



Historical-critical Re-integration of the SED's Annual Reports into ECOS

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With the establishment of the Swiss Earthquake Commission (SEC) as early as 1878, Switzerland has one of the oldest traditions of continual macroseismic data collection. Due to the use of a single intensity scale (Rossi-Forel) in a period spanning from the early 1880s into the 1960s this dataset might be considered as one of the most temporally extended stock of rather homogeneous macroseismic data. The work of the SEC and the Swiss Seismological Service (SED), established in 1914 as its successor organization, is relatively well documented in a series of annual reports (1879–1963; 1972–1974) which was assumed to have been adequately integrated in the original parametric catalogue version that had been compiled for the first Swiss Seismic Hazard map in the mid-1970s. For pragmatic reasons this earlier period of systematic scientific earthquake observation in Switzerland has thus not been addressed in-depth in the first phases of the historical-critical revision of the Earthquake Catalogue of Switzerland (ECOS-02; ECOS-09) and the reassessment process has mainly been limited to the complete revision of the damaging earthquakes with an assumed epicentral intensity of more than V (EMS-98).

In the reassessment of events with a maximum intensity of less than VI (EMS) for the period 1878–1900 we have, however, realized that the wealth of macroseismic data gathered in the annuals is only incompletely integrated in ECOS. Moreover, from a methodological perspective, a significant part of the parametric information from the catalogue version compiled in the 1970s is questionable as the process of their determination is neither documented nor reproducible and thus lacking intersubjective traceability as a key criterion for qualitative research. Empirically, a considerable part of the catalogue data proved to be inconsistent with the critical examination of the information documented in the annual reports for example with regard to the appraisal of certainties. The comparison of each event with its counterpart in the annual reports resulted in the correction of a large number of entries and to the integration of a considerable number of new events, especially in the case of earthquake sequences. We started the reinterpretation of the events based on a calibrated parameterization process centered on the reconstruction of macroseismic fields in place of the former conversion process on the basis of the assumed epicentral intensities. Currently we have integrated the macroseismic information contained in the annual reports for all events with an assumed epicentral intensity of V and V–VI. Moreover, a significant number of as yet unconsidered information contained in the annual reports were added to already reassessed larger events.