



Group Half Yearly Report  
For the period ending 31 December 2022



SCIENCE FOR A  
RESILIENT FUTURE



## Half Yearly Report for the six months ended 31 December 2022

### ▪ Overview

NIWA has had a strong start to the financial year, with revenue at the half year stage being well ahead of budget at \$85.7M (\$7.6M above budget and \$8.9M above the same period last year). Total expenditure of \$86.7M was \$9.4M higher than budget and \$7.1M higher than the same period last year.

All the science and enabling function performance indicators outlined in the 2022/23 Statement of Corporate Intent are on track. The new facilities in Hamilton are at the final fit-out stage and we expect to be moving out of the old offices in July 2023. The experimental commercial-scale Recirculating Aquaculture System for the culture of high-value finfish – haku or kingfish – is nearly complete, and the first batch of fingerlings will be transferred to the new tanks in February/March 2023. The third major project to be completed will be the replacement for the coastal research vessel *Kaharoa*, which is on track for delivery in December 2023.

A number of significant science advances were achieved over the past six months, as outlined in the following pages. These included improved flood forecasting, which will enable modelling of flood inundation in any catchment in Aotearoa New Zealand; new national climate change projections; a New Zealand drought index forecast tool; a joint China-New Zealand expedition to explore the Kermadec Trench, including a submersible dive by NIWA marine biologist Dr Kareen Schnabel and Chinese staff, who became the first women to dive to Scholl Deep – 10,000 metres below sea level; and the deployment of five additional DART buoys to complete the operational New Zealand Tsunami Detection Network.

### ▪ Financial Results

NIWA has had a strong start to the financial year, achieving revenue of \$85.7M in the first six months. This result was \$7.6M above budget and \$8.9M above the same period last year. NIWA's largest ocean-going research vessel, RV *Tangaroa*, was at sea for 6 days less than budgeted during the period.

Total expenditure of \$86.7M was \$9.4M higher than budget and \$7.1M higher than the same period last year. This is largely driven by the revenue growth noted above, as well as inflationary pressures impacting personnel, travel, and materials & supplies expenses. Loss before tax was \$(0.5)M, compared with a budgeted gain before tax of \$1.0M. Loss after tax for the six month period was \$(0.4)M, compared with a budget of \$(0.1)M.

The closing cash balance and short-term investment balance of \$9.9M was \$16.0M below budget due to the timing of capital spending and working capital movements. The cash balance has decreased by \$22M during the first half of the year due to capital spending being higher than operating cash flows, largely driven by investments in property renewals and a replacement for the RV *Kaharoa*, NIWA's second ocean-going research vessel.

Capital spending for the period was \$29.1M against a budget of \$14.7M. The variance was due to differences compared to budget assumptions in the timing of investment spending during the year.

NIWA is continuing to pursue revenue opportunities in order to meet the full-year revenue budget. Notwithstanding the year-to-date shortfall, NIWA expects to meet the budgeted profit result for the year provided costs are carefully managed. We consider, however, that the most significant threats to NIWA's financial performance is responding to inflationary pressures, and our ability to recruit and retain staff in

the face of challenging market conditions as well as competition for key talent from central and local government.

**Ratios and Statistics**  
as at 31 December 2022

	Actual Year to date	SCI Year to date	SCI Full year
<b>Revenue and other gains(\$000s)</b>	85,724	78,135	177,630
<b>Liquidity</b>			
Current Ratio	0.9	1.2	1.0
Quick Ratio (aka Acid test)	2.1	3.6	1.6
<b>Profitability (%)</b>			
Adjusted Return on Equity*	(0.3)	(0.1)	4.9
Return on Equity	(0.3)	(0.1)	4.2
Return on Assets	(0.4)	0.4	5.0
<b>Operational Risk (%)</b>			
Profit Volatility	31.3	13.8	13.8
Forecasting Risk (non-adjusted ROE)	2.1	4.4	4.4
<b>Coverage</b>			
Interest Cover	36.62	44.14	63.39
<b>Growth/Investment (%)</b>			
Capital Renewal	335.1	160.4	217
<b>Financial Strength (\$000s)</b>			
Cash and Other Short Term Investments	18,853	35,823	26,108

\*Agreed with Officials after adjustment in 2006/07 for restatement of certain land and buildings cost figures.

## NIWA Science Achievements

### ▪ Recirculating Aquaculture System

The build of the experimental commercial-scale Recirculating Aquaculture System (RAS) at NIWA's Northland Aquaculture Centre in Ruakaka, jointly funded by NIWA and the Northland Regional Council was completed early December as planned. Cost of the project ended up within 2% of the budget, an excellent result given the impacts of covid and increases in material costs during the build. NIWA is currently completing its commissioning of specialist elements of the system, and introduction of the first batch of kingfish fingerlings into the tanks is expected to take place in February. An official opening of the RAS is being planned for May.



Completed RAS showing tanks (left) and plant (right).

### ▪ Future Property Programme

The construction phase of the new Hamilton building continues on programme and is well advanced, with the main and store buildings fully closed, watertight and with the seismic frame on the roof complete. Subdivisional hard fit out and second fix services are progressing well. Internal joinery installation is complete, internal linings (gib board) are well underway, the floor coverings are well advanced and lift works are complete (other than commissioning). Commissioning is on schedule to commence in early March whilst furniture and soft fit out procurement has started.



