



Australia and New Zealand form the Australia-New Zealand IODP Consortium (ANZIC), and the two countries have access to all IODP activities. This bulletin provides current news, job opportunities, scholarships and events relating to both national and international scientific communities.

For more information contact:
Website: www.iodp.org.au
Website: drill.gns.cri.nz

APPLY NOW for ANZIC's 2015 special analytical funding

Application deadline 30 June 2015

News from the ANZIC Office

The ANZIC Science Committee, under the Chairmanship of Rob McKay from Victoria University Wellington, met by telephone on Thursday 11 June to discuss the scientific way forward for ANZIC. The discussion was very worthwhile and some excellent ideas were put forward, although it is clear that we cannot have any major initiatives until we know the result of our ARC/LIEF bid later this year. However, we did decide to have an IODP Session at the Australian Earth Sciences Convention in Adelaide from 20-26 June, and the organisers have welcomed the idea of a session and an IODP booth. This will be a great opportunity to review past work and outline future plans, with many expeditions planned for the coming years. We will be in touch fairly soon to call for expressions of interest in attending.

We have just called for ANZIC applications for scientific participation for the *JOIDES Resolution Western Pacific Warm Pool (WPWP) Expedition 363* (see below). The expedition will be two months long, in the period September 30 - November 30, 2016. This is a very exciting opportunity for a wide range of scientists interested in changes in this globally important region in the last 5 million years, including microbiologists interested in extremophiles in the sedimentary column. *The deadline for applications to ANZIC is 15 September.*

We will soon be calling for applications for the following *JOIDES Resolution Mariana Convergent Margin Expedition 366*, which will investigate geochemical, tectonic, and biological processes at intermediate depths in an active subduction zone. This expedition will core the summits and flanks of serpentinite mud volcanoes on the forearc of the Mariana system, a non-accretionary convergent plate margin in the western Pacific. *The deadline for applications to ANZIC will be 15 October.*

On 29 May, we offered funding, under the title *Special funding for Australians for analytical work on ocean drilling material*, for scientists to work on legacy material (see below). \$150,000 is on offer under a two-tiered approach. Both \$20,000 and \$10,000 grants are available, with three to four \$20,000 grants and eight to ten \$10,000 grants on offer for scientists from Australian ANZIC member institutions. The samples can come from DSDP, ODP, or IODP expeditions. IODP expeditions generally have a 12 month moratorium on samples, but scientists who are official land-based participants can apply within that period. Only analytical costs will be covered by these grants.

The application deadline is 30 June.

News from the office, cont...

Plans are now mature for the IODP Forum Meeting to be held in Canberra from 8-10 July. About 30 scientists from around the world will attend this meeting, looking at the implementation of the science set out in the IODP Science Plan. It will be chaired by Keir Becker of the University of Florida, and his successor Jamie Austin of the University of Texas at Austin will also attend. Geoff Garrett, the ANZIC Chairman, will host a VIP dinner involving key visitors and high-level Australians.

Plans are also advancing for the port call of *JOIDES Resolution* in Fremantle before it sails on the Northwest Shelf IODP Expedition 356, with tours of the ship to be held on 31 July and 1 August. The expedition will investigate the last 5 million years of paleoceanography, paleoclimate and vertical tectonics off northwest Australia. Stephen Gallagher of the University of Melbourne will be a co-chief scientist, and three other Australian scientists (Helen McGregor of the University of Wollongong, Ali Rastegar of Curtin University, and Chelsea Korpany of the University of Queensland) will also be aboard. Thomas Lang of Museum Victoria will sail as an outreach person with an American colleague sharing the role. *The Conversation* will soon run a series of articles by ANZIC scientists about particularly interesting scientific results, starting with one by Stephen Gallagher on this expedition to coincide with the press release for the ship visit.

JOIDES Resolution expeditioner Sophie Bratkenov (Macquarie University) has returned recently from her stint as an organic geochemist on the Arabian Sea Monsoon Expedition 355. Craig Sloss (QUT) will join the Maldives Monsoon Expedition 359 at the end of September as a sedimentologist. An application by Sebastien Meffre, for funding of an expeditioner's post-cruise analytical study, entitled "Geochronology and provenance of small zircons from Expedition 351" has been approved.

Regular ANZIC applications for positions on the *JOIDES Resolution* Sumatra Seismogenic Zone Expedition 362, starting at the end of July 2016, and for the European-funded Chixculub Impact Crater Expedition 364 in the Gulf of Mexico in mid-2016, have been assessed and our rankings sent to the expedition organisers. A special late call on 12 June for applications to sail as a micropaleontologist on Expedition 362, closes tomorrow.

