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July 2022

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



This Newsletter is intended to keep IAVCEI Members and individual scientists informed about the activities of the Association and its bodies, and the actions of the IAVCEI Executive Committee. Past issues are posted on the IAVCEI website. Your comments are welcome. The IAVCEI Newsletter may be forwarded to non-members who may benefit from the information.

FROM THE PRESIDENT



Photo by © Francesco Zizola

Dear colleagues,

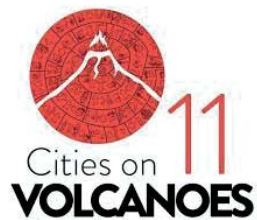
This second IAVCEI Newsletter in 2022 reports on the 11th Conference 'Cities on Volcanoes' (COV11) which, after two Covid-due postponements, could be held successfully on June 12–17 in Heraklion, Crete. It also reports on the 2022 IAVCEI Award for Volcano Surveillance and Crisis Management, and provides you with updates on future IAVCEI meetings.

Best wishes,

Patrick Allard
July 5, 2022

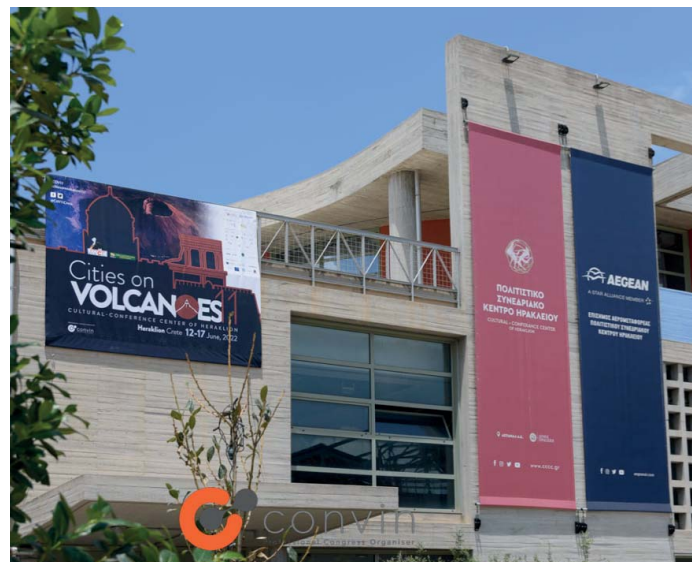
CONFERENCE REPORTAGE

COV11 in Heraklion June 12–17



COV11 has been the very first large IAVCEI meeting with physical participation held since our July 2019 General Assembly in Montreal. The Conference, hosted in the Cultural Center of Heraklion (photo on right side), resulted to be a very successful event.

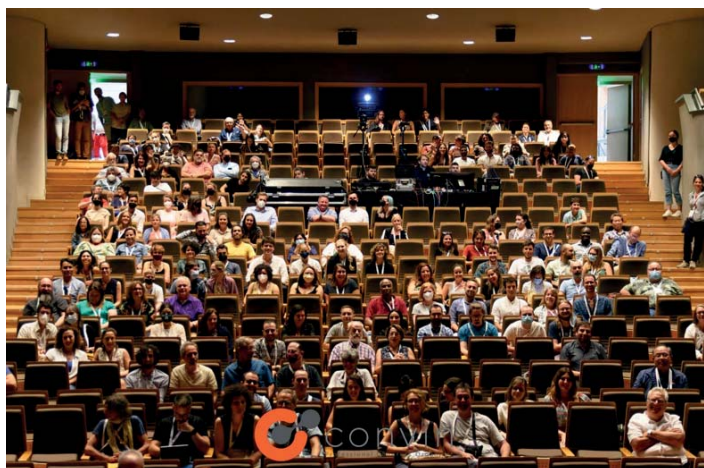
We are really happy that, by the end, close to 600 people registered to COV11, among whom 354 could attend in person and about 240 virtually. Participants included volcanologists but also emergency managers. In terms of physical attendance the top countries were Italy (77), United Kingdom (44), USA (32), France (24), Germany (21), Spain (19), Greece (14), New Zealand (13) and Belgium (11). The top countries for both physical and virtual participation were Italy (117), USA (77), UK (65), France (33), New Zealand (30), Greece (26), Germany (24), Japan (20), Singapore (15), Switzerland (14), Belgium (13) and Columbia (11).



