




**Hawaii Hazards Awareness & Resilience Program**


Produced by  
Hawaii State Civil Defense



**HAWAII HAZARDS AWARENESS & RESILIENCE PROGRAM:**

**GOAL:** To enhance community resilience to multiple hazards through a facilitated education and outreach program that promotes hazard understanding and awareness, and offers tools and information resources to guide mitigation, preparedness, response and recovery.

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**PART 2: CONDUCTING A HAZARD ASSESSMENT**

Module 5: Risk Assessment

**Objectives**

- This session is designed to help you:
  - Understand and apply the hazard-identification process for your community.
  - Understand and develop a hazard profile.

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**Introduction**

- A Hazard Assessment is often the starting point for a larger assessment of risk as it helps to define your hazard exposure.
- **Exposure:** People, property, systems or other elements present in hazard zones that are thereby subject to potential losses.

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**Introduction (Continued)**

- Identifying hazards and hazard characteristics are key components in understanding disaster outcomes.
- Understanding the history and likely patterns of hazards is a critical part of risk assessment.
- Understanding hazards and their potential effects is critical for effective disaster planning.

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## Hazard Assessment Process

- Conducting a Hazard Assessment is a two-step process:
  - Step 1: Identify the Hazards
    - Helps you understand what hazards occur in your locale.
  - Step 2: Develop Hazard Profiles
    - Help you understand the frequency, intensity, and potential impacts of those hazards.

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## Step 1: Identify the Hazards

- What hazards are likely to affect your community?
  - Consider all types of hazards (natural and technological).
  - Examine historical information and existing analyses, including government documents, newspapers, and oral histories. Consider all sources.
  - Consider the influence of climate change and variability.

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## Group Activity

Activity I: Hazard Identification Worksheet

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## Step 2: Develop Hazard Profiles

- Hazard profiles *describe* the hazards, and answer the:
  - What?
  - Where?
  - How often?
  - How bad could it be?
- They assist you in developing policies and procedures to better manage the resources supporting disaster preparedness, response and recovery.

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## Describing Hazards

- Hazard Strength and Severity
  - Intensity or magnitude is assigned to many hazards to help describe the types of impacts or damages that may result.

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## Describing Hazards

- Hazard Frequency and Probability of Occurrence
  - Describes how often a hazard has occurred in the past.
  - Describes how often a hazard of a specified intensity or magnitude is likely to occur.
    - Do strong earthquakes occur regularly?
    - Do Category 4 hurricanes occur each year?
  - Probability is different from seasonal predictions or forecasts (such as an annual tropical cyclone outlook).

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## Describing Hazards

- Hazard Zones
  - Topography or proximity to geographic features can influence where hazards occur. For example:
    - Low-lying coastal areas (tsunami, high surf, etc.)
    - Steep slopes (landslide, erosion)
    - Volcanoes (eruption)
  - May be defined by historical hazard records, expert opinion, community mapping, numerical modeling, etc.

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## What Does a Hazard Profile Contain?

- For *each* hazard:
  - Frequency of Occurrence
    - *How often does it—or is it likely—to occur?*
  - Probability of occurrence of particular event magnitudes
    - *Are some occurrences more severe than others? How often might these occur?*
  - Maximum Likely Magnitude and Potential Intensity
    - *How bad could it be?*

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## What Does a Hazard Profile Contain? (Continued)

- Location
  - *Where is it likely to occur?*
- Probable area, or extent affected by particular event magnitudes
  - *Where might worst affected areas be?*
  - *How large an area is likely to be affected?*
- Duration
  - *How long can it be expected to last?*

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## What Does a Hazard Profile Contain? (Continued)

- Seasonal Pattern (if any)
  - *At what time of year is it more likely to occur?*
- Speed of Onset
  - *How fast or slow is the hazard likely to develop?*
- Potential Impacts and Associated Hazards
  - *What impacts are likely to occur?*

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## How Hazard Profiles Help

- Provide useful summaries of historical hazard information.
- Promote hazard awareness.
- Inform communities of specific hazard preparedness actions.
- Assist with planning processes.
- Contribute key information to a risk assessment (help us understand exposure).
- Help identify appropriate mitigation measures.

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## Mapping Hazards

- Hazard mapping can identify hazardous areas for planning and evacuation purposes.
- Risk assessments can include mapping of:
  - Real-time hazard events
  - Historical hazards
  - Hazard zones
  - Scenario modeling


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## Group Activity

Activity II: Hazard Profile Worksheet


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## Learning Check

1. What are the two parts of a Hazard Assessment?
2. When conducting a hazard profile, what information should be included about each hazard?
3. How does a Hazard Assessment contribute to a Risk Assessment?

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## Questions?






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## MAHALO

The Hawaii Hazards Awareness & Resilience Program (HHARP) is the result of a collaborative partnership between Hawaii State Civil Defense and the Pacific Disaster Center.

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