

## Crustal deformations in the Tokai and Chubu region after 2000

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The enormous northern Izu Islands seismo-volcanic activity in 2000 brought about a conspicuous crustal deformation in the wide area from the Kanto, Tokai and the Chubu district. The Tokai slow-slip that started in the fall of 2000 is continuing as of the end of 2005. A remarkable crustal deformation was also observed in the Kii Peninsula, Tokai and the Chubu district at the time of an M7.4 earthquake that occurred in September 2004 in the sea region, southeast off the Kii Peninsula along the Nankai Trough. Consequently, around the focal region of the anticipated Tokai earthquake, we observed various events recently which might have given an influence on the occurrence time. In this presentation we discuss transition of the crustal deformation in the Tokai and Chubu district after the 2000 northern Izu Islands seismo-volcanic activity, especially paying an attention to the change in the interplate coupling. We used GEONET coordinate data of GSI during the period from 1997 to 2005 after correcting annual, semi-annual and the linear trend components based on the data from 1998 to 1999. The followings are summary of the changes when the deformation in the period 1998-1999 is regarded as the steady standard state.

(1) In 2001 crustal deformation due to the Tokai slow slip is conspicuous in Aichi Prefecture and the southern part of Gifu Prefecture. In the southern and central parts of Nagano Prefecture that is located to the northeast of Aichi-Gifu border, displacements of several mm/year toward the southeast were also observed. It seems that the displacements were weak in 2002, but they again became noticeable in 2003. During the period of the 2000 northern Izu Islands seismo-volcanic event, similar displacements toward the south, which could not be explained by the sources assumed around Miyake and Kozu Islands, were observed in the central and southern parts of Nagano Prefecture. Kobayashi et al. (2005) considered that they were produced by a weakening of the plate coupling in the focal region of the Tokai earthquake. Standing on the viewpoint, we think there is a possibility that a weakening of the coupling or deceleration of the plate subduction had been continuing in the 2002-2003 period.

(2) The feature that the eastward displacements at GPS stations in the northwestern part of Shizuoka Prefecture became large indicates that the area of the Tokai slow slip extended to the north in 2003. However, no change was observed in the displacement rate at GPS stations on the western coast of Suruga Bay, suggesting that the interplate coupling was rather strengthened at that time, contrary to the change that occurred in the summer and fall of 2000.

(3) The almost all area of Shizuoka Prefecture including the Izu Peninsula has been moving toward the southeast after the 2000 event. The movement was especially remarkable in the southern part of the Izu Peninsula just after the event. It, however, calmed down gradually by 2003.