FEMA

WDNR

Chippewa County Flood Risk Review Meeting

May 1, 2025

RiskMAP

Increasing Resilience Together

Zoom Meeting Housekeeping

- Please enter the organization you belong to in the group chat so that we have a record of all stakeholders who attended
- If you were not on the original invite and would like to keep updated, please also include your e-mail with your organization in the chat
- You are muted and video turned off upon entry
- If you wish to ask a question, raise your hand or type it in chat

Introductions

- **Risk MAP Project Team, Wisconsin Department of Natural Resources (WDNR)**
  - Allison Kielar – Floodplain Mapping Project Lead
  - Ben Sanborn – Floodplain Mapping Project Manager
  - Chad Heimerl – Floodplain Engineer
  - Chris Olds – State Floodplain Engineer
  - Sarah Rafajko – State NFIP Coordinator
  - Ben Koch – Regional Water Management Engineer

- **Wisconsin Emergency Management (WEM)**
  - Chad Atkinson – Hazard Mitigation Section Supervisor

Introductions

- **Federal Emergency Management Agency (FEMA)**
  - Munib Ahmad – Region V Engineer
  - Michelle Staff – Floodplain Management Specialist
  - Meghan Cuneo – Region V Community Planner
  - Chad Lanctot – Tribal Liaison and Risk MAP Outreach Specialist

Agenda

- **Flood Risk Review**
  - Project Overview
  - Riverine Flood Risk Study and Mapping
  - Upcoming Mapping Schedule
  - NFIP Overview
- **Resilience**
  - Overview of Non-Regulatory Flood Risk Products and Datasets
  - Hazard Mitigation (WEM)
- **Wrap-up**
  - Questions/View Maps

Meeting Goals

Community input throughout the FEMA map revision process is essential to flood risk management. You are getting the first possible look at the analyses and DRAFT results so that you can provide your feedback early on.

- Provide an overview of the hydrologic and hydraulic analysis
- Present the DRAFT results
- Answer questions about the analysis
- Collect your concerns/feedback/technical data

Other Meeting Objectives

- **We are here to assist you in:**
  - Using flood map products to develop new strategies to reduce your risk
  - Understanding the resources available to help you implement those strategies
  - The importance of and opportunities for communicating flood risk to your constituents

Risk MAP

- **What is Risk MAP?**
  - Risk **M**apping, **A**ssessment, and **P**lanning
  - Supports community resilience by providing data, building partnerships, and supporting long-term hazard mitigation planning.
  - Offers a way to understand the hard realities of hazards before they happen and how to take actions now that help keep your community safe.
  - Builds off previous FEMA map revision projects

The mapping process is designed to help individuals and communities understand their flood risk and make smart decisions.	• Your community is working with FEMA to help design a map that can protect your community and the families, homes, and business within it. • The mapping process has many phases so it may be many years before you see the updated flood map. • The MAP acronym encompasses Mapping, Assessment, and Planning. In other words, helping identify and assess the risks in your area and then working together to support the kind of long-term planning that makes your community stronger and safer.

Risk MAP Project Status

- **Current effective mapping**
  - 2010 Initial Countywide (FIRMs)
  - 2014 update (Chippewa River & Sherman Creek)
  - 2023 Physical Map Revision (PMR) – Chippewa River Levee
- **Where have we been?**
  - Chippewa County Kickoff Meeting – December 7, 2022
    - Discussed project scope, types of community data requested, and hazard mitigation
  - 621/FRR & Resilience Meeting Invites mailed April 15, 2025

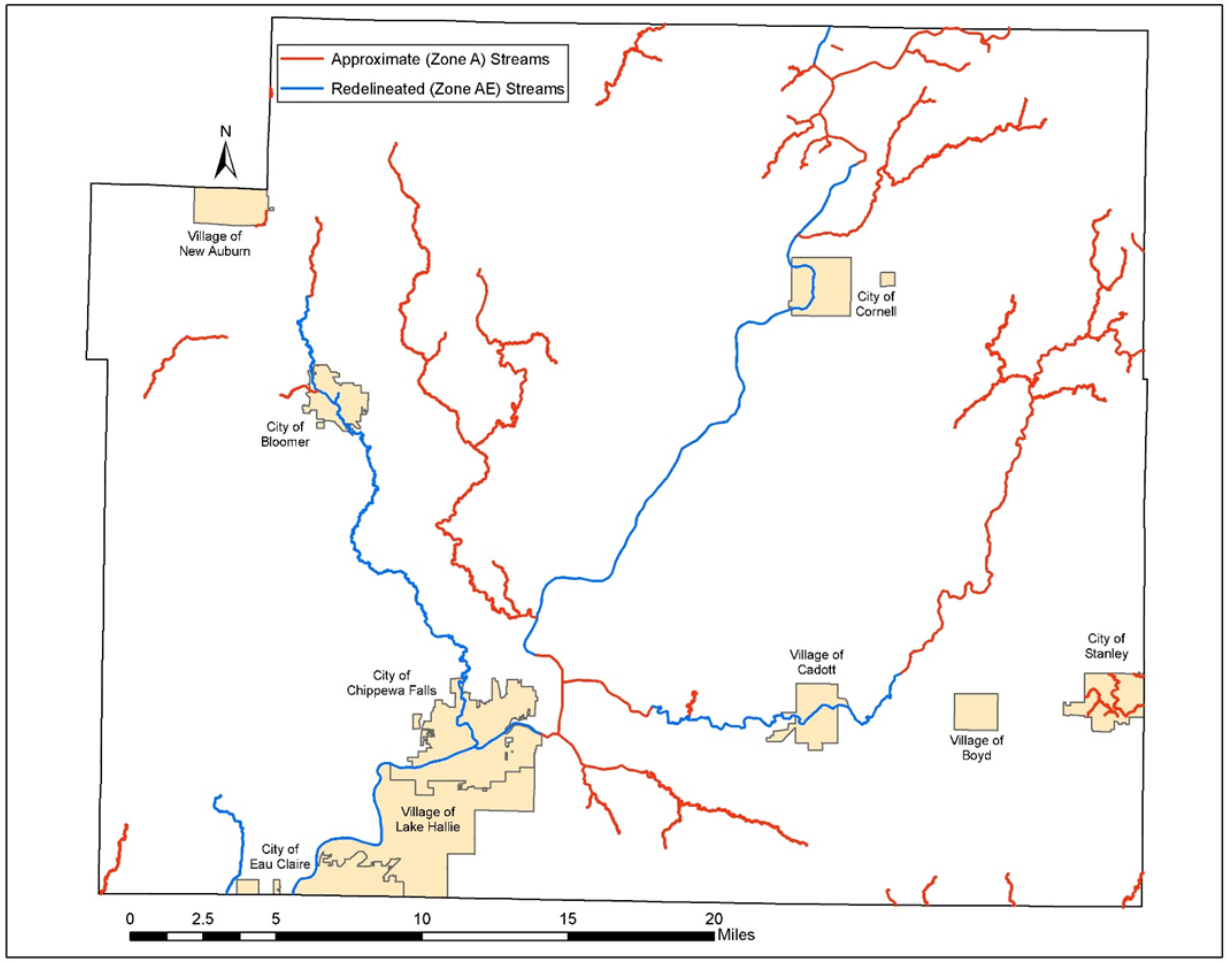
Engineering Methods

- The methods used in flood risk studies are
  - Scientifically and technically appropriate
  - Meet professional standards
  - Explained in the '620' letter sent to communities in November 2022
- Hydrologic and hydraulic studies determine
  - The potential depth of floodwaters
  - Width of floodplains
  - Amount of water that will be carried during flood events
  - Also takes into consideration certain obstructions to water flow

Revised Study Reaches

Chippewa Countywide

- Redelineated (**Zone AE**) on new 2020 topo: 85 miles
- Revised Approximate (**Zone A**): 217 miles



