

**WESTERN STATES SEISMIC POLICY COUNCIL
POLICY RECOMMENDATION 18-2**

Developing Earthquake and Tsunami Risk-Reduction Strategies

Policy Recommendation 18-2

WSSPC strongly encourages states, provinces, territories, First Nations, tribes, and local governments to form public-private partnerships to develop and continually update long-term, comprehensive statewide and community-level earthquake and tsunami risk-reduction strategies as part of an all-hazards plan to reduce injury, loss of life, property damage and economic disruption from earthquakes and tsunamis.

Executive Summary

Given the high seismic activity and tsunami risk in the western states, provinces and territories, and the high risk of loss of life, property damage and economic loss due to earthquakes and related hazards, jurisdictions are encouraged to form partnerships that will develop earthquake and tsunami risk-mitigation plans and risk-reduction strategies that will benefit local communities. Mitigation policies and activities are long-term, multifaceted processes where effective coordination, collaboration and communication among partners are critical. Partnerships with the many state and regional collaborative efforts, involving emergency management and other agencies and private organizations that have been created in WSSPC states, provinces, and territories are critical in the effort to educate state and local policymakers about the importance of sound seismic and tsunami hazard policy.

Background

Mitigation of earthquake risks is a common interest among all the western states, territories, and provinces. FEMA's Report P-366 (April, 2017) *HAZUS® Estimated Annualized Earthquake Losses for the United States*, clearly shows that the western states are most at risk, with 81% (~\$5 billion) of the nation's estimated annual dollar losses (~\$6.1 billion) from earthquakes. Coastal states and territories in the Pacific region also have been identified as facing a high to very high tsunami hazard (Dunbar and Weaver, 2016). WSSPC, as a consortium of 13 western states, 3 Pacific territories, and a Canadian territory and province, is the ideal organization to promote the benefits of earthquake and tsunami risk-mitigation policies, to promote collaboration among its members and the federal government, and to share mitigation successes between WSSPC and other organizations. From its inception, WSSPC has strongly supported reduction of losses from seismic and tsunami events through policy recommendations and annual conferences.

The benefits of proper mitigation and planning is highlighted by cost/benefit studies that show for every FEMA dollar spent on mitigation, four dollars are saved in reduced disaster relief. In addition, FEMA grants to mitigate natural-hazard risks are expected to save lives and injuries in future events (Multihazard Mitigation Council, 2005).

It is the responsibility and duty of the geological and emergency management community to organize and disseminate key information concerning proper earthquake- and tsunami-risk mitigation. WSSPC encourages its partners to collaborate through multi-state projects and other organizations, such as the National Earthquake Hazards Reduction Program (NEHRP) and National Tsunami Hazard Mitigation Program (NTHMP), to facilitate accurate, consistent, and cost-effective mitigation practices. WSSPC partners should continue to seek potential mitigation outreach activities, mitigation plan development, or construction projects, some of which may be eligible for funding through various mitigation program grants from FEMA or the states/territories. These efforts complement FEMA's Pre-Disaster Mitigation initiatives within the 2018-2022 FEMA Strategic Plan, as well as the 2018-2023 NTHMP Strategic Plan.

Comprehensive statewide and local earthquake and tsunami hazard mitigation plans and strategies should include the following elements:

- Assessment of all earthquake and tsunami hazards to quantify and define the risk to communities;
- Assessment of infrastructure risks;
- Implementation of land-use and development policies to reduce exposure to earthquake and tsunami hazards;
- Adoption and enforcement of the International Building Codes for the seismic and tsunami design, inspection, and construction of new buildings and structures;
- Adoption of the International Existing Building Code for the maintenance and retrofit of seismically “at risk” structures;
- Support for design and construction of tsunami vertical evacuation structures where they are needed;
- Development and implementation of retrofit, redevelopment, grant, and abatement programs to help strengthen existing structures, where necessary;
- Support of continuing public-education efforts and public/private partnerships to raise awareness of seismically induced threats and build constituent support for earthquake hazard reduction programs.

Safety of communities and infrastructure can only be accomplished through diligent, informed, and coordinated efforts of regulators and stakeholders. WSSPC will continue to play a key role in that organization and communication effort.

References

Dunbar, P., and Weaver, C., 2016, U.S. States and Territories National Tsunami Hazard Assessment: Historic Record and Sources for Waves – Update. Prepared for the National Tsunami Hazard Mitigation Program: published jointly by the National Oceanic and Atmospheric Administration and the U.S. Geological Survey, 59 p., <https://pubs.er.usgs.gov/publication/70159744>.

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Multihazard Mitigation Council, 2005, Natural Hazard Mitigation Saves: An Independent Study to Assess the Future Savings from Mitigation Activities: National Institute of Building Sciences, Washington, D.C., 2 Volumes. https://www.nibs.org/?page=mmc_projects#nhms