GEOLOGICAL SOCIETY OF NEW ZEALAND 1955-2005

OUR FIRST 50 YEARS

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Geological Society of New Zealand
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Cover: Kaikoura, the cradle where the Geological Society of New Zealand was born in 1955, and the setting for the 20th and 50th anniversary conferences.

Photo: Lloyd Homer

Origins

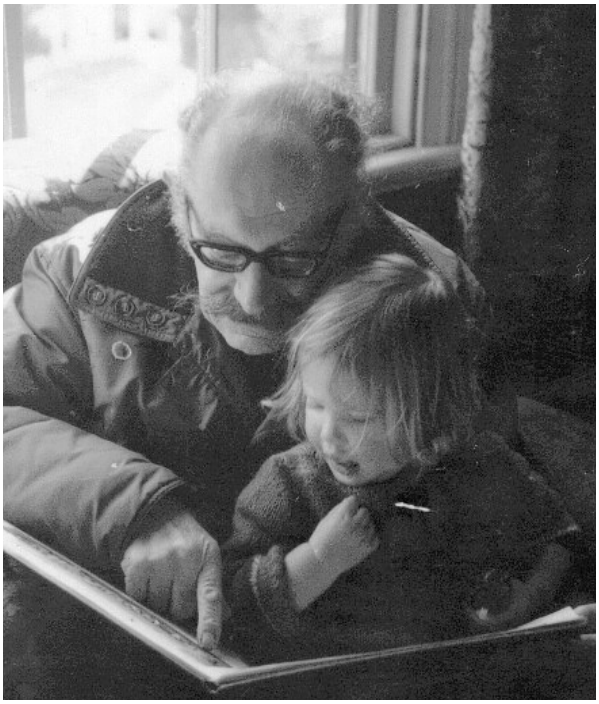
Elsewhere in the world many national Geological Societies were established in the 19th or early 20th centuries, but things took a little longer in New Zealand. The reason for this is not entirely clear, but probably because there was no perceived need for one before the early 1950s. Up until then the New Zealand Institute, and its successor the Royal Society of New Zealand, had been strong. Geologists had played a major role in its establishment and organisation, and regional branches had provided an outlet for regular geological lectures and discussions. Indeed a geologist, Sir James Hector, had formed the New Zealand Institute and been its first and long-serving President. By 1954 geologists had also played a major role in helping the Institute and later the Royal Society to organise eight New Zealand Science Congresses, usually with a Geology Section forming a major part. Between 1900 and 2000, the President of the Royal Society's chair had been occupied by 12 geoscientists spanning a total of 26 years (Fleming, 1987).

So why was our Society formed in 1955? What had changed? The reason is not given in Burton (Tony) Collins' (1965) account of the early history of the Society. On reflection this is not surprising, for Tony himself is recognised as our Society's founder, and reading between his lines it is clear that he was the one who conceived of the idea back in 1953 and pushed it through to fruition.

Initially, Tony Collins of the NZ Geological Survey's Christchurch Office discussed the idea informally with many colleagues, often "over a glass of beer in hotels and private homes" (Collins, 1965, p. 2). Tony recognised that the time was right for a New Zealand Geological Society to be formed – the Royal Society was going through a "lean phase"; earth scientists and physicists were now "almost the only groups of New Zealand scientists without a specialised society to look after their interests and present their views" (Collins, 1965, p.2). The final factor was the success of the recently inaugurated annual NZ Geological Survey staff conferences, to which University and Museum geologists had begun to be invited. This latter factor was probably the catalyst, for it gave a taste of what a national geological association could be all about – sharing ideas and advancing our science through collaboration and interaction among all the country's geologists. Indeed, even well after the Society was formed, NZ Geological Survey staff conferences continued to double as annual Society meetings, with the last such occasion in Oamaru in 1966 (see Appendix I - list of Annual General meetings).

The first formal steps towards establishing a society of New Zealand geologists came on the last day of the 1954 NZ Science Congress in Auckland. Harold Wellman (Chair of the Geology Section) suggested that Tony Collins should take the opportunity provided by the congress and call a meeting of those interested in the formation of some sort of "organisation of geologists and other earth scientists." The meeting, on 21 May 1954, was held in the top-floor lounge of the Station Hotel, just down the road from the University. Tony says that he thought it would be "appropriate to call such a meeting in the type of surroundings in which much geological business is so smoothly transacted" (Collins, 1957, 1965). About fifty geologists, geophysicists and pedologists attended, and there was lively debate with a few dissenting opinions, but before closing time (6pm in those days) a motion was carried by 36 votes to 4: "Those present consider the formation of a society of geologists in New Zealand would be desirable." Norcott Hornibrook (NZ Geological Survey) and Arnold Lillie (Auckland University) are recorded as having spoken strongly against the motion, but both later joined up as foundation members (Hornibrook, 1968).

Tony Collins, "founder of the Geological Society of New Zealand"



Tony Collins with granddaughter Ursula Cochran

Burton Wallace Collins (1916-1977) was born in Christchurch. Early in life his dislike for his given name Burton led to the use of the last three letters to form a substitute "Tony", by which he was known to his geological colleagues. He was educated at Christchurch Boys' High School and graduated from Canterbury College with a double major in geology and chemistry. His initial geological work in oil exploration in New Guinea was interrupted by the 2nd World War. After the War he spent a short period as a chemist with the Dominion Yeast Co in Auckland before he joined the NZ Geological Survey in 1946.

His early work in NZ laid the foundation for our understanding of the groundwater of Canterbury. He was based in Christchurch when he was advocating and formulating the establishment of the Geological Society of NZ. His later career included stints in London as DSIR Scientific Liaison Officer and Commonwealth Geological Liaison Officer, and in Wellington as an innovative editor of NZ Journal of Geology and Geophysics, inaugural editor of the Journal of the Royal Society of NZ, Director of DSIR Information Service, and pioneer of environmental geology back in the NZ Geological Survey. Tony Collins passed away due to ill health at the young age of 61 in 1977 (Suggate, 1978).

An interim committee was established to take the next steps. It consisted of convenor Tony Collins (NZ Geological Survey, Christchurch), John Bradley (Victoria University), Jim Brodie (Oceanographic Institute, Wellington), soil scientist Pat Fox (Christchurch) and three co-opted Christchurch members Max Gage, Doug Campbell (both Canterbury University) and Derek Wilson (NZ Geological Survey). The Christchurch members met several times in the bar of the Shades Hotel in Hereford St, across the road from the NZ Geological Survey's office at the time (Mason and Harrington, 1995). Following suggestions made at the Auckland meeting, the interim committee first approached the Royal Society to see if a Geological Section could be formed within it. At that time the only member bodies were the nine regional branches. This proposal was rejected by the Royal Society Council as "dangerous on account of the possibilities of disintegration", although "a system of very simple and free affiliation" might be considered (Collins, 1965, p.3). Thus an independent Geological Society was the

only alternative, and the interim committee drew up a set of rules to be considered by a meeting to be held during the 1955 NZ Geological Survey staff conference in Kaikoura.

At the Kaikoura conference, Tony Collins called a meeting in the Adelphi Hotel on 14 May 1955. It was attended by 34 geologists, mostly from the NZ Geological Survey, but also representatives from Victoria and Auckland Universities and the Auckland and Dominion Museums. The new Survey Director Dick Willett was elected to the chair. After extended discussions, the motion to form a Geological Society of New Zealand was passed unanimously. The initial subscription was set at 2/6d, and 31 joined on the first evening. It was decided that those joining within the first six months (91 in all) would be called foundation members (see Appendix E).

Although the motion to form the Society was passed unanimously, this hides the fact that there was some opposition voiced both before and during the meeting. According to Mason and Harrington (1995), Charles Fleming led a Wellington group of opponents who were concerned that no action should be taken that would weaken the Royal Society (Fleming was on the RSNZ Council at the time). It seems that the opponents agreed not to oppose the formation on condition that there was no proposal for the new Geological Society to publish its own journal, which would significantly weaken the Royal Society's own transactions (Mason and Harrington, 1995). Although many other geological societies around the world have their own scientific journals, it is noteworthy that to this day ours has not, although we did offer to take over NZJGG in the early 1990s (see later).

Tony Collins, our founding father and driving force behind the Society's formation, was the obvious choice for first President (Mason and Harrington, 1995), but in the 1950s proper protocol was followed and the honour was offered to the most senior person present and chair of the meeting, Dick Willett (Director, NZ Geological Survey). After all, the meeting was held during the Survey Conference, and 90% of those at the founding meeting were Survey geologists. Collins was elected first Secretary/Treasurer and never held the office of President, but neither did two of the other major players, Harold Wellman and Charles Fleming.

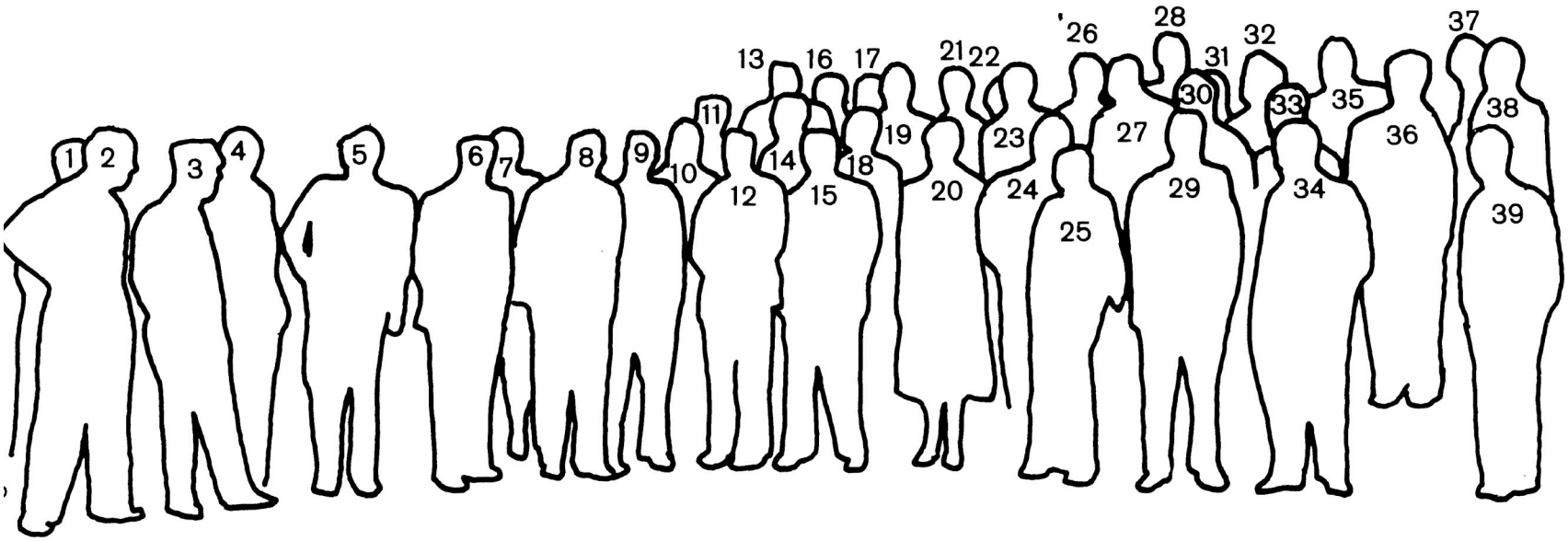
More authoritative and fuller accounts of GSNZ's formation and first ten years are given by Collins (1965) and Mason (1994, 2004a).

The very first "Geological Society of New Zealand", 1863

"And Tom was very near being kneaded up in the world-pap, and turned into a fossil water-baby; which would have astonished the Geological Society of New Zealand some thousands of years hence." (Extract from "The Water-Babies: A fairy Tale for a Land-Baby", by Charles Kingsley, first published 1863).

Another predecessor of own Geological Society of New Zealand was "the Geological Society of Australasia". It was formed in 1885 and had a number of prominent New Zealand geologists among its members. It faded away after about 20 years of existence.

Photo: J. Fowlie, Kaikoura



Attendees at 1955 New Zealand Geological Survey Conference, Kaikoura, where Geological Society of New Zealand was formed.

1. E.T.H. (Ernie) Annear*, 2. B.W. (Tony) Collins*, 3. A.C. (Alan) Beck, 4. B.L. (Bryce) Wood, 5. G.W. (George) Grindley, 6. J.J. (John) Reed, 7. C.O. (Clyde) Clinton (DSIR, Christchurch), 8. N. deB. (Horni) Hornibrook*, 9. D.R. (Don) Gregg, 10. J.T. (Ko) Kingma*, 11. H.W. (Harold) Wellman*, 12. B.N. (Bruce) Thompson, 13. R.H. (Bob) Clark* (Victoria University), 14. R.W. (Dick) Willett*, 15. T.L. (Tom) Grant-Taylor*, 16. R.N. (Nick) Brothers* (Auckland University), 17. R.F. (Bob) Hay*, 18. G.G. (Geoff) Shaw (Dominion Museum), 19. D.D. (Derek) Wilson*, 20. I.J. (Jean) Luke, 21. W.P. (Wendy) Tolley, 22. C.A. (Charles) Fleming*, 23. J. (Jim) Healy*, 24. W.A. Joiner* (DSIR Deputy Secretary), 25. A. (Mr) Steiner, 26. R.P. (Pat) Suggate, 27. F.E. (Fred) Bowen*, 28. H.E. (Horace) Fyfe*, 29. L.I. (Les) Grange*, 30. J.C. (Jim) Schofield, 31. L.E. (Les) Oborn, 32. M.H. (Hugh) Battey* (Auckland Museum), 33. J.A.D. (Jim) Nash (DSIR admin), 34. Chairman Kaikoura County Council, 35. D. (David) Kear, 36. A.R. (Alec) Mutch*, 37. I.C. (Ian) McKellar*, 38. J.B. (Bruce) Waterhouse, 39. Local County or Borough official.
Absent: H.J. (Larry) Harrington, G.J. (Gerry) Lensen*, W.F. (Bill) Heinz*, A.E. Boult*.
* deceased

The Objects of the Society

The Society's first constitution was adopted at the inaugural meeting at Kaikoura. Compared to the present-day lengthy version, the initial single page document was refreshingly simple, spelling out such basic concepts as the Society's name, membership, and composition of the committee. It also listed five objectives, which have been considerably modified and broadened over the years. Two objectives – "to serve as a means of facilitating communication among members" and "to serve as a channel for the expression of the views of NZ geologists", have remained unaltered. A third objective "to hold an annual conference" has been modified subsequently to read "to sponsor conferences and other scientific meetings and facilitate meetings of local branches." The fourth objective "to foster investigations in the various fields of earth science" was modified in the 1960s to read "to encourage the advancement of geological sciences", and again in 1992 (to achieve charitable status for GSNZ) and now reads "to encourage research in and the advancement of geological sciences." The last original objective "to participate in NZ Science Congresses" has been dropped because such congresses are no longer held. Since 1955, four additional objectives have been added: "to investigate and report on matters of general interest to New Zealand geologists"; "to encourage and give recognition to high standards of geological research in New Zealand"; "to seek the preservation of important geological sites" (1969); and "to encourage the highest standards of professional competence and ethical conduct in the practice of geology in New Zealand" (1980).

The present rules have grown with the Society as its membership and activities have expanded in an ever-changing environment. They are the result of many long sittings of annual and special general meetings (although thankfully there has been no need for any of these in the last decade or so) and from at least one subcommittee set up specifically to reframe the constitution in 1968. The last set of major revisions were passed at our 1988 AGM.

Most histories of organisations start at the beginning and progressively move through time documenting its growth and significant events along the way. Rather than follow this usual format I thought it might be more interesting to examine how the Society has faired in its pursuit of its eight listed objects.

To encourage research in and the advancement of geological sciences

This objective used to read "to encourage the advancement of geological sciences", which most of us would agree is the very reason for the existence of our Society and underlies most of what it does. The more specific wording was added in 1992 on the advice of chartered accountants so that GSNZ could obtain charitable status from the IRD. Below are several examples of how the Society has followed this objective.

New Zealand Fossil Record File

Perhaps the greatest database success in which our Society has played a major role has been the New Zealand Fossil Record File. The Society did not set it up, nor has the Society put much money into it, but it was through the Society's lobbying in the 1960s and 1970s that it became an accepted, indeed a required, part of all New Zealand fossil studies nationwide, just as it still is today. The File was conceived and designed by Harold Wellman in the 1940s to help cope with the ever increasing number of microfossil samples being processed and dated by NZ Geological Survey paleontologists. Some suggest it was Harold's attempt to wrest away some of the power from the paleontologists, upon whom all the Survey field geologists relied for their age determinations. In 1951 the File was adopted by the whole New Zealand geological community by a resolution of the Geology Section of the NZ Science Congress promoted by Max Gage (Fleming, 1958). At our first AGM it was suggested that the File's administration be taken over by the Society, but this did not happen. Indeed for another twelve years it continued to run itself with minimal mothering, although Survey paleontologists arranged for the reprinting of forms for recording details and organising their format.

In 1967, at the suggestion of two Lower Hutt Survey paleontologists, Ian Speden and George Scott, the Society set up a Fossil Record Retrieval Subcommittee to investigate whether GSNZ should assume responsibility for the fossil record file and to develop the mechanisms for computerising it (Speden, 1969). The Subcommittee's recommendation was approved by the 1970 AGM. It stated that this national file be called "The New Zealand Fossil Record File", that it become the responsibility of GSNZ with a standing subcommittee supervising its organisation, administration, format, and standards, and that a start be made on its computerisation.

In 1951 New Zealand was divided into 12 regions, each with a separate fossil record master file housed locally and cared for by a curator. This system was continued under the Society's care with each curator becoming a member of the Standing Subcommittee.

The Fossil Record File numbering and grid references were based on the NZMS1 inch to the mile maps. When these were replaced nationally by the NZMS260 1:50 000 map series in 1975, the entire file had to be metricated. This huge task was overseen by Guyon Warren and completed by 1980. Meanwhile George Scott and Guyon Warren in the NZ Geological Survey established protocols for computerisation of the file's records, and the task was started. In 1969 it was estimated that computerisation of the backlog would take one punch card operator about 3 years to achieve (Speden, 1969). Now, in 2005, computerisation of the backlog continues with 56,000 locality records and 76,000 taxon lists entered (about 65% of the total). Funding for this mammoth task has always been from the NZ Geological Survey and its successor the Institute of Geological and

Nuclear Sciences (GNS). Therefore it was not surprising that Survey fossil records and identification lists were computerised first, so that the backlog is now largely documentation from the Universities.

In 2002, GSNZ and GNS formally agreed that the Fossil Record File was a joint venture between them, with front-of-form locality data administered through GSNZ and openly available to members of the earth science community. Back-of-form fossil lists and age determinations belong to those who generated the data, except where this data has been lodged on the publicly available master file. In 2005, GNS secured new funding dedicated to support this "nationally significant database", and this is now being used to complete the task of making the Fossil Record File a truly national, complete, web-accessible database.

Over the years many members, both paleontologists and non-paleontologists, have voluntarily put thousands of hours into the Fossil Record File, particularly the regional master file curators and the Subcommittee Convenors, especially Ian Speden (1970-73), Guyon Warren (1977-84), and Ian Raine (1985-2000). Today the Fossil Record File is the envy of the rest of the world. During its first sixty years it has played a pivotal role in advancing the mapping and understanding of our sedimentary rocks, and documenting the evolution of our fossil biota. The computerised version has facilitated a number of recent major projects that could not have harvested and analysed the vast volumes of fossil data without it. In 2004 and 2005 the computerised fossil record file was transformed into "a switched-on modern database with whistles and bells" (Campbell, 2004) that by the end of 2005 will allow on-line entry and searching by GSNZ-approved users world-wide.

Bibliographies, stratigraphic lexicon and geochronology database

The Society has recognised a number of opportunities to contribute to the advancement of geology in New Zealand by co-ordinating the compilation and publication of several bibliographies and databases. Perhaps the most successful has been the involvement of the Geological Society in partnerships with the NZ Geological Survey (and later GNS) to produce two bibliographies of New Zealand geology. The first, covering the years 1950-1969, was co-ordinated by Guyon Warren (NZ Geological Survey, Christchurch) and his Bibliographies Subcommittee in the mid 1970s. The second covered the years 1970-1989 and was co-ordinated by Dallas Mildenhall (GNS) and a second Bibliographies Subcommittee in the 1990s, with Bruce Thompson (GNS) doing much of the data entry as a retirement project. Compilation and typing of both bibliographies was greatly assisted by funding to the Society from Golden Kiwi and its successor the NZ Lotteries Grants Board. Both bibliographies were published as bulletins by the Survey and GNS respectively, and both are now electronically freely available through the internet as part of a larger New Zealand geoscience bibliographic database maintained by GNS (accessible through GSNZ web page).

Through the enthusiasm of Bruce Hayward and tireless dedication of Bruce Thompson, the second Bibliographies Subcommittee also compiled and published bibliographies of NZ earth science theses and NZ earth science tour guides, and distributed free copies to all members. An updated version (to Dec 2000) of the bibliography of NZ earth science theses was compiled under the stewardship of Simon Nathan (GNS), and made available to everyone through the Society web page in 2002.

The database project that took the longest time to complete, partly because it was being continuously updated as it was compiled, was the Stratigraphic Lexicon. A Subcommittee convened by Graeme Stevens (NZ Geological Survey) was established in

1964 to produce a supplement to the 1959 version of the New Zealand Lexicon that had been published overseas. Much of the ongoing work was undertaken by Elma McGregor and Ian Keyes, both technicians at the time in the Macropaleontology Section of the Survey, and finally resulted in the publication in 1987 of a Bibliography and Index of stratigraphic names. The Stratigraphic Lexicon (Stratlex) is still maintained by GNS, can be accessed through the Society website, and is an essential tool for any geologist proposing to name new stratigraphic units in this country (Raine and Keyes, 1996).

In 1990 the national committee recognised that a national database of geochronological dates and geochemical determinations would greatly assist the advancement of New Zealand geology. To achieve this, a Geochemical, Isotopic and Geochronological Databases Subcommittee was created, but after two years convenor Ian Graham (1992) reported "there has been little general enthusiasm expressed for the setting up of national databases" in these areas. After this slow start, new convenor Simon Nathan secured voluntary assistance, and a database of published geochronological dates was compiled and made available to members in 1994 as a published report, accompanied by a floppy disk. Updating continued for the next few years and this new electronic version has been available through the Society website since 1999 (now within the GNS Petlab database). In recent years GNS has seen the value of and funded compilation of a digitised database of geochemical data, and now through the enthusiasm of Nick Mortimer it is hoped that their Petlab database can be extended nationally and made freely available over the web.

Promoting geological education in NZ

By the early 1980s it was becoming glaringly obvious that the vast majority of New Zealanders had little knowledge or understanding of geology and earth science. This was unfortunately manifested in ill-informed or poorly-researched political and engineering decisions, and in declining public appreciation and support for geology. A quick calculation showed that fewer than 2% of the population were exposed to any formal geology courses, such as a geology paper at University.

It was in this environment that Daphne Lee and Richard Norris (Otago University) persuaded the Geological Society to establish a Geological Education Group in 1983. The original idea was to encompass all levels of teaching geology from public to tertiary, but over time the main focus drifted towards secondary school level. Formation of the Group heralded the start of a campaign to have earth science taught in all New Zealand schools as an equal partner to biology, chemistry and physics. In that year, the Society's first submissions to the Minister and Ministry of Education, to have earth science introduced and examinable in the School Certificate Science syllabus, were rejected as being unnecessary. A succession of further submissions over the following years led to an upwelling of support in the early 1990s for more earth science in schools. The fortuitous revision of the New Zealand school science curriculum at that time resulted in earth science (including astronomy) being introduced to comprise 25% of all science in the new J1 to Form 5 national curriculum that was introduced in 1994 (Lee, 1993). In 1995 the prescription for School Certificate Science included examinable earth science content for the first time. This was undoubtedly the Society's greatest success to date in promoting earth science education for all New Zealanders, as science is a compulsory subject for all students for many years.

The Geological Education Subcommittee became a Special Interest Group in 1989 and evolved into the Earth Science Education Group in 1991, jointly sponsored by GSNZ and the NZ Society for Soil Sciences and convened by Daphne Lee ever since. In

the early 1990s activity of this group went up a notch with the production of a newsletter (Geolink), several of which were sent to every secondary school in the country, as was a very valuable earth science resources list for teachers (1991), and the organisation of a number of successful workshops, symposia and extravaganzas on earth science education, held in conjunction with GSNZ and NZ Science Teachers' Association Conferences (SCICON).