I'd like to further acknowledge here the great job made by our Greek colleagues of the Local Steering Committee, headed by Paraskevi Nomikou (National and Kapodistrian University of Athens, GRE), and by our Greek professional partner CONVIN in successfully organizing the COV11 conference. Both of them had to continuously re-adapt the plans over the past two years owing to the Covid pandemic, in close connection with the IAVCEI board and CaV Commissioners. Also acknowledged is the supporting welcome of Greek national, regional and local Authorities.

The Opening Ceremony, introduced by the IAVCEI President, leaders of the CaV Commission (Graham Leonard in person and Carolyn Driedger online) then Paraskevi Nomikou, involved successive welcome addresses by the Greek Minister of Climate Crisis and Civil Protection (Christos Stylianides), the Secretary General of the Aegean and Island Policy (Manolis

Koutoulakis), the Regional Governor of Crete (Stavros Arnaoutakis), the Mayor of Heraklion (Vassilis Lambrinos), the Mayor of Santorini (Antonis Sigalas), the President of the Geological Society of Greece (Thanasis Ganas), and the Vice-Rector of the National Kapodistrian University of Athens (Nikolaos Voulgaris).



P. Allard's introduction of Chris Newhall's plenary Lecture



Chris Newhall lecture



Paraskevi Nomikou's introduction



Graham Leonard's plenary Lecture

Scientific program

The scientific program included Sessions grouped in four main Symposia, to which more than 800 abstracts were submitted, 8 plenary Lectures, special sessions and a series of Workshops.

Four main Symposia:

- Symposium 1: Volcano Observatory work and monitoring
- Symposium 2: Physical Sciences
- Symposium 3: Civil protection, education, community members, news media, citizen science, hazards and risk specialists
- Symposium 4: Geoheritage and parks, archeology, social and applied science, Law, economics, planning, governance

Plenary and Special sessions targeted the following topics:

- **PS1**: Special session on recent eruptions: hazards, impacts, and consequences
- **PS2**: Special session on recent eruptions: crisis management
- **PS3**: Special session on covid-19 and volcanoes: lessons and adaptation
- **PS4**: Special session on lessons from social sciences and related disciplines
- **SS1**: Bronze Age Cities and the Volcano of Thera
- **SS2**: Impact of volcanic activity crises in places of tourist interest: Stromboli, Vulcano, White Island, Cumbre Vieja and other case studies
- **SS3**: First steps in planning for the health response in a future eruption or period of volcanic unrest in Greece

Conference Workshops

- *Pre-Conference Workshop #1*: State of the Hazard Map 4: Five-Year Review (Conv. D. Charlton, J. Lindsay, G. Leonard, M-A Thompson, E. Calder, S. Ogburn)
- *Pre-Conference Workshop #2*: Volcano Alert Level Systems: Exploring Standardisation, Networks and Resources (Conv. C. Fearnley, A. Donovan, A. Winson, S. Potter)
- *Intra-Conference Workshop #1*: Towards a Uniform Approach for Risk Assessment due to Volcanoes and Earthquakes (Conv. C. Yepes, A. Rao)
- *Intra-Conference Workshop on the WOVO renewal* (Conv. P. Allard)
- *Post-Conference Workshop #1*: Coping with volcanic ash, gas, and acid rain: new knowledge and key resources, information needs, and future research priorities (Conv. N. Deligne, G. Leonard, C. Stewart, D. Damby, C. Horwell, K. Wallace)

General comments

COV11 was the very first hybrid IAVCEI meeting and 'Cities on Volcanoes' conference. It got a remarkable success and we acknowledge the great efficiency of the online system connection provided by our Greek partner CONVIN. This is a lesson for our future IAVCEI meetings. Thanks to all participants who attended either physically or virtually and for the excellent presentations, posters and discussions. Recordings of the presentations and online posters will be accessible to meeting participants for two months on the COV11 virtual platform at [LINK](#).

