



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.

Wishing all our members and supporters a
A MERRY CHRISTMAS
AND A HAPPY NEW YEAR.



News from the ANZIC Office

This has been a busy year for ANZIC and we two in the ANZIC office have worked hard with ANZIC Chairman Geoff Garrett and those in the Governing Council and Science Committee to make sure it was a successful year. Among the highlights are:

- We have two new ANZIC members – the University of New England and the University of Auckland – and regret the departure of the University of Adelaide.
- Australian funding is in a strong position, largely because of the strength of the Australian dollar when we paid our annual memberships in \$US in the last few years. The strong support of ARC has been invaluable.
- Nine ANZIC scientists were on IODP expeditions: six on *JOIDES Resolution* and three on *Chikyu*.
- Thirteen Australian scientific teams were awarded funding of up to \$25,000 for post-cruise analytical work on ODP and IODP material.
- There was a successful IODP Symposium and a popular IODP-ICDP Booth at the International Geological Congress in Brisbane in August.
- ANZIC hosted a major Southwest Pacific IODP Workshop at Sydney University in October, with strong international and local participation. This should lead to some excellent new proposals for drilling from 2015.
- A high-quality proposal has been submitted for *JOIDES Resolution* drilling of the last 5 million years of section on the Northwest Shelf. The aims are to investigate the history of climate change, the influence of the Indonesian throughflow current, the initiation of coral reefs and the mantle tectonics.
- Preparations for ARC/LIEF funding from January 2014 for next round of IODP, led by Richard Arculus at ANU, are underway.
- We have initiated outreach activities through Questacon, in Canberra in conjunction with their 'Deep Oceans' exhibit throughout 2013.

We are very grateful to all those who have made their time available for ANZIC committee work, IODP international committee work, and the reviewing of applications to join expeditions and of funding proposals. Without these volunteers ANZIC could not have functioned.

Neville Exon and Catherine Beasley

CHIKYU + 10

International Workshop, Tokyo, 21-23 April 2013

This week, CDEX have launched a website for the CHIKYU +10 Workshop which finalises the themes and program for the event. ANZIC aims to select a contingent of senior specialists, by nomination, and younger scientists, by application, to represent the organisation in the themes announced. A selection committee drawn from the Governing Council and Science Committee will be identifying the ANZIC contingent early in the New Year.

If you are interested in participating in this Workshop or contributing to an ANZIC white paper please contact Program Scientist Neville Exon

Neville.exon@anu.edu.au

A Global Consultation on Marine Science Skills: Developing a Career Path for a New Generation of Marine Science Professionals

The Institute of Marine Engineering, Science & Technology, an international Professional Body and Learned Society, is undertaking a study to identify skills gaps as part of a review of the professional development needs within the marine science community. The results will be used to develop tools to fill these gaps and address these needs, working in conjunction with other marine science societies and associations, industry, governments and academia.

The information provided will be used to:

- Develop a Career Path Guidance document for Marine Scientists.
- Inform the IMarEST and other international and national Professional Bodies and Learned Societies of the professional development needs of their marine science members and the marine science community in general.
- Provide guidance to employers of Marine Scientists as to the professional development needs of their employees and those of Marine Scientists in general.
- Inform education providers of the current gaps identified by individuals and employers in order to assist them with planning.
- Establish, for example, methods of addressing any significant differences in responses from different sectors and countries.

To read the background document to the Consultation (recommended) please visit <http://www.imarest.org/Technical/TechnicalActivities/IMarESTMarineScienceSkillsandCPDSurvey.aspx>

To complete the survey(s) electronically please go to <http://surveys.imarest.org/> and click on the relevant link. The online survey will direct you to different questions depending on your stage of career which can be selected under a section on personal information. In addition, questions regarding employment sector, academic background, and current role are also asked.

- Respondents are more than welcome to complete both parts of the survey if desired.
- There is no obligation to answer all the questions contained within this document.
- All answers to this questionnaire will be unattributed and treated in the strictest confidence.
- No individuals, academic providers or company names will be mentioned within the final report.
- If you prefer to respond by email please contact technical@imarest.org
- The closing date for responses to this consultation is **31st December 2012**.

AT SEA

JOIDES Resolution

Expedition 345 has embarked from Puntarenas with University of Tasmania member, Trevor Falloon on board as an igneous petrologist. The ship is still in transit and will arrive on site by Friday 21st, just in time for Santa. I hope everyone wanted core for Christmas!

<http://joidesresolution.org/>



Follow the fun aboard JR on facebook

<https://www.facebook.com/joidesresolution?fref=ts>

DV Chikyu

From Lionel Estaban, aboard Exp 338

Let me give you a bit of news and how life/works is going on on board the Chikyu (Expedition 338-Nankai Through-NanTroSeize).

