The working life of Michael John Selby (1936–2018): A highly influential late 20th century New Zealand geomorphologist and university leader

Campbell S. Nelson (with colleague contributions)

Michael Selby in 1978 atop Derrick Peak in northern Britannia Range, Antarctica. The high peak in the background is Mount Selby, formally named after him. Photo source: David Lowe.

2018
Geoscience Society of New Zealand
Miscellaneous Publication 150

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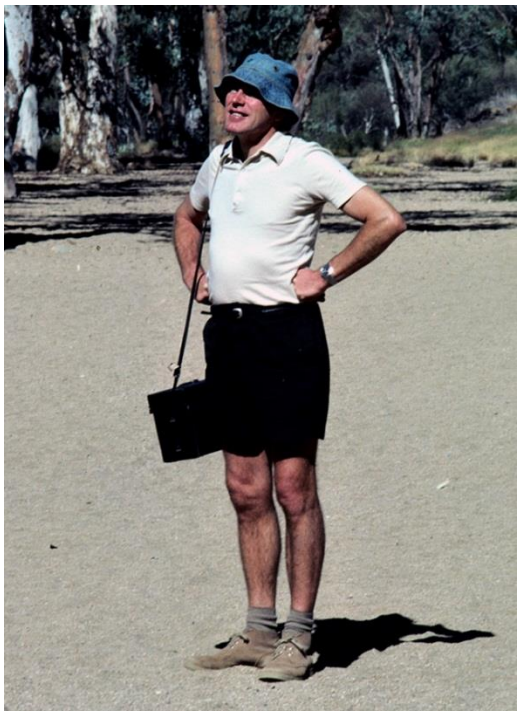

Michael Selby in casual field mode, camera bag at the ready, on exposed river bed at Simpsons Gap, Northern Territory, Australia in 1981. Photo source: Willem de Lange.

Geoscience Society of New Zealand Miscellaneous Publication 150 (2018)

Bibliographic reference: Nelson CS (with colleague contributions) 2018. The working life of Michael John Selby (1936–2018): A highly influential late 20th century New Zealand geomorphologist and university leader. Geoscience Society of New Zealand Miscellaneous Publication 150, 56 p.

ISBN (print): 978-0-473-44196-8 ISBN (online): 978-0-473-44197-5
ISSN (print): 2230-4487 ISSN (online): 2230-4495

Print sponsor:

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Introduction

Emeritus Professor Michael Selby [ONZM BA(Hons) MA DipEd DSc *Oxford* DPhil *Waikato*] (Fig. 1) died at age 82 on 21 January 2018 leaving a legacy of a career involving exemplary geomorphological and geomechanical research, education and outreach in the Earth sciences discipline in New Zealand, and in wider university administrative and leadership roles. He is survived by his wife Judy, his sister Deanne McQueen and family in South Africa, his daughters Katherine, Diana and Jenny and their respective husbands Peter McCusker, Bruce Page and Darren White, and his six grandchildren Rebecca, Matthew, Emma, Poppy, James and Lucienne. A celebration of Michael's life was held at the Davis Funeral Chapel, Henderson, Auckland on 26 January 2018. His ashes are to be buried in the grounds of the Selby beach house at Onemana on Coromandel Peninsula, Michael's "very special place" (see Fig. 17).

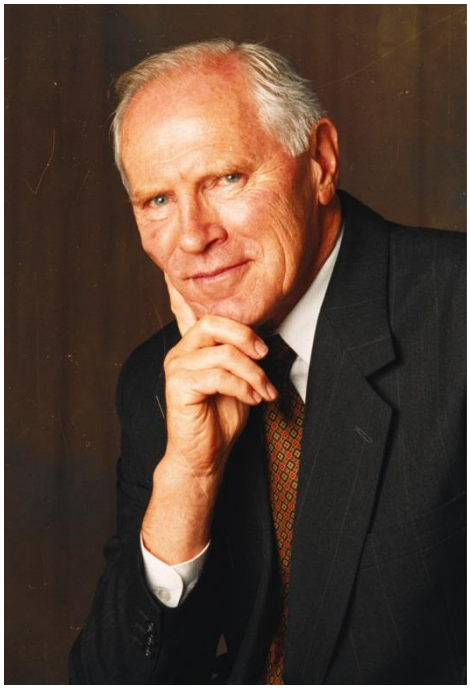

Fig. 1. *Professor Michael John Selby, June 1999, Earth scientist and Deputy Vice-Chancellor (Research), University of Waikato, Hamilton, New Zealand. Photo source: University of Waikato files.*

An obituary I gave at Michael's funeral is reproduced on the IAG website of the International Association of Geomorphologists (http://www.geomorph.org/2018/02/remembering-emeritus-professor-michael-john-selby/). Other obituaries have appeared in the February 2018 issue of the *Community* newsletter of the University of Waikato (https://www.waikato.ac.nz/staff/community/articles/2018/michael-selby), in the *Waikato Times* newspaper on 10 February 2018 (https://www.stuff.co.nz/waikato-times/101283667/obituary-mountain-a-fitting-legacy-to-field-man-michael-selby), in the March 2018 issue of the *Geosciences Society of New Zealand Newsletter* (Lowe et al. 2018), and to appear later in 2018 in a newsletter of Keble College, University of Oxford (Lowe et al. submitted). The present article expands considerably on these tributes and Michael's working life accomplishments, and includes also some memories of him from several of his colleagues. The tribute ends with a full compilation of Michael's published books and peer-reviewed journal papers over the 43-year period from 1966 to 2009. To help provide overall context for

much of the information in this tribute I show in Table 1 (p. 3–4) a biographical synopsis for Michael, and in Table 4 (p. 20) note some of his wider contributions to the University of Waikato beyond his teaching and research activities.

UK beginnings

Michael John Selby was born two months premature in Luton, Bedfordshire, England on 13 January 1936 to Nora Beatrice (nee Hull) and George Alfred Selby. George was an accountant for Commer Carriers in Luton and during the Second World War he remarkably survived a German bombing raid on the automotive factory which was then making military vehicles for the war effort; sadly, several other employees were killed. In 1940 Michael's sister Deanne was born. Despite his fragile start in life, Michael thrived and went on to become a boy-soprano at Westminster Abbey and then showed both strong academic and sporting abilities at school. In his senior years at Dunstable Grammar School in Bedfordshire he became head prefect and was captain of the school's 1st fifteen rugby team, the hockey team and the athletics team where he especially excelled as a runner. His 186 cm (6 ft 1 in) tall statuesque physique certainly belied his premature beginnings.

Michael was destined for higher tertiary education and at the young age of only 17 he was accepted for study at Oxford University. However, this goal had to be delayed because boys in their late teens in Britain were called into compulsory military service where Michael trained at Eaton Hall near Chester as an officer and served in the Royal Military Police as a second lieutenant (Fig. 2). The military police option was chosen because it guaranteed an overseas posting and the chance to travel, in Michael's case to Germany where in the mid-1950s he was based in Berlin for two years patrolling the East–West border. Michael recalled one of his more memorable side tasks was to clear the servicemen out of the brothels as sexually transmitted diseases were rife!

Fig. 2. *Young Michael Selby in his British Royal Military Police uniform at age 18. Photo source: Selby family.*

Table 1. *Biographical synopsis for Michael John Selby.*

Full name	Michael John Selby
Born	13 January 1936, Luton, Bedfordshire, England
Usual first name	Michael
Nationality	English
Citizenship	British; New Zealander (naturalised in 1980)
Secondary education	Dunstable Grammar School, Dunstable, Bedfordshire, England
Emigration	To New Zealand (NZ) in 1960
Married	Judith (Judy) [nee White-Parsons] in 1962
Children	Katherine Ann (born 1966) Diana Jane (born 1967) Jennifer Helen (born 1969)
Degrees	* BA(Hons) in Geography, Oxford, UK 1959 * Diploma in Education (with Distinction), Oxford, UK 1960 * MA in Geography, Oxford, UK 1963 * DPhil in Earth Sciences, Waikato, NZ 1972 * DSc, Oxford, UK 1984
DPhil thesis title	Runoff, infiltration and soil erodibility studies in the Otutira catchment (1971)
Main career positions	* British Army, Royal Military Police (1953–1954) * Tutor, Christ's College, Christchurch, NZ (1961–1963) * Junior Lecturer, Waikato Branch, University of Auckland, NZ (1964) * Lecturer/Senior Lecturer, University of Waikato, NZ (1965–1972) * Reader, University of Waikato, NZ (1973–1979) * Professor, Personal Chair (Earth Sciences), University of Waikato, NZ (1980–1985[–2002]) * Deputy Vice–Chancellor (Research), University of Waikato, NZ (1986–2002) * Retired (2002) * Emeritus Professor, University of Waikato, NZ (2002–2018)
Main research fields	Geomorphology, soil erosion, slope processes, soil and rock mechanics, engineering geology, Antarctic landforms, Quaternary history, archaeology
Some committee and other positions outside of the University of Waikato	* Member International Association for Engineering Geology Commission on landslides (1966–1984) * Corresponding Member for Australasia on the IGU Commission on Field Experiments in Geomorphology (1978–1982) * Corresponding Member for Australasia on the IGU/UNESCO Commission on Geomechanics (1979–1982) * Appointed a Guardian of the Rotorua Lakes (1975–1982) by Minister for the Environment * Member of IGU Commission on Measurement Theory and Application in Geomorphology (1984–1990) * Assessor of Antarctic research grants for National Science Foundation USA (1978–1981, 1983–1986) * Assessor for Australia Research Grants Committee (1985–1989) * Member Earth Sciences Panel on Ross Dependency Research Committee (1988–1995) * FRST Antarctic Research Panel (1996–1998)

Some awards	* Mount Selby named after him in the Britannia Range, Antarctica (1980) * DSc, Oxford, UK (1984) * University of Waikato Staff Merit Award (1995) * Officer of the New Zealand Order of Merit (ONZM) (2005)
Some Society and other memberships	* International Association of Engineering Geology * International Society for Rock Mechanics * International Society for Soil Mechanics and Foundation Engineering * British Geomorphological Research Group * Geological (now Geoscience) Society of New Zealand * New Zealand Geomechanics Society * Board of Trustees St Paul's Collegiate School (1970–1980) * Board of Governors Diocesan School for Girls (1982–1985) * Trustee Waikato Medical Research Foundation, and Chair of its Grants Committee (1985–1993) * Chair of University of Waikato Foundation (1996–1997, 2002–2006)
Consultancies and Directorships	* For UNESCO on 'Soil Erosion and Debris Flow Control', Yogyakarta, Indonesia (1991) * For Pancontinental Goldmining Areas Pty Ltd, Kalgoorlie, Western Australia on 'Mine Slope Stability' (1995) * Director WaikatoLink Ltd (University of Waikato; 1994–2002) * Director Pacific Enzymes Ltd (University of Waikato;1994–2002) * Director (active or inactive) Titanox Development Ltd, including Chair of Board (1998–2000, 2002–2014)
Publications	* 7 major books * 89 mainly peer-reviewed research papers (1966–2009) * Numerous book reviews, reports, conference abstracts and teaching manuals
Thesis supervision	50 completed MSc, MPhil or DPhil student theses
External PhD thesis examination	11 from the following universities: (Otago – 1; Canterbury – 1; Victoria, Wellington – 2; Auckland – 3; Sydney – 1; Australian National – 2; New South Wales – 1)
Main overseas field expeditions while at Waikato University	* Antarctica (1969–1970) * Antarctica (1972–1973) – Leader * Antarctica (1978–1979) – Leader * Sahara (1974–1975) * Namib Desert (1975, 1980) * Cape Mountains and Andes (1980) * Antarctica (1983–1984) – Leader * Himalayas (1984) * Colorado Plateau (1991) * Lands of Eastern Mediterranean, European Alps (1996)
Leisure activities	Home carpentry, gardening, walking/tramping, reading, classical and choral music, family

At 19 years of age Michael returned to England and entered Oxford University to read English. But after just the first semester of study he decided to change direction into physical

geography, a change the Dean accepted on the proviso that Michael would himself catch up on all the work he had missed in the first semester. This he did, and he went on to become a top geography student graduating in 1959 with BA (Honours). With a view to perhaps entering the teaching profession, the following year Michael completed a Graduate Diploma in Education qualification with Distinction at Oxford.

During his busy academic life at Oxford Michael maintained his interests in athletics (sprinting) and hockey but much of his recreational time was focussed on outdoor climbing and mountaineering pursuits, especially across the Channel in the European Alps. These skills not only ensured he maintained a fit and strong body, but also gave him much experience in the planning, running and successful accomplishment of major field excursion activities. Of course these experiences also fuelled his observations and curiosities about the nature and origin of the diverse physical landscapes around him, a theme he considered as ideally overlapping into some future career option. Alongside his strong outdoor interests, and perhaps to help slow down the hectic pace of Oxford life and physical pursuits, Michael was also an active member of the Oxford Keble College Choir.

The move to New Zealand

Fortuitously, while Michael was studying for a Diploma in Education at Oxford he met the Headmaster of Christ's College from New Zealand, a Mr Reginald Hornsby, who was visiting Oxford. Tales of New Zealand's diverse and rugged landscapes and a life in the outdoors piqued young Michael's sense of adventure. In the late 1950s teachers and skilled workers were in demand by the New Zealand Government, from within or from overseas. So, on completion of his Oxford studies Michael wrote to Mr Hornsby in Christchurch seeking a teaching job in geography at the college. Mr Hornsby responded with a one-word telegram saying – *Come*, to which Michael responded with an equally brief message – *Coming*! He was to teach physical geography and, given his passion for tramping and climbing, to also establish an outdoor education programme for the school. With a £10 assisted fare grant from the New Zealand Government, Michael set sail in late 1960 for Wellington in steerage class on the RMS *Rangitata*, accompanied by one small suitcase and a large trunk of books. On arrival he had to surrender his passport as he was bonded to teach for three years. But he had landed his ideal job in New Zealand – a physical geography teacher with the opportunity to set up and run an outdoor pursuits centre for the school based at beautiful Lake Coleridge, inland from Christchurch in the Canterbury foothills. Michael taught at Christ's College for three years, from 1961–1963, and the Christ's College Venture Group outdoor centre quickly became a reality and was especially active during school vacations. Because of the success of the Lake Coleridge venture Michael was approached during 1962 to train the first instructor for the proposed New Zealand Outward Bound outdoor education facility for New Zealand students to be based at Anakiwa in the Marlborough Sounds, where it remains today.

Michael hosted a dinner party with ski contacts in 1962 where through mutual friends he met Judith White-Parsons, a nursing graduate who at the time held a Senior Airport Hostess position with the National Airways Corporation (NAC) of New Zealand, a forerunner of Air NZ. They chatted the night away and quickly realised they shared the same love of the

outdoors. The relationship moved fast, with frequent weekend excursions using Judy's car, and six months later they were engaged (Fig. 3), and then married in December 1962.

