



**SEISMIC-HAZARD MAPS FOR THE CONTERMINOUS UNITED STATES  
MAP I - HORIZONTAL SPECTRAL RESPONSE ACCELERATION FOR 0.3 SECOND PERIOD (5% OF CRITICAL DAMPING)  
WITH 2% PROBABILITY OF EXCEEDANCE IN 50 YEARS**

By  
**Arthur Frankel, Charles Mueller, Theodore Barnhard, David Perkins, E.V. Leyendecker,  
Nancy Dickman, Stanley Hanson and Margaret Hopper**

1997

**Explanation**

|  |     |
|--|-----|
|  | 400 |
|  | 320 |
|  | 240 |
|  | 160 |
|  | 120 |
|  | 100 |
|  | 80  |
|  | 60  |
|  | 40  |
|  | 36  |
|  | 32  |
|  | 28  |
|  | 24  |
|  | 20  |
|  | 16  |
|  | 12  |
|  | 8   |
|  | 4   |
|  | 0   |

+ 6.2 Point value of spectral response acceleration expressed as a percent of gravity

— 10 — Contour of spectral response acceleration expressed as a percent of gravity

Note: contours are irregularly spaced

**DISCUSSION**  
The acceleration values contoured are the random horizontal component. Reference site condition is firm rock, defined as having an average shear-wave velocity of 760 msec in the top 30 meters, corresponding to the boundary between NEHRP site classes B and C. Documentation, gridded values, and ARC/INFO coverages used to make the maps are available at: <http://geohazards.cr.usgs.gov/eq/>

**ACKNOWLEDGMENTS**  
California portion of the map produced jointly with the California Division of Mines and Geology. Ken Rukstales prepared the ARC/INFO digital data and formatted the GIS versions of the maps.

**REFERENCES**  
Frankel, A., Mueller, C., Barnhard, T., Perkins, D., Leyendecker, E.V., Dickman, N., Hanson, S., and Hopper, M., 1996, National Seismic-Hazard Maps: Documentation June 1996. U.S. Geological Survey Open-File Report 96-532, 110 p.  
Frankel, A., Mueller, C., Barnhard, T., Perkins, D., Leyendecker, E.V., Dickman, N., Hanson, S., and Hopper, M., 1997, Seismic-Hazard Maps for California, Nevada and Western Arizona/Utah: U.S. Geological Survey Open-File Report 97-130, 12 sheets, scale 1:2,000,000.  
Peterson, M., Bryant, W., Cramer, C., Cao, T., Reichle, M., Frankel, A., Lienkaemper, J., McCrory, P., and Schwartz, D., 1996, Probabilistic Seismic Hazard Assessment for the State of California: California Division of Mines and Geology Open-File Report 96-08, 66 p., and U.S. Geological Survey Open-File Report 96-706, 66 p.

This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards. Any use of trade, product, or firm names is for descriptive purposes only and does not imply endorsement by the U.S. Government.  
For sale by U.S. Geological Survey, Earthquake Maps, Box 25466, Federal Center, MS-967, Denver, CO 80225

Albers Equal-Area Conic Projection  
Standard Parallels 29.5°N and 45.5°N  
Central Meridian 95°W

Scale 1:7,000,000  
0 100 200 300 400 500 KILOMETERS  
0 100 200 300 400 500 MILES

Digital data prepared with ARC/INFO 7.04 running under Solaris 2.5 on a UNIX workstation