The conference enjoyed a concert of Aegean Jazz by the Vasilis Rakopoulos quintet on June 12 and was closed on June 16 with nice Cretan music, dance and delicacies (photos below).





COV12 in Guatemala (Antigua), February 2024

During the closing ceremony of COV11 it was announced that the city of Antigua in Guatemala was selected for hosting the 12th Conference Cities on Volcanoes. COV12 will be held in Guatemala from 11 to 17 February 2024.

See more on the dedicated website:

<https://sites.google.com/boisestate.edu/cov12/home>

You can also watch the spectacular 'Welcome / Bienvenidos Antigua / Guatemala' video realized by Diego Rizzo:

https://sites.google.com/boisestate.edu/cov12/home#h_e5h90ewyxtv3

TRIP REPORTAGE

COV 11 Post-Conference Field Trip – Santorini Volcano June 18–21, 2022

A post-conference field trip was held on Santorini volcano between June 18–21, 2022. The field trip was led by Prof. Paraskevi Nomikou (National and Kapodistrian University of Athens, GRE), Dr Kyriaki Drymoni (University of Milan-Bicocca, IT), Prof. Ralf Gertisser (University of Keele, UK), Prof. Dávid Karátson (Institute of Geography and Earth Sciences, Eötvös University, HUN). The fieldtrip hosted 43 scientists coming from Belgium (2), Canada (1), Colombia (2), Costa Rica (1), Germany (4), Italy (1), Japan (3), Korea (3), New Zealand (3), Philippines (3), Portugal (1), Singapore (5) and USA (12).

Santorini lies on the submarine Christiana – Santorini – Kolumbo rift zone extending from the SW to the NE. The youngest volcanic activity on the island occurred around 700 ka in the southern part of the island. Since 350 ka, the activity became highly explosive, with over a hundred explosive eruptions. Many of them were of Plinian intensity and were accompanied by pyroclastic flows onshore and offshore. During the late Bronze Age, the island experienced a large, iconic explosive eruption (1620 BCE) which produced a 50 m thick pumice and ash deposit that covered the island and buried the ancient city of Akrotiri. The eruption greatly impacted the Minoan civilisation since it didn't only destroy Santorini settlements but also affected the island of Crete though the combination of ash fallouts and tsunamis. The Minoan eruption formed the present-day flooded caldera, consisting of three basins: the largest one (390 m deep) lies at the north while the two smaller ones (320 and 270 m deep) make the western and southern parts of the caldera, respectively.

The field trip participants visited many key outcrops of volcanic products from the Bronze Age and other eruptions. A boat tour around the caldera enabled the team to climb on the active Nea Kameni central Island and to examine the products of the post-Minoan eruption, the local dyke swarm emplaced at the northern caldera wall, and the limited non-volcanic basement lithologies that outcrop on the island. The field trip included a guided visit to Akrotiri archaeological site and the Prehistoric Museum of Thira, where the participants admired the Minoan Bronze-age settlement and the Minoan frescoes apart from the other exhibitions respectively. Last but not least, the participants had a guided tour around the village of Pyrgos and its medieval castle, a wine tasting experience in Santo winery and a guided tour at the winery's production site. Finally they visited the Tomato Industrial Museum "D. Nomikos" and the Santorini Arts Factory (SAF) tasting local food specialities.



