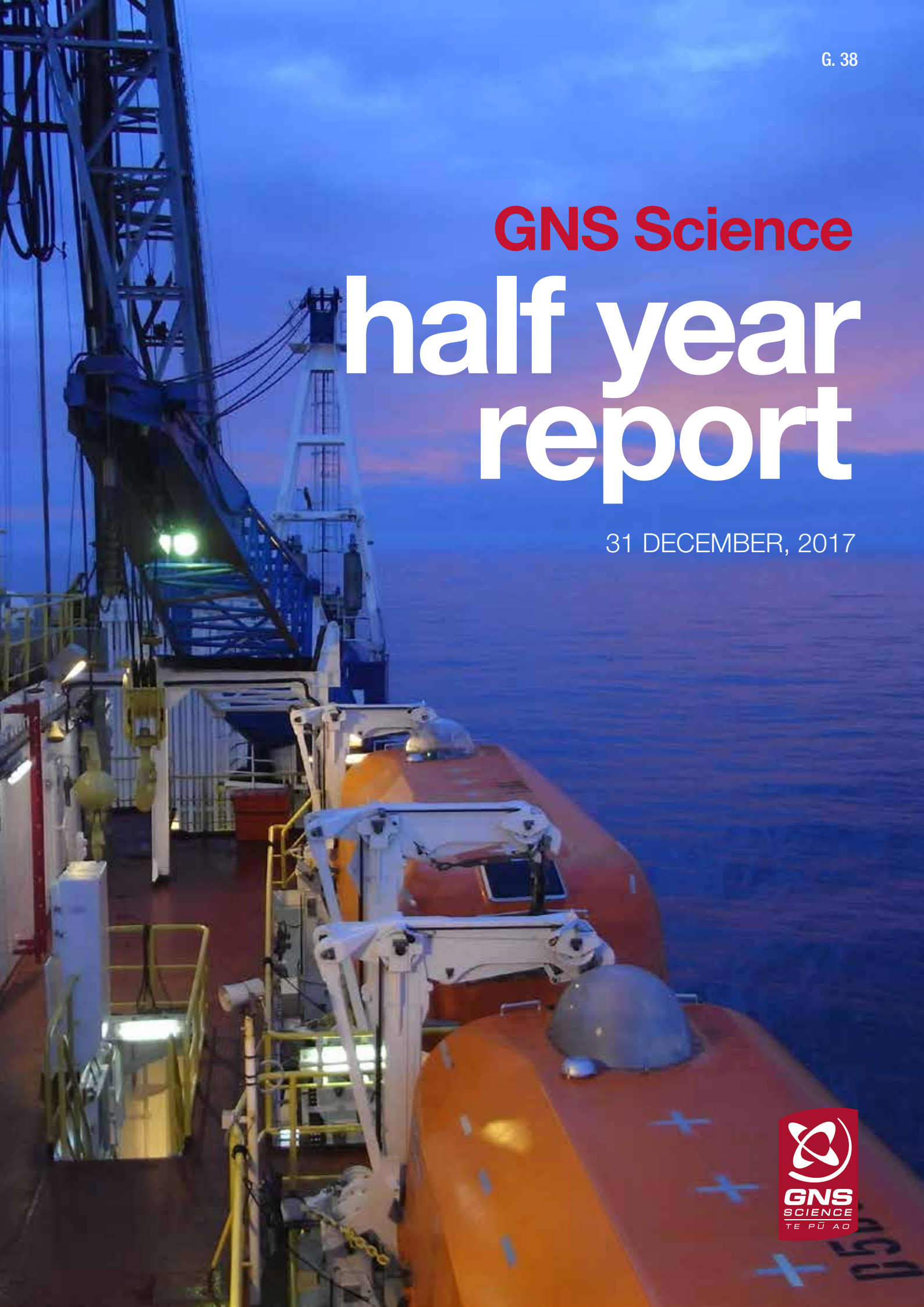
GNS Science half year report

31 DECEMBER, 2017



Mai i te rangi, ki te nuku o te whenua,
ka puta te ira tangata i te po, i te
whaiao, i te ao mārama.
Ko Te Pū Ao mātou.

From the sky and the land,
came people from the night, to the
old world, to the world of light. We are
GNS Science - Te Pū Ao .