Redelineated Study Reaches

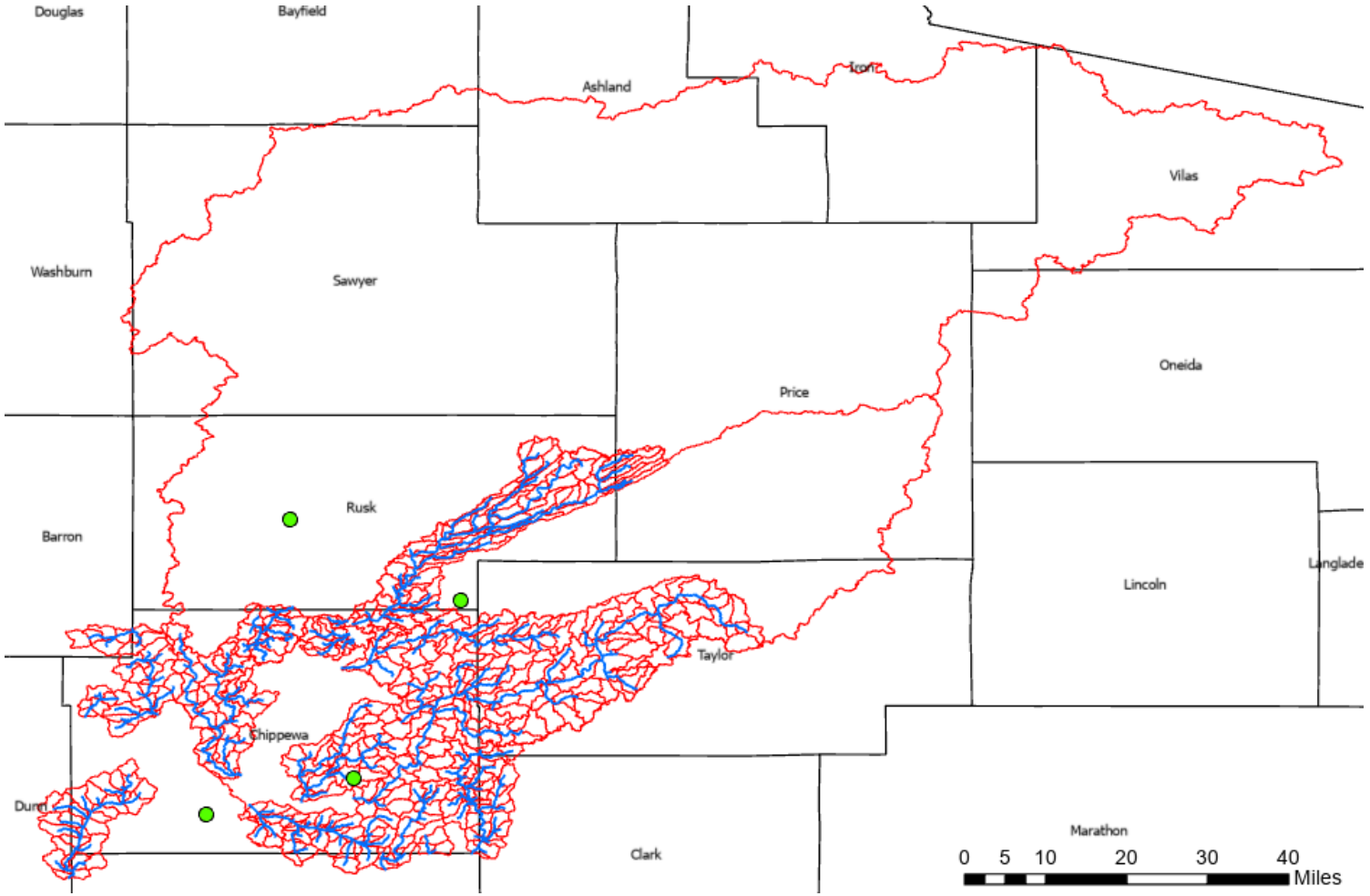
Remapped effective study elevations on 2020 Chippewa County LiDAR based terrain data (5-foot DEM)

- Chippewa River
- Duncan Creek
- Sherman Creek
- Unnamed Tributary to Duncan Creek
- Yellow River

Hydrology

HEC-HMS v. 3.0

PEAKFQ 2.4



Approximate Study Hydraulics

- **HEC-RAS v. 6.3.1**
- **Structures:**
  - Entered as bridges/culverts where DOT plans available
  - Entered as inline structures with a notch width estimated from aerial photos
- **All geometry extracted using HEC-GeoRAS and 2020 LiDAR**
- **NAVD88 vertical datum**
- **Interpolated cross sections where necessary for model stabilization**
- **Ineffective flow used to model floodways in non-conveyance areas**
- **Manning's N values estimated from 2019 aerial photography**
- **Boundary conditions:**
  - Receiving stream corresponding event elevation when peaks coincide
  - Receiving stream 10-year event when receiving stream peaks after studied stream
  - Normal depth when stream downstream of last cross section is unstudied

Flood Insurance Rate Maps (FIRMs)

Ultimately, your flood maps belong to you and the other people who live and work in your community. They are created through a partnership between your community and FEMA.

- Updates to flood maps are a collaboration between your community and FEMA. It's a lengthy process; FEMA provides the technology and relies on your community's leaders to share local knowledge and plans to make the maps as accurate as possible.
- Before the maps are adopted, you have 90 days to submit technical data to support a request to revise the FIRM though the appeals process.
- Once your maps are adopted, you can still submit data to amend or revise the flood map as part of the Letter of Map Change (LOMC) process.

FIRMs are not predictions of where it will flood or only show where it's flooded before.

- They provide a snapshot in time of risk.

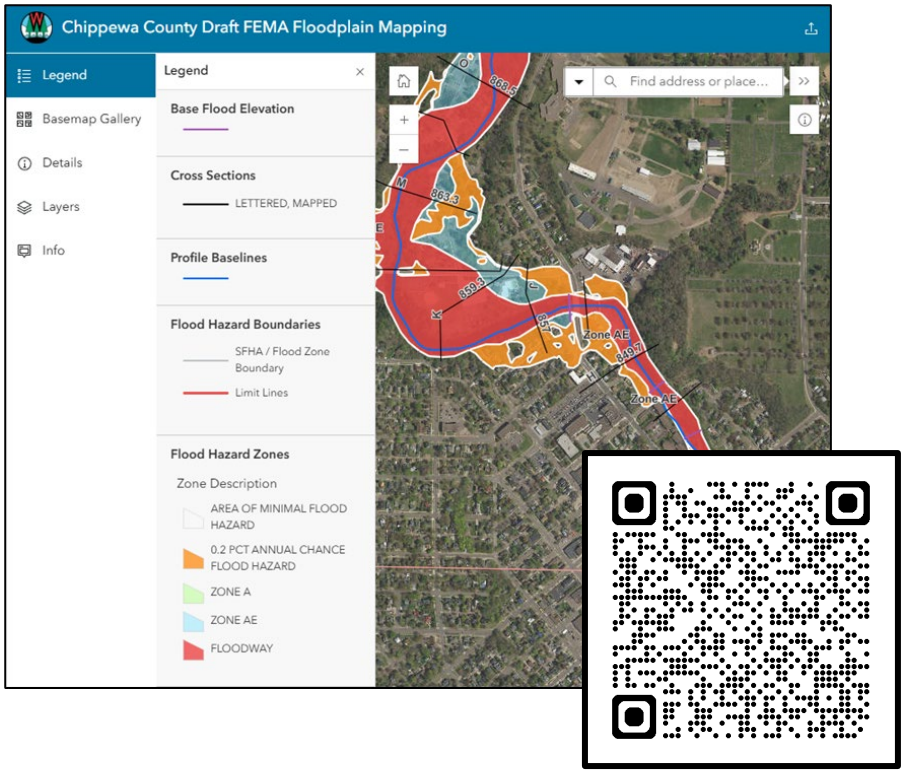
FEMA uses the best data available to help communities understand their risk. This data is a combination of the information your community provides and FEMA's own scientific research and analysis.

- The methods employed in flood risk studies are scientifically and technically appropriate and the engineering practices meet professional standards. The results are accurately represented on FIRMs and associated products.
- FEMA's flood hazard analysis and mapping standards and associated guidance are vetted, peer reviewed, and updated regularly to ensure they align with current best practices.

