

Stress changes induced by postglacial rebound and implications for the Antarctic earthquake in 1998

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The March 25, 1998 Antarctic plate earthquake is the largest oceanic intraplate earthquake in recorded history. The source mechanism cannot be related to the plate motion inferred from the nearby transform faults. Tsuboi et al. (2000) suggested that the 1998 Antarctic earthquake is caused by the postglacial rebound due to the last deglaciation of Antarctic ice cap. We investigate possible driving forces associated with the occurrence of the 1998 Antarctic plate earthquake. We determine the effects of the deglaciation of the Antarctic ice sheet for regional stress field using the postglacial rebound model and discuss the triggering mechanism for this event.

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