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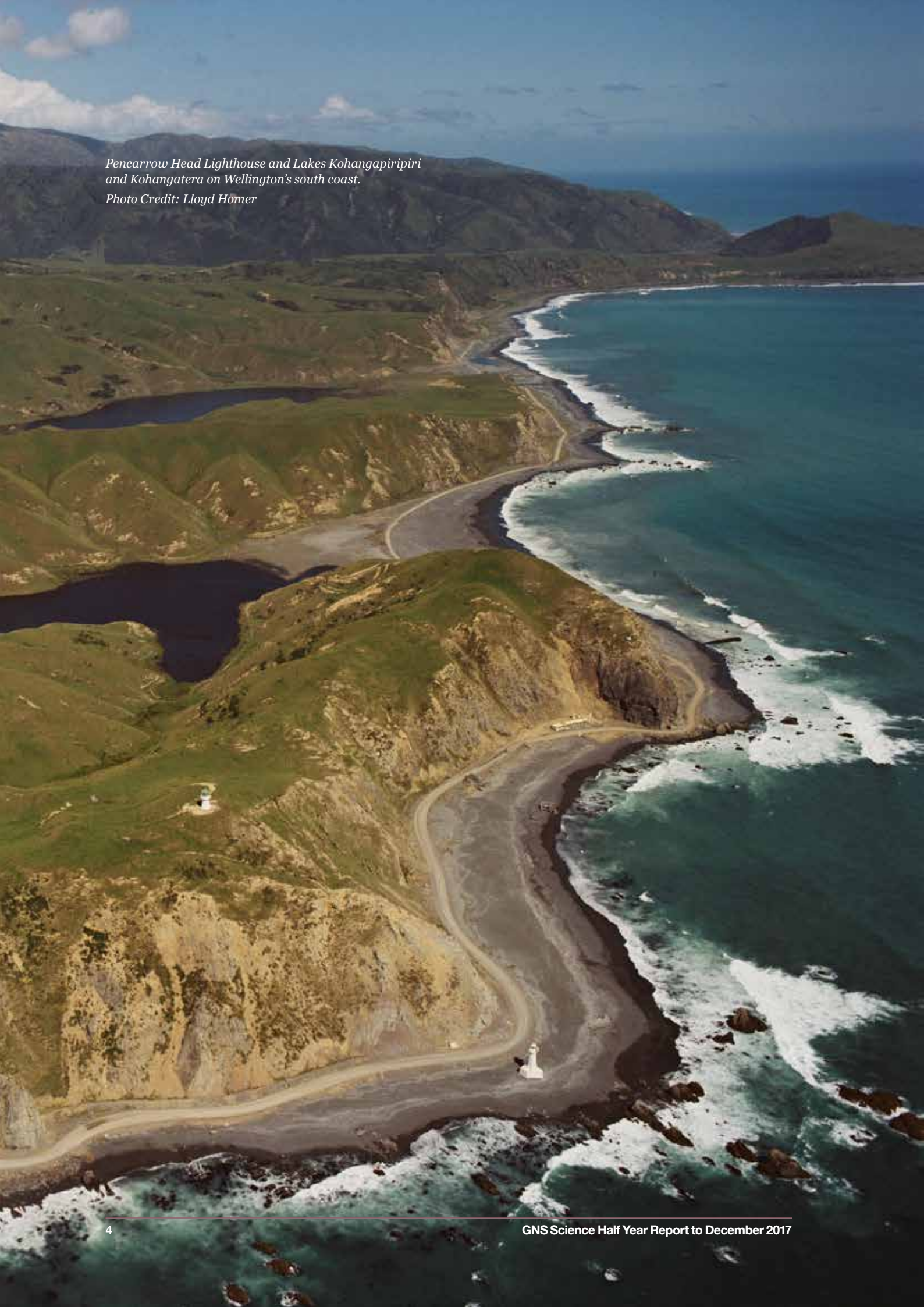
Front Cover: Research vessel JOIDES Resolution off the Canterbury coast
Photo Credit: Martin Crundwell

Back Cover: Aoraki Mount Cook and Mount Tasman, Canterbury
Photo Credit: Lloyd Homer



Pencarrow Head Lighthouse and Lakes Kohangapiripiri and Kohangatera on Wellington's south coast.

Photo Credit: Lloyd Homer

Directors' Report

Meeting New Zealand's changing needs

Over the past six months, GNS Science has conducted a Strategic Review to ensure its science continues to meet the needs of New Zealand. In November, the Board approved a number of recommendations that will shift the emphasis of how we invest our Strategic Science Investment Fund (SSIF) revenue towards:

- exploring the continent of Zealandia;
- understanding hazards and risks;
- understanding New Zealand's groundwater resource;
- enhancing support for Vision Mātauranga research; and
- developing a strategy for managing 'big data'.

