



Annual Report

1 April 2022 – 31 March 2023



Geoscience
Society
of
New Zealand



Companies Office Registration

Geoscience Society of New Zealand Incorporated No. 219911

Geoscience Society of New Zealand Awards Trust No. 1477708

Charities Services Registration

Geoscience Society of New Zealand Incorporated: CC41125

Geoscience Society of New Zealand Awards Trust: CC35670

Constituent Organisation of the Royal Society of New Zealand

Report Compiled By:

Jenny Stein

Secretary

Geoscience Society of New Zealand (GSNZ)

Geosciences Society of New Zealand Inc.

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New Zealand

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President's Report

Tēnā koutou,

The past year has thankfully delivered not too many surprises for both the Society and wider society in general. It was a great pleasure to be able to get out and about touring the Branches to deliver my President's lecture, relatively unencumbered by COVID-related restrictions. Likewise, it was a great pleasure to witness our Annual Conference take place in Palmerston North at the end of 2022, having been postponed from 2021 due to the Omicron wave of the COVID-19 pandemic. The conference was really well attended, with many delegates commenting on how great it was to be able to get together in person again. I once again extend my thanks to Convenors Anke Zernack and Julie Palmer and their support team for their amazing work bringing the event together. We look forward to what Wellington has in store for the 2023 Annual Conference!

The National Committee met five times during the past year. Four out of the five meetings were held online. The fifth meeting, which was our first meeting of 2023, was held in person, at the NIWA facility at Greta Point, Wellington. The move to online meetings continues to serve us well, as it saves on costs and on carbon, and allows increased flexibility for Committee members in terms of attendance. However, having an in-person meeting to kick off the year has proved really valuable for strengthening our connections as a committee, and to focus on big-picture issues for the coming year. Our face to face meeting this year saw us workshop a number of challenges and opportunities which the GSNZ will be facing over the coming years.

One of the opportunities we discussed relates to the generous bequest that the Society received from the estate of the Late Jack Grant-Mackie. This is a substantial six-figure sum, which Jack has requested we use to "benefit graduate geology students to attend geoscience conferences and/or for the students that undertake research". A number of ideas were circulated, including funding workshops to support students develop their skills in geoscience writing and communications, and supporting existing awards such as the Wellman Research Award and Student Travel Grant Funds. Our discussions are ongoing as to how to best utilise these funds to achieve Jack's wishes. For the meantime, the bulk of the funds have been placed in a 6-month term deposit.

In last year's report I highlighted some of the activity which has been taking place in the Special Interest Groups. It's been great to see this momentum continue through into this year. GEOID continued their programme of online talks and a regular newsletter, under the excellent organisation of Jenny Stein. Friends of the Pleistocene have also seen renewed activity over this past year. A somewhat impromptu Friends of the Pleistocene field trip was organised to take place immediately before the Conference (see the March 2023 Newsletter for more on this). Friends of the Pleistocene have also launched their own online seminar series, with talks taking place on the third Thursday of each month.

"The conference was really well attended, with many delegates commenting on how great it was to be able to get together in person again."

The series kicked off in March 2023 with Nic Rawlence discussing the impacts of glaciation on patterns of genetic diversity.

The paleontology SIG also continued their online talks until the end of 2022. Another activity for them has been the drafting of a code of ethics for fossil collecting to be added to the GSNZ Code of Ethics, led by Convenor Daniel Thomas. Following the high-profile extraction of a much-loved whale fossil from a public area in October of 2022, myself and a number of members of the paleontology community met to discuss this event and what the implications were for our GSNZ community. While the culprits were not GSNZ members, we did agree that the Society has an obligation to set the example for responsible fossil collecting. Daniel has agreed to lead this process, and has formed a subcommittee, etc. This code will be circulated in the next year and eventually included in the GSNZ code of ethics, subject to ratification.

This will likely be the last President's Report I pen, as by the end of 2023 I will have completed my two-year term. I'd like to take this opportunity to extend my thanks to my colleagues in the National Committee for their excellent contributions and support during my term. I will be making the most of my final two years on the Committee as Immediate Past President, where I look forward to supporting the next President into their role.

Ngā mihi nui,

Noho ora mai, stay well,



Kat Holt
President
Geoscience Society of New Zealand (GSNZ)

Treasurer's Report

My report is based on the draft set of accounts prepared by Brunton Cropp, who are compiling our financial reports prior to their formal audit by Kendons (Lower Hutt). As such the officially audited figures for the consolidated accounts are still not available, but the assumption is that the figures are unlikely to deviate significantly. In due course, a detailed audit of the Society's Consolidated Accounts and those of the GSNZ Awards Trust will be lodged with Charities Services.

"An exceptional point of difference this year was recognition of the extremely generous gift of \$479,456 made by the Estate of Jack Augustus Grant-Mackie."

Consistent with previous years, the Society's income streams included membership subscriptions, sales revenue from publications, interest from our investments, and any surplus made from conference registrations. An exceptional point of difference this year was recognition of the extremely generous gift of \$479,456 made by the Estate of Jack Augustus Grant-Mackie. Jack's wish was "without imposing any trust, this gift be used for the benefit of graduate geology students to attend geosciences conferences and/or for students to undertake research". The GSNZ Executive Committee are currently exploring mechanisms that will enable his wish.

Our outgoings include costs associated with the management and administration of the Society, support of the Hochstetter and Presidential lecture tours, production of newsletters to the membership, purchase of stock, and sponsorship of selected publications.

Aligned with our charitable status, a significant component of our annual income underpins grants and awards for Tertiary Students and Early Career geoscientists, supporting their research and opportunities to present their work at geoscience conferences and meetings. A large proportion of this assistance is leveraged via the GSNZ Awards Trust. A total of 24 grants and awards and \$25,565 were dispersed in the 2022-23 financial year across the Society's accounts. The Society's total accumulated funds across all its accounts stand at \$1,393,370, an increase of \$505,517 over last year.

The Society's general account made a surplus of \$487,590, directly reflecting the gift from the JG-M estate and a small operational surplus of \$8,134. Administration costs remained similar to last year at \$29,198. The National Committee continues to support one face-to-face meeting annually and travel expenses will vary year to year depending on the location of participants.

Total membership subscriptions rose by \$8,294 to \$46,769, another successive increase on an important source of discretionary income for the GSNZ. Sales were down slightly to \$3,636, another successive fall on the previous year. Modest sales of *A Continent on the Move* (2nd ed) continue, with 119 copies sold (down 22 copies on the previous year). Significant stock remains (1993 copies) and we continue to work with Bateman to keep the wholesale cost attractive.

The dramatic increase in interest rates realised \$30,045 of growth across all of the Society's cash accounts, together with \$12,400 of unrealised gains on the Award Trust's

Westpac Active Series Managed Fund. As discussed in last year's report, most of the original cash deposits in the Awards Trust are now invested in the managed fund, which has shown good growth since it was established in June 2022. More modest growth is forecast over the next couple of years.

It is timely to thank and acknowledge all those who have contributed to the Society through donations, sponsorship and their time. The Society's ongoing support of students and their science projects, conferences, lectures, career development and awards etc is significantly enhanced by your generosity.

Alan Orpin

Alan Orpin
Treasurer
Geoscience Society of New Zealand (GSNZ)

Minutes of the Last AGM

The 13th Annual General Meeting of the Geoscience Society of New Zealand (Inc)

Venue: Massey University, Palmerston North, in person and via zoom

Date: Wednesday 30 November 2022, 5pm

1. Welcome and Apologies

Kat Holt welcomed everyone to the meeting. She clarified the voting and question protocols for those members attending online. Jenny Stein, Secretary would be monitoring the Zoom account throughout the meeting.

Apologies received were read to the meeting: David Lowe, Glenn Vallender, Adrian Pittari, Oliver McLeod, Michael K. Eagle, Mike Johnston, Catherine Chagué, Nick Mortimer, Anto George, Fred Davey, Jarg Pettinga. Additional apologies from the floor: Phil Barnes, Daphne Lee, Sally Watson, James Scott.

2. Minutes of the 12th AGM of the Geoscience Society of New Zealand

Minutes from the 12th AGM held via Zoom in December 2021 had been circulated and taken as read. There were no matters arising from these Minutes.

Motion 1:

Motion 1: Approve the minutes of the GSNZ 12th AGM held in December 2021.

Proposed: Kat Holt

Seconded: Julie Palmer

Voting: carried unanimously

3. President's Report

The report for the year to 31st March 2022 has been disbursed in the Annual Report. Kat presented an interim report for the rest of this year:

- President's tour had gone very well.
- Continued with our digital meetings – switching to half day meetings.
- Kamen Engel Prints.
- Sponsoring Fireballs Aotearoa.
- Progress on Awards Review.
- SAGE and YRTG back on the agenda.
- Bequest from the Estate of the Late Jack Grant-Mackie

4. Acknowledgements

Honours & Awards

Nick Mortimer – James Cook Research fellowship

Rupert Sutherland – RSNZ Hutton Medal

Terry Isson – Rutherford Discovery Fellowship

Lionel Carter – SEPM Francis Shepard Medal

Kasper Van Wijk, Claudine Stirling, Nick Mortimer – Marsden Fund Grants

Andy Nichols, Mila Adam & Co - \$11 million MBIE Endeavour Fund.

5. Annual Report for the year ended 31st March 2022

The Annual Report had been circulated and was taken as read. There were no matters arising from the Annual Report.

Motion 2:

Motion 2: To approve the 2021/2022 GSNZ Annual Report.

Proposed: Jenny Stein

Seconded: Angela Griffin

Voting: carried unanimously

6. Administrator's Report

Included in the Annual Report and taken as read.

7. Treasurer's Report and Financial Summary

The Treasurer's report had been circulated and was taken as read. Alan Orpin, Treasurer, spoke to the Treasurer's report:

- At the close of the 2021-22 financial year the Society's total accumulated funds across all its accounts was \$887,853, a reduction of \$9,205 over last year. At the time of preparing this report the officially audited figures are unavailable, but the assumption is that they are unlikely to deviate significantly from those prepared by the accountant.
- The Society's consolidated accounts made a loss of \$9,206: operating account \$2,903 deficit, a \$6,002 reversal from previous year that was boosted by the Geosciences 2020 surplus.
- Low interest rates realised \$5,348 of growth across all of the Society's accounts, down from \$16,034 the previous year. The GSNZ Geological Awards Trust yielded just \$3,869 from its \$507,038 of reserves.
- A total of \$23,509 was dispersed for all 20 awards made.
- A total of \$14,934 of awards and grants were supported from the operating accounts, including \$4,869 in Branch Grants, \$559 towards the Hochstetter Lecture, \$5,746 for support of the GSNZ newsletter.

- Total membership subscriptions rose slightly to \$38,475, another successive increase on an important source of discretionary income for the GSNZ.
- There was a \$10,252 reduction in Administration costs to \$26,250. COVID-19 travel restrictions and the National Committee's commitment to utilise online meetings is keeping operational expenses modest.
- As raised last year, the sustained low interest rates (e.g. 0.85% p.a. for much of the financial year) resulted in the Trustees of the GSNZ Awards Trust electing to top-up the amounts for students to keep these prizes attractive and meaningful. Our focus was primarily to improve support 'to do research'.
- We would need to appoint new auditors for 2022-23 as our existing auditor was retiring. Due to the increase in the amount of compliance required it was likely this would increase the annual cost of the audit considerably (i.e. possibly double). We had already appointed separate accountants to ensure a clear delineation between them and the auditors. Again, this represented an increase in compliance costs.

Scott Nodder asked about the long-term outlook for a managed fund vs cash deposits.

El Mestel asked re: the selection criteria for a new auditor.

Motion 3:

Motion 3: To approve the unaudited financial statements in principle, as appended to annual report.

Proposed: Alan Orpin

Seconded: Bruce Hayward

Voting: carried unanimously; abstention: Georg Zellmer who had arrived late and had not heard the whole discussion.

Kat thanked Alan for his work on the accounts.

8. Election of Officers and Committee for 2022-2023

Thank you to the Committee of 202, in particular the following members who will be stepping down:

- Jenni Hopkins (Wellington)

Office Holders

President: Kat Holt (Manawatū)

Nominated By: Sam McColl

Seconded: Alan Orpin

Any other nominations: none

Voting: carried unanimously

Vice President: Sam McColl (Manawatū)

Nominated By: Kat Holt

Seconded: Nicola Litchfield

Any other nominations: none

Voting: carried unanimously

Secretary: Jenny Stein (Wellington)

Nominated By: Kat Holt

Seconded: Alex Nicols

Any other nominations: none

Voting: carried unanimously

Treasurer: Alan Orpin (Wellington)

Nominated By: Kat Holt

Seconded: Janis Russell

Any other nominations: none

Voting: carried unanimously

Five elected committee members:

Angela Griffin (Wellington) – eligible for re-election

Alex Nichols (Canterbury) – eligible for re-election

Matt Sagar (Wellington) – eligible for re-election

Sebastian Naeher (Wellington) - eligible for re-election

Michael Rowe (Auckland) – formerly co-opted

Nominated By: Jenny Stein

Seconded: Georg Zellmer

Any other nominations: none

Voting: carried unanimously

Non-Elected Committee Members for 2022/2023:

James Scott (Otago) - Immediate Past President (ex officio)

Co-opted Members and Appointments:

Nicola Litchfield (Wellington)

Shannen Mills (Manawatū) – ECR rep

Steph Coursey (Manawatū/Wellington) - Student Representative

Provision in rules for invited Branch (20+) rep. for Branches not represented:

Waikato: Andrew La Croix (Waikato)

Administrator: Nicki Sayers

Newsletter Editor: Janis Russell

9. Treasurer's Honorarium

Motion 4:

Motion 4: That upon the request of the current Treasurer there will not be an honorarium budgeted or paid for the coming year.

Proposed: Katherine Holt

Seconded: Julie Palmer

Voting: carried; Scott Nodder and Michael Rowe opposed. Alan Orpin and Kyle Bland abstained.

10. Appointment of Auditor

Motion 5:

Motion 5: Following a process of due diligence, the National Committee will appoint a new auditor for the annual accounts.

Proposed: Alan Orpin

Seconded: Sam McColl

Voting: carried unanimously

11. Election of Geological Awards Trustees

Motion 6:

Motion 6: To appoint James Scott (Immediate past President) as chair, the GSNZ President (Kat Holt) and Vice-President (Sam McColl), the GSNZ Treasurer (Alan Orpin), and Catherine Reid, for the GSNZ Awards Trust.

Proposed: Jenny Stein

Seconder: Alex Nicols

Voting: carried unanimously

12. Any other business

Scott Nodder wished to thank the Committee for their efforts over the last two years.

There being no other business the meeting closed at 5.37pm.

Nicki Sayers

Nicki Sayers

Administrator

Geoscience Society of New Zealand (GSNZ)















National Structure

Committee Members

New and continuing officers and Committee members elected at the 2022 AGM, co-opted members, and appointments at or after the AGM and ongoing members of the previous committee:

Elected Officers @ 2022 AGM	Affiliation	First Elected
Kat Holt (President)	Massey University	2021
Sam McColl (Vice President)	Massey University, then GNS Science	2021
Jenny Stein (Secretary)	GNS Science	2020
Alan Orpin (Treasurer)	NIWA	2017
Committee		
Matt Sagar	GNS Science	2016
Alex Nichols	University of Canterbury	2018
Angela Griffin	GNS Science	2019
Sebastian Naeher	GNS Science	2020
Appointments ¹ / Co-opted ²		
¹ James Scott (Immediate Past President)	University of Otago	2016
¹ Nicki Sayers (Administrator)	(independent)	2018
¹ Janis Russell (Newsletter Editor)	(independent)	2020
² Michael Rowe	University of Auckland	2021
² Shannen Mills (Student Representative)	Massey University	2021
² Andrew La Croix (Branch Representative)	Waikato University	2019
² Nicola Litchfield	GNS Science	2021
Outgoing		
Jenni Hopkins	Victoria University of Wellington	2019
² Steph Coursey (Student Representative)	Massey University	2021

The 2022-2023 National Committee

 Katherine (Kat) Holt President + View More	 Sam McColl Vice President + View More	 Alan Orpin Treasurer + View More
 Jenny Stein Secretary + View More	 James Scott Immediate Past President + View More	 Alex Nichols Publications Sales + View More
 Matthew (Matt) Sagar Publications Convenor + View More	 Nicki Sayers Administrator + View More	 Angela Griffin Member + View More
 Andrew La Croix Member + View More	 Sebastian Naeher Member + View More	 Michael Rowe Member + View More
 Shannen Mills Member + View More	 Nicola Litchfield Member + View More	

Relationships

Current Memoranda of Understanding:

- With Tourism New Zealand (1 Jan 2023 – 31 Dec 2023, with opportunity for annual renewal)
- With Geological Society of Australia (effective 25 Aug 2021 – 25 Aug 2031)
- With Toka Tū Ake EQC (effective 1 Dec 2022 - 1 Dec 2025)
- With GNS Science regarding the New Zealand Fossil Record File database (known as “FRED”) (effective 8 August 2018 – 7 August 2021) (expired) †

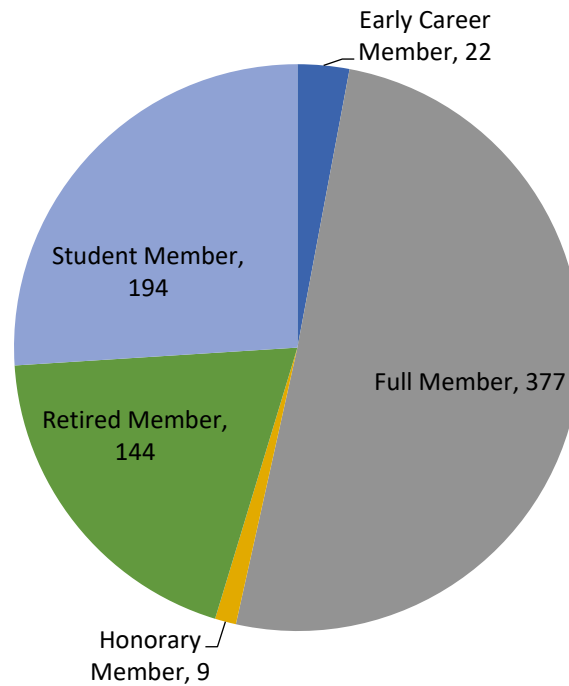
† as of March 31, 2022, this MoU is being renegotiated within a wider MoU with GNS Science.

International Union of Geological Sciences (IUGS)

Nick Mortimer is the primary contact for the GSNZ as an adhering member of the IUGS. Martin Crundwell continues his roles as the New Zealand representative on both the IUGS Subcommission on Neogene Stratigraphy and IUGS Subcommission on Quaternary Stratigraphy.

Membership

As of 31 March 2023, the GSNZ had 746 individual members, a small increase on the previous year. Membership was made up of the following types:



Honorary Life Members

In 2022 Vince Neall was awarded Honorary Life Membership and joins a group with eleven others as follows:

Year	Life Member
2022	Vince Neall
2021	Julie Palmer
2020	Glenn Vallender
2019	Nick Mortimer
2018	Janet George
2017	Campbell Nelson
2016	Mike Johnston
2015	Jack Grant-Mackie
2014	David Skinner
2013	Bruce Hayward
2012	Simon Nathan
2011	Bruce Thompson

Regional Statistics

Based on self-indication of Branch membership, as of the date of this report the number of members we have in each region are as follows (figures in brackets represent the previous year):

Region	Branch membership
Auckland	128 (121)
Waikato	54 (56)
Bay of Plenty	20 (19)
Taranaki	17 (15)
Manawatu	50 (43)
Wellington	236 (219)
Canterbury	100 (96)
Otago	78 (78)
Overseas	58 (61)

A summary of each branches' activities throughout the year can be found in the Branch Reports section of this report.

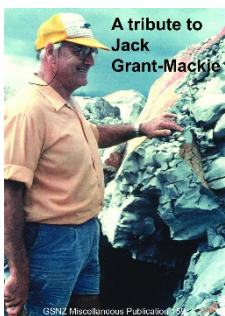
Publications

Publication Sales (re-elected 2022): Alex Nicols (University of Canterbury, Christchurch) took over from Sam McColl (GNS Science, Wellington)

Publications Convenor (re-elected 2022): Matt Sagar (GNS Science, Lower Hutt)

Publications Projects

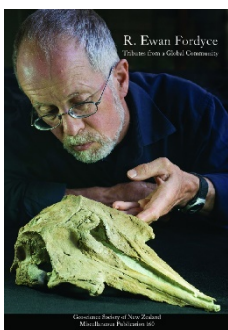
The following GSNZ-approved projects were in progress and/or published in the 2022-23 financial year.



A Tribute to Jack Grant-Mackie

MacFarlan D.A.B., compiler (2022). A tribute to Jack Grant-Mackie. Miscellaneous Publication 159. Wellington, New Zealand, Geoscience Society of New Zealand. 71 p.

Published in both paperback (kindly distributed to friends and colleagues of Jack's by Donald MacFarlan) and PDF, available for free download from the GSNZ website: <https://gsnz.org.nz/publications-and-webstore/product/164>. Costs of paperback printing and binding were met by the GSNZ.



R. Ewan Fordyce: Tributes from a Global Community

Friends of R. Ewan Fordyce, edited by Thomas D.B. and Lee D.E. (2022). R. Ewan Fordyce: Tributes from a Global Community. Miscellaneous Publication 160. Wellington, New Zealand, Geoscience Society of New Zealand. 71 p.

Published in both paperback (distributed upon request to Ewan's friends and colleagues for the cost of postage only) and PDF, available for free download from the GSNZ website: <https://gsnz.org.nz/publications-and-webstore/product/163>. Costs of paperback printing and binding were covered by the GSNZ and Department of Geology, University of Otago.