Unfortunately the introduction of the new earth science subject to eleven years of schooling was not matched by sufficient Ministry funding to train teachers (most of whom had never been exposed to geology before), nor to produce and distribute many resources to assist with its teaching. Not surprisingly a large number of teachers struggled with teaching earth science; many baulked at the thought and refused to attempt it. Universities and others put on special training courses and papers, but generally the only teachers attending were those already enthusiastic and committed to the subject. Our Society realised that more teachers with geology backgrounds were needed in schools, but that it was difficult to attract them to teaching or persuade Teachers Colleges to select them for training while there was no opportunity to teach earth science as a stand alone subject equal to the other sciences at Form 6 and 7 levels (yrs 12 and 13). The best that lobbying had achieved was to have general science extended to these upper levels with earth science as a quarter component, and for schools to have the chance to apply to have a specialised earth science course approved at these higher levels if they felt so inclined. Few schools took up either option, and when they did these subjects were promoted as suitable for students not bright enough to do advanced physics or chemistry at this level.

With the progressive introduction of the National Certificate of Educational Achievement (NCEA) since 2002, many teachers and their schools have found new ways of avoiding the teaching of earth science within the general science curriculum (Clark, 2003), and the higher level course options have become even less popular. The present challenge for the Society is how to reverse this trend.

Another way GSNZ has tried to promote geology in schools is by sponsoring prizes for the best earth science (Planet Earth and beyond) projects in the annual regional Science Fairs around the country. This program began in the 1980s and still continues today; it has been promoted through our branches, who negotiate the sponsorship with the organisers of the science fair or fairs in their region, which often also includes several of our members acting as judges and mentors.

At times the Geological Education Group has attempted to promote and fund the preparation of geological resources for schools. One of the more successful in the early 2000s funded the preparation of two web-based school field trip guides by Hugh Grenfell and the Auckland Branch (Mt Mangere, Waitemata Basin)[1]. Another endeavour to promote greater awareness of earth science in New Zealand has been the introduction of Earth Science Week from 2000 onwards – with different branches organising various activities for the general public.

GSNZ Guidebooks

The Society's most adventurous and successful publications have been the guidebook series produced for sale to the general public. The idea for guidebooks grew out of the Society's battle to save the Cape Turakirae raised beach ridges near Wellington. At the time, Society President Norcott Hornibrook wrote "We cannot

[1] http://www2.auckland.ac.nz/glg/geoclub/mangere/intro.htm

expect the public to support the spending of their money to protect geological features they have never heard of. The Turakirae beaches are a particularly unfortunate example. There is no popular handbook of the Wellington area through which interested members of the public can learn of important geological locations. Perhaps the production of such handbooks is an activity that the Geological Society should consider."

Thus it was through the efforts of Graeme Stevens (author) and Ian Speden (President) that the guidebook series was launched in 1975 with the appearance of the first two – on sites under threat: Cape Turakirae and Branch River faulted terraces. Like many of the guidebooks that followed, their publication was generously sponsored by a geology-related company – in this case BP (NZ) Ltd. Other subsequent sponsors of our guidebooks have included Mobil Environmental Grants, Fletcher Aluminium, Winstones, Rocklabs, KRTA, NZ Steel, ICI, McCallum Brothers, NZ Cement, Lime and Marble, Firth Natural Stone, Canterbury Stone, W. Stevenson and Sons, Mintech, BNZ, NZ Geological Survey, Stout Trust, and on a number of occasions the NZ Lottery Board. One of the best selling points for obtaining this sponsorship was that money returned from sales of the sponsored guidebook would contribute to the costs of further guidebooks, and indeed this philosophy has worked extremely well, with a small nest egg always available to kick start or pay for each new guidebook, and in recent years some other publications as well.

The first two guidebooks were modest affairs with 12 and 24 pages of a handy B5 field size. The next seven guidebooks followed the same format, though covering increasingly larger topics and with correspondingly longer texts. The third guidebook, published in 1979 and written by Bruce Hayward, explained the geology of Muriwai pillow lavas (near Auckland) – another feature that had been under threat before the Geological Society stepped in and supported the locals to lobby for quarrying to stop. The fourth guidebook (1982) by Bruce Houghton outlined the geology of the whole Rotorua area. A combination of the numerous tourists to the area and effective distribution through the main geothermal area operators resulted in its becoming by far the best-selling guidebook, and possibly the best-selling geological book in New Zealand, with over 15,000 copies sold. Its success persuaded the Society to publish a Japanese translation in 1988 and a second updated and more colourful English edition (with Brad Scott as co-author as Guidebook 13) in 2002.

The fifth was a guide to the geology of Rangitoto, Motutapu and Motuihe Islands (1982) by Peter Ballance and Ian Smith. In the mid 1980s, the production team in the Society's Publications Subcommittee was augmented by the expertise of Mary Cresswell, and two-colour diagrams were introduced in Roger Cooper's (1984) Cobb Valley guidebook and Steve Weaver, Rod Sewell and Chris Dorsey's (1985) guide to the volcanoes of Banks Peninsula. In a departure from the locality-based guidebooks, the eighth, by Bruce Hayward (1987), was a nationwide guide to NZ building stones, and was the first to include colour photographs. The ninth, on the Queenstown area (1988), by Mo Turnbull and Jane Forsyth, followed soon afterwards.

The tenth guidebook, on geological features of the Wellington region (1991) by Graeme Stevens, was a further step up in size, both in number of pages and to a larger A4 format. Since the early 1990s' changes in science funding, it has become harder to find prospective authors prepared to volunteer their time and expertise to write guidebooks, with only two new guidebooks appearing since then. Rodney Grapes and Hamish Campbell produced the eleventh and most polished-looking full colour guidebook (1994) on Red Rocks, near Wellington – a return to guides about important sites that have been saved from destruction through Society campaigns. In the twelfth guidebook (1996), Bruce Hayward took Norcott Hornibrook's initial idea for the

guidebook series to its ultimate extent, with his full-colour photo essay extolling the reasons for the Society advocating the protection of the best examples of NZ's landforms and geological features.

Up until 1995 the Society's Publications Subcommittee was responsible for the distribution of our guidebooks (Bruce Hayward, then James Crampton, and later Hugh Morgans), and without having to pay a commercial distributor the financial returns were considerable. Once again in the new research regime of the 1990s this task had become too burdensome for our volunteers, and a contract was signed with the Institute of Geological and Nuclear Sciences to act as distributor. The financial results were not outstanding, and in 1998 the Institute was replaced by a commercial distributor – Bush Press, who has continued in this role ever since.

The first AGM

"The First Annual General Meeting was held in conjunction with the NZ Geological Survey Staff Conference in Gisborne, on May 12 1956. There was an attendance of about 50.

"The matter of the distribution of NZ geological publications, especially overseas, was raised, and the committee was instructed to make tactful enquiries.

"The suggestion that an award to be known as the "McKay Hammer" be made for outstanding field-work was referred to the committee.

"It was decided that the Society should sponsor a sherry party for members of section C (Geology) at the forthcoming Dunedin meeting of ANZAAS. The committee was empowered to invite members to contribute towards the cost of this entertainment, as it was thought fitting that at least the overseas members of section C should be the guests of the New Zealanders.

"Dr A.R. Lillie raised the question of the impending destruction of important outcrops and other geological features (e.g. Auckland volcanoes, special fossil localities, recent fault scarps, etc.) and the meeting passed a resolution empowering the committee to act immediately when necessary to try to prevent such loss.

"The Constitution was amended to provide for the election of a Vice-President, and a Treasurer in addition to or combined with the office of Secretary.

"The subscription for the coming year was fixed at 2/6d."

[Extracts from report in *GSNZ Newsletter* 2: 4]

The first GSNZ Committee, 1955-56

President: Mr R.W. (Dick) Willett

Secretary: Mr B.W. (Tony) Collins

Committee: Dr R.N. (Nick) Brothers, Prof R.H. (Bob) Clark, Mr D. (David) Kear, Mr G.C. (Geoff) Shaw, Mr B.L. (Bryce) Wood

Facilitating communication and cooperation among members, and with other bodies

GSNZ Newsletter

The first Society newsletter was six cyclostyled foolscap pages produced in March 1956, a full 10 months after GSNZ's formation. Three pages listed the names, addresses and interests, of the exactly 100 members (reached on March 19th). Most of the front page of the newsletter was concerned with the announcement of the first AGM to be held at the upcoming NZ Geological Survey Conference in Gisborne (May 1956). "Whether new officers and committee are elected depends, according to the constitution, on the opinion of the meeting. Other matters likely to be considered include:

1. The availability and distribution of NZ geological publications overseas.
2. The possibility of publishing correspondence and short notes on geological matters in a NZ journal.
3. A suggested alteration to the constitution to provide for two or more classes of membership.
4. The dissemination of current research projects of members.
5. Relations with the Royal Society of NZ.
6. Suggestions made by members."

Secretary Tony Collins noted elsewhere that "Receipts (all from subscriptions) total £14/4/6d. (Some members have paid in advance, and one omitted to add the 6d exchange to his cheque.)"

The first twelve newsletters were all cyclostyled with pages stapled together, initially of foolscap, but later quarto size. There were two newsletters per year, except in 1958 when only one appeared. For the benefit of any younger readers not familiar with the cyclostyling process, it involved typing (cutting) the newsletter out on a set of master sheets, which were fitted one at a time to a Gestetner machine which had an inked drum. In most instances the Gestetner was cranked by hand with each turn of the handle printing off one page. All these first newsletters were run off by the GSNZ secretaries and later Tom Grant-Taylor (NZ Geological Survey, Lower Hutt) and distributed in envelopes hand-addressed by the same hard-working secretary or other volunteers.

In 1963, from Newsletter 13 onwards, a new stapled A5 format with a coloured cover was adopted and still remains with us in 2005. The change accompanied a switch from the more cheaply produced cyclostyled newsletters to a more expensive but much higher quality typeset printing, initially arranged through Tom Grant-Taylor in Lower Hutt, but shifted to Bascands Printers of Christchurch in 1962. It also opened up the opportunities for higher quality reproduction of line drawings and figures. Our newsletters were printed by Bascands for the next 20 years, and distribution fell on the shoulders of a group of Society members in Christchurch, who stuffed, stamped and addressed envelopes twice a year.

Two newsletters per year was the standard fare for the first 25 years, but in 1980 editors Roger Cooper and Bruce Hayward noted that each newsletter had grown in size to nearly 100 pages, and suggested that members might be better served by more frequent and smaller newsletters. The additional cost was partly offset by a NZ Post Office scheme that gave a 50% discount to bulk postings if they occurred four or more times a year. So from 1981 to 1993 our newsletters were quarterly, but it was not long

before they had grown in size to that of their predecessors. Another cost-cutting measure saw printing switched from Bascands to a self-employed printer in Upper Hutt who used offset printing methods, thereby doing away with typesetting and the need to proofread printer-produced galleys. Another major change and time-saving improvement came in the late 1980s, when the master pages were produced by computer word-processing software, instead of direct hard copy typing by a contract typist (usually one of the NZ Geological Survey secretaries), which was always a challenge to correct. With the increased popularity of computing and emailing in the 1990s, there was a progressive switch from hard copy submission towards full digital submissions (95% of contributions in 2005), and from hard copy figures and photographs to today's predominantly digitised versions.

Part of the newsletter editor's job is still much the same as it was 50 years ago in soliciting articles and copy from members; but the second part of the job has evolved dramatically with changing technology. The first issues were typed and reproduced by the editors themselves; later the master copies were typeset or retyped off submitted (often hand-written) hard copy, and the editor's job was to proofread the galleys before printing. Today's editor has become the page-maker, using computer software to bring together the submitted computer texts and figures and arrange them in newsletter format. Initially another major task for the editor was to hand-address the envelopes and stuff them with newsletters. Since the 1970s addresses have been xeroxed or printed off master sheets on to sticky labels that were stuck on to each envelope. The unseen task of sticking address labels on up to 800 envelopes and stuffing a newsletter in each has been undertaken by cheerful bands of press-ganged volunteer members in Christchurch in the 1970s, in the Lower Hutt office of the NZ Geological Survey in the 1980s and early 1990s, and more recently by a small gang of three in Nelson. At a time in the late 1990s and early 2000s our Wellington printer also wrapped, addressed and dispatched the newsletters, much to the relief of the Lower Hutt press-gang team.

To solicit copy, edit and produce four newsletters per year was a sizeable task, and so from 1980 to 1998 the job was shared by two editors, looking after alternate issues. By the early 1990s the Post Office's discount incentive to publish 4 issues per year no longer existed. Then in 1994 our private printer in Upper Hutt retired and printing costs shot up dramatically. To contain the costs and reduce the workload, the *GSNZ Newsletter* was reduced to three per year, a frequency maintained through to the present day. Since 1998, this has allowed a single editor (David Smale) to be able to cope on his own once again, although David admits that being semi-retired is a great help.

The scope and unedited style of the *GSNZ Newsletter* was established by Tony Collins in the first few numbers and has remained with us ever since. Constant over the last 50 years has been a mix of news, notes, reports, comments, book and conference reviews, letters, obituaries and personal items. In the first 25 years, the content of the newsletter was a little less structured than it is today, and depended upon the whims of the editors and committees. In the early 1980s, more structure was introduced with a regular President's Page and Editorial at the front, and a listing of Branches, Subcommittees and Special Interest Groups and their contacts on the back cover. Notice of the annual conference and registration forms were bound in the centre of the July-August edition; annual reports from the President, branches, subcommittees and special interest groups were published in the November issue to be taken as read at the late November-early December AGM; and minutes of the AGM were published in the first issue that followed the meeting.

Less consistent over the years has been the timing of publication of the annual accounts, largely because they depended upon final approval of our Auditor, which sometimes was rather delayed. A recent change to the timing of our financial year now means that the accounts too can appear in the November issue (9 pages in 2004), in time to be scrutinised and questioned at the AGM. In general the Committee has left the layout and feel of the newsletter in the hands of the editors, who have all had their own different approaches. Some have played a passive role by publishing whatever turned up and not chasing additional items that they perceived might be interesting. To fill their newsletters (some might say overfill) some editors have actively solicited contributions by personal approaches to reliable contributors – especially to get news from departments and Survey offices, or reminiscence articles from older members. Some editors, in the 1980s in particular, filled up all the spare space at the end of pages with quotable geological quotes, geological puns and jokes, and geological cartoons.

In the 1950s, production and distribution of the newsletter was almost the only Society expense, and it still consumed 80% of our subscription income in 1980. The increasing breadth of the Society's activities was reflected in the costs of newsletter production and distribution decreasing to 30-35 % of our subscription income in recent years. In actual dollar terms the costs have risen only slightly since the late 1980s, thanks to the cost savings of computerisation.

For a sizeable proportion of our membership, especially those 100 or so expatriates living overseas, the newsletter is all they get back for their subscriptions. Their continued membership over many years must reflect their general satisfaction with what they are dished up. Again the continuing high rate of unsolicited contributions to the newsletter from our membership can be taken as a sign of its health as the life-giving main artery of our Society throughout the first fifty years of its existence.

Over the years our newsletter editors have done sterling service for the Society. It is a task that takes large amounts of voluntary time, usually in the evenings, with the satisfying reward every so often of seeing the finished newsletter appear. Finding an editor is not an easy task, but I suspect the length of service of each (see Appendix A) is more a reflection of the sense of achievement and personal satisfaction that comes with the job, than of the difficulty of finding a replacement. It is interesting to note that since 1960 there have been only 13 editors, with just one serving a minimum term of a single year. Nine of the editors have been employed at the time by the NZ Geological Survey or its descendant GNS, and only the latest, David Smale, has been in the ranks of the retired. Bill Watters takes the honours for the longest serving editor (10 years in two stints), followed by Bruce Hayward (9 years), Miles Reay, Ray Wood, and David Smale (7 years each).

GSNZ Website and email Newsflashes

Our website and regular email newsflashes are now an integral part of Society activities, despite their relative youth. Both owe their origins to the foresight and hard work of Simon Nathan, when he was editor of the Newsletter. "It seemed to me that a lot of information about the Society was not readily available to members (i.e. constitution, rules, awards, membership form), and would be much better placed on the web rather than tucked away in the Newsletter." So it was in early 1997 Simon built our first website, purchased our easily remembered address (www.gsnz.org.nz), and put it on the internet on 4 April 1997 (see copy GSNZ NL 113).

Simon soon became aware that you can post good up-to-date items on the website, but people would not look at it unless they knew it was there. So this led to the

Geological Society of New Zealand on the internet

The Society's website (www.gsnz.org.nz) contains all sorts of interesting and useful New Zealand geological information – if you haven't visited it already, then give it a try. You can find (for example):

- **Present officers, committees, branches, subcommittees, special interest groups and their contact addresses**
- **Latest information on the annual GSNZ Conference**
- **Calendar of forthcoming branch activities**
- **Recent obituaries**
- **Full lists of GSNZ Miscellaneous Publications, Geopreservation Inventories and Guidebooks, their availability and price.**
- **GSNZ Awards rules and full lists of recipients**
- **Links to Fossil Record File, Stratigraphic Lexicon, NZ Earth Science bibliography, and Petlab.**
- **Downloads of NZ Geochronology database, 1999 (now in Petlab), bibliography of NZ earth science theses (up to 2000), abstracts from 2003 and 2004 GSNZ Conferences, archival list of NZ geological maps, etc.**
- **Useful links to dozens of NZ earth science-related organisations, sites and databases, and a few from overseas**

start of the GSNZ Newsflashes in 1998 - a way of disseminating news, and pointing people towards new material on the website by giving them a URL that they could click on. It seemed to work quite well, and hits on the website went up dramatically.

Newsflashes meant building up an email address list, which by 1999 contained over 80% of members. Today the task of maintaining an up-to-date email address list is undertaken by our administrator Beth Wallace. Simon Nathan continued to look after the website and generate Newsflashes until November 2003 (Newsflash 40) when Nick Mortimer took over. Since then Nick has expanded the content of the website and further upgraded its design.

The concept behind the website is to be content-rich, not flashy, but with lots of basic information on the Society and New Zealand geology. At the present time there seem to be complementary niches for the Society newsletter, newsflashes and website, but it will be interesting to see if and when the newsletter might be superseded by its electronic cousins.

GSNZ Miscellaneous Publications

In 1983, Society archivist Ian Keyes established the GSNZ Miscellaneous Series to bring some order to the growing number and diversity of society publications, such as the Society's conference abstracts, field guides and a variety of "grey", loosely refereed geological literature. All known existing Society publications (e.g., A Guide to Stratigraphic Nomenclature, 1967; Notes for users of the Fossil Record File, 1972) were

assigned numbers in the miscellaneous series, and all additional contributions have been assigned consecutive numbers since then. Ian left numbers 1-10 unassigned so they could be used for other earlier Society publications when they came to light. Ian was so efficient, however, that none have been found, and the first ten numbered miscellaneous publications do not exist and never did.

By convention, all publications from the one Society Conference have been given the same number, but can be distinguished by their alphabetic suffix. The series has been immensely popular and has now reached number 118. Included in this series have been the abstracts and field guides for several specialist symposia, over 30 Geopreservation Inventory reports and one-offs such as the 1993 Taranaki tour guide, and a 1988 translation of Carle's biography of Hochstetter. Other successful Society sales ventures have included the 1980 and 1981 production of nearly 1000 Geological Time Scales (prepared by Graeme Stevens), a run of 100 Society ties (1985), two sets of geological greetings cards, and a sedimentary geologist's field wallet prepared by Glenn Coates in 1987, currently being revamped by Nick Mortimer.

Links with the Royal Society of NZ

From the very first meeting at Auckland's Station Hotel in 1954, geologists had always expressed a reluctance to form a society that in any way competed with the activities of the Royal Society of NZ. Indeed, it was only the rejection by the Royal Society Council in 1955 of proposals to form a geological section within the Royal Society that precipitated the formation of the Geological Society of NZ as we know it today (see Origins section). Despite this, the inaugural General Meeting of our Society asked the first committee to continue investigating some form of affiliation with the Royal Society. In response to enquiries from the Geological Society, the Secretary of the Royal Society of NZ replied (*GSNZ Newsletter* 1, 1956): "That while the Royal Society and particularly its branches should take every opportunity for co-operation with other scientific societies and organisations, it would be preferable not to enter into a federal affiliation with these bodies."

Despite this, the membership urged the Committee to press for some form of affiliation. Finally in November 1959, the Royal Society "approved the principle that national scientific bodies be entitled to apply to be Member Bodies in terms of the existing rules". Early the following year GSNZ applied for such membership, and was formally approved on May 19th 1961 as the first specialised scientific society to become a Member Body.

Since then there have been several major reorganisations within the Royal Society. The first, in 1965, split the Royal Society's affairs in two with the creation of a Member Bodies' Committee, which met only once a year and had very little authority to do anything of substance. From then until 1991, the Geological Society, together with the Royal Society's Regional Branches and an increasing number of other specialist societies, each appointed a representative to this Committee. To ensure strong links with the Royal Society, the GSNZ's representative became an ex-officio member of GSNZ's National Committee.

Even after the formation of the Member Bodies' Committee, there was considerable disquiet expressed by our Society and others that the Royal Society was ignoring their expertise on many matters and overlooking them when making policy. These concerns prompted the President of the Royal Society in 1973, Dick Willett (previously first president of GSNZ), to seek suggestions from the Member Bodies for reorganisation of the Royal Society. After drawn-out consultation, a few of the suggested

changes were made in 1977, such as doubling the number of member body representatives on Council to four, and limiting the activities of RSNZ National Committees to international matters.

Despite high hopes that communication would now improve between RSNZ and its member bodies there was little change. Continuing disquiet about the seeming impotence of the Royal Society to influence the dramatic restructuring of NZ science in the late 1980s led member bodies, including the Geological Society, to rebel and establish a Federation of Scientific and Technological Societies (FOSTS) in 1991. This federation was accepted within the RSNZ structure and replaced the former Member Bodies Committee (Hayward, 1991). The creation of FOSTS was only the first phase of major restructuring of the Royal Society, which was to see the member bodies effectively wrest the political power from the Fellows and then lose it to a new structure. Formal restructuring of the RSNZ was discussed in detail in 1991 and 1992, and although the Royal Society of NZ Act 1997 was not passed for some years, to its credit the Fellows-dominated Council handed over much of their political role in 1993, with the creation of an interim Board modelled along the lines proposed in the new legislation. At last in this new Board active membership from outside the Fellowship was dominant. In 1994 we were pleased with the formation of a Geosciences Standing Committee (SCG) within the Royal Society, composed of four nominees from the Geological Society and two from the Geophysical Society. The SCG had a direct representative (Steve Weaver) on the new interim Board of RSNZ, and thus the SCG provided a formal conduit for discussions and closer links between the GSNZ and the RSNZ. In its first year in 1995, the SCG took over the political role previously adopted by the Geological Society by making extensive submissions on the future directions and funding of NZ science. Alas, this structure did not last as it was too costly for the Royal Society to sustain; in the following year the SCG did not meet, and these standing committees disappeared in 1997.

The Royal Society of New Zealand Act 1997 created a two-fold split within the Royal Society; an Academy for the Royal Society Fellowship was responsible for promoting and rewarding academic scholarship in NZ. The other half of the Royal Society (the member bodies and individual members) assumed more of the important political and advisory role to government, with a new Council of the Royal Society composed of elected representatives from the Academy Council, the Regional Constituent Organisations and the general membership of the Royal Society. Within this structure, there is now an Earth Sciences and Technology electoral college, whose sole function is to provide a means for earth scientists who are individual members of the RSNZ to periodically elect one of sixteen members of the Royal Society Council. With the new Act, the Geological Society and other similar member bodies (other than regional branches) were disenfranchised and no longer had a voting nor lobbying pathway to the Council. This is because the strongly held views of Treasury and MoRST prevailed when the legislation was being prepared, as they argued that having member bodies electing members of council could hand too much power to the Societies and their committees.

As a result of the recent restructuring, the Royal Society appears to be more proactive and to be achieving more politically, educationally and financially. The down side is that the Geological Society and other member bodies now have weaker links with the Royal Society than ever before, and we seldom raise our political voice much above a whimper.

Right up until the 1997 Act, the Geological Society nominated earth scientists for appointment to a number of Royal Society National Committees (e.g., Antarctic Research, Geological Sciences, Oceanic Research, Quaternary Research, Crystallography, Geodynamics, and Geodesy and Geophysics). In the fifties and sixties, these committees

were the national and international spokesmen in their fields, but in 1977 GSNZ took over all their non-international functions. Most of these national committees disappeared in the 1990s, and their international functions have been taken over by the new Royal Society Council.