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## ▪ **RV Kaharoa replacement project**

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The detailed design of the new vessel by the shipyard Armon and our naval architect Skipsteknisk is now essentially complete, and the build of the vessel commenced on 11 October 2022. Elements of the hull have now been welded, keel laying is expected in January, and launch of the vessel is expected to take place on 10 July 2023. Armon is a major shipyard, that has built over 900 vessels since it was established and is one of the world's leading research vessel builders. While meeting NIWA's weight and noise level requirements for the build will be challenging, Armon is confident they can meet NIWA's specifications and complete the build on time and to budget. Commissioning of the new vessel is expected to be completed by December 2023. NIWA's technical manager for this project will be joining the shipyard in Vigo from March 2023 onwards.



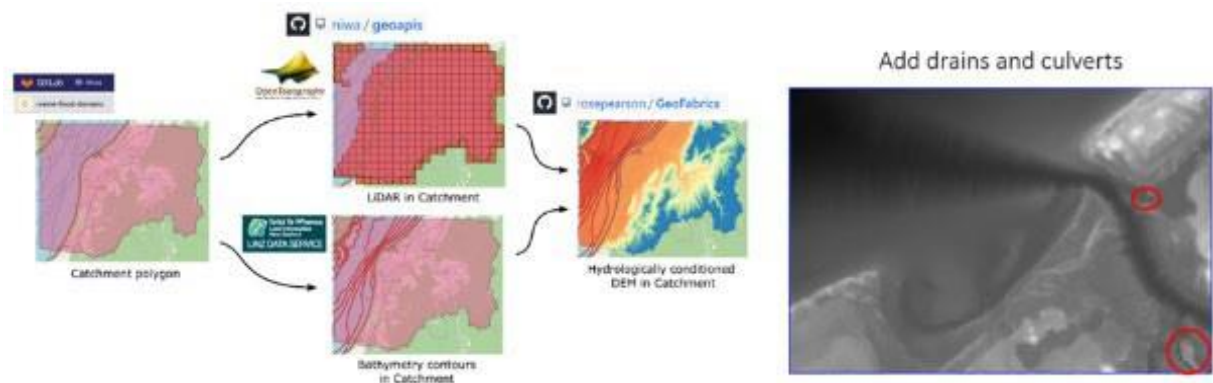
Commencement of the first steel cutting in October (left), and welding deck elements at the Armon shipyard in Vigo in early November (right).

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## ▪ **Improved flood forecasting**

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Software to improve the Digital Elevation Model (DEM) for flood modelling has been developed. The software combines LiDAR point clouds with ocean bathymetry surveys and information extracted from Open Street Maps (OSM) and River Environment Classification (REC) to improve the DEMs hydrological conditioning around rivers, drains, culverts and bridges. Specifically, OSM and REC reach flows and types are used to estimate riverbed and culvert elevations that are incorporated alongside the LiDAR and ocean bathymetry elevation data. This is important for producing accurate inundation hazard maps. The described methodology has been configured into an automated pipeline on the supercomputer using the NIWA developed scheduler Cylc. This enables each software step to be run as fast as possible and will ultimately be used to model flood inundation in any New Zealand catchment.



Workflow to combine the estimated riverbed and culvert elevations alongside any measured riverbed and ocean bathymetry contours and the LiDAR derived DEM into a single hydrologically conditioned DEM for the catchment.

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## ■ Westport flood damage costs assessment

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NIWA was engaged by Henley Hutchings Ltd on behalf of the West Coast Regional Council (WCRC) to undertake services pertaining to the delivery of a flood damage analysis for the Westport Flood Damage Mitigation Costs Assessment. Flood hazard models for the Buller River produced by Land River Sea Consulting Ltd were combined with digital representations for buildings, roads and rail along with vulnerability functions using RiskScape to model the direct damage and monetary losses for those assets exposed to modelled flooding. Six base scenarios with no mitigation intervention (including the July 2021 flood event) and 23 flood mitigation scenarios which consider future climate were analysed. Results suggest that for a 100-year annual recurrence interval event under a Representative Concentration Pathway 6 (RCP6) flooding scenario with no mitigation intervention, approximately \$405M of direct building damage is estimated to occur. A combined total of approx. \$596M in damage costs for buildings, roads and rail are estimated to occur under this scenario. If the Westport Technical Advisory Group's recommended embankment / mitigation configuration is applied to this scenario, then building damage costs would be reduced by 97%, with total combined damage costs for roads, rail and buildings reduced by 83%, giving rise to a total saving of approximately \$496M of recovery costs compared to the cost impact if those embankments had not been there. Findings from this study are planned for use by Henley Hutchings to help inform aspects of a flood mitigation socioeconomic cost benefit analysis being undertaken.



Example of changes in direct flood exposure for Westport buildings to: Base scenario flooding with no embankment mitigation for an ARI100 RCP6 event (Left) and flood extent reduction which incorporates the TAG recommended embankment mitigation scenario for an ARI100 RCP6 event (Right).

