



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

Lord Howe Rise Proposal (871) Workshop has been rescheduled to 7-10 April, 2015.

Members are advised to email Dr. Clinton Foster to express interest
Clinton.Foster@ga.gov.au

News from the ANZIC Office

The ANZIC Governing Council met in Dunedin on 23 February and considered our situation and made decisions about the future. The main issues were the 2015 budget, which is in good shape; the scope of the present bid for an ARC/LIEF grant to cover 2016-2020 and the implications for the 2016 budget; the involvement of our scientists aboard ship and its implications; and outreach.

Council agreed that we would ask the Australian Research Council for ARC/LIEF funding of \$A2.2 million p.a. to allow continuation of our activities at the present level. Richard Arculus of ANU is the lead CI, and we contacted all our existing Australian partners before Christmas about the new bid. We have 15 partners contributing to the bid, expected to contribute \$875,000 p.a., meaning that we continue to have a much wider distribution of partners than any other LIEF bid. Our New Zealand partners will be led by GNS Science and will contribute funding of \$US300,000 p.a.. It will be good to continue with the highly successful ANZIC consortium. James Cook University, the University of New England and the University of Technology Sydney will not be members of the new consortium, essentially because of the lack of enough interested scientists at present. We thank them very much for their past involvement. The University of NSW will be a new member and we welcome them to ANZIC.

Our Australian partners will be:

- Australian National University
- CSIRO
- Macquarie University
- Geoscience Australia
- University of Sydney
- University of Queensland
- University of NSW
- Curtin University
- Monash University
- Queensland University of Technology
- University of Adelaide
- University of Melbourne
- University of Tasmania
- University of Western Australia
- University of Wollongong

Our New Zealand partners will be:

- GNS Science
- NIWA (National Institute for Water and Atmospheric Research)
- University of Otago
- Victoria University, Wellington,

and potentially the University of Auckland.

News from the ANZIC Office, continued.

The Indonesian Throughflow Expedition 356 is headed by Stephen Gallagher (University of Melbourne) and is due to sail from Fremantle at the end of July. Our other participants will be sedimentologists Helen McGregor (University of Wollongong), Chelsea Korpany (University of Queensland) and Ali Rastegar (Curtin University). We are now working on visits to the vessel during the port call, involving VIPs, university staff and students, senior school students, exploration company scientists, and media representatives. Catherine is finalising arrangements to have an Australian Educator at Sea aboard the vessel, funded by the Department of Education.

We called for ANZIC applications on February 3 for the Sumatra Seismogenic Zone Expedition 362, starting at the end of July 2016, for which our deadline is Wednesday April 15 (details below).

Neville Exon and Catherine Beasley

AT SEA



Alan Baxter aboard Exp 354 leading a skyped ship tour for students at University of New England.

As regards expeditioners on *JOIDES Resolution*, Gianluca Marino (ANU) returned from the Indian Monsoon Expedition 352, east of India, in early February. Alan Baxter (University of New England) immediately joined the Bengal Fan Expedition 354 as a nannofossil expert. Craig Sloss (QUT) will join the Maldives Monsoon Expedition 359 at the end of September as a sedimentologist, and Mark Kendrick (ANU) will join the Indian Ocean Moho Expedition 360 at the end of November.

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

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



Photo by D Hanano

APPLY TO SAIL IN 2016

Sumatra Seismogenic Zone, Exp 362

We are now accepting ANZIC applications for scientific participation for the *JOIDES Resolution* Sumatra Seismogenic Zone expedition (IODP Proposal 837-Full & 837-Add). The expedition will be two months long in the period August-September 2016. The very early call is because the Indonesians require a list of shipboard participants a year in advance. Doubtless this will change somewhat over time but rules are rules. This is an exciting opportunity for a wide range of scientists interested in sedimentary columns and seismogenesis, including microbiologists interested in extremophiles in the sedimentary column. Specialists in a wide range of fields will be considered for the expedition including sedimentology, sediment diagenesis, microbiology, organic geochemistry, inorganic geochemistry, benthic foraminifera, planktonic foraminifera, diatoms, radiolarians, ostracodes, dinoflagellates, terrestrial palynology, petrophysics/logging, stratigraphic correlation, and paleomagnetism.

The expedition schedule (http://iodp.tamu.edu/scienceops/expeditions/sumatra_seismogenesis.html) includes links to the original IODP proposal and expedition planning information, including a map showing the two proposed sites.

