

FALL
2012

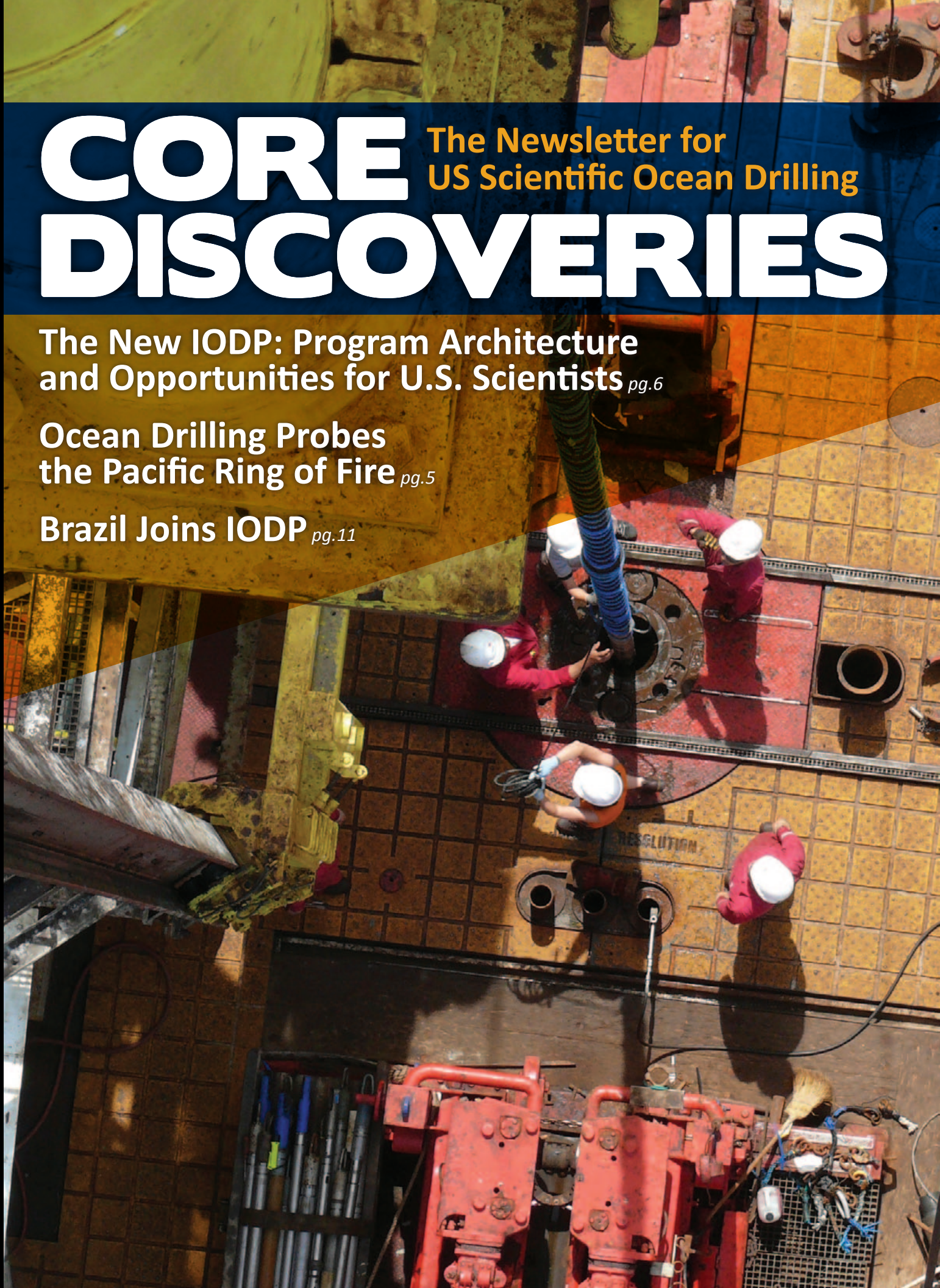
CORE DISCOVERIES

The Newsletter for
US Scientific Ocean Drilling

The New IODP: Program Architecture
and Opportunities for U.S. Scientists *pg.6*

Ocean Drilling Probes
the Pacific Ring of Fire *pg.5*

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On the cover: Looking down from the drill crown, crewmembers work on the drill floor of the JOIDES Resolution during Expedition 340 (Lesser Antilles Volcanism and Landslides).

The Integrated Ocean Drilling Program (IODP) is an international research program dedicated to advancing scientific understanding of the Earth through drilling, coring, and monitoring the seafloor. The U.S. Science Support Program (USSSP) supports the involvement of the U.S. scientific community in IODP and is funded by the National Science Foundation (NSF). The *JOIDES Resolution* is a scientific research vessel managed by the U.S. Implementing Organization of IODP (USIO). Together, Texas A&M University, Lamont-Doherty Earth Observatory of Columbia University, and the Consortium for Ocean Leadership comprise the USIO. IODP is supported by two lead agencies: the U.S. NSF and Japan's Ministry of Education, Culture, Sports, Science, and Technology (MEXT). Additional program support comes from the European Consortium for Ocean Research Drilling (ECORD), the Australia-New Zealand IODP Consortium (ANZIC), India's Ministry of Earth Sciences, the People's Republic of China (Ministry of Science and Technology), and the Korea Institute of Geoscience and Mineral Resources.