Michael's best man was Gilbert Murray, another outdoor adventurer. Tragically, while Judy and Michael were away on their honeymoon, Gilbert was killed in a rock avalanche while climbing on Mount Cook. In other circumstances Michael would have been on the very same trip with Gilbert, and likely would have met the same fate.

Fig. 3. *Engagement photograph of Judy White-Parsons and Michael Selby in May 1962. Photo source: Selby family.*

A shift into academia

In 1963, having successfully completed three years teaching beyond his BA(Hons) and DipEd degrees from Oxford, that university awarded Michael an MA degree in Geography. During the same year Michael decided to seek an academic lecturing position, so he wrote to three of the New Zealand universities. Canterbury University lost his application, Otago was very slow to respond, but Auckland University was quick off the mark and Michael was invited to an interview with the Head of Geography, Professor Kenneth Cumberland, himself a well-known physical geographer to many through his ground-breaking 1981 documentary series *Landmarks* about the geography of New Zealand (e.g., Cumberland 2007; Pountney 2012). Michael's credentials impressed Cumberland and he was offered a position to start the following year (1964) as a Junior Lecturer in Geography. Fortuitously as it would turn out to be, the job was not stationed in Auckland itself but at what was then a Hamilton branch of the University of Auckland, based in Hamilton city 125 km south of Auckland. One day a week Michael would travel through to Auckland University to give some lectures. Teaching associated with the Hamilton-based geography classes was conducted mainly in the recently constructed A Block building on a brand new University of Waikato campus, which was established in 1964 on a portion of Ruakura farmland (Alcorn 2014), the then centre of much of the agricultural research activity in New Zealand. Michael really liked living in Hamilton and so this new university establishment attracted his attention and future aspirations, and in 1965 he moved across into the fledgling Department of Geography in the new University of Waikato, where he became a full Lecturer.

The energy and drive to build up Geography at Waikato in those earliest days resided especially with Evelyn Stokes (who in 1999 was made a Dame Companion of the New Zealand Order of Merit) for the human/social geography subdiscipline, and with Michael Selby for the physical geography subdiscipline. Both saw the need to urgently grow library

resources to assist with the rapidly expanding teaching and research programmes in the department. Rather prophetically, Michael looked off into the future to a day when physical geography might develop strong ties with a School of Science at the university, which at that time was not even on the drawing board. To the irritation of some, he instigated a campaign to encourage the financially-constrained Library at the time to subscribe to many standard scientific journals and text books that on the one hand would support physical geography research but also be needed should a School of Science eventuate. On reflection, what foresight and courage this took! (See also colleague tributes 11 and 14).

A few years later Michael's farsightedness would come to fruition. In the late 1960s the University of Waikato foundation Vice-Chancellor, Professor Don Llewellyn (knighted Sir Don in 1998), himself a chemist, formed a science advisory group that comprised a wide cross-section of interested people representing various institutions from around the region to investigate the establishment of a School of Science at Waikato. Envisaged disciplines were environmental science (biology), soil science (geology, geomorphology), and natural science (physics, chemistry). Having common interests in landforms and soils, Michael and Dr John McCraw, a senior scientist in the New Zealand Soil Bureau office in Hamilton at the time (Nelson et al. 2015; Tonkin et al. 2015), often met and discussed their research interests over a cuppa in John's office, including consideration of the concept of a more multidisciplinary approach to any teaching programme about Earth's physical features that might be developed at Waikato. As a consequence, in December 1968, John put up a paper to the University science planning group advocating that the proposed soil science theme be replaced in name by the term 'Earth sciences' that would integrate into one subject parts of traditional geology with soil science, geomorphology, hydrology, climatology and oceanography. He argued there was no need for another conventional department of geology or soil science within the New Zealand university system, and that most New Zealand geology graduates had to go overseas in order to find degree-related employment. Instead, the vision of the McCraw–Selby Earth sciences proposal was to provide an academic programme emphasising the surface and near-surface processes acting on physical Earth that would especially cater for the practical needs of New Zealand and New Zealanders (Staff 1987; McCraw 2002).

Despite rather paltry Government funding, a School of Science at Waikato University was approved and established in 1969 to teach four subjects, Biological Sciences, Chemistry, Physics and Earth Sciences, the last to be in line with the above McCraw–Selby multidisciplinary model. John McCraw was appointed Foundation Professor of Earth Sciences and he quickly persuaded Michael to transfer out of Geography and join him as a Senior Lecturer in Earth Sciences. It is probably fair to say that Michael made up for some of the deficiencies in university experience that John had, he not having had anything to do with universities since his student days 25 years before. Nevertheless, together they set about the mammoth task of designing and developing the vast array of materials and other resources needed to commence teaching the following year (1970) to the first intake of Earth Sciences students. Undeniably, the establishment of a viable, up and running Earth Sciences department in 1970 was due to the tremendous energy and forward thinking of two men, John McCraw and Michael Selby (Staff 1987). Michael's departure from Geography left that

subject as a fully social geography department, a situation that has remained through to the present day.

Research activities

During those establishment years of Earth Sciences three other academic matters related to creating a research culture in the department stand out for me about Michael. Firstly, so early in his career, he wrote a two-volume text book titled *The Surface of the Earth*, Volume 1 published in 1967 and Volume 2 in 1971. As an important aside, his wife Judy drafted all the line diagrams appearing in both these books. The timing of the volumes just missed the full impact of the newly developing theory of plate tectonics in Earth sciences, but the idea of mantle convection currents as a driver of the breakup and dispersal of continents was noted. These books became an instant success and were widely adopted as text books in physical geography by schools and universities, both in New Zealand and overseas. An immediate and invaluable spinoff was the raising of the academic and research profile of the new Department of Earth Sciences at Waikato.

Secondly, in 1967, under the auspices of The Waikato Geological Society, Michael established and became editor of a brand new scientific publication called *Earth Science Journal*. Because of the increasing specialisation of many other geoscience journals, Michael saw a need for a place to publish articles of wider interest to Earth scientists that crossed the boundaries of the traditional disciplines. To this end, contributions were welcomed from geologists, geomorphologists, pedologists, climatologists, oceanographers, ecologists and physical geographers. The first issue of the journal, which includes several seminal papers on aspects of the physical environment in the Waikato region, and so was subtitled the Waikato Number (Fig. 4), was timed to coincide with the very first conference of the Geological Society of New Zealand that was held in Hamilton in 1967. Again, the journal helped raise the academic profile of the fledgling Department of Earth Sciences at Waikato. Regrettably however, due to work pressures and rapid inflationary costs, *Earth Science Journal* lasted only five years, from 1967 to 1971, issuing one volume and two numbers of the journal each year (Volume 1, Nos.1 and 2 to Volume 5, Nos. 1 and 2). Digital copies of all the articles in the journal can be accessed at https://researchcommons.waikato.ac.nz/handle/10289/9088.

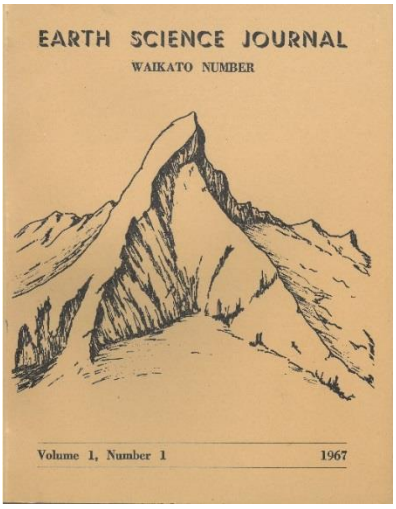

Fig. 4. *Michael Selby established, and was editor of, a new New Zealand geo-journal, the Earth Science Journal, the initial issue of which in 1967 coincided with the first Geological Society of New Zealand conference held in Hamilton at the University of Waikato campus. Photo source: Cam Nelson.*

Thirdly, in 1971 Michael completed the first submitted doctoral dissertation of the University of Waikato (conferred in 1972) with a DPhil thesis about the erosion of pumice lands in central North Island (Selby MJ 1971. *Runoff, infiltration and soil erodibility studies in the Otutira catchment.* DPhil thesis, University of Waikato, Hamilton, New Zealand. 135 p.). Conversion of bushland to pasture had resulted in serious gully erosion and, following the setting up of an experimental catchment near Taupo and building rainfall simulators and experimental flumes at the University campus, Michael employed a quantitative and innovative experimental approach involving novel factor analysis using a University of Auckland IBM Computer 1130 to help determine the causes of erosion, and then suggested methods for its mitigation. Compared to many field-based Earth sciences theses his DPhil text was relatively short (about 130 pages), demonstrating Michael's ability to get across the essential information of a major research project in a succinct, very readable and clear manner.

Following his work on gully erosion in pumice lands Michael began to appreciate that the whole question of the nature of resistance to geological erosive processes was poorly understood and that any advances in a fundamental understanding of the inclination and development of natural and human-made slopes required exploring the nature of resistance. During the 1970s several studies of the mechanisms of landslides and other mass movement phenomena in the hills around the Hamilton Basin and elsewhere helped him develop an appreciation of the importance of measuring and having knowledge of the various soil mechanical properties of the materials involved.

Michael was an extremely adventurous outdoors man, always keen to seek wider field experiences beyond the local Waikato region. This led to him developing new research interests on the nature and causes of erosion of steep hard rock slopes. His earliest opportunity for the study of large rock slopes, free of vegetation and soil cover, occurred during the first University of Waikato expedition to the Dry Valleys of Antarctica in the summer season of 1969–70, he being the first geomorphologist to visit the region. This trip, and two subsequent expeditions (1972–73, 1978–79) over the next decade which he led, provided the opportunity for testing gradually evolving hypotheses concerning the importance of joints and the strength of whole rock masses inclusive of their planes of weakness in relation to rock slope stability. Study leave periods spent in the Sahara (1974–1975) and Namib (1975, 1980) deserts, and later in the Cape Mountains and the Atacama desert and the Andes (1980), then in the Antarctic Dry Valleys again (as expedition leader, 1983–1984), the Himalayas (1984) and the Colorado Plateau (1991), all gave further opportunities for testing his rock slope stability hypotheses. An exciting bonus outcome of the 1978–79 trip to the Britannia Range–Darwin Glacier region in Antarctica was the discovery of many large iron meteorites on Derrick Peak (Kamp and Lowe 1982; see next section and also colleague tributes 1 and 2).

One of the more significant consequences of Michael's work on rock slopes was his realisation of the importance that rock strength played in controlling the diverse slope characteristics associated with different rock types in different environments. He came to see

considerable merit in linking the ideas and concepts in descriptive geomorphology to more quantitative measurements in engineering geology. He developed simple portable equipment to assess the mass strength of rocks and, from this and a number of other easily assessed parameters, he established a Rock Mass Strength Index which has been adopted internationally not only by geologists and geomorphologists, but also by engineers. From a practical viewpoint, this allows simple tests to be used to estimate the likelihood of slopes, such as road batters, failing.

Michael's rock slope stability work led to consultancies for UNESCO in Indonesia and for mining companies in Kalgoorlie, Western Australia. It also led to the setting up of laboratories in the Department of Earth Sciences for teaching Rock and Soil Mechanics, the first such facility in the country.

Three field adventure stories

At times Michael's adventurous field exploits were not without incident, three of which the family relate.

(1) In 1975 while Michael was based at a remote research station in the Namib Desert with 11 others they heard and were caught in a flash flood. The head scientist yelled for everyone to urgently grab their sunglasses and to climb onto the corrugated iron roof of the communal dining area, the roofs of all the other huts being grass. Everybody hung on for their lives for two days and nights with no food or water. Snakes, including the venomous spitting cobra, caught up in the flood were also desperately trying to get to the safety of the corrugated roof, and 12 anxious men and women were kept very busy pushing, kicking and sweeping snakes away from the roof. Turns out the sunglasses call was to prevent any cobra venom getting into their eyes. Once the waters receded enough the exhausted scientific crew climbed down to seek out food and water after an exceptionally tough couple of days.

(2) As noted earlier, an unexpected and exciting find by the Waikato team (see Fig. 22) on Michael's summer expedition to Antarctica in 1978–79 was the discovery of a small field of iron meteorites of various sizes on the summit plateau and slopes of Derrick Peak (Kamp and Lowe 1982). The initial collections made by Craig Law, David Lowe, Peter Kamp and Michael on the day of discovery exceeded 80 kg in weight, and included one sample alone weighing 32 kg (Fig. 5B). With all this extra weight in their packs, or hefted onto Craig Laws strong shoulders in the case of the 32 kg specimen, the group "struggled" back to their tent base camp four or five hours away (Fig. 5A). Realising they were on to a significant meteorite discovery Michael called up a US–Japanese team of scientists based on the nearby Darwin Glacier who were specifically in Antarctica that year to hunt for meteorites. Michael said "we will tell you the location as long as we retain priority of discovery", to which there was immediate agreement. The next day the Waikato team returned to the Derrick Peak site where they were joined by a helicopter load of eager US scientists. That day an additional 323 kg of meteorite material was collected, including one especially heavy specimen weighing 138 kg. Naturally this sample was very difficult to manhandle and was first rolled onto a stretcher before attempting to lift the lot into the helicopter. Unsurprisingly, the

stretcher fabric gave way and it was sometime before eventually the weighty specimen was strapped securely to a reinforced seat in the helicopter. The Waikato team returned by foot to their base tents while the Americans, because of weight restrictions, had to fly a couple of helicopter return trips to get all their team and the precious meteorite collections back to their Darwin base camp. In the following days the Americans rewarded the Waikato field party for their find and ready assistance by flying out to them a cherry pie baked by the Darwin base cook (Fig. 5A), a side of salmon and a bottle of whiskey to help keep up their "energy and drive" during the remainder of their field exploits. The Derrick Peak iron meteorites became the subject of considerable international attention over the immediately following years (e.g. Selby 1979c; Yanai 1981; Clarke 1982a, b; Kamp and Lowe 1982; Marvin and Mason 1982), while Craig Law's 32 kg specimen has been on periodic display in the Earth Sciences department at Waikato during annual student open days and another smaller specimen is on long-term loan and exhibited in the Canterbury Museum in Christchurch.