Geology of Karioi Maunga, Aotearoa by Oliver McLeod et al.

Oliver McLeod is currently making revisions based on reviews by Shane Rooyackers, Dougal Townsend, and Graham Leonard. Publication in late 2023 is eagerly anticipated.

Geoscience Society of New Zealand Annual Conference 2022, Palmerston North, Programme and Abstracts Volume

Zernack A.V., Palmer J. eds. (2022). Geoscience Society of New Zealand Annual Conference 2022: Programme and Abstracts Volume. Miscellaneous Publication 161A. Wellington, New Zealand, Geoscience Society of New Zealand. 322 p.

PDF available for free download from the GSNZ website:
<https://gsnz.org.nz/publications-and-webstore/product/116>.

Geoscience Society of New Zealand Annual Conference 2022, Palmerston North, Field Trip Guides

Zernack A.V., Palmer J. eds. (2022). Geoscience Society of New Zealand Annual Conference 2022: Field Trip Guides. Miscellaneous Publication 161B. Wellington, New Zealand, Geoscience Society of New Zealand. 60 p.

PDF available for free download from the GSNZ website:
<https://gsnz.org.nz/publications-and-webstore/product/108>.

Publication Sales

Publications	Retail Price	Quantity Sold	Wholesale Price	Quantity Sold	Value Sold
Auckland guide	\$10.00	0			\$0.00
A geologist remembers	\$20.00*	0			\$0.00
Central Rocks	\$20.00	4			\$80.00
Cobb Valley	\$10.00	4			\$40.00
Field Wallet	\$10.00	30			\$300.00
Flying High	\$40.00	1	\$24.00	1	\$64.00
Geyserland	\$20.00*	0			\$0.00*
Granite and Marble	\$15.00	0			\$0.00
Harold Wellman	\$20.00	1			\$20.00
James Hector	\$20.00*	1			\$12.00*
Karst in Stone	\$12.00*	0			\$0.00*
Mountains to Meteorites	\$20.00*	0			\$0.00*
Nelson Diary	\$20.00*	0			\$0.00*
Nelson First Diary	\$20.00	0			\$0.00
On the Edge	\$18.00	0			\$0.00
Pirongia	\$30.00	8			\$240.00
Queenstown guide	\$10.00	2			\$20.00
Red Rocks	\$10.00	2			\$20.00
Taranaki guide	\$10.00	2			\$20.00
Volcanoes	\$50.00	0			\$0.00
Wandering River	\$20.00	10			\$200.00
Zealandia Glass	\$25.00*	32			\$638.40*
Engel Artworks	\$350.00**	3			\$525.00**
Total		73		1	\$1,640.75

*May include stock sold at a GSNZ Member-only discounted price

**Profits shared 50:50 with artist

In addition, the following publications were sold on the Society's behalf by Bateman Books and GNS Science:

Publications	Number sold	Value Sold	Payment Received
A Continent on the Move	119	2,771.30	\$2071.54

Awards and Grants

Society Awards

Awards subcommittee: Sam McColl (chair, GNS Science), Martha Savage (Victoria University of Wellington), Andrew La Croix (University of Waikato), Ben Kennedy (University of Canterbury) and Sophie Briggs (University of Otago).

General Awards

Name of Award	Recipient	Details
Honorary Life Member	Vince Neall; Massey University.	For career-long contributions to the former Geological Society of New Zealand, its Manawatu Branch, and the wider geoscience community.
McKay Hammer	Jamie Howarth; Te Herenga Waka Victoria University of Wellington	For being lead author on two publications in <i>Nature</i> in the past year. The first paper convincingly demonstrated that they can be used to reconstruct past earthquake ground motion and rupture directivity. The second identified how changes in fault geometry exert a first-order control on earthquake behaviour and that this geometric complexity is not currently accounted for within seismic hazard models. It also updated time-dependent hazard forecasts for the Alpine Fault.
Hochstetter Lecturer	Lorna Strachan; University of Auckland.	“Kaikōura Earthquake – Tales from the seafloor”
S.H. Wilson Prize	N/A	<i>This is awarded every four years. The next award will be made in 2025.</i>
New Zealand Geophysics Prize	Leighton Watson; University of Canterbury	For his paper: Watson, L. M., Carpenter, B., Thompson, K., Johnson, J. B. (2021): Using local infrasound arrays to detect plunging snow avalanches along the Milford Road, New Zealand (Aotearoa), which presents the first use of infrasound (low frequency sound waves) to detect snow avalanches in New Zealand and in a maritime climate. As a direct result of the work, the Milford Road Alliance has now installed an operational infrasound-based monitoring system.
Werner Gigggenbach Prize for Geochemistry	Rose Turnbull; GNS Science	For the paper: Turnbull, R.E., Schwartz, J.J., Fiorentini, M.L., Jongens, R., Evans, N.J., Ludwig, T., McDonald, B.J., Klepeis, K.A. (2021): A hidden

“...for being lead author on two publications in *Nature* in the past year...”

*“...with over 50
~ 5 – 15 min
videos
available free
for public
viewing.”*

**Hayward Geo-
Communication**

Julian Thomson; Out
There Learning

Rodinian lithospheric keel beneath Zealandia, Earth’s newly recognized continent. The paper is an outstanding example of the use of cutting edge microbeam isotope geochemistry to provide insights into big-picture, deep-time, global-scale tectonics: from atoms to continents.

For two innovative projects he has initiated and contributed to over the past three years: the Out There Learning YouTube Channel, with over 50 ~5-15min videos available free for public viewing. At the time of writing the channel had received over 2,000,000 views and had over 12,000 subscribers, and the Geotrips website that provides information free to the public explaining the origins and stories of numerous geological sites around New Zealand. There are 470 individual Geotrips on the website, with Julian having contributed 25% of these.

**Wellman
Research Award**

Pedro Doll; University
of Canterbury

For his work dating lava-forming eruptions from Mt Ruapehu, to improve estimates of the timing of these hazardous events.

Kingma Award

Regine Morgenstern;
GNS Science

For her outstanding work and being “a team player with a can-do attitude.” She goes out of her way to support other aspects of the organisation, like the UAV user group, Early Career Research Network, working as an emergency warden, and she developed a wellness room and organises Pilates classes. In a little over 5 years, she has risen to Senior Technician, testament to the contributions she has made to GNS Science and NZ geoscience.

*“For the
discovery of
several new
species ...”*

**Harold Wellman
Prize**

Thomas Stolberger
and Nathan Collins;
University of
Auckland

For the discovery of several new species, including two new species of bulimoid land snail discovered during the construction on Watercare’s Central Interceptor wastewater tunnel in Māngere, Auckland.

**Pullar-Vucetich
Prize**

Martin Danisik;
Curtin University

For his paper: Danišić, M., Lowe, D.J., Schmitt, A. K., Friedrichs, B., Hogg, A. G., and Evans, N. J. (2020): Sub-millennial eruptive recurrence in the silicic Mangaone Subgroup tephra sequence, New Zealand, from Bayesian modelling of zircon double-dating and radiocarbon ages. The paper involves the dating, for the first time, of the entire stratigraphic sequence of 13 rhyodacitic to rhyolitic tephra beds of the Mangaone Subgroup

(MSGp).

Alan Mason Historical Studies Fund	N/A	<i>(Not awarded in 2022)</i>
Young Researcher Travel Award	Ayla Stenning, University of Otago	<i>To attend the American Geophysical Union Fall Meeting, Chicago, USA</i>
	Megan Duffy, University of Otago	<i>To attend the International Conference on Paleooceanography, Bergen, Norway</i>
	Sofia Rauzi, Waikato University	<i>To attend the Goldschmidt International Conference, Lyon, France</i>
	Steph Coursey, Massey University	<i>To attend the International Union for Quaternary Research Congress, Rome, Italy.</i>

Student Awards

Name of Award	Recipient	Details
Jim Ansell Geophysics Scholarship	Andrea Perez-Silva; Te Herenga Waka Victoria University of Wellington	For applying numerical modelling to investigate the generation of slow slip events in the Hikurangi subduction zone. Few studies to date have focused on numerical modelling of slow slip event generation, so her PhD project has the potential to answer some of the outstanding questions regarding the origin of episodic, slow slip behaviour, a research topic of global significance.
John Beavan Geodetic Fieldwork Fund	N/A	<i>(Not awarded in 2022)</i>
Hornibrook Award	N/A	<i>(Not awarded in 2022)</i>
NZ Sage Scholarship	N/A	<i>(No award made since 2020 due to travel restrictions and changes at SAGE. The next award will be made in 2024)</i>
S.J. Hastie Scholarships	University of Auckland: Meegan Soulsby University of Canterbury: Jessie Henwood Massey University: Javelle Pereka University of Otago: Sophie Bonnington Victoria University of Wellington: Liam Bramwell University of Waikato: Erin Georgia Mathews	

“...her PhD project has the potential to answer some of the outstanding questions regarding the origin of episodic, slow slip behaviour.”

A number of other awards, prizes and grants are awarded by individual branches of the Society. See the Branch reports for these.

Student Travel Grants

Student travel grants were awarded to the following students:

Recipient	Institution
Dhungana, Annal	Massey University
Coursey, Steph	Massey University
Baxter, Rachael	University of Otago
Coulter, Robert	University Of Canterbury
Doll, Pedro	University Of Canterbury
Hoult, Henry	University Of Canterbury
Overwater, Geneva	University Of Canterbury
Hanson, Johanna	University of Canterbury
Parker, Matthew	University Of Canterbury
Saha, Sriparna	University Of Canterbury
Young, George	University Of Canterbury
Humphrey, Jade	University of Canterbury
Watson, Alexander	University Of Canterbury
Stenning, Ayla	University of Otago
Ireland, Mark	University Of Otago
Eschenroeder, Julian	University Of Otago
Oliver, William	University Of Otago
Ruz Ginouves, Javiera	University Of Otago
Zhang, Rong	University of Otago
Kwong, Stephen	Victoria University Of Wellington
Tickle, Stephanie	Victoria University Of Wellington
Hughes, Laura	Victoria University Of Wellington
O'brien, Libby	Victoria University Of Wellington
Clarke, Madison	Victoria University Of Wellington
Gordon, Aileen	Victoria University Of Wellington

Annual Conference Prizes

Prize	Recipients	Institution
Oral Presentations	Daniel Burgin	University of Otago
	Rachael Baxter	University of Otago
	Alex Davidson	Macquarie University
Posters	Aileen Gordon	Victoria University Of Wellington
Presentations	Laura McDonald	University of Auckland
	Marlena Prentice	University of Waikato

Events

GSNZ National Events this period were coordinated by Angela Griffin with assistance from the National Committee.

Photography Competition

Since 2020 we have held an annual photography competition for all members of GSNZ to show off their photographic talent. This year we had three categories: Out and About, Patterns, and Comic Relief. Comic Relief was an open category, while “out and about” and “patterns” had three separate divisions: adult, tertiary student and school student. Prizes were as follows:

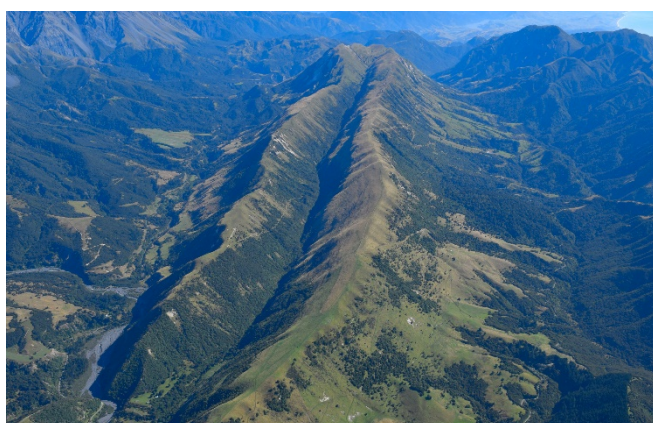
	<i>Adult</i>	<i>Tertiary Student</i>	<i>School Student</i>
Out and about	\$50	\$50	hand lens
Patterns	\$50	\$50	hand lens
Comic Relief	“magic” heat-changing mug printed with winning photo		

A total of 13 photographs were submitted by seven people, across the seven categories and divisions:

	<i>Adult</i>	<i>Tertiary Student</i>	<i>School Student</i>
Out and About	5	2	0
Patterns	3	2	0
Comic Relief	1 entry (open category)		

Winners of the 2022 GSNZ Photo Competition:

Out and About (Adult):
“Puhipuhi Syncline” by Bruce Hayward



Out and About (Tertiary Student): “Vertigo” by Anthony Shorrock



Patterns (Adult): “Rivers in garnet sand” by Mary Traves



**Patterns (Tertiary Student):
"Braided" by Anthony Shorrock**



**Comic Relief (Open): "Lickety
Limestone" by Mary Traves**



Geobake

Each year we run a Geobake on 16 March to celebrate Hector Day (New Zealand's annual national geosciences day held close to the birthday of pioneering NZ geoscientist, James Hector). The Geobake is initiated by the National Committee, but the intention is to encourage social interaction at a local level. Branches or other community groupings are encouraged to meet informally to celebrate Hector Day and consume the baking.

People design and bake something edible and tasty with a geoscience theme, to share with their community or eat at home. They then email details (including a photograph) to us for the national judging. This year there were 10 entries and the winner (see below) won a free one-year subscription to GSNZ (2022-23). Spot prizes were awarded to Javiera Ruz Ginouves, Emeline Wavelet and Julian Eschenroeder (University of Otago), Jenny Stein, and Kat Holt.

Winning entry in the 2023 Geobake competition: "Braided rivers & the Southern Alps" by Inge Smythe

"This year there were 10 entries and the winner won a free one-year subscription to GSNZ."



Tectonism has produced a rigorous, geologically active alpine environment. Braided rivers characterize the South Island's landscape and their planform is in part related to a high sediment yield derived from the uplift of the Southern Alps. Slope-derived sediment deposited on braid plains creates bifurcating channel networks which typify braided rivers.

Angela Griffin
Events Team Leader

Communications

Newsletter

“We wish Janis and her family all the very best.”

After seeking feedback from the membership, the GSNZ Newsletter became known as *Geoscientist Aotearoa* from issue NL38 (Nov 2022). Sadly, not long into the new year our fabulous newsletter editor, Janis Russell had to step down from the role due to family circumstances. Her last issue was in March 2023. Our thoughts continue to be with Janis as we search for her replacement, and we wish her and her family all the very best.

Content

Issue	Articles/Features	SIG Reports	Other reports*	Number of pages
NL37 (July 2022):	5	2	1	54
NL38 (November 2022):	5	2	5	35
NL39 (March 2023):	2	2	5	29

**These include reviews and reports from the general membership but not general reporting of regular matters e.g. award winners or event/survey results.*

Website

In the 2022-2023 Google updated their analytics portal and a functioning connection that would enable our website traffic to be tracked and analysed has not been restored.

Newsflashes & Social Media

Newsflashes continue to be our most commonly used channel to communicate with our members. In the year to 31 March 2023, we sent 16 Newsflashes to our members. The open rate regularly exceeded 50% and was sometimes as high as 60%. This compares extremely favourably with the industry average of 40%. Each Newsflash carries a mix of Society news and a curation of geoscience news, especially where a GSNZ member is featured.

The majority of our readers are based in New Zealand but there are members in the USA, Australia, Japan and throughout Europe who regularly read the Newsflashes.

In addition, we use social media to advertise events and other Society and geoscience news. Our main channel is Facebook, but we also have LinkedIn, YouTube, Twitter and Instagram accounts:



Facebook

<https://www.facebook.com/GeoSocNZ>



Twitter

<https://twitter.com/GeoscienceNZ>



LinkedIn

<https://nz.linkedin.com/company/geoscience-society-of-new-zealand>



YouTube

https://www.youtube.com/channel/UCLIZ45T-9ccRMmjUh_Xb9JQ

Nicki Sayers
GSNZ Administrator

Branch Reports

Auckland

The Auckland Branch was established under the former 'Geological Society of NZ' in 1956 and was centred around the former Geology Department at the University of Auckland, now a part of the School of Environment. The Auckland GeoClub (established in 1992 at the Auckland Museum) is an affiliated section of the Auckland Branch comprising amateurs and professionals with a common interest in New Zealand's geology and fossils. The Auckland GeoClub is run autonomously, and many of its members are not members of the national body (Geoscience Society of N.Z.), except those registered for both. However, the GeoClub liaises frequently, and jointly runs activities with, the Auckland Branch and its activities are traditionally included with the Auckland Branch activities when the Auckland Branch reports to the National Committee.

Branch Committee for 2022-23 Committee Members: Jennifer Eccles (Auckland Branch Rep)

Geoclub Committee: Bruce Hayward (Convenor), Hugh Grenfell, Garry Carr (Treasurer), Wendy Goad, Christine Major, Peter Scott, Jill Kenny (Geocene editor), Maureen Burke, Kath Prickett, Linda Hill, Lee Sawyer, Liz Hoskin.

Branch representative on National Committee: Michael Rowe

No. of paid GSNZ members as at 31 March 2023: 128; Geoclub has 132 members.

Branch Activities and Events

Activity	Description	Date Held	Attendance	
			Members	Non-Members
Meetings				
Geoclub Meeting April	"The Green Greasy Limpopo: Ancient basement rocks of southern Africa made simple" by Julian Vearncombe	April 2022 7.30 pm. Geoclub - Epsom Community Centre, 200 Gillies Ave	35	
Geoclub Meeting May	Updated geological mapping of the Pukekohe area, South Auckland" by Dominic Strogen	May 2022 7.30 pm. Geoclub - Epsom Community Centre, 200 Gillies Ave	33	
Geoclub Meeting Jun	"The contribution of seismic data to understanding the geology of offshore New Zealand" by Chris Uruski	June 2022 7.30 pm. Geoclub - Epsom Community Centre, 200 Gillies Ave	38	
Geoclub Meeting Jul	"Taranaki fossil seabirds: bridging past and future" by Daniel Thomas	July 2022 7.30 pm. Geoclub - Epsom Community Centre, 200 Gillies Ave	33	

Geoclub Meeting Aug	“The origins of three scoria blocks in Maori occupation sites, Southern New Zealand: implications for early Polynesian voyaging” by Ross Ramsay	August 2022 7.30 pm. Geoclub - Epsom Community Centre, 200 Gillies Ave	41	
Hochstetter Supporting Lecture	“Quantitative microstructural analysis in Earth Sciences” by Dave Prior, University of Otago	20 September 2022 Noon. University of Auckland in the Owen G Glenn Business School Room 260-223	12	
Hochstetter Lecture	“The shear zones that hold back the ice sheets” by Dave Prior, University of Otago	20 September 2022 7.30 pm. Auditorium, Auckland War Memorial Museum	40	40
President’s Lecture	“Tiny but Mighty – the role of pollen and palynology in the Geosciences” by Kat Holt, Massey University	8 October 2022 7.30 pm. Geoclub - Epsom Community Centre, 200 Gillies Ave	44	
President’s Lecture	“Tiny but Mighty – the role of pollen and palynology in the Geosciences” by Kat Holt, Massey University	19 October 2022 11 am. University of Auckland Rm 303-148	15	5
Geoclub Meeting Nov	Book Launch – “Mountains, Volcanoes, Coasts and Caves: Origins of Aotearoa New Zealand’s natural wonders” by Bruce Hayward.	November 2022 7.30 pm. Geoclub - Epsom Community Centre, 200 Gillies Ave	56	
Geoclub Meeting Dec	AGM and Members Presentations - Jill Kenny – GIS mapping of Auckland faults and Waitemata Erosion Surface; Ian Simpson – A Waitemata breccia with a mystery matrix; Maureen Burke – Kendall Bay fossil forest; Garry Carr – A boundary between Maungawhau lava flows; Anthony Blaschke – Taranaki field trip lingering thoughts; Hugh Grenfell – a matter of scale; Bruce Hayward – Geoclub 2022 activities slides	December 2022 7.30 pm. Geoclub - Epsom Community Centre, 200 Gillies Ave	38	
Geoclub Meeting Feb	Three University of Auckland graduate student talks on their thesis results. “Composition and structure	21 February 2023 7.30 pm. Geoclub - Epsom Community	51	

	of hot spring digitate sinter: preparation for remote sampling on Mars” By Ema Nersezova. “Did the submarine caldera of Kuwae, Vanuatu, cause one of the biggest volcanic eruptions of the last 2000 years?” by Sönke Stern. “Sedimentary response to glacio-eustatic changes in the Northern Hikurangi subduction margin, New Zealand” by Anthony Shorrock.	Centre, 200 Gillies Ave	
Geoclub Meeting Mar	“Impacts of magma, volatiles and climate on continental rift development” By James Muirhead	21 March 2023 7.30 pm. Geoclub - Epsom Community Centre, 200 Gillies Ave	25
Geoclub Field Trip	Kaiwaka-Wellsford led by Hugh Grenfell	Apr-22	13
Geoclub Field Trip	North Piha and Whites Beach led by Bruce Hayward	May-22	20
Geoclub Field Trip	Herne Bay led by Hugh Grenfell and Peter Scott	Jun-22	12
Geoclub Field Trip	Auckland CBD building stones led by Bruce Hayward and Hugh Grenfell	Jul-22	21
Geoclub Field Trip	Mt Eden lava flow field led by Christine Major	Aug-22	13
Geoclub Field Trip	Red Beach led by Bruce Hayward	Aug-22	16
Geoclub Field Trip	Waiti Bay, Kawakawa led by Bernhard Sporli	Sep-22	20
Geoclub Field Trip	Hamiltons Gap, Awhitu led by Bruce Hayward	Oct-22	18
Geoclub Field Trip 8 days	Wairarapa and S Hawkes Bay led by Bruce Hayward and Chris Hollis	Nov-22	26
Geoclub Field Trip	North Shore volcanic craters led by Bruce Hayward	Dec-22	17
Geoclub Field Trip	One Tree Hill landslips	Feb-23	28
Geoclub Field Trip	Torbay led by Bruce Hayward	Feb-23	14