DRAFT Workmaps

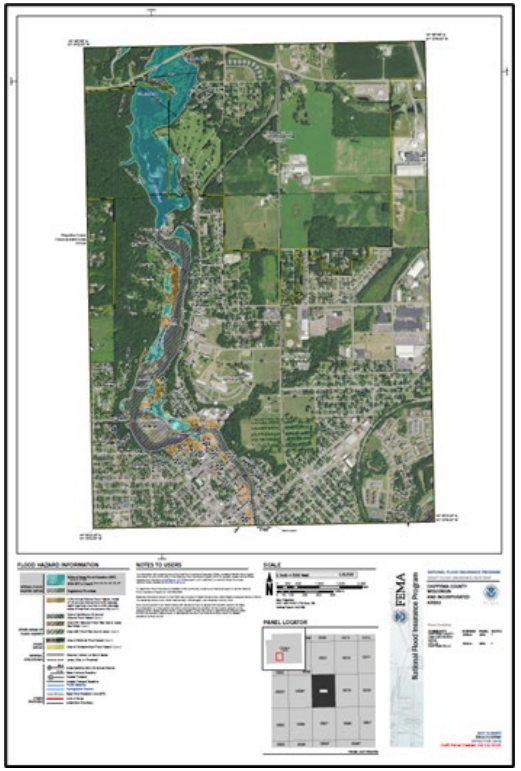
Draft Viewer

https://tinyurl.com/36hma98y

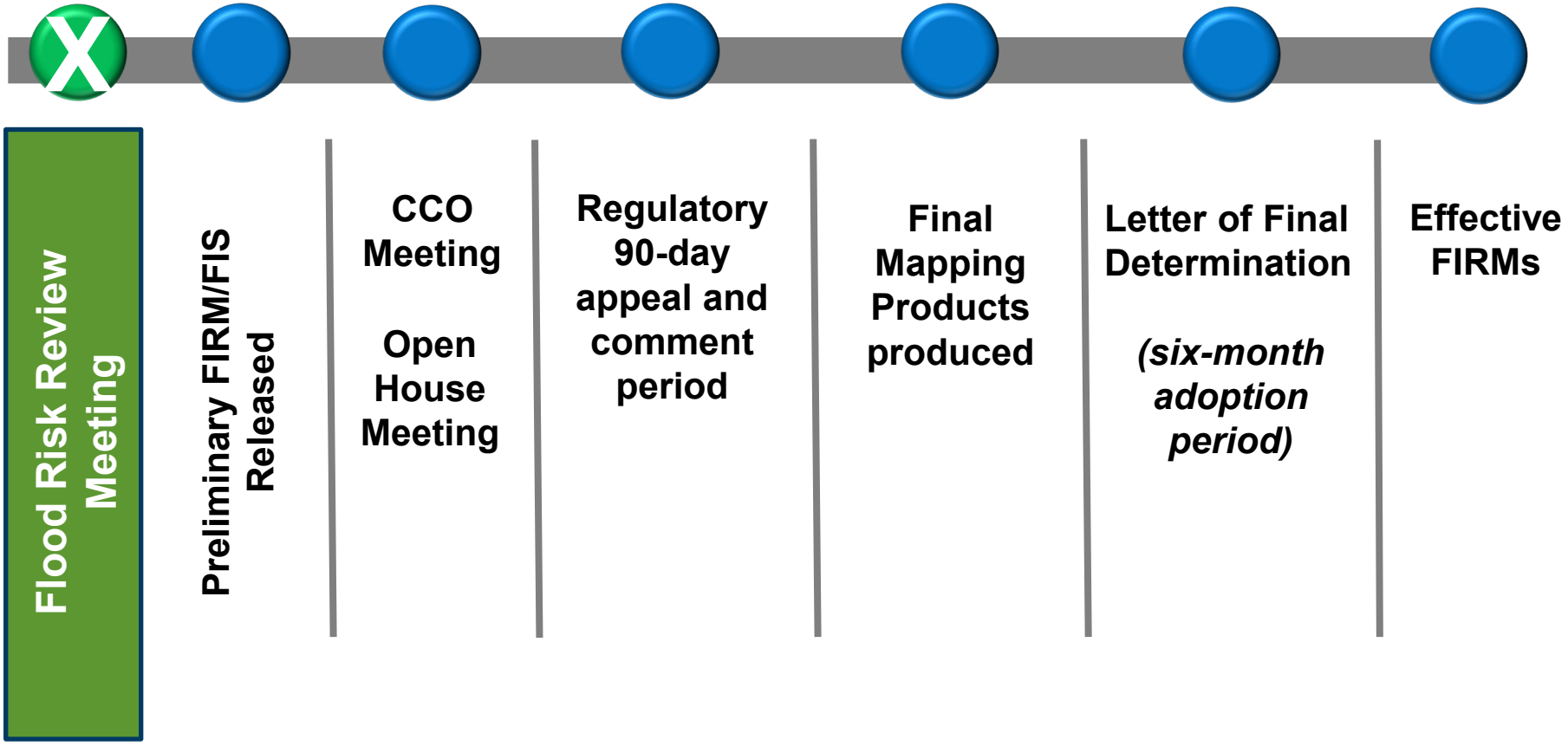


PDF FIRMs/Draft Database

Available upon request, email Allison.Kielar@wisconsin.gov



Timeline for Chippewa County Study



What's Next?

- **Informal 30-day review period starts today: May 1 - 31**
- **We begin working on preliminary map products (6-12 months)**
- **A follow-up email with resources and links will be sent if necessary**

The National Flood Insurance Program (NFIP)

- Created by the National Flood Insurance Act of 1968
- Participation is **voluntary**
  - Adopt and enforce regulations
  - Eligible for flood insurance
- **Benefits** of participation:
  - Flood insurance
  - Grants and loans
  - Disaster assistance
  - Federally-backed mortgages

NFIP Goals

- Reduce the loss of life and property caused by flooding
- Reduce rising disaster relief costs caused by flooding
- Maintain the natural and beneficial functions of the floodplains
- Minimize business interruptions and other economic disruptions

September 21, 2016 Sparta, WI

Sparta, 1899: On the night of June 11-12, an intense storm sent all local streams and rivers over their banks, washing out roads, bridges, and cultivated fields; there was no loss of life. [Wisconsin Centennial Story of Disasters and Other Unfortunate Events (Madison, 1948)]

Accomplishing NFIP Goals

- Publish maps - identify risk
- Educate the public on their own risk
- Provide federally-backed flood insurance coverage
- Encourage development away from the flooding risks and minimize the damage potential to flooding through floodplain management