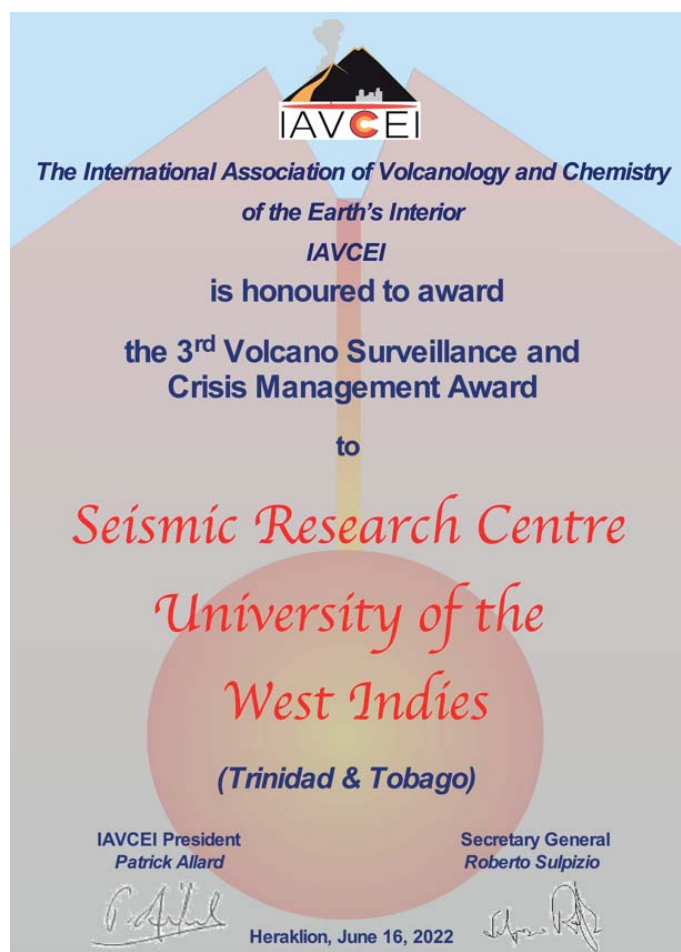
AWARD

2022 IAVCEI Award for Volcano Surveillance and Crisis Management

The IAVCEI Award for Volcano Surveillance and Crisis Management (VSCM) has been created in 2017 with the aim to honor the personnel from institutions or organisations responsible for monitoring volcanoes (Volcano Observatories and/or other Institutions) that have made a remarkable contribution to the mitigation of volcanic hazards and volcanic risks. The first two winners were the Badan Geologi-CVGHM of Indonesia in 2018 then the IG-EPN of Ecuador in 2020.

The VSCM Award was delivered for the third time on occasion of COV11. The 2022 nominee, selected unanimously by members of the IAVCEI Award Committee, was revealed to be the **Seismic Research Centre of The University of the west Indies (SRC-UWI)**, whose headquarters are located in Trinidad and Tobago. The Award Committee honored SRC-UWI "for its remarkable overall contributions in monitoring and responding to volcano-seismic crises in the Caribbean island arc system over the past 70 years, in a context of limited available resources, noticeably during the Soufriere Hills eruption in Monserrat (1995–2013) then the 2020–2021 eruptive crisis at La Soufriere of St Vincent."

The 2022 VSCM Award was delivered to Dr. Erouscilla Joseph, Director of SRC-UWI, during the closing ceremony of COV11 by IAVCEI's President and Secretary General. After an introductory speech by the lead-nominator, Prof. Jenni Barclay (University of East Anglia, United Kingdom), Dr. Erouscilla Joseph expressed its gratitude in name of all her colleagues for this important recognition by scientific peers of the work done by SRC-UWI, hoping that the award could help the Institute to gain increasing support from governments of the West Indies in the future.



TRIBUTE

A Tribute to Marta Calvache in Heraklion



Marta Lucia Calvache Velasco recently retired, leaving her responsibility of Director of Geological Hazards in the Colombian Geological Survey (SGC). The IAVCEI president's dinner and the closing ceremony of COV11 in Heraklion provided two opportunities to acknowledge her outstanding contribution to the development of volcanology in Columbia and abroad.

Marta played a leading role in the development of volcano monitoring and volcanic hazard assessment in her country, after having witnessed the Armero disaster from Nevado del Ruiz eruption in 1985 (25,000 victims). At that time, Colombia didn't have an institution in charge of volcanoes. Ingeominas was created as the agency in charge of assessing and preventing volcanic risks, before becoming in 2012 the Colombian Geological Survey. Marta was responsible of the Galeras volcano Observatory, nearby her native city of Pasto, when occurred the Galeras tragedy on January 14, 1993, during an international conference and fieldwork (6 volcanologists from Colombia, Britain and Russia, and 3 Colombian tourists were killed). She actually raced into the rumbling crater, helping and saving the few survivors.

