IAVCEI *News* 2019 No: 2-3

INTERNATIONAL ASSOCIATION OF VOLCANOLOGY AND CHEMISTRY OF THE EARTHS INTERIOR

FROM THE PRESIDENT

Dear Colleagues,

Patrick Allard
President of the IAVCEI

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Let me first express my acknowledgements and great honor to have been elected as your new President for 2019-2023. I was far from anticipating it when, at 14 (in 1964), I decided to become a volcanologist..! I am also proud to be the very first IAVCEI president coming from the research community on volcanic gases. After having served as vice-president in 2015-2019, and previously as a Commission (CCVG) leader, member of the scientific Committee of the 2013 General Assembly and Associate editor of the BV, be sure that I'll dedicate the energy, enthusiasm and due time the responsibility of presiding IAVCEI deserves.

My mandate, and that of the new Executive Committee, starts right at the turn-point between the first centenary of our international Association, celebrated through a full-day symposium during the 27th IUGG General Assembly in Montreal, and a new step for Volcanology that opens in a global context of rapid demographic growth, urbanization and climate change. The proportion of human population living within 100 km of an active volcano – about 15%, i.e. 800 millions people, in 2015 – is expected to increase during the 21th century. Therefore, improving our capability to understand how volcanoes work and to forecast their eruptions, combining multidisciplinary research, instrumental monitoring and hazard assessment, will become a more and more important duty for our community in the next decades. Under global policies of disaster risk reduction and sustainable development, Volcanology will be increasingly requested to demonstrate and realize its value in reducing volcanic risks. In that context, IAVCEI, the worldwide professional Association of volcanologists, will face important challenges, requiring further development of its capacity building and international outreach.

The new Executive Committee elected for 2019-2023 is fully aware of these challenges. Below are summarized a few main objectives we hope to achieve or promote during the next four years, in the continuity of initiatives already engaged by the previous EC(s). These objectives were discussed during three IAVCEI EC business meetings in Montréal and on occasion of our General Assembly there on July 14. Their realization will obviously depend on the support and involvement of the overall community of volcanologists.

Improve the functioning of IAVCEI

- Making IAVCEI more professional. This is mandatory for IAVCEI to compete and survive amongst larger (and powerful) other Associations such as AGU, EGU or Goldschmidt. This is also essential to improve our support and services to the volcanological community. The transition of IAVCEI from a pure volunteer-based Association to a more professional one was initiated by the previous EC. A contract was signed with a private company (GUARANT International, Czech Republic) that now professionally manages both our *memberships* and our *online voting events*. A new step, proposed by former President Don Dingwell and our SG Roberto Sulpizio, and approved by EC members in Montréal, is aimed at professionalizing our *Communication and Finance management*. Despite tremendous efforts

realized by Eugenio Nicotra, our webmaster, a professional management of the IAVCEI website was recognized necessary to warrant a more continuous inflow of information, with real time updates on volcanic activity, meetings, workshops, etc., as well as a permanent access to the hosted websites of our Commissions, Working Groups and Networks. For managing and controlling our financial resources over time we'll need to introduce a professional *treasurer*, as was done by other Associations. This should also allow IAVCEI to have a permanent bank account, in a place to be decided, instead of changing bank account every 8 years with the newly elected SG, such as currently ruled. The new IAVCEI EC will rapidly search for a good solution, at adequate cost, to achieve the objective of professionalizing our Communication and Finance management. Although seemingly paradoxical, we expect that a more professional management will result in an increase of our annual incomes (improved communication and attractivity, more memberships..).

- Diversify our financial resources. Our financial incomes presently arise from the fixed annual IUGG capitation, our membership fees, and the organization of congresses and scientific meetings. These resources serve to support a variety of activities (scientific meetings, Commission workshops, travel grants, etc.). As a proposal, other potential income could be searched from *private sponsorship*, such as Foundations but also private companies interested in sponsoring, under the IAVCEI logo, field equipment of volcanologists (jackets, mountain shoes, helmets, gas masks, spectacles…) or even instruments. All your good ideas and initiatives are welcome!

- Improve gender equity. Determined efforts in that direction were promoted by the previous EC(s). However, much still remains to do if one wishes to reach gender equity within IAVCEI. As a matter of fact, the newly elected EC comprises only three women among 11 officers, and IAVCEI is singular amongst the 8 scientific Associations within IUGG in that it never had a woman as president! Promoting the advent of a female presidency of IAVCEI in near future should definitely be an important objective for our Association.

- Better co-involve volcanologists from low-income countries (LIC) in the Executive board of IAVCEI. When looking at our past and recent elections, it appears that volcanologists from LIC or/and remote volcanic regions are rarely nominated or do not mind themselves to apply. This is just one illustration of our persisting difficulty to better co-involve our colleagues from less developed or remote parts of the volcanic world, especially Africa and South-East Asia (including the Philippines and PNG) - which otherwise are among the most exposed to volcanic risks. My personal proposal here would be that we increase the number of scientific counsellors in future IAVCEI Executive Committee, from 4 at present to say 6 or 7, in order to warrant a systematic (rotating) representation of volcanologists from Africa, South-East Asia and, possibly, South America. Such a proposal, affecting our Statutes & By-Laws, will in any case require the approval of IAVCEI members during our next General Assembly. In the meantime, it could be tested informally by inviting two colleagues from Africa and South-East Asia to be associated to the EC business during the next four years.

Reduce the number of IAVCEI Commissions and increase their horizontal interactions

Thematic Commissions, Working Groups and Networks constitute the driving force of IAVCEI. At present, IAVCEI hosts 17 pure house thematic Commissions, 6 joint Commissions or Working Groups (with IASPEI, IAGA, IAPSO and IACS), and 2 (soon 3) Networks. It has long been recognized that this number of sub-structures, in particular for Commissions, is too high with respect to the size of IAVCEI (around 1000 memberships) and its supporting financial capability. For comparison, other IUGG-related Associations comprises between 5 and 10 Commissions at most (e.g. IAHS, the International Association of Hydrological Sciences, with 8600 memberships, hosts only 10 Commissions and 5 WGs). Moreover, the high number of Commissions hampers the transversal (multi-disciplinary) interactions that were planned to develop between Commissions through the existing 4 Liaison Committees. Finally, some Commissions have revealed being not active or attractive enough.
Therefore, it is a sane objective for all of us to attempt reducing the number of IAVCEI Commissions in order to make their functioning more efficient and more interactive, as well as to simplify their management and financial support by the EC. This objective could be best achieved by voluntary merging of Commissions that share closely related thematics or objects. A relevant illustration is the successful merging operated in 2017 to create the Working Group on Volcano Seismology and Acoustics (with IASPEI). Discussions were also engaged in that direction by leaders of the two Commissions on Explosive Volcanism and Tephra Hazard Modelling. We are confident that such an objective will meet with the comprehension and support of IAVCEI members. The two new vice-Presidents, Jan Lindsay and Masato Iguchi, will be responsible to manage this project in close connection with the Commission/WG boards.

Re-structuring and strengthening the interactions between IAVCEI and Volcano Observatories worldwide

This will be a key priority for the new EC. Through its Commissions and Working Groups, its Awards, Recommendations and Products, IAVCEI is an international body where not only academic research in volcanology but also applied research dedicated to volcanic risk assessment have been promoted and honored over the past decades. A new Award for Volcano Surveillance and Crisis Management, intended to honor groups or individuals who made distinguished contributions in monitoring volcanoes or/and managing volcanic emergencies, was created by the previous EC and first attributed during COV11 in September 2018. Especially, IAVCEI has been hosting for long the World Organization of Volcano Observatories (WOVO), whose members comprise 83 Observatories or Institutions and 9 VAACS. However, the interactions between IAVCEI and Volcano Observatories worldwide did not develop at the expected level, owing to unclear responsibilities, a weak activity of WOVO and remote interest of volcano observatories themselves.
Therefore, there is an urgent need to re-structure and strengthen this key part of the international activity and outreach of IAVCEI. Reaching a broad consensus on how to make it will certainly take time and require a lot of discussions, in particular with volcano

Observatories. Nevertheless, let me highlight here a few points that may guide our future discussions and decisions.

First, WOVO has long had its home within IAVCEI and, like many others, I strongly believe this natural framework must be preserved.

Second, WOVO has been formed and still exists as an IAVCEI Commission, which has little sense. The World Organization of Volcano Observatories is intrinsically an international network, whose members "*are engaged in volcano surveillance worldwide and, in most cases, are responsible for warning authorities and the public about hazardous volcanic unrest*". I thus recommend to change the status of WOVO, from a Commission to a Network, which may require simple formal matter.

Third, I share the opinion that WOVO must remain the natural structure through which IAVCEI will re-activate its links and interactions with Volcano Observatories worldwide. This implies that we define new guidelines for its management, a permanent coordination staff, and possibly dedicated financial supports. This would also imply to integrate within WOVO some independent useful initiatives taken in recent years, such as the networking and products of VOBP (Volcano Observatory Best Practice) Workshops or the results generated by GVM (the Global Volcano Model).

Fourth, and last, IAVCEI needs to be much more attractive for our colleagues working in Volcano Observatories worldwide. This might be realized through a variety of decisions and actions, to be discussed:

- Better co-involve people working in Volcano Observatories (e.g. through dedicated financial supports to attend workshops and meetings, to help graduate or PhD students locally implied with monitoring duties to complete their degree, etc.)
- Professional training and workshops, with preferential IAVCEI support to workshops and meetings organized in emerging volcanic countries
- Creation of an IAVCEI Task Force for international assistance in case of major volcanic emergencies. This could involve well identified and well prepared voluntary groups and individuals, with various competences and instrumentations, as well as analytical platforms, which could be activated upon official request. In some way, a kind of international complement to the VDAP.
- Development and integration of WOVOdat under the IAVCEI umbrella, in straight connection with WOVO, allowing volcano observatories to retrieve sensitive information on eruptive precursory signals and, reciprocally, to implement the data base with their own monitoring data and observations.