Grahame Cook and Neville Exon visited senior public servants in key departments to discuss IODP with them during one hour visits from 15 to 18 June as follows:

- Department of the Environment
- Department of Education & Training
- Department of Industry & Science
- Department of Prime Minister & Cabinet

Department of Foreign Affairs & Trade

They had seen our latest brochure in advance (see below), were impressed by the nature of IODP and the value of the drilling going ahead in our region in the next few years, and supportive of the concept of long term funding for ANZIC. Very good news is that the three external reviews of our ARC/LIEF bid recently received and responded to by Richard Arculus were very positive indeed.

Neville Exon has been busy completing the ANZIC Annual Report for 2014, which should be printed in early July.

Finally, the ANZIC Office would like to thank Dr Chris Yeats, Governing Council member and stalwart supporter, and offer our congratulations on commencement of his new role as Executive Director at the Geological Survey of New South Wales.

Neville Exon and Catherine Beasley

AT SEA

Currently both the *JOIDES Resolution* and the *Chikyu* are in port for maintenance. Expedition 356 will embark on the JR at the end of July 2015.

Follow the *JOIDES Resolution* on [Facebook](#) and read daily or weekly reports at:

<http://iodp.tamu.edu/scienceops/sitesumm.html>

ASSISTANT RESEARCH SCIENTIST – Expedition Project Manager/Staff Scientist – Borehole Geophysics



The International Ocean Discovery Program (IODP) at Texas A&M University invites applications for an Assistant Research Scientist (Expedition Project Manager/Staff Scientist) with expertise in any aspect of borehole geophysics, petrophysics, or geophysics. A Ph.D. in geosciences or related field, and demonstrated on-going research experience is required. Applicants must have a demonstrated fluency in written and spoken English. Experience as a seagoing scientist, especially in scientific ocean drilling, is preferred.

This position will serve as the Expedition Project Manager to coordinate all aspects of precruise expedition planning, sea-going implementation, and postcruise activities. These duties include sailing as the IODP scientific representative on a two-month IODP expedition approximately once every 1 to 2 years.

Individual scientific research, as well as collaboration with colleagues at Texas A&M University in fulfilling its educational mission, is required.

This position will also provide scientific advice on laboratory developments in their area of specialization including scientific implementation of downhole logging on the *JOIDES Resolution*. Applicants must be able to cooperate and work harmoniously with others, have the ability to be an effective team leader, and foster collaboration among diverse scientific participants. Passing a new employee medical exam and annual seagoing medical exams are a requirement of the position.

Salary will be commensurate with qualifications and experience of the applicant. This is a regular full time position, contingent upon continuing availability of funds for IODP. We will begin reviewing applications on **15 September 2015**, but will continue to accept applications until candidates are selected for interviews.

Applicants may access the TAMU application at <https://jobpath.tamu.edu> and apply online with reference to Posting Number O00163FY15, attach a curriculum vita, list of published papers, statement of research interests, and names and addresses of three references.

Quick Link - <http://jobpath.tamu.edu/postings/84569>

APPLY FOR ANZIC FUNDING

SPECIAL FUNDING FOR RESEARCHERS AT AUSTRALIAN MEMBER INSTITUTIONS FOR ANALYTICAL WORK ON OCEAN DRILLING MATERIAL

APPLICATIONS CLOSE 30th JUNE 2015

In February 2012, the ANZIC Governing Council first decided to encourage our scientists to work on legacy ocean drilling material, in order to fill gaps in existing research, and increase the number and quality of ANZIC publications within the life of IODP. We offered a funding package to non-shipboard researchers to carry out analytical work on shipboard data/samples.

We are now offering a third round of funding. \$150,000 is on offer under a two-tiered approach. Both \$20,000 and \$10,000 grants are available, with three to four \$20,000 grants and eight to ten \$10,000 grants on offer for scientists from Australian ANZIC member institutions. The samples can come from DSDP, ODP, or IODP expeditions. IODP expeditions generally have a 12 month moratorium on samples, but scientists who are official land-based participants can apply within that period. Only analytical costs will be covered by these grants.

The broad aim of this initiative is to attract established scientists to research projects related to DSDP, ODP, or IODP, by covering basic analytical costs in order to facilitate rapid high-quality publication. The proponents would need to go through the IODP system to obtain material, and that involves writing a scientific proposal to justify obtaining it. Successful applicants are required to acknowledge funding from the Australian IODP Office and include "scientific ocean drilling" or an equivalent phrase in the title or abstract of their publications.