Besides her responsibility in SGC, her professional experience has involved the coordination and participation in risk management studies during unrests, eruptions or seismic crises at several Colombian volcanoes, among which Galeras, Machin, Nevado del Huila, Chiles, Cerro Negro and again recently Nevado del Ruiz. She also promoted community awareness of volcanic phenomena, convinced that local populations could react adequately in case of eruption if previously informed and educated about volcanic hazards. The SGC has thus developed partnerships with local universities and schools to produce videos, posters, radio spots, and an online teaching module. "We have to do science that can be shared" commonly argued Marta.

Within the IAVCEI, Marta Calvache contributed to the work of the Sub-Committee for Crisis Protocols coordinated by Chris Newhall, which produced recommendations for the Professional conduct of scientists during volcanic crises (*Bull. Volcan.* 60, 1999). In 2007–2011 she was also a counsellor member of the IAVCEI Executive Committee under the Presidency of Setsuya Nakada.

Marta Calvache received warm and long applause from the COV11 assembly in Heraklion.



Future IAVCEI Meetings

As a consequence of the Covid-19 pandemic, the IAVCEI will face in 2023 the unprecedented situation of organizing and holding its two major meetings, its Scientific Assembly and its General Assembly, only 6 months apart in the same year, instead of 2 years apart as usual. This raises a number of constraints that the IAVCEI Exec. Committee will have to manage at the best. Here below are fresh updates on those two Assemblies and a few additional meetings.

IAVCEI Scientific Assembly Rotorua (New Zealand), 2023

The **IAVCEI Scientific Assembly**, Rotorua, New Zealand, originally scheduled for 2021, has been postponed to 30 January – 3 February 2023. The impact of COVID-19 and the associated uncertainty of international travel restrictions to New Zealand in the near future have made it impractical and unfeasible to plan for and hold the assembly on the original dates. The local organising committee are delighted to welcome the international volcanological community to New Zealand in early 2023. We will build upon the progress already made on the scientific and general programme and anticipate that this SA will happen, hopefully, in a post-COVID world.

The Local Organising Committee, on behalf of the International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI), invite the global volcanological community to convene in New Zealand for the IAVCEI 2023 Scientific Assembly. The Scientific Assembly will be held within the Rotorua caldera amongst some of New Zealand's iconic volcanic landforms and deposits, and in the heart of one of New Zealand's cultural and touristic centres. We are developing a diverse and inclusive scientific programme involving high profile plenary speakers and a broad suite of symposia themes. Particular attention will be given towards assisting early career researchers to participate in contributing to the conference. A range of exciting and informative scientific field trips will be offered before and after the conference that will show case the world-class volcanic landscapes and deposits that New Zealand and surrounds have to offer. Mid-conference field trips will highlight the volcanic and geothermal geology of the central Taupo Volcanic Zone. The conference will also feature a selection of pre- and post-conference scientific workshops.

Delegates will enjoy the idyllic volcanic setting by Lake Rotorua of the fully integrated conference facilities of the Rotorua Energy Events Centre within the central business area of Rotorua. The venue offers enough space and room configurations to accommodate large plenaries, multiple concurrent technical sessions, poster displays, exhibitions, workshops and meetings. A range of accommodation options to suit all budgets are located within easy access to the events centre. We also welcome delegate families and accompanying persons to participate in the

activities on offer. Put a visit to New Zealand on your travel plans! We are working towards providing a unique and memorable New Zealand experience for all attendees and we are looking forward to being your hosts.

Registration and the call for abstracts are now open.

The scientific program can be found at:

<https://www.confer.co.nz/2023/iavcei-scientific-assembly-2023/>.

Abstract submission deadline:

2 September 2022

Adrian Pittari and Graham Leonard

on behalf of the Local Organising Committee

The IAVCEI Scientific Assembly in Rotorua will also be the occasion for us to deliver both the **Georges Walker Award** (≤ 7 years after PhD) and the **Wager Medal** (≤ 15 years after PhD). Both awards are expected to be attributed every two years, but this was also hampered by the Covid-19 pandemic. Taking account of these exceptional circumstances, I propose you that two nominees be honored for each of these awards during our SA in 2023. The call for nominations will be launched very soon.

