

Australian Earth Sciences Convention Features Ocean Drilling



In July 2010, a selection of national and international speakers, industry leaders, key decision makers, and assorted geoscientists (650 in all) met in Canberra for the Australian Earth Sciences Convention. Australia and New Zealand (ANZIC) took this opportunity to showcase our past, current, and future IODP expeditions. The following papers, nearly all on preliminary expedition results, were given at an IODP symposium held on 7 July:

- **Kevin Welsh** (keynote speaker) – IODP 318 Cenozoic East Antarctic ice sheet evolution from Wilkes Land Margin sediments: preliminary results.
- **Neville Exon** – Australia's involvement in IODP: what it means for our scientists?
- **Bob Carter** – Preliminary results from IODP Expedition 317 (Canterbury Basin, New Zealand).
- **John Moreau** – Biogeochemical and geomicrobiological evidence for an ultra-deep anaerobic methane oxidation zone in the Nankai Trough seafloor.
- **Kelsie Dadd** – IODP Expedition 323 in the Bering Sea: environmental change over 5 million years recorded in deep-sea sediment.
- **Christian Ohneiser** – Magnetostratigraphic records from Eocene-Miocene sediments cored in the equatorial Pacific: initial results from the Pacific Equatorial Age Transect (PEAT), IODP Expeditions 320/321.
- **David Murphy** – Sr, Nd, and Pb isotope data from the Shirshov Massif of the Shatsky Rise, north-west Pacific.
- **Simon George** – Geochemistry from the Cante

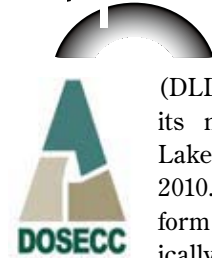
Many scientists (average of 40–50) attended these talks, which were followed by a number of visits to the IODP exhibition booth. There they asked a

range of questions regarding applications for shipboard positions, the science, the life on board ship, and general information about the membership and organization of IODP. ANZIC brochures, *Scientific Drilling* journal, and expedition fact sheets were displayed and distributed. Video presentations, especially those on the Wilkes Land expedition, generated interest.

Please note that there will be an IODP symposium at the 34th International Geological Congress in Brisbane, which is scheduled for 2–10 August 2012. The emphasis is likely to be on the Southern Hemisphere Oceans.

New Drilling Platform Expands Climate Studies in Lakes

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DOSECC's Deep Lake Drilling System (DLDS) platform made its maiden voyage on Lake Van, Turkey in July 2010. The DLDS platform is designed specifically for deep lake drilling and will enable researchers to sample previously inaccessible deep lake sediments. The DLDS platform consists of two main parts: the drilling rig and associated equipment, and the barge itself. The drilling rig is an Atlas Copco T3WDH rig, a top-head-drive rotary rig designed for water well and oil and gas drilling. DOSECC has made extensive modifications to the rig to turn it into a deep coring rig. The DLDS is designed to drill to 1400 m.

The drilling barge, made by Damen in the Netherlands, is a modular system which enables easy shipping any-



where in the world. It is constructed with six separate containers connected in a two-by-three configuration with a moon pool built into one of the modules. The barge is 24.4 m long by 7.3 m wide. Along with the drilling rig, pipe, mud tanks, and associated supplies, the platform also accommodates a science lab and a driller's shack. The science lab is used for on-board sampling from the core catcher and for labeling and orienting the core samples. During the drilling crew shift change, the cores are transported to shore for additional sampling and testing. Four separate winches and anchors with 2 km of cable each keep the barge on station.

In early August, DOSECC operated the barge in Lake Van at a water depth of 360 m. The deepest hole planned for the Lake Van project is 250 m below the lake floor. Upcoming projects for the DLDS include the Dead Sea in Israel and Lake Ohrid in Macedonia. The system will then return to the U.S. following the Lake Ohrid project.

