The Seismology-at-School in Nepal Project: A Low-Cost Seismic and Educational network

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Abstract

After the 2015 Gorkha earthquake, people in Nepal are eager to know more about earthquakes and seek safety. Education in schools not only teaches children, but also reaches deep across their families into the community. Earthquake education reaching a broad group of population early in life is strongly needed, but seismology is not part of the curriculum in Nepali schools. Our initiative aims to introduce seismology in schools with the specific focus on education and crowdsourcing. We aim to develop several educational activities. Beyond teaching adapted to various levels of classes, we strive for "learning-by-doing" and install low-cost seismometers in schools.

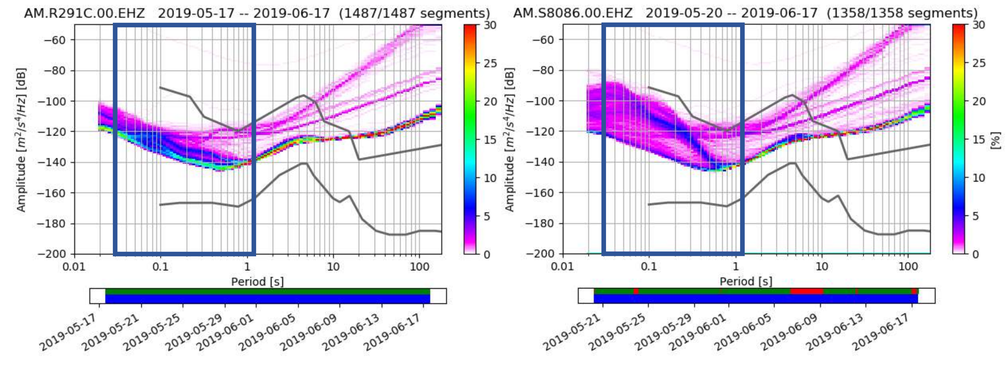
We have started this scheme in the Western Nepal, in 22 schools, and then seek that the example is spread to other areas. We have install Raspberry Shake 1D sensors in each school. Local earthquakes have already been recorded, some of them are not in the public catalogue. In frame of the educational activities, the seismometers will allow students to check and see whether an earthquake has happened in the region, and what was the respective shaking. Beyond increasing the general level of awareness, the Seismology-at-school in Nepal program also connects the participating schools with each other.

Project website: seismoschoolnp.org

Project started in schools

Example of schools selected for the program

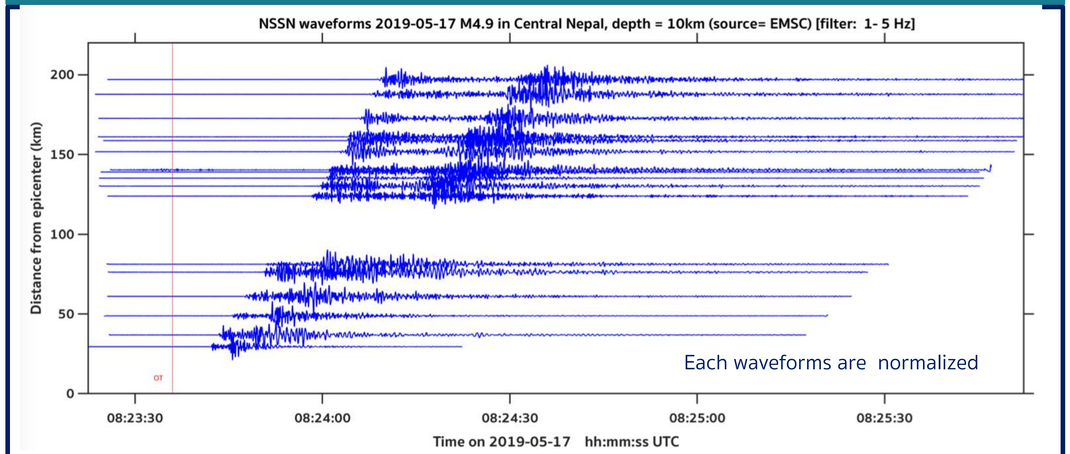
PSD PDFs plot: noise analysis



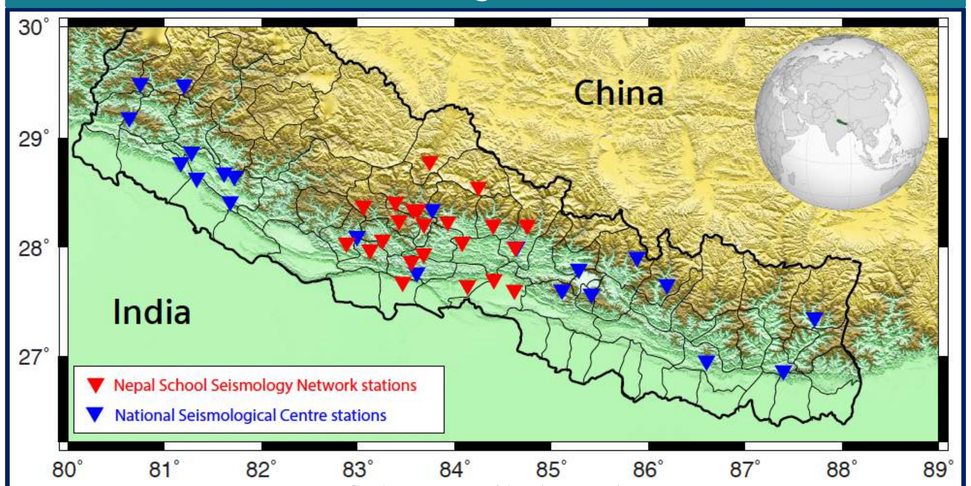
Testing in Switzerland

Installed in Nepali school

First Result: waveforms and shake map for M4.9 event



Study area



Study area map with seismo-stations

Selected sensors

Pictures of tested low-cost seismometers

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Group website: http://www.unil.ch/orog3ny/

Sensor testing plans

- ✓ The background noise of four kinds of instruments in laboratory conditions.
- ✓ Frequency sensitivity of sensors followed by the comparison of their spectra.
- ✓ Local and teleseismic earthquake detections.