Contributions of Earthquake Engineering to Protecting Communities and Critical Infrastructure from Multihazards

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August 18, 2014
NEHRP ACEHR Meeting
Golden, CO
Contributions of Earthquake Engineering to Protecting Communities and Critical Infrastructure from Multihazards

• Grew from a small project supported by EERI at a 2003 workshop

• Steering Committee led by:
  Tom O’Rourke (chair)
  Tom Holzer
  Chris Rojahn
  Kathleen Tierney

• Published and distributed by EERI in 2008 with support from FEMA/DHS

NEHRP Advisory Committee on Earthquake Hazard Reduction (ACEHR) Meeting
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National Earthquake Information Center, Golden Colorado
Intent of Report

Lay out the contributions of EE that enhance public safety and improve protection of U.S. communities from hazards beyond earthquakes.

Four Categories

1. Planning
2. Advanced Technologies
3. Emergency Response
4. Community Engagement

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Planning

- Risk Analysis, Hazard Assessment and Loss Estimation

- Earthquake Design, Guidelines and Codes

Performance Based Design
Advanced Technologies

- Seismology and Nuclear Test/Explosion Monitoring
- Seismic Monitoring Networks
- Protective Systems
- Remote Sensing
Emergency Response

- Post-Disaster Building Inspection

- Organization of Emergency Response
Engaging the Community

- Risk Communication, Forecasts and Warnings
- Public and Organizational Response Following Disasters
- Loss Reduction Partnerships
- Multihazard Legislation and Policy

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More Recent Example

Crowd Sourcing and Remote Sensing

GEO-CAN Assessment of Buildings in Haiti
2010

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Figure 2. Nations with participating GEO-CAN members

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Figure 6: Point locations of collapsed structures (Phase 1)