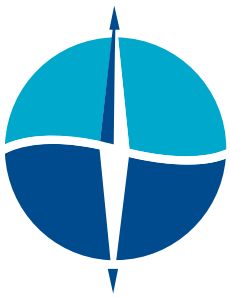


IODP
INTEGRATED OCEAN DRILLING PROGRAM

INTEGRATED OCEAN DRILLING PROGRAM
United States Implementing Organization

FY11 Quarterly Report 4

1 July–30 September 2011

NSF Contract OCE-0352500

IODP-MI Contract IODP-MI-05-03

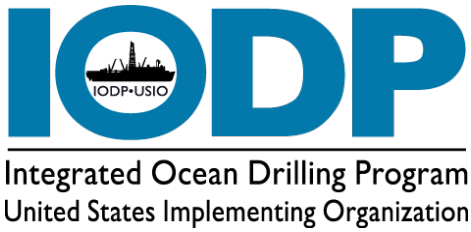
Submitted by the USIO

to

The National Science Foundation

and

IODP Management International, Inc.



30 November 2011

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INTRODUCTION

The organization of this quarterly report reflects activities and deliverables that are outlined in the Integrated Ocean Drilling Program (IODP) U.S. Implementing Organization (USIO) FY11 Annual Program Plans to the National Science Foundation (NSF) and IODP Management International, Inc. (IODP-MI) as implemented by the USIO, which comprises the Consortium for Ocean Leadership, Inc. (Ocean Leadership), and its partners, Lamont-Doherty Earth Observatory (LDEO) of Columbia University and Texas A&M University (TAMU). In this document, references to TAMU include Texas A&M Research Foundation (TAMRF).

MANAGEMENT AND ADMINISTRATION

The USIO provides integrated management that is led by Ocean Leadership in coordination with LDEO and TAMU. Management and Administration functions include planning, coordinating (with other IODP-related entities), overseeing, reviewing, and reporting on IODP activities.

USIO Reports

FY11 Q3 IODP-USIO Quarterly Report

The USIO report for the third quarter of FY11 (April–June 2011) was submitted to NSF and the IODP central management office (IODP-MI) on 12 August 2011 (http://iodp.tamu.edu/publications/AR/FY11/FY11_Q3.pdf).

FY11 Annual Report

The USIO continued FY11 Annual Report planning and content collection activities during this quarter.

Revised FY12 IODP-USIO Annual Program Plan to IODP-MI

On 4 August 2011, the USIO submitted for review and evaluation a revised IODP-USIO FY12 Annual Program Plan to IODP-MI, which outlines requests for science operating costs (SOC) and platform operating costs (POC) including the Mid-Atlantic Microbiology Expedition, Mediterranean Outflow Expedition, Atlantis Massif Oceanic Core Complex Expedition, Lesser Antilles Volcanism and Landslides Expedition, a 92-day maintenance period, the Newfoundland Sediment Drifts Expedition, and another 45-day maintenance period; long–lead time planning costs for expeditions proposed for FY13; and continuing SOC shore-based activities during FY12. The IODP-USIO FY12 Annual Program Plan to IODP-MI budget totals $4,196,305 in SOC requested from IODP-MI and $66,951,209 requested from NSF for USIO platform operations.

Revised FY12 IODP-USIO Annual Program Plan to NSF

On 4 August 2011, the USIO submitted for review and evaluation a revised IODP-USIO FY12 Annual Program Plan to NSF, which outlines requests for costs including the Mid-Atlantic Microbiology Expedition, Mediterranean Outflow Expedition, Atlantis Massif Oceanic Core Complex Expedition, Lesser Antilles Volcanism and Landslides Expedition, a 92-day maintenance period, the Newfoundland Sediment Drifts Expedition, and another 45-day maintenance period; long–lead time planning costs for expeditions proposed for FY13; and USIO efforts for education and outreach and associated management and administrative support. The IODP-USIO FY12 Annual Program Plan to NSF budget totals $68,090,604.

The IODP-USIO FY11 Annual Program Plan to NSF also includes Appendix I: USIO IT Security Summary, Appendix II: Recommended IODP-USIO Program of Insurance, and Appendix III: USIO Science Operating Costs by Institution.

Reporting and Liaison Activities

The USIO reports to and liaises with funding agencies and IODP-related agencies (e.g., the Science Advisory Structure [SAS]), Program Member Offices (PMOs), and other national organizations, and participates in SAS panels, IODP-MI task forces, working groups, and so on.

Meetings

Standard SAS committee and panel, IODP working group, task force, and other special meetings are listed in the "Conference and Meeting Schedule" below. USIO attendees to all meetings are listed in "Appendix B: Travel." Minutes for SAS meetings are available online through committee and panel links from the meeting schedule web page (http://www.iodp.org/meeting-schedule/). IODP working group, task force, and other special meetings are described in this section.

Outreach Task Force

The Outreach Task Force met at the IODP-MI office in Tokyo, Japan, on 27 and 28 September 2011, where USIO representatives participated in discussions of best practices, coordination of upcoming projects, and overview of recent accomplishments.

Conference and Meeting Schedule

Conference/Meeting*	Date	Location
Expedition 325 Operations Task Force (ORTF) Meeting	18 and 19 July 2011	Edinburgh, Scotland
Scientific Technology Panel (STP) Meeting	18 July–5 August 2011	E-meeting
Site Survey Panel (SSP) Meeting	1–3 August 2011	St. Petersburg, Florida
IODP workshop: Using Ocean Drilling to Unlock the Secrets of Slow Slip Events	1–5 August 2011	Gisborne, New Zealand
Expeditions 332/333 ORTF Meeting	18 and 19 August 2011	Tokyo, Japan
Expedition 323 Second Postexpedition Meeting	16–22 September 2011	Salamanca, Spain
Science Planning Committee (SPC) Meeting	22–24 August 2011	Zao, Japan
Expedition 329 ORTF Meeting	30 and 31 August 2011	Palisades, New York
Outreach Task Force Meeting	27 and 28 September 2011	Tokyo, Japan

*Implementing organization meetings, IODP-MI task force meetings, Science Advisory Structure (SAS) panel meetings, and Program-sponsored conferences.

Contract Services

Ocean Leadership

Contract Activity

Ocean Leadership received the following modifications during the reporting period.

NSF Contract OCE-0352500 with Ocean Leadership

- Modification 51: Approved the FY12 Annual Program Plan of $68,090,604; provided $9,971,490 in incremental funds; and reduced the estimated total contract value from $626,217,308 to $555,958,668.

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

- Modification 36: Increased the previously approved FY11 budget of $4,152,148 in tasks and funding by $25,702 to the level of $4,177,850 for the purpose of digitizing approximately 100,000 Deep Sea Drilling Project (DSDP) and Ocean Drilling Program (ODP) legacy images.

- Modification 37: Approved the FY12 Annual Program Plan of $4,196,305 and provided $700,000 in incremental funds.

Subcontract Activity

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

Ocean Leadership Subcontract JSC 4-03 with LDEO

- Modification 50: Added $129,028 previously designated as Japan Agency for Marine-Earth Science and Technology funds only for IODP Expedition 334: Costa Rica Seismogenesis Project (CRISP), in order to offset some of the costs associated with the logging-while-drilling (LWD) project.

LDEO

Subcontract Activity

LDEO issued the following subcontract modifications during the reporting period.

LDEO Subcontract with LGL Limited—Environmental Research Associates

- Modification 1: Provided $51,997 for preparation of environmental evaluation reports for check shot survey work to be done on the *JOIDES Resolution* on four IODP expeditions.

LDEO Subcontract with Schlumberger

- Modification 17: Provided $129,028 to offset some of the costs associated with the LWD project.

Contracts/Procurement Activity ($100,000 or Greater)

- 8 August 2011: Duel elevator handling system upgrade in the amount of $430,518.95.

TAMRF

Subcontract Activity

TAMRF issued the following subcontract modifications during the reporting period.

TAMRF Subcontract with Overseas Drilling Limited

- Amendment 14: Provided incremental funding in the amount of $13,400,000.

Contracts/Procurement Activity ($100,000 or Greater)

- 19 September 2011: Purchased 8-1/4 inch OD outer core barrels (quantity = 25).
- 22 September 2011: Purchased 9-7/8 inch medium chisel insert core bits (quantity = 19).

Miscellaneous Activity

- 12 August 2011: Updated the 2011–2013 vehicle cost/mileage data projections by vehicle model for IODP's motor fleet via the Federal Automotive Statistical Tool system, and submitted the OMB A-11 Annual Motor Vehicle Budget Summary Reporting.

Personnel Status

Ocean Leadership

The following positions were vacated during the quarter:

- Communications Manager, Ocean Drilling Programs (Kristin Ludwig): 29 July 2011

The following positions were opened and advertised during the quarter:

- Communications Manager, Ocean Drilling Programs

There were no positions filled during the quarter.

LDEO

There were no positions vacated during the quarter.

The following position was opened, advertised, and filled during the quarter:

- Administrative Assistant (Maria Bouzeas): 29 August 2011

TAMU

The following positions were vacated during the quarter:

- Graphics Specialist II (Laura Koehler): 13 July 2011
- Systems Administrator (Matt Mefferd): 12 August 2011
- Associate Research Specialist (Zenon Mateo): 31 August 2011
- Staff Scientist (Joerg Geldmacher): 31 August 2011

The following positions were opened and advertised during the quarter:

- Curatorial Specialist I: 22 July 2011
- Staff Scientist (2 positions): 10 August 2011
- Systems Administrator: 11 August 2011
- Research Specialist I: 29 August 2011

The following positions were filled during the quarter:

- Supervisor of USIO-TAMU Human Resources (Adam Davidson): 15 August 2011

USIO Web Services

The USIO website is hosted at TAMU, LDEO, and Ocean Leadership. In addition to internal USIO web page updates and additions, new content is regularly added to IODP expedition web pages at http://iodp.tamu.edu/scienceops/expeditions.html.

USIO Website Statistics

FY11 Q4 USIO Website*				
Parameter	**www.iodp-usio.org**	**iodp.ldeo.columbia.edu**	**iodp.tamu.edu**	**Total**
Page views	18,958	9,438	286,870	315,266
Site visits	12,521	1,148	66,375	80,044

*Where possible, visits by USIO employees and search engine spiders were filtered out.

Legacy Documentation

The USIO routinely archives electronic copies of documents and reports produced on behalf of IODP.

Legacy Digital Library

Legacy preservation activities include storing electronic copies of relevant management and administration–related documents and reports produced by the USIO. Documents and publications archived this quarter in a dedicated Content Management System (CMS) included the revised FY12

IODP-USIO Annual Program Plan to NSF, revised FY12 IODP-USIO Annual Program Plan to IODP-MI, FY12 Q3 IODP-USIO quarterly report, and executed contract modifications.

Legacy Web Services

Key data, documents, and publications produced during the DSDP and ODP are preserved in the Legacy websites, which highlight the scientific and technical accomplishments of these ground-breaking precursors to IODP. The Legacy websites contain downloadable documents that cover a wide spectrum of Program information, from laboratory and instrument manuals to all of the Program's scientific publications, journals, and educational materials.