Trempealeau County

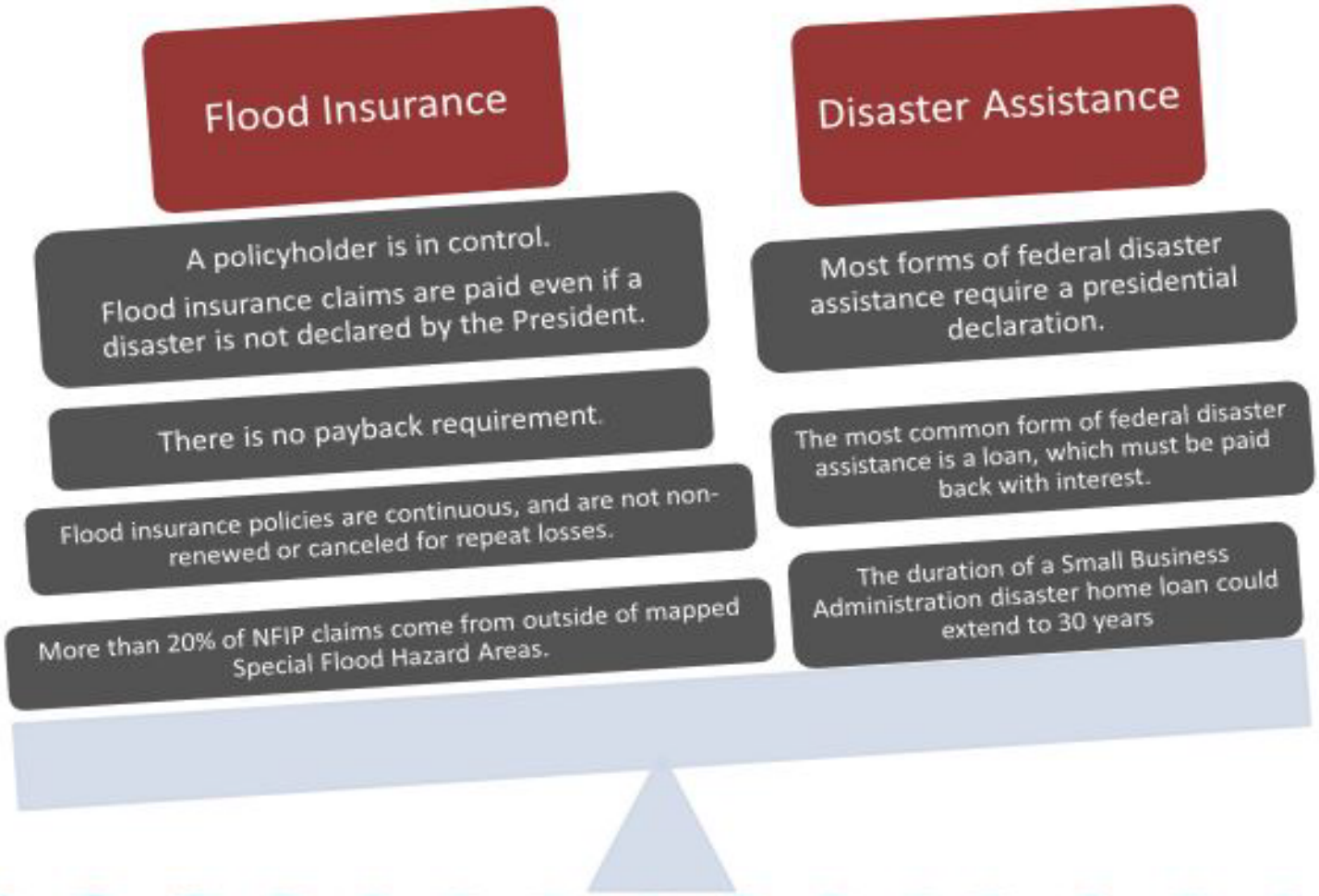
Basic NFIP Regulations

- Ensure that all proposed **development** is reasonable safe from flooding
- Ensure that the **lowest floor** of any **new** or **substantially damaged** or **improved structure** within the SFHA is elevated to or above the base flood elevation.
- Ensure that **development** within the Floodway does not increase flood heights.

Sauk County 2008

Jefferson County 2008

Flood Insurance vs. Disaster Assistance



Flood Insurance 101

- Homeowners insurance does not cover flooding
- Almost everyone in a participating community of the NFIP can buy flood insurance
- Available to homeowners, business owners, renters, condo unit owners, and condo associations
- Sold through private insurance companies and agents, or directly through the NFIP
- Claims are paid regardless of disaster declaration
- No payback requirement

Insurable by the NFIP

- Walled and roofed structures principally above ground
- Manufactured homes or travel trailers, if anchored to a permanent foundation
- Contents of structure (available to owners and renters)
- Buildings in the course of construction

Not Insurable by the NFIP

- Buildings completely over water
- Unanchored manufactured homes
- Motorized vehicles
- Gas and liquid storage tanks outside buildings
- Buildings principally below ground
- Machinery and equipment in the open
- Swimming pools, hot tubs, etc.

NFIP Limits of Coverage

How much flood insurance coverage is available?

Flood coverage limits for a standard flood policy are:

Coverage Type	Coverage Limit
One to four-family structure	$250,000
One to four-family home contents	$100,000
Other residential structures	$500,000
Other residential contents	$100,000
Business structure	$500,000
Business contents	$500,000
Renter contents	$100,000

NFIP-Risk Rating 2.0

FEMA is updating their flood insurance rates through a new pricing methodology called Risk Rating 2.0, starting Oct. 1, 2021.

What is changing:

- Reduce complexity
- Simplifying the quote process
- Increasing mitigation investment
- Assessing and reflecting more information on flood hazards
- Reflecting prior NFIP claims and factoring replacement cost value to calculate a premium
- More information: https://www.fema.gov/flood-insurance/risk-rating

National Flood Insurance Program (NFIP) Participating/Non-Participating Communities

What kind of assistance or support would you benefit from related to the NFIP?

CID	Community	Policies in Force	Insurance in Force	Total Paid Losses	Total Paid Amount
550042	City of Bloomer	7	$ 575,000	6	$ 3,651.96
550453	Village of Boyd*	-	-	-	-
550043	Village of Cadott	1	$ 350,000	0	-
555549	Chippewa County	30	$ 6,215,000	19	$ 229,613.43
550044	City of Chippewa Falls	5	$ 1,097,000	12	$ 24,250.60
550045	City of Cornell	0	-	1	$ 282.64
550128	City of Eau Claire	38	$ 8,805,000	34	$ 144,882.11
550454	Village of Lake Hallie	10	$ 2,183,000	3	$ 64,667.50
550046	Village of New Auburn*	-	-	-	-
550047	City of Stanley	2	$ 370,000	0	-

*Not Participating

Mandatory Purchase Requirement

Flood Disaster Prevention Act of 1973

- Flood insurance purchase is required to make, increase, extend or renew any loan secured by structure in SFHA
- Flood insurance required for term of loan

Flood Insurance Reform Act of 1994

- Established penalties for lender non-compliance
- Requires lenders to review revised FIRMs
- Requires notification and mandatory purchase if revised FIRM shows structure in SFHA
- If escrow account is established, requires escrow for flood insurance

FEMA

WDNR

Chippewa County Resilience Meeting

May 1, 2025

RiskMAP

Increasing Resilience Together

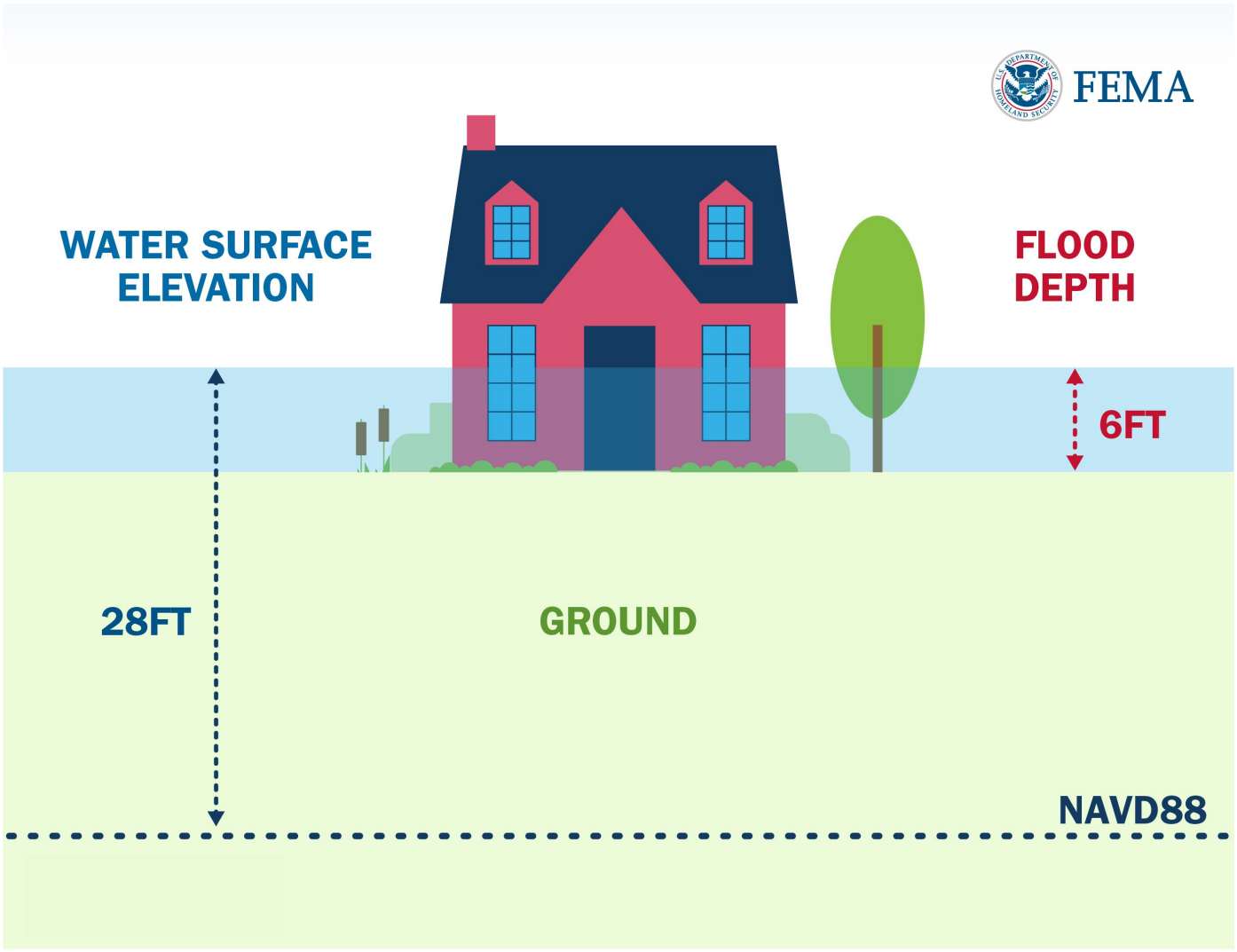
Resilience

- What is resilience in this context?
- Mitigation action plays an integral role in your community's resilience.
- Along with updated flood maps, you are receiving other non-regulatory Flood Risk Products to help you make decisions about how to keep your residents safe.

