



## **Earthquake and Tsunami: a movie and a book for seismic and tsunami risk reduction in Italy.**

C. Nostro, E. Baroux, A. Maramai, L. Graziani, A. Tertulliani, C. Castellano, L. Arcoraci, P. Casale, M. G. Ciaccio, and A. Frepoli

Istituto Nazionale di Geofisica e Vulcanologia (nostro@ingv.it, +39 06 51860632)

Italy is a country well known for the seismic and volcanic hazard. However, a similarly great hazard, although not well recognized, is posed by the occurrence of tsunami waves along the Italian coastline. This is testified by a rich catalogue and by field evidence of deposits left over by pre- and historical tsunamis, even in places today considered safe. This observation is of great importance since many of the areas affected by tsunamis in the past are today touristic places. The Italian tsunamis can be caused by different sources: 1- off-shore or near coast in-land earthquakes; 2- very large earthquakes on distant sources in the Mediterranean; 3- submarine volcanic explosion in the Tyrrhenian sea; 4- submarine landslides triggered by earthquakes and volcanic activity. The consequence of such a wide spectrum of sources is that an important part of the more than 7000 km long Italian coast line is exposed to the tsunami risk, and thousands of inhabitants (with numbers increasing during summer) live near hazardous coasts. The main historical tsunamis are the 1783 and 1908 events that hit Calabrian and Sicilian coasts. The recent tsunami is that caused by the 2002 Stromboli landslide.

In order to reduce this risk and following the emotional impact of the December 2004 Sumatra earthquake and tsunami, we developed an outreach program consisting in talks given by scientists and in a movie and a book, both exploring the causes of the tsunami waves, how do they propagate in deep and shallow waters, and what are the effects on the coasts. Hints are also given on the most dangerous Italian coasts (as deduced by scientific studies), and how to behave in the case of a tsunami approaching the coast. These seminars are open to the general public, but special programs are developed with schools of all grades. In this talk we want to present the book and the movie used during the seminars and scientific expositions, that was realized from a previous 3D version originally developed for science festivals.