



**INTEGRATED OCEAN DRILLING PROGRAM**  
**United States Implementing Organization**

**FY09 Quarterly Report 2**

**1 January–31 March 2009**

**NSF Contract OCE-0352500**

**Submitted by the USIO**  
**to**  
**The National Science Foundation**  
**and**  
**IODP Management International, Inc.**



**Integrated Ocean Drilling Program**  
**United States Implementing Organization.**

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## INTRODUCTION

The organization of this quarterly report reflects activities related to deliverables that are outlined in the Integrated Ocean Drilling Program (IODP) U.S. Implementing Organization (USIO) FY08 Annual Program Plan as implemented by the USIO, which comprises the Consortium for Ocean Leadership, Inc. (Ocean Leadership), and its partners, Texas A&M University (TAMU) and Lamont-Doherty Earth Observatory (LDEO) of Columbia University.<sup>1</sup>

## MANAGEMENT AND ADMINISTRATION

### Contractual Activities

#### Ocean Leadership

##### *Contract Activity*

Ocean Leadership received the following contract modifications during the reporting period.

##### **NSF Contract OCE-0352500 with Ocean Leadership**

- Modification 36: Provided clarification to Ocean Leadership's indirect cost section, named J.F. Allan as the new National Science Foundation (NSF) Contracting Officer's Technical Representative (COTR), updated Ocean Leadership's Subcontracting Plan, and provided an additional \$15,000,000 in funding.

##### **IODP-MI Subcontract IODP-MI-05-03 with Ocean Leadership**

- Modification 17: Provided an additional \$1,600,000 in incremental funding toward the preliminary FY09 science operating costs (SOC) budget.

##### *Subcontract Activity*

Ocean Leadership issued the following subcontract modifications during the reporting period.

##### **Ocean Leadership Subcontract JSC 4-03 with LDEO**

- Modification 26: Approved the revised October 2008 FY09 Annual Program Plan of \$6,459,447, deobligated \$591,969 of unobligated FY08 funds, and provided an additional \$1,491,047 in incremental funding toward FY09 Annual Program Plan activities.

##### **Ocean Leadership Subcontract JSC 4-02 with TAMRF**

- Modification 34: Approved the revised October 2008 FY09 Annual Program Plan of \$53,310,250, deobligated \$675,098 of unobligated FY08 funds, and provided an additional \$13,084,417 in incremental funding toward FY09 Annual Program Plan activities.
- Modification 35: Provided \$1,238,421 in incremental funding toward the preliminary FY09 SOC nonoperations budget.

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<sup>1</sup> In this document, references to TAMU include Texas A&M Research Foundation (TAMRF).

## LDEO

### *Subcontract Activity*

LDEO issued the following subcontract modifications during the reporting period.

#### **LDEO Subcontract with Schlumberger**

- Modification 7: Provided the second FY09 funding increment in the amount of \$679,609.

#### **LDEO Subcontract with Leicester University**

- Modification 10: Provided the second FY09 funding increment in the amount of \$91,678

## TAMRF

### *Subcontract Activity*

#### **TAMRF Subcontract with Overseas Drilling Limited**

- 19 February 2009: TAMRF issued an interim operational funding letter to Overseas Drilling Limited (ODL).

### *Miscellaneous Activity*

- 13 February 2009: TAMRF submitted a request to Ocean Leadership for approval to dispose of three 20 foot shipping containers.

## **Insurance Related to Ocean Leadership Subcontracts**

During the quarter, TAMRF reinstated the following ship insurance policies that had been suspended during the time the ship was in the yard:

- Charters Liability, with a coverage limit of \$1,000,000
- Control of Well, with a coverage limit of \$25,000,000
- Contractors Gradual Pollution, with a coverage limit of \$10,000,000, excess of \$1,000,000 limit.

## **Health, Safety, and Environment Activities Oversight Responsibilities**

As part of TAMU's recent reorganization (see "Other Activities"), the responsibilities for health, safety, and environment (HSE) were delegated to appropriate positions within the organization. The Ocean Drilling Program (ODP) functioned in this mode of distributed oversight of specific HSE responsibilities for nearly 20 years and earned a reputation for safe operations and HSE compliance. Following the ODP model will serve the Program well, given the reduced number of expeditions and the need to cut costs.

## **Crisis Management Plan**

The minimal tabletop exercise of the Crisis Management Plan that was scheduled to take place after deployment of the *JOIDES Resolution* was postponed, and the USIO began a review of responsibilities in cooperation with the TAMU campus department of Health, Safety, and Environment.

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### Personnel Status Ocean Leadership

The following positions were vacated during the quarter:

- Communications Associate (Jon Corsiglia): 18 March 2009

The following positions were opened and advertised during the quarter:

- Senior Cost Analyst
- Communications Associate

There were no positions filled during the quarter.

### LDEO

There were no positions vacated, opened, advertised, or filled during the quarter.

### TAMU

The following positions were vacated during the quarter:

- Deputy Director of Science Operations (Jack Baldauf): 1 January 2009
- Marine Laboratory Specialist III (Paula Weiss Attryde): 1 February 2009
- Manager of Tools and Analytical Services (Peter Blum): 22 February 2009
- Supervisor of Materials Support (Pat Thompson): 23 February 2009
- Imaging Specialist (Tim Fulton): 28 February 2009
- Data Analyst (Robert Goll): 20 March 2009
- Deputy Director of Information Technology and Data Services (Ann Klaus): 20 March 2009
- Associate Director of Health, Safety, and Environment (Doug Johnson): 20 March 2009

The following positions were opened and advertised during the quarter:

- Administrative Assistant
- Curatorial Specialist II
- Marine Laboratory Specialist I
- Marine Laboratory Specialist II
- Marine Laboratory Specialist IV

The following positions were filled during the quarter:

- Staff Scientist (Peter Blum): 23 February 2009
- Materials Technician (Pat Thompson): 23 February 2009
- Graphics Specialist II (Tim Fulton): 1 March 2009

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- Marine Laboratory Specialist IV (Kazushi Kuroki): 9 March 2009
- Marine Laboratory Specialist II (Kristin Hillis): 9 March 2009

### USIO Web Services

Main activities during this quarter included posting daily reports of the sea trials transit (Expedition 320T) with photo/video documentation of the new laboratories and ship's infrastructure, assisting Ocean Leadership staff with launching the educational [www.joidesresolution.org](http://www.joidesresolution.org) portal and populating the Web site, creating photo profiles for the Expedition 320 and 321 Science Parties, updating expedition pages, and providing travel information for seagoing staff and shipboard participants.

### Web Site Statistics

Where possible, visits by USIO employees and search engine spiders were filtered out. Page statistics are inflated because the software does not differentiate pages viewed by search engines.

#### *USIO Web Site*

The USIO Web site is hosted at TAMU, LDEO, and Ocean Leadership.

FY09 Q2 USIO Web Site				
Parameter	www.iodp-usio.org	iodp.ldeo.columbia.edu	iodp.tamu.edu	Total
Page views	18,720	6,709	245,619	271,048
Site visits	11,481	1,295	48,033	60,809