Non-Regulatory Flood Risk Products and Datasets

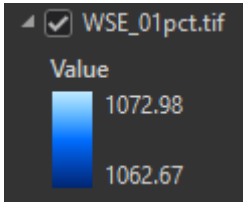
- **Flood Risk Products**
  - Flood Risk Database
- **Flood Risk Rasters**
  - WSE Grids
  - Depth Grids
  - Percent Annual Chance of Flooding
  - Percent Chance of Flooding over 30-Year Period

Comparison between WSE and Depth Grids



Water Surface Elevation Grids

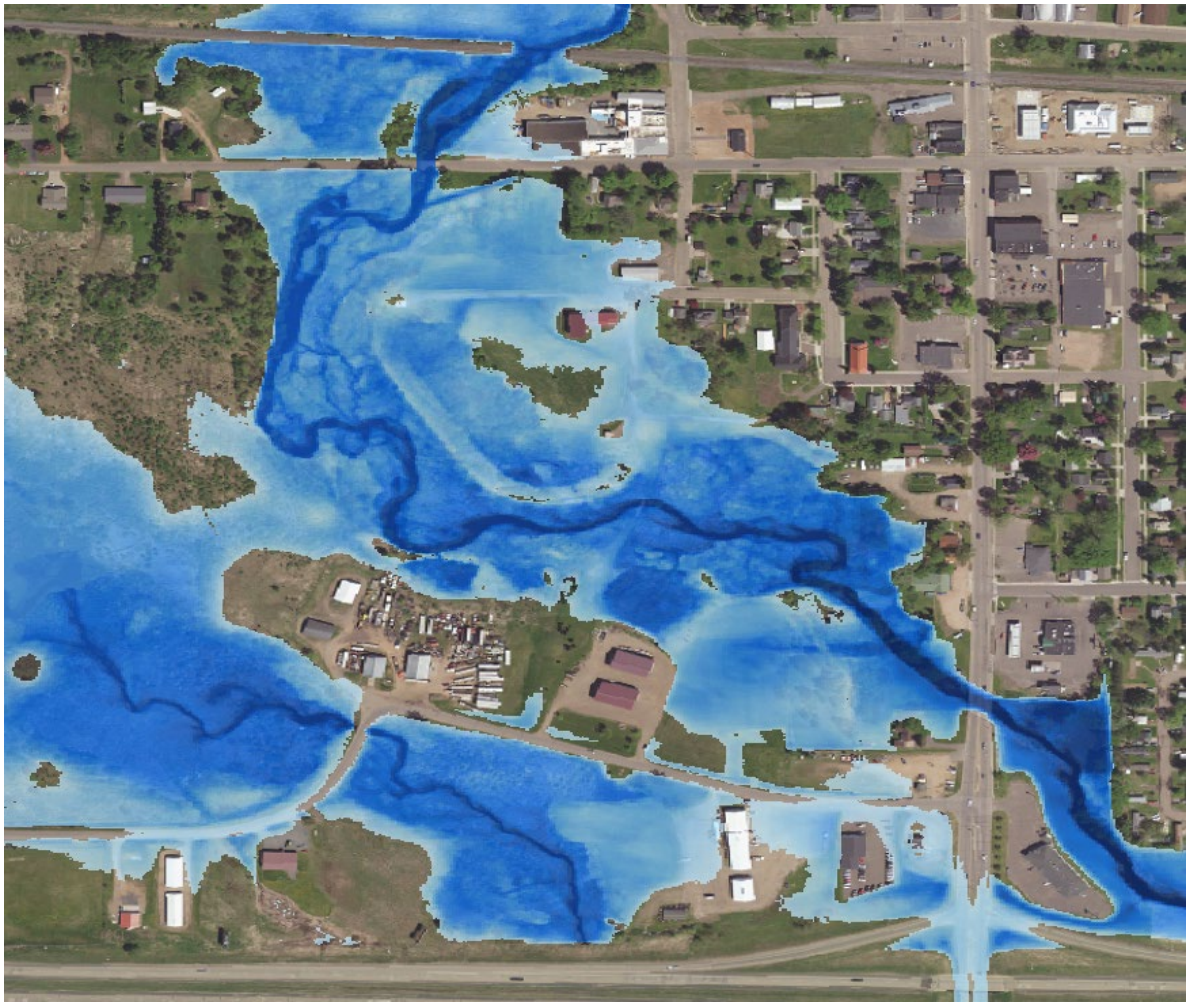
1% Annual Chance (100-year flood) WSE grid:

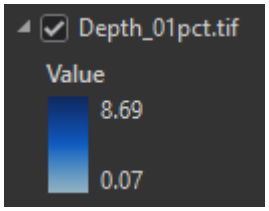


Village of Stanley
Wolf River & Wolf River Tributary 1
← Value is = elevation in feet

