

Mitigation Flood, Wildfire and Earthquake

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FLOOD MITIGATION

National Flood Insurance Program – Myths

- You can't buy flood insurance if you are located in a high-flood risk area.
- You can't buy flood insurance immediately before or during a flood
- Homeowners insurance policies cover flooding
- Flood insurance is only available for homeowners
- You can't buy flood insurance if your property has been flooded
- Only residents of high-flood risk areas need to insure their property

National Flood Insurance Program – Myths

- National Flood Insurance can only be purchased through the NFIP directly
- The NFIP does not offer any type of basement coverage
- The NFIP encourages coastal development
- Federal disaster assistance will pay for flood damage
- The NFIP does not cover flooding resulting from hurricanes or the overflow of rivers or tidal waters

What does a 1" flood cost?

Recovery Item	Estimated Cost
Bookshelves & Lamps	\$500.00
Cleanup/Materials	\$1,000.00
Replace carpet & flooring	\$2,700.00
New baseboard molding	\$2,250.00
Replace drywall	\$1,350.00
TOTAL	\$7,800.00

Next, What does an 18" flood cost???

Any guesses??

Recovery Item	Estimated Cost
Repaint Exterior	\$1350.00
Loss of Personal Items	\$2250.00
New TV, DVD, Stereo	\$1450.00
Replace warped doors	\$1250.00
Repair Electrical Systems	\$1205.00
Repair to Furnace/ AC	\$2100.00
Clean Exterior	\$250.00
Living Room Furniture	\$1800.00
New Kitchen Appliances	\$2900.00
Kitchen/Bath Cabinetry	\$2500.00
Repaint Interior	\$380.00
Some CDs and Books	\$700.00
Computer Accessories	\$900.00
Replace some furniture	\$1700.00
Bookshelves and Lamps	\$500.00
Cleanup, Material	\$1000.00
Replace Carpet, Flooring	\$2700.00
New Baseboard Molding	\$2250.00
Replace Drywall	\$1350.00
TOTAL	\$26285.00



Wrightsville Beach, NC Hurricane Floyd –

Storm shutters are one of the most basic methods of home protection. They take the form of plywood coverings, corrugated metal, polycarbonates, and range in costs from hundreds to thousands of dollars.

Photo by Dave Gatley/FEMA News Photo.

WEBLINK: http://www.fema.gov/kids/p_mit01.htm



New Bern, NC. –

Elevating a home is one way to prevent flood damage. This home was spared damage from the rising Neuse River simply because it was elevated.

Photo by Dave Saville/FEMA News Photo.

http://www.fema.gov/kids/p_mit02.htm



New Bern, NC. -- Southport, NC. –
Elevated utilities offer protection from flooding and high water.
Photo by Dave Saville/FEMA News Photo

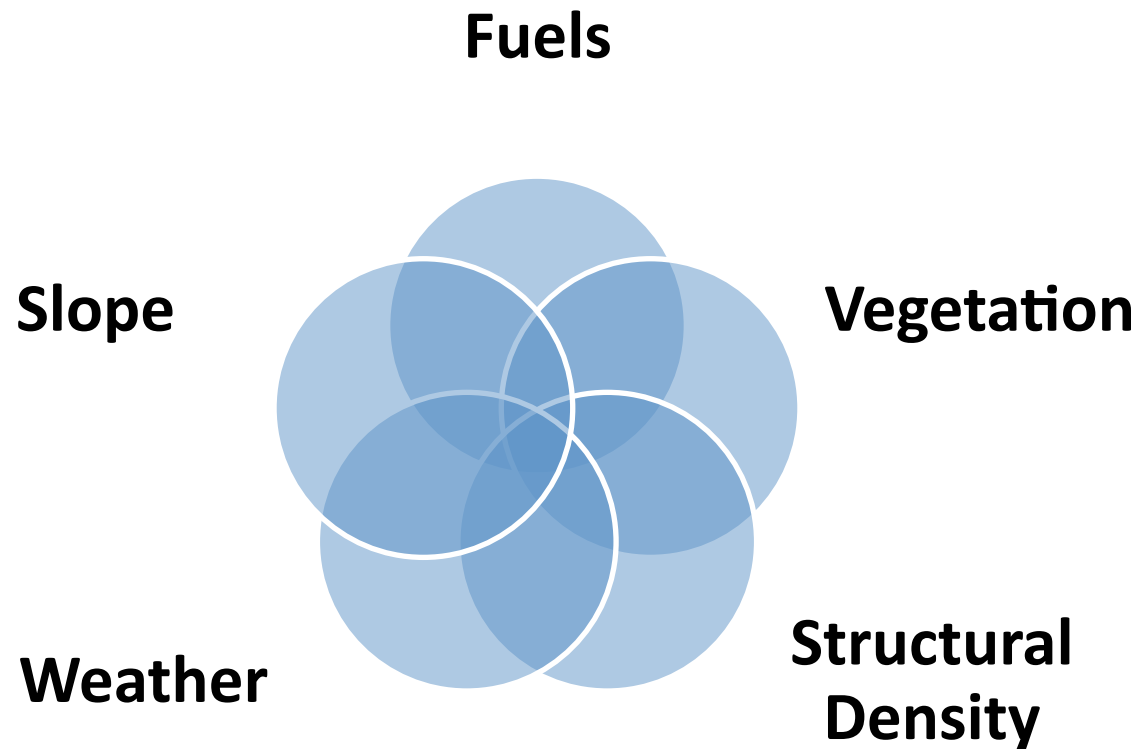
http://www.fema.gov/kids/p_mit06.htm

Flood Mitigation Assistance (FMA) Program

- FMA created as part of the National Flood Insurance Reform Act of 1994
 - Goal: to reduce or eliminate claims under NFIP
- Types of FMA grants
 - Planning Grants
 - Project Grants
 - Technical Assistance Grants