A simple process will be followed, with *applications* by individuals or teams expected by June 30, sent to Neville Exon (Neville.Exon@anu.edu.au) and Rob McKay (robert.mckay@vuw.ac.nz). The applications will be reviewed by the Program Scientist and the ANZIC Science Committee. Applicants should be informed of the outcome of their applications and funds allocated in August 2015. Funds can be provided quickly once a suitable arrangement is agreed.

The *applications* for the projects (4 pages maximum, 12 point font) should have the following general format:

- 1) Title of research proposal for funding
- 2) Related IODP, ODP, DSDP leg number(s)
- 3) Participant's or participants' names and contact details
- 4) Brief description of project
- 5) Research plan including sampling intentions
- 6) Justification for analytical work
- 7) Publication intentions
- 8) Tabulated costing for this work
- 9) Brief and relevant CV

Short progress reports (1 page) are required 6 months and one year after funding commences. A final report (3 pages) that summarises research findings, and includes a publication list (published, in press, submitted or planned), is required within 30 months of when funding commences.

Dated 29 May 2015

APPLY TO SAIL WITH IODP in 2016

Western Pacific Warm Pool (WPWP) Expedition 363



We are now accepting ANZIC applications for scientific participation for the *JOIDES Resolution Western Pacific Warm Pool (WPWP) Expedition 363* (based on IODP Proposal 799-Full2). The expedition will be two months long, in the period September 30-November 30, 2016. This is a very exciting opportunity for a wide range of scientists interested in this globally important region, including microbiologists interested in extremophiles in the sedimentary column. Opportunities exist for researchers (including graduate students) in all specialties – including but not limited to sedimentologists, paleontologists, biostratigraphers, petrologists, paleomagnetists, petrophysicists, borehole geophysicists, microbiologists, and inorganic/organic geochemists.

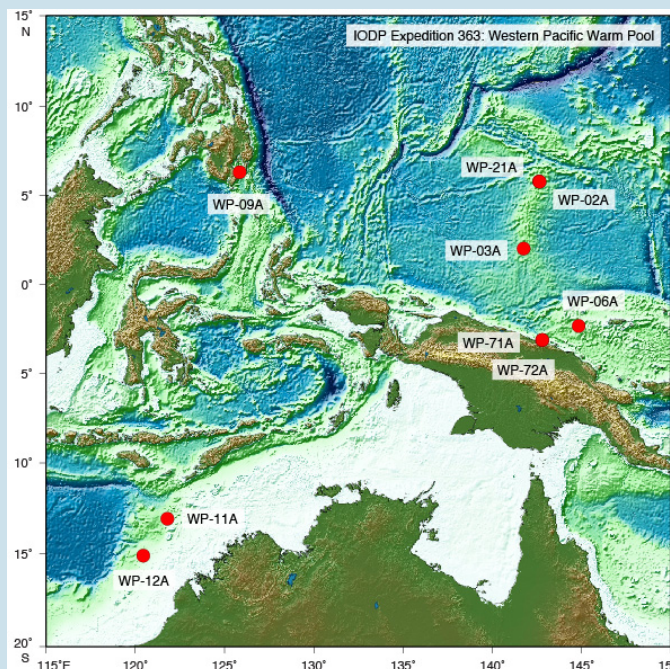
The expedition schedule (http://iodp.tamu.edu/scienceops/expeditions/pacific_warm_pool.html) includes links to the original IODP proposal and expedition planning information, including a map showing the two proposed sites. The Western Pacific Warm Pool (WPWP) Expedition aims to understand the interaction between climate and the WPWP from the middle Miocene to Holocene. A series of sites will be drilled in the western equatorial Pacific and eastern Indian Ocean to investigate (1) the role and response of the WPWP to millennial climate variability during the late Quaternary, (2) changes in the WPWP and relation to monsoon activity on orbital timescales during the Pliocene-Pleistocene, (3) changes in the Indonesian Throughflow during the Pliocene-Pleistocene, and (4) the long-term evolution of WPWP sea surface (SST) and intermediate water temperatures (IWT) and water chemistry since the middle Miocene.

Sediments obtained from these sites will investigate the relationships between millennial-scale variability in the tropical Pacific and in the northern Atlantic; the controls on tropical Pacific SST patterns on various time scales; the response of the hydrologic cycle and the mechanisms controlling these variations; the evolution of the WPWP from the mid-Miocene Climate Optimum to the present; and the relationships between changes in the equatorial Pacific mean climate state and dynamical processes and how they relate to the Pliocene-Pleistocene transitions.

