

The protection from damages given by seismic classification and code.

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The 1976 earthquake of Friuli has been under many points of view, a real turning point both for policy and for Earth science in Italy. The same concept of “seismic areas” was redefined: in 1909 in the aftermath of the catastrophic earthquake of Messina and Reggio Calabria (M7.1) the first seismic law was issued and “seismic” was synonym of hit (after 1909) by a damaging earthquake. Until 1980 seismic localities were added without any definition of the involved parameters (intensity?, victims?, damage?). This erratic and erroneous approach had the consequence that, in the past century, nearly all the earthquakes occurred in “non seismic areas”. Because of the shock caused by the two earthquakes of Friuli (1976) and Irpinia (1980) the scientific community was successful in convincing the Government to change the old approach and redefine seismic as capable to suffer earthquakes on the base of the historic records and the tectonic setting. In the classified areas all the new constructions must be subject to the seismic code. Nearly 40 years of experience demonstrate that the principle underlining the seismic code (horizontal ground acceleration is considered as the main factor connected with the damage) should be modified taking into account that in the epicentral areas other factors can be even more effective like vertical ground acceleration, permanent displacement, torsional modes. Because of the prevailing shallow seismicity of Italy and the difficulty of predict these actions, probably should be useful to implement the seismic code with the concept of “restricted areas” in which no construction of strategic importance or with an high index of overcrowding will be permitted. The current approach of increasing in the seismic code, after any damaging earthquake, the expected ground acceleration seems more effective in increasing the cost of constructions than in reducing significantly the future damages.