Post-seismic slow strain changes and groundwater level changes in the case of the KST observation site of AIST

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In order to research short- and intermediate-term forecast of the Nankai megathrust earthquake, we observe crustal movement and groundwater at observation sites in Aichi Prefecture, Kii Peninsula and Shikoku, in particular focus on monitoring of short-term SSEs on the plate boundary. When the earthquake (M6.3) occurred on May 10, 2019 at the Hyuga-nada, slow strain changes were post-seismically observed at the Tosashimizu-Matsuo (TSS) observation site of AIST, however it is presumed that the post-seismic strain changes at the TSS are likely to be caused by the local changes around the TSS due to the shaking of the earthquakes. We investigated whether similar strain changes were occurred at the Kushimoto-Tsuga (KST) observation site of AIST, which is near the locked part of the plate boundary of the Nankai Trough as with TSS. According to checking of changes of the strain and groundwater level at the KST after the M5 or more earthquakes around the Kii Peninsula and the earthquakes with a seismic intensity of 3 or more in Kushimoto town, five cases of strain changes due to short-term SSEs around KST and one case of post-seismic slow clear strain changes were found. In the latter case, it was found that the groundwater level in the observation well (Hole 2) at the KST had post-seismically risen at the same time. These observation results are introduced.

Keywords: strain, groundwater, post-seismic change

