The Role of FEMA

In the NEHRP

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NEHRP Program Management

- NEHRP authorized by Congress in 1978.
- Overall Purpose: "…to reduce the risks of life and property from future earthquakes in the United States…"
- NEHRP has been re-authorized by Congress on 2 – 5 year cycles following hearings in House and Senate with input from agencies, experts, and stakeholders.
- Re-authorization currently in process.

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Statutory NEHRP Activities

- Conduct interdisciplinary research on earthquakes and their effects on communities, structures, buildings, and lifelines.
- Monitor earthquake activity and characterize hazard.
- Develop earthquake resistant design and construction practices.
- Develop and promote adoption of effective model building codes and practices for earthquake resilience.
- Public education on earthquake risks and mitigation.

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FEMA's Role in NEHRP

- Promote the implementation of research results in building practices for earthquake safety and resilience.
- Assist in the development of performance-based design technology and methods.
- Support implementation of improved earthquake-resistant building codes and standards for new and existing buildings, structures, and lifelines.
- Support state, regional, and local efforts to develop mitigation activities and response and recovery plans.
- Support the application of a earthquake loss estimation methods and public awareness and education.

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FEMA's Role

- Support for state and regional earthquake mitigation activities
- Technology Transfer (translating NEHRP research results into practice)
- Support of Multi-State Consortia and other Earthquake Partner Organizations
- Outreach and Training
- Support for State Efforts
  - State Assistance support re-established in FY 2009

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FEMA's Building Science Mission

Make sure we don't add to existing risk by continuing to build in hazardous areas or constructing new development to inadequate/ unenforced codes." - FEMA Administrator Craig

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FEMA Building Science Guidance

FEMA responsibilities under NEHRP include translating research results into practice:

- Develop and disseminate technical and non-technical guidance documents, used on a voluntary basis
- Continue to develop and maintain seismic design guidance, such as the NEHRP Recommended Provisions
- Provide input to recognized consensus standards (ASCE 7, ASCE 31, ASCE 41)
- Support inclusion of FEMA design guidance and loss reduction concepts in the nation's model building codes

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Model Building Codes

- State/local building codes are one of the most effective mitigation strategies to reduce earthquake losses.
- FEMA's design guidance products are key inputs into national consensus design standards.
- Model Building Codes adopt these consensus standards for their design provisions.
  - International Building Code (IBC)
  - International Existing Building Code (IEBC)
  - International Residential Code (IRC)
- FEMA supports an expert team to monitor the model building code process to ensure that the codes continue to provide an adequate level of seismic protection.