Geoclub Field Trip	Kaawa Shellbed led by Nathan Collins and Bruce Hayward	Feb-23	24	
Geoclub Field Trip	Rangitoto led by Bruce Hayward	Mar-23	9	
Geoclub Field Trip	Glenbrook Beach led by Hugh Grenfell	Mar-23	13	
Geoclub Field Trip	Baddeleys Beach led by Bruce Hayward	Mar-23	13	
Auckland Heritage Festival Guided Walk	In the Footsteps of Hochstetter led by Bruce Hayward	Oct-22	1	17
Auckland Heritage Festival Guided Walk	Rangitoto led by Bruce Hayward	Oct-22	1	29
Auckland Heritage Festival Guided Walk	South Piha led by Bruce Hayward	Oct-22	1	69
Auckland Heritage Festival Guided Walk	Takapuna Fossil Forest led by Bruce Hayward	Oct-22	1	65
Auckland Heritage Festival Guided Walk	Otahuhu Volcano led by Hugh Grenfell	Oct-22	1	20
Geoclub 30th Birthday, Pot Luck dinner and Geoquiz	At home of Liz and Rick Hoskin	November 2022 7.30 pm. Geoclub - Epsom Community Centre, 200 Gillies Ave	33	
Geoclub Meeting April	“The Green Greasy Limpopo: Ancient basement rocks of southern Africa made simple” by Julian Vearncombe	April 2022 7.30 pm. Geoclub - Epsom Community Centre, 200 Gillies Ave	35	

Branch Prizes

Prize Name	Winners	Prize
Auckland Science Fair	Not awarded as no suitable projects.	Held over for 2023
Mid Northland Science Fair		\$150 + book (co-sponsored with Geoclub)

Branch Publications

Details	Link
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Geocene 28 with the following short articles:

- THE TRAGIC 1965 MURIWAI LANDSLIP by Bruce W. Hayward
- ENIGMATIC FOSSILS AT WAITOMOKIA by Hugh R. Grenfell
- TUFF LAYERS UNDER THE SEA REVEAL PRE-VOLCANIC TOPOGRAPHY BENEATH MOTUKOREA / BROWNS ISLAND VOLCANO by Bruce W. Hayward
- UPPER OAKLEY CREEK LAVA FLOWS by Hugh R. Grenfell
- CAMPBELL ISLAND PILLOW LAVA by Bruce W. Hayward
- MEMORIES OF GEOFF JENKINS - GEOCLUB TREASURER by Bruce W. Hayward, Hugh Grenfell

https://natlib-primo.hosted.exlibrisgroup.com/primo-explore/fulldisplay?docid=NLNZ_ALMA21350370940002836&vid=NLNZ&search_scope=NLNZ&tab=catalogue&lang=en_US&context=L

Geocene 29 with the following short articles:

- GEOLOGICAL SETTING AND INTERPRETATION OF FOSSIL MOA FOOTPRINTS, MOSQUITO BEACH, KAIPARA SOUTH HEAD by Bruce W. Hayward
- BORING OLD REEF CORALS FROM THE EARLY MIOCENE HOKIANGA, NORTHLAND, by Seabourne Rust
- FOSSIL MOLLUSCS ON WOOD FALL IN EARLY MIOCENE WAITEMATA GROUP Bruce W. Hayward Bruce Marshall
- Book review - NO ORDINARY MAN: THE EXTRAORDINARY LIFE AND TIMES OF DR ARTHUR PURCHAS by Liz Hoskin
- FIELD TRIP TO TE HENGA, WEST AUCKLAND, 1895 by Roger Evans
- FOSSIL CASTS OF LARGE ESTUARINE MUSSELS AT WATTLE DOWNS, SOUTH AUCKLAND by Bruce W. Hayward
- MARGARET S. MORLEY, 1938 – 2016 AUCKLAND GEOLOGY CLUB FOUNDATION MEMBER AND COMMITTEE MEMBER by Bruce W. Hayward

https://natlib-primo.hosted.exlibrisgroup.com/primo-explore/fulldisplay?docid=NLNZ_ALMA21350370940002836&vid=NLNZ&search_scope=NLNZ&tab=catalogue&lang=en_US&context=L

Geocene 30 with the following short articles:

- ORIGINS OF BAKED AND UNBAKED SEDIMENT PACKAGES WITHIN RANGITOTO LAVA FLOWS by Bruce W. Hayward
- MAGNETIC FAULT ROCKS ASSOCIATED WITH A MÉLANGE IN WAIPAPA TERRANE GREYWACKE BASEMENT, RANGIHOA, PURERUA PENINSULA, NORTHLAND Bernhard Spörli, Ross Ramsay, Chris Booth, Amaru Booth
- REPORT ON LATE CRETACEOUS MARINE REPTILE REMAINS (MOSASAURIDAE) FROM KOUTU BOULDERS, HOKIANGA,

https://natlib-primo.hosted.exlibrisgroup.com/primo-explore/fulldisplay?docid=NLNZ_ALMA21350370940002836&vid=NLNZ&search_scope=NLNZ&tab=catalogue&lang=en_US&context=L

NORTHLAND by Seabourne Rust

- DEEP BOREHOLES AND EATING CROW: THOUGHTS AND OBSERVATIONS NORTH OF AUCKLAND by Roger Evans
- EVERY GOOD DIKE MUST COME TO AN END Bruce W. Hayward
- VISIT TO WAIARIKI SPRING, CENTRAL AUCKLAND Michael Cote
- REMEMBERING KEL ANGLESEY Bruce W. Hayward, Ian Smith, Hugh Grenfell Maureen Burk

Geocene 31 with the following short articles:

- LAVA AND ICE IN TONGARIRO NATIONAL PARK by Christine Major
- ROLE OF COASTAL POHUTUKAWA TREES IN SHAPING BEACH TOPOGRAPHY by Bruce W. Hayward
- METEORITES IN THE MANUKAU HARBOUR? By Lori Dale
- OLD BEACH DEPOSITS RECORD HIGHER SEA LEVEL AND STABLE LAND ELEVATION AT KAWERUA, NORTHLAND by Bruce W. Hayward
- HEAPHY'S 1857 COROMANDEL AREA MAP ANNOTATED BY HOCHSTETTER by Hugh Grenfell HOCHSTETTER'S LEGACY IN NEW ZEALAND NAMES by Christine Major
- MEMORIES OF PETER DAYMOND-KING by Bruce W. Hayward

https://natlib-primo.hosted.exlibrisgroup.com/primo-explore/fulldisplay?docid=NLNZ_ALMA21350370940002836&vid=NLNZ&search_sc_oqe=NLNZ&tab=catalogue&lang=en_US&context=L

Additional Branch Comments

(None)

Summary of Branch Accounts

Date	Particulars	Credit	Debit	Balance
01/04/2022	Opening Balance			\$1,730.82
13/4/2022	2020-2021 Branch Grant	\$520.00		
20/4/2022	Science Fair Prizes (Auckland and Northland)		\$200.00	
12/9/2022	2021-2022 Branch Grant	\$542.00		
27/9/2022	Hochstetter Lecture Expenses		\$258.30	
27/10/2022	President's Lecture Expenses		\$95.40	
31/03/2023	Closing Balance			\$2,439.12

Waikato

The Waikato Branch was established under the former 'Geological Society of NZ' in 1975 as a combined Waikato/Bay of Plenty (=Rotorua) Branch and was centred around the former Earth Sciences Department at the University of Waikato, now a part of the School of Science.

Branch Committee for 2022-23 Committee Members:

Andrew La Croix, Adrian Pittari, Kirsty Vincent

Branch representative on National Committee: Andrew La Croix

No. of paid GSNZ members as at 31 March 2022: 54

Branch Activities and Events

Activity	Description	Date Held	Attendance	
			Members	Non-Members
Hochstetter Lecture	Prof David Prior	21 September, 2022	14	0
President's Lecture	Dr Kat Holt	19 October, 2022	15	0
Hector Day Bake-Off	Taste Test, U Waikato Tea Room	16 March, 2023	10	5

Branch Prizes

Prize	Winners	Award
Annual University of Waikato School of Science Postgraduate Conference, Geoscience Society of NZ (Waikato) Award for the best geoscience-related oral presentation	Liza Speranskaya, October 25 2023	\$100
Hector Day Bake-Off Winner	Amy Langley	\$50 (gift card)

Branch Publications

(None)

Additional Branch Comments

(None)

Summary of Branch Accounts

Date	Particulars	Credit	Debit	Balance
01/04/2022	Opening Balance			\$263.22
13/04/2022	GSNZ 2020/21 Branch Grant ¹	266.00		
12/09/2022	GSNZ Bay of Plenty Grant ²	138.00		
12/09/2022	GSNZ Branch Grant	272.00		
28/09/2022	Hochstetter Lecturer Dinner		155.50	
26/10/2022	Postgraduate Conference Award ³		100.00	
26/10/2022	President's Talk Dinner ²		290.50	
	Hector Day Bake-Off Award ³			
31/03/2023	Closing Balance			\$393.22

¹For the previous FY, as indicated in the 2021-22 Summary

²Holding for the Bay of Plenty Branch

³Hector Day Bake-Off Award was paid 6 April, 2023 so will be recorded in the 2023-24 Summary.

Bay of Plenty

GSNZ Bay of Plenty Branch – including members within the Bay of Plenty – retired, industry, government, students and university.

Branch Committee for 2022-23 Committee Members: Kim Martelli

Branch representative on National Committee: (not applicable; less than 20 members)

No. of paid GSNZ members as at 31 March 2023: 17

Branch Activities and Events

Activity	Description	Date Held	Attendance	
			Members	Non-Members
Hochstetter Lecture	The shear zones that hold back the ice sheets	22 September 2022	10	10
Hochstetter Supporting Lecture	Quantitative microstructural analysis in Earth Sciences	22 September 2022		
Tales of the Bent Island	Terry Boyle will take us on a journey of his encounters with geologists over 47 years of roading in Northland, Auckland, Coromandel, Bay of Plenty and Gisborne.	20 October 2022	3	0
Dinosaur digging	Hells Creek formation is famous for masses of Jurassic fossils. Steve Raynor has returned from a recent rock and fossil digging trip.	8 December 2022	5	10

Branch Prizes

Nil

Branch Publications

Nil

Additional Branch Comments

- Difficulties finding a suitable venue to host.
- Difficulties in getting attendance.

Summary of Branch Accounts

Date	Particulars	Credit	Debit	Balance
01/04/2022	Opening Balance			\$138.00
	Paid into Waikato Branch A/C			
31/03/2023	Closing Balance			\$138.00

Taranaki

Founded in 1978, we became the Taranaki Branch under GSNZ in 1986. Taranaki Geological Society (TGS) membership is paid by subscription; local GSNZ members are automatically members. Monthly meetings (February to December, incl.) feature speakers drawn from academia and industry, as well as local contributors. Field trips, both local and further afield, remain an integral part of the TGS's calendar.

Branch Committee for 2022-23 Committee Members: Diane Toole – President, Donald MacFarlan – Treasurer, Sue Hilton – Secretary, Mark Robbins – Newsletter, Colleen Field – Field Trips, Steve Thorstensen – Advertising, Keith Armstrong, Gary Walls-Renwick.

Branch representative on National Committee: (not applicable; less than 20 members)

No. of paid GSNZ members as at 31 March 2023: 17

Taranaki Branch President's Report

It is with pleasure that I can write a report on our activities without the Covid restrictions of the past two years.

For me, my third term as President wasn't too much work despite doing my best not to stay in the role for more than two years. So, as per last year we are still wanting to appoint a new President because I could possibly move back to the South Island in the future.

We continue to have a collaborative and able committee made up of Donald MacFarlan (Treasurer and program), Suzanne Hilton (Secretary), Colleen Field (Field Trips), Mark Robbins (Newsletter), Steve Thorstensen (Publicity), Gary Walls-Renwick (Committee) and Keith Armstrong (Committee) who worked well together to keep things running. Of note, a special thanks goes to Donald McFarlan for finding our speakers, keeping our finances in order, ensuring our subs and expenses are paid, and the rooms are booked. However, both Steve and Keith are resigning from the committee this year and they will need replacing. We are therefore looking for two new members to be appointed at our AGM.

Our change to the Disabled Citizens Hall as our "home" has proved to be very suitable. We are happy that we now have a long-term venue booked ahead for each year. The only downside is that we now have limited space for our library, but at least it's onsite.

Field Trips

Thanks to Colleen that we were able to have several field trips with no lock-down restrictions. Numbers are never great but are made up for with the interest and enthusiasm of those who attend.

Library

We now have our library on site at the Hall where it can be better utilised on meeting nights. Maps are stored at Diane's.

Sponsorship

We sponsored a prize at the Schools Science Fair.

Facebook

TGS has a Facebook page to advertise meetings and post input from members. Please feel free to post your pictures and geology-based news items to share with others. If you don't know how, send details to Gary Walls-Renwick gazange218@gmail.com.

Thank you to all our members, who have attended meetings, who have put time into turning out for the field trips and who have written up reports.

Thanks for your support.

Diane Toole
Taranaki Branch President

TGS Field Trips Report 2021 - 2022

From 1st April 2022 to 31st March 2023, TGS ran four Field Trips . Numbers attending ranged from 6 to 17. (We also gave a presentation to Age Concern, & Hector's birthday was marked with a display at the public library).

(1) 22.5.22. N.P. CBD Walk based on booklet 'New Plymouth Geological Walk' by C.M. Field. Open to the public, 17 attended including 2 4-year-olds. We started at the NP District Council Offices, looked at plaques, wall cladding, paving stones and limestones thus covering all 3 major rock types. Thankyou Steve for your knowledgeable contribution.

(2) 23.7.22 Wai-iti. 10 attended, including 3 visitors. South Headland exhibits the 5myo Urenui Fm of mudstones, conglomerate channel fills & ash beds. This is overlain by the Rapanui Fm. We hunted for paramoudra in the lower cliffs & debated over their formation & existence. Are they found elsewhere in NZ? The platforms contain partial remains of Zoophycos. Being an excellent day for fossicking, we moved south to Waitoetoe Beach where the more able of the party clambered to beach level & there examined the boulders strewn against eroding cliffs- are some of them paramoudra? In the lignite beds, scattered pumice provides evidence of Taranaki's recent eruption. An excellent trip, weather-wise and geologically. Thankyou Diane for your research and leadership.

(3) 18.11.22 – 20.11.22 Kawhia & Raglan. 6 local members + 4 connected with Auckland GeoClub. To Kawhia Beach , then to Puti Point, Kinohaku Rd, Te Waitere & towards Tahaora looking for fossils. At Tahaora, the iron sand mining has recently increased in size. On Sun., Oliver McLeod from Waikato University lead the Group round Mt Karioi – site of ankaramite eruptions. Both intraplate & arc basalts are visible from Te Toto Gorge lookout. A most successful trip. Thankyou Oliver, and Gary who stepped in for me.

(4) 7.3.23 -12.3.23 Wairarapa. 6 attended, excellent weather throughout. Nights were spent at Carterton, Castlepoint, Gateway Lake Ferry (2) and Masterton. At Featherston, shown thro' National Core Store, (maps, cores, catalogue system, liquid stores, technology used by researchers.) To Castlepoint then north to Mataikona to see sedimentary layering of 20mya sands & muds now tilted. Limestone deposited on an underground shell bank 2mya forms the base for the lighthouse at Castlepoint, and the reef. The Castle's limestone is much thicker & overlies siltstone. The Putangirua Pinnacles are of eroding conglomerates 10mya. En route to the Cape Palliser pillow lava basalts, we passed Ngawi with its tractors. The lighthouse (253 steps) sits on basalt. Seals prevented us studying the 100 myo pillow metabasite & pillow breccias too closely, but we did identify a partial dolerite sill. Kupe's Sail Beds has an angular unconformity at its base & is comprised of a huge slab of sandstone deposited around 10mya. Whatarangi Bluff yielded many fossils (cockle, whelk, gastropods,) of about 6mya. Hurupi Stream too yielded concretions containing molluscs. Travelling north to Mt Bruce & home, at Pigeon Bush we located the beheaded streams which provide evidence of crosscutting in the Wairarapa Fault during earthquakes.

Colleen Field
Field Trips Convenor

Branch Activities and Events

Activity	Description	Date Held	Attendance	
			Members	Non-Members
Monthly Meetings & Talks				
Steve Morice	Kapuni 3D Seismic Survey	4 April 2022	18	11
Karen Pratt	Project Reef in South Taranaki	2 May 2022	20	1
Hochstetter Lecture (2021 deferred) Daniel Hikuroa	Encouraging plural methods and values for cross-cultural research collaborations.	30 May 2022	16	2
Daniel Thomas	Taranaki Fossil Seabirds: Bridging past and future	4 July 2022	18	6
Oliver McLeod	Slab tear as a cause of coeval arc-intraplate volcanism	1 August 2022	16	3
President's Lecture Kat Holt	Tiny but Mighty – the role of pollen and palynology in the Geosciences	5 September 2022	19	3
Hochstetter Lecture 2022 David Prior	Shear Zones that hold back the Ice Sheets	3 October 2022	26	?
Don MacFarlan	Zealandia Brachiopods at Jurassic Crisis	7 November 2022	15	2

EOY wind-up	BBQ at Diane's	5 December 2022	16	1
Various members	Travellers' Tales – travel slides	13 February 2023	14	2
Stephen Boot	The Mineralisation of Water	6 March 2023	16	0
Field Trips				
Field Trip	New Plymouth CBD Walk	22 May 2022	15	2
Field Trip	Waiit	23 July 2022	7	3
Field Trip	Kawhia and Raglan	18-20 November 2022	6	4
Field Trip	Wairarapa	7-12 March 2023	6	0

Branch Prizes

Prize	Winners	Award
Science Fair	Ubed Hameed; Bardia Malek	\$150.00

Branch Publications

(None reported)

Additional Branch Comments

Apart from Speakers and Field Trips, TGS has been promoting geology generally, within the community:

1. Two of us took resources to a regular meeting of Age Concern, and shared our interest. Age Concern members enjoyed the chance to reminisce, ask questions and share their experiences of this subject. Some items we shared were books, rock and fossil samples, a microscope and geological maps.
2. A display containing pertinent facts relating to Sir James Hector was mounted within New Plymouth's public library to mark his birthday. Photos of brachiopods, dolphins and the man himself, as well as a list of his achievements, were exhibited.
3. As in previous years, judges from TGS took part in the annual WITT Taranaki Science and Technology Fair. This involves judging across a designated Year Group and also awarding TGS' Special Prize for the best entry covering Earth Sciences as a subject.

Summary of Branch Accounts

GEOSCIENCE SOCIETY OF NZ - Taranaki Branch
Financial Statement for year ended 31 March 2023
Statement of Income & Expenditure

	<u>2022</u>	<u>2023</u>	<u>2022</u>	<u>2023</u>
Receipts				
\$ 725.00		\$ 715.00	\$ -	\$ 39.09
\$ 70.00		\$ 15.00	Administration (postage, bank etc)	\$ 787.53
\$ -		\$ 358.00	Speakers	\$ 103.07
\$ 464.99		\$ 502.39	Field Trips	\$ 150.00
\$ 600.00		\$ -	Science fair	\$ 72.42
\$ 5.00		\$ 20.00	Social Functions	\$ 100.00
\$ -		\$ -	Gifts	\$ -
		\$ -	Publicity	\$ -
		\$ 936.81	projector and screen	\$ -
		\$ 30.00	books/publications/library	\$ 6.75
		\$ 90.00	venue hire, expenses	\$ 144.00
		\$ -	Miscellaneous	\$ 24.99
		\$ 1,751.20		\$ 1,427.85
		total: \$ 113.79	Excess Inc over Exp	\$ 182.54
\$ 1,864.99	Total	\$ 1,610.39	\$ 1,864.99	\$ 1,610.39
Balance Sheet				
Liabilities				
2022	2023	2022	2023	2023
\$ 120.00	\$ 215.00	\$ 270.00	Current yrs subs paid prev year	\$ 120.00
\$ 25,280.91	\$ 25,219.30	\$ 21,500.00	Term deposits	\$ 21,500.00
\$ -	\$ 481.91	\$ 25.40	outstanding cheques from prev year	\$ -
\$ 113.79	\$ 182.54	\$ 3,719.30	Cheque Acc	\$ 4,478.75
\$ 25,514.70	\$ 26,098.75	\$ 25,514.70	\$ 26,098.75	\$ 26,098.75
Assets				

Financial Review

I declare that I have no formal qualifications in accountancy or economics but, in my career as a Registered Valuer, I have had significant experience in the analysis of accounts in order to fulfil the requirements of my profession.
 I have examined the financial records of the Taranaki Branch - Geoscience Society of NZ Inc. for the year ended 31 March 2023 and acknowledge that, in common with organisations of a similar nature, it has not been possible to verify that all items of income and expenditure have been authorised or accounted for.
 The following recommendations are made for the 2023/24 year.
 1. That current financial practises be maintained
 2. The society should investigate ways of distributing financial assets as, in my view, reserves are currently excessive for this type and size of organisation.
 Subject to these comments, I certify that the above statements correctly summarise the transactions for the year, and show the correct financial position at balance date.
 Ian J Burgess Dip VFM RV(ret) – Reviewer 18/04/2023

Treasurer
 DAB
 MacFarlan



Manawatu

The Manawatu Branch was established under the former 'Geological Society of NZ' in 1979 and is centred around Massey University in Palmerston North, with a strong amateur involvement.

