



IAVCEI *News* 2018 No: 1

INTERNATIONAL ASSOCIATION OF VOLCANOLOGY AND CHEMISTRY OF THE EARTH'S INTERIOR

FROM THE PRESIDENT

Dear Colleagues,



Don Dingwell
President of the
IAVCEI

I have a number of friendly requests.

I write to you now on the eve of the deadline (30 April) for nominations for the inaugural IAVCEI "Volcano Surveillance and Crisis Response Award". Please consider adding your nomination of a colleague to this year's nominations.

We also stand on the precipice of the 4 May deadline for proposal for COV11 in 2020. Do consider advancing volcanology in your part of the world in an especially effective

manner by hosting IAVCEI's runaway success, the Cities on Volcanoes meeting.

Please redouble your efforts to make younger colleagues aware of the newly established ECR-Net, IAVCEI's Early Career Researcher's Network.

The deadline for abstract submission to COV10 is also rapidly approaching (10 May). Don't miss out on what will certainly be a watershed meeting for IAVCEI.

Finally, on the horizon lies the Centennial (!) IUGG 2019 meeting in Montreal Canada. Our secretary general has been very effective

in establishing our role in this meeting and you should all consider putting it in your calendars (July 8-18) for 2019. It will also be the opportunity to welcome the next (yet to be elected) president of IAVCEI..

Don Dingwell
Munich 14 April 2018.

INAUGURAL CALL FOR NOMINATIONS FOR THE IAVCEI

Volcano Surveillance and Crisis Response Award

All IAVCEI members are invited to submit nominations for the IAVCEI Volcano Surveillance and Crisis Response Award, which will be presented at the Cities on Volcanoes meeting in Naples in September 2018.

Nominations may be made on behalf of an individual, individuals, or an observatory team, that has/have demonstrated exemplary service to the development of observatory-based volcanology and/or response to volcanic crises.

Nominations (instructions available on the IAVCEI website at URL: <https://www.iavceivolcano.org/iavcei-awards/volcano-surveillance-and-crisis-management-award.html>) should be submitted to Prof. D. B. Dingwell, IAVCEI President and Chair of the IAVCEI Awards Committee by

30 April 2018

FILMS FOR PUBLIC COMMUNICATION

IAVCEI members will be aware of a series of short films designed for communicating to the public about volcanic hazards. The Partners in the VolFilm project are pleased to announce several new films have been made public. There are an additional 6 films, covering volcanic explosions, lavas and volcanic gas to add to the films on pyroclastic flows and lahars. For each hazard there is a film on the hazard and a film on the impact of the hazard. In addition, there are four new films featuring the experiences of people affected by volcanic hazards. These films cover pyroclastic flows, lahars, ash and volcanic gas. There are four language versions of each film in English, French, Spanish and Indonesian (Bahasa). VolFilm products have been developed under the auspices of IAVCEI and Global Volcano Model and has been funded by the Global Facility for Disaster Reduction and Recovery, DfID (UK), the Vetlesen Prize and the Natural Environment Research Council as well as significant benefits-in-kind from the project partners.

The films can be viewed and downloaded at:

<https://vimeo.com/volfilm/videos>

This link is also available through the IAVCEI web site.

We hope that the volcanological community enjoy the films and those involved in volcano emergency management can use them to communicate with the public. The films can be downloaded and used for public engagement and education for free. The films or footage in the film cannot be used for commercial purposes. The Volfilm partners would greatly value opinions, comments and experiences of using the films; please send any information or comments to Sarah Brown at Bristol University (Sarah.Brown@bristol.ac.uk).

The VolFilm partners and contributors are: the University of Bristol (UK); University of East Anglia (UK); the US Geological Survey (VDAP); the British Geological Survey; University of Leeds (UK); University of Durham (UK); the Seismic Research Centre, University of the West Indies (including Montserrat Volcano Observatory); Geological and Nuclear Sciences, New Zealand; Institut de Physique du Globe de Paris (France); National Institute of Geophysics and Volcanology, Italy (INGV Italy), Vanuatu Geohazards Observatory; Instituto Geofisico Escuela Politecnica Nacional, Ecuador; Directorate Mineral Research & Exploration, Turkey; the University of Plymouth (UK); Lamda Films (UK) and Aspect Films (UK). VolFilm products have been developed under the auspices of IAVCEI and Global Volcano Model and has been funded by the Global Facility for Disaster Reduction and Recovery, DfID (UK), the Vetlesen Prize and the Natural Environment Research Council as well as significant benefits-in-kind from the project partners.

