Conference Poster

Historical-critical re-integration of the SED's annual reports into the earthquake catalog of Switzerland (ECOS)
An interdisciplinary approach to a 'dark age' of earthquake documentation

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Due to the use of a single intensity scale (Rossi-Forel) in a period spanning from the early 1880s into the 1970s, this dataset might be considered as one of the most temporally extended stock of rather homogeneous macroseismic data. Since most of the primary data was lost with the disposal of a large part of the historical archive of the SEGEO in the 1990s, the Annual Reports remain our only direct access to the macroseismic investigations performed in Switzerland between 1880 and 1970.

Quality control of the current integration

Empirically, a considerable part of the current catalogue data for the period of 1880–1970 is essentially integrated in the 1970s, proving to be incon- testable with the critical examination of the information documented in the annual reports.

Case Example – EQ 1880/01/07, Grison

The Grison earthquake of January 7th, 1880 is one of the first events studied in detail by the SEC. It is instructive as a case example not only because different forms of representations of EO information are used but also because it reveals a number of methodological problems involved in the critical re-integration of the Annual Report’s wealth of information in ECOS.

Intensity distribution

Intensity values (epicentral as well as local) were only defined for a relatively small fraction of the events listed in the Annuals. It is unclear, how the epicentral intensity of events with originally undefined intensity values were assigned in the former integration of the Annual Reports. As a result of a man reproductions process, these parameters are considered to be regarded as very dubious. The distribution of intensities, originally defined by the SEC, is converted to EMS-98 by the scheme used in the compila- tion of ECOS. This reveals a possible overrepresen- tation of intensity IX events. This may be due to scale conversion issues or to the application of the definitions of the R-F-Scale by the SEC itself.

Conclusion & Outlook


Fig. 7: Development of the parametric intensity (current) from the catalogues of the past annual reports and the ECOS. Intensity classes are on the lefthand side. Dotted lines denote a phase of non-continuous assessment of the earthquake parameters over several years.