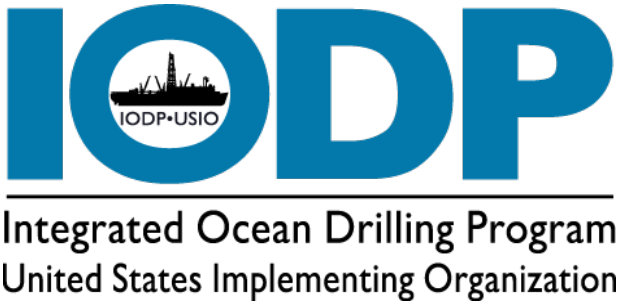
INTEGRATED OCEAN DRILLING PROGRAM

United States Implementing Organization



FY13 Quarterly Report 3

1 April–30 June 2013

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.

14 August 2013

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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) FY13 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, Texas A&M University (TAMU) and Lamont-Doherty Earth Observatory (LDEO) of Columbia University. 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

FY13 Q2 IODP-USIO Quarterly Report

The USIO report for the second quarter of FY13 (January–March 2013) was submitted to NSF and IODP-MI on 14 May 2013 (http://iodp.tamu.edu/publications/AR/FY13/FY13_Q2.pdf).

FY14 Annual Program Plan

Planning and preparation began for the FY14 Annual Program Plan.

IODP-USIO Final Technical Report to IODP-MI

The USIO initiated planning and preparation efforts for the IODP-USIO Final Technical Report to IODP-MI and began collecting raw, editable data for provision to IODP-MI by 31 July.

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 meetings of standing committees and task forces are available online (http://www.iodp.org/meeting-reports). Other special meetings for which minutes will not be available online are described in this section.

Conference and meeting schedule

Conference/Meeting*	Date	Location
Environmental Protection and Safety Panel (EPSP) Meeting	8 and 9 April 2013	College Station, Texas
IODP Town Hall Meeting at the Japan Geosciences Union (JPGU) Meeting	23 May 2013	Chiba, Japan
Expedition 344 Operations Review Task Force (ORTF) Meeting	14 and 15 June 2013	College Station, Texas
Site Characterization Panel (SCP) Meeting	17–19 June 2013	Santa Cruz, California
Proposal Evaluation Panel (PEP) Meeting	19–22 June 2013	Santa Cruz, California

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

OTHER LIAISON ACTIVITIES

New membership activities

A USIO representative attended the Indian and Pacific Ocean Conference in Bali, Indonesia (20–24 June), to promote potential IODP drilling activities in Indonesian waters and to liaise with Indonesian governmental officials who could facilitate research clearance requests.

CONTRACT SERVICES

Ocean Leadership

Contract activity

Ocean Leadership received the following modifications during the reporting period.

NSF Contract OCE-0352500 with Ocean Leadership

- Modification 60: Updated the indirect cost rate chart and incrementally funded the FY13 Annual Program Plan in the amount of $10,000,000.

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

- Modification 45: Incrementally funded the FY13 Annual Program Plan in the amount of $700,000.

Subcontract activity

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

Ocean Leadership Subcontract JSC 4-03 with LDEO

- Modification 63: Incrementally funded the FY13 Annual Program Plan in the amount of $67,292.
- Modification 64: Incrementally funded the FY13 Annual Program Plan in the amount of $1,022,584.

Ocean Leadership Subcontract JSC 4-02 with TAMRF

- Modification 78: Reduced the FY12 Annual Program Plan by $857,306, incrementally funded the FY13 Annual Program Plan in the amount of $857,306, and decreased the estimated total value of the subcontract by $857,306 to $472,426,143.
- Modification 79: Incrementally funded the FY13 Annual Program Plan in the amount of $571,462.
- Modification 80: Incrementally funded the FY13 Annual Program Plan in the amount of $8,690,663.

LDEO

Subcontract activity

LDEO issued the following subcontract modifications during the reporting period.