The ODP Science Operator website and the DSDP Publications website are hosted at TAMU. The ODP Legacy website is hosted at Ocean Leadership.

Legacy Website Statistics

	FY11 Q4 ODP Website*			FY11 Q4 DSDP Website
Parameter	**www-odp.tamu.edu**	**www.odplegacy.org**	**Total ODP**	**www.deepseadrilling.org**
Page views	1,170,576	7,029	1,177,605	208,865
Site visits	78,724	3,051	81,775	33,849

*Where possible, visits by USIO employees and search engine spiders were filtered out.

Other Projects and Activities

USIO-TAMU Project Portfolio Management Program

Managers, supervisors, and interested members of the USIO-TAMU staff attended a Project Portfolio Management review on 11 August 2011 to communicate status regarding the top 20 projects, look back over the previous year to assess program progress to date and seek feedback for fine tuning, and review and rank 15 new project proposals.

Both major projects undertaken as initial efforts in the project management portfolio (Laboratory Information System [LIMS] Reports and DESClogik enhancement) were completed in this quarter (see "Software development" in "Data Management"). Steps were taken to form new project teams to continue the momentum achieved in minimizing ad hoc approaches to decision making in internal developments and to focus limited resources on the highest priority activities outside of mission implementation.

The management team initiated three new projects, including: User Data Editing Tool; Sample Master Revision; and Common Logger Graphical User Interface. During a follow-on meeting, the management team selected project managers for these projects and assigned them to build charters with the help of subject matter experts. The management team will review each of the charters during the first quarter to determine if the projects should proceed to the next level, which is the development of a project management plan.

TECHNICAL, ENGINEERING, AND SCIENCE SUPPORT

The USIO is responsible for planning, managing, coordinating, and performing activities and providing services, materials, platforms, and ship- and shore-based laboratories for IODP-USIO expeditions; long-range operational planning for out-year USIO expeditions; and technical advice and assistance for European Consortium for Ocean Research Drilling (ECORD) Science Operator (ESO) and Center for Deep Earth Exploration (CDEX) expeditions.

USIO Expedition Schedule

Expedition		Port (Origin)	Dates[1, 2]	Total Days (Port/ Sea)	Days at Sea (Transit[3]/ Ops)	Co-Chief Scientists	USIO Contacts[4]
Non-IODP							
Mid-Atlantic Ridge Microbiology	336	Bridgetown, Barbados	16 September–17 November 2011	62 (2/60)	60 (10/50)	K. Edwards, W. Bach	TAMU: A. Klaus* LDEO: L. Anderson^
Mediterranean Outflow	339	Ponta Delgada, Azores (Portugal)	17 November–17 January 2012	61 (5/56)	56 (5/51)	J. Hernández-Molina, D. Stow	TAMU: C. Alvarez Zarikian* LDEO: T. Williams^
Atlantis Massif Oceanic Core Complex	340T	Lisbon, Portugal	17 January–6 February 2012	20 (5/15)	15 (12/3)	D. Blackmon	LDEO: A. Slagle^
Lesser Antilles Volcanism and Landslides	340	St. John's, Antigua	6 February–18 March 2012	41 (1/40)	40 (2/38)	A. Le Friant, O. Ishizuka	TAMU: N. Stroncik* LDEO: A. Slagle^
Non-IODP							
Newfoundland Sediment Drifts[5]	342	Bermuda	18 June–17 August 2012	60 (2/58)	58 (8/50)	R. Norris, P. Wilson	TAMU: P. Blum LDEO: A. Fehr^
Non-IODP							
CRISP 2	344	Curaçao	22 October–17 December 2012	56 (3/53)	53 (8/45)	TBD	TAMU: K. Petronotis* LDEO: A. Malinverno^
Hess Deep	345	Puntarenas, Costa Rica	17 December 2012–16 February 2013	61 (5/56)	56 (11/45)	TBD	TAMU: A. Klaus* LDEO: G. Guerin^
Non-IODP							
South Alaska[6]	341	Victoria, British Columbia (Canada)	27 May–27 July 2013	61 (3/58)	58 (8/50)	J. Jaeger, S. Gulick	TAMU: N. Stroncik* LDEO: H. Evans^
Transit	346T	Victoria, British Columbia (Canada)	27 July–18 August 2013	22 (5/17)			
Asian Monsoon	346	Hakodate, Japan	18 August–26 September 2013	39 (1/38)	38 (1/37)	TBD	TAMU: C. Alvarez Zarikian* LDEO: TBD

Notes: TBD = to be determined.
[1] Dates for expeditions may be adjusted pending non-IODP activities.
[2] The start date reflects the initial port call day. The vessel will sail when ready.
[3] Transit total is the transit to and from port call and does not include transit between sites.
[4] The USIO contact list includes both the Expedition Project Manager (*), who is the primary contact for the expedition, and the Logging Staff Scientist (^). In addition, further expedition information can be obtained at www.iodp-usio.org.
[5] Expedition includes engineering test of the Motion Decoupled Hydraulic Delivery System.
[6] The end port for Expedition 341 is tentative. Alternative ports that may reduce transit times are being investigated.

USIO Expeditions

Expedition 330: Louisville Seamount Trail

Postexpedition Activities

The first Expedition 330: Louisville Seamount Trail postexpedition meeting was held in College Station, Texas, 25–29 July 2011.

Expedition 334: Costa Rica Seismogenesis Project

Postexpedition Activities

The first Expedition 334: CRISP postexpedition meeting was held in College Station, Texas, 29 August–2 September 2011.

Expedition 336: Mid-Atlantic Ridge Microbiology

Expedition Planning

Efforts this quarter focused on completing plumbing on the circulation obviation retrofit kit (CORK) well heads, except for the geochemistry blocks, which were being fabricated at a scientist's machine shop and will be installed on board the ship, and fit testing various CORK and completion components prior to shipping. All equipment and supplies were received and routed to the ship. Overall, 45 total shipments (17 flats and containers) were sent to Curaçao in preparation for Expedition 336. Biweekly calls with USIO staff and CORK proponents continued until the end of August.

Selected staff and scientists working on either CORK preparation or the third-party microbiological logging tool boarded the ship early in Curaçao to stage equipment and supplies and ensure that instruments were ready for first deployments.

Expedition Staffing

Expedition 336 Science Party Staffing Breakdown	
Member Country/Consortium	**Participants**
USA: United States Science Support Program (USSSP)	8
Japan: Japan Drilling Earth Science Consortium (J-DESC)	4
Europe and Canada: European Consortium for Ocean Research Drilling (ECORD) Science Support and Advisory Committee (ESSAC)	7
South Korea: Korea Integrated Ocean Drilling Program (K-IODP)	1
People's Republic of China: IODP-China	1
Australia and New Zealand: Australia/New Zealand IODP Consortium (ANZIC)	0
India: Ministry of Earth Science (MoES)	0*

*Visa issues prevented a scientist from India from sailing on the expedition.

An unused berth was provided to a third-party atmospheric microbiologist who had sailed previously during ODP to acquire atmospheric samples.

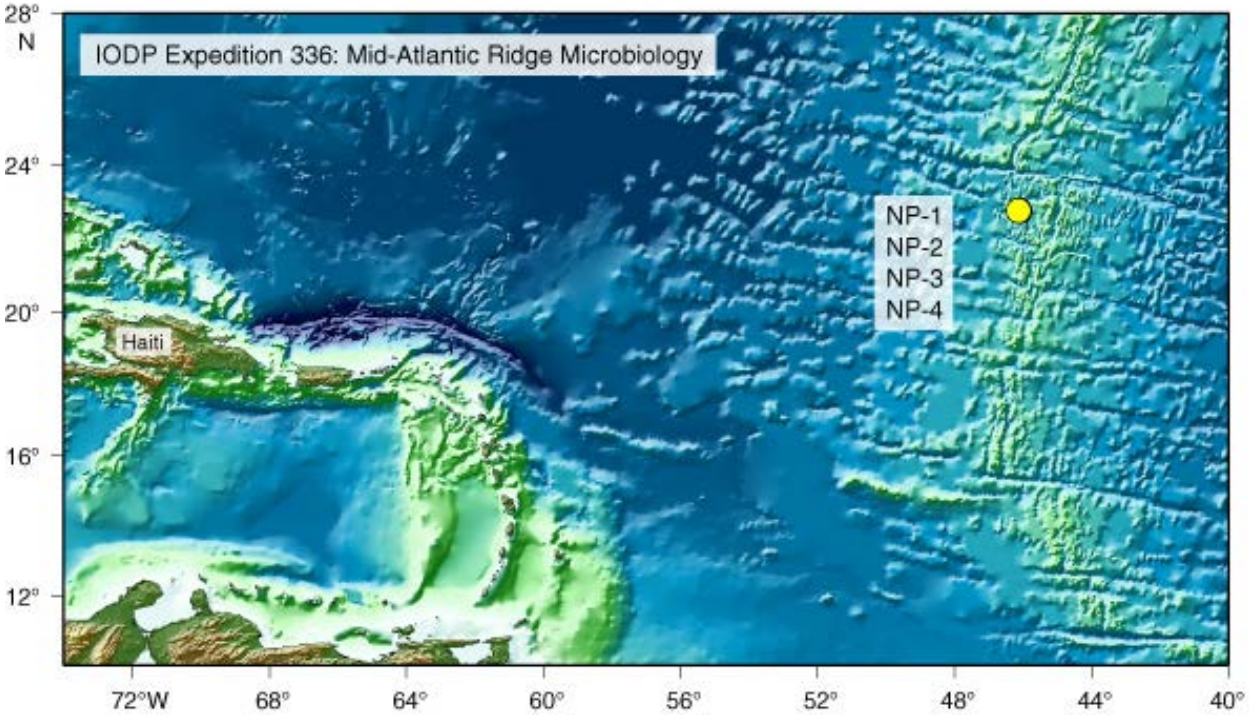
Expedition Operations

Initial operations planned during this quarter included the removal of an old CORK installed in Hole 395A followed by installation of a new lateral CORK (L-CORK) in the same hole. After 24 hours spent troubleshooting and repairing the winch hydraulic system that operates the subsea camera system, the CORK and its thermistor string in Hole 395A were successfully removed from Hole 395A. However, the new 395A L-CORK, a modified design to fit DSDP reentry hardware, failed during installation at the seafloor. Preliminary analysis suggests the L-CORK "hung up" approximately 0.6 m high, indicated by damage to the leading edge of the lowermost stabilizer fins. This exposed the L-CORK, a much longer/taller design to fit the DSDP cone and accommodate broader science objectives (i.e., more bay space), to much higher bending loads than anticipated. Initial analysis indicates the system first cracked at

a weld just above the landing seat, which led to even higher loads and bending of the wellhead itself, and then the eventual failure at the weld.