Branch Committee for 2022-23 Committee Members: Julie Palmer

Branch representative on National Committee: Kat Holt

No. of paid GSNZ members as at 31 March 2023: 50

Branch Activities and Events

Activity	Description	Date Held	Attendance	
			Members	Non-Members
Hochstetter Lecture	Shear Zones that hold back the Ice Sheets – Dave Prior	7 September 2022	15	20

Branch Prizes

None in 2022-2023.

Branch Publications

None in 2022-2023.

Additional Branch Comments

Very little public/general membership branch activity but the Massey Earth Science community have regular morning tea gatherings and periodic student presentations throughout the year.

Summary of Branch Accounts

(see next page)

GSNZ MANAWATU BRANCH TREASURER'S REPORT 1 APRIL 2023
Report for Financial Year 1.4.22 to 31.3.23

I& E Account

	Opening Balance 1.4.22	\$	334.78
Income			
Subscriptions & donations			
Branch Grant		\$	-
Transfer from Bonus Saver		\$	-
Expenses			
AP to Savings Account		\$	-
Meeting Expenses			
Manawatu Science Fair Prize			
Student Talk Evening Prize			
Postage			
	Closing Balance 31.3.23	\$	334.78

Cash and Cheque Account

	Cash in hand 1 April 2021	\$	27.50
	Cash received through year	\$	-
	Cash spent through year	\$	-
	Cash in hand 31 March 2021	\$	27.50
	Westpac cheque account balance	\$	334.78
	<u>Total Cash and Cheque Account</u>	\$	<u>362.28</u>

Bonus Saver Account

	Opening Balance			
1.4.22			\$	2,067.04
	Income			
	AP from Cheque Account		\$	-
	Interest		\$	6.01
	Expenses			
	Bank Fee		\$	1.50
	Closing Balance			
31.3.23			\$	2,071.55

Accounts Prepared by Julie Palmer, 8 November 2023.

Wellington

The Wellington Branch was established under the former 'Geological Society of NZ' in 1979, but prior to this there was an active Geology Section of the Royal Society of New Zealand. This branch was centred around the former Geology and Geophysics departments at Victoria University of Wellington, now a part of the School of Geography, Environment and Earth Sciences, and the former New Zealand Geological Survey and the New Zealand Oceanographic Institute of the Department of Scientific and Industrial Research, members of which are now mainly from the Crown Research Institutes of GNS Science and NIWA, respectively.

Branch Committee for 2022-23 Committee Members: Scott Nodder (NIWA, Secretary), Cliff Atkins (VUW), Liz Kennedy (GNS Science, Treasurer), Stephen Piva (VUW, student), Matt Ryan (PDP Ltd, geo-consultant), Yaas Shalla, VUW, now GNS Science), Holly Kennedy (VUW, student).

Branch representative on National Committee: Nicola Litchfield

No. of paid GSNZ members as at 31 March 2023: 236

Branch Activities and Events

Activity	Description	Date Held	Attendance	
			Members	Non-Members
Simon Nathan, Simon Lamb	Special Screening of "The Man Who Moved the Mountains" (1992, 30th anniversary of original screening)	Tuesday 12 March 2022	~40	
Suze Bull (GNS Science)	GeoTrips: Explore New Zealand's unique landforms and geology (and a bit about how user experience approaches can optimise digital science outreach)	Thursday 2 June 2022	~30	
Matt Ryan (PDP Ltd)	Deep bore holes reveal new insights into sediment deposition in the Wellington Basin (CBD) during the Late Pleistocene	Thursday 7 July 2022	~30	
Judging: NIWA Science Fair	Guest judge (Scott Nodder)	Thursday 25 August 2022	N/A	N/A
Hochstetter Lecture	David Prior: The Shear Zones that Hold Back the Icesheets	Thursday 8 September 2022	~40	
Hochstetter Supporting Lecture	David Prior: Quantitative microstructural analysis in Earth Sciences	Thursday 8 September 2022	~20	

Seminar/Prize night: Beanland-Thornley Prize	Competitive seminars by VUW students for the Beanland-Thornley Prize: (1) Linda Balfourt (MSc student): Sedimentology at the Kamb Ice Stream, Antarctica: physical evidence of the interaction between subglacial lakes (2) El Mestel (PhD student): Earthquakes beneath Taupō volcano (3) Laura Seelig (PhD student): Shallow magmatism in the central Taupō Volcanic Zone (TVZ) from a plutonic perspective (4) Katie Hughes (PhD student): Evidence of landslide-generated tsunamis in Alpine Fault proximal lakes Winner: El Mestel	Thursday 6 October 2022	~40
President's Lecture	Kat Holt: Tiny but Mighty – the role of pollen and palynology in the Geosciences	Thursday 3 November 2022	~30
President's Lecture – additional lecture	Kat Holt: Unlocking a record of UV-B radiation hidden in fossil pollen	Thursday 3 November 2022	~20

Branch Prizes

Prize	Winners	Award
Beanland-Thornley Prize	El Mestel	\$100
Wellington School's NIWA Science Fair	Judged and awarded by Science fair judges	\$350

Branch Publications

N/A

Additional Branch Comments

Many thanks to Cliff for organising the bookings of the VUW lecture rooms for the branch talks this year, and the committee for talk organisation, hosting and presentation (Matt). All talks were also streamed live via Zoom so there were often many people online as well as at the venue. We are experiencing some difficulties in getting members to engage in the branch activities, especially in putting hands up to give seminars and attending the organised branch talks as we have come back to in-person meetings post the COVID-19 pandemic.

Summary of Branch Accounts

Date	Particulars	Credit	Debit	Balance
01/04/2022	Bank Balance			\$1,617.48
	Liability from previous year	\$ -		
	Petty cash	\$77.20		
	<i>Opening Balance</i>			<i>\$1,694.68</i>
31/03/2023	Bank Balance			\$2,939.32
	Liability carried forward	\$ -		
	Petty cash - brought forward	\$77.20		\$
	Petty cash - earned	\$ -		
	Assets total at end of year*			\$3,016.52
	Net profit			\$1,321.84
	<u>Revenue</u>			
	Petty cash collected	\$ -		
	GSNZ Grants	\$1,444.00		
	Interest	\$16.84		
	Income total			\$1,460.84
	<u>Expenses</u>			
	Meeting costs - cheque	\$ -		
	Meeting costs - petty cash	\$ -		
	Stamp duty	\$ -		
	Hochstetter speaker dinner	\$39.00		
	Student prizes	\$100.00		
	Science Fair	\$0.00		
	Expenditure total			\$139.00
	<i>Balance</i>			<i>\$1321.84</i>

Canterbury

The Canterbury Branch was established under the former 'Geological Society of NZ' in 1961 but had existed independently since 1955 as the Christchurch Colloquium of Geology; the Branch was centred around the Geology Department of Canterbury University, then the Department of Geological Sciences. Since January 2020 Geology is part of the School of Earth and Environment.

Branch Committee for 2022-23 Committee Members: Catherine Reid, Alex Nichols

Branch representative on National Committee: Alex Nichols

No. of paid GSNZ members as at 31 March 2023: 100

Branch Activities and Events

Activity	Description	Date Held	Attendance	
			Members	Non-Members
President's Lecture	Tiny but Mighty – the role of pollen and palynology in the Geosciences; Kat Holt	17 August 2022	15	
Hochstetter Lecture	The shear zones that hold back the ice sheets; David Prior (University of Otago)	5 October 2022	20	
Hochstetter Supporting Lecture	Quantitative microstructural analysis in Earth Sciences; David Prior (University of Otago)	6 October 2022	15	

Branch Prizes

Nil

Branch Publications

Nil

Additional Branch Comments

On Wednesday 15 March 2023 a morning tea was held in the School of Earth and Environment for people to show off and sample entries to the GSNZ Hector Bake Competition.

Summary of Branch Accounts

Date	Particulars	Credit	Debit	Balance
01/04/2022	<i>Opening Balance</i>			\$1,563.32
17/08/2022	President talk meal; Reimbursed		\$155.50	\$1,407.82
	09/11/2022			
05/10/2022	Hochstetter talk meal; Reimbursed		\$364.00	\$1,043.82
	09/11/2022			
31/03/2023	<i>Closing Balance</i>			\$1,043.82

Otago

Otago and Southland based members of the Geoscience Society of New Zealand. Branch activities are mainly Dunedin-centric, reflecting the majority of the membership who comprise Otago University staff and students, and GNS Science staff.

Branch Committee for 2022-23 Committee Members: Nick Mortimer, Sophie Briggs, Andrew Gorman, James Scott, Jack Williams.

Branch representative on National Committee: James Scott

No. of paid GSNZ members as at 31 March 2023: 78

Branch Activities and Events

Activity	Description	Date Held	Attendance	
			Members	Non-Members
President's Lecture	Tiny but Mighty – the role of pollen and palynology in the Geosciences. Kat Holt.	16 August 2022	25	15
Hochstetter Lecture	The shear zones that hold back the ice sheets. Dave Prior	26 August 2022	25	15
Dr Rock	Public outreach at Kura Pounamu exhibition, Otago Museum	28 August 2022	5	30
Fieldtrip	The geology of Moray Place, Dunedin	3 September 2022	15	5
Hector Day	Geobake afternoon tea, QMAP geology carpet display, South Campus geology fieldtrip, Trashcano eruption, and Sausage Sizzle	16 March 2023	30	20

Branch Prizes

Prize	Winners	Award
Aurora Energy Otago Science & Technology Fair, 15-21 Aug 2022	Ruby Gray (Environmental impact), Joshua Chin (Liquid to Plant), Benjamin Koh (50,000 micrometers under the soil), Toby Hazlett (Contaminated groundwater)	\$75.00

Branch Publications

Nil

Additional Branch Comments

It was a slow start to the financial year for branch activities. But it was a busy end to calendar 2022 and a cracking Hector Day start to calendar 2023. The weekly 1pm Otago University geology seminar talks (which are separate from the 5pm GSNZ talks) go a long way to satisfying the intellectual needs of the university-dominated branch members.

Summary of Branch Accounts

Date	Particulars	Credit	Debit	Balance
1/04/2022	<i>Opening Balance</i>			\$1,943.47
13/04/2022	GSNZ branch grant	\$414.00		
22/06/2022	Otago Science Fair		\$75.00	
22/06/2022	N Mortimer reimbursement (\$35.30 for 20 Jun 2021 fieldtrip participant coffees at Croque-O-Dile; \$36.00 for 28 Jul 2021 dinner for speaker D Barrell at Eureka)		\$71.30	
29/07/2022	N Mortimer reimbursement (for Dr Rock pull-up banner made by Uniprint)		\$293.25	
31/08/2022	Interest	\$1.06		
12/09/2022	GSNZ branch grant	\$356.00		
22/09/2022	N Mortimer reimbursement (\$28.00 for 16 Aug 2022 President's Lecture dinner, and \$52.00 for Hochstetter Lecturer and partner's dinner at Eureka)		\$80.00	
28/02/2023	Interest	\$7.74		
31/03/2023	<i>Closing Balance</i>			\$2,202.72

Sub-Committees

Fossil Record File

The New Zealand Fossil Record File (FRF) is a database of fossil localities, taxonomic identifications, adopted ages, and other related geological and paleontological information, primarily from New Zealand. The FRF is jointly governed by the Geoscience Society of New Zealand and GNS Science. A steering group comprises James Scott (University of Otago), James Crampton (Victoria University of Wellington), Chris Clowes (GNS Science, subcommittee convenor), and Joe Prebble (GNS Science).

“Data from more than 1300 additional fossil localities were added to the database.”

In the year to March 2023, data from more than 1300 additional fossil localities were added to the database, bringing the total number of localities to more than 105,000, from which more than 1.1 million taxonomic occurrences have been recorded (~30,000 unique taxa).

The online application that provides users with access to the database, known as “FRED”, responded to ~13,500 data requests in the July 2022-June 2023 year (April to March statistics are not collected but are assumed to be much the same) and we welcomed more than 30 new users aboard.

FRED itself has undergone considerable enhancement, including more streamlined navigation and improved search performance. This work is still being completed and further enhancements are planned for the coming year. (Users experiencing any difficulties with the application or with suggestions for improvements should contact frf@gns.cri.nz.)

Each year, new research papers appear which reference and sometimes analyse data held in the FRF. Our descriptive paper in NZJGG has garnered an additional 14 citations dated 2022 or later, but papers quoting FRF data, even quite substantively, are often difficult to trace and we are never sure we find out about all of them. Some examples from the past year are:

- Crampton, JS. 2023. Cretaceous tectonostratigraphy of ‘the Great Coverham section’ and adjacent areas, northeastern Waiou Toa/Clarence valley, New Zealand. *New Zealand Journal of Geology and Geophysics*, 33 p. <https://doi.org/10.1080/00288306.2023.2193415> (especially see figure S1B in the supplementary data, which plots 621 FRF localities downloaded directly from FRED)
- Ramsfjell, MH; Taylor, PD; Di Martino, E. 2022. New early Miocene species of the cheilostome bryozoan *Microporella* from the South Island of New Zealand. *Alcheringa* 46 (2): 208-217. <https://doi.org/10.1080/03115518.2022.2084564>
- Saether, KP; Little, CTS; Campbell, KA; Nelson, CS; Francis, DA. 2022. Ancient New Zealand Seep Limestones. In: Kaim, A., Cochran, J.K., Landman, N.H. (eds) Ancient

Hydrocarbon Seeps. Topics in Geobiology, vol 53. Springer.
https://doi.org/10.1007/978-3-031-05623-9_18

All operational costs for running the database have been met by GNS Science with funding provided by the Ministry of Business, Innovation and Employment for Nationally Significant Collections and Databases..

Chris Clowes
Fossil Record File Sub-Committee Convenor

Geoheritage

Bruce W Hayward (Convenor, Auckland), Jill Kenny (Northland), Hugh Grenfell (Auckland), Fred Brook (Nelson), Alan Palmer (Manawatu), Karoly Nemeth (Manawatu), Hamish Campbell (Wellington), Mike Johnston (Nelson), Sam Hampton (Christchurch), John Taylor (West Coast) and Daphne Lee (Dunedin).

“A major proposal to raise the level of the dam at Lake Onslow...would completely submerge the only remaining example in NZ of a mini scroll plain.”

1. Our attention was drawn to a major proposal to enlarge Kaikoura South Bay marina that would include burying the uplifted giant concretions nearby. An article on the values and issues was prepared and published in GSNZ Newsletter 38 (GA 1) and copies sent to the redevelopment managers and local Mayor.

2. Our attention was drawn to a major proposal to raise the level of the dam at Lake Onslow in central Otago that would completely submerge the only remaining example in NZ of a mini scroll plain. An article was prepared and published in GSNZ Newsletter 36 and copies sent to parties to make them aware of its existence and likely loss if the lake is raised.

3. BWH and DL held zoom meetings with officials from MfE over possibility of Outstanding Natural Features (ONFs) being defined as geoheritage features in replacement bill for the Resource Management Act. Hearings to be held in mid-2023.

4. The new host site for NZ Geopreservation Inventory is now working and was publicised with Press release and GSNZ Newsletter 38 (GA 1) article. <https://naturemaps.nz/maps/#/viewer/openlayers/484>

5. An extensive list of suggested additional ONFs was prepared by BWH for the Auckland region and sent to Auckland Council for consideration for addition to scheduled ONFs. An exercise has been promised to GSNZ during hearings on Unitary Plan.

6. The following sites were added to the NZ Geopreservation Inventory during the year:

- Auckland: Ponga Rd coal measures; George Bourke Drive lava flow; Kaitarakihi to Huia Pt submarine canyon fill; Onehunga Foreshore lava flows; Waitakere Quarry andesite sill; Wenderholm Sandspit.
- Hawkes Bay: Hatuma Lake; Porangahau melange; Porangahau Old Hill Rd black shale.
- Wellington: Tora coast Cretaceous Tertiary boundary tsunamite.

The following site was deleted as being inconsequential and possibly wrong:

- Auckland: Mission Bay relict foredune (2756).

There are now 3300 sites in the inventory.

Bruce Hayward
Geoheritage Sub-Committee Convenor

Special Interest Groups

Early Career Researchers

Convenor: Shannen Mills

Interested members: 119

The Early Career Researcher SIG is a group that is open to all geoscientists who identify as being Early career researchers. The aims of the ECR SIG are:

- To provide a supportive community for those who identify as ECRs.
- To provide a forum discussion between members working as ECRs.
- To facilitate exchange of ideas and information between ECRs on appropriate topics. For example, post-doctoral scholarships or funding proposals.
- To promote ECRs as collaborators/mentors/academic professionals to reduce career-stage bias in academic opportunities (e.g., panellists, judges, invited presenters).
- To encourage and enhance collegiality within and between geoscience research facilities (e.g., Universities, CRIs) in Australasia.

SIG Activities and Events

Activity	Description	Date Held	Attendance	
			Members	Non-Members
ECR Social event	Quiz night and socializing	28 November 2022	?	?

SIG Prizes

Nil

SIG Publications

Nil

Additional SIG Comments

Nil

SIG Expenses

Nil

Energy

Convenor: Jess Hillman (with help from David Dempsey and Andrew La Croix)

Interested members: 115

The Geoscience for Future Energy Special Interest Group, more commonly known as Energy SIG, aims to bring together members with interests that relate to the production of energy, providing a forum to discuss how geoscience expertise should be involved in addressing the opportunities and challenges involved in making Aotearoa's energy system highly renewable, sustainable and efficient.

SIG Activities and Events

Activity	Description	Date Held	Attendance	
			Members	Non-Members
Meeting	Annual meeting	November 2022	22	

SIG Prizes

Nil

SIG Publications

Nil

Additional SIG Comments

This group builds on what was previously the Petroleum Special Interest Group. We are working to encourage new members from across GSNZ, with interests in a wide range of topics relating to energy production. We will be seeking input from members on the group's future direction and activities through a survey that is being distributed in May 2023.

SIG Expenses

Nil

Friends of the Pleistocene

Convenor: Peter Almond

Interested members: 119

Friends of the Pleistocene is a multidisciplinary group with a common interest in the Quaternary Period. Interests include palaeoenvironmental and palaeoclimate proxies; dating techniques including tephrochronology; ocean-atmosphere- cryosphere processes and modelling.

SIG Activities and Events

Activity	Description	Date Held	Attendance	
			Members	Non-Members
Seminar	Seminar series (monthly)	third Thursday each month	65	6
Field trip	Field trip to the Wairarapa	28 November 2022	6	2

SIG Prizes

Nil

SIG Publications

Nil

Additional SIG Comments

Nil

SIG Expenses

Date	Particulars	Credit	Debit	Balance
1/04/2022	Opening Balance			\$0.00
20/11/2022	GSNZ SIG grant	\$200.00		\$200.00
28/11/2022	Field trip travel costs (van rental)		\$200.00	\$0.00
31/03/2023	Closing Balance			\$0.00

Geochemistry

Convenor: Sebastian Naeher

Interested members: 180

The Geochemistry Special Interest Group (GSIG) is for Geoscience Society members interested in geochemical processes in New Zealand. Geochemistry is a highly diverse research field, and we aim to address any related research area such as environmental, isotope and trace element geochemistry, geochronology, thermochronology, organic and biogeochemistry. The aims of the GSIG are to:

- share geochemistry research news and updates within the GSNZ and wider
- establish links between group members to facilitate better connection, exchange and networking of the NZ geochemistry community, and
- connect to other geochemistry groups overseas.

We further aim to promote and support students and young scientists in geochemistry. The Werner F Giggenbach Prize for Geochemistry is awarded to a young New Zealand-based geochemist, who is the first author of the most outstanding publication in the field of geochemistry for the calendar year preceding the current one.

Our newsletters share geochemistry research in progress, new developments and outcomes, geochemical news and announcements, or opinions from the community. We want to raise the profile of geochemistry in New Zealand so that research directions and links are strengthened. We aim for geochemistry-focused sessions, a geochemistry workshop, and a group lunchtime meeting at the GSNZ annual conference.

SIG Activities and Events

Activity	Description	Date Held	Attendance	
			Members	Non-Members
“Geochemical tools and applications” session at GSNZ Annual Conference 2022	Conference session with 10 talks and 7 posters. Two keynote speakers: Michael Bird (James Cook University, Cairns, Australia) and Claudine Stirling (University of Otago, Dunedin). Session convened by Sebastian Naeher, Dan Sinclair and James Scott.	19 November – 1 December 2023		
“Igneous Petrology and Geochemistry” session at GSNZ Annual Conference 2022	Conference session with 4 talks and 11 posters. Session convened by Georg Zellmer and Carlos Santa Cruz	29/11/2023 - 01/12/2023		
GSIG lunchtime meeting	Meeting/discussion with interested GSIG members about current and future activities of the group.	30/11/2023		

	Development of ideas about advancing geochemistry in NZ and supporting geochemists in NZ and beyond.
Work with Tourism NZ to bring overseas geochemistry conference to New Zealand	Successful case developed for the next Australian Organic Geochemistry Conference to be held in Wellington in late 2024.
Reaching out to other geological/geochemical societies	Working with other geological/geochemical societies to increase interactions and exchange among each other, develop new member benefits, etc.
Occasional emails to group members	Important news and announcements, job advertisements or any other emails that were of wider interest to GSIG members.

SIG Prizes

Prize	Winners	Award
Werner F Giggenbach Prize for Geochemistry	Rose Turnbull (GNS Science)	

SIG Publications

Nil

Additional SIG Comments

Nil

SIG Expenses

Nil

Geoscience Education, Outreach and International Development (GeOID)

Convenor: Jenny Stein

Committee Members: Michael Petterson, Jenny Stein, Janis Russell, Suzanne Bull, Ben Kennedy.