IAVCEI General Assembly Berlin, July 11–20, 2023

The **IAVCEI General Assembly** will happen during the 28th IUGG General Assembly (IUGG2023) that will be held from 11 to 20 July 2023 at the CityCube in Berlin, Germany. IUGG GAs are special opportunities for geoscientists from around the world to meet together and discuss the full range of geoscience themes, further enhancing the importance of interdisciplinary approaches for a better understanding of our Earth System. IUGG2023 will provide a platform for personal meetings, exchange of ideas and developing new concepts for international science collaboration, all of which have suffered a setback during the pandemic crisis.

Information on IUGG2023 can be found at:

<https://www.iugg2023berlin.org>

Important first dates include:

September 30, 2022

- Opening of online registration and abstract submission
- Opening of travel grants applications and online accommodation reservations

February 17, 2023

- Closing of abstract submission
- Closing of grant application submission

March 17, 2023

- Abstract/grant acceptance sent to participants

As regards the IAVCEI, we'll have soon to plan for the Session proposals. We'll also prepare and launch the call for nominations to the **Thorarinsson, Fisher and Krafft Medals**.

For the **IAVCEI Union Lecture**, the Exec. Committee agreed to candidate Robin Matoza (UC Santa Barbara, USA), who will give a lecture on the following topic:

"The January 2022 explosive eruption of Hunga, Tonga: An unprecedented atmospheric waves event for the modern geophysical record".

Finally, we proposed the IUGG board that IAVCEI could co-organize a pre- or post-conference Field Excursion focused on the Eifel volcanic region and its numerous maars. Our colleague Hans-Ulrich Schmincke will be our local referent for organizing this field excursion.

14th CCVG Field Workshop Peru, November 2022

The Board of the IAVCEI Commission on the Chemistry of Volcanic Gases (CCVG) and the Instituto Geológico, Minero y Metalúrgico (INGEMMET) from Perú have the honor to invite the scientific community working on all aspects related to the study of volcanic gases to the 14th Field Workshop on Volcanic Gases to be held in Arequipa, Peru.

This workshop is planned for November 2022 and will take place in the city of Arequipa with field activities on the volcanoes El Misti, Sabancaya, Ubinas, and Ticsani. The event is organized under the premise of an improved global health and travel situation and responds to the need and wish to bring forward field activities of our commission, previously halted due to the pandemic.

The conference will offer an opportunity to carry out a wide range of scientific activities around the study of volcanic gases. As a guide, we aim to organize oral and poster presentations dealing with the following topics:

- Fundamental studies of magmatic volatiles: degassing and chemistry models, laboratory experiments
- Applied studies of magmatic volatiles: field observations, measurement techniques, and impact of volcanic emissions
- Integrative studies: volcanic emissions during eruptive and unrest periods, comparisons with other geophysical or monitoring parameters, global emission inventories, etc.

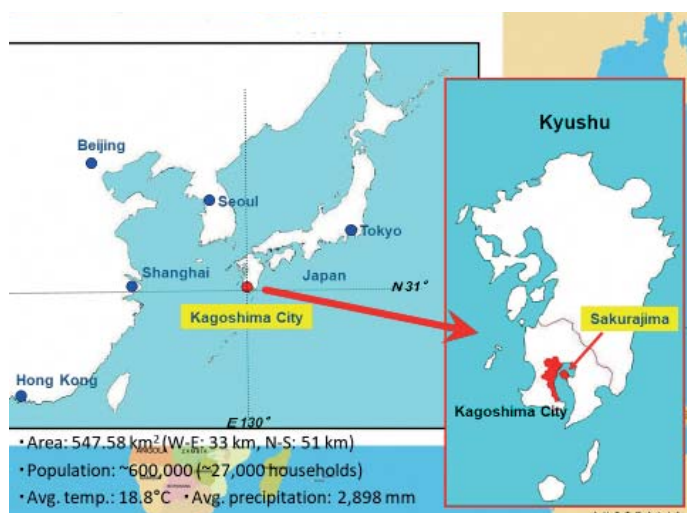
Detailed information can be found at the website:

<https://ccvg.iavceivolcano.org/workshops/14th-workshop-peru-2022.html>

DISASTER PREVENTION MEASURES

Kagoshima City's Sakurajima Volcano Disaster Prevention Measures: The Framework of Leading City in Volcanic Disaster Prevention

Kagoshima City is the capital of Kagoshima Prefecture, and located on the southern tip of the Japanese island. The population is around 600,000 people, and the city functions as a core for government, economics and culture in South Kyushu.