With my best regards to all IAVCEI members,

Patrick Allard
President of IAVCEI
Université de Paris, IPGP, France
12 August 2019

MESSAGE FROM THE PAST IAVCEI PRESIDENT

Dear IAVCEI colleague,

Please join me in welcoming our new President, Prof. Patrick Allard in his new capacity. For the next 4 years Patrick will navigate the world of volcanology with one goal paramount in his mind, the good of IAVCEI and how IAVCEI can work for the good of volcanology.

Please also join me in thanking all of those who, in the past 4 years, have put their "shoulders to the wheel" of the tasks that IAVCEI has faced and continues to face. Specifically, I thank the members of the executive committee, the leadership of the disciplinary commissions, the members of the awards committee, my past-president, Ray Cas, and most of all my Secretary-General Roberto Sulpizio. Due to all of their efforts IAVCEI has been and - for those who continue in their capacities – continues to be in good hands.

It is or course a time for reflection, however brief…

I sense that the journey of IAVCEI in its understanding of itself and its view of its place in the world of scientific organisations is very much a "work in progress". For decades, we have clearly and steadily enhanced our activities with respect to the classical definition of our role as a constituent society of IUGG, and indeed the pace of our evolution has picked up noticeably in recent years. Nevertheless, we remain far less that what it is our potential to be. Volcanology represents one of the areas of the solid earth sciences with the greatest potential for near-surface impact and surface interactions with all parts of the earth system. This is an area that will grow vastly in the coming years. This should be increasingly reflected in our meetings and journal.
Let us see how the next years unfold…

Don Dingwell
IAVCEI Past-President

THANK YOU FOR THE PAST OFFICERS

Dear IAVCEI colleague,

The elections carried out in May shaped the new IAVCEI Executive Committee for the 2019-2023 term. At the same time, some of the EC members stepped out from the service. The changeover of the EC was effective during the IUGG meeting on Montréal of the last July, and this is the right time to say thanks to Prof. Ray Cas (Past President), Prof. Shanaka de Silva (Vice-President), Prof. Eliza Calder (Counsellor) and Prof. Michael Ort (Counsellor).

Dear Ray, Shan, Eliza and Michael: **THANK SO MUCH** for your service and brotherhood in the past 4 years.

A huge hug

Don and Roberto

Prof. Emeritus Ray Cas Past President 2015-2019 term

Prof. Shanaka de Silva Vice-President 2015-2019 term

Prof. Eliza Calder Counsellor 2015-2019 term

Prof. Michael Ort Counsellor 2015-2019 term.

27TH IUGG GENERAL ASSEMBLY IN MONTRÉAL, CANADA, 8-18 JULY 2019

The International Union of Geodesy and Geophysics (IUGG), which includes IAVCEI and seven other international Associations (IASPEI, IAGA, IAG, IACS, IAHS, IAMAS and IAPSO), celebrated its first Centennial during the 27th General Assembly in Montréal, in presence of about 4,000 participants.

This event consisted of three important parts: (i) an open Scientific Assembly; (ii) a Council meeting of the duly accredited Delegates of the IUGG Member Countries (plus guests invited in accordance with the By-Laws); and (iii) business meetings of the IUGG, its Associations and their scientific bodies.

As a whole, the Scientific Assembly consisted of 234 symposia, 558 sessions and 18 workshops, during which more than 4580 oral and poster presentations were made. IAVCEI itself had 22 symposia, 7 of which were joint with other Associations under IAVCEI leading. IAVCEI was also involved in 17 other multidisciplinary joint symposia and was represented by P. Papale (INGV, Italy) for one of the 9 Union Lectures (Volcanic giants - what we know, what we think we know, what we can't know about cataclysmic super-eruptions, July 16).

Especially, the 27th IUGG Assembly was a special occasion for IAVCEI to celebrate its first centennial. This happened through a unique full-day symposium (V01) on July 12, entitled "CELEBRATING 100 YEARS OF VOLCANIC ACTIVITY: 1919-2019", that involved 11 invited oral presentations:

- From Small Beginnings to a Vibrant International Scientific Association: IAVCEI 1919–2019 (Ray Cas)

- A Hundred of Years of Advances in Understanding How Volcanoes Work (Katherine Cashman)

- Hundred-Year Advances in Volcano Seismology and Acoustics (Diana Roman and Robin Matoza)

- A Century of Volcano Geodesy: From Past Practices to Future Potential (Elske de Zeeuw-van Dalfsen and Mike Poland)

- Hundred-Year Advances in Understanding and Surveying Volcanic Degassing (Patrick Allard, Marie Edmonds and Hiroshi Shinohara)

- Hundred-Year Advances in Volcano Modelling (Costanza Bonadonna and Augusto Neri)

- Causes and Consequences of Lava Dome Eruptions (Setsuya Nakada)

- Hawaii 1983 to Now: Multidisc iplinary Observations and Monitoring of Long-Lived Eruptions (Bruce Houghton)

- Lessons Learned from Monitoring and Studies of Recent Icelandic Eruptions: Precursors, Eruption Dynamics and Timescales (Freysteinn Sigmundsson et al.)

- Managing Volcanic Risks in Dense Urban Areas: the Challenge at Vesuvius-Campi Flegrei (Mauro Rosi)

- Evolution of Eruption of Fuego Volcano and Descent of Pyroclastic Density Currents of June 3, 2018 (Rüdiger E. Wolf and Carla Chun Quinillo)

The presentations can be accessed on IAVCEI's website at: https://www.iavceivolcano.org/40-featured-articles/139-presentations-highlighting-the-centennial-of-iavcei-and-one-hundred-years-of-volcanology.html. They will constitute the matter for a special IAVCEI Centennial issue.

Otherwise, IAVCEI's General Secretary (Roberto Sulpizio) and President (Don Dingwell then Patrick Allard) contributed to the various IUGG business meetings in Montréal. Afterwards, they participated on 29 July 2019 to the IUGG Centennial Celebration Day at UNESCO headquarters in Paris.

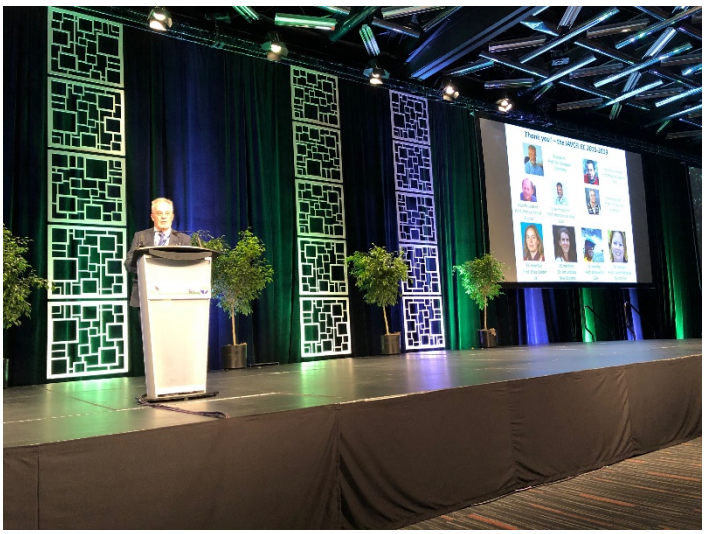
This official celebration, with more than 150 attendees, involved senior representatives of ISC, UNESCO, WMO, the United Nations Office for Disaster Risk Reduction (UNDRR), the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), and H.S.H. Prince Albert II of Monaco as the guest of honour.

Patrick Allard
IAVCEI President

A PHOTOSTORY OF THE IAVCEI ASSEMBLY AND CENTENNIAL PARTY AT 27TH IUGG MEETING (MONTREAL, CANADA)

A short photogragraphic report in the aftermath of the 27th IUGG conference held in Montreal (Quebec, Canada; 8-18 July 2019).

Secretary General (Roberto Sulpizio) and 2015-2019 President (Don Dingwell) waiting for the opening of the IAVCEI General Assembly



President reports over 4 years of activity and thanks the EC members.

President and SG present the Wager medal certificate to Madelaine Humphreys (not present for maternity leave).

Corrado Cimarelli laudation for Damien Gaudin (Walker prize winner).

Damien Gaudin receipts the GPL Walker certificate.

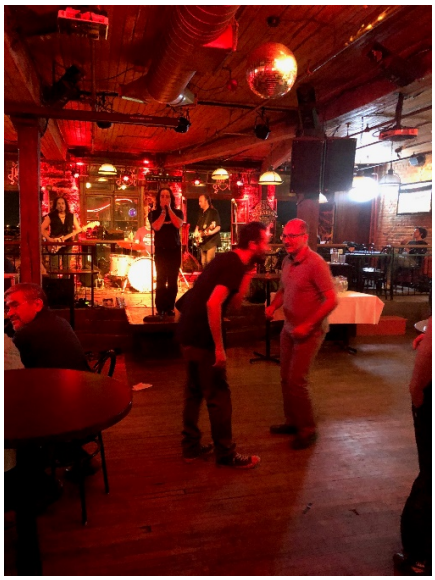
Yan Lavallée laudation for Fabian Wadsworth (Walker prize winner).

Fabian Wadsworth receipts the GPL Walker certificate.

Jan Lindsay presents the new IAVCEI logo.

Presentation speech of the elected 2019-2023 President (Patrick Allard).