Examination of the old 395A CORK showed similar damage to its stabilizer fins in the same area and a noticeable lack of corrosion to its landing ring. These observations, combined with the inability of that CORK to be latched-in during Leg 174B, suggest that it also landed high. The old CORK was shorter and more robust, especially in the area just above the landing ring, so it was exposed to much lower stresses. Further investigation of the damage on the stabilizer fins on the old and new CORK continued in an attempt to infer the cause for neither CORK landing as designed. The USIO is continuing to review the L-CORK, video evidence, and instrumentation data for compilation of a final incident report, which may revise the initial findings.

Expedition 336 Site Map



Logging summary: Hole 395A was re-entered and logged on 24 and 25 September 2011 to recover a temperature profile as undisturbed as possible and to make the inaugural run of the Dark Energy Biosphere Investigative Tool (DEBI-t), a new downhole tool designed to detect microbial life in the borehole wall from ultraviolet laser-induced fluorescence. The DEBI-t was deployed on a tool string that also included measurements of tool acceleration, formation natural radioactivity, and borehole temperature. A 402 m open hole interval was successfully logged and data interpretation began.

Expedition 339: Mediterranean Outflow

Expedition Planning

Efforts this quarter focused on reviewing science and sample plans and assessing requests for science, technical, and curatorial support requirements. Planning was initiated for port call public relations activities in the Azores, as well as a DESClogik workshop to be held with key Expedition 339 participants.

Expedition Staffing

Staffing was completed when a replacement nannofossil specialist was secured.

Environmental Assessment

An environmental evaluation for use of air guns during check shot surveys was submitted to NSF.

Clearance and Permitting Activities

Reponses are still pending to the applications submitted to the U.S. State Department last quarter for operating in the Exclusive Economic Zone waters of Spain and Portugal. Information on two alternate sites that were not approved at the Environmental Protection and Safety Panel (EPSP) meeting in June 2011 was collected for an electronic review by EPSP.

Expedition 340T: Atlantis Massif Oceanic Core Complex

Expedition Planning

A conference call pre-expedition meeting was held on 7 July 2011. The *Scientific Prospectus* was completed and published, and planning was initiated for public relations and VIP events in Lisbon, Spain.

Expedition Staffing

One additional scientist was nominated and accepted an invitation to sail, completing staffing for this Ancillary Project Letter operation.

Environmental Assessment

Development of the environmental evaluation report for this expedition began during the quarter.

Expedition 340: Lesser Antilles Volcanism and Landslides

Expedition Planning

Because of the short port call and short transit from Antigua to the first Expedition 340 site, core will be on deck less than a day from port. Hence, planning this quarter focused on maximizing Science Party orientation and training. A two-day orientation and training workshop will be held in Antigua prior to the ship's arrival.

The discovery that some of the Expedition 340 sites are located near submarine cables prompted discussion and negotiation with two cable companies, resulting in a proposal for two alternate sites that are shifted about 1 km to provide sufficient clearance to avoid accidentally encountering a cable. A third site was not moved but will require a seafloor camera survey prior to drilling.

Expedition Staffing

Science staffing was completed during the quarter.

Environmental Assessment

Development of the Expedition 340 environmental evaluation report began during the quarter.

Clearance and Permitting Activities

The application for clearance was submitted to the U.S. State Department on 11 July 2011. Information on the two alternate sites relocated to gain distance from the submarine cables was collected for an electronic review by EPSP, after which an addendum to the clearance application will be submitted to the U.S. State Department.

Expedition 341: Southern Alaska Margin Tectonics, Climate, and Sedimentation

Expedition Planning

The Expedition 341 *Scientific Prospectus* was completed and published in August 2011. With determination of the FY13 expedition sequence at the August Science Planning Committee (SPC) meeting, investigation of potential Alaskan ports for the concluding port call was initiated. A suitable Alaskan end port could reduce transit and increase operational days for Expeditions 341 and 346.

Expedition Staffing

Staffing was initiated in August 2011 when the SPC confirmed the FY13 schedule sequence, and was completed by the end of September.

Expedition 342: Newfoundland Sediment Drifts

Expedition Planning

The Expedition 342 pre-expedition meeting was held on 8 and 9 September 2011 in College Station, Texas, to finalize the operational and science plan and develop a draft *Scientific Prospectus*, which will be published during the first quarter of FY12. Plans were made for Expedition 342 to include testing of the Motion Decoupled Hydraulic Delivery System (MDHDS) at Site 1073 pending modifications and a successful land test. If the MDHDS is not ready by mid-April 2012, operational time allocated to the test will revert to the Newfoundland coring and logging.

Expedition Staffing

Two Co-Chief Scientists accepted invitations during the quarter.

Clearance and Permitting Activities

A notification to the Bureau of Ocean Energy Management Regulation and Enforcement will be required for the MDHDS testing at Site 1073. The Newfoundland Drift sites are located in international waters and require no clearance or permitting.

Expedition 344: CRISP 2

Expedition Planning

Following the August 2011 SPC meeting that set the FY13 expedition schedule sequence, Expedition 344 planning efforts focused on determining optimal port locations and interaction with the proponents on production of a coring and logging summary to facilitate the staffing process.

Expedition Staffing

A staffing timeline was developed with the PMOs and a call for applications was produced and released.

Expedition 345: Hess Deep

Expedition Planning

The USIO determined port call locations for Expedition 345 prior to setting the expedition start and end dates.

Expedition Staffing

A staffing timeline was developed with the PMOs, and a call for applications was produced and released.

Expedition 346: Asian Monsoon

Expedition Planning

Expedition 346 planning efforts this quarter focused on determining the end port and investigating potential ports at which to pick up the Science Party after the Pacific Ocean transit.

Transit Activities

No additional funding was available for major projects during the tie-up period, so only a skeleton crew of USIO personnel was on board the *JOIDES Resolution* for most of the fourth quarter. However, even with limited personnel, several significant improvements were accomplished to shipboard infrastructure, including the following:

- The ‘tween storage area was gutted and rebuilt, providing improved access and ergonomic storage space.

- The analytical gas system was rerouted to clean up pathways and reduce gas loss.
- The gym was thoroughly cleaned and floor damage was repaired.
- Electrical systems in the splitting room and chemistry laboratory were improved to more effectively distribute load.

A small cadre of staff was sent to Curaçao to make the transit to Bridgetown, Barbados, and ensure that all systems were tested and functional before Expedition 336 began.

Analytical Systems

Laboratory Working Groups

All of the Laboratory Working Groups (LWG) met during this quarter. The Geochemistry LWG discussed implementation of a preventive maintenance schedule in the chemistry laboratory. The Geophysics LWG discussed the best approach for core logger development, which led to the Logger Summit meeting in Curaçao (see "Data Management" for more information). They further recommended the acquisition of a second Agico JR-6A spinner magnetometer and discussed corrective actions for the ongoing full-space needle problems with the TeKa TK-04 thermal conductivity meter. The Geology LWG discussed the DESClogik Improvements Project as well as the path forward for automating the brightening of .JPG images produced by the Section Half Imaging Logger (SHIL). The Curation and Core Handling LWG discussed access to non-LIMS data stored offline from the database, as well as legacy expedition encoding practices for IODP.

Analytical Systems Acquisitions and Updates

The following equipment and systems were acquired during the quarter:

- Two Zeiss Stereo Discovery V8 microscopes were purchased to replace aging stereo microscopes in the shipboard laboratories. The Zeiss microscopes include LED ring lights, which can better illuminate the samples and can be set to illuminate only specific quadrants for sharper contrasts and better imaging.
- A filtering manifold was acquired with appropriate fittings to increase the efficiency and ease of filtration of samples for the paleontology preparation laboratory.
- A second Agico JR-6A spinner magnetometer system was ordered and will be delivered to IODP in early FY12. This system will provide both greater sample throughput and full redundancy to the capability.
- An additional DigiBASE photomultiplier base was purchased in order to develop a horizontally oriented gamma ray attenuation (GRA) system to work in concert with the existing vertically-oriented system and to improve the overall data quality of the GRA's density estimation.
- An Agilent Cary 100 Bio spectrophotometer was purchased to replace the aging Milton-Roy 301 spectrophotometer in the chemistry laboratory. This system will act as an effective backup and supplement to the OI Analytical Discrete Analyzer and was purchased as a response to recommendations from the Expedition 334 Science Party.
- Two Metrohm 876 manual titrators were purchased to replace aging systems that suffer from air leaks, causing inaccuracies in manual titration methods (e.g., chloride).

Projects and Other Activities

Geosciences Laboratory

The TAMU Ocean Drilling and Sustainable Earth Science (ODASES) Geosciences Laboratory hosted six scientists for X-ray fluorescence (XRF) scanning projects during the quarter. The schedule for use of the XRF continues to be greater than 50% of available days, and scientists continue to use the shore-based

SHIL to image cores when they are prepared for XRF analysis. Work began toward establishment a shore-based Whole-Round Multisensor Logger with magnetic susceptibility, density by gamma ray attenuation, and *P*-wave velocity capabilities. As with the shore SHIL, this system is part of the shipboard support infrastructure but will be available for the use of visiting scientists.

Engineering Support

Projects and Other Activities

Large-Diameter Pipe-Handling Infrastructure

Representatives from the USIO, Howard and Associates, Inc. (HAI), and Blohm & Voss (B&V) met with the crew of the *JOIDES Resolution* on 7–9 September 2011 during the Curaçao port call, where they observed a demonstration of the current dual-elevator pipe-handling system by tripping 5 inch pipe using the smaller 250 ton elevators. The ship's crew pointed out several important features of the system, such as the pilot neck on the bottom off the elevators, the self-latching link blocks, the self-latching door, the safety clamp to ensure the link blocks stay latched, and the latch assist cable assembly. B&V representatives were also able to take key measurements of the rig floor layout and equipment needed for the design of the new system. B&V was asked to provide a matrix of elevator weights comparing three options: side-door elevators with bushings, side-door elevators bored for 6-5/8 inch pipe, and center-latch elevators with bushings. Once this matrix is completed, all parties will have the opportunity to comment and a path will be chosen so B&V can proceed with the detailed design work of the elevators.

Magnetic Susceptibility Sonde Rebuild

Development of two Magnetic Susceptibility Sondes (MSS) to replace the tool lost during IODP Expedition 320 neared completion. Development of the low- and high-resolution sensors was completed, and one of the low-resolution sensors (LR3) was successfully deployed in the LDEO test well. Fabrication of the nonmagnetic housing was under way during the quarter, and completion of remaining tasks, bench testing, and deployment of both tools at the LDEO test well is anticipated during the first quarter of FY12, with potential at-sea deployment of the MSS-B during Expedition 340 in February 2012.

Multifunction Telemetry Module Projects

The multi-functional telemetry module (MFTM) transmits third-party tool downhole data back to the surface in real time. In upcoming expeditions, the MFTM will be deployed in combination with projects such as the DEBI-t, the Motion Decoupled Hydraulic Delivery System (MDHDS), and the Simple Cabled Instrument for Measuring In-Situ Parameters (SCIMPI) (see "MFTM for SCIMPI Deployment" in "Engineering Development" for more information).

