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Coseismic hot spring water temperature changes of the Tohoku earthquake at the observation stations in San-in district

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Coseismic temperature changes due to several earthquakes were observed at the hot springs in San-in district where we maintain observation network consist of 8 sites. After the 2011 off the Pacific coast of Tohoku earthquake, the water temperature rapidly increased by 1.86 degrees at Iwai station, by 0.23 degrees at Okutsu station, by 0.18 degrees at Yudani station and by 0.28 degrees at Yoshioka station,and the water temperature rapidly decreased by 0.23 degrees at Saginoyu station. After water temperature rapidly changes, water temperature gradually increases at Iwai station, at Saginoyu station and at Yudani station and water temperature gradually decreases at Yoshioka station. The maximum value of changes in water temperature increases is by 2.40 degrees at Iwai station, by 1.32 degrees at Saginoyu station, by 0.81 degrees at Yudani station, by 0.28 degrees at Yoshioka station and by 0.11 degrees at Okutsu station. At Yosioka station and Yudani station,temperature has changed from a decreasing tendency into a constant tendency two months before the earthquake occurred.

Keywords: hot spring, temperature changes, San-in district, the 2011 off the Pacific coast of Tohoku earthquake