Special Interest Groups

The 1988 AGM approved new Society rules, strongly pushed by then President Bruce Houghton (NZ Geological Survey, Rotorua), that provided for the establishment of Special Interest Groups within our structure. Initial enthusiasm for this concept, which had been successful overseas, resulted in the formation of six special interest groups by 1990 - Volcanic Studies, Tectonic Studies, Paleontology, Historical Studies, Geological Education, and Friends of the Pleistocene. They all operated in slightly different ways and organised a variety of different activities. In the early years all organised at least one special symposium within the structure of our annual conference, and four began by publishing their own separate newsletters to inform members of activities in their areas of interest. Fifteen years on only four groups survive, and only the Historical Studies Group still publishes its newsletter (see below). The Volcanic and Tectonic Studies groups both started with bursts of great activity – symposia, newsletters and field trip workshops, which were reliant on the voluntary time and enthusiasm of their convenors and small committees. After a few years membership support waned, and both groups withered away.

Two specialist groups that have survived – Paleontology and Friends of the Pleistocene – have never been as active as the former two, and thus perhaps the lesser demands on the time and enthusiasm of the convenors ensured their survival. The Paleontology Special Interest Group has held a symposium within the annual conference every few years, an annual lunchtime gathering, and through its only convenor, Hamish Campbell, has maintained a watching brief on fossil-related issues. The main activity of the Friends of the Pleistocene, coordinated by its two convenors, Brad Pillans (1990-93) and Alan Palmer (1994-2005), has been a highly successful series of field workshops. The fourth surviving group – Geological Education – has also organised periodic symposia and workshops as part of our annual conference, but its main success has been its political lobbying for increased earth science teaching in schools, largely through the efforts of its sole convenor, Daphne Lee (see section 3 above).

Reminiscences Subcommittee and Historical Studies Group

In 1979, John Rhodes (Wairarapa) started the Reminiscences Subcommittee to promote the recording of the history of geological studies in New Zealand. John was inspired to promote the formation of such a group by a series of articles published in the *GSNZ Newsletter* in the preceding years by Max Gage. In these Max recalled events during his time working in the NZ Geological Survey's Greymouth office in the 1940s. Prior to 1979, there had been just a trickle of reminiscence articles in the Newsletter (just four in the first 25 years), but with the encouragement of the new Subcommittee (John and the newsletter editors) this increased to a steady flow (26 articles between 1980 and 1987). Alan Mason took over the helm in 1987, and through his boundless energy and enthusiasm transformed the Subcommittee into the Historical Studies Group in 1989. Alan saw the need for a separate publication devoted entirely to the history of geology in New Zealand, and in 1990 produced the first Historical Studies Newsletter, in similar A5 format to our own *GSNZ Newsletter*. Almost single-handedly for the next 15 years Alan

solicited articles, edited, published, and distributed 28 issues of the Historical Studies Newsletter (each with up to 40 pages of amazingly interesting articles and anecdotes about the study of New Zealand geology), and he himself wrote well over half the pages published in it. Membership of this group (with its nominal subscription) rose from 28 in 1990 to a peak of 87 in 1997 (Mason, 2004b). Mike Johnston took over as Convenor in 2000, and Tony Hocken relieved Alan of the increasing burden of newsletter editorship in 2004. Through the efforts of John, Alan and now their successors, the Historical Studies Group has been the most successful and active of the Society's Special Interest Groups, and has done a great deal to obtain recognition for the study of the rich history of geology in New Zealand. In recent years there has been a blossoming of historical and reminiscence studies, particularly by Simon Nathan (reminiscences of Max Gage, Brian Mason, and Harold Wellman), Heather Nicholson (history of greywacke studies), Tony Hocken (Otago Geology Dept), Les Kermode (Hochstetter) and others.

The Historical Studies Group is also responsible for our own Society's archives. It was not until the mid 1980s that the Society recognised the historical significance of these. They were initially brought together by Neil Fowke, rationalised and documented by the Society's first archivist Ian Keyes in Lower Hutt, and are now under the care of Ursula Cochran. Since being brought together they have been kindly housed on the premises of the NZ Geological Survey, which later became the Institute of Geological and Nuclear Sciences.

Geological Society of New Zealand Archives

These are housed in Lower Hutt and curated by GSNZ Archivist Ursula Cochran.

They consist of:

- **A complete set of National Committee Minutes Books and AGM minutes since the Society's inception.**
- **A complete set of Geological Society of NZ Newsletters, Miscellaneous Publications, and Guidebooks.**
- **National Committee, Subcommittee, Special Interest Group and Branch (up to 1974) records and correspondence, completeness unknown.**

To sponsor conferences and other scientific meetings; facilitate meetings of local branches

Conferences

As GSNZ was created out of meetings called at the 1954 NZ Science Congress and the 1955 NZ Geological Survey Conference, it may seem a little surprising that one of the original objects of the Society, approved in 1955, was to hold annual conferences. However, as Tony Collins explained later (Collins, 1965), it was the success of the post-War Survey conferences, with invitees from outside, that inspired him to push for the creation of our Society. In spite of the original intention to hold annual GSNZ conferences, none were organised in the first eleven years. Instead, through the goodwill of the Geological Survey, non-Survey Society members were invited along to the annual Survey staff conferences held in many different parts of the country. The Society's Annual General Meeting was usually held one evening during these conferences, although on three occasions it was held instead in conjunction with the larger congresses of ANZAAS (1957), Pacific Science (1960), and NZ Science (1962).

In May 1967, GSNZ held its first conference, at Hamilton. This was an experiment and not intended to be an annual event. During the planning stages, the Geological Survey agreed to forego its annual staff conference that year in favour of the Hamilton Conference. An attendance of 101 geologists was heartening, especially as the Geological Survey was reported to have reduced its number of delegates by half, on economic grounds. The original intention had been to hold the Society Conference every second year, alternating it with the Survey Conference. This did not happen, however, as the following year the Survey Director decided against issuing the traditional invitation to Society members to attend the Survey staff conference. The Society then organised its second conference a year later in 1969 at Dunedin.

The 1968, 1970 and 1971 AGMs were held in Wellington: the first as an isolated event and the second two in conjunction with special symposia on Volcanology and the Torlesse. Members from outside of Wellington were less than happy with these arrangements, and at the 1972 AGM held during the Geological Survey Conference in Hastings (to which Society members had once again been invited), it was decided that "the Society should hold a scientific meeting, symposium or conference each year" at which the AGM should be held. Since then it has done just that, and appears likely to continue to do so. The idea of forgoing the annual GSNZ Conference in 2002, because a large and expensive gathering of the Western Pacific Geophysical Meeting of the AGU was being held in Wellington in July, found little favour with the wider membership, and attendance at the November conference at Whangarei that year showed the strong support for our own annual conferences.

The format of our first conference in Hamilton (convenor Jim Schofield) consisted of one full and three half days of oral papers (25 minutes each) and two full and two half days of field trips. The registration fee of £3 covered abstracts, field trip guides and abstracts, one supper, and three half day field trips with their lunches. Concurrent sessions were first introduced to our conferences in 1974. In the 1970s and early 1980s, a four or five day format was generally favoured with never more than two concurrent sessions. The challenge of sitting for hours on end in lectures was usually broken by at least one, and often two, half day and full day field trips in the middle of the conference. In the last

few years, with more apparent pressure on everybody's time, conferences have been condensed down to a core of 3 days of lectures, often with three concurrent sessions, and a session of plenary talks each day. Field trips are now more usually scheduled to immediately precede or succeed the conference, although the 2002 Whangarei Conference returned to running an intra-conference half day field trip for everyone.

Organisation of our annual conference has always been rotated around the branches – in the last 20 years on a 7 year cycle (6 main branches plus GNS, Lower Hutt). The benefit of a rigid rotation system is that deciding on the location and organising branch for each conference is not the arm-twisting exercise it is in some societies. Nevertheless it has meant that University staff in smaller branches (e.g., Manawatu, Waikato) have shouldered a heavier recurring load. Over the years most members have been involved with organisation of at least one conference in some form or other. Some have been more heavily involved than others, but probably because they enjoyed it – Roger Briggs, Jim Cole, Ian Smith, Jarg Pettinga and Bruce Hayward have each convened two conference organising committees. For many years, the entire conference organisation and registration was undertaken by the conference committee (which helped keep costs down). As conference numbers have grown and pressure of time and the scourge of dollar accountability has spread in recent decades, often the accommodation side has been handled by University administration (hostels) or placed in the hands of attendees. Even handling registrations and field trip bookings can be a large task, and in the last decade sometimes a specialist conference organiser has been contracted in, or at other times the organisers have taken on the task themselves to keep registration costs down. A trend in recent years has been the increasing emphasis on seeking conference sponsorship to help balance the books, but this too comes at a cost, as dozens of letters are sent out, sponsorships negotiated and sponsors' desires and acknowledgments have to be catered for. In recent years however, healthy sponsorship has ensured that registration costs for our conferences have remained affordable, even for students and retired members, unlike most international conferences and those of many other NZ groups.

Most GSNZ conferences have been held in the six major University centres where lecture theatre facilities are superior and hostels are on hand for added camaraderie among attendees. Even so, I think the most memorable conferences for most of us have been those held in smaller centres – Kaikoura, 1975; Queenstown, 1977; Nelson, 1979; Napier, 1990; New Plymouth, 1994; Whangarei, 2002; and Taupo, 2004. Our Society has held an annual conference every year since 1973, with 3 of these held as a special day or days within or immediately after a larger international conference – ANZAAS in Auckland, 1979; Pacific Science Congress in Dunedin, 1983; and PACRIM in Auckland, 1995. Seven of the Society's 35 conferences have been held jointly with other New Zealand earth science societies – with the NZ Geophysical Society in 1989, 1992, 1998, 1999, 2000 and 2004; with NZ Soil Science Society in 1991; and with the NZ Geothermal Association in 2004. In 1985 a special paleontological meeting (Hornibrook Symposium), organised by the Australasian Paleontological Association, piggybacked on to our annual conference in Christchurch, and in similar fashion the 1992 Tasman Sea Conference was attached to our conference, again in Christchurch.

Oral presentations of papers have always been the bread and butter of our conferences, but lecture styles and facilities have evolved dramatically over the years. The last blackboard and chalk presentation was given by Harold Wellman in Christchurch in 1992. Overhead projectors arrived on the scene almost coincident with our first conference in 1967 and became popular for presentations, often in conjunction with slide projectors, for the next three decades. Projection of slides has been with us since the first conference, with a blossoming in popularity of double slide projector lectures during the

late 1970s and 1980s. In just the last few years we have witnessed a dramatic revolution as virtually everyone has now switched to computer-generated PowerPoint presentations – even the provision of a single slide projector or overhead projector for our conference may be phased out in the next year or so. Memorable lectures are unfortunately mostly those where equipment or facilities failed – like the two lecture rooms side by side in the Rutherford Hotel in Nelson in 1979, where a flimsy divide did little to prevent the concurrent talks mixing. Who can forget Bruce Houghton's plenary at Te Papa in 1997, where his slides one by one appeared to bubble up and melt with the heat of the projector, or Alan Hull's public lecture at the same conference on the next big earthquake in Wellington cut short by a false fire alarm which evacuated the building. Some of us remember Murray Gregory's talk in Palmerston North in 1999. First he slept in and did not turn up to present it. Then it was rescheduled for a later spare slot, whereby all the slides were in the wrong order (through no fault of Murray's) and he proceeded to improvise and gave the talk in reverse order.

A poster session was first introduced to our conferences in the Queenstown Conference in 1977, and was recognised as being of equal value to oral papers in 1990, when student poster awards were introduced alongside student oral paper awards. Most of our conferences have had dedicated poster sessions where presenters are expected to stand by their posters to be interrogated. The most successful formats are when posters share the same space as morning and afternoon teas and can be left up for the whole conference. Attempts to have posters individually introduced by 60 second slots have been tried on several occasions with limited success, and have been abandoned. Like oral papers, posters too have evolved, from separate A4 or A3 sheet mosaics (often hand coloured with pencils) with screeds of text, to those in recent years that are A0 or larger posters printed off from computer-generated files with high professional standards.

Naturally with ours being a field-based science, field trips have been an integral part of every GSNZ conference, although perhaps more so in the earlier conferences than in the last decade or so. With the main University cities having hosted our conferences on a number of occasions (e.g. Auckland, Dunedin, Hamilton and Wellington, each 5 times) the choice of new and innovative field trip destinations for half or one day trips has become more difficult. In recent years there has been a greater tendency to run 3 or 4 day trips to more distant locations, although any field trips associated with conferences in the less visited centres are still very popular (e.g. Taupo, Whangarei, New Plymouth).

Everyone has their own memories of different conference field trips – some good and some not so good. Fortunately there have not been any really serious accidents on trips. Not so good memories include long waits for hire vans to turn up; field trips in storms – in the mountains, in flooded river beds or on the sea; coastline field trips when the tide charts had been misread. At the Napier Conference in 1990 all the half-day field trips had to be switched from afternoon to morning as the tidal dependency of several trips had been overlooked. Everyone has individual highlights too numerous to even start to list – spectacular geology; scintillating company; fantastic lunches; one long wine-tasting trail; outcrop debates. Indeed for many of us, field trips are the real essence of our Society, mixing students with professionals, and the enthusiasm and fresh eyes of youth with the wisdom and sometimes blinkered vision of older members.

Since our very first conference, there has always been a sit-down Conference Dinner – some more memorable than others, and some that many would rather forget for the after-effects of the wines and beers consumed. The format and venue of the dinner have always been left to the conference organisers and have varied a great deal. In earlier years it was fashionable to have an after-dinner speaker – some funny and highly entertaining, others boring or embarrassingly crude. In the last decade these have usually

been discarded and replaced by presentation of the Society's more prestigious awards. Other forms of entertainment have also been tried with varying degrees of success, such as the Fawlty-Towers-like waiter and waitress at Te Papa in 1997, the piping in of the haggis at Larnach Castle in 1983, and the Taupo version of *It's in the Bag,* with real prizes from local tourist venues, but no real money.

At most of the earlier GSNZ conferences, the AGM provided a whole evening of "entertainment" with very formal meeting protocol, motions, "real" elections, livened up by the hilarious Treasurer's report by Bruce Houghton, and in the first decade by an annual President's Lecture. Nowadays, organisers squeeze AGMs into ever shorter time slots between the end of sessions and the start of the conference dinner. Inevitably proceedings are dispensed with at a fast trot to get through (many would say just as well).

As our conferences are usually held in early summer, an informal BBQ and wine evening is often regarded as essential. They are often remembered for long queues, for running out of food, but fortunately there has usually been ample supply of liquid lubricant. Most memorable on the positive side are those BBQs that have been held away from city locations, where the weather is also an essential ingredient for success. All of those at the 1987 Dunedin Conference will remember the train trip to the BBQ at Warrington Beach, and those at the 2002 Whangarei Conference are still reminiscing about the balmy summer evening and white quartz sands of the Ocean Beach BBQ.

Branches

In 2005 there are eight Society branches all functioning in different ways and providing programmes for our grass roots membership in six North Island and two South Island centres. Branches were not really thought of when the Society was first established, probably because the regional branches of the Royal Society (and its predecessor the New Zealand Institute) had for many decades satisfied the demand for local venues to present and discuss topics geological. These regional branches of the Royal Society still serve this function in smaller centres like Nelson and Napier. In 1955, the Wellington Branch of the Royal Society was probably the most active and well-organised as it had already formed a number of sections, including a Geology Section. It was because of this that Wellington was the last of the major centres to establish a local branch of the Geological Society (in 1979). Auckland on the other hand, leapt straight in and established our Society's first branch in 1956 just one year after formation of the parent body. In 1955, Christchurch too, had already formed a separate forum for the presentation and discussion of geology, known as the Christchurch Colloquium of Geology, but it was not until 1961 that it became our Society's second branch. Otago established our third branch in 1966.

The branches centred around the four traditional Geology Departments (Otago, Canterbury, Victoria, Auckland) have mostly been organised by academic or professional geologists from the Universities or Geological Survey offices (more recently GNS). The more rural centres (Manawatu, Taranaki, Waikato) have had a larger proportion of keen amateurs involved in branch organisation and attending meetings. Manawatu Branch (formed in 1979) with its base at Massey University has always had strong amateur involvement, and in recent years has followed the successful Waikato model with organisation largely in the hands of graduate students with the branch also doubling as a student geology club. Waikato Branch was established in 1975 as a combined Waikato/Bay of Plenty (=Rotorua) Branch with its home at the fledgling Waikato University. Taranaki Branch was formed as the Taranaki Geological Society for enthusiastic lay members in 1978 with its meetings held at the New Plymouth Girls' High School. It became our Taranaki Branch in 1986 and has successfully survived under the

guidance of a combination of enthusiasts and local oil-industry geologists. In an unusual twist, the Auckland Branch now has an extremely active section for keen amateur and professional members (Auckland Geology Club) as well as the more traditional academic lecture programme. The youngest branch, in Taupo formed in 2001, has recognised its small base of geologists and is directed at a broader earth science coverage than strict geology.

All branches generally fulfil the stated object of the Society "to facilitate meetings of branches", although quite naturally the level of activity in individual branches fluctuates depending upon the enthusiasm of the local committee and the frequency of "competing" university-organised lectures. In recent years a number of the branches have organising well-attended graduate student lecture evenings or days, awarding a prize (funded by the parent body) for the best presentation.

Over the years, most branches have organised field trips with varying levels of support. Often the number of participants and frequency of field trips is directly related to the number of enthusiastic lay members in the branch – although White Island trips will always attract copious students. Occasionally branches have become involved in local geological issues, such as geological site protection or enhancement. In the last decade or so, several of the branches have sponsored earth science prizes at the local Science Fairs, and also provided judges to assist.

One annual event that is celebrated by many branches around the country is Hector Day, which was introduced in 1980 as a national geology day (following representations from Phil Moore who had been impressed by Canada's National Geoscience Day - Logan Day). It is usually celebrated on the Sunday closest to Hector's birthday on 16th March (Moore, 1980). Waikato Branch traditionally has a staff versus students cricket match followed by a BBQ. Other branches have a field trip or even a fun-filled quiz evening.

For some Geological Society members, particularly our keen amateurs, branch activities are the Society's main attraction. Their level of continued support is the best indication that the Society continues to have a rosy future at branch roots level.

To encourage and give recognition to high standards of geological research

McKay Hammer Award

The Geological Society's premier and oldest award, the McKay Hammer, was proposed at our 1st AGM held in Gisborne in 1956, where the suggestion was made that an annual award by this name be made for outstanding geological field work. After consideration by the committee it was recognised how difficult it would be to judge field work, and thus in 1957 the McKay Hammer Award was instituted "for the most meritorious published contribution to New Zealand geology". This award has remained virtually unchanged ever since, except for the extension of the time covered by any one award from the previous one calendar year to the previous three calendar years. Initially the national committee chose the winner each year, but through time this process has evolved into an Awards Subcommittee that is established each year under the chair of the Vice President; it contains both geographic and subdiscipline breadth, and considers all the Society's awards (except the Harold Wellman Prize). The McKay Hammer Award, which consists of an engraved good quality hammer and certificate, has been presented to 48 individuals in the Society's first 49 years (see list in Appendix M). One of the Award's rules states that the award shall not be made if, in the opinion of the committee, no suitable contribution has been made during the time period under consideration – and this has been the case on three occasions for 1966, 1972-3, and 1985-6. On two occasions the award has been made jointly to the two co-authors of the most meritorious publication, and on one occasion (for 1988-90), two were judged as joint winners for their quite separate contributions.

Photo: Institute Of Geological And Nuclear Sciences

The plaques read:

Geological Society of New Zealand THE McKAY HAMMER

and

This hammer, once the property of the outstanding geologist, Alexander McKay (1842-1917) is awarded annually for the best published contribution of the year to New Zealand geology

Other awards

In the mid 1970s, Ian Speden and his national committee decided to increase the Society's effectiveness in promoting high academic standards with the creation of two new awards. First to be created was an annual national lecture by a New Zealand geologist funded by the Society and presented in all the branch centres, and named after the founding father of New Zealand geology – the Hochstetter Lecture. The first Hochstetter Lecture was appropriately given by Harold Wellman in 1974 on the then recently proposed theory of plate tectonics and its application to the history of New Zealand over the past 80 million years. By the end of 2005, there have been an amazing 32 Hochstetter Lecture tours presenting a wide range of lectures, and usually accompanied by at least one further support lecture at each of the University centres – in total approximately 500 lectures presented to an estimated total audience of 20,000.

The second award, established in the mid 1970s, was the Student Paper Award for the best oral paper presented by a student at the Society's annual conference, with the option of several highly commended subsidiary awards. With the increased popularity of poster presentations, a parallel system of Student Poster Awards was introduced in 1990.

Three Society awards have been named to commemorate the contributions to New Zealand geology of recently deceased Society members. After consultation with the national committee, the family of former Society President Ko Kingma established and funded the Kingma Award in 1975. It is awarded annually for "the most outstanding contribution made by a technician in the field of geology, geophysics or oceanography". A plaque listing all the recipients hangs in the corridor outside Ko's old office in Christchurch, which is now part of the Geology Department, University of Canterbury.

In 1985 former colleagues of Alan Pullar donated the W.A. Pullar Prize, to be awarded biennially for the most meritorious contribution to tephrochronological research in the New Zealand region. In similar circumstances in the late 1990s, former colleagues of prominent Society President Norcott Hornibrook made donations to establish the Hornibrook Award, to be made to a New Zealand postgraduate student undertaking "research with a focus on methods of stratigraphic correlation judged to be relevant to NZ and the south-west Pacific".

In 1988 Harold Wellman donated $5000 to the Society to fund an annual Harold Wellman Prize to acknowledge the contribution made to geology by the discoverers of important fossils found within New Zealand. True to form, Harold stipulated that it should be awarded entirely at the discretion of the President, and the only requirement was that the find was recorded in the New Zealand Fossil Record File, which Harold had initiated in the 1940s.

The Society now also supports prizes for the best student talks each year at branch level, and prizes for the best earth science projects at a number of regional secondary school science fairs (both since 1990).

Research awards

In 1983, the National Committee again investigated ways of encouraging and supporting young geology researchers, and recognised that there was little monetary support available for MSc students with significant research expenses. As a result the Society instituted a series of monetary Student Research Awards. Initially they were presented to one student from each of two of the six University earth science departments each year, but this was increased to three per year in 1991, and to six per

year in 1995. The recipient student is selected by the staff at their University, taking into account their proven academic and research ability, and the likelihood of significant expenses during practical work. In the late 1980s one of the Society's senior and dedicated amateur members, Sid Hastie, approached the Society Committee with the offer of donating the substantial sum of $100,000 towards supporting educational scholarships in NZ geology. This set in motion a long and tortuous path before the donation could be finalised and the first scholarships awarded. Initially the hold-up was an attempt to obtain charitable status for the Society from the Department of Inland Revenue so that the donation would be tax-exempt. After several years of 'to'ing and fro'ing' the application was turned down, and instead we were advised to apply for charitable status for a scholarship fund established using the funds and with specific wording in the bylaws, a move that eventually succeeded. During the protracted process, Sid Hastie died in 1996, and although the deed of gift was well-documented (although not completed) by his solicitor, a member of his family decided to contest it through the courts. The Society decided to passively let the courts decide the outcome without hiring expensive legal representation. Three years later the donation was confirmed, and in 2001 the existing student research awards were substantially increased in monetary value and renamed the S.J. Hastie Scholarships.

In 1998 Harold and Joan Wellman also donated $100,000 to the Society to fund a new award (to be called the Wellman Research Award) to assist "quality New Zealand research in geology and geophysics, especially by younger scientists." Once again Harold stipulated that "the selection process is to remain deliberately unspecified", but should be made by the Society President, after endorsement by the National Committee, and should be based on the calibre of the applicant and on the proposed research. The Wellman Research Award was first presented in 2001.

Geological Society of New Zealand Awards Trust

By the beginning of the 21st century, the Geological Society had built up sizeable funds (in excess of $250,000) to support its various awards. It was realised, however, that these funds were afforded little legal protection should the Society be sued or fined for any reason. This was of great concern to Presidents Simon Nathan and Mike Johnston and their national committees. After considerable investigation, AGM motions, and legal paper work, the Geological Society of New Zealand Awards Trust was legally established in early 2004. The Trust assumed responsibility for the funds specifically relating to the Society awards on 1 April 2004. The first trustees were Mike Johnston, Simon Nathan, Julie Palmer and David Skinner.