Location of Kagoshima City

In the 4 km east of the central area of the city towers the prominent active volcano of Sakurajima, with Kinko Bay sandwiched in between. This beautiful sight has earned us the nickname of “Naples of the Orient”.



600,000 people live in harmony with the active volcano Sakurajima.

Sakurajima has three peaks: Kita-dake (1,117 m above sea level), Naka-dake and the currently active Minami-dake. Sakurajima is now home to around 1,700 households and 3,500 people.



Source: Kobayashi, Tetsuo. 2014. “Volcano Sakurajima” Chapter 1. In 100th Anniversary Publication of Sakurajima Taisho Eruption, edited by Steering Committee of the Project commemorating the 100th Anniversary of Sakurajima Taisho Eruption, 18–29.

Many major eruptions have taken place on Sakurajima including the following four events with historical records: Tempyo-Hoji Eruption (year 764), Bunmei Eruption (1471–1476), An'ei Eruption (1779), Taisho Eruption (1914). During the Taisho eruption of 1914, the volcanic smoke rose to a height of 18,000 meters and emitted a great volume of pumice and volcanic ash.

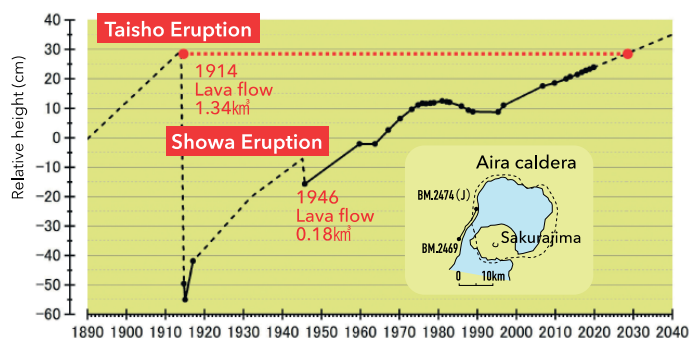
Sakurajima's eruption is characterized by Plinian eruptions and following lava effusion from flanks; in 746, 1471–1476, 1779–1780 and 1914 (VEI 4), and vulcanian eruption at craters around the summit of Minami-dake lasting over the past 66 years. The Vulcanian eruptions have repeatedly been occurring on Sakurajima. Residents around the volcano suffer from ash fall deposition.



Ash fall on Kagoshima city

In addition, the possibility of a large-scale eruption of VEI 4 is increasing, because over 100 years have passed since the 1914 eruption, and it is estimated that magma of equivalent volume

of the eruption has been accumulated in the Sakurajima's main magma chamber under the Aira caldera. This means it is necessary to prepare for a coming VEI 4 eruption.



Source: Kyoto University Sakurajima Volcano Research Center

Vertical ground movement of Aira caldera

Considering the eruptive activity of Sakurajima, Kagoshima City co-hosted the Scientific Assembly of IAVCEI 2013 in Kagoshima with the Volcanological Society of Japan and Kagoshima Prefecture to collect knowledge for forecasting volcanic eruptions from all over the world.



The Scientific Assembly of IAVCEI 2013

On the other hand, Kagoshima city has accumulated a wide variety of its own knowledge and updated measures on volcanic disaster risk reduction, because the city coexists with eruptions of Sakurajima. And the progressing magma accumulation beneath the Aira caldera is accelerating Kagoshima City's countermeasures against large-scale eruptions. We believe that effectiveness and innovativeness of the measures are one of the very best for volcanic areas not only in Japan, but also around the world.

With this background, we have formulated "The Framework of Leading City in Volcanic Disaster Prevention" in 2019, and we aim at achieving the zero victim goal through the development of a disaster-resistant city, based on this framework. At the same time, we will also strive to make volcanic disaster risk reduction education that is passed on to the next generation, as well as through worldwide dissemination of the "Kagoshima Model" of volcanic disaster risk reduction.

