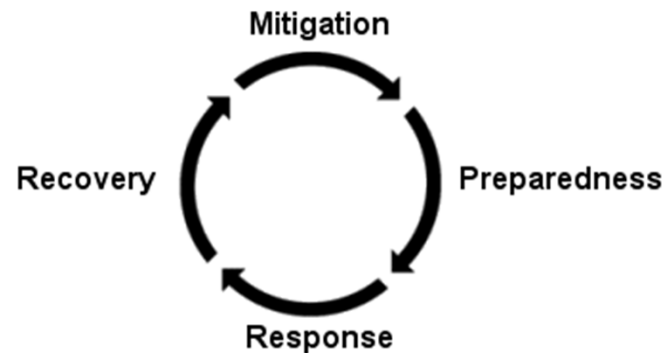


Chapter 2: Preparedness, Hazard Mitigation and Climate Change Adaptation: An Overview



Comprehensive Emergency Management

- Comprehensive Emergency Management is a widely used approach to deal with hazards
- The disaster life cycle system describes the process through which emergency managers:
 - **prepare** for disasters
 - **respond** to them
 - help people and institutions **recover** from them
 - **mitigate** their effects, and
 - (in some cases) **prevent** disasters from occurring



Preparedness

Preparedness ensures that if a disaster occurs, people are ready to get through it safely, and respond to it effectively. It involves:

- Anticipating what might happen during different types of hazard events
- Developing plans to deal with those possibilities
- Carrying out exercises, evaluating plans for shortfalls, and training and education

Preparedness Strategies

- Emergency Operations Planning
- Training emergency managers, first responders, and public officials
- Exercises & drills
- Emergency awareness and education for the general public
- Warning and alert systems

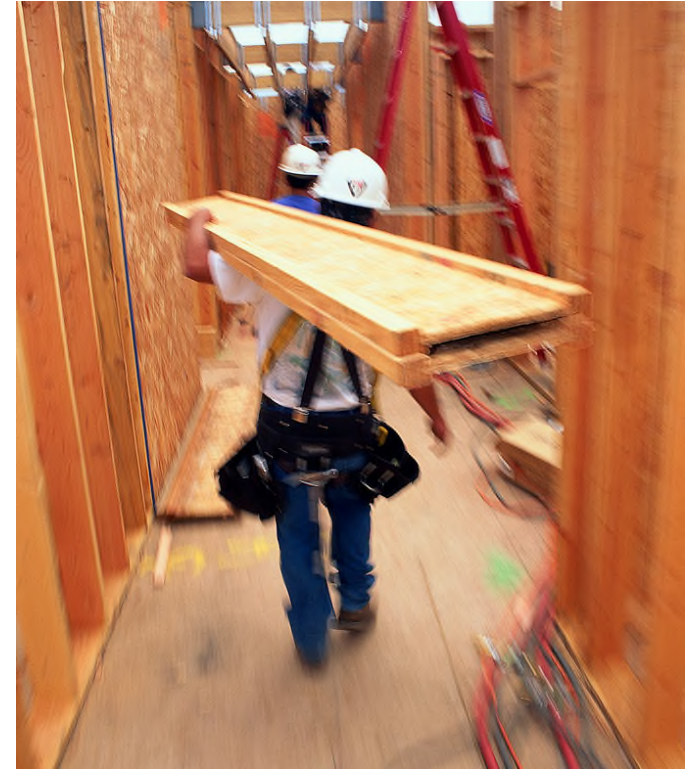


Mitigation

The ultimate purpose of mitigation is to:

- avoid placing people and property in harm's way
- make structures safer and stronger when avoidance is impossible or impractical

Mitigation involves planning, strategizing, and implementing actions in advance of a hazard event.



Mitigation Strategies

There is a wide variety of tools and techniques to reduce the impacts of hazards on people and property, ranging from:

- Land use planning to prevent development in hazardous areas
- Strong buildings codes to protect structures
- Acquiring and relocating damaged structures
- Preserving the natural environment to serve as a buffer
- Insurance to protect homeowners and business owners
- Engineering solutions to lessen impacts or protect investments

Ecosystem Services

Preserving and restoring floodplains, wetlands, dunes, and other natural features allows these areas to serve as buffers and reduce storm damage.