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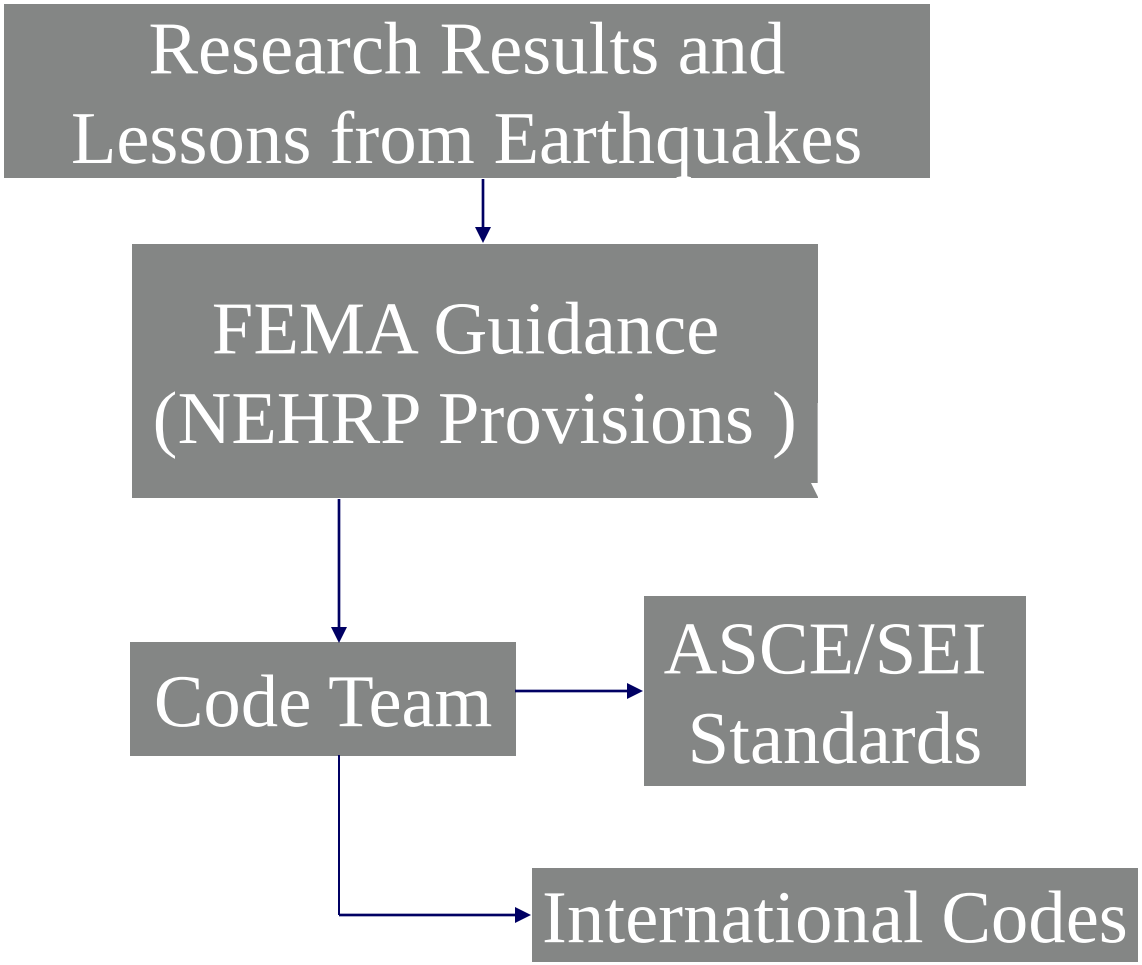
Building Code Process



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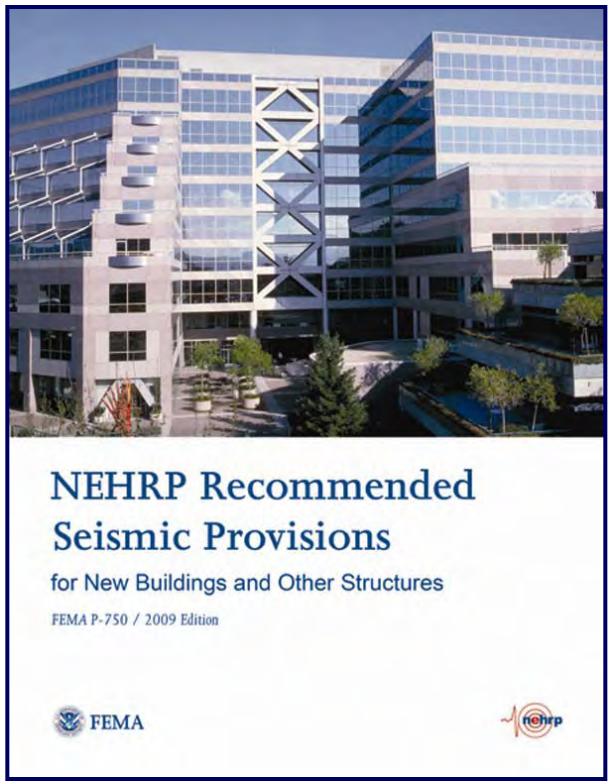
2009 NEHRP Recommended Seismic Provisions for New Buildings and Other Structures