Royal Society of New Zealand Awards

Another way our Society encourages and supports high standards of geological research in New Zealand is through National Committee's annual consideration and documented nomination of geoscientists for a wide variety of Royal Society of NZ awards, and for election to Fellowship of their Academy. Over the years a large number of these nominations have been successful, and it is pleasing to note that over half the geoscience Fellows of RSNZ were nominated by our Society.

To investigate and report on matters of general interest to New Zealand geologists

A number of GSNZ activities fall under several objectives, including this one, and have already been reported on under the objective *to encourage the advancement of geological science*. Here I cite several of the more significant items that have cropped up over the years and could be assigned to this objective.

Code of stratigraphic nomenclature

It seems hardly conceivable that the Society could have expended so much energy in the 1960s on what is today of such little interest to most of our membership. The New Zealand geology scene was vastly different back in 1963 when eleven prominent Wellington geologists signed an open letter to the Society, published in Newsletter 14. The letter concluded: "The time has now come to produce a New Zealand Code of Stratigraphic Nomenclature or else formally accept one of the already existing codes." This opinion was hotly debated around the country, and finally at the 1964 AGM it was decided to set up a subcommittee to look into the "desirability of NZ adopting a stratigraphic code", or whether an existing code should be adopted perhaps with some changes.

Norcott Hornibrook's hard-working subcommittee circulated a detailed questionnaire to all members, and the results and conclusions were presented in Newsletter 18 – a whole issue devoted entirely to the subject. The 1966 AGM passed the subcommittee's motion that "GSNZ recommends the Statement and Principles of Stratigraphic Classification and Terminology by the International Geological Congress 1961, as a guide to stratigraphic classification, subject to a number of specific amendments and additions." The Subcommittee stressed that the code should be a guide only, and that a large body of opinion was against having a code rigidly thrust upon field geologists by administrative bureaucrats. This code with the suggested changes was then printed by the Society and distributed as a separate booklet.

Greywacke terminology

Yes, the geological scene has changed dramatically in the last 40 years. In the years leading up to the plate tectonics revolution, the question of greywacke terminology was one of the major intellectual issues exercising the debating skills of our members up and down the country. At the 1967 AGM the committee was charged with determining whether there was consensus on the use of the term greywacke. As usual, a subcommittee was established, comprising John Reed (chair, NZ Geological Survey, Lower Hutt), Peter Ballance (Auckland University) and Chuck Landis (Otago University). A questionnaire was circulated to each University department and Survey office, but often there were divergent opinions within each group. The subcommittee concluded that there was a majority of NZ geologists who considered greywacke to be a poorly-sorted, well-indurated type of sandstone, and that it should not be used in a formal stratigraphic sense. It recommended that the usage of the term greywacke basement or greywacke undermass should be discontinued. Current usage suggests that this last recommendation has not been followed.

To serve as a channel for the expression of the views of New Zealand geologists

During the Society's first 50 years, it has been motivated to become involved in a number of political issues that it felt required the informed opinion of the geological community to be heard. In many instances the National Committee prepared submissions or press releases on one-off issues (e.g. Abbotsford Landslide, 1979; National Parks Bill, 1980; Protected Areas legislation, 1988; NZ Geological Survey redundancies, 1990; Royal Society Tectonics 2000 proposal, 1990; distribution of Lottery Board profits, 1990; British Museum redundancies, 1990; subscription levels to international science bodies, 1991; review of the Royal Society Act, 1992; University Science Faculty Review, 1992; funding withdrawal from Auckland's Geothermal Institute, 2003); on other occasions they assembled a small temporary subcommittee of expert geoscientists to prepare the submission or report (e.g., Upper Clutha Valley Development, 1975; Geological Implications of Nuclear Energy, 1977; proposed modifications to the crater area of Mt Ruapehu, 1998; Lambton Harbour Redevelopment, 1999); and in other instances where there were perceived to be long-term ongoing concerns, a standing subcommittee was established with a watching brief, prepared to take up the cudgels at short notice (e.g., Antarctic, Coal, Geological Hazards, Mineral Exploration; Petroleum exploration).

The Geological Society has made dozens of submissions on a wide variety of topics that have a geologic content or impinge on our profession. The era of maximum political lobbying by our society was undoubtedly the two decades from the mid 1970s to early 1990s. With many of these submissions it has been hard to see what influence, if any, we have had on the resulting legislation, policy decision or other outcome, but at least we have exercised our democratic right to express our informed opinions.

The late 1970s and early 1980s were dominated by enquiries and submissions on engineering geology and energy resource topics (see below). Then came the decade of onslaught on New Zealand science, and from the mid 1980s to early 1990s, the Society prepared numerous submissions, reports and press releases (largely to no avail) on documents and proposals such as the 1983 National Research Advisory Council Sector Review, 1984 Science and Technology Plan, 1985 Science Review Plan, abolition of NRAC and NDERC (NZ Energy and Research Development Committee), 1986 Ministerial Working Party review of the role of Government in science and technology (chaired by Sir David Beattie), introduction of user-pays to NZ science, the 1988 Science and Technology Advisory Committee (STAC) Report, 1991 Legislation creating new Crown Research Institutions, 1992 CRI Bill, 1992 STEP recommendations for priorities for research funding, and reviews of and setting priorities within different PGSF output classes in 1992 and again in 1993. Throughout this period, geological research in this country was the target for more and more funding cuts and we found ourselves fighting a losing battle on all fronts. The 1986 Beattie Report provided the only glimmer of hope, but as almost all of its recommendations required increased funding for research they were ignored by Treasury and cabinet. Instead the 1988 STAC report was largely implemented, despite the strong opposition by the NZ science community, including our Society (Houghton, 1989). For those who do not remember, among other things the STAC Report recommended that all government science funding be placed in a single contestable pool and that the DSIR be dismantled.

The period of dramatic change in the New Zealand science scene ended in 1993, and so did the period of frenetic submissions for the Society Committee. Change did not

stop, however, it just slowed down a little, and once again in 1996 the Society President was making press releases deploring yet another round of redundancies at the national geoscience research organisation, now renamed GNS (Norris, 1997). Another issue that received considerable Committee attention around the turn of the century, particularly from President Simon Nathan, was the failure of the RMA in getting local authorities to avoid and mitigate damage from natural hazards, especially that from active fault traces (Nathan, 2000).

Antarctic geology

Since Hartley Ferrar joined Capt Robert Scott's first Antarctic Discovery Expedition (1901-1904), New Zealand geologists have played a major role in the geographic and scientific exploration of Antarctica. So it is not surprising that the Geological Society has always taken a close interest in anything relating to Antarctic research. Indeed the Society's first subcommittee was an Antarctic Subcommittee appointed during our first year of existence. It consisted of Dick Willett (convenor, NZ Geological Survey, Wellington), Bob Clark (Victoria University), Charles Fleming (NZ Geological Survey, Wellington) and Larry Harrington (NZ Geological Survey, Wellington), and in the mid 1950s successfully lobbied for more voice for geologists on Antarctic-research-related committees.

The second Antarctic Subcommittee was established under the convenorship of Malcolm Laird (NZ Geological Survey, Christchurch) in 1975 to lobby Government over our concerns about possible future resource exploitation of the white continent without adequate safeguards, and about the increasing problems with pollution. This subcommittee remained in existence for 25 years, and was charged with keeping a watching brief over these matters relating to mineral exploitation and pollution. Malcolm remained as convenor for 13 years before handing over the reins to John Bradshaw in 1988, who handed on to Peter Barrett five years later. Other concerns over this long period resulted in several submissions to the NZ Government on deficiencies in NZ's Antarctic budget, especially in the level of support for geological research there, and inadequate representation at international Antarctic meetings. Articulation of this latter concern resulted in periodic inclusion of NZ geoscientists at meetings of the Antarctic Treaty Minerals Regime negotiations and annual Antarctic Treaty consultative meetings. In 1990 the Subcommittee was involved in meetings called by the Ministry of External Relations and Trade to help shape future NZ policy on Antarctica and especially environmental matters. During the 1990s Antarctic earth science concerns were mostly taken up by individuals such as John Bradshaw, Peter Barrett and Fred Davey, and the lessening of Geological Society involvement resulted in the abandonment of the Subcommittee and its watching brief in 2000.

Coal

In 1974, a proactive National Committee decided that there were significant issues arising around coal resources and their utilization, and established a standing subcommittee, convened by Past President Peter Ballance (Auckland University), to prepare statements for publication as required. The first major action was a press release in 1975, in which the Society questioned whether it was in the country's best interests to export the bulk of the unique type of coal from Mt Davy. This was followed by an extensive submission on the Mt Davy Colliery Environmental Impact Report (Jenkins, 1975). Once again in 1980 the Subcommittee, now convened by Doug Lewis (University

of Canterbury), released a press statement expressing the Society's concern at the sale of high-quality Buller coal in bulk at a cheap price to Japan, without considering alternative future uses that might be of more benefit to New Zealand.

Engineering geology and geological hazards

An Engineering Geology Subcommittee was established in 1979 to assist the National Committee make informed comments on engineering geology issues. One of these was the Society's submission to the Commission of Inquiry into the Abbotsford Landslip Disaster in 1980. This Subcommittee was extended late in 1981 and renamed the Geological Hazards Subcommittee, with the brief to pursue a policy promoting greater geological knowledge acquisition prior to the start of major development projects. Its first task was preparation of a submission to the Commission for the Environment on the Clutha Valley Development in 1982, and several of its suggested studies were subsequently followed up.

The collapse of a canal in the Whaeo River Hydroelectric Scheme in the Bay of Plenty late in 1982 prompted an immediate press release from the Society's President calling for more and better geological input at the planning stages of such projects. An Auckland-based group prepared a detailed submission to the Commission of Enquiry the following year (Prebble, 1983). In 1983 the Government commissioned a report from the Ministry of Works and NZ Geological Survey on the seismotectonic hazard of the Clyde Dam site. Initially the Minister announced that it would not be made public, but after considerable public pressure it was released for scrutiny. A small South-Island-based group (Richard Norris, Chuck Landis, David Bell) prepared a Society assessment of the report that was released to the public in Jan 1984, together with a response from the Survey. The Society's assessment was largely complementary and endorsed the recommended measures in the final section, although it disagreed with certain critical areas of interpretation of future likely displacements and return periods of movements on the faults (Nelson, 1984). Partly in response to the Society's assessment document, the design of the Clyde Dam was changed to accommodate possible earthquake movement on the fault running beneath the structure.

Mining and Mineral Exploration

In May 1967, the Society heard that existing mining legislation was going to be revised, so a Subcommittee convened by Pat Suggate (NZ Geological Survey, Lower Hutt) was established to formulate recommendations to forward to the Mines Dept. Later that year, 11 recommendations were submitted. Society officers met with Mines Dept officials and were satisfied that many of the recommendations would be addressed. In 1981 the government commissioned an assessment of issues of public concern over the operation of the Mining Act, as a first step to revising the legislation again to ensure that NZ's mineral potential was utilised in balance with the public interest. Once again the Society established a Subcommittee on Mineral Exploration, which reviewed the assessment report and then prepared a submission to the Parliamentary Committee considering the bill. Their submission was largely supportive of the bill as a good compromise between mining and environmental concerns. In an unusual move, the standing Subcommittee on Mining joined with our Geological Reserves Subcommittee to prepare 1988 submissions on DoC mining guidelines and the Resource Management Law Reform that once again balanced conservation with resource use.

Petroleum Exploration

Late in 1974, President Graham Jenkins (Canterbury University) set up the first Petroleum Subcommittee together with Graham Gibson (Auckland University) and Ray Farmer (NZ Geological Survey, Lower Hutt). This action was prompted by the release of a Petroleum Amendment Bill which in one section provided for geological and other reports to be kept by the licensee exploration companies. The Society sent in a submission saying that we considered that this did not safeguard the interests of New Zealand, and that all geological reports should be provided to the NZ Geological Survey. Following this the Subcommittee was disbanded, but a year later at the Society's 1976 AGM members expressed increasing concerns about a number of other matters relating to accelerating petroleum exploration in NZ (following the first oil shock), and a new Petroleum Exploration Subcommittee was formed. This Subcommittee prepared a major review and report that was submitted to the Minister of Energy Resources in 1977 and detailed areas where the government was woefully short of the geological expertise necessary to guide the industry-government partnership that was developing in petroleum exploration in NZ (Bell, 1977). Once again the Society emphasised the importance to NZ that information gained during exploration should be lodged with an organisation like the NZ Geological Survey and eventually become publicly accessible.

Following this submission until it was disbanded in 1987 a Petroleum Exploration Subcommittee became one of the standing subcommittees of the Society. In 1978, the Subcommittee made a well-publicised press release stating the Society's belief that a "vigorous programme of petroleum exploration, whether undertaken by private industry or government, is vital for NZ" (Cole, 1978). The statement coincided with establishment of government-owned Petrocorp, which resolved some of the Subcommittee's concerns. 1978 was a busy time for the Subcommittee as they were asked to provide a submission to a Parliamentary Subcommittee that was investigating the rushed background (2-3 weeks) to the decision by the Government to spend $10 million on a 19-hole programme of onshore petroleum exploration. Not surprisingly the Society Subcommittee concluded the process was far too rushed and lacked the usual period of painstaking evaluation of all available geological data before decisions are made to drill. By 1980, the Petroleum Subcommittee observed that many of its criticisms of 1978-79 had been rectified and much of the exploration data was now being required to be lodged with the NZ Geological Survey. At short notice, the 1985 Subcommittee prepared a largely supportive submission on the Ministry of Energy's Review of NZ's Petroleum Exploration Regime, and also a submission on the options for future utilisation of Maui natural gas. The Subcommittee was discontinued in 1987 through perceived lack of need.

New Zealand geoscience journals

The health, policies and distribution of New Zealand journals in which members publish the results of their geological research are a matter of interest, and at times a matter of concern, for our members. As early as our first AGM, in 1956, members were asking questions about how widespread was the overseas distribution of New Zealand scientific journals. At the same AGM the Committee was tasked with asking the editors of the NZ Journal of Science and Technology and the Transactions of the Royal Society of NZ if they would publish letters criticising papers published in their journals, as this was seen as desirable to maintain standards and to allow free debate. Both editors turned down the request, but it is pleasing to see that this option has been available through the NZ Journal of Geology and Geophysics (NZJGG) for many years.

At our 1970 AGM, members resolved that the Society should express its disquiet to the Royal Society of NZ at its decision to discontinue publication of the Earth Sciences Series of the Transactions, and replace it and other specialised series by a new multidisciplinary Journal of the Royal Society. The concern was expressed that the new Journal might come to be accepted as essentially biological in scope (Campbell, 1971), something that fortunately has not eventuated.

Following member concerns in 1974 about publication delays and the cost of reprints, a Subcommittee on Journal format was set up (convenor Bob Carter, University of Otago), and its report was favourably received by the DSIR, publisher of our national earth science journal, NZJGG. The future of NZJGG became a major item of concern and subject of numerous submissions from the Society between 1986 and 1991. During this period the DSIR imposed huge subscription increases with the intention of progressively decreasing government subsidies to nil, as some of the first impacts of user-pays on New Zealand science. The threat of massive page charges in 1989 galvanised the Society to poll all its members with a questionnaire on the future of NZJGG. A substantial majority were opposed to the introduction of page charges, and wanted GSNZ to lobby to have the journal transferred from the DSIR to the Royal Society and to have greater GSNZ involvement. Armed with this clear mandate, 1989 and 1990 saw the Society send a series of submissions to Ministers, DSIR and the Royal Society about page charges and NZJGG's future. At our 1990 AGM, so great was our concern that it was resolved that "GSNZ offer to edit and publish NZJGG, either in association with the Royal Society or, failing that, on our own." Further lobbying followed, and was undoubtedly a major influence in Government's 1991 announcement that NZJGG and the other DSIR journals would be transferred to the Royal Society with continued subsidies. One Society suggestion that was taken up was for greater involvement of NZ earth scientists in helping with the review process, with the establishment of an Editor's Advisory Panel. One Society submission that was ignored came out strongly opposed to the establishment of an elitist Journal Board of eminent overseas scientists, although our prediction that they would have no real role to play seems to have been correct.

Publication through the Royal Society has been a good arrangement, except that government funding was frozen until July 2004, and increasing costs, including those involved with moving towards electronic publication, required the introduction of page charges from 2004. Our Society had consistently campaigned against this in the 1980s and 1990s, and again expressed their disappointment in 2002. At least the government funding agency still seems to recognise that publication is a vital part of most research in the natural sciences and needs support, although every decade they seem to need to be reminded. Current predictions of a move to fully open access to electronic publication of these journals may pose new challenges for our society, if new funding arrangements are required with the demise of subscriptions and maybe even the end of paper format.

To seek the preservation of important geological sites

Preservation of important geological sites was raised at our first AGM in Gisborne in 1956 as a matter that the Society should become involved in, although it did not become a stated Society objective until 1969. At that 1956 AGM, Arnold Lillie (University of Auckland) raised the question of the destruction of important outcrops and features, especially Auckland's volcanoes, with which he was most familiar. In the resulting discussions, the Society Committee was empowered to act immediately when necessary to prevent such loss. There was also a suggestion to compile a list of proposed geological monuments, but this never eventuated, despite numerous exhortations in the newsletter over a number of years by Don Gregg (Gregg, 1970).

In the early 1960s, Gerald Lensen (NZ Geological Survey) suggested that the Society seek protection for the faulted river terraces at Branch, Maruia and Waiohine Rivers. After initial approaches to the NZ Historic Places Trust and the new Nature Conservation Council had proved fruitless, the Society recognised that direct approaches to the District Commissioners of Crown Lands might be the most effective means. Initial success came from personal lobbying by Society member Prof John Mackie of Nelson, and Branch River terraces became a covenanted Private Historic Reserve in 1964 (Gregg, 1970). In 1965 and 1966, submissions were sent to the Lands and Survey Department seeking reserve status for the remaining two terrace sites, and on Norcott Hornibrook's bidding also for Hutchinson's Quarry and Target Gully Shellbed fossil sites near Oamaru. As a result of this approach, but many years later, the Oamaru sites and Waiohine faulted terraces were gazetted scientific reserves.

Cape Turakirae Beach Ridges

One of the Society's most successful conservation projects in the 1960s and 1970s was to achieve the acquisition and protection of the sequence of uplifted storm beach ridges at Cape Turakirae near Wellington. This campaign began in 1966 when Graeme Stevens and Norcott Hornibrook (NZ Geological Survey, Lower Hutt) approached the landowner to try to save the ridges from quarrying of their rock for rip-rap on harbour reclamation projects (Hornibrook, 1969). Three years of lobbying by these two Society "champions" of other scientific societies, local government, regional government, government departments and ministers, together with articles in the papers, on radio and television, resulted in government acquisition in 1969 of two sample areas of the ridges for Scientific Reserve (97 ha). An application in 1974 for a further round of extensive quarrying in the vicinity of the reserved ridges brought objections from our Society and from a number of other organisations, and following hearings the Hutt County Council resolved that a 6 km coastal strip should be reserved. The government claimed they were short of funds, but an anonymous donor stepped in and a further 56 ha was added to the Scientific Reserve (Stevens, 1976).

Wiri Lava Cave

The most drawn-out conservation campaign the Society has been involved in was that to save Wiri Lava Cave from complete removal during the quarrying of its source scoria cone, Wiri Mt in Manukau City, by NZ Railways. The first salvo was fired in 1967,

when the Auckland Branch joined with the NZ Historic Places for a planning hearing that resulted in a new road over the lower section of the cave being reinforced to protect it. Over the next 31 years the Geological Society and the Otara Office of the NZ Geological Survey sent innumerable submissions to Ministers, Government departments and local authorities urging action. Spurred on by our speleological geologist Les Kermode (Otara), who described Wiri as the best remaining lava cave in New Zealand (Kermode, 1987), we succeeded in negotiating a voluntary protected area around it, but its long-term future seemed far from assured when the quarry was disposed of by the government in the early 1990s. This time lobbying attracted the support of the newly created Department of Conservation, and a further five years of slow bureaucratic negotiations finally led to the Government purchase and creation of Wiri Lava Cave Scientific Reserve in 1998.

Red Rocks

In contrast to Wiri, achieving scientific reserve status for Red Rocks on the south coast of Wellington was certainly the Society's shortest campaign (Hayward, 1986). Prior to the Society's involvement, Prof Bob Clarke (Victoria University) had negotiated voluntary protection of the Red Rocks pillow lavas and associated red argillites with the operator quarrying greywacke along the adjacent coast. In 1970-71, however, the valued foreshore exposures were buried by quarrying operations, large blocks from Red Rocks were removed and used for decorative purposes by Wellington City Council, and the quarry operator applied to remove large foreshore boulders for airport runway extensions and to extend their quarrying around the coast. Ian Speden (NZ Geological Survey, Lower Hutt) led the Society's push for formal reserve status. The Society lodged an objection to the extension of quarrying operations, sought support for reserve status from various groups, and sent a letter to the Minister of Lands on Nov 3rd 1971. A reply from the Minister, Duncan MacIntyre, came just two days later – "Following discussions I have formally agreed to reservation of the Rocks for scientific purposes" (Hayward, 1986). The foreshore reserve was gazetted in 1972.

In the last three decades, the Geological Society has instigated or played a significant role in several other campaigns that have resulted in the reservation or protection of important geological features, such as Muriwai pillow lavas, west Auckland (1975); Chancet Rocks Scientific Reserve, Marlborough (1979); Waitotara ventifacts, Wanganui (1974-1981; Neall, 1981); Waiouru explosion crater, Auckland (1995); Titahi Bay fossil forest, Wellington (2000); Mangahouanga dinosaur site, Hawkes Bay (Wiffen, 2003); Mangere Lagoon explosion crater, Auckland (2003); and St Kentigern's peat and tephra section, Auckland (2004). Less successful have been attempts to achieve some form of protection for Everett's Quarry fossils (Otago, 1960s); Mackay's Crossing alluvial fan and abandoned sea cliff (Wellington, 2000s), and a number of others.

NZ Geopreservation Inventory

In the Society's first 28 years, we were mainly limited to lobbying to protect individual important geological sites when they came under specific threat. In 1983, Steve Weaver and Bruce Hayward of the Geological Reserves Subcommittee advocated switching from a reactive to a proactive mode, with the compilation of an inventory of important geological sites and its circulation to land management and planning agencies (Weaver and Hayward, 1983). This was an extension of the ideas previously promoted

within the Society by Norcott Hornibrook (1968) and Don Gregg (1970), which had failed to gain sufficient support from members to get off the ground. Under the guiding hand of Bruce Hayward, compilation of the Geopreservation Inventory was slow to start, but once it began receiving funding (in 1986) from the Lottery Board and later the Department of Conservation, it gained momentum. Bruce developed wider support and also co-sponsorship for the Inventory project from other earth science societies in New Zealand through the creation of a Joint Earth Science Societies' Working Group on Earth Science Conservation (formed in 1987).

The initial phase of compilation and computerisation by subject categories was completed in late 1992, and in 1993 twelve regional inventories were produced and widely distributed. In the mid and late 1990s, the usefulness of these regional inventories was extended by the inclusion of 1:50 000 maps showing the extent of all larger sites, with a full set of second editions completed in 1999. This initial phase of Geopreservation Inventory compilation cost $150,000, mostly spent on the employment of 17 young earth science graduates. It lists information about 2600 important geological and geomorphological sites and nearly 1000 soil sites, and its compilation was voluntarily supervised by a team of 13 geologists and soil scientists. Nominations of sites and details about them was voluntarily provided by over 200 earth scientists, almost all of them members of our Society, and it received generous logistic support from the Institute of Geological and Nuclear Sciences, Landcare Research Ltd, and the Geology Departments of Auckland, Canterbury and Victoria Universities. It was published in 39 subject or regional inventories with over 3000 gratis copies distributed around New Zealand to promote the cause of earth science conservation.

Use of the inventory in both paper and electronic form is now widespread throughout New Zealand, especially since the passing of the Resource Management Act in 1991 and the NZ Coastal Policy Statement in 1994. Both these important planning and land management tools received substantial submissions from the Geological Society in 1989 and 1993, which resulted in the inclusion of sections that identify the protection of outstanding natural features, such as geological sites and landform features, as being an issue of national importance. The protection of geological features is now included in some form in all the country's regional policy statements and in many of the District Schemes. In these schemes, hundreds of the sites listed in the Inventory are now named in schedules of sites that need to be protected against the adverse effects of developments. In all instances the Geopreservation Inventory is identified as the prime source of authoritative information on the earth science heritage of a region or district. It is therefore incumbent on our Society to see that information and listings in the Inventory are kept up-to-date as new information is accumulated. Copyright of the Inventory and the master electronic copy is retained by the Society, with an electronic copy in use by DoC and regional GIS-copies having been developed by several regional councils.