Interested members: 187

The GeOID SIG is for any GSNZ members involved or interested in the communication of geoscience to non-geoscientific audiences. Whether you work with school students, members of the public, or other experts (such as economists and policy makers), GeOID is a place to share, initiate and celebrate your ideas, efforts and experiences. We are keen to support and promote a multi-faceted approach to outreach that engages with audiences at all levels and incorporates a range of geographical (local, national and international) and cultural (academic, industry, mātauranga Māori and community) perspectives.

SIG Activities and Events

Activity	Description	Date Held	Attendance	
			Members	Non-Members
GEOTalk – Tsunmai Hīkoi Week with Georgia McCombe	Georgia McCombe, Project Leader for East Coast LAB provided an overview of the East Coast LAB, the inspiration and history of Tsunami Hīkoi Week, and the future of the initiative.	11 May 2022	15	0
GEOTalk – Waitaki Whitestone Geopark Outreach with Sasha Morriss	Sasha shared the Waitaki Whitestone Geopark's journey to deliver education in schools, details about their approach, their outcomes, and what they have learned along the way.	08 June 2022	12	N/A
GEOTalk - GeoCamp and Tūhura Papatūānuku – a decade of engaging school students with hands-on science outreach with Kyle Bland and Malcom Arnot	Kyle Bland and Malcom Arnot from GNS Science told us about GeoCamp, a two-week-long field-based learning experience that opens up the world of science for local years seven to nine school students and teachers.	21 July 2022	10	N/A
GEOTalk – House of Science Volcano and Earthquake Kits for Schools with Jane Hoggard	Jane introduced us to kits that enable students to create and discuss different types of volcanoes, volcanic eruptions and identify volcanic rocks, and the different types of energy waves caused by earthquakes, their movement and destructive capacity.	25 August 2022	3	N/A
Social media campaign for Te	We ran a social media campaign for Te	12 – 18	N/A	N/A

Special Interest Groups - Geoscience Education, Outreach and International Development (GeOID)

Wiki o te Reo Māori	Wiki o te Reo Māori sharing one infographic of Reo Earth science terms on GSNZ social media channels each day.	September 2022		
GEOTalk - CRISISLab Challenge: a different 'seismometers in schools' programme with Marion Tan	Marion presented the CRISISLab Challenge, an annual competition where high school students get hands-on with technology by working with personal seismometers (called Raspberry Shake sensors) to create innovative devices, and practise their communication skills. The experience lets students explore how technology allows us to observe and measure our surroundings, how science helps us understand how the world works, and how science and technology have practical applications for our everyday lives.	22 September 2022	5	N/A
Exhibit at Tauranga STEM Festival 2022	Four members of GeOID and GSNZ Tauranga branch, Jenny Stein, Sally Potter, Ben Simon & Terry Boyle manned a double-booth at the Tauranga STEMfest, featuring a range of rocks, minerals and fossils, the MagmaPop game (from Canterbury University), and the Augmented Reality Sandbox (from GNS Science). According to the post-event survey our exhibit was 5th-equal most popular!	02 October 2022	4	(1000's of members of the public)
International Geoethics Day Seminar	'Does Geoethics serve a purpose?' with Michael Petterson, Auckland University of Technology 'Ethical considerations for developing messaging after a volcanic eruption: Case studies from Vanuatu and Tonga' with Carol Stewart, Massey University 'The world we want: Can geoscientists help us get there?' with Joel Gill, Cardiff University	13 October 2022		~30
GEOTalk – SoilSafe Kids with Sophia Tsang	Sophia provided an overview of their 3-Day Programme that has been offered in schools around Tāmaki Makaurau. She shared some of SoilSafe's insights from	19 October 2022	3	N/A

Special Interest Groups - Geoscience Education, Outreach and International Development (GeOID)

	weaving research objectives into outreach and reflect on some of the programme's strengths and challenges.			
GeOID SIG Meeting (in-person)	Our only in-person meeting for the year featured introductions, and a discussion of initiatives current and possible.	29 November 2022	7	8
GeOID Meeting (online)	Annahlise Hall presented an overview of all of DETERMINING Volcanic Risk in Auckland (DEVORA)'s awesome outreach efforts to date. This was followed by general discussion in which we decided to organise an EarthFest festival in association with this year's GSNZ conference, and to work on a careers pamphlet for the geosciences.	06 March 2023	6	N/A

SIG Prizes

Nil

SIG Publications

Details	Link
Reach Out – GeOID Newsletter #8, May 2022; featuring GeOID committee profiles, and articles on 'Geoscience Education in Aotearoa' (by Alex Watson), Science Learning Hub (by Jenny Stein), and BRIDGE network talk (by Michael Petterson).	https://gsnz.org.nz/assets/Uploads/GeOID-Newsletter-8-May-2022-v2.pdf
GeOID Newsflash, 22 June 2022; Mailchimp newsflash containing updates about the GSNZ conference, advertising upcoming GEOTalks, and sharing information about engagement opportunities: STEMfest Tauranga and the BRIDGE Network.	http://eepurl.com/h4S6Sn
Reach Out – GeOID Newsletter #9, August 2022; featuring 'Outreach and the New Zealand Curriculum' (by Sophia Tsang), 'Earth Caught in Stone Exhibition' (by Sasha Morriss), 'Nga Toka o Te Awa – The rocks of the river' (by Chris Hollis, 'From First-Year Fascination to Masters Degree' (by Karmen Engel), 'Outreach on the agenda for CALDERA' (by Cecile Massiot), 'Students Take On Quaternary Techniques' (by David Lowe), 'GeoCamp: Behind the Scenes' (by Jenny Stein, Kyle Bland & Malcom Arnot), and a GeOID Committee Meeting report.	https://gsnz.org.nz/assets/Uploads/GeOID-Newsletter-9-Aug-22.pdf
GeOID Newsflash, 31 August 2022; Mailchimp newsflash containing a Survey on The Culture and Ethics of Geologic Sampling, conference and GEOTalk updates.	http://eepurl.com/h9D4Uj

Special Interest Groups - Geoscience Education, Outreach and International Development (GeOID)

Te Wiki o te Reo Māori infographics, 12-18 September 2022: toka parataiao (sedimentary rocks), toka ngiha (igneous rocks), toka kahuarau (metamorphic rocks), puia/ahi tipua (volcanoes), Papatūānuku (Earth), Āhua o te Whenua (landforms), and Te Hurihanga Toka (the Rock Cycle).

<https://drive.google.com/drive/folders/13KJTaWkLwCv8k6tCvRY7jasWtuGGADdm?usp=sharing>

GeOID Newsflash, 17 October 2022; Mailchimp newsflash containing updates and links to GEOTalks, information about outreach events at the GSNZ and IAVCEI conferences, and links to Out There Learning Science Communication Workbook and Waitaki Whitestone Geopark public talks.

<http://eepurl.com/ibuL1L>

GeOID Newsflash, 12 December 2022; Mailchimp newsflash containing a recap of the GSNZ conference, link to GeOID meeting report, and advertising an Earth Science lectureship position at USP, and the Geologize training course. It also contained a survey for members to help prioritise efforts in the coming year.

<http://eepurl.com/ifLzpD>

Reach Out – GeOID Newsletter #10, January 2023; featuring ‘Waitaki Whitestone Geopark – Signage project’ (by Sasha Morriss), ‘On Geoepics and Education’ (by Glenn Vallender), and ‘GSNZ Conference Highlights’, ‘Tauranga STEM Festival Report’ and ‘Te Wiki o te Reo Maori: An Ethical Dilemma’ (by Jenny Stein). It also featured the GeOID members survey results.

<https://gsnz.org.nz/assets/Uploads/GeOID-Newsletter-10-January-2023-v2.pdf>

GeOID Newsflash, 28 February 2023; Mailchimp newsflash containing an advertisement for GeOID SIG meeting, celebration of Hayward Geocommunication Award 2022 recipient Julian Thompson, and information on upcoming networking opportunities and talks.

<http://eepurl.com/ilPx-A>

Additional SIG Comments

It's been a busy year for GeOID. We began the year operating a “What kind of rock is this?! Aotearoa NZ” Facebook page as an offshoot of the GSNZ main page. Among the many photos of random rocks from around the world we also received one or two very interesting local submissions from the public that we referred on to relevant researchers for follow-up. Unfortunately, this kind of success meant the page soon became too active for to administer without help and in January I had to shut it down to prevent people's submissions going too long without being answered. This is an initiative we could revisit in the future if any eager Facebook users come out of the woodwork.

Our other social media highlight this year was the publication of a series of infographics for Te Wiki o Te Reo Māori. These were prepared in something of a hurry after a flash of inspiration and realisation that there are very few te reo resources relating to Earth science publicly available. Happily, these infographics recieved extremely positive feedback on GSNZ social media, and an A0 poster of the Te Reo version of the rock cycle, Te Hurihanga Toka, that we displayed at Tauranga STEM Fest 2022 resulted in an email from a parent who attended saying “*Often when we attend events I sometimes need to translate for my children. It was nice to see and hear my son's response to the reo Maori resources and for him to feel "included". He has aspirations to study paleontology, and it's encouraging for us to see the effort being*

Special Interest Groups - Geoscience Education, Outreach and International Development (GeOID)

put in to support all tamariki." The kids are keen folks; we just need to help connect them to the information!

Another highlight this year has been the semi-regular publication of our GeOID newsletter *Reach Out*, which has received several one-off and recurring submissions from our members. Meanwhile, attempts to promote internal networking through online meetings have had mixed success, with generally low turn-out from members, but nonetheless robust and invigorating discussion among attendees.

Unfortunately, our GEOTalks presentation series ground to a halt as I ran out of time and energy to organise them. But members have indicated they are keen for these to continue so I will endeavour to resurrect the series in the coming year.

SIG Expenses

Nil

Historical Studies Group

Convenor: Simon Nathan

Editor: Rodney Grapes

Interested members: 105

The Historical Studies Group aims to document the history of earth science in New Zealand and record the reminiscences of older geologists. The Reminiscences Subcommittee was established in the former Geological Society in 1979, and then became a Special Interest Group in 1989 - the Historical Studies Group. The late Alan Mason established the Newsletter of the Historical Studies Newsletter (subsequently renamed the Journal of the Historical Studies Group). The main activity of the group is to produce this online journal, recording the history of Geoscience in New Zealand and consisting of articles on New Zealand Geoscience contributed by members.

SIG Activities and Events

Nil

SIG Prizes

Nil

SIG Publications

Details	Link
Journal of the Historical Studies Group 73 (March 2023)	https://gsnz.org.nz/about-us/special-interest-groups/historical-studies-group/
Journal of the Historical Studies Group 72 (January 2023)	https://gsnz.org.nz/about-us/special-interest-groups/historical-studies-group/
Journal of the Historical Studies Group 71 (November 2022)	https://gsnz.org.nz/about-us/special-interest-groups/historical-studies-group/

Additional SIG Comments

JHSG was a special issue to Mark the 100th birthday of our founder, the late Alan Mason.

SIG Expenses

Nil

Hydrogeology

This SIG ceased activity in 2022.

LAVA NZ (Volcanology)

Convenor: Adrian Pittari

Interested members: 258

LAVA NZ is a special interest group for volcanologists and volcano enthusiasts. LAVA NZ held its inaugural meeting at the Geosciences 2014 conference in New Plymouth. The group is associated with LAVA, a specialist group of the Geological Society of Australia. The two groups are managed separately under the auspices of their parent societies, but currently share a common once-to twice-yearly newsletter (LAVA News). The aims of both LAVA NZ and LAVA are:

- To provide a forum for discussion between members interested in and/or working in ancient and modern volcanic environments in the Australasian region.
- To facilitate the exchange of ideas and information between workers in volcanology and related disciplines such as sedimentology, mineralisation and igneous geochemistry.
- To provide a stronger link between volcanological researchers and industry-based geologists working in volcanic terrains.
- To promote research into the volcanology of the Australasian region.
- To provide a forum for promotion of volcanology within geoscience to the wider community.

SIG Activities and Events

Activity	Description	Date Held	Attendance	
			Members	Non-Members
Meeting	Annual meeting	29 November 2022	n/d	n/d

SIG Prizes

Nil

SIG Publications

Details	Link
LAVA News vol. 39. Sept. 2, 2022	n/a

Additional SIG Comments

The IAVCEI 2023 Scientific Assembly was successfully held for the global volcanological community in January 30 – February 3, 2023. Although LAVA NZ was not formally part of the organisation of this Assembly, this SIG has been used as a platform to discuss the conference amongst the wider NZ volcanological community over the years of organisation. The main agenda item at the inaugural LAVA NZ meeting at the New Plymouth GSNZ 2014 conference was the first formal discussion about the idea of NZ making a bid for the IAVCEI Scientific Assembly.

SIG Expenses

Nil

Palaeontology

Convenor: Daniel Thomas

Interested members: 125

The purpose of the Paleontology Special Interest Group within GSNZ is to advocate for and promote paleontology and matters of common concern/interest to paleontologists. All GSNZ members with an interest in fossils of any sort, from molecules to vertebrates, are welcome.

SIG Activities and Events

Activity	Description	Date Held	Attendance	
			Members	Non-Members
Seminar (online)	Monthly PALEOTalk. Presenter: Bruce Hayward	April 2022	54	
Seminar (online)	Monthly PALEOTalk. Presenter: Thomas Stolberger and Nathan Collins	May 2022	38	
Seminar (online)	Monthly PALEOTalk. Presenter: Nic Rawlence	June 2022	15	
Seminar (online)	Monthly PALEOTalk. Presenter: James Crampton	July 2022	27	
Seminar (online)	Monthly PALEOTalk. Presenter: Marcus Richards	August 2022	26	
Seminar (online)	Monthly PALEOTalk. Presenter: Ian Geary	September 2022	18	
Meeting	Paleontology SIG meeting at GSNZ Annual meeting chaired by Bruce Hayward	November	18	
Seminar (online)	Monthly PALEOTalk. Presenter: Morne Wium	March 2023	14	

SIG Prizes

Nil

SIG Publications

Nil

Additional SIG Comments

Nil

SIG Expenses

Nil

Sedimentology

Convenor: Mark Lawrence

Interested members: 197

The Sedimentology Special Interest Group (SSIG) is for GSNZ members interested in all aspects of sedimentology ranging from ancient deposits to modern sedimentological processes. The SSIG is open to both active researchers and those just interested in the field. The aim of the SSIG is to promote communication and support among sedimentologists and provide a forum for sedimentology, stratigraphy and sedimentary geology topics in New Zealand. Activities to achieve this aim include but are not restricted to:

- Organising sedimentology field trips and workshops
- Actively promoting and organising sedimentology-focused sessions at the GSNZ conference
- Holding group lunchtime meetings at the GSNZ conference
- Promoting connections with overseas sedimentology groups
- Providing up to date listings of important publications in sedimentology relating to New Zealand.

SIG Activities and Events

Activity	Description	Date Held	Attendance	
			Members	Non-Members
International Association of Sedimentologists (IAS) International Sedimentological Congress (ISC) 2026, to be held in NZ.	Filming of promotional material to be presented at the Beijing ISC, and used on conference website	30 June 2022	2	Film crew of 2
International Association of Sedimentologists (IAS) International Sedimentological Congress (ISC) 2026, to be held in NZ.	Planning material promotional material to be presented at the Beijing ISC	1 July 2022	2	1
International Association of Sedimentologists (IAS) International Sedimentological Congress (ISC) 2026, to be held in NZ.	Review of website material	16 August 2022	2	2
International Association of Sedimentologists (IAS) International Sedimentological Congress (ISC) 2026, to be held in NZ.	Second review of website material	22 August 2022	1	1

Special Interest Groups - Sedimentology

International Association of Sedimentologists (IAS) International Sedimentological Congress (ISC) 2026, to be held in NZ	Conference planning catch-up meeting	8 September 2022	8	3
SSIG Lunchtime meeting at GSNZ conference	Interest Group AGM and ISC Conference planning catch-up meeting	30 November 2022	12	1

SIG Prizes

Nil

SIG Publications

Nil

Additional SIG Comments

For the moment, the bulk of SSIG activity has revolved around the IAS ISC 2026 organisation, and only involved a small number of individuals. The plan is to encourage more activities in the coming year.

SIG Expenses

Nil

GSNZ Annual Conference 2022



After the COVID-related cancellation of the GSNZ Annual Conference 2021, the conference organising committee dusted themselves off to put on a reinvigorated Geosciences conference in Palmerston North in 2022.

The conference was very well subscribed with members eager to get together in person, many for the first time in over two years. This led to stand-out conference sessions and social events, but also some overcrowding that unfortunately resulted in some reported transmissions of COVID-19. These prompted a proactive review and reinforcement of COVID-related health, safety and hygiene policies for subsequent geology-related conferences around the country.

Despite this post-conference set-back, the conference was a great success, with numerous learnings—both geology and COVID-related—carried forward into the future.

See Appendix B for the full conference wrap-up report.

Appendix A: GSNZ Preliminary Audited Accounts

Here follows preliminary performance reports prepared by Brunton Cropp & Co Limited for:

- the Geoscience Society of New Zealand Incorporated
- the Geoscience Society of New Zealand Awards Trust

Performance Report

Geoscience Society of New Zealand Incorporated
For the year ended 31 March 2023

Prepared by Brunton Cropp & Co Limited

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DRAFT

Independent Audit Report

Geoscience Society of New Zealand Incorporated
For the year ended 31 March 2023

DRAFT

DRAFT

Entity Information

Geoscience Society of New Zealand Incorporated For the year ended 31 March 2023

'Who are we?', 'Why do we exist?'

Legal Name of Entity

Geoscience Society of New Zealand Incorporated - Parent

Entity Type and Legal Basis

Incorporated Society

Registration Number

21991

Entity's Purpose or Mission

- (a) To encourage the advancement of geosciences.
- (b) To serve as a means of facilitating communication and cooperation among members, and other bodies.
- (c) To investigate and report on matters of general interest to New Zealand geoscientists.
- (d) To investigate and report on matters of geoscience that concern members of the general public, and local and territorial statutory bodies.
- (e) To serve as a channel for the expression of the views of New Zealand geoscientists.
- (f) To hold and sponsor conferences and other scientific meetings and meetings of Subcommittees, local Branches and Special Interest Groups.
- (g) To support Tertiary Students and Early Career Geoscientists in their research and to attend geoscience conferences and meetings, by approving Awards and Prizes through the medium of the geological Awards Trust (Inc).
- (h) To encourage and give recognition to high standards of geoscientific research.
- (i) To seek the preservation of important geoscientific sites.
- (j) To encourage the highest standards of professional competence and ethical conduct in the practice of the geosciences in New Zealand.

Entity Structure

Membership of the Society is open to all those interested in the geosciences, whether professional or amateur. Members are elected by a simple vote of the Committee. Membership is in two classes, Ordinary (individuals or corporate bodies), and Honorary.

Our Governance is controlled by an elected committee consisting of elected Officers (President, Immediate Past President(ex officio), Vice President, Secretary, and Treasurer), five ordinary elected members, and up to two co-opted members on an annualised basis, one of whom maybe the Newsletter Editor. Additional roles, which may or may not be filled by a committee member are: Newsletter Editor, Webmaster and Publications Officer/Convenor.

Four subcommittees look after Awards, the Fossil Record File for New Zealand and its territories, Geoheritage, and Geophysical affairs. A Publication Sub-committee may be convened for large projects.

Eight Branches are located in Auckland, Waikato, Taupo, Taranaki, Manawatu, Wellington, Canterbury and Otago. They are supported by member grants from the Society funds and must follow the Rules of the Society, but otherwise are self-governing in their activities.

Special Interest Groups (SIGs) may be formed, subject to consent from the National Committee, for the purposes of encouraging scientific research and communication in specific geoscience topic areas. The current SIGs are GeoEducation, Historic Studies (which produces its own Journal), Friends of the Pleistocene, Paleontology, Oil and Gas, NZ Sedimentology Group, Geochemistry

and LAVA (NZ) (volcanology).

We do not employ staff, but we contract out administrative services such as membership and conference organisation. Volunteers from both inside and outside the committee also help with Internet, Web Site, Publications, archives and Conference organisation.

Main Sources of Entity's Cash and Resources

We receive our main income from sales of publications and subscriptions from members, but also variably from award donations and surpluses from the annual Conference, and occasionally from sponsors of major special publications. These last include the Universities, local and regional bodies, and the Stout Trust for delivery of Special Publications to New Zealand Intermediate and secondary schools.

Main Methods Used by Entity to Raise Funds

Fundraising is by seeking sponsors for major publications and Awards, the running costs of the Annual Conference, and for promoting publication sales; and by actively encouraging membership of the Society. In addition to their membership fee, members have an option to donate to the various specific Award Funds.

Entity's Reliance on Volunteers and Donated Goods or Services

Volunteers including those on the Committee contribute to the day to day running of the Society by being authors and editors of publications, Annual Conference organisers and student staff, fieldtrip guide authors and leaders.

Email/Website

admin@gsnz.org.nz
www.gsnz.org.nz

Postal Address

PO Box 7003,
Newtown
Wellington
New Zealand, 6242

Approval of Financial Report

Geoscience Society of New Zealand Incorporated For the year ended 31 March 2023

The Board are pleased to present the approved financial report including the historical financial statements of Geoscience Society of New Zealand Incorporated for year ended 31 March 2023.

APPROVED

President
Date

Treasurer
Date

DRAFT

Statement of Service Performance

Geoscience Society of New Zealand Incorporated For the year ended 31 March 2023

'What did we do?', 'When did we do it?'