To allow for reallocation of SSIF, investment will be reduced in some science areas, including petroleum and minerals research and New Zealand's geothermal future, though capability will be retained in these fields. Groundwater research will see an increase in its allocation of SSIF. Other platform activities such as landslide hazards and earthquake and tsunami hazards will also see increased allocations. Efficiencies will be gained by transferring common science activities into a new large programme Understanding the Continent of Zealandia.

The shifts in SSIF investment reflect that New Zealand's strategic needs are changing. The world is transitioning to a low carbon emissions economy. Water is now a strategic resource. There is heightened awareness of the natural hazard perils New Zealand faces, and increasing recognition of the importance of the continent of Zealandia.

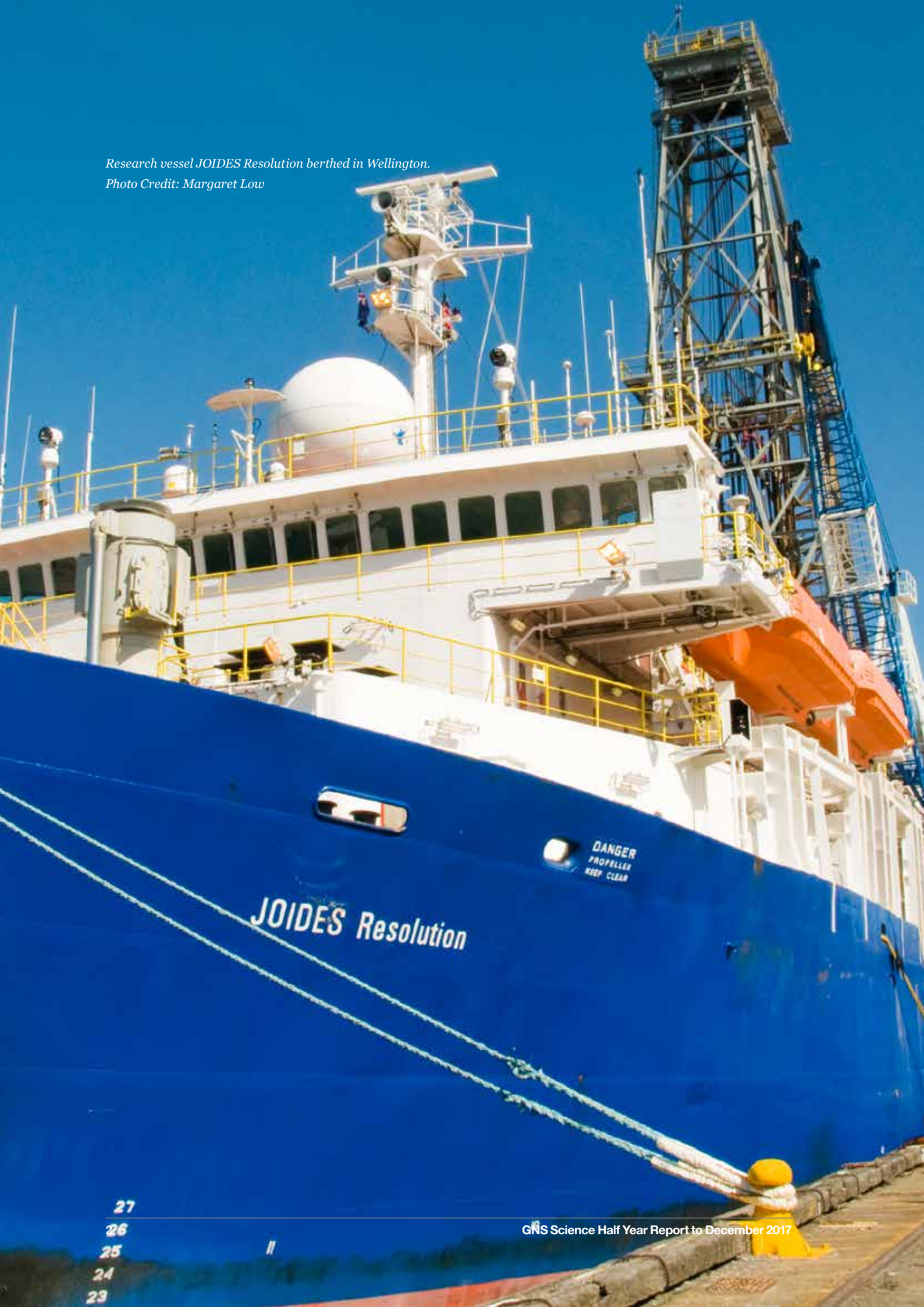
Financial performance

The financial result for the Group for the half year ended 31 December 2017 was a net surplus after tax of $593,000 (2016 - $1,198,000) with total revenues of $40,034,000 (2016 - $39,587,000).