- New 2009 edition, published as FEMA P-750.
- Primary resource for ASCE/SEI 7-10 and the national model building codes IBC and IRC 2012.
- Includes a series of supporting publications:
  - FEMA P-749 Nontechnical Introduction
  - FEMA P-751 Design Examples
  - FEMA P-752 Training Materials

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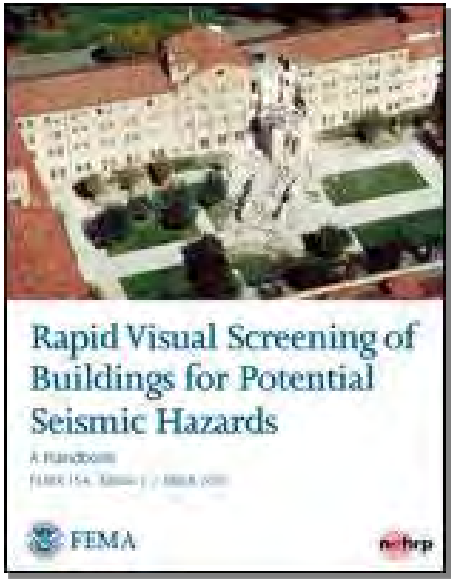
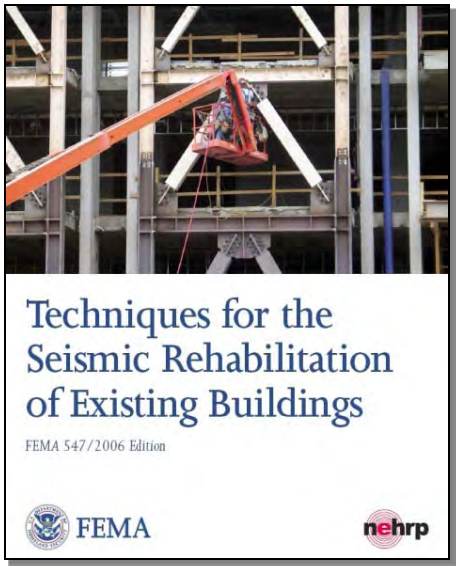
Existing Buildings Guidance

- Progression of guidance documents:
  - Rapid Visual Screening (FEMA-154)
  - ASCE Standard for Seismic Evaluation (ASCE-31)
  - Pre-Standard for Seismic Rehabilitation (FEMA-356 -> ASCE-41)
  - Rehabilitation Techniques (FEMA 547)
  - Incremental Seismic Rehabilitation series (FEMA 395-400)
  - Typical Costs (FEMA-156)





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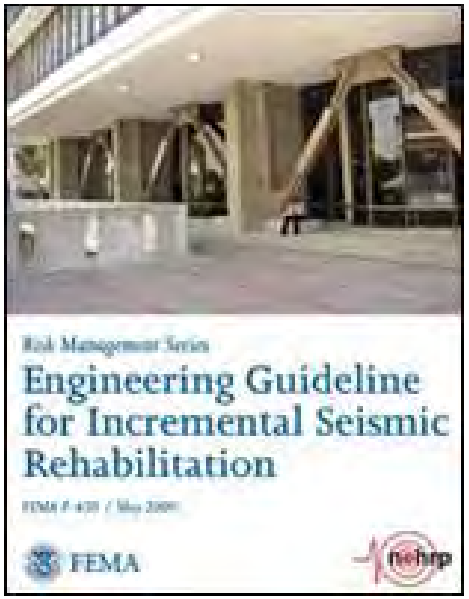
Incremental Seismic Rehab Series

- Incremental Series includes:
  - FEMA 395 – Schools
  - FEMA 396 – Hospitals
  - FEMA 397 – Offices
  - FEMA 398 – Apartments
  - FEMA 399 – Retail
  - FEMA 400 – Hotels



- FEMA P-420 *Engineering Guideline for Incremental Seismic Rehabilitation* provides engineering support guidance for the series.