Example:

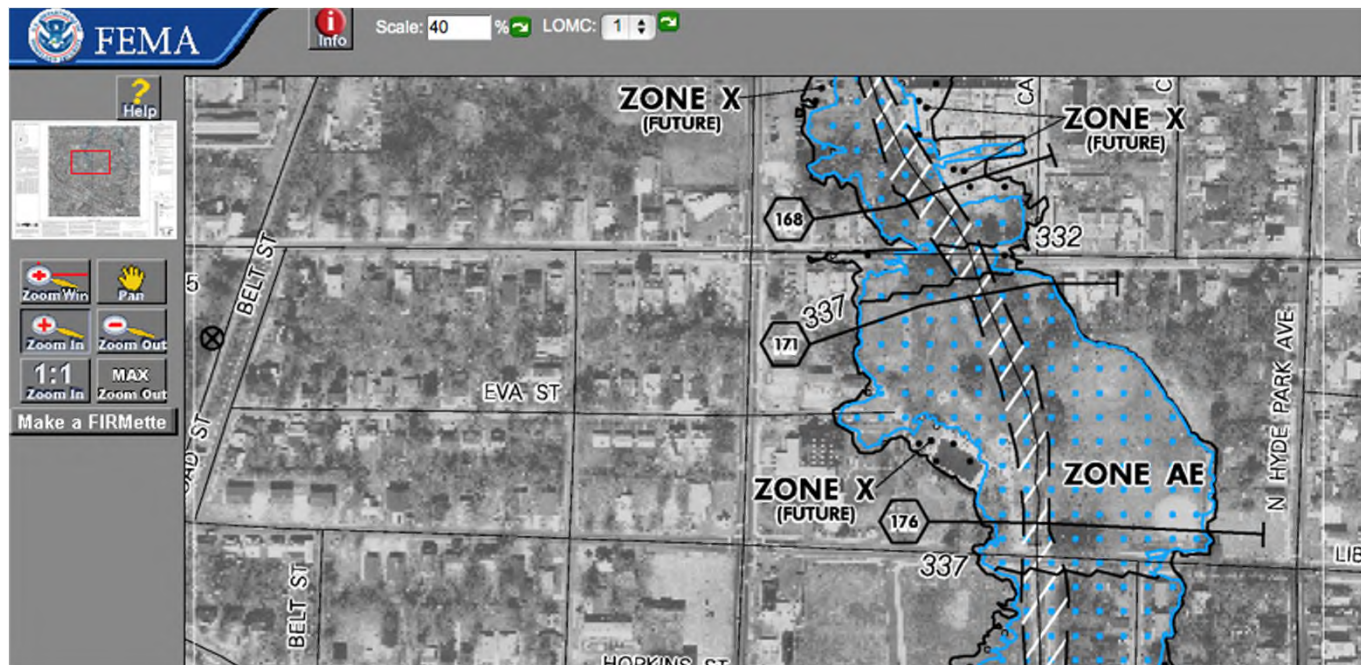
This one-acre stormwater wetland was constructed in Philadelphia to treat stormwater runoff in an effort to improve drinking water quality while minimizing the impacts of storm-related flows on natural ecosystems.

All-Hazards Approach

- An *all-hazards approach* to mitigation planning involves consideration of all the hazards with the potential for causing harm
- Many of the strategies used to reduce the effects of natural hazards are also effective for mitigating the impacts of human-made hazards.

Hazard Identification

- Before implementing mitigation or preparedness strategies, communities need a clear picture of the types of hazards that pose a threat to the community, and how those hazards may impact people and property.
- **Risk Assessment** and **mapping** allow us to understand assets and populations that are particularly vulnerable and make strategic decisions to reduce risk.



Mitigation & Preparedness Value

Mitigation can contribute to the community's long-term sustainability, supporting economic vitality, environmental health, and quality of life.

Current dollars invested in mitigation will significantly reduce the demand for future dollars.

**\$1 spent in mitigation saves
\$4 in avoided losses!**

Build Back Smarter

The aftermath of a disaster presents a unique window of opportunity for a community to figure out what went wrong, and to implement strategies to prevent the same kind of damage in the future.



Climate Change Adaptation

Adjust our natural or human systems in response to climate change impacts to reduce harm or exploit beneficial opportunities.

Examples:

- Ensuring that coastal development accounts for future sea level
- Build stormwater systems to cope with rainfall estimates decades in the future
- Adjust crops and agricultural practices to ensure that production is not reduced by changes in climate

Summary

Hazard mitigation and preparedness activities help communities become more resilient to the impacts of hazards, and climate change adaptation gives communities a running start to deal with the impacts of natural hazards in the future.



Key Terms

- All-hazards approach
- Comprehensive emergency management
- Disaster
- Disaster resilient community
- Human-made hazards
- Mitigation
- Natural hazards
- Preparedness
- Recovery