New and updated Web pages	Release date	URL
Expeditions: Expedition 320T sea trials daily reports	January–March 2009	<a href="http://iodp.tamu.edu/scienceops/sitesumm/seatrials/">http://iodp.tamu.edu/scienceops/sitesumm/seatrials/</a>
Expeditions: Expedition 320 daily reports	March 2009	<a href="http://iodp.tamu.edu/scienceops/sitesumm/320">http://iodp.tamu.edu/scienceops/sitesumm/320</a>
Expeditions: Expedition 320 friends and family photos	March 2009	<a href="http://iodp.tamu.edu/scienceops/gallery/exp320/">http://iodp.tamu.edu/scienceops/gallery/exp320/</a>
Expeditions: Expedition 320 scientist photo profiles	March 2009	<a href="http://iodp.tamu.edu/publicinfo/gallery/exp320/">http://iodp.tamu.edu/publicinfo/gallery/exp320/</a>
Participants: Expedition 321, 323, and 324 physical examinations	18 March 2009	<a href="http://iodp.tamu.edu/participants/before_exp.html">http://iodp.tamu.edu/participants/before_exp.html</a>
Participants: revised communications policy	January 2009	<a href="http://iodp.tamu.edu/participants/before_exp.html">http://iodp.tamu.edu/participants/before_exp.html</a>
Participants: revised laboratory safety memo	January 2009	<a href="http://iodp.tamu.edu/participants/before_exp.html">http://iodp.tamu.edu/participants/before_exp.html</a>
Participants: revised drug and alcohol policy	January 2009	<a href="http://iodp.tamu.edu/participants/before_exp.html">http://iodp.tamu.edu/participants/before_exp.html</a>
Participants: Expeditions 320, 320T, and 321 travel information	January–March 2009	<a href="http://iodp.tamu.edu/travel/portcall.html">http://iodp.tamu.edu/travel/portcall.html</a>
Participants: Expeditions 320 and 321 shipping information	January–March 2009	<a href="http://iodp.tamu.edu/travel/portcall.html">http://iodp.tamu.edu/travel/portcall.html</a>
Newsroom: news releases	January–March 2009	<a href="http://www.iodp-usio.org/Newsroom/Releases.html">http://www.iodp-usio.org/Newsroom/Releases.html</a>
Newsroom: IODP in the news	January–March 2009	<a href="http://www.iodp-usio.org/Newsroom/news.html">http://www.iodp-usio.org/Newsroom/news.html</a>
YouTube: video clips	January–March 2009	<a href="http://www.youtube.com/OceanLeadership">http://www.youtube.com/OceanLeadership</a>
Education and Diversity: HBCU Educator at Sea, Shatsky Rise	February 2009	<a href="http://www.iodp-usio.org/Education/TAS.html">http://www.iodp-usio.org/Education/TAS.html</a>



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New and updated Web pages	Release date	URL
Expedition		
Education: Teacher at Sea, Bering Sea Expedition	March 2009	<a href="http://www.iodp-usio.org/Education/TAS.html">http://www.iodp-usio.org/Education/TAS.html</a>
Education: School of Rock, Juan de Fuca Expedition	January 2009	<a href="http://www.iodp-usio.org/Education/SOR.html">http://www.iodp-usio.org/Education/SOR.html</a>
Publications: FY08 Annual Report	15 January 2009	<a href="http://iodp.tamu.edu/publications/AR.html">http://iodp.tamu.edu/publications/AR.html</a>
Employment: job postings	February-March 2009	<a href="http://www.iodp-usio.org/Employment/">http://www.iodp-usio.org/Employment/</a>
Staff Directory: TAMU staff directory revisions	February-March 2009	<a href="http://iodp.tamu.edu/staffdir/">http://iodp.tamu.edu/staffdir/</a>
Staff Directory: TAMU organizational charts	25 February 2009	<a href="http://iodp.tamu.edu/staffdir/org_charts/">http://iodp.tamu.edu/staffdir/org_charts/</a>
Travel: updated travel per diem rates	11 February 2009	<a href="http://iodp.tamu.edu/travel/perdiem.html">http://iodp.tamu.edu/travel/perdiem.html</a>
Travel: revised expense account form	27 January 2009	<a href="http://iodp.tamu.edu/travel/expenses.html">http://iodp.tamu.edu/travel/expenses.html</a>
<i>JOIDES Resolution</i> : updates to ship's Web site	5-7 March 2009	Inaccessible from shore
<i>JOIDES Resolution</i> : new cruise evaluation form	12 March 2009	Inaccessible from shore

### ***IODP Publications Web Site***

The IODP Publications Web site is hosted at TAMU. New online publications are shown in the "Publications" section of this report.

FY09 Q2 IODP Publications Web Site	
Parameter	publications.iodp.org
Page views	60,677
Site visits	18,609

### ***U.S. IODP Educational Web Sites***

FY09 Q2 Deep Earth Academy Web Sites*		
Web domain	www.joilearning.org	www.oceanleadership.org/learning
Page views	4,278	13,662

\*Ocean Leadership's educational Web sites are funded jointly by the USIO and USSSP.

### ***Legacy Web Sites***

The ODP Science Operator Web site and the Deep Sea Drilling Project (DSDP) Publications Web site are hosted at TAMU. The ODP Legacy Web site is hosted at Ocean Leadership.

Parameter	FY09 Q2 ODP Web Site			FY09 Q2 DSDP Web Site
	www-odp.tamu.edu	www.odplegacy.org	Total ODP	www.deepseadrilling.org
Page views	1,350,190	9,618	1,359,808	54,683
Site visits	243,330	3,858	247,188	17,931

## **Other Activities**

### **New USIO IODP Phase 2 Business Model**

The USIO currently faces a business environment that includes shortfalls in anticipated funding exceeding 30% and an NSF directive for the USIO to

- cut costs and adjust staffing levels to match reduced science expedition schedules,
- increase efficiency to maximize science delivery within a reduced portfolio of science services, and
- build a foundation for industry-academic partnerships for use of the drill ship when not funded by NSF.

In response to these challenges, TAMU developed a more efficient and cost-effective Phase 2 business model to meet organizational objectives outlined by NSF and support delivery of the four expeditions planned for FY09. The new TAMU staffing plan eliminated 17 positions (11 vacant, 6 filled) and created 7 new positions.

**TECHNICAL, ENGINEERING, AND SCIENCE SUPPORT**

**USIO Expedition Schedule**

Expedition		Port (Origin)	Dates <sup>1,2</sup>	Total Days (Port/Sea)	Days at Sea (Transit <sup>3</sup> /Ops)	Co-Chief Scientists	USIO Contacts <sup>4</sup>
Deployment, mobilization, sea trials, transit <sup>5</sup>	NA	Singapore	25 January–5 March 2009	39 (1/38)	27/11	NA	TAMU: J. Miller*
Pacific Equatorial Age Transect (PEAT)	320	Honolulu, Hawaii	5 March–5 May 2009	61 (5/56)	12/44	H. Pälike, N. Nishi	TAMU: A. Klaus* LDEO: H. Evans^
PEAT/Juan de Fuca Remedial Cementing Operations <sup>6</sup>	321/ 321T	Honolulu, Hawaii	5 May–5 July 2009	61 (5/56)	20/36	M. Lyle, I. Raffi/ A. Fisher <sup>6</sup>	TAMU: K. Gamage* LDEO: A. Malinverno^
Bering Sea	323	Victoria, British Columbia	5 July–4 September 2009	61 (5/56)	17/39	K. Takahashi, C. Ravelo	TAMU: C. Alvarez Zarikian* LDEO: G. Guerin^
Shatsky Rise	324	Yokohama, Japan	4 September–4 November 2009	61 (5/56)	17/39	W. Sager, T. Sano	TAMU: J. Geldmacher* LDEO: G. Iturrino^
Canterbury Basin	317	Townsville, Queensland	4 November 2009–4 January 2010	61 (5/56)	10/46	C. Fulthorpe, K. Hoyanagi	TAMU: P. Blum* LDEO: A. Slagle^
Wilkes Land <sup>7</sup>	318	Wellington, New Zealand	4 January–9 March 2010	64 (5/59)	16/43	C. Escutia, H. Brinkhuis	TAMU: A. Klaus* LDEO: T. Williams^

Notes:

<sup>1</sup> Dates for expeditions may be adjusted pending final vessel delivery date from shipyard or non-IODP activities.

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

<sup>3</sup> Transit total is the transit to and from port call and does not include transit between sites.

<sup>4</sup> The USIO contact list includes both the Expedition Project Manager (\*), the primary contact for the expedition, and the Logging Staff Scientist (^). In addition, further expedition information is available at [www.iodp-usio.org](http://www.iodp-usio.org).

<sup>5</sup> An intermediate Guam port call is targeted for approximately 5 February 2009. Sea trials will be conducted at ODP Site 807.

<sup>6</sup> Expedition consists of operations in both the Equatorial Pacific and Juan de Fuca Ridge. PEAT scientists are tentatively scheduled to disembark the vessel in San Diego, California, on approximately 23 June 2009. Lyle and Raffi are Co-Chief Scientists on the PEAT Expedition; Fisher is Chief Scientist on Juan de Fuca Cementing Operations.

<sup>7</sup> Wilkes Land activities include operations at Adelie Drift (638 APL).

## Deployment (Mobilization/Sea Trials/Transit)

In late January 2009, the *JOIDES Resolution* sailed from Singapore to Guam, where an independent team of scientists boarded to assess the ship's readiness for international operations. From Guam, the *JOIDES Resolution* sailed to the Ontong Java Plateau for a seven-day sea trial period, which included testing of drilling, coring, logging, and other science systems. After sea trials, the ship continued the transit to Honolulu, Hawaii ([http://iodp.tamu.edu/scienceops/sitesumm/seatrials/st\\_map.html](http://iodp.tamu.edu/scienceops/sitesumm/seatrials/st_map.html)).

