

4 years of seismology in school activities in Romania

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Increasing public awareness of earthquake hazard and risk is an important topic everywhere in the world, and this makes no exception for Romania where the Carpathian seismic belt (Vrancea seismic region) represents one of the most active tectonic regions in Europe. Even if the country has experienced several major earthquakes with magnitude larger than 6.5 (the last damaging one struck Romania in 1977, $M=7.4$) little is currently done for the general public in order to mitigate the possible effects of a future major earthquake. Since already a generation of people has not experienced a large event, a sense has developed that they can cope effectively with the earthquake threat and the society began thinking of itself as “resilient.” Consequently, in the last decade, little has been done in Romania for the general public in order to mitigate the possible effects of a future major earthquake.

Following similar initiatives already existing in western countries (France and Italy – The Educational Seismology Project, UK - School Seismology Project) or in USA (IRIS – Seismographs in Schools), a series of pilot projects have been initiated by the National Institute for Earth Physics (NIEP). ROEDUSEIS The Romanian Educational Seismic Network (ROEDUSEIS-NET) project is focused on increasing the level of knowledge of teachers and pupils on earthquake phenomena, earthquake effects, preparedness measures, promoting in the same time the role of education and schools in disaster risk reduction. It started in 2012, as the first educational initiative in Romania in the field of seismology. In 4 years, more than 15 schools received educational seismographs, a collection of booklets for all the pre-university level has been developed and piloted in schools (as activities during compulsory science classes or as an integrated seismology school choice discipline). More than 10 workshops have been organized in which more than 250 pre-university science teachers learn how to use earth science in general and seismology in particular, as a didactic tool. We estimate that more than 2000 students from all educational levels have used the materials developed in the framework of the project in their classroom activities.

An e-learning platform (www.roeduseis.ro) has been running from year two, with multiple functionalities such as: databases collecting information and data about, but not restricted to, earthquakes recorded using school seismic network; complementary online media for students and teachers is used in conjunction with the school distributed booklets and also a forum dedicated to involved teachers, to keep contact with the project team but mostly to encourage direct interaction among interested persons.

At each important step of project implementation questionnaires (online and/or face-to-face) have been used to assess the impact and apply possible improvements to future actions. Near the end of the project, based on all the facts, we may say, that nearly all the teachers involved in the test campaign believe that seismology and seismic risk education can add a significant content to learning activities in schools. In addition, the usage of the booklets within schools suggests that the best results of such information-education projects is the mix between distribution of printed materials complemented by online support and adequate preparation of the teachers.