



Pitfalls of negationist approach in communicating induced seismicity hazard in Italy

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Italy is a country rich in hydropower, geothermal wells, extraction/reinjection of hydrocarbons, but surprisingly from 1964 to date only three papers have been published on the seismicity induced by dams, two on the problem of seismicity induced by reinjection of fluids and one that studies the effect on seismicity by the variation of the groundwater regime possibly caused by the excavation of a tunnel or by climate change.

What has happened in Italy to cause this (at least apparent) disregard for the induced seismicity?

We must go back to 1964, after the catastrophe of Vajont. In that year, prof. Caloi, then principal geophysicist of the National Institute of Geophysics published a work in which he noted as the start of the reservoir impounding gave rise to a sequence of induced seismicity in the same rock shoulder that later collapsed causing an inundation claiming more than 2000 casualties.

Since then induced seismicity is a taboo, constantly downplayed by companies and utilities, dismissed as impossible or communicated with artifacts like the constant use of the prefix “micro-”.

The Emilia 2012 occurred close to a site that was selected for a gas storage facility in an (un)confined aquifer. Regional government denied permission due to the vicinity to an active fault and the question was still pending in front of the National authority in charge of licensing the plant when the earthquake occurred. The local residents, that were opposing the gas storage, misinterpreted the motivation of the denial of permission, understanding that the fault would become active only if the storage was working. Thus they concluded the the earthquake occurred because the company performed secret drillings. Badly informed journalists mounted the case, calling it a “fracking” operation. Incredible it may sound, the governor of the Emilia-Romagna region appointed an international commission charged to investigate the relationship between drillings (not storage) and earthquakes. In the meantime, the L’Aquila sentence convinced the population that all the seismologists are corrupted, politically-linked flunkies. Other hydrocarbons operation are now strongly opposed by residents and even geothermal projects, once hailed as eco-friendly, are blocked by local authorities on the base that “any drilling will cause earthquakes”. The fact that there are not reliable expert in the field of induced seismicity is making things difficult to resolve, since no opinion is considered trustworthy.