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Performance Based Design

- Goal of the project is to develop design and construction criteria that will allow an owner to determine performance of their building based on criteria they can understand:
  - Dollars Casualties Downtime
- Will allow for validation of code level prescriptive design.
- The first phase is to develop a Performance Assessment Methodology, which will include a software tool, PACT.
- Second phase to use the Methodology to develop Performance Based Seismic Design Guidelines.
- Project based on FEMA 445 Project Work Plan.

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Residential Publications

Homebuilders' Guide to Earthquake Resistant Design and Construction

FEMA 232 - June 2006

FEMA

Earthquake Safety Guide for Homeowners

FEMA 530 / September 2005

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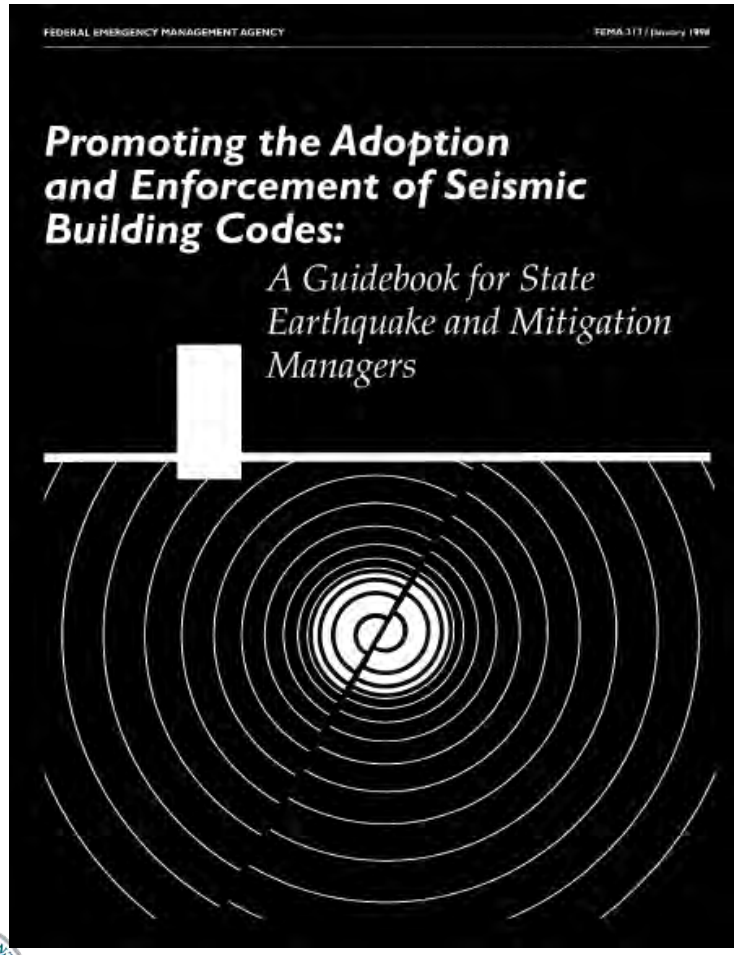
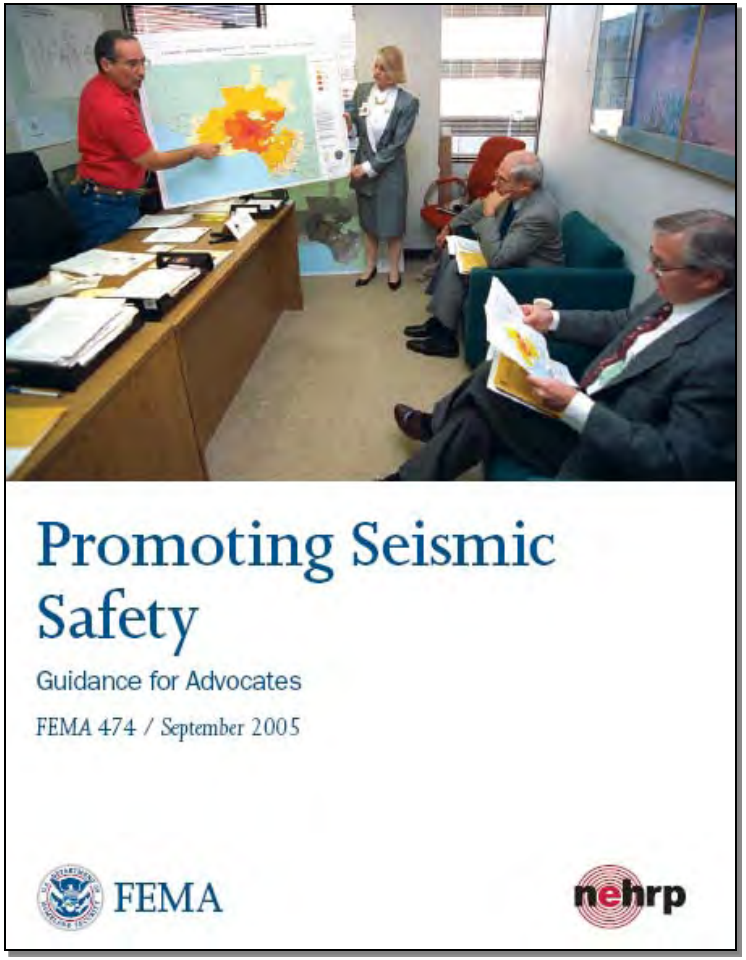
Policy Publications





