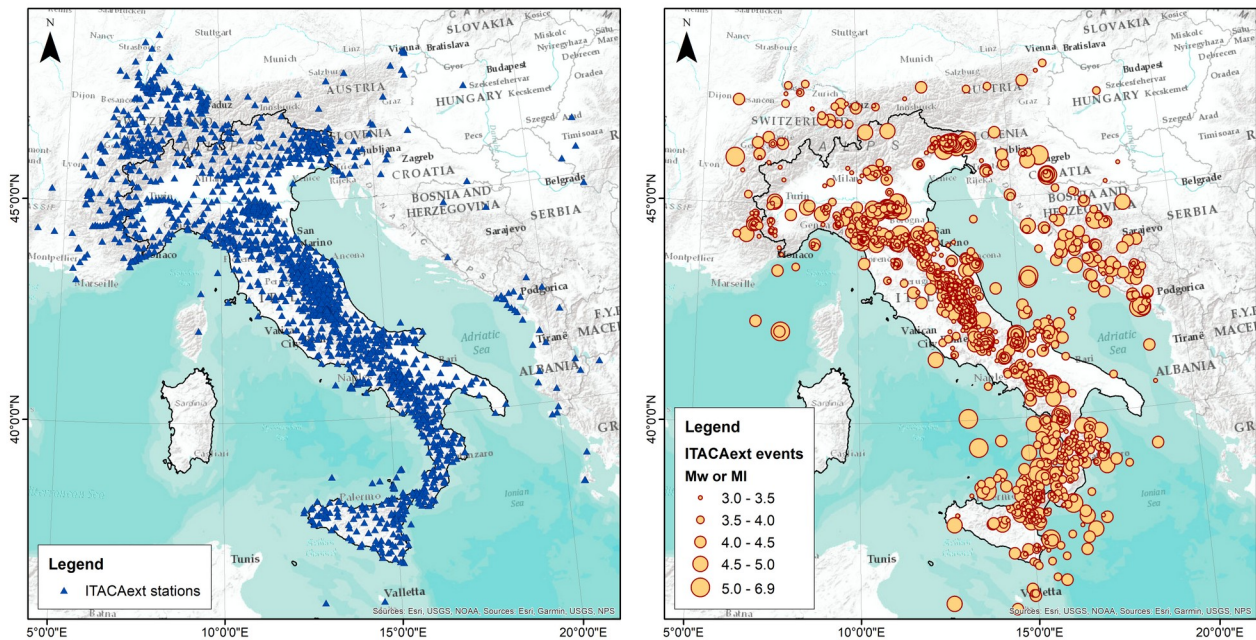


# ITACAext flatfile: parametric table of metadata and strong motion intensity measures



The **ITACAext** flatfile is a parametric table containing metadata and intensity measures of manually processed waveforms, relevant for the analysis of the ground-motion in Italy.

The flatfile is constituted by the data included in **ITACA3.2** up to 2020 December 31st. Moreover, it is integrated with velocimetry records of about 120 events of small magnitude in the less sampled areas in Italy (e.g., Liguria, Piedmont, and western Sicily), taking care to exclude recordings affected by instrument saturation. If the earthquakes are recorded at the Italian boundaries, the records of the networks of the neighbouring countries, such as France, Switzerland, Slovenia, Albania, and Montenegro, are also added in order to improve the spatial and azimuthal sampling of the events.

All the waveforms of this extended dataset (called **ITACAext**) were manually processed according to the standard ITACA scheme, described in Paolucci et al. (2011) and Puglia et al. (2018). The flatfile of the ITACAext records is formatted consistently with the [Engineering Strong Motion database flatfile](#) (Lanzano et al. 2019).

The flatfile includes 46,691 records of 2,019 events, recorded by 2,112 stations. **ITACAext** will be the primary source of information to study the local differences of ground-motion in Italy and develop the new-generation regionalized ground-motion models for events in active crustal regions, volcanic and subduction zones.

The event selection criteria are:

1. time interval 1972-2020
2. revised events (events with preliminary locations are excluded)

3. latitude range [35°-48°] and longitude range [6°-19°]
4. magnitude (moment Mw, local ML or surface waves Ms) higher or equal to 3.0

The zip file contains:

- a parametric table (ITACAext\_flatfile\_SA.csv) in CSV format (semicolon separated) containing the peak parameters, the duration, the energy parameters, the spectral acceleration ordinates calculated assuming 5% damping in the range 0.01-10s and associated metadata of ITACAext dataset;
- a user manual (User\_manual\_ITACAext.pdf) with the explanation of the table fields;
- supporting dictionaries for some fields of the table.

The [ITACAext flatfile](#) has been developed in the framework of the INGV-DPC Agreement (2012-2021) – Annex A.

md5 checksum: f0472c1fd51d002850c413ea81c54b82

## Citation

The ITACAext flatfile must be acknowledged as: Brunelli G., Lanzano G., D'Amico M.C., Felicetta C., Luzi L., Mascandola C., Pacor F., Russo E., Sgobba S. (2022) ITACAext flatfile [Data set]. Istituto Nazionale di Geofisica e Vulcanologia (INGV). DOI: 10.13127/itaca32/itacaext\_flatfile.1.0

## References

Lanzano G., Sgobba S., Luzi L., Puglia R., Pacor F., Felicetta C., D'Amico M., Cotton F., Bindi D. (2018). The pan-European Engineering Strong Motion (ESM) flatfile: compilation criteria and data statistics. *Bulletin of Earthquake Engineering*. <https://doi.org/10.1007/s10518-018-0480-z>

Paolucci, R., Pacor, F., Puglia, R., Ameri, G., Cauzzi, C., & Massa, M. (2011). Record processing in ITACA, the new Italian strong-motion database. In *Earthquake data in engineering seismology* (pp. 99-113). Springer, Dordrecht.

Puglia R., Russo E., Luzi L., D'Amico M., Felicetta C., Pacor F., Lanzano G. (2018). Strong-motion processing service: a tool to access and analyse earthquakes strong-motion waveforms. *Bull Earthquake Eng.* <https://doi.org/10.1007/s10518-017-0299-z>.

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## Disclaimer

This site provides access to the parametric table derived from extended ITACA flatfile (name **ITACAext flatfile** ) containing strong-motion parameters and associated earthquake, station and waveform metadata. The current flatfile has been extracted on January 27th, 2021. Although all the parameters have been checked by analysts, no warranty, implicit or explicit is attached to the data. Every risk due to the improper use of data or the use of inaccurate information is assumed by the user. Network owners should be acknowledged according to the [\*International Federation of Digital Seismograph Networks \(FDSN\)\*](#).

## Feedback

 You can leave feedbacks writing to [itaca@ingv.it](mailto:itaca@ingv.it). Thank you!