Since the task of compiling the inventory was completed, the dominant activities of Bruce Hayward's Geological Reserves Subcommittee have been to maintain a watching brief right around the country for activities or proposals that might threaten significant earth science features. As a result, we have made dozens of formal and informal submissions, and provided information on the scientific values of sites too numerous to mention. In some instances we have succeeded in protecting the feature, but in others we have had less success. Another major activity, particularly in the mid 1990s, was making submissions on Regional Plans, Regional Coastal Plans and District Schemes asking for inclusion of sections on Earth Science Conservation and for the scheduling of a list of sites. I envisage that the promotion of protection of important

geological sites will always be a significant activity of our Society, even after DoC and some local authorities start appointing conservation geologists to their staff.

Geothermal Subcommittee and saving the geysers

In the late 1970s Ted Lloyd and Bruce Houghton (NZ Geological Survey, Rotorua) raised their concerns with the Society about the decline of surface geothermal activity in NZ, particularly the geysers at Whakarewarewa. A Geothermal Subcommittee was established in 1978 "to prepare a report defining criteria for the preservation of geothermal sites", with Ted Lloyd as convenor and Bruce Houghton and Ron Keam (Auckland University) as the other members. One of its first actions was as a participant successfully opposing a 1979 application for a deep well to be drilled into the upflow zone at Whakarewarewa, and advocating the establishment of a monitoring programme (Houghton, 1979). At the hearing, the Society's statement began "The Geological Society of NZ believes that steps should be taken to preserve in relatively undisturbed state a representative range of natural geothermal phenomena. The active geyser field at Whakarewarewa is the remaining large geyser field in NZ and the Society feels it has the highest priority for preservation" (Houghton, 1979).

In 1980, the Geothermal Subcommittee tabled its report categorising all the geothermal fields and identifying White Island, Ketetahi, Whakarewarewa and Waimangu-Waiotapu as category A - recommended for complete preservation. This categorisation was widely accepted, especially by the Nature Conservation Council, and the Geothermal Subcommittee spent the next 21 years of its existence defending these sites against increased exploitation.

Whakarewarewa was of greatest concern, as water levels dropped and geyser activities decreased through the early and mid 1980s. The Society began publicly calling for a halt to further drilling around Whakarewarewa in 1982, and made a series of submissions and supported the lobbying of government ministries and ministers by Ron Keam and Ted Lloyd. Membership support for these efforts was evident in a 1983 AGM resolution "that the Geological Society give every possible support to the Geothermal Subcommittee in its current endeavours to protect geothermal areas of national importance". In 1984 the Society was unsuccessful in its objection to the drilling of a new deep bore by the Forest Research Institute close to Whakarewarewa, and our 1984 AGM resolution asking FRI not to draw water from this new well engendered a somewhat belligerent response. All these activities eventually resulted in central government's 1986 Whakarewarewa rescue plan and the 1988 forced closures of bores within 1.5 km of the geysers. These actions, together with the levying of a substantial royalty on bores that did not reinject used water to the aquifer, resulted in a major decrease in the number of extractive wells in the total Rotorua field over the next few years. As a result, water pressures have recovered, geyser activity at Whakarewarewa has stabilised and increased somewhat, and further afield even at Kuirau Park and Sulphur Bay, areas of abandoned historic activity have been reactivated.

During the 1990s the Geothermal Subcommittee maintained a much lower profile as it monitored the situation and made submissions seeking responsible management of all the surface geothermal fields in category A. By 2001, there seemed little reason to retain the Geothermal Subcommittee, and it was disestablished. In 2002 the Society successfully nominated Ron Keam and Ted Lloyd for NZ Science and Technology Medals, recognising their enormous contribution in lobbying for the preservation of the Rotorua Geothermal Field and its geysers.

To encourage the highest standards of professional competence and ethical conduct in the practice of geology in New Zealand

Undoubtedly the most contentious issue addressed by the Society in its first fifty years was that of registration of geologists, which was debated at every AGM from 1972 to 1980, and also the sole subject of two Special General Meetings held in 1976 and 1979 (Bell, 1980). At the 1972 AGM several geologists expressed their concerns about ways of recognising competence and professionalism in commercial geology. In the usual fashion, a subcommittee was formed (convened by Graham Jenkins, Canterbury University), and tasked "to look into the circumstances under which registration of geologists would be desirable, paying particular attention to the mining and petroleum industries and geologists concerned with engineering and environmental problems and other matters of public interest."

This Subcommittee recommended to the 1973 AGM in Auckland that a code of ethics should be adopted; that there should be a new professional corporate class of membership; that the time was not opportune to register NZ geologists, and that enquiries be made into the procedure involved should the time arrive when registration could be shown to be necessary. The AGM disagreed somewhat with their conclusions and carried Tony Collins' motion "that the Committee take active steps to approach government about registration of suitably qualified geologists." Committee enquiries found that to obtain registration would require it to demonstrate the need, to then convince a government department to take up the question with government, and for an Act of Parliament to be passed to set up the legal process of registration. Despite requests for documented examples, no convincing case of malpractice in NZ that might have supported a case for registration was provided to the National Committee, and so they decided not to proceed further.

Yet again the 1974 AGM was unhappy with no progress, and once again voted to set up another subcommittee, with a different membership and convened by company geologist Alan Beck, to look into the need for registration and the means of achieving it. In its report to a Special General Meeting in Hamilton in 1976, the subcommittee also concluded that registration was impractical at that time, and proposed an alternative method of assurance about the competence and standing of geologists involved in public practice. They put forward a complex procedure of public listing of approved qualified geologists who would abide by a code of ethics (Beck, 1976). The meeting agreed and authorised the formation of new subcommittee (convened by Simon Nathan, NZ Geological Survey, Christchurch) to establish the criteria for listing.

A questionnaire was circulated to members outlining the pros and cons of a Listing of Geologists, and asked for opinions on several options. Although 70% of returns favoured some form of listing, only 20% of members replied. These results were discussed at the 1977 AGM, where it was concluded that two conflicting conclusions were possible – either an overwhelming majority of the Society favoured listing, or only 14% of members (those that returned their questionnaires) strongly favoured listing and no further action should be taken. The legal liabilities of the Society for the actions of any of the approved geologists on its list was raised, and still another Subcommittee (convened by David Bell, Canterbury University) was established to investigate the legal implications of listing. Legal advice on the position of an Incorporated Society under NZ Law resulted in the recommendation that we revert to the previously proposed option

of a professional class of membership. As a result another Subcommittee, still convened by David Bell, was charged at the January 1979 AGM in Auckland "to prepare detailed proposals for the establishment of a professional class of Society membership" (Bell, 1980).

At a Special General Meeting at the November 1979 Society Conference in Nelson, these detailed proposals were presented as a set of motions. As a result, the Objects of the Society were broadened (heading 10 above), and our present Code of Ethics was established. The motion to establish a class of professional membership within the Society was rejected by 28 votes to 21. In yet another U-turn the SGM then voted in favour of a motion that "the Committee makes every effort to ensure formal registration of geologists by the NZ Government." The next Subcommittee (again chaired by David Bell) was formed to investigate this, and once again government advice was strongly against this course of action, with the Minister of Science recommending having either a professional membership class or establishing an institute. As a result the subcommittee put several motions to the 1980 AGM. Once again proposals to establish several classes of membership were soundly defeated, but a greatly reduced motion was passed "supporting in principle the establishment of a NZ Institute of Geoscientists with registration as the prime function." A third motion, requiring a subcommittee of the Geological Society to liaise with other geoscience organisations to establish this Institute, was lost. As a result, the proposed NZ Institute never eventuated, probably because of a lack of sufficient enthusiasts to carry it through. In 1982 the Society's Registration Subcommittee was finally dissolved and the matter has not resurfaced again, yet.

The two substantive results of these nine years of internal debate were:

a. the establishment of our present code of ethics, although I wonder how many members have ever read it and remember what it says.

b. the affirmation that the Geological Society is largely a "learned" society for academic geology, and the more applied geologists in NZ have voted with their feet and moved most of their allegiances to other organisations, such as AusIMM and the Geomechanics Society of IPENZ.

If the Society's membership is a good indication, then GSNZ seems to be doing just what New Zealand's academic and research geologists want, but it does not satisfy the needs of our applied colleagues in industry, local government and consultancies. With the low level of membership by applied professionals, this Society objective is largely taken as read, with no active encouragement of the highest professional standards and ethical conduct.

National Committee

The running of the Society, other than conferences and branch activities, is largely the responsibility of the National Committee. In the early years the committee structure evolved, but in the last 20-30 years it has been pretty stable and defined by the Society's Rules. The Committee consists of four Society Officers (President, Vice-President, Secretary, Treasurer), the Immediate Past President, five elected members, and co-opted on to the Committee the Newsletter Editor and a nominee from any branch not otherwise represented on the Committee. Up until 1990 the GSNZ Representative on the Royal Society of NZ Member Bodies Committee was also a member of the Committee. As the appendices (A-D) show, we have had 31 presidents, 24 secretaries, 16 treasurers, 19 newsletter editors, and 63 others who have served at least one term on the national committee – a grand total of 127 members who have served on the national committee. Don Gregg (Canterbury Museum) and Julie Palmer (Massey University) are the only two to have held all four Officers' positions. In the first two years of the Society's existence Tony Collins served as Secretary/Treasurer and Editor all at once, but since then all three positions have been separated.

The positions of President and Vice-President are limited to terms of two consecutive years, but all other positions have no defined length. Most presidents have served their full two year terms, unless their circumstances have changed or their sabbatical leave has coincided with the second year. Although not prescribed by our rules, it has become traditional for the Vice-President to succeed to the President's position unchallenged.

The longest serving members of the committee have been: with 18 years - Guy Warren (1962-80); 14 years - Jack Grant-Mackie (1961-81), Richard Norris (1978-99), Julie Palmer (1991-2005); 13 years - Bruce Hayward (1978-1993); 12 years - Chuck Landis (1971-83), Bob Stewart (1981-1995), Mike Johnston (1993-2005); and 11 years - Tony Collins (1955-71), Don Gregg (1959-71), Roger Cooper (1970-84), and Ian Smith (1982-97).

In the early years committee meetings were held infrequently when the opportunity arose, but in the last 30 or so years there have generally been 4-5 Committee meetings per year – two shorter meetings held in association with the Society's annual conference, and two or three full day meetings held during the year in Wellington. On several occasions in the late 1970s committee meetings were tried via conference telephone call, but these proved less than satisfactory, despite the savings in travel expenses. Since the late 1980s the increased availability and use of email has greatly assisted committee business.

Up until 1998 all the Society's administrative tasks were undertaken voluntarily by committee members, but it was becoming clear that the load on the Secretary and Treasurer was becoming too large, especially in the new time-conscious regime of the country's science reforms. To reduce and spread the load, the position of Membership Secretary was tried (1995-99), and Vicky Moon (Waikato University) took on the task. This proved to be only a temporary measure, and after considerable discussion the 1998 AGM approved the motion to substantially raise subscription rates and appoint a part-time paid Administrator – a position held since its inception by Beth Wallace.

Conclusions

The Geological Society of New Zealand has grown from modest beginnings in 1955 with 120 members paying 2/6 (25c) subscription in exchange for a cyclostyled newsletter and annual general meeting held during a NZ Geological Survey Conference. Now fifty years on, it is a vigorous and vibrant body with over 700 members, eight regional branches, four Special Interest Groups, a part-time professional administrator, a large polished web site, and its own popular and well-attended annual conference. Subscription rates for ordinary members have risen to $80, reflecting fifty years of inflation and the increased level of Society activities. My review suggests that the Society is doing well in achieving all its stated objects, except in the active encouragement of high professional standards in the practice of geology. Society members are informed of what is happening in geology in NZ through our regular newsletters, periodic email newsflashes, and our web page. At a national level, the Society is promoting research in and the advancement of geology through its published and on-line bibliographies and databases, the Fossil Record File, its guidebook series, its awards, student grants, and its promotion of geological education in schools. Our Society is largely responsible for the blossoming of the study of the history of geology in NZ, and for the major advances achieved in earth science conservation.

Over the past fifty years, the Geological Society has achieved a great deal through the voluntary service and enthusiasm of a vast number of our members. The majority of members of ten or more years standing have made a contribution to the running of their Society either at the branch or national level, on a subcommittee, or conference organising committee.

Acknowledgements

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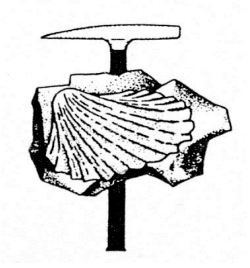
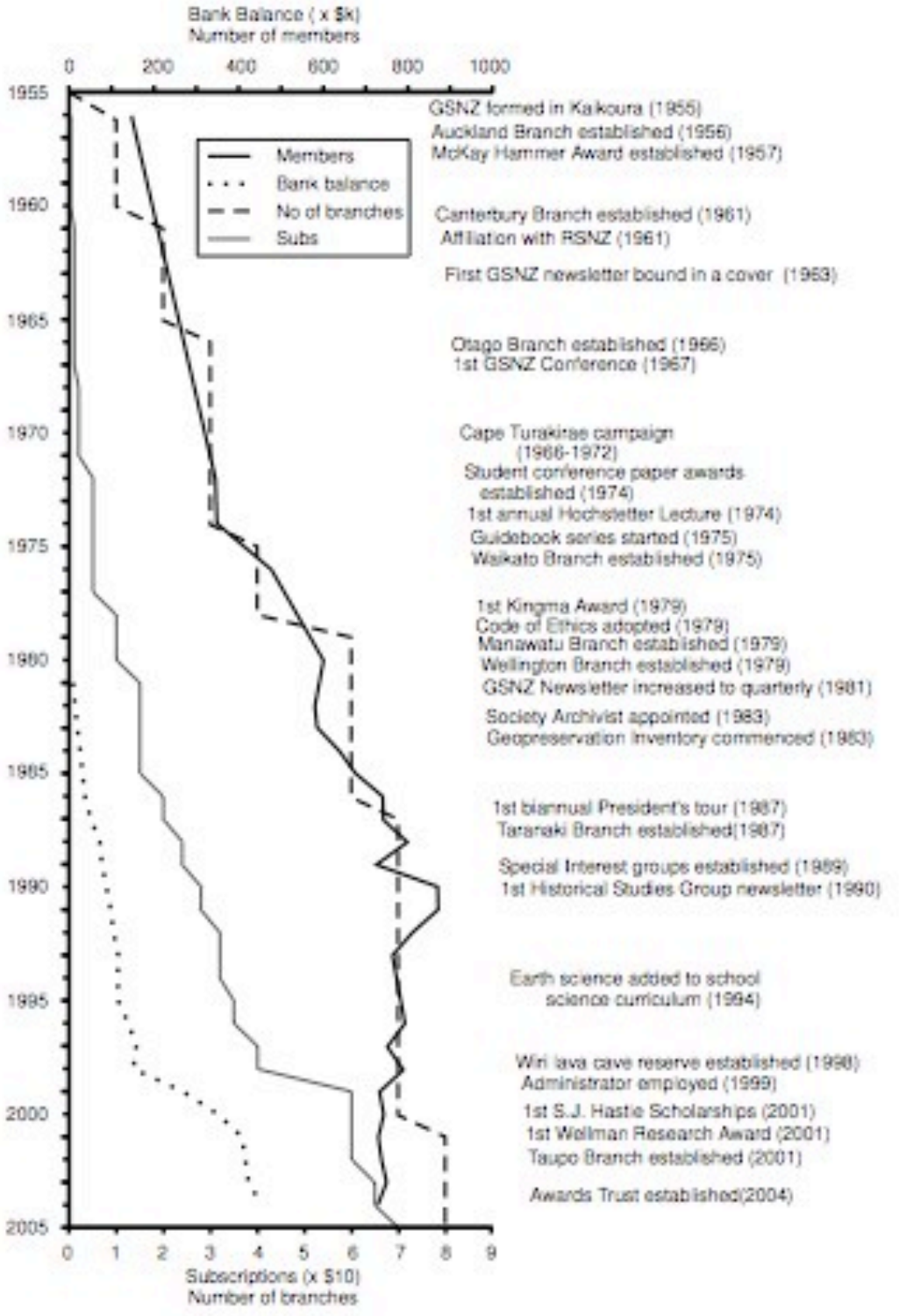
Origin of the Geological Society of New Zealand's logo

In February 1964, a logo appeared unannounced on the cover of *GSNZ Newsletter* 15. There had been no competition, no call for suggestions, no discussions at an AGM, indeed none of the long-winded democratic processes that tend to accompany such decisions in modern society. The Society's committee decided in October 1962 that letter paper with a printed header was desirable, and delegated the task to the Secretary Don Gregg. He, in turn consulted with the Society's usual printer – Bascands of Christchurch, and their designer, Mr J. Koster, offered to prepare an emblem (Gregg, 1966). Don, apparently in consultation with NZ Geological Survey staff at Christchurch office (especially Committee members Guyon Warren, Pat Suggate and Ko Kingma), decided that it should contain a geological hammer, and a Triassic fossil *Monotis* in a block of sandstone. A fossil specimen from Awakino Gorge and Pat Suggate's hammer were duly delivered to Bascands and the resulting design has been emblazoned on our Newsletters, Society ties and stationery ever since, although the precise detail has evolved over time. Initially the logo was just the vertical hammer and fossil. In 1978 an updated design with a slanted Estwing hammer and a slightly more stylised *Monotis* was used on a reprint of Society letterhead paper, but it was not a major issue and the original logo remained on the outside cover of the Newsletter. In 1985 the organising Committee of the Society's annual conference in Christchurch brought the updated design into more general use.



At Annual General Meetings in 1986 and 1987 the logo was discussed and, in particular, the need to include the name of the Society. Glen Coates (1987) in Newsletter No 78 reported that he had drafted a series of designs including the name of the Society, and publicised the two most favoured by the National Committee in the GSNZ newsletter. Although the 1987 Committee and AGM had both favoured a new design replacing the fossil with a map of New Zealand, the 1988 Committee decided to retain the essentials of the original logo, but using the Estwing hammer and the redrawn fossil *Monotis* version, and included the name of the Society on a surrounding garter. The new logo was first used on the cover of Newsletter No 84 (June 1989) and continued until 2004. The committee then noted that several variants were appearing, and established two definitive versions, "black" and "white", for use as desired.

Researched by Don Gregg and David Smale


Bank Balance (x $k)
Number of members
0
200
400
600
800
1000
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
Members
Bank balance
No of branches
Subs
GSNZ formed in Kaikoura (1955)
Auckland Branch established (1956)
McKay Hammer Award established (1957)
Canterbury Branch established (1961)
Affiliation with RSNZ (1961)
First GSNZ newsletter bound in a cover (1963)
Otago Branch established (1966)
1st GSNZ Conference (1967)
Cape Turakirae campaign
(1966-1972)
Student conference paper awards
established (1974)
1st annual Hochstetter Lecture (1974)
Guidebook series started (1975)
Waikato Branch established (1975)
1st Kingma Award (1979)
Code of Ethics adopted (1979)
Manawatu Branch established (1979)
Wellington Branch established (1979)
GSNZ Newsletter increased to quarterly (1981)
Society Archivist appointed (1983)
Geopreservation Inventory commenced (1983)
1st biannual President's tour (1987)
Taranaki Branch established(1987)
Special Interest groups established (1989)
1st Historical Studies Group newsletter (1990)
Earth science added to school
science curriculum (1994)
Wiri lava cave reserve established (1998)
Administrator employed (1999)
1st S.J. Hastie Scholarships (2001)
1st Wellman Research Award (2001)
Taupo Branch established (2001)
Awards Trust established(2004)
0
1
2
3
4
5
6
7
8
9
Subscriptions (x $10)
Number of branches

APPENDICES

A. OFFICE HOLDERS OF THE GEOLOGICAL SOCIETY OF NEW ZEALAND

	President	Secretary	Treasurer	Editor
1955-56	R.W. Willett	B.W. Collins		B.W. Collins
1956-57	H.E. Fyfe	B.W. Collins	B.W. Collins	B.W. Collins
1957-58	J.T. Kingma	L.E. Oborn	R.P. Suggate, D.R. Gregg	L.E. Oborn
1958-59	D.S. Coombs	G.C. Shaw	J. van der Syp	H.W. Wellman
1959-60	D. Kear	W.A. Watters	H.M. Pantin	H.M. Pantin, G.C. Shaw, W.A. Watters
1960-61	J.W. Brodie	J.B. Waterhouse	T.L. Grant-Taylor	W.A. Watters
1961-62	R.P. Suggate	D.R. Gregg	T.L. Grant-Taylor	W.A. Watters
1962-63	R.P. Suggate	D.R. Gregg	G. Warren	W.A. Watters
1963-64	J. Healy	D.R. Gregg	G. Warren	W.A. Watters
1964-65	J. Healy	D.R. Gregg	G. Warren	W.A. Watters
1965-66	R.N. Brothers	D.R. Gregg	G. Warren	W.A. Watters
1966-67	N.deB. Hornibrook	D.R. Gregg	G. Warren	W.A. Watters
1967-68	N.deB. Hornibrook	D.G. Jenkins	G. Warren	D.R. Gregg
1968-69	D.R. Gregg	A.A. Cameron	G. Warren	D.R. Gregg
1969-70	D.R. Gregg	A.A. Cameron	G. Warren	D.R. Gregg
1970-71	J.D. Campbell	A.A. Cameron	G. Warren	D.R. Gregg
1971-72	P.F. Ballance	A.A. Cameron	G. Warren	W.A. Watters
1972-73	I.G. Speden	R.A. Cooper	P.B. Andrews	W.A. Watters
1973-74	I.G. Speden	R.A. Cooper	P.B. Andrews	J.D. Bradshaw
1974-75	D.G. Jenkins	M.G. Laird	P.B. Andrews	J.D. Bradshaw
1975-76	J.A. Grant-Mackie	M.R. Gregory	C.S. Nelson	J.D. Bradshaw
1976-77	G. Warren	M.R. Gregory	C.S. Nelson	P.B. Andrews
1977-78	G. Warren	D. Smale	C.S. Nelson	R.A. Cooper
1978-79	J.W. Cole	D. Smale	B.F. Houghton	R.A. Cooper, B.W. Hayward
1979-80	J.W. Cole	D. Smale	B.F. Houghton	B.W. Hayward
1980-81	C.A. Landis	A. Reay	B.F. Houghton	R.A. Cooper, B.W. Hayward
1981-82	V.E. Neall	R.B. Stewart	B.F. Houghton	R.A. Cooper, B.W. Hayward
1982-83	V.E. Neall	R.B. Stewart	M.J. Isaac	R.A. Cooper, M.B. Reay
1983-84	C.S. Nelson	N.C. Fowke	M.J. Isaac	R.A. Cooper, M.B. Reay
1984-85	C.S. Nelson	N.C. Fowke	M.J. Isaac	B.W. Hayward, M.B. Reay
1985-86	S.D. Weaver	M.A. Bradshaw	H.E.G. Morgans	B.W. Hayward, M.B. Reay
1986-87	S.D. Weaver	M.A. Bradshaw	H.E.G. Morgans	B.W. Hayward, M.B. Reay
1987-88	B.F. Houghton	H.J. Campbell	H.E.G. Morgans	B.W. Hayward, M.B. Reay
1988-89	B.F. Houghton	J.A. Gamble	G.J. Wilson	B.W. Hayward, M.B. Reay
1989-90	B.W. Hayward	J.A. Gamble	G.J. Wilson	D.T. Pocknall, R.A. Wood
1990-91	B.W. Hayward	J.A. Gamble	G.J. Wilson	D.T. Pocknall, R.A. Wood
1991-92	R.B. Stewart	J.A. Palmer	S. Beanland	R.A. Wood
1992-93	R.B. Stewart	J.A. Palmer	S. Beanland	K.R. Berryman, R.A. Wood
1993-94	I.E.M. Smith	J. Mauk	S. Beanland	K.R. Berryman, R.A. Wood
1994-95	I.E.M. Smith	J. Mauk	S. Beanland	K.R. Berryman, R.A. Wood
1995-96	R.J. Norris	D.E. Lee, V.G. Moon	S. Beanland	K.R. Berryman, R.A. Wood
1996-97	R.J. Norris	D.E. Lee, V.G. Moon	J.A. Palmer	S. Nathan, L.J. Singh
1997-98	J.R. Pettinga	G.H.Browne V.G.Moon	J.A. Palmer	S. Nathan, L.J. Singh
1998-99	J.R. Pettinga	G.H. Browne	J.A. Palmer	D. Smale
1999-00	S. Nathan	G.H. Browne	D.N.B. Skinner	D. Smale
2000-01	S. Nathan	G.H. Browne	D.N.B. Skinner	D. Smale
2001-02	J.A. Palmer	C. Anderson	D.N.B. Skinner	D. Smale
2002-03	J.A. Palmer	C. Anderson	D.N.B. Skinner	D. Smale
2003-04	M.R. Johnston	H.L. Neil	D.N.B. Skinner	D. Smale
2004-05	M.R. Johnston	H.L. Neil	D.N.B. Skinner	D. Smale