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## ■ New National climate change projections

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NIWA and the Ministry for the Environment have now signed a contract for a 2.5-year \$2.5M project (funded via MBIE) to generate the next iteration of projections of future climate for Aotearoa New Zealand. With the next generation of global climate models out, in line with publication of the most recent assessment report of the Intergovernmental Panel on Climate Change, as well as the installation of new regional modelling tools on the supercomputer, it is time to update the national projections. While using a number of regional modelling tools, the core of the new projections will be generated using the Australian 'CCAM' model, configured to have 12km resolution over NZ. Tests with CCAM have proven that it has an improved representation of the NZ climate, whilst being more computationally efficient than other options. Further downscaling using AI methods will generate high resolution datasets for impact modelling and risk assessments.

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## ▪ New Zealand Drought Index forecast tool

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NIWA recently unveiled to the Ministry for Primary Industries (MPI) the first iteration of the New Zealand Drought Index forecast tool, underpinned by the new NIWA35 model. The NIWA35 climate modelling platform uses machine learning to make high resolution sub-seasonal climate predictions up to 35 days ahead. The Drought Index forecast tool will allow for a national to district scale dryness and drought prediction that will extend up to 35 days into the future. On 1 December, NIWA made this tool available to MPI via a web-based application that has been developed by NIWA, taking account of feedback from end users. This new tool is the product of a multi-year, co-funded project with MPI.

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## ▪ Cook Island Science Expo and relationship meetings

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NIWA supported the inaugural Cook Islands Science Expo in Rarotonga. The Expo aimed to encourage young Cook Islanders to learn more about science and technology, and particularly the synergies between traditional knowledge and science. 1500 children experienced the Expo over the three days, with an open session also held for the community which saw many students return to visit with their parents. NIWA's booth featured a sea-level rise game adapted for unique Pacific challenges where rising sea levels and storm damage are an increasing threat to a coastal way of life. Te Kūwaha's work was also on display with visiting school children having a chance to talk to a couple of NIWA's Māori Environmental Scientists, Tekiteora Rolleston-Gabel and Melanie Mayall-Nahi, about their own mahi and experiences as young Māori scientists.

The NIWA team joined Aotearoa partners from the Otago Museum, Manaaki Whenua Landcare Research, University of Waikato, and University of Auckland, as well as local partners at the Expo including the Cook Islands Meteorological Service, Emergency Management Cook Islands, Korero o te 'Orau, Cook Islands Natural Heritage Trust and Te Mana o te Vaka. NIWA also featured prominently in Otago Museum's exhibition too, with a new Pacific-themed version of NIWA's 2050 weather forecast on display, as well as our *far from frozen* planetarium show in their portable Sky Dome.

The Expo was also an opportunity to reconnect with and meet our key partners in the Cook Islands, especially for our GM Māori and Pacific Partnerships, Marino Tahī. Various discussions were held with Infrastructure Cook Islands, Cook Island Meteorological Service, Cook Island Climate Change Office, Ministry of Marine Resources, Office of the Prime Minister, Cook Islands Seabed Minerals Commission and Emergency Management Cook Islands. The visit also enabled progress on discussions to develop a more strategic relationship with the Cook Islands Climate Change office.





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- **Joint China-New Zealand Scientific Expedition to the Kermadec Trench**

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A New Zealand scientist and a submersible pilot from China have become the first women to dive to Scholl Deep in the Kermadec Trench, 10 km below sea level.

The dive was undertaken by NIWA marine biologist Dr Kareen Schnabel and submersible pilots Deng Yuqing and Yuan Xin from the Institute of Deep Sea Science and Engineering (IDSSE), Chinese Academy of Sciences (CAS). It was only the second crewed visit ever to explore the Scholl Deep and was done as part of a two-month scientific voyage on board the IDSSE's research vessel *Tansuoyihao*. Scholl Deep is the

deepest known point of the Kermadec Trench, which lies to the north of New Zealand. The trench is over 1000 km long, is almost perfectly straight, and its deepest point is at a depth greater than the height of Mt Everest. Using the Human Occupied Vehicle (HOV) *Fendouzhe*, scientists collected deep-sea water samples, sediments, rocks, biological samples, and environmental data. Dr Schnabel and the submersible pilots spent six hours at the bottom of the sea exploring the Scholl Deep and the steep sides of the trench.

The first leg of the voyage was successfully completed on 24 November 2022. The HOV *Fendouzhe* undertook 16 dives between 5,747 m and 10,000 m depth, in addition to the deployment of other independent samplers such as a lander, CTD (water sampler), and a gravity corer. "It is really exciting for both Chinese and New Zealand scientists to have the opportunity to comprehensively appreciate the complexity and diversity of both the geology and ecosystems of the Kermadec Trench," says Dr Peng Xiaotong, the leader of this voyage from IDSSE. "Taking rock samples, for example, offers us a unique chance to understand the nature of the subducting and overriding plate, as well as the mechanism of the subduction initiation in the Kermadec Trench," says Dr Peng. "A number of the animals collected have been tentatively identified and are either presumed new to science or have not been seen or collected since the first sampling voyage by the Danish research vessel *Galathea* in the 1950s", says Dr Schnabel.

"It was fascinating to actually observe the tiny sea cucumbers at the bottom of the Kermadec Trench, which are three times smaller in size than those we have observed previously in the Mariana Trench. These sorts of differences between trenches show that mysteries remain as to how animals are adapted to live in extremely deep environments," says Dr Zhang Haibin, a marine biologist from IDSSE.