Grids created for:
0.2%, 1%+, 1%, 2%, 4%, 10%
Annual chance

Depth Grids

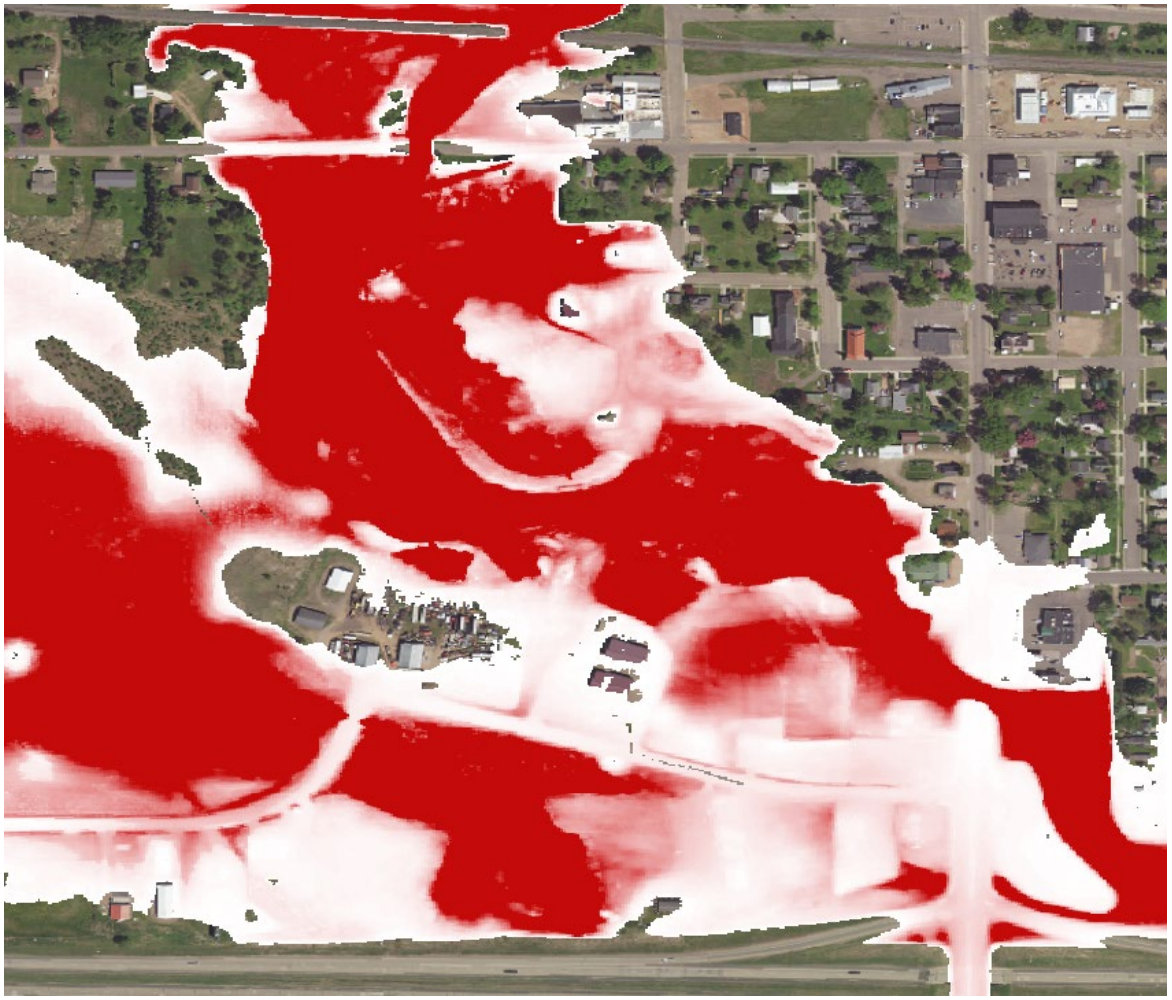


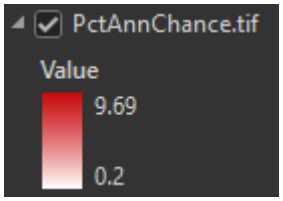


↑ Value is = to water depth in feet

Grids created for:
0.2%, 1%+, 1%, 2%, 4%, 10%
Annual chance

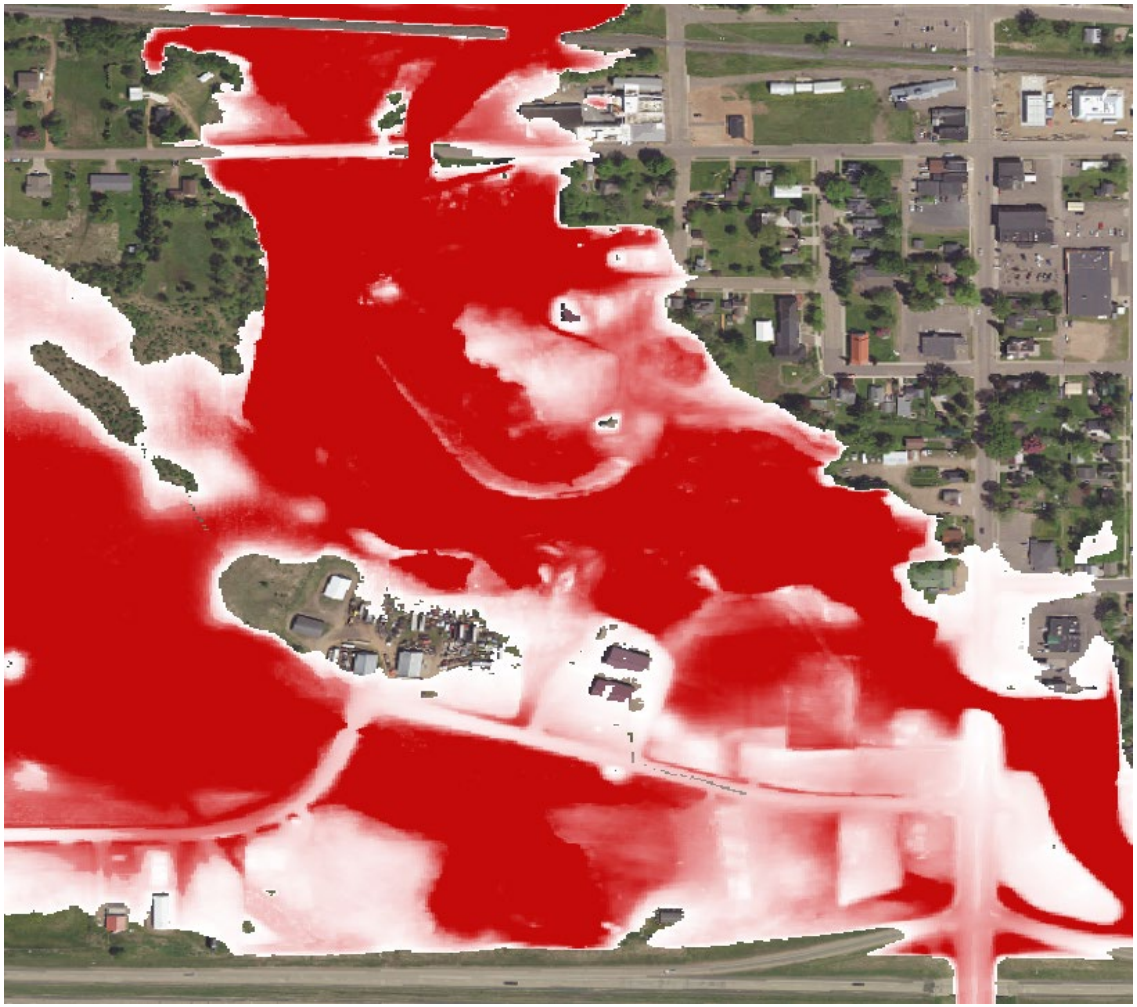
Percent annual chance of flooding

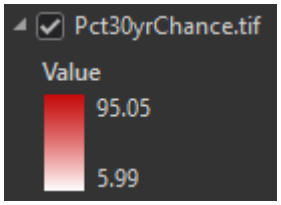




↑ Value is = to 0-10% chance of flooding annually

Percent chance of flooding over a 30-yr period





↑ Value is = to % chance of flooding within a 30-year period

Applications of Non-Regulatory Products

- Better understanding of current and possible future flood risk in your community
- Leads to more informed decisions in higher risk areas
- Floodplain managers can use this data to advise local elected officials (ex. adopting more freeboard)
- Provide a visualization tool to help building permit and inspections staff explain flood risk to developers
- Provides a new perspective for property owners to view their flood risk
- Used to help develop mitigation strategies
- Assist emergency response staff identify high risk areas

Understanding your Flood Risk

You can think about flood risk the same way you think about accidents. No one is safe from the occasional accident. They are unpredictable and can be minor or have terrible consequences. Similarly, floods can impact anybody anywhere with catastrophic results.

- For anyone living in a high-risk area, or anyplace with a 1-percent or higher risk of experiencing a flood each year, there is at least a 1 in 4 chance of flooding during a 30-year mortgage.
- There is no such thing as a no-risk zone, but some areas are designated as low or moderate risk.
- Understanding flood risk may seem complicated, but it doesn't have to be. There are resources to help you get up to speed. FloodSmart.gov is a great place to learn general flood info and your community officials can help you understand flood risk in your area.

- Hazard is NOT the same as risk
  - Hazards are things that cause harm i.e., floods, fires
  - Risk is the chance that a hazard will cause harm

Understanding your Flood Risk

Even in moderate- to low-risk areas, the risk of being flooded is not completely removed, only reduced.

Remember….

Anywhere it can rain, it can flood, and everyone should consider taking steps to reduce their risk!

Strategies to Reduce your Flood Risk

- **Prevention**
  - Affects future development
  - Includes ordinances and building codes
- **Property protection**
  - Affects existing development
  - Includes elevation and acquisition
- **Public education and awareness**
  - Informs people about risk
  - Includes outreach activities
- **Natural resource protection**
  - Protects water quality
  - Protects habitats
  - Restores resources
- **Emergency services protection**
  - Protects critical facilities
- **Structural projects**
  - Involves construction
  - Includes berms
  - Includes altering stream routes

Communicate About Your Risk

- **Flood risk awareness:**
  - Leads to action
  - Increases overall community resilience
  - Builds support for implementing the mitigation plan
- **Your constituents:**
  - Expect to hear about flood risk from officials, lenders, insurance agents, surveyors, and real estate agents
  - Talk about flood risk impacts with neighbors, friends and family

Communicate About Your Risk

- **Risk MAP makes it easier to share flood risk information with your constituents:**
  - Draft letters to citizens
  - Draft media materials
  - Use the Risk MAP products to communicate risk
    - Changes Since Last FIRM (Available at preliminary stage)
    - Depth and Analysis Grids
  - Local community meetings, workshops, neighborhood outreach
  - Have a Flood Risk section in your local library

Hazard Mitigation Actions

- FIRMs and Non-Regulatory Products help identify flood risk in your community
- Communities should use this information to identify mitigation areas

There are many ways you can protect your community. Mitigation is the broad term for the wide range of steps that individuals and the local government can take to reduce the impact of floods or other risks.