The DEBI-t project is a collaborative effort between the USIO, University of Southern California, National Aeronautic and Space Administration Jet Propulsion Laboratory, and Photon Systems, Inc., wherein the MFTM will provide the means to monitor DEBI-t data in real time while in combination with other LDEO third-party and Schlumberger tools. The testing phase of this project was completed during the Curaçao port call, where the DEBI-t was calibrated, sensors were aligned, and the tool was successfully bench tested with the MFTM and Schlumberger telemetry cartridges. The DEBI-t and MFTM were successfully deployed in Hole 395A during Expedition 336 in an attempt to measure borehole temperature and biomass on the borehole wall.

The MDHDS project is a collaborative development between the USIO, University of Texas–Austin, Massachusetts Institute of Technology, and Mohr Engineering, wherein the MFTM will allow real-time monitoring of formation temperatures and pressures while the penetrometer is decoupled from the drill string. The MFTM, the Electronic Release System (ERS), temperature-to-pressure (T2P) penetrometer, and MDHDS were deployed at the Schlumberger Genesis rig on 2 and 3 September 2011. During these tests, problems were encountered with the MDHDS latching system mechanism, resulting in adoption of a new testing schedule for the latching mechanism to begin in early FY12. At-sea deployment for the

MDHDS is targeted for the transit beginning Expedition 342, dependent on positive results during the testing schedule.

Wireline Heave Compensating System

The USIO and Schlumberger continued data collection under different conditions (i.e., water depth, heave, and so on) prior to beginning logging operations in open holes for optimizing the system's capabilities. The USIO will continue to routinely assess results and work with Schlumberger to optimize the system.

Engineering Development: Drilling Sensor Sub

Progress was delayed by tool calibration issues with one of the two Drilling Sensor Sub tools and subsequent discussions with the vendor to resolve it. The USIO negotiated a plan with the vendor for performing diagnostics on both tools. Due to time constraints and prior commitments with the vendor, we do not expect the results of the diagnostics tests until the first week of December 2011.

Legacy Documentation

The USIO routinely archives electronic copies of documents and reports produced on behalf of IODP. Legacy preservation activities for Technical, Engineering, and Science Support include storing electronic copies of expedition daily, weekly, and site summary reports; appropriate operations and engineering reports; and other technical documentation.

ENGINEERING DEVELOPMENT

The USIO is responsible for utilizing IODP resources to oversee and/or provide engineering development projects in accordance with the long-term engineering needs of IODP as prioritized by the SAS.

Multisensor Magnetometer Module

The multisensor magnetometer module (MMM) is a new magnetometer tool under development at LDEO. The MMM will provide continuous downhole records of formation magnetization surrounding the borehole and the capability to work in both strongly magnetized hard rock formations and in sediments with weaker magnetizations. The tool will also provide borehole and tool orientation data and will measure the borehole field on three axes, allowing calculation of the full formation magnetization vector: inclination, declination, and total field intensity. This downhole magnetic information will complement core sample magnetic measurements and significantly enhance IODP's ability to magnetostratigraphically date sediment sequences.

Project Status

All sensors for the tool were purchased, the nonmagnetic pressure housing design was completed, and machining was initiated. Completion of the tool and bench testing is expected in early FY12, with test well deployment following in the second half of FY12. A subsequent first-expedition deployment could be targeted in early FY13.

MFTM for SCIMPI Deployment

The MFTM allows communication from the Motion Decoupled Hydraulic Delivery System (MDHDS) to a surface panel in order to monitor the health and status of downhole tools deployed by the MDHDS. The SCIMPI is a borehole observatory sensor system that incorporates established modular technology to capture data from subseafloor sensors over long time periods (months to years) to measure in situ physical and hydrogeological properties in IODP boreholes.

The FY11 MFTM for SCIMPI deployment project is a collaborative effort between the USIO; University of Rhode Island; Transcend Engineering & Technology, LLC; and Woods Hole Oceanographic Institute,

wherein an MFTM will be built to maintain communications with the SCIMPI string to confirm that all the instrument packages are functioning properly prior to deployment.

Project Status

The MFTM for the SCIMPI project was finalized and future testing with the entire SCIMPI sub-seafloor package was tentatively planned for early FY12.

CORE CURATION

The USIO provides services in support of IODP core sampling and curation of the core collection archived at the Gulf Coast Repository (GCR).

Curation Strategies and Expedition Core Sampling

The USIO planned sample and curation strategies with the respective Sample Allocation Committees (SACs) for Expeditions 336 and 339. USIO Curatorial Specialists supervised shipboard core sampling during Expedition 336 and reviewed all shipboard and moratorium-related requests in coordination with the other members of the expedition SAC.

Sample/Data Request System

Testing of the Sample/Data Request System was conducted during the fourth quarter, and revisions were made. The modified program will be ready to release to the community for the final phase of testing on 21 October 2011.

Core Curation

All IODP core sample requests are handled by the GCR, Bremen Core Repository, and Kochi Core Center. The USIO conducted all responsibilities associated with curation of core collections at the GCR, providing services in support of core sampling, analysis, and education. The following “Repository Activity” table provides a summary of the number of samples taken during the quarter, details of the sample requests, and tours of the GCR.

Repository Activity

Gulf Coast Repository:	Visitors	Request Number, Name, Country	Number of Samples
		22188C, Tzanova, USA	94
		22379A, Serno, USA	7
		1215IODP, Backman, Sweden	377
		3771216IODP, Kordesch, USA	40
		22333B, Tominaga, USA	38
		22378A, Kuroda, USA	59
		22254A, Rumford, USA	93
		22371A, Sageman, USA	64
		22383A, Ingalls, USA	6
		22335A, Meynadier, France	62
		22386A, Polissar, USA	36
		1234IODP, Wilson, United Kingdom	21

Gulf Coast Repository:	Visitors	Request Number, Name, Country	Number of Samples
		2122388A, Martin, USA	123
		22302C, Hoefig, Germany	17
		1235IODP, Sangiorgi, The Netherlands	30
		21882C, Cook, United Kingdom	5
		1238IODP, Cook, United Kingdom	11
		22200C, Yamamoto, Japan	51
		1188IODP, Voigy, Germany	1049
	1	1210IODP, Shimono, Japan	514
	1	1197IODP, Yamazaki, Japan	47
	1	986IODP, Hoernle, Germany	13
		22279B, Bolton, Spain	1
	2	22400A, O'Connel, USA	138
		21841B, Egan, United Kingdom	20
		1248IODP, Katsuki, South Korea	45
	2	22363A, Blinova, Russia	497
		20700E, Shakun, USA	391
		22403A, Bailey, United Kingdom	498
		1289IODP, Pierce, USA	23
		1286IODP, Pike, United Kingdom	4
		22387A, Rumford, USA	122
		20086C, Haley, USA	25
		20960D, Hollis, New Zealand	17
		21711B, Meister, Germany	129
	1	1292IODP, Torres, USA	25
		1293IODP, Bohaty, United Kingdom	98
		1234IODP, Bijl, The Netherlands	14
	1	22378B, Kuroda, Japan	23
	1	1199IODP, Hertzberg, USA	17
		21341J, Rafter, USA	192
		22419A, Kamikuri, Japan	147
		22237B, Diester-Haass, Germany	9
		22431A, Crouch, New Zealand	30
		1235IODP, Almeev, Germany	4
		21398F, Ravizza, USA	44
	2	1301IODP, Wilson, United Kingdom	212
		22434A, Richaud, USA	29
		1303IODP, Cook, United Kingdom	6
		884IODP, Sano, Japan	13
	1	1305IODP, Evans, USA	321
	1	1306IODP, Evans USA	74
	1	22227B, Jeremiah, USA	54
		22237C, Diester-Haass	10
		1311IODP, Richaud, USA	66
	17	22446A, Thomas, USA (educational)	No samples
	61	Public Relations Tours (6)	No samples
Total science	**15**	**55**	**6,055**
Total education:	**17**	**0**	**0**
Total public relations:	**61**	**0**	**0**
Total:	**93**	**55**	**6,055**

Use of Core Collection

The USIO promotes outreach use of the GCR core collection by conducting tours of the repository and providing materials for display at meetings and museums. Public relations tours and educational visits to the repository are shown in the Sample Requests table above.

This quarter, the GCR hosted educational tours of the repository for two groups of TAMU students and a group of Houston high school students. With the beginning of the TAMU Fall 2011 semester, requests have been received for use of the repository and core collection for classroom exercises. One such class was held in September, and others are scheduled for the beginning of the next quarter.

In addition, USIO curatorial specialists gave a presentation to British Petroleum and TAMU geologists on the IODP cores on exhibit at the Texas Maritime Museum in Rockport, Texas, before closing of the exhibit. The exhibit will be traveling to The North Museum in Lancaster, Pennsylvania, before returning to the GCR (see “Strategic Partnerships” in “Education” for more information).

Legacy Documentation

The USIO routinely archives electronic copies of documents and reports produced on behalf of IODP. Legacy preservation activities for Core Curation include the following four projects.

Sample Request File Scanning

In October 2010, the USIO began scanning ODP and DSDP paper sample request files, which contain some information that is not included in the database. The portable document format (PDF) file formats will reduce the physical storage space of these documents and will make content more accessible when there is a need to research extra information on old use of the cores. Work on this project continued during the quarter and the project is now 50% complete.

Thin Section Archive Sample Scanning

The USIO continued high-resolution digital imaging of all GCR thin section archive samples from DSDP through ODP to make them publicly available online. This project began in October 2010 with the oldest thin sections (DSDP Leg 1) and has progressed to ODP Leg 142.

Core Working Half Imaging

The USIO conducted digital imaging of working half sections that were pulled for sampling or other scientific requests during the quarter. High-resolution images of core working halves are posted on the web for public viewing to show how much the working halves have been sampled to date (http://iodp.tamu.edu/curation/samples.html).

This routine procedure focuses on imaging only those sections that get sampled; therefore, the section list for imaging correlates with all sections that are pulled for sample requests (see the “Repository Activity” table). Resampling of previously imaged working halves also results in an updated image.

Inventory of Returned Sample Residues

Inventory of the collection of returned DSDP, ODP, and IODP sample residues from scientists continued. This collection is larger (tens of thousands of samples) than the returned residues from the ship, for which the inventory is up to date. More than 60% of the returned sample residues from scientists are now sorted by expedition into clearly labeled boxes. After all of the residues are sorted by expedition, the inventory of individual samples within each box will begin.

DATA MANAGEMENT

The USIO manages data supporting IODP activities, including expedition and postexpedition data, provides long-term archival access to data, and supports USIO Information Technology (IT) services. The USIO also provides database services for postmoratorium ESO and CDEX log data. Daily activities include operating and maintaining shipboard and shore-based computer and network systems and monitoring and protecting USIO network and server resources to ensure safe, reliable operations and security for IODP data and IT resources.

Expedition Data

LIMS Database

Data from Expeditions 318 and 327 were placed out of moratorium this quarter. The data from USIO Expeditions 317, 318, 320, 321, 323, 324, and 327 are now out of moratorium and available to the public online and from the Data Librarian.