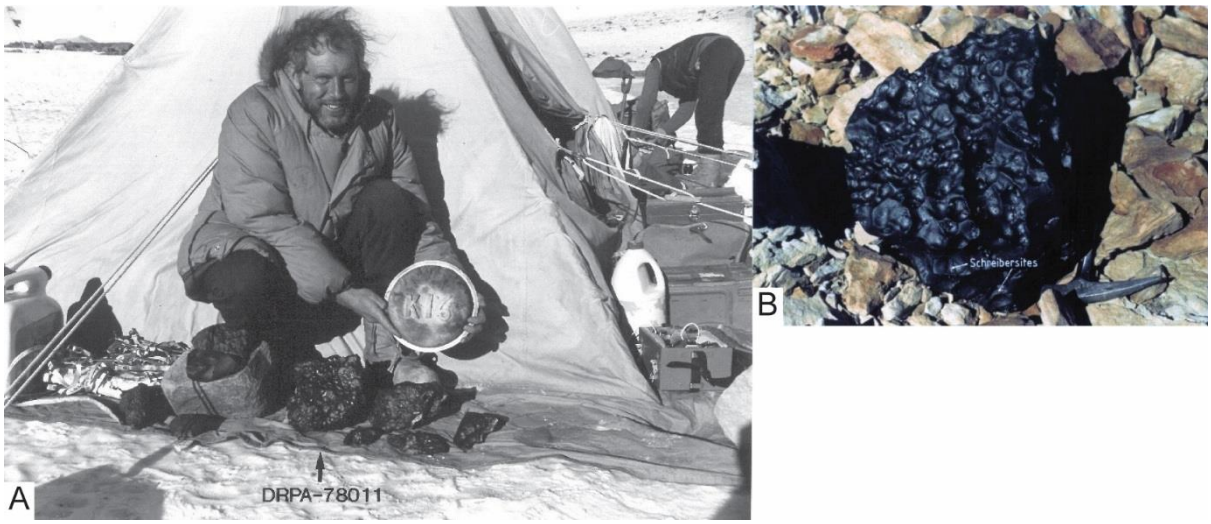

Fig. 5. *(A) Michael outside one of the Waikato tents at their Grand Slam Point base camp below Derrick Peak with the team's iron meteorite finds at his feet. He holds the cherry pie gifted them by the Darwin Glacier-based American team in recognition of their exciting find. The pie is decorated with the Waikato team call sign, K16α (alpha). (B) The largest of the initially found Waikato meteorite specimens (32 kg) with arrows pointing to a couple of protruding bronze-coloured schreibersite crystals, minerals not found in terrestrial rocks.*

(3) An example of Michael's "can be done attitude" arose during a study leave trip in 1980 to South America when he visited the Atacama Desert in Chile to draw comparisons with his other desert experiences in Africa and Antarctica. Prior to and during the flight to Santiago Michael brushed up on his knowledge of the Spanish language. He was accompanied by Judy and they caught a bus north from Santiago to Antofagasta where Michael had previously organised through a tourist office the necessary logistical and travel arrangements for their desert adventure. However, the promised chauffeur and limousine for their trip did not materialise, but rather a chap that did not speak English and who provided a very old taxi for transport. Somewhere out on the Atacama Desert the taxi broke down. Michael diagnosed the problem as a hole in the pipe to the radiator. The only thing for miles around was an old sign post, so out came Michael's pocket knife and he carved a bung to tightly fit the hole. Drink

bottles filled the radiator and they made their way to the nearest oasis. Word quickly got around about the incident and Michael was dubbed ‘Professor Mechanico’. With the car repaired the trip headed to the Chuquicamata mine, the largest open pit copper mine in the world. When the mine manager discovered that Michael spoke English and some Spanish, he produced a technical manual in English for some mine equipment and talked him into translating it into Spanish. Despite only teaching himself Spanish a few weeks beforehand Michael accepted the challenge. In return the manager gave Michael and Judy a comprehensive tour of the mine (Fig. 6), which was under the watch of several gun-toting guards, and turned his back whenever Michael took photographs of the mine rocks, pits and buildings. Michael’s Atacama and Chuquicamata credentials ensured their unexpected priority treatment!

Fig. 6. *Judy and Michael Selby geared up for their escorted tour of the Chuquicamata mine site in Chile in 1980, the largest open pit copper mine in the world. Photo source: Selby family.*

Publications

Leaving aside book reviews, reports and conference abstracts, Michael published during his career about 89, mostly peer-reviewed, scientific papers in leading geomorphological, geological and hydrological international and national journals. These are fully referenced in his bibliography given later in this tribute (p. 48) where a # superscript is shown against the entries that Michael himself considered to be his ten best papers. With some exceptions, his papers are mainly concerned with slopes and the erosion that formed them, the development of slopes being the key to the development of landscapes. Examples of some of the main research topics and their associated journal publications completed by Michael include:

* Geomorphology of the Hamilton Basin and surrounding greywacke ranges (e.g. Selby 1966b, 1967b, 1972c, 1974f, 1982e; Bennett and Selby 1977; Rogers and Selby 1980; Selby and Lowe 1992).

* Mass movement processes, shear strength of soils and rocks (e.g. Selby 1966c, 1967c, 1968a, 1970a, 1970b, 1970e, 1974b, 1974c, 1974h, 1976c, 1994; Chandler and Selby 1981).

* Soil erosion in pumice lands on the Volcanic Plateau of North Island (e.g. Selby 1966a; 1967e; 1967f; 1970d, 1971f, 1972b, 1973a; 1974g; Selby and Hosking 1973).
* Quaternary surfaces and coastline advances in the Bay of Plenty, New Zealand (e.g. Pullar and Selby 1971; Selby et al. 1971).
* Slope development, glacial history and aeolian processes in the Antarctic Dry Valleys (e.g. Selby 1971b, 1971c, 1971d, 1971e; 1972a, 1972d, 1977a, 1985b, 1990; Selby and Wilson 1971a, 1971b; Rains and Selby 1972; Selby et al. 1973, 1974; Rains et al. 1980; Augustinus and Selby 1990).
* Development of landforms on granitic rocks in Antarctica, the Sahara and Namib deserts (e.g. Selby 1974a, 1974b, 1974d, 1977c, 1977d, 1982b, 1982d; Moon and Selby 1983).
* Climate change in the Sahara and Namib deserts (Selby 1976a, 1977b, 1977e; Selby et al. 1979).
* Rock mass strength classification and assessment in geomorphology (e.g. Selby 1980; Selby et al. 1988).
* Inclinations and stability of rock slopes (e.g. Selby 1979b, 1982c, 1987a, 1987b, 1988; Crozier et al. 1982, 1992; Bardsley et al. 1990; Howard and Selby 1994, 2009).

Perhaps most impressively, and very rare for the vast majority of academics worldwide, in addition to his journal articles Michael also published seven substantive books, referenced at the start of his bibliographic listing (p.49), each a few hundred to several hundred pages long and fully illustrated with superb diagrams and photographs (Fig. 7). I have already mentioned

Fig. 7. *The seven books ("The Magnificent Seven!") published by Michael J Selby (inset photo). Fuller references for the books are given later (p. 49) in the bibliography for Michael.*

his two early career books (*The Surface of the Earth*) published in 1967 and 1971. A decade later these were followed by two books in 1982 (*Hillslope Materials and Processes;* and *Landforms of New Zealand*, co-edited with Jane Soons, and in which Michael contributed to three chapters), another in 1985 (*Earth's Changing Surface*), a further in 1992 (*Landforms of New Zealand, 2nd edition*, again co-edited with Jane Soons, and in which Michael contributed to three chapters), and finally in 1993 a substantially updated and greatly expanded (451 pages) second edition of his earlier 1982 book on Hillslope Materials and Processes. The general content and target audience for each of these books is mentioned in Table 2.

Table 2. *The general content and target audience of books by Michael Selby.*

Book title	Year	Content and intended target readers
The Surface of the Earth Volume 1	1967	An introductory text to the study of landforms in relation to their geological form and morphogenetic region. Aimed at senior high school and first year university students in physical geography courses.
The Surface of the Earth Volume 2	1971	An introductory text to physical geography emphasising the importance of the interrelationships between geomorphology, climate, soils and vegetation, including the systematic parts of soil geography and biogeography and soil chemistry. Aimed at undergraduate university students in physical geography.
Hillslope Materials and Processes	1982	The first text in English to bring to the attention of geomorphologists the information and methods used by engineering geologists and geomechanical engineers to the study of the nature and processes forming hillslopes. Aimed at undergraduate and graduate students of geomorphology as well as engineering geologists.
Landforms of New Zealand	1982	The first comprehensive text describing the current processes of erosion and deposition which are moulding the New Zealand land surface in different parts of the country. Aimed at students of landforms, geology, geography, soil science and related areas, but also purposely non-technical in presentation so as to appeal to interested lay readers.
Earth's Changing Surface	1985	An introductory text to geomorphology in which the importance of plate tectonics, climate change and the nature of geomorphic resistance and the processes of weathering, erosion and deposition all have on the development of landforms. Aimed at undergraduate students of geomorphology and Earth sciences.
Landforms of New Zealand 2nd edition	1992	A substantial revision, update and expansion of the 1982 version. Aimed at students of landforms, geology, geography, soil science and related areas, but also purposely non-technical in presentation so as to appeal to interested lay readers.
Hillslope Materials and Processes 2nd edition	1993	A substantial revision, update and expansion of the 1982 version incorporating new knowledge about the processes involved in hillslope development from geologists, engineers, hydrologists, soil scientists and geomorphologists. Aimed at all university students of geomorphology, as well as engineering geologists.

His 1993 2nd edition book on *Hillslope Materials and Processes* is widely regarded as Michael's most important scientific work. In 2005, over ten years after publication and three years after his retirement, it was named as one of the ten "classic" books of geomorphology and its author, Michael Selby, as one of the 20 most cited geomorphologists in the English language, highlighting that Michael's reputation extended well beyond New Zealand's shores (Doyle and Julian 2005). A line in a citation for this book states "It is unique in bringing together material from many branches of the Earth sciences — geology, soil science, hydrology, geomorphology and rock and soil mechanics". Significantly, this embraces exactly the concept of Earth sciences that John McCraw and Michael Selby envisaged some 35 years previously when setting up the Department of Earth Sciences at the University of Waikato. To this day, occasional incoming small royalties from publishers associated with some of Michael's later books attest to their ongoing widespread appeal.

Michael's ability to write so many texts reflects several personal aptitudes. Among these were his vast experience of landforms worldwide through travels and field excursions on all continents; his skill at integrating into more traditional physical geography several of the novel scientific advances or techniques from outside or peripheral disciplines, such as in geology, pedology, rock and soil mechanics, engineering geology, hydrology, and soil chemistry; his extremely organised, conscientious and focussed mind-set when it came to assembling and reading background material for the writing task at hand, working long hours at his office desk and, if necessary, even wearing earmuffs to minimise extraneous noise and other surrounding distractions; and his sound knowledge of several written languages outside of English (French, German, Latin and Spanish) along with his critical editing experiences.

Teaching

Through the 1970s and 80s the numbers of students enrolled in Earth Sciences at Waikato grew rapidly to become, by 1987, the largest university teaching and research department in the geosciences field in New Zealand. To cover the rapidly increasing number of students and of course offerings the initial teaching staff of three in the foundation year of 1970 grew to 13 by 1988, supported by five field and laboratory technicians and three administrative secretaries (Fig. 8). At staff meetings Michael very much encouraged and promoted this growth to ensure that the department became an economically viable and competitive unit in the New Zealand university system. I recall early on him suggesting that a departmental student population of 200 EFTS (effective full-time students) was an appropriate size goal for Earth Sciences to reach, a number achieved by the early 1990s.

Michael was a superb lecturer and teacher to literally thousands of students, his major contributions being in 1st and 3rd year undergraduate and 4th year graduate level classes in Earth Sciences. His refined English accent, his clearly projected voice to the back of the lecture room, his strong belief in the extensive use of visual aids (especially 35 mm projector slides) for getting the message across in a field-based discipline, his enlightenment with loads of personal travel and research experiences, and his ability to ad lib without the use of notes, all gave his lectures an interest and spontaneity that students really valued. Michael and Professor John McCraw shared the majority of the 1st year theory teaching in Earth Sciences

for much of the 1970s and 80s, and together they were responsible for many students finding a newly discovered interest in the Earth sciences that saw them advance, and even major, in the subject (Fig. 9).

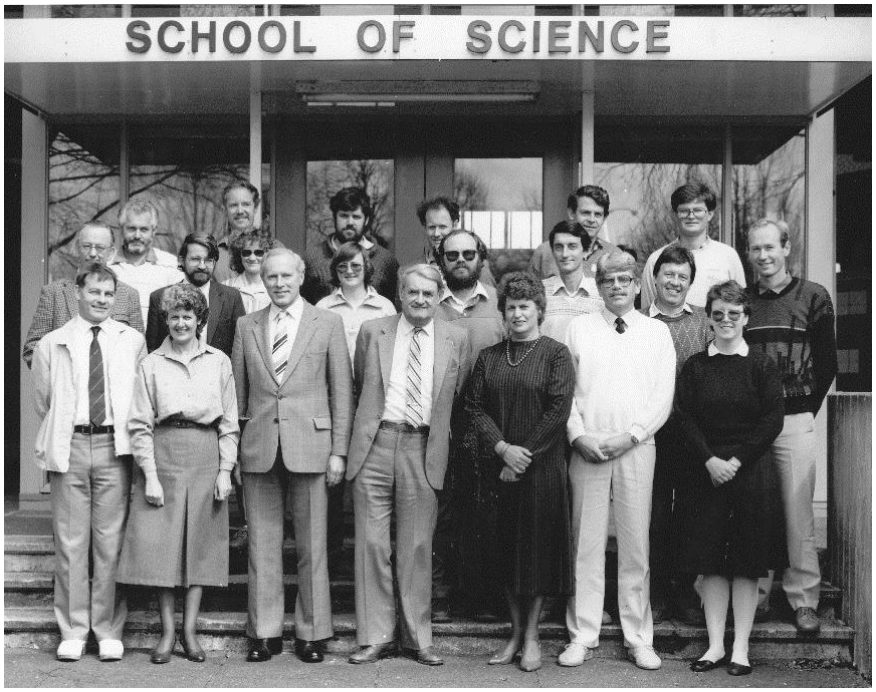

***Fig. 8**. Staff of Department of Earth Sciences at University of Waikato near the time of John McCraw's retirement in early 1988.* ***Front row (left to right)**: Terry Healy, Elaine Norton, Michael Selby, John McCraw, Sydney Wright, Cam Nelson, Mary-Ann Griffin.* ***Middle row**: Bob Allbrook, Peter Hodder, Vicki Lockwood, Vicki Moon, Willem de Lange, David Lowe, Richard Chapman, Peter Kamp.* ***Back row**: Laurie Gaylor, Mike Vennard, Steve Bergin, Earl Bardsley, Roger Briggs, Mike Dravitski. Photo source: Ross Clayton, University of Waikato.*

***Fig. 9.** Some of the 1st year student class farewell Michael Selby (centre of second row) with a hand wave and a gift basket following his last lecture before retiring in 2002. Photo source: University of Waikato files.*

Michael always had a side interest in the discipline of archaeology, and especially the topic of human evolution and dispersion. By the late 1980s a course entitled *The Origin and Dispersal of Humans* was introduced into the curriculum at Waikato alongside the more traditional introductory Earth Sciences offerings. Michael promoted and taught in this

archaeology course, and later (1996) expanded his practical knowledge of the subject with a study trip to the lands of the Eastern Mediterranean that included visiting many archaeological sites and ancient buildings in Egypt, Syria, Jordan, Turkey and Greece.

