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Geoethical and socio-political aspects of seismic and tsunami hazard assessment, quantification and mapping

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Seismic hazard and, more recently, tsunami hazard assessments have been undertaken in several countries of the world and globally for the whole Earth planet with the aim of providing a scientifically sound basis to the engineers, technicians, urban and industrial planners, politicians, civil protection operators and in general to the authorities for devising rational risk mitigation strategies and corresponding adequate policies.
The main point of this presentation is that the chief-value of all seismic and tsunami hazard studies (including theory, concept, quantification and mapping) resides in the social and political values of the provided products, which is a standpoint entailing a number of relevant geoethical implications.
The most relevant implication regards geoscientists who are the subjects mainly involved in carrying out hazard evaluations. Viewed from the classical perspective, the main ethical obligations of geoscientists are restricted to performing hazard estimations in the best possible way from a scientific point of view, which means selecting the "best" available data, adopting sound theoretical models, making use of rigorous methods...
What is outlined here, is that this is an insufficient minimalistic position, since it overlooks the basic socio-political and therefore practical value of the hazard-analysis final products. In other words, if one views hazard assessment as a production process leading from data and theories (raw data and production means) to hazard maps (products), the criterion to judge whether it is good or bad needs also to include the usability factor. Seismic and tsunami hazard reports and maps are products that should be usable, which means that they should meet user needs and requirements, and therefore they should be evaluated according to how much they are clearly understandable to, and appropriate for, making-decision users.
In the traditional view of a science serving the society, one could represent the interaction process as a line connecting geoscientists and users, where geoscientists possess the knowledge (data, theory and models) and teach, while users get products and learn. The new geoethical perspective is that the line is replaced by a loop, where geoscientists and users interact cyclically: 1) where theory and methods themselves are not determined a-priori, but they result also in response of geoscientists-users interactions, and 2) where user needs can be modified ex-post in response to geoscientists elaborations. These two-way feedback actions, opening also the path to close interdisciplinary approaches involving geo- and social sciences, are the main challenge for the present generation of geoscientists. Unfortunately they are not properly and adequately reflected in the today university educational systems, and in professional societies.