LDEO subcontract with Schlumberger

- Amendment 7: Provided the third incremental funding of $644,010.

TAMRF

Contracts/procurement activity ($100,000 or greater)

- 14 June 2013: Purchase order issued to Anaheim Custom Extruders, Inc., in the amount of $169,974.06 for the purchase of tenite butyrate core liners and alligator core liner boxes.
- 21 June 2013: Purchase order issued to Burintekh in the amount of $338,000 for the purchase of 9-7/8 inch rotary cone bits.

Miscellaneous activity

- 4 April 2013: Submitted the Individual Subcontracting Report (ISR) to Ocean Leadership for the period ending 31 March 2013 via the federal government's small business reporting system, eSRS.
- 5 May 2013: Submitted a prior approval letter to Ocean Leadership for the purchase of an ion chromatograph.
- 7 June 2013: Submitted a prior approval letter to Ocean Leadership for the purchase of 9-7/8 inch rotary cone bits.
- 14 June 2013: Submitted a prior approval letter to Ocean Leadership for the loan of two NSF-owned spectrophotometers to the University of Cambridge.
- 24 June 2013: Submitted a prior approval letter to Ocean Leadership for the purchase of casing hangars, pups, and a center landing ring.
- 25 June 2013: Submitted a prior approval letter to Ocean Leadership for the purchase of underreamers and associated peripherals.

INSURANCE RELATED TO OCEAN LEADERSHIP SUBCONTRACTS

The USIO began efforts this quarter to secure downhole tool coverage for mud motors that will be leased from Baker Hughes for use during FY14 expeditions.

PERSONNEL STATUS

Ocean Leadership

No positions were vacated, opened, or advertised during the quarter.

The following position was filled during the quarter:

- Team Leader, Contracts and Grants (Caren Matzkin): 22 April 2013

LDEO

No positions were vacated during the quarter.

The following positions were opened and advertised during the quarter:

- Logging Staff Scientist (2 positions)

The following positions were filled during the quarter:

- Logging Staff Scientist (Laureen Drab): 1 May 2013

TAMU

The following positions were vacated during the quarter:

- Graphics Specialist II (Claudia Bustamante): 4 June 2013
- Marine Computer Specialist (Andrew Trefethen): 16 April 2013
- Laboratory Specialist I (Michael Bertoli): 3 June 2013

The following positions were opened and advertised during the quarter:

- Graphics Specialist II
- Marine Computer Specialist
- Assistant Laboratory Officer I

The following positions were filled during the quarter:

- Administrative Assistant (Christina Peery): 25 April 2013
- Graphics Specialist II (Claudia Bustamante): 15 May 2013
- Applications Developer II (Rui Wang): 5 June 2013
- Systems Support Specialist (John Baldwin): 1 April 2013

USIO WEB SERVICES

The USIO websites are 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 iodp.tamu.edu/scienceops/expeditions.html.

USIO website statistics

USIO website	FY13 Q3 page views*	FY13 Q3 site visits*
www.iodp-usio.org	17,217	11,078
iodp.ldeo.columbia.edu	14,206	3,700
iodp.tamu.edu	731,278	79,995
Total	**762,701**	**94,773**

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

Updated FY13 Q2 statistics

USIO website	FY13 Q2 page views*	FY13 Q2 site visits*
www.iodp-usio.org	17,311	11,286
iodp.ldeo.columbia.edu	13,364	3,364
iodp.tamu.edu	533,999	78,840
Total	**564,674**	**93,490**

*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 archive

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 contract modifications, and the FY13 Q2 IODP-USIO reports to NSF and IODP-MI.

