



International Volcano Monitoring Fund 2010 Annual Report

We are pleased to report that in 2010, the IVM-Fund completed a successful fundraising campaign and we accomplished our goal of raising sufficient funds to purchase all the volcano monitoring equipment requested by the Santiaguito Volcano Observatory in Guatemala. In early 2011, I will purchase and hand deliver this equipment to the Guatemalan scientists giving them an increased number of tools to monitor one of Guatemala's most active and dangerous volcanoes. With this project, we are fulfilling the objective for which the IVM-Fund was founded: to provide volcano monitoring equipment to reduce volcanic risk one volcano at a time.

All in all, 2010 was a super year. We also established our presence in Canada, added three new members to our Canadian board of directors, expanded our fundraising programs, raised nearly US\$4000, and made plans to establish a second volcano monitoring support program at Colima volcano in Mexico.

In this annual report we summarize the activities, fundraising efforts, and expenditures of the IVM-Fund in 2010 as well as our plans for 2011. We would like to thank all of our donors who have been so generous in supporting our cause, especially the Geological Association of Canada's Cordilleran Section who made the largest donation (\$1000) the IVM-Fund has ever received. The IVM-Fund looks forward to a productive 2011, which will include: delivering our first batch of equipment to Guatemala, fundraising to provide further support to Guatemalan volcano observatories, creation of a second program, and a long awaited T-shirt drive. The IVM-Fund is delighted with the progress of our successful Guatemala program. We expect this first project in Guatemala to set a precedent that we can copy for future volcano monitoring support programs in Guatemala or elsewhere.

We ask you to please spread the word about our efforts and invite others to support our cause.

Review of 2010 Program Activities

Guatemala Program

In April 2010, Jessica Ball, a volcanology graduate student of State University of New York at Buffalo, suggested we initiate a volcano monitoring support program for the Santiaguito Volcano Observatory (OVSAN) in Guatemala. We communicated with the director of OVSAN, Gustavo Chigna, and Guatemalan volcanology Ph.D. student, Rudi Escobar, to identify specific pieces of equipment that OVSAN would need to support their volcano monitoring work. I then created a Guatemala-specific page on the IVM-Fund website describing our plan to support OVSAN, provided potential donors with a photographic list and description of the needed equipment, and enhanced the website with an easy-to-use "Donate Now" button linked to a PayPal account.

The IVM-Fund chose to conduct a program in Guatemala and support OVSAN because Guatemala is a country with many needs, many active volcanoes, and many people who live too close to dangerous volcanoes. For many decades, Guatemala has struggled to monitor their



active volcanoes with severely limited funding and resources. The Santiaguito Volcano Observatory is a volcano monitoring outstation that receives financial support primarily through a Guatemalan government agency called INSIVUMEH (Instituto Nacional de Sismologia, Vulcanologia, Meteorologia, e Hidrologia). OVSAN was established because Santiaguito is one of the three most active and hazardous volcanoes in Guatemala. The volcano itself is a large, lava dome complex that has been growing (i.e. erupting lava) since 1922. The most recent activity at Santiaguito occurred on April 26, 2010 and involved explosive eruptions that sent ash-laden plumes up to ~8 km altitude. Ash fallout from the eruptions affected nearby villages and closed schools. Other significant volcanic hazards at Santiaguito include lahars (mud flows) and pyroclastic flows (i.e. hot ash, gases, and rock) that can be generated by partial collapse of an unstable portion of the lava dome.

The IVM-Fund originally set our OVSAN fundraising goal at \$10,000, however, ~\$5000 of this had been requested for a new seismic monitoring station. We found out later through discussions with our Guatemalan colleagues and others that, indeed, OVSAN didn't need any new seismic equipment, so our fundraising requirements for OVSAN ended up being significantly less.

In November, I met face-to-face with our Guatemalan colleague, Rudi Escobar, at a university lecture program we were both attending in Colima, Mexico. It was a great opportunity to discuss at length the volcano monitoring needs at OVSAN in particular and Guatemala in general, how the IVM-Fund could help, and specific details about logistics and politics in Guatemala that the IVM-Fund needs to know to execute a successful program there. In addition to specific equipment support, Rudi highlighted (1) internet access for the observatory and (2) gasoline for their field vehicle (a motorcycle) as specific additional needs OVSAN has at this time. We are currently evaluating the feasibility of these requests.