Daily reports and photos from the six-week transit from Singapore to Honolulu, Hawaii, are available online ([http://iodp.tamu.edu/scienceops/expeditions/sea\\_trials.html](http://iodp.tamu.edu/scienceops/expeditions/sea_trials.html)). The *JOIDES Resolution* arrived in port in Honolulu on 5 March 2009, ready to begin the first IODP Phase 2 expedition.

## Expedition Planning and Implementation Activities USIO Pacific Equatorial Age Transect Expeditions

### *Expedition Planning*

Arrangements were made for key scientists from Pacific Equatorial Age Transect (PEAT) 2 to arrive in port early to facilitate a more effective crossover between PEAT 1 and PEAT 2 scientists. Final supply and logistics requirements and PEAT 2 port call planning continued. Additional documentation was submitted to obtain permission to conduct vertical seismic profile (VSP) experiments for the PEAT program.

### *Expedition Staffing*

A scientist from India was added to the PEAT 2 Science Party.

Expedition Staffing Breakdown		
Member Country/Consortium	PEAT I	PEAT II
United States Science Support Program (USSSP)	8	8
Japan Drilling Earth Science Consortium (J-DESC)	7	9
European Consortium for Ocean Research Drilling (ECORD)	9	7
Korean IODP (K-IODP)	1	0
IODP-China	0	1
Australia-New Zealand IODP Consortium (ANZIC)	1	0
India	0	1

### *Expedition Implementation*

Two PEAT 1 sites were cored during the reporting period (Sites U1331 and U1332). More detailed information about operations, science results, and technical support activities are available from the weekly reports and site summaries available at <http://iodp.tamu.edu/scienceops/sitesumm.html>.

### *Expedition Operations*

Three holes were cored at Site U1331 (PEAT-1C) to recover a complete stratigraphic section. Basement was reached at 188.5 m core depth below seafloor (m CSF). A "paleo" triple-combination (triple combo) logging run was obtained for the full length between basement and the depth of the bottom-hole assembly (BHA) at ~80 m drilling depth below seafloor (m DSF). A planned Formation MicroScanner (FMS) logging run was abandoned due to problems with the logging winch.

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Three holes were cored at Site U1332 (PEAT-2C) to 152.4 m DSF in basement. A single logging run with the natural gamma, density, and magnetic susceptibility tools obtained good data from basement up to the bit at ~80 m DSF. The logging wireline parted during an attempt to get the tool string back into the drill pipe. Multiple attempts to retrieve the tool string failed, so we isolated the logging tool in Hole U1332A under 35 m of cement.

### ***Science Results***

**Site U1331:** The sediment column at Site U1331 consists of 6 m of Pleistocene–Pliocene clay that overlies lower Oligocene to lowermost Oligocene nannofossil ooze. There is a sharp lithological change at the Eocene–Oligocene transition (~26 m) to alternating radiolarian ooze with nannofossils and nannofossil ooze, grading into radiolarian ooze with nannofossils and clay with sporadic occurrences of chert and the basal cherty interval. Below the chert horizon and between 157 and 177 m, the sediment comprises radiolarian ooze and nannofossil ooze with hydrothermal red staining, deposited on top of mid-ocean ridge basalt. Holes U1331A, U1331B, and U1331C can be spliced to form a continuous section to ~150 m core composite depth (m CCSF), with no apparent gaps. Presence of all major fossil groups as well as a detailed magnetostratigraphy will allow us to achieve one of the main PEAT objectives: arrive at an integrated Cenozoic stratigraphy and age calibration. Apparent sedimentation rates are 10 m/m.y. in the radiolarian-rich section between ~80 m and basement and ~4 m/m.y. in the upper middle Eocene to Oligocene section. The chert horizon spans a time interval of ~2–3 m.y.

**Site U1332:** At Site U1332, Eocene age seafloor basalt is overlain by 150.4 m of pelagic sediment, comprising radiolarian and nannofossil ooze with varying amounts of clay and zeolitic clay. Several meters of white- to beige-colored Pleistocene–Pliocene clay overlie lower Miocene to lowermost Oligocene nannofossil ooze. There is a sharp lithological change at the Eocene–Oligocene transition (multiple recovery due to slumping) to alternating radiolarian ooze with nannofossils and nannofossil ooze. The lithology then gradationally changes downhole into radiolarian ooze with nannofossils and clay intercalated with sporadic occurrences of chert, and a basal cherty interval. Below the chert horizon and between ~138 and at least ~147 m CSF, the sediment comprises very dark grayish brown to black clay, very dark grayish brown to black zeolite clay, and chert. The sediments directly above basaltic basement are partially lithified. Stratigraphic correlation demonstrates a composite section down to a depth of ~125.5 m CSF near the top of the cherty interval in Hole U1332A, equivalent to a composite depth of ~140 m CCSF. The top of advanced piston corer (APC) cores were often affected by ~3 m heave that occurred during operations at Site U1332. Presence of all major fossil groups as well as a detailed and spectacularly well-resolved magnetostratigraphy will allow us to achieve one of the main PEAT objectives: arrive at an integrated Cenozoic stratigraphy and age calibration for major parts of the Oligocene and Eocene. Apparent sedimentation rates as implied by biostratigraphic age determinations vary throughout the section, and are ~5 m/m.y. in the Eocene section and ~2.5 m/m.y. in the Oligocene, with two prominent hiatuses in the Miocene and between the Miocene and younger sediments.

## **USIO Juan de Fuca Hydrogeology (Remedial Cementing Operations)**

### ***Expedition Planning***

Meetings to finalize the Juan de Fuca cementing plan were held with the proponent engineer, chief scientist, and cementing vendor. Work continued on completing the *Scientific Prospectus*, including incorporating the finalized cementing plan. The cement stinger design was completed and modifications were made by a vendor. Berthing

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requirements were finalized for remedial cementing and other laboratory support efforts to determine the number of berths available for School of Rock 2009 activities (see “**School of Rock 2009**” in the “Education” section).

### **USIO Bering Sea Expedition**

#### ***Expedition Planning***

A new alternate site in U.S. waters was submitted by the Co-Chief Scientists and reviewed by the Environmental Protection and Safety Panel (EPSP) and TAMU Safety Panel. The Science Planning Committee (SPC) and Operations Task Force (OTF) reviewed and approved Ancillary Project Letter (APL) 739 to add a microbiological program to the Bering Sea Expedition. The USIO contacted proponents to identify scientists for the Science Party to implement the APL and any special requirements. The *Scientific Prospectus* was completed but must be modified to accommodate the APL effort prior to publishing.

#### ***Expedition Staffing***

Staffing was completed, but three additional scientists associated with the APL must be added to the Science Party. An advertisement was posted for applications for a teacher to sail on the expedition (see “**Teacher-at-Sea Program**” in the “Education” section).

### **USIO Shatsky Rise Expedition**

#### ***Expedition Planning***

The *Scientific Prospectus* was finalized and published. All the sites need to be reviewed by the EPSP in June 2009. Planning began for sailing an educator from the Museum of Nature and Sciences in Tokyo and a Historically Black Colleges and Universities (HBCU) educator (see “**HBCU Educator-at-Sea Pilot Program**” in the “Education” section).

#### ***Expedition Staffing***

The first round of science staffing was initiated.

### **USIO Canterbury Basin Expedition**

#### ***Expedition Staffing***

Program member offices (PMOs) submitted new applicant nominations to replace scientists that dropped out because of changes to the expedition schedule.

## **Projects and Other Activities**

### **Advanced Piston Corer Temperature Tool Model 3**

Two Advanced Piston Corer Temperature Tool Model 3 (APCT3) electronics assemblies and three APCT3 cutting shoes were sent to the *JOIDES Resolution* prior to the ship leaving Singapore. The two electronics assemblies were deployed on Expeditions 320T (sea trials) and 320.

### **Common Downhole Data Acquisition System/Sediment Temperature Tool**

The common downhole acquisition (CDAQ) systems and sediment temperature (SET) tools assembled last quarter were tested during Expedition 320T sea trials and deemed ready for deployment. Assembly and calibration continued for three additional SET/CDAQ tools that will be shipped to Japan Agency for Marine-Earth Science and Technology (JAMSTEC) and deployed during upcoming expeditions on the *Chikyu*.