Legacy web services

Key data, documents, and publications produced during the Deep Sea Drilling Project (DSDP) and Ocean Drilling Program (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

Legacy website	FY13 Q3 page views*	FY13 Q3 site visits*
www-odp.tamu.edu	1,620,607	286,854
www.odplegacy.org	6,258	2,629
www.deepseadrilling.org	214,184	78,215
Total	**1,841,049**	**367,698**

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

OTHER PROJECTS AND ACTIVITIES

TAMU Project Portfolio Management

The Laboratory Information Management System (LIMS) Editing Tool project is on schedule for completion in November 2013. Two new category 2 projects were also added to the project portfolio this quarter: Shore Web Architecture Update; and *JOIDES Resolution* Microscope Laboratory Infrastructure Renovation (see "Software development" in "Data Management").

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 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 [12 February–20 May 2013]							
SCIMPI/ Hole 858G ReCORK	341S	Victoria, British Columbia (Canada)	20–29 May 2013	9 (0/9)	9 (3/6)		
Southern Alaska Margin Tectonics, Climate & Sedimentation[5]	341	Victoria, British Columbia (Canada)	29 May– 29 July 2013	61 (3/58)	58 (6/52)	J. Jaeger, S. Gulick	TAMU: L. Schneider* LDEO: A. Slagle^
Asian Monsoon[5]	346	Valdez, Alaska	29 July– 28 September 2013	60 (5/55)	55 (18/37)	R. Tada R. Murray	TAMU: C. Alvarez Zarikian* LDEO: J. Lofi^
Dry Dock/Non-IODP [28 September 2013–26 January 2014]							

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 (^). Additional expedition information is available at http://iodp.tamu.edu/scienceops/expeditions.html.
[5] Expedition crosses dateline resulting in 60 operational days, 61 calendar days.

USIO EXPEDITIONS

Expedition 344: Costa Rica Seismogenesis Project (CRISP) 2

Postexpedition activities

The Expedition 344 postexpedition editorial meeting was held 10–14 June 2013 in College Station, Texas.

Expedition 345: Hess Deep Plutonic Crust

Postexpedition activities

The *Preliminary Report* was completed with publication delayed pending resolution of a high-profile journal article undergoing review.

Expedition 341S: SCIMPI/ReCORK Hole 858G

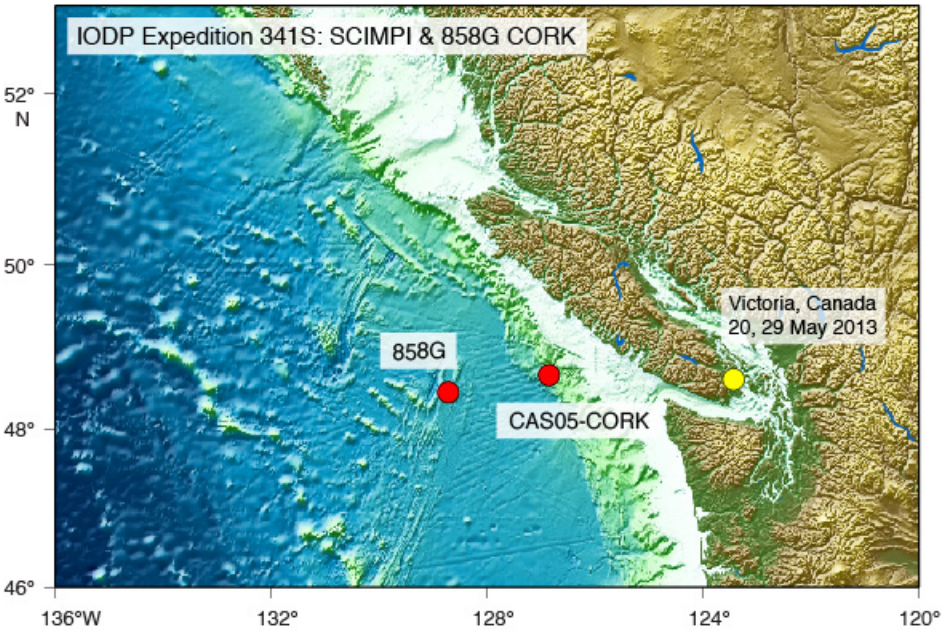
Planning

Final logistical planning and shipping were completed this quarter. Re-testing of the modified third-party tool to electronically release the Simple Cabled Instrument for Measuring Parameters In Situ (SCIMPI) was completed by USIO personnel with satisfactory results.