- There is a wide range of mitigation action options. Communities frequently focus on planning and zoning, floodplain protection, property acquisition and relocation, or public outreach projects.
- Individual property owners can also take steps to mitigate flood damage to their homes and businesses. Some are larger in scope and require professional help, like elevating their home's lowest floor. However, smaller tasks like purchasing flood insurance or using flood-resistant materials, like tile instead of carpet, are more cost-effective and still prevent water from doing major damage.

- Long-term hazard mitigation planning and projects enable communities to break the cycle of disaster damage, reconstruction, and repeated loss

Chippewa County

Flood Risk Review and Resilience

May 1, 2025

Chad Atkinson, Hazard Mitigation Section Supervisor

Hazard Mitigation

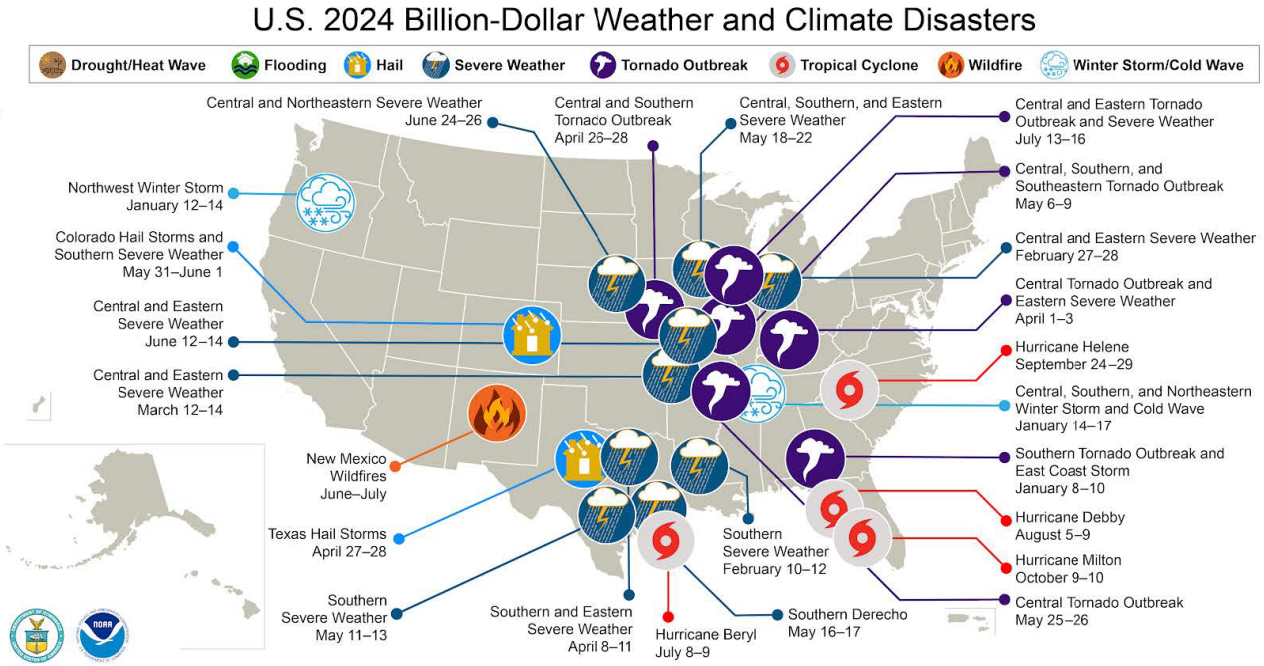
"**Hazard mitigation** means any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards." 44 CFR §201.2

Photo from Kenosha County, WI

Photo from Soldiers Grove, WI

Why do we mitigate?

- Disasters are expensive.
- State and federal aid is insufficient and unsustainable.
- Mitigation actions can lessen impacts and speed response and recovery efforts.



*This map denotes the approximate location for each of the **24 separate billion-dollar weather and climate disasters that impacted the United States through October 2024.***

Mitigation saves

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

Acquisition/Demolition (Buyout)

Acquisition of flood prone properties for demolition structures and deed restriction of the property as open space in perpetuity.

Gays Mills, WI

Elevation

Elevation of a structure above the base flood elevation.

Soldiers Grove, WI

Floodproofing

Structural techniques that reduce or prevent flood damage to a structure or its contents.

Darlington, WI

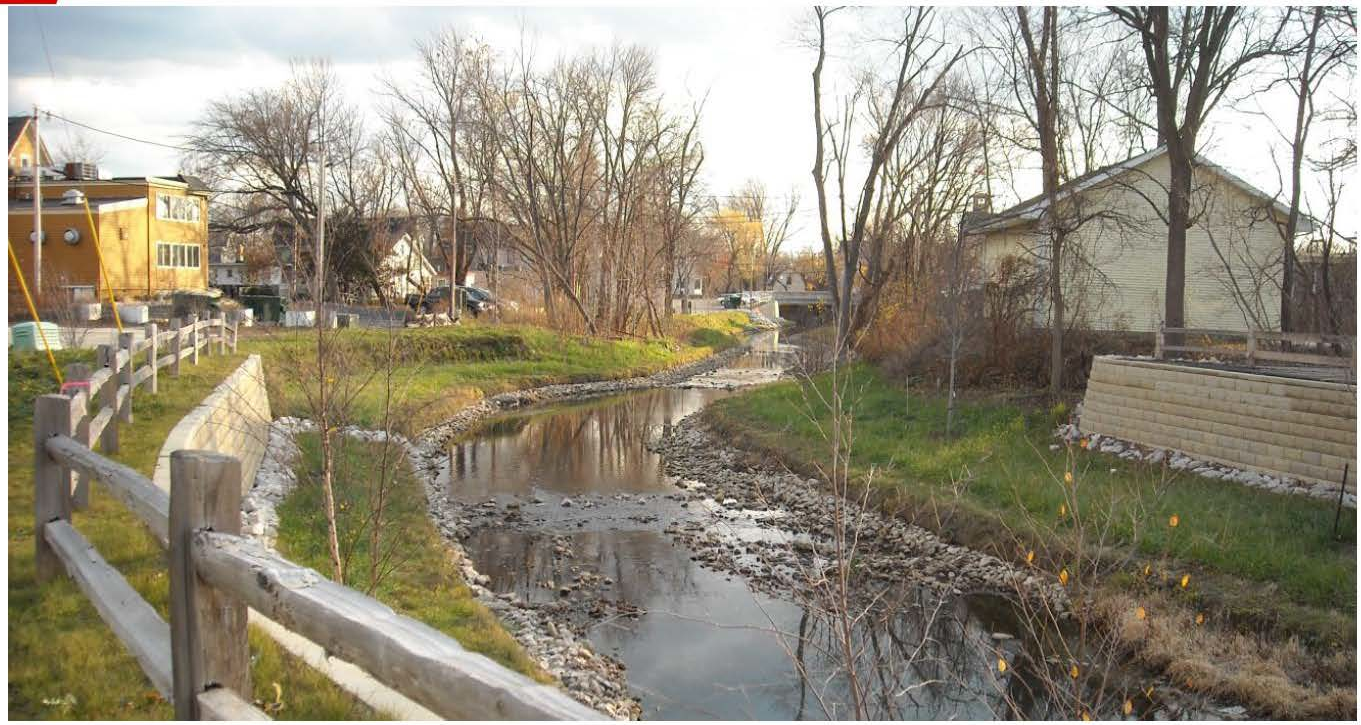
Culverts/Bridges

Upsizing, realigning culverts or transitioning a culvert to a bridge. Clover, WI

Stormwater

Plans and projects for improved storm water management. Oshkosh, WI

Watershed



Plans and projects for restoration or improvement of a watershed. Thiensville, WI