Log Database

The following data were processed and put online during the quarter:

- USIO Expedition 336, Hole 395A: standard and DEBI-t data
- CDEX Expedition 314, Holes C0001D, C0004B, C0006B: LWD image data
- CDEX Expedition 314, Hole C0002A: LWD image and seismic data
- CDEX Expedition 319, Hole C0009A: standard and image data

The following data were reviewed and will be put online when additional information is received:

- CDEX Expedition 319, Hole C0010A: standard and image data
- CDEX Expedition 322, Hole C0011A: standard and image data

The database scripts for the CDEX data were updated to accommodate the Formation MicroImager data.

Expedition Data Requests

LIMS Database

Top 10 Countries Accessing LIMS Web Database*		
Rank	**Country**	**Visitor Sessions**
1	USA	693
2	Unknown	182
3	Japan	119
4	Germany	58
5	United Kingdom	47
6	South Korea	33
7	Australia	25
8	Western Europe	22
9	China	16
10	France	14
	Others	118
	Total	**1,327**

*Visits by USIO-TAMU employees were filtered out.

Top LIMS Web Queries*		
Rank	**Query**	**Uploads**
1	LIMS Client	274
2	Sci-data	175
3	Samples	128
	Total	**577**

*Visits by USIO-TAMU employees were filtered out.

Janus Database

Top 10 Countries Accessing Janus Web Database*		
Rank	**Country**	**Visitor Sessions**
1	USA	1,374
2	Germany	497
3	United Kingdom	439
4	Japan	257
5	China	152
6	Australia	92
7	Slovak Republic	76
8	The Netherlands	63
9	Canada	55
10	France	54
	Others	369
	Total	**3,428**

*Visits by USIO-TAMU employees were filtered out.

Top 20 Janus Web Queries*		
Rank	**Query**	**Uploads**
1	Imaging: core photos	1,194
2	Point calculation	1,058
3	Sample	970
4	Coring summaries	609
5	Site summaries	498
6	Hole trivia	446
7	Requests	375
8	Hole summaries	244
9	Site details	202
10	Site summary trivia	200
11	Physical properties: MSL	195
12	Physical properties: GRA	187
13	Chemistry: CARB	186
14	Leg summaries	185
15	Chemistry: RockEval	169
16	Chemistry: IW	149
17	Physical properties: MAD	149
18	Depth calculation	146

Top 20 Janus Web Queries*		
19	Chemistry: GAS	137
20	Imaging: prime data images	122
20	Paleo: age model	122
	Others	1,553
	Total	**8,971**

*Visits by USIO-TAMU employees were filtered out.

Other Web Statistics*		
Database query hits:		
	Entire site (successful)	16,622
	Average per day	180
Visitor sessions:		
	Total number of visitor sessions	3,428
	Average per day	37
	Average length of visit	11:50
	International visitor sessions	59.66%
	Visitor sessions of unknown origin	0.26%
	Visitor sessions from United States	40.08%
Visitors:		
	Unique visitors	1,732
	Visitors who only visited once	1,207
	Visitors who visited more than once	525
	Average visits per visitor	1.98

*Visits by USIO-TAMU employees were filtered out.

Data Requests to Data Librarian*	
Requests	**Total**
Country:	
USA	14
Australia	4
Germany	2
Japan	1
India	1
Total	22
Data:	
Usage and location questions of Janus, LIMS, and/or DSDP data	12
Sample data	5
Seismic	1
Depth	1
Chemistry	1
Photo request	1
Logging	1
Total	22

*Visits by USIO-TAMU employees were filtered out.

Log Database

Top 10 Countries Accessing Log Web Database*		
Rank	**Country**	**Visitor Sessions**
1	United States	472
2	United Kingdom	124
3	Germany	82
4	China	63
5	Japan	48
6	Canada	40
7	France	32
8	Saudi Arabia	31
9	Australia	25
10	Brazil	23
	All others	208
	Total	**1,148**

*Visits by USIO-LDEO employees were filtered out.

Other Log Web Statistics*		
Database query hits:		
	Entire site (successful)	9,438
	Average per day	7.54
Visitor sessions:		
	Total number of visitor sessions	1,148
	Average per day	12.80
	Average length of visit	6:43
	International visitor sessions	40.77%
	Visitor sessions of unknown origin	18.12%
	Visitor sessions from United States	41.11%
Visitors:		
	Unique visitors	773
	Visitors who only visited once	659
	Visitors who visited more than once	519
	Average visits per visitor	2.22

*Visits by USIO-LDEO employees were filtered out.

Program-wide Access Portal

LIMS Reports Development

The USIO successfully completed the LIMS Reports project during the quarter. The new product was released and is publicly available at http://web.iodp.tamu.edu/UWQ/ (see “Software Development” for more information).

Operation, Maintenance, and Security

Regional Test and Integration Facility

Implementation of the testing infrastructure was completed during the quarter. Server operations will add additional disaster recovery capability over time, as funds become available. Current services include: LIMS, Sample Material Curation System, and Asset management System. Additionally, the project

manager has narrowed down the search for an off-site location from four locations to two, both of which are located in College Station, Texas. The project team plans to review these sites and make a recommendation by the end of the first quarter of FY12.

Software Development

LIMS Reports

The project scope and clarification of deliverables and nondeliverables for the LIMS Reports project are provided below.

Project Scope and Deliverables

Project Scope: During expeditions, laboratories on board the *JOIDES Resolution* produce a vast amount of data that are stored in the LIMS. The LIMS Reports application will provide scientists with a simple, intuitive web interface to extract data and generate reports for scientific analysis. Specifically, this project encompasses the development of ~30 tabular-data reports by September 2011, with each report displaying the primary data relevant for that system and providing a description, definitions, and examples to guide scientists unfamiliar with the data. User feedback will guide future interface and performance enhancements.

Deliverables: Deliverables for this project include a user interface with public access via web services and user guide; data encompassing summaries, samples, physical properties, magnetism, chemistry, and images; software; and project documents, including an enhancement list for the next project phase and a closeout report.

Nondeliverables: Issues related to but not addressed by this project include descriptive data (which fall under another project), fixing data errors prior to report release, reports for new instruments, reports for third-party tools, formal external testing by the science community (which will occur as a follow-on activity), instrument quality control, and web services performance tuning.

Project Status

USIO-TAMU successfully closed the LIMS Reports project, including 32 reports to extract data and generate reports for scientific analysis. The new product was released and is publically available at http://webserv.iodp.tamu.edu:8080/UWQ/.

Enhanced DESCLogik Application

The scope and clarification of the Enhanced DESCLogik Application project deliverables are provided below.

Project Scope and Deliverables

Project Scope: The purpose of this project is to significantly enhance the tabular data capture functionality and interfaces of DESClogik, resulting in a more reliable and feature-rich application that is simpler to use and support. Improvements to DESClogik should enable shipboard scientists to be more successful in using the application to capture descriptive information for all geological subdomains, including sedimentology, petrology, paleontology, structural geology, and so on.

The planned enhancements are based on more than 100 issue reports collected from science users and staff during the past two years. The issues were analyzed and classified into features, major developments, and support issues. The features category included repairs, changes, and additions mainly to the tabular data capture functions. The major developments included mainly graphic data capture capabilities that currently exist in a rudimentary implementation and that need to be addressed in a future project based on an enhanced tabular capture application. Support issues included inadequate configuration of templates, data quality control, and training. These issues will also be more easily addressed with the enhanced tabular data capture application delivered with this project.

The prioritization process identified a total of 50 issues for implementation. The purpose of this project is to implement as many of these feature changes as time and resource constraints permit.

Deliverables: The deliverable of this project is an enhanced DESClogik application that is easier to use, more reliable, and that features a critical user interface based on implementation of the majority of the 50 feature changes listed in a separate requirements document.

Project Status

The Enhanced DESClogik Application project closed on 1 September 2011, as scheduled, with completion of 35 additional features. Follow-on enhancements will be addressed in future projects.

Legacy Documentation

Legacy preservation activities for Data Management this quarter included storing electronic copies documenting all information technology architecture and corresponding services configurations.

IODP Inventory Update

The data inventory includes data from IODP Expeditions 301–336 (Hole 395A re-entry), including IODP-ESO Expeditions 302 and 310 and IODP-CDEX Expeditions 314, 319, and 322.

Other Projects and Activities

The headers of all of the ASCII files from USIO Expeditions 301–312 were manually edited to include units and depth reference, a step which makes them consistent with the remaining files from IODP Phase 2 expeditions.

All the IODP DVDs produced on the ship by Schlumberger were uploaded in the general archive mirrored at Ocean Leadership.

In addition, the USIO took advantage of the fourth-quarter tie-up period to conduct a web services update, update the MADMAX and GANTRY software, and conduct a Logger Summit to prepare a report on the state of the core logging systems software and make recommendations for improvements. Summit participants were charged with determining best practices for future logger software development, the feasibility of implementing a common logger software architecture, and requirements for developing consistent user interfaces across loggers.

PUBLICATIONS

IODP Publication Services provides publication support services for IODP riserless and riser drilling expeditions; editing, production, and graphics services for all required reports, technical documentation, and scientific publications as defined in the USIO contract with IODP-MI; and warehousing and distribution of IODP, ODP, and DSDP publications.

IODP Scientific Publications

Publication	Release Date	Digital Object Identifier	Comments
Scientific Prospectus:			
Expedition 339 Addendum: Mediterranean Outflow—environmental significance of the Mediterranean Outflow Water and its global implications	September 2011	doi:10.2204/iodp.sp.339add.2011	

Publication	Release Date	Digital Object Identifier	Comments
Expedition 340T: Atlantis Massif Oceanic Core Complex—velocity, porosity, and impedance contrasts within the domal core of Atlantis Massif: faults and hydration of lithosphere during core complex evolution	August 2011	doi:10.2204/iodp.sp.340T.2011	
Expedition 341: Southern Alaska Margin—interactions of tectonics, climate, and sedimentation	August 2011	doi:10.2204/iodp.sp.341.2011	
Preliminary Reports:			
Expedition 329: South Pacific Gyre subseafloor life	August 2011	doi:10.2204/iodp.pr.329.2011	
Expedition 335: Superfast Spreading Rate Crust 4—drilling gabbro in intact ocean crust formed at a superfast spreading rate	July 2011	doi:10.2204/iodp.pr.335.2011	
Proceedings of the Integrated Ocean Drilling Program:			
Volume 303/306			
Data report: anisotropy of magnetic susceptibility of sand layers and detrital carbonate layers in deep-sea sediments from the Labrador Sea, North Atlantic	30 September 2011	doi:10.2204/iodp.proc.303306.215.2011	
Volume 314/315/316			
Data report: consolidation, permeability, and fabric of sediments from the Nankai continental slope, IODP Sites C0001, C0008, and C0004	2 August 2011	doi:10.2204/iodp.proc.314315316.218.2011	Edited and formatted for CDEX
Data report: compressional and shear wave velocity measurements on sediment in the hanging wall and footwall of megasplay fault, NanTroSEIZE Stage 1	15 August 2011	doi:10.2204/iodp.proc.314315316.217.2011	Edited and formatted for CDEX
Data report: permeability of mud(stone) samples from IODP Sites C0006 and C0007, Nankai Trough Seismogenic Zone Experiment	22 September 2011	doi:10.2204/iodp.proc.314315316.214.2011	Edited and formatted for CDEX
Data report: permeability measurements under confining pressure, Expeditions 315 and 316, Nankai Trough	29 September 2011	doi:10.2204/iodp.proc.314315316.205.2011	Edited and formatted for CDEX
Volume 318			
Expedition 318: Wilkes Land Glacial History	2 July 2011	doi:10.2204/iodp.proc.318.2011	
Volume 327			
Expedition 327: Juan de Fuca Ridge-Flank Hydrogeology	5 September 2011	doi:10.2204/iodp.proc.327.2011	

USIO Reports

IODP Publication Services produces the USIO quarterly reports, annual reports, Annual Program Plans, and other reports as requested (see "USIO Reports" in "Management and Administration" for details on these documents).