Staffing

Because Expedition 341S was an engineering expedition, a minimum group of scientists was staffed from the proponent groups who were required to perform the installation, without regard to quotas.

Site map



Science Summary

Expedition 341S was an engineering expedition dedicated to two separate projects: the first deployment of the SCIMPI on the Cascadia margin and the replacement of the CORK in ODP Hole 858G for formation pressure monitoring in the Middle Valley axial rift of the Juan de Fuca Ridge. Both installations were targeted to be incorporated into the NEPTUNE observatory network.

The SCIMPI—a new observatory instrument designed to study dynamic processes in the subseabed based on a simple and low-cost approach—was successfully installed in Hole U1416A. The final tool string consisted of nine modules, with three of these including pressure sensors (modules 1, 5, and 9 at 8, 117, and 234 meters below seafloor [mbsf], respectively). The second SCIMPI operation deployed a single module (with a seafloor connector and command module, dubbed SHRIMPI) in Hole U1416B.

The new CORK scheduled for installation in Hole 858G was constructed with a simplified seal system designed to survive the overpressures and high temperatures at this location. The old CORK could not be removed from Hole 858G; therefore, the new CORK was not installed.

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

Planning

A kick-off meeting for Expedition 341 was held on 1 May 2013 in College Station, Texas, to present an overview of the scientific objectives and current operations plan, to review and exchange information regarding new developments, and to identify issues relevant to implementing the expedition. Final preparations for science and technical support and logistical requirements were completed and supplies and hardware were shipped to Victoria, British Columbia (Canada).

Staffing

Expedition 341 Science Party staffing breakdown	
Member country/consortium	**Participants**
USA: United States Science Support Program (USSSP)	9
Japan: Japan Drilling Earth Science Consortium (J-DESC)	7
Europe and Canada: European Consortium for Ocean Research Drilling (ECORD) Science Support and Advisory Committee (ESSAC)	8*
Republic of Korea: Korea Integrated Ocean Drilling Program (K-IODP)	0
People's Republic of China: IODP-China	1
Australia and New Zealand: Australia/New Zealand IODP Consortium (ANZIC)	2
India: Ministry of Earth Science (MoES)	0
Brazil: IODP-Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES)/Brasil	2

*One ESSAC scientist didn't make it to port because of visa problems and did not sail.