Adrian Pittari promotes the 2021 IAVCEI SA in Rotorua (New Zealand).


IAVCEI members enjoying food, beer and live music at Pub St Paul, celebrating the IAVCEI centennial.

See you next IAVCEI meeting!

Roberto Sulpizio
IAVCEI Secretary General

BULLETIN OF VOLCANOLOGY - NEWS

Dear IAVCEI colleague,

On 2 June 2019 the annual meeting between Springer, Bulletin of Volcanology and IAVCEI took place in Clermont Ferrand (France). As part of this meeting publication statistics for the previous three years (2016-2018) were reviewed. News is good. Statistics are stable, both in terms of quantity and quality; with the journal publishing almost 100 papers a year across all of IAVCEIs core research areas, including the Earths Interior. While 88 papers were published in 2016, 90 were published in 2017 and 85 in 2018. This was out of a total of 473 manuscripts handled between 2016 and 2018, during which time the typical handling speed was around 170 days, of which 70 days were taken to reach first decision. A number of new initiatives to increase the profile (as well as attractiveness and quality) of the Bulletin were also discussed. When they are a little more solid, we will announce these initiatives in this column. However, for now, while continuing to consider the Bulletin as the first place to publish your volcanology, please do send in any ideas you have as to how we can improve the service of the journal to IAVCEI.

The four initiatives announced at Cities on Volcanoes in Naples during September 2018 are now maturing nicely. The first is the special issues initiative. The special issue for the 2016–2017 eruption of Bogoslof volcano (as announced in IAVCEI News 2018, No: 3) is now in the process of population (please track: https://link.springer.com/journal/445/topicalCollection/AC_76badc44edf72d4b77c4964332b37b33/page/1). The advantage of the Bulletin of Volcanology special issue system is that there is no wait-time for publishing-authors as once the preface is set-up, articles are published upon acceptation in the first available volume of the Bulletin, and then collated in the special issue. Special Issues for “The 2018 Eruption of Kilauea” and “Studies of Kamchatka-Kurile volcanism”, plus a topical collection on “Pyroclastic Current Models”, are also in the process of being set-up. Please do consider submitting to these special issues, as well as proposing special issues and topical collections that are timely in terms of scientific/programmatic need and eruptive activity. In parallel with this, we continue to issue press releases highlighting papers (to which access is then made open) that can support scientific understanding of a developing volcanic crisis. This is an initiative in collaboration with Smithsonian’s Global Volcanism Program and the USGS Volcano Hazards Program, where our last release was made on 27 June 2019 for activity at Ubinas volcano (Peru).

We have now also now set up our own web-site tab on https://www.iavceivolcano.org/. The tab is still in the process of construction, but we will be announcing, and linking, all new initiatives using this tab from here-on. Finally, in January, Springer released the first results of the “Reviewer Incentive Scheme”. As part of this scheme, for every reviewer who accepts an invitation to review, Springer donates to a fund that accumulates through the year. The 2018 scheme was sufficient to provide support for 12 IAVCEI members to attend IUGG in Montreal during July 2019.

Andy Harris
Editor-in-Chief of Bulletin of Volcanology (Springer)

A NEW LOGO FOR A NEW CENTURY
New logo of IAVCEI

To mark the occasion of our 100th birthday at the recent IUGG conference in Montreal, IAVCEI launched a new, fresh logo! Earlier this year we put out a call for you to come up with your best designs, and we thank everyone who submitted a logo design. There were some great entries! We put the finalists to the vote in June, and received 647 votes after removal of duplicates from the same email address. We are happy to announce that the winning logo won by a large margin, receiving 43% of the total votes! The new IAVCEI logo was jointly designed by Mai Sas and Robert Dennen, who will each receive a four year membership of IAVCEI and waived registration fees at the next IAVCEI conference of their choice. Please use this logo moving forward! The logo can be downloaded at the link below.

https://www.iavceivolcano.org/40-featured-articles/140-a-new-logo-for-a-new-century.html

The new logo of IAVCEI

Jan Lindsay
Vice-President of IAVCEI

SOUFRIÈRE HILLS VOLCANO 25 YEARS ON CONFERENCE, MONTSERRAT, WEST INDIES 20-24 JULY 2020

Dear Colleagues,

As many of you will know 18th July 2020 marks the 25-year anniversary of the start of the eruption at Soufrière Hills volcano. To commemorate the anniversary, the Montserrat Volcano Observatory (MVO) in collaboration with The University of the West Indies Seismic Research Centre, are hosting the Soufrière Hills Volcano 25 Years On conference from 20-24 July 2020 in Montserrat.

We are pleased to invite you to participate in this conference, the theme of which is Opportunities from Disaster: Lessons from 25 years living with the volcano. With a view to not only discussing what has happened in the past but also looking towards the future of living with the volcano.

The details of the conference, including the first circular are available on the website www.shv25.com and for further information (or to be added to the mailing list) please email info@shv25.com

The conference will focus on the many variables that go into life with a volcano; volcanism and geology will be discussed together with disciplines from the social sciences. Several day themes are put forth to explore a range of multidisciplinary topics including:

1. Science into disaster risk reduction – to include both the physical sciences of volcanology and also the practical aspects of implementing the science into reducing the risk from volcanic activity
2. Learning from the past – for instance geoheritage, archaeology, geoparks, how we learn from the past and how we can promote learning in the future and for generations to come
3. Cultures of communication – communication can be through words, pictures and sound, so how do we communicate about volcanoes and volcanic hazard both for hazard mitigation and more generally, how does living with a volcano impact culture and what are the short and long term cultural responses to the eruption
4. Resources for future resilience – volcanoes are a natural resource, the mineral rich soil influences the flora and fauna and they produce materials that can be utilised for economic purposes, the knowledge that we gain through learning about a volcano, its products and its impact is also a resource that we can use to promote future resilience.

Figure 1: Pyroclastic flows from the Soufrière Hills volcano override agrictultural land and residences, December 1997 (Peter Francis)

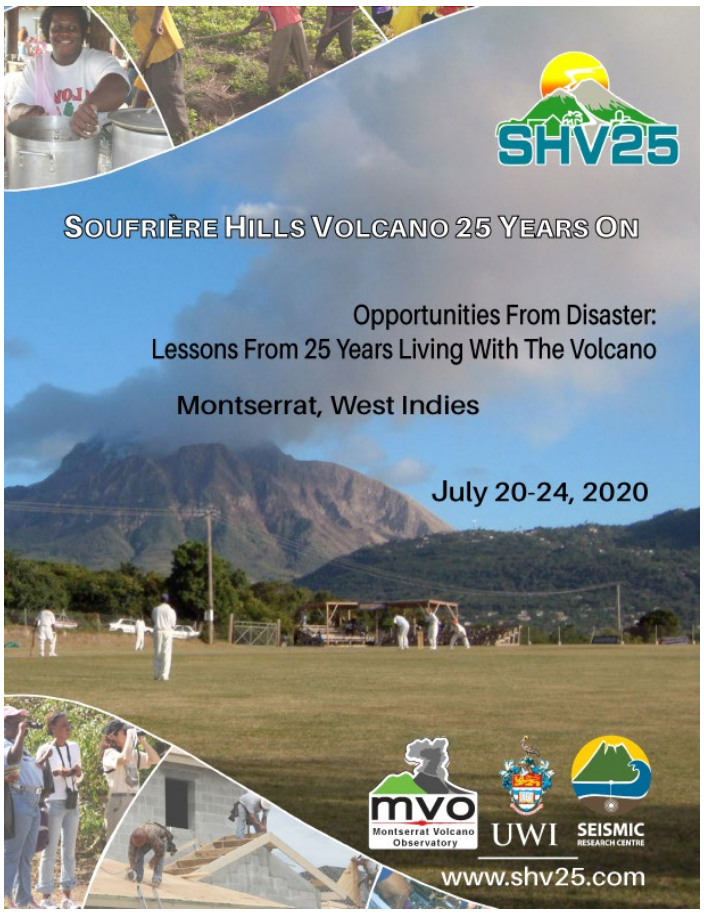
After three centuries of dormancy, the Soufrière Hills volcano eruption commenced on the 18th July 1995, while the island of Montserrat was just recovering from the devastating effects of Hurricane Hugo (1989). Between July 1995 and February 2010, five phases of dome growth occurred, associated with dome collapses, explosive activity, pyroclastic flows, ash falls, rockfalls and lahars. The unusually long-lived eruption of the Soufrière Hills volcano has had a tremendous socio-economic impact on Montserrat, with the destruction of many communities in the southern part of the island (figure 1), including the capital city of Plymouth (figure 2), and the death of 19 people on 25th June 1997. The conference is a forum to discuss the lessons learned from the 25 year eruption and from other examples of volcanoes around the world, in order to to look forward for ways to maximize the

benefits of the Soufrière Hills volcano, its products and its extraordinary beauty. We welcome you to join us in Montserrat next year for these discussions and to enjoy the magnificent nature and the rich island life.

Figure 2: Plymouth (the previous capital of Montserrat) at the start of the eruption, August 1995 (Cynthia Gardner)

Sincerely,

Dr. Victoria Miller
Conference Chair - Soufrière Hills Volcano 25 Years On
The University of the West Indies Seismic Research Centre – Montserrat Volcano Observatory



REPORT ON THE IAVCEI & UWI-SRC WORKSHOP "FOSTERING DEVELOPING-DEVELOPED COUNTRY PARTNERSHIPS FOR THE ADVANCEMENT OF VOLCANO SCIENCE," SAINT AUGSTINE, TRINIDAD & TOBAGO

Volcano scientists from 20 countries around the world convened at The University of the West Indies (UWI), St. Augustine Campus (Trinidad), from 4-7 June 2019, to discuss the challenges and opportunities in undertaking volcanology research, monitoring and risk mitigation in a resource-constrained context. The workshop represented a platform to discuss how volcano science could be advanced as a result of fostering country partnerships through the establishment of a new community-driven network (as part of IAVCEI) that focuses on supporting volcano scientists from Low- to-Middle-Income Countries (LMICs). The workshop was convened by The University of the West Indies Seismic Research Centre (UWI-SRC) with support from IAVCEI, IUGG, US AID, Vrije Universiteit Brussel and Université Libre de Bruxelles.