To contact the editor or subscribe to *Core Discoveries*, contact:
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For more information about IODP, visit: www.iodp.org

For more information about USIO and USSSP, visit:
www.oceanleadership.org/programs-and-partnerships/



UPCOMING EVENTS/MEETINGS/WORKSHOPS

American Geophysical Union Fall Meeting

December 3-7, 2012
 San Francisco, California

<http://fallmeeting.agu.org/2012/>

IODP Opportunities in GeoPRISMS Subduction Studies

December 6, 2012
 San Francisco, California

www.geoprisms.org/agu-mini-workshops.html

U.S. Advisory Committee for Scientific Ocean Drilling Meeting

January 28-30, 2013
 Gainesville, Florida

<http://iodp-ussp.org/committees/usac/>

JOIDES Resolution Facility Board Meeting

March 18-21, 2013
 Washington, DC

<http://iodp-ussp.org/committees/jrfb/>

Exploring the Cretaceous Greenhouse through Scientific Drilling

April 15-17, 2013
 London, United Kingdom

<http://iodp-ussp.org/workshop/cretaceous/>

Chikyu +10 Workshop

April 21-23, 2013
 Tokyo, Japan

www.iodp.org/chikyu-plus-ten

Upcoming SAS Meetings

Proposal Evaluation Panel

December 11-12, 2012
 Kyoto, Japan

Science Implementation and Policy Committee

January 22-23, 2013
 London, United Kingdom

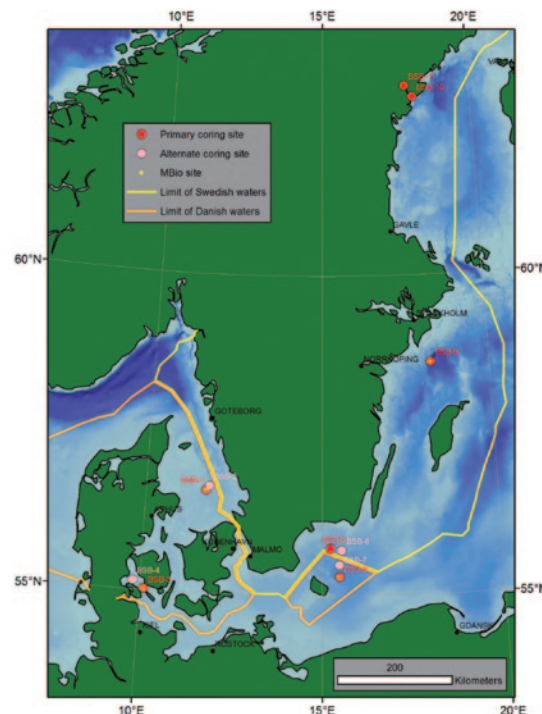
EXPEDITION UPDATES

Baltic Sea Paleoenvironment Expedition Slated for Spring/Summer 2013

The Baltic Sea Basin, bounded by the Scandinavian Peninsula and mainland Europe, was the stage for repeated advances and retreats of the Scandinavian Ice Sheet during the Pleistocene. This glacial scouring not only created the basin, but also resulted in high rates of sedimentation and dramatic shifts in sedimentation patterns. The result is a remarkably detailed record of climatic and environmental conditions for this region – an important piece in the puzzle of global climate history.

Expedition 347 (Baltic Sea Paleoenvironment) will target seven primary sites throughout the Baltic Sea, from the south near Denmark to the Ångermanälven River estuary in the far north of Sweden. The expedition's objectives include a focus on the Scandinavian Ice Sheet, particularly during the Weichselian glacial period between 100,000 and 20,000 years ago. A key question is whether cyclic advances and retreats of the ice helped to drive climatic shifts, or were merely responses to such changes. Other goals include tracking the response of seafloor microbial communities to these cycles, as well as a detailed look at climate changes over the past 20,000 years, prior to human industrial influence.

Co-chiefs Thomas Andrén (Södertörn University, Sweden) and Bo Barker Jørgensen (Aarhus University, Denmark) will join Expedition Project Manager Carol Cotterill (ECORD Science Operator, British Geological Survey). Staffing is still underway; the offshore phase of the expedition is slated to start in mid-May or early June 2013 and will last for 60 days.

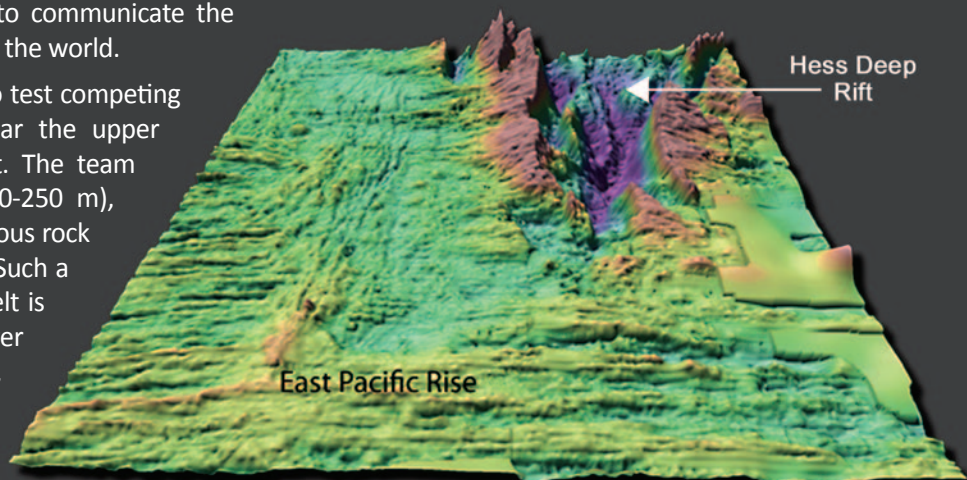


JOIDES Resolution to Revisit Hess Deep this Winter

In the eastern Pacific near the Galapagos Islands, the complex tectonic activity of the Pacific, Cocos and Nazca Plates has created a large, craggy underwater rift valley known as Hess Deep. Here, the layers of the ocean's crust have been peeled away relatively quickly, like an onion sliced in half and pulled apart, revealing young layers of deep plutonic crust that are difficult to access anywhere else.

