



WebEQ: a web-GIS System to collect, display and query data for the management of the earthquake emergency in Central Italy

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Abstract

After the strong earthquakes that hit central Italy in recent months, the Center for Seismic Microzonation and its applications (CentroMS) was commissioned by the Italian Department of Civil Protection to conduct the study of seismic microzonation of the territories affected by the earthquake of August 24, 2016. As part of the activities of microzonation, IGAG CNR has created WebEQ, a management tool of the data that have been acquired by all participants (i.e., more than twenty research institutes and university departments). The data collection was organized and divided into sub-areas, assigned to working groups with multidisciplinary expertise in geology, geophysics and engineering.

WebEQ is a web-GIS System that helps all the subjects involved in the data collection activities, through tools aimed at data uploading and validation, and with a simple GIS interface to display, query and download geographic data.

WebEQ is contributing to the creation of a large database containing geographical data, both vector and raster, from various sources and types:

- Regional Technical Map
- Geological and geomorphological maps
- Data location maps
- Maps of microzones homogeneous in seismic perspective and seismic microzonation maps
- National strong motion network location

Data loading is done through simple input masks that ensure consistency with the database structure, avoiding possible errors and helping users to interact with the map through user-friendly tools.

All the data are thematized through standardized symbologies and colors (Gruppo di lavoro MS 2008), in order to allow the easy interpretation by all users.

The data download tools allow data exchange between working groups and the scientific community to benefit from the activities.

The seismic microzonation activities are still ongoing. WebEQ is enabling easy management of large amounts of data and will form a basis for the development of tools for the management of the upcoming seismic emergencies.