

Permanent and temporary seismology at Neumayer III, Antarctica

Tanja Fromm and Alfons Eckstaller

Alfred-Wegener-Institut, Geophysik, Bremerhaven, Germany (Tanja.Fromm@awi.de)

The Alfred-Wegener Institute operates a small seismological network and conducts temporary experiments around the research station Neumayer III in Dronning Maud Land, East Antarctica. Here, we present details about the network and temporary projects.

The permanent network contributes to the global GEOFON Virtual Network (GEVN): three broadband stations transmit real time data, one of them is a small aperture array of 15 short period seismometers. Four offline stations complete the network. This network provides data to detect small regional earthquakes and cryogenic events.

In addition to the permanent stations, temporary mobile stations have been developed and can be placed in specific areas to focus on different research questions. For example, a local circular magnetic anomaly close to Neumayer III has been investigated from 2013 to 2015. Currently four mobile stations are placed near the grounding lines of the shelf ice to investigate the distribution of ice quakes. In the future we plan to spread the stations across Dronning Maud Land and map large-scale tectonic features.