The result for the six months is down by $605,000 on the corresponding period last year, which included additional funding for activity associated with the Kaikoura earthquake response in November and December 2016.

GNS Science was awarded funding for a number of Endeavour Fund projects during the period and activity on these projects will increase in the second half of the year.

The Group continues to operate with good liquidity and a strong balance sheet. Shareholders equity is $35,475,000 at 31 December 2017 (2016 - $32,660,000) with total assets of $61,639,000 (2016 - $54,697,000).



Research vessel JOIDES Resolution berthed in Wellington.
Photo Credit: Margaret Low

Highlights

GNS Science has achieved a great deal in the past six months. This work will position the organisation to continue to create and deliver globally influential science that contributes to a safer, more sustainable, more prosperous Aotearoa New Zealand for current and future generations.

UNDERSTANDING ZEALANDIA

GNS scientists have been pivotal to the New Zealand contribution to the 23-nation International Ocean Discovery Programme (IODP) research expeditions, which began in July with the aim of better understanding Zealandia.

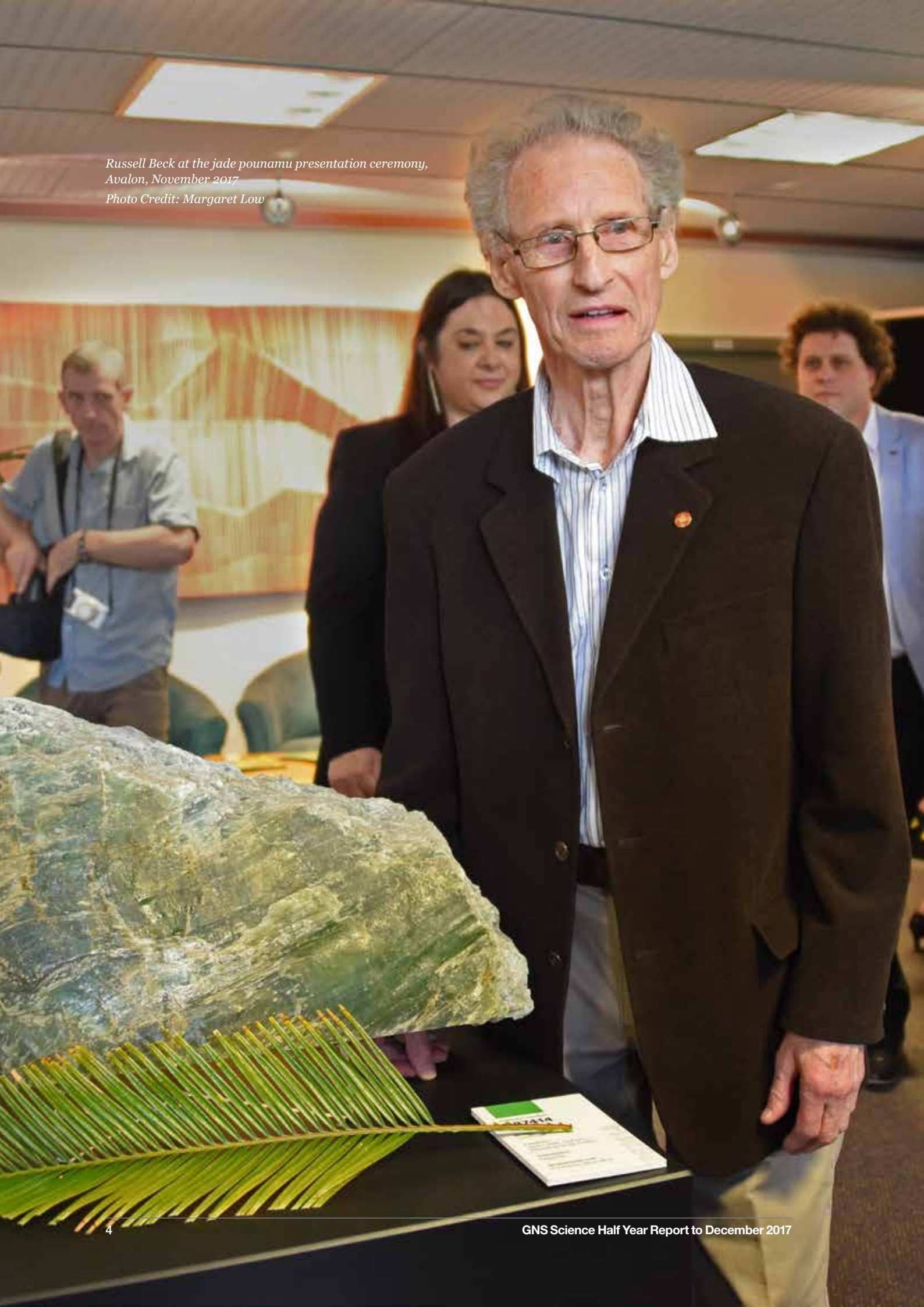
A team of lead proponent scientists from New Zealand and their international partners have promoted and matured IODP proposals over the past six years. This work has culminated in scheduling six IODP legs in our region over the next 18 months. The expeditions represent an international investment in New Zealand science of around $120 million that will bring close to 200 international scientists into the region. Two of the expeditions will be co-led by GNS scientists and our scientists will sail on all of the legs apart from one.