Michael was well known for taking out time to prepare comprehensive course teaching manuals for his students, he reasoning that this approach not only enabled him to get on top of a topic but also that some of the material could eventually become incorporated into his text book writings. Not uncommonly he encouraged some of his senior research students to assist in these tasks. Some examples of such in-house teaching or instruction manuals are named in Table 3. In support of his lectures and research publications, he was an especially prolific user of the draughting and photography services at the University of Waikato, and was typically their major "client" throughout much of the 1970s and 80s. Michael himself was an avid photographer who on field excursions was never without a 35 mm SLR camera around his neck, loaded with colour slide film (see Fig. 27). He ended up with a slide collection that numbered over 13,000 images, all neatly arranged and catalogued in department-designed slide storage cabinets (McCraw and Vennard 1971) or in plastic sheet slide holders in filing cabinets. Any staff member requiring a decent slide of some particular Earth sciences field feature, go see Michael Selby!

Table 3. *Some examples of Michael Selby's unpublished internal department manuals assisting his teaching instruction.*

Selby MJ 1976. Selected annotated bibliography of mass wasting in New Zealand to 1975. Earth Sciences Occasional Report No. 1. 38 pp.
Waldvogel Y, Selby MJ 1980. Geotechnical mapping and rock mass strength classification. Earth Sciences Geomechanics Manual No. 2. 15 pp.
Chandler MP, Parker DC, Selby MJ 1980. Field direct shear box. Earth Sciences Geomechanics Manual No. 3. 53 pp.
Selby MJ, Waldvogel Y, Hogg AG 1980. A glossary of terms used in Earth Sciences. Earth Sciences Teaching Manual. 177 pp.
Selby MJ, Pestrong R 1980. The stability of hillslopes. Earth Sciences Teaching Manual. 40 pp.
Selby MJ 1980. Hillslope materials and processes. Earth Sciences Teaching Manual. 196 pp.
Selby MJ 1980. The Quaternary: its history and stratigraphy. Part 1. Earth Sciences Teaching Manual. 46 pp.
Selby MJ 1985. A glossary of terms used in geomechanics. Earth Sciences Geomechanics Manual No. 7. 34 pp.
Selby MJ 1985. Rock and soil mechanics as applied within engineering geology. Part 1 – The strength of intact rock and discontinuities in rock. Earth Sciences Geomechanics Manual No. 8. 90 pp.
Selby MJ, Matula M 1985. Field descriptions in geomechanics. Earth Sciences Geomechanics Manual No. 9. 32 pp.

At the postgraduate research level, Michael supervised the masters or doctoral theses of about 50 students, many of whom went on to gain livelihoods in the engineering geology and related fields. He expected high values of work standards and commitment from his research students who in return received huge benefit from his very extensive field, practical and

literary knowledge of most topics related to Earth sciences, as well as his critical eye and editorial skills and helpfulness during their thesis write up stage (e.g. see colleague tribute 15).

Michael was always available for public and club talks as well as conference presentations. He gave on average seven public lectures a year over much of his career. These were to groups such as Probus, Rotary, 50 plus, Continuing Education and Junior Naturalists, on such fascinating topics as Antarctica, The Evolution and Spread of Humans, Building Technologies of Early Civilisations like the Roman Empire, Noah's Flood, and Landforms and History of the Waikato Basin, the latter typically involving him leading a follow up one-day field trip (Fig. 10). Michael, with others, helped organise and lead two major field trips for large groups across to Australia in 1981 and 1988 (Fig. 11; see colleague tributes 3, 5 and

Fig. 10. *Michael Selby (holding spade), always eloquent in both lecture hall and field, addressing the class for a two-day continuing education course in Tauranga in 1979. Behind him is a weathered tephra section at Waihi Beach, Bay of Plenty. David Lowe is next to Michael. Photo source: Rex Julian, University of Waikato.*

Fig. 11. *Participants on the 1988 University of Waikato Earth sciences field trip to Australia, repeated after a highly successful first trip in 1981, led by Michael Selby and Peter Hodder (see also colleague tributes 3, 5 and 12). In this photo Michael is wearing the tan-coloured hat, standing fifth from left. Photo source: Willem de Lange.*

12 for some details). And of course during his academic career he and his research students regularly addressed Earth sciences conferences, especially those under the auspices of the NZ Geographical Society, the NZ Geological (now Geoscience) Society and the NZ Institute of Engineers, and he also helped lead a number of conference field trips over the years (Fig. 12).

Fig. 12. *Michael explaining landscape features on an Australian and New Zealand Geomorphology Group (ANZGG) field excursion in New Zealand from Napier to Ruapehu in February 1986 themed tectonic geomorphology of a transect across the Hikurangi active continental margin. Peter Kamp, the trip co-leader, is in front of Michael and Martin Williams (now Emeritus Geography Adelaide) with beard. Photo source: Paul Williams.*

Following his retirement in 2002 Michael set up an official University of Waikato prize known as The Selby Prize in Earth Sciences. The prize, a certificate and cash amount, was awarded annually by a selection committee to a masters or doctoral student enrolled in Earth Sciences who presented an outstanding conference paper at the annual Earth Sciences Graduate Student Conference. The winning paper had to be well presented, comprise new data and/or innovative interpretations from any branch of Earth sciences, and make a significant contribution to the discipline. The prize ceased in 2015 when Michael shifted to Auckland.

Deputy Vice-Chancellorship

Michael's extensive knowledge and skills concerning "all matters that make a university tick" became well known across the university during the 1970s and 80s (Table 4). In 1986 the then Vice-Chancellor, Professor Wilf Malcolm, persuaded Michael to leave full-time duties in Earth Sciences and to join the senior administration team of the university, where he became the Deputy Vice-Chancellor. Michael continued in this role when Professor Bryan Gould took over as Vice-Chancellor in 1994 and, by then, with an especially strong research focus, the position had been re-labelled Deputy Vice-Chancellorship (Research). So overall Michael held DVC duties for a grand total of 15 years through to his retirement in 2002.

Table 4. *Some wider University of Waikato positions and duties of Michael J Selby, outside of Earth Sciences.*

University of Waikato Committees	* Director, Antarctic Research Unit (1979–1985) * Member, School of Science Arbitration Committee (1975–1985) * Member, University Vehicle Committee (1972–1985), Chair (1986–1988) * Member, Postgraduate Studies and Research Comm (1982–1985) * Member, University Library Committee (1983–1985) * Member, University Planning Committee (1983–1985) * Member, Academic Board (1981–2002) * Member, Academic Planning Committee (1986–1987), Chair (1988–1990) * Member, Resource Allocation Advisory Committee (1986–1993) * Chair, University Research Committee (1986) * Chair, Distance Education Committee (1985–1990) * Member, University Council (1987–1990) * Chair, Teaching Development Unit (1988–1990) * Waikato University representative on Curriculum Committee of University Grants Committee (1982–1990) * Waikato University rep on NZVCC Research Comm (1992–2002) * Chair, Academic Audit Committee (1993) * Director, Institute for Research and Graduate Studies (1996–1997) * Chair, Halls of Residence Board of Management (1995–1998) * Chair, University Research Committee (1998–2002) * Chair, Postgraduate Studies Committee (1999–2002) * Trustee, University of Waikato Foundation (1997–2006)
Some Deputy Vice-Chancellor (Research) duties at the University of Waikato from 1986–2002	* Responsible for policy development and implementation for research, including commercial and Public Good Research; consultancy * Responsible for establishing and maintaining relations with Crown Research Institutes and other major institutions, such as Regional Health Authorities * Relationships with Foundation for Research, Science and Technology and with Ministry of Research, Science and Technology * Oversight of the University's research companies, including Director of WaikatoLink and Pacific Enzymes Ltd * Acting Vice-Chancellor as required * Undertaking the establishment of new ventures on behalf of the Vice-Chancellor, as the following examples show: * 1986 – Establishment of the University Research Committee * 1985–1986 – Establishment of Distance Education Committee * 1988–1990 – Establishment of Teaching Development Unit * 1993 – Establishment of Academic Audit process * 1993–1994 – Establishment of the Management Technology Programme, and negotiating links with Association of Professional Engineers, Scientists and Managers Australia (*APESMA*), and Swinburne University of Technology, Melbourne, Australia * 1996 – Negotiating lease of University land from Waikato Tainui * 1998–2002 – Investigating sites in Tauranga for a new Coastal Research Institute

Fortunately for Earth Sciences, throughout this time Michael generously continued to provide a reduced load of lecturing in a couple of the undergraduate Earth Sciences courses.

Michael's duties as Deputy Vice-Chancellor (Research) were extremely varied, some of which are noted in Table 4. However, with a particular responsibility for the University's research portfolio he guided the University's research efforts with considerable success and distinction, building significant new research strengths across a wide range of disciplines and at the same time increasing the University's research revenue by a large and valuable margin. In 1986 when Michael took up the DVC role the University generated about $500,000 from outside contracts. Due to his untiring efforts in the research field and the establishment of robust processes for contract research through the University's administrative UNILink Office, by 2002 when he retired that figure had grown to $16 million, or 11% of the University's annual income. Michael built excellent relationships with all the relevant funding agencies of the time, like the Foundation for Research, Science and Technology (FRST) and the Ministry of Research, Science and Technology (MoRST), and with professional scientific and other bodies, like the Crown Research Institutes (CRIs).

Michael became a key member of several boards arising from the potential commercialisation of the University's research, including: as Director of WaikatoLink Ltd (1994–2002) – the commercialisation company of the University of Waikato; as Director of the University of Waikato/Shell spin-off company Pacific Enzymes Ltd (1994–2002) – investigating the commercial implications of thermostable enzymes; and as an active then inactive Director of Titanox Development Ltd, at times being Chair of their Board (1998–2000, 2002–2014) – exploring the development of new and cheaper titanium products using cost-effective powder metallurgy (e.g. Fig. 13). The University's current high reputation as a research institution owes a great deal to Michael's early efforts and negotiations. He also actively promoted the external funding campaign work of the University of Waikato Foundation – an independent charitable trust supporting and resourcing the University – and was both a Trustee and Chair of its committee before and following his retirement (1996–1997, 2002–2006) (e.g. Fig. 14).

Fig. 13. *Titanox Board members, including Michael Selby (back left), host a contracting delegation in 1998 interested in the application of new titanium-based composites of benefit to the automotive industry. Photo source: University of Waikato files.*

Fig. 14. *A first instalment cheque from the Alumni Association's Carol DeBois-Wright is handed to Michael Selby representing the University of Waikato Foundation associated with a fundraising Campaign for Waikato (Capital Campaign) for Scholarships in 1998. Others present are Foundation Trustees Kay Kerr, Dr John Gallagher (also Pro-Chancellor), and Rt Hon Rob Storey, QSO. Photo source: University of Waikato files.*

It is well documented that within the Senior Management Team Michael brought all his experience and good sense to bear – as a guide and mentor to more junior staff, as a role model to those seeking their own academic excellence, and as a source of wise advice to the two Vice-Chancellors he served (see colleague tributes 6 to 9). This kind of exemplary service to the University of Waikato is well summed up by Caroline Bennett, Chancellor of the University at the time, in a personal letter sent to Michael upon his retirement in February 2002, a portion of which states: "I undertook to write to you on behalf of all my colleagues on the Council to acknowledge your enormous contribution to every aspect of this University's development over the last 38 years. Your generosity of spirit, your unstinting commitment, your example and your leadership have been instrumental. There is no doubt that our strength and character as a University today are due, to a significant extent, to your own vision, initiative and energy." In his retirement year Michael was made an Emeritus Professor of the University of Waikato with Professor Bryan Gould, Vice-Chancellor of the University, recording that Michael was "one of the University's most distinguished sons".

Awards and honours

In the course of his working life at the University of Waikato Michael received many accolades, six of which are mentioned here:

(1) In 1980 Michael was awarded a well-deserved Personal Professorial Chair in Earth Sciences.

(2) Also in 1980, in recognition of the important contributions he made to understanding geomorphological processes in the Dry Valley regions of Antarctica, a peak in the Britannia

Range of Antarctica was formally named after him as Mount Selby by the New Zealand Antarctic Placenames Committee, approved by the New Zealand Geographical Society and the US Geological Survey (Fig. 15).

Fig. 15. *Michael Selby atop Derrick Peak in the northern Britannia Range, Antarctica, 11 December 1978. The high peak in the background at right is the mountain named after him, Mt Selby. Photo source: David Lowe.*

(3) In 1984 Michael was awarded the premier degree of Doctor of Science (DSc) by the University of Oxford for his book and journal publications to that date on rock strength that linked concepts in geomorphology with quantitative measurements in engineering geology. A letter of congratulations from his Oxford College (Keble) comments: "This is a great honour for the College. You are its first higher doctorate in Geography and I think you are the first Geography DSc".

(4) In 1995, while Deputy Vice-Chancellor, Michael received a special University of Waikato Staff Merit Award "in recognition of dedicated and expert work in conducting complex and arduous negotiations with the Crown and Tainui in respect of the University's interests in the Tainui settlement and our lease of the campus land".

(5) Following his retirement in 2002 (Lowe and Kamp 2002) Michael was awarded the title of Emeritus Professor of the University of Waikato.

(6) In 2005, three years after retiring, Michael's major working-life scientific and administrative contributions to education were recognised in the New Zealand Honours List when he was made an Officer of the New Zealand Order of Merit (ONZM) (Fig. 16).

Fig. 16. *Michael Selby receiving in 2005 the award of Officer of the New Zealand Order of Merit (ONZM) for services to education from Dame Sylvia Cartwright, Governor General of New Zealand at the time. Photo source: Government House official photographer.*

Hobbies and retirement years

Michael's main hobby activities included lots of reading (especially CS Forester's *Hornblower* series and anything to do with Antarctic explorers and naval history), classical and choral music, gardening (especially a productive vegetable plot), small home carpentry jobs (e.g. occasional tables and book shelves to house his extensive private library), walking, and family holiday breaks at Raglan, Whitianga and, after 1982, at the Selby beach house at Onemana on Coromandel Peninsula – Michael's "very happy place" (Fig. 17).

Fig. 17*. Michael strolling down the hillslope in front of the Selby beach house at Onemana Beach, eastern Coromandel Peninsula – his "very happy place". Photo source: Selby family.*

Michael retired in February 2002 (Fig. 18), having served the University of Waikato for 38 years. Following such an exceptionally busy professional life it was unlikely that he would slide quietly into a sedate retirement. He maintained close contact with the University in his capacity as a Trustee and Chair member of the University of Waikato Foundation, and continued Directorship or Chair responsibilities on boards of companies commercialising research ventures at the University (e.g. Titanox Development Ltd, Pacific Enzymes Ltd).

