **DRR Ambassadors**, you all play a key role in either:

- Helping create a safe and sustainable future, or
- Failing to prevent actions that will make worse the incredible disaster response and recovery challenges we already face
- **The choice is all of ours individually & collectively**



**Thank You!**

