

# An Emergency Manager's Quick Guide to Floodplain Management

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**REGIONAL TRIBAL EMERGENCY MANAGEMENT SUMMIT**

**MAY 28, 2025**



- 
- ❖ Background
  - ❖ Quick Guide
  - ❖ Other Resources

# Is flooding getting worse?

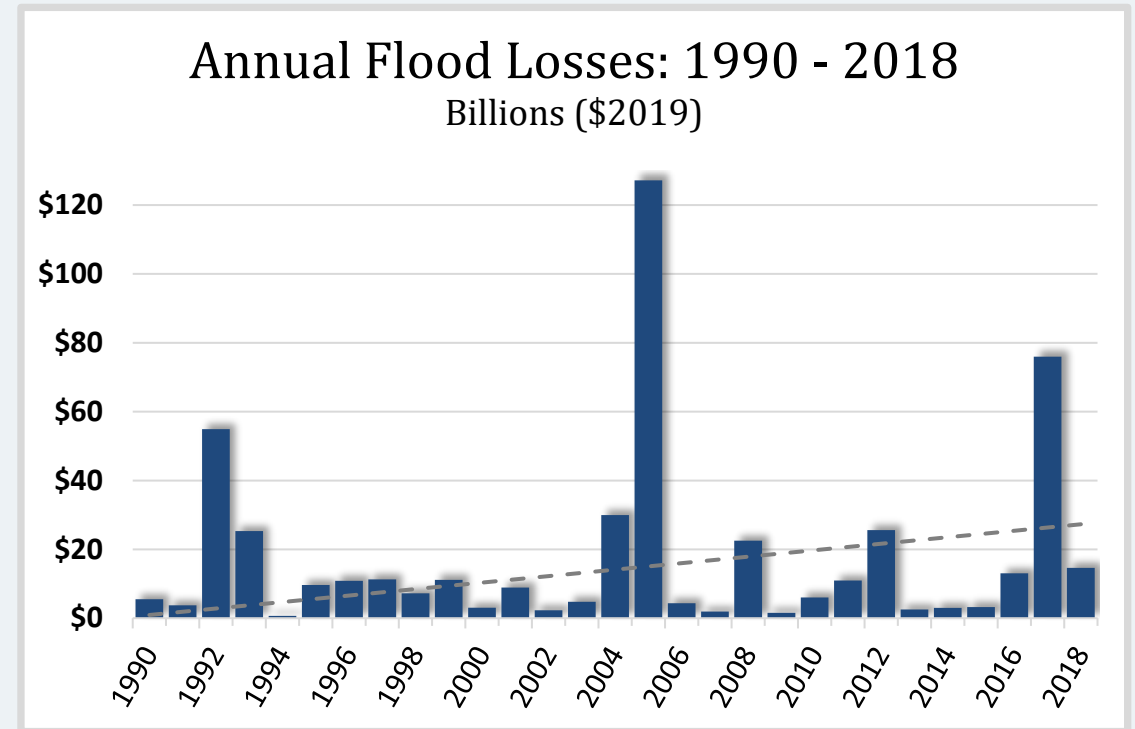


Flooding in Strong City, Kansas.  
Photo by Scott Wiltse.

# Is flooding getting worse?

- **YES!**

- Flooding is the number one natural disaster in the United States
- Annual flood losses roughly doubling per decade - now \$20+ billion/yr
- 17.7 million properties are at risk of flooding (SFHA + nonmapped + pluvial areas)
- New precipitation model shows 1-in-100 year flooding can now be expected every 8 years in some areas



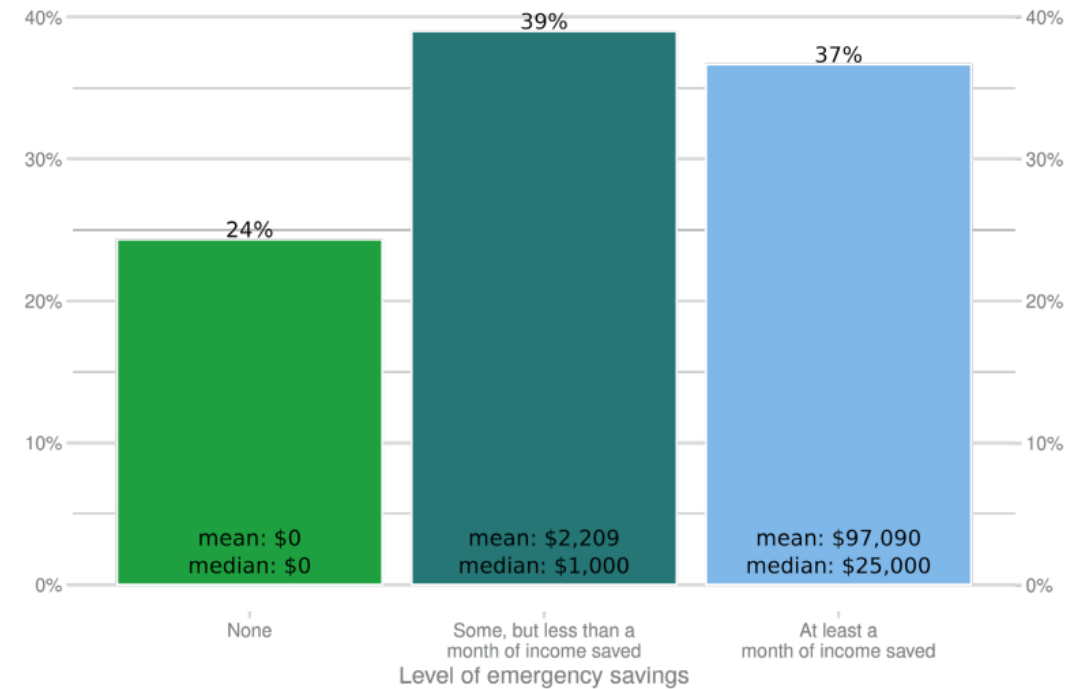
CEMHS, 2019. Spatial Hazard Events and Losses Database for the United States, Version 18.1 [Online Database]. Phoenix, AZ: Center for Emergency Management and Homeland Security, Arizona State University.

# Is flooding getting worse?

- YES!
  - Yet...
    - Federal disaster declarations are issued in less than 50 percent of flooding events, which means that federal post-disaster assistance and funding is not available more than 50% of the time.
    - More than 50% of American adults are currently unable to afford a \$1,000 emergency expense

**FIGURE 1:** NEARLY A QUARTER OF CONSUMERS HAVE NO EMERGENCY SAVINGS

Share of consumers in the three emergency savings groups with the mean and median emergency savings amounts



Emergency Savings and Financial Security: Insights from the Making Ends Meet Survey and Consumer Credit Panel. Consumer Financial Protection Bureau Office of Research Data Point No. 2022-01. 2022.



# What is Floodplain Management?

- ❖ A systematic effort of managing flood-prone areas to reduce harm, reduce damage, and protect the natural functions of floodplains
- ❖ Achieved through:
  - Codes and standards
  - Hazard identification and risk assessment
  - Planning
  - Mitigation
  - Insurance
  - Education



Residents of Fargo, ND, build up a sandbag levee to fight the rising waters of the Red River. Image by David Saville/FEMA via National Archives.

# Who are Floodplain Managers?

- ❖ Emergency managers, planners, engineers, building code officials, zoning administrators and more
- ❖ At any level of government, private sector, non-profit, academia, etc.



Open House floodplain meeting for Marion County, KS, which took place in Hillsboro. Photo credit: Cheyenne Sun Eagle, CFM.

# Where does ASFPM fit in?

- In 1977, a group of state floodplain managers in the Midwest met over concerns that the federal policies and programs at the time were not effective at reducing flood losses
- For nearly 50 years, ASFPM has grown into a structured national organization, but still holds true to its volunteer-based grassroots
- The nation's most respected voice in floodplain management practice and policy





# What is ASFPM's mission?

- ❖ Promote education, policies and activities that:
  - Reduce the losses, costs, and human suffering caused by flooding
  - Protect the natural and beneficial functions of floodplains without impacting the property rights of others



*Fort Lauderdale, King Tides of October 17-18, 2016. Image Credit: NOAA*

# How do we achieve our mission?

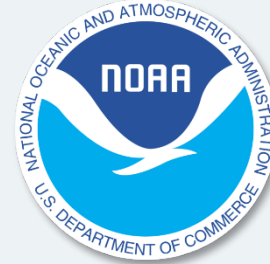
- ❖ Educate around national and state flood policy issues
- ❖ Deliver ongoing professional development and training events
- ❖ Improve the knowledge of floodplain managers through the Certified Floodplain Manager (CFM) Program
- ❖ Develop tools, publications, & other resources through the Flood Science Center and ASFPM Policy Committees
- ❖ Build collaborative partnerships



