



The worldwide collapse caldera database (CCDB): A tool for studying and understanding caldera processes

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Collapse calderas are one of the most important volcanic structures not only because of their hazard implications, but also because of their high geothermal energy potential and their association with mineral deposits of economic interest. In 2008 we presented a new general worldwide Collapse Caldera DataBase (CCDB), in order to provide a useful and accessible tool for studying and understanding caldera collapse processes. The principal aim of the CCDB is to update the current field based knowledge on calderas, merging together the existing databases and complementing them with new examples found in the bibliography, and leaving it open for the incorporation of new data from future studies. Currently, the database includes over 450 documented calderas around the world, trying to be representative enough to promote further studies and analyses. We have performed a comprehensive compilation of published field studies of collapse calderas including more than 500 references, and their information has been summarized in a database linked to a Geographical Information System (GIS) application. Thus, it is possible to visualize the selected calderas on a world map and to filter them according to different features recorded in the database (e.g. age, structure). The information recorded in the CCDB can be grouped in seven main information classes: caldera features, properties of the caldera-forming deposits, magmatic system, geodynamic setting, pre-caldera volcanism, caldera-forming eruption sequence and post-caldera activity. Additionally, we have added two extra classes. The first records the references consulted for each caldera. The second allows users to introduce comments on the caldera sample such as possible controversies concerning the caldera origin. During the last seven years, the database has been available on-line at <http://www.gvb-csic.es/CCDB.htm> previous registration. This year, the CCDB webpage will be updated and improved so the database content can be queried on-line. This research was partially funded by the research fellowship RYC-2012-11024.