In December, the Director of the volcano observatory, Gustavo Chigna had a meeting with his team at OVSAN to make refinements to the list of requested equipment that the IVM-Fund will purchase for them. For example, the seismic station was formally removed from the list and two pairs of binoculars were added to the list, among other minor changes. By the end of 2010, we had raised \$3675 to specifically support OVSAN. This amount will fully cover the costs of all the requested equipment (see list appended to the end of this report).

We will begin purchasing equipment in Q1 2011 and plan to store the equipment in the Seattle office of the IVM-Fund until delivery to Guatemala. I will be delivering the equipment to OVSAN personally and look forward to reporting back to our donors about the trip. I will be paying for the airfare and travel expenses for the trip to Guatemala myself. It is part of the current philosophy of the IVM-Fund to keep overhead costs to a minimum in order to maximize the amount of equipment we can purchase with donated funds. The IVM-Fund also plans to continue fundraising for Guatemala to support monitoring programs at Guatemala's two other active volcanoes, Fuego and Pacaya, following on successful completion of the program at Santiaguito.



Dorr Fumaroles Project

The aim of this project is to complete a geologic map of the unstudied Dorr Fumarole field on the NE flank of Mt. Baker volcano (Washington State, USA) and make quantitative measurements of the output from the field's steam vents. An IVM-Fund team successfully reached the Dorr fumaroles in 2009 and made a preliminary geologic map of the area, recording temperatures of up to 90 °C at the accessible steam vents. A report describing our work is published on the IVM-Fund website. We made an attempt to return to the Dorr Fumarole field in the summer of 2010 to make steam flux measurements. Unfortunately, white-out conditions prevented our team (Glen Wallace and Jeff Witter) from advancing beyond base camp. We expect to make another attempt to reach the Dorr Fumarole field in 2011. Expeditions to the Dorr Fumarole field consist of an all-volunteer team and are conducted at no cost to the IVM-Fund.

Second Volcano Monitoring Support Program

The IVM-Fund would like to start a second volcano monitoring support program at Colima volcano in Mexico. In November, Dr. Nick Varley (Professor of Volcanology at the University of Colima), invited me to give a series of lectures to his students and introduce me to Colima and his volcano monitoring program. Colima is Mexico's most active volcano and ash fall, lahars, or pyroclastic flows are the greatest hazards to surrounding communities. I spent a week in Colima and learned that although Dr. Varley already has a wide variety of volcano monitoring equipment, there still may be role the IVM-Fund could play to support his efforts.

Despite years of study, volcanologists have still not mapped the geology of Colima volcano in detail and as a consequence, the record of the eruptive history of the volcano is inadequate. For example, there are several lava domes on the flanks of Colima and no one knows when they were erupted. The history of eruptions at a volcano (specifically the frequency, size, and type of eruption) is critical information for determining the level of risk faced by nearby communities. Knowledge of the eruptive history is as fundamental as a volcano monitoring program to reducing volcanic risk.

The IVM-Fund is considering a program to help improve the understanding of the eruptive history of Colima by providing funding to geologically map the lava domes and determine when they erupted using modern laboratory dating techniques. The IVM-Fund will be further investigating and seeking partners for this program in 2011.

Other 2010 Activities

Canadian Branch of the IVM-Fund and Canadian tax-exempt status

In early 2010, the IVM-Fund applied for and was granted status as an Extraprovincial Society in British Columbia. This allows us to fundraise in Canada. We originally intended to gain tax-exempt status in Canada as well, however, the paperwork required and the effort needed to maintain this status in Canada is quite onerous. Instead, we have chosen to have all donations directed to the U.S. parent organization, either through the U.S.-based IVM-Fund website or as direct donations by check. This way we will keep all donations in U.S. funds. We decided that having only one type of currency and one bank account to worry about simplifies things immensely.