The VolFilm project will continue. New language versions of the films in Italian and Turkish are being produced. There is also filming being planned by IVHHN by Dr Claire Horwell at Durham University on volcanic ash hazards in Indonesia. Support from the IAVCEI community is very much welcome. New

partners are welcome and any support (e.g. production of films in additional language versions, film footage, ideas for new films, funding, pro bono time of enthusiastic colleagues within IAVCEI). We also welcome feedback on the films and examples of how they have been used will be very much appreciated to help with their evaluation.

Steve Sparks
University of Bristol

5TH INTERNATIONAL VOLCANO GEOLOGY WORKSHOP

Palmerston North and Ruapehu/Tongariro Volcano New Zealand

25 February – 3 March 2019

A field workshop sponsored by the IAVCEI Commissions on Volcanic Geology, Volcanogenic Sediments, Monogenetic Volcanism and Volcanic Geohazards and Protected Volcanic Landscapes.

The organization of the workshop is on the way. First circular will be expected to be available by 15 May 2018 and registration is planned to be opened from 15 June 2018.

The workshop will consist of two days workshop at Massey University, Palmerston North Campus (2 hours drive from Ruapehu) and 4-5 days field visit that will focus on the Taupo Volcanic Zone' mainly its Central Volcanic Plateau.



Tongariro Volcanic Complex (Photo: KNemeth)

The on-campus workshop will be designed as an open discussion forum on volcanic geology and geological mapping on active (young) and old volcanic terrains. Designed sessions will have a mind-opening plenary talk followed by round table discussions lead by selected/invited moderators, experts of the selected subject areas. The field trip will be organized to maximize field discussions on key tephra successions to provide some insight to geological mapping techniques used in New Zealand.

The workshop will have limited participant numbers (about 50)

and will be based on field observations of key sites the eruptive history can be unlocked around New Zealand's iconic active volcano of Ruapehu. The participants will have a great opportunity to see how geological mapping is conducted in an active volcanic system with multiple, closely spaced volcanoes that evolved over long period of time.

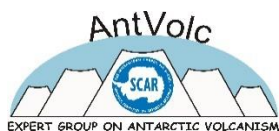
If you have any questions you can contact

Karoly Nemeth (k.nemeth@massey.ac.nz)

Shane Cronin (s.cronin@auckland.ac.nz)

Chairmen of the IAVCEI 5VWG

REPORT ON 2ND ANTVOLC WORKSHOP - BARCELONA (SPAIN), NOVEMBER 2017



The Antarctic Volcanism (AntVolc) Expert Group was born in 2015 as part of the Scientific Committee on Antarctic Research (SCAR). The main purposes of this Group is to promote the study of Antarctic volcanism, facilitate regional correlations and joint investigations, to work towards establishing Antarctica as a high profile site for studying volcanic processes and to identify priorities for future scientific directions.

Information on the organization, members and activities can be found at the AntVolc web site <https://antvolcscar.wordpress.com/>.

A kickstart workshop for AntVolc was held at the Istituto Nazionale di Geofisica e Vulcanologia (INGV) Sezione di Catania (Italy) in July 2015 and the second one was convened at Barcelona, 22-24 November 2017. The workshop was hosted by the Institute of Earth Sciences Jaume Almera (ICTJA-CSIC). The programme is available at <https://antvolcscar.wordpress.com/2nd-antvolc-workshop/>.

Much of the Barcelona meeting revolved around 2 days of scheduled talks, of which there were 20 orals, included three invited talks, plus several posters. The contributions described the results of a wide range of current volcanic-related investigations, both published and unpublished, generating lively discussions. Particular attention was given to Deception Island, South Shetland Islands and Bransfield Strait, which are a major focus of Spanish research and a noteworthy presentation was that discussing atmospheric modelling of the most recent eruption of Deception Island. It showed that, because of its peripheral geographical position relative to continental Antarctica, tephra from the volcano can escape the polar vortex and influence the southern continents as well as aircraft directly overflying Antarctica. The results of the study should help to convince sceptical funding organisations that Antarctica's volcanoes have an important role that is immediately relevant to the present.

Some other contributions described results of current research projects, including: a major new inventory of subglacial

volcanism in Marie Byrd Land volcanism (West Antarctica); monitoring & potential impacts of Mt Melbourne and Mt Rittmann active volcanoes (<https://www.icevolc-project.com/>); tephrochronology of Ross Sea glaciomarine sediments (<http://tracers.pi.ingv.it/>); and Palaeogene volcanism on King George Island (South Shetland Islands).