After the vessel returned to Auckland for re-supply and staff change-over, and the second leg of the voyage was completed by the end of December with another 16 submersible dives. NIWA scientist Daniel Leduc, who dove in the submersible in the north of the trench to 9110 m, says the samples obtained represent a step-change in our understanding of the biodiversity of New Zealand's deepest marine environment. "We saw highly diverse seafloor communities even at great depths and discovered strange and rarely seen organisms such as the upside-down angler fish. As we go deeper into the trench, seafloor ecosystems become dominated by small organisms, which will need to be examined using light and electron microscopy back on land. I expect we will find many new species".

IDSSE and NIWA will continue their collaboration following the voyage to analyse the large number of samples obtained to give a better understanding of New Zealand's deepest environment, and the impacts that humans may have on it.



HOV *Fendouzhe* being recovered by the RV *Tansuoyihao*.

### ▪ **Successful DART buoy voyage on RV *Tangaroa***

The DART buoy network maintenance voyage undertaken by RV *Tangaroa* successfully deployed five bottom pressure recorder (BPR) and surface buoy (SB) pairs. This voyage marked the fifth NIWA DART voyage and a fully operational New Zealand Tsunami Detection Network for our partners NEMA and GNS Science. An adrift legacy SB (DART-G) was also successfully retrieved as well as an adrift Spotter wave buoy, collected for the Tongan government. A total of 18,082 km<sup>2</sup> of multibeam bathymetry was collected during transits and through opportunistic data collection (overnight stand-bys and weather downtime), which adds significantly to NIWA's multibeam bathymetry holdings and will contribute to Seabed 2030.

### ▪ **Marine biosecurity surveillance**

A winter surveillance of Lyttelton Harbour/Whakaraupō was successfully conducted as part of the National Marine High Risk Site Surveillance programme that NIWA conducts for Biosecurity New Zealand. NIWA surveys 12 high-risk sites around Aotearoa New Zealand to detect incursions of new- to-New Zealand marine species and range extensions of existing non-indigenous pest species. No new species incursions or range extensions of existing non-indigenous pest species were detected during the Whakaraupō winter survey. A total of 110 non-indigenous Mediterranean fanworm, *Sabella spallanzanii*, were detected and removed. This non-indigenous fanworm is currently subject to a delimitation and removal programme involving Biosecurity NZ, Lyttelton Port Company, Environment Canterbury and Te Hapū o Ngāti Wheke, and we are supporting this by removing fanworms during our surveys. NIWA has provided *Sabella* identification training and delimitation survey and removal advice to Lyttelton Port Company divers to assist with their programme.

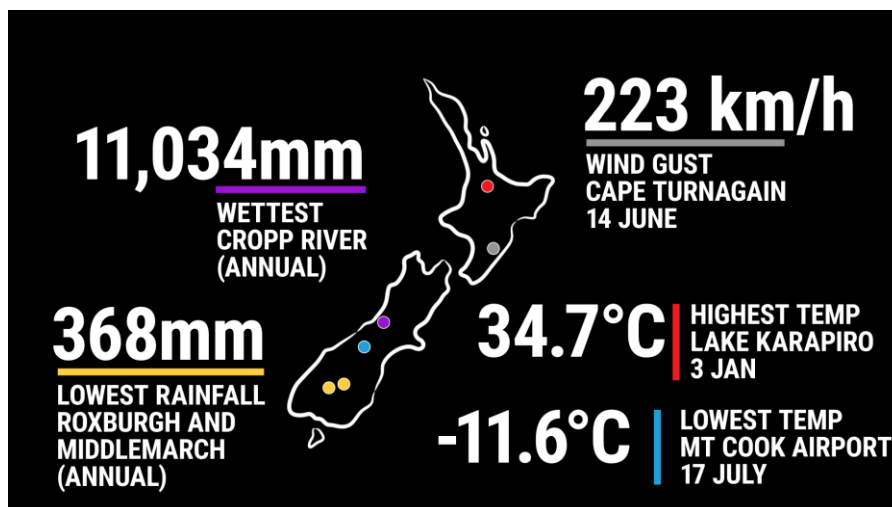


A non-indigenous Mediterranean fanworm nestled amongst three closely related non-indigenous solitary ascidian (sea squirt) species on a wharf pile in Lyttelton (left), and Andrew Miller prepares to dive in the port (right).

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## NIWA's 2022 Annual Climate Summary

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NIWA released its annual climate summary for 2022. Last year was officially the warmest year on record and also the 8<sup>th</sup> most unusually wet year on record.

### Highlights:

- The nationwide average temperature was 13.76°C, +1.15°C above the 1981-2010 annual average and surpassing 2021 by +0.20°C.
- The top 4 warmest years on record have all occurred since 2016.
- No months were below average in temperature, with November being the most unusually warm.
- The nationwide rainfall anomaly was 110%.
- La Niña was one of the primary drivers of last year's weather patterns.
- Sea surface temperatures near New Zealand also had a big impact, being above or well above average every month and resulting in a marine heatwave for most of the year.
- The highest air temperature was 34.7°C at Lake Karapiro on 3 January and the lowest was -11.6°C at Mt Cook Airport on 17 July.
- Taranaki experienced New Zealand's highest annual sunshine total with 2659 hours recorded at New Plymouth.
- The wettest location was Cropp River (West Coast, 975 metres above sea level) with 11034 mm rainfall.
- Of the six main centres in 2022, Tauranga was the wettest, Dunedin was the driest and coolest, Auckland was the warmest, Hamilton was the sunniest, and Wellington was the least sunny.

