

The 2015 version of the Italian Parametric Earthquake Catalogue (CPTI15)

Andrea Rovida (1), Mario Locati (1), Romano Camassi (1), Barbara Lolli (1), Paolo Gasperini (2,1), Raffaele Azzaro (1), Filippo Bernardini (1), Salvatore D'Amico (1), Emanuela Ercolani (1), Carlo Meletti (1), Antonio Rossi (1), and Andrea Tertulliani (1)

(1) Istituto Nazionale di Geofisica e Vulcanologia, Italy, (2) Università di Bologna, Bologna, Italy

The Italian Parametric Earthquake Catalogue (CPTI) represents the most extensive and reliable source of parameters for earthquakes in Italy and surrounding areas.

Since its first introduction in 1999, CPTI benefits from the results of the 30-years-long Italian tradition in historical earthquake research that, still today, keeps on providing a wealth of studies and macroseismic data. Such data have been collected, homogenized and made available through several releases of the related macroseismic database (DBMI).

In 2016, the fourth release of CPTI and DBMI, has been finalized. They provide the most advanced and updated sets of macroseismic and instrumental data and parameters, and cover the time-span 1000-2014 with earthquakes with maximum intensity $I \geq 5$ or magnitude $Mw \geq 4.0$. The catalogue lists 4574 events, 70% of which accompanied by intensity data points (about 125'000 as a whole).

Macroseismic data derive from 185 studies, 54 of them are new with respect to the previous version CPTI11.

Parameters related to historical earthquakes are completely re-assessed, and magnitudes from macroseismic data are derived with new intensity-to-Mw relationships. Such relationships are based on the same dataset that contributes updated instrumental magnitudes to the catalogue. Either Mw from moment tensor solutions or proxies calculated with new published conversion relationship are considered. If available, both macroseismic and instrumental parameters are provided, together with a set of “preferred ones”, which consist of a selection between the macroseismic and the instrumental epicentres, and the weighted average of the macroseismic and instrumental magnitudes.