



The Colima Volcano WebGIS: system acquisition, application and database development in an open-source environment

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The Colima Volcano is currently the most active Mexican volcano. After the 1913 plinian activity the volcano presented several eruptive phases that lasted few years, but since 1991 its activity became more persistent with vulcanian eruptions, lava and dome extrusions. During the last 15 years the volcano suffered several eruptive episodes as in 1991, 1994, 1998-1999, 2001-2003, 2004 and 2005 with the emplacement of pyroclastic flows. During rain seasons lahars are frequent affecting several infrastructures such as bridges and electric towers.

Researchers from different institutions (Mexico, USA, Germany, Italy, and Spain) are currently working on several aspects of the volcano, from remote sensing, field data of old and recent deposits, structural framework, monitoring (rain, seismicity, deformation and visual observations) and laboratory experiments (analogue models and numerical simulations). Each investigation is focused to explain a single process, but it is fundamental to visualize the global status of the volcano in order to understand its behavior and to mitigate future hazards. The Colima Volcano WebGIS represents an initiative aimed to collect and store on a systematic basis all the data obtained so far for the volcano and to continuously update the database with new information. The Colima Volcano WebGIS is hosted on the Computational Geodynamics Laboratory web server and it is based entirely on Open Source software. The web pages, written in php/html will extract information from a mysql relational database, which will host the information needed for the MapBender application. There will be two types of intended users: 1) researchers working on the Colima Volcano, interested in this project and collaborating in common projects will be provided with open access to the database and will be able to introduce their own data, results, interpretation or recommendations; 2) general users, interested in accessing information on Colima Volcano will be provided with restricted access and will be able to visualize maps, images, diagrams, and current activity.

The website can be visited at: <http://www.geociencias.unam.mx/colima>