

The management of a volcanic crisis: didactic exercise with elementary and middle school students of Vulcano Island, Italy

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Role playing games and exercises are effective educational tools for school-age children. We have designed, developed and implemented a role playing volcano emergency exercise with elementary and middle school students of Vulcano Island, Italy. We consider a potential eruption of La Fossa volcano, the main volcanic centre of the island, as our exercise scenario. Students play the role of key stakeholders involved with managing the hypothetical emergency situation on their island, including volcanologists, emergency managers and media. The exercise has been carried out since 2011 as part of the Specialization Certificate in Geological and Climate related risk (CERG-C; <http://www.unige.ch/hazards>) and has evolved through the years. On one hand, the exercise raises awareness of volcano and emergency management issues among the island's young generation, and on the other hand it inspires international practitioners and graduate students participating in the CERG-C training on the effective use of educational strategies in a volcanic context. Through the role playing exercise, students increase their awareness of factors affecting volcanic risk and risk management in their territory; learn how to compile, read and interpret risk maps; understand the different phases of a volcanic crisis; appreciate the steps required in decision making and comprehend the importance of cooperation amongst the different actors involved in risk management. Participants also familiarize themselves with evacuation processes, alert levels, and complexities of communication. Since 2013, the exercise also includes simple analogue experiments of lava flows and tephra fall to illustrate the dynamics and potential impact of hazardous volcanic processes. In order to extend the educational impact of the exercise, the game is performed in front of school teachers, parents and other students of the school. Over the years, the exercise has also attracted representatives from local to national agencies and students eagerly anticipate which position they hope to hold next year!