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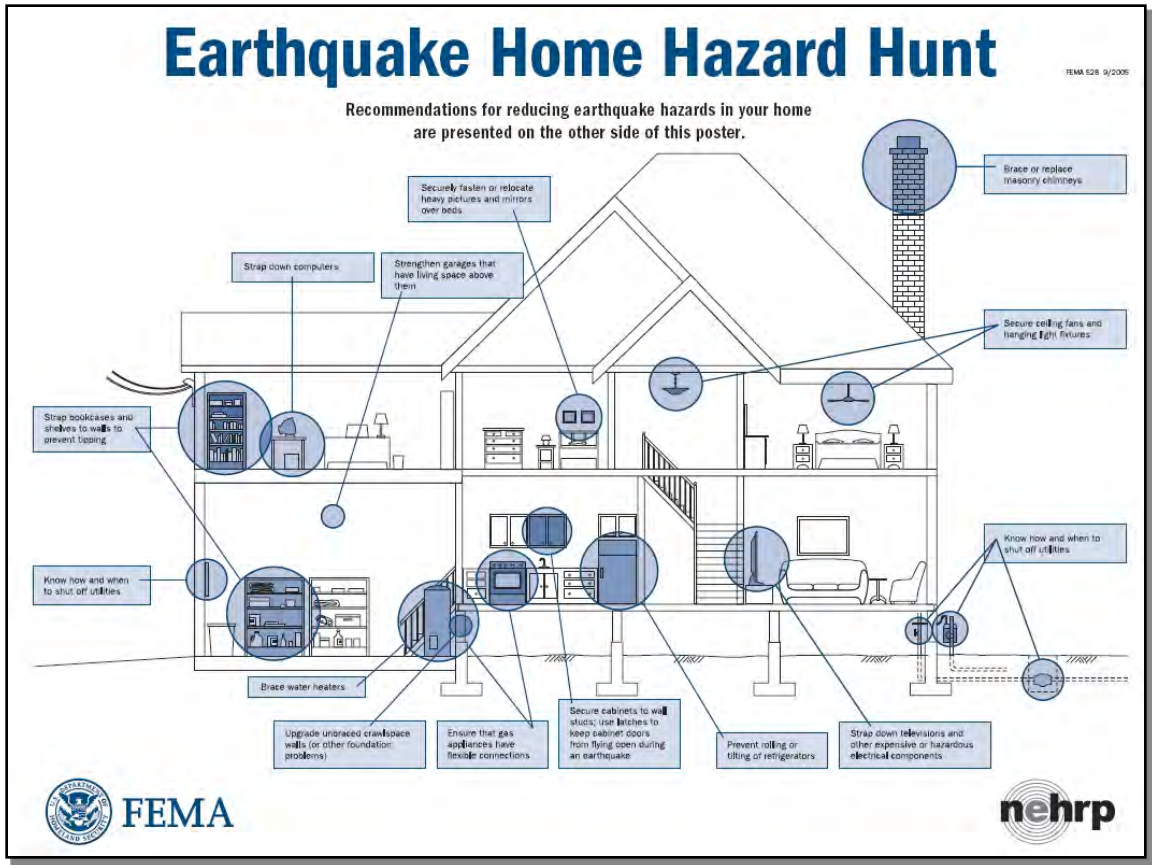
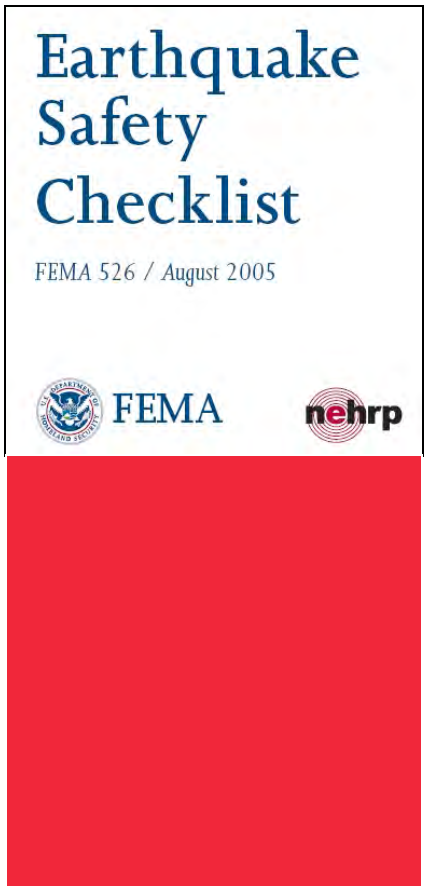
Awareness Publications