This December, Expedition 345 (Hess Deep Plutonic Crust) will return to Hess Deep almost exactly 20 years after the *JOIDES Resolution* first drilled there on Ocean Drilling Program (ODP) Leg 147. Co-Chiefs Kathryn Gillis (University of Victoria, Canada) and Jonathan Snow (University of Houston) will lead a team of 30 scientists hailing from 10 different countries. Three Education Officers will join the team as well, helping to communicate the science of the expedition to audiences around the world.

Hess Deep provides the best opportunity to test competing hypotheses about how magma gathers near the upper mantle to form fast-spreading oceanic crust. The team will work to retrieve at least one long (100-250 m), relatively continuous section of gabbro – igneous rock formed when magma cools within the crust. Such a core section should hold clues about how melt is transported from the mantle through the lower crust, how and why gabbroic layering occurs, and how heat is lost from deeper crustal layers.



EDUCATION & DIVERSITY NEWS

Deep Earth Academy Debuts Educator-Focused Pre-Expedition Webinars

Deep Earth Academy held the first two in a new series of pre-expedition webinars geared to enhance the involvement of on-shore educators. The first webinar took place on October 3, covering the science and education goals of Expedition 344 (Costa Rica Seismogenesis Project A, Stage 2). The second, covering Expedition 345 (Hess Deep Plutonic Crust), happened on November 20. Similar free webinars will occur roughly three weeks prior to each expedition's start date, enabling educators to ask questions and informing them how to connect through social media and live video events. Keep an eye on the *JOIDES Resolution* Facebook page (www.facebook.com/joidesresolution) for announcements of upcoming webinars.

"Mini *JOIDES Resolution*" Program in Monterey Bay a Success

On October 25, Ivano Aiello (Moss Landing Marine Laboratory) led a "Mini *JOIDES Resolution*" program on board the *R/V Point Sur* in Monterey Bay, California. The program, partially funded by a small grant from Deep Earth Academy, enabled 16 sixth graders to take small core samples and learn about the kind of work scientists do on the *JOIDES Resolution*, despite the difficulty of bringing significant numbers of American students to the ship itself. During the three-hour cruise, students watched a multi-corer tool descend to the seafloor at three different sites and then described the sediment samples it brought up. Students also toured the vessel and recorded data on location and water depth throughout the cruise. This program will serve as a pilot for using research vessels to introduce marine geology to students and educators during short periods of downtime.

Photo right: Ivano Aiello (top left, Moss Landing Marine Laboratory) encourages students to get their hands dirty on board the R/V Point Sur during the "Mini JOIDES Resolution" Program.



IODP Attends SACNAS Conference in Seattle

As part of IODP's commitment to engaging diverse audiences in the geosciences, program representatives hosted an exhibit booth at the National Conference of the Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) in Seattle, WA, October 11-13. The event drew more than 3,500 students and researchers from a multitude of backgrounds to discuss science, technology and diversity. Staff and volunteers at the booth talked with hundreds of attendees about exciting, cutting-edge IODP science and the many opportunities IODP holds for the next generation of scientists, such as Schlanger Fellowships, opportunities to sail and conducting research using IODP data and samples.

Photo left: Elizabeth Padilla (left, U. of Tennessee, Knoxville) and Leonard Pace (right, NSF) discuss IODP science with an attendee at the SACNAS Conference, October 11-13, in Seattle.

RESEARCH HIGHLIGHT

Scientific Ocean Drilling Probes the Pacific Ring of Fire

By Hazel Tesoro, USIO Diversity Intern, Summer 2012

A large part of the world's population lives near a subduction zone, where one tectonic plate plunges beneath another. One only has to glance at a map of the Pacific "Ring of Fire" to see the large number of populated coastal cities near these seismic areas, which generate some of the world's largest and deadliest earthquakes, volcanic eruptions, and tsunamis.

On March 11, 2011, Japan was struck by the magnitude 9.0 Tohoku earthquake and tsunami. The fault between the overlying North American plate and the subducting Pacific plate moved more than 50 meters. The disaster wreaked havoc on the northeastern coast of Japan, claiming more than 13,000 lives and causing tens of billions of dollars (U.S.) worth of damage.

Scientific ocean drilling holds unmatched potential to study subduction zone faults and the mechanisms that cause large earthquakes. Recognizing this, IODP moved quickly in the wake of the Tohoku disaster to plan and execute Expedition 343 (Japan Trench Fast Drilling Project), also known as JFAST. The expedition set sail on April 1, 2012 – almost exactly a year after the disaster – and succeeded in drilling down to the fault zone. A followup expedition (343T) in July successfully installed a long-term temperature observatory.

JFAST is but one project among many studying large subduction zones. The Nankai Trough Seismogenic Zone Experiment (NanTroSEIZE) is a staged, multi-expedition project, started in 2007 with Expedition 314. It is focused on the Nankai subduction system where the Philippine Sea plate sinks beneath the Eurasian plate near Japan's southwestern coast. The study area, near the Kii Peninsula, was chosen based on data from historically large earthquakes – particularly the magnitude 8.0 Tonankai event in 1944.

