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Development of a regional volcanoes data base: VORHISE (Volcanes de la región y su historia eruptiva)

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This work focuses on the design and development of the first database of volcanoes in the region (VORHISE; Volcanes de la Region y su Historia Eruptiva) that includes the collection and validation of data registered. VORHISE contains more than 150 active volcanoes that belong to the area of responsibility of the Volcanic Ash Advisory Center Buenos Aires (VAAC BA), that is, part of Perú, part of Bolivia, Chile, part of Brasil, Argentina, Antarctica and the South Atlantic Islands. The VAAC BA is operated by the Servicio Meteorológico Nacional (SMN) from Argentina which produces specific messages for aviation in case of presence of volcanic ash in the atmosphere and the forecasts of dispersion of the plume. The acquisition of the volcanic data to initialize the ash dispersion model requires an arduous bibliographical search, which at the time of eruption is difficult to carry out immediately. Therefore, this database is a worthy resource that will allow us to determine the initial parameters for numerical modeling based on past eruptions of a particular volcano. VORHISE includes specific data such as location, identification number, type and height; and for each recorded eruption, the dates and/or the duration of the activity, height/s column/s eruptive/s, granulometric characteristics and shape parameters of the ash emitted by volcanoes, explosivity index (VEI), volume, petrographic and geochemical characteristics of material issued and other relevant data. All of them associated with consistent bibliographic references. This database will centralize all the necessary information to adjust the initialization of the forecasts of dispersion and generate scenarios of future eruptions, and would be the legitimate source consulted by the VAAC BA forecasters in support of the aviation and civil defense. In addition, a useful resource of information for researchers and professionals from related disciplines.