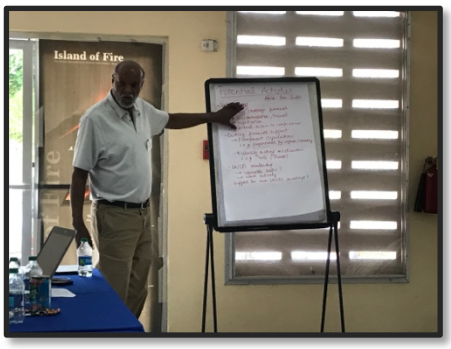
Group photo of the participants of the workshop - left to right: Eduardo Gutierrez (El Salvador), Cristian Lopez (Colombia), Victoria Miller (Montserrat), Mariano Agusto (Argentina), José Palma (Chile), Sandrine Cevuard (Vanuatu), Elisante Mshiu (Tanzania), Matthieu Kervyn (Belgium), Supriyati Andreastuti (Indonesia), Gezahegne Yirgu (Ethiopia), Ramon Espinasa (Mexico), Katcho Karume (Democratic Republic of Congo), Francisco Vasconez (Ecuador), José Saballos (Nicaragua), Javier Pacheco (Costa Rica), Erouscilla Joseph (Trinidad & Tobago), Karen Fontijn (Belgium), Mikhail Herry (Papua New Guinea), Raúl Salguero (Guatemala), Solomon Possy (Solomon Islands), Lloyd Lynch (Trinidad & Tobago), Jeffery Marso (United States), Richard Robertson (Trinidad & Tobago)

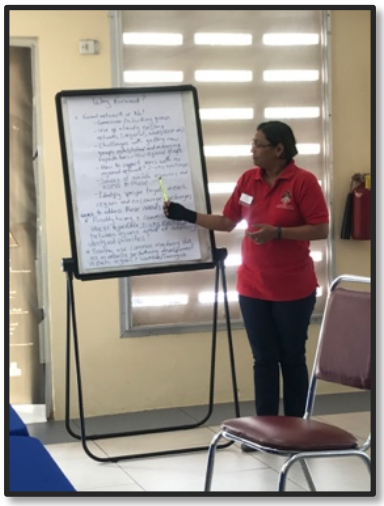
Prior to the workshop, an online survey was held targeting volcano scientists identifying as working in a resource-constrained context, to ask their views on challenges related to working in this context. The survey asked specific questions about the ability to participate in international volcanology (e.g. by attending meetings and publishing research papers), and about engaging with international researchers visiting their countries.

Mikhail Herry (Papua New Guinea) presenting on challenges to volcanology in Papua New Guinea.

The first day of the workshop focused on discussing the challenges and needs for volcanology in a resource-constrained context. Each country/region representative presented on the volcanological activities in their part of the world and the challenges they face. This was followed by a presentation of the results from the accompanying survey that had been open for contributions from colleagues worldwide and group discussion to identify the key challenges that are common to all.

Breakout group discussions.





Top - Gezahegne Yirgu (Ethiopia) and base - Erouscilla Joseph (Trinidad & Tobago) presenting the key points from group discussion of the way forward for the network.

The second day centred around whether some of the challenges facing volcanologists in LMICs could be tackled through the establishment of a network focused on linkages between scientists working in a resource-constrained context, with collaboration through existing regional networks, as well as providing support to tackle some of the barriers to engaging in an international context. Following the presentation on the survey results pertaining to network definition, goals and activities and the subsequent group discussion, participants all agreed that there should be a network. After several breakout sessions the groups outlined the goals, functioning and composition of the network as well as producing an extensive list of proposed activities for the network.

On day three we started with an introduction to IAVCEI protocols and examples of existing guidelines for professional conduct e.g. during a crisis, and covered the survey results related to engagement. Participants all agreed that some sort of guidelines or recommendations for volcanologists working in LMICs would strengthen the professional relationships between foreign visitors working in-country. These discussions continued into day four with the development of a draft set of 15 statements to make up the proposed guidelines for best-engagement protocols in international collaboration. This draft was later presented to the IAVCEI executive committee for feedback and further development of these guidelines into a more detailed document will be undertaken in the next few months.

Participants visiting The University of the West Indies Seismic Research Centre to meet the operational team.

During the last two days of the workshop the discussion of the focus and structure of the network was wrapped up by consensus on several important aspects related to the 1) network name, 2) network aim, 3) network goals, 4) network structure and board membership, 5) working groups and key activities including a list of specific action points to work on in the first six months of the network. The name for this new network was decided to be "INVOLC: International Network for VOLcanology Collaboration".

On the last day of the workshop, participants were invited to visit The University of the West Indies Seismic Research Centre to view the operational facilities and meet staff in an informal setting. Our final group activity was an evening tour of Port of Spain ending with dinner in the city to celebrate the successful achievements of the workshop.

Our tour guide for Port of Spain gave many insights in the geological and social history of Trinidad and Tobago.

A boat tour through the Caroni Bird Sanctuary and wetlands provided an opportunity to enjoy the wildlife and sunset in Trinidad.

One important component of the workshop and these activities is the networking aspect to forge new collaborations and partnerships. There were many opportunities to engage during meeting activities, meals and social events including a visit to The University of the West Indies Seismic Research Centre, a trip to Caroni Bird Sanctuary, and a tour of Port of Spain as well as many opportunities to try the local (often spicy) food options – hold the pepper!

Overall the inaugural workshop of the network was a success, firstly just in managing to get participants to the workshop venue, despite visa and flight issues (including a delay due to a volcanic eruption) and all the logistics which comes with trying to get everyone from all corners of the globe to one location. But it was also a success because of the lively discussions that were had which covered many aspects regarding both the challenges and the opportunities of undertaking volcanology in LMICs. Everyone agreed that they had met colleagues that they would not normally interact and collaborate with; yet the challenges faced were so similar in many places that there was a strong feeling that different regions in the world could gain benefit from learning lessons from each other.

Feedback from this workshop and accompanying survey has channelled directly into the establishment and the functioning of a new community-driven network that is being formed under IAVCEI, with a view to facilitate and enhance the active integration of volcano scientists working in resource-constrained contexts (i.e. mainly within Low- to Middle- Income Countries) into the global volcanological community. The enablement of respectful partnerships between scientists in different countries will promote both the creation and sharing of information, knowledge and tools in a sustainable way to bridge the gap in these data-sparse regions.

The new network IAVCEI-INVOLC was officially inaugurated as part of IAVCEI during the recent IUGG General Assembly in Montreal, Canada. The overall aim of the network is "Fostering Cross-Country Partnerships to Overcome Challenges in Resource-Constrained Settings for the Advancement of Global Volcanology," further details on the network and the workshop report will soon be available from the IAVCEI website.
Please do not hesitate to get in touch with us in case you have any questions on the workshop or the new network, or if you would like to become more involved in this initiative.

The INVOLC board
INVOLC board members:

Victoria Miller, Victoria.Miller@sta.uwi.edu - The University of the West Indies Seismic Research Centre, Trinidad / Montserrat Volcano Observatory
Karen Fontijn, Karen.Fontijn@ulb.ac.be - Université Libre de Bruxelles, Belgium
José Luis Palma, josepalma@udec.cl - University of Concepción, Chile
Raúl Salguero, rasalguero@insivumeh.gob.gt - INSIVUMEH, Guatemala
Gezahegne Yirgu, gezahegnyirgu@yahoo.com - Addis Ababa University, Ethiopia
Supriyati Andreastuti, s7andreastuti@gmail.com - CVGHM, Indonesia

1ER CONGRESSO ASSOCIACIÓN LATIONOAMERICANA DE VOLCANOLOGÍA ALVO - 3 – 7 November 2019 Universidad Católica del Norte, Antofagasta, Chile

Dear IAVCEI members,

The organization of the 1st ALVO (LAtin American Volcanologists Association) congress titled as "Volcanología en y para Latinoamérica" is in advanced stage. The conference will take place between 3 and 7 of November, 2019 In Antofagasta hosted by the Universidad Católica del Norte.

Please check the program out in the 3rd Circular available from the following link:

https://www.1ercongresoalvo.com/

2018 EMSEV ANNUAL REPORT

1. INTRODUCTION

EMSEV ('Electromagnetic Studies of Earthquakes and Volcanoes', http://www.emsev-iugg.org/emsev/) is an Inter-Association Working Group of the International Union of Geodesy and Geophysics (IUGG, http://www.iugg.org). The three International IUGG Associations of Geomagnetism (IAGA, http://www.iugg.org/iaga/), Volcanology and Chemistry of the Earth's Interior (IAVCEI, http://www.iavcei.org/), and Seismology and Physics of the Earth's Interior (IASPEI, http://www.iaspei.org/) powerfully support EMSEV and promote its activities.

During the past 20 years of activity, EMSEV has continuously investigated tectonic and geological setting of active faults and active volcanoes and has constantly worked for a better knowledge of the physical and dynamical processes leading to fault rupture and volcanic eruptions. Based on the expertise of a worldwide community of more than 320 researchers, engineers and students, EMSEV sustains innovative research and findings in electromagnetism (EM), integration of new EM methodologies with other geophysical data to describe, monitor, analyse, and model fault systems and volcanoes.