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CDAQ systems were incorporated into two sediment temperature and pressure (SETP) tools, and parts were ordered for completion of these tools. Plans were made for two SETP tools to be completed in the third quarter, one for delivery to the *Chikyu* and one for delivery to the *JOIDES Resolution*.

### Geosciences Laboratory (ODASES)

TAMU collaborated with the Texas A&M University College of Geosciences during the last quarter in selecting an X-ray fluorescence (XRF) core logger for the Ocean Drilling and Sustainable Earth Science (ODASES) Geosciences Laboratory at TAMU. The College of Geosciences ordered the core logger this quarter and plans were made to begin installing the system during the next quarter.

### Lockable Flapper Valve Project

Several new designs for the flapper on the lockable flapper valve (LFV) were generated and review of the designs began. Plans were made for generating a stereo-lithography model after all parties agree on the best design. The model will serve as a proof of concept prior to having a new flapper machined.

### Metrology Laboratory (Calibration Laboratory)

APCT3 tools and SET tool thermistors currently in use on the *JOIDES Resolution* were calibrated in the Metrology Laboratory. Plans were made for the Metrology Laboratory to recalibrate all temperature and pressure tools as they rotate back from the various platforms.

The temperature bath was sent back to the manufacturer (Hart Scientific) for calibration and maintenance. When the bath returns from maintenance, thermistors for the SETP tools will be calibrated.

### Schlumberger Telemetry Project

The USIO-Schlumberger tool string interoperability project was successfully completed during sea trials with a test at Site U1330A, in which the magnetic susceptibility sonde (MSS) was deployed in a Schlumberger tool string. This combination was also successfully deployed at Holes U1331A and U1332A. In a related effort, the Multifunctional Telemetry Module (MFTM) was successfully bench tested with the Schlumberger telemetry systems. This module is expected to eventually allow any combination of third-party tools to run in a Schlumberger tool string and log data through Schlumberger logging systems.

### Wireline Heave Compensating System

In order to assess performance of the new wireline heave compensating system while operating under typical conditions, a 48 hour period was allotted during Expedition 320T sea trials to deploy a series of different logging tools. Hole U1330A, drilled to 550 meters below seafloor (mbsf), provided the best possible well to test the system. Based on the quality of downhole logging data collected during operations, the wireline heave compensating system was deemed ready for future IODP operations. This system has not, however, been optimally tuned and many of its nuances still need to be assessed.

## ENGINEERING DEVELOPMENT

There are no Engineering Development deliverables scheduled for FY09.

## DATA MANAGEMENT

### Projects and Other Activities

With the exception of items specified below, data management activities are currently supported by the U.S. Scientific Ocean Drilling Vessel (SODV) Project and are therefore not reported here.

### Inventory Asset Management System

The Inventory Asset Management System (AMS) was successfully deployed on the *JOIDES Resolution* during Expedition 320T. Some modules were used for the first time during sea trials (e.g. Shipping/Receiving, Inventory Update), and shipboard users identified problems that were quickly resolved. Users also requested enhancements that were either implemented during sea trials or scheduled for completion at a later date. At the end of sea trials, the AMS application was deemed ready for work on future USIO expeditions.

### Log Database Upgrade

A mirror of the logging database was deployed on the *JOIDES Resolution* to provide a local asset that scientists could use to search for logging data. Web pages and scripts were modified to a more generic form to work on either the ship or shore network. Additional work began for providing automatic synchronizing of the shipboard database to the shore-based database, which will allow management of the shore-based database with any changes being automatically propagated to the ship.

### IODP Databases

#### LIMS Database

The new laboratory information management system (LIMS) database was implemented during the transit from Singapore to Honolulu, Hawaii, and data from the Expedition 320T sea trials were collected and input into the shipboard database. After the completion of Expedition 320T, these data were successfully loaded into the shore-based LIMS database.

#### Log Database

Data collected during sea trials were successfully transferred to shore, processed, loaded into the logging database, and returned to the ship. This new data, plus all existing log data, were made available to shipboard participants through the shipboard's instance of the logging database.



## IODP Database Data Requests Janus Database

Top 10 Countries Accessing Janus Web Database*		
Rank	Country	Visitor Sessions
1	United States	1,263
2	Germany	541
3	United Kingdom	479
4	Japan	308
5	Spain	104
6	France	101
7	Switzerland	98
8	China	93
9	Western Europe	89
10	Italy	83
	All others	161
	<b>Total</b>	<b>3,686</b>

\*Excluding access from TAMU.

Top 20 Janus Web Queries*		
Rank	Query	Uploads
1	Sample	1,727
2	Photo	1,245
3	Site summary	797
4	Core summary	514
5	Hole trivia	509
6	Age model	500
7	Bulk density (GRA)	456
8	Requests	397
9	Range table	376
10	Chemistry carbonates	323
11	Magnetic susceptibility	272
12	Prime data images	257
13	Paleo sample detail	252
14	Paleo occurrences	230
15	Leg summary	213
16	Color reflectance	211
17	Chemistry (interstitial water)	176
18	Site details	172
19	Hole summary	161
20	Age profile	160
	Others	2,369
	<b>Total</b>	<b>11,317</b>

\*Excluding access from TAMU.

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<b>Other Web Statistics*</b>		
<b>Database query hits:</b>		
	Entire site (successful)	29,776
	Average per day	330
<b>Visitor sessions:</b>		
	Total number of visitor sessions	3,686
	Average per day	40
	Average length of visit	00:14:40
	International visitor sessions	65.68%
	Visitor sessions of unknown origin	0.05%
	Visitor sessions from United States	34.26%
<b>Visitors:</b>		
	Unique visitors	2,011
	Visitors who only visited once	1,494
	Visitors who visited more than once	517

\*Excluding access from TAMU.

<b>Data Requests to Data Librarian*</b>	
<b>Requests</b>	<b>Total</b>
<b>Country:</b>	
United States	5
Germany	2
United Kingdom	2
Canada	2
Australia	1
Japan	1
<b>Total</b>	<b>13</b>
<b>Data:</b>	
Photo	5
Paleo	2
Samples	2
Chemistry	1
Visual Core Description	1
Scientist/requests	1
Depth	1
<b>Total</b>	<b>13</b>

\*Excluding access from TAMU.

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**Log Database**

<b>Top 10 Countries Accessing Log Web Database*</b>		
<b>Rank</b>	<b>Country</b>	<b>Visitor Sessions</b>
1	United States	595
2	United Kingdom	125
3	Spain	65
4	Germany	48
5	Norway	46
6	Canada	41
7	Australia	26
8	Japan	26
9	Italy	25
10	India	22
	All others	218
	<b>Total</b>	<b>1,237</b>

\*Excluding access from LDEO.

<b>Other Log Web Statistics*</b>		
<b>Database query hits:</b>		
	Entire site (successful)	6,709
	Average per day	11
<b>Visitor sessions:</b>		
	Total number of visitor sessions	1,295
	Average per day	19
	Average length of visit	0:04:58
	International visitor sessions	34.28%
	Visitor sessions of unknown origin	17.62%
	Visitor sessions from United States	48.10%
<b>Visitors:</b>		
	Unique visitors	728
	Visitors who only visited once	667
	Visitors who visited more than once	628

\*Excluding access from LDEO.

<b>Data Requests to Log Data Supervisor</b>		
<b>Expedition</b>	<b>Request Number, Name, Affiliation, Country</b>	<b>Type of Data</b>
	There were no data requests for this period.	

## CORE CURATION

### Sample Requests

IODP Expedition/ Repository	Visitors	Request Number, Name, Country	Number of Samples
<i>Gulf Coast Repository:</i>			
		21717A, Iaccarin, USA	45
		21309D, Bartoli, Switzerland	10
		21662B, Raffi, Italy	56
	1	21716A, Wade, USA	10
		21623B, Pichevin, United Kingdom	397
		21704A, Lal, USA	17
		21692A, Faak, Germany	15
		21680A, Ravelo, USA	450
		21604A, Sexton, USA	475
		21170B, Haug, Germany	16
		21695B, Henehan, United Kingdom	77
		21341, Rafter, USA	149
		21750A, Firth, USA	114
		21730A, Robinson, United Kingdom	75
		21397B, Ravizza, USA	15
		21471C, Waddell, USA	3
		21645A, Swann, United Kingdom	124
		21309C, Bartoli, Switzerland	10
		21742A, Christl, Germany	15
		21719A, Moore, USA	5
		21693A, Wilson, Trinidad and Tobago	64
		21733A, Will, Germany	53
		21752A, Georgescu, Canada	72
		21737A, Higgins, USA	43
		21767A, O'Connell, USA	48
		21602B, Scott, New Zealand	5
		21706A, Krishnan, USA	21
		21717A, Iaccarino, Italy	29
		21519A, Jordan, Japan	4
	1	20241C, Woodard, USA	43
		21734A, Alt, USA	130
	1	21743A, Adams, Germany	178
	21	Educational Tour	No samples
Total science	3	<b>32</b>	2,768
Total education:	0	<b>0</b>	0
Total PR:	0	<b>0</b>	0
Total:	24	<b>32</b>	2,768

### Other Activities

#### Legacy Core Sample Data

The USIO is assisting the Center for Deep Earth Exploration (CDEX) by uploading all legacy core samples taken at KCC into our Janus database. This quarter, GCR staff uploaded 18 legacy sample requests into Janus in support of KCC.