Program-Related Citation Statistics

Program-Related Citations Submitted to AGI

In November 2008, the USIO began submitting Program-related and other ocean drilling citations to the American Geological Institute (AGI) for inclusion in the GeoRef database and the subset Ocean Drilling Citation Database, which includes publication records related to DSDP, ODP, and IODP. The USIO submitted 81 citations to AGI this quarter.

2011 Ocean Drilling Citation Report

IODP Publication Services produces annual studies of the Ocean Drilling Citation Database to present information on how Program-related research is disseminated into the scientific community through publications, thereby indicating the impact of Program science. This year's study was conducted on citations published through December 2010 that were contained in the database as of June 2011. New figures were added showing citations in high-impact journals, theses based on Program science, and research undertaken in areas of continued interest throughout DSDP, ODP, and IODP. The 2011 study was completed this quarter and is available online at http://iodp.tamu.edu/publications/AGI_studies/AGI_study_2011.pdf.

IODP Publications Management

IODP Scientific Publication Deadline Extension Requests

The requirement of all Science Party members to conduct research and publish the results of their work is detailed in the IODP Sample, Data, and Obligations Policy (http://www.iodp.org/program-policies/). To fulfill this obligation, scientists publish their papers 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.

Initial papers/data reports

Expedition	Submission Deadline (20 Months Postmoratorium)	Deadline Extensions Approved in FY11 Q4	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		13	9
307	13 June 2008		4	3
311	27 June 2008		12	8
309/312	28 August 2008		9	9
310	4 November 2008		16	7
314/315/316	4 October 2010		27	16

Synthesis papers

Expedition	Submission Deadline (26 Months Postmoratorium)	Deadline Extensions Approved in FY11 Q4	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	1
308	8 September 2008		1	1
303/306	10 November 2008		1	1
307	15 December 2008		1*	1
311	29 December 2008		1	1
309/312	27 February 2009		1*	
310	4 May 2009		1*	

*Requests for submission deadline extensions beyond 38 months postmoratorium were received and referred to the respective Platform Curator.

Scientific Publication Distribution

IODP scientific publications are the primary method of disseminating IODP research to the scientific community and the public. Initial distribution of IODP scientific publications includes more than 800 program member offices, universities, libraries, and geological organizations worldwide, and the USIO provides additional print or electronic copies of legacy publications upon request. Publications requested and distributed during the quarter are listed below.

Publication	Number Distributed
IODP Publications:	
Proceedings of the Integrated Ocean Drilling Program Expedition Report DVDs	1
ODP Publications:	
Proceedings of the Ocean Drilling Program, Initial Reports	2
Proceedings of the Ocean Drilling Program, Scientific Results	3
DSDP Publications:	
DSDP *Initial Reports* (books)	2

IODP Publications Website

The IODP Publications website is hosted at TAMU.

FY11 Q4 IODP Publications Website	
Parameter	www.iodp.org/ scientific-publications
Page views	271,940
Site visits	48,901

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

Reports and Publications	DOI Prefix	Number of Resolutions			
		July 2011	August 2011	September 2011	FY11 Q4 Total
IODP	10.2204	2,785	2,287	3,147	8,219
ODP/DSDP	10.2973	4,168	3,633	2,724	10,525

Publications Support

The USIO provided Publications Specialist services during USIO Expedition 336 and hosted postexpedition meetings for USIO Expeditions 330 and 334.

Technical Documentation

Technical documents produced by the USIO are available to users via the Cumulus web client (http://iodp.tamu.edu/tasapps/) once they reach the technical draft stage. Technical documents in production during the fourth quarter of FY11 are shown in the table below.

Technical Documentation	FY11 Q4 Status
Quick start guides	
Section-Half Imaging Logger (SHIL)	Sent out for technical review
Section-Half Multisensor Logger	Sent out for technical review
Whole-Round Multisensor Logger	Sent out for technical review
Discrete Analyzer	Sent out for final review
Ion Chromatograph	Sent out for final review
Automated Vane Shear Strength	Released V1.0
Coulometer	Released V1.0
Inductively Coupled Plasma–Atomic Emission Spectroscopy (ICP-AES)	Released V1.0
Laboratory Information Management System (LIMS) Reports	Released V1.0
Superconducting Rock Magnetometer (SRM) (Discrete)	Released V1.0
SRM (Section Half)	Released V1.0
Thermal Conductivity	Released V1.0
User guides	
Moisture and Density (MAD)	Sent out for technical review
Natural Gamma Radiation Logger	Sent out for technical review
SHIL	Sent out for technical review
Source Rock Analyzer	Sent out for technical review
Hard Rock Preparation for ICP Analysis	Released V1.0
ICP-AES	Released V1.0
LIMS Reports	Released V1.0
Motion-Compensated Balance Systems	Released V1.0
P-wave Velocity (Caliper and Bayonet) Gantry	Released V1.0
Sediment Strength (Automated Vane Shear, Torvane, Penetrometer)	Released V1.0

Technical Documentation	FY11 Q4 Status
Thermal Conductivity	Released V1.0
Wayne Kerr Component Analyzer	Released V1.0
Advanced User Guides	
MAD	Sent out for technical review
Source Rock Analyzer	Sent out for technical review

Legacy Documentation

The USIO routinely archives electronic copies of documents, reports, and scientific publications produced on behalf of IODP. Documents archived this quarter included all scientific publications produced during the quarter, the FY11 Q3 report, the revised FY12 IODP-USIO Annual Program Plan, and planning documentation for reporting deliverables.

Other Projects and Activities

Digital Archive Consulting

A needs assessment toward establishment of a permanent digital archive of scientific ocean drilling publications was received on 27 July 2011. L.N. Taylor, who is responsible for continued development of the University of Florida's digital collections, prepared the needs assessment under contract to USIO-TAMU. Taylor's report covered the inventory of drilling program publications; access, archive, and digital preservation needs; rights management concerns; metadata standards; digital repository services; and resource requirements.

After receiving the report, USIO representatives explored a joint project between the USIO and the Texas A&M University Libraries to develop a prototype publications archive of IODP, ODP, and DSDP publications. Although academic and staff representatives of the TAMU Libraries consider the drilling program publications a prestigious collection, the TAMU Libraries' current infrastructure could not support the drilling program publications in a fully functional digital library. In addition, the proposed project would require a change in the library's strategic plan at a time when a search for new dean of libraries is under way.

EDUCATION

USIO education activities are supported by NSF through other Program integration costs. The USIO is responsible for developing and disseminating expedition-specific and thematic education activities and materials for elementary through post-secondary and free choice–learning audiences, promoting diversity programs and partnerships, and supporting legacy resources.

The USIO facilitates education activities through Deep Earth Academy (funded jointly by the USIO and the United States Science Support Program) in cooperation with other U.S. education and outreach groups, conducting teacher education activities; developing, testing, and disseminating educational curriculum that highlights IODP science programs; and implementing live and near-real-time programs that highlight and use the *JOIDES Resolution* as a platform for education. The USIO also conducts diversity outreach initiatives to allow minority students to pursue studies in earth systems sciences or to explore careers in scientific ocean drilling and large-scale science program management.

Professional Development

2011 School of Rock Review Summit

A comprehensive School of Rock review and assessment meeting took place 31 July–4 August 2011 on board the *JOIDES Resolution* in Curaçao. This summit brought together representatives from each of the previous School of Rock workshops, including 16 School of Rock alumni, past instructors, and Program

staff. Summit activities included a summary of data collected from surveys of all former School of Rock participants, a review of the impact of the School of Rock program over time, exploration of elements central to the School of Rock's success, future directions for the program, and several new science investigations.

Summit participants were enlisted to write additional funding proposals and to implement several new initiatives for ongoing communication among the individual School of Rock groups and the collective School of Rock community. A complete report on the summit will be available on the Deep Earth Academy website during FY12.

Onboard Educator Program

J. Magnusson, an elementary-level teacher from Washington State was selected to serve as the Onboard Education Officer for Expedition 336, which began at the end of FY11. Magnusson's plans for the expedition include video broadcasts scheduled with classrooms and groups around the world, videos produced from both her own Flip footage and that shot by professional videographers (see "Videos and Video Broadcasts" for more information), a daily personal blog and a blog for educators and children, and contests on Facebook and the *JOIDES Resolution* website.

Educational Outreach Events

USIO education staff participated in several events focused on the local community, including the District of Columbia Science Expo on 17 August 2011 and the DC Area Teacher's Night on 22 September 2011.

Expedition-Based Learning Activities and Materials

The USIO links school and public audiences to activities on board the *JOIDES Resolution* via advanced web technologies, the *JOIDES Resolution* website, video broadcasting, and/or podcasting. The USIO also produces new expedition-specific and thematic video and learning materials based on legacy material and science and life at sea during USIO expeditions.

JOIDES Resolution Website and Social Networking

The joidesresolution.org website promotes each expedition with expedition pages, blogs, videos, images, and more, and serves as the hub for Program social networking on Facebook, Twitter, and YouTube sites.

While the *JOIDES Resolution* was in tie-up this quarter, the website promoted Expedition AT18-07 as part of the USIO's partnership activities with the Center for Dark Energy Biosphere Investigations (C-DEBI) (see "Strategic Partnerships" for more information) and the beginning of Expedition 336. In addition, a web specialist is under contract to make some major improvements and modifications to the website beginning in the first quarter of FY12.

USIO Educational Website Statistics

FY11 Q4 Deep Earth Academy Web Sites		
Web domain	**www.joidesresolution.org**	**www.oceanleadership.org/education/deep-earth-academy**
Page views	41,533	20,090
Site visits	11,530	14,344

*Ocean Leadership's educational websites are funded jointly by the USIO and USSSP.

Videos and Video Broadcasts

During this quarter, the USIO coordinated a partnership project on the R/V *Atlantis* as a follow-up to Expedition 327. During a 20-day expedition to the Juan de Fuca Ridge, education staff on board conducted 13 video broadcasts to museums, summer camps, college programs, and summer schools.