Description of Entity's Outcomes

Through the Annual Conference, Branch meetings, field trips and publications, students of all levels and young researchers are exposed to the work and influence of older, more experienced geoscientists, from whom they can learn future career paths. Along with members of the Public, they can learn how the natural world around them can influence their lives by increasing their understanding of geoscience processes leading to and resulting from disasters such as floods, earthquakes and volcanic eruptions, and the origins of geological natural resources such as minerals.

	2023	2022
Description and Quantification of the Entity's Outputs		
Conference attendees (Geosciences 2021: A Whole New World – From Local To Global) - conference postponed to Nov 2022 because of COVID	-	-
Conference presentations (papers & posters) -conference postponed	-	-
Conference student attendees - conference postponed	-	-
Workshops & Field Trips (FT-5) participants - conference postponed	-	-
Public Lecture attendees (hosted at annual conference) -conference postponed	-	-
Branch meetings and field trips	-	54
Recipients of the three annual Newsletters	-	714
Recipients of eleven (LY: six) Newsflashes	-	714
Attendees at President's lectures, 2 centres (impacted by COVID)	-	60
Attendees at Hochstetter lecture tour of 3 centres, two branches (impacted by COVID)	-	159
Attendees at Hochstetter support lecture	-	60
Grants and Awards made	-	20
Awards Trust – Awards made	-	15
Awards Trust – Awards value	-	8,575

Additional Information

The Society is ever grateful for donated funds towards student prizes and research awards. For instance, in 1997, funds were donated to the Society by a Mr Sid Hastie, who said "I decided to provide funds for a geology scholarship to foster and encourage an interest in geology in the hope that others will find as much pleasure in the study of geology as I have. The knowledge I have gained and the friends I have made as a result of my interest and curiosity in this fascinating subject have added greatly to my enjoyment of life". This is one of the annual Awards to Masters/Honours level students, one from each University.

Statement of Financial Performance

Geoscience Society of New Zealand Incorporated For the year ended 31 March 2023

'How was it funded?' and 'What did it cost?'

	NOTES	2023	2022
Revenue			
Donations, fundraising and other similar revenue	1	490,103	6,025
Fees, subscriptions and other revenue from members	1	47,347	38,475
Revenue from providing goods or services	1	7,443	6,312
Interest, dividends and other investment revenue	1	14,420	1,479
Total Revenue		559,312	52,291
Expenses			
Costs related to providing goods or service	2	46,769	39,131
Grants and donations made	2	18,119	14,934
Other expenses	2	6,835	3,043
Total Expenses		71,723	57,109
Surplus/(Deficit) for the Year		487,590	(4,818)

This statement should be read in conjunction with the attached Notes to the Accounts and Audit Report.

Statement of Financial Position

Geoscience Society of New Zealand Incorporated As at 31 March 2023

'What the entity owns?' and 'What the entity owes?'

	NOTES	31 MAR 2023	31 MAR 2022
Assets			
Current Assets			
Bank accounts and cash	3	46,731	77,414
Debtors and prepayments	3	11,489	2,769
Inventory	3	5,418	8,506
Term Deposits (current)	3	653,915	145,791
Total Current Assets		717,553	234,481
Total Assets		717,553	234,481
Liabilities			
Current Liabilities			
Creditors and accrued expenses	4	2,463	6,981
Unused donations and grants with conditions	4	31,927	31,927
Total Current Liabilities		34,390	38,908
Total Liabilities		34,390	38,908
Total Assets less Total Liabilities (Net Assets)		683,163	195,573
Accumulated Funds			
Accumulated surpluses or (deficits)	5	683,163	195,573
Total Accumulated Funds		683,163	195,573

This statement should be read in conjunction with the attached Notes to the Accounts and Audit Report.

Statement of Cash Flows

Geoscience Society of New Zealand Incorporated For the year ended 31 March 2023

	2023	2022
Cash Flows from Operating Activities		
Donations, fundraising and other similar receipts	490,103	6,025
Fees, subscriptions and other receipts from members	46,751	38,005
Receipts from providing goods or services	7,191	24,263
Interest, dividends and other investment receipts	10,921	1,205
Cash receipts from other operating activities	128	80
GST	(2,543)	800
Payments to suppliers and employees	(58,004)	(35,512)
Donations or grants paid	(17,166)	(14,934)
Total Cash Flows from Operating Activities	477,380	19,932
Cash Flows from Investing and Financing Activities		
Receipts from sale of investments	460,000	144,632
Payments to purchase investments	(968,123)	(145,791)
Cash flows from other investing and financing activities	60	7,500
Total Cash Flows from Investing and Financing Activities	(508,063)	6,341
Net Increase/(Decrease) in Cash	(30,683)	26,273
Bank Accounts and Cash		
Opening cash	77,414	51,141
Net change in cash for period	(30,683)	26,273
Closing cash	46,731	77,414

This statement should be read in conjunction with the attached Notes to the Accounts and Audit Report.

Statement of Accounting Policies

Geoscience Society of New Zealand Incorporated For the year ended 31 March 2023

'How did we do our accounting?'

Basis of Preparation

The entity has elected to apply PBE SFR-A (NFP) Public Benefit Entity Simple Format Reporting - Accrual (Not-For-Profit) on the basis that it does not have public accountability and has total annual expenses equal to or less than \$2,000,000. All transactions in the Performance Report are reported using the accrual basis of accounting. The Performance Report is prepared under the assumption that the entity will continue to operate in the foreseeable future.

Goods and Services Tax (GST)

The entity is registered for GST. All amounts are stated exclusive of goods and services tax (GST) except for accounts payable and accounts receivable which are stated inclusive of GST.

Income Tax

Geoscience Society of New Zealand Incorporated is wholly exempt from New Zealand income tax having fully complied with all statutory conditions for these exemptions.

Bank Accounts and Cash

Bank accounts and cash in the Statement of Cash Flows comprise cash balances and bank balances (including short term deposits) with original maturities of 90 days or less.

Changes in Accounting Policies

There have been no changes in accounting policies. Policies have been applied on a consistent basis with those of the previous reporting period.

Notes to the Performance Report

Geoscience Society of New Zealand Incorporated For the year ended 31 March 2023

	2023	2022
1. Analysis of Revenue		
Donations, fundraising and other similar revenue		
Donations	479,553	25
Student Travel	50	-
Sponsorship	10,500	6,000
Total Donations, fundraising and other similar revenue	490,103	6,025
Fees, subscriptions and other revenue from members		
Subscriptions	47,347	38,475
Total Fees, subscriptions and other revenue from members	47,347	38,475
Revenue from providing goods or services		
Conference Income	3,333	-
Sales	3,636	5,511
Sundry income	273	721
Website Advertising	200	80
Total Revenue from providing goods or services	7,443	6,312
Interest, dividends and other investment revenue		
Interest Income	14,420	1,479
Total Interest, dividends and other investment revenue	14,420	1,479
	2023	2022

2. Analysis of Expenses

Costs related to providing goods or services		
Administration & Office Expenses	29,198	26,854
Advertising	262	209
Bank & Merchant Fees	60	130
Cost of Goods Sold	4,138	1,558
Committee Meetings & Expenses	2,975	200
Computer Expenses	213	-
General Expenses	875	1,059
Hochstetter / Lecture Tours	4,361	559
Insurances	1,354	1,293
Levy RSNZ	-	1,522
Newsletters	5,411	5,746
Printing & Stationery	169	-
Publication Costs	(2,248)	-
Total Costs related to providing goods or services	46,769	39,131
Grants and donations made		
Branch Grants	4,031	4,869
Grants and Awards	1,644	6,496

	2023	2022
Kingma Award	250	250
Miscellaneous Awards	6,194	3,319
Young Researcher Travel Award	6,000	-
Total Grants and donations made	18,119	14,934
Other expenses		
Audit	6,835	3,043
Total Other expenses	6,835	3,043

	2023	2022
3. Analysis of Assets		
Bank accounts and cash		
Westpac Inc & Exp Acct	28,363	56,122
Westpac Inc & Exp Savings	18,368	21,292
Total Bank accounts and cash	46,731	77,414
Debtors and prepayments		
Accounts Receivable	7,402	2,182
Accrued Interest	4,086	587
Total Debtors and prepayments	11,489	2,769
Inventory		
Stock on Hand	5,418	8,506
Total Inventory	5,418	8,506
Term Deposit	653,915	145,791
	2023	2022

4. Analysis of Liabilities

Creditors and accrued expenses		
Accounts Payable	2,898	5,238
GST	(435)	1,742
Total Creditors and accrued expenses	2,463	6,981
Unused donations and grants with conditions		
Award Funds	12,698	12,698
Continent on the Move #2	4,704	4,704
SAGE Geographics Fund	6,565	6,565
Stout Trust Grant - Lloyd Homer Book	7,960	7,960
Total Unused donations and grants with conditions	31,927	31,927
	2023	2022

5. Accumulated Funds

Accumulated Funds		
Opening Balance	195,573	200,391

	2023	2022
Accumulated surpluses or (deficits)	487,590	(4,818)
Total Accumulated Funds	683,163	195,573
Total Accumulated Funds	683,163	195,573

6. Commitments

There are no commitments as at 31 March 2023 (Last year - nil).

7. Contingent Liabilities and Guarantees

There are no contingent liabilities or guarantees as at 31 March 2023 (Last year - nil).

8. Related Parties

There were no transactions involving related parties during the financial year (Last year - nil) .

9. Events After the Balance Date

There were no events that have occurred after the balance date that would have a material impact on the Performance Report (Last year - nil).

10. Ability to Continue Operating

The entity will continue to operate for the foreseeable future.

DRAFT

Performance Report

Geoscience Society of New Zealand Awards Trust
For the year ended 31 March 2023

Prepared by Brunton Cropp & Co Limited

Contents

- 3 Independent Audit Report
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Independent Audit Report

Geoscience Society of New Zealand Awards Trust
For the year ended 31 March 2023

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Entity Information

Geoscience Society of New Zealand Awards Trust For the year ended 31 March 2023

'Who are we?', 'Why do we exist?'

Legal Name of Entity

Geoscience Society of New Zealand Awards Trust

Entity Type and Legal Basis

Charitable Trust

Registration Number

1477708 (CC35670)

Entity's Purpose or Mission

- a) To make awards recognising significant achievements by persons resident in NZ in Geoscience and related scientific fields, in particular to Tertiary students and Young Researchers within the first ten years of their professional career.
- (b) To administer awards and prizes known as the Alan Mason Historical Studies Fund, Hornibrook Prize, Pullar/Vucetich prize, Hastie Awards, Wellman prize, Wellman Research Award, NZ Geophysics Prize, Werner F. Giggenbach Prize for Geochemistry, Jim Ansell geophysics Scholarship, John Beavan Geodetic Fieldwork Grant, Haywood Geocommunication Award, and such further awards and prizes as may be established by the Trust from time to time.
- (c) To support the advancement of geoscience research and knowledge in NZ generally.
- (d) To make grants to further geoscience research and endeavour.
- (e) To promote awareness and education in the earth sciences in NZ.
- (f) To support libraries and other channels for raising knowledge and awareness of the earth sciences.
- (g) To do all such other acts and things as are incidental to or that will further the attainment of the foregoing objects or any of them provided that nothing herein before contained shall authorise any objects that are not charitable in law.
- (h) To seek, accept and receive donations, subsidies, grants, endowments, gifts, legacies, loans and bequests in money or in kind and to carry out any specified Trust attaching or relating to such benefits to the intent that any benefit made to the Trust be made for the general purposes of the Trust or may be made for some purposes within the general objects of the Trust specified in particular cases by the donor.
- (i) In any way consistent with these objects, to both maximise the income of the Trust on its capital and to increase the capital of the Trust.

Entity Structure

The Trust Board consist of no more than five nor less than three members of the Geoscience Society of New Zealand incorporated ("the Society"). The Immediate Past President and the Treasurer of the Society for the time being are ex officio Trustees, along with between one and three persons elected at the Annual General Meeting of the Society. The Board shall have the following officers:- a Chairperson who shall be the Society's Immediate Past President, a Secretary and a Treasurer; these offices may be combined. The Trustees may appoint up to five persons at any one time as Advisory Trustees to advise them on one or more aspects of the Trust's affairs; Advisory Trustees may attend Board meetings but have neither voting rights nor rights or obligations of Trustees.

Main Sources of Entity's Cash and Resources

We receive our main income from short and long term (12 month Term Deposit) interest-bearing bank accounts, variably from Society member's donations to specific awards, and occasionally, from new donors for new Awards.

Entity's Reliance on Volunteers and Donated Goods or Services

Volunteers including those on the Society's Awards Sub-committee contribute to the activities of the Trust by seeking nominations for Awards, and by assessing the suitability of nominees for an Award or Prize.

Physical Address

c/- GNS Science; 1 Fairway Drive, Avalon, Lower Hutt 5010

Postal Address

c/- Geoscience Society of New Zealand
PO Box 7003
Newtown
Wellington 6242

Email/Website

admin@gsnz.org.nz
www.gsnz.org.nz

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Approval of Financial Report

Geoscience Society of New Zealand Awards Trust For the year ended 31 March 2023

The Trustees are pleased to present the approved financial report including the historical financial statements of Geoscience Society of New Zealand Awards Trust for year ended 31 March 2023.

APPROVED

Chairperson
Date

Treasurer
Date

DRAFT

Statement of Service Performance

Geoscience Society of New Zealand Awards Trust For the year ended 31 March 2023

'What did we do?', 'When did we do it?'

Description of Entity's Outcomes

Awards and prizes were approved this financial year include the six Hastie Awards, The Wellman Prize, the Wellman Research Award, The Pullar/Vucetich Award and the Jim Ansell Geophysics Scholarship. As per the Trust Deed, the available funds to pay out for Awards and Prizes was commensurate with the modest annual interest earned from term deposits.

	2023	2022
Description and Quantification of the Entity's Outputs		
Awards and Prizes distributed	-	15
Value of Awards and Prizes (\$)	-	8,575

DRAFT

Statement of Financial Performance

Geoscience Society of New Zealand Awards Trust For the year ended 31 March 2023

'How was it funded?' and 'What did it cost?'

	NOTES	2023	2022
Revenue			
Interest, dividends and other investment revenue	1	15,625	3,869
Other revenue	1	12,400	-
Total Revenue		28,025	3,869
Expenses			
Costs related to providing goods or service	2	35	-
Grants and donations made	2	7,666	8,575
Other expenses	2	481	1,597
Total Expenses		8,182	10,172
Surplus/(Deficit) for the Year		19,843	(6,302)

This statement must be read in-conjunction with the attached Notes to the Accounts and Audit Report

Statement of Financial Position

Geoscience Society of New Zealand Awards Trust As at 31 March 2023

'What the entity owns?' and 'What the entity owes?'

	NOTES	31 MAR 2023	31 MAR 2022
Assets			
Current Assets			
Bank accounts and cash	3	151,383	691,060
Interest Accrual		2,948	-
GST		757	684
Total Current Assets		155,087	691,745
Non-Current Assets			
Other non-current assets	3	555,120	-
Total Non-Current Assets		555,120	-
Total Assets		710,207	691,745
Liabilities			
Current Liabilities			
Creditors and accrued expenses	4	-	1,380
Total Current Liabilities		-	1,380
Total Liabilities		-	1,380
Total Assets less Total Liabilities (Net Assets)		710,207	690,365
Accumulated Funds			
Accumulated surpluses or (deficits)	5	203,169	183,327
Reserves	5	507,038	507,038
Total Accumulated Funds		710,207	690,365

This statement must be read in-conjunction with the attached Notes to the Accounts and Audit Report.

Statement of Cash Flows

Geoscience Society of New Zealand Awards Trust For the year ended 31 March 2023

	2023	2022
Cash Flows from Operating Activities		
Interest, dividends and other investment receipts	12,677	5,607
GST	(252)	(52)
Payments to suppliers and employees	(1,936)	(397)
Donations or grants paid	(7,446)	(8,575)
Total Cash Flows from Operating Activities	3,043	(3,416)
Cash Flows from Investing and Financing Activities		
Cash flows from other investing and financing activities	(542,720)	-
Total Cash Flows from Investing and Financing Activities	(542,720)	-
Net Increase/(Decrease) in Cash	(539,677)	(3,416)
Bank Accounts and Cash		
Opening cash	691,060	694,476
Net change in cash for period	(539,677)	(3,416)
Closing cash	151,383	691,060

This statement must be read in-conjunction with the attached Notes to the Accounts and Audit Report.

Statement of Accounting Policies

Geoscience Society of New Zealand Awards Trust For the year ended 31 March 2023

'How did we do our accounting?'

Reporting Entity

Geoscience Society of New Zealand Awards Trust is a Charitable Trust and is a registered charity under the Charities Act 2005.

Basis of Preparation

The entity has elected to apply PBE SFR-A (NFP) Public Benefit Entity Simple Format Reporting - Accrual (Not-For-Profit) on the basis that it does not have public accountability and has total annual expenses equal to or less than \$2,000,000. All transactions in the Performance Report are reported using the accrual basis of accounting. The Performance Report is prepared under the assumption that the entity will continue to operate in the foreseeable future.

Goods and Services Tax (GST)

The entity is registered for GST. All amounts are stated exclusive of goods and services tax (GST) except for accounts payable and accounts receivable which are stated inclusive of GST.

Income Tax

Geoscience Society of New Zealand Awards Trust is wholly exempt from New Zealand income tax having fully complied with all statutory conditions for these exemptions.

Bank Accounts and Cash

Bank accounts and cash in the Statement of Cash Flows comprise cash balances and bank balances (including short term deposits) with original maturities of 90 days or less.

Changes in Accounting Policies

There have been no changes in accounting policies. Policies have been applied on a consistent basis with those of the previous reporting period.

Awards and Prizes

These are recorded on a cash basis when they are paid.

Notes to the Performance Report

Geoscience Society of New Zealand Awards Trust For the year ended 31 March 2023

	2023	2022
1. Analysis of Revenue		
Interest, dividends and other investment revenue		
Interest Income	3,905	3,869
Westpac Active Series Moderate Trust PIE Income	11,720	-
Total Interest, dividends and other investment revenue	15,625	3,869
Other revenue		
Unrealised Gains on Investments	12,400	-
Total Other revenue	12,400	-
	2023	2022

2. Analysis of Expenses

Costs related to providing goods or services		
Bank Fees	35	-
Total Costs related to providing goods or services	35	-
Grants and donations made		
Werner Giggerbach Prize	325	325
Hastie Grants	1,500	2,180
Hayward Communication Award	530	1,380
Jim Ansell Geophysics Scholarship	1,000	1,000
Alan Mason Award	-	290
Pullar-Vucetich Prize	691	-
NZ Geophysics Prize	400	400
Wellman Research Award	3,000	3,000
Harold Wellman Prize	220	-
Total Grants and donations made	7,666	8,575
Other expenses		
Administration	396	397
Audit	-	1,200
General Expenses	85	-
Total Other expenses	481	1,597
	2023	2022

3. Analysis of Assets

Bank accounts and cash		
Current Account	10,538	20,073
Savings Account	30,845	670,988
Total Bank accounts and cash	41,383	691,060
Term Deposits (Current)		

These notes must be read in-conjunction with the attached Audit Report.

	2023	2022
Term Deposit - Operating account	110,000	-
Total Term Deposits (Current)	110,000	-
Debtors and prepayments		
Interest Accrual	2,948	-
Total Debtors and prepayments	2,948	-
Other non-current assets		
Active Series Moderate Trust Fund	555,120	-
Total Other non-current assets	555,120	-

	2023	2022
4. Analysis of Liabilities		
Creditors and accrued expenses		
Accounts Payable	-	1,380
GST	(757)	(684)
Total Creditors and accrued expenses	(757)	696

	2023	2022
5. Accumulated Funds		
Accumulated Funds		
Opening Balance	183,327	183,175
Accumulated surpluses or (deficits)		
Current year earnings	19,843	(6,302)
Transfer of Income/Expenses relating to Reserves		
Net Movements - General Reserve	-	700
Net Movements - Hastie Reserve	-	1,539
Net Movements - Hayward Reserve	-	1,210
Net Movements - NZGems Reserve	-	220
Net Movements - Wellman Reserve	-	2,785
Total Transfer of Income/Expenses relating to Reserves	-	6,454
Total Accumulated surpluses or (deficits)	19,843	152
Total Accumulated Funds	203,169	183,327
Total Accumulated Funds	203,169	183,327

	2023	2022
6. Breakdown of Reserves		
Reserves		
General Awards Reserve	160,027	160,027
Hastie Awards Reserve	139,740	139,740
Hayward Geocommunication Award	49,235	49,235
NZGeMs Awards Reserve	30,889	30,889

These notes must be read in-conjunction with the attached Audit Report.

	2023	2022
Wellman Reserve	127,147	127,147
Total Reserves	507,038	507,038

7. Commitments

There are no commitments as at 31 March 2023 (Last year - nil).

8. Contingent Liabilities and Guarantees

There are no contingent liabilities or guarantees as at 31 March 2023 Last year - nil).

9. Related Parties

There were no transactions involving related parties during the financial year. (LY: Nil)

10. Events After the Balance Date

There were no events that have occurred after the balance date that would have a material impact on the Performance Report (Last year - nil).

11. Ability to Continue Operating

The entity will continue to operate for the foreseeable future.

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These notes must be read in-conjunction with the attached Audit Report.