Each two-month long voyage has a different focus ranging from the forces that generate earthquakes on the tectonic plate boundary to the east of the North Island to probing the inside workings of a submarine volcano northeast of the Bay of Plenty. Two of the voyages are dedicated to getting a clearer picture of climate change impacts in different parts of the South Pacific in past eons. There is also an expedition to the Ross Sea, which will probe the seafloor off the Ross Ice Shelf to better understand the stability of the West Antarctic Ice Sheet over the past 20 million years as it has responded to various warming and cooling cycles.

RESEARCH FUNDING SUCCESS

GNS Science achieved a major success in research bidding, being awarded four Smart Ideas and four Research Programme contracts from the Ministry of Business Innovation and Employment's Endeavour Fund. The succesful bids had a total value of $38.5million over the next five years. The Our Lakes Health Research Programme, co-led by the Cawthron Institute, was rated Quintile 1 for both Excellence and Impact, and was cited as an examplar of high-quality proposal writing. Our three other funded bids also received very positive feedback. These bids related to increased utilisation of geothermal energy, energy extraction from gas hydrates, and earthquake-induced landslides. We were also successful with three externally-led Research Programmes. These related to sea-level rise, and caldera volcanoes (both with Victoria University of Wellington), and induction recharging of electric cars (with the University of Auckland).

Our four successful Smart Ideas bids included the materials science-based Novel inorganic composites for strong near infrared reflecting black coatings and 5G+ compatible band pass filter; the isotope biogeoscience-based Natural tracers of fast contaminant dynamic; and the geomicrobiology-based Methane waste gas conversion to biofeedstocks.



Russell Beck at the jade pounamu presentation ceremony, Avalon, November 2017
Photo Credit: Margaret Low

RECOGNITION FOR OUR SCIENTISTS AND OUR RESEARCH

Several GNS Science staff have received major honours from scientific bodies. Regional Geologist Nick Mortimer was made a fellow of the Royal Society of New Zealand Te Apārangi. Also recognised by the society in its 2017 awards were: Paleontologist (Emeritus Scientist) Roger Cooper, who received the Hutton Medal, for significantly advancing understanding in animal, earth or plant sciences; and InSAR scientist Ian Hamling who recevied the Hamilton Award, for early career research excellence.

In the inaugural Science New Zealand National Awards: GeoNet Director Ken Gledhill won a Lifetime Achievement award; Ion Beam Material Scientist Jérôme Leveneur received an Early Career Researcher award; and a team award went to New Zealand United Natonal Common Law of the Sea (UNCLOS) team. The awards, which are to be presented annually, were held as part of Science New Zealand's celebration of the 25th Anniversary of Crown Research Institutes.

BECK INTERNATIONAL JADE RESEARCH COLLECTION

At a ceremony in November, the Beck International Jade Research Collection of 1500 studying jade and pounamu specimens was added to our national rock and mineral collection. The research collection was donated by the late gemmologist Russell Beck, who studied jade and pounamu, and accumulated specimens for more than 50 years. Representatives of the Runanga o Ngāi Tahu, North Island iwi, Ministry of Business Innovation and Employment, Department of Conservation, Te Papa, Victoria University of Wellington, Otago University, and Canterbury Museum attended the ceremony. The jade and pounamu specimens were collected by Russell (who had a long association with GNS Science and its forebears) over a lifetime spent studying what Ngāi Tahu's Sir Tipene O'Regan called "the very hinge of our cultural history". Sadly, Russell died in February, aged 76, three months after the ceremony to welcome his collection to GNS Science.

