

New Zealand aims high with National Science Challenges

Chief science adviser Peter Gluckman unpacks the country's ambitious cross-disciplinary research initiative.

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Tiny New Zealand is dreaming big. Its government has chosen ten research themes, dubbed National Science Challenges, to receive NZ\$133.5 million (US\$103 million) in funding over the next four years.

The idea is to link researchers from different disciplines to focus on questions of broad societal relevance to New Zealand. As chosen by the ministry of business, employment and innovation, the focus areas are: ageing well; improving health outcomes from birth and childhood; battling diseases such as diabetes and cancer; improving nutrition; protecting and managing the country's biodiversity; enhancing agriculture while conserving land and water quality; sustainably exploiting marine resources; exploring Antarctica's role in New Zealand's climate and environment; boosting economic growth through new technologies; and strengthening resilience to natural disasters. Along with the new challenges, the ministry continues to oversee NZ\$1.3 billion in annual funding for science and innovation.

A preliminary round of workshops for researchers who might want to participate in the challenges concludes on 28 June. New Zealand's chief science adviser, Peter Gluckman, talked to *Nature* about his hopes for the programme.

Why does New Zealand need the National Science Challenges?

When you're a small country — we have 4.5 million people — you have to think how your science system can advance your country best. We are looking to encourage research for common goals, for things that would be of benefit to New Zealand.

What common themes run through the challenges?

I think the feature for most of them is their marked multidisciplinary. What you're seeing is bringing the social sciences closer to the physical and biological sciences. The Antarctic challenge is not just saying, "Let's promote polar research." It's specifically asking questions about how changes in the Antarctic relate to climate change, and how that will affect the New Zealand ocean and terrestrial environments.

What happens to researchers who are not working in one of the challenge areas?

Our systems for research funding continue to exist. But there is a hint, obviously, to align one's research somewhat with where the challenges are. Having said this, there were areas of science that were intentionally not in the challenges. For instance, New Zealand has a very major set of research exercises in reducing greenhouse-gas emissions from agriculture. We consciously tried not to interrupt the many other good schemes we have.

Why should other countries care about your challenges?

New Zealand clearly is never going to do science entirely on its own; we're part of the international science community. We're small, but we're proud of our contribution. When you're a small country, isolated, in most people's minds, at the bottom of the globe, maintaining one's relevance to the world is a challenge. This is a rational step for a small country. I think it is a novel experiment in many ways, in terms of how best a small country must do science.

What happens next, and how will you measure success?

We can get all the challenges off the ground in 12 months, but it will take a lot of coordination with the scientific community, and they will be staggered. The ones with more granularity, such as foods for health and dealing with natural disasters, will be easier to get off the ground quicker. The way we'll manage the funding means there will be no advantage to going first or going last. We're going to



Office of the Prime Minister's Chief Science Advisor

Peter Gluckman, New Zealand's science advisor, wants the nation to focus on ten science themes with societal relevance.

work with the community to agree on what measure of impact to use, challenge by challenge.

The really interesting bit will be to see how well the scientific community can get beyond disciplines. It will be interesting to see how this gets on.

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