***Fig. 18**. Michael receiving a farewell gift from the Vice-Chancellor Professor Bryan Gould on the occasion of his retirement from the University of Waikato in February 2002. Photo source: University of Waikato files.*

But most exhilarating, and continuing the adventurous spirit that characterised much of his career, Michael and Judy travelled widely in the years after his retirement, including running educational tours in Turkey on three occasions, visiting other Mediterranean lands (e.g., Tunisia, Libya, Spain), taking a trip to Thailand–Malaysia–Singapore and then to the gems of India's 'Golden Triangle' (Figs. 19 and 20), and snorkelling holidays in different Pacific Islands (e.g. Fiji, Samoa, Cook, Tonga, Howe). And naturally retirement meant that Michael was able to spend considerable time with his growing family, including six grandchildren.

***Fig. 19**. Michael and Judy Selby in casual wear and cameras at the ready in front of the majestic Taj Mahal mausoleum in India in 2003. Photo source: Selby family.*

***Fig. 20**. Michael and Judy Selby experiencing a bumpy elephant ride while visiting Thailand in 2003. Photo source: Selby family.*

While on a Probus trip in 2012 Michael suffered a stroke that affected his speech and later his mobility. A decision was made in late 2014 to sell the Selby Hamilton home of 50 years and move north to Auckland to be closer to family members. Michael embraced village life at the Summerset retirement complex in Hobsonville and he and Judy quickly made new friends, formed close bonds with neighbours, and enjoyed outings to the Bruce Mason Centre, a popular North Shore events theatre, and the stimulation of monthly speaker groups. It was this community and family which rallied around Michael when his health declined rapidly in December 2017. He passed away on 21 January 2018, 8 days after his 82nd birthday (Fig. 21).

***Fig. 21**. The flag on the Registry B Block at the University of Waikato flies half-mast in the days following the death of Michael Selby on 21 January 2018. The building housed Michael's DVC office for 15 years, from 1986 to 2002. Photo source: Cam Nelson.*

Colleague tributes

This section presents some personal memories of Michael Selby from several invited colleagues. Their names, contact email addresses, and affiliations relevant to this tribute article are noted at the start of each entry.

(1) David Lowe (*david.lowe@waikato.ac.nz*) – former student in Earth Sciences at the University of Waikato; now Professor in the School of Science (Earth Sciences) at that university.

Earliest days

Starting at the University of Waikato in 1972 was daunting, especially as my very first lecture on day 1 in 'temporary' building TB3.21 (still there today!) was by Dr Peter Braun on 'finite mathematics'…Whatever possessed me to take that paper? Later that same day, I attended 'Earth sciences 101' in room A30 with Professor John McCraw and I was immediately reassured: McCraw spoke a language I could understand and appreciate. Gradually over the year I grew to embrace Earth sciences as an engaging subject that had endless possibilities of interest because of its integrative yet multidisciplinary character, and its importance to New

Zealand in many ways. Before arriving at Waikato, I had signed up for a 'Division University' pathway to become a secondary school teacher, essentially as a default option that seemed a good idea at the time. During the year I spoke with the 'Div U' coordinator in Hamilton, a Mr Lambourne (whose name I knew from two science textbooks used earlier at school, 'Green' and 'Brown' Lambourne, the colours referring to the covers), about switching from chemistry to Earth sciences as my major. Unfortunately, said Mr Lambourne, that was not possible because "Earth sciences is not a recognised subject at secondary school". Consequently, I turned my back on a teaching career at high school, paid back all of the Div U stipend I had received for 1972 (around $809), and embarked on Earth sciences as my major.

It was in the second and especially third year in the Department of Earth Sciences that we met Michael Selby, who had just been awarded his doctorate (1972). He seemed a somewhat forbidding figure, though exceptionally well organised in his lectures, articulate, and authoritative regarding the content which was always up with the latest advances, such as the theory of plate tectonics (Selby 1970c) and the newly-published marine oxygen isotope record of glaciations (Lowe 2014). Michael's doctoral studies on the erosion of Pumice Soils were characteristically innovative, a mix of specially designed field and laboratory experiments and (at the time) novel computer-based factor analysis (Selby 1968a, 1970a, 1970b, 1972b, 1973a; Selby and Hosking 1971, 1973). We soon learned that Michael was actually friendly, had a good sense of humour, was consistent and reliable, and, at times, inspiring. I admired his Oxford heritage and that he had come all the way from the UK to remote Waikato University to teach us. Michael was also known as an author of books (e.g. Selby 1967a, 1971a), enhancing his impressive credentials. His early papers from the 1960s and 1970s, published at a prodigious rate, gave important credibility and respect to the research capability of the new Department of Earth Sciences (soon to be accelerated by the arrival of key appointment, Cam Nelson). At the same time Michael edited Earth Science Journal (see Fig. 4), published by the Waikato Geological Society, for five years (1967–71).

First field trip

In 1973 we went on our first day field trip with Michael to look at slopes and landslides on the ash-mantled greywacke hills in the Whitehall area near Cambridge. My enduring memory is seeing Michael as fit and energetic, striding out ahead and leaving us all struggling in his wake. Michael had written a paper, one of his earliest (Selby 1966b), on the origin of the slopes and boulder fields in the area, arguing that non-periodic mass movement, rather than stream erosion as earlier suggested by Sir Charles Cotton, was largely responsible for their detailed sculpture. Moreover, Michael pointed out that some of the movements could be dated approximately using the presence of volcanic ash (tephra) deposits in or on the deposits (i.e. using tephrochronology). Michael had worked with tephra guru, Alan Pullar, to identify the ash beds, and he later published other further tephrochronological research (Pullar and Selby 1971; Selby et al. 1971). At the time of the Whitehall field trip most of this went over my head with the day remembered as rather a blur. Why did I not pay more attention to the details being proffered? Later I would become a tephrochronologist and pedologist, somewhat to my surprise.

Antarctic days

A highlight of graduate study was the trip with Michael to the northern Britannia Range and Darwin Glacier region of the Transantarctic Mountains in the 1978–79 field season. This trip was the first from Waikato to venture onto ice and beyond the 'tropical' Dry Valleys region. It began 40 years ago at a training camp at Tekapo in winter in 1978 with Michael asking Dr Peter Barrett (Victoria University of Wellington), an Antarctic veteran, for his advice about logistical support for our forthcoming trip to the Britannia Range. Michael was concerned about getting enough helicopter time to allow us to map effectively. Peter suggested that we man-haul a sledge on the hard blue-ice glaciers in the area so that we would be largely independent of helicopter support. At this suggestion, Michael's eyes lit up – this was what he had always dreamed about, man-hauling a sledge through the Transantarctic Mountains in the footsteps of Scott! As an aside, the final training at Tekapo was abandoned (ironically) because of heavy snow and we were returned to civilisation by the New Zealand Army.

Fig. 22. *Field party K16α ("kilo one-six alpha") on the Darwin Glacier (Darwin Mountains behind) on 19 November, 1978, prior to being lifted into the field in helicopter #15. From left, Peter Kamp, Craig Law, Michael Selby, and David Lowe. Photo source: David Lowe.*

So, our expedition, with Michael as leader, Peter Kamp, the late Craig Law, and myself (Fig. 22) took on epic proportions, with a Nansen sledge as our main means of transport. Michael was well organised as we flew in by helicopter a series of food dumps along our sledging route. I recall that our first day at the head of the Hatherton Glacier close to the Polar Plateau was unsurprisingly incredibly cold, so much so we could hardly speak to one another despite wearing all the clothing we had. During the sledging we knew we had to have ropes of variable lengths in case one of us fell into a crevasse. Michael as leader insisted that he took the longest rope in hauling the sledge so he could help guide our route, potentially sacrificing himself in a crevasse, and the rest of us had shorter ropes. As we hauled along the glacier we discovered that the person on the longest rope rarely did any pulling, with those on the short ropes taking the strain most of the time. Clearly this worked in Michael's favour. At one point I recall we disagreed on the optimum route. Michael struck out in one direction while Peter Kamp and I pulled in another, and we ended up heading along an intermediate route into a crevasse field from which we hastily retreated. A lot of the time I was out the back of the sledge as a brakeman because the steep margins on the blue-ice made the heavily laden sledge difficult to handle (Fig. 23). Our first day with the sledge showed that we had far too much gear and we jettisoned around half, leaving the bare necessities including just one plate, one cup, and one spoon each, a billy or two, and a pressure cooker for our 'kitchen'

requirements. Fragile glass vacuum flasks (before steel flasks became available) were essential for carrying liquid water or soup into the field.

Fig. 23. *Sledging on the hard blue-ice of Hatherton Glacier, about 1 December 1978. Photo source: Craig Law.*

Because the Britannia Range had only been visited fleetingly before, we had the opportunity to formally name landscape features. Michael hit upon the great idea, undoubtedly reflecting his classical schooling, of naming landforms after places in Roman Britain, that is, Britannia, starting alphabetically with As at the Polar Plateau where we launched our trip. For instance, the names began with Abus Valley and then Banna Ridge, Bibra Valley and much later finished with Venta Plateau (Selby 1979c). I can still recall most of the names today. Michael also suggested that we name a glacier after Professor John McCraw and we additionally named Mount Selby as a mark of respect for Michael's leadership and contributions to Earth sciences both at the university and globally (see Fig. 25). Peter and I wanted to name the junction of the Hatherton and McCraw glaciers as 'Grand Slam Point' to commemorate the All Blacks of 1978 achieving that distinction for the first time in the British Isles. Also, we were close to Derrick Peak where an iron meteorite, probably the size of a car, had slammed into the area (Kamp and Lowe 1982). However, Michael would have none of it, suggesting the New Zealand Geographic Board would never accept such a 'frivolous' name. We countered by pointing out that Michael had named a frozen lake after his wife, Judith. In the end, Peter and I added 'Grand Slam Point' to our geological map in our paper (Kamp and Lowe 1982, p. 121), and so the name does exist, even if informally. It is also fitting that the name 'Lake Judith' was confirmed because Judy had loyally supported and worked with Michael in his academic career, including illustrating many of his articles.

We learnt a great deal from Michael during this trip about planning, leadership, teamwork, and undertaking effective science and (critically) getting it published. And we learnt a lot about Michael himself. We always enjoyed his company and appreciated his sage advice over many more years. Around a year ago Michael told me that our 1978–79 Antarctic trip was a highlight of his career. That is true for me as well, and a photo of us together on Derrick peak is a favourite (Fig. 24), along with one taken with him at the retirement function for Professor John McCraw in December 1987 (Fig. 26).

Fig. 24. *Michael Selby (left) and David Lowe on Derrick Peak, Britannia Range, 1 December 1978. David has an expression "I still can't believe this is happening" on his face. Photo source: David Lowe.*

Final thoughts

Belying my earlier abandonment of high school teaching, I did briefly become a part-time secondary school teacher in the late 1970s or early 1980s. I was asked to teach a fourth form class some aspects of 'physical geography' for a few hours a week at Melville High School for about a month or so to cover a staff shortage. I turned to a classic little text I had on my shelf, Slopes and Slope Processes (Selby 1970e), and taught Earth sciences with an emphasis on erosion. That text was to later morph into Michael's magnum opus that he developed during his remarkable transition from geomorphologist to engineering geologist (Selby 1982a, 1993), as documented elsewhere in this tribute article.

I enjoyed working with Michael when we ran a course in Continuing Education in Tauranga in 1979 (Fig. 10). Later I wrote a chapter with him (Selby and Lowe 1992) and contributed another (on lakes) to his seminal book Landforms of New Zealand, second edition. In the 1980s we co-supervised Craig Nicholson's MSc thesis investigating the Hamilton Ash beds geomechanically, and in the early 1990s, when he was Deputy Vice-Chancellor, Michael helped me to supervise Lideweij (Liddy) Bakker's PhD on the ignimbritic landscapes of the Mamaku Plateau. His support and knowledge were invaluable. I am personally extremely grateful to Michael (along with John McCraw, Harry Gibbs, Cam Nelson and Roger Briggs) for initially inspiring and then enabling my professional career in Earth sciences to begin, and for Michael's ongoing encouragement and enduring faith in my ability to attain my full potential as an Earth scientist.

(2) Peter Kamp (*peter.kamp@waikato.ac.nz*) – former student in Earth Sciences at the University of Waikato; now Professor in the School of Science (Earth Sciences) at that university.

Michael Selby was a world renowned and respected geomorphologist, particularly in the field of hillslope materials and processes. Not surprisingly, during my years of travelling abroad to

scientific meetings people would ask about Michael Selby when they discovered I came from the University of Waikato, and usually those people had in their offices a copy of one of Michael's many text books. Michael's scientific reputation extended well beyond New Zealand's shores.

A factor in my 1972 enrolment in the Department of Earth Sciences at University of Waikato was the knowledge that Michael Selby was on the academic staff there. In my last year at High School in Rotorua we had as our Geography text book one of Michael's early books: *The Surface of the Earth, Vol. 1* (Selby 1967a). I found this book insightful and much more interestingly illustrated than any of the other science textbooks available to us. I also knew from one of my sisters, who had already completed a degree at the University, that Michael was a very dynamic and interesting lecturer. That was good enough for me and hence I enrolled at the University to study Earth Sciences. Six years later, astonishingly, I found myself as one of Michael's field assistants and sharing a tent with him for six weeks in the Transantarctic Mountains (Fig. 25). That year (1978) Michael led an expedition to the area of the Darwin and Hatherton glaciers. The field party also included David Lowe and Craig Law (Fig. 22).

Fig. 25. *Peter Kamp (left) and Michael Selby at a camp on the McCraw Glacier, with Mt Selby behind them, on 14 or 15 December, 1978. This photo forms part of the set of photos in the Law Building that document the university's first 50 years (1964–2014). Photo source: David Lowe.*

On that expedition, Michael had decided to secure a large measure of independence from American logistical support by sourcing a Nansen sledge from Scott Base. This enabled the team, by man-hauling the sledge, to move its gear and supplies progressively away from the Polar Plateau and down the Darwin and Hatherton glaciers. Michael's approach to working in remote areas, as shown by this experience, was always one of being very practical, likely based on his early-career training while in the British Army (Table 1). Most importantly, as expedition leader, he was always even-tempered, well spirited and very positive, which made for a thoroughly pleasant and memorable experience all round.

As a University lecturer, Michael Selby was always well informed and fluent. He put enormous effort into reading modern scientific literature and built an impressive reprint collection. Students benefitted greatly from his scholarship. For example, as early as 1974 he lectured on the revolution in thinking about the climatic history of the Earth, having read

amongst other papers the new work by Shackleton and Opdyke (1973) in which they showed from oxygen isotope data coupled with magnetostratigraphy in Pacific core V28-238 the occurrence of 10 glacial–interglacial cycles spanning the last 1 million years. From Michael's own experience in the European Alps and in the South Island, he lectured on why glacial records on land necessarily carried fragmentary and incomplete records of global climate change and why deep ocean basin sediments would more completely record Quaternary global change, well before the modern science of paleoceanography was invented. He also reasoned from the evidence in papers such as the one by Shackleton and Opdyke (1973) that a new research challenge would be to correlate those records with glacial, geomorphic and non-glacial stratigraphic records on land. This led to him inspiring Brad Pillans (see colleague tribute 18) to work on the South Taranaki marine terrace sequence and myself to work on the Quaternary sedimentary succession at Cape Kidnappers. This type of work subsequently led to detailed sedimentologic and stratigraphic efforts by multiple investigators on the Wanganui Basin Quaternary succession, which remains one of the best shallow-marine to non-marine records globally of late Neogene sea level and climatic change.