Kagoshima City's Sakurajima Volcano Disaster Prevention Measures

Here is a brief explanation of our measures based on the items of "The Framework of Leading City in Volcanic Disaster Prevention".

[Main Component 1] Disaster Prevention Measures for Achieving "the Zero Victim Goal" in any Major Eruptions

- Volcanic ash accumulated from Sakurajima eruptions is cleaned up by road sweepers and road sprinklers (38 large cleaning vehicles, 21 small ones, and 37 water sprinkler vehicles). We complete the removal of ash within 3 days of each fall.
- In addition, in residential areas, designated ash collection plastic bags are provided to citizens free of charge to help mitigate the problem.



Road sweeper to remove volcanic ash



Ash collection station (left) and ash collection plastic bag (right). We call the bag "koku-hai-bukuro". "koku-hai" has the significance of overcoming ash fall.

Furthermore, the Sakurajima Volcanic Disaster Drill has been carried out every year for over 50 years in collaboration with local people and disaster prevention related organizations. This program has contributed to enhancement of awareness of disaster prevention and the effectiveness of its measures.



Evacuation drill from Sakurajima using a ferry boat. The drill has repeated since 1971.

**[Main Component 2] Disaster Prevention Education
for “Passing on to” the Next Generation**

- Elementary school children and their guardians from the city side are taking part in a hands-on learning program to visit the Sakurajima Visitor Center, Ash-buried Kurokami Shrine Gate and Sabo erosion control facilities.
- The Ash-buried Shrine Gate is located in the Kurokami area. The great eruption of Sakurajima in 1914 covered the entire Kurokami area with ash and pumice stone. The 3-m high Shrine Gate was buried, now only the top part is shown above the ground. The village head at the time decided not to dig up the gate as he wanted to keep evidence of the dreadful eruption for years to come and so it remains as it is today.



Field seminar on the Kurokami Shrine Gate buried with pumice and ash in the 1914 eruption

**[Main Component 3] Contributing to the World Through
the “Kagoshima Model”**

Kagoshima City participates in both domestic and international volcano-related conferences and actively disseminates information on the volcanic disaster prevention measures taken by the City.

- Moreover, the Network of Municipalities for Enhanced Volcanic Disaster Prevention (151 municipalities) has been established by encouraging cities, towns and villages in volcanic hazard areas across Japan in order to request the national government to improve and strengthen its volcanic research, monitoring and observation systems. The network also shares information on volcanic disaster prevention measures.



CoV 10 in 2018. The mayor of Kagoshima attended the conference.

Recently, we have created a video and a leaflet to introduce all these our efforts, so please take a look.

■ Video

<https://www.youtube.com/watch?v=ltig3WTxrA>

■ Leaflet**■ Eruption history**

<https://www.city.kagoshima.lg.jp/kikikanri/leadingcity/history.html>

■ Eruption history

<https://www.city.kagoshima.lg.jp/kikikanri/leadingcity/history.html>

■ Current eruptive activity and alert

<https://www.city.kagoshima.lg.jp/kikikanri/leadingcity/current.html>

■ Disaster Prevention Measures for Achieving “the Zero Victim Goal” in any Major Eruptions

<https://www.citykagoshima.lg.jp/kikikanri/leadingcity/maincomponent1.html>

■ Disaster Prevention Education for “Passing on to” the Next Generation

<https://www.city.kagoshima.lg.jp/kikikanri/leadingcity/maincomponent2.html>

■ Contributing to the World Through the “Kagoshima Model”

<https://www.city.kagoshima.lg.jp/kikikanri/leadingcity/maincomponent3.html>

If you have any questions or would like to schedule an interview or visit, please send an e-mail to the Crisis Management Division of Kagoshima City.

We are looking forward to exchanging opinions and interacting with you.

■ Homepage

<https://www.city.kagoshima.lg.jp/kurashi/bosai/bosai/sakurajima/english.html>

■ Inquiries

kiki-kazan@city.kagoshima.lg.jp