Appendix B: GSNZ Annual Conference 2022 Wrap-Up Report



WRAP UP REPORT

Contents:

- Postponement
- Key Dates
- Programme
- Registration
- Social Functions
- Workshops
- Field Trips
- Sponsorship and Exhibition
- Planning and Management
- Attendee List

Conference Convenors

Anke Zernack
Julie Palmer
Massey University (Host Organisation)

Report prepared by:

Conference Organisers:

Ali Howard, Conference Manager

Conferences & Events Ltd

Po Box 20478
Level 3, 195 Willis Street
Wellington, New Zealand
Tel: 04 384 1511
ali@confer.co.nz
Web: www.confer.co.nz



The Benchmark Professional
Conference Organisers

www.confer.co.nz

Postponement from November 2021 to November 2022

During 2021, much of the conference had been organised, with 330 abstracts submitted, a draft programme, social functions arranged and 350 registrations. In October 2021 due to COVID 19 government restrictions, there were venue capacity and catering number limits and the possibility of travel restrictions. In early October delegates were informed of a possible postponement and on October 26th this was confirmed by email with a short survey about possible dates in February or November 2022. The committee decided there was little appetite for holding a virtual meeting and at the November 2021 meeting they decided the best option was to postpone to November 2022.

In November 2021, new dates at Massey University were confirmed for November 2022. The default was that all sessions, registrations, functions, workshops, field trips and grant applications would roll over to the new dates. Delegates were offered registration refunds, which was taken up by approx 100 delegates.

From the end of November 2021, the conference was 'put to bed' and re-started in May 2022. All abstracts were withdrawn, and in July 2022 abstract submissions opened again. Postponement fees were agreed with James Scott for the additional work.

Key Dates 2022

11 July 2022 - Abstract submission opens

July 2022 - Registration opens

2 September 2022 -extended to 16 September - Deadline for abstract submission

14 October 2022 - Authors notified

21 October 2022 - Early Bird Registrations close

Programme

The programme was a similar format to the previous GSNZ conference with pre-conference workshops, public lectures, plenary lectures, scientific presentations, lunchtime SIG meetings, AGM, Icebreaker function, Early Career mixer, a casual dinner and a formal awards dinner, poster sessions and post-conference field trips.

Date	Day Event	Evening Event
Pre-Conference	Monday, 28 Nov Pre-Conference Workshops	Icebreaker Function at Wharerata
Day 1	Tuesday, 29 Nov First Day of Scientific Programme	Public Lecture Fun Games & BBQ Night at the Sports & Rugby Institute
Day 2	Wednesday, 30 Nov Second Day of Scientific Programme	Conference Gala Dinner at Awapuni Racecourse
Day 3	Thursday, 1 Dec Last Day of Scientific Programme	
Post-Conference	Friday, 2 Dec Saturday, 3 Dec Post-Conference Field Trips (1- and 2-day trips)	

The detailed programme is available at this link <https://confer.eventsair.com/gsnz2022/programme>

Registration

The full registration fee included entrance to all conference sessions, lunches, tea/coffee breaks, Ice Breaker Function and poster sessions. Pre-conference workshops, post-conference Field Trips, the BBQ night and Conference Dinner were an additional charge to the registration fee.

The number of registrations was restricted to 380 onsite by the fire regulation capacity in the SSLB block.

Approx 10 people cancelled in the days just prior to the conference or were no-shows.

Registration Type	Early Bird Rate until 21 October 2022	Standard Rate from 22 October 2022
GSNZ Member Full Registration*	\$ 460.00	\$ 520.00
Non-Member Full Registration	\$ 620.00	\$ 680.00
Student Member Full Registration*	\$ 175.00	\$ 235.00
Student Non-Member Full Registration	\$ 220.00	\$ 280.00
Retired Member Full Registration*	\$ 325.00	\$ 375.00
Day Registration (one day only, excl social functions)	\$ 250.00	\$ 250.00
Fun Games & BBQ Night, Tuesday 29 November	\$ 60.00	\$ 60.00
Fun Games & BBQ Night, Tuesday 29 November Student rate	\$ 40.00	\$ 40.00
Conference Dinner, Wednesday 30 November	\$ 100.00	\$ 100.00
Conference Dinner, Wednesday 30 November Student rate	\$ 60.00	\$ 60.00
Monday Workshop Registration- Conference attendee "Microanalysis in the Earth Sciences"	\$ 20.00	\$ 20.00
Monday Workshop Registration- Non-Conference attendee "Microanalysis in the Earth Sciences"	\$ 40.00	\$ 40.00
Monday Workshop Registration- Non-Conference attendee "Modelling Synthetic Earthquakes and Tsunami"	\$ 20.00	\$ 20.00

Statistics

GSNZ Member Early bird Full Registration	113
GSNZ Member Standard Full Registration	7
GSNZ Member Retired Early Bird Full Registration	14
GSNZ Member Student Early Bird Full Registration	123
GSNZ Member Student Standard Full Registration	8
Non-Member Early bird Full Registration	42
Non-Member Standard Full Registration	3
Non-Member Student Early Bird Full Registration	12
Non-Member Student Standard Full Registration	4
Student Volunteer	8
Day Registration	20
Complimentary Sponsor /Exhibitor/committee/GSNZ staff/Speaker	14
Total Attendees	370

Social Functions

The Ice Breaker Function was included in the registration fee but delegates were still asked to tick their attendance for catering purposes.

Ice Breaker Function included in registration fee	300
Ice Breaker Function – Additional Tickets purchased	5
BBQ Dinner Full ticket	101
BBQ Student ticket	64
BBQ Children	3
BBQ complimentary tickets	2
Gala Dinner full ticket	139
Gala dinner student ticket	72
Gala dinner complimentary tickets -helpers, winners	11

Social Functions

Icebreaker Function- Kindly sponsored by

Date: Monday 28 November 2022
Location: Wharerata
Time: 5.00pm - 7.00pm

One ticket included in Full Registration fee. RSVP required.

Additional tickets for accompanying person: \$40 per person.



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businessvents.newzealand.com



Fun Games & BBQ Night

Date: Tuesday 29 November 2022
Location: Sports & Rugby Institute
Time: 7.00pm
Ticket event: \$60.00 (\$40 for students)

Do you think the first day of GSNZ 2022 will get you excited and ready to discuss all of the interesting presentations? Maybe it'll spark that competitive side and you'll be itching to let it out? Look no further! We have you covered!

Come and join us for a night of fun and games with a BBQ dinner on the side at the Sports and Rugby Institute, Massey University. Following the public lecture, this event will provide a great opportunity to socialise and have a little fun outside the norm of our scientific proceedings. Bring the family, wear something comfortable, and enjoy!

The event will be \$60 per person (\$40 for students), which covers the BBQ, two drinks, and plenty of team games. Children's meals will be charged by age (see registration for details) and a cash bar will be available for additional drinks.

Conference Gala Dinner- Band kindly sponsored by

Date: Wednesday 30 November 2022
Location: Awapuni Racecourse
Time: 7.00pm (Buses depart Massey 6.30pm)
Ticket event: \$100.00 (\$60 for students)



**VOLCANIC
RISK SOLUTIONS**

Let your mind run free for this year's GSNZ 2022 Gala Dinner and **"Dream Big: Opening the Door to a Whole New World"**. There are no limits to the opportunities that lie ahead. Our Gala Dinner will be the main social event of the conference, held at the beautiful Awapuni Racecourse. Be swept into a new universe and dance the night away with local live band 'Skram'.

And guess what, students?! We have a new subsidised price, just for you! The event will include dinner, a welcome drink (with a subsequent cash bar for the thirsty), live music following the formal awards and complimentary buses to and from the conference venue and selected locations in town.

Dress in your best dreamscape outfit for your chance to win fun spot prizes!

*this function is not suitable for children

Workshops

Two pre-conference workshops were offered for an additional fee.

Microanalysis in the Earth Sciences	13
Modelling Synthetic Earthquakes and Tsunami	49

Pre-Conference Workshops

Microanalysis in the Earth Sciences

Leader: Ery Hughes, Te Pū Ao, (GNS Science)

Date: Monday 28 November 2022, 08.30am to 5.30pm

Cost: - \$20 for conference attendees
- \$40 for non-conference attendees

The aim of the workshop is for participants to get an overview of the microanalytical techniques available for analysing samples in the Earth Sciences (e.g., geochemistry, paleobiology, volcanology, petrology, tephra chronology, structural geology, etc.). Individual sessions would focus on a specific technique and cover sample preparation, fundamentals of how the technique works, possible problems with the analysis, and examples of applications in the Earth Sciences. Participants would be expected to have a background in Earth Sciences but not specialised knowledge of the techniques covered. Techniques covered would include a selection of Electron Probe MicroAnalysis (EPMA), Scanning Electron Microscopy (SEM), Electron Back Scatter Diffraction (EBSD), Fourier Transform InfraRed (FTIR) spectroscopy, Raman spectroscopy, Secondary Ion Mass Spectrometry (SIMS), and X-ray Absorption Spectroscopy (XAS).

Additional Information:

Pizza lunch, tea, coffee and snacks provided. Please let us know about your dietary requirements when registering for the workshop. And don't forget to bring your Keep Cup!

Maximum is 45 participants in person

For any queries relating to this workshop please contact: **Ery Hughes**

Modelling Synthetic Earthquakes and Tsunami

Leaders: Andy Nicol, University of Canterbury and Bill Fry, Te Pū Ao, (GNS Science)

Date: Monday 28 November 2022, 9.30am to 4.30pm

Cost: Free for conference attendees, Workshop Only fee \$20

Synthetic earthquakes offer the prospect of improving resilience to a range of co-seismic hazards. Physics-based models of earthquakes have been used to assess and forecast fault rupture, ground shaking, tsunami and landslides. The aim of this workshop is to present the results of earthquake simulations for New Zealand faults. Consideration will be given to the impact of fault geometries on model outputs, while simulated earthquakes will be compared to existing datasets to test and evaluate their ability to replicate real earthquakes. We will discuss the utility of the model outputs and their application to tsunami and landslide hazards together with earthquake and tsunami early warning systems. The workshop is intended to promote collaboration and discussion of future research using simulated earthquakes for improved resilience to earthquake, tsunami and landslide hazards.

Additional Information:

Catering provided.

Presentations by invitation.

Researchers interested in presenting should contact Bill or Andy. We anticipate 15-20 presentations interspersed with discussion sessions.

For any queries relating to this workshop please contact: **Andy Nicol & Bill Fry**

Field Trips

Three field trips were offered, although the 'Te Ahu a Turanga: Manawatū Tararua Highway and Cultural Sites of importance' was cancelled due to just two attendees. Both delegates were contacted and offered alternative field trips or a refund.

Land use and stratigraphy within the eastern Whanganui Basin, lower North Island, New Zealand	20 including field trip leaders
Mt Ruapehu – Tephra stratigraphy, mass flow deposits and volcanic hazards	11 including field trip leaders

Options Overview

Date	Field Trip	Cost*
Friday 2 December 1 Day	Te Ahu a Turanga: Manawatū Tararua Highway and Cultural Sites of importance Leaders: Ben Dixon (Te Ahu A Turanga Alliance) and Terry Hapi (Rangitāne o Manawatu) <i>In association with Aurecon</i> This Field Trip has been cancelled	\$60 pp
Friday 2 December 1 Day	Land use and stratigraphy within the eastern Whanganui Basin, lower North Island, New Zealand Leaders: Callum Rees (Massey University), Alan Palmer (Massey University), Julie Palmer (Massey University), Malcolm Todd (Horizons Regional Council). <i>In association with Todd Energy.</i>	\$60 pp

Date	Field Trip	Cost*
Friday & Saturday 2-3 December 2 Days	Mt Ruapehu – Tephra stratigraphy, mass flow deposits and volcanic hazards Leaders: Gabor Kereszturi, Jonathan Procter, Stuart Mead and Anja Moebis (Massey University)	\$250 pp

*All pricing is listed inclusive of GST. Costs exclude conference registration fees. Visit the registration page for registration fees.

Sponsorship and Exhibition

C&E put together the sponsorship proposal to send out to companies. The conference committee made the approach to organisations that may be interested in supporting the conference. C&E ensured all benefits were delivered as outlined in the prospectus.

GNS, NIWA, Royal Society and GeodiscoveryNZ had exhibitions as part of their sponsorship packages. GSNZ and GEOID had complimentary exhibition spaces. Tourism NZ asked for a table for half a day only.

Organisation	Sponsorship Package	Amount (NZD excluding GST)
Te Pū Ao GNS Science	Gold	12,000
Toka Tū Ake EQC	Silver	6,500
NIWA	Silver	6,500
Royal Society Te Apārangi / Taylor & Francis	Bronze	4,000
Volcanic Risk Solutions	Bronze	4,000
Geodiscovery NZ	Bronze	4,000
Tourism New Zealand	Welcome Function	3,000
Resilience National Science Challenge	Session	2,000
Todd Energy	Field Trip	1,500
Aurecon	Field Trip	1,500
	TOTAL	45,000

Gold Sponsor



Silver Sponsors



Bronze Sponsors



Icebreaker Sponsor



Field Trip & Session Sponsors



Planning and Management

Conferences & Events was engaged by the Geoscience Society of NZ to assist with planning and management of the following areas:

- **Financial management** - The budget was devised by Conferences & Events and signed off by the GSNZ and Convenors. It was continually updated by C&E as attendee numbers became clearer and quotes for services were confirmed. An event trust account was managed by C&E including all invoices (expenses & income), chasing outstanding income, reconciling payments, GST and providing a full set of final financial accounts.
- **Venue management** – C&E liaised with the venue regarding furniture, equipment, AV, floorplans and exhibition deliveries.
- **Administration** - regular planning meetings were held and C&E took minutes. C&E created a timeline to track the event planning, milestones and report to the committee on progress. C&E managed the insurance, MC Notes, student volunteer AV guidelines, detailed run sheets, risk assessment plans.
- **Registration Process Management** – An interactive online registration facility built by C&E using the Events Air system was linked to the conference website which allowed delegates to register and pay online. Delegates received an instant confirmation email and were able to re-access their registration to change their details if necessary.
- **Call for Papers Management** – C&E set up an online form for abstract submissions. Once the deadline has passed C&E worked with the committee to provide them with the information they required to review and programme the submissions. C&E notified all authors of the outcome of their submission and liaised with them regarding their presentation including timing, dropbox uploads and AV requirements. C&E chased all presenters to ensure they were registered.
- **Promotion** – C&E sent regular promotional emails to the GSNZ contact store database and liaised with GSNZ re newsletters.
- **Website** - <https://confer.eventsair.com/gsnz2022/> The Conference website was a major component in the promotion of this conference. The website was designed and managed by Conferences and Events. The website was launched and was updated and expanded frequently as information became available.
- **Suppliers** – C&E liaised with the venue and suppliers re furniture and equipment, exhibition floorplan, supply of power and equipment to stands, poster boards.
- **Sponsorship and Exhibition**– C&E put together the sponsorship and exhibition prospectus to send out to companies. The conference committee made the approach to organisations that might be interested in supporting the conference. C&E put together the, arranged the and

ensured all benefits were delivered as outlined in the prospectus.

- **Onsite** – The registration desk was located in the entrance foyer of the SSLB block and staffed by the Conferences & Events team. C&E produced the name badges and were onsite throughout the conference and continually liaised with venue, workshop and field trip leaders and all suppliers on delivery and services.
- **Accommodation** – C&E negotiated favourable rates and allocation with several local accommodation providers, including Mognie Halls of Residence, which were advertised on the website.
- **Conference Evaluation** – C&E compiled the questions for the conference evaluation form and sent this out to all conference delegates. C&E then produced an evaluation report which was submitted to the convenors.
- **Profit and Loss** – A separate P&L report will be submitted to the Geoscience Society.

For this conference the local committee did the original organising of the social functions, workshops, field trips, onsite signage, design, catering, abstract volume and handbook printing. The handbook was printed at Massey University and a copy available for all delegates. The Abstracts Volume was available as an electronic document accessed on the conference website.

Closer to the conference dates, C&E liaised with the venue, workshop and field trip leaders, student volunteers, AV, caterers and social function venues regarding logistics, field trip H&S forms, contact details, numbers, dietary requirements, run sheets etc.

Delegate List

Elizabeth	Abbott	GNS Science Te Pū Ao	Non-Member Full registration Early Bird
Gouwland	Adam	Victoria University of Wellington	Student Member Standard
Susan	Al-Hafid	Victoria University of Wellington	Student Member Early Bird
Zahra	Ali Zadah	Massey University	Student Volunteer
Peter	Almond	Lincoln University	GSNZ Member Full registration Early Bird
Luana	Alves	GNS Science Te Pū Ao	Non-Member Full registration Early Bird
Jen	Andrews	GNS Science Te Pū Ao	GSNZ Member Full registration Early Bird
Verity	Andrews	Victoria University of Wellington	Student Member Early Bird
James	Ardo	Massey University	Student Member Early Bird
Graydon	Armstrong	Victoria University of Wellington	Student Member Early Bird
Cameron	Asher	GNS Science Te Pū Ao	Non-Member Full registration Early Bird
Cliff	Atkins	Victoria University of Wellington	GSNZ Member Full registration Early Bird
Engda	Bahiru	Kenex Ltd	GSNZ Member Full registration Early Bird
Murray	Baker	Geotours	Retired Member Early Bird
Linda	Balfoort	Antarctic Research Centre	Student Non-Member Early Bird
Dona	Banerjee	University of Canterbury	Student Member Early Bird
Glen	Bann	University of Wollongong	Day Registration - Tuesday 29 November
Simon	Barker	Victoria University of Wellington	GSNZ Member Full registration Early Bird
Philip	Barnes	NIWA	GSNZ Member Full registration Early Bird
David	Barrell	GNS Science Te Pū Ao	GSNZ Member Full registration Early Bird
Jenny	Barretto	GNS Science Te Pū Ao	GSNZ Member Full registration Early Bird
Kari	Bassett	University of Canterbury	GSNZ Member Full registration Early Bird
Rachael	Baxter	University of Cambridge	Student Member Early Bird
Jackson	Beagley	University of Otago	Student Member Early Bird
Mark	Bebbington	Massey University	GSNZ Member Full registration Early Bird
Julia	Becker	Massey University	Non-Member Full registration Early Bird
Mac	Beggs	University of Canterbury	Retired Member Early Bird
Yannik	Behr	GNS Science Te Pū Ao	Non-Member Full registration Early Bird

Dave	Bennett	Independent	Non-Member Full registration Standard
Thomas	Benson	Victoria University of Wellington	Student Member Early Bird
Ivan	Berra	Hydrogeoex Ltd	GSNZ Member Full registration Standard
Kelvin	Berryman	Berryman Research & Consulting Ltd	Day Registration - Wednesday 30 November
Ted	Bertrand	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Joel	Bezuidenhout	Massey	Student Volunteer
Michael	Bird	James Cook University	Non-Member Full registration Early Bird
Jenny	Black	GNS Science I Te Pū Ao	Non-Member Full registration Early Bird
Kyle	Bland	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Colin	Bloom	University of Canterbury	Student Member Early Bird
Mia	Boothroyd	University of Otago	Student Member Early Bird
Sanjay	Bora	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Sandra	Bourguignon	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Andrew	Boyes	GNS Science I Te Pū Ao	Non-Member Full registration Early Bird
Liam	Bramwell	Victoria University Of Wellington	Student Non-Member Standard
Ian	Brewer	Todd Energy	Non-Member Full registration Early Bird
Alexander	Broadley	GNS Science I Te Pū Ao	Student Non-Member Early Bird
Isabelle	Brooks-Clarke	University of Auckland	Student Member Early Bird
William	Buffett	University of Southampton	Student Non-Member Early Bird
Suzanne	Bull	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Daniel	Burgin	University of Otago	Student Member Early Bird
Conrad	Burton	GNS Science I Te Pū Ao	Non-Member Full registration Early Bird
Rodrigo	Calderon	University of Canterbury	Student Member Early Bird
Lucy	Carson	GNS Science I Te Pū Ao	Non-Member Full registration Early Bird
Jasmine	Casidy	Victoria University of Wellington	Student Member Early Bird
Murry	Cave	Gisborne District Council	GSNZ Member Full registration Early Bird
Rupsa	Chakraborty	Massey University	Student Member Early Bird
Isabelle	Chambefort	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird

Calum	Chamberlain	Victoria University of Wellington	GSNZ Member Full registration Early Bird
Danielle	Charlton	GNS Science I Te Pū Ao	Non-Member Full registration Early Bird
Shao-Jinn	Chin	Victoria University of Wellington	Student Member Early Bird
Kate	Clark	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Madison	Clarke	Victoria University of Wellington	Student Member Early Bird
Genevieve	Coffey	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Nathan	Collins	University of Auckland	Student Member Early Bird
Will	Conley	Massey University	Student Member Early Bird
Andy	Cook	SGS	GSNZ Member Full registration Standard
Carlos	Corella Santa Cruz	Massey University	Student Member Early Bird
Lucas	Corna	Massey University	Student Member Early Bird
Robert	Coulter	University of Canterbury	Student Member Early Bird
Steph	Coursey	Massey University	Student Member Early Bird
Heather	Craig	NIWA	GSNZ Member Full registration Early Bird
James	Crampton	Victoria University of Wellington	GSNZ Member Full registration Early Bird
Shane	Cronin	University of Auckland	Day Registration - Thursday 1 December
Abby	Cuttriss	Royal Society Te Apārangi	Non-Member Full registration Early Bird
Tom	Czertowicz	Kenex Ltd	GSNZ Member Full registration Early Bird
Michele	D'Ath-Woodd	Independent	GSNZ Member Full registration Early Bird
Elisabetta	D'Anastasio	GNS Science I Te Pū Ao	Non-Member Full registration Early Bird
Alex	Davidson	Macquarie University	Student Member Early Bird
Ashley	Davis	Victoria University of Wellington/NIWA	Student Member Early Bird
Bryan	Davy	GNS Science I Te Pū Ao	Retired Member Early Bird
Vanesa	De Pietri	University of Canterbury	Day Registration - Wednesday 30 November
Cornel	de Ronde	GNS Science I Te Pū Ao	Non-Member Full registration Early Bird
Saskia	de Vilder	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Stu	Dearlove	Massey University/Genesis Energy	Student Member Early Bird
John	Decker	NZ Petroleum & Minerals, MBIE	GSNZ Member Full registration Early Bird
Jaime	Delano	University of Canterbury	Student Member Early Bird