During the 1980s Michael put much effort into learning about the methods and practice of geotechnical engineering so as to quantify descriptive geomorphology in relation to hillslope stability and failure processes. This broadening of his knowledge and capability underpinned his teaching of engineering geology, which became an important strength within the Department of Earth Sciences and has led to many students gaining livelihoods in this field. During the 1990s Michael moved increasingly into senior management of the University and, while maintaining an undergraduate teaching load until his retirement, increasingly devoted his time to mentoring staff across the University in the art of winning external research contracts and, most importantly, successfully completing those research contracts.

Fig. 26. *Michael Selby (left) with Peter Kamp and David Lowe at Professor John McCraw's retirement function at Waikato University, 12 December, 1987. The photo appeals because Michael exudes his qualities of decency, leadership, and steadfastness. Photo source: Ross Clayton, University of Waikato files.*

As a person, Michael showed exemplary characteristics in the manner in which he conducted himself in his professional life. He showed the best of human attributes (Fig. 26). This made him attractive to staff with whom he worked and with undergraduate and postgraduate students. He exemplified diligence, hard work and professional integrity. He was an important asset to the University in its critical early days and he helped enormously to create

a good reputation for a fledgling Department of Earth Sciences and School of Science. His legacy lives on in the many students and staff he influenced. I personally benefitted enormously from Michael's teaching, graduate supervision and mentoring, particularly when I was an emerging staff member, and for all of that I express my sincere thanks.

(3) Willem de Lange and Vicki Moon (*vicki.moon@waikato.ac.nz, willem.delange@waikato.ac.nz*) – former students in Earth Sciences at the University of Waikato; now Senior Lecturers in the School of Science (Earth Sciences) at that university.

When Michael Selby marched in and delivered lectures to us in our first year in Earth Sciences, he seemed almost god-like: immaculately prepared, eloquent and formal. However, on field trips he was much more approachable and clearly interested in us as people. This was particularly evident during the two bus tours through Australia we undertook in 1981 and 1988 (Fig. 11): the first organised by Michael Selby and Peter Hodder; and the second by ourselves.

The first trip started out like our other Earth Sciences field trips, apart from the large cohort of more mature "students" who had joined the trip to boost numbers and keep the per person costs manageable. We travelled from Melbourne into the Snowy Mountains, stopping at road cuttings to be educated by Michael about grus and other features we wouldn't see in the Waikato.

We then headed down the Murray River, into South Australia and north towards Darwin via the Birdsville Track. Michael came into his own in the desert. At our first bush camp on the Track, Michael became more relaxed, losing all his formality. First he told, with a wry chuckle, all of us who had nicely laid out our sleeping bags on setting up camp "Oh ye of little experience", before exhorting us to join hands and dance in a circle around a stunted shrub on the gibber plain chanting "Grow you bastard, grow". The final nail in his god-like status was his detailed explanation at the front of the bus driving along the Birdsville Track about why the desert around us was red, while behind him everyone else could see the growing form of distinctly non-red active sand dunes!

This was the time of the first Indiana Jones movie, and we could see the mild-mannered professor morphing into the experienced desert adventurer. The addition of desert boots, and a newly acquired Akubra hat cemented this impression; fortunately without the addition of bull-whip. The consequence was increased enthusiasm amongst the students for following Michael wherever he went: forgoing relaxing and shopping in Darwin for a wander along the crocodile, snake and box jellyfish invested coast to look for vermiform laterite; eating a hastily assembled picnic lunch amongst the fire ants in the hills above Simpsons Gap near Alice Springs; and wandering off the marked trails within the Olgas to compare the weathering processes with those at nearby Uluru (using an engineering geology Schmidt Hammer that suddenly appeared out of Michael's bag). Sometimes, this resulted in a few problems, such as when Michael, with students in tow, went off trail at Kings Canyon and

then got temporarily disorientated during the second Australia trip. And of course, wherever we went Michael captured the landscape and geology on photographic slide film (Fig. 27).

Fig. 27. *Michael never went into the field without his trusty Pentax SLR loaded with colour slide film ("pre-digital age"). On the Australian field trips it was a common sight to see him climb to the highest vantage point available to take photos, here in (A) atop a termite mound in Northern Territory, preparing his camera, and in (B) in a David Attenborough pose on a calcrete capstone in the Flinders Ranges, South Australia. Photo sources: Willem de Lange.*

We represent students who went on the first Australian trip, then married and completed DPhil degrees at Waikato. Michael played an additional and more direct role in helping us achieve these goals. After completing our MSc degrees, we met with Michael in his study at his Arran Road home in Hamilton. We discussed a DPhil project investigating the geotechnical properties of ignimbrite, which was of some interest then due to recent (1981) failures involving the Whaeo and Ruahihi power schemes, and earlier issues involving power stations at Arapuni and Whakamaru. As a doctoral supervisor, Michael was encouraging but very hands off, except for writing the final thesis, where the grammar had to be absolutely correct by hook or by crook. When an opportunity arose for two positions as Junior Lecturers in Earth Sciences, with Michael's help, we also came up with a proposal that would see us sharing one of the positions, leaving the other available: the first job-sharing position accepted by the University of Waikato. These decisions ultimately determined the course of our careers.

An enduring legacy of Michael's time with the Department of Earth Sciences is the Geomechanics Lab. He established this when training students in Engineering Geology was not very common, particularly in the Southern Hemisphere. The equipment required for the lab was expensive to acquire, heavy to ship, and ultimately very durable. This meant that Michael came up with lots of plans for building our own equipment with the School of Science Workshop staff; leading to the nickname "Crazy Jimmy", which was never used in his presence. Some of the equipment worked, but there were also notable failures, such as a rain machine for assessing rain erosion of soils that couldn't simulate anything less than a torrential monsoonal downpour. He also was quick to adopt equipment designed for other purposes, such as using the concrete hardness testing Schmidt Hammer for assessing the extent of weathering in rocks. Graduates who worked in the lab have gone on to successful

careers in academia and consulting firms. In 2018, the lab was significantly expanded to handle the teaching of soil mechanics for Civil Engineering. However, despite the success of Engineering Geology, Michael never seemed comfortable in the lab, leaving the hands-on management of it to others. He was always happier in the field.

Finally, what we didn't realise as we looked out over Days Park from Michael's home study windows, was that laid out before us was the geomorphological expression of a significant fault zone running through Hamilton city. Characterising the behavior of faults and revising the evolution of the structures within the Hamilton Basin, will occupy much of our final research years at Waikato University.

(4) Roger Briggs (*roger.briggs@waikato.ac.nz*) – former Associate Professor in Earth Sciences at the University of Waikato; now retired and an Honorary Fellow of that university.

Michael was on study leave when I first arrived in 1975 in the Department of Earth Sciences. The stories I heard about Michael were legendary as it appeared that he was the archetypal British geomorphologist and explorer, right down to the khaki jacket and matching pith helmet. Michael went on some marvellous world-wide expeditions and tours, including to the desert landscapes of the Atacama, northern Chile, the diamond-bearing sand dunes of Namibia in Southwest Africa, and the Dry Valleys in Antarctica. His talks and lectures were always vividly illustrated by an exhaustive personal collection of 35 mm slides of exotic landscapes.

Michael was a prolific writer of books, and did all his writing in long-hand, and remarkably never used a computer or word processor. I remember him bringing into work large folders of hand-written pages which he gave to Elaine Norton (see Fig 8), one of the department's secretaries, who then typed up all his script into electronic manuscript form. He used his own photographs for illustrations in his books, and the diagrams were meticulously prepared by his wife Judith for his earlier publications and the University draughtsperson, Frank Bailey, for his later ones. Elaine later left the Department of Earth Sciences and became Michael's personal assistant in B-block when he became the University's DVC. She organised his diary, his schedule of meetings, lecture times, all his emailing, and gave him enormous support.

Michael became deeply involved with many aspects of the administration of the University, especially in his role as Deputy Vice-Chancellor, and was Chairman of many University committees (e.g. Table 4). He always ran the meetings very professionally and efficiently, and his expertise, knowledge and wisdom became of immense value to me while I was Chairperson of the Department of Earth and Ocean Sciences, for which I will always be grateful. I remember paying a tribute to Michael at the beginning of his last lecture to first-year students at Waikato, just before he retired in 2002, which was a very special moment.

(5) Peter Hodder (*peter.hodder@vuw.ac.nz*) – former staff member of University of Waikato (Earth Sciences); now at the School of Government, Victoria University of Wellington.

As a geomorphologist, Michael's research could have been in the footsteps or Sir Charles Cotton. Instead, he used his observations to develop a landform based approach to engineering geology. His progression in that development is evident from a comparison between the two editions of his book *Hillslope Materials and Processes* (Selby 1982a, 1993). Both editions were published by Oxford University Press, and to both editions I felt honoured to be invited to contribute in a minor way. Of course, he wrote other books and many research papers as well, but for me these books were the inspiration to develop and maintain an interdisciplinary perspective in my own academic research and professional career.

As a chemist, I had had relatively little experience of field trips before joining the Earth Sciences staff at Waikato University. When as a new member of staff, I sat in on field trips around the Waikato – then as unfamiliar a region to me as it was to many first-year students - I was impressed with the wealth of knowledge revealed in his commentaries to students both in the bus and at field stops. The extent of his reading and scholarship became even more apparent on the field trips across the Australian outback, which Michael led, and on which he and I shared a tent (see colleague tribute 3). We also shared some of the local transportation options (Fig. 28).

Fig. 28. *Michael Selby and Peter Hodder experience getting around on camel back out of Alice Springs, Australia. Photo source: Willem de Lange.*

I was never able to fully adopt the "no-notes" style that Michael used in his lectures, but he did convince me of the need to engage with the audience and not just read from prepared notes. From him, I also learned that audience interest could be enhanced by using well prepared slides to illustrate concepts and show real-life examples. Technology may have changed, but I still use photographs and images to support the presentations I make in my current roles at Victoria University of Wellington.

Overall, Michael's contribution to my career has been subtle but pervasive, and for that I am forever grateful.

(6) Wilf. Malcolm (*wilfgmalcolm@gmail.com*) – former Vice-Chancellor of the University of Waikato; now retired.

I am pleased to contribute to this significant tribute to the achievements of one of the University of Waikato's most distinguished staff members – Emeritus Professor Mike Selby. Towards the end of 1985, my first year as Vice-Chancellor of the University, I realised the need for a person in the role of Deputy Vice-Chancellor. I consulted senior colleagues and a strong majority recommended Professor Selby. At that time Mike was one of the longest serving members of staff, entering as a Lecturer in Geography in the newly founded University of Waikato in 1965, and then subsequently transferring in 1969 into the new School of Science and its Department of Earth Sciences. He had a strong record of contribution in teaching and research to the academic life of the University, including active collegial participation in its academic leadership.

Mike kindly accepted my invitation to take up the Deputy Vice-Chancellorship and served very ably in the role from 1986 until his retirement in early 2002.

The detailed nature of the responsibilities of the position developed over the initial period, with those duties occupying half of Mike's time and his ongoing role in teaching and research as a member of the Department of Earth Sciences occupying the other half of his time. It soon became clear that the research activities in the University required oversight and coordination, especially with respect to their financial support and management. This became a central component of Mike's responsibilities and through it he made a substantial and lasting contribution to the growth and quality of research activities across the University as a whole.

Outside of this central role in providing oversight and coordination of research activities across the University Mike also developed patterns and processes of support for the academic staff in their various responsibilities in teaching and research. As well, of course, he also served as Acting Vice-Chancellor during periods when I, or my successor Professor Bryan Gould, were absent from the University.

I join with many others who pay tribute to Professor Mike Selby for the richness and quality of his contribution over many years to the life of the University, including his leadership and service in the role of Deputy Vice-Chancellor.

(7) Bryan Gould (gouldbryan8@gmail.com) – former Vice-Chancellor of the University of Waikato; now retired.

Among the many strokes of fortune I enjoyed when I took up the Vice-Chancellorship of Waikato University in 1994 was that I inherited, as my Deputy, Professor Michael Selby. I immediately made the decision, having met Michael for the first time, to trust my predecessor's judgment and to confirm him in that role.

Michael must himself have been a leading candidate for the Vice-Chancellorship, but he never for a moment betrayed the slightest hint of resentment at the arrival of an outside interloper. I remember him saying (and the fact that I can recall it word for word shows the impression it made on me), "I look forward to working with and for you."

And so it proved. Michael and I worked together harmoniously until his retirement. He served me, and more importantly, the University with distinction, commitment and loyalty. The nature of our relationship is, I think, best illustrated by a short episode which remains very distinctly in my memory.

It was the practice at the time to hold an annual day-long retreat for the University's senior management, at which we could, in relaxed circumstances, review the University's current condition and the plans we might have for its future. On one such occasion, after lunch and with half an hour to spare before we resumed our deliberations, Michael and I took the opportunity to take a short walk through the very agreeable gardens of the establishment that was hosting us.

I was aware that our colleagues had seen us, and were no doubt wondering what great issues – perhaps too weighty to be submitted to open discussion – we were addressing. In truth, we talked about nothing much, but I was content – and so too, I think, was Michael – just to allow it to be seen that he and I enjoyed each other's company and that there was, as a result, harmony at the top.

Michael was of course an excellent academic and an acknowledged expert in his own field, and he derived great pleasure and strength from his family and friends. But he was, above all, a University man – the archetypal don – courteous, considered, thoughtful, and committed to the notion that the pursuit and sharing of knowledge about the human condition and our life on this planet is a noble and beneficial undertaking.

Universities need people like Michael Selby – indeed, if they are true to their purpose, they are people like Michael Selby.

(8) Gerald Bailey (*gerald64bailey@gmail.com*) – former Chancellor of the University of Waikato; now retired.

For the whole of the 10 years I spent at the "top table" at University of Waikato Council meetings, I had the privilege of working alongside Michael Selby in his role as Deputy Vice-Chancellor. I developed the utmost admiration for Michael, his wisdom, his modesty and his collegiality.

Michael's appointment was one of the first made by the fledgling University following its establishment in 1964 and his knowledge of the University's history was always invaluable. During his term of office as Deputy Vice-Chancellor, he was appointed to a multiplicity of roles, for which he was ideally suited and for which his years of experience equipped him admirably (Table 4).

At the same time, he continued to follow his academic pursuits with the Department of Earth Sciences and the School of Science – a combined workload which he bore willingly. At all

times, he was loyal to his Vice-Chancellor, while not shirking from expressing his opinions when they differed from those of others.