MAKING A GLOBAL CONTRIBUTION

We continue to make important contributions to New Zealand and global science. Three of our scientists contributed to the World Meteorological Organization (WMO)'s Greenhouse Gas Bulletin, which was released in November. The Bulletin made international headlines with its revelaton that the levels of carbon dioxide in the atmosphere surged at a record-breaking speed in 2016 to the highest level in at least 800,000 years. The bulletin was issued by the WMO Scientific Advisory Group on Greenhouse Gases, one of whose members is our Radiocarbon Science Leader Jocelyn Turner. The bulletin includes an article co-authored by Jocelyn, Ice Core Research Leader Nancy Bertler and Paleoclimate Scientist Richard Levy. Their article looks at the use of air bubbles trapped in Antarctic ice, and data from geological archives, to help us understand the scale of recent changes in atmospheric greenhouse gas concentrations.

Geomicrobiologist Carlo Carere and his team, contributed to a paper published in Nature in December. The paper, which also garnered international media attention, detailed the discovery that microbes in Antarctica can stay alive in extreme environments by scavenging hydrogen, carbon monoxide and carbon dioxide from the air. This work has implications for finding life forms beyond earth, as it suggests extra-terrestrial microbes could survive on atmospheric gases on their own planets.

In December. GNS Science was rated 16th in the prestigious international journal Nature recently released index of top 100 corporate institutions for high-quality science, ahead of businesses such as Microsoft, Mitsubishi, Intel and Google. GNS Science was the only New Zealand corporate institution to make the Nature Index list, which is based on articles published during five years from 1 January 2012 to 31 December 2016.

As well, GNS Science and Victoria University of Wellington were rated by Nature ninth in the world for collaboration between a corporate and an academic institution. This rating was based on our collaboration on published papers over the five-year, 2012 to 2016 period.

For and on behalf of the Board

Dr Nicola Crauford
Chairman GNS Science

Cass River & Lake Tekapo, Canterbury
Photo Credit: Lloyd Homer

Financial Statements

Institute of Geological and Nuclear Sciences Limited
Condensed consolidated interim statement of comprehensive income
For the six months ended 31 December 2017

in thousands of New Zealand dollars	Note	Unaudited 6 Months Dec-17	Unaudited 6 Months Dec-16	Audited 12 Months Jun-17
Revenue				
Research contracts		**27,436**	24,368	54,226
Commercial		**7,474**	8,871	20,169
GeoNet		**5,123**	6,320	11,901
Other income		**1**	28	52
Total revenue		**40,034**	39,587	86,348
Expenses				
Employee benefit expense		**19,883**	19,037	38,933
Operating expenses		**15,445**	14,010	32,023
GeoNet direct expenses		**1,403**	2,214	4,893
Depreciation		**2,292**	2,259	4,590
Amortisation		**472**	582	1,188
Total expenses		**39,495**	38,102	81,627
Net profit before interest and tax		**539**	1,485	4,721
Interest income		**321**	179	426
Interest expense		**(23)**	-	-
Net profit before tax		**837**	1,664	5,147
Income tax expense		**(244)**	(466)	(1,477)
Net profit after tax	4	**593**	1,198	3,670
Other comprehensive income		**-**	-	29
Total comprehensive income attributable to owners		**593**	1,198	3,699

THE ACCOMPANYING NOTES FORM PART OF THESE FINANCIAL STATEMENTS

Institute of Geological and Nuclear Sciences Limited
Condensed consolidated interim statement of changes in equity
For the six months ended 31 December 2017

in thousands of New Zealand dollars	Note	Share Capital	Equity reserves		Total Equity
			Retained earnings	Cash flow hedge reserve	
Balance at 1 July 2016		**6,167**	**25,295**	**-**	**31,462**
Profit after tax		-	1,198	-	1,198
Balance at 31 December 2016		**6,167**	**26,493**	**-**	**32,660**
Balance at 1 July 2016		**6,167**	**25,295**	**-**	**31,462**
Profit after tax		-	3,670	-	3,670
Dividend	5	-	(250)	-	(250)
Hedging reserve		-	-	29	29
Balance at 30 June 2017		**6,167**	**28,715**	**29**	**34,911**
Profit after tax		-	593	-	593
Hedging reserve		-	-	(29)	(29)
Balance at 31 December 2017		**6,167**	**29,308**	**-**	**35,475**

