



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: www.drill.gns.cri.nz

APPLICATIONS TO SAIL in 2015

Expeditions 353-Indian Monsoon and 354-Bengal Fan have been opened for applications.

Further details in this bulletin or at <http://iodp.org/expeditions>

News from the ANZIC Office

The ANZIC Governing Council met on 3 October, hosted by Chris Fergusson at the University of Wollongong. This was three days after the official change from the Integrated Ocean Drilling Program to the International Ocean Discovery Program. Much Council discussion was on planning for the scenarios which could emerge from the November decisions of NSF (level of funding for the *JOIDES Resolution*), and of the Australian Research Council (level of IODP funding for Australia). We are reasonably optimistic regarding both decisions. New Zealand intends to remain in ANZIC in the next phase of IODP. Stephen Gallagher of Melbourne University had just returned the Asian Monsoon (Japan/East Sea) Expedition 346, and gave an excellent lunch-time talk on the expedition to Council, university staff and students.

We congratulate Bob Musgrave (Sydney University) on his appointment as a paleomagnetist on the Izu-Bonin-Mariana rear arc Expedition 350. Richard Arculus (ANU) is Co-Chief Scientist on Expedition 351, and there are now five Australian scientists selected for the three *JOIDES Resolution* IBM expeditions next year.

The *Greatship Manisha* is halfway through drilling the Baltic Sea Paleoenvironment Expedition 347 (<http://www.esp.ecord/expeditions/347>), and the results from the four locations drilled so far have been good. Separate core holes have been drilled for geological and microbiological purposes, with excellent core recovery of many hundreds of metres of sediment. The holes captured last glacial sediments, and the overlying sediments deposited as the ice melted and freshwater and brackish sediments were laid down. Sedimentologist Craig Sloss (QUT) will join the post-cruise party in January for detailed core description and to sample for his own studies.

Attached is a report on the first meeting of ISOLAT, an IMAGES2 program, attended by Giuseppe Cortese (GNS Science) and Leanne Armand (Macquarie University) in September in Cambridge. ISOLAT plans extensive long coring in the Southern Ocean including in our region. Of particular benefit is that all future cores taken by IMAGES will be stored by ECORD at the IODP Bremen core repository, under similar excellent conditions to those applying to IODP cores.

APPLICATIONS TO SAIL in 2014-15

ANZIC is now accepting applications for scientific participation for *JOIDES Resolution* IODP Expedition 353 in the Bay of Bengal and Andaman Sea, and Expedition 354 in the Bengal Fan in the Northwest Pacific. The Expeditions will be each of two months in the period December-March 2015, and both Australia and New Zealand are assuming that the expeditions will be funded (see note below) and that we will still be IODP members in this new phase of IODP (ARC funding decision expected in November or December 2013). This is an exciting opportunity for a wide range of scientists interested in sedimentary columns, including microbiologists interested in extremophiles in the sedimentary column. Specialists in a wide range of fields will be considered including sedimentology, microbiology, organic geochemistry, inorganic geochemistry (including isotopic studies of particles derived from the Himalayas), benthic foraminifera, planktonic foraminifera, diatoms, radiolarians, ostracodes, dinoflagellates, terrestrial palynology, petrophysics/logging, stratigraphic correlation, and paleomagnetism. The expedition schedule (<http://iodp.tamu.edu/scienceops/>) includes links to the individual expedition web pages that provide the original IODP proposal and expedition planning information, including a map showing the proposed sites. WHERE TO APPLY: Applications for participation must be submitted to the appropriate IODP Program Member Office – see <http://iodp.org.au/expeditions/application-to-sail/>