In addition, three of the talks were about related research on adjacent continents (South America and New Zealand), which is a new and very welcome extension of AntVolc's interests and will encourage a more outward-looking approach to group activities. John Smellie (AntVolc Chair, University of Leicester) also presented an overview of Antarctic volcanism and the present and future state of AntVolc. AntVolc now has more than 100 members, from 11 countries (Spain, Italy, New Zealand, USA, UK, Argentina, Germany, South Korea, Japan, Australia, Poland). The lifetime of AntVolc is currently defined as approximately 6 years (from 2015) but may be extended if there is strong membership demand, perhaps under a new guise with new objectives. His review also included a progress report on the three major AntVolc deliverables thus far identified (on which AntVolc will ultimately be judged):

- a new online database of tephra analyses, by Nelia Dunbar, Andrei Kurbatov and others; whilst not yet complete, this new database is now accessible at <http://www.tephrochronology.org/AntT/about.html>;

- a comprehensive scientific review volume and database on '200 million years of Antarctic volcanism' is underway (since May 2017); it has three editors (John Smellie, Kurt Panter, Adelina Geyer) and 17 lead authors of 29 chapters, and it will be published as a Geological Society of London Memoir, probably in early-middle 2019;

- work on a SCAR White Paper, to be led by Adelina Geyer (ICTJA-CSIC; Deputy Chair of AntVolc) will commence in late 2018, probably with a planning workshop near that time. It will describe the current state and future potential of volcanic research in Antarctica. The White Paper is an important document and it is intended to actively promote input from as many members of AntVolc as possible so that all views on future directions are included.

The final day was spent in a field trip to visit the La Garrotxa Volcanic Field, which is related to the Neogene-Quaternary European Rift system and is the youngest representation of monogenetic volcanism in the Iberian Peninsula. It encompasses over 50 eruptive vents, most of them well-preserved cones, in an area of about 600 km² lying between the cities of Olot and Girona (NE Spain).



Participants during the Discussion Session of the AntVolc workshop at ICTJA-CSIC meeting room.



Field trip to La Garrotxa Volcanic Field with the group discussing the deposits of the Croscat cinder cone (seen in the background).



View of the deposits of the Croscat cinder cone.



Molí Fondo Basanite lava flow at Sant Joan Les Fonts showing spectacular colomnade and entablature cooling joints.

AntVolc is always keen to attract new participants, particularly from countries that are poorly represented so far or have no representation. The door is open to all who have an interest in

volcanism in Antarctica, by sending an email to John Smellie (jls55@le.ac.uk).

Paola Del Carlo

INGV Sezione di Pisa

on behalf of the SCAR AntVolc Expert Group

REPORT ON THE WORKSHOP ON TIMING AND TIMELINE OF ERUPTION EVENTS AN INTERNATIONAL VOLCANOLOGY WORKSHOP TSUKUBA AND MIYAKEJIMA, JAPAN, 27-30 MARCH 2018

On the 24th of March, I landed at Narita, near Tokyo, Japan, to participate in a workshop titled “Timing and Time Line of Eruption events” followed by a fieldtrip to Miyakejima Island. This was my first ever trip to Asia and I was very excited. The trip fully met my expectations thanks to the very good planning by the organizers and the enthusiasm and friendliness of all participants. There was a large group from Massey University, Palmerston North, New Zealand (NZ), including Dr. Karoly Nemeth, one the word experts on monogenetic volcanism, Prof. Mark Bebbington an expert on statistical analysis of volcanic activity, and Braden Walsh, Aliz Zemeny, and Andrea Todde, three PhD students working on different aspects of volcanism. On the Japanese side, there was Dr Nubuo Geishi from AIST, Tsukuba, Dr Makoto Kobayashi from Tokyo Metropolitan University, Dr Takeshi Hasegawa from Ibaraki University, Dr. Koji Kiyosugi from Kobe University, and Dr Yasuo Miyabuchi of Kumamoto University. Finally, there was Dr Susana Jenkins, a volcanic impacts expert from the Earth Observatory of Singapore, and myself, Marie-Noëlle Guilbaud, from Mexico National University (UNAM).

On the 27th and 28th, we all gathered at AIST, Tsukuba, and had fruitful discussions about the timescales of volcanism, looking at data from the Global Volcanism Program (GVP) database and at specific examples from Japan, New-Zealand and Mexico.



Mark Bebbington set the scene by a plenary lecture.

Mark and Susanna reported on ongoing statistical work on modelling intra-eruption styles and timescales using the GVP data

on multiphase eruptions, feeding a discussion on the completeness of the record and the under-representation of nearly all volcano types except andesitic stratovolcanoes (Vesuvius being the best represented). We also discussed issues with the meaning of specific types of activity, such as descriptions of “persistent” or “intermittent” in GVP reports. This led to the question of how to possibly use the geological record to reconstruct complex eruptive activity, and how short to long time gaps could be recorded in stratigraphic sections.