For ANZIC scientists all travel costs will be covered. In addition the ANZIC IODP Office may provide up to \$A40,000 for post-cruise activities (mainly analytical costs) for Australian and New Zealand university and research institution scientists and post-graduate students, if funding cannot be obtained in any other way. Applications for such funding can only be made after expeditions are completed and samples are in hand.

We are calling for applications so early to allow people to consider their long term plans. We know that students will have trouble with the long lead time, but keeping this call open until mid September will help somewhat. There will be further calls later in the year. This is an excellent opportunity for scientists, doctoral students or post docs to collaborate with an international team of scientists.

Australians should visit www.iodp.org.au for a link to the application form, a completed version of which should be sent to Neville Exon (Neville.Exon@anu.edu.au) and Rob McKay (robert.mckay@vuw.ac.nz). New Zealanders should contact Giuseppe Cortese (NZODP@gns.cri.nz).



The deadline for scientists to submit applications to ANZIC is **Wednesday, 15 September**.



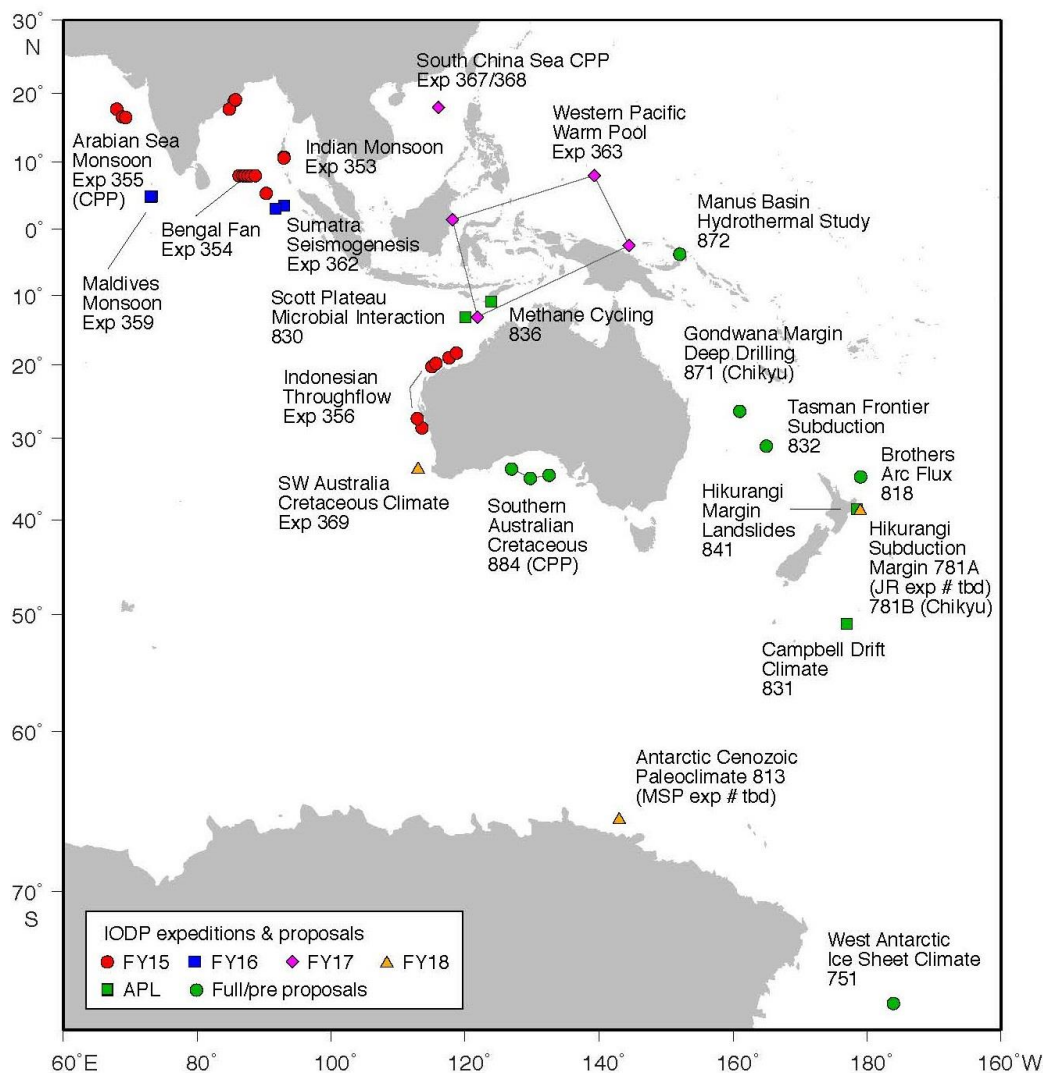
IODP
INTERNATIONAL OCEAN
DISCOVERY PROGRAM