Onboard Education Officer J. Magnusson has scheduled approximately 40 video broadcasts to take place during Expedition 336. The USIO is also hosting two professional videographers, contracted through Co-Chief Scientist K. Edwards, to create a general-audience documentary about Expedition 336. The documentary will take at least a year to complete, but Magnusson will be able to use some of the documentary footage to produce "webisodes" that will be available online during the expedition.

Educational Materials Development and Distribution

Materials developed this quarter included three new videos produced during Expedition AT18-07, an expedition overview brochure for educators, and a new edition of the *Tales of the Resolution* comic titled "*Choose Your Own: Tale of the Resolution.*" This issue highlights several of the different careers associated with sailing on the *JOIDES Resolution*, and follows the activities of a scientist, an engineer, and a welder from USIO Expedition 328. Special emphasis is placed on showing the cooperative and complementary nature of their work and the need for various types of expertise on the drillship.

Materials were distributed this quarter at conferences and outreach activities and in response to requests received through the Deep Earth Academy website. Orders through the website remained high and, in response, the USIO placed many orders for reprints of the most popular materials and developed standard packets to mail out to requesters.

Scientists as Educators

The USIO provides regular opportunities for scientists to participate in educational programming. A number of scientists and USIO staff participated in the School of Rock Review Summit in early August 2011.

Strategic Partnerships

Texas Maritime Museum Partnership

The USIO partnered with the Texas Maritime Museum in Rockport, Texas, to develop and launch "Getting to the Core: the *JOIDES Resolution*," a temporary exhibit featuring scientific ocean drilling. The exhibit, initiated by IODP Expedition 327 participant and artist/illustrator D. Bowman, features real sediment cores, drilling artifacts, video, and activities for children. The exhibit also includes a montage of more than 50 spectacular photos and works of art created on board that tell the story of the expedition. "Getting to the Core" opened in April 2011 and ran through October 2011. At the end of the quarter, plans were well under way to transfer the exhibit to The North Museum in Lancaster, Pennsylvania, where the exhibit was scheduled to open on 15 October 2011.

Center for Dark Energy Biosphere Investigations Partnership

The USIO partnered with C-DEBI on the R/V *Atlantis* Expedition AT18-07 from 26 June–14 July 2011. The overall goal of this expedition was to understand hydrologic properties and processes within volcanic oceanic crust, including links between fluid flow, geochemistry, rock alteration, and subseafloor microbiology. The remotely operated vehicle *Jason* was used to enable onboard personnel to collect samples and data from the subseafloor observatories (CORKs) installed during IODP Expedition 327.

A team of five onboard educators (including a high school physics teacher, high school biology teacher, middle school science teacher, informal science educator, and videographer) coordinated by the USIO provided updates on Expedition AT18-07 via the *JOIDES Resolution* blog, Facebook, and Twitter, and offered 13 live video/audio events. Educational components of the expedition also included a web-based interactive module called "Adopt a Microbe From the Deep Biosphere" that allowed students and educators to follow the mission in real time, virtually 'adopt' a microbe from the bottom of the ocean, and receive daily science updates from the vessel (http://aam.darkenergybiosphere.org). The expedition spanned FY11 quarters three and four. The majority of the expedition took place during the fourth quarter, when live video events were offered and each educator worked with scientists and the education

team on board to develop and implement their individual projects and plan post-expedition work. The education team also produced videos, curriculum, and additional web-based projects for students. Several proposals for related presentations at the annual American Geophysical Union (AGU) conference were also submitted and accepted.

Outside Funding and Sponsorships

Center for Dark Energy Biosphere Investigations Partnership

The USIO utilized funding from the C-DEBI grant received during the second quarter to coordinate and implement the education components of R/V *Atlantis* Expedition AT18-07, described above. This grant also includes funding for travel to science meetings for follow-up activities.

Ship-to-Shore Science Program

In the last quarter of FY11, Deep Earth Academy received a $250,000 NSF Informal Science Pathways grant to implement its Ship-to-Shore Science program, through which many potential partners will brainstorm ideas for how to connect work done on board the *JOIDES Resolution* with informal audiences. Pilot projects created through this grant may include additional museum exhibits, podcasts, books, interactive web components, and much more.

Diversity Support Initiatives

IODP-USIO Diversity Internship

A 12-week extension was awarded in August 2011 to A. Sutton, the current IODP-USIO Diversity Intern. Sutton will continue to work through 23 November 2011 with a mentor from the IODP communications group at the Ocean Leadership office to conceive, develop, and disseminate new materials that help heighten IODP's national and international visibility.

The call for applications for the second IODP-USIO Diversity Internship was widely published during this quarter via AGU's *Eos* newsletter, the Geological Society of America's *GSA Today* journal, internal and external listserves, and the several websites that advertise internship opportunities, including the American Society of Mechanical Engineers and the Society for the Advancement of Chicanos and Native Americans in Science. The application deadline was set for 21 October 2011.

This engineering-focused internship will begin in January 2012 at the Ocean Leadership office, where the selected intern will work closely for 12 weeks with a mentor from the USIO technical group to develop the tools needed to quickly and accurately reduce large data sets acquired on board the *JOIDES Resolution* and prepare the data for analysis and interpretation. The data processing products generated by the intern and the project results will be documented in a comprehensive report. Details about the IODP-USIO Diversity Internship are available online (http://www.oceanleadership.org/education/diversity/iodp-usio-diversity-internship/).

Historically Black Colleges and Universities Fellowship

As mentioned in earlier FY11 quarterly reports, recruitment of Fellowship applicants from Historically Black Colleges and Universities (HBCUs) proved to be a continuous challenge despite increased promotional efforts, more flexible application requirements, and the development of additional educational opportunities. Given the low levels of interest and participation in the HBCU Fellowship, the USIO terminated this initiative in July 2011 and replaced it with the Minorities in Scientific Ocean Drilling Fellowship (see details below).

Minorities in Scientific Ocean Drilling Fellowship

The USIO developed the Minorities in Scientific Ocean Drilling Fellowship in an effort to broaden and increase the level of participation of ethnic and racial groups currently underrepresented in scientific ocean drilling. Launched in August 2011, the fellowship provides a mechanism for minority graduate

students enrolled full-time in a geoscience or engineering program to complete research in topics related to scientific ocean drilling, or develop technology that will help advance science or engineering in scientific ocean drilling research. The fellowship will also highlight opportunities in the IODP that may encourage the selected Fellow to pursue a career in scientific ocean drilling and/or participate in IODP.

The first fellowship, which is scheduled for Spring 2012, will award $20,000 for an 8-month period; subsequent fellowships will award $30,000 for a 12-month period. Fellowship funds will be made to the fellow's institution and must be used to cover stipend, tuition and benefits, and research or engineering project expenses (including related travel) that are not already completely funded by others. The application deadline for the Spring 2012 fellowship is 31 October 2011. Details about the Minorities in Scientific Ocean Drilling Fellowship are available online (http://www.oceanleadership.org/education/diversity/minorities-in-scientific-ocean-drilling-fellowship/).

Legacy Documentation

The USIO routinely archives electronic copies of documents, reports, and materials produced on behalf of IODP.

Legacy Digital Library

Legacy preservation activities include storing electronic copies of relevant educational products and materials produced by the USIO each quarter in a dedicated CMS. Products and materials archived this quarter include the new expedition educator's brochure, the latest episode of *Tales of the Resolution*, IODP-USIO Diversity Internship guidelines, Minorities in Scientific Ocean Drilling guidelines, flyers for each IODP-USIO Diversity Initiative, and the Internship Evaluation Report.

OUTREACH

USIO Outreach activities are designed to build an easily accessible foundation of knowledge about IODP, to raise the visibility of the connection between the emerging scientific knowledge and its positive contribution to society worldwide, and to encourage interest in the Program. To accomplish these goals, the USIO targets informational outreach to the general public, science and general-interest media, legislators, scientists and engineers from within the IODP community and beyond, and decision makers at large national concerns.

Communications to U.S. Legislative Audiences

On 13 September 2011, USIO staff attended the Senate Oceans Caucus Inaugural Reception on Capitol Hill to celebrate the inauguration of a bipartisan group created to increase awareness and find common ground in responding to issues facing the oceans. The Senate Oceans Caucus membership will work to ensure a sustainable, science-based, and efficient approach to the utilization of ocean resources.

Communications Activities: Media and Public Outreach

Global Outreach Activities

USIO representatives attended the annual IODP Outreach Task Force meeting hosted by IODP-MI at their Tokyo office in September 2011 (see "Reporting and Liaison Activities" in "Management and Administration").

Representation at Meetings/Conferences

USIO communications materials were distributed at the Oceans '11 MTS/IEEE Kona conference (jointly sponsored by the Marine Technology Society and the Oceanic Engineering Society of the Institute of Electrical and Electronic Engineers) and shipped to ECORD for distribution at the Goldschmidt 2011 Conference.

Public Relations Materials

USIO Media Advisories and News Releases

During this quarter, the USIO developed and published the press release "Exploring an ocean desert: scientists study life in the remote South Pacific Gyre" (18 August 2011) (http://www.oceanleadership.org/2011/exploring-an-ocean-desert-scientists-study-life-in-the-remote-south-pacific-gyre/).

Communications Tools

After a competitive selection process (with nearly 20 applications received from the United States and around the world), the USIO selected and funded S. McNaboe to sail on Expedition 335 as the expedition Scientific Illustrator. McNaboe was asked to develop and implement innovative ways to share the science of the expedition with the scientific community and the public at large through the creation of scientific illustrations. In early July 2011, McNaboe successfully completed all of her illustration assignments, each of which were reviewed and approved by Expedition 335 Co-Chief Scientists.

Program-related Publications

Articles Authored by USIO Staff

Program-related 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) and the IODP Expedition-related bibliography (iodp.tamu.edu/publications/citations.html).

- **Malinverno, A.,** and Pohlman, J.W., 2011. Modeling sulfate reduction in methane hydrate–bearing continental margin sediments: does a sulfate-methane transition require anaerobic oxidation of methane? *Geochem., Geophys., Geosyst.,* 12:Q07006–Q07023. doi:10.1029/2011GC003501
- **Slagle, A.L.,** and **Goldberg, D.S.,** 2011. Evaluation of ocean crustal Sites 1256 and 504 for long-term CO2 sequestration. *Geophys. Res. Lett.,* 38:L16307–L16311. doi:10.1029/2011GL048613
- **Vasiliev, M.A., Blum, P.,** Chubarian, G., Olsen, R., **Bennight, C., Cobine, T., Fackler, D., Hastedt, M., Houpt, D., Mateo, Z., and Vasilieva, Y.B.,** 2011. A new natural gamma radiation measurement system for marine sediment and rock analysis. *J. Appl. Geophys.,* 75:455–463. doi:10.1016/j.jappgeo.2011.08.008

News Articles, Programs, Media Citations, or Public Commentary

Examples of news articles, programs, media citations, or public commentary related to IODP expeditions published this quarter included the following. See the "IODP in the news" web page (www.iodp-usio.org/Newsroom/news.html) for other articles that raise the profile of the Program.

