

Performance Broadband Seismic Station Installations in the Caucasus and Central Asia

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The Seismic Network Expansion in the Caucasus and Central Asia (SNECCA) project began in 2019 to upgrade national seismic network capabilities in Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, and Tajikistan. The United States participated in this collaboration with support from the U.S. Department of Energy and Lawrence Livermore National Laboratory. All six countries utilized a common design concept for broadband station installations. The design consisted of steel- or plastic-cased postholes (shallow boreholes) with above grade electronics to achieve a robust, secure station with a well installed sensor. The station design was based on the successful deployment and operation of several hundred stations in Alaska and western Canada as part of the U.S. National Science Foundation's Transportable Array project. Station construction was adapted to the drilling capabilities and infrastructure available in each country. The design objective was to create low noise, robust, uniform stations that will operate reliably and securely, using a repeatable and consistent station construction and installation process. In this presentation we will cover the design concept, realizations of this concept achieved in each country, and preliminary data. The SNECCA project is implemented through the Seismic Targeted Initiative of the International Science and Technology Center and the Science and Technology Center in Ukraine.

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Promotional text

A modern broadband seismic station design using sensors installed in shallow boreholes has been implemented in six different countries to improve national network capabilities by reducing noise and improving overall station performance and reliability.

Oral preference format

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