Barry Harris  
Chairman  
February 2023

John Morgan  
Chief Executive

**Statement of comprehensive income**  
for the 6 months ended 31 December 2022

in thousands of New Zealand dollars	Note	6 Months to Dec 22 Unaudited	6 Months to Dec 21 Unaudited	12 Months to Jun 22 Audited
<b>Revenues and other gains</b>	1			
Revenue		85,723	76,776	170,232
Other gains		1	1	1
<b>Total income</b>		<b>85,724</b>	<b>76,777</b>	<b>170,233</b>
<b>Operating expenses</b>	2			
Employee benefits expense		(43,822)	(41,240)	(82,178)
Other expenses		(33,187)	(28,271)	(60,347)
		<b>(77,009)</b>	<b>(69,511)</b>	<b>(142,525)</b>
<b>Profit/(loss) before interest, income tax, depreciation and amortisation</b>		<b>8,715</b>	<b>7,266</b>	<b>27,708</b>
Depreciation		(9,152)	(9,627)	(17,978)
Amortisation		(463)	(387)	(828)
<b>Profit/(loss) before interest and income tax</b>		<b>(900)</b>	<b>(2,748)</b>	<b>8,902</b>
Interest income		600	212	553
Finance expense		(238)	(256)	(497)
<b>Net interest and other financing costs</b>		<b>362</b>	<b>(44)</b>	<b>56</b>
<b>Profit/(loss) before income tax</b>		<b>(538)</b>	<b>(2,792)</b>	<b>8,958</b>
Income tax credit/(expense)		151	782	(2,488)
<b>Profit/(loss) for the period</b>		<b>(387)</b>	<b>(2,010)</b>	<b>6,470</b>
<b>Other comprehensive income</b>				
Foreign currency translation differences for foreign operations		(60)	(23)	(40)
<b>Total comprehensive income for the period</b>		<b>(447)</b>	<b>(2,033)</b>	<b>6,510</b>
<b>Profit/(loss) attributable to:</b>				
Parent interest		(397)	(2,022)	6,415
Minority interest		10	12	55
<b>Profit for the period</b>		<b>(387)</b>	<b>(2,010)</b>	<b>6,470</b>
<b>Total comprehensive income attributable to:</b>				
Parent interest		(457)	(2,045)	6,455
Minority interest		10	12	55
<b>Total comprehensive income for the period</b>		<b>(447)</b>	<b>(2,033)</b>	<b>6,510</b>

The accompanying 'Notes to the financial statements' are an integral part of, and should be read in conjunction with, these financial statements.

**Statement of changes in equity**  
for the 6 months ended 31 December 2022

in thousands of New Zealand dollars	Share capital	Retained earnings	Minority interest	Foreign currency translation reserve	Total equity
<b>Balance at 1 July 2021</b> (Audited)	<b>24,799</b>	<b>123,127</b>	<b>333</b>	<b>(289)</b>	<b>147,970</b>
Profit for the year	–	(2,022)	12	–	(2,010)
Translation of foreign operations	–	–	–	(23)	(23)
Total comprehensive income	–	(2,022)	12	(23)	(2,033)
<b>Balance at 31 December 2021</b> (Unaudited)	<b>24,799</b>	<b>121,105</b>	<b>345</b>	<b>(312)</b>	<b>145,937</b>
<b>Balance at 1 July 2021</b> (Audited)	24,799	123,127	333	(289)	147,970
Profit for the year	–	6,415	55	–	6,470
Translation of foreign operations	–	–	–	40	40
Total comprehensive income	–	6,415	55	40	6,510
<b>Balance at 30 June 2022</b> (Audited)	<b>24,799</b>	<b>129,542</b>	<b>388</b>	<b>(249)</b>	<b>154,480</b>
<b>Balance at 1 July 2022</b> (Audited)	24,799	129,542	388	(249)	154,480
Profit/(loss) for the year	–	(397)	10	–	(387)
Translation of foreign operations	–	–	–	(60)	(60)
Total comprehensive income	–	(397)	10	(60)	(447)
<b>Balance at 31 December 2022</b> (Unaudited)	<b>24,799</b>	<b>129,145</b>	<b>398</b>	<b>(309)</b>	<b>154,033</b>

The accompanying 'Notes to the financial statements' are an integral part of, and should be read in conjunction with, these financial statements.

### Share capital

The Group has issued and fully paid capital of 24,798,700 ordinary shares (2022: 24,798,700 ordinary shares). All shares carry the equal voting and distribution rights and have no par value.