IODP/ECORD - Canada 2010 Summer School: A Great Success



The summer school by ECORD/IODP-Canada was a great success from 27 June to 12

July. Nineteen students and post-doctoral fellows from Canada, France, Germany, Serbia, Portugal, the U.K, and the U.S.A. participated in a two-week intensive training in marine geology and paleoceanography. Participants had sailing and sampling experience on board the R/V *Coriolis II* in the St. Lawrence Estuary and Saguenay Fjord; on board they acquired theoretical and practical knowledge on cutting-edge techniques for sampling and analyzing geological and geophysical data. Courses, lectures, practical exercises, and laboratory visits were offered at Université du Québec à Rimouski (UQAR), the Institut national de la recherche scientifique - Centre - Eau Terre



The participants during a field trip at the Parc national du Bic. Photo by H. Gaonac'h

Environnement (INRS-EETE), and the Université du Québec à Montréal (UQAM), in addition to field trips in Gaspesia and St. Lawrence Lowlands giving students an extensive scientific portrait of paleoceanography and paleoclimatology in polar and sub-polar environments. This summer school was possible thanks to an impressive group of scientists sharing their knowledge with participants. More than a dozen researchers from ECORD countries actively involved in IODP activities presented the most recent state-of-the-art theories and practices in high latitude geophysics, geochemistry, paleontology, geomorphology, oceanography, sedimentology, sea-ice modeling, and gas hydrates. Speakers included: Hans Asnong, Anne de Vernal, Claude Hillaire-Marcel, and Taoufik Radi (UQAM, Canada), Gilles Bellefleur (GSC-Ottawa, Canada), Xavier Crosta, and Frédérique Eynaud (Université Bordeaux I, France), Mathieu Duchesne (GSC-Québec, Canada), Pierre Francus (INRS-EETE, Canada), Martin Frank (IFM-GEOMAR, Germany), Yves Gélinas (Concordia University, Canada), Joël Guiot and Guillaume Massé (CNRS, France), Patrick Lajeunesse (Université Laval, Canada), Jean-François Lemieux (New York University, U.S.A.), Matt O'Regan (Cardiff University, U.K.), Joseph Ortiz (Kent State University, U.S.A.), Frank Rack (University of Nebraska-Lincoln, U.S.A.), André Rochon, Guillaume St-Onge, and Bjorn Sundby (UQAR, Canada), Ruediger Stein (AWI, Germany).

IODP-Canada is grateful to the many institutions which sponsored this summer school: the GEOTOP

Research Center, the Institut des sciences de la mer de Rimouski (ISMER), INRS-EETE, UQAM, the Canadian Consortium for Ocean Drilling (CCOD), the European Consortium for Ocean Research Drilling (ECORD), and the MobilUQ program of the Université du Québec. For more details on the 2010 IODP/ECORD-Canada Summer School, please contact the IODP-Canada office, e-mail: coordinator@mail.iodpcanada.ca.

IODP/ICDP Canada Booth at GeoCanada 2010



IODP-Canada and ICDP-Canada organized a booth at the most recent GeoCanada 2010 meeting in Calgary, Alberta. Many visitors came to the booth open on 10–12 May 2010. GeoCanada 2010 was sponsored by several Canadian associations, notably the Geological Association of Canada (GAC) and the Mineralogical Association of Canada (MAC). The information provided at the booth included the list of recent and current drilling expeditions coordinated by IODP in oceanic environments and by ICDP on continents; it also included the various targeted scientific issues such as past climate change, the geology and geophysics of oceanic and continental crusts, the bottom of the ocean biosphere, available resources such as gas hydrates, triggers in active seismic zones, etc. IODP summer schools organized for summer 2010 were also announced. Students and researchers present at the booth came from the University of Alberta in Edmonton, the Université du Québec à Montréal, and the University of Toronto. This successful activity was part of the IODP and ICDP Canada programs to better promote IODP and ICDP activities in Canada. More information on their homepage: <http://www.iodpcanada.ca/>, for questions contact: coordinator@mail.iodpcanada.ca.

Solution for Riser Drilling in Strong Current



CDEX
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In the NantroSEIZE drilling area, the very strong “Kuroshio Current” exists. When a riser is deployed in such a current, Vortex Induced Vibration (VIV) of the riser occurs. VIV is a cross-flow vibration of a circular cylinder placed in a current. Long term VIV will cause fatigue fractures of the riser.

In order to suppress VIV of the riser, JAMSTEC decided to apply a riser fairing device, which is one possible way to suppress VIV. The shape of the fairing is like a fin, and a current against the riser is redirected so that vortex shedding behind the riser is reduced. The fairing also rotates freely about the riser and aligns with direction of the current passively. In this way, VIV is suppressed.

In IODP Expedition 319, the D/V *Chikyu*'s first riser drilling in NantroSEIZE was carried out. Attached to upper riser joints were 132 sets of fairings. Though the duration of strong currents over 2.5 knots was only about 20 hours in this operation, it was confirmed that VIV of the riser was suppressed sufficiently.

In future NantroSEIZE operations, the riser will be exposed to stronger currents for longer periods. The fairing will be essential for the suppression of VIV and the success of NantroSEIZE.