Karoly discussed more in depth the “geological side” and the sedimentary record of eruptions, including the interpretation of minor to major unconformities as time gaps. He also introduced larger scale processes such as major collapses or lahar generation, with a link to the global evolution of the volcanic landscape. On the basis of this, we then discussed the feasibility of developing an integrated study of a Japanese volcano with well-recorded and diverse eruptive activity such as Sakurajima or Izu-Oshima. Myself, Marie-Noëlle, introduced the Trans-Mexican Volcanic belt and its peculiar tectonic setting and described Mexico’s most active volcanoes, comparing the Holocene data contained in the GVP database to published data. I also discussed the techniques used to collect age data, mainly radiocarbon dating, and the uncertainties we get from these data, resulting in difficulties in assigning a single age to an eruption from a number of radiocarbon dates.

Braiden presented the results from his work on seismic and acoustic data from two recent eruptions in NZ. The distinct signals he recorded could be interpreted as distinct vents, eruptive phases and/or reworking processes acting during these eruptions. This led to discussion on how geophysical monitoring data can help to identify changes in eruptive activity on a short scale (minutes to hours).

Andrea talked about his PhD work in progress on deposits from the AD1314 Kaharoa rhyolitic eruption (NZ). This eruption involved diverse types of activity from several vents aligned along a fissure, and emitted large volumes of rhyolite and minor amounts of basalt. Detailed stratigraphic work shows evidence for Plinian and dome-building activity that may have been simultaneous or alternating. This led to renewed discussion about how to interpret the tephra stratigraphy to reconstruct an eruptive chronology.

Aliz introduced her ongoing work on a specific part of the eruptive history of Taranaki stratovolcano (NZ) using a complex sequence of lahars and debris avalanche deposits exposed along the coastline. These evidence changes in the collapse history of the volcano. Some deposits rich in pumiceous bombs may be related to pyroclastic flows, changing to lahars downflow. We discussed how these could be interpreted in terms of changing eruptive activity at the vent.

Karoly presented an overview of our knowledge on monogenetic fields, pointing out their diversity in composition, morphology and eruptive style. The distribution of the volcanoes in the fields and more specifically their “denseness” may be related to different ranges in the complexity and inter-relations between the magmatic systems associated to the volcanoes. One can decipher a range of volcanic structures that are intermediate between monogenetic and polygenetic sensu-stricto. He also identified the importance of external parameters such as water to control eruptive style, and how this can lead to differences in eruptive activity. He mentioned

also enigmatic, intermediate size volcanoes forming rhyolitic domes in Columbia that have not been studied and may represent an important hazard.

Takeshi presented some results from his paleomagnetic work on tephra layers and its use to constrain the timescale of eruptive activity, especially at calderas, considering the good record of the secular variation curve in Japan. He explained a new technique to collect oriented samples of tephra layers. He also compared his data to that collected from lava flows erupted contemporaneously, in order to test the method. The future usefulness of this technique was then discussed.

Makoto presented results from the work of his group at the Tokyo Metropolitan University on assessing volcanic hazards in the Tokyo area. He outlined the documented effects of the Fuji 1707 AD and Asama 1783 AD eruptions, in particular in depositing tephra fallout and generating lahars affecting the plain where Tokyo later developed. Although most of the region’s population lives in Tokyo (13 million), thousands of people live on the very young and active Izu Islands. He presented high precision 1 m-resolution Lidar images on the islands, mapping their volcanic structures in great detail, and discussed the rhyolitic Niijima and Kozushima islands, and their specific tectonic setting.

Nubuo focused his talk on the Miyakejima island eruptive history and products that we would visit on the following days. He outlined the chronology of the last two eruptions, in 1983 and in 2000. The 2000 eruption caused a major collapse at the summit that exposed a complex dike system in inner caldera walls. From the analysis of photographs, he was able to find a systematic difference between the geometry of feeder and non-feeder dikes and relate these to magma rising processes. This island is a very active area and several stratigraphic markers have been successfully used to reconstruct its eruptive history.

Following the talks, on Wednesday evening we traveled to Tokyo Bay, to board a night ferry. We reached Miyake Island in just over 6 hours, and after checking in at our very nice small hotel (Ryokan) in the early morning of Thursday, started our field excursion. We first drove to a recent scoria cone formed during the 1763 AD eruption, from the top of which we could see the fissure which opened during the 1983 eruption and its lavas, and the summit caldera rim. We would return to that location later during the day to climb up to the rim. For sun orientation reasons, we drove down, went around to the north side, and from a monitoring seismic and gas station, we climbed up to the northern caldera rim. From that location we could see the pit crater from which fumarolic activity was issuing, and thick successions in the crater wall, which consist on the southern sector mainly of stacks of thick bowl shape lava flows that filled the previous caldera (the Oyama Stage formation), and on the northern sector, older thick pyroclastic deposits intersected by the new caldera (the Ofunato Stage formation). These deposits are cut by a dense network of dikes on both sides. On the northern crater rim we also looked at the ca. 1 m thick tephra deposits from the 2000 eruption. These consist of a basal light-gray massive juvenile-rich ash layer covered by an orangeish, stratified layer with abundant hydrothermally altered dense lithics and accretionary lapilli. These two layers formed respectively before and after the caldera collapse in 2000 and were deposited on a clayey reddish paleosol. The basal layer was deposited by fallout while the upper layer was formed by wet cold surges.



