

**Hai Sentito Il Terremoto (HSIT) - Macroseismic intensity database 2007-2021, version 2,**  
**doi:**[10.13127/HSIT/I.2](https://doi.org/10.13127/HSIT/I.2)

MacroseismicIntensities\_2007-2021\_HSIT\_I.2.csv

**File description**

Database of the macroseismic intensities assessed in the Italian municipalities using the questionnaires collected for earthquakes occurred from 15-06-2007 to 31-12-2021 by “*Hai Sentito Il Terremoto*” system (HSIT, <https://doi.org/10.13127/HSIT>). Intensities have been estimated through an automatic procedure following the method described in “Tosi P., Sbarra P., De Rubeis V., and Ferrari C. (2015), Macroseismic intensity assessment method for web-questionnaires, *Seismological Research Letters*, 86, 985-990, doi: 10.1785/0220140229”. Intensity values are estimated by using reports, voluntarily given by people, that were not revised by scientists. Thus, there may be errors in the database due, for example, to a user's incorrect choice of earthquake during compilation, particularly for events immediately following or just preceding a strong earthquake.

The municipality data (columns from 5 to 8) were obtained from the National Institute of Statistics (ISTAT 2011). Earthquake parameters (columns from 9 to 15) were obtained from ISIDe Working Group (2007), Italian Seismological Instrumental and Parametric Database (ISIDe) <https://doi.org/10.13127/ISIDE>.

Data of this file, created by Istituto Nazionale di Geofisica e Vulcanologia, are licensed under a Creative Commons Attribution 4.0 International License. For reference: **De Rubeis, V., Sbarra, P., Tosi, P., and Sorrentino, D. (2022). Hai Sentito Il Terremoto (HSIT) - Macroseismic intensity database 2007-2021, version 2,** <https://doi.org/10.13127/HSIT/I.2>

Differences from version 1 (MacroseismicIntensities\_2007-2021\_HSIT\_I.1.csv) - In addition to the inclusion of data for 2019-2021, some intensities of previous earthquakes are slightly changed in this version for the following reasons: addition of new questionnaires, deletion or relocation of questionnaires attributed to a wrong earthquake, minor changes in the processing method (including changing the percentage of felt for estimating the second EMS degree, Table 2).

Table 1. Column number and field explanation of the file.

| Column number | Field Name            | Field Explanation   |
|---------------|-----------------------|---|
| 1             | IntensityMCS*         | macroseismic intensity in Mercalli-Cancani-Sieberg scale                |
| 2             | QuestsNumberMCS       | number of questionnaires used for municipality MCS intensity estimation |
| 3             | IntensityEMS*         | macroseismic intensity in European Macroseismic Scale EMS-98            |
| 4             | QuestsNumberEMS       | number of questionnaires used for municipality EMS intensity estimation |
| 5             | MunicipalityNameByDb  | municipality in which the intensity is estimated (ISTAT 2011)           |
| 6             | MunicipalityIstatCode | municipality ISTAT identifier (ISTAT 2011)                              |

|    |                   |  |
|----|-------------------|--|
| 7  | MunicipalityLat   | latitude N WGS84 of the municipality centroid (ISTAT 2011)                             |
| 8  | MunicipalityLon   | longitude E WGS84 of the municipality centroid (ISTAT 2011)                            |
| 9  | EventID           | Italian Seismological Instrumental and Parametric Database ISIDe earthquake identifier |
| 10 | EventMagPrefType  | best quality earthquake magnitude type (ISIDe)   |
| 11 | EventMagPrefValue | best quality earthquake magnitude value (ISIDe)  |
| 12 | EventDepth        | earthquake hypocentral depth in km (ISIDe)   |
| 13 | EventDate         | earthquake occurrence date and time UTC in ISO 8601 YYYY-MM-DD hh:mm:ss (ISIDe)        |
| 14 | EventLat          | latitude N WGS84 of the earthquake epicenter (ISIDe)                                   |
| 15 | EventLon          | longitude E WGS84 of the earthquake epicenter (ISIDe)                                  |

\* The value -9 in columns 1 and 3 indicates that there are not valid questionnaires for the correspondent macroseismic scale (the number of valid questionnaires is 0) or that the intensity value was filtered out for attenuation rules (Tosi et al., 2015) because it was estimated with only 1 or 2 valid questionnaires.

Table 2. Intensity estimated using only the percentage felt/not-felt

|  |       |       |          |         |         |        |
|--|-------|-------|----------|---------|---------|--------|
| EMS Felt percentage                    | 0-1.9 | 2-2.9 | 3-14.9   | 15-54.9 | 55-89.9 | 90-100 |
| MCS Felt percentage                    | 0-1.9 | 2-4.9 | 4.9-24.9 | 25-49.9 | 50-74.9 | 75-100 |
| Intensity estimated from felt/not-felt | I     | II    | III      | IV      | V       | VI     |