The Nankai Trough is a prime example of an accretionary margin, in which the overriding plate grows as sediment trapped between the two converging plates becomes compacted and deformed. The resulting rock formation, called an accretionary prism, could be a site for shallower fault slips that can cause tsunamis.

On the other side of the Pacific, the Costa Rica Seismogenesis Project (CRISP) is another multi-expedition project; stage one (Expedition 334) concluded in March 2011. The study site, a small section of the Middle America trench, is located near Costa Rica's Osa Peninsula. It is an excellent example of an erosive margin, where the subducting Cocos plate scrapes huge amounts of sediment from the overlying Caribbean plate and drags it into the subduction channel below. As a result, the overriding plate shrinks and subsides rather than grows. The description of this margin type is relatively recent; scientists originally thought that most convergent margins were accretionary, like the Nankai trough.

This fall, both the *Chikyu* and the *JOIDES Resolution* are simultaneously underway on the latest stages of NanTroSEIZE (Expedition 338) and CRISP 2 (Expedition 344), respectively. Next summer, the *JOIDES Resolution* will return to the Ring of Fire during Expedition 341 (Southern Alaska Margin Tectonics, Climate and Sedimentation), which, as the name implies, will have a strong tectonics component.

With these continuous efforts, IODP scientists aim to gain a more complete understanding of seismogenesis, in the hope that society can be better prepared for catastrophes like Tohoku. Although scientific drilling represents only one research strategy, it provides the best – and in some cases, the only – way to directly investigate what is happening deep beneath the surface within fault zones.



THE NEW INTERNATIONAL OCEAN DISCOVERY PROGRAM

Program Architecture and Opportunities for US Scientists

The International Ocean Discovery Program – the next phase of scientific ocean drilling – begins in less than a year. To address the scientific challenges ahead, the Integrated Ocean Drilling Program’s scientific leadership, platform operators and 25 international partners have worked together to design a new management structure and business model that builds on the strengths and scientific achievements of predecessor programs. The new program will stay faithful to both the multi-platform capabilities and transformative science goals called for in the *2013-2023 IODP Science Plan*.

The largest change to the management structure is a result of the new funding model. The three platform providers – NSF, MEXT and ECORD – will independently fund the *JOIDES Resolution*, *Chikyu* and Mission Specific Platforms, respectively. This will give each operator the flexibility to efficiently manage each platform in response to community needs and their unique financial constraints. Consequently, a newly created *JOIDES Resolution* Facility Board will be responsible for annual scheduling and long-term planning for the *JOIDES Resolution*. Independent facility boards will oversee *Chikyu* and Mission Specific Platform operations as well. More detail on these new facility boards is included later in this article.

While this change in management structure is significant, you – as a member of the U.S. scientific community – will see little change in how you participate in the program. You will continue to have access to berths on the *JOIDES Resolution*, *Chikyu* and Mission Specific Platforms. You will be able to request samples from all three repositories and will maintain access to data from all platforms. Your involvement in the new program’s advisory panels, including the new *JOIDES Resolution* Facility Board, will be crucial to achieving the program’s science goals.

The Science Community and Advisory Panels

As has been the case throughout the history of scientific ocean drilling, your proposals will drive the new program. The international scientific community will evaluate and prioritize these proposals for implementation. At the heart of the proposal review system is the Proposal Evaluation Panel (PEP), which will conduct business in much the same way it does now. A Site Characterization Panel (SCP) and Environmental Protection and Safety Panel (EPSP) will provide critical support to the PEP review process. A small support office will coordinate this international advisory system and will manage drilling proposals for all platforms. The office will also provide logistical support to the IODP Forum (see below), oversee the Site Survey Data Bank and maintain the IODP website. In addition, the platform operators may convene

additional technical and engineering panels or consult other experts to address their specific needs.