David	Dempsey	University of Canterbury	GSNZ Member Full registration Early Bird
Annal	Dhungana	JCDR, Massey University	Student Non-Member Early Bird
Chris	DiCaprio	GNS Science I Te Pū Ao	Non-Member Full registration Early Bird
Ben	Dixon	Aurecon (NZ) Ltd	GSNZ Member Full registration Early Bird
Nessa	D'Mello	Massey University	Student Member Early Bird
Pedro	Doll	University of Canterbury	Student Member Early Bird
Imogen	Doyle	Massey University	Student Member Early Bird
Chris	Dutton	Gns Science	Complimentary Sponsor
Donna	Eberhart-phillips	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Jennifer	Eccles	The University of Auckland	GSNZ Member Full registration Early Bird
Susan	Ellis	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Julian	Eschenroeder	University of Otago	Student Member Early Bird
Alice	Evans	National Emergency Management Agency	Non-Member Full registration Early Bird
Josh	Evans	University of Canterbury	Student Member Early Bird
Kevin	Fenaughty	National Emergency Management Agency	Non-Member Full registration Early Bird
Jessica	Fensom	GNS Science I Te Pū Ao	Non-Member Full registration Early Bird
Joseph	Fleming	Massey University	Student Volunteer
Laetitia	Foundotos	GNS Science I Te Pū Ao	Non-Member Full registration Early Bird
Ashleigh	Fromont	National Emergency Management Agency	Non-Member Full registration Early Bird
Grace	Frontin-Rollet	NIWA	GSNZ Member Full registration Early Bird
Hanze	Fu	Massey University/China University of Geosciences	Student Non-Member Standard
Ian	Fuller	Massey University	GSNZ Member Full registration Early Bird
Hollei	Gabrielsen	Department of Conservation	Complimentary Thursday
Henry	Gard	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Harry	Gawne	Victoria University of Wellington	Student Member Early Bird
Ariadni	Georgatou	GNS Science I Te Pū Ao	Non-Member Full registration Early Bird
Matthew	Gerstenberger	GNS Science I Te Pū Ao	Non-Member Full registration Standard
Ken	Gledhill	GNS Science I Te Pū Ao	Retired Member Early Bird
Tomek	Glowacki	Teg & Associates Ltd	Retired Member Early Bird
Nicola	Godwin	Victoria University of Wellington	Student Non-Member Early Bird

Alejandra	Gomez	GNS Science I Te Pū Ao	Non-Member Full registration Early Bird
Aileen	Gordon	Victoria University of Wellington	Student Member Early Bird
Andrew	Gorman	University of Otago	GSNZ Member Full registration Early Bird
Jean	Gorman	Geoscience Society of New Zealand	Retired Member Early Bird
Angela	Griffin	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Kerstin	Gruender	Victoria University of Wellington	Student Member Early Bird
Jorge Alberto	Guizar Alfaro	University of Canterbury	GSNZ Member Full registration Early Bird
Annahlise	Hall	University of Auckland	Student Member Early Bird
Kyle	Hamilton	University of Auckland	Student Non-Member Early Bird
Ian	Hamling	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Kristian	Hansen	Victoria University of Wellington	Student Member Early Bird
Jonathan	Hanson	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Johanna	Hanson	University of Canterbury	Student Member Early Bird
Bruce	Hayward	Geomarine Research	Retired Member Early Bird
Fei	He	Royal Society Te Apārangi	Complimentary Sponsor
Bernard	Hegan	Tonkin & Taylor Ltd	GSNZ Member Full registration Early Bird
Wiebke	Heise	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Stuart	Henrys	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Brenda	Hernandez	Massey University	Student Member Early Bird
Mus	Hertoghs	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Matthew	Hill	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Jess	Hillman	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Timothy	Hilton	GNS Science I Te Pū Ao	Day Registration - Thursday 1 December
Hamish	Hirschberg	Victoria University of Wellington	Student Member Early Bird
Caroline	Holden	SeismoCity Ltd	GSNZ Member Full registration Early Bird
Gavin	Holden	Victoria University of Wellington	Student Member Early Bird
Chris	Hollis	Victoria University of Wellington	GSNZ Member Full registration Early Bird
Katherine	Holt	Massey University	GSNZ Member Full registration Early Bird

Aline	Homes	Victoria University of Wellington	GSNZ Member Full registration Early Bird
John	Homes	Geoscience Society of New Zealand	Retired Member Early Bird
Sebastian	Höpker	University of Waikato	Student Member Early Bird
Sharon	Hornblow	Otago Regional Council	GSNZ Member Full registration Early Bird
Henry	Hoult	University of Canterbury	Student Member Early Bird
Jamie	Howarth	Te Herenga Waka/Victoria University of Wellington	GSNZ Member Full registration Early Bird
Sam	Hudson	NZ Petroleum & Minerals, MBIE	GSNZ Member Full registration Early Bird
Emma	Hudson-doyle	Massey University	Day Registration - Tuesday 29 November
Mila	Huebsch	University of Auckland	Student Member Early Bird
Ery	Hughes	GNS Science Te Pū Ao	GSNZ Member Full registration Early Bird
Laura	Hughes	Victoria University of Wellington	Student Member Early Bird
Joshua	Hughes	University of Waikato	Student Member Early Bird
Bethany	Hughes	Victoria University of Wellington	Student Member Early Bird
David	Huijser	Victoria University of Wellington	Non-Member Full registration Early Bird
Jade	Humphrey	University of Canterbury	Student Member Early Bird
Rachel	Hunt	University College London	Student Non-Member Early Bird
Finnigan	Illsley-Kemp	Victoria University of Wellington	GSNZ Member Full registration Early Bird
Mark	Ireland	University of Otago	Student Member Early Bird
Matthew	Irwin	Massey University	Complimentary Delegate
Terry	Isson	University of Waikato	GSNZ Member Full registration Early Bird
Laura	James	Victoria University Of Wellington	Student Member Standard
Kees	Jansen	Victoria University of Wellington	Student Non-Member Early Bird
Paul	Jarvis	GNS Science Te Pū Ao	GSNZ Member Full registration Early Bird
Kerensa	Jennings	University of Auckland	Student Member Early Bird
Bjorn	Johns	Toitū Te Whenua Land Information New Zealand	Day Registration - Thursday 1 December
David	Johnston	Massey University	Non-Member Full registration Early Bird
Katie	Jones	Victoria University of Wellington	Student Member Early Bird
Ilma del Carmen	Juarez Garfias	Victoria University of Wellington	Student Member Early Bird
Siru	Jylhankangas	GNS Science Te Pū Ao	Student Member Early Bird
Anna	Kaiser	GNS Science Te Pū Ao	GSNZ Member Full registration Standard

Liz	Keller	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Richard	Kellett	GNS Science I Te Pū Ao	Non-Member Full registration Early Bird
Sophie	Kelly	University of Canterbury	Student Member Early Bird
Ben	Kennedy	University of Canterbury	Day Registration - Thursday 1 December
Gabor	Kereszturi	Massey University	GSNZ Member Full registration Early Bird
Maia	Kidd	Massey University	Student Member Early Bird
Geoff	Kilgour	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Gabriel	King	Victoria University of Wellington	Student Member Early Bird
Christine	Kollsgaard	The University of Otago	Student Non-Member Early Bird
Szabolcs	Kosik	Horizons Regional Council	GSNZ Member Full registration Early Bird
Janine	Krippner	University of Waikato	GSNZ Member Full registration Early Bird
Karsten	Kroeger	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Stephen	Kwong	Victoria University of Wellington	Student Member Early Bird
Luce	Lacoua	University of Otago	Student Member Early Bird
Alice	Lake-hammond	AF8 Programme	Non-Member Full registration Early Bird
Oliver	Lamb	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Jeffrey	Lang	University of Auckland	Student Non-Member Standard
Robert	Langridge	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Mark	Lawrence	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Penny	Lawrence	GNS Science I Te Pū Ao	Complimentary Exhibitor
Kristen	Lewis	University of Canterbury	Student Member Early Bird
Boxin	Li	Massey University	Student Member Early Bird
Yi-wun Liao	Liao	GNS Science I Te Pū Ao	Student Non-Member Early Bird
Nicola	Litchfield	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Donald	MacFarlan		Retired Member Early Bird
Michael	Macnaughtan	University of Auckland	Student Member Early Bird
Katherine	Maier	NIWA	GSNZ Member Full registration Early Bird
Olivia	Mark	Victoria University of Wellington	Student Member Early Bird
Kim	Martelli	Tauranga City Council	Speaker - Reduced full conference registration fee: member
Cecile	Massiot	GNS Science I Te Pū Ao	Non-Member Full registration Early Bird

Alex	Matheson	Victoria University of Wellington	Student Member Early Bird
Ashleigh	Matheson	Victoria University of Wellington	Student Member Early Bird
Adrija	Mazumdar	Victoria University of Wellington	Student Member Early Bird
Sam	McColl	GNS Science Te Pū Ao	GSNZ Member Full registration Early Bird
Laura	McDonald	University of Auckland	Student Member Early Bird
Erin	McEwan	University of Canterbury	Student Member Early Bird
Stuart	Mead	Massey University	GSNZ Member Full registration Early Bird
Dagim	Mengesha	Victoria University of Wellington	Student Non-Member Early Bird
Eleanor	Mestel	Victoria University of Wellington	Student Member Early Bird
Craig	Miller	GNS Science Te Pū Ao	GSNZ Member Full registration Early Bird
Shannen	Mills	Massey University	Student Volunteer
Regine	Morgenstern	GNS Science Te Pū Ao	GSNZ Member Full registration Early Bird
Steve	Morice	Todd Energy	GSNZ Member Full registration Early Bird
James	Muirhead	University of Auckland	Non-Member Full registration Early Bird
Sebastian	Naeher	GNS Science Te Pū Ao	GSNZ Member Full registration Early Bird
Vincent	Neall	Massey University	Retired Member Early Bird
Ema	Nersezova	University of Auckland	Student Member Early Bird
Sophie	Newsham	University of Canterbury	Student Member Early Bird
David	Nicholls	GNS Science Te Pū Ao	Non-Member Full registration Early Bird
Alex	Nichols	University of Canterbury	GSNZ Member Full registration Early Bird
Andy	Nicol	University of Canterbury	GSNZ Member Full registration Standard
Govinda	Niroula	University Of Otago	Student Member Standard
Ella	Nisbet	Massey University	Student Member Early Bird
Scott	Nodder	NIWA	Complimentary Sponsor
Libby	O'brien	Victoria University of Wellington	Student Member Early Bird
Sarah	O'Hagan	Victoria University of Wellington	Student Member Early Bird
William	Oliver	University of Otago	Student Member Early Bird
Alan	Orpin	NIWA	Complimentary Sponsor
Jürgen	Österle	Victoria University of Wellington	Student Member Early Bird
Harrison	O'sullivan-moffat	GNS Science Te Pū Ao	Student Member Early Bird

Peter	Otway	Retired (ex-GNS Science)	Retired Member Early Bird
Geneva	Overwater	University of Canterbury	Student Member Early Bird
Marshall	Palmer	University of Otago	GSNZ Member Full registration Early Bird
Julie	Palmer	Massey University	Complimentary Committee Registration
Joali	Paredes-mariño	University of Auckland	GSNZ Member Full registration Early Bird
Matthew	Parker	University of Canterbury	Student Member Early Bird
Sophie	Pearson-Grant	GNS Science Te Pū Ao	Day Registration - Wednesday 30 November
Amber	Peek	University of Auckland	Student Member Early Bird
Sonja	Penafiel Bermudez	GNS Science Te Pū Ao	GSNZ Member Full registration Early Bird
Camilla	Penney	Te Whare Wānanga o Waitaha University of Canterbury	GSNZ Member Full registration Early Bird
Anna	Perttu	Massey University	Student Member Early Bird
Brian	Perttu	Massey University	Student Member Early Bird
Olivia	Pita Sllim	Victoria University of Wellington	Student Member Early Bird
Stephen	Piva	Victoria University of Wellington	Student Member Early Bird
Sally	Potter	GNS Science Te Pū Ao	Speaker - Reduced full conference registration fee: non-member
Nicholas	Powell	Forensic & Industrial Science Ltd	GSNZ Member Full registration Early Bird
Kristin	Pratscher	GNS Science Te Pū Ao	Student Member Early Bird
Marlena	Prentice	University of Waikato	Student Member Early Bird
Jon	Procter	Massey University	GSNZ Member Full registration Early Bird
Nina	Quinn	Victoria University of Wellington	Student Member Early Bird
Mark	Rattenbury	GNS Science Te Pū Ao	GSNZ Member Full registration Early Bird
Sofia	Rauzi	University of Waikato	Student Member Early Bird
Marco	Rebecchi	Victoria University of Wellington	Student Member Early Bird
Callum	Rees	Massey University	GSNZ Member Full registration Early Bird
Catherine	Reid	University of Canterbury	GSNZ Member Full registration Early Bird
Marta	Ribó	University of Auckland	GSNZ Member Full registration Early Bird
Geoffrey	Robert	Massey University	Student Member Early Bird
Jean	Roger	GNS Science Te Pū Ao	Non-Member Full registration Early Bird
Chris	Rollins	GNS Science Te Pū Ao	GSNZ Member Full registration Early Bird

Catherine	Ross	GNS Science Te Pū Ao	Non-Member Full registration Early Bird
Michael	Rowe	University of Auckland	GSNZ Member Full registration Early Bird
Peter	Royle	GNS Science Te Pū Ao	Student Member Early Bird
Janis	Russell	Geoscience Society of New Zealand	Complimentary Delegate
Javiera	Ruz Ginouves	University of Otago	Student Member Early Bird
Matt	Sagar	GNS Science Te Pū Ao	GSNZ Member Full registration Early Bird
Jerome	Salichon	GNS Science Te Pū Ao	Non-Member Full registration Early Bird
Alfredo	Sanchez	Geotem Ingenieria	Day Registration - Thursday 1 December
Nicki	Sayers	Geoscience Society of New Zealand	Complimentary Delegate
Jessie	Schuler	Victoria University of Wellington	Student Member Early Bird
Paul	Scofield	Canterbury Museum	Day Registration - Wednesday 30 November
Emmy	Scott	University of Canterbury	Student Member Standard
Hannu	Seebeck	GNS Science Te Pū Ao	Non-Member Full registration Early Bird
Laura	Seelig	Victoria University of Wellington	Student Member Early Bird
Charlotte	Severne	Te Tumu Paeroa	Complimentary Tuesday
Yaasameen	Shalla	Victoria University of Wellington	Student Member Early Bird
Ryota	Shibuya	University of Auckland	Non-Member Full registration Early Bird
Anthony	Shorrock	University of Auckland	Student Member Early Bird
Felix	Silva Levio	Victoria University of Wellington	Student Member Early Bird
Daniel	Sinclair	Victoria University of Wellington	GSNZ Member Full registration Early Bird
Corinne	Singeisen	University of Canterbury	Student Member Early Bird
Jan	Sintenie	University of Canterbury	Student Member Early Bird
Inge	Smythe	Massey University	Student Member Early Bird
Amilea	Sork	University of Canterbury	Student Member Early Bird
Erica	Spain	NIWA	GSNZ Member Full registration Early Bird
Aleksandr	Spesivtsev	GNS Science Te Pū Ao	Non-Member Full registration Early Bird
Timothy	Stahl	University of Canterbury	GSNZ Member Full registration Early Bird
Ryan	Steadman	RDCL	Day Registration - Thursday 1 December
Jenny	Stein	Geoscience Society of New Zealand GeOID SIG	Complimentary Delegate
Bastian	Steinke	University of Auckland	Student Member Standard

Ayla	Stenning	University of Otago	Student Member Early Bird
Tim	Stern	Victoria University of Wellington	Retired Member Early Bird
Sönke	Stern	University of Auckland	Student Member Early Bird
Thomas	Stevenson	University of Otago	Student Member Early Bird
David	Stewart	Massey University	Student Volunteer
Claudine	Stirling	University of Otago	GSNZ Member Full registration Early Bird
Mark	Stirling	University of Otago	GSNZ Member Full registration Standard
Michael	Stokoe	Tourism New Zealand	Day Registration - Tuesday 29 November
Wanda	Stratford	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Dominic	Strogen	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Alistair	Stronach	RDCL	GSNZ Member Full registration Early Bird
Valerie	Stucker	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Rupert	Sutherland	Victoria University of Wellington	GSNZ Member Full registration Early Bird
Jordan	Swann	University of Auckland	Student Member Standard
Ayaka	Tagami	Tohoku University	Non-Member Full registration Early Bird
Sarah	Tapscott	Massey University	Student Volunteer
Kazuya	Tateiwa	Tohoku University	Student Non-Member Standard
Sam	Taylor-Offord	GNS Science I Te Pū Ao	Non-Member Full registration Early Bird
Kiran	Thingbaijam	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Daniel	Thomas	Massey University	GSNZ Member Full registration Early Bird
Monique	Thomas	University of Otago	Student Member Early Bird
Glenn	Thrasher	GNS Science I Te Pū Ao	Retired Member Early Bird
Michael	Thwaites	University of Canterbury	Student Member Early Bird
Stephanie	Tickle	Victoria University of Wellington	Student Member Early Bird
Pip	Tildesley	Victoria University of Wellington	Student Member Early Bird
John	Townend	Victoria University of Wellington	GSNZ Member Full registration Early Bird
Jocelyn	Turnbull	GNS Science I Te Pū Ao	Day Registration - Wednesday 30 November
Gillian	Turner	Victoria University of Wellington	GSNZ Member Full registration Early Bird
Lyric	Tyler	Massey	Student Volunteer
Daniel	Uhle	Massey University	Student Member Early Bird

Phaedra	Upton	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Russ	Van Dissen	GNS Science I Te Pū Ao	Non-Member Full registration Standard
Kasper	Van Wijk	University of Auckland	GSNZ Member Full registration Early Bird
Bert	Verleijdsdonk	Massey University	Student Member Early Bird
Juliette	Vicente	Massey University	Student Member Early Bird
Pilar	Villamor	GNS Science I Te Pū Ao	Day Registration - Wednesday 30 November
Lauren	Vinnell	JCDR, Massey University	Day Registration - Tuesday 29 November
Paul	Viskovic	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Kieron	Wall	University of Canterbury	Student Non-Member Early Bird
Laura	Wallace	GNS Science I Te Pū Ao	Day Registration - Wednesday 30 November
Ethan	Walsh	University of Canterbury	Student Member Early Bird
Xiaoming	Wang	GNS Science I Te Pū Ao	Non-Member Full registration Early Bird
Fynn	Warnke	University of Auckland	Student Member Early Bird
Georgia	Warren	University of Auckland	Student Member Early Bird
Emily	WarrenSmith	GNS Science I Te Pū Ao	Non-Member Full registration Early Bird
Sally	Watson	NIWA	GSNZ Member Full registration Early Bird
Leighton	Watson	University of Canterbury	GSNZ Member Full registration Standard
Alexander	Watson	University of Canterbury	Student Member Early Bird
Emeline	Wavelet	University of Otago	Student Member Early Bird
Jenny	Webster-Brown	Our Land and Water, National Science Challenge	GSNZ Member Full registration Early Bird
Cindy	Werner	University of Auckland	GSNZ Member Full registration Standard
Caitlin	Wheeler	Massey University	Student Volunteer
James	White	Geology Department, University of Otago	GSNZ Member Full registration Early Bird
Paul	White	GNS Science I Te Pū Ao	Day Registration - Wednesday 30 November
Melody	Whitehead	Massey University	GSNZ Member Full registration Early Bird
Neil	Whitehead	Whitehead Associates	Retired Member Early Bird
Callum	Whitten	Victoria University of Wellington	Student Member Early Bird
Charles	Williams	GNS Science I Te Pū Ao	GSNZ Member Full registration Early Bird
Helen	Williams	Auckland University of Technology	GSNZ Member Full registration Early Bird
Jack	Williams	University of Otago	GSNZ Member Full registration Early Bird

Codee-Leigh	Williams	Victoria University Of Wellington	Student Member Standard
Grant	Wilson	National Emergency Management Agency	Non-Member Full registration Early Bird
Laura	Wilson	University of Otago	Student Member Early Bird
Gary	Wilson	GNS Science I Te Pū Ao	Complimentary Sponsor
Colin	Wilson	Victoria University of Wellington	GSNZ Member Full registration Early Bird
Inez	Wilson-Harding	University of Otago	Student Member Early Bird
Matthew	Wood	Victoria University of Wellington	Non-Member Full registration Early Bird
Christopher	Worts	GNS Science I Te Pū Ao	Day Registration - Thursday 1 December
Yutong	Wu	University of Otago	Student Member Early Bird
Jimmy	Yang	GNS Science I Te Pū Ao	Student Member Early Bird
Edward	Yates	University of Canterbury	Student Member Standard
Jacob	Young	Victoria University of Wellington	Day Registration - Wednesday 30 November
George	Young	University of Canterbury	Student Member Early Bird
Elham	Yousef Zadeh	Kenex Ltd	GSNZ Member Full registration Early Bird
Vladyslav	Zakharovskyi	Massey University	Student Member Early Bird
Georg	Zellmer	Massey University	GSNZ Member Full registration Early Bird
Anke	Zernack	Massey University	Complimentary Committee Registration
Rong	Zhang	University of Otago	Student Member Early Bird