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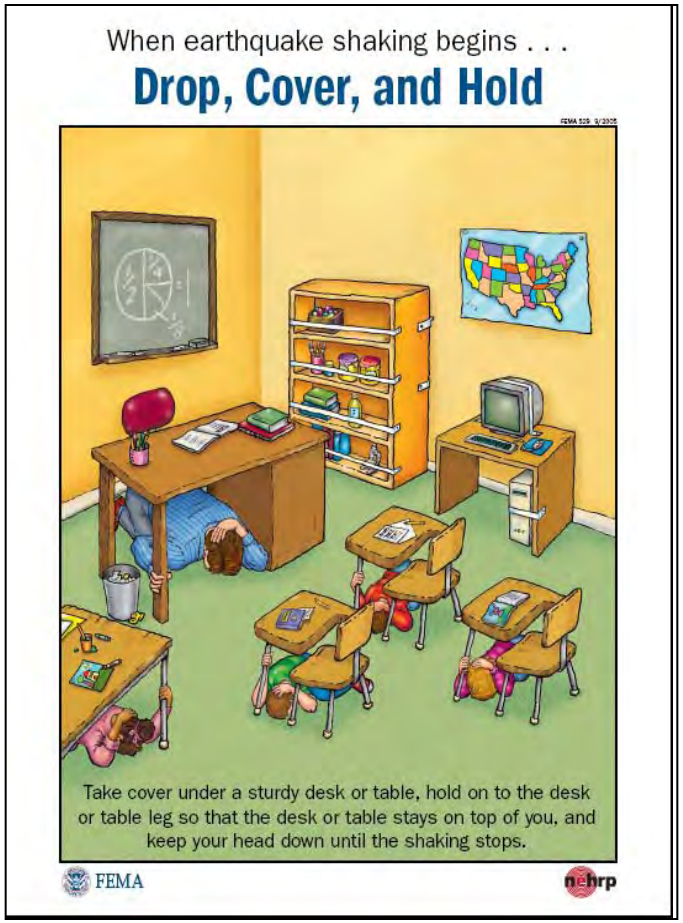
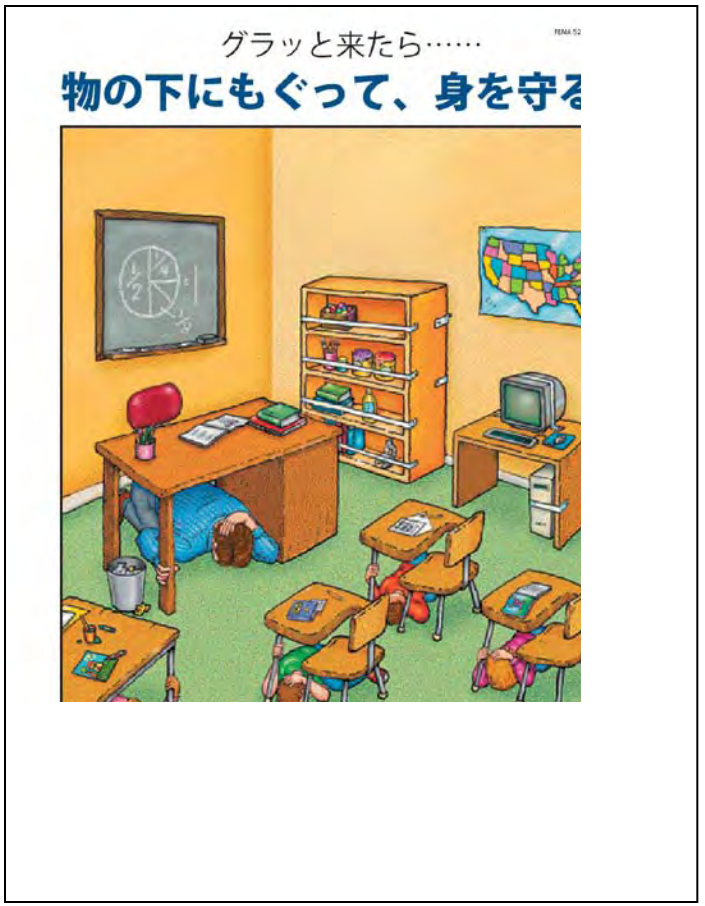
FEMA Drop, Cover, and Hold Posters