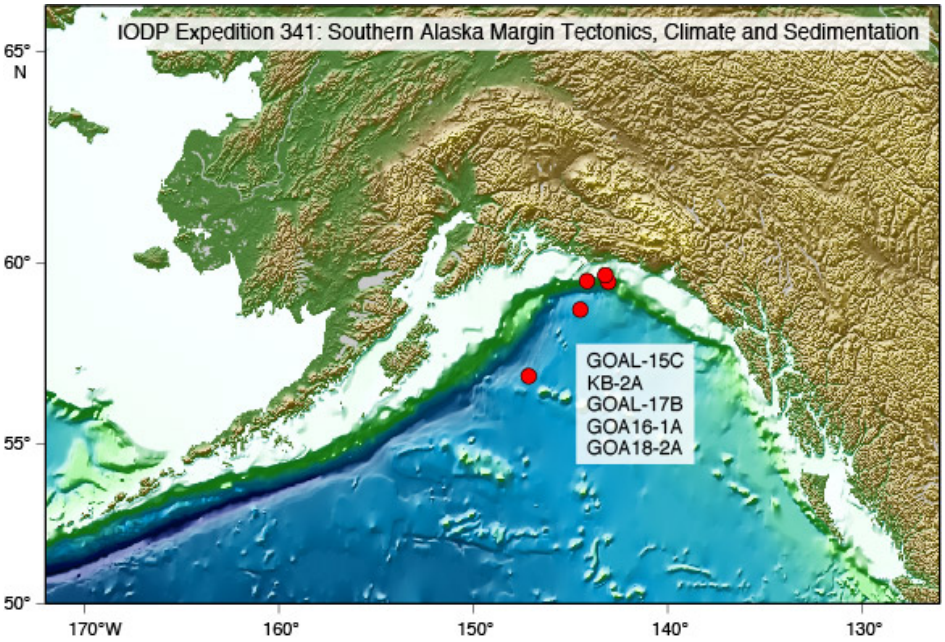
Clearance and permitting activities

A land use permit was received from the Alaska Department of Natural Resources for Ancillary Project Letter (APL) 809. However, based on information provided with the permit, it was determined that there was not enough time remaining to meet the environmental requirements of the IODP Programmatic Environmental Impact Statement. Consequently, APL 809 will not be implemented during Expedition 341.

Environmental assessment

NSF approval of vertical seismic profile (VSP) operations was received on 18 April.

Site Map



Logging Summary

During the reporting period, logging operations took place in Hole U1417E. Four tool strings were deployed: the triple combination tool (triple combo), the Formation MicroScanner (FMS)-sonic, the magnetic susceptibility sonde (MSS) tool string, and the vertical seismic imager (VSI). The whole MSS tool, which includes both high-resolution and deep-reading magnetic susceptibility sensors, was deployed in IODP operations for the first time since it was rebuilt. The U1417E borehole was variable in diameter, ranging from the maximum extent of the logging tool calipers (18 inches) to less than 5 inches. Despite the irregular borehole, adequate traveltimes were recorded at one depth station during the VSP. Two logging units were identified for Hole U1417E. Logging Unit 1 (base of drill pipe to 305 mbsf) is defined primarily by highly variable borehole diameter. Logging Unit 2 (305–624 mbsf) is characterized by improved borehole conditions and higher quality logging data. Variations in measurements of gamma ray, density, velocity, resistivity, and magnetic susceptibility appear to reflect lithologic variations, and log interpretation will complement the core results.

Expedition 346: Asian Monsoon

Planning

Review of sample and data requests and research plans was completed, and associated technical support requirements were assessed. A kick-off meeting for Expedition 346 was held on 13 June 2013 in College Station, Texas, to present an overview of the scientific objectives and current operations plan, to review and exchange information regarding new developments, and to identify issues relevant to implementing the expedition.

Staffing

Science staffing was completed in April; however, one scientist withdrew in late June due to medical issues and the search for a replacement began at the end of the quarter.

Clearance and permitting activities

Research authorization was granted from the Republic of Korea (ROK) on 29 April, with an ROK observer to sail on the expedition. Research authorization was granted from Japan on 19 June with no requirements stipulated regarding an observer. The Environmental Protection and Safety Panel (EPSP) recommended approval of alternate Site ECS-1C, which must be submitted to Japan as an addendum to the research authorization.

Environmental assessment

The environmental evaluation to conduct a check shot survey was submitted to NSF on 25 June.

Expedition 349: South China Sea

Planning

The Expedition 349 precruise meeting was held 10 and 11 April in College Station, Texas. The starting port call was switched to Hong Kong, adding 2 days of operational time to the expedition. Okinawa, Japan, was dropped as the end port call due to logistical constraints. The new end port call was switched to Keelung, Taiwan.

Staffing

Review of applications was initiated and the first round of invitations was issued.

Clearance and permitting activities

The clearance application was submitted to the U.S. State Department on 21 June. Sites were reviewed at the EPSP meeting in April. The request to drill down without coring at a primary site was deferred. Proponents will provide correlations between sites for EPSP review.

Expedition 350: Izu-Bonin-Mariana: Rear Arc

Planning

The Expedition 350 precruise meeting was scheduled for 9 and 10 July.

Staffing

Nominations are due from the PMOs on 1 July.