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According to British Columbia law, the IVM-Fund Extraprovincial Society of BC is required to have five directors on the Board of Directors. When the IVM-Fund Extraprovincial Society of BC was formed, the Board was populated with the following individuals: Dr. Jeff Witter, Amanda Witter, Dr. Glyn Williams-Jones, Dave Tucker, and Malaika Ulmi. Amanda Witter is the secretary of the IVM-Fund (U.S.) parent organization and will perform the same secretarial duties for the IVM-Fund Canadian branch. Dr. Glyn Williams-Jones is a professor of volcanology at Simon Fraser University in British Columbia and has been assisting with program planning and fundraising. Dave Tucker is the Director of the Mt. Baker Volcano Research Center in Bellingham, Washington and he has provided his expertise in T-shirt fundraising. Malaika Ulmi is no longer active as a director of the IVM-Fund and we are seeking a replacement for her position on the Board. Dr. Jeff Witter remains the sole member of the board of directors of the main (U.S.) branch of the IVM-Fund.

Social Networking

The IVM-Fund continues to have a presence on Facebook and Linked-In in an effort to make use of online social networking to get the name of our organization into the global community. At the end of 2010, we had 60 connections on Linked-In and 196 fans on Facebook. We hope to continue expanding our online social network to advertise the IVM-Fund and direct individuals to the website to make donations. This being said, the IVM-Fund could use some help to be more pro-active on the social networking front.

Summary of Fundraising in 2010

- In 2010, the IVM-Fund raised US\$3675 from 47 separate donors. The majority of the donations we received were made directly through the website while a small number of donations came as personal checks. The smallest donation was \$5 and the largest was \$1000.
- Non-monetary donations to the IVM-Fund in 2010 included one piece of equipment: a Garmin handheld GPS donated by RAM Power Corp.
- Apart from soliciting donations from friends and family, in 2010, we conducted a fundraising program called "\$10 for Guatemala" and it was a great success. The aim was to solicit a large number of small donations.
- We received a commitment of support from Volcano Discovery.com that they will donate \$10 for every client they sign on for the remainder of 2010.
- Glen Wallace created a Zazzle storefront website to sell coffee mugs, handbags, and other items with the IVM-Fund logo on them. Profits from sales of these items will be automatically deposited in the IVM-Fund PayPal account.
- We were not successful in getting donations of camping/backpacking equipment from MEC or REI.

Summary of Expenditures in 2010

- No money was spent on equipment during 2010.
- No money was spent on overhead during 2010.
- Unspent and/or unallocated funds in the IVM-Fund U.S. dollar bank account at the end of



2010 amounts to US\$4089.

- A portion of these funds will be used to get the T-shirt drive going while \$3675 will support volcano monitoring in Guatemala.

Projects for 2011

- Purchase and deliver equipment to OVSAN in Guatemala.
- Communicate with Guatemalan colleagues about supporting their volcano monitoring programs at Fuego and Pacaya volcanoes or additional support at Santiaguito volcano.
- Create a Mexico page on the website to describe how the IVM-Fund can support volcano monitoring at Colima volcano in collaboration with Dr. Nick Varley at the Universidad de Colima.
- Continue work at Dorr Fumarole Field with another expedition in the summer of 2011 to measure steam flux from the steam vents.
- Continue fundraising

Fundraising Initiatives for 2011

T-shirt fundraising drive

We put some effort into a T-shirt drive in 2010 but in the end we were not able to pull it off. One reason was the T-shirt company we were working with was unable to provide us good service. So, we have identified an alternate T-shirt maker and it all looks good so far. We need to confirm that we will receive an adequate price point for each shirt and following this will move forward. We plan to order T-shirts and begin selling them in Q1 2011.