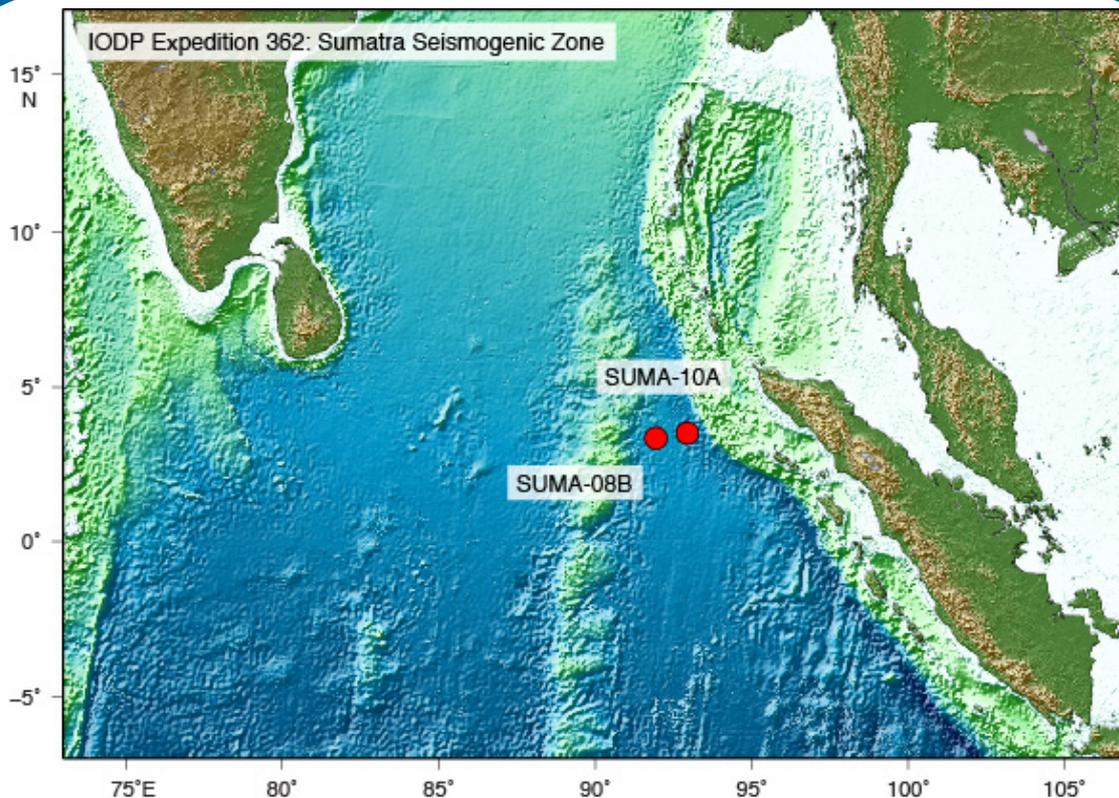
SUMATRA SEISMOGENIC ZONE EXPEDITION 362, August and September 2016

The Sumatra Seismogenic Zone expedition (IODP Proposal 837-Full & 837-Add) aims to establish (1) the initial and evolving properties of the North Sumatran incoming sediments and (2) their potential effect on seismogenesis, tsunamigenesis, and forearc development for comparison with global examples. The 2004 Mw 9.2 earthquake and tsunami that struck North Sumatra and the Andaman-Nicobar Islands devastated coastal communities around the Indian Ocean. This earthquake showed unexpectedly shallow megathrust slip that was focused beneath the accretionary prism including the distinctive prism plateau offshore North Sumatra. This intriguing seismogenic behavior and forearc structure are not well explained by existing models and by relationships observed at margins where seismogenic slip typically occurs further landward. The correspondence between the 2004 rupture location and the overlying prism plateau, and evidence for a strengthened thick sediment input section suggests that the input materials are key to driving this distinctive slip behavior and long-term forearc structure. Based on fan history from drill sites and forearc islands, it is estimated that at the latitude of the proposed sites, fan deposition began approximately in the late Eocene to early Oligocene.

In more detail: The overall objective of this proposal is to establish a) the initial and evolving properties of the North Sumatran incoming sedimentary section and b) their potential effect on seismogenesis, tsunamigenesis, and forearc development for comparison with global examples. To accomplish this objective, two proposed drill sites will be used to:

- 1) Core and log the complete input stratigraphic sequence on the Indian oceanic plate offshore North Sumatra, including the trench wedge, the Nicobar Fan succession, the pre-fan pelagic succession, and the sediment-basaltic basement interface. These data will be used to derive primary stratigraphic, lithological, hydrogeological, chemical, physical, thermal, biological, and structural properties of the sequence and determine its sedimentary history.
- 2) Assess the degree of diagenetic alteration of the sampled sequence and to assess how diagenetic processes will evolve on increasing burial and heating and ultimately on accretion. We anticipate these processes create a strong prism core and promote shallow seismogenic slip. Post-cruise experimental and numerical analyses will provide the ability to extrapolate input properties to greater stresses and temperatures due to burial and subduction through time.

Two secondary objectives can also be addressed: 1) in light of the nearby 2012 Indian oceanic plate earthquakes, log data will be used to analyze the state of stress within the oceanic plate to determine relative contributions of subduction, India-Eurasia collision and oceanic basement reactivation; and 2) the sites will provide an important element of the Bengal-Nicobar fan system sedimentary history contributing to debate on Himalayan-Tibetan collisional history and monsoon development.



There are three major sequences to be drilled at two sites. **Site 10A** is planned to drill the uppermost Unit 1 in 4490 m of water, to a depth of 1400 m. It should consist of a seaward-dipping trench wedge of Pliocene to Recent Nicobar Fan sediments, plus interbedded locally derived hemipelagic and sediment gravity flow deposits. **Site 11A** is planned to drill in 4130 m of water through 1450 m of sediment and 10 m of basement. It should drill an abbreviated section of Unit 1; Unit 2, which should consist of Early Oligocene to mid Pliocene Nicobar Fan interbedded hemipelagic and sediment gravity flow deposits; and Unit 3, which should consist of Late Eocene to Early Oligocene pelagic sediments: nannofossil ooze, clay and chert.

GENERAL This is a great opportunity for scientists, including post-graduate students, to get involved in cutting edge science with a team from around the world. Can senior scientists please consider whether they know of outstanding post-graduate students who could put about six months work (in toto) into such an undertaking? For all applicants, and especially students, we will need to be assured that applicants intend to stay in Australia or New Zealand to work on this activity, and have access to departmental facilities, for a reasonable time post-cruise - ideally a couple of years.

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.

The **deadline** for scientists to submit applications to ANZIC is **Wednesday April 15**. 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.edu.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).