

## The Guadelupe Volcanological and Seismological Observatory (IPGP)

### 1. Description of the infrastructure offered for the first call

<b>Name and acronym of RI</b>	<b>Name: Observatoire volcanologique et sismologique de Guadeloupe</b>
	<b>Acronym: OVSG</b>
<b>Main contact person</b>	<b>Name: Arnaud Lemarchand</b>
	<b>Email: <a href="mailto:arnaudl@ipgp.fr">arnaudl@ipgp.fr</a></b>
<b>List of individual installations and facilities</b>	<ol style="list-style-type: none"> <li><b>1. Access to the data-banks</b></li> <li><b>2. Access to La Soufrière volcano</b></li> <li><b>3. IT resources</b></li> <li><b>4. Geochemistry laboratory</b></li> <li><b>5. Pool of instruments:</b> <ol style="list-style-type: none"> <li>a) high resolution thermal cameras</li> <li>b) mobile multi-gas survey unit</li> <li>c) ph-meter</li> <li>d) conductimeter</li> <li>e) thermometer</li> </ol> </li> </ol>

### 2. Description of the installations and facilities offered for the first call

<b>Name of the infrastructure</b>	<b>OVSG</b>
<b>Contact person</b>	Name: Roberto Moretti
	Email: <a href="mailto:robmrtd@gmail.com">robmrtd@gmail.com</a>
<b>Location</b>	Address: Le Houëlmont, 97113 Gourbeyre, Guadeloupe French West-Indies
	Country: France
<b>Detailed description of the installations and facilities</b>	<p><b>1. Access to the data-banks</b> OVSG also maintains a network of over 190 stations in the field, including 84 permanent stations dedicated to the monitoring of volcanic activity (seismometers, GNSS receivers, extensometers, fumerole gas sampling, multigaz stations, IR and visual cameras, temperature sensors, meteorologic station, rain gauges, thermal spring physico-chemistry stations). Users can access to the data-banks of the observatory: seismic waveforms, catalogues of seismic events, GNSS data, extensometers, fumaroles and thermal springs chemistry data, meteorologic data, DEM, orthophotos, including GIS databases.</p> <p><b>2. Access to La Soufrière volcano</b> The observatory is able to back scientific missions by providing facilities in the observatory and in the field. The OVSG staff has a very long experience in the design, installation, and maintenance of monitoring field equipment on the volcano and thus many developments have been achieved to optimize and</p>

	<p>adapt field stations to the harsh mountainous tropical environment of the volcano (rain: 7-9 metres per year). The Director of the observatory is also in charge of getting agreements from the “Parc National” when new equipment are deployed in the field and from the “Prefecture” during periods of increased unrest. Indeed, the observatory has the responsibility to keep the volcano clean and to respect the environment. Assistance in instrument installations on the volcano is a second service organized by the staff of OVSG. Users can access to La Soufrière volcano for the installation of remote stations or field measurements. Users can access to the field communication network (Wi-Fi) if their needs do not exceed the capability of the observatory. In Guadeloupe, although users cannot readily access to a helicopter, special arrangements can be envisaged with the civil protection to survey the volcano or bring heavy equipment in the field on a case by case basis. Thus the helicopter access is not guaranteed.</p> <p><b>3. IT resources</b> IT engineer has the possibility to set up one virtual machine in the cluster of the observatory servers to run acquisition software or data processing software if the needs of users do not exceed the capability of the observatory. Due to the limitation of internet access at the observatory, data transmission from the observatory towards outside organizations cannot be guaranteed. Users have access to one office, and the IT team provides them internet connection and access to a videoconference system to remain connected to remote teams and a virtual machine for data processing.</p> <p><b>4. Geochemistry laboratory</b> An access to dedicated and experienced users can be given in direct collaboration with the chemical engineer to an ion chromatography analyzer with an automatic sample charger, as well to analyses of fumarole gas samples with a quadrupole gas spectrometer. Additional field equipment (pH meter, conductivity meter, thermocouples, direct gas sampling equipment) can be made available.</p> <p><b>5. Pool of instruments</b> In Guadeloupe, a high resolution thermal cameras with video mode as well as more simple robust thermal camera , and a mobile multi-gas survey unit are the main scientific equipment that can be provided to users.</p>
<p><b>Scientific support offered</b></p>	<p>Training for the use of the installation: None.</p>
	<p>Duration of the training course: Not applicable.</p>
	<p>Number of scientist supporting the activity: 2.</p>
	<p>Type of scientific support: None.</p>
<p><b>Technical support offered</b></p>	<p>Training for the use of the installation: None.</p>
	<p>Duration of the training course: Not applicable.</p>
	<p>Number of technicians supporting the activity: 2.</p>
	<p>Type of technical support: Two technicians or engineers can support fieldwork to install and/or design field stations and to</p>