ESMEV scientists have really expanded methodologies, increased ground observations, satellite data and carried out laboratory measurements to understand earthquake and volcanic processes.
EMSEV objectives are: (1) evaluation and endorsement of advanced studies in the electromagnetic field through international cooperation, conferences and workshops, and high levels international publications, (2) integration of electromagnetic methods together with other geophysical techniques to identify physical processes on all scales before, during and after earthquakes and volcanic eruptions, (3) organization and management of international and regional workshops including sponsorship of sessions at international meetings that describe these results and (4) participation in educational programs relating observed results to reduction of earthquake and volcanic hazards.

2. ADMINISTRATION

As scheduled during the International EMSEV meeting held in Lanzhou in September 2016 (China), it was decided to renew EMSEV bureau and its bulk during the 2018 International EMSEV meeting in Potenza (Italy) (http://web.unibas.it/emsev2018/index.php/en/).
From 1999, date of EMSEV building, The EMSEV body consists of the 1) Executive Bureau, 2) Working Group Members that include all scientists interested and involved in EMSEV activities, 3) National Representatives (about two per country) and 4) EMSEV collaborators that include all interested scientists from other geophysical disciplines. The executive bureau is elected every four-years.

From 2007 to 2018, every four years Chairperson (J. Zlotnicki), Vice-Chairperson (M.J.S. Johnston), and Secretary (T. Nagao) were elected for driving EMSEV bureau and community. J. Zlotnicki and M.J.S. Johnston asked to renew the bureau and a new election was organized during and after the biennal 2018 EMSEV meeting in Italy.

The EMSEV body will now consist of the 1) Executive Bureau, 2) Country Liaison Members, 3) EMSEV members and 4) EMSEV Collaborators.
EMSEV bureau. Toshi Nagao was nominated as new EMSEV Chairperson (Japan), Valerio Tramutoli was elected as Vice-Chairperson (Italy), and Jann-Yeng Liu was selected as Secretary (Taiwan).
Takeshi Hashimoto from Hokkaido University (Japan) will be the IAVCEI liaison member, Qinghua Huang from Beijing University the IASPEI liaison member (China), Jann-Yeng Liu from the National Central University (Taiwan) the IAGA liaison member, Katsumi Hattori from Chiba University (Japan) and Dimitar Ouzounov from Chapman University (USA) the liaison members of the Chinese Satellite mission (CSES).

Bureau members were also revised and limited to eight researchers: Valery Korepanov (Ukraine), Vincenzo Lapenna (Italy), Sergey Pulinets (Russia), Nicolas Sarlis (Greece), Ramesh

Singh (India), Filipos
Valliatanos (Greece), Malcolm Johnston (USA, remaining IUGG liaison member), and Jacques Zlotnicki (France, remaining IUGG liaison member).

Country liaison members. Country liaison members are representative scientists from each country (approx. two per country) who promote electromagnetic studies related to earthquakes and volcanoes and contribute to EMSEV activities in their country. 36 scientists from 16 countries represent this EMSEV sub-body.

EMSEV Members. An EMSEV Member is anyone who has an interest and participates in EMSEV activities. Exchange of information is operated thorough EMSEV meetings, which are organized every two years, and/or IUGG General Assemblies (including IAGA, IASPEI, and IAVCEI meetings) and EMSEV mailing list.

EMSEV Collaborators. These are active scientists working in Natural Hazards in any related field of research whose expertise's does not primarily belong in the EM field but who are interested in and contribute to development of new geophysical knowledge. They are interested in participating in EMSEV activities, including analysis of observations and understanding of physical processes from different perspectives. Two collaborators, one in Seismology and one in Geochemistry, are already active. This group will be developed in the next future.
From March 2019, this new EMSEV structure is active and will be effective during next IUGG General Assembly that will be held in Montreal (Canada) in July 2019 (http://iugg2019montreal.com/).
Business meetings will continue to be regularly organized at the EMSEV meetings and International General Assemblies. Minutes of the meetings will be distributed through EMSEV mailing list as usual. Information, activities, and annual and business meetings reports are kept on the EMSEV web site that is mainly managed by T. Nagao (webmaster@emsev-iugg.org). Messages and information on activities are distributed by T. Nagao through the EMSEV mailing list.

3. CONFERENCE ACTIVITIES

EMSEV activities during 2018 continued to be numerous and rewarding for the benefit of the scientific community. EMSEV was involved in several international meetings, organizing sessions devoted to EM phenomena. EMSEV pay attention that researches achieved and published in international journals with sponsorship of EMSEV clearly mention the support of IUGG and EMSEV.

Meetings and workshops

Among the sessions in international conferences sponsored, organized, or including a high level of participation by EMSEV members, some are:
* AOGS-EGU, New dimension for Natural Hazards in Asia, February 4-8, Tagaytay (Philippines)
• NH-A070 Hazards Resulting From A Future Large Eruption At Taal Volcano In Philippines. EMSEV Participation: J. Zlotnicki, Y. Sasai, M. Johnston, G. Vargemezis and the PHIVOLCS team.
* EGU, April 8-138, 2018, Vienna (Austria)
• NH4.5/EMRP4.27/SM3.03: Short-term Earthquake Forecast (StEF) and multi-parametric time-Dependent Assessment of Seismic Hazard (t-DASH) (Co-sponsored by JpGU) (co-organized). Conveners: V. Tramutoli, P.F. Biagi , K. Hattori , J-Y. Liu, G. Martinelli, G. Papadopoulos, M. Parrot, S. Pulinets, F. Vallianatos. * International Conference for the Decade Memory of the Wenchuan Earthquake with the 4th International Conference on Continental earthquakes (http://www.4thicce.com/), May 12-14 . Chengdu, China
• S2-4-3 Multi-parameters observations of pre-earthquake signals and their potential for prediction. Convenors: D. Ouzounov, X. Shen, F. Huang, K. Hattori.
* JpGU-AGU-2018, May 20-24, 2018, Chiba (Japan)
• M-IS04: Interdisciplinary studies on pre-earthquake processes. Conveners: J.Y. Liu, D. Ouzounov, Q. Huang, and K. Hattori.
* IWEP5, International Workshop on Earthquake Preparation Process - Observation, Validation, Modeling, Forecasting, May 25 -27, 2018, Chiba (Japan)
• International Workshop on Earthquake Preparation Process: Observation, Validation, Modeling, Forecasting. Convenors: K. Hattori, D. Ouzounov, M. Nakatani.
* AOGS June 3-8, 2018, Honolulu Hawaii, (USA)
• IG22: Pre-earthquake Anomalies, Earthquake Predictability, 10-Year Commemoration of the 2008 M8.0 Wehchuan Earthquake, Kickoff Chinese Seismo-electromagnetic Satellite. Convenors: J-Y. Liu, K. Hattori, D. Ouzounov.
* The 16th International Conference on Atmospheric Electricity (ICAE2018), June 12-1, Nara (Japan)
• Participating Organizer: M. Komogawa (http://icae2018.saej.jp/vidates.php)
* 36th General Assembly of the European Seismological Commission (GA ESC), 2 to 7 September, 2018 in Valletta, Malta.
• Advances in models, observations and verification towards Operational Earthquake Forecasting. Convenors: A. Peresan, D. Ouzounov, V. Kossobokov, A. De Santis, G. Papadopoulos, S. Pulinets.
* International EMSEV meeting, September 17-21, 2018, Potenza (Italy)
• Integrating geophysical observations from Ground to Space for Earthquakes and Volcanoes investigations. Chairperson: J. Zlotnicki; Co-Chairs: V. Tramutoli, M.J.S. Johnston, T. Nagao, S. Xuhui.
* AGU, December 10-15, 2017, New Orléans (USA) • NH13D: Pre-Earthquake Processes: A Multidisciplinary Approach to Earthquake Prediction Studies. Convenors: D. Ouzounov, K. Hattori, P. Taylor, S. Pulinets.

International 2018 EMSEV meeting

Our major event was the 2018 biennial International Workshop organized by the IUGG EMSEV Inter-Association Working Group on Electromagnetic Studies of Earthquakes and Volcanoes (http://emsev-iugg.org/) and held in Potenza, Italy, from September 17 to 21 (http://web.unibas.it/emsev2018/). This workshop was supported by IAGA, IAVCEI and IASPEI Associations, and was hosted by the University of Basilicata and the Institute of Methodologies for Environmental Analysis of the Italian National Research Council with the strong support of the National Institute of Geophysics and Volcanology. Professor Valerio Tramutoli in association with Professor Nicola Pergola efficiently organized the four-day meeting with a powerful local organizing committee. The workshop primary focused on the observation and understanding of various kinds of electromagnetic phenomena associated with earthquakes and volcanic eruptions, particularly from a multidisciplinary point of view. This meeting was also the first opportunity to discuss the preliminary observations issued from the new Chinese micro-

satellite Zhangheng 1 (also called CSES-1) put on a solar polar orbit above the Earth in February 2018. Several themes were successively developed and discussed: (1) Electromagnetic methods for seismicity and volcano monitoring, (2) Theoretical and laboratory studies for understanding seismic and volcanic phenomena, (3) Satellite observations for volcanic and seismic hazard assessment and monitoring, (4) Earthquake and volcano related phenomena investigation by multi-disciplinary and multi-parametric approaches, (5) Magnetospheric, ionospheric and atmospheric phenomena associated with seismic activities, and (6) Electromagnetic signals associated with earthquakes and volcanic eruptions.
More than 110 participants from 25 different countries coming from 4 continents attended the meeting and presented their most up-to-date results in oral presentations and with posters.