B. GSNZ COMMITTEE MEMBERS (including Vice Presidents)

C.J.D Adams	1977-79, 80-81
H.J. Anderson	1979-80
P.B. Andrews	1975-76
K. Bassett	2001-05
P.F. Ballance	1964-65, 68-71
D.H. Bell	1976-80
J. Bradley	1957-58, 66-67
J.D. Bradshaw	1976-78
R.M. Briggs	1991-93
J.W. Brodie	1956-58, 59-60
R.N. Brothers	1955-58, 64-65
G.H. Browne	1991-92, 96-97
H.J. Campbell	1979-81
J.D. Campbell	1960-61, 64-66, 67-70
R.H. Clark	1955-57, 58-59
G.F. Coates	1985-87
U. Cochran	2003-05
J.W. Cole	1976-78
B.W. Collins	1969-71
P. Cooke	2003-05
D.S. Coombs	1957-58
R.A. Cooper	1970-72, 75-77
F.J. Davey	1981-84
W.P. de Lange	1989-91
W. Dickinson	1996-97, 98-2001
R.R. Dibble	1958-59
R. Duncan	1989-95
J.V. Eade	1968-69
F.F. Evison	1964-65
R.T. Farmer	1975-76
R.E. Fordyce	1983-86
P.J. Forsyth	1986-90
N.C. Fowke	1981-83
P.C. Froggatt	1988-94
M. Gage	1962-65
H.S. Gair	1961-62
R.A. Garrick	1966-67
I.J. Graham	1989-90
J.A. Grant-Mackie	1961-64, 71-75
D.R. Gregg	1959-60, 67-68
M.R. Gregory	1974-75
H.R. Grenfell	1998-2005
G.W. Grindley	1969-70
B.W. Hayward	1978-79, 87-89
T. Hatherton	1965-66, 68-69
J. Healy	1960-63
W.F. Heinz	1959-62, 66-67
D.W. Heron	1985-88
N.deB. Hornibrook	1965-66
B.F. Houghton	1985-87
A.J. Hull	1983-85, 97-99
T.M. Hunt	1973-74
I. Irving	1956-57
M.J. Isaac	1980-82
D.G. Jenkins	1972-74
M.R. Johnston	1993-2003
P.J.J. Kamp	1987-89
D. Kear	1955-59
J.T. Kingma	1956-57, 58-59, 66-67
M.G. Laird	1992-94
C.A. Landis	1971-80
D.E. Lee	1994-95, 97-2002
D.W. Lewis	1979-80
K.B. Lewis	1999-2005
A.R. Lillie	1958-59, 60-61
D.J. Lowe	1999-2003
A.P. Mason	1984-88
J. Mauk	1996-97
A. McAlpine	1995-99
J.D. McCraw	1960-61
I.C. McKellar	1959-60
V.G. Moon	1993-94
N. Mortimer	2002-05
S. Nathan	1974-77, 97-99
V.E. Neall	1974-75, 80-81
C.S. Nelson	1981-83
D. Nobes	1994-97
R.J. Norris	1978-83, 90-95
J.A. Palmer	1993-96, 99-2001
J.R. Pettinga	1983-85, 89-91, 95-97
W.M. Prebble	1977-78, 97-98
J.J. Reed	1967-68
W.I. Reilly	1971-73
E.I. Robertson	1962-64
J.C. Schofield	1966-68
G.C. Shaw	1955-56, 59-60
D. Shelley	1969-71
D.N.B. Skinner	1978-79
G.M. Smart	1973-74
I.E.M. Smith	1982-84, 88-93
I.G. Speden	1965-70, 71-72
K.B. Sporli	1971-72
T.A. Stern	1984-85
G.R. Stevens	1965-66, 70-71
R.B. Stewart	1985-91
F.E. Studt	1957-58
R.P. Suggate	1959-61, 72-73
B.N. Thompson	1963-65
S. Thornley	1994-95
P.P. Vella	1968-69
G. Warren	1972-76
J.B. Waterhouse	1961-62
W.A. Watters	1962-64, 78-79
S.D. Weaver	1980-85
P.N. Webb	1970-71
B.L. Wood	1955-56, 61-62, 68-69
J.B. Wright	1963-64

C. REPRESENTATIVES ON ROYAL SOCIETY MEMBER BODIES COMMITTEE

J.W. Cole	1961-62
B.W. Collins	1962-68
G.R. Stevens	1968-70
J.W. Cole	1970-74
J.A. Grant-Mackie	1974-76, 77-81
I.G. Speden	1976-77
P.B. Andrews	1981-84
G. Warren	1984-90

D. TRUSTEES, GEOLOGICAL SOCIETY OF NZ AWARDS TRUST

M.R. Johnston	2004-05
S. Nathan	2004
J.A. Palmer	2004-05
D.N.B. Skinner	2004-05
D. Smale	2004-05

E. GSNZ LIST OF FOUNDATION MEMBERS

(Joined before November 30, 1955)

R.S. Allan	E.T.H. Annear	M.H. Battey
A.C. Beck	C.H. Benney	J.A. Berry
L. Bossard	A.E. Boult	F. Bowen
J.W. Brodie	R.N. Brothers	D.A. Brown
J.D. Campbell	E.J.S. Caswell	P.M. Chandler
R.H. Clark	C.O. Clinton	B.W. Collins
D.S. Coombs	G.G. Cossens	G.E. Craze
W. Doherty	K.W.W. Double	G.A. Eiby
C.A. Fleming	J.P. Fox	M. Gage
R.K. Garlick	F.R. Gordon	T.L. Grant-Taylor
D.R. Gregg	G.W. Grindley	M.C. Gudex
D. Hamilton	H.J. Harrington	T. Hatherton
J. Healy	W.F. Heinz	J.M. Hope
N.deB. Hornibrook	G.D. Innes	J.F. Johnston
D. Kear	J.T. Kingma	G.J. Lensen
A.R. Lillie	I.C. McDowall	I.C. McKellar
J.B. Mackie	P.B. Maling	F.W. Marshall
J.A. Marwick	A.P. Mason	W.S. Miller
N. Modriniak	F.W.J. Munden	A.R. Mutch
L.E. Oborn	N.E. Odell	M. Ongley
J.E. Priestly	W.A. Pullar	J.D. Raeside
A.J. Rahim	J.J. Reed	E.I. Robertson
W.A. Sara	J.C. Schofield	K.E. Seal
E.J. Searle	J.C. Shaw	A. Steiner
J.N. Stephens	W.L. Stewart	R.P. Suggate
N.H. Taylor	B.N. Thompson	S. Thompson
G.H. Uttley	W. Vose	C.G. Vucetich
G. Warren	M. Warren	C.T.T. Webb
H.W. Wellman	R.W. Willett	G.J. Williams
D.D. Wilson	S.H. Wilson	A. Wodzicki
B.L. Wood		

F. GSNZ SUBCOMMITTEES AND CONVENORS

Antarctica (1956-57; 1975-2000)	R.W. Willett (1956-57); M.G. Laird (1975-88); J.D. Bradshaw (1989-93); P.J. Barrett (1993-2000)
Bibliography of NZ Geology (1973-77; 1990-2003)	G. Warren (1973-77); D.C. Mildenhall (1990-2003)
Coal (1974-1989)	P.F. Ballance (1974-77); J.D. Bradshaw (1977-79); D.W. Lewis (1980-83); N.C. Fowke (1983-86); M.P. Cave (1987-89)
Constitution (1968)	D.R. Gregg (1968)
Databases (1990-2002)	I.J. Graham (1990-93); P.C. Froggatt (1993-96); S. Nathan (1997-2002)
Energy and Resources (1990-1996)	R.L. Brathwaite (1990); D. Clarke (1991-93); V.H. Bull (1993-94); P. Grieve (1995-96)
Engineering Geology (1979-1981)	S.A.L. Read (1979-81)
Fossil Record File (1970-2005)	I.G. Speden (1970-73); G. Warren (1977-84); J.I. Raine (1985-2000); H.J. Campbell (2001-05)
Geochronology database (1973-79)	G.W. Grindley (1973-75); R.J. Norris (1976-79)
Geological Education (1983-89)	D.E. Lee (1983, 86-89); J.S. Buckeridge (1984); J.R. Pettinga (1985)
Geological Hazards (1982-87)	A.G. Hull (1982-85); J.G. Gibb (1986-87)
Geological Reserves (1979-2005)	S.D. Weaver (1979-84); B.W. Hayward (1985-2005)
Geothermal (1978-2001)	E.F. Lloyd (1978-83); I.E.M. Smith (1984); R.F. Keam (1985-89): P.R.L. Browne (1990-93); S. Simmons (1993-2001)
Greywacke terminology	J.J. Reed (1967-8)
Journal format	R.M. Carter (1974)
Membership/Registration (1973-1981)	D.G. Jenkins (1973); A.C. Beck (1976); D.H. Bell (1979-81)
Mining & Mineral Exploration (1967, 81-89)	R.P. Suggate (1967); J.W. Cole (1981-83); R.L. Brathwaite (1983-89)
Nuclear Energy	D.G. Jenkins (1977)
Petroleum Exploration (1974-87)	D.G. Jenkins (1974-75); D.H. Bell (1976-77); G.W. Gibson (1977, 81-84); J.W. Cole (1978-80); T.R. Haskell (1985); P.H. Robinson (1986-87)
Publications (1979-2005)	B.W. Hayward (1979-82, 88); R.A. Cooper (1983-87); D.W. Heron (1989-90); A.G. Hull (1991-93); R.H. Grapes (1994-99); S. Nathan (2002-04); U. Cochran (2004-05)
Reminiscences Project (1980-1989)	J. Rhodes (1980-86); C.A. Fleming (1987); A.P. Mason (1988-89)
Stratigraphic Code (1964-66)	N.deB. Hornibrook (1964-66)
Stratigraphic Lexicon	G.R. Stevens (1964-87)
Waitotara Ventifacts (1977)	V.E. Neall (1977)

G. GSNZ SPECIAL INTEREST GROUPS AND CONVENORS

Group	Convenors
Friends of the Pleistocene (1990-2005)	B. Pillans (1990-93); A.S. Palmer (1994-2005)
Geological Education (1989-2005)	D.E. Lee (1989-2005)
Historical Studies (1989-2005)	A.P. Mason (1989-2000); M.R. Johnston (2001-05)
Paleontology (1990-2005)	H.J. Campbell (1990-2005)
Tectonic Studies (1989-1999)	N. Mortimer (1989-96); T. Little (1997-99)
Volcanic Studies (1989-1994)	J.W. Cole (1989-90), I.E.M. Smith (1991-94)

H. GSNZ BRANCH OFFICE BEARERS

Chairman/Convenor	Secretary
Auckland *(incomplete)*	
E.J. Searle (1960)	R.N. Brothers (1956)
R.N. Brothers (1961-62)	D. Kear (1960-1961)
B.N. Thompson (1962-63)	J.A. Grant-Mackie (1962-63)
M.R. Gregory (1965)	J.C. Schofield (1965)
B.C. Waterhouse (1966)	M.R. Gregory (1966)
A.R. Lillie (1967)	L.O. Kermode (1967),
	F.E. Bowen (1968)
D.N.B. Skinner (1969)	G.W. Gibson (1969)
L.L. Wakefield (1974)	
D.N.B. Skinner (1975)	M.J. Isaac (1975)
P.F. Ballance (1976-7)	
B.W. Hayward (1977; 97-98)	J.R. Pettinga (1977)
R.G. Carr (1980)	M.P. Cave (1979-80)
I.E.M. Smith (1981, 1989-90, 92, 94-96)	W.M. Blom (1980-81)
M.J. Isaac (1982-83)	
A.P. Mason (1983-84)	
B.C. Waterhouse (1985-86)	C. Locke (1985)
L.O. Kermode (1987-88)	K. Johnston (1987-88)
D. Clarke (1991)	S. Courtney (1989-90)
J. Lindsay (1993)	M. Jukic (1993)
H.R. Grenfell (1998-2005)	T.A. Black (1997-2000)
Canterbury *(incomplete)*	
L.E. Oborn (1961)	
D.R. Gregg (1963)	
W.D. Sevon (1965)	
H.S. Gair (1965)	
R.P. Suggate (1966)	
J.D. Bradshaw (1968)	
G.J. van der Lingen (1973-74)	D. Shelley (1973)
D. MacKinnon (1974)	
D.H. Bell (1977-78)	L. Brown (1977)
S. Nathan (1979-80)	
S.D. Weaver (1981; 85-86; 90-91)	D. Tyree (1979-80)
M.A. Bradshaw (1982-83)	
J.R. Pettinga (1983)	
D. Smale (1984)	R. Sewell (1984)
D.I. Mackinnon (1987-88)	M.J.F. Lawrence (1985-86)
V. Brazier (1989)	D. Jones (1988-93)
G.H. Browne (1991-93)	
D. Nobes (1993-96)	
N. Hiller (1997-2001)	
K. Bassett (2002-03)	N. Hiller (2002)
P.J. Tonkin (2004)	

Manawatu

G.J. Reeves (1981-86)
R.B. Stewart (1987)
A.S. Palmer (1990-91)
S. Cronin (1993)
D. Johnston (1994)
J. Lecointre (1995-98)
C. Anderson (1999)
M. D'Ath (2000)
B. Cooper (2001)
D. Birks (2002)
G. Davies (2002)
M. Turner (2003-04)
L. Pearse (2003)
K. Holt (2004)
R. Crimp (2005)

H. Brood (1980)

A. Todd (1985-87; 89-90; 94; 99)
R. Pitchforth (1991)
D. Johnston (1995-96)
J. Adams (1997)
H. Brackley (1998)
R.B. Stewart (2000-01)

Otago

C.A. Landis (1966-81)
J.D. Campbell (1967)
R.J. Norris (1974-83, 90-97)
I.M. Turnbull (1982)
R.E. Fordyce (1984-86)
J. Forsyth (1987-88)
N. Mortimer (1988-89, 2003-04)
D. Craw (1991-92)
S. Read (1998)
P. Upton (1999-2001)

Taranaki

R. Duncan (1986-87)
R. Harris (1988)
D. Moeran (1989)
M.R. Bussell (1990-94)
A. McAlpine (1994-2001)
S. Burgess (2002-05)

D. Christian (1986-87, 92-2005)
S. Burgess (1988-91)

Taupo

P. White (2001-05)

Waikato *(incomplete)*

C.S. Nelson (1975)
N.S. Fowke (1982-83)
A.P.W. Hodder (1984)
R. Stephenson (1986)
P.A. Kirk (1987)
D.A. Fergusson (1988)
M.R. Balks (1989)
H. Neil (1990)
G. Crowcoft (1991)
A. Carter (1993)
A. Whitbread-Edwards (1993)
D. Speirs (1994)
C. McCarron (1995)
M.P. Crundwell (1996-98)
P. Cooke (1998)
B. Hobden (1999-2000)
A. Pallentin (2001-2)
A. Vonk (2003)
K. Bland (2003-05)

M.D. Buck (1977)
P.J.J. Kamp (1979)
D.J. Lowe (1980)
R.M. Briggs (1981)
A.P.W. Hodder (1985-86)
P.A. Kirk (1986)

W. McLennan (1990)
G. Foster (1991)
G. Hughes (1992)
B. Strong (1993)
N. McGunnigle (1994)
R. MacCulloch (1995)
M. Thompson (1996)
J. Dickinson (1997)
P. Cooke (1999-02, 05)
A. Fuchs (2001)
R. Smith (2003-5)

Wellington

R. Howarth (1979-1980)
P.B. Andrews (1981)
J.A. Gamble (1982-85)
A.B. Christie (1986-87)
D.A. Francis (1988-91)
J.M. Beggs (1992)
S. Nathan (1993)
G.H. Browne (1993-94)
S. Thornley (1995)
W. Dickinson (1996-98)
J.S. Crampton (1999-2001)
N. Stevens (2002-03)
U. Cochran (2004-05)

P.C. Froggatt (1979-81)
D.T. Pocknall (1982)
A.J. Tulloch (1983)
J.I. Raine (1984-85)
H.J. Campbell (1986-88)
C.I. Uruski (1989-92)
G.H. Browne (1993)
E. McSaveney (1994-95)

R. Singleton (1996-98)
A. Pancha (1999-2000)
U. Cochran (2000)
C. Atkins (2001-05)

I. GSNZ ANNUAL GENERAL MEETINGS

Inaugural	May	1955	Kaikoura	NZ Geological Survey Conference
1st	May	1956	Gisborne	NZ Geological Survey Conference
2nd	Jan	1957	Dunedin	ANZAAS Conference
3rd	May	1958	Reefton	NZ Geological Survey Conference
4th	May	1959	New Plymouth	NZ Geological Survey Conference
5th	May	1960	Wellington	Pacific Science Congress
6th	May	1961	Te Anau	NZ Geological Survey Conference
7th	Aug	1962	Christchurch	NZ Science congress
8th	May	1963	Whangarei	NZ Geological Survey Conference
9th	May	1964	Takaka	NZ Geological Survey Conference
10th	Aug	1965	Wellington	NZ Geological Survey Conference
11th	May	1966	Oamaru	NZ Geological Survey Conference
12th	May	1967	Hamilton	Geological Society Conference
13th	May	1968	Wellington	
14th	Nov	1969	Dunedin	Geological Society Conference
15th	Jun	1970	Wellington	Volcanological Symposium
16th	Jun	1971	Wellington	Torlesse Symposium
17th	Dec	1972	Hastings	NZ Geological Survey Conference
18th	July	1973	Auckland	Geological Society Cretaceous Conference
19th	Nov	1974	Wellington	Geological Society Conference
20th	Nov	1975	Kaikoura	Geological Society Conference
21st	Dec	1976	Hamilton	Geological Society Conference
22nd	Nov	1977	Queenstown	Geological Society Conference
23rd	Jan	1979	Auckland	Geological Society Conference with ANZAAS Congress
24th	Nov	1979	Nelson	Geological Society Conference
25th	Nov	1980	Christchurch	Geological Society Conference
26th	Nov	1981	Hamilton	Geological Society Conference
27th	Feb	1983	Dunedin	Geological Society Conference with Pacific Science Congress
28th	Nov	1983	Auckland	Geological Society Conference
29th	Dec	1984	Wellington	Geological Society Conference
30th	Dec	1985	Christchurch	Geological Society Conference
31st	Dec	1986	Palmerston Nth	Geological Society Conference
32nd	Dec	1987	Dunedin	Geological Society Conference
33rd	Nov	1988	Hamilton	Geological Society Conference
34th	Dec	1989	Auckland	Geological & Geophysical Societies Conference
35th	Nov	1990	Napier	Geological Society Conference
36th	Nov	1991	Palmerston Nth	Geological & Soil Science Societies Conference
37th	Nov	1992	Christchurch	Geological & Geophysical Societies Conference

38th	Dec	1993	Wellington	Geological Society Conference
39th	Nov	1994	New Plymouth	Geological Society Conference
40th	Nov	1995	Auckland	Geological Society Conference with PACRIM Conference
41st	Nov	1996	Dunedin	Geological Society Conference
42nd	Nov	1997	Wellington	Geological Society Conference
43rd	Dec	1998	Christchurch	Geological & Geophysical Societies Conference
44th	Nov	1999	Palmerston Nth	Geological & Geophysical Societies Conference
45th	Nov	2000	Wellington	Geological & Geophysical Societies Conference
46th	Nov	2001	Hamilton	Geological Society Conference
47th	Dec	2002	Whangarei	Geological Society Conference
48th	Dec	2003	Dunedin	Geological Society Conference
49th	Dec	2004	Taupo	Combined Geological & Geophysical Societies and Geothermal Association Conference
50th	Nov	2005	Kaikoura	Geological Society Conference

J. GEOLOGICAL SOCIETY OF NEW ZEALAND CONFERENCES

			City	*Convenors*
1st	May	1967	Hamilton	J.C. Schofield
2nd	May	1969	Dunedin	I.C. McKellar
3rd	July	1973	Auckland	J.A. Grant-Mackie
4th	Nov	1974	Wellington	J.W. Cole
5th	Nov	1975	Kaikoura	P.B. Andrews
6th	Dec	1976	Hamilton	C.S. Nelson
7th	Nov	1977	Queenstown	R.J. Norris
8th	Jan	1979	Auckland	F.E. Bowen
9th	Nov	1979	Nelson	W.A. Watters
10th	Nov	1980	Christchurch	S. Nathan
11th	Nov	1981	Hamilton	R.M. Briggs
12th	Feb	1983	Dunedin	I.M. Turnbull
13th	Nov	1983	Auckland	I.E.M. Smith
14th	Dec	1984	Wellington	R. Howorth
15th	Dec	1985	Christchurch	J.R. Pettinga
16th	Dec	1986	Palmerston North	V.E. Neall
17th	Dec	1987	Dunedin	R.E. Fordyce
18th	Nov	1988	Hamilton	P.J.J. Kamp
19th	Dec	1989	Auckland	I.E.M. Smith
20th	Nov	1990	Napier	B.W. Hayward & D.C. Mildenhall
21st	Nov	1991	Palmerston North	R.B. Stewart & A.S. Palmer
22nd	Nov	1992	Christchurch	D. Shelley & M. Broadbent
23rd	Dec	1993	Wellington	P.C. Froggatt
24th	Nov	1994	New Plymouth	R.M. Briggs
25th	Nov	1995	Auckland	P.F. Ballance
26th	Nov	1996	Dunedin	A.J. Tulloch
27th	Nov	1997	Wellington	I.G. Speden
28th	Nov	1998	Christchurch	J.W. Cole & M.A. Bradshaw
29th	Nov	1999	Palmerston North	R.B. Stewart
30th	Nov	2000	Wellington	J.A. Gamble, R.H. Grapes & T. Stern
31st	Nov	2001	Hamilton	D.J. Lowe
32nd	Dec	2002	Whangarei	B.W. Hayward
33rd	Dec	2003	Dunedin	P. Glassey
34th	Dec	2004	Taupo	V. Manville
35th	Nov	2005	Kaikoura	J.R. Pettinga

K. SOCIETY GUIDEBOOKS

GB13 Houghton, B.F.; Scott, B. 2002. Geyserland: a guide to the volcanoes and geothermal areas of Rotorua. 48 p.
GB12 Hayward, B.W. 1996. Precious Land: protecting New Zealand's landforms and geological features. 48 p.
GB11 Grapes, R.H.; Campbell, H.J. 1994. Red Rocks: a Wellington geological excursion. 32 p.
GB10 Stevens, G.R. 1992. On Shaky Ground: a geological guide to the Wellington metropolitan region. 112 p.
GB09 Turnbull, I.M.; Forsyth, P.J. 1988. Queenstown: a geological guide. 48 p.
GB08 Hayward, B.W. 1987. Granite and Marble: a guide to building stones in New Zealand. 56 p.
GB07 Weaver, S.; Sewell, R.; Dorsey, C. 1990. Extinct Volcanoes: a guide to the geology of Banks Peninsula. 48 p.
GB06 Cooper, R.A., 1984. Cobb Valley: a geological guide. 48 p.
GB05 Ballance, P.F.; Smith, I.E.M. 1982. Walks through Auckland's geological past: a guide to the geological formations of Rangitoto, Motutapu, and Motuihe Islands. 24 p.
GB04A Houghton, B.F. 1982. Geyserland: Japanese version, 48 p.
GB04 Houghton, B.F. 1982. Geyserland: a guide to the volcanoes and geothermal areas of Rotorua. 48 p. [Revised as GB13].
GB03 Hayward, B.W. 1979. Ancient Undersea Volcanoes: a guide to the geological formations at Muriwai, West Auckland. 32 p.
GB02 Stevens, G.R. 1975. The Anatomy of a Marlborough Fault Line: The Wairau Fault at Branch River. 16 p.
GB01 Stevens, G.R. 1975. Wellington's Restless Coast: Changes in Land and Sea at Turakirae Head. 24 p.