**FEMA**



**USGS**  
*science for a changing world*



**AECOM**



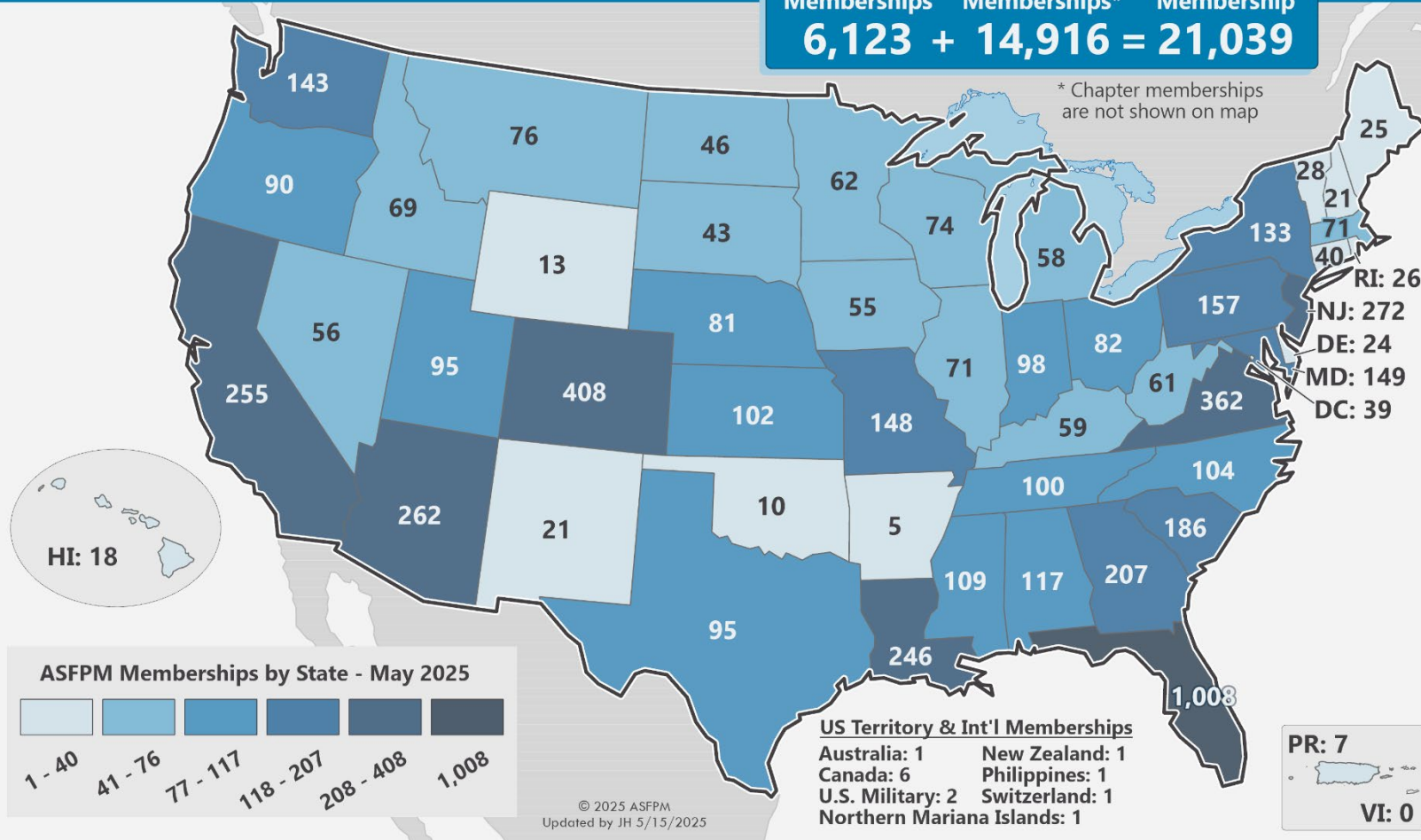
TEXAS A&M  
**AGRI LIFE**  
EXTENSION



# Association of State Floodplain Managers Membership: May 2025

ASFPM Memberships  
**6,123** + Chapter Memberships\*  
**14,916** = **21,039** Total Membership

\* Chapter memberships are not shown on map



## Why do we do it?

- 19,000+ Members
- 38 Chapters
- 10,500+ Certified Floodplain Managers



# Who are our members?

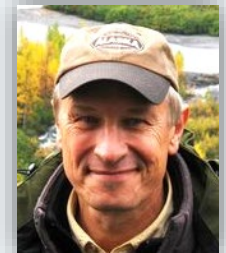
- **Local, state, tribal, and federal floodplain managers and other interested individuals**, including other governmental officials, industry representatives, higher education researchers, and professionals at non-profit organizations
- From all 50 states, all 10 FEMA regions, some U.S. territories, and handful of international countries
- Individuals, chapters, or corporate and agency partners

# Who are we?

- **Bill Brown**

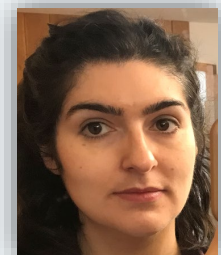
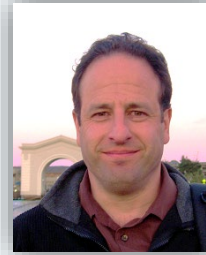


- **Jenna Moran**



# Who are we?

- **Flood Science Center**
  - ASFPM Library
  - Research projects
  - Technical support programs
  - Training development



# An Emergency Manager's Quick Guide To Floodplain Management

- ❖ Introduction to Floodplain Management
- ❖ Helping Residents After the Flood
- ❖ Make Sure It Doesn't Happen Again.  
Understanding Flood Mitigation Programs.
- ❖ Resources



# Emergency Managers & Floodplain Management



# Why do Floodplain Management

- ❖ PROTECT PEOPLE AND RESOURCES
- ❖ REDUCE FUTURE FLOOD LOSSES
- ❖ AVOID LIABILITY AND LAWSUITS
- ❖ ENSURE FEDERAL FLOOD INSURANCE & DISASTER ASSISTANCE IS AVAILABLE

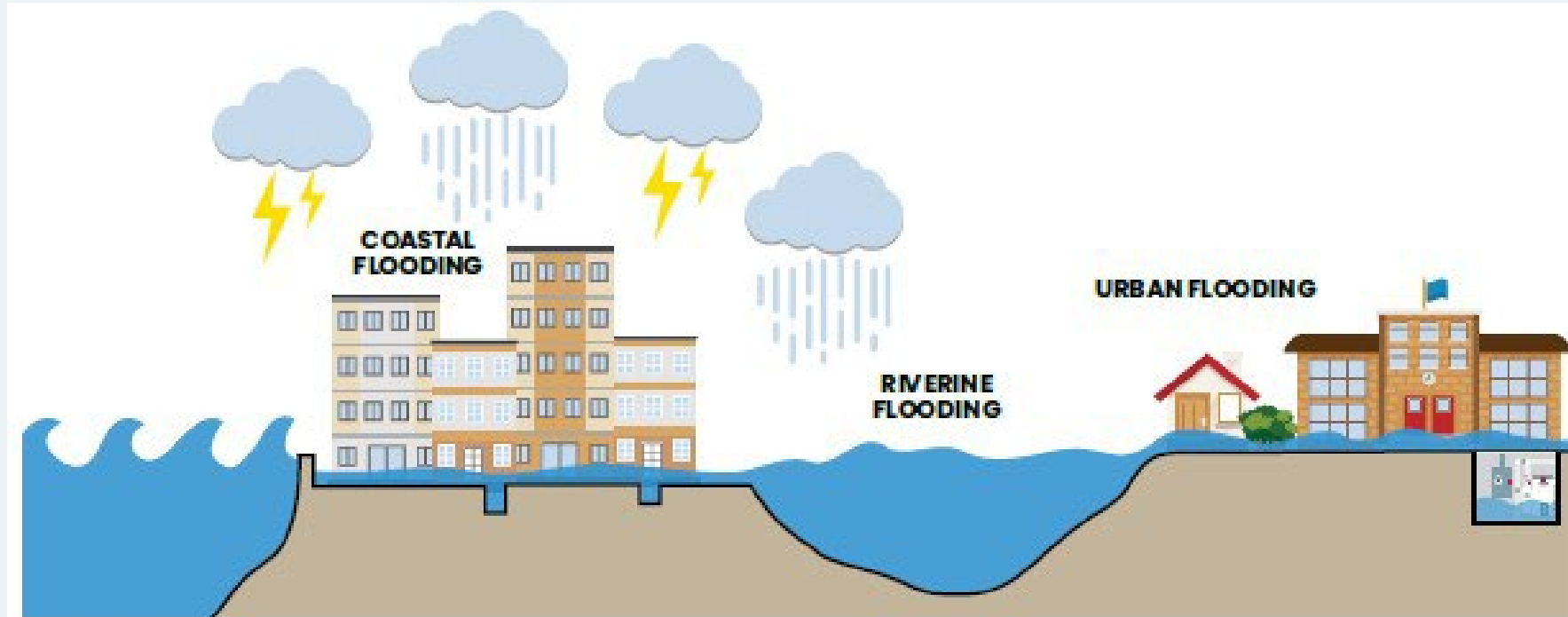
# Primary Types of Flood Risk

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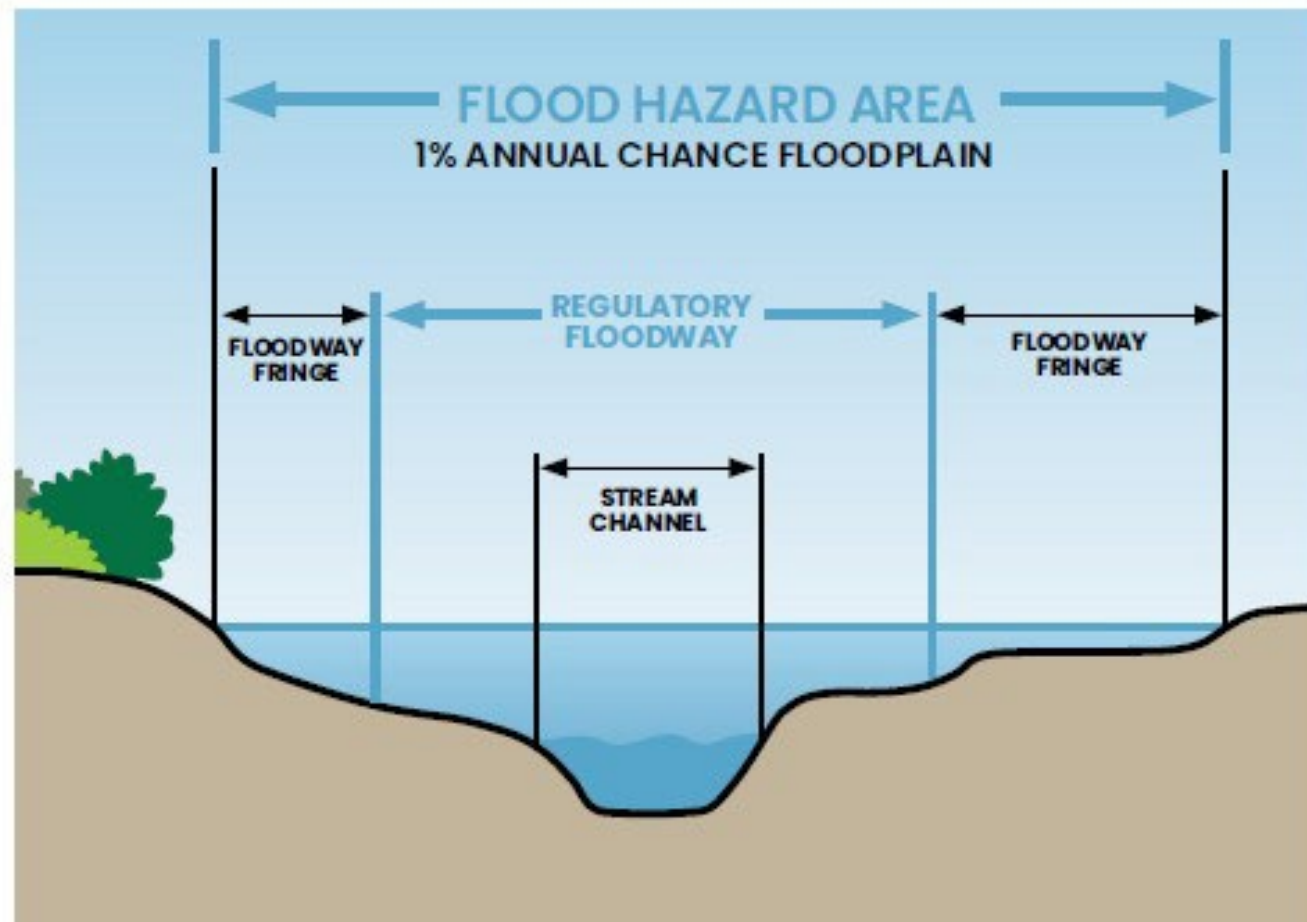
❖ RIVERS AND STREAMS

