

Visualization of spatial and temporal change in b values and survey for the relationship between b value and the size of next earthquake

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It has been reported that the b value decreases before a major earthquake occurs in some cases. Nanjo et al. (2012) succeeded in detecting a b value precursor to two M9 - class quakes, at lead time of 10-20 years, and proposed that the b value is an important indicator of an impending great earth quake. This study exhaustively compared the size of earthquakes occurred in near the boundary between the Pacific and land plates from October 1997 to February 2011 to b value at the epicenter immediately before the event. The result showed that the frequency of large-scale earthquakes is relatively high on the areas with low b value.

This result suggests the universal relationship between b value and the size of next earthquake.

Keywords: 2011 Tohoku-oki earthquake, b value, visualization