

Approach for short-term forecasting model improvement based on the phenomenon before the 1946 Nankai earthquake

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There are the witness testimonies of the inhabitants that the water level of well water decreased several tens of cm of more before the 1946 Nankai earthquake (M8.0). These changes can be explained qualitatively by the ground uplift because of pre-slip occurrence in the deep side of the assumed source region, but have not been able to explain quantitatively. On the other hand, in the small delta or the sandbar where fresh water balanced with seawater, Umeda *et al.* (2010) showed that the well water largely decreased by a little upheaval of the ground, qualitatively. The quantitative relation between the water level of well water and the upheaval of the ground was obtained based on the Umeda's model and the structure of underground water at Saga district where is small delta.

In addition to examining the phenomenon before the 1946 Nankai Earthquake by research literature and testimony, and to clarify the relationship between crustal movement and groundwater change from such integrated observation of earthquakes, crustal movements and groundwater, we aim to suggest the scenario before the Nankai Earthquake.

Tokai earthquake prediction is dependent simple pre-slip model (Japan Meteorological Agency, 2003). We do not know weather change occurs similar to that described above. However, the short-term forecasting model based on a careful verification of the phenomenon and elucidation of the source of the variation is very important in order to increase the possibility of short-term forecasting.

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