	carry out campaign measurements.
<b>Safety</b>	Training offered: Safety in the field. The users should follow the guidelines of the International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI): Aramaki et al. (1994) Safety recommendations for volcanologists and the public. Bulletin of Volcanology, 56: 151-154 hurricane and seismic emergency procedures.
	Duration of the safety training course: 2 hrs.
	Safety equipment provided: gas mask, helmet and walkie-talkie, health field safety kit.
<b>Available accommodation facilities at infrastructure or nearby</b>	The volcanological and sismological observatory of Guadeloupe is composed of two buildings. The first one has three 2-bed bedrooms and shower and kitchen facilities for users. The second is the observatory itself with offices for the 11 permanent staff, an electronics lab, an IT space and a situation room dedicated to monitoring of the volcano's activity and the regional seismicity, a library, a mechanical workshop and finally a geochemistry lab with a quadrupole spectrometer and ion chromatographer to analyse the fumarole gas and water (thermal springs, rain, river). The users can assess to i) bedrooms with accommodations, ii) an office with an Internet connection, iii) a video-conference system, and iv) one 4 wheels drive vehicle. The observatory does not provide desktops or portable computers to users.
<b>Available space/electricity/internet connection access for external users</b>	Users have access to one office, and the IT team provides them internet connection and access to a videoconference system to remain connected to remote teams.
<b>Administrative support offered</b>	The administrative staff deals with the accommodations for users and the travel tickets. If users bring equipment, the staff will also help with customs procedures and delivery of equipment at the observatory.
<b>Other</b>	As the observatory is an operational structure, it stays accessible 24/24h every day of the year. There is no restriction in accessing the structure for invited users. The modalities of access are negotiated with the observatory to set up in advance the date, technical requests to evaluate if the observatory is able to satisfy them. The fieldwork and access to the observatory would be integrated into the planning of the observatory, which is scheduled on a weekly basis and subject to last minute changes depending on unrest and associated constraints, staff requisitions, and field access restrictions. The users must not interfere with the observatory management and in the crisis management. They must not communicate with authorities, media, population or other professional associations and webpages about any volcanic, seismic, or tsunami activity. Users should follow the IAVCEI guidelines published in: <ul style="list-style-type: none"> <li>• Newhall C, Aramaki S, Barberi F, Blong R, Calvache M, Cheminee J-L, Punongbayan R, Siebe C, Simkin T, Sparks RSJ, Tjetjep W) (1999) Professional conduct of scientists during volcanic crises. Bull Volcanol 60:323–</li> </ul>

	<p>334</p> <ul style="list-style-type: none"> <li>IAVCEI task Group on Crisis Protocols (G. Giordano, R. Bretton, E. Calder, R. Cas, J. Gottsmann, J. Lindsay, C. Newhall, J. Pallister, P. Papale, L. Rodriguez) (2016) Toward IAVCEI guidelines on the roles and responsibilities of scientists involved in volcanic hazard evaluation, risk mitigation, and crisis response. Bulletin of Volcanology 78:31, DOI 10.1007/s00445-016-1021-8.</li> </ul>
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### 3. Access modalities and call parameters of the services offered only for the first call

Installation	Accesses per call (in unit)	Max n. of users per project	Max n. of projects per call
Access to OVSG facilities	8 days	1	1

### 4. Financial support offered to the users

Installation	Max reimbursable travel cost (in euro)	Max reimbursable daily subsistence cost (in euro)	Further maximum reimbursable costs (in euro)
Access to OVSG facilities	1,000	30	640

### 5. Risk management

- a. **Expected condition that can make the installation unavailable/inaccessible:** The main risks are damages after hurricanes, a strong felt earthquake or volcanic activities that often generate constraints, staff requisitions, and field access restrictions. The observatory is understaffed one month in summer (mid-July to mid-August) and in the end of the year (mid-December to mid-January). These periods and the raining seasons as well are not recommended for an access to users. The period of Carnival (February, changing dates) is usually also not recommended for fieldwork and access by users.
- b. **Functionality of the installation/facility offered, before the access:** All the installations are already available. The observatory will refurbish its guest house and bedroom to be more attractive.
- c. **Conditions to re-schedule the access to the same installation due to force majeure:** The modalities of access would be re-negotiated with the observatory to set up the date and technical requests.