We embarked the Chikyu the 25th of November and met the Group A Science Party and did all the safety induction and a visit of the lab parts. We discussed during several days between the group A and B and co-chiefs about the data, methods of measurements and issues...etc. We also spent some time to train on each machine to be ready when cores will arrive.

As you are probably aware, the day before my arrival, the riser system had been damaged due to bad weather. So no possibility of continuing to deepen the borehole as planned. We are now obliged to core without it which is difficult with no way to drill very deep and no cuttings recoverable. We have troubles getting cores (so far 4 m) and the coring strategy is changing to adapt all of these stack of issues... So we are moving through different wells and are creating new ones.

The only cuttings recovered from the riser system by group A is currently running under my hand to measure dielectrics/conductivity to predict porosity, SSA, CEC, clay types and resistivity responses to help LWD corrections and interpretations. In particular, issues with the drilling mud. So I'm the only one having material to work with, and the loggers from the LWD acquisitions from a previous site. But the rhythm is very very... cool as you can imagine with no core coming...

Fortunately, the food is great (I need to be careful to not put some weight on). I'm going every day to the gym and of course, we all take some time to see the sunset in a very peaceful way.

To conclude, despite the numerous issues with coring, all is going well, the sea is kind with us and we are enjoying scientific cafe meetings around a coffee or tea with some delicatessen (chocolates...) brought by Santa Claus in advance !

All the best from the Chikyu

Lionel Estaban, CSIRO

The roots of an arc hydrothermal system – fluids, metals, and life

IODP rc Drilling Workshop, Lisbon, November 2012

A very successful workshop to begin the process of putting together an IODP proposal to drill the Brothers Caldera on the Kermadec Arc was held in Lisbon from 15th-17th November. It was attended by twenty-six people including from Australia: Richard Arculus (ANU) and Joanna Parr (CSIRO) and from NZ: Cornel de Ronde, Agnes Reyes, Fabio Caratori-Tontini and Christian Timm (all GNS Science).

With the primary objective of drilling into the roots of an island arc volcano-hosted hydrothermal system, it is hoped that the hole will drill deeper than the zone of seawater entrainment to recover evidence of magmatic fluids (composition etc) and help us gain insights into the co-evolution of magmatic and hydrothermal centres. However, the group recognised that drilling below the zone of phase separation was impractical, if impossible. Drilling will provide a detailed understanding of the architecture and evolution of a submarine arc volcano and allow us to explore the nature of the life forms colonizing the chemically and thermally, widely divergent sites in this hydrothermal active area.

Subduction rates along strike of the Kermadec Arc range from ~0 cm/a in the south to some of the fastest recorded, there are also decreasing subducted sediment loads northwards, and the docking of the Hikuarangi Oceanic Plateau occurs adjacent to the North Island of New Zealand and southern Kermadec Arc. Drilling Brothers could form part of a broader aim to tackle “arc systems”. One long term possibility is that this could be the first of a transect of holes across the arc, to examine arc systems as a whole and understand how the subduction processes vary across it. Importantly it can also provide us with an understanding of the system as a modern analogue of ancient deposits.

The group agreed that a combination of shallow and deep holes would provide the most comprehensive record. Important objectives for shallow drilling included: giving us critical data on the biosphere in the first 50m; gaining knowledge on the near surface hydrology and allowing mapping of discharge-recharge zones; and producing a heatflow map. They would also provide a continuous section through to the deeper holes. Deeper holes, whilst aiming to drill into the zone below seawater entrainment would also provide insights into the igneous history of the Brothers Caldera, in particular how the volcano formed.

To develop the full proposal and science plan for IODP, a number of activities will have to be undertaken including: surveying and sampling of target areas on the caldera wall (NW) and caldera floor (SE); gravity cores and push cores for baseline microbiology; a heat flow survey; and a CHIRP survey the caldera floor using AUV and multibeam. It's going to be a busy and exciting time!

Photo caption: a pre meeting trip to the Neves Corvo mine in the western Pyrite Belt gave some of the participants a good view of an ancient VMS deposit and brought to the fore some of the geological issues surrounding this style of mineralization.