L. MISCELLANEOUS PUBLICATIONS

MP118 Hayward, Bruce W. 2005. Geological Society of New Zealand 1955-2005 – our first 50 years. 75 p.
MP117B Manville, V. (ed.) 2004. Field Trip Guides, Geological Society of New Zealand/New Zealand Geophysical Society/26th Annual Geothermal Workshop combined conference "GEO3", Taupo, New Zealand. 135 p.
MP117A Manville, V.; Tilyard, D. (eds.) Programme and abstracts, Geological Society of New Zealand/New Zealand Geophysical Society/26th Annual Geothermal Workshop combined conference "GEO3", Taupo, New Zealand. 128 p.
MP116B Cox, S.; Smith-Lyttle, B. (eds.) 2003. GSNZ Inc 2003 Annual Conference, 1-4 December, University of Otago, Dunedin: Field Trip Guides.
MP116A Mortimer, N.; Lee, D. (eds.) 2003. GSNZ Inc 2003 annual conference, 1-4 December, University of Otago, Dunedin: programme & abstracts. 165 p. (download as 500kb pdf file)
MP115 Hocken, A.G. 2003. Geology at the University of Otago: the first 100 years. 112 p.
MP114B Fordyce, R.E. 2002. Secondary adaptation to life in water: field trip guide to the Waitaki District, Waihao Valley and Hakataramea Valley: Department of Geology, University of Otago, Dunedin, New Zealand, 9-13 December 2002. 13 p.
MP114A Fordyce, R.E.; Walker, M. 2002. Secondary adaptation to life in water: abstracts: Department of Geology, University of Otago, Dunedin, New Zealand, 9-13 December 2002. 54 p.
MP113 Nathan, S.; Thompson, B.N.; Hayward, B.W. (compilers) 2002. Bibliography of New Zealand earth science theses. 2nd edition (up to December 2000). Download
MP112B Smith, V.; Grenfell, H.R. (eds.) 2002. GSNZ annual conference, Northland 2002, 2nd-5th December 2002, Whangarei: field trip guides. 116 p.

MP112A Grenfell, H.R. (ed.) 2002. GSNZ annual conference, Northland 2002, 2nd-5th December, 2002, Whangarei: programme & abstracts. 60 p. (download as 1.2Mb zipped pdf file)

MP111 GSNZ Geological Reserves Subcommittee, 2001. Roads and earth science conservation in New Zealand: a discussion document. 30 p.

MP110C Fuchs, A.; Pallentin, A.; Vonk, A. (eds.) 2001. GSNZ annual conference 2001, 27-29 November, Hamilton: GIS workshop.

MP110B Smith, R.T. (ed.) 2001. GSNZ annual conference 2001, 27-29 November, Hamilton: field trip guides.

MP110A Lowe, D.J.; Cooke, P.J.; Pallentin, A. (eds.) 2001. GSNZ annual conference 2001, 27-29 November, Hamilton: abstracts & programme. 158 p.

MP109 Mason, B.; Nathan, S. 2001. From mountains to meteorites. 72 p.

MP108B Grapes, R. (comp., ed.) 2000. GSNZ, New Zealand Geophysical Society joint annual conference, 27-30 November 2000: field trip guides.

MP108A Little, T. (ed.) 2000. GSNZ, New Zealand Geophysical Society Joint Annual Conference, 27-30 November 2000: programme & abstracts. 176 p.

MP107B Palmer, A. (ed.) 1999. GSNZ Inc 1999 Annual Conference, 29 November - 1 December, Massey University, Palmerston North : field trip guides. 248 p.

MP107A Wallace, C. (ed.) 1999. GSNZ Inc 1999 Annual Conference, 29 November - 1 December, Massey University, Palmerston North: programme and abstracts. 179 p.

MP106 ?

MP105 Hayward, B.W.; Kenny, J.A. (eds.) 1999. Inventory and maps of important geological sites and landforms in the West Coast region. 51, [74] p.

MP104 Hayward, B.W.; Kenny, J.A.; Johnston, M.R. (eds.) 1999. Inventory and maps of important geological sites and landforms in the Nelson and Marlborough regions, including Kaikoura district. 66, [90] p.

MP103 Berryman, K.R.; Pancha, A. 1999. The Wellington Fault in Long Gully : Hector Day field trip, 21 March 1999.

MP102 Gage, M.; Nathan, S. 1999. A geologist remembers: recollections of fieldwork. 52 p.

MP101B Laird, M. (ed.) 1998. GSNZ, New Zealand Geophysical Society 1998 Joint Annual Conference, 30 November - 3 December: field trip guides.

MP101A Bassett, K.N.; Nobes, D.C. (eds.) 1998. GSNZ, New Zealand Geophysical Society 1998 Joint Annual Conference, 30 November - 3 December: programme & abstracts. 260 p.

MP100 Hayward, B.W.; Kenny, J.A. (eds.) 1998. Inventory and maps of important geological sites and landforms in the Southland Region, including Stewart Island and the Subantarctic Islands. 41 p.

MP99 Hayward, B.W.; Kenny, J.A. (eds.) 1998. Inventory and maps of important geological sites and landforms in the Otago region. 53 p.

MP98 Kenny, J.A.; Hayward, B.W. 1998. Inventory and maps of important geological sites and landforms in the Canterbury Region, including the Chatham Islands. 60 p.

MP97 Cooper, R.A.; Jones, C.M. (eds.) 1998. Geology and genes: extended abstracts of papers presented at the Geogenes 98 Conference. Wellington, Tuesday 24 March 1998. 78 p.

MP96 McKee, J.W.A.; Wiffen J. 1998. Mangahouanga Stream - New Zealand's Cretaceous Dinosaur and Marine Reptile site [photocopies only].

MP95B Campbell, H.J.; Grapes, R.H. (eds.) 1997. GSNZ 1997 Annual Conference : 25-27 November. Wellington: field trip guides.

MP95A Skinner, D.N.B. (ed.) 1997. GSNZ Annual Conference 1997: 25-27 November, Wellington: programme and abstracts. 176 p.

MP94 Grapes, R.; Goh, A. 1997. Coastal Makara: geomorphology, geology and archaeology. 14p.

MP93 Kidd, C.M. 1996. Union list of archival, manuscript, and theses geological maps of New Zealand. 415 p. Download

MP92 Copeland, S.; Lee, D. 1996. Earth shattering experiences: earth science activities for New Zealand schools. [Dunedin]. 127 p.

MP91B Anon, 1996. GSNZ 1996 annual conference, 26-28 November, University of Otago, Dunedin, field trip guides. 179 p.
MP91A Morrison, B.; Landis, C.; Tulloch, A. (eds.) 1996. GSNZ Inc 1996 annual conference, 26-28 November, University of Otago, Dunedin: programme and abstracts. 190 p.
MP89 Kenny, J.A.; Hayward, B.W. (eds.) 1996. Inventory and maps of important geological sites and landforms in the Manawatu and Wellington regions. 39 p.
MP88 Kenny, J.A.; Hayward, B.W. (eds.) 1996. Inventory and maps of important geological sites and landforms in the Taranaki and Wanganui regions. 40 p.
MP87 Kenny, J.A.; Hayward, B.W. (eds.) 1996. Inventory and maps of important geological sites and landforms in the East Coast and Hawkes Bay regions. 39 p.
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MP82 Foster, P.; Lee, D.; Forsyth, J.; Aitken, J. 1996. Earth Science Resource List.
MP81B O'Connor, B.M.; Ballance, P.F. (eds.) 1995. GSNZ 1995 Annual Conference 22-24 November, the University of Auckland, Auckland : field trip guides. 73 p.
MP81A Worthington, T.J.; O'Connor, B.M. (eds.) 1995. GSNZ 1995 Annual Conference 22-24 November, the University of Auckland, Auckland: programme and abstracts. 195 p.
MP80B Briggs, R.; Moon, V. (compilers) 1994. GSNZ 1994 annual conference, 29 November - 1 December, New Plymouth: field trip guides. 151 p.
MP80A Neil, H.; Gillespie, J.; Moon, V.; Briggs, R. (eds.) 1994. GSNZ Inc. 1994 annual conference, 29 November-1 December, Quality Hotel, New Plymouth: programme and abstracts. 196 p.
MP79B Grapes, R.; Little, T.; Campbell, H.J. (eds.) 1993. GSNZ 1993 Annual Conference, Victoria University of Wellington, 6-10 December: conference field trip guides. 161 p.
MP79A Froggatt, P. (ed.) 1993. GSNZ 1993 Annual Conference, Victoria University of Wellington, 6 - 10 December: programme and abstracts. 157 p.
MP78 Kenny, J.A.; Hayward, B.W. (eds.) 1993. Inventory of important geological sites and landforms in the Southland region including the subantarctic islands. 45 p.
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MP66 Campbell, H.J.; Grapes, R.; Handler, M. 1993. Mukamuka: geology of the northwest corner of Palliser Bay, Wairarapa. 28 p.
MP65B Beanland, S.; Berryman, K.; Hull, A.; Pillans, B. 1992. International Symposium on Diversity in Coastal Evolution in the Quaternary: field guidebook, December 10-15, 1992 New Zealand. 59 p.
MP65A Anon. 1992. International Symposium on Diversity in Coastal Evolution in the Quaternary: programme and abstracts, December 7-9, 1992, annual meeting Wellington. New Zealand. 72 p.
MP64 Bussell, R.; Crosdale, P.; Duncan, B. 1993. Field guide to Taranaki geology. 20 p.
MP63B Campbell, J.K. (ed.) 1992. GSNZ and New Zealand Geophysical Society 1992 Joint Annual Conference: University of Canterbury, 23 November-27 November: field trip guides. 203 p.
MP63A Nobes, D.C. (ed.) 1992. GSNZ and New Zealand Geophysical Society 1992 joint annual conference, University of Canterbury, 23 November - 27 November: programme and abstracts. 171 p.
MP62 Kenny, J.A.; Hayward, B.W. 1992. Inventory of New Zealand sedimentary geology sites of international, national and regional significance. 119 p.
MP61 Kermode, L.O.; Smith, I.E.M.; Moore, C.L.; Stewart, R.B.; Ashcroft, J.; Nowell, S.B.; Hayward, B.W. 1992. Inventory of Quaternary volcanoes and volcanic features of Northland, Auckland, south Auckland and Taranaki. 100 p.
MP60 Watters, B.; Priestely, R.; Nowell, S. 1992. Inventory on New Zealand metamorphic rock sites of international, national and region significance. 47 p.
MP59B Anon. 1991. Joint annual conference, GSNZ and New Zealand Society of Soil Science : 25 November-1 December 1991: field trip guides. 96 p.
MP59A Stewart, R.B.; Palmer, A.S.; Todd, A. (eds.) 1991. GSNZ and New Zealand Society of Soil Science : joint annual conference, Palmerston North 1991, November 25-29: programme and abstracts. 150 p.
MP58 Coombs, D.S.; Cox, S.C. 1991. Low- and very low-grade metamorphism in southern New Zealand and its geological setting. 88 p.
MP57 Simmons, S.F.; Browne, P.R.L. 1991. Active Geothermal Systems of the North Island New Zealand. (Guide book for North Island field tour; IGCP project 294)
MP56 Anon. 1991. Workshop: structural transition from Alpine Fault to Hikurangi Margin in space and time: programme and abstracts. 63 p.
MP55 Houghton, B.F.; Hayward, B.W.; Cole, J.W.; Hobden, B.; Johnston, D.M. 1991. Inventory of Quaternary volcanic centres and features of the Taupo Volcanic Zone (with additional entries for Mayor Island and the Kermadec Islands). 156 p.
MP54 Nowell, S.; Spörli, B. 1991. Inventory of New Zealand structural geology sites of international, national and regional significance. 57 p.
MP53 Priestley, R.; Wyzoczanski, R.; Nowell, S. 1991. Inventory of New Zealand mineral sites of international, national and regional significance. 60 p.
MP52 Black, T.M.; Nowell, S.B.; Hayward, B.W. 1991. Inventory of geologically-related historical sites and features of international, national and regional importance. 94 p.
MP51 Thompson, B.N.; Hayward, B.W. (compilers) 1991. Bibliography of New Zealand earth science excursion guides, 1891-1990. 85 p.
MP50B Anon. 1990. GSNZ annual conference, 26-30 November 1990, Napier, New Zealand: conference field trips. 247 p.
MP50A Campbell, H.J.; Hayward, B.W.; Mildenhall, D.C. (eds.) 1990. GSNZ Annual Conference Napier 1990: programme and abstracts. 154 p.
MP49 Weaver, S.D.; Johnston, D.M.; Hayward, B.W. 1990. Inventory of New Zealand igneous geological sites and features (pre-Quaternary) of international, national and regional importance. 74 p.
MP48 Lee, D.; Forsyth, J. 1991. Earth science resource list. [Dunedin]. 63 p.

MP47 Worthy, T. 1990. Inventory of New Zealand caves and karst of international, national and regional importance. 2nd edition, 42 p.

MP46B Lee, D.E. 1990. Field trip NZ3 : Cenozoic brachiopod faunas of North Otago. 23 p.

MP46A Campbell, H.J.; Campbell, J.D.; MacFarlan, D.A.B. 1990. 2nd International Brachiopod Congress, field excursion NZ4. Permian-Triassic-Jurassic brachiopod faunas in Southland and South Otago, New Zealand. 53 p.

MP45 Worthy, T. 1989. Inventory of New Zealand caves and karst of international, national and regional importance. 1st edition, 41 p.

MP44 Houghton, B.F.; Lloyd, E.F.; Keam, R.F.; Johnston, D.M. 1989. Inventory of New Zealand geothermal fields and features. 54 p.

MP43C Kermode, L.O. 1989. Pre-Conference tour - Auckland geology. 31 p. $4.00

MP43B Isaac, M.J.; Brook, F.J.; Ruddock, R.S.; Smith, I.E.M. 1989. Cape Karikari - Doubtless Bay field trip guide. 13 p.

MP43A Smith, I.E.M. (convener) 1989. New Zealand Geology and Geophysics Conference 1989, held at University of Auckland, 4-7 December: programme and abstracts. 111 p.

MP42 Hayward, B.W.; Shelley, D.; Thompson, B.N. (eds.) 1989. Bibliography of New Zealand earth science theses (up to December 1987). 128 p.

MP41D Houghton, B.F.; Latter, J.H.; Froggatt, P.C. 1988. Volcanic hazard in New Zealand: identifying the problem and practical measures to mitigate the risk. 54 p.

MP41BC Kamp, P.J.J.; Lowe, D.J. (compilers) 1988. GSNZ annual conference, 28 Nov. - 1 Dec., 1988, Hamilton, New Zealand: Field trip guides. 93 p.

MP41A Kamp, P.J.J. (compiler) 1988. GSNZ annual conference, 28 Nov. - 1 Dec., 1988, Hamilton, New Zealand: programme and abstracts. 168 p.

MP40 Fleming, C.A.; Kermode, L.O.; Northcote-Bade, J.; Spörli, K.B. 1988. Carle's biography of Ferdinand von Hochstetter. 24 p.

MP39 Spörli, K.B.; Aita, Y. 1988. Field guide to Waipapa basement rocks, Kawakawa Bay, Auckland. Workshop on radiolaria, University of Auckland, 2-3 July 1988. 27 p.

MP38 Stirling, M.W. 1988. Inventory of NZ active earth deformation sites (1st ed.), 85 p.

MP37C Anon. 1987. GSNZ Annual Conference, 1-4 December 1987, Dunedin, New Zealand: post-conference field trips. 110 p.

MP37B Anon. 1987. GSNZ Annual Conference, 1-4 December 1987, Dunedin, New Zealand: one-day field trips. 101 p.

MP37A Anon. 1987. GSNZ Annual Conference, 1-4 December 1987, Dunedin, New Zealand: programme and abstracts. 116 p.

MP36B Lewis, D.W.; Laird, M.G. 1986. International Sedimentological Congress Field excursion 31B. Gravity flow deposits processes and tectonics subaerial to deep marine, northern South Island Cretaceous to Recent, New Zealand. 45 p.

MP36A Ballance, P.F.; Gosson, G.J.; Wilson, C.J.N. 1986. International Sedimentological Congress Geological field trip 15A. Sedimentology of an obliquely convergent arc and "kneaded" margin, with some emphasis on volcaniclastic sediments: North Island Neogene, New Zealand. 130 p.

MP35B Anon. 1986. GSNZ 16th annual conference, Massey University, 1-5 December 1986: field trip guides. 143 p.

MP35A Anon. 1986. GSNZ 16th annual conference, Massey University, 1-5 December 1986: programme and abstracts. 115 p.

MP34 Stewart, M. (compiler) 1986. Abstracts from the Lower Paleozoic Workshop: held from the 3rd-5th September 1986. [Christchurch]. 50 p.

MP33C Cooper, R.A.; Bradshaw, M.A. 1985. Excursion 3. Lower Paleozoic of Nelson-Westland. 42 p.

MP33B Fordyce, R.E.; Hornibrook, N. de B.; Maxwell, P.A. 1985. Guide book No 2. Cenozoic geology of North Otago and South Canterbury. 50 p.

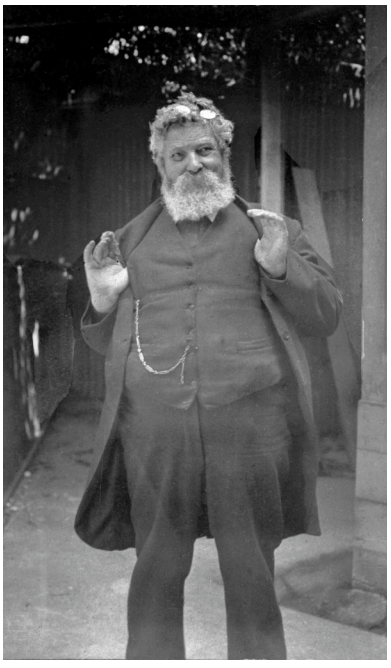
MP33A Begg, J.G.; Campbell, H.J.; Campbell, J.D. 1985. Guide Book No 1. Permian - Jurassic of Southland and South Otago. 45 p.
MP32B Anon. 1985. GSNZ Christchurch December 9th-13th 1985: field trip guides. 112 p.
MP32A Anon. 1985. GSNZ Christchurch Conference, December 9th-13th 1985: programme and abstracts. 95 p.
MP31B Anon. 1984. GSNZ 1984 Annual Conference, Victoria University of Wellington, 8-14 December: guides for field trips. 118 p.
MP31A Anon. 1984. GSNZ Annual Conference 1984, Victoria University: programme and abstracts.
MP30B Spörli, K.B. (ed.) 1983. GSNZ 1983 Annual Conference, Geology Department, University of Auckland: field trip guides. 91 p.
MP30A Anon. 1983. GSNZ Annual Conference 1983, held at the University of Auckland, 14-18 November 1983: programme and abstracts. 124 p.
MP29B Briggs, R.M. (compiler) 1981. GSNZ Annual Conference 1981, University of Waikato, Hamilton, 23-26 November: field trip guides. 97 p.
MP29A Anon. (convenor) 1981. GSNZ Annual Conference 1981, University of Waikato, Hamilton, 23-26 November: programme and abstracts. 87 p.
MP28 Stevens, G.R.; Haronga, M.A. 1981. Geological time scale. 1 chart
MP27B Weaver, S.D.; Lewis, D.W. (eds.) 1980. GSNZ 1980 Conference, Christchurch: field excursion guide book. [94 p.]
MP27A Anon. 1980. GSNZ Annual Conference 1980 at the University of Canterbury. November 24-27th: program and abstracts. 102 p.
MP26 Stevens, G.R. 1980. Geological Time Scale (1st Edition).
MP25 Smale, D. 1980. Geological Equipment Directory: A directory of equipment of interest to geologists in New Zealand. 42 p.
MP24 Watters, W.A. (convenor) 1979. GSNZ Nelson Conference. November 18th-24th, 1979: program, abstracts and half-day field trip guides. 91 p.
MP23 Anon. 1979. GSNZ Conference Jan 27 1979, Auckland. “Geology in New Zealand, 1978”
MP22C Carter, R.M.; Norris, R.J. 1977. Queenstown Conference tour guide for post-conference excursion to Blackmount, Waiau Basin, December 5-7th. 31 p.
MP22A Norris, R.J. (convenor) 1977. GSNZ Queenstown 1977 Conference: programme and abstracts.
MP21B Anon. 1976. GSNZ Annual Conference, 6-9 December, 1976, Hamilton: field trip guidebook.
MP21A Anon. 1976. GSNZ Annual Conference, 6-9 December, 1976, Hamilton: programme and abstracts.
MP20 GSNZ: NZ Fossil Record File. Location of Masterfiles.
MP19 1975. GSNZ Annual Conference, Nov. 24-25 1975, Kaikoura. Programme and abstracts.
MP18 Warren, G. 1975. Metrication of NZ Fossil Record File. Notes for Masterfile Curators.
MP17C Milne, D. 1974. Field trip to Wanganui Basin, 28th - 29th November 1974. 66 p.
MP17B Vella, P.P. 1974. Pre-session tour to Hikawera and Ngahape, Wairarapa. 16 p.
MP17A Anon. 1974. GSNZ Annual Conference, Wellington, Nov. 1974: Abstracts.
MP16 Anon. 1973. Conference on the New Zealand Cretaceous held at University of Auckland, 6th-8th July, 1973. 44 p.
MP15 Warren, G.; Scott, G.H. 1972. New Zealand Fossil Record File: Notes for users of the fossil record form. 8 p.
MP14 Anon. 1971. Symposium on Torlesse Supergroup held at Victoria University of Wellington, 24th-25th June, 1971. 31 p.
MP13 1969. GSNZ Annual Conference, Nov 28-Dec 3 1969, Dunedin. Programme and abstracts.
MP12 GSNZ 1967. Guide to Stratigraphic Nomenclature, 20 p.
MP11 1967. GSNZ Annual Conference, May 10-15 1967, University of Waikato, Hamilton. Programme and abstracts.
MP1-10 numbers unassigned.

M. SOCIETY AWARDS RECIPIENTS

McKAY HAMMER: *For the most meritorious contribution to the geology of New Zealand and its dependencies (including Ross Dependency) published in the previous (one, two) three calendar years.*

1956	G.R. Stevens	Geology of the Hutt Valley	*papers*
1957	C.A. Fleming	Pecten	*bulletin*
1958	M. Gage	Glaciations, Waimakariri	*paper*
1959	H.W. Wellman	N.Z. Cretaceous divisions	*paper*
1960	D.S. Coombs	Low grade mineral facies	*paper*
1961	N. de B. Hornibrook	Oamaru foraminifera	*bulletin*
1962	B. Gunn; G. Warren	Geology, Antarctica	*bulletin*
1963	B.L. Wood	Structure of Otago schists	*paper*
1964	J.B. Waterhouse	Permian brachiopoda	*bulletin*
1965	A. Ewart	Whakamaru Ignimbrite	*paper*
1966	No Award		
1966-67	J.P. Kennett	Kapitean stratigraphy	*papers*
1967-68	R. Stoneley	East coast decollement	*paper*
1968-69	G.H. Scott	Biometry in micropaleontology	*papers*
1969-70	T. Hatherton	Geophysical anomalies and seismicity	*papers*
1970-71	D.G. Jenkins	Planktonic Foraminifera	*bulletin*
1971-72	D.G. Bishop	Petrology and structural geology	*papers*
1972-73	No Award		
1973-74	P.B. Andrews	Sedimentology, Torlesse and Otago shelf	*papers*
1974-75	G.J. Williams	Economic geology of N.Z.	*bulletin*
1975-76	I.G. Speden	Cretaceous geology	*papers*

The McKay Hammer



Alexander McKay
Photo: Institute of Geological & Nuclear Sciences

The Geological Society of New Zealand's most prestigious award is the annual McKay Hammer Award "for the most meritorious published contribution to New Zealand geology". This award is named in honour of the famous early New Zealand field geologist Alexander McKay. Each recipient receives an inscribed Estwing geological hammer, but the name of the award is based around one of McKay's actual hammers. The hammer was donated to the Geological Society in 1957 by Bill Heinz and is lodged with the Institute of Geological and Nuclear Sciences library for safe keeping and eventual display.

