PBO Borehole Data Access

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As part of the EarthScope Plate Boundary Observatory (PBO), UNAVCO has installed and maintains instruments and associated data from 79 boreholes of depths from 78 to 224 meters (256-735 ft). Instruments include strainmeters, seismometers, pore pressure sensors, environmental sensors, and tiltmeters. Access to the various data sets is free and is described below. Data are available through UNAVCO, the Northern California Earthquake Data Center (NCEDC), and the IRIS Data Management Center (DMC). Data are available in SEED, bottle, XML, Ice-9, and/or ASCII formats.

- For questions about data formats and access to the various archives, check out the UNAVCO PBO data products FAQ:
    - PBO Strainmeter Glossary
- For a tutorial of PBO strainmeter products, data access, and processing, check out the UNAVCO Strainmeter Short Course summary from 2008:
    - PBO Strainmeter Products, Strainmeter Short Course, UNAVCO, Boulder, June 10-12, 2008 (.pdf)

Strain Data

The PBO network contains 74 borehole strainmeters. Data are available in SEED, bottle, and ASCII formats.

- Access data via a list of borehole strainmeter stations including links to data at NCEDC (bottle, SEED), IRIS DMC (bottle, SEED), and UNAVCO (bottle, ASCII); geophysical logging; pore pressure data (ASCII); processed data (XML, ASCII); station notes (.pdf); and time series plots:
    - UNAVCO PBO Strainmeter Products
- View custom data plots via PBO's online plotting tool:
    - UNAVCO PBO BSM/Pore Interactive Plotting Tool
- Access data via the NCEDC website:
    - NCEDC Plate Boundary Observatory Strain Data

- Access data via the IRIS DMC website:
    - EarthScope Data at the IRIS DMC

Seismic Data

The PBO network contains 78 three-component, high-frequency short period seismometers, 73 of which are co-located with borehole strainmeters. Data are available in SEED format from the NCEDC and IRIS DMC.

- Access an interactive map of seismic stations, data and metadata tools, and links to data:
    - UNAVCO PBO Seismic Products
- Access data via the NCEDC website:
    - NCEDC SeismiQuery
- Access data via the IRIS DMC website:
    - EarthScope Data at the IRIS DMC

Tilt Data

The PBO network contains 26 tiltmeters, co-located with either GPS stations or borehole strainmeters. In the latter case, the tiltmeters are installed in the borehole with the strainmeters. Data are available in ASCII format from UNAVCO.

- Access data and data plots via UNAVCO:
    - UNAVCO PBO Tiltmeters

Pore Pressure Data

The PBO network contains 19 pore pressure sensors, co-located with borehole strainmeters. Data are available in ASCII format from UNAVCO.

- See a list of borehole strainmeter sites with pore pressure data and access the data via UNAVCO:
    - UNAVCO PBO Strainmeter Products

- View custom data plots via PBO's online plotting tool:
    - UNAVCO PBO BSM/Pore Interactive Plotting Tool

Environmental Data

Temperature, atmospheric pressure, and rainfall data are available at a number of BPO borehole and tiltmeter sites. Data are available in bottle and in ASCII formats from UNAVCO and in SEED format from the NCEDC and IRIS DMC.

- View custom data plots via PBO's online plotting tool:
    - UNAVCO BSM/Pore Interactive Plotting Tool
- View temperature data plots from tiltmeter sites on the tiltmeter page:
    - UNAVCO PBO Tiltmeters
- Access data via the NCEDC website:
    - NCEDC Plate Boundary Observatory Strain Data
- Access data via the IRIS DMC website:
    - EarthScope Data at the IRIS DMC

Online URL: https://kb.unavco.org/article/pbo-borehole-data-access-654.html