



## Geoethics and natural hazards: general reflections on the relationship between geoscientists and society

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The development of modern science has changed the relationship between humans and natural phenomena. The great geoscientists of the past have contributed to the construction of the modern world, by revolutionizing the way in which humans perceive themselves, by changing their references of space and time inside the Universe. However, in the majority of the populations is observed the persistence of a fatalistic mentality or an attitude which believes that science can solve everything. In fact, throughout the centuries the fear of earthquakes, eruptions, floods has not changed in humans.

The scientific rational approach is certainly an effective way to limit the scope of irrationality and uncertainty. The fear is not eliminable, but the proper dissemination of scientific knowledge and an adequate preparedness can help to mitigate it and transform it into an attitude of respect for the natural processes that govern the Geosphere. Therefore, geoscientists have a great responsibility towards society, which needs to face natural hazards. They have the duty to transfer knowledge and methods, to communicate information and errors, to awaken in people the interest for the phenomena and their evolution. Ultimately, geoscientists can contribute to bring science closer to society.

The lack of involvement in scientific knowledge of the various components of society (citizens, politicians, mass media) can lead to two negative consequences:

- the cultural and social marginalization of scientists, together with a loss of the sense of the role they can play in protecting society from natural hazards;
- the tendency of people to embrace preconceived ideas in non critical way, ideas provided by a media information often incorrect, to lose good sense, until to develop fideistic attitudes based on few observed elements.

In the scientific field the probabilistic method is a widespread way to analyze the natural phenomena. It allows to give an estimate of time, place and size of an event, in an attempt to manage the natural hazards that threaten human life and activities. However, geoscientists have to be aware of the risk that the uncertainty of occurrence of a natural phenomenon becomes an alibi to decline their responsibilities. The population should be informed also about the limits of the scientific methods used, so that it can better understand and share the decisions taken to deal with a natural hazard.

Informing the population on natural risks should be prioritized for geoscientists, their ethical commitment to reduce as much as possible the sufferings of human beings and to manage the environment in a reasonable and responsible way.