## PUBLICATIONS

### USIO Reports FY09 Q1 IODP Quarterly Report

The USIO report for the first quarter of FY09 (October–December 2008) was submitted to NSF and the IODP central management office (IODP Management International, Inc. [IODP-MI]) on 13 February 2009.

### FY08 Annual Report

The IODP-USIO FY08 Annual Report was submitted to NSF and IODP-MI on 15 January 2009.

### FY09 Annual Program Plan

Preparations began for a revision to the FY09 Annual Program Plan to reflect cost savings from reduced fuel costs and staffing reductions related to the TAMU revised staffing plan.

### IODP Scientific Publications

Publication	Release Date	Digital Object Identifier	Comments
<i>Scientific Prospectus:</i>			
Expedition 324 (Testing plume and plate models of ocean plateau formation at Shatsky Rise, northwest Pacific Ocean)	March 2009	<a href="https://doi.org/10.2204/iodp.sp.324.2009">doi:10.2204/iodp.sp.324.2009</a>	
<i>Proceedings of the Integrated Ocean Drilling Program:</i>			
<b>Volume 303/306</b>			
Data report: Pliocene–Pleistocene planktonic foraminifer bioevents at IODP Site U1313	26 February 2009	<a href="https://doi.org/10.2204/iodp.proc.303306.205.2009">doi:10.2204/iodp.proc.303306.205.2009</a>	
Data report: Pleistocene diatoms from Sites U1302 and U1303, Orphan Knoll, northwestern Atlantic Ocean	31 March 2009	<a href="https://doi.org/10.2204/iodp.proc.303306.203.2008">doi:10.2204/iodp.proc.303306.203.2008</a>	
<b>Volume 304/305</b>			
Data report: characterization of sulfide minerals from gabbroic and ultramafic rocks by electron microscopy	22 January 2009	<a href="https://doi.org/10.2204/iodp.proc.304305.203.2009">doi:10.2204/iodp.proc.304305.203.2009</a>	
Data report: an electron backscatter diffraction study of a gabbroic shear zone, IODP Expedition 304/305	30 January 2009	<a href="https://doi.org/10.2204/iodp.proc.304305.201.2009">doi:10.2204/iodp.proc.304305.201.2009</a>	
<b>Volume 308</b>			
Data report: strength characteristics of sediments from IODP Expedition 308, Sites U1322 and U1324	27 March 2009	<a href="https://doi.org/10.2204/iodp.proc.308.210.2009">doi:10.2204/iodp.proc.308.210.2009</a>	
Data report: radiography and X-ray CT imaging of whole core from IODP Expedition 308, Gulf of Mexico	31 March 2009	<a href="https://doi.org/10.2204/iodp.proc.308.213.2009">doi:10.2204/iodp.proc.308.213.2009</a>	

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Publication	Release Date	Digital Object Identifier	Comments
<b>Volume 310</b>			
Data report: bioerosion in the reef framework, IODP Expedition 310 off Tahiti (Tiarei, Maraa, and Faa sites)	23 January 2009	<a href="https://doi.org/10.2204/iodp.proc.310.201.2009">doi:10.2204/iodp.proc.310.201.2009</a>	Edited and formatted for ESO
<b>Volume 311</b>			
Data report: quantitative analysis of grain size distribution for coarse sediments in an accretionary prism: an example from the Cascadia accretionary prism	2 February 2009	<a href="https://doi.org/10.2204/iodp.proc.311.205.2009">doi:10.2204/iodp.proc.311.205.2009</a>	
Data report: diatom and foraminiferal assemblages in Pleistocene turbidite sediments from the Cascadia margin (IODP Expedition 311)	18 March 2009	<a href="https://doi.org/10.2204/iodp.proc.311.211.2009">doi:10.2204/iodp.proc.311.211.2009</a>	
Data report: bulk carbonate content of sediments and mineralogy of authigenic carbonates along an east-west transect in the northern Cascadia margin	23 March 2009	<a href="https://doi.org/10.2204/iodp.proc.311.204.2009">doi:10.2204/iodp.proc.311.204.2009</a>	
<b>Volume 314/315/315</b>			
NanTroSEIZE Stage 1: investigations of seismogenesis, Nankai Trough, Japan	11 March 2009	<a href="https://doi.org/10.2204/iodp.proc.314315316.2009">doi:10.2204/iodp.proc.314315316.2009</a>	Edited and formatted for CDEX

### IODP Scientific Publication Deadline Extension Requests

The IODP Sample, Data, and Obligations Policy requires all Science Party members to conduct research and publish the results of their work. To fulfill this obligation, scientists must have their papers published in a peer-reviewed scientific journal or book that publishes in English, or as a peer-reviewed data report in the *Proceedings of the Integrated Ocean Drilling Program*. Manuscripts must be submitted within 20 months postmoratorium (26 months for synthesis papers). Science Party members may request a deadline extension of up to one year. The Platform Curator reviews and approves these extension requests, and IODP Publication Services monitors fulfillment of the publishing obligation. The tables below show extensions requested during the quarter and the status of all deadline extensions approved during the life of each volume.

## USIO FY09 QUARTERLY REPORT 2

### Initial papers/data reports

Expedition	Submission Deadline (20 Months Postmoratorium)	FY09 Q2 Extension Requests	Overall Extension Status	
			Number Approved	Number Fulfilled
301	20 April 2007			
302	23 July 2007			
304/305	4 February 2008		14	12
308	7 March 2008		8	7
303/306	9 May 2008	1	12	7
307	13 June 2008		4	3
311	27 June 2008		12	8
309/312	28 August 2008		9	9
310	4 November 2008		16	6

### Synthesis papers

Expedition	Submission Deadline (26 Months Postmoratorium)	FY09 Q2 Extension Requests	Overall Extension Status	
			Number Approved	Number Fulfilled
301	22 October 2007		1	1
302	21 January 2008		1	1
304/305	4 August 2008		1	
308	8 September 2008	1	1	
303/306	10 November 2008		1	
307	15 December 2008			
311	29 December 2008		1	
309/312	27 February 2009			
310	4 May 2009	1		

### Scientific Publication Distribution

Publication	Number Distributed
<b>IODP Publications:</b>	
<i>Proceedings of the Integrated Ocean Drilling Program Expedition Report DVDs</i>	12
<i>Scientific Prospectus</i>	12
<b>ODP Publications:</b>	
<i>Proceedings of the Ocean Drilling Program, Initial Reports</i>	7
<i>Proceedings of the Ocean Drilling Program, Scientific Results</i>	8

### IODP Digital Object Identifiers

IODP is a member of CrossRef, the official digital object identifier (DOI) registration agency for scholarly and professional publications. All IODP scientific reports and publications are registered with CrossRef and assigned a unique DOI that facilitates online access. DOIs have also been assigned to ODP and DSDP scientific reports and publications.

## USIO FY09 QUARTERLY REPORT 2

CrossRef tracks the number of times a publication is accessed, or resolved, through the DOI system. Statistics for the third quarter are shown in the table below.

Reports and Publications	DOI Prefix	Number of Resolutions			
		January 2009	February 2009	March 2009	FY09 Q2 Total
IODP	10.2204	4,094	4,223	4,732	13,049
ODP/DSDP	10.2973	9,680	11,948	8,434	30,062

## EDUCATION

U.S. education activities are supported by NSF through U.S. systems integration contracting costs (SIC) funding. These activities are not included in the platform operating costs (POC) and SOC budgets.

