



## **QuakeML: Status of the XML-based Seismological Data Exchange Format**

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QuakeML is an XML-based data exchange standard for seismology that is in its fourth year of active community-driven development. The current release (version 1.2) is based on a public Request for Comments process that included contributions from ETH, GFZ, USC, SCEC, USGS, IRIS DMC, EMSC, ORFEUS, GNS, ZAMG, BRGM, Nanometrics, and ISTI. QuakeML has mainly been funded through the EC FP6 infrastructure project NERIES, in which it was endorsed as the preferred data exchange format. Currently, QuakeML services are being installed at several institutions around the globe, including EMSC, ORFEUS, ETH, Geoazur (Europe), NEIC, ANSS, SCEC/SCSN (USA), and GNS Science (New Zealand). Some of these institutions already provide QuakeML earthquake catalog web services. Several implementations of the QuakeML data model have been made. QuakePy, an open-source Python-based seismicity analysis toolkit using the QuakeML data model, is being developed at ETH. QuakePy is part of the software stack used in the Collaboratory for the Study of Earthquake Predictability (CSEP) testing center installations, developed by SCEC. Furthermore, the QuakeML data model is part of the SeisComp3 package from GFZ Potsdam. QuakeML is designed as an umbrella schema under which several sub-packages are collected. The present scope of QuakeML 1.2 covers a basic description of seismic events including picks, arrivals, amplitudes, magnitudes, origins, focal mechanisms, and moment tensors. Work on additional packages (macroseismic information, seismic inventory, and resource metadata) has been started, but is at an early stage. Contributions from the community that help to widen the thematic coverage of QuakeML are highly welcome.

Online resources: <http://www.quakeml.org>, <http://www.quakepy.org>