

Lesson 1. Overview: Protecting Against Disasters

Introduction

Emergencies and natural disasters can occur anywhere in the United States. Televised scenes of flooded homes or buildings scattered like matchsticks in the wake of a tornado or hurricane remind us that our own homes and businesses could be vulnerable.

Americans face more severe weather than citizens of any other country. National Weather Service figures indicate that in an average year, the United States experiences:

- 2,500 floods.
- 1,000 tornadoes.
- 10 hurricanes.

Severe weather is only one source of disaster. Earthquakes and wildfires also may threaten your home or place of business with damage or destruction. The Federal Emergency Management Agency (FEMA) estimates that as much as 75 percent of the Nation's housing could be at risk from natural hazards.

Self-Assessment Questions:

- Has your current home and/or place of business been affected by an emergency or disaster since you lived or did business in this location?
 Yes No

 - To your knowledge, was your community affected by a disaster during the last 10 years?
 Yes No

 - To your knowledge, is your community considered at risk for one or more kinds of disasters?
 Yes No
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Natural Hazards

As you plan to protect your home or place of business from disaster, think about the kind of natural hazards you are most likely to face.

In this course, you will learn about protecting against:

- Water damage due to flooding, the most common type of disaster.
- Wind damage from hurricanes and tornadoes.
- Wildfires in forested and rural areas.
- Earthquakes.

The course focuses on hazards for which you can take measures to protect your home or business. Disasters such as volcanic eruptions, tsunamis, and landslides give few options other than ensuring the safety of your family and/or employees.

Self-Assessment Questions:

- Check below the type of hazard that you believe most threatens your home or place of business.
 Flooding Hurricane Tornado Wildfire Earthquake
 - Other hazards likely to affect your area are _____
_____ and _____
(Complete only if applicable.)
-

Ask your local government officials for information about the specific hazards that pose the greatest risks in your area. Building and zoning officials, planning departments, floodplain managers, or emergency managers should be familiar with your community's history and can tell you about local plans and programs aimed at helping you protect your home or place of business.

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Protective Measures

The lesson for each type of hazard will describe:

- Nonstructural, generally low-cost measures you can take.

An example of a nonstructural measure: Clearing brush and vegetation around buildings to prevent wildfire damage.

- Structural measures that involve changes to the building.

Examples of structural measures: Elevating a flood-prone building or, in an area subject to earthquakes, bolting the bottom of the structure to the foundation.

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Success Stories

There are many examples of how protective measures have benefited owners of homes and businesses when disaster struck. Here are two, one for a home and one for a business.

Homeowners: South Portland, Maine

The City of South Portland has an old combined sewer system. When it rains, all of the runoff goes into the system. When heavy rain and flooding occur, the sewer system is overwhelmed and the cellars of houses are swamped. This has resulted in health hazards and repeated damage to items in the basements.

Homeowners with backflow problems called David Thomas, Collection Systems Manager for the City of South Portland, who got the idea to have backflow preventers installed in homes with such problems.

In February 1998, the City began its Backwater Valve Program and installed valves in 89 participating houses within 5 months. Each valve cost \$397, including installation.

The program is considered a success. Despite a June 1998 rainfall of more than 10 inches that caused flooding across central and southern Maine, none of the participating homeowners reported flooding. Since the valves were installed, the City has not received any calls from distressed homeowners.

Savings in avoided damages from the 1998 flood and future floods is expected to be at least \$75,000.

Business: Fort Myers Beach, Florida

When Hurricane Charley hit Fort Myers Beach in August 2004, four buildings at Tom Kolar's Lighthouse Resort Inn and Suites, which sits 200 feet from the beach at San Carlos Bay, remained dry, undamaged, and full of customers. Other hotels and motels on the island were damaged or flooded, and closed.

In the past, the Lighthouse Resort would have been closed, too. In two decades there have been seven hurricane events causing flood and wind-related damage to the Resort, leaving the third-generation owner to deal with nearly \$100,000 in repair costs per event. When Charley hit, the four undamaged buildings remained high and dry, having been elevated as part of a joint State, Federal, and local mitigation project. In approximately one year the savings on repair costs alone totaled nearly \$200,000, almost 50% of the mitigation investment.

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Success Stories (Continued)

“Everybody else was out of business but he (Kolar) was renting rooms,” said Bob Rockwell, the local contractor who worked on the recent mitigation project. He had worked on many of the previous repairs, and spurred the project after he spotted a television program in 2001 about the Federal Emergency Management Agency (FEMA) Flood Mitigation Assistance (FMA) program.

Working with Ft. Myers Beach Deputy Town Manager, John Gucciardo, Kolar and Rockwell got the ball rolling and gained the necessary approvals for the jointly funded mitigation project to elevate six of the Resort’s buildings. Hoping to prevent future repetitive losses and the subsequent effects not only for the owner but also on the community, work was begun in March of 2003, and two more buildings are scheduled to be elevated by year’s end. The project’s aim is to elevate the six repetitive loss structures 2 feet above the projected flood level, but the owner exceeded the goal by several additional feet.

If there was a “silver lining” in the clouds of hurricanes Charley and Frances, it is that they have now demonstrated the value of the Lighthouse Resort Inn and Suites mitigation project. For the owner, the repetitive losses, ever-increasing repair costs, and lost income will be avoided. Employees will avoid the anxiety of losing their income due to time lost for lengthy repairs. The town and State will recognize tax benefits from the increased value and extended life of the mitigated property. For the National Flood Insurance Program, it means reduced or eliminated repetitive payments for damage claims.

“Adjacent property owners benefit,” said Gucciardo, “because the project is located in a Community Redevelopment Area and the additional tax revenue must be invested back into the local area.” According to Gucciardo, the town is even seeing benefits such as no expenditure for debris removal, a staggering post-hurricane task for the area. “Other properties did not fare as well (as the Resort),” he stated, “and we expect to be dealing with debris removal for weeks to come.”

As a result of undertaking the joint investment in the mitigation, the Lighthouse Resort is “open for business,” a welcome oasis in the midst of so much destruction. “Mr. Kolar is very pleased, very happy, especially after the hurricane, and I’m thrilled,” Rockwell stated.

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Test Yourself

The questions below review key points in protecting against disasters. After completing the questions, you can check your answers on the answer sheet located after the course glossary.

1. The most common type of disaster in the United States is _____.

2. This course will cover the following types of hazards that threaten your home or place of business. (Mark all that apply.)
 - Flooding
 - Landslide
 - Earthquake
 - Tornado
 - Hurricane
 - Tsunami
 - Wildfire

3. Write below two sources of local government information you can consult to learn about hazards that affect your area.

4. An example of a structural measure to protect against damage is to elevate a building in a flood-prone area.

_____ True _____ False