### Deep Earth Academy

#### Education Visual Identity—Deep Earth Academy Web Site

Deep Earth Academy continued to make improvements to its Web site and added new Activities of the Month ([www.oceanleadership.org/learning/activityofthemonth/home](http://www.oceanleadership.org/learning/activityofthemonth/home)).

#### *JOIDES Resolution Web Portal*

Deep Earth Academy debuted its new Web portal [www.joidesresolution.org](http://www.joidesresolution.org) this quarter. This Web site, developed in collaboration with contractor Velocity 7, showcases the new *JOIDES Resolution* and targets a broader audience of teachers, students, and families. The Web site provides background information on the ship, its role in science research, and details about its capabilities, plus more innovative features that include regularly updated blogs from sea, easily posted photos and video, and links to social media sites YouTube, Facebook, MySpace, and Twitter. Deep Earth Academy hopes to build an ever-increasing audience for the ship and its scientists by harnessing these popular Web 2.0 tools.

#### Educational Materials Distribution

During the quarter, Deep Earth Academy distributed 2,637 posters and 605 DVDs at conferences and outreach activities and in response to requests received through the Deep Earth Academy Web site. Materials were distributed at the following meetings.

Conference/Meeting/Workshop	Date	Location
Interface B 2009 Conference	20 February 2009	Osaga Beach, Michigan
National Science Teachers Association (NSTA) National Conference	19–21 March 2009	New Orleans, Louisiana
American Society of Limnology and Oceanography (ASLO) Aquatic Sciences Meeting	25–30 January 2009	Nice, France

#### Materials Development and Education Programs

##### *Materials Development*

Work this quarter focused mainly on materials for [joidesresolution.org](http://joidesresolution.org). Deep Earth Academy also developed a new beach ball globe with accompanying activities that use the globe and the *JOIDES Resolution* Web site to track the ship and mark its location (<http://www.oceanleadership.org/learning/globe>).

USIO staff completed a second issue of the graphic novel–style comic book about the *JOIDES Resolution* and linked it to the ship's Web page. This issue, called *Renovation Madness*, features the ship's modernization in Singapore.



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Plans were finalized for a videographer from Zcene Moving Media Company in the Netherlands to sail on board the 5 May–23 June 2009 PEAT 2 Expedition and produce new video assets for the Web site, Deep Earth Academy’s other program needs, and outreach in general.

### ***School of Rock 2009***

Deep Earth Academy took advantage of an appropriate-length transit in the *JOIDES Resolution*’s schedule and planned for another shipboard School of Rock workshop. “School of Rock 2009: Cores, CORKS and Hydrology on the Juan de Fuca Ridge” is slated for the 23 June–5 July 2009 transit from San Diego, California to Victoria, British Columbia. The workshop announcement was posted on the Deep Earth Academy Web site in early January 2009 and more than 100 applications were received by the 4 February 2009 deadline. Ten U.S. teachers were selected to participate, and plans were made to involve the other implementing organizations (IOs) in the workshop by inviting two teachers from Japan and two teachers selected by the European Consortium for Ocean Research Drilling (ECORD). J. Firth (TAMU Curator) was appointed to manage curriculum development for this summer’s workshop.

### ***Teacher-at-Sea Program***

Deep Earth Academy continued communicating with Teacher-at-Sea J. Pollard (Birdville Independent School District, Texas) as she prepares to sail on the rescheduled Canterbury Basin Expedition in the fall of 2009.

Announcements were posted for a Teacher at Sea to participate in the 5 July–4 September 2009 Bering Sea Expedition.

L. Peart (Ocean Leadership Education Director) attended the PEAT 1 Expedition port call to set the precedent for managing content for [joidesresolution.org](http://joidesresolution.org)—to test drive the site, feed it daily content updates, develop protocols, troubleshoot, and develop guidelines for future Teacher-at-Sea work. Peart’s port call work will also be used to develop a manual for working on the Web site and a rich file of content that can be used during future expeditions.

### ***Teacher-in-Residence Program***

Teacher Fellow J. Collins continued to work on programs to support the USIO, including outreach to museums tied into the Distinguished Lecture Series. Collins also managed Activities of the Month and assisted with selecting School of Rock 2009 participants.

### ***Teacher Workshops***

Conference/Meeting*	Date	Location
Roper Mountain Science Center/DLS Workshop (J. Collins, Ocean Leadership Teacher Fellow)	10 January 2009	Greenville, South Carolina
School of Rock-International Polar Year Weekend at AMNH (L. Peart, Ocean Leadership Education Director)	30 January 2009	New York, New York

\*Teacher workshops that were conducted by representatives of the Deep Earth Academy or at which representatives of Deep Earth Academy gave presentations.

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### *Educational Outreach*

Meeting/Lecture/Presentation*	Target Audience	Date	Location
Overview of IODP and Gulf Coast Repository Tour (K. Petronotis [TAMU Web Administrator] and J. Geldmacher [TAMU Staff Scientist])	Prospective TAMU graduate students	27 March 2009	IODP TAMU offices

### **Diversity Support Activities Historically Black Colleges and Universities**

#### *HBCU Fellowship*

S. Compton, the FY09 HBCU Fellow from Savannah State University (SSU), was awarded first place for her poster titled “Density and distribution of live and fossil benthic foraminifera across the Georgia Shelf (South Atlantic Bight, U.S.A.),” submitted to the undergraduate student poster competition at the Spring 2009 Southeastern Estuarine Research Society (SEERS) meeting held 19–21 March 2009 in Myrtle Beach, South Carolina. The poster presents research supported by Compton’s HBCU fellowship.

#### *HBCU Educator-at-Sea Pilot Program*

The HBCU Educator-at-Sea program was developed as a pilot USIO diversity activity that will enable an HBCU faculty member from an education or science department to gain firsthand experience of science and life at sea during the Shatsky Rise Expedition (4 September–4 November 2009). The HBCU Educator at Sea will help reach out to HBCU institutions during the expedition and raise the profile of the Ocean Leadership HBCU Fellowship and career opportunities in scientific ocean drilling for HBCU students. A call for applications for the first HBCU Educator-at-Sea opportunity was published in February 2009.

The USIO continues exploring mechanisms that will improve the recruitment of faculty/research mentors and students in the HBCU Fellowship and increase the participation of minorities in scientific ocean drilling.

## OUTREACH

### **Public Affairs**

USIO communications and outreach activities this quarter focused on opportunities to publicize scientific ocean drilling through related publications and events with the goal of raising public and media awareness.

Highlights include the following events:

- USIO staff conducted Expedition 320 port call tours for University of Hawaii faculty and students, 6–7 March 2009.
- USIO staff conducted an Expedition 320 port call tour for Scientific Technology Panel (STP) members, 7 March 2009.
- K. Petronotis (Web Administrator, TAMU) gave an overview of IODP and a tour of the GCR on 16 February 2009 to S. Formas, a staffer in Congressman Chet Edward’s Office. The tour was joined by M. O’Quinn, TAMU Vice President for Institutional and Federal Affairs.

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- USIO staff attended events such as the Coalition for National Science Funding (CNSF) on 24 March 2009 in Washington, DC, and the American Association for the Advancement of Science (AAAS) Meeting 12–16 February 2009 in Chicago, Illinois. These events were both great opportunities to engage the science community in the work of IODP.

### Public Relations Materials

#### *USIO Media Advisories/News Releases*

The following media advisories were distributed this quarter:

- The *JOIDES Resolution* completes initial sea trials, 12 January 2009.

The following news releases were distributed this quarter:

- Ocean research officials hail completion of modernization for U.S. scientific ocean drilling vessel, 26 January 2009.
- IODP-MI Board of Governors names new president, 2 February 2009.
- Moratorium lifts on NTS Stage 1 samples, data, 6 February 2009.
- IODP to operate three drilling platforms in 2009, 18 February 2009.
- Marine Scientists to investigate role of equatorial Pacific in global climate system, 10 March 2009.
- IODP-MI president accepts German Medal of Honor in geophysics, 23 March 2009.

#### *Articles Authored by USIO Staff*

Science and other articles authored by USIO staff published during this quarter include the following. Bold type indicates USIO staff. Other Program-related science articles are available online through the ocean drilling citation database ([iodp.tamu.edu/publications/citations/database.html](http://iodp.tamu.edu/publications/citations/database.html)) and the IODP expedition-related bibliography ([iodp.tamu.edu/publications/citations.html](http://iodp.tamu.edu/publications/citations.html)).