Clearance and permitting activities

Sites were reviewed at the EPSP meeting in April.

Expedition 351: Izu-Bonin-Mariana: Arc Origins

Planning

The Expedition 351 precruise meeting was scheduled for 10 and 11 July.

Staffing

Nominations are due from the PMOs on 1 July.

Clearance and permitting activities

Sites were reviewed at the EPSP meeting in April.

Expedition 352: Izu-Bonin-Mariana: Forearc

Planning

Because of logistical challenges with Okinawa, Japan, the end port was changed to Keelung, Taiwan.

Staffing

Nominations are due from the PMOs on 1 July.

MAINTENANCE PERIOD ACTIVITIES

Major maintenance period activities this quarter included:

- Sound dampening for the Haskris chiller unit in the X-ray diffraction (XRD) laboratory,
- Refinishing several countertops,
- Installing and thoroughly testing new equipment (coulometers, balances, scanning electron microscope [SEM]),
- Completing plumbing work in the core splitting room,
- Installing safety rails on ladders in the USIO bunk areas,
- Completing service calls for the Natural Gamma Radiation Logger (NGRL), superconducting rock magnetometer (SRM), and microscopes, and
- Remobilizing laboratories after maintenance.

ANALYTICAL SYSTEMS

Analytical Systems acquisitions and updates

The Hitachi TM3000 scanning electron microscope was installed during Expedition 341S and tested at sea with encouraging results. The instrument is being used for the first time during an active expedition during Expedition 341. The additional Zeiss V8 DISCOVERY stereo microscopes were also installed and are in use.

New problems occurred during the tie-up period with the Thermo Dionex ICS-3000 ion chromatograph after the service call, leading to a decision to acquire the community-recommended Metrohm ProfIC system. The Metrohm system was acquired and installed prior to Expedition 341S and was tested at sea during the expedition. The Expedition 341 Science Party was also satisfied with the performance of the new system.

Laboratory working groups

The laboratory working groups (LWGs) provide oversight, research direction, and quality assurance for the methods, procedures, and analytical systems both on the *JOIDES Resolution* and on shore. The groups meet regularly to review cruise evaluations, expedition technical reports, and issues management communications to provide advice on corrective actions and potential developments for laboratories. All four LWGs met this quarter to discuss action items and recent cruise evaluations.

Geology

The Geology LWG discussed the following recommendations, action items, and activities:

- Recommendation to implement depth precision on reports to the millimeter level;
- Recommendation to add the ability to enter comments on affine and splice tables;
- Recommendation to hold a DESClogik products and workflow meeting this fall;
- Action item to implement Paleontology Coordination Group Taxa Names List (TNL) this fall in DESClogik;
- Action item to submit project proposals for 360° image collection and reporting, replicate image tagging and default image reporting, and thin section report production;
- Action item to provide training in the Time Scale Creator tool; and
- Tabling of SEM data storage and reporting in the database until post–Expedition 346 to evaluate the scope from a moderate- and a high-recovery cruise.

Geophysics

The Geophysics LWG discussed the following recommendations, action items, and activities:

- Recommendation to replace the caliper velocity system bearing to avoid sticking behavior noted on Expedition 345 (in process);
- Recommendation to acquire a photo switch for top-of-section identification on the Whole-Round Multisensor Logger (WRMSL), which will be more reliable than the semi-mechanical switch in the long term;
- Report on work that was done to specify a liquid helium–free SRM as a potential replacement for the cryogenic magnetometer and to query the community about their experience with the He-free systems;
- Action item to evaluate the spectra from the synthetic U standard and to evaluate the best use for calibration purposes;
- Action item to make changes to the velocity software on the Gantry to incorporate ergonomic improvements suggested by scientists; and
- Action item to provide sample volume data from the 2D laser profiler if the prototype can be made functional before the next meeting (action may require more time).