EMSEV International Workshop in September 2016 at Potenza (Italy).

4. JOINT INTERNATIONAL ACTIVITIES

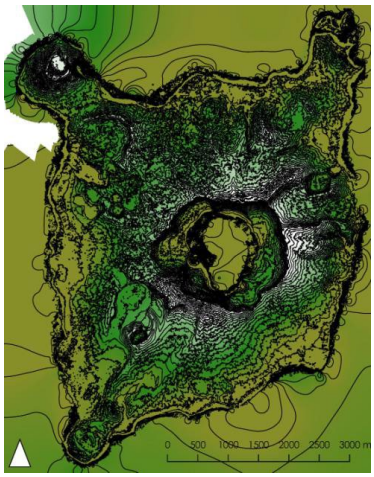
EMSEV activity on volcanoes

A cooperative program on Taal volcano between EMSEV and the Philippines Institute of Volcanology and Seismology (PHIVOLCS http://www.phivolcs.dost.gov.ph/) began in 2003.
Electromagnetic methods were used first for imaging the 3-dimensional structure of the volcano then combined later with other geophysical monitoring systems to monitor the ongoing activity. A shallow magmatic source is located at a depth between 4 and 6 km below the current Main Crater Lake on Volcano Island. A huge hydrothermal system stands under the Main Crater Lake, the top of which can be clogged up by mineralisation with time. The thermo-dynamical system can abruptly give rise to phreatic, phreato-magmatic, and even plinian surges.

To monitor this system, EMSEV and PHIVOLCS have installed a number of multi-parameter stations sending data to the local Buco Observatory and to PHIVOLCS headquarters every two seconds. Magnetic, electric, tilt, resistivity, ground and water temperature data were recorded at field sites and telemetered to PHIVOLCS (leading EMSEV team, J. Zlotnicki, Y. Sasai, M.J.S. Johnston, T. Nagao). The latest results clearly indicate that the longer the inter-eruption period is, the more likely the next eruption will be large (VEI ≥ 4) and more likely the eruption may occur from subsidiary cones surrounding the Main Crater (AOGS, 2018). This international cooperative program has involved teams from Japan, France, USA, Greece, Italy, and Belgium. During these past 15 years of cooperative work, EMSEV provided training to PHIVOLCS members. Further education of the PHIVOLCS team has included scholarships in Japan (PhD in Japan directed by T. Nagao and Y. Sasai) and Belgium.

Teams from France, Greece, Japan and United States with PHIVOLCS team on Taal volcano (2010).

Since 2016, thanks to the EMSEV activity, the Japanese group succeeded to get a three-years JSPS KAKENHI Grant Number 16H05651 in FY2016 (research head: T. Nagao). Through this financial support, we made not only electromagnetic researches but also seismic, geochemical and gravity surveys. Technology transfer to PHIVOLCS for gravity analysis (2D inversion and 3D forward modelling) was performed in 2018.



Digital topographic map of the volcano island by a drone survey (10 m contour interval).

- EMSEV activity related to Earthquake Processes

In 2011, EMSEV started a new research effort focused on understanding fault failure and the failure mechanisms of earthquakes. This was developed through a cooperative research program with the Bishkek Research Station (Bishkek RS) in Kyrgyzstan under the Russian Academy of Sciences where some outstanding research on the relation between EM phenomena and electrical resistivity changes with earthquakes has been being carried out during the last 30 years.

This cooperative agreement between EMSEV and the Bishkek Research Station was signed in November, 2011 and renewed during EMSEV workshop in Athens in April 2015. A paper titled, “Seismic Electric Signals in seismic prone areas" was published in 2017 (Sarlis et al., 2017). Further efforts in the development of joint field studies and data analysis were completed in 2017. EMSEV also participated in the 7th International Symposium on: Problems of Geodynamics and Geoecology of Intracontinental Orogens. During this visit, EMSEV and Bishkek RS upgraded the two EMSEV stations that record the electric field in different horizontal directions and added seismic monitoring.
6
It should be noted that the Bishkek Research Station has a very advanced electrical current system that is able to inject more than 700A of electrical current into 4.2 km long electrical lines. Monitoring these lines can provide information on:
- Changes of the electrical resistivity of the ground in relation to crustal stress and regional seismicity,
- Effects of large current injection on the induced local seismicity which may provide insights into controlling earthquakes,
- Disturbances of the long term behaviour of the magnetic field,
- Pre and post seismic electrical signals.

EMSEV will continue to make efforts for sustaining the Bishkek research station and in analysing of data.
The state of the cooperation leads EMSEV to make new efforts in processing incoming data and publish synthesis of the findings obtained during the last years in addition to the two papers already published.

Chinese Seismo-Electric Satellite mission and EMSEV

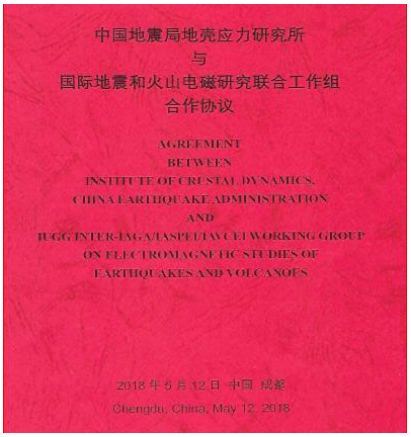
Following the promising results obtained during the DEMETER mission between 2006 and 2010 (https://demeter.cnes.fr/en/DEMETER/index.htm, http://demeter.cnrs-orleans.fr/) on the possible statistical significant occurrence of disturbances of the ionosphere a few hours prior to large earthquakes (Magnitude above 5), the Chinese Earthquake Administration has implemented a new satellite monitoring program in which a flotilla of dedicated satellites should be regularly launched. The first EM satellite has been launched from China in February 2018. Professor Xuhui Shen, Head Scientist and Coordinator of China Earthquake-related Satellite Missions and Director of the Center of Earthquake Observation from Space, is an EMSEV Country liaison member.

In fact, since 2016, EMSEV and Professor Shen are working to merge the Chinese and EMSEV scientific community in order to develop joint programs and analyses, as well as to promote the exchange of researchers.

A Memorandum of Agreement between Institute of Crustal Dynamics (CEA) and EMSEV was signed during the ***International Conference for the Decade Memory of the Wenchuan Earthquake*** held in Chengdu in May 2018 (http://www.4thicce.com/).

The purpose of this Agreement is to provide scientific and technical interaction between the two Sides for collaborative research on active faults and volcanoes, for theoretical and experimental investigations into physical processes related to earthquakes and volcanic eruptions, for promoting new investigations using electromagnetic and other geophysical methods and to enhance data processing and analyses.

The Agreement will promote the development of scientific relations between participants for solving fundamental problems related to the generation of earthquakes and volcanic eruptions and on ways to monitor and mitigate them. Other similar studies in the scope of the Agreement will be discussed by ICD-CEA and EMSEV and be tentatively included under this collaboration.



Memorandum of Agreement signed by ICD-CEA and EMSEV on May 12, 2018 at the International Conference for the Decade Memory of the Wenchuan Earthquake, Chengdu (China).

J. Zlotnicki, T. Nagao, M.J.S. Johnston, V. Tramutoli, J-Y Liu
(April 2019)

IAVCEI SCIENTIFIC ASSEMBLY
15–19 FEBRUARY 2021, ROTORUA,
NEW ZEALAND
WWW.IAVCEI2021.ORG

Call for
Pre- and Post-Meeting Workshop Proposals

The IAVCEI 2021 Scientific Assembly will be hosted within the volcanically active Taupo Volcanic Zone. Scientific sessions and field trips will provide a close tie between its volcanic landscapes and processes and the latest advances in research. Half-day and full-day workshops held pre- or post- conference will provide the perfect platform to explore and share modern techniques and topics relevant to research in volcanology in greater detail than can be achieved in the scientific sessions. Typical workshops should involve presentation of research papers, panel forums or demonstrations with the aim of involving participants in interactive discussion to facilitate interdisciplinary exchange between researchers and stakeholders.

Workshop Proposal Format

Each workshop proposal must include:

1. Title of the workshop
2. Workshop conveners (names, affiliation and email) and any invited presenters
3. Description of the workshop (max ½ page)
4. Planned format of the workshop (duration, preferred day(s), pre- or post- conference, presentations vs interactive ,…)
5. Workshop logistical needs (e.g., anticipated number of participants, style of room, catering, AV/computer requirements, additional needs)
6. Any website or links relevant to the workshop topic
7. If relevant, any relation to past workshops offered at previous IAVCEI conferences.
8. Any association to current IAVCEI commissions or working groups.

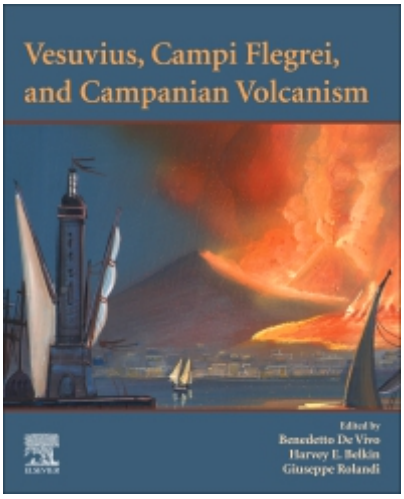
Workshop Proposal Submission

• Proposal Submission Deadline: 1st November 2019
• Notification of Selection: 25th November 2019
• Uploading of Workshop information to website: 1st December 2019

Do not hesitate to contact the IAVCEI 2021 Workshops organizers if you have any questions:

Dr. Marco Brenna (University of Otago) marco.brenna@otago.ac.nz
Dr. Alex Nichols (University of Canterbury)

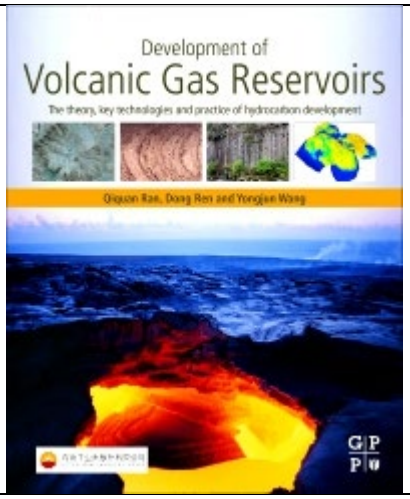
Please Note that the call for Scientific Sessions will be very soon with similar deadline later in the year!