- **Alvarez Zarikian, C.A.**, Stepanova, A.Y., and Grützner, J., 2009. Glacial–interglacial variability in deep sea ostracod assemblage composition at IODP Site U1314 in the subpolar North Atlantic. *Mar. Geol.*, 258(1–4):69–87. [doi:10.1016/j.margeo.2008.11.009](https://doi.org/10.1016/j.margeo.2008.11.009)
- Carlson, R.L., **Miller, D.J.**, and Newman, J., 2009. Olivine enigma: why alteration controls the seismic properties of oceanic gabbros. *Geochem., Geophys., Geosyst.*, 10(3):Q03O16. [doi:10.1029/2008GC002263](https://doi.org/10.1029/2008GC002263)

#### *News Articles, Programs, Media Citations, or Public Commentary*

News articles, programs, media citations, or public commentary published during this quarter resulting from IODP media and public awareness efforts included the following. See the “IODP in the news” Web page ([www.iodp-usio.org/Newsroom/news.html](http://www.iodp-usio.org/Newsroom/news.html)) for other articles that raise the profile of the Program.

- *Albuquerque Express*, 2009. Deep-water drilling identifying strains and slips in major earthquake fault. *Albuquerque Express.com*, 16 February 2009. <http://story.albuquerqueexpress.com/index.php/ct/9/cid/c08dd24cec417021/id/467190/cs/1/>

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- Anonymous, 2009. AOAG expert confirms enormous reserve potential. *PeakOil.com*, 21 March 2009. <http://www.peakoil.com/modules.php?name=News&file=article&sid=36846>
- Anonymous, 2009. Scientists gain new insights into ‘frozen’ methane beneath ocean floor. *PeakOil.com*, 29 March 2009. <http://www.peakoil.com/modules.php?name=News&file=article&sid=9032>
- Associated Press, 2009. U-M, other scientists seek Pacific climate data. *ChicagoTribune.com*, 5 March 2009. <http://archives.chicagotribune.com/2009/mar/05/news/chi-ap-mi-holesintheocean> [Note: This story was also published on UpperMichigansSource.com, UpNorthLive.com, and WTOL11 (Toledo, Ohio).]
- *Bio-Medicine*, 2009. Investigating coral reefs to help understand past and future climate change. *Bio-Medicine.org*, 26 March 2009. <http://news.bio-medicine.org/biology-news-3/Investigating-coral-reefs-to-help-understand-past-and-future-climate-change-1371-2/>
- Bowser, H., 2009. Geologist aims to unearth ocean’s ‘dirty’ secrets. *DNRonline.com*, 5 February 2009. [http://www.dnronline.com/news\\_details.php?AID=35233&CHID=2](http://www.dnronline.com/news_details.php?AID=35233&CHID=2)
- Delaney, P., 2009. On board a newly renovated research ship. *Sci. Am.*, 31 March 2009. <http://www.sciam.com/blog/60-second-science/post.cfm?id=on-board-a-newly-renovated-research-2009-03-31>
- Edwards, K., 2009. Drill, baby, drill: our first core samples. *Sci. Am.*, 4 March 2009. <http://www.sciam.com/blog/60-second-science/post.cfm?id=drill-baby-drill-our-first-core-sam-2009-03-04>
- Edwards, K., 2009. Good news on coring, not so good news for a member of the crew. *Sci. Am.*, 4 March 2009. <http://www.sciam.com/blog/60-second-science/post.cfm?id=good-news-on-coring-not-so-good-new-2009-03-04>
- Edwards, K., 2009. Good-bye North Pond! See you in 2010? 2011? *Sci. Am.*, 18 March 2009. <http://www.sciam.com/blog/60-second-science/post.cfm?id=good-bye-north-pond-see-you-in-2010-2009-03-18>
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## Museum Partnerships

The USIO worked with Dr. X. Wang, Curator of the Natural History Museum of Los Angeles, California, to provide the museum with cores and associated publications, thin sections, images, and so on from past IODP expeditions. The materials provided will be used for a new exhibit on mammalian evolution in response to Cenozoic climate changes. The museum is the largest natural history museum on the west coast of the United States, with annual visitors numbering ~500,000.

## Congressional Outreach

The USIO exhibited at the 15th Annual CNSF Capitol Hill Reception and Exhibition on 24 March 2009. Additionally, IODP scientists conducted Congressional Hill visits after the CNSF event. R. Wilkens (University of Hawaii at Manoa) met with the offices of Sens. Inouye and Akaka and Rep. Abercrombie, and J. Channell (University of Florida) with the offices of Sens. Nelson and Martinez.

## USIO INTERACTIONS WITH IODP-MI AND OTHER IMPLEMENTING ORGANIZATIONS

### Interactions

#### USIO Support to CDEX

##### *Core Curation Support*

The USIO supported CDEX by uploading into the Janus database legacy core samples taken at KCC (see “Core Curation”).

##### *Engineering Support*

The USIO continued discussions with CDEX to finalize preparations for supplying SET and SETP tools along with a colleted delivery system for Expedition 322 (1 September–10 October 2009). The USIO will also provide one Engineer/Technician to deploy temperature and pressure tools on the expedition.

##### *Publications Support*

**Shipboard publications support:** USIO Publication Services representatives met with Y. Kawamura (Director of the IODP Department at CDEX) on 25 March 2009 to finalize the FY09 agreement for publications support on the *Chikyu* during Expeditions 319 and 322. A February 2009 request by CDEX—that the USIO consider training a Marine Works Japan shipboard technician to provide IODP publication services on the *Chikyu* and *JOIDES Resolution*—was also explored. Since FY08, the USIO has provided publication coordination aboard both platforms. A second meeting to discuss CDEX’s staffing proposal was scheduled for 7 May 2009 during the USIO Expedition 321 port call in Honolulu, Hawaii.

**Pre-Expedition Meetings:** A. Miller (TAMU Publication Services Manager) participated via videoconference in the pre-expedition meetings for CDEX Expeditions 319 and 322 in mid-January and mid-February 2009, respectively. Although planned as separate NanTroSEIZE Stage 2 science programs, the two CDEX expeditions could potentially evolve into a single science program with a common moratorium. Expedition 319 contingency Site NT1-01A is located in the Shikoku Basin seaward of the trench above a basement high and provides a paired site for proposed Site NT1-07A, the primary drilling target for Expedition 322. If NT1-01A is drilled during Expedition 319, there would be implications for the science party, the sampling strategy, the number of first postexpedition meetings, and the number of NanTroSEIZE Stage 2 *Proceedings* volumes published.

### Meetings

#### Engineering Development Panel Meeting

An Engineering Development Panel (EDP) Meeting was held 13–15 January 2009 in Shanghai, China (see “Appendix C” for list of USIO attendees). S. Higgins (Ocean Leadership Associate Director of Ocean Drilling Programs) gave the USIO presentation,



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including updates on the SODV status, sea trials, FY09 expedition schedule, project updates, and other activities, including a short description of the DeepStar riserless mud recovery feasibility study. The USIO also requested rig time for the logging-while-coring system on an undecided future expedition.

### Site Survey Panel Meeting

The Site Survey Panel (SSP) Meeting was held 4–6 February 2009 in Busan, Korea (see “Appendix C” for list of USIO attendees). A. Klaus (TAMU Staff Scientist) gave a presentation covering major current USIO operational and planning activities and issues.

### Scientific Technology Panel Meeting

The STP Meeting held 6–9 March 2009 in Honolulu, Hawaii (see “Appendix C” for list of USIO attendees) coincided with the *JOIDES Resolution* port call, and the meeting included a tour of the ship and STP review and endorsement of the Readiness Assessment Team (RAT) findings. J. Inwood (LDEO Logging Staff Scientist) gave a presentation on Expedition 320T testing of the wireline heave compensation system newly installed on the *JOIDES Resolution*, and the STP endorsed allocating rig time during upcoming expeditions for a static test at the beginning of logging operations at each site to allow for further calibration and adjustment of the new system. The STP also asked the USIO to provide further information about specific problems it has encountered associated with clearance for drilling in territorial waters that may be contingent on countries claiming intellectual property rights for all findings coming from microbiological sample analyses.

### IODP-MI Operations Task Force

An IODP-MI OTF Meeting was held 15 March 2009 in Miami, Florida (see “Appendix C” for list of USIO attendees). The main focus of discussion revolved around how to accommodate engineering time and APL operations on IODP platforms. The OTF recommended that the SPC consider allocating time into each IODP platform schedule to accommodate APLs and engineering testing. The OTF proposed as a guideline using three days per two-month expedition and if there is no appropriate engineering testing or approved APL for a given expedition, the time will transfer to the science objectives of the expedition.