❖ COASTAL

❖ URBAN



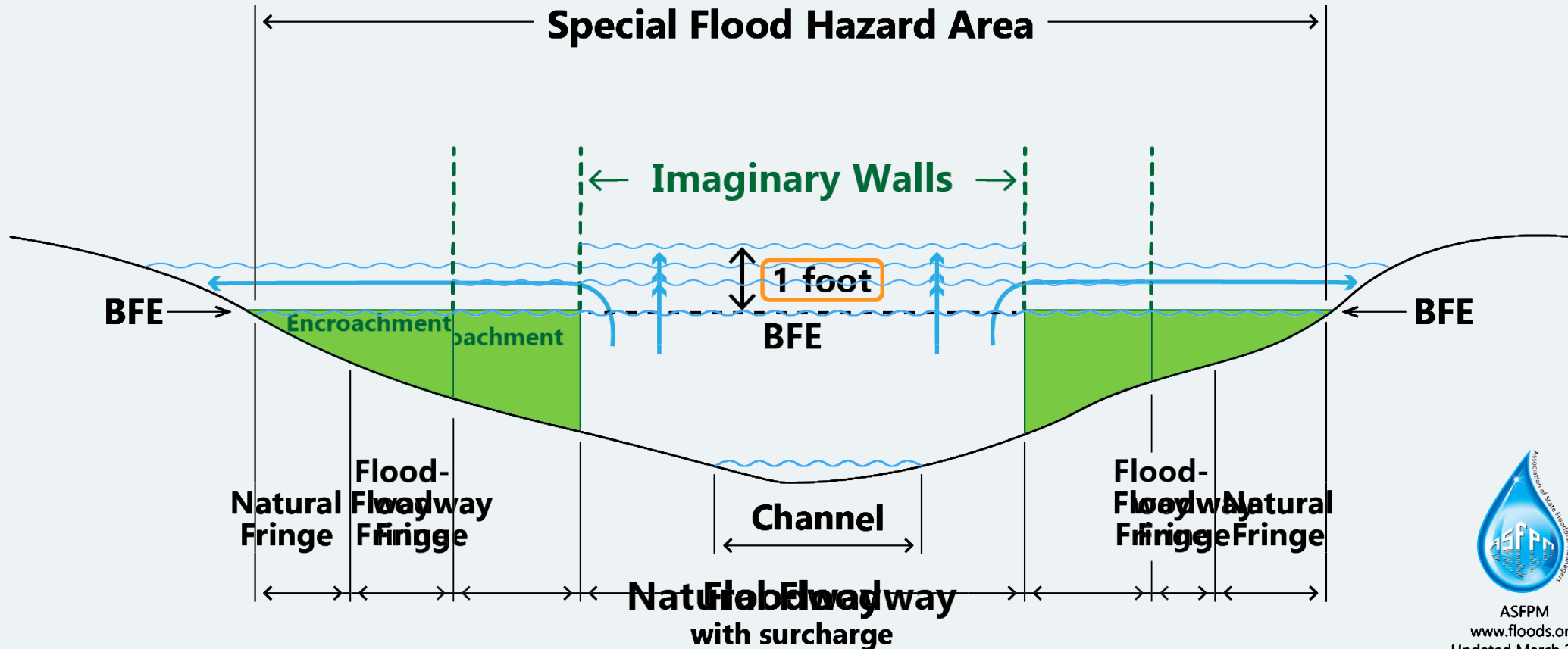
# Flood Risk Areas in Rivers and Streams





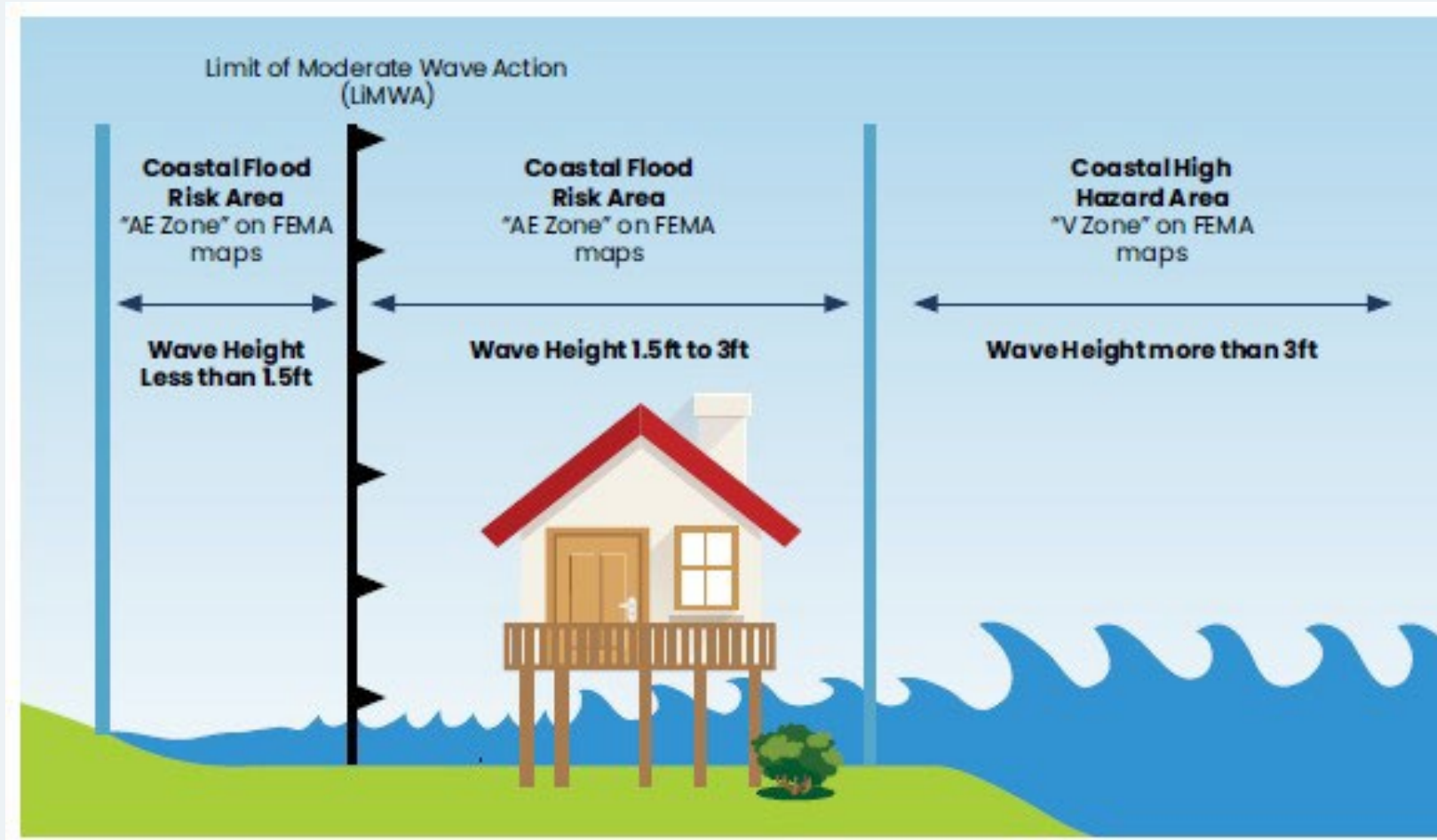
# Understanding Floodway Surchage: The Natural Floodway

The natural floodway is the portion of the floodplain with moving water.



ASFPM created this graphic to help visualize floodways and the floodway surcharge.

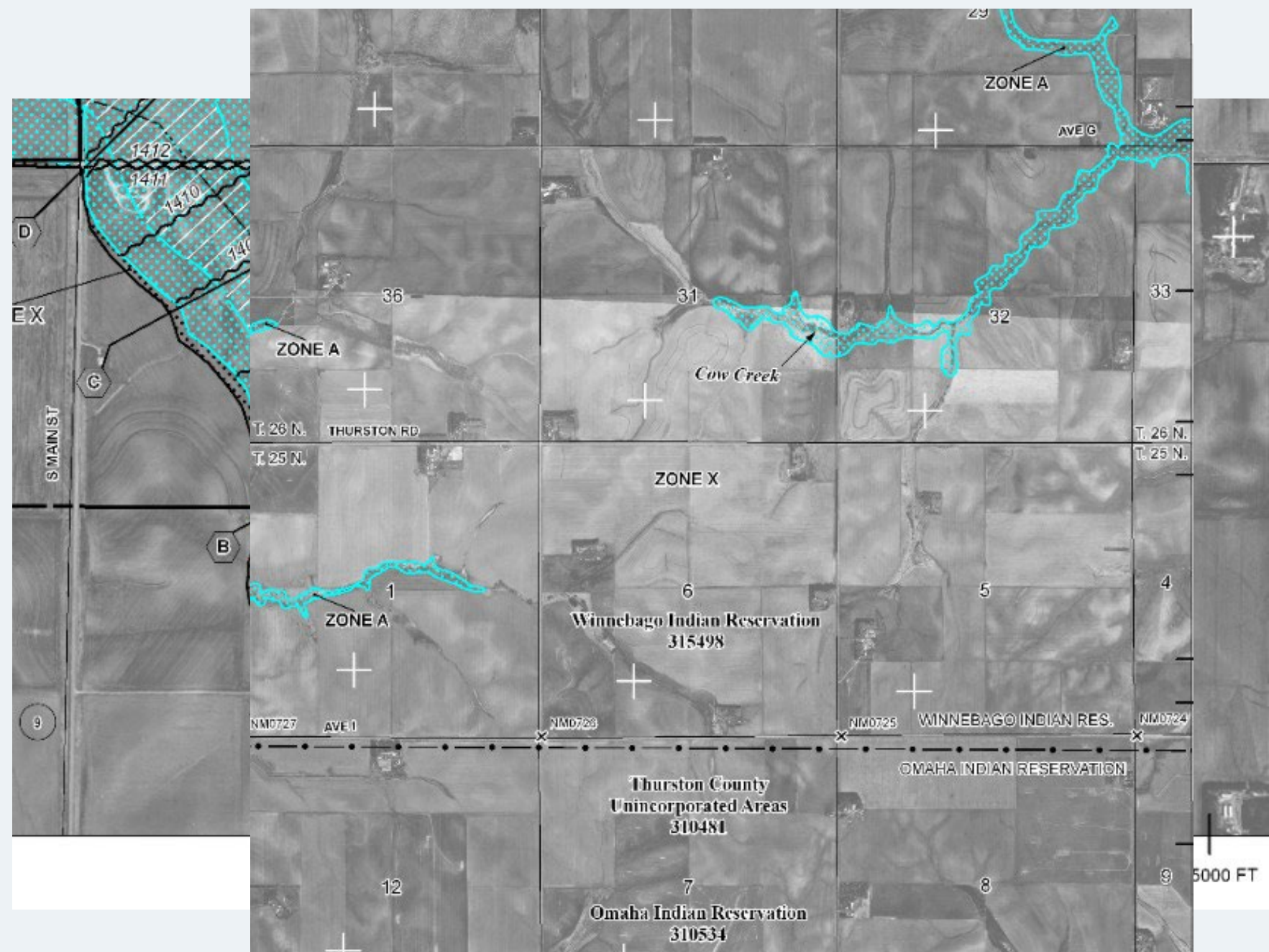
# Flood Risk in Coastal Areas



# Flood Risk in Urban Areas



# Floodplain Maps - Floods Don't Read Maps





# Are Permits Required in the Floodplain?



# Basic Floodplain Rules

## The Basic Rules Are:

**1** Any activity in the floodplain requires a permit. This can be new construction, repairs, or improvements to existing buildings, fences, filling, storage of materials, levees, walls, etc.