Vesuvius, Campi Flegrei, and Campanian Volcanism
1st Edition by Editors: Benedetto De Vivo Harvey Belkin Giuseppe Rolandi
Paperback ISBN: 9780128164549
Imprint: Elsevier
Published Date: 1st October 2019
Page Count: 500

Vesuvius, Campi Flegrei, and Campanian Volcanism communicates the state-of-the-art scientific knowledge on past and active volcanism in an area characterized by elevated risk due to high-density population. Eruptions, lahars and poisonous gas clouds have killed many thousands of people over recorded history, but volcanoes have given people some of the most fertile soil known in agriculture. The research presented in this book is useful for policymakers and researchers from these and other countries who are looking for risk assessment and volcanic evolution models they can apply to similar situations around the world. Naples and its surrounding area, in particular, the area situated between Vesuvius and the Campi Flegrei volcanic area has a population in excess of 4 million people. The volcanic areas that have similarly large populations in proximity to dormant, but hazardous volcanoes, i.e., Indonesia and Central America can also benefit from this work.

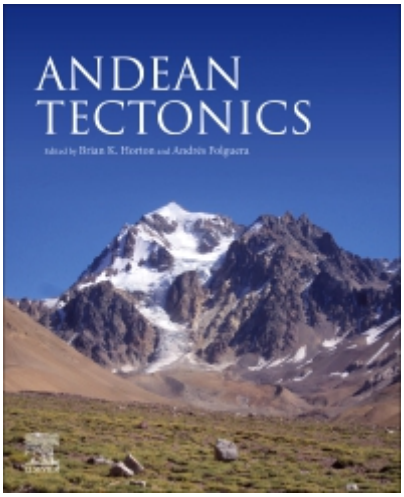
You can access the book via
https://www.elsevier.com/books/vesuvius-campi-flegrei-and-campanian-volcanism/de-vivo/978-0-12-816454-9



Development of Volcanic Gas Reservoirs
1st Edition - The Theory, Key Technologies and Practice of Hydrocarbon Development by Authors: Qiquan Ran Dong Ren Yongjun Wang
Paperback ISBN: 9780128161326
eBook ISBN: 9780128163061
Imprint: Gulf Professional Publishing
Published Date: 3rd October 2018
Page Count: 1078

Development of Volcanic Gas Reservoirs: The Theory, Key Technologies and Practice of Hydrocarbon Development introduces the geological and dynamic characteristics of development in volcanic gas reservoirs, using examples drawn from the practical experience in China of honing volcanic gas reservoir development. The book gives guidance on how to effectively develop volcanic gas reservoirs and similar complex types of gas reservoir. It introduces basic theories, key technologies and uses practical examples. It is the first book to systematically cover the theories and key technologies of volcanic gas reservoir development. As volcanic gas reservoirs constitute a new research area, the distribution and rules for development still being studied. Difficulties in well deployment and supportive development technology engender further challenges to development. However, in the past decade, research and development in the Songliao and Junggar Basins has led to marked achievements in volcanic gas reservoir development.

You can access the book via
https://www.elsevier.com/books/development-of-volcanic-gas-reservoirs/ran/978-0-12-816132-6



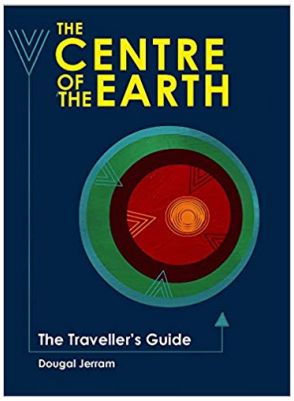
Andean Tectonics 1st Edition by Editors: Brian Horton Andrés Folguera

Paperback ISBN: 9780128160091
eBook ISBN: 9780128160107
Imprint: Elsevier
Published Date: 18th June 2019
Page Count: 743

Andean Tectonics addresses the geologic evolution of the Andes Mountains, the prime global example of subduction-related mountain building. The Andes Mountains form one of the most extensive orogenic belts on Earth, spanning approximately an 8,000-km distance along the western edge of South America, from ~10°N to ~55°S.

The tectonic history of the Andes involves a rich record of diverse geological processes, including crustal deformation, magmatism, sedimentary basin evolution, and climatic interactions. This book addresses the range of Andean tectonic processes and their temporal and spatial variations. An improved understanding of these processes is fundamental not only to the Andes but also to other major orogenic systems associated with subduction of the oceanic lithosphere.

You can access the book via
https://www.elsevier.com/books/andean-tectonics/horton/978-0-12-816009-1

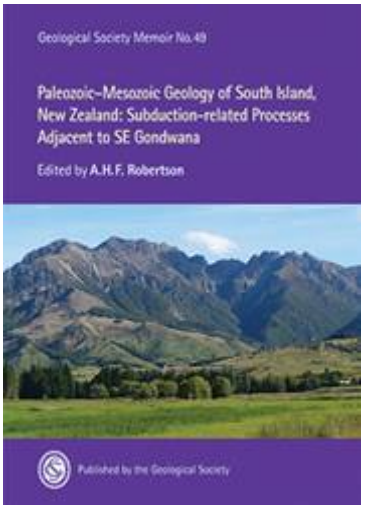


The Centre of the Earth: The Travellers Guide (Travellers Guides) by Dougal Jerram

Series: Travellers Guides
Hardcover: 160 pages
Publisher: Palazzo Editions (October 1, 2018)
Language: English
ISBN-10: 1786750597
ISBN-13: 978-1786750594

This book tells you everything you need to know about a trip to the planet's core, with the proposed journey to be made using an ingenious Centre-Pod drilling vehicle. Starting with your first entry through the earth's mantle, at a boundary in the tectonic plates, you'll travel through the geological layers to reach the twin layers of the earth's core. Activities for your trip include exploring a volcano, hunting for diamonds under the cratons, discovering what it's like at the hypocenter of an earthquake, and riding up a mantle plume on your return journey. Also included are lists of "What Not To Miss At The Earth's Core," "Top Ten Favourite Excursions," and "The Centre of the Earth in Popular Culture."

You can access the book via
https://www.amazon.com/Centre-Earth-Travellers-Guide-Guides/dp/1786750597

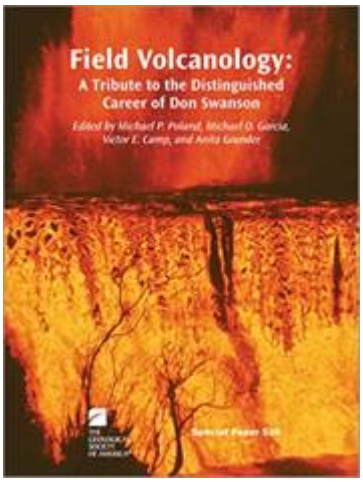


Paleozoic–Mesozoic Geology of South Island, New Zealand: Subduction-related Processes Adjacent to SE Gondwana Edited by A.H.F. Robertson

Type: Book
Ten Digit ISBN:
Thirteen Digit ISBN: 9781786204301
Publisher: GSL Memoirs 49
Binding: Hardback
Pages: 378

This volume presents a set of research papers that provide new data and interpretations of the Permian–Triassic terranes of SE Gondwana, now exposed in South Island, New Zealand. Following an introduction for general readers, a historical summary and a review of biostratigraphy, the individual papers primarily focus on the Permian magmatic arc of the Brook Street Terrane, the classic Permian Dun Mountain ophiolite and the Permian–Triassic Maitai Group sedimentary succession. The new results emphasize the role of subduction and terrane displacement adjacent to the Permo-Triassic Gondwana margin, and present fundamental insights into three crustal processes: subduction initiation, supra-subduction zone oceanic crust genesis and forearc basin evolution. The volume concludes with a wide-ranging summary and synthesis of the regional Cambrian to Early Cretaceous tectonostratigraphy of New Zealand's South Island in relation to the wider areas of Zealandia, East Australia and West Antarctica. The volume will interest geoscientists, including stratigraphers, sedimentologists, palaeontologists, igneous petrologists, geochemists, geochronologists and economic geologists, and is aimed at professional geologists and advanced students of geology.

