

Tsunami-generated turbidite as a proxy for large-scale earthquakes

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We summarize the researches of tsunami-generated turbidites, and examine their possibility to be a proxy for ancient earthquakes. A tsunami-generated turbidity current is a kind of seismically triggered turbidites. Arai et al. (2013) reported the first real-time record of a turbidity current associated with a great tsunami. It was recognized after the Mw 9.0, 2011 Tohoku-Oki event offshore Japan. After the 2011 Tohoku-Oki earthquake and tsunami. An anomalous event on the seafloor consistent with a turbidity current was recorded by ocean-bottom pressure recorders and seismometers deployed off Sendai, Japan. Freshly emplaced turbidites were collected from a wide area of seafloor off the Tohoku coastal region. These measurements and sedimentary records to determine conditions of the modern tsunamigenic turbidity current. It can be anticipated that this discovery is a starting point for more detailed characterization of modern tsunamigenic turbidites, and for the identification of tsunamigenic turbidites in geologic records.

Keywords: Earthquake, turbidite, sediment gravity flow, tsunami