THE ACCOMPANYING NOTES FORM PART OF THESE FINANCIAL STATEMENTS

Institute of Geological and Nuclear Sciences Limited

Condensed consolidated interim balance sheet
as at 31 December 2017

in thousands of New Zealand dollars	Note	Unaudited Dec-17	Unaudited Dec-16	Audited Jun-17
Share capital		**6,167**	6,167	6,167
Retained earnings		**29,308**	26,493	28,744
Total equity		**35,475**	**32,660**	**34,911**
Represented by:				
Non-current assets				
Property, plant and equipment		**28,142**	29,785	28,812
Intangible assets		**3,018**	3,696	3,400
Investments		**30**	30	30
Total non-current assets		**31,190**	**33,511**	**32,242**
Current assets				
Cash and cash equivalents		**21,791**	12,063	20,555
Trade receivables		**3,037**	4,498	6,497
Prepayments		**2,072**	1,866	1,452
Work in progress		**3,115**	2,759	3,052
Current tax		**434**	-	-
Total current assets		**30,449**	**21,186**	**31,556**
Total assets		**61,639**	**54,697**	**63,798**
Non-current liabilities				
Deferred tax		**401**	542	457
Non-current provisions		**1,727**	1,745	1,857
Total non-current liabilities		**2,128**	**2,287**	**2,314**
Current liabilities				
Trade and other payables		**6,881**	5,950	7,742
Current provisions		**2,851**	2,715	3,026
Revenue in advance		**14,304**	10,968	15,050
Provision for income tax		**-**	117	755
Total current liabilities		**24,036**	**19,750**	**26,573**
Total liabilities		**26,164**	**22,037**	**28,887**
Net assets		**35,475**	**32,660**	**34,911**

For and on behalf of the Board:

Dr Nicola Crauford
Chairman
20 February 2018

Sarah Haydon
Deputy Chairman
20 February 2018

THE ACCOMPANYING NOTES FORM PART OF THESE FINANCIAL STATEMENTS

Institute of Geological and Nuclear Sciences Limited
Condensed consolidated interim statement of cash flows
For the six months ended 31 December 2017

in thousands of New Zealand dollars	Note	Unaudited 6 Months Dec-17	Unaudited 6 Months Dec-16	Audited 12 Months Jun-17
Cash flows from operating activities				
Cash was provided from:				
Receipts from customers		**42,707**	41,582	90,230
Interest received		**301**	179	328
		43,008	41,761	90,558
Cash was applied to:				
Payments to suppliers and employees		**(38,570)**	(36,919)	(74,548)
Interest paid		**(23)**	-	-
Income tax paid		**(1,489)**	(700)	(1,136)
		(40,082)	(37,619)	(75,684)
Net cash flows from operating	4	**2,926**	4,142	14,874
Cash flows from investing activities				
Cash was provided from:				
Sale of property, plant, equipment and intangible assets		**-**	28	65
		-	28	65
Cash was applied to:				
Purchase of property, plant, equipment and intangible assets		**(1,711)**	(1,913)	(3,933)
		(1,711)	(1,913)	(3,933)
Net cash flows from investing		**(1,711)**	(1,885)	(3,868)
Cash flows from financing activities				
Cash was applied to:				
Dividends paid		**-**	(250)	(500)
		-	(250)	(500)
Net cash flows from financing		**-**	(250)	(500)
Net increase/(decrease) in cash and cash equivalents		**1,215**	2,007	10,506
Effect of exchange rate changes on cash held in foreign currency		**21**	9	2
Opening cash and cash equivalents		**20,555**	10,047	10,047
Closing cash and cash equivalents		**21,791**	12,063	20,555

THE ACCOMPANYING NOTES FORM PART OF THESE FINANCIAL STATEMENTS

1. Reporting entity and activities

The Institute of Geological and Nuclear Sciences Limited is established under the Crown Research Institutes Act 1992 and the Companies Act 1993. Its subsidiary companies, Isoscan Limited, Isoscan Food Limited, Geological Surveys (New Zealand) Limited, GNS Science International Limited and Geological Risk Limited are established under the Companies Act 1993.

The principal activities of the Group are to undertake geoscience and isotope science research, development and consultancy, predominantly in New Zealand.

These unaudited condensed consolidated interim financial statements are for the six months ended 31 December 2017 and were approved by the Board on 20 February 2018.