**2** Development in some parts of the floodplain **cannot block or obstruct flood flows**. Changes (for example fences, walls, or filling) should not divert flood waters onto neighboring property.

**3** All new residential buildings in the floodplain must be constructed so that the **lowest floor (including basement) is at or above the flood protection elevation**.

**4** Lower areas (below the flood protection elevation) must be constructed of **flood resistant materials; open to flood flows** (flow-through); have no HVAC, electric, or plumbing; and be used only for building access, minimal storage, or parking.

**5** Non-residential buildings can be elevated or **floodproofed** (made watertight). However, the work must be **certified by an engineer**.

**6** Buildings that are damaged (or improved) more than **50% of the market value**, must also be elevated or flood-proofed to the flood protection elevation. Do not make repairs until a local or tribal permit is issued for the work ([See page 18](#)).



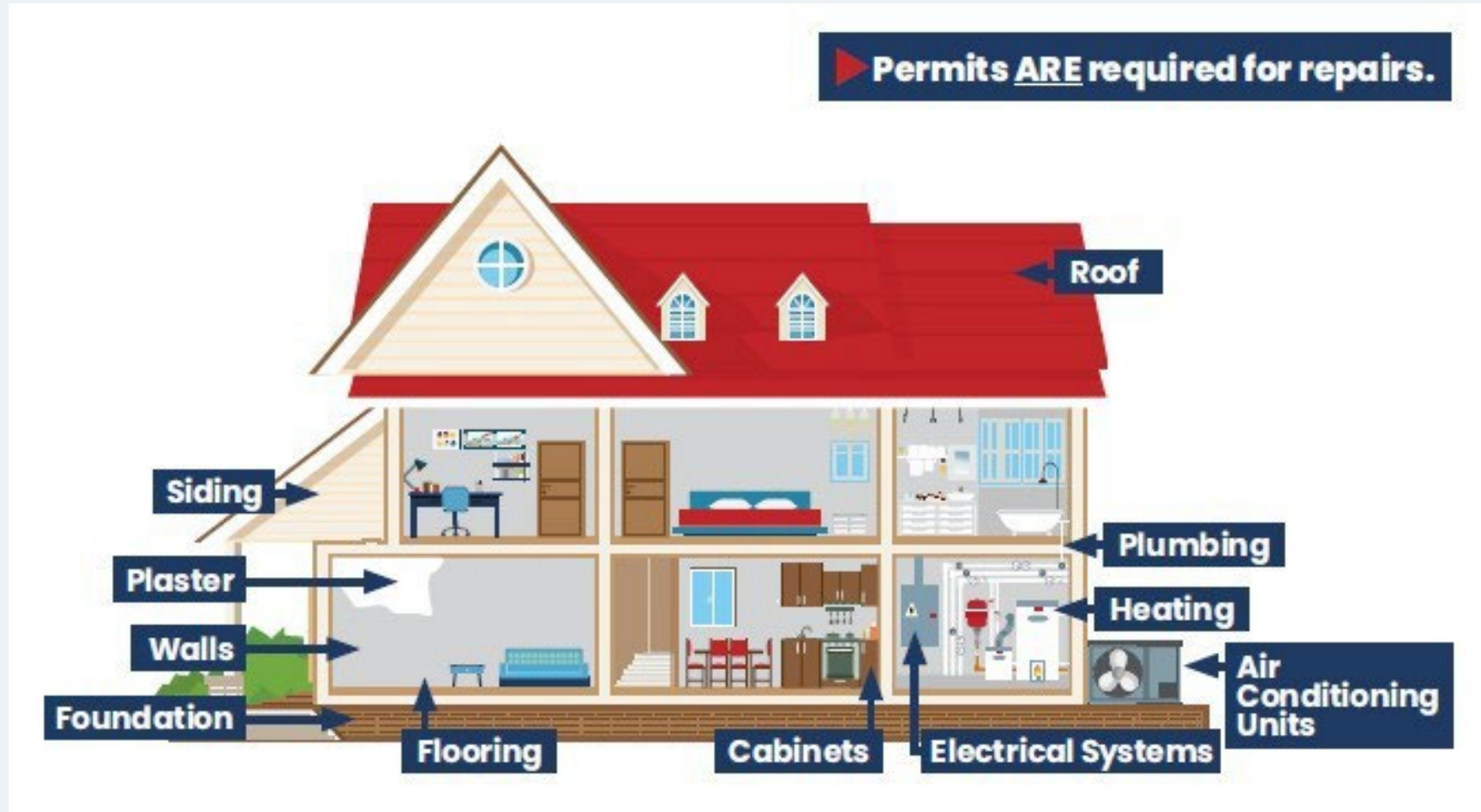
**Argh!**

**WE JUST FLOODED!  
NOW WHAT?**





# Are Permits Required for Repairs?



# Exemptions from Permitting

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- Removing and disposing of damaged contents, carpeting, wallboard, and insulation.
- Covering holes in roofs or walls and covering windows to prevent the weather from inflicting further damage.
- Removing sagging ceilings, shoring up broken foundations, and other actions to make the building safe to enter.
- Hosing and scrubbing, or cleaning floors, walls, and duct work.





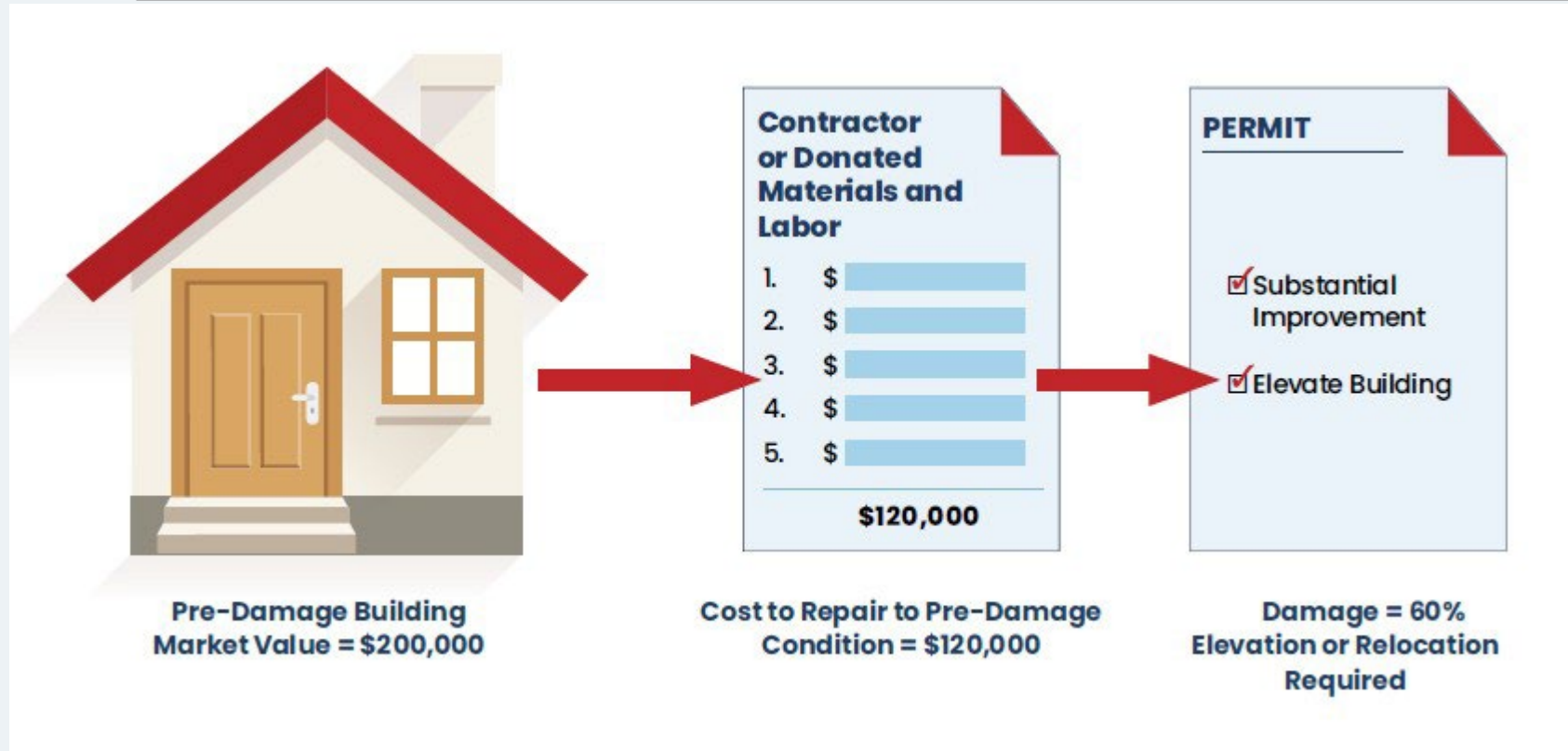
# Repair of Damaged Structures

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- ❖ Permits are required to repair damaged buildings located within the mapped floodplain regardless of the cause - flood, fire, wind, earthquake or manmade.
- ❖ If the costs to repair the building are 50% or more of the pre-damage market value (only the building and not the land), the building is "**substantially damaged.**"



# What is Substantially Damaged?



## HOW MUCH WATER = 50% DAMAGE?

Frame buildings typically take two or more feet of first floor flooding to be substantially damaged.

Manufactured homes can be substantially damaged with as little as a few inches of flooding.

Because these guidelines are not always true, it is best to always check with your local or tribal permit official.

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# MITIGATION



# Mitigation – What is it?

**“Mitigation”** simply means doing something to reduce or eliminate the risk of future damage.

## Mitigation Activities:



### BUYOUT AND DEMOLITION

Sell the structure to FEMA or the state for the pre-damaged value.



### RELOCATION

Move the structure to higher ground.



### ELEVATION

Jack up the building to above the flood protection elevation.



