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Acquisition, capitalization, modeling and sharing of volcanic and seismic monitoring data at La Réunion Island

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Piton de la Fournaise is one of the most active volcano in the world with an average of one eruption every 9 months, and rest periods of short duration (only 2 periods exceeded 5 years during the last 50 years). Even if 97 percent of the recent volcanic activity took place within the uninhabited Enclos Fouque caldera; only 3 eruptions occurred outside of the caldera, threatening inhabited areas. The distal 1977 eruption (NE rift), the lave flows of which passed through Piton Sainte-Rose village, destroying houses and forced the evacuation of part of the population, triggered an awareness of volcanic risk at Piton de la Fournaise and led to the creation of the Piton de la Fournaise Volcano Observatory (OVPF - IPGP) in 1979.

During thirty-five years, the continuous monitoring networks (geophysical and geochemical), measurements campaigns and phenomenological observation (e.g. imaging and films in the visible and infrared) have built an extraordinary amount of heterogeneous data in terms of format (digital and analog) and storage supports (paper, magnetic tape, floppy disk, etc.).

With the aim to structure and distribute the data acquired since its establishment the OVPF conceived an innovative project for "Acquisition, capitalization, modeling and sharing of volcanic and seismic monitoring data at La Reunion Island". The project is funded by the European Regional Development Fund - Convergence (2007-2013) and supported by the local government (Region Reunion). The project is structured around two main parts :

- Action 1: acquisition, digitizing and data backup,
- Action 2: development of an Information System.

On one hand, the project has the ultimate goal to facilitate the distribution of high quality data and long time series to the largest number of beneficiaries of the local, national and international scientific community and of the public and private sectors through IPGP Internet portals (IPGP Data Center and VOLOBSIS). On the other hand, the information system will allow a complete and modern analysis of all the datasets acquired by the OVPF (notably through the WebObs system), and thus improve the understanding of volcanism and seismicity at La Reunion Island.