



International
Science Council

SCAR Sub-Group

SG

Person

Responsible:

AntVolc

GS

Adelina Geyer

XXXVII SCAR Delegates Meeting

India, September 2022

Antarctic Volcanism (AntVolc)

2021-2022 Report

Summary

Report Author(s):

Adelina Geyer (ageyer@geo3bcn.csic.es - Spain), Alessio Di Roberto (alessio.diroberto@ingv.it - Italy), AntVolc Steering Board members

Summary of activities from 2021-2022

Membership and Leadership:

- Membership of AntVolc has increased up to 120 members, representing 19 countries (Argentina, Australia, Bulgaria, France, Germany, Greece, Iceland, India, Italy, Japan, New Zealand, Poland, Romania, Spain, South Korea, UK, USA, Uzbekistan, and Turkey).
- Adelina Geyer (Spain) took over from John Smellie (UK) as Chair at the end of 2018, with an initial term of office of 2 years, extended to 2 additional years by COVID-19 pandemic.
- Alessio Di Roberto (Italy) took over from Adelina Geyer (Spain) as Deputy Chair at the end of 2018, with an initial term of office of 2 years, extended to 2 additional years by COVID-19 pandemic.
- The members of the Steering Committee were supposed to be replaced at the end of 2020 but the term was extended to 2 additional years by COVID-19 pandemic.
- The process of renewal of the Chair, Deputy Chair and Steering Committee will start September 2022 and is expected to be finished by the end of the year.
- The AntVolc website, hosted at the Geosciences Barcelona (Geo3BCN-CSIC) (<https://antvolcscar.wordpress.com/>), is under continuous update and new dedicated AntVolc Twitter (@antvolc) and Facebook accounts have been created.

Dissemination and Outreach activities:

Conferences:

- **EGU2021:** Vienna | Austria | 19 - 31 April 2021
Session: Volcano-glacier interactions: Arctic, Antarctic, and globally
- **EGU2022:** Vienna | Austria | 23 – 27 May 2022
Session: Volcano-glacier interactions: Arctic, Antarctic, and globally

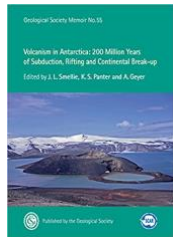

Publications addressed to the general public:

SCAR AntVolc: 2021-2022 Report, cont.

Geyer, Adelina, Van Wyk de Vries, Max, Smellie, John L., Cooper, Jennifer, Di Roberto, Alessio, Panter, Kurt S., Martin, Adam P., Pompilio, Massimo, Dunbar, Nelia, & Blankenship, Donald D. (2022). Antarctic Volcanism: Explore the remotest volcanoes of the planet!. Zenodo. <https://doi.org/10.5281/zenodo.6535775>

Main Outcomes:

The two major deliverables of AntVolc during the 2021 - 2022 period:

- Review volume titled '*Volcanism in Antarctica: 200 million years of subduction, rifting & continental break-up*', editors John Smellie, Kurt Panter and Adelina Geyer, published as a Geological Society of London -GSL- Memoir on April - May 2021. <https://mem.lyellcollection.org/content/55/1>
- Outreach book: "Antarctic Volcanism: Explore the remotest volcanoes of the planet!" by Geyer et al. downloadable for free from Zenodo repository: <https://doi.org/10.5281/zenodo.6535775>. Published on June 2 2022, the book has been already downloaded 1,524 times.
- Review volume titled '*The Geochemistry and Geophysics of the Antarctic Mantle*' (<https://mem.lyellcollection.org/online-first/56>), editors Adam P. Martin and Wouter van der Wal, to be published as a Geological Society of London -GSL- Memoir. All chapters have been accepted for publication and are currently in press. The GSL has now begun the editing & proofing tasks and publication in paper is theoretically guaranteed by beginning 2023.
- On-line database of Deception Island's tephra record (DecTephra): <https://doi.org/10.5281/zenodo.6077061>

Major Future Initiatives and Actions:

- Finalize the 'White Paper' for SCAR summarizing the state of research into Antarctic volcanism and providing a roadmap for future volcanic research. Due to the COVID -19 pandemic the preparation of the White paper has been delayed but a first draft with the contributions of all working groups is already finished and the final document is expected to be submitted for publication during autumn 2022.
- Translate the outreach book: "Antarctic Volcanism: Explore the remotest volcanoes of the planet!" into Spanish and Italian. This will allow reaching a much larger audience given the interest in polar research in Italy and numerous Spanish-speaking countries such as Spain, Chile, Argentina and Colombia.
- AntVolc Scientific Workshop to be held in an hybrid format (face-to-face and on-line) by the end of 2023. Due to the setbacks derived from the COVID-19 pandemic (incl. main conferences being rescheduled, travel restrictions , etc.), the organization of the 3rd AntVolc Scientific Workshops has been repeatedly postponed during the last years. It is envisaged that the new AntVolc governance team organizes it during the next period.
- Encourage completion of an online database of tephra analyses including major and trace elements data (when possible) for tephra identified in the continental, lacustrine and marine records of Antarctica, which is only partly

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complete so far (due to lack of funds) but already available for scrutiny online
<http://www.tephrochronology.org/AntT/index.html>

Summary Budget 2021 to 2022

	2020	2021-2022
	Allocated	Request
(US\$)	5000	5000

Progress to date

Sub-group Outcomes Summary

Sub-group	Activity/Outcome/Benefit/Achievement
ANTVOLC	Organisation of 2 scientific sessions (EGU2021 – EGU2022)
ANTVOLC	Geological Society of London Memoir : “ <i>Volcanism in Antarctica: 200 million years of subduction, rifting & continental break-up</i> ” (editors: John Smellie, Kurt Panter and Adelina Geyer)
ANTVOLC	Geological Society of London Memoir : ‘ <i>The Geochemistry and Geophysics of the Antarctic Mantle</i> ’ (editors Adam P. Martin and Wouter van der Wal)
ANTVOLC	On-line database of Deception Island's tephra record (DecTephra): https://doi.org/10.5281/zenodo.6077061
ANTVOLC	Database of tephra analyses for Antarctica: http://www.tephrochronology.org/AntT/index.html
ANTVOLC	Outreach book: “Antarctic Volcanism: Explore the remotest volcanoes of the planet!” by Geyer et al.: https://doi.org/10.5281/zenodo.6535775 .

Sub-group Cash Flow

(From previous Delegates meeting to date)

Sub-group	Allocation	Amount spent		
		2020	2021	2022
ANTVOLC		3,850 euros	----	----

Future plans

Planned activities from end 2022 to 2024

Sub-group	Planned activity
ANTVOLC	SCAR White Paper on the state of Antarctic volcanic research and future directions. The White Paper is an important document and must have input from as many members of AntVolc as possible so that all views on future directions are included.
ANTVOLC	AntVolc scientific workshop 2023
ANTVOLC	Translation of the outreach book : “Antarctic Volcanism: Explore the remotest volcanoes of the planet!” into Spanish and Italian.

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ANTVOLC	Reinforce the link between the AntVolc and the International Association of Volcanology and Chemistry of the Earth's Interior -IAVCEI-. Mainly between the following commissions: *Commission on Tephrochronology *Commission on Volcano-Ice Interaction
ANTVOLC	Proposal of a special issue of a specialist journal (e.g. JVGR) focussed on Antarctic volcanism
ANTVOLC	Continue increasing the AntVolc presence on social media and the participation of Early Career Scientists
ANTVOLC	Continue promoting sessions on Antarctic Volcanism in main international conferences (EGU, AGU, IAVCEI, etc.)

Planned use of funds for 2022 to 2024

Year (YYYY)	Purpose/Activity	Amount (in USD)	Contact Name	Contact Email
2022	Translation of the outreach book into Spanish and English language	2500	Adelina Geyer	ageyer@geo3bcn.csic.es
2022-2023	Student Travel Grants for International Conferences	2500	Adelina Geyer	ageyer@geo3bcn.csic.es

Any additional detail on funds usage and desired results/outcomes

Percentage of the budget to be used for support of early-career researchers

2022: 50%

Percentage of the budget to be used for support of scientists from countries with developing Antarctic programmes

The Research Project and Travel Grant calls are both open to the whole community working on Antarctic Volcanism. Hence, any early-career researcher from any of those countries has the possibility to apply.

