

Session SD12 - Information Technology Applications in Seismology
Poster presentation

SD12/P3/ID18 - From macroseismic intensity data to the earthquake parameters

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Two tools have been developed within the European Archive of Historical Earthquake Data (AHEAD) in order to process and analyse roughly 270.000 Macroseismic Intensity Data-points (MDPs) related to circa 7000 earthquakes European-wise and spanning more than a 1000 years. The first addressed task was to investigate interactively on a map such data, to better evaluate the quality and differences between datasets describing the same earthquake. A tool called MIDOP (Macroseismic Data Online Publisher) has been created: by simply choosing a list of earthquakes and their corresponding MDPs, a complete self-sustained website can be created, ready to be published on the web. It offers an intuitive control panel for maps and tables customisation and it offers the possibility to generate places seismic histories. No external data-sources are required while presenting maps and the resulting websites can be browsed also locally. A series of problems related to the AHEAD environment have been taken into account while designing the tool: 1) macroseismic intensity data standardisation of formats among European institutions, 2) support the growth of locally developed macroseismic data-centres and 3) help publishing the earthquake data on the web with a specifically designed web-mapping tool. The second task to be addressed was to process such amount of MDPs in order to obtain earthquake parameters (epicentral location and magnitude) according to available and published methods. Three parameterization methods were identified: Boxer, Bakun & Wentworth and MEEP, each coming with its Windows pre-compiled line command executable. The tool, called "Parametrizator", is able to batch process the input MDPs and present the result on maps using MIDOP.
