Populating the SEISMOFAULTS.EU repository: recent developments in the making of the European Fault-Source Model 2020 (EFSM20)

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The SEISMOFAULTS.EU repository hosts one of the main data provisions of EPOS-Seismology. As part of the EFHER facility for seismic hazard and risk services it delivers fault information tailored to be used as input data for earthquake hazard analyses. SEISMOFAULTS.EU builds upon the legacy of the Database of Individual Seismogenic Sources (DISS; http://diss.rm.ingv.it/diss/) and the European Database of Seismogenic Faults (EDSF; http://diss.rm.ingv.it/share-edsf/) which have already been used in several seismic hazard and tsunami hazard models.

New challenges were recently set forth by the Joint Research Activities (JRA3) in Seismology and Earthquake Engineering Research Infrastructure Alliance for Europe (SERA) Project (www.sera-eu.org) whose ongoing activities to develop the new European Seismic Hazard Model 2020 (ESHM20) requires updated fault information at the pan-European scale. To fulfill this need, we are now developing the European Fault Source Model 2020 (EFSM20) which will be based on several national/regional compilations of active faults recently published by a large community of geoscientists. EFSM20 contains crustal faults, limited to those that are deemed capable of generating earthquakes of at least moment magnitude of 5.5, and subduction systems. The final release of EFSM20 will be integrated within the interoperable environment of the SERA Virtual Access for Engineering Seismology (VA3; http://sera-va3.rm.ingv.it/) together with the European Strong Motion Database (ESM) and the European Archive of Historical Earthquake Data (AHEAD).

In this contribution we will describe the repository IT infrastructure, which is entirely built using free and open source software, the data and metadata distribution through the Open Geospatial Consortium (OGC) service standards. We will also analyze the workflow, from raw data to integrated data product, that is followed in the making of EFSM20 and the challenges it poses to make it FAIR.