**Statement of financial position**  
as at 31 December 2022

in thousands of New Zealand dollars	Note	As at Dec 22 Unaudited	As at Dec 21 Unaudited	As at Jun 22 Audited
<b>Equity</b>				
Share capital		24,799	24,799	24,799
Equity reserves		128,836	120,793	129,293
<b>Shareholders' interest</b>		<b>153,635</b>	<b>145,592</b>	<b>154,092</b>
Non-controlling interest		398	345	388
<b>Total equity</b>		<b>154,033</b>	<b>145,937</b>	<b>154,480</b>
<b>Non-current liabilities</b>				
Provision for employee entitlements		1,006	877	966
Lease liabilities		10,950	8,336	12,250
Deferred tax liability		–	–	1,057
<b>Total non-current liabilities</b>		<b>11,956</b>	<b>9,213</b>	<b>14,273</b>
<b>Current liabilities</b>				
Payables and accruals		11,661	11,006	18,477
Revenue in advance		40,387	35,612	33,339
Provision for employee entitlements		8,995	8,689	11,042
Tax payable		–	–	396
Lease liabilities		2,395	6,686	2,162
Forward exchange derivatives		37	–	–
<b>Total current liabilities</b>		<b>63,475</b>	<b>61,993</b>	<b>65,416</b>
<b>Total equity and liabilities</b>		<b>229,464</b>	<b>217,143</b>	<b>234,169</b>
<b>Non-current assets</b>				
Property, plant and equipment		156,468	117,614	136,204
Identifiable intangibles		1,274	1,459	1,744
Deferred tax asset		1,715	260	122
Right-of-use assets		11,626	12,947	12,537
Prepayments		261	51	269
<b>Total non-current assets</b>		<b>171,344</b>	<b>132,331</b>	<b>150,876</b>
<b>Current assets</b>				
Cash and cash equivalents		9,853	20,116	32,019
Other short-term investments		9,000	39,000	20,000
Forward exchange derivatives		–	–	570
Receivables		10,829	7,574	17,107
Prepayments		4,964	3,887	3,419
Assets held for sale		245	245	245
Uninvoiced receivables		18,031	11,063	5,690
Inventories		5,198	2,907	4,243
<b>Total current assets</b>		<b>58,120</b>	<b>84,812</b>	<b>83,293</b>
<b>Total assets</b>		<b>229,464</b>	<b>217,143</b>	<b>234,169</b>

The accompanying 'Notes to the financial statements' are an integral part of, and should be read in conjunction with, these financial statements.

## Cash flow statement for the 6 months ended 31 December 2022

in thousands of New Zealand dollars	Note	6 Months to Dec 22 Unaudited	6 Months to Dec 21 Unaudited	12 Months to Jun 22 Audited
<b>Cash flows from operating activities</b>				
Cash was provided from:				
Receipts from customers		86,612	90,281	176,275
Dividends received		1	1	1
Interest received		600	212	553
Cash was disbursed to:				
Payments to employees and suppliers		(87,150)	(74,441)	(139,135)
Interest paid		(238)	(256)	(497)
Taxation paid		(2,895)	(5,351)	(7,030)
<b>Net cash inflow from operating activities</b>	3	<b>3,070</b>	<b>10,446</b>	<b>30,167</b>
<b>Cash flows from investing activities</b>				
Cash was provided from:				
Sale of property, plant and equipment		62	–	1,693
Term deposits maturing		15,000	9,000	44,000
Cash was applied to:				
Purchase of property, plant and equipment		(29,124)	(13,311)	(40,064)
Purchase of intangible assets		7	(9)	(735)
Investments in other term deposits		(4,000)	(8,000)	(24,000)
<b>Net cash outflow in investing activities</b>		<b>(18,055)</b>	<b>(12,320)</b>	<b>(19,106)</b>
<b>Cash flows from financing activities</b>				
Cash was applied to:				
Payments for lease principal		(1,081)	(987)	(2,082)
<b>Net cash outflow from financing activities</b>		<b>(1,081)</b>	<b>(987)</b>	<b>(2,082)</b>
<b>Net increase/(decrease) in cash and cash equivalents</b>		<b>(22,206)</b>	<b>(2,861)</b>	<b>(8,979)</b>
Effects of exchange rate changes on the balance of cash held in foreign currency		(40)	(11)	52
Opening balance of cash and cash equivalents		32,019	22,988	22,988
<b>Closing cash and cash equivalents balance</b>		<b>9,853</b>	<b>20,116</b>	<b>32,019</b>
Made up of:				
Cash		4,227	3,491	2,057
Short-term deposits		5,626	16,625	29,962
<b>Closing cash and cash equivalents balance</b>		<b>9,853</b>	<b>20,116</b>	<b>32,019</b>

The accompanying 'Notes to the financial statements' are an integral part of, and should be read in conjunction with, these financial statements.

## Preparation disclosures

### Reporting Entity

National Institute of Water & Atmospheric Research Limited ('NIWA' or 'the Company') and its subsidiaries form the consolidated Group ('the NIWA Group' or 'the Group'). NIWA is a profit-orientated company registered in New Zealand under the Companies Act 1993.

The financial statements for the NIWA Group are presented in accordance with the requirements of the Crown Research Institutes Act 1992, the Crown Entities Act 2004, the Public Finance Act 1989, the Companies Act 1993, and the Financial Reporting Act 2013.

### Nature of activities

The NIWA Group conducts research and commercial science in water and atmospheric sciences in New Zealand and internationally.

### Basis of preparation

The measurement basis adopted in the preparation of these financial statements is historical cost, except for financial instruments as identified in specific accounting policies. Cost is based on the fair value of consideration given in exchange for assets.

The presentation currency of the Group and functional currency used in the preparation of these financial statements is New Zealand Dollars.

Accounting policies are selected and applied in a manner that ensures that the resulting financial information meets the concepts of relevance and reliability, ensuring that the substance of the underlying transaction or event is reported.

