



EARTHQUAKE AND TSUNAMI RISK: AN EDUCATION AND OUTREACH ACCOUNT FROM PORTUGAL

Catarina MATOS¹, Susana CUSTÓDIO², Graça SILVEIRA³ and Luis MATIAS⁴

Portugal is a country with a long history of destructive earthquakes, which includes the largest historical earthquake of Europe: the 1755 great Lisbon earthquake, a landmark in the history of seismology. However, recurrence times between large earthquakes are long, resulting on widespread unconsciousness of earthquake and tsunami risk, most noticeable on younger people who never experienced strong earthquakes.

Over the past years we developed a series of E&O activities with the aims of increasing the scientific understanding of solid Earth dynamics and promoting risk adequate behaviors. These activities have been extremely well received by the public, encouraging us to pursue efforts in this field. Different activities were devised for different audiences: 1) kindergarten and primary school children; 2) highschool students; 3) pre-university students; 4) university students and researchers, 5) teachers and educators, 6) general public. Depending on the specific audience, the balance between preparedness and scientific contents of the activities is adjusted. We find that younger children (kindergarten and primary school) are more opened to learn risk appropriate behaviors, whereas older students (highschool to university) are more receptive to intellectual challenges and scientific questions. In our experience, an effective education towards risk at these older ages needs to be accompanied by dramatic images or movies of the devastation caused by earthquakes and tsunamis. In general, we find that those who never experienced an earthquake or tsunami, do not perceive these risks as real. Education at pre-university and university level is most efficient when the students act as educators of a younger or less knowledgeable audience.

In this presentation we will make a review of the activities developed for each type of public, their rationale, and the public's reaction. We will share the lessons learned from our rewarding experience in Portugal over the last years, with the goals of increasing the awareness and preparedness of the population to earthquake and tsunami risk.

This work was funded by FP7 project NERA (Network of European Research Infrastructures for Earthquake Risk Assessment and Mitigation).

¹ MSc, CGUC / IDL, Coimbra, cpomatos@fc.ul.pt

² PhD, FCUL-IDL / CGUC, Lisboa, susanacustodio@campus.ul.pt

³ Prof, ISEL-IDL, Lisboa, mdsilveira@fc.ul.pt

⁴ Prof, FCUL-IDL, Lisboa, lmmatias@fc.ul.pt



Figure 1. The tsunami box. Children learn about the difference between tsunami and wind waves, and what to do in case of tsunami.



Figure 2. The earthquake location ball, used to explain earthquake location and GPS working principles.



Rodríguez González 11/10/2013

Figure 3. (A) Children learn how to protect themselves during earthquakes using a shaketable. (B) A children's depiction of the shaketable experience.