



At which distance from previous earthquakes will the next one occur?

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Earthquakes are not distributed uniformly in space. Instead, they tend to originate at, or close to, the locations of past earthquakes, reflecting the underlying geometry of the fault system which generates them.

This presentation will describe a method for calculating which fraction of future earthquakes is expected to occur at given distances from past ones. Being very simple, the procedure is based on the empirical distribution of distances between past earthquakes.

The results provide a detailed probabilistic answer to the talk's title and can be expressed in maps of spatial probabilities.

The skill of these forecast maps is confirmed by four years of daily, real-time tests for California, the Western Pacific and global seismicity, performed at the Southern California Earthquake Center, within the Collaboratory for the Study of Earthquake Predictability (www.cseptesting.org).

Such a method could be particularly useful for developing more realistic, physics-based, smoothed seismicity models for probabilistic seismic hazard maps.