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AUSTRALIA & NEW ZEALAND

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Australia and New Zealand may have small populations and be geographically remote from the world's research giants, but their high-quality science competes on the global stage set by the United States, Europe and China.

Like many countries, these Antipodean neighbours want their science and research efforts to drive innovation, boost their economies, and contribute to the advancement of society. A knowledge-led economy must be supported by high-quality research, underpinned by a substantial contribution from fundamental investigations. Nature Index 2016 Australia and New Zealand examines the basic science of both countries, looking at the output and strengths of cities and their institutions.

Australia's contribution to world-class natural science, as tracked by the Nature Index, has grown considerably since 2012. The country's weighted fractional count (WFC) has increased from 856.03 in 2012 to 948.32 in 2015. This metric measures a country or institution's contribution to the 68 journals tracked by the index. Australia ranked 12th in the index global ranking in 2015.

New Zealand's output has fallen slightly in the past four years, from 126.31 in 2012 to 109.48 in 2015. But, the nation ranked 30th in the global index rankings in 2015, ahead of several

countries with vastly larger populations and economies such as South Africa, Saudi Arabia and Argentina.

A close look reveals Melbourne as Australia's top producer of high-quality research, and a centre for chemistry and life sciences, followed by Sydney (page S58). Brisbane's output is the fastest growing in the index since 2012 (page S70). The Queensland capital is home to Australia's top-ranked university in the index, the University of Queensland (page S78). Using data obtained by Digital Science's ÜberResearch, the infographic on pages S66–69 shows where Australian universities invest to produce papers in top journals.

In New Zealand, the cities of Dunedin, Wellington and Auckland produce the largest portion of the country's top-level natural science. New Zealand's key research strength, Earth and environmental sciences, is bolstered by the benefits and challenges of its unique geology and isolated position on the outer edge of the Pacific (page S74).

As tightening budgets increase pressure on scientists to focus on research that promises an immediate or manifest impact, we must remember that long-term support for basic science and the pursuit of research quality is crucial to that endeavour.

Nicky Phillips
Editor, Nature Index

CONTENTS

- S50 SOUTHERN STARS**
A graphic view of Antipodean research
- S54 MEET THE REGION'S PACE-SETTERS**
Which institutions are making waves
- S58 A TALE OF TWO CITIES**
Melbourne and Sydney jostle for position
- S66 AUSTRALIA: THE NUMBERS**
Where science funding is invested
- S70 A WELL-FEATHERED NEST**
Brisbane is resource-rich and making it count
- S72 THE APPLIANCE OF SCIENCE**
How a mystery was solved in an outback kitchen
- S74 NEW ZEALAND'S CLEAR VISION**
A land perfectly placed for a natural laboratory
- S77 A GUIDE TO THE INDEX**
How to get the most out of the Nature Index and an explanation of the metrics used
- S78 THE TABLES**
A ranking of Australian and New Zealand institutions

COVER IMAGE

Justin Boddey
works in WEHI's
Division of Infection
and Immunity

STEFAN POSTLES

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