Exploring the earth under the sea

Scientific Ocean Drilling now in Australasia

Scientific ocean drilling through the International Ocean Discovery Program (IODP) is a continuation of the world's longest running and most successful international research collaboration. IODP can provide continuous cores of sediment and rocks in water as deep as 7000m, and up to five kilometres below the sea bed. Its expeditions tackle 'big science' questions such as climate change, plate tectonics and geological hazards. Over the next three years Australia's offshore jurisdiction and neighbouring regions will be a major focus of this scientific activity (see map).

Planned and Approved IODP Expeditions in the Australasian region: 2015-2018



Note that all the expeditions shown will be carried out by the drillship *JOIDES Resolution* unless otherwise shown (MSP = European, or *Chikyu*). The US fiscal years begin in October, e.g. FY15 begins in October 2014. Note that 781B is at the proposal stage.

The Australian and New Zealand IODP Consortium (ANZIC), consisting of seventeen universities and four science agencies, is a small but scientifically important part of the program. ANZIC scientists are lead proponents or co-proponents of a number of IODP proposals.

Five IODP expeditions are scheduled for our region in the period 2015 to 2018 (see map) and four more may be scheduled before 2020. The drillship *JOIDES Resolution* is IODP's primary research vessel, and four of its scheduled expeditions will be in our general region. This ship will arrive in Fremantle in July 2015 before drilling on the Northwest Shelf of Australia (Expedition 356). The port call will be an opportunity to share cutting edge science with local schools and universities through touring the ship and quizzing the scientists. It will also inject around \$2 million into the local economy. Further port calls are expected in the coming years.

There will be five Australians, including the co-chief scientist, Professor Stephen Gallagher (University of Melbourne) on Expedition 356. This *Indonesian Throughflow* expedition will drill six holes, from south (near Geraldton) to north (near Port Hedland). It is designed to investigate the last 5 million years of Earth history, especially in terms of changes in the flow of the huge ocean currents south and west from the Indonesian straits, as sea levels rose and fell by about 100 m, and associated changes in Australia's climate. The data recovered will lead to better models of the hydrocarbon reservoirs deep beneath the surface rocks, which are naturally important to industry. About 5000 m of sediments and sedimentary rocks will be recovered, studied and preserved for further scientific examination, and the main results will be published in leading science journals.

Improved understanding of climate change is a key IODP outcome. The oceans are critical components in global climate change on timescales of centuries to millions of years, and knowledge of this change depends entirely on ocean coring. These cores provide vital information regarding past and present mechanisms of climate forcing, about feedbacks in the climate system, and about the processes and timescales of natural climate change.

Although IODP is a scientific research program, it also informs petroleum exploration. IODP Proposal 884, to drill Cretaceous sediments in the Great Australian Bight for scientific purposes, is of interest to industry as the black shales contained are probable petroleum source rocks. Indeed, industry intends to co-fund this drilling.

IODP Proposal 871 is designed to drill the Cretaceous strata on the Lord Howe Rise for scientific and resource purposes, using the Japanese vessel *Chikyu* under a joint agreement between Geoscience Australia and Japan. The main aim of the expedition is to better understand the geological history of this part of the former Australian margin, but the cores will be critical to understanding the petroleum potential of the region.

Key facts

- Twenty-six OECD countries form IODP.
- Ocean drilling platforms are provided by the United States, Japan and Europe.
- While there has been much scientific ocean drilling in our region vast areas remain unexplored.
- An average two-month ocean drilling expedition costs around \$US 8 million.
- An average port visit generates about \$2 million in expenditure for fuel and supplies.
- IODP's annual operational budget is ~\$US 180 million. Australia contributes \$1.8 million and obtains a disproportionate share of the action for this sum.
- IODP brings our geoscientists and microbiologists in contact with research teams from around the world, broadening their skill sets and networks.
- The Australia and New Zealand ANZIC consortium (<http://iodp.org.au>) comprises fifteen universities and two government scientific agencies from Australia and two universities and two government research institutes from New Zealand.
- ANZIC's annual budget is \$3 million, with more than half of the funding coming from the Australian Research Council's ARC/ LIEF program.
- The Australian National University hosts the ANZIC office. Contact Neville.Exon@anu.edu.au; phone 02 6125 5131. [Document prepared 2/6/15]