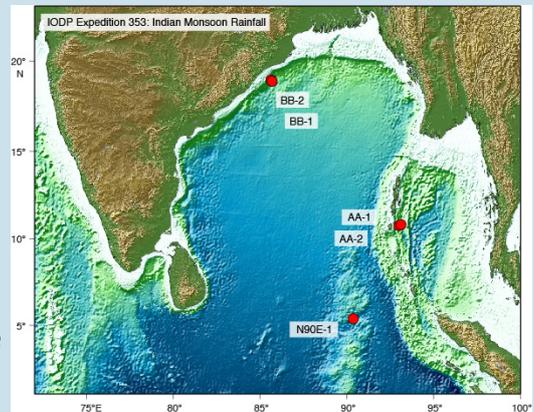
Note: These expeditions are contingent upon approval for operations of the JOIDES Resolution beyond September 30, 2014 and authorization of funds for these operations by the National Science Board in

EXPEDITION 353: INDIAN MONSOON RAINFALL EXPEDITION

Dates: 29 Nov. 2014 to 29 Jan. 2015

Application deadline: 15 January 2014

Full title: "Indian Monsoon Rainfall in the Core Convective Region". Based on IODP Proposal 795-Full2, the goal of this expedition is to obtain sediment sections from within the core region of Indian monsoon precipitation. Four or five sites in the Bay of Bengal and Andaman Sea will target Late Cretaceous-Holocene sediments to better understand the physical and climatological mechanisms underlying changes in monsoonal precipitation, erosion, and run-off across multiple time scales. They will reconstruct the meridional salinity gradient as well as the erosion and run-off signals in the region.



The scientific objectives are to (1) establish the sensitivity and timing of changes in monsoon circulation relative to external insolation forcing and internal boundary conditions including the export of latent heat from the southern hemisphere, the extent of global ice volume, and greenhouse gas concentrations; (2) understand the timing and conditions under which monsoonal circulation initiated and evolved; (3) determine the extent to which Indian and East Asian monsoon winds and precipitation are coupled and at what temporal and geographic scales; and (4) better deconvolve the effects of tectonics and climate change on erosion and run-off. Resolving these outstanding issues using the geological record is critical to providing verification targets for climate models, especially given that the majority of current atmosphere-ocean general circulation models used by the IPCC do not accurately simulate the spatial or intra-seasonal variability of monsoon precipitation. The sites are in depths of 1500-3000 m and will continuously core up to 675 m below the sea floor.

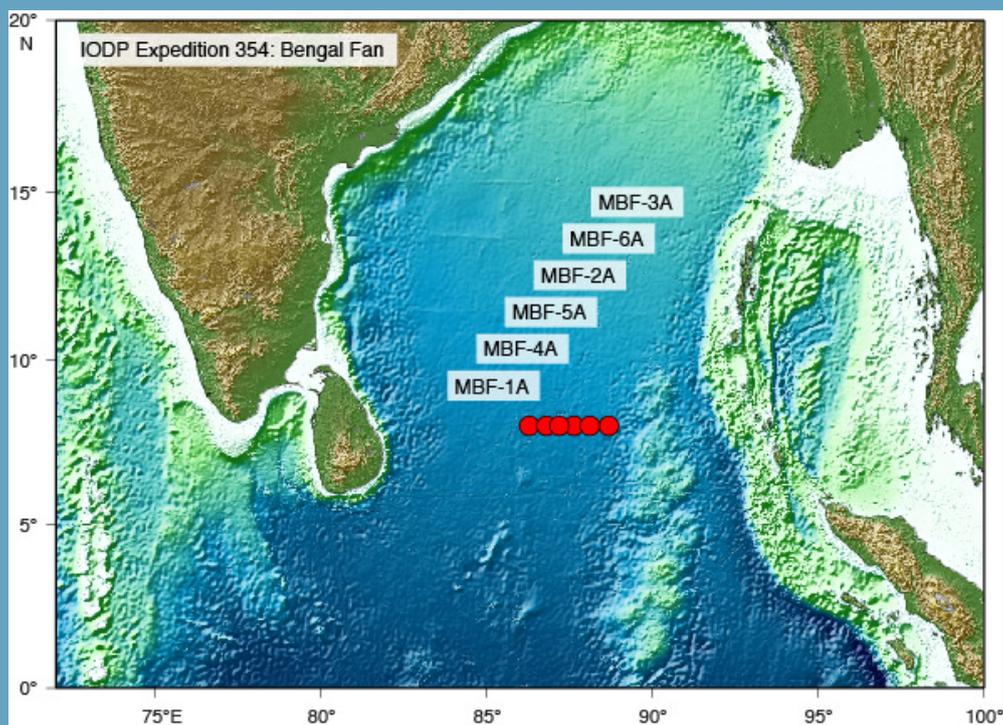
EXPEDITION 354: BENGAL FAN (April-May 2014)