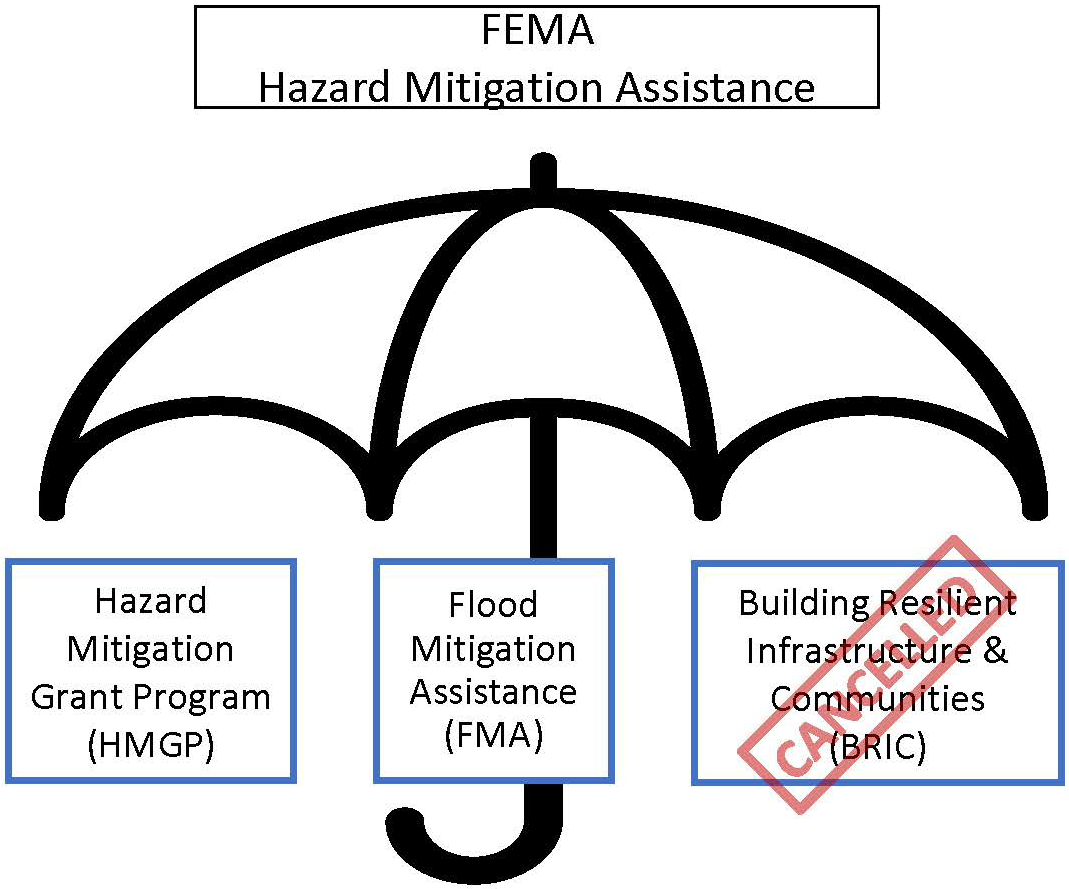
Other

- ❑ Studies, analyses, planning
- ❑ Utility protection
- ❑ Education and public awareness

- ❑ Insurance
- ❑ Building codes
- ❑ River gauges
- ❑ Weather radios
- ❑ Generators

Dam Warning System

Vernon County


FEMA
Hazard Mitigation Assistance
Hazard Mitigation Grant Program (HMGP)
Flood Mitigation Assistance (FMA)
Building Resilient Infrastructure & Communities (BRIC)
CANCELLED

Hazard Mitigation Grant Program (HMGP)

All-hazards disaster grant program available statewide after a federal disaster declaration.

Cost Share:
75% Federal/12.5% State/12.5% Local

Eligible Subapplicants:

- Local units of government
- Tribal governments
- Certain private nonprofits

Subapplicant Requirements:

- Current, approved, and adopted Hazard Mitigation Plan

Projects must:

- Be technically feasible and cost effective.
- Reduce or eliminate risk and damage from future natural hazards.
- Meet all environmental and historic preservation requirements.

Flood Mitigation Assistance (FMA)

Non-disaster grant program offered annually; nationally competitive; flood mitigation only.

Cost Share:

75% Federal/25% Local

90% Federal/10% Local – CDC SVI score > 0.5

90% Federal/10% Local – repetitive loss properties

100% Federal – severe repetitive loss properties

Eligible Subapplicants:

- Local units of government
- Tribal governments
- Certain political subdivisions

Subapplicant Requirements:

- Current, approved, and adopted Hazard Mitigation Plan
- Participate in the National Flood Insurance Program

Projects must:

Be technically feasible and cost effective.

Reduce or eliminate flood risk or repetitive flood damage to structures and buildings insured by the National Flood Insurance Program (NFIP) or enhance community resilience within NFIP-participating communities.

Meet all environmental and historic preservation requirements.

Building Resilient Infrastructure and Communities (BRIC)

Non-disaster grant program offered annually; nationally-competitive; all-hazards.

CANCELLED

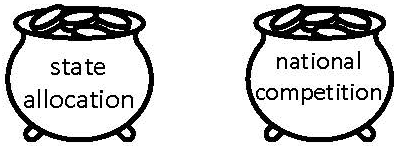
Eligible Subapplicants:
- Local units of government
- Tribal governments

Subapplicant Requirements:
- Current, approved, and adopted Hazard Mitigation Plan

Cost Share:

75% Federal/25% Local

90% Federal/10% Local – Community Disaster Resilience Zones & Economically Disadvantaged Rural Communities



Projects must:

Be technically feasible and cost effective.

Reduce or eliminate risk and damage from future natural hazards.

Meet all environmental and historic preservation requirements.

Pre-Disaster Flood Resilience Grant

2023 Act 265 amended Wisconsin Statute 323 to include the Pre-Disaster Flood Resilience Grant (PDFRG) program.

- Administered by Wisconsin Emergency Management (WEM)
- Provides grants for the purpose of:
  - Identifying flood vulnerabilities
  - Identifying options to improve flood resilience
  - Restoring hydrology in order to reduce flood risk and damages in flood-prone communities
- $2 million in 2023-2025 biennium
- https://wem.wi.gov/mitigation-grant-opportunities/

PDFRG Eligible Applicants

- Local governmental unit:
  - Federally recognized American Indian tribe or band
  - City, village, town
  - County
  - Regional planning commission
- On behalf of a local governmental unit:
  - Nonprofit
  - Private consulting organization
- Multiple local governmental units can be included in one application.
- 25% required match

PDFRG Projects: Assessment Grants

- Minimum 60% of total funds
- Gather information on vulnerabilities and identification of flood resilience priorities on a watershed, catchment, or stream reach scale.
  - Understand flood flows and erosion hazards and vulnerabilities; identify opportunities to increase flood resilience including restoration of wetland, stream, and floodplain hydrology.
  - Develop culvert inventories using the Great Lakes Stream Crossing Inventory, or similar method that considers structural risk factors, aquatic organism passage, and upstream hydrologic conditions.
  - Conduct hydrologic and hydraulic studies that help develop hydrologic models.
- Maximum award $300,000 state share

PDFRG Projects: Implementation Grants

- Maximum of 40% of total funds
- Implement hydrologic restoration projects identified through an assessment grant or comparable assessment process.
- Project types (multiple project types are allowable):
  - Regulatory coordination
  - Engineering & design
  - Construction
  - Post-construction monitoring

PDFRG Projects: Implementation Grants

- Project activities (multiple activities are allowable/encouraged):
  - Reconnect streams and floodplains
  - Reestablish healthy channel form and condition
  - Mitigate erosion hazards
  - Remove or reduce wetland drainage
  - Restore or improve natural flow and movement of water or sediment
  - Reestablish vegetation to support site stability and help manage flow and infiltration
- Maximum award $250,000 state share

Contacts

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Questions & Discussion

- **Maps, Scheduling**: Allison Kielar
- **NFIP, Ordinance**: Sarah Rafajko
- **Engineering**: Chad Heimerl, Chris Olds
- **Mitigation, Wisconsin Emergency Management**: Chad Atkinson, Heather Thole, Katie Sommers

Thanks for participating! We'll be communicating again soon.