"\$10 for Guatemala" Fundraising Initiative Round #2

We would like to redo a fundraising campaign which focuses on getting small donations from many, many individuals. Lots of people in North America, Europe, and Japan can afford to give \$10 -- just give up 3 lattes or 2 pints of beer. In some cases, donors don't know how much to give and if they only give \$5 or \$10 they might feel guilty that they're not giving enough -- and in the end, may not give at all if they feel their donation is so small it won't make a difference. This fundraising program aims to tell potential donors that it's perfectly O.K. to give only \$10. If 1000 people give \$10 each then that makes \$10,000 which could outfit the volcano observatories at Fuego and Pacaya in Guatemala with equipment. Even if only 100 people give \$10 each, the \$1000 will still go far in buying a lot of field equipment for Guatemalan volcanologists. We plan to reach large numbers of people through the internet and by targeting five groups in this campaign: volcanologists, geology professors, geology graduate and undergraduate students, friends and family, and the public at large. For the first three target groups, asking them to support volcano monitoring in needy countries should be an easy sell because earth scientists know volcanoes and their hazards quite well. If we can get large numbers of volcanologists and geology professors to support our cause, we can use it as a fundraising success story to further market the value of our mission to a much larger group of people who may not know much about volcano monitoring. Our board member, Dr. Glyn Williams-Jones has compiled a database of all the geology departments in the U.S. and Canada as well as a list of the email addresses of all the professors of volcanology. We plan to use this database for "\$10 for

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Guatemala" Round #2. The 2010 "\$10 for Guatemala" fundraising campaign focused on soliciting donations from friends and family, Facebook and Linked-In, and advertising on Jessica Ball's volcano blog. We hope to reach a much wider and very receptive audience with "\$10 for Guatemala" Round #2.

Corporate Donations

Now that we have a successful volcano monitoring support program (OVSAN) nearing completion, we feel we can use this story as an example of the IVM-Fund's capability to deliver on our mission. In 2011, we hope to begin to communicate with the offices of Corporate Social Responsibility at various companies here in Vancouver, Canada. Specifically, we hope to approach mining companies (of which there are many in Vancouver) for donations since the geology focus of mining might make them more amenable to supporting a volcano monitoring project. Corporate donations may prove to be an excellent way to raise significant amounts of funding.

Fundraising Goals for 2011

- Online donations (\$5000)
- T-shirt drive (\$2000)
- Corporate donations (\$2000)
- Government donations (\$1000)
- Goal: from these sources is to raise a total of US\$10,000 in 2011

Thank you all for your continued support!

Best regards,

A handwritten signature in black ink that reads "Jeff Witter". The signature is written in a cursive, flowing style.

Jeff Witter

President and CEO

International Volcano Monitoring Fund

An Extraprovincial Society of British Columbia and U.S. tax-exempt 501(c)(3) nonprofit organization



Donations will be used to purchase the items listed below for the Santiaguito Volcano Observatory in Guatemala to support their volcano monitoring efforts.

Item	Brand & Model	Photo
Headlamp (x2)	Black Diamond Cosmo LED Headlamp	
Laser Rangefinder	TruPulse 200	
Temperature/pH meter	Hanna Instruments HI991001	
Handheld Infrared Thermometer	Omega OS423-LS	
Digital camera	Sony Cybershot DSC-H55 14.1 megapixel digital camera with 10x zoom	
Memory cards (x2)	Sony 4 GB Memory Stick PRO Duo Flash Memory Card MSMT4G	
Pair of Walkie-Talkie radios	Motorola EP-450	
Flexible tape measure	Champion Sports 50M Open Reel Fiberglass Measuring Tape	
Compass	Brunton 8099 Pro Compass	
Clinometer	Brunton Clino Master	

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Item	Brand & Model	Photo
Desktop computer	Dell Inspiron 560	
External Hard Drive	Seagate 1 Tb External Hard Drive	
Leatherman Tool	Leatherman Super Tool 300 Multi-Tool	
Binoculars	Tasco Essentials 10x50 WA, Zip Focus Binocular	
Binoculars	Tasco Essentials 10 x 25 Compact Binocular	

In addition to the above, the IVM-Fund is purchasing rechargeable batteries for all items that require them, as well as a plug-in battery charger.

The item shown below was donated by RAM Power Corp. and has already been given to our Guatemalan colleagues at OVSAN.

Item	Brand & Model	Photo
Handheld GPS	Garmin eTrex Vista	