The Group's accounting policies have been consistently applied in preparing the financial statements for the six months ended 31 December 2022; and the comparative information for the six months ended 31 December 2021 and the year ended 30 June 2022.

### Statement of compliance

The financial statements have been prepared in accordance with New Zealand generally accepted accounting practice (NZ GAAP). They comply with the New Zealand Equivalents to International Financial Reporting Standards (NZ IFRS) and other applicable financial reporting standards appropriate for profit-oriented entities.

The financial statements comply with International Financial Reporting Standards (IFRS).

These interim financial statements have been prepared in accordance with the requirements of NZ IAS 34 *Interim Financial Reporting*. They should be read in conjunction with the 2022 annual report.

### Accounting judgements and major sources of uncertainty

In the application of the accounting policies, the Group makes judgements, estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised and in any future periods affected.

### Comparatives

The financial statements for the six months ended 31 December 2022 and for the comparative six-month period to 31 December 2021 are unaudited. The comparative figures for the year ended 30 June 2022 are audited.



**Notes to the financial statements**  
for the 6 months ended 31 December 2022

**1. Revenues and other gains**

in thousands of New Zealand dollars	<b>6 Months to Dec 22 Unaudited</b>	<b>6 Months to Dec 21 Unaudited</b>	<b>12 Months to Jun 22 Audited</b>
Research			
Strategic Funding	23,169	22,188	50,552
Rendering of services	22,692	20,266	45,062
COVID-19 Response and Recovery Funding	–	–	–
Commercial Science			
Rendering of services	36,965	31,608	69,189
Sale of goods	2,897	2,714	5,429
Dividends	1	1	1
<b>Total operating revenue</b>	<b>85,724</b>	<b>76,777</b>	<b>170,233</b>

**2. Operating expenses**

**Employee benefits**

in thousands of New Zealand dollars	<b>6 Months to Dec 22 Unaudited</b>	<b>6 Months to Dec 21 Unaudited</b>	<b>12 Months to Jun 22 Audited</b>
Defined contribution plans	1,597	1,466	3,024
Defined contribution benefits	180	192	356
Termination benefits	104	191	191
Other employee benefits	41,941	39,391	78,607
<b>Employee benefit expense</b>	<b>43,822</b>	<b>41,240</b>	<b>82,178</b>

**Other expenses**

in thousands of New Zealand dollars	<b>6 Months to Dec 22 Unaudited</b>	<b>6 Months to Dec 21 Unaudited</b>	<b>12 Months to Jun 22 Audited</b>
Materials and supplies	4,470	3,772	8,914
Research collaboration	11,083	9,120	22,244
Property occupancy costs	2,945	2,096	4,283
Information technology	4,213	5,834	11,066
Remuneration of directors	149	95	234
Foreign currency (gain)/loss	243	(26)	(833)
Movement within loss allowance provision	(38)	–	–
Change in the fair value of derivatives	607	(12)	(562)
Other expenses	9,423	7,314	14,804
	<b>33,095</b>	<b>28,193</b>	<b>60,150</b>

## Auditor's remuneration

in thousands of New Zealand dollars	6 Months to Dec 22 Unaudited	6 Months to Dec 21 Unaudited	12 Months to Jun 22 Audited
Auditor's remuneration comprises:			
Audit of the financial statements (Group)	80	65	168
Audit of the financial statements (Subsidiary)	12	13	29
<b>Total auditor's remuneration</b>	<b>92</b>	<b>78</b>	<b>197</b>

## 3. Reconciliation of the profit for the period to net cash inflow from operating activities

in thousands of New Zealand dollars	6 Months to Dec 22 Unaudited	6 Months to Dec 21 Unaudited	12 Months to Jun 22 Audited
<b>Profit/(loss) for the period</b>	<b>(387)</b>	<b>(2,010)</b>	<b>6,470</b>
<b>Add/(less) items classified as investing activities</b>			
Net loss/(gain) on disposal of property, plant and equipment	(55)	–	(966)
	<b>(55)</b>	<b>–</b>	<b>(966)</b>
<b>Add/(less) non-cash items</b>			
Depreciation and impairment	9,152	9,627	17,978
Amortisation of identifiable intangibles	463	387	828
Net foreign currency (gain)/loss	(100)	(11)	(12)
Increase/(decrease) in deferred tax liability	(2,650)	(2,498)	(1,303)
	<b>6,810</b>	<b>7,505</b>	<b>16,525</b>
<b>Add/(less) movements in working capital items</b>			
Increase/(decrease) in payables and accruals and revenue in advance	859	4,584	9,764
Increase/(decrease) in employee entitlements	(2,007)	(1,247)	1,195
(Increase)/decrease in receivables and prepayments	4,741	10,125	842
(Increase)/decrease in inventory and uninvoiced receivables	(13,296)	(4,864)	(827)
(Increase)/decrease in taxation payable and receivable	(396)	(3,635)	(3,239)
(Increase)/decrease in forward exchange derivatives	606	(12)	(563)
	<b>(9,493)</b>	<b>4,951</b>	<b>7,172</b>
<b>Net cash flows from operating activities</b>	<b>3,070</b>	<b>10,446</b>	<b>30,167</b>

## 4. Related party transactions

The Government of New Zealand (the Crown) is the ultimate shareholder of the NIWA Group. No transactions with other New Zealand Government-owned entities are considered as related party transactions in terms of NZ IAS 24. No related party debts have been written off or forgiven during the year. Any business the NIWA Group has transacted in which a director or an employee has an interest has been carried out on a commercial basis. Any potential conflict is recorded in the minutes of Board meetings for directors and a separate interests register for employees. The interests register containing all relevant interests is updated on a regular and timely basis.