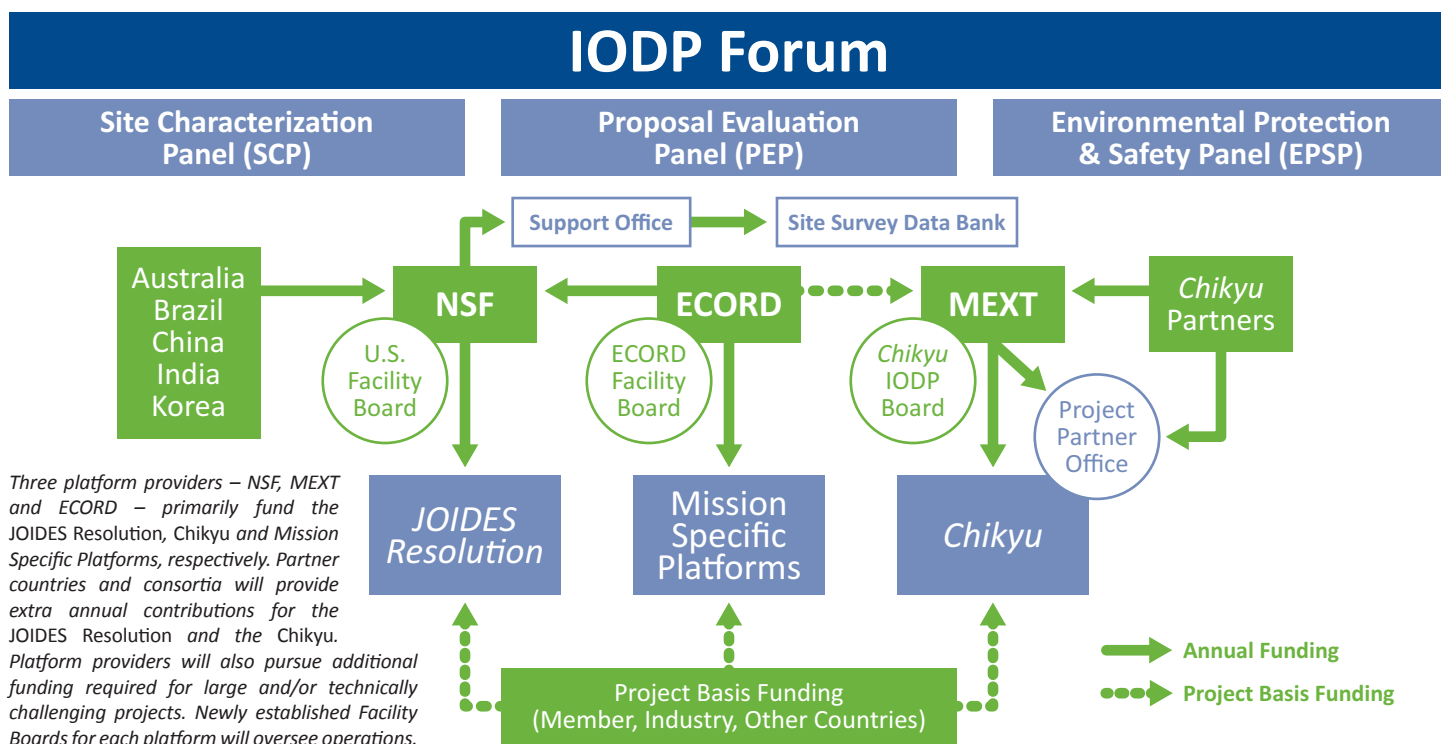
Program member offices will continue to facilitate shipboard participation, advisory committee membership, workshop funding and education and outreach for their country or consortia. The current U.S. Science Support Program (USSSP) at the Consortium for Ocean Leadership will provide support for U.S. scientists through the first year of the new program; NSF will soon initiate a competitive proposal process to select the U.S. program member office awardee for the following five years.

Facility Boards

In the new IODP, three newly established Facility Boards will be responsible for the effective delivery of each facility's

continued on page 8...

PROGRAM ARCHITECTURE OF THE NEW IODP



Solicitations (www.nsf.gov):

IODP Support Office NSF 12-611 (full proposal deadline January 22, 2013)

JOIDES Resolution Operations NSF-612 (full proposal deadline January 22, 2013)

U.S. Program Member Office (expected deadline late FY2013)

Participate in the New Structure (iodp-ussp.org/committees/jrjb/):

JOIDES Resolution Facility Board Members (deadline January 4, 2013)

JOIDES Resolution Facility Board Chair (deadline January 4, 2013)

IODP Forum Chair (expected deadline late January 2013)

continued from page 7...

contribution to program, in line with the goals established in the *2013-2023 IODP Science Plan*. The *JOIDES Resolution* Facility Board will oversee the operations of the *JOIDES Resolution*, including scheduling expeditions, approving program plans, monitoring the advisory panels to ensure efficient and effective review of drilling proposals and developing and monitoring policies for data collection, publications and core curation.

Five leading members of the international scientific community will form the core of the *JOIDES Resolution* Facility Board, with an accomplished U.S. scientist serving as chair. The Board will also include representatives from contributing funding agencies and from the *JOIDES Resolution* platform operator. All other major entities in the program will participate as liaisons (e.g., PEP Chair, IODP Forum Chair) or as observers (e.g., program member office representatives).

IODP Forum

The IODP Forum will provide a venue for all IODP entities to exchange ideas and views on the scientific progress of the new program. It will monitor overarching issues and cross-platform concerns, such as the effectiveness of long-term and regional planning strategies developed by the three Facility Boards. The IODP Forum may make recommendations to help guide future scheduling decisions and can also provide assistance, when requested by the Facility Boards, in areas such as the standardization of reporting efforts, core curation, planning and scoping of major projects and fostering synergistic collaborations. Membership will consist of representatives from each program entity, including community scientists from member countries and consortia, funding agencies, implementing organizations and program member offices. The IODP Forum will also include liaisons from other large science programs and potential new members.

Implementation

The major elements of the new program architecture – including the IODP Forum, the facility boards and the support office – will be put into place over the next six months to ensure a smooth transfer of responsibilities without a gap in operations or functionality (see box).

While managing and coordinating a large-scale international scientific collaboration such as IODP can present significant challenges, the IODP funding agencies believe that this new program architecture will provide a solid, sustainable footing for the next decade of scientific ocean drilling. We look forward to working with the community to achieve the goals in the *2013-2023 IODP Science Plan*.

For further information regarding the architecture of the International Ocean Discovery Program, please see iodp.org/new-program or contact Thomas Janecek (Program Director, Ocean Drilling Programs, Division of Ocean Sciences, U.S. National Science Foundation) at tjanecek@nsf.gov or 703-292-5393.



ERIC FERRÉ

After more than twenty years of studying gabbroic intrusions around the world, Eric Ferré began packing for fieldwork that would be unlike any other in his career. He was heading to sea.

Ferré is a structural geologist and paleomagnetist at Southern Illinois University Carbondale, where he took root after studying in France and working in Nigeria and South Africa. Along his journey, colleagues had often spoken enthusiastically about the ocean drilling programs. But it wasn't until Expedition 335 (Superfast Spreading Rate Crust 4), which set sail in early 2011, that he considered calling the *JOIDES Resolution* home for two months.