Expedition Dates: 29 January to 31 March 2015

Application deadline: 15 January 2014

Full title: "Neogene and late Paleogene record of Himalayan orogeny and climate: a transect across the Middle Bengal Fan." This expedition is based on IODP Proposal 552-Full3 and will drill a transect of sites across the middle Bengal Fan to obtain a Neogene and late Paleogene record of Himalayan orogeny and climate. The objectives are to investigate interactions among the growth of the Himalaya and Tibet, the development of the Asian monsoon, and processes affecting the carbon cycle and global climate. Proposal 552 is to drill a transect of holes in the Bay of Bengal to address interactions among the growth of the Himalaya and Tibet, the development of the Asian monsoon, and processes affecting the carbon cycle and global climate. Because sedimentation in the Bengal Fan responds to both climate and tectonic processes, its terrigenous sediment records the past evolution of both the Himalaya and regional climate. The histories of the Himalaya/Tibetan system and the Asian monsoon require sampling different periods of time with different levels of precision. The design is of a transect of six holes in the fan at 8°N with two complementary objectives: (1) to study the early stages of Himalayan erosion and (2) to study the Neogene development of the Asian monsoon and its impact on sediment supply and flux. The holes will be in water depths of about 3600 m, and will continuously core 300 m to 1500 m below the sea bed.

One deep penetration site (1500 m) aims to document the early stages of Himalayan erosion, the India-Eurasia collision, and the development of the Himalaya and Tibet. The transect will constrain the Neogene development of the Asian monsoon, its impact on sediment supply and flux, and allow quantitative studies of the interrelations of climate change and sediment accumulation. Sediments obtained will document (1) uplift history through erosional flux and deposition patterns and detailed geochronology of minerals, (2) Himalayan evolution from isotopic tracing of particle origin and age, and (3) environmental and climate conditions through sediment granulometry, mineralogy and geochemistry, organic matter composition and oxygen isotopes of microfossils.



USIO JOIDES Resolution Expedition Schedule, 2014-2015

Expeditions	Exp #	Ports (start/end)	Dates ^{1,2}	Total Days (port/sea)	Days at sea (transit ³ /ops)	Co-Chief Scientists	USIO Contacts ⁴
Dry dock/Non-IODP			18 September- 26 January 2014				
South China Sea (CPP⁵)	3 4 9	Hong Kong/Keelung	26 January-30 March 2014	63 (3/60)	6/54	C-F. Li J. Jin	D. Kulhanek* T. Williams^
Izu Bonin Mariana: Reararc	3 5 0	Keelung/Yokohama	30 March-30 May 2014	61 (5/56)	4/52	Y. Tamura C. Busby	P. Blum* G. Guerin^
Izu Bonin Mariana: Arc Origins	3 5 1	Yokohama/Yokohama	30 May-30 July 2014	61 (5/56)	5/51	R. Arculus O. Ishizuka	K. Bogus* TBD^
Izu Bonin Mariana: Forearc	3 5 2	Yokohama/Keelung	30 July- 29 September 2014	61 (5/56)	7/49	J. Pearce M. Reagan	K. Petronotis* S. Morgan^
The following expeditions are contingent upon approval for operations of the JOIDES Resolution beyond September 30, 2014 and authorisation of funds for the operations by the National Science Board in November, 2013.							
Non-IODP		TBD	29 September-29 November 2014	61			
Indian Monsoon	3 5 3	Singapore/Singapore	29 November 2014-29 January 2015	61 (5/56)	7/49	TBD	L. Schneider
Bengal Fan	3 5 4	Singapore/Colombo	29 January- 31 March 2015	61 (5/56)	6/50	TBD	A. Klaus
Arabian Sea (CPP⁵)	3 5 5	Colombo/Mumbai	31 March-31 May 2015	61 (5/56)	5/51	TBD	D Kulhanek
Non-IODP		TBD	31 May-31 July 2015				
Indonesian Throughflow	3 5 6	Freemantle/Darwin	31 July- 30 September 2015	61 (5/56)	4/52	TBD	K. Bogus

¹ Dates for expeditions may be adjusted pending non-IODP activities.