For me, however, and I suspect for many others, Michael was the quintessential gentleman, unfailingly courteous, modest about his many accomplishments and a genuine friend. His name will always be remembered as one who contributed massively to the growth and success of the University he served so well.

(9) Jeremy Callaghan (*jemcallaghan@gmail.com*) – former Registrar of the University of Waikato; now retired.

It was very good fortune that, during my 14 years as Registrar at Waikato, Michael Selby was the University's Deputy Vice-Chancellor. Not because Michael was an ambitious university manager – indeed through those years he retained a mostly half-time academic position while discharging his administrative tasks with such skill. But because Professor Selby was a consummate university man and a colleague of the highest integrity. He had cut his teeth as an academic long before the arrival of the clumsy managerialism promoted in the Learning for Life reforms: for him, a university was first and foremost a place of learning, through enlightened teaching, scrupulous research and bonds of scholarship, with the minimum that was needed to administer these callings falling into proper place behind.

I didn't see much of him during my early years in the B Block administration building (Fig. 21) – maybe two or three times a week for management or other meetings, or a book launch or other important activity. But he would often pop in to the office just to say hello and ask how things were going. I remember once he explained how the "top half of the North Island" (a phrase I had thoughtlessly used in something I had written) was better avoided as a journalistic vulgarity; and he put me right on where to put the dollar sign in amounts expressed in figures. He pointed out such things without apology, pedantry or affectation simply because they were correct and accuracy was what it was about, with a characteristic laugh or smile and a vocal flourish that was all his own.

As the University grew, he became more involved in its management life, joined by other colleagues in a growing group of Pro-Vice-Chancellors, meeting weekly to guide our response to the challenges we faced; soon a management forum of Deans and Directors was added. In all those councils Michael Selby's was a wise and measured voice, well-expressed and almost always moderate. There were times when his exasperation with bureaucracy (particularly from external agencies) resulted in an outraged hrrmpph!, sometimes formalised in a strongly-worded letter, but always designed to defend the University.

His work in the Tainui settlement is almost a legacy in itself, and I personally found his involvement in the recruitment process that led to Bryan Gould's appointment to be immensely valuable. In all his work as an academic manager, whether in his research portfolio or more generally, Michael was a true leader and mentor and I know I say this for

many administrative colleagues. As much as anyone, indeed more so, he showed us how to speak truth to power.

It's strange that you can be a close colleague of someone for 14 years and yet struggle to find a telling anecdote or a defining memory. Perhaps it was because Michael's insistence on staying located in his academic department meant that everyday contact was rare. But more likely it was because Michael didn't make a fuss and didn't big note himself. He was there when he needed to be and when he made a contribution it was important. But that didn't hide a wit and humour, sometimes directed at colleagues whose armour he penetrated. It was from Michael that I learned the word "flibbertigibbet", but I won't reveal of whom it was said.

The last time I saw him was in 2014 at the 50th anniversary celebrations in the Academy. He was in a wheelchair and his health was failing. We exchanged barely a few words and then the press of people pulled him away. Now that he has been pulled away finally, I realise how much we will all miss him.

(10) Richard Bedford (*richard.bedford@waikato.ac.nz*) – former Professor in Geography at the University of Waikato; now retired and an Emeritus Professor of that university.

The University of Waikato's School of Science website contains a short entry on the late Emeritus Professor Michael Selby (http://sci.waikato.ac.nz/about-us/people/selby) where it is noted that "his service to the University began before its foundation, with his appointment as a junior lecturer at the Waikato Branch of the University of Auckland. A career in Earth Sciences developed rapidly …"

What is not said in this short entry is that Michael's initial appointment was in geography – he was the foundation Lecturer in physical geography in the Waikato Branch of the University of Auckland. His Geography colleague at the time was the late Emeritus Professor Dame Evelyn Stokes. Amongst their many achievements as the University of Waikato's foundation staff in the Department of Geography, the two of them were "partners in crime" in transporting a large share of the University of Auckland's map collection to the University of Waikato where it laid the foundation for a major research and teaching resource for all disciplines interested in the development of the Earth's surface either by natural or human processes.

Michael Selby, together with New Zealand's first female Professor of Physical Geography, Emeritus Professor Jane Soons (University of Canterbury), edited and contributed to the definitive physical geography text on New Zealand in 1982, *Landforms of New Zealand* (Soons and Selby 1982), a book that had a substantially updated second edition in 1992 and is still widely used (Soons and Selby 1992). His research on hillslope materials and processes informed the research underpinning of many physical geography Masters and PhD theses in geomorphology.

Michael became a Professor of Earth Sciences in 1980 in the University of Waikato's School of Science, but he never forgot his Geography heritage or colleagues. Geographers of my generation throughout New Zealand remember Michael with considerable fondness and respect – in addition to his excellent research papers he was renowned for his presentations. His talks were always extremely well informed and his photographs and maps were meticulously produced and presented.

Geographers share with his Earth Sciences colleagues a great respect for Michael Selby's abilities as a first-rate researcher, an excellent story teller, a very efficient manager and institutional leader and, if you were fortunate enough to know him in this capacity, a great mentor.

(11) Jenny King (*Hamilton, New Zealand*) – former Head Librarian at the University of Waikato; now retired.

One of the first jobs that Michael had on his arrival at the University of Waikato in the mid-1960s was to help transfer the University's library to the main Ruakura campus from the two rooms it used in what is now Melville High School in Hamilton. From those earliest days Michael was an exceptionally keen user of the University of Waikato Library, visiting every week to view the displays of new books and new periodicals. In those pre-computer times this was the main way to keep up with major advances in your teaching and research fields, and was an especially important appointment to keep for such a prolific book and journal writer as Michael. He also played an important role in helping get the Map Library established at Waikato. In all forums he was a great advocate for the promotion of all matters related to the Library, and especially for adequate funding to support not only the literature requirements of his own discipline and School (of Science), but for all disciplines in the university. His advice and time on any matter, however small, concerning the Library were always given willingly and generously. The Library and its staff were extremely fortunate to have had for almost four decades (1965-2002) such a strong supporter as Michael in the background behind their work and activities.

(12) Frank Bailey (*senlac1@xtra.co.nz*) – former University Draughtsman at the University of Waikato; now retired.

No single person has, by one single action, had so great an effect on my life. I came to New Zealand in 1964 having been recruited by the Ministry of Works (MOW) as a civil engineering draughtsman and I spent five years in their Dey Street complex in Hamilton. The atmosphere in my particular office was claustrophobic: we were treated like schoolchildren and not permitted to speak about anything other than work. Had it not been for the fact that I was married with two small children I would have returned to the UK.

By sheer serendipity I was put in contact with Michael who wanted some freelance draughting done and this lasted for possibly a year. He then told me that the University of Waikato was looking to appoint a full-time draughtsman and, should I wish to apply, he

would make sure that I got the position. It was a win-win situation for us both as I always gave his work preference thereafter!

Some years later (1981) he led a field trip across Australia from Mt Kosciusko in the south right up to Darwin in the north via Alice Springs, Uluru and the Olgas. There were a few spare seats so I joined the group. On the last night we had a barramundi barbecue in the desert 'sous les belles etoiles' where invitations to contribute items were made. I shall never forget Michael appearing as a Widow Twanky look-alike with enormous mammary glands - so out of character for him, but simply hilarious.

I have always found it inexplicable how some really trivial events stick in the mind for the rest of our lives. It must be all of forty years ago when, one hot January afternoon, we took our two small daughters to the university swimming pool. There I met one of the Earth Sciences PhD students who happened to be Chinese. "I like Professor Selby very much" he told me - "he is the only lecturer I can truly understand". There is much to be said for a genuine Oxford accent!

(13) Janice Lapwood (*janice@momentumwaikato.nz*) – former Fundraising Manager, University of Waikato Foundation; now Development Director, Momentum Waikato Community Foundation, Hamilton.

I worked alongside Michael from 1999 to 2004 in my role as Fundraising Manager, University of Waikato Foundation. Michael led our Foundation Trust Board with a quiet sense of professionalism and was always proud of Trustees and staff progress. The University of Waikato Foundation was successful in raising over $11 million for the Campaign for Waikato, well exceeding expectations of the original feasibility study. The Academy of Performing Arts building was the main project of this campaign and I am certain that much of its success, including the numerous awards and accolades the Academy won, was a result of Michael's leadership and inspiring nature.

Michael was a true gentleman with a stature that epitomised everything that the university stood for: the People, the Knowledge, the Future. Michael was totally committed to our Foundation: he always had a presence at our events, whether these were cultural ones, fundraising dinners, or celebrity cricket matches or alumni revues. There was no false pretence with Michael - he made engagement with our stakeholders, staff and students appear easy, and this is because he took a genuine interest in talking to people and learning of their journeys. An example of Michael's caring and professional manner, I believe, is summed up in a reference he wrote to me when I left in 2004: "I can say personally that it has always been a delight to work with you. Your commitment to the Foundation, your willingness to go the extra mile and your cheerful disposition made you an admirable colleague". This was humbling to receive from such a highly regarded person as Michael.

An incredibly supportive colleague, both Michael and his wife Judith were extremely generous donors of the University of Waikato, with their support recognising them as *Friends of the Foundation*. On occasions when I needed to visit their home, whether it was to gain Michael's signature on a document or to deliver Board papers, I was never made to feel like I was intruding on their space and I always enjoyed chatting with them informally.

Michael Selby, Chairman, colleague and Friend of the Foundation, you are a legend and your legacy lives on in those of us who had the privilege to know you, thank you. Nga mihi.

(14) Russell Blong (*russell.blong@mq.edu.au*) – former research assistant in Geography at the University of Waikato; now retired and an Emeritus Professor in Geosciences at Macquarie University, Sydney, Australia.

I first met Michael Selby in 1965 during the second year of my MA(Hons) degree in Geography at the University of Auckland that involved a thesis on gully erosion and landsurface processes on the volcanic plateau south of Mangakino. This was at about the time that Michael switched across from his Hamilton-based University of Auckland Junior Lectureship in Geography into the earliest establishment days of a new Geography Department at the University of Waikato. Because of my overlapping research interests to Michael in geomorphology he arranged for me after completion of my Master's work to become his research assistant at Waikato, starting early 1966. In 1967 I was made a Junior Lecturer and we co-authored a paper outlining the state of geomorphological research at that time in New Zealand (Selby and Blong 1967). Later that year I left Hamilton to begin a PhD at the University of Sydney. However, as my fieldwork for the study was based in the hills north of Hamilton I maintained contact with Michael despite now living in Sydney. I share below a couple of memories I recall of him.

When I arrived at Waikato in about March 1966 as a research assistant to Michael there was little in the way of a thriving Geography Department, though Craig Duncan had already been appointed as Professor and Evelyn Stokes, a social geographer, was also there. But the energy to lift Geography's profile clearly lay with Michael and Evelyn, aided and abetted by Jenny King, the University's Librarian. Michael and Evelyn not only started getting the library of books and maps underway, but together they wrote hundreds if not thousands of letters to individuals and institutions requesting reprints and journals. This strategy worked amazingly well. I recall Michael wrote one letter to the US Geological Survey and within a couple of months boxes and boxes of USGS Professional Papers and Bulletins and so on arrived. In this respect the available Earth sciences material was soon far superior to that existing at the University of Auckland at the time.

Even in those formative years Michael was very active in public education and we were both involved in giving evening lectures and running weekend field trips, not just for the university students but also for a wide variety of members of the public. This is when Michael first met Harold Larsen, an amateur rock hound, who subsequently took the two of us up to his beach house on the Coromandel Peninsula to wander along the beach and to

pontificate about shore platforms and shoreline processes. I am also sure I have never really appreciated enough how much Michael encouraged me to be involved in all sorts of things and how much he trusted this raw youth to lecture to his students and to be involved in all he did, not to mention lending me his quite flash Cortina car so l could do fieldwork on my own some days.

I remember one weekend day we took a busload of evening class students out somewhere in the Raglan hills. It must have been the third or fourth time we had run this particular field trip over a few weekends, always with the same bus driver. It was a warm sunny afternoon and after we had climbed back into the bus both Michael and I fell asleep as we drove to the next stop. We both woke with a start after the bus had pulled over at the next stop and the bus driver used the microphone to give a pretty accurate version of Michael's spiel - very funny and a great reminder that it wasn't just me and the students that were benefitting from Michael's teaching.

Michael, many thanks for some wonderful memories of those earliest years of your university career.

(15) Tony Petch (*tony@tonypetch.kiwi*) – former DPhil student in Earth Sciences at the University of Waikato and executive at the Waikato Regional Council; now a consultant providing services in natural resource and science management and governance.

Michael Selby: two words but many memories. Michael, or for us students Prof Selby, was one of my DPhil supervisors from 1979 to 1984. And on reflection, his guidance as a supervisor, research mentor and super-academic taught me a lot more than I realised at the time.

Prof was friendly, caring and supportive during my studies, and rightly just a little sterner when my performance was not quite up to standard. These are among the most essential elements of the best researchers, academics and university teachers, and Michael Selby was among the very best!

Prof was far sighted and took a strategic view of the application of science and knowledge into everyday life and the role of tertiary education in advancing the nation. His lectures were comprehensive and inspiring, his presentation style was articulate, lucid and compelling, often subtly interspersed with dry, humorous witticisms. If you weren’t paying attention you missed these gems.

Prof kept in touch during my career as Executive in charge of science, natural resource information and research at the Waikato Regional Council in Hamilton. We would have the occasional lunch and discuss many matters about science, research and education. He was particularly interested in shaping student learning to provide them the best employment opportunities. For me, the Waikato University was a provider of choice for science postgraduates because of their integrated learning across a broad range of topics; and for their

ability to tell compelling, science-based stories about the many facets of the Waikato environment.

I will miss Prof's guidance. I am indebted to him for his generosity and for imparting just some of his comprehensive knowledge and his passion for teaching others.

(16) Mike Crozier (*michael.crozier@vuw.ac.nz*) – former Lecturer in Geography, University of Otago, and Professor of Geomorphology, Victoria University of Wellington; now retired and an Emeritus Professor of that university.

I have long been an admirer and beneficiary of Mike Selby's research and publications. And I am not alone. I know that many universities at home and abroad incorporated his clearly illustrated work within their lecture, laboratory and field programmes. In my recent tenure as President of the International Association of Geomorphologists I visited many geo-science groups around the world and have been delighted to learn that Mike's book *Hillslope Materials and Processes* (Selby 1982a, 1993) in particular is held in high esteem. Yet in New Zealand I feel that Mike's scientific contribution and pedagogic influence has not received due recognition.