2. Summary of significant accounting policies

These unaudited condensed consolidated interim financial statements have been prepared in accordance with section 17 of the Crown Research Institutes Act 1992, the Public Finance Act 1989, the Companies Act 1993, the Crown Entities Act 2004 and generally accepted accounting practice in New Zealand, IAS 34 and NZ IAS 34 Interim Financial Reporting.

These unaudited condensed consolidated interim financial statements for the six months ended 31 December 2017 do not include all the notes of the type normally included in an annual financial report but have been prepared using the same accounting policies and methods of computation as, and should be read in conjunction with, the financial statements and related notes included in the Group's Annual Report for the year ended 30 June 2017.

The same significant judgments, estimates and assumptions included in the notes to the financial statements in the Group's Annual Report for the year ended 30 June 2017 have been applied to these unaudited condensed consolidated interim financial statements.

The financial statement figures for the six-month period ended 31 December 2017, and for the comparative six-month period to 31 December 2016, are unaudited. The figures for the year ended 30 June 2017 are audited.

These financial statements are presented in New Zealand dollars ($), which is the Group's functional currency. Amounts have been rounded to the nearest thousand dollars.

3. Related party transactions

The Government of New Zealand (Crown) is the ultimate shareholder of the Group. No transactions with other Crown-owned entities are considered as related party transactions under NZ IAS 24.

4. Reconciliation of profit for the period to net cash flows from operating activities

in thousands of New Zealand dollars	Unaudited 6 Months Dec-17	Unaudited 6 Months Dec-16	Audited 12 Months Jun-17
Profit after tax	**593**	**1,198**	**3,670**
Add/(less) items classified as investing activities:			
Net gain on disposal of property, plant and equipment	**(1)**	(27)	(18)
	(1)	**(27)**	**(18)**
Adjust non-cash items:			
Depreciation	**2,292**	2,259	4,590
Amortisation	**472**	582	1,188
Bad and doubtful accounts	**-**	-	25
Net unrealised exchange (gain)/loss	**(49)**	(9)	3
(Decrease)/increase in provision for income tax	**(1,189)**	(57)	581
Decrease in deferred tax	**(56)**	(178)	(263)
(Decrease)/Increase in non-current provisions	**(130)**	(32)	80
	1,340	**2,565**	**6,204**
Add/(less) movements in working capital items:			
Decrease/(increase) in trade receivables and prepayments	**2,840**	1,342	(243)
Increase/(decrease) in payables, current provisions, revenue in advance	**(1,783)**	243	6,428
Change in trade payables relating to investing activities	**-**	-	305
Increase in work in progress	**(63)**	(1,179)	(1,472)
	994	**406**	**5,018**
Net cash flows from operating activities	**2,926**	**4,142**	**14,874**

5. Dividend

No dividends were declared by the Group for the six months ended 31 December 2017 (2016 – none).

6. Commitments

(a) Capital commitments

Commitments for future capital expenditure:

in thousands of New Zealand dollars	Unaudited Dec-17	Unaudited Dec-16	Audited Jun-17
Contracted and on order	**529**	318	817
Authorised but not yet contracted	**2,375**	2,041	1,555
	2,904	**2,359**	**2,372**

(b) Operating lease commitments

in thousands of New Zealand dollars	Unaudited Dec-17	Unaudited Dec-16	Audited Jun-17
Within one year	**175**	121	103
Between one and five years	**352**	-	22
Over five years	**-**	-	2
	527	**121**	**127**

7. Contingent liabilities

The Group has no contingent liabilities at 31 December 2017 (2016 - Nil).

8. Subsequent events

There were no significant events after 31 December 2017 (2016 – None).

Directory

DIRECTORS

Chairman
Dr Nicola Crauford

Deputy Chairman
Sarah Haydon

Professor Steve Weaver

Chris Bush

Dr John Sharpe

Paul White

EXECUTIVE

Chief Executive
Ian Simpson

Director of Corporate Services/Chief Financial Officer
Graham Clarke (Until December 2017)

Interim Director of Corporate Services/ Chief Financial Officer
Tony Rutherford (from January 2018)

Director, Natural Hazards Division
Dr Gill Jolly

Director, Geological Resources Division
Dr Kevin Faure

Director, Environment and Materials Division
Dr Chris Daughney

Interim Director, External Relations and Commercialisation
Dr Bruce Girdwood

BANKERS

ANZ Bank NZ Limited

AUDITOR

Trevor Deed, Deloitte
On behalf of the Auditor-General

Solicitors
Chapman Tripp

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