



Building an open-source archive of historical earthquake studies

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Historical earthquake studies contribute substantially to the assessment of seismic hazard. Their importance has been increasingly acknowledged by the scientific community and is strictly connected with the evidence these studies supply of earthquake activity before the modern instrumental period. Historical earthquake studies are usually produced and collected by scientific institutions around the world; they are often scattered in local/regional databases or even available on paper only. Their dissemination at an international level still very poor, while their availability is essential to their use in the field of seismic hazard assessment and related topics.

The need for an efficient organization of this huge amount of data has asked for an up-to-date structured archive in digital form. Modern DBMS offer not only the opportunity of storing the studies in a dynamic and well organized way, but they can be of enormous advantage with respect to end-users' access; a dynamic link can be created between each study through a list of the historical earthquakes; simple queries on the archive can produce multiple and multifaceted results, a very useful side-effect for the end-user. The open-source based software internally developed in the framework of the "Archivio Storico Macrosismico Italiano (ASMI)", and of the in progress European-Mediterranean extension, can already deal with the geographical tabular data contained in the studies, so that effect distribution maps can be easily created with it.

In view of extending the geographical coverage to the whole world, there is a project to improve the storing capability of the Archive adding the whole study content, in the form of searchable electronic documents. An existing open-source software (DSpace, <http://www.dspace.org/>) is currently being adapted to achieve this heterogeneous stor-

ing capability offering at the end a fully featured Open-Access Archive. This solution will create a very robust base, both from the technological point of view and from the end-user web interface point of view. The maintenance of the archive will be provided by a specific working group through a dedicated web-interface. The acquisition of fresh data will be guided by a call-for-submission of studies directed to the institutions involved in this topic, and implemented through an ad hoc tool.