I first encountered Mike's work through the Hydrological Society of NZ in the late 1960s. At that time, for those interested in contemporary Earth surface processes, this was one of the few institutions where like-minded people could share their research. The Society was much more focussed on contemporary processes than the more academic institutions such as the Geological or Geographical Societies. In the early days of the Hydrological Society, through its Journal, Mike published a number of papers on the design and use of field equipment for measuring soil creep and infiltration, as well as papers on soil infiltration behaviour, soil erodibility, slope stability, and land use and erosion (e.g. Bennett and Selby 1977; Selby 1966b, 1966c, 1967c, 1968a, 1970a, 1970d, 1972b, 1979a; Selby and Hosking 1971, 1973). Given his early support for the fledgling Society, I was surprised that his role was not mentioned in its official history published in 2011 (Rowe 2011). However, Mike's research has been recognised in the historical account *Geomorphology in New Zealand* by William Brockie (Brockie 1993). Here Soon's and Selby's book *Landforms of New Zealand* (1982, 1992) is acknowledged as the first regional geomorphology of New Zealand, as well as Mike's contribution to landform evolution studies in the Antarctic, and his identification of 'dominant events', as a challenge to the prevailing magnitude –frequency theory. But much more could have been said, particularly on the wide-ranging influence and significance of his major two edition text *Hillslope Materials and Processes* (1982a, 1993).

In my opinion, one of the most important advances in geomorphology was the progression from theory, description, and monitoring to the explanation of hillslope process through geomechanics. Terzaghi and Skempton had early acknowledged the link between hillslope stress, resistance, slope stability, and geomorphic conditions but the adoption of geomechanics by geomorphology was not to occur for some decades. There are two books which mark this development. First, *Hillslope Form and Process* (Carson and Kirkby 1972)

and second, Mike's *Hillslope Materials and Processes* (Selby 1982a – 1st ed, 1993 – 2nd ed). Mike's book, however, addressed a wider range of processes and was informed by living and working in a young and tectonically active environment. It is a book that could not have been written without huge field experience in many climatic domains, an enthusiasm for field testing and a passion for explaining the landscape. Profusely illustrated and clearly written it has superseded most others as the fundamental text for understanding the scientific basis of hillslope process.

Mike Selby's research and writing informed a number of disciplines, namely Geography, Geology, Hydrology and Engineering Geology, at a time when cross-disciplinary cooperation was not as well recognised as it is today. Now we can more readily recognise the full spectrum and significance of his scientific contribution.

(17) Paul Williams (*p.williams@auckland.ac.nz*) – former Professor of Geography at the University of Auckland; now retired and an Emeritus Professor of that university.

By the time I arrived at Auckland University in 1972, Michael had withdrawn from his brief membership (1964) of the Waikato branch of the University of Auckland into first Geography (1965-1969) at the newly independent Hamilton-based University of Waikato and later (1970) into its Earth Sciences Department. But as a fellow geomorphologist, it was only a short time before I met him, and we each subsequently gave visiting lectures to each other's students. He had already made a mark through his fine paper with Alan Pullar on 'Coastal progradation of Rangitaiki Plains' (Pullar and Selby 1971) and, through the decade that followed, Michael was a congenial participant in conferences and an active field researcher, especially in Antarctica. Three things in particular persist in my memory about those times: firstly, Michael's lectures about his research in the Dry Valleys of Antarctica were dazzlingly clear in presentation and photography - a model for all of us engaged in university teaching. Secondly, he tackled with great enthusiasm the very difficult problem of measuring rock mass strength, not just hand specimens, but entire rock slopes, articulating his findings with precision and clarity in papers and a book. As far as I am aware, no one has done this any better since. And, thirdly, his productivity: within just four years he published three substantial books, two as sole author and one as joint editor: *Landforms of New Zealand* (edited with Jane Soons) (1982, 392 p.); *Hillslope Materials and Processes* (1982a, 264 p.); and *Earth's Changing Surface* (1985a, 607 p.). Two of these books have since been republished as second editions (Selby 1993; Soons and Selby 1992).

Looking back, it now seems that this burst of productivity was a kind of final research flowering, because Earth science circles unfortunately missed Michael's congenial company and lively inspiring contributions as he moved to 'the other side' – to academic administration as Deputy Vice-Chancellor at Waikato from 1986. Regrettably, I lost touch with him after that.

(18) Brad Pillans (*brad.pillans@anu.edu.au*) – former overseas PhD student; now a Professor in the Research School of Earth Sciences at the Australian National University, Canberra, Australia.

I had been in New Zealand for almost four months when I first met Michael Selby at Waikato University on Thursday 5 June 1975. I know this because it is recorded in a small diary that I kept during fieldwork for my PhD thesis. I had arrived in New Zealand in February 1975, from Australia, with my supervisor, John Chappell, to begin a PhD on quantitative landscape evolution. The idea was to measure and model long-term rates of landscape change, using dated landforms as initial surfaces – particularly volcanic landforms and marine terraces. Within three days of arriving in New Zealand, John and I stood on Mt Tongariro, watching Mt Ngauruhoe erupt on 19 February. A few days later, John left me to it and over the ensuing months of reconnaissance fieldwork I concluded that New Zealand was indeed a geological and geomorphological Disneyland.

By the time I met Michael, I had travelled all over the North Island, seeking out suitable 'dated landforms', with volcanic landforms seemingly the most promising. Michael had been away for some months, and I looked forward to finally meeting this well-known geomorphologist. The short note in my diary records what he said - my project was 'too difficult' and I should look at quantifying erosion of ignimbrite sheets rather than volcanoes and lava flows. Heeding his sage advice, I headed off to investigate ignimbrites. However, by the time I returned to Australia, five weeks later, I had settled on studying the geomorphic evolution of marine terraces flights between Wanganui and Hawera in southwestern North Island. When I returned in January 1976, I spent the whole year 'in the field'.

During 1976, I was a regular visitor to Waikato University, using the Library, borrowing field equipment and occasionally seeing Michael. I still carry my Waikato Library card from 1976 in my wallet! During one meeting with Michael, I lamented that I had located abundant fossil wood at many field sites, but likely too old for radiocarbon dating. At mention of this, he said that he had recently read a paper describing amino acid racemisation (AAR) dating of fossil wood well beyond the range of radiocarbon. I followed this up and undertook an extensive dating program using AAR on my fossil wood samples. Clearly, Michael read well beyond traditional geomorphology!

On returning to ANU, in early 1977, I formalised Michael as a PhD supervisor, in recognition of the invaluable input he made to my thesis.

In subsequent years, I saw little of Michael as he rose to higher administrative echelons and became less accessible. Nevertheless, on one occasion, he invited me to his home, where I was impressed by his huge library of academic books. He commented, at the time, that he could make a full-time living out of writing books had he so wished.

In 1986, Michael attended the 3rd biennial conference of the Australian and New Zealand Geomorphology Group, held in Napier and, after a one-day field trip, at Ruapehu (see Fig.

12). This was the only ANZGG conference that Michael attended (the 18th ANZGG meeting will be held in 2019), and he gave a talk on rock mass strength measurements in Nepal. He began his talk by mentioning that the Nepalese valley was likely one place in the world that he had visited and that Cliff Ollier, a well-travelled and well-known book-writing Australian geomorphologist, had not visited. When I mentioned this to Cliff some time later, he quickly claimed that he had been there. I concluded that this was information that need not be passed on to Michael!

(19) Some email snippets from a few former students

Jim Dahm: "It was actually Mike's text books that led to me coming to Waikato. I was looking at Otago, but when I saw that Mike was at Waikato that was it, decision made".
Graham Shepherd: "We were very fortunate in our uni days to have had such gifted lecturers who had a wonderful ability of presenting material in an incredibly stimulating and interesting way. Mike was one of the best in this regard".
Mark Tippett: "I hope there are hillslopes in heaven for Michael to clamber around on. He was gracious and a real gentleman".
Alasdair and Sandra Keane: "We have great memories of Prof Selby. Mine are mainly the Aussie field trip (1988), stories of the Namib Desert, and his alter ego Olga Bornhardt!"
Graeme Spiers: "I do fondly remember first meeting Michael, accent and all, when he was at the University of Waikato extension sponsored *The Waters of the Waikato* weekend symposium held at the University in 1971. That event is probably the root cause of a major change in my life (from farmer to soil scientist) as it reminded me that 'education can be fun'. I retain fond memories of Michael as a teacher, Professor and author. His book is still on my shelf and used occasionally to jog this tired brain".
Nick Rogers: "Yes, an end of an era indeed…although we were privileged to learn from that fantastic quartet of John (McCraw), Harry (Gibbs), Michael (Selby) and Cam (Nelson). I still treasure the field trips that we went on, after which the landscape took on a whole new dimension. I still consider myself to be at heart a geomorphologist, and with Michael's unstinting enthusiasm I imagine he has produced a whole legion of geomorphologists as his legacy. He will be missed very much".
John Waldon: "Michael was indeed a leader in Earth sciences. What I learnt a few years ago still resonates as I reflect on the morphology of roadside slips. I try to visualise the slip angle or ponder whether the mechanism was a rotational failure. My memory is one of being taught by a very good teacher."
Darryl and Alison Smith: "This marks the end of another era. I still remember how Professor McCraw continued to refer to Michael as Dr Selby in lectures, long after he was made a Professor, which always tickled my fancy. They just don't make them like that anymore."

Bibliography of Michael J Selby

The following chronological listing of Michael Selby's publications includes all of his sole and co-authored, mainly peer-reviewed articles both cited and uncited in the foregoing account of Michael's working life. Note that individual book and journal references having the same authorship and year of publication are distinguished by lower case letters a, b, c, etc.

after the date. Excluded from this list are the many non-refereed or in-house book reviews, reports, manuals and conference abstracts that Michael wrote. The bibliography begins with Michael's 7 major books ("The Magnificent Seven!" – Fig. 7), followed by his 89 journal papers. Other articles referenced in this tribute account that do not involve Michael Selby as an author are listed following the bibliography.

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Acknowledgements

I undertook to write this tribute article about the working life of Michael Selby because of my utmost admiration of the man in all walks of his life. I am extremely grateful to those colleagues who provided me with some of their personal memories of Michael for inclusion in the tribute. Especially acknowledged are the contributions and considerable help during the compilation of this tribute by David Lowe and Peter Kamp (University of Waikato) and thankyou David for also taking the time to review the manuscript. I sincerely thank the Selby family for their unstinting support and help throughout the project, with special appreciation to Judy, Michael's wife, and Jenny, Michael's youngest daughter, who promptly answered the many queries I had about Michael's life. I also acknowledge the insights I gained into Michael's family time through access to copies of the eulogies given at his funeral by all three daughters (Katherine, Diana and Jenny) and by the funeral celebrant (Liz Lyons). Photo sources are noted in the captions of Figures and special thanks go to the Selby family, the University of Waikato photo files, David Lowe and Willem de Lange for supplying many of these images. The assistance of Mike Watson (Communications Adviser) and John Robson (Library) in seeking out some of the University of Waikato file photos is acknowledged, as is the input from Matt Sagar (GNS Science; Publications Subcommittee GSNZ) during the final stages of manuscript editing.

The idea of writing a working life tribute to Michael Selby arose during a visit to Judy and Michael at their new Summerset retirement villa in Hobsonville, Auckland on 3 May 2017 (Fig. 29). Then and on following occasions Michael provided many snippets of support information about his life, all the while retaining that twinkle in his eyes for which he was renowned. The last time I saw Michael was on 1 December 2017, about two months prior to his death, so that in the end this working life tribute morphed into a much extended obituary. I was extremely honoured to be asked by Judy to give the first eulogy to Michael at his funeral on 26 January 2018. He was a very special man.

Fig. 29. *Michael Selby (left) and Cam Nelson at the Selby retirement villa in Hobsonville, Auckland, 3 May 2017. Photo source: Cam Nelson.*

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June 2018

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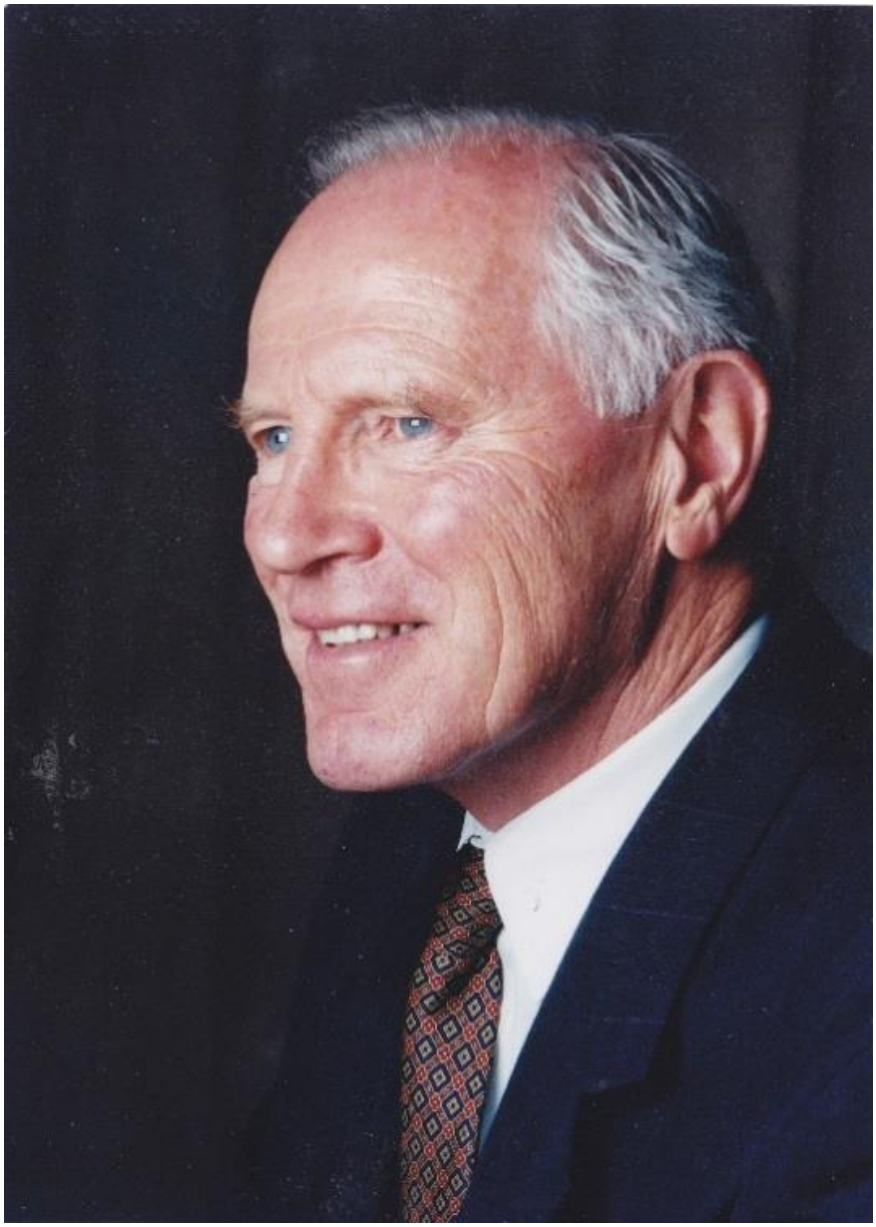

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