



Ethical issues in forecasting of natural hazards

Stefano Tinti

University of Bologna, Dipartimento di Fisica e Astronomia (DIFA), Bologna, Italy (stefano.tinti@unibo.it, +39-(0)51-2095025)

Natural hazards have by definition a large impact on the society and, therefore, since the beginning of science one of the major aspiration of mankind has been the prediction of natural calamities in the attempt to avoid or to mitigate their effects.

In modern societies where science and technology have gained a foundational role, forecasts and predictions have become part of the every-day life and may also influence state policies and economic development. And in parallel with the growing importance of forecasting, even ethical problems for forecasters and for forecasters communities have started to appear.

In this work two of the many geo-ethical issues are considered mostly: 1) how to cope with uncertainties that are inherently associated with any forecast statement; 2) how to handle predictions in scientific journals and scientific conferences

The former issue is mainly related to the impact of predictions on the general public and on managers and operators in the civil protection field. Forecasters operate in specific contexts that 1) may change from country to country, depending on the local adopted best practices, but also, which is more constraining, on the local legal regulations and laws; 2) may change from discipline to discipline according to the development of the specific knowhow and the range of the forecast (from minutes to centuries)

The second issue has to do with the communication of the scientific results on predictions and on prediction methods to the audience mainly composed of scientists, and involves one of the basic elements of science. In principle, scientists should use scientific communication means (papers in scientific journals, conferences, ...) to illustrate results that are sound and certain, or the methods by means of which they conduct their research. But scientists involved in predictions have inherently to do with uncertainties, and, since there is no common agreement on how to deal with them, there is the risk that scientific results may be confused with opinions and opinions with scientific results, which creates confusion in the scientific community, in the science divulgators and in turn in the general public.