### FLOODPROOFING

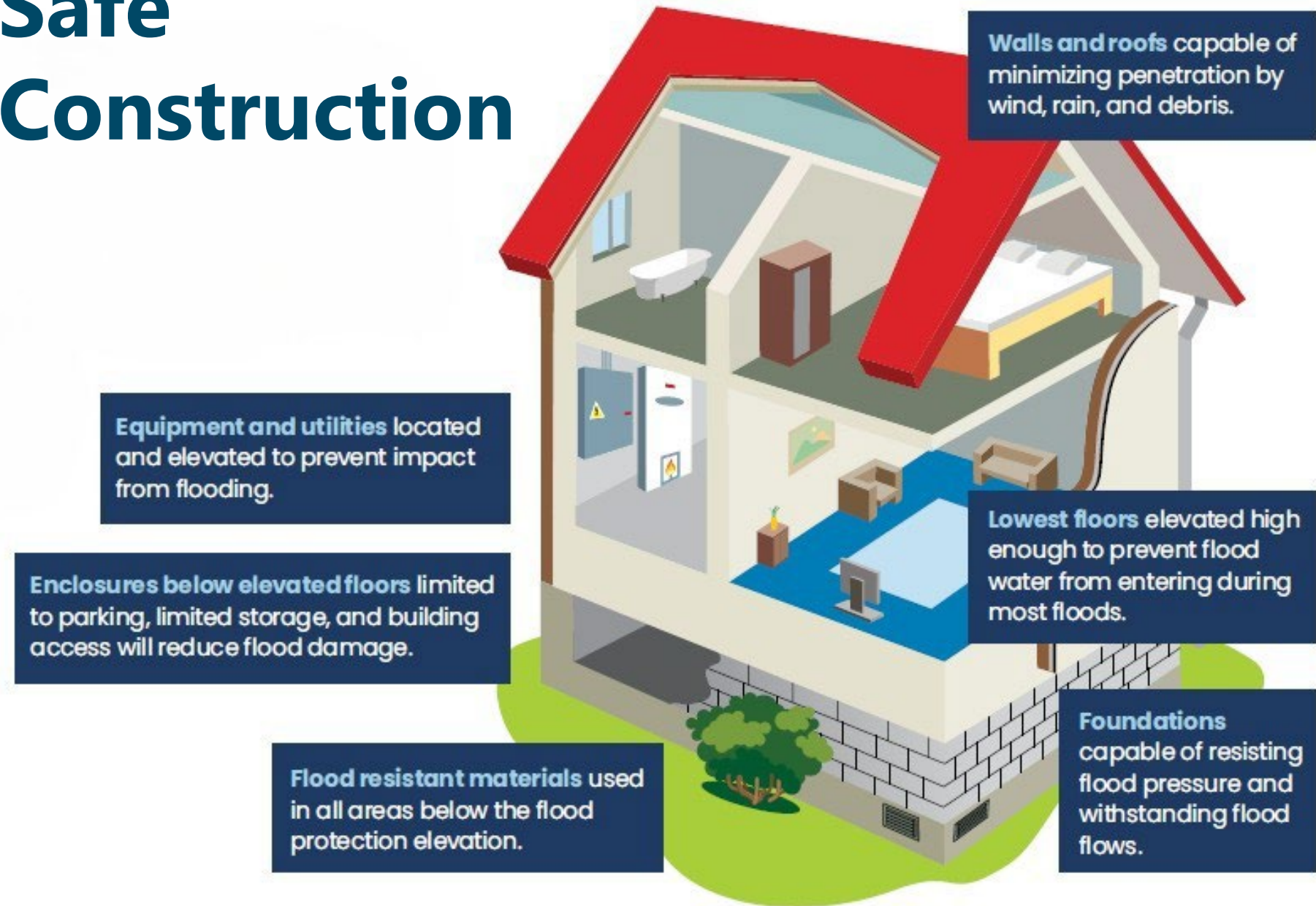
Make the building watertight.



### LOCAL OR TRIBAL FLOOD REDUCTION PROJECTS

Levees, floodwalls, detention basins, etc.

# Safe Construction

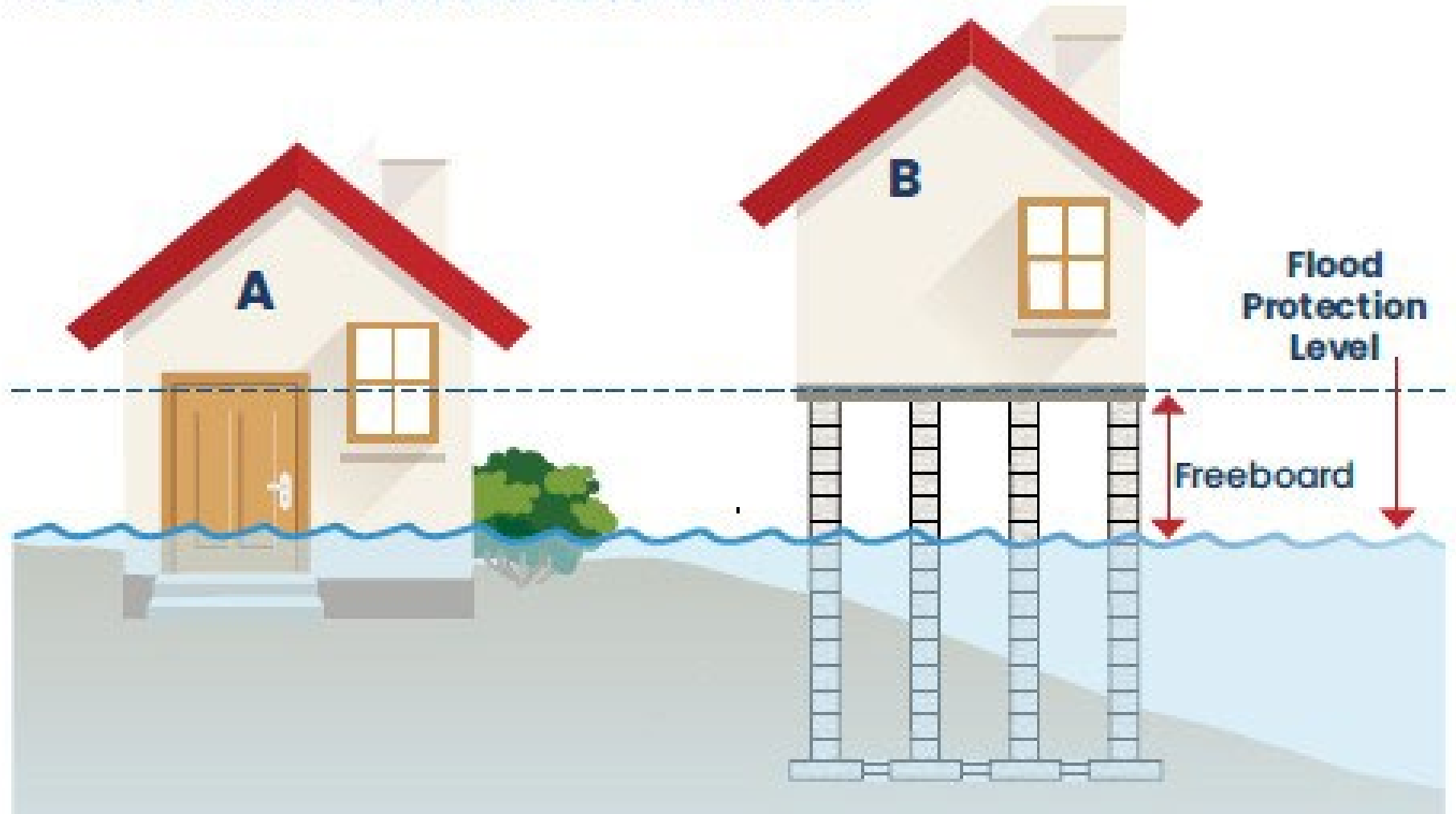




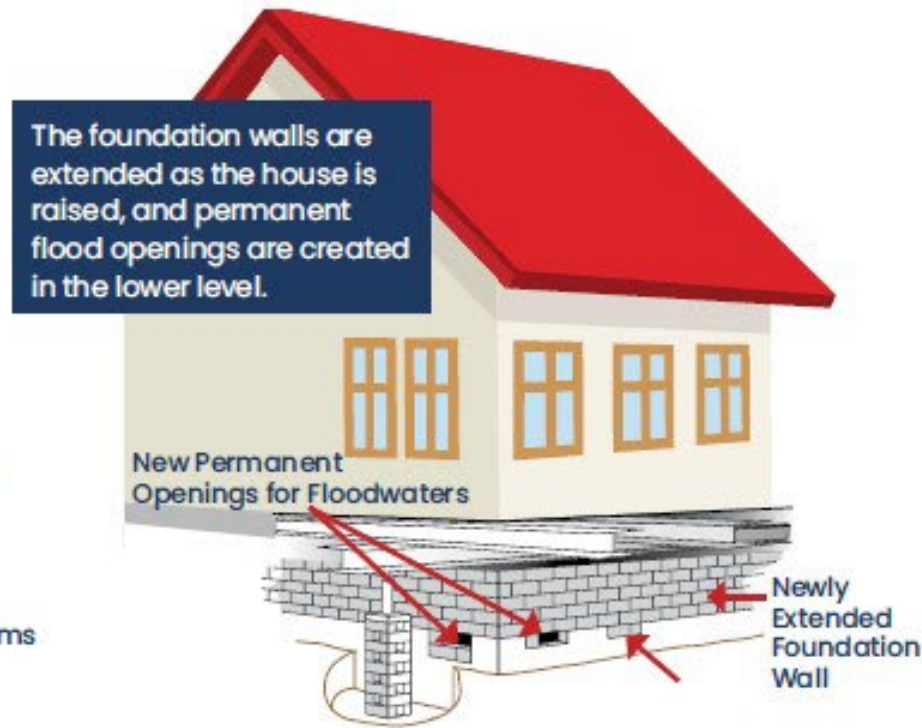
# Encourage Freeboard

House A floods at 100-year flood.

