

## What is Hazard Mitigation?

Hazard mitigation is “*any action taken to reduce or eliminate the long-term risk to human life and property from natural hazards*”<sup>1</sup>. In California this definition has been expanded to include both natural and man-made hazards.

We understand that hazard events will continue to occur, and at their worst can result in death and destruction of property and infrastructure. The work done to minimize the impact of hazard events to life and property is called Hazard Mitigation. Often, these damaging events occur in the same locations over time (i.e. flooding along rivers), and cause repeated damage. Because of this, Hazard Mitigation is often focused on reducing repetitive loss, thereby breaking the disaster cycle.

The essential steps of Hazard Mitigation are:

1. Hazard identification
2. Vulnerability analysis
3. Defining a hazard mitigation strategy
4. Implementation of hazard mitigation activities and projects

### 1. Hazard Identification

First we must discover the location, potential extent, and expected severity of hazards. Hazard information is often presented in the form of a map or as digital data that can be used for further analysis. It is important to remember that many hazards are not easily identified, for example, many earthquake faults lie hidden below the earth's surface.

### 2. Vulnerability Analysis

Once hazards have been identified, the next step is to determine who and what would be at risk if the hazard event occurs. Natural events such as earthquakes, floods, and fires are only called disasters when there is loss of life or destruction of property. For example, the magnitude 7.9 Denali, AK earthquake in 2002 did far less damage than the magnitude 6.7 Northridge, CA earthquake in 1994 because there were few people and buildings in the areas shaken by the Alaskan quake.

### 3. Defining a Hazard Mitigation Strategy

Once we know where the hazards are, and who or what could be affected by a disaster, we have to strategize about what to do to prevent a disaster from occurring or to minimize the effects if it does occur. The end result should be a Hazard Mitigation plan that identifies long-term strategies that may include planning, policy changes, programs, projects and other activities, as well as how to implement them. Hazard Mitigation plans should be done at every level including individuals, businesses, state, local, and federal governments.

### 4. Hazard Mitigation Activities and Projects

Once the Hazard Mitigation plans and strategies are developed, they must be followed for any change in the disaster cycle to occur. Hazard mitigation activities are meant to be permanent or long-term fixes and include a number of options such as:

- Land-use planning and regulation of development in hazard zones such as floodplains and wildland-urban interface areas.

- Development and enforcement of building codes - The Seismic Safety Commission has identified stringent building codes and standards as the primary reason why California has suffered relatively low damages during hazard events.
- Retrofitting structures – this can include activities such as seismic retrofits to reduce damage from earthquakes, elevating buildings in flood-prone areas, and reroofing with fire-resistant shingles.
- Removing structures from hazardous areas.

There are many other types of mitigation activities that can be done by individuals, businesses, and government. You can be part of the solution to break the disaster cycle by being aware of the hazards that may affect you and your community and becoming active in your community's hazard mitigation planning process.

<sup>1</sup> As defined in 44 Code of Federal Regulations (CFR), Subpart M, Section 206.401.