Membership

Leadership

Role	First Name	Last Name	Affiliation	Country	Email	Date Started	Date Term is to End
Chair	Adelina	Geyer	CSIC	Spain	ageyer@ictja.csic.es	2019	2020
Deputy Chair	Alessio	Di Roberto	INGV	Italy	alessio.diroberto@ingv.it	2019	2020
Former Chair	John	Smellie	Leicester Univ.	UK	jls55@leicester.ac.uk	2017	2018
Former Chair	Massimo	Pompilio	INGV	Italy	massimo.pompilio@ingv.it	2015	2016
Steering Committee	Nelia	Dunbar	Mexico Tech	USA	Nelia.Dunbar@nmt.edu	2017	2020
Steering Committee	Adam	Martin	GNS Science	NZ	A.Martin@gns.cri.nz	2017	2020
Steering Committee	Kurt	Panter	Bowling Univ.	USA	kpanter@bgsu.edu	2017	2020
Steering Committee	Don	Blankeship	Texas Univ.	USA	blank@ig.utexas.edu	2017	2020
Steering Committee	Jenn	Cooper	Cornell Univ.	USA	jrc323@cornell.edu	2017	2020
Steering Committee	Massimo	Pompilio	INGV	Italy	massimo.pompilio@ingv.it	2017	2020
* Steering Committee	Max	Van Wyk de Vries	Minnesota Univ.	USA	vanwy048@umn.edu	2019	2020

Please identify early-career researchers with * in first column

Other members

Membership of AntVolc has increased up to 120 members, representing 19 countries (Argentina, Australia, Bulgaria, France, Germany, Greece, Iceland, India, Italy, Japan, New Zealand, Poland, Romania, Spain, South Korea, UK, USA, Uzbekistan, and Turkey)

Additional information (optional)

Notable Papers

A complete and updated list of the papers published by AntVolc is included here: <https://antvolcscar.wordpress.com/publications/>

Direct support from outside organisations received for your activities

Geo3BCN- CSIC – in kind support

Major collaborations your Science Group has with other SCAR groups and with organisations/groups beyond SCAR

Within SCAR

1. SERCE

Outside SCAR

1. IAVCEI

Outreach, communication and capacity-building activities

AntVolc now has a new priority line to promote Education and Outreach. Our first step here has been setting up active social media accounts for our group. These are now online and can be found on twitter and facebook by searching @antvolc (or here: <https://twitter.com/antvolc> ; <https://www.facebook.com/AntVolc>). The coordinator is an Early Career Scientist, Max Van Wyk de Vries (vanwy048@umn.edu). The main objectives are :

- Sharing the details and results of ongoing projects and research online in an accessible media-friendly way specifically catering to young researchers
- Setting up and maintaining AntVolc social media pages and stimulating discussion
- Creating links with other organizations to help organize outreach events (e.g.: Antarctica Day/Polar Week etc.)
- Making details of AntVolc meetings and conference sessions available asap, alongside photos of talks and posters available online on the AntVolc website and on social media
- Extending the gallery of photos of Antarctic fieldwork, combined with descriptive captions

Updates for your group's SCAR web page

AntVolc webpage is to be found in: <https://antvolcscar.wordpress.com/> . A new section corresponding to the new priority line of the Expert Group "Education and Outreach" has been added: <https://antvolcscar.wordpress.com/education-and-outreach/> . Additionally, the publications page has been updated and also the conference sessions publicized.

SCAR fellowship reviewers

First Name	Last Name	Email	Principal Expertise
Adelina	Geyer	ageyer@geo3bcn.csic.es	Active volcanism; Deception Island
Alessio	Di Roberto	Alessio.diroberto@ingv.it	Tephrochronology
Kurt	Panter	kpanter@bgsu.edu	Igneous petrology/geochemistry/mantle geochemistry
John L.	Smellie	jls55@leicester.ac.uk	physical volcanology, especially glaciovolcanism, eruptive palaeoenvironments
Adam	Martin	a.martin@gns.cri.nz	Mantle petrology; igneous chemistry; Erebus volcanic province
Max	Maximillian Van Wyk de Vries	vanwy048@umn.edu	volcano-ice interactions, glaciology, volcanic hazard modelling.