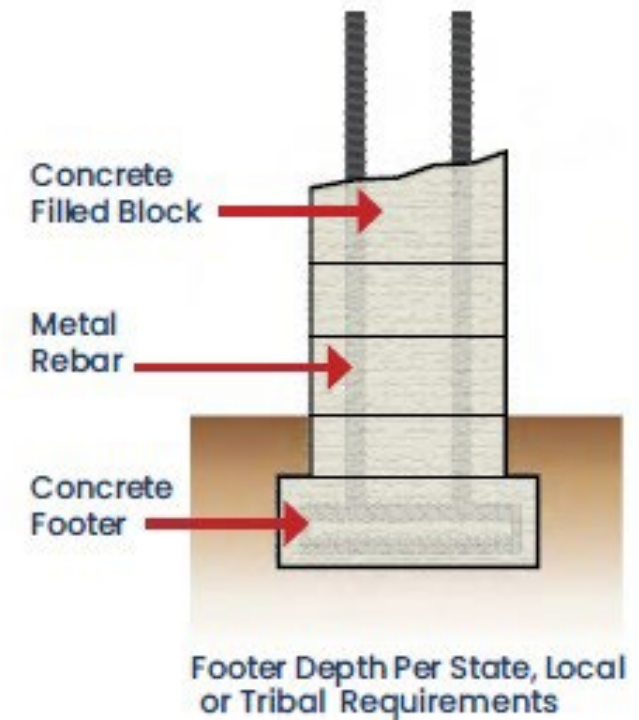
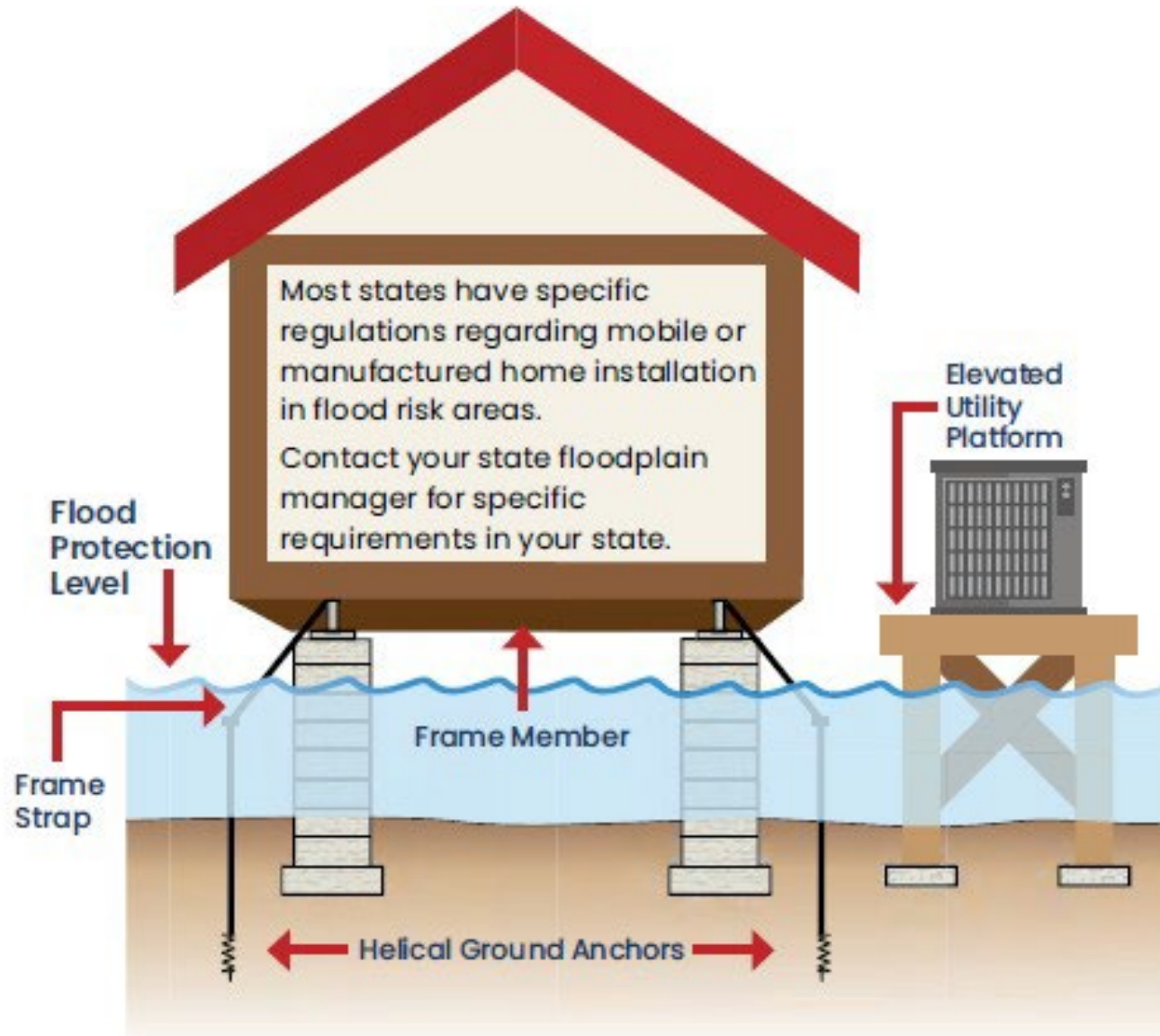
House B with freeboard does not flood.



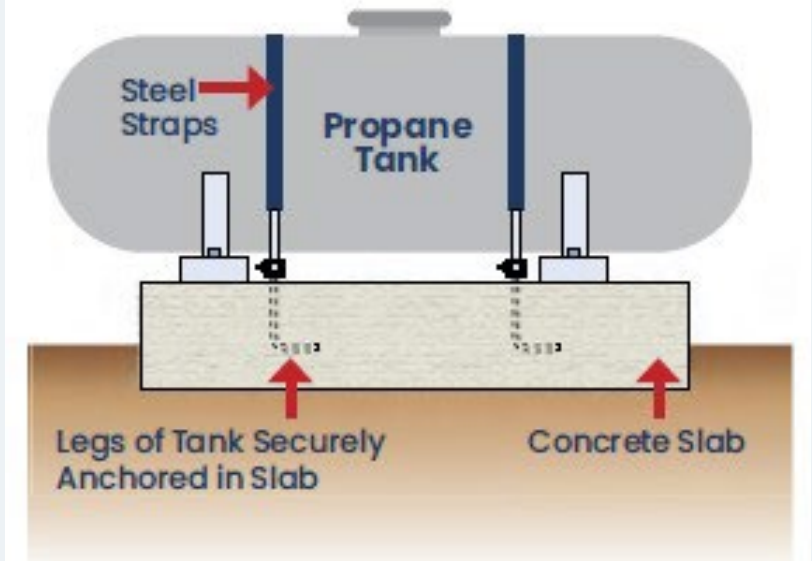
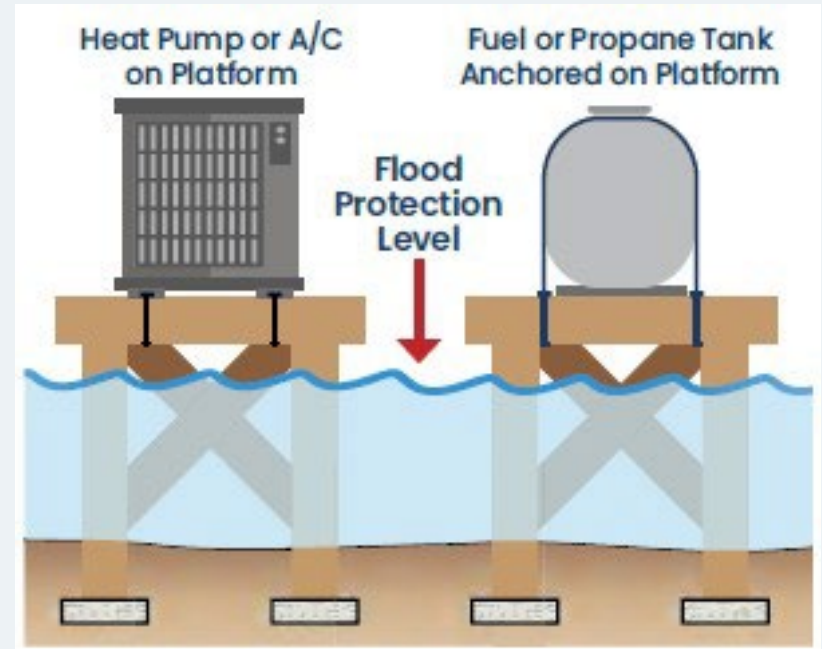
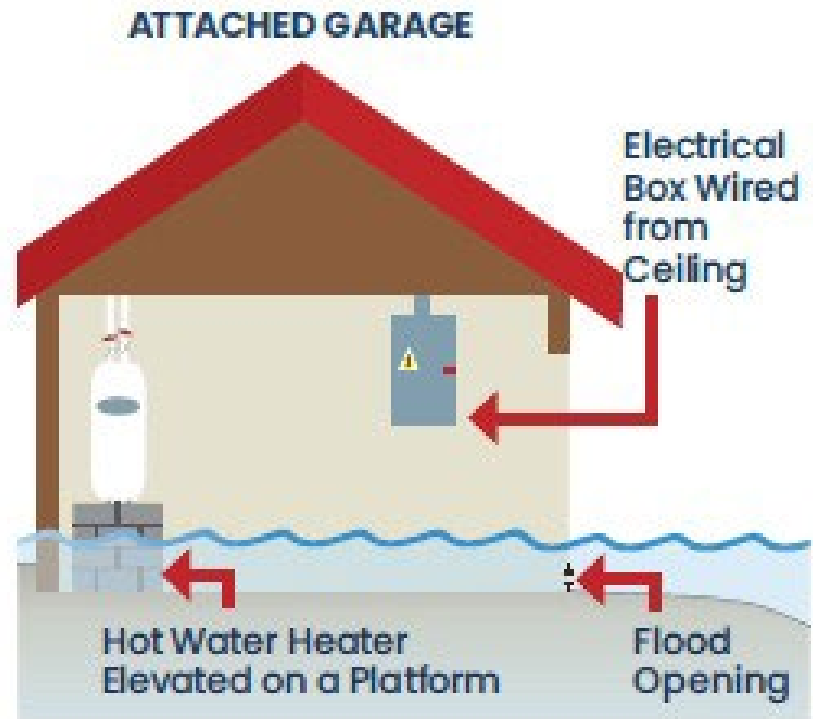
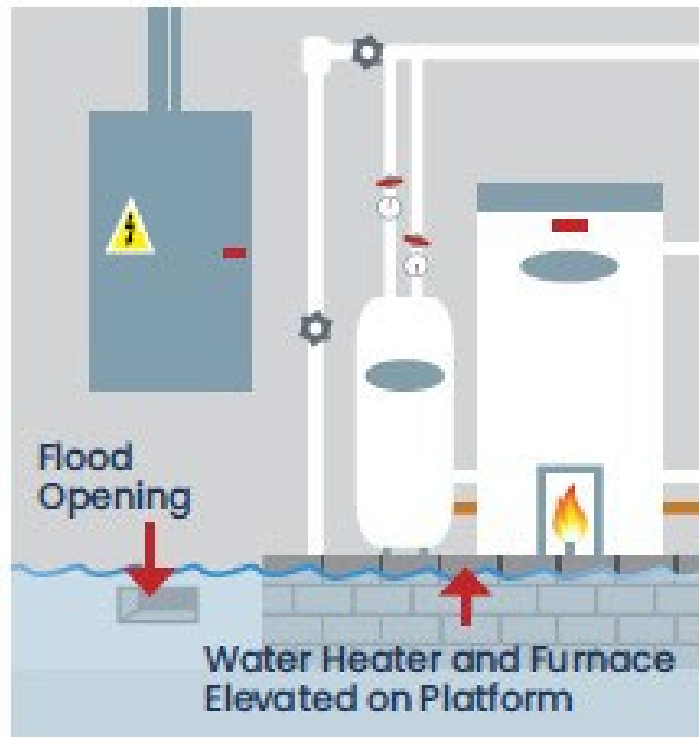
# Elevating an Existing Building



