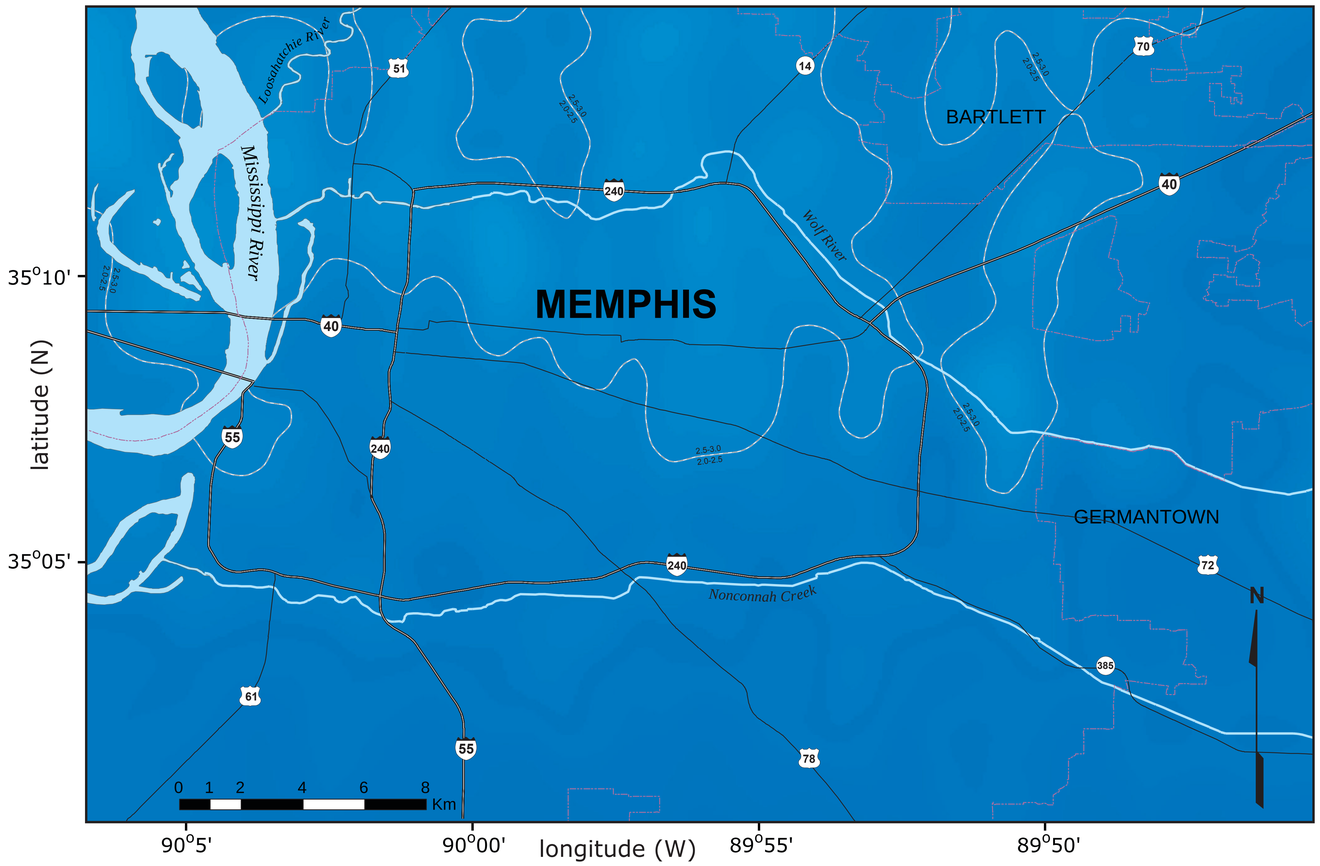
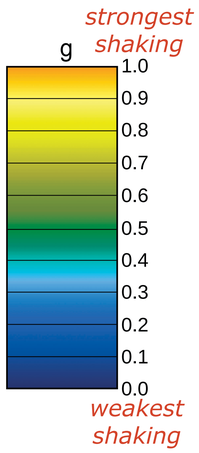
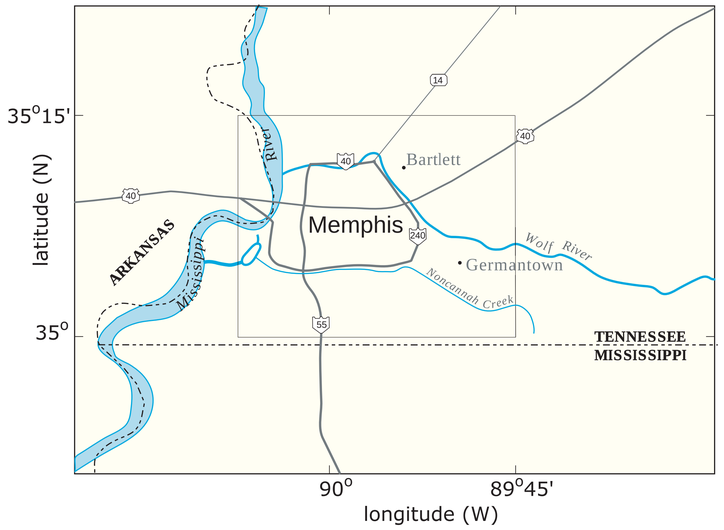
Seismic Hazard Maps of Memphis, Shelby County, Tennessee