You can access the book via
https://www.geolsoc.org.uk/M0049

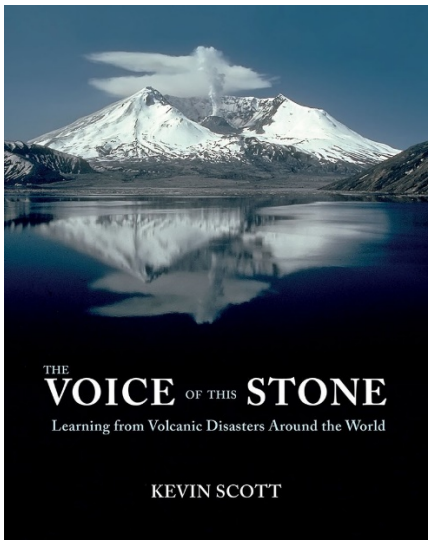


Field Volcanology: A Tribute to the Distinguished Career of Don Swanson Edited by Edited by Michael P. Poland, Michael O. Garcia, Victor E. Camp, and Anita Grunder

Type: Book
Ten Digit ISBN:
Thirteen Digit ISBN: 9780813725383
Publisher: GSA Special Papers USPE538
Binding: Paperback
Pages: 458

Don Swanson, who received the GSA Mineralogy, Geochemistry, Petrology, and Volcanology Divisions Distinguished Geologic Career award in 2016, has adopted a detailed, field-oriented approach to studying problems of great volcanologic importance across a range of compositions and spatio-temporal scales. Swansons work has resulted in a series of fundamental contributions that have advanced understanding of the Columbia River flood basalts, Cascade volcanic arc, and Hawaii, and his insights have been applied not only around the world, but across the solar system. This volume emphasizes the role of field volcanology as a window into better understanding volcanic processes past and present, and highlights, in particular, those places and processes where Swansons insights have been particularly impactful.

You can access the book via
https://www.geolsoc.org.uk/USPE538

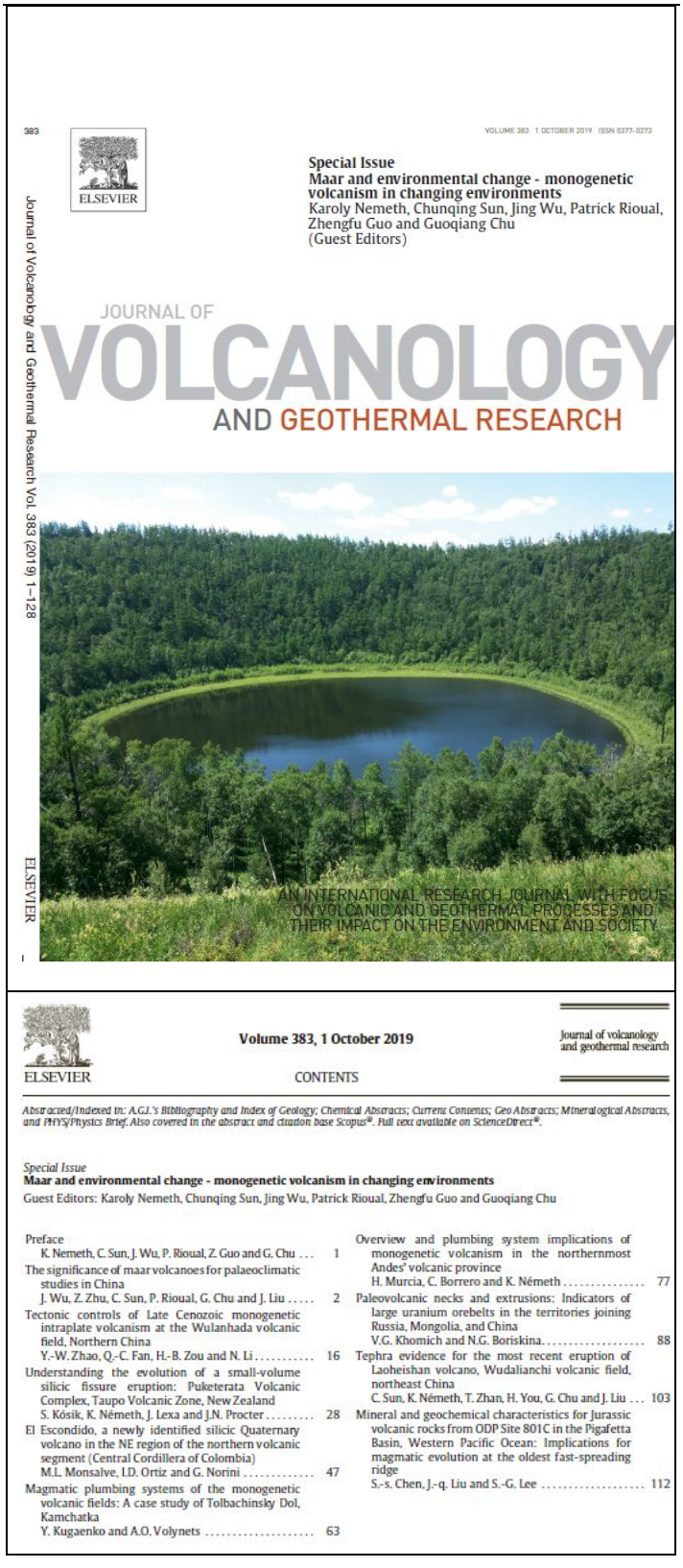


The Voice of This Stone by Kevin Scott

• Retail: $29.95
• Size: 7.5″ x 9.5″ portrait; 224 pp
• Images: Estimated 125 black-and-white and color photos, including maps and illustrations
• Text: Approximately 70,000 words
• Format: Softbound, sewn
• Paper stock/printing: 100 basis premium dull coated / printing 4 color
• Publication: June 1, 2019
• ISBN: 978-1-7326775-1-7

In The Voice of This Stone, a widely published and respected volcanologist with five decades of scientific study and boots-on-the-ground experience shares his expert knowledge. Through more than a dozen case studies from around the globe, Dr. Kevin Scott offers chilling details about what happened before, during, and after infamous volcanic cataclysms. During his lengthy career as a field geologist with the U.S. Geological Survey (USGS), Scott traveled extensively to visit sites that were dramatically altered by forces within the earth. He has witnessed firsthand what happens when tectonic plate movement ignites earthquakes and volcanic activity such as eruptions and killer lahars, massive mud-and-debris landslides that roar down mountainsides. Scott's case studies highlight some of the best known events and advance warnings regarding future episodes. By deciphering the histories of other disasters, Scott proposes, lives can and will be spared.

You can access the book via
https://www.goodreads.com/book/show/44282997-the-voice-of-this-stone



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CONTENTS

Abstracted/Indexed in: A.G.I.'s Bibliography and Index of Geology; Chemical Abstracts; Current Contents; Geo Abstracts; Mineralogical Abstracts, and PHYS/Physics Brief. Also covered in the abstract and citation base Scopus®. Full text available on ScienceDirect®.

Special Issue
Maar and environmental change - monogenetic volcanism in changing environments
Guest Editors: Karoly Nemeth, Chunqing Sun, Jing Wu, Patrick Rioual, Zhengfu Guo and Guoqiang Chu

Author(s): Casadevall, Thomas J.; Tormey, Daniel; Roberts, Jessica
Organization(s): IUCN, World Heritage Programme, IUCN World Commission on Protected Areas (WCPA)
Abstract:
Volcanoes are true wonders of the planet; they are central to the formation, evolution and sustenance of biological systems; they form some of our deepest and most significant cultural attachments to the land; and they attract large numbers of visitors for their aesthetic appeal. Although the primary focus of the analysis in this Study is on volcanic sites that are inscribed on the World Heritage List under criterion (viii), these defining features of volcanoes mean that States Parties may also consider protection of the volcanic heritage value by listing them under other criteria. This Study also provides advice to States Parties on the application of criterion (viii) specifically to volcanic sites. The advice includes the use of the classification system and features identified in this Study to strengthen the nomination of volcanic sites under criterion (viii). The scope of the study is the World Heritage List, but the analysis in this Volcano Thematic Study also includes properties listed in the UNESCO Global Geoparks Programme and sites listed in the UNESCO Man and the Biosphere Programme (Biosphere Reserves).
Imprint: Gland, Switzerland : IUCN, 2019
Physical Description: viii, 68p. : ill., maps
Publication Year: 2019
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DOI: https://doi.org/10.2305/IUCN.CH.2019.07.en
Download from: https://portals.iucn.org/library/node/48448

FUTURE EVENTS
for IAVCEI member's interest

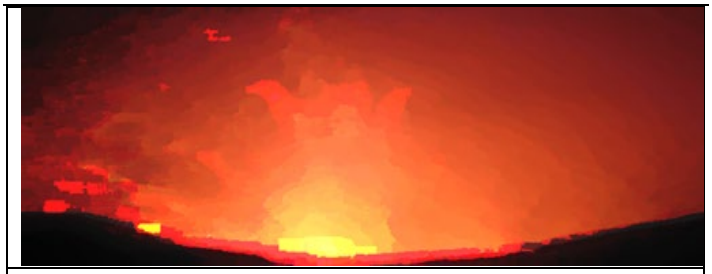
34th IAS Meeting of Sedimentology
Rome, Italy,
from 10-13 September 2019.
Website: http://iasroma2019.org/

1st ALVO Conference
3 – 7 November 2019
Antofagasta, Chile
Website: www.1ercongresoalvo.com

Sixth LASI Meeting on "The Physical Geology of Subvolcanic Systems: Laccoliths, Sills and Dykes"
Malargue, Argentina
25-26th November 2019
Website: www.lasi6.org

International Geological Congress 2020
New Delhi, India
2 – 8 March 2020
Web: https://www.36igc.org/

Chapman Conference
on Distributed Volcanism and Distributed Volcanic Hazards
Flagstaff, Arizona
16-20 March 2020
Web: https://www.agu.org/en/Chapmans-Distributed-Volcanism



Next Issue of the **IAVCEI News** will be published on 15th **December 2019**. Articles, notes, news or any items relevant to the IAVCEI community must be submitted by **5th December 2019** to be published in the next Issue.
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If you have any idea or plan to have IAVCEI involved in the IUGG Outreach Programs, please contact Karoly Nemeth via k.nemeth@massey.ac.nz