- Edwards, K., 2011. Introducing Expedition 336 at North Pond. *Sci. Am.,* 30 August 2011. http://blogs.scientificamerican.com/expeditions/2011/08/30/introducing-expedition-336-at-north-pond/
- Kaplan, M., 2011. What lies beneath: exploring the ocean depths. *NewScientist.com,* 6 September 2011. http://www.newscientist.com/article/mg21128281.600-what-lies-beneath-exploring-the-ocean-depths.html
- Kelly, D., 2011. Educator teaches from land and sea. *The Reading Eagle,* 22 August 2011. http://readingeagle.com/article.aspx?id=327168
- Mills, H., 2011. Setting sail: 9/19/2011. In *Mid-Atlantic Ridge Microbiology: Heath Mills Sails with IODP.* TAMU Georesearch Blogs, 19 September 2011. http://georesearch.tamu.edu/blogs/microbiology/2011/09/23/setting-sail-9192011/
- Perkins, R., 2011. A search for life at Earth's extremes. *USC News,* 6 September 2011. http://mobile.usc.edu/news/story.php?id=70321

- Texas A&M University College of Geosciences, 2011. Ocean drilling projects have changed scientific thinking. *GeoNews,* 18 July 2011. http://geonews.tamu.edu/latestnews/750-ocean-drilling-projects-have-changed-scientific-thinking.html
- University of Southern California, 2011. Explore the extremes. *USC News,* 2 September 2011. http://www.usc.edu/uscnews/newsroom/news_release.php?id=2482
- Yesenofski, S., 2011. Professor to research on Mid-Atlantic Ridge. *Daily Trojan,* 14 September 2011. http://dailytrojan.com/2011/09/14/professor-to-research-on-mid-atlantic-ridge/

Legacy Documentation

The USIO routinely archives electronic copies of documents, reports, and materials produced on behalf of IODP.

Legacy Digital Library

Legacy preservation activities include storing electronic copies of relevant outreach products and publications produced by the USIO each quarter in a dedicated CMS. Products and publications archived this quarter include press releases and electronic copies of news articles.

APPENDIX A: FINANCE REPORT

Please contact info@oceanleadership.org for hard copies of financial pages.

APPENDIX B: TRAVEL

Purpose*	Category	DATES	Location	Institution: Personnel
R/V *Atlantis* Expedition AT18-07	Education/ Outreach	26 June–14 July 2011	Astoria, Oregon	Ocean Leadership: J. Collins, S. Cooper, L. Peart
Shipboard maintenance	Tie-Up Period	14 July–17 September 2011	Curaçao	TAMU: E. Claassen
DESClogik Summit, staff training, and meetings	Training	9–24 July 2011	College Station, Texas	TAMU: Z. Mateo
11th International Symposium on Antarctic Earth Sciences (ISAES XI)	Meeting	10–16 July 2011	Edinburgh, Scotland	TAMU: A. Klaus
Engineering Meeting with Deepstar	Engineering Planning	12 July 2011	New Orleans, Louisiana	Ocean Leadership: G. Myers
Meeting C. Moore and deliver photo data	Meeting	12–14 July 2011	Boulder, Colorado	TAMU: D. Sims
Management Concepts Class: Anytime Coaching	Training	12–16 July 2011	Washington, DC	TAMRF: I. Kindt
Port Logistics	Tie-Up Period	15–22 July 2011	Curaçao	TAMU: R. Mitchell
Shipboard Maintenance	Tie-Up Period	16–17 July 2011	Curaçao	TAMU: E. Moortgat
Expedition 325 Operations Review Task Force (ORTF) Meeting	SAS	16–23 July 2011	Edinburgh, Scotland	Ocean Leadership: D. Divins
Crew change and project status review	Tie-Up Period	16–20 July 2011	Curaçao	TAMU: J. Miller
Presentation at the Texas Maritime Museum IODP exhibit	Education/Outreach	17–20 August 2011	Rockport, Texas	TAMU: J. Firth
Dangerous Goods International (DGI) Radioactive Materials Transportation (RAM) Training	Training	20 and 21 July 2011	Las Vegas, Nevada	TAMU: T. Brashear, T. Bronk, L. Crowder, S. Dillard, S. Prinz
TAMU IT Advisory Communications Strategic Planning	IT Development	21 and 22 July 2011	Galveston, Texas	TAMU: J. Rosser
7th European Ostracodologists' Meeting	Conference	25–28 July 2011	Graz, Austria	TAMU: C. Alvarez Zarikian
Site Survey Panel (SSP) Meeting	SAS	28 July– 3 August 2011	St. Petersburg, Florida	TAMU: A. Klaus

*Travel associated with meetings, conferences, port call work, and nonroutine sailing activities.
(Continued on next page)

Purpose*	Category	DATES	Location	Institution: Personnel
2011 School of Rock Summit Review	Education/ Outreach	30 July– 3 August 2011	Curaçao	Ocean Leadership: J. Collins, S. Cooper, L. Peart External Participants: J. Brey, C. Buchholtz, P. Cleary, E. Cohen, D. DeBaise, J. Dooley, D. Grant, S. Hovan, V. Jones, C. Kurtz, M. Leckie, M. McKay, L. McMinn, M. Passow, H. Renyck, R. Smith, K. St. John, J. Van Hoesen TAMU: J. Firth, P. Rumford
NIWeek 2011 Conference	Conference	2–4 August 2011	Austin, Texas	TAMU: L. Chen, T. Cobine, D. Fackler, D. Ferrell, M. Hastedt, S. Herrmann, M. Meiring, B. Mills
Import/Export Control Procedures and Documentation Training	Training	2–6 August 2011	Atlanta, Georgia	TAMU: T. Brashear, S. Dillard, R. Mitchell TAMRF: B. Neyses, M. Strickland
An Event Apart 2011 Conference	Conference	7–12 August 2011	Minneapolis, Minnesota	TAMU: P. Edwards
USIO Engineering Meeting	Engineering Planning	8–10 August 2011	College Station, Texas	Ocean Leadership: G. Myers
Visit to TAM International for equipment pick-up	Vendor Meeting	10 August 2011	Houston, Texas	TAMU: K. Grigar
Digital Training and Design	Training	10–13 August 2011	Dallas, Texas	TAMU: J. Beck
Goldschmidt 2011 Conference	Conference	14–19 August 2011	Prague, Czech Republic	TAMU: J. Geldmacher
Shipboard software upgrades	Tie-Up Period	15–19 August 2001	Curaçao	LDEO: T. Baker TAMU: P. Gates
Global Business Travel Association (GBTA) Convention 2011	Conference	16–25 August 2011	Denver, Colorado	TAMRF: K. Bass
Emotionally Intelligent Leadership Training	Training	17–20 August 2011	Washington, DC	TAMRF: B. Lancaster
Expeditions 332/333 ORTF Meeting	SAS	18 and 19 August 2011	Tokyo, Japan	Ocean Leadership: D. Divins TAMU: M. Malone
Science Planning Committee (SPC) Meeting	SAS	22–24 August 2011	Zao, Japan	Ocean Leadership: D. Divins LDEO: A. Malinverno TAMU: M. Malone
Shipboard software upgrades	Tie-Up Period	24–31 August 2011	Curaçao	TAMU: A. Morgan
Shipboard maintenance	Tie-Up Period	24 August–2 September 2011	Curaçao	TAMU: D. Hornbacher
Logger Summit	IT Development	25–31 August 2011	Curaçao	TAMU: B. Crawford, P. Foster, M. Hastedt, D. Houpt, B. Julson, B. Mills, K. Petronotis
Structured Query Language (SQL) Training	Training	28 August–3 September 2011	New York City, New York	TAMU: C. Broyles

Purpose*	Category	DATES	Location	Institution: Personnel
Expedition 334 First Postexpedition Meeting	Postexpedition Meeting	28 August–3 September 2011	College Station, Texas	LDEO: Alberto Malinverno
Expedition 329 ORTF Meeting	SAS	29–31 August 2011	New Jersey	Ocean Leadership: D. Divins, G. Myers TAMU: C. Alvarez Zarikian, B. Clement, S. Midgley
Port Call Logistics	Tie-Up Period/ Port Call Activities	29 August–18 September 2011	Curaçao	TAMU: R. Mitchell
Motion decoupled hydraulic delivery system (MDHDS) test	Tool Testing	31 August–2 September 2011	Sugar Land, Texas	LDEO: G. Iturrino, E. Meisnner, S. Mrozewski TAMU: M. Meiring
Large Diameter Pipe Infrastructure Meeting	Engineering Planning	6–8 September 2011	Curaçao	Ocean Leadership: G. Myers LDEO: G. Iturrino
Staff training	Tie-Up Period	8–13 September 2011	Curaçao	TAMU: G. Barrett, P. Rumford
Startup and test of all laboratory systems	Tie-Up Period	9–17 September 2011	Curaçao	TAMU: P. Foster, D. Houpt
Expedition 336 Port Call	Port Call Activities	17 and 18 September 2011	Bridgetown, Barbados	TAMU: B. Julson, M. Malone, J. Miller
Ocean Drilling Citation Study and FY11 Annual Report work	Report Coordination	10–18 September 2011	College Station, Texas	TAMU: G. Lowe
Expedition 336 Onboard Education Program	Education/ Outreach	16 September–17 November 2011	Bridgetown, Barbados	Onboard Education Officer: J. Magnussen
Society of Collegiate Travel & Expense Management (SCT&EM) 2011 Conference	Conference	17–21 September 2011	Providence, Rhode Island	TAMRF: K. Snider
Oklahoma State University (OSU) Course: Fraud Prevention	Training	18–20 September 2011	Tulsa, Oklahoma	TAMU: B. Wasson
AMA Training: Taking on Greater Responsibility	Training	18–21 September 2011	Philadelphia, Pennsylania	TAMU: P. Rumford
Global Knowledge Training: Windows 7	Training	18–23 September 2011	Irving, Texas	TAMU: G. Banta
Hazardous Materials (HazMat) Training	Training	18–24 September 2011	Las Vegas, Nevada	TAMU: S. Dillard
Expedition 323 Second Postexpedition Meeting	Postexpedition Meeting	19–21 September 2011	Salamanca, Spain	TAMU: C. Alvarez Zarikian
Engineering Meeting with Deepstar	Engineering Planning	20 and 21 September 2011	Houston, Texas	Ocean Leadership: G. Myers
USIO Information Technology (IT) Meeting	IT Planning	27 September–1 October 2011	Palisades, New York	Ocean Leadership: D. Fils
SUSE Training	Training	27 September–1 October 2011	Rockville, Maryland	TAMU: G. Banta
DGI RAM Training	Training	29 and 30 September 2011	Philadelphia, Pennsylania	TAMU: T. Brashear, C. Peng

APPENDIX C: USIO QUARTERLY REPORT DISTRIBUTION

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