### Science Planning Committee

An SPC Meeting was held 16–19 March 2009 in Miami, Florida (see “Appendix C” for list of USIO attendees). The SPC reviewed and ranked 28 proposals, and recommended the Proposal 739 APL “Bering Sea Subseafloor Life” to the OTF for scheduling in FY09. In addition, the SPC adopted the OTF’s proposed principle that time be allocated into each IODP platform schedule to accommodate APLs and engineering testing.

### Program Member Offices

A PMO Meeting was held 20 March 2009 in Miami, Florida (see “Appendix C” for list of USIO attendees). Reports were given by representatives of each PMO and expedition staffing procedures and issues were reviewed.

## APPENDIX A: FINANCE REPORT

Please contact [info@oceanleadership.org](mailto:info@oceanleadership.org) for hard copies of financial pages.

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### APPENDIX B: CONFERENCE AND MEETING SCHEDULE

Conference/Meeting*	Date	Location
Engineering Development Panel (EDP) Meeting	13–15 January 2009	Shanghai, China
Science Advisory Structure Executive Committee (SASEC) Meeting	20 and 21 January 2009	Lisbon, Portugal
Site Survey Panel (SSP) Meeting	4–6 February 2009	Busan, Korea
Scientific Technology Panel (STP) Meeting	6–9 March 2009	Honolulu, Hawaii
Science Planning Committee (SPC) Meeting	16–19 March 2009	Miami, Florida
Operations Task Force (OTF) Meeting	15 March 2009	Miami, Florida
National Science Teachers Association (NSTA) National Conference	19–22 March 2009	New Orleans, Louisiana
Program Member Office (PMO) Meeting	20 March 2009	Miami, Florida
15th Annual Coalition for National Science Foundation (CNSF) Capitol Hill Reception and Exhibition	24 March 2009	Washington, DC

\*Implementing organization meetings, IODP-MI task force meetings, Science Advisory Structure (SAS) panel meetings, Program-sponsored conferences, and scientific and educational conferences at which the USIO had a booth or exhibit.

### APPENDIX C: TRAVEL

Purpose*	Dates	Location	Institution: Personnel
Engineering Development Panel (EDP) Meeting	13–15 January 2009	Shanghai, China	Ocean Leadership: S. Higgins TAMU: K Grigar
Science Advisory Structure Executive Committee (SASEC) Meeting	20 and 21 January 2009	Lisbon, Portugal	Ocean Leadership: D. Divins
Center for Deep Earth Exploration (CDEX) scientist training and Site Survey Panel (SSP) Meeting	30 January–7 February 2009	Busan, Korea	TAMU: A. Klaus
USIO Alliance meeting	8–10 February 2009	Washington, DC	TAMU: S. Bohlen
Curation meeting	23–28 February 2009	Kochi, Japan	TAMU: J. Firth, P. Rumford
Radioactive Materials Transportation Training	25–28 February 2009	Las Vegas, Nevada	TAMU: S. Dillard
National Science Foundation (NSF) and Ocean Leadership Meeting	26 February–4 March 2009	Washington, DC	TAMU: S. Bohlen
Expedition 320 port call: assist with shipboard information technology (IT) problems	3–11 March 2009	Honolulu, Hawaii	TAMU: C. Flores, P. Gates
Expedition 320 port call: travel support and training	3–13 March 2009	Honolulu, Hawaii	TAMU: D. DeShetler
Expedition 320 port call: education activities	4 March 2009	Honolulu, Hawaii	Ocean Leadership: L. Peart

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Expedition 320 port call: Web and public relations support	4 and 5 March 2009	Honolulu, Hawaii	TAMU: K. Petronotis
U.S. SODV Conversion Management Team (CMT)** and Scientific Technology Panel (STP) Meetings	4–7 March 2009	Honolulu, Hawaii	Ocean Leadership: S. Higgins
Expedition 320 port call: shipboard laboratory safety inspection	4–7 March 2009	Honolulu, Hawaii	TAMU: N. Eaker, D. Menchaca, J. Rainer
Expedition 320 port call: meeting with NSF	4–8 March 2009	Honolulu, Hawaii	TAMU: S. Bohlen, M. Malone
Expedition 320 port call: public relations support	4–9 March 2009	Honolulu	LDEO: M. Reagan
STP Meeting	6–9 March 2009	Honolulu, Hawaii	TAMU: D. Houpt LDEO: T. Williams
DG1 HazMat Training	8–14 March 2009	Atlanta, Georgia	TAMU: P. Thompson
Program Member Office (PMO), Science Planning Committee (SPC), and Operations Task Force (OTF) Meetings	14–21 March 2009	Miami, Florida	TAMU: M. Malone
Science Planning Committee (SPC) Meeting	16–19 March 2009	Miami, Florida	Ocean Leadership: D. Divins LDEO: A. Malinverno
National Science Teachers Association (NSTA) National Conference	19–22 March 2009	New Orleans, Louisiana	Ocean Leadership: S. Cooper, A. Divins
FY09 Annual Program Plan revision and publications training sessions and meetings	22–28 March 2009	College Station, Texas	TAMU: G. Lowe
IODP Management International, Inc. (IODP-MI) Meeting	25 March 2009	Houston, Texas	Ocean Leadership: D. Divins

\*Travel associated with meetings, conferences, training, port call work, and nonroutine sailing activities.

\*\*USIO funded this trip for USIO representative(s) to attend an SODV Project meeting.

## APPENDIX D: USIO QUARTERLY REPORT DISTRIBUTION LIST

J. Allan, NSF, [jallan@nsf.gov](mailto:jallan@nsf.gov)  
R. Batiza, NSF, [rbatiza@nsf.gov](mailto:rbatiza@nsf.gov)  
M. Rouse, NSF, [mrouse@nsf.gov](mailto:mrouse@nsf.gov)  
J. Emmitte, IODP-MI, [jemmitte@iodp.org](mailto:jemmitte@iodp.org)  
M. Talwani, IODP-MI, [mtalwani@iodp.org](mailto:mtalwani@iodp.org)  
D. Divins, Ocean Leadership, [ddivins@oceanleadership.org](mailto:ddivins@oceanleadership.org)  
B. Gagosian, Ocean Leadership, [rgagosian@oceanleadership.org](mailto:rgagosian@oceanleadership.org)  
S. Higgins, Ocean Leadership, [shiggins@oceanleadership.org](mailto:shiggins@oceanleadership.org)  
J. Hubler, Ocean Leadership, [jhubler@oceanleadership.org](mailto:jhubler@oceanleadership.org)  
M. Morell, Ocean Leadership, [mmorell@oceanleadership.org](mailto:mmorell@oceanleadership.org)  
L. Peart, Ocean Leadership, [lpeart@oceanleadership.org](mailto:lpeart@oceanleadership.org)  
Y. Xing, Ocean Leadership, [yxing@oceanleadership.org](mailto:yxing@oceanleadership.org)  
D. Goldberg, LDEO, [goldberg@ldeo.columbia.edu](mailto:goldberg@ldeo.columbia.edu)  
D. Grames, LDEO, [gramesd@ldeo.columbia.edu](mailto:gramesd@ldeo.columbia.edu)  
M. Purdy, LDEO, [purdy@ldeo.columbia.edu](mailto:purdy@ldeo.columbia.edu)  
M. Reagan, LDEO, [reagan@ldeo.columbia.edu](mailto:reagan@ldeo.columbia.edu)  
M. Respo, LDEO, [mrespo@admin.ldeo.columbia.edu](mailto:mrespo@admin.ldeo.columbia.edu)  
S. Bohlen, TAMU, [bohlen@iodp.tamu.edu](mailto:bohlen@iodp.tamu.edu)  
A. Crane, TAMU, [crane@iodp.tamu.edu](mailto:crane@iodp.tamu.edu)  
B. Kjerfve, TAMU, [kjerfve@tamu.edu](mailto:kjerfve@tamu.edu)  
B. Lancaster, TAMRF, [lancaster@iodp.tamu.edu](mailto:lancaster@iodp.tamu.edu)  
L. Schulze, TAMRF, [schulze@iodp.tamu.edu](mailto:schulze@iodp.tamu.edu)  
W. Wasson, TAMU, [wasson@iodp.tamu.edu](mailto:wasson@iodp.tamu.edu)