The caldera formed in AD2000 exposes half section of the Suona maar (see Geshi N, Nemeth K, Oikawa T (2011) Growth of phreatomagmatic explosion craters: A model inferred from Suoana crater in Miyakejima Volcano, Japan. Journal of Volcanology and Geothermal Research 201(1-4):30-380

We then drove back to our first field stop, and climbed the SW upper slopes of the volcano. We observed impact craters on the road from the 2000 eruption, which destroyed a car park area located near the rim. We also saw some pyroclastic successions related to previous eruptions. The SW crater rim is much different to the Northern rim as it is covered by very coarse ejecta, forming large bombs made of highly diverse material, mostly pre-existing rocks (non-juvenile). It is also actively eroding down and we had to watch for curved faults that destabilize the crater walls to form the large tephra fans observed within the crater. From this side of the crater, we could observe the feeder dike to a recent pyroclastic cone (1535 AD?), and also a maar diatreme and related tephra ring. We came down after making nice group photos.

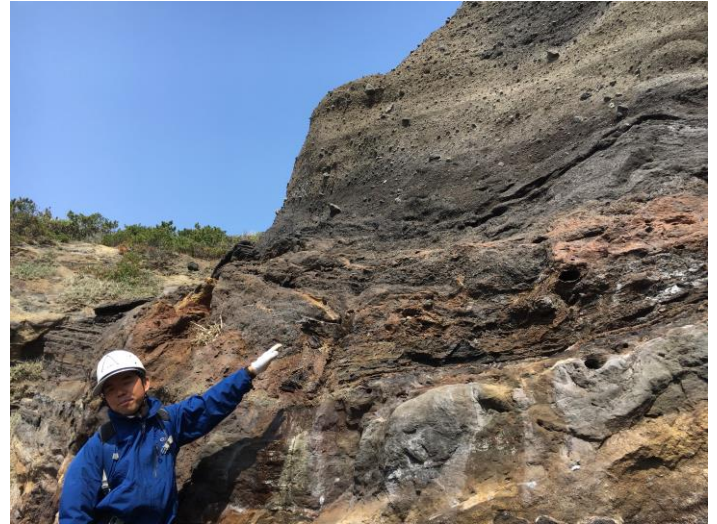


Group photo on the edge of the AD 2000 Oyama Caldera edge on a ballistic bomb and block field.

Driving back down to the coast, we made a final stop at an interesting stratigraphic succession along the road and discussed the process of collecting charcoal from paleosols for precise dating.

On the following day (Friday 30th March), we explored the western coast of the island. We first went to the NW, at Izu Misaki

lighthouse where very coarse maar-related deposits are exposed (possibly debris flows) and covered by a succession of fallout layer intercalated with a coarse deposit possibly originated by a tsunami. We then drove to the village destroyed by the 1983 lava flows, and observed the pyroclastic successions forming the oldest exposed deposits of the island (Pre-Ofunato Stage formation, 30,000-40,000 yrs old). These are made of thick pyroclastic flows covered thinner, surge-like deposits with abundant tree remains that were dated by radiocarbon.



Nobuo Geshi (AIST) points to a tree remnant on a base of a thick pyroclastic flow deposit formed on the early stage of the Miyakejima Island growth.

In the afternoon, we went to the WSW coast of the island, where the 1983 fissure intersected an older maar structure and, latter, went into the sea. We explored the very well exposed pyroclastic deposits related to both phreatomagmatic and magmatic activity, as well as the interior of a related scoria cone that superbly displays a lateral change from plastic scoria accumulation to a clastogenic lava flow. Tephra show some textures and structures that are somewhat intermediate between dry and wet activity, with a nearly equal abundance of lithics and dark juvenile scoria. Takeshi demonstrated the sampling of relatively fine ash layers for paleomagnetic studies, a quite involved process.



The half sectioned core of a scoria cone adjacent to the AD 1983 Nippana tuff cone exposes welded and clastogenic textures.

The last morning, we went to see the barren 1983 lavas and

observed how they partly destroyed a three-storey school building. We then crossed the 1940 lava flows fed from a nearby cone, with were emplaced in the sea and increased the island area. These lavas were covered by locally stratified orangish deposits with accretionary lapilli that correspond to the 2000 eruption products (these were partly reworked and fill interstices between lava clinkers, causing some confusion about their origin).



The AD 1983 lava flow destroyed the local school. The lava field is preserved as a geo-trail.