# Mobile Home Elevation

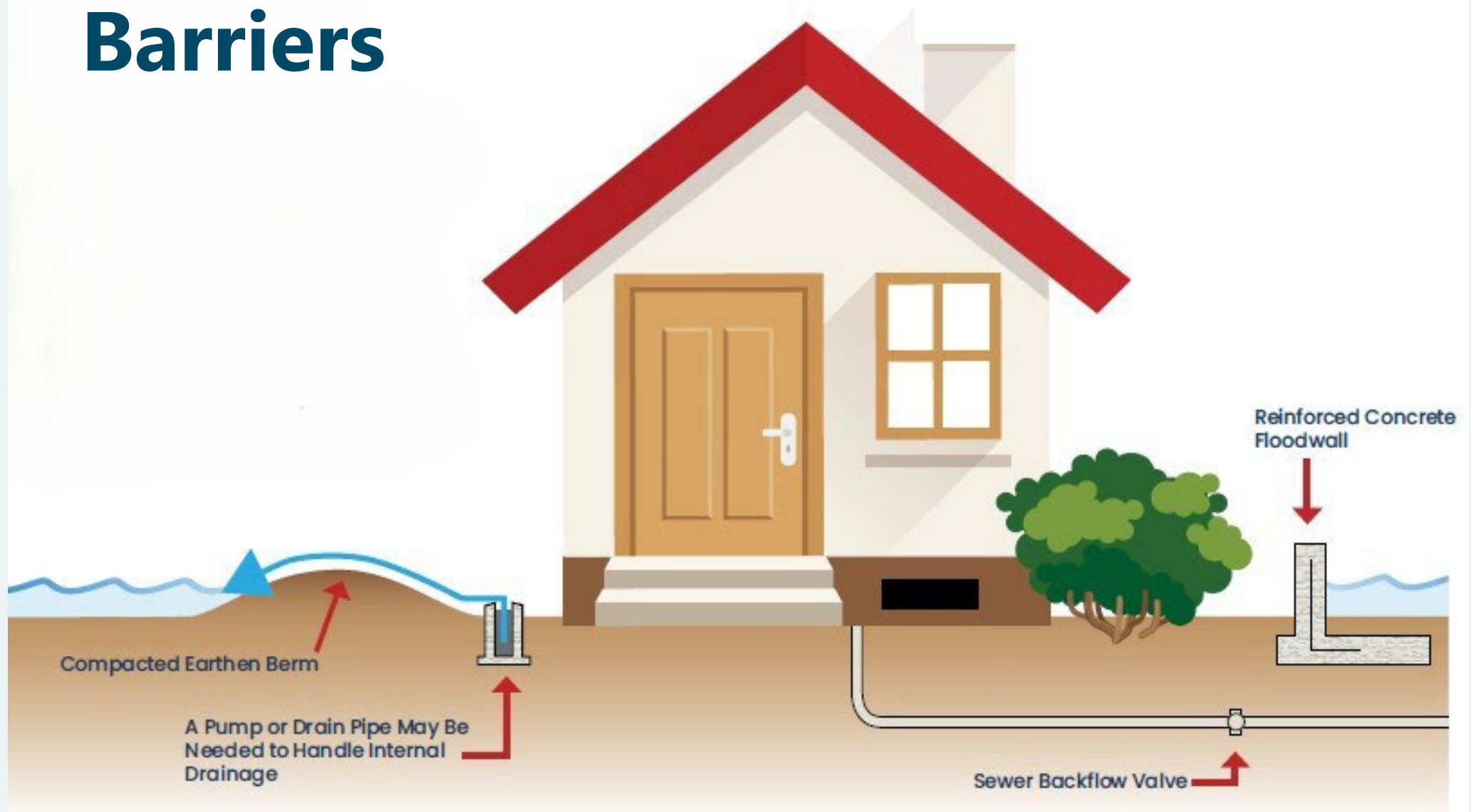


# Inside & Outside Utility Elevation





# Barriers





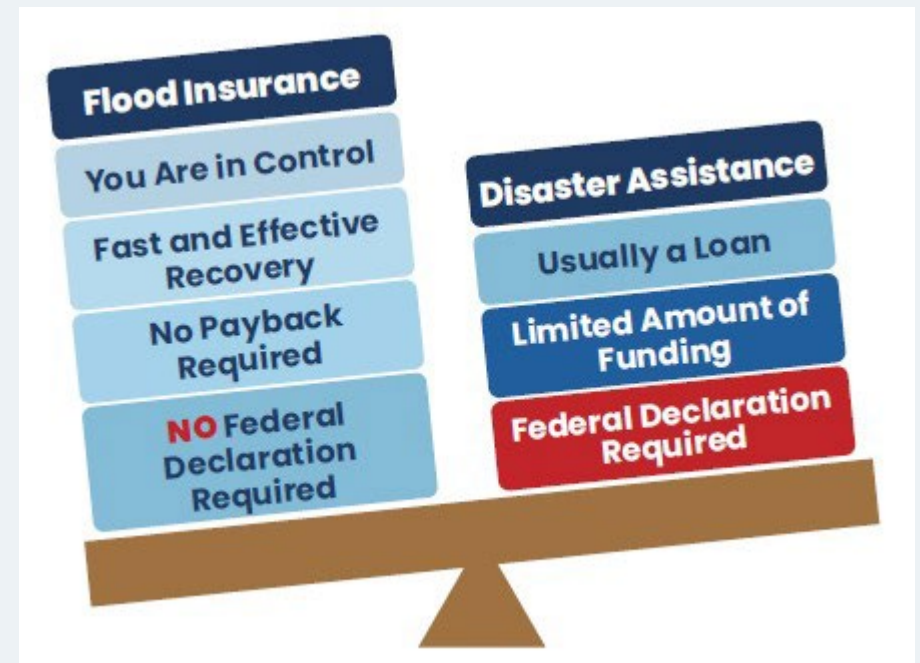
# Relocation



# National Flood Insurance Program

**Those with flood insurance recover much quicker** than those without flood insurance.

National Flood Insurance also includes additional coverage to help cover the cost of floodproofing, relocating, elevating, or demolishing a structure that is substantially damaged.



# Guide Resources

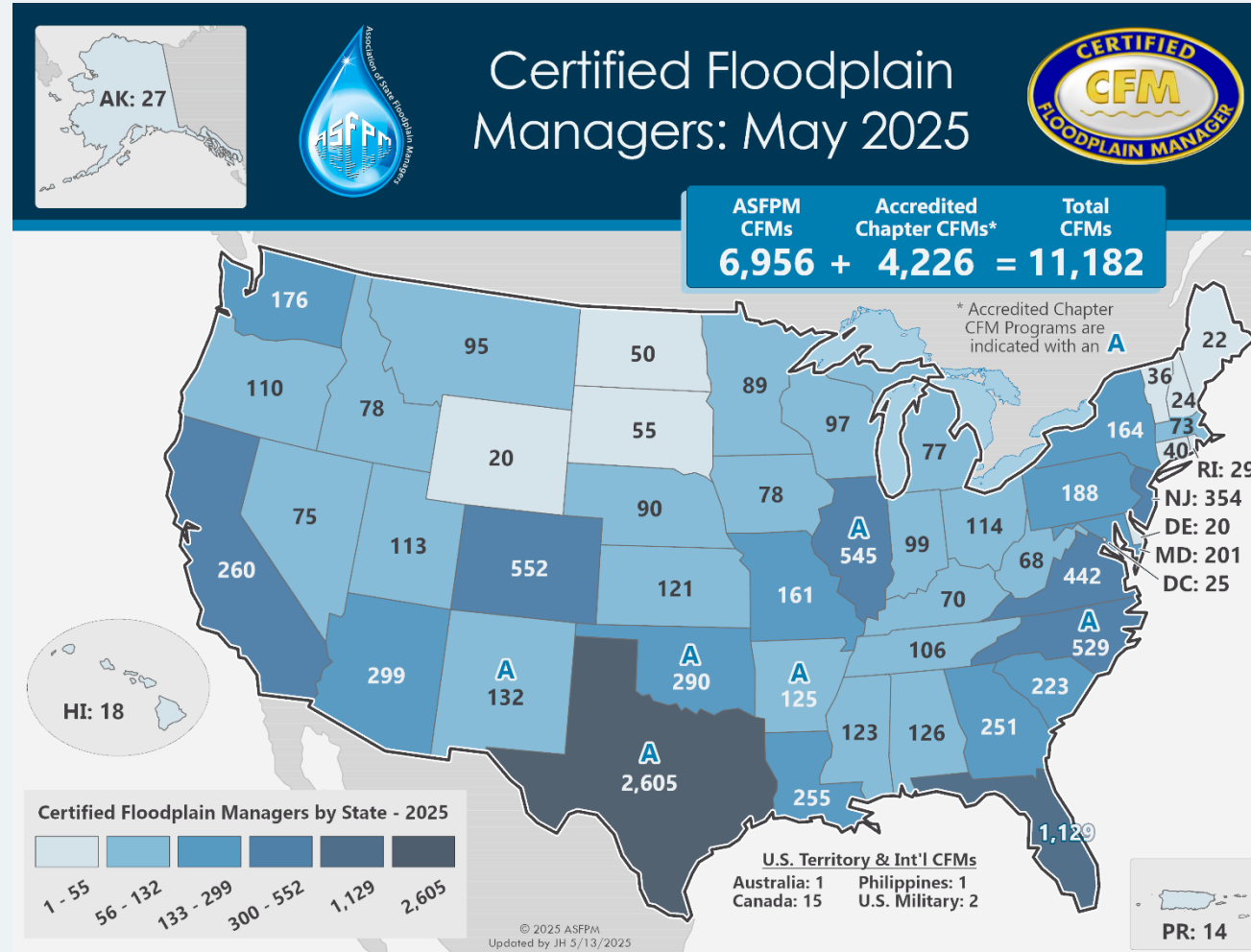
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- ❖ Additional Post Flood Guidance
- ❖ Additional Mitigation Guidance & Resources
- ❖ Non-Governmental & Governmental Resource Information



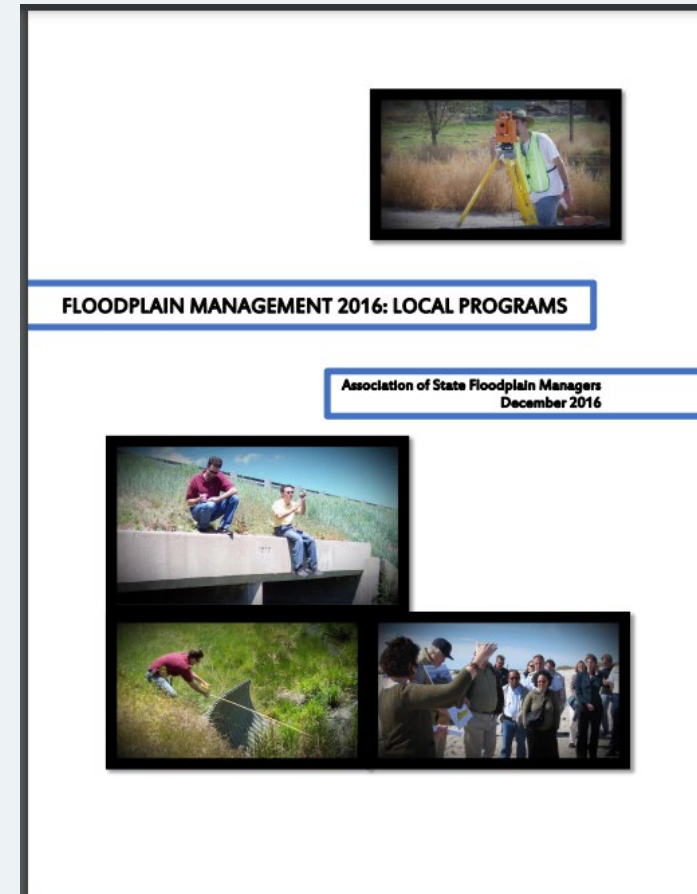
# **Other ASFPM available Resources**

# Certified Floodplain Manager Program





# State and Local Programs Assessment



# FSC Projects and Programs

- **NFIP 101: Introduction to Floodplain Management Training**
- Community Resilience Guide for Repetitive Flood Loss
- Disaster Assistance Response Team Playbook
- Elected Official's Guide
- CRS Green Guide
- No Adverse Impact Resources
- Best Practices & Case Studies Compendium
- K-12 Flood Education Resources
- ReduceFloodRisk.org