Ferré applied to sail because he saw a match between the expedition's objectives and his interests in gabbroic fabrics, which he had previously studied in the Bushveld, Great Dyke, Stillwater, Duluth and Karoo continental igneous complexes.

Reflecting on the expedition, Ferré said that sailing was a fantastic adventure and a transformative experience. "Fieldwork on land is easier," he explains, "but you are going to end up working alone or with one or two collaborators." The very nature of IODP widens one's approach to a multidisciplinary view from the onset of a project.

Since returning home, Ferré has continued working with colleagues he met on the ship, which has led to new avenues of research beyond the expedition objectives. For scientists at small institutions, he says that sailing can "open a world of opportunities," because "the willingness to collaborate within the IODP community is remarkable."

Ferré's graduate student Sarah Friedman is sailing on Expedition 345 (Hess Deep) this winter. When asked if he would sail again, Ferré replied "absolutely!"

LETTER FROM THE USIO

Dear Colleagues,

Hard as it is to believe, less than a year remains in the Integrated Ocean Drilling Program. On October 1, 2013, the program will yield the stage to the next phase, the International Ocean Discovery Program. A lot of hard work has gone into managing this transition, and much work still remains. Yet, as we look back at the past nine years – which established a uniquely successful model for large-scale international collaboration in the geosciences – there is much to celebrate. Work done on board all three major platforms, including the *JOIDES Resolution*, has yielded groundbreaking scientific results far beyond expectations.

As we enter into the final year of the Integrated Ocean Drilling Program, I am pleased to say that we have recently delivered on an outside contract agreement to utilize the *JOIDES Resolution* for non-IODP work during a time when she would normally have been tied up. This agreement is very important, because it clearly demonstrates that the ship can accomplish this type of outside work. It also resulted in a significant cost savings for the program and for NSF, without compromising the ship's ability to deliver on its normal scientific expedition schedule.

For her final four expeditions of the Integrated Ocean Drilling Program, the *JOIDES Resolution* will move across the Northern Pacific. The ship is currently underway on Expedition 344 (Costa Rica Seismogenesis Project A, Stage 2), near the Pacific coast of Central America. The team is continuing work begun on the first CRISP expedition, investigating the source of earthquakes near this highly populated region. In mid-December, the ship will head southwest, stopping several hundred miles off the coast of South America for Expedition 345 (Hess Deep Plutonic Crust). Here, the science party and technical crew will endeavor to sample some of the youngest crustal rocks within range of current drilling technology.

Next spring, the *JOIDES Resolution* will sail to the Gulf of Alaska for Expedition 341 (Southern Alaska Margin Tectonics, Climate and Sedimentation). As the name implies, the goals of this expedition are many-faceted and will look at the tectonic response to climate changes in an active orogenic system. From there, the ship will complete her Northern Pacific tour in the Japan Sea, with Expedition 346 (Asian Monsoon). This expedition will investigate how and why the current pattern of seasonal monsoons developed and how past changes to the Japan Sea might be related.

There are exciting times ahead for scientific ocean drilling. The USIO looks forward to working with all of you in the following year – and beyond.