1976-77 B.W. Hayward	Lower Miocene, Northland	*papers*
1977-78 S. Nathan	West Coast geology	*papers*, *maps*
1978-79 R.A. Cooper	Paleozoic geology and fauna	*paper, bulletin*
1979-80 V.E. Neall	Taranaki volcanics	*papers, maps*
1980-81 G.P.L. Walker	Ignimbrites of Taupo region	*papers*
1981-82 M.R. Johnston	Nelson geology	*maps*
1982-83 J.R. Pettinga	Hawkes Bay structure	*paper*
1983-84 M.S. McGlone	Quaternary palynology	*papers*
1984-85 C.J.N. Wilson	Taupo eruption	*papers*
1985-86 No award		
1986-87 I.M. Turnbull	Southland geology	*maps*
1987-88 C. Landis; M. Blake	Tectonostratigraphic terranes	*paper*
1988-89 C.S. Nelson	Carbonates	*papers*
1988-90 W. Giggenbach	Hydrothermal fluids & gases	*papers*
1988-90 J.Y. Bradshaw	Fiordland geology	*paper*
1989-91 P.A. Maxwell	Eocene macro paleontology	*bulletin*
1990-92 B.J. Pillans	NZ Quaternary stratigraphy	*map, paper*
1991-93 N. Mortimer	Otago geology	*map, paper*
1992-94 I.C. Wright	Offshore Taupo Volcanic Zone	*papers*
1993-95 P.O. Koons	Plate tectonics, minerals, metamorphism	*papers*
1994-96 J.S. Crampton	Cretaceous inoceramids & biostratigraphy	*bulletins*
1995-97 L. Carter	Modern sedimentary and oceanography	*papers*
1996-98 P.M. Barnes	Southern Hikurangi margin	*papers*
1997-99 C.J.D. Adams	Permian-Triassic and Ordovician terranes	*papers*
1998-00 R.P. Suggate	Hokitika Quaternary & coal rank	*bulletin, papers*
1999-01 P.J.J. Kamp	NZ fission track thermochronology	*papers*
2000-02 T. Little	Structural and tectonic history of NZ	*papers*
2001-03 P.A. Shane	Tephrochronology & paleoclimate	*papers*

HOCHSTETTER LECTURE: *An annual lecture delivered to each branch by a New Zealand earth scientist who is undertaking or has recently completed a major, and as yet unpublished study, and who has a reputation as a good, informative speaker. Emphasis shall be on the dissemination of new concepts or techniques, and/or of important new information which modifies existing interpretations. The topic should be of interest to both a professional and amateur audience.*

1974	H.W. Wellman	Plate tectonics and N.Z. during the last 80 m.y.
1975	R.M. Carter	The Kaikoura sequence in Fiordland and western Southland.
1976	T. Hatherton	Geophysicists, in short, and the sleeping monster.
1977	R.A. Cooper	N.Z. in the early Paleozoic.
1978	R.I. Walcott	Structure and tectonics of the present plate boundary zone in N.Z.
1979	C.J.D. Adams	New ways with old ages.
1980	J.D. Bradshaw	Permian to Cretaceous on the margin of Gondwana.
1981	V.E. Neall	Instability of a stratovolcano such as Egmont and its hazards.
1982	K.B. Spörli	Tectonics of Northland and its relation to the rest of N.Z.
1983	P.J. Barrett	History of the Antarctic Ice Sheet.
1984	C.S. Nelson	The deep sea drilling record in the S.W. Pacific.
1985	L. Carter	Movement of debris from the Southern Alps to the deep Pacific.
1986	T. Seward	Metal transport and deposition in hydrothermal systems.
1987	M.E. Reyners	Big faults and little earthquakes.
1988	R.E. Fordyce	The history of whales, oceans and continents.
1989	J. Newman	West Coast paleo-swamp models.
1990	B.J. Pillans	Quaternary sea-level and climate change.

The Hochstetter Lecture

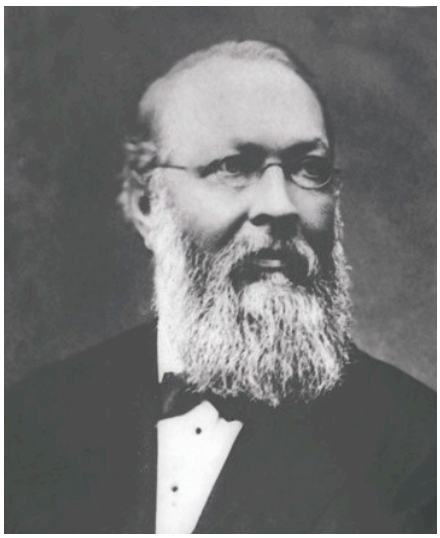


Photo: Institute of Geological & Nuclear Sciences

Each year since 1974, the Geological Society has funded a national travelling lecture named after "the Founding Father of New Zealand Geology" - Ferdinand Ritter von Hochstetter (1829-1884). Despite his fame in New Zealand, Hochstetter was here for only nine months (1858-1859), but during his short stay he made the first regional geological maps in this country (Auckland and Nelson Provinces), and after his return to Austria he published his substantial book on "The geology of New Zealand" in 1864. The Hochstetter Lecturer is a New Zealand earth scientist selected from nominations every year. The purpose of the lecture is to inform the wider geological community of recent developments in New Zealand earth science. According to its bylaws, it should be presented by researchers who have recently completed major, ground-breaking studies, and who have a reputation as good, informative speakers.

1991	R.J. Norris	Alpine Fault in Westland.
1992	B.F. Houghton	Products and processes of basaltic explosive volcanism.
1993	S.F. Simmons	Waimangu Geothermal Field.
1994	R.G. Allis	Thermal evolution of sedimentary basins.
1995	K.R. Berryman	Deciphering earthquakes from the geological record.
1996	J.A. Gamble	Magma mixing and unmixing in the Earth.
1997	T.A. Stern	Crustal structure and tectonics of a transform plate boundary.
1998	S. Cronin	Volcanic eruption, lahar risk and mechanism.
1999	S.D. Weaver	Growth and development of mainland continental crust.
2000	P.F. Ballance	The making of the South Pacific.
2001	S.G. Cox	Mapping in the Southern Alps.
2002	R. Sutherland	Cretaceous-Cenozoic evolution of N.Z. and Antarctica.
2003	I.C. Wright	Sub-sea discoveries on the Kermadec Ridge.
2004	A.J. Tulloch	Geology of Stewart Island: implications for Cordilleran batholiths.
2005	J. Shulmeister	Late Quaternary glaciation in NZ.

KINGMA AWARD: *For the most outstanding contribution made by a technician in the field of geology, geophysics or oceanography.*

1975	D.R. Petty	NZ Geological Survey, Otara
1976	C.M. Whiteford	Geophysics Division, Wellington
1977	N.W. Orr	NZ Geological Survey, Lower Hutt
1978	J.E. Simes	NZ Geological Survey, Lower Hutt
1979	B.J. Burt	NZ Geological Survey, Lower Hutt
1980	K. Calder	Geology Dept., Victoria University

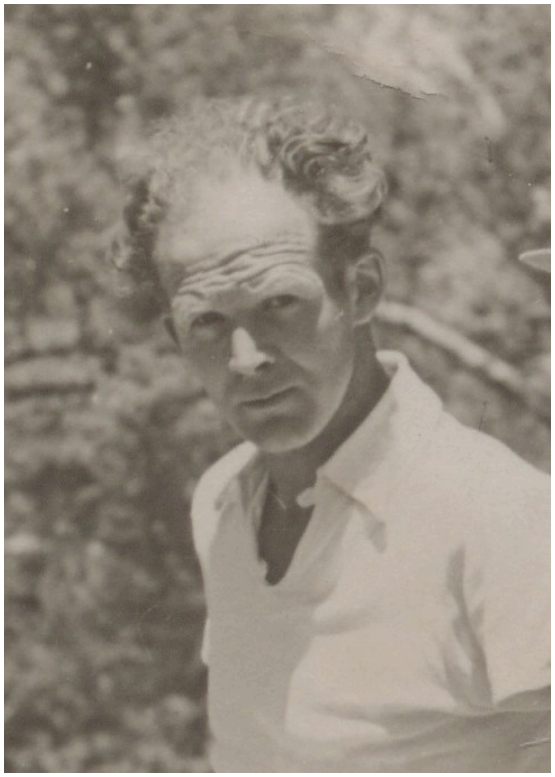
1981	B.J. Scott	NZ Geological Survey, Rotorua, and
	G. Coates	Geology Dept., University of Canterbury
1982	J. Mitchell	Oceanographic Institute, Wellington
1983	E. Pak	Geothermal Institute, University of Auckland
1984	J.P. Cahill	NZ Geological Survey, Lower Hutt
1985	M. Little	Geology Dept., University of Auckland
1986	A. Alloway	Geology Dept., University of Canterbury
1987	V.M. Stagpoole	Geophysics Division, Wairakei
1988	P.J. Forsyth	NZ Geological Survey, Dunedin
1989	S. Bergin	Rock and Soil Mechanics Lab., University of Waikato
1990	V.P. O'Connor	Tonkin & Taylor Ltd., Auckland
1991	S. Brown	Geology Dept., University of Canterbury
1992	A. Grebneff	Geology Dept., Otago University
1993	No award	
1994	A. Sutton	Geology Dept., Victoria University
1995	M. Trinder	Geology Dept., Otago University
1996	G. Foster	NIWA, Wellington
1997	R. Garlick	NIWA, Wellington
1998	R. Williams	IGNS, Gracefield
1999	L. Cotterall	Geology Dept., University of Auckland, and
	D. Walls	Geology Dept., Otago University
2000	J. Patterson	Geology Dept., Victoria University
2001	D. Immenga	Dept. of Earth Sciences, Waikato University
2002	L. Northcote	NIWA, Wellington
2003	B. Morrison	Geology Dept., University of Canterbury
2004	R. Spiers	Geology Dept., University of Canterbury

Ko Kingma and the Kingma Award

Ko Kingma at the 1955 Kaikoura conference
Photo: H.J.Harrington

Jacobus (Ko) Kingma (1916-1974) came to New Zealand to join the NZ Geological Survey in the Napier District Office in 1949, after a colourful early life in Indonesia, a painful experience in a Japanese POW camp, followed by postgraduate research in Holland. During his time at the Survey he published 4 four-mile maps (more than any other geologist) and set up the Survey's Sedimentology Laboratory in Christchurch, where he worked for the last 15 years of his life. He has been described as one of the most stimulating, colourful and imaginative geologists New Zealand has known (van der Lingen, 1975). Some of his alternative ideas are to be found in his book "The geological structure of New Zealand". Ko was the Geological Society's third President (1957-58). Among Ko's other research interests were fossil ostracods (MSc), taxonomy of ants, and world religions. The Kingma Award for technicians was funded by his family in memory of Ko.

Harold Wellman and the Wellman Award and Prize



Harold Wellman (1909-1999) was "a scientist unrivalled in the remarkable contribution he made to our understanding of New Zealand earth science" (Grapes, 1999). Harold had a varied and colourful early career as a gold miner, surveyor and geophysical survey assistant (Nathan 2005). He joined NZ Geological Survey's coal resources survey in 1937, which began his most productive period of research, based in Greymouth (Gage, 1989; Walcott et al., 1999). His intense geological debates with colleagues at the bar of the Albion Hotel in Greymouth are now legendary. Harold is best known for his recognition of the Alpine Fault, but his major contributions to advancing NZ earth science are too numerous to document here. They included establishment of the NZ Fossil Record File, recognition of major displacements of rock in Northland, development of biostratigraphic stages for subdividing the NZ marine Cretaceous based on field observations and collections of fossil *Inoceramus*. In the mid 1950s Harold had a short stint with British Petroleum in Gisborne before taking a position in the Geology Department at Victoria University in 1958, an attachment he maintained even after his retirement in 1974. Wellman's international reputation in pioneering structural and tectonic geology was highlighted in a 1992 BBC Horizon documentary on him, titled "The Man that moved the Mountains." Harold and his wife Joan provided the funds, first for the Harold Wellman Prize for an important fossil find, because in the 1980s he felt that the role of paleontology in geology was losing its former significance, and in 1998 for the Wellman Research Awards to assist young geology researchers.

HAROLD WELLMAN PRIZE: *To acknowledge the contribution made to geology by the discoverer(s) of important fossils found within New Zealand.*

1988-89	R. Cotton	Mid-Permian fusulinid foraminifera, Canterbury.
1989-90	P.R. Moore	Fossil discoveries on offshore islands and in eastern North I.
1990-91	S. Owen	Ammonoids in the top of the Matai Group.
1991-92	C. Carey	Sulphur-reducing 'black-smoker'-type fauna.
1992-93	G. Dodd	*Dactylioceras* cf. *aquinum*, late Ururoan indicator in South I.
1993-94	R.H. Grapes	Radiolaria, first record of latest Triassic fossils from Torlesse.
1994-95	P. Ford	First Permian conodonts from NZ in Caples & Torlesse.
1995-96	no award	
1996-97	A. Mannering	Paleocene penguin fossils from Waipara.
1997-98	M. Simpson	First Cambrian fossils in New Zealand.
1998-99	B. Hayes	First Jurassic dinosaur bone in New Zealand.
1999-2000	L. Kennedy	Oldest fossil flowers in New Zealand (Cretaceous, Pakawau).
2000-01	D. Haw	Initial discovery of reptile bones in Mangahouanga Stream.
2001-02	B. Lee	An exceptionally rich Miocene locality, North Otago.
2002-03	J. Bannister	Tertiary fungi and flowers.
2003-04	R. Kohler	Chatham Islands Cretaceous fish.

WELLMAN RESEARCH AWARD: *To assist quality New Zealand research in geology and geophysics, especially by younger scientists.*

2001	R. Smith	University of Waikato	Ion-microprobe analysis of zircon.
2002	D. Birks	Massey University	Volcanic events on flanks of Mt Egmont.
2003	P. Burge	University of Canterbury	Fossil beetle assemblages in South I.
2004	A. Winter-Billington	Victoria University	

SPECIAL AWARDS:

1986	J. Wiffen	Contribution to vertebrate paleontology in New Zealand.

HORNIBROOK AWARD: *For postgraduate student research with a focus on methods of stratigraphic correlation relevant to New Zealand and the south-west Pacific.*

1998	A. van Dusschoten	Otago University	Torlesse stratigraphy and paleontology, Balmacaan Stream, Canterbury.
2000	A. McIntyre	Waikato University	Integrated stratigraphy, Wanganui Basin.
2001	K. Wilson	Massey University	Quaternary paleoceanography, ODP 1119.
2002	D. Hikuroa	University of Auckland	Jurassic biostratigraphy, Antarctica.

Norcott Hornibrook and the Hornibrook Award

Photo: Institute of Geological & Nuclear Sciences

Norcott (Horni) Hornibrook (1921-1994) was brought up in Tauranga, Napier and Gisborne. Straight out from school he got a job as a geologist's assistant with NZ Petroleum Company in Gisborne, and then as a micropaleontology technician with the NZ Geological Survey in Wellington. During WW2 Horni served with the army, and in 1944 was wounded in Italy where he was left for dead in a ditch overnight. Fortunately he survived and returned to NZ to recover, before returning to the Survey and University education. When Survey micropaleontologist Harold Finlay died in 1951, Horni became chief micropaleontologist – a position he held until his retirement in 1981. Despite his retirement Horni continued his research at the Survey right up until his death. Building on the initial work of Finlay, Horni became the father of New Zealand foraminiferal biostratigraphy. Although Horni spoke up against the creation of the Geological Society, he became one of its founder members, was one of its most active Presidents (1966-68), and one of its staunchest supporters (Hayward 1981; Strong, 1994). Horni's colleagues funded the Hornibrook Award in biostratigraphy.

W.A. PULLAR PRIZE: *Most meritorious contribution to tephrochronological research in the New Zealand region. Awarded biennially.*

1984-86	D.J. Lowe.	University of Waikato
1986-88	no award	
1988-90	no award	
1990-92	P.A.R. Shane	Victoria University of Wellington
1992-94	B.V. Alloway	University of Auckland
1994-96	S. Donoghue	University of Hong Kong
1996-98	S. Cronin	Massey University
1998-2000	D. Eden	Massey University
2000-02	V. Smith	University of Auckland
2002-04	A.S. Palmer	Massey University

Alan Pullar and the Pullar Prize

Photo: J.A.Pollok

William Alexander (Alan) Pullar (1912-1982) was New Zealand born and trained, graduating from the Otago School of Mines with a thesis on alluvial gold. Several years of applied work in Malaya was interrupted by WW2, during which he served with the Royal Air Force. He was shot down over Yugoslavia and subsequently escaped to Italy in 1945. He returned to New Zealand and joined the Soil Survey. He was assigned to a succession of small offices (Gisborne, Whakatane, Rotorua), where he made substantial contributions with his soil mapping, but is best known for his leading role in developing tephrostratigraphy in New Zealand. He is remembered by colleagues for his enthusiastic enquiring mind and his no-nonsense manner (Vucetich, 1983).

Alan's colleagues funded the Pullar Prize in tephrostratigraphy.

STUDENT RESEARCH AWARDS: *For outstanding masterate or honours research. (named* **S.J. HASTIE SCHOLARSHIPS** *from 2001 onwards)*

1983	C. de Ronde (Auckland); L. Foley (Victoria).
1984	J. Utley (Waikato); M. Johnston (Canterbury).
1985	J. Tompkins (Massey); J. Crampton and S. Nicol (Otago).
1986	J. Keall (Victoria); R. Ruddock (Auckland).
1987	P.R. Cochrane (Waikato); M. Stewart (Canterbury).
1988	A.E. Constantine (Otago); R. Lieffering (Massey).
1989	J. Baker (Victoria); K. Jennings (Auckland).
1990	M.D. Rosenberg (Waikato); T.E. Wright (Canterbury).
1991	B. O'Connor (Auckland); A. Wards (Massey); J. Youngson (Otago).
1992	R. Justice (Canterbury); S.W. Gerritson (Waikato); ?? (Victoria).
1993	G. Simpson (Otago); S. Keeling (Massey); J. Lindsay (Auckland).
1994	K.E. Cooper (Canterbury); E. Watson (Victoria); R. Hanson (Waikato).
1995	C. Reid (Auckland); N.J. Litchfield (Canterbury); B.J. Rosser (Massey); C.M. Henderson (Otago); J.A. Lee (Victoria); D.A. Bowyer (Waikato).
1996	A.Sprott (Auckland); A. Wandres (Canterbury); J. Adams (Massey); S. Jones (Otago); J. Rampton (Victoria); G. Murrell (Waikato).

Sid Hastie and the S.J. Hastie Scholarships

Photo: John Gamble

Sydney (Sid) Hastie was a long-standing amateur member of our Geological Society. He came from a highly varied New Zealand farming background, and spent most of his adult life on his farm in the Bay of Plenty, where he cared for dairy cows, pigs, then sheep, breeding cattle, and eventually kiwi fruit and avocados. In the latter 40 years of his life he became an avid world traveller visiting most parts of the world, where he was fascinated by their geology and landforms. He got his first taste of New Zealand geology when in the early 1970s he attended an Adult Education Field Camp at Kawhia led by Auckland geologist Peter Ballance. He was so inspired that he read widely, joined GSNZ and attended many of our conferences, and joined NZ geologist-led study tours around NZ, Australia and the US. Shortly before his death in 1996, Sid wrote "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." (Palmer, 1995; Ballance, 1997).

1997 J. Franklin (Auckland); P. Earl (Canterbury); H. Brackley (Massey); C. Wright (Otago); D. Carroll (Victoria); C. Guay (Waikato).
1998 D. Tillick (Auckland); L. McGrory (Massey); E. Chetwin (Victoria); K. Spinks (Canterbury); J. Becker (Otago); H. Wehrmann (Waikato).
1999 V. Toy (Auckland); G. Leonard (Canterbury); M. D'Arth (Massey); M. Grant (Victoria); W. Gunn (Waikato); B. Norrie (Otago).
2000 E. Hollinger (Auckland); G. Kilgour (Waikato); J. Procter (Massey); R. Wightman (Victoria); T. Lucas (Canterbury); E. Osterberger (Otago).
2001 C. Noble (Auckland); A. Hendy (Waikato); K. Wilson (Massey); B. Ayling (Victoria); T. Ewing (Canterbury); C. Phillips (Otago).
2002 A. Morell (Auckland); M. Fitzgerald (Waikato); M. Turner (Massey); M. Hill (Victoria); A. Burgess (Canterbury); R.S. Marx (Otago).
2003 C. Hughes (Auckland); R. Basher (Waikato); K. Holt (Massey); G. Hughes (Victoria); J. Mountjoy (Canterbury); J. Ward (Otago).
2004 J. Graaf (Auckland); R. Milner (Waikato); K. Martelli (Massey); A. McCarthy (Victoria); J. Lea (Canterbury); J. Scott (Otago).

STUDENT PAPER and POSTER AWARDS: *For the best paper or papers (originally oral only, but from 1990 also poster) presented at the Society's Conference by a student.*

1974 R. Howorth (Victoria); Merit: B.W. Hayward (Auckland); R.J. Sinton (Otago).
1975 F. Hyden (Otago); Merit: H. Cutten (Canterbury); J. Bryant (Canterbury).
1976 J.R. Pettinga (Auckland); Merit: B.F. Houghton (Otago); D.C. Lawton (Auckland).
1977 E. Fordyce (Canterbury); Merit: G.M. Gibson (Otago); D. McConchie (Canterbury); A.J. Tulloch (Otago).
1978 B. Pillans (James Cook University); P.J. Kamp (Waikato).
1979 I.J. Pringle (Otago).
1980 J. Newman (Canterbury); C. Ward (Otago).
1981 W. Hackett (Victoria).
1982 I.K. Pantin (Victoria); K.S. Pound (Otago).
1983 L.J. Fergusson (Canterbury)
1984 S.J. Davenport (Victoria); J.D. Gibson (Auckland).
1985 M.S. Rattenbury (Otago).
1986 M. Johnston (Canterbury).
1987 S. Stokes (Waikato)
1988 S. Soengkono (Auckland); R.M. Newnham (Auckland).
1989 A.H. Allibone (Otago); D.J. Bishop (Victoria).
1990 oral J.C. Lihou (Victoria); H.A. Cowan (Canterbury).
poster A. Melhuish (Victoria); K.A. Hodgson (Massey).
1991 oral S. Owen (Otago); S.L. Donoghue (Massey)
poster P.A.R. Shane (Victoria).
1992 oral 1st: S.C. Cox (Otago); 2nd equal: J.L. Gillespie (Waikato), P.A.R. Shane (Victoria).
poster K. Hodgson (Massey)
1993
1994
1995 oral 1st: C. Miller (Auckland)
1996 oral 1st: M. Markley (Otago); 2nd: R. Herdianta (Auckland)
poster 1st: D. Townsend (Victoria); 2nd: J. Richnow (Canterbury)
1997 oral 1st: C. Anderson, B. Robinson (Massey); 2nd: P.Webb (Victoria)
Merit: M. Armstrong (Canterbury), K. McHaffie (Victoria)
poster 1st: M.J. Hanson (Otago); 2nd: D. Maicher (Otago); 3rd: U. Martin (Otago)
Merit: E. Ladley (Otago), J. Lindqvist (Otago)

1998	oral	C. Simpson (Waikato); Merit: N. Litchfield (Otago), R. Jongens (Canterbury)
	poster	D. Thomas (Otago); Merit: A. Christopherson (Victoria), A. Vonk (Waikato)
1999	oral	J. Gillespie (Waikato); Merit: M. Young (Victoria), A. Wandres (Canterbury)
	poster	J. Horrocks (Waikato): Merit: C. Anderson (Massey), A. McIntyre (Waikato)
2000	oral	1st: U. Cochran (Victoria); 2nd equal: C.Atkins (Victoria), G. Timbrell (Auckland)
	poster	1st: E. Osterberger (Otago); 2nd: M. Howard
2001	oral	K.Bland (Waikato); Merit: M. Marra (Victoria); H. Campbell (Otago)
	poster	S. Read (Otago); Merit: G. Kilgour (Waikato); D. Graveley (Canterbury)
2002	oral	M. Boyd (Auckland); Merit: E. Newton (Otago); J. Eccles (Auckland)
	poster	A. Hendy & A. Vonk (Waikato); Merit: C. Lauder (Waikato); L. Cingdon (Canterbury)
2003	oral	S. Barker (Otago); Merit: D. Mason (Victoria); K. Spinks (Canterbury)
	poster	M.Walls (Victoria); Merit: K. Bland (Waikato); D. Gravley (Canterbury)
2004	oral	V. Smith (Auckland); Merit: B. Lynne (Auckland); J. Scott (Otago)
	Poster	K. Spinks (Canterbury); Merit: K. Bodger (Canterbury); J. Fraser (Canterbury)

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