

Three-dimensional geological structure of a seismic gap on the south of the 2004 Mid Niigata prefecture earthquake

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Aiming to make a numerical prediction of changes in seismicity in an area of seismic gap in the southern part from the 2004 Mid Niigata prefecture earthquake, we have modeled a three-dimensional geological structure via a methodology in which the model was constrained by the information on the geotectonic history. The region to be modeled is a sedimentary structural basin of Neogene formation with a thickness of a few to several kilometers. Depths around the basement have a too deep tendency for explorations by a usual artificial earthquake, while they have a too shallow tendency for a tomography of a natural earthquake. We were able to construct a model of a deep geologic structure in a relatively good resolution, based on the above methodology.