## 5. Key management personnel compensation

in thousands of New Zealand dollars	6 Months to Dec 22 Unaudited	6 Months to Dec 21 Unaudited	12 Months to Jun 22 Audited
Short-term benefits	2,012	1,837	3,484

The table above includes remuneration of the Chief Executive Officer, Executive Team and the Board of Directors.

### Chief Executive's remuneration

The Chief Executive's remuneration package that will apply for 2023, together with the comparative information for the prior year, is as follows:

in New Zealand dollars	6 Months to Dec 22 Unaudited	6 Months to Dec 21 Unaudited	12 Months to Jun 22 Audited
Base salary <sup>1</sup>	364,647	352,160	658,714
Benefits <sup>2</sup>	31,549	30,663	56,692
<b>Total Remuneration</b>	<b>396,196</b>	<b>382,823</b>	<b>715,406</b>

Note 1: The Chief Executive's base salary for 2023 is \$678,472 (2022: \$658,711). Actual salary paid includes holiday pay paid consistent with New Zealand legislation.

Note 2: Benefits include KiwiSaver, insurance and vehicle fuel expenses.

The Chief Executive is a member of KiwiSaver. As a member of this scheme, all Group staff, including the Chief Executive, are eligible to contribute and receive a matching company contribution up to a maximum of 5% of gross taxable earnings. In the period to date, the Group's contribution was \$18,232 (2022: \$17,735).

### Executive Team remuneration

In addition to the Chief Executive, NIWA's Executive Team consists of eight members. The remuneration package for all Executive Team members combined (excluding the Chief Executive) that will apply for 2023, together with the comparative information for the prior year, is as follows:

in New Zealand dollars	6 Months to Dec 22 Unaudited	6 Months to Dec 21 Unaudited	12 Months to Jun 22 Audited
Base salary <sup>1</sup>	1,362,050	1,261,970	2,347,497
Benefits <sup>2</sup>	105,055	97,066	186,475
<b>Total Remuneration</b>	<b>1,467,105</b>	<b>1,359,036</b>	<b>2,533,972</b>

Note 1: The Executive Team's base salaries for 2023 total \$2,578,845 (2022: \$2,348,790). Actual salaries paid includes holiday pay paid consistent with New Zealand legislation.

Note 2: Benefits include employer contributions to superannuation schemes (KiwiSaver or legacy government superannuation schemes, as applicable), insurance and wellness allowances.

## 6. Capital commitments

in thousands of New Zealand dollars	6 Months to Dec 22 Unaudited	6 Months to Dec 21 Unaudited	12 Months to Jun 22 Audited
Commitments for future capital expenditure: Contracted, but not provided for	25,062	38,912	46,759

## 7. Subsequent events

There are no material events occurring subsequent to 31 December 2022 which require adjustment or disclosure in the financial statements.

## Directory

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### BOARD OF DIRECTORS

Barry Harris (Chairman)  
Nicholas Main (Deputy Chairman)  
Dr Tracey Batten  
Mary-Anne Macleod  
Janice Fredric (from 1 February 2022)  
Margaret Hyland (from 1 February 2022)  
Dean Moana (from 1 February 2022)

### EXECUTIVE TEAM

John Morgan, *Chief Executive*  
Dr Rob Murdoch, *Deputy Chief Executive and General Manager, Science*  
Geoff Baird, *General Manager, Communications & Marketing*  
Patrick Baker, *Chief Financial Officer and Company Secretary*  
Dr Mary-Anne Dehar, *General Manager, People & Capability*  
Warrick Johnston, *General Manager, Technology & Innovation*  
Dr Helen Neil, *General Manager, Operations*  
Marino Tahī, *General Manager, Māori & Pacific Partnerships*  
Dr Alex Thompson, *General Manager, Research Strategy*

### Auditors

Troy Florence with the assistance of PricewaterhouseCoopers  
on behalf of the Auditor-General

### Solicitors

Atkins Holm Majurey  
Meredith Connell

### Bankers

ANZ Bank of New Zealand Ltd  
ASB Bank Ltd  
Westpac New Zealand Ltd

### Insurance Broker

Marsh Ltd

### Registered Office and Address for Service

41 Market Place, Auckland Central 1010, New Zealand

[www.niwa.co.nz](http://www.niwa.co.nz)  
[weather.niwa.co.nz](http://weather.niwa.co.nz)  
[facebook.com/nzniwa](https://facebook.com/nzniwa)  
[twitter.com/niwa\\_nz](https://twitter.com/niwa_nz)  
[twitter.com/niwaweather](https://twitter.com/niwaweather)  
[linkedin.com/company/niwa](https://linkedin.com/company/niwa)  
[Instagram.com/niwa\\_science](https://Instagram.com/niwa_science)  
[Youtube.com/NZNIWA](https://Youtube.com/NZNIWA)





Climate, Freshwater & Marine Science