Finally, we reached a well-exposed outcrop into proximal maar deposits older than the 1940 lavas, where dune structures and impact sags can be observed in detail.



Evidences of phreatomagmatic explosive volcanism are everywhere in Miyakejima Island.

We then boarded our boat and returned to Tokyo, sadly ending our workshop.



Marie-Noelle Guilbaud
UNAM - Mexico

12th International Geoscience Conference 04-07 February, 2018 Jeddah, Saudi Arabia

The Saudi Geological Survey and the Saudi Society of Geosciences hosted the 12IGC SGS conference in Jeddah, Saudi Arabia. The conference had several IAVCEI-relevant aspects as it offered a workshop by the USGS and Saudi Geological Survey to present the new results of the geological mapping of the Harrat Rahat northern part commonly referred as Harrat al Madinah [*Workshop on the volcanic history and volcanic and seismic hazards of northern Harrat Rahat, Madinah Province, Kingdom of Saudi Arabia*]. The conference also offered a workshop on geotourism aspects of the Arabian Peninsula co-hosted by the Saudi Authority of Tourism and Antiquity and the Saudi Geological Survey. This workshop extensively outlined the importance of the Cenozoic volcanic regions in Saudi Arabia as they are unique and offer excellent volcanic examples of volcanic features associated with monogenetic volcanic fields. Both workshop was followed by regular conference lectures and posters many covered new results of the region volcanology as well as mineral exploration.



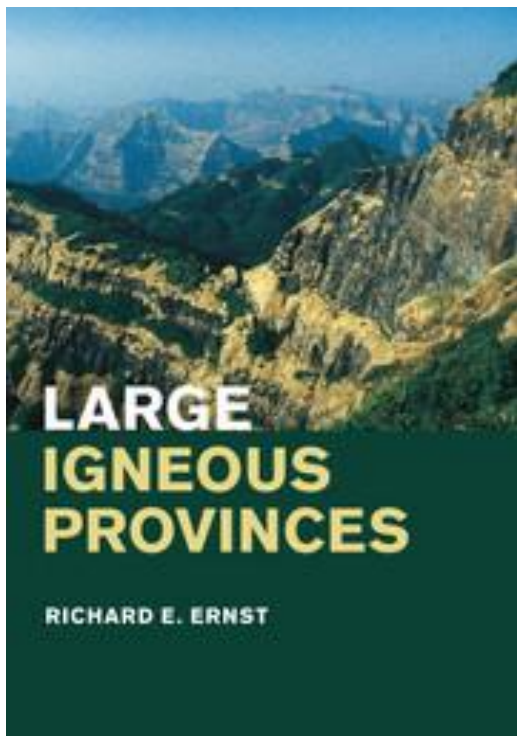
The White Mountains of Harrat Khaybar (see *Moufti MR, Nemeth K (2014) The White Mountains of Harrat Khaybar, Kingdom of Saudi Arabia. International Journal of Earth Sciences 103(6):1641-1643*)

The conference was finished by an excellent helicopter fieldtrip to the Harrat Khaybar, where unique rhyolitic tuff rings, lava domes are among mafic, mostly basaltic scoria cones and extensive lava flow fields form an out of space landscape.



Karoly Nemeth
Massey University

Large Igneous Provinces
Author: Richard E. Ernst, Carleton University, Ottawa
Date Published: March 2018
availability: Available
format: Paperback
ISBN: 9781108446686

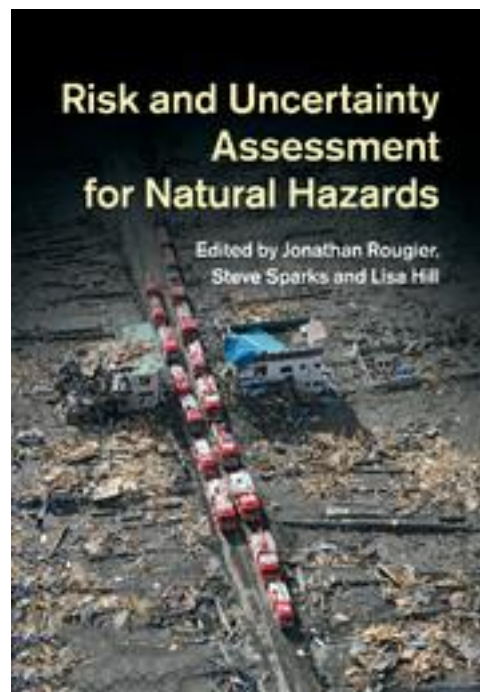


Large igneous provinces (LIPs) are intraplate magmatic events, involving volumes of mainly mafic magma upwards of 100,000 km³, and often above 1 million km³. They are linked to continental break-up, global environmental catastrophes, regional uplift and a variety of ore deposit types. In this up-to-date, fascinating book, leading expert Richard E. Ernst explores all aspects of LIPs, beginning by introducing their definition and essential characteristics. Topics covered include continental and oceanic LIPs; their origins, structures, and geochemistry; geological and environmental effects; association with silicic, carbonatite and kimberlite magmatism; and analogues of LIPs in the Archean, and on other planets. The book concludes with an assessment of LIPs' influence on natural resources such as mineral deposits, petroleum and aquifers. This is a one-stop resource for researchers and graduate students in a wide range of disciplines, including tectonics, igneous petrology, geochemistry, geophysics, Earth history, and planetary geology, and for mining industry professionals.