² The start date reflects the initial port call day. The vessel will sail when ready.

³ Transit total is the estimated transit to and from port call and does not include transit between sites.

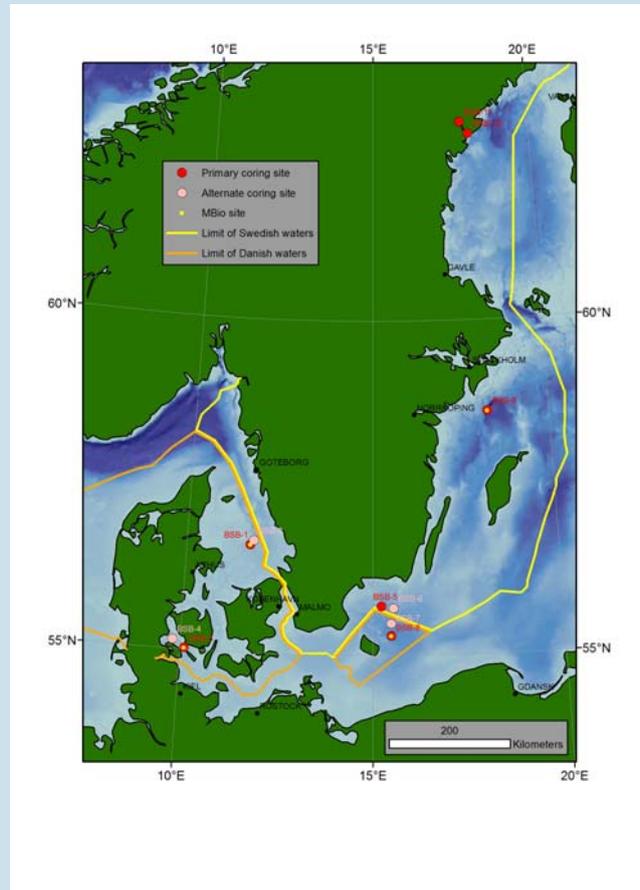
⁴ The USIO contact list includes both the Expedition Project Manager (*), the primary contact for the expedition, and the Logging Staff Scientist (^).

⁵ Complementary Project Proposal (CPP) is contingent on substantial financial contribution outside of normal IODP funding

AT SEA

EXPEDITION 347 BALTIC SEA PALEOENVIRONMENT

A fourth hole, Hole 63D, in the Landsort Deep is currently being drilled to secure a continuous stratigraphy and varve record of both the Holocene sequence and of the glacial clay. The Holocene sediment consists of a dark greenish-black gyttja-clay. At 19 mbsf the core included a transition over about half a meter from the black gyttja-clay to more greenish-greyish clay. Foraminifera were generally abundant both above and below this transition. Diatoms occur in the upper 25 mbsf while ostracods are infrequent. Low numbers of diatoms re-appeared in the depth interval of 29-34 mbsf.



Follow Expedition 347 at <http://www.eso.ecord.org/expeditions/347/daily.php>



Australia's new Marine National Facility, the RV *Investigator* is due to be delivered in Australia in January 2014, with a shakedown period conducted until 30th June 2014, when the Science Program is scheduled to commence in earnest.

In related news, if you are in the market for your very own Research Vessel do consider the lovely RV *Southern Surveyor* now for sale, by open tender.

<http://csirofrvblog.com/2013/10/04/australias-marine-national-facility-to-farewell-its-research-vessel-southern-surveyor/>