Courses » **NFIP 101: Introduction to F...**

**NFIP 101: Introduction to Floodplain Management (CEC-eligible version)**  
★ 4.6 • 84 ratings



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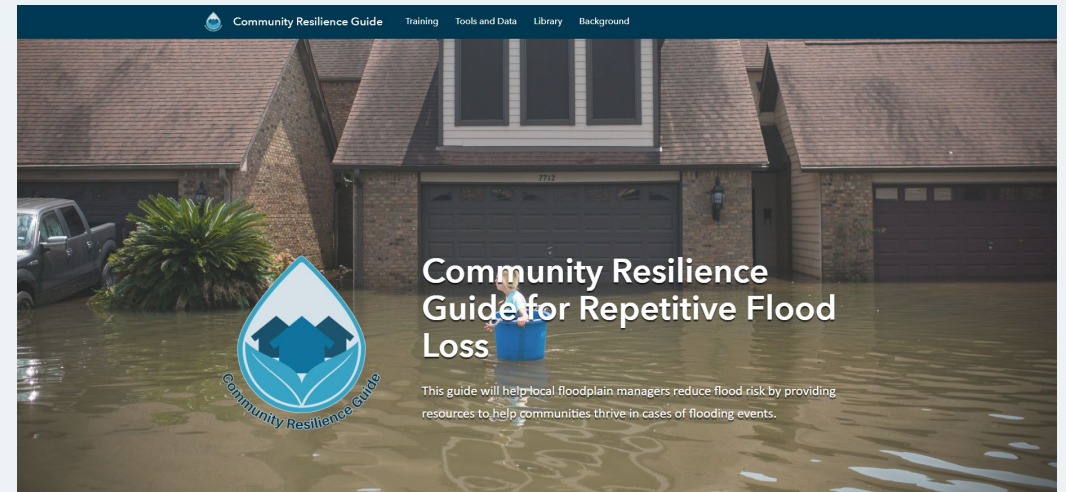
**Description**

This course is intended for those just beginning a career in floodplain management. It provides:

- Local, State, Tribal, Territorial, and federal officials with the knowledge and skills to administer and enforce floodplain management regulation
- New Floodplain Administrators with information and communication techniques to explain the impact of floodplain management decisions on insurance, public safety, and health.
- An overview of NFIP minimum floodplain/management regulations based on the types of flood hazards identified, Substantial Improvement (SI) and Substantial Damage (SD), and describes the use of a permitting process as a floodplain management

# FSC Projects and Programs

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The image shows the cover of the 'Disaster Assistance Response Team (DART)' Playbook. It features a blue header with the text 'ASSOCIATION OF STATE FLOODPLAIN MANAGERS' and 'DISASTER ASSISTANCE RESPONSE TEAM (DART)'. Below this, there is a section titled 'Floodplain Managers Helping Floodplain Managers' which describes the purpose of DART and lists several ASFPM state chapters that have organized disaster assistance teams. The cover also includes three photographs: a flooded house, a person in a yellow safety vest, and a group of people in safety vests. On the right side, there are two vertical text boxes. The top one states 'DART volunteers are experienced flood recovery experts. Volunteers must be pre-approved and fully trained by ASFPM chapters.' The bottom one states 'The host community will have overall management of DART' and 'DART volunteers and the host community have liability protection.' At the bottom right, there is a 'MORE QUESTIONS? CONTACT: dart@floods.org' section with the ASFPM logo and contact information.

ASSOCIATION OF STATE FLOODPLAIN MANAGERS

## DISASTER ASSISTANCE RESPONSE TEAM (DART)

**Floodplain Managers Helping Floodplain Managers**

Every year, catastrophic flooding occurs somewhere in the United States. After a large-scale event, there can be many damaged structures, and local floodplain managers can be overwhelmed. ASFPM is here to help.

The purpose of a Disaster Assistance Response Team (DART) is to assist communities handle floodplain management responsibilities after a natural disaster. DART members are all skilled floodplain managers representing many sectors. DART members have disaster response experience and are fully trained. The DART can assist the local floodplain manager by conducting flood damage reconnaissance, high-water mark data collection, substantial damage estimates, training, and guidance on mitigation actions. The intent of the DART is to help communities expedite response and recovery tasks immediately after the disaster.

Several ASFPM state chapters have already organized disaster assistance teams. These in-state teams have responded quickly and have performed exceedingly well. For that reason, ASFPM is committed to developing and training dedicated teams of skilled floodplain managers in each chapter. The ASFPM chapter DARTs will work in partnership with the local sponsor, state staff, and any other organizations to provide assistance. There is no cost to the local community for this service.

DART volunteers are experienced flood recovery experts. Volunteers must be pre-approved and fully trained by ASFPM chapters.

The host community will have overall management of DART

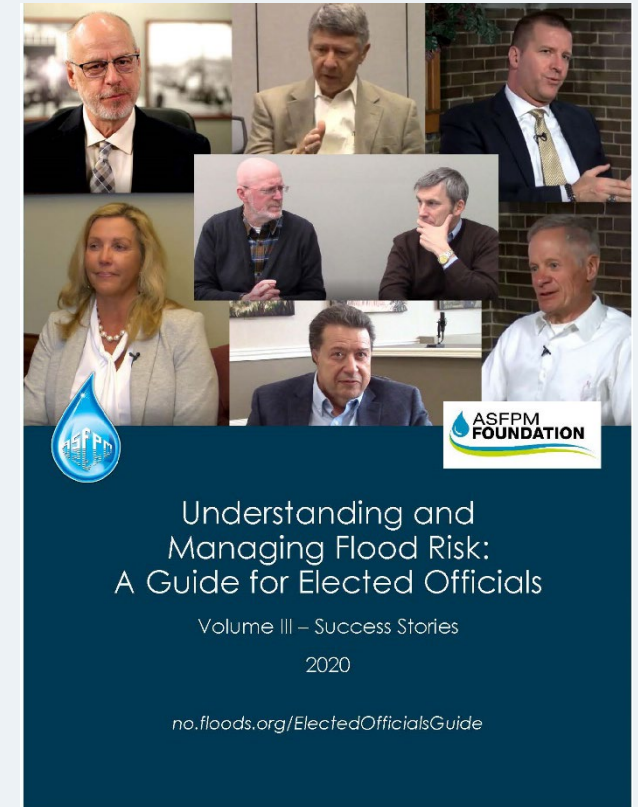
DART volunteers and the host community have liability protection.

MORE QUESTIONS?  
CONTACT:  
dart@floods.org

ASFPM  
608-828-3000  
www.floods.org

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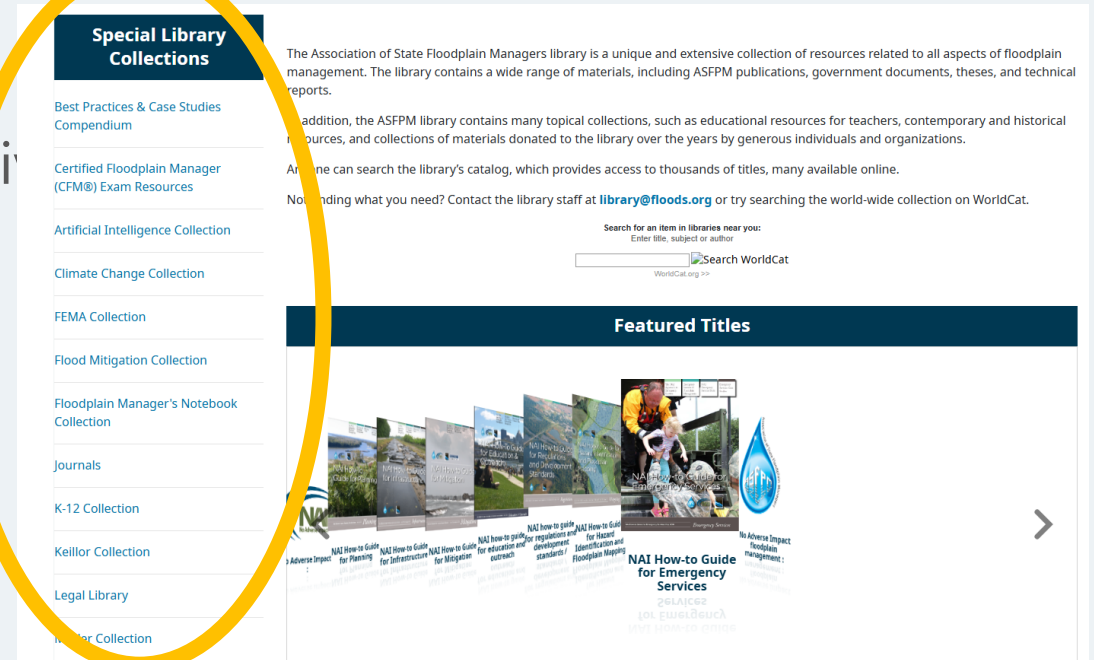
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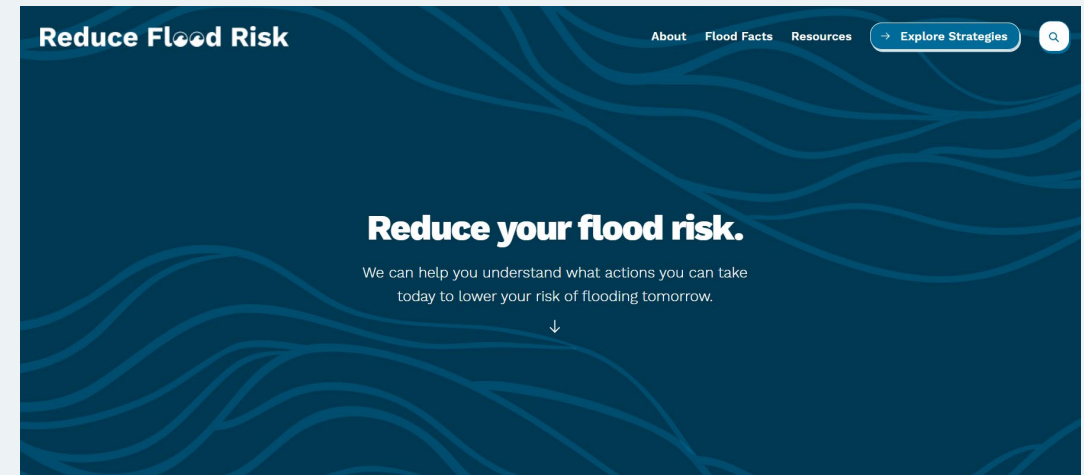
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# Questions?

*The broad problem of flood-loss reduction is that the rate at which flood losses are being eliminated by construction of engineering or land-treatment works is of about the same magnitude as the rate at which new property is being subjected to damage.*

- Gilbert Fowler White

