

## Wide seismic anomalies before the 2011 Tohoku Earthquake

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Kumazawa et al. [2010] detected significant and systematic seismicity changes that occurred during 2003–2005 over wide regions in and around Tohoku District; and explained that these changes occurred by local precursory slips before the 2008 Iwate-Miyagi Nairiku earthquake. However, with accumulated data till 2011 Tohoku-Oki earthquake of M9, another explanation has become available. Those changes, including far regions from the inland source, are more adequately explained by much larger crustal deformation caused by slow slips on the plate boundary in the east off coast of Tohoku District before the 2011 Tohoku-Oki earthquake of M9.0.

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