WILDFIRE MITIGATION

The Right Conditions



Conditions must be right for a wildfire to start and spread. These factors ALL work together to help fire spread quickly and at what intensity

Source: <http://www.fema.gov/library/viewRecord.do?id=3026>

Ideal fire-resistant home

- Use Class-A asphalt shingles, slate or clay tile, metal or cement and concrete products for roof construction
- Construct a fire-resistant sub-roof for added protection
- Use fire-resistant materials such as stucco or masonry for exterior walls.
- Consider both size and materials for windows
 - Smaller panes hold up better in their frames than larger
 - Double pane glass and tempered glass are more effective
- Keep gutters, eaves and roof clear of leaves and other debris
- Clear dead wood and dense vegetation at least 30-100' from your home, fences or decks

Source: <http://www.fema.gov/library/viewRecord.do?id=3026>

Mitigate against potential flood risk in wildfire impacted areas

- Use a rototiller to break up soil surfaces so more water can be absorbed in charred areas
- Build channels or deflection walls to direct water around buildings
- Control erosion with straw mulch, hydraulic mulch or other erosion control measures
- Plant perennial plants and flowers for longer-term soils stabilization

Source: <http://www.fema.gov/library/viewRecord.do?id=3026>



Los Alamos, NM, October 14, 2003 –

Residents of Los Alamos, New Mexico incorporate fire safety measures such as metal roofs and exterior doors, adobe and stucco exteriors and defensible space in homes built since the Cerro Grande fire.

FEMA News Photo

http://www.photolibrary.fema.gov/photolibrary/photo_details.do?id=12896



Escondido, CA, February 13, 1998 –

The San Diego Zoo's Wild Animal Park, buried in the hills of Escondido, CA covers over 2,200 acres. With huge investments in the natural appearance of this wildlife preserve, the park paid attention when FEMA and the state gave warnings about the coming rains of El Nino, and spent considerable monies and manpower to build silt dams, regrass it's sprawling savannahs, clean drain swales, clear brush, etc...

Photo by Dave Gatley/FEMA

http://www.photolibrary.fema.gov/photolibrary/photo_details.do?id=1321



Malibu, CA, November 16, 2007 –

Pepperdine University Campus, The use of irrigation sprinkler systems clearly delineates how fire prevention and mitigation practices can save homes and vegetation.

Susie Shapira/FEMA

http://www.photolibrary.fema.gov/photolibrary/photo_details.do?id=33608

Wildfire Mitigation Funding

Grant Programs

FEMA Pre-Disaster Mitigation Planning/Project Grants FY10

National Park Service (NPS) Community Assistance/WUI

Bureau of Land Management (BLM) Community Assistance

U.S. Fish and Wildlife Service (USFWS) Wildland-Urban Interface Grant Program

Source: <http://grants.firesafecouncil.org/>

EARTHQUAKE

Secondary Effects of an Earthquake

- Considerations
 - Landslides
 - Tsunamis
 - Fire following Earthquakes
 - Hazardous Material Incidents
 - Inundation

Non-Structural Mitigation

- Brace exterior elements
- Anchor interior elements
- Protect building electrical, mechanical or plumbing system
- Secure building contents
- EQ planning and preparedness

Identify Buildings for Non-Structural Mitigation Projects

- Importance of function
- Occupancy
- Value of contents

Mitigation Objectives

- Life-Safety Projects
- Preserving the Functions of Critical Facilities
- Protecting Valuable Contents



Napa CA, Feb. 14, 2006 -- Foundation bolts and straps are an inexpensive way to mitigate movement in the event of an earthquake. Photo by Adam DuBrowa.

http://www.photolibrary.fema.gov/photolibrary/photo_details.do?id=22370



Napa, CA, Feb. 14, 2006 -- Earthquake straps hold this structure firmly to the foundation to prevent movement in the event of an earthquake. Photo by Adam DuBrowa.

http://www.photolibrary.fema.gov/photolibrary/photo_details.do?id=22372



Napa, CA, Feb. 14, 2006 -- A homeowner retro-fitted their home with earthquake straps and bolts to prevent movement in the event of an earthquake. Photo by Adam DuBrowa.

http://www.photolibrary.fema.gov/photolibrary/photo_details.do?id=22371

Mitigation Planning Funding – **Deadline December 4, 2009**

- FEMA Pre-Disaster Mitigation (PDM) Grant, FY10
 - Up to \$800,000.00 available for NEW mitigation plan
 - \$400,000.00 available for updates of mitigation plans (p25)
 - Non-federal match is 25%, but if Indian Tribal government and “small & impoverished community” then 10% is match amount (p 6 & 58)
 - Approved sources for non-federal cost share match include:
 - Indian Health Service (I.H.S.); Bureau of Indian Affairs (B.I.A);
Department of Housing and Urban Development (H.U.D);
Appalachian Regional Commission funds (p10)

Mitigation Project Funding

Deadline December 4, 2009

- Up to \$3 millions to implement a project
 - Must have FEMA approved mitigation plan
- Applicable projects include:
 - Structure Elevation (p13)
 - HMGP/PDM/FMA/RCL/SRL
 - Wildfire Mitigation (p13)
 - HMGP/PDM
 - Infrastructure Retrofit (p13)
 - HMGP/PDM

Conclusion: Mitigation is all around us



Sturgis, SD, August 3, 2007 -- FEMA External Affairs Officer, Ron Roth tapes a poster to a pole. FEMA was promoting wildfire prevention during the Sturgis motorcycle rally in the Black Hills, South Dakota. Andrea Booher/FEMA

http://www.photolibrary.fema.gov/photolibrary/photo_details.do?id=31387

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