

## Intermediate and long term crustal movements in the Tokai region inferred from simulation of the plate subduction

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We estimate crustal deformation prior to the Tokai earthquake using results of three-dimensional simulation of the plate subduction that is based on a rate- and state-dependent friction law.

We focus mainly on intermediate- and long-term crustal movements. It is expected that Hamaoka subside relative to Kakegawa at a rate of about 7mm/year in the time period more than ten years before the Tokai earthquake. This value coincides with the rate obtained by leveling measurements. The vertical movement on the western coast of Suruga Bay inferred from the simulation accords well with observation by GPS in recent years.