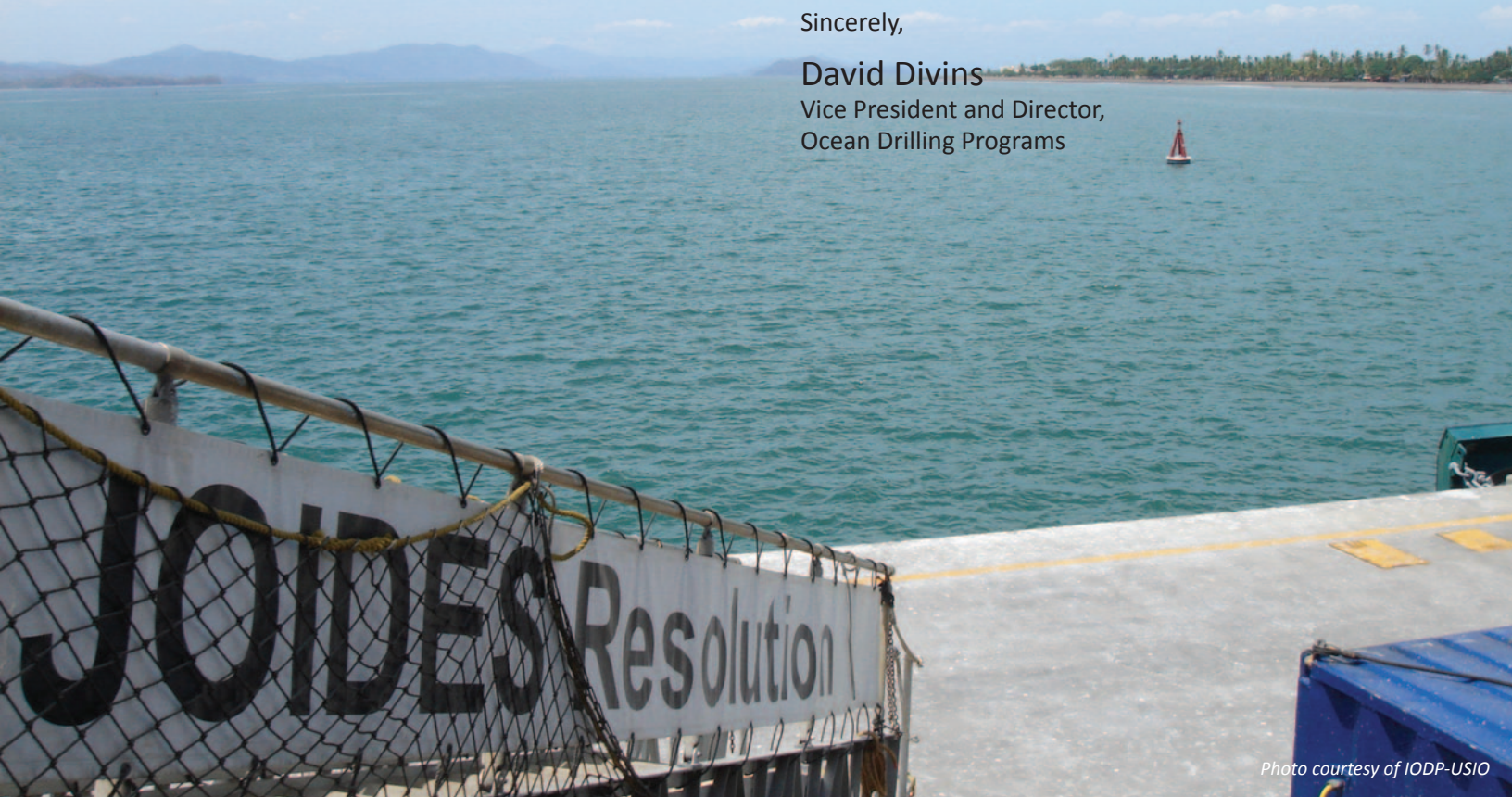
Sincerely,

David Divins

Vice President and Director,
Ocean Drilling Programs



David Divins



LETTER FROM THE USAC CHAIR



Dear Colleagues,

The International Ocean Discovery Program will start in October 2013, and the excitement and energy of the new program is already being felt around the world. Expeditions will take place this coming year on all three platforms, applications are being accepted for membership on the new *JOIDES Resolution* Facility Board, and Brazil has joined IODP – expanding current membership to twenty-six countries on five continents.

As we look forward to the year ahead, the new program framework will transition into place (see page 6) and the first expeditions – three of which are expected to investigate the genesis of continental crust in the Izu-Bonin-Mariana convergent margin – will begin accepting applications for their science parties.

The new program will also include new opportunities for leadership from the community. The *JOIDES Resolution* Facility Board and the IODP Forum will need thoughtful and experienced members at their helm. Their chairs will oversee critical program elements that will keep the science and management in IODP strong and our concerns and research priorities at the forefront.

Regarding the *Chikyu*, JAMSTEC and IODP-MI will hold an important planning workshop, called *Chikyu +10*, in April to engage the international community in discussions about future expeditions and long-range operations. ECORD is also populating its Facility Board with international representation, recruiting new countries for membership, and planning expeditions using Mission Specific Platforms.

Whether you are new to the program or a seasoned ocean drilling scientist, you may have questions about the new IODP. At the AGU Fall Meeting, you can visit the Consortium for Ocean Leadership booth in the exhibit hall and attend the IODP Town Hall Meeting (December 4th) for more information. I am also attending the meeting and look forward to discussing the year ahead with you.

All the best,

Anthony Koppers

Chair, U.S. Advisory Committee
for Scientific Ocean Drilling

USAC MEMBERS

Anthony Koppers (Chair)