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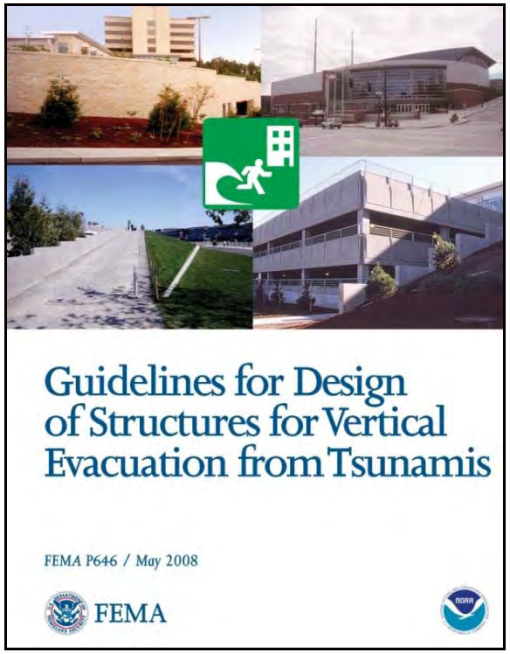
FEMA Tsunami Guidance

- Engineering design guide:
  - Tsunami behavior and characteristics
  - Tsunami hazard assessment
  - Vertical evacuation options
  - Siting, spacing, sizing, and elevation considerations
  - Load determination and structural design criteria
  - Structural design concepts and additional considerations



- Voluntary design guide for Refuge Structures; not a mandate for all structures in tsunami hazard areas

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www.fema.gov