California State University-Fresno
Environmental Science Seminar Series

Presents:

Earthquake Risk: Should You Worry a Little or a Lot?

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Date & Time: Feb 11, 5:00– 6:30 P.M. (Wednesday)
Location: CSU Fresno: Smittcamp Alumni House.

Abstract: All of California, including Fresno, is subject to some degree of earthquake risk. To deal with this risk rationally from a political, economic, and engineering perspective as well as from a personal perspective, the level of earthquake risk has to be evaluated quantitatively.

Every building and every infrastructure element in California has some degree of vulnerability for earthquake damage. However, this does not mean that every building and all infrastructure should be upgraded to be more earthquake resistant. Rather, a determination must be made for each building or facility as to whether the level of risk posed is acceptable or at least tolerable.

Rational evaluation of the level of earthquake risk requires quantitative calculations, including estimates of the probability and severity of future earthquakes, the vulnerability of buildings or other facilities to earthquake damages, and the economic and life safety impacts of future earthquakes. Key factors for such analyses are the importance of given facility and the occupancy.

Another key factor in the rational analysis of earthquake risk is the cost of retrofit (mitigation) measures to strengthen existing facilities or to improve the seismic performance of new facilities. A seismic upgrade may be worth doing (from numerous perspectives) if the cost is $10,000, but may not be worth doing if the cost is ten or 100 times higher.

This seminar will use examples and case studies to illustrate the principles of rational evaluation of earthquake risk for both public and private facilities.

All members of the professional, educational and research communities are welcome. For additional information, please contact the Earth and Environmental Sciences Department office at (559) 278-3086.