**PhD Fellowships with the University of Florida Water Institute:
Impacts of Sea Level Change on Coastal Aquifers, Water Resources, and Ecosystems.**



This interdisciplinary program will provide 4 years of support (stipend, tuition, and health insurance) for PhD Fellows to work collaboratively to explore the effects of sea level change. Examples of individual projects could include studies to improve understanding of past sea level change, salt exchange between saline marine water and fresh groundwater, impacts from salt water intrusion on water supply and treatment, ecology of coastal environments, microbial ecology, chemical changes in coastal aquifers, or other topics related to the students' interests. The program is sponsored by the University of Florida, and administered by the UF Water Institute. Link: <http://waterinstitute.ufl.edu/WIGF/>

Postdoctoral Fellowships in the Earth, Environmental, and Ocean Sciences, Lamont-Doherty

Lamont-Doherty Earth Observatory of Columbia University invites applications for Postdoctoral fellowships in the fields of the earth, environmental or ocean sciences. Candidates should have recently completed their Ph.D. or should expect to complete their degree requirements by September, 2013. Researchers at the Observatory work to understand the dynamics of the earth's chemical, physical and biological systems, from the core to the upper atmosphere, including interactions with humankind. The principal selection criteria for Fellows are scientific excellence and a clearly expressed plan to investigate problems at the forefront of earth science.

Our scientists lead research in the fields of solid earth dynamics (e.g. seismology, geodesy, mantle dynamics, petrology/geochemistry, earthquake and rock mechanics, marine and continental tectonics/geology/geophysics), ocean and atmospheric dynamics (e.g. climate/paleoclimate, climate forecasting, physical/chemical oceanography) and life sciences (e.g. biological oceanography, biogeosciences, plant physiology, paleontology). Applications from all fields are encouraged.

The fellowships are supported institutionally for 21 months, include a \$5,000 research allowance, and carry an annual stipend of \$58,000. Successful candidates will be encouraged to apply for external funding and may be eligible for further internal awards and positions.

The deadline for completed applications for the Postdoctoral Fellowship is December 21, 2012. Award announcement will be in March, 2013.

Application forms should be completed online and submitted electronically - <http://www.ldeo.columbia.edu/postdocs>

For more information contact: The Office of the Director - Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY 10964

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9th International Symposium on the Cretaceous System
1-5 September, 2013
METU CONGRESS CENTER • ANKARA/TURKEY

MIDDLE EAST TECHNICAL UNIVERSITY

9th INTERNATIONAL SYMPOSIUM ON THE CRETACEOUS SYSTEM
1-5 SEPTEMBER 2013 METU CONGRESS CENTER ANKARA/TURKEY

CRETACEOUS 2013 CONFERENCE REGISTRATION IS NOW OPEN!

POSSIBLE SESSIONS



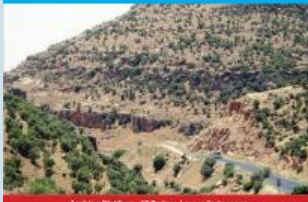
Black Platform, W Turkey, Hazretkaya/Battalan



Boysabul Lake on Lower Cretaceous carbonates, Tauride platform, SW Turkey

- Cretaceous Stratigraphy and Stage Boundaries
- International Sub-Commission: Meeting on stage boundaries
- Micropaleontology (foraminifera, algae, nannofossils, radiolaria, ostracoda and many others)
- Macropaleontology (rudists, ammonites, bivalves, gastropoda and many others)
- Palynology and paleobotany
- Vertebrate paleontology
- Palaeoecology, Faunal/floral extinctions/crisis
- Sedimentology and sedimentary processes
- Carbonate Platforms
- Sequence Stratigraphy and Cyclostratigraphy
- Event stratigraphy and K/T boundary
- Cretaceous Sclerochronology/Biominalization/Geomicrobiology
- Cretaceous Paleoclimates
- Cretaceous Paleocyanography and Oceanic Anoxic Events (OAE)
- Petroleum Occurrences in Cretaceous Basins of Turkey and adjacent areas
- Cretaceous Continental records and terrestrial processes
- Cretaceous sedimentary basins, paleogeography and tectonic evolution
- Geochemistry, isotopes and provenance
- Open sessions

POSSIBLE FIELD TRIPS*



Arabian Platform, SE Turkey, Lower Cretaceous



Tauride platform, SW Turkey, Seydişehir Koyu, Lower Cretaceous

- Tauride Carbonate Platform, South Western Turkey (Pre-Congress) (28-31 August, 4 days)
- Arabian Platform, South Eastern Turkey (Pre-Congress) (28-31 August, 4 days)
- Mudurnu-Göynük Basin (Central Pontides, Western Black Sea region of Turkey) (Post-Congress) (6-9 September, 4 days)
- Sinop-Boysabat Basin (Central Pontides, Western Black Sea region of Turkey) (Post-Congress) (6-9 September, 4 days)
- Zonguldak Basin (Western Pontides, Western Black region of Turkey) (Post-Congress) (6-9 September, 4 days)
- Haymana Basin (Central Turkey, Ankara region) (Mid-Congress) (03 September, 1 day)

*The registration fees for the Pre-Congress and Post Congress field trips will be announced at the beginning of January 2013



Mudurnu-Göynük basin, NW Turkey, Lake Cretaceous

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