

Foreword

The Integrated Ocean Drilling Program (IODP(1)), which followed the highly successful Ocean Drilling Program (ODP), came into existence in 2003 and ended in September 2013, when it was replaced by the International Ocean Discovery Program (IODP(2)). It was designed by a Scientific Planning Working Group, following several large planning meetings with hundreds of participants. The result was *Earth, Oceans and Life: Scientific Investigations of the Earth System Using Multiple Drilling Platforms and new Technologies*, IODP's Initial Science Plan 2003–2013, which was 110 pages long. This outlined a coherent set of scientific investigations of the Earth system, using multiple drilling platforms and new technologies.

Our primary exploration tools are dynamically positioned Japanese and American coring vessels. When the primary vessels are not suitable, the European Consortium for Ocean Research and Drilling (ECORD) charters other coring platforms. The available equipment can take continuous sediment or rock cores in all oceans, at most water depths and up to 5,000 m below the sea floor. IODP has direct access to drilling platforms worth US\$1.1 billion and an annual operational budget of about US\$180 million. The US, Japan and Europe provide the necessary deep drilling facilities, the core repositories and all the necessary support to help this program function efficiently.

The IODP is a broad and vital collaborative effort. It is the world's largest multinational geoscience program (www.iodp.org). The rationale for this program includes the realisation that the past is often a key to the future of the Earth. Since ocean drilling is the best method of direct sampling below the sea floor, IODP's deep coring provides the means to test global geoscientific theories that are often developed on the basis of remote sensing. New technologies and concepts in geoscience are continuously being developed through IODP. After all, the sediments and

rocks (and microbes) beneath the world's oceans contain a remarkable story of how the Earth has worked and how it works now – all of which offer insights into how the Earth may work in the future. These insights can be of great societal relevance in areas such as climate change, natural hazards and mineral deposition. Furthermore, two-thirds of our world is covered by oceans, with some 60 per cent of Australia's and a whopping 95 per cent of New Zealand's territory offshore, in the form of their marine jurisdictions granted under the United Nations Law of the Sea.

In the first phase of IODP(1), which is reported on here, its main research fields were the deep biosphere and ocean floor, including microbes that live in extreme conditions deep beneath the sea floor, and also accumulations of frozen gas hydrates; environmental change processes and effects, including past changes in climate and ocean currents; and solid earth cycles and geodynamics, including continental breakup, large volcanic events, earthquakes and tsunamis.

In 2007, a group of Australian universities and government research agencies applied to the Australian Research Council for funding to join IODP(1) under the Linkage Infrastructure, Equipment and Facilities (LIEF) scheme. Funding was granted in two tranches from 2008 until 2013, when the first phase, the Integrated Ocean Drilling Program ended, although we continued on in the next phase, the International Ocean Discovery Program. New Zealand (never formally members of ODP) joined us in IODP in 2008. Together, we became Associate Members and the Australian and New Zealand IODP Consortium (ANZIC) has never looked back. Fortunately, many of those involved in IODP had worked with the similar ODP, which ended in 2003, so we hit the ground running.

Our achievements are a credit to those who managed to build the case for funding for IODP after an unfortunate hiatus when Australia's ODP membership ended in 2003. The Australian Research Council continued its vital support through the six years 2008–2013, for which we are all very grateful. Of great significance has been the formal entry of New Zealand into scientific ocean drilling for the first time, bringing its breadth of geoscience skills into ANZIC to everyone's benefit. In fact, the ANZIC umbrella has brought together nearly all the major geoscience groups in both countries, and our scientists have taken full advantage of the opportunities provided to carry out research of global significance in partnership with scientists from more than 20 other countries.

It was my pleasure to take over the Chairmanship of the ANZIC Governing Council from Dr Kate Wilson in the middle of 2010, by which time it was running smoothly. Drilling and discovering, IODP is involved in wonderful global science and it was exciting to help steer our involvement.

Dr Geoff Garrett, AO
Chair, ANZIC Governing
Council, 2010–2016



**ANZIC Governing Council Chair,
Geoff Garrett**

Source: Geoff Garrett

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