Geochemistry

The Geochemistry LWG discussed the following recommendations, action items, and activities:

- Receipt and installation of the new Metrohm ion chromatograph (IC) on the ship during Expedition 341S. The Dionex IC was shipped home and will be available in the Gulf Core Repository (GCR) chemistry laboratory if needed;
- Recommendation to table completion of GC2 Windows 7 update: GC2 perfluorocarbon tracer (PFT) analyzer's autosampler is not compatible with Windows 7, so manual injections of PFT samples will have to be performed at present. There were no requests to use PFTs during Expeditions 341 and 346;
- Installation of new balances on board as potential replacement for aging Cahn microbalances. The new balances functioned well in port; however, the precision error under sea conditions was too high for use in the chemistry laboratory.
    - Action item to try to reduce the pan mass and allow for low-error measurements;
- Action item to complete installation and testing of new gas safety gas chromatographs (GCs)—completion was delayed because the vendor for gas standards had not delivered yet; and

- Completion of the action item to increase pipettor stock and to implement an inventory tracking system for them.

Curation and Core Handling

The Curation and Core Handling LWG discussed the following recommendations, action items, and activities:

- Decision to make SEM an option under the test list in Sample Master so that samples can be routed to the SEM;
- Action item for Curatorial Specialists to stress that food and jewelry be kept away from samples in response to a comment from a scientist on Expedition 345;
- Recommendation that the number symbol (#) in the piece designation be changed to PC so that the label identification string will not continue to cause various database and software faults;
    - Action item for LWG to scope and present this as a project to the Issues Management Team;
- Recommendation for examination of the practice of past-cruise working halves being shipped to the *JOIDES Resolution* and then sampled during the expedition in view of workload on the expedition and other impacts (e.g., unavailability of those sections at the repository during the 4 months surrounding and including the expedition);
    - Action item for LWG to summarize these matters and present it to management and the staff scientists for a possible policy revision;
- Action item for improvements to the Sample and Data Request (SaDR) program to be submitted to the programmer group; and
- Action item to develop a Google site on www.scientific-ocean-drilling.org for the Curation LWG.

Projects and other activities

Geosciences Laboratory (ODASES)

The TAMU Ocean Drilling and Sustainable Earth Science (ODASES) Geoscience Laboratory hosted four scientists during this period for X-ray fluorescence (XRF) scanning projects. This allowed the XRF Core Scanner facility to catch up on the backlog caused by instrument faults. Unfortunately, the X-ray source is on the verge of failure and cannot be used for high-energy scans; it will eventually fail completely and a replacement must be ordered. The shore-based imaging logger saw significant usage by the XRF users as well as curatorial staff.

ENGINEERING SUPPORT

Engineering equipment acquisitions and updates

Vibration-isolated television system

The vibration-isolated television (VIT) system was deployed and tested and the crew was trained in May. The new VIT was utilized during Expedition 341S without incident. Minor changes to software will be implemented based on user input, and a deep water (~5 km) test will be conducted during the transit from Busan, South Korea, to the Philippines prior to dry dock.

Projects and other activities

Large diameter pipe-handling infrastructure

Howard & Associates, Blohm & Voss (B&V), USIO, and Siem personnel reviewed detailed engineering drawings for the 350- and 500-ton elevators and the handler and stool, which are part of the infrastructure currently being designed for this project. B&V received approval for manufacturing the infrastructure that will consist of two 500-ton elevators, one stool, and one handler. The decision was made to build two 500-ton elevators because the weight differential between the 350- and 500-ton was not deemed to be significant. Not having to change from one elevator to the next heavier model will simplify operations. The two newly designed elevators will be fully tested before proceeding with further fabrication. Testing was preliminarily set for 28–30 August 2013 at the B&V facilities in Hamburg, Germany. The USIO is also exploring options for at-sea testing assuming satisfactory results from the test in Germany.

Multifunction telemetry module projects

A test of the electronic release system (ERS)-multifunction telemetry module (MFTM)-SCIMPI and the 7-conductor wireline was rescheduled when preliminary tests at LDEO in February revealed that the modified ERS was not performing adequately. Stress Engineering modified the ERS tools by reverting back to the original electronic boards that were used during Expedition 342 (Motion Decoupled Hydraulic Delivery System [MDHDS] deployment) and not using the latest modifications. Subsequent tests at LDEO in April using the ERS-MFTM-SCIMPI and the 7-conductor wireline proved to be successful with releasing times in the order of a few minutes.

Preliminary shipboard bench tests of the cablehead-ERS-MFTM-SCIMPI and the 7-conductor wireline during the Expedition 341S port call encountered baud rate problems between the uphole monitoring SCIMPI laptop and the surface panel and between the SCIMPI data logger and the MFTM. These issues were resolved after troubleshooting, and SCIMPI data streaming was successfully monitored uphole without problems.

Port call bench testing revealed problems with the one of the ERS tools in which the motor would not retract to the unlatching position. LDEO and Schlumberger personnel took the ERS electronics section apart and redesigned the tool by installing several capacitors in the main

circuit board. These modifications prevented the motor from stalling due to inherent voltage drops across approximately 9,000 m of wireline cable. The modifications were fully bench tested; both tools worked better than before and were deemed ready for deployment. Additional problems with the ERS were encountered during the first attempt to deploy SCIMPI, but data were recorded. A second deployment attempt was successful after addressing the initial problems with a faulty cable and slacking additional wireline to reduce the tension on the ERS dogs during the release operations.

Wireline heave compensating system

The USIO and Schlumberger continued data collection under different conditions prior to beginning logging operations in open holes for optimizing the system's capabilities. Routine maintenance of the system was completed during the Victoria, British Columbia (Canada), maintenance period. The USIO will continue to routinely assess results and work with Schlumberger to optimize the system if needed.

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.

USIO TECHNICAL PANEL

The USIO Technical Panel (UTP) includes external members from industry and academia who participate in bi-annual meetings to review engineering and operations issues within the USIO with the purpose of providing third-party advice to aid the USIO. The UTP is administered and operated by Ocean Leadership, the U.S. Systems Integration Contractor, with assistance from the USIO partners.

Project status

There were no UTP activities during the quarter.

FY12 MULTISENSOR MAGNETOMETER MODULE PROJECT

The multisensor magnetometer module (MMM) is a new magnetometer tool under development at LDEO. The MMM will provide the capability to work in both strongly

magnetized hard rock formations and in sediments with weaker magnetizations and will produce continuous records of the magnetic field in the borehole, from which magnetization and polarity of the rocks surrounding the borehole can be calculated. 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.

FY12 deliverables for this multi-year project included tool delivery, modifications to extend LDEO and Schlumberger telemetry systems and surface panel software, completion of third-party tool certification requirements, bench and field tests at the test well at LDEO, and at-sea deployment. All deliverables except complete systems integration testing and at-sea deployment were accomplished during FY12. Personnel changes within the USIO-LDEO engineering group in FY12 resulted in a reevaluation of the timeline for completing this tool.

Project status

The tool was assembled and all sensors are operational. Work on this project was tentatively scheduled to resume during the first quarter of FY14.

CORE CURATION

The USIO provides services in support of IODP core sampling and curation of the core collection archived at the GCR.

SAMPLE AND DATA REQUESTS APPLICATION

The new SaDR application was used to collect sample requests for Expedition 346. The application functioned well, and only minor changes were recommended by users. These changes were incorporated in June, and an updated version of the application was released.

CURATION STRATEGIES AND EXPEDITION CORE SAMPLING

The USIO planned sample and curation strategies for Expedition 346. A USIO Curatorial Specialist supervised shipboard core sampling during Expedition 341 and reviewed all shipboard and moratorium-related requests in coordination with the other members of the expedition Sample Allocation Committee (SAC).

CURATING THE GCR CORE COLLECTION

All IODP core sample requests are handled by the GