

# FOCAL MECHANISMS AND SEISMIC MOMENTS OF LARGE EARTHQUAKES IN THE ANTARCTIC PENINSULA-DRAKE PASSAGE REGION

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**Abstract:** Fault plane solutions and seismic moments of four largest shallow events which occurred in the Antarctic Peninsula-Drake Passage region were redetermined by the moment tensor inversion method (FITCH *et al.*: *J. Geophys. Res.*, **85**, 3817, 1980) for body waves on WWSSN long-period records. The June 15, 1970, event (Ms 7.0) is a large transform fault event along the North Scotia Ridge between the South America and the Scotia plates with a moment of  $3.7 \times 10^{26}$  dyn·cm. The February 8, 1971, event (Ms 7.0) is a large normal faulting event with a moment of  $2.4 \times 10^{26}$  dyn·cm in the South Shetland Islands, north off the Antarctic Peninsula. The December 29, 1975, event (Ms 6.5) is a vertical dip slip fault event with a moment of  $0.7 \times 10^{26}$  dyn·cm, which was located in the north of the Drake Passage and was probably associated with the spreading between the Antarctic and the Scotia plates (BARKER: *Antarctic Geology and Geophysics*, ed. by ADIE, 17, 1972). The mid-plate event (Ms 6.2) of February 5, 1977, is a reverse faulting with a moment of  $0.5 \times 10^{26}$  dyn·cm, which is one of the largest mid-plate events in the world. The direction of the maximum compression of the event is  $100^{\circ}$ - $110^{\circ}$  clockwise from the north and is coincident with the spreading directions at the Pacific-Antarctic Ridge and the Atlantic-Indian Rise.

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