Oregon State University

Ivano Aiello

Moss Landing Marine Laboratories

Gail Christeson

University of Texas at Austin

Gerald Dickens

Rice University

John Jaeger

University of Florida

Heath Mills

Texas A&M University

J. Casey Moore

University of California, Santa Cruz

Richard Norris

University of California, San Diego

Beth Orcutt

Bigelow Laboratory for Ocean Sciences

Yair Rosenthal

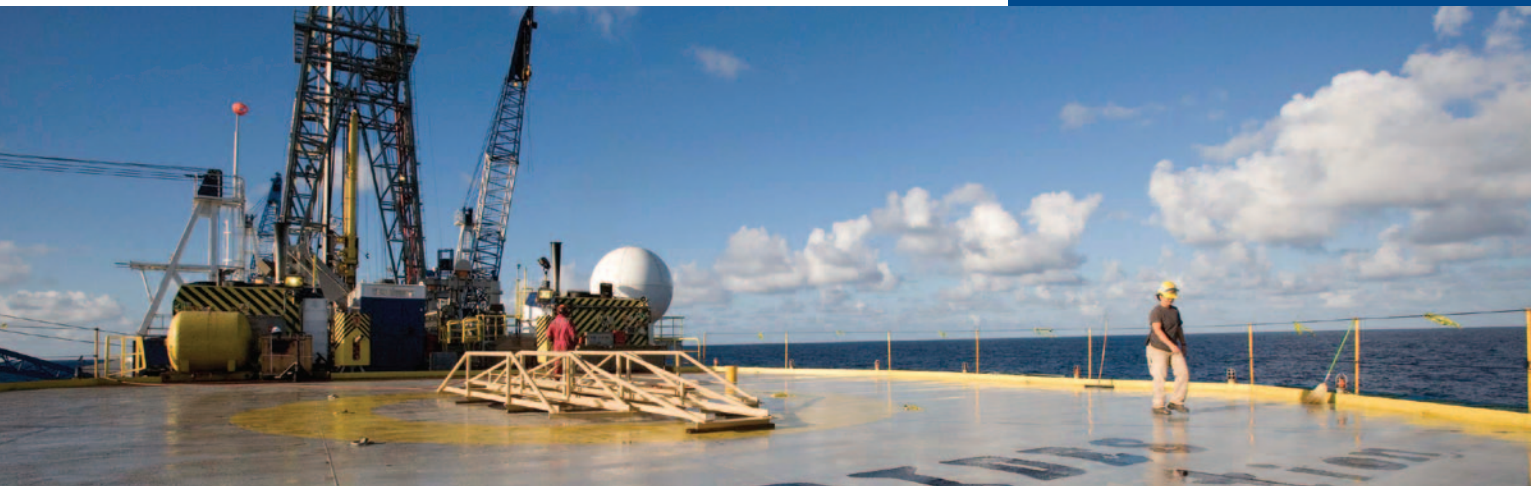
Rutgers University

Peter Sak

Dickinson College

Anja Schleicher

University of Michigan

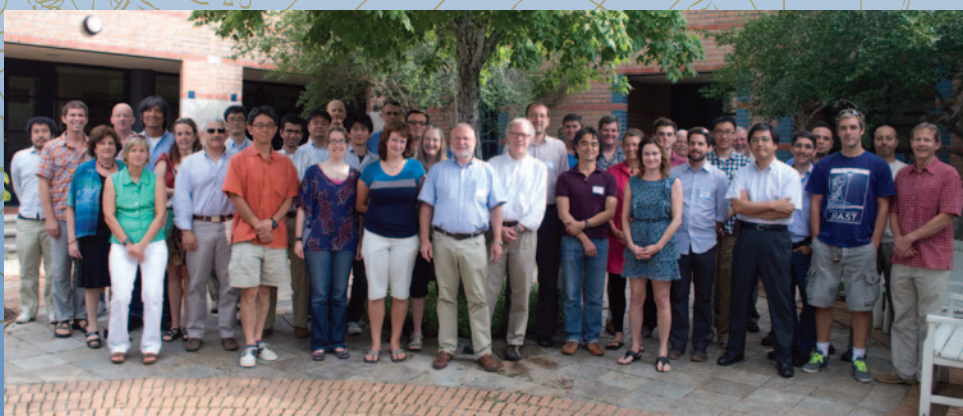


DRILL BITS

Rice University Hosts Workshop on Observatories in Scientific Ocean Drilling

In early September, 24 scientists and engineers met at Rice University to develop proposal and implementation strategies for long-term borehole observatories. Brandon Dugan (Rice University), Heinrich Villinger (University of Bremen) and Nori Kyo (JAMSTEC) co-convened the workshop to facilitate discussions about observatory science, to explore possible applications of new technologies and

to identify sensor and data needs for addressing fundamental problems. Because observatories are an important platform for collecting geophysical, chemical and biological data at a range of temporal and spatial scales, the workshop results will help produce high-quality IODP science proposals that are technologically and financially feasible. To read the workshop report, please visit: <http://iodp-ussp.org/workshop/observatories/>



Brazil Joins IODP

This summer, Brazil officially joined the Integrated Ocean Drilling Program (IODP), bringing the total membership to 26 countries on five continents. "We welcome the addition of Brazil's scientists and engineers to IODP at a time when the world needs the knowledge of its researchers," said Rodey Batiza of the NSF's Division of Ocean Sciences. Expedition 344 (Costa Rica Seismogenesis Project A, Stage 2), which began in late October, is the first IODP expedition with Brazilian researchers on board. Brazil's participation in IODP will allow Brazilian scientists to work with other international scientists on common problems and will give U.S. geoscientists – as well as those from other countries – the opportunity to learn from Brazilian researchers. "Brazil's participation brings new opportunities not only for that country," Batiza added, "but for the global community."



Content Added to ODP Legacy Website

The USIO recently finished updating the ODP Legacy website with a wealth of missing documents from the Ocean Drilling Program (ODP) and Deep Sea Drilling Project (DSDP). Materials include Science Advisory Structure (SAS) agenda books, minutes and reports for the time period prior to 1998. The ODP Legacy website (www.odplegacy.org) was created in 2006 to preserve the data, documents and publications produced during ODP, and to highlight the accomplishments of 20 years of scientific ocean drilling.





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Washington, DC 20005

INDICIA

FSC INFO

IODP Expedition Schedule

Expedition	#	Port of Origin	Dates
JOIDES Resolution			
Costa Rica Seismogenesis Project A Stage 2 (CRISP-A2)	344	Balboa, Panama	23 Oct. – 11 Dec. 2012
Hess Deep Plutonic Crust	345	Puntarenas, Costa Rica	11 Dec. 2012 – 12 Feb. 2013
Tie-Up			12 Feb. – 25 May 2013
SCIMPI	341S	Victoria, Canada	25 – 29 May 2013
Southern Alaska Margin Tectonics, Climate & Sedimentation	341	Victoria, Canada	29 May – 29 July 2013
Asian Monsoon	346	Valdez, Alaska	29 July – 28 Sept. 2013
Chikyu			
NanTroSEIZE Plate Boundary Deep Riser - 2	338	Shingu, Japan	1 Oct. 2012 – 13 Jan. 2013
Mission-Specific Platforms			
Baltic Sea Paleoenvironment	347	TBD	TBD (Spring/Summer 2013)

Expedition dates, ports of origin, etc. are subject to change.

Please see <http://iodp.tamu.edu/scienceops/> and <http://www.iodp.org/expeditions/> for the most up-to-date ship operations schedules.