Peak Ground Accelerations



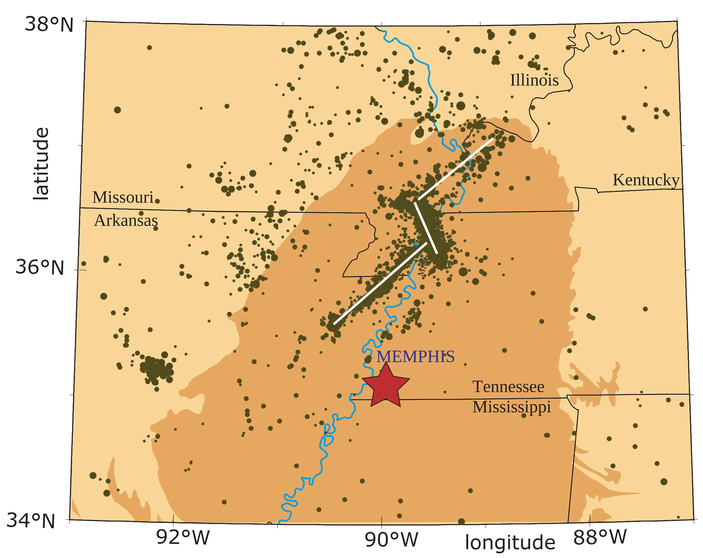


The Memphis,Sheby County seismic hazard maps show expected earthquake ground shaking levels, or ground motions, with variations shown as different colors. Ground motions are expressed as accelerations in *gravity* or *g* units. *Probabilistic* maps show the ground motion levels with a certain change of being exceeded in 50 years, and account for all possible earthquake sources. *Deterministic* or *scenario* maps shows the shaking levels expected for a single, specific earthquake.



The map above is a probabilistic one, showing the levels of shaking that have a 10% chance of being exceeded in any 50 year period. These shaking estimates account for all possible earthquakes and their different likelihoods of occurring. This particular map shows the peak ground acceleration (PGA) or the maximum acceleration that would be experienced on the ground.

Locations of most of the earthquakes that have occurred since the mid-1970s (black dots) and the major faults (white lines) in the New Madrid seismic zone. The darker area is covered by thick sediments, which significantly affect ground shaking levels.



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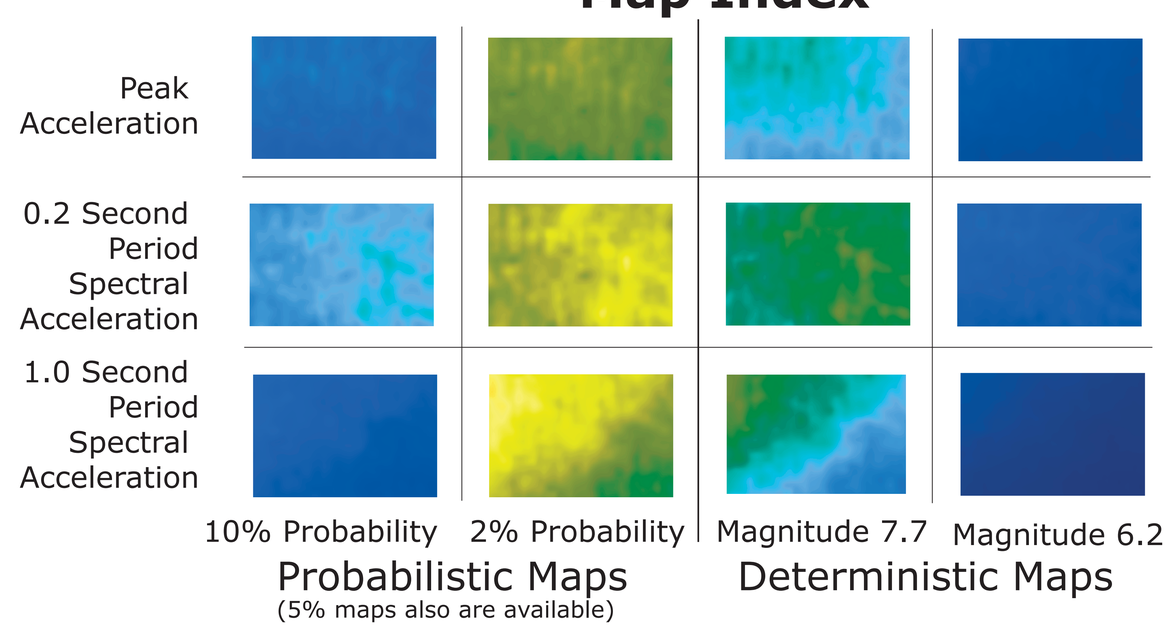

For more information and all maps see http://www.ceri.memphis.edu/usgs or contact U.S. Geological Survey, 3876 Central Ave., Suite 2, Memphis, TN 38152.