Read more at

<http://www.cambridge.org/gb/academic/subjects/earth-and-environmental-science/mineralogy-petrology-and-volcanology/large-igneous-provinces#LGdC6ErILE9II22q.99>

Risk and Uncertainty Assessment for Natural Hazards
Editors:
Jonathan Rougier, University of Bristol
Steve Sparks, University of Bristol
Lisa J. Hill, University of Bristol
View all contributors Date Published: March 2018
availability: Available
format: Paperback
ISBN: 9781108446679



Assessment of risk and uncertainty is crucial for natural hazard risk management, facilitating risk communication and informing strategies to successfully mitigate our society's vulnerability to natural disasters. Written by some of the world's leading experts, this book provides a state-of-the-art overview of risk and uncertainty assessment in natural hazards. It presents the core statistical concepts using clearly defined terminology applicable across all types of natural hazards and addresses the full range of sources of uncertainty, the role of expert judgement and the practice of uncertainty elicitation. The core of the book provides detailed coverage of all the main hazard types and concluding chapters address the wider societal context of risk management. This is an invaluable compendium for academic researchers and professionals working in the fields of natural hazards science, risk assessment and management and environmental science, and will be of interest to anyone involved in natural hazards policy.

Read more at

<http://www.cambridge.org/gb/academic/subjects/earth-and-environmental-science/environmental-science/risk-and-uncertainty-assessment-natural-hazards#rA45ZJDvIYJtEc3.99>

Volcanic Unrest
From Science to Society
Editors: Gottsmann, Joachim, Neuberg, Jürgen, Scheu,
Bettina (Eds.)



This open-access book summarizes the findings of the VUELCO project, a multi-disciplinary and cross-boundary research funded by the European Commission's 7th framework program. It comprises four broad topics:

1. The global significance of volcanic unrest
2. Geophysical and geochemical fingerprints of unrest and precursory activity

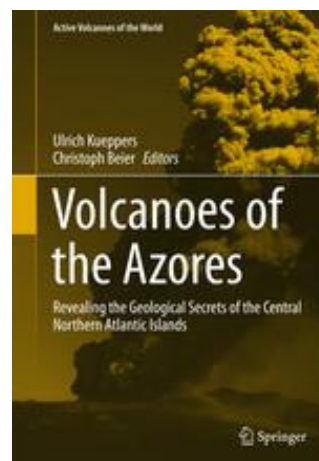
3. Magma dynamics leading to unrest phenomena
4. Bridging the gap between science and decision-making

Volcanic unrest is a complex multi-hazard phenomenon. The fact that unrest may, or may not lead to an imminent eruption contributes significant uncertainty to short-term volcanic hazard and risk assessment. Although it is reasonable to assume that all eruptions are associated with precursory activity of some sort, the understanding of the causative links between subsurface processes, resulting unrest signals and imminent eruption is incomplete. When a volcano evolves from dormancy into a phase of unrest, important scientific, political and social questions need to be addressed. This book is aimed at graduate students, researchers of volcanic phenomena, professionals in volcanic hazard and risk assessment, observatory personnel, as well as emergency managers who wish to learn about the complex nature of volcanic unrest and how to utilize new findings to deal with unrest phenomena at scientific and emergency managing levels.

Read the book via:

<https://www.springer.com/gp/book/9783319584119>

Volcanoes of the Azores
Revealing the Geological Secrets of the Central Northern
Atlantic Islands
Editors: Kueppers, Ulrich, Beier, Christoph (Eds.)



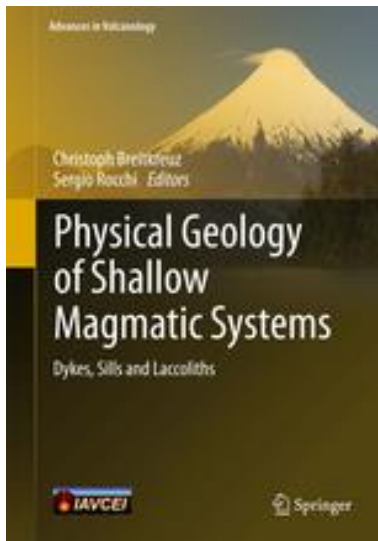
First comprehensive overview of geological features in the Azores from volcanological, geochemical, petrological, paleontological, structural and hydrological perspectives

The Azores archipelago consists of nine islands that emerge from the Azores Plateau in the Central Northern Atlantic, situated within the triple junction of the American, Eurasian and African lithosphere plates. Subaerial volcanic activity has been well known since the Pliocene and continues today, with several well-documented eruptions since the settlement of the islands in the fifteenth century. The origin of the Azores Plateau has been a matter of scientific debate and thus this book provides the first comprehensive overview of geological features in the Azores from volcanological, geochemical, petrological, paleontological, structural and hydrological perspectives

Read the book via:

<https://www.springer.com/gp/book/9783642322259>

**Physical Geology of Shallow Magmatic Systems
Dykes, Sills and Laccoliths**
Editors: Breitkreuz, Christoph, Rocchi, Sergio (Eds.)



First comprehensive summary of the genesis of shallow magmatic systems

This book offers a high-level summary of shallow magmatic systems (dykes, sills and laccoliths) to support geoscience master and PhD students, scientists and practicing professionals. The product of the LASI (Laccoliths and Sills conference) workshop, it comprises thematic sections written by one or more experts on the respective field. It features reviews concerning the physical properties of magma, geotectonic settings, and the structure of subvolcanic systems, as well as case studies on the best-known systems. The book provides readers a broad and comprehensive understanding of the subvolcanic perspective on pluton growth, which is relevant for mineralogical processes as well as the genesis of mineral deposits.

Read the book via:

<https://www.springer.com/gp/book/9783319140834>

**Natural Heritage of Japan
Geological, Geomorphological, and Ecological Aspects**
Editors: Chakraborty, A., Mokudai, K., Cooper, M.,
Watanabe, M., Chakraborty, S. (Eds.)



This volume brings together the geological, geomorphological and ecological aspects of Japan's natural heritage, arguing for dynamic conservation of such heritage and explaining their key characteristics in an accessible format for general readers. Sites from World Heritage Properties (Natural), UNESCO Global Geoparks, and National Parks of Japan representing key facets of this heritage are analyzed in depth, and the text is supplemented with color photographs and useful information for potential travelers. The volume is divided into thematic sections that help understand the diversity of Japan's natural heritage, with supplementary information on conservation, tourism trends, local culture and lifestyles. In addition, chapters analyzing nature's mechanisms that engender diverse heritage landscapes and conservation/sustainable management schemes make this volume a valuable resource for both general readers and those with more specialized interests.

Read the book via:

<http://www.springer.com/gp/book/9783319618951>

FUTURE EVENTS

for IAVCEI member's interest

7th International Maar Conference

Olot, Spain

21-25 May, 2018

The conference is supported by the **IAVCEI Commissions on Monogenetic Volcanism, Volcanic Lakes and Volcanogenic Sediments**

Contact: Joan Martí Molist joanmartimolist@gmail.com

In the summer of 2018, the Center for the Study of Active Volcanoes at the University of Hawaii at Hilo, in cooperation with the USGS Volcano Disaster Assistance Program, will offer the International Training Course in Volcano Hazards Monitoring that will begin Sunday May 27 and extend through Friday July 20.

Link: If you are interested in attending the course, please submit, no later than January 1, 2018, an International Application Form (which can be downloaded from our web page <http://hilo.hawaii.edu/~csav/international/>) along with your curriculum vitae to Ms. Darcy Bevens at <<mailto:bevens@hawaii.edu>> bevens@hawaii.edu or by mail to: CSAV, 200 W. Kawili St., Hilo, HI 96720.

The 2018 annual AOGS (Asia Oceania Geoscience Society) Honolulu, Hawaii,

Date: June 3-8, 2018

Link: www.asiaoceania.org/aogs2018/

20th International Sedimentological Congress (ISC)

Date: August 13 to 17, 2018

Where: Québec City

Link: <http://www.isc2018.org/abstract-guidelines-paper-submission>

Cities on Volcanoes 10

Date: 2-7 September 2018

Location, Naples, Italy

Link: <https://www.citiesonvolcanoes10.com/>

XXI International Congress of the Carpathian-Balkan Geological Association

Date: 10 - 13 September, 2018,

Location: Salzburg, Austria

Link: <http://cbga.sbg.ac.at/>

The 7th Workshop on Collapse Caldera

Date: 21st - 27th September, 2018,

Location: at Toba Caldera, Sumatra, Indonesia

Supported by the IAVCEI Commission on Collapse Calderas

Link: <https://staff.aist.go.jp/geshi-nob/CCC/webs/main.htm>



Next Issue of the IAVCEI News will be published on 15th July 2018. Articles, notes, news or any items relevant to the IAVCEI community must be submitted by 5th July 2018 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
