



## Seismological Society of America

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### **Art Frankel awarded Frank Press Public Service Award**

*Frankel led team that vastly improved national seismic hazard maps in the U.S.*

Since being tasked with leading a team to update national seismic hazard maps for the United States Geological Survey (USGS) in 1993, Art Frankel has used extensive seismological research to improve public policy, building codes and earthquake safety across the United States.

For his service to the public, Frankel, a research seismologist for the USGS, will be honored with the Frank Press Public Service Award by the Seismological Society of America.

The national seismic hazard maps that Frankel and his team at the USGS developed were the first to be used directly in the seismic provisions of building codes.

Frankel became project chief for the national seismic hazard maps in 1993. Within three years, Frankel and his team had developed new national seismic hazard assessments based on hazard values for about 150,000 gridded sites nationwide. Frankel not only expanded the scientific methodology behind the maps, he also established and carried out consensus-building procedures for gathering expert opinion and feedback to ensure confidence in the maps. His team held regional and national workshops to encourage discussion and debate within the seismology community. Frankel also worked to improve communication and information-sharing between the seismology and engineering communities. This total effort involved the integration of all geological, seismological and geophysical information relevant to the national probabilistic earthquake hazard assessment.

The national seismic hazard maps developed by Frankel and his team draw upon a wide body of results from geological research and earthquake monitoring supported by the National Earthquake Hazards Reduction Program (NEHRP). The hazard maps are used as the definitive basis for seismic design maps, which are in turn used in the seismic safety elements of model building codes adopted by more than 20,000 cities, counties and communities in the United States. Frankel has also applied his research and leadership skills in developing finer scale, urban hazard maps that take into account site conditions and other local geologic features.



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The end product, though still called a “map”, is a digital model of the seismic hazard nationwide. The first map with the new methodology was produced in 1996 with subsequent revisions in 2002 and 2008. The work of Frankel and his team has provided the basis for a new standard of building codes nationwide that are promoted by FEMA and other organizations.

In recent years, Frankel has turned over the reins of the national hazard project and focused on developing techniques for urban and regional seismic hazard assessments that account for soil conditions and non-linear site response, three-dimensional basin effects and fault rupture directivity. In this work he has focused on the Seattle and Portland areas.

SSA is an international scientific society devoted to the advancement of seismology and its applications in understanding and mitigating earthquake hazards and in imaging the structure of the earth. Founded in 1906 in San Francisco, the Society now has members throughout the world representing a variety of technical interests: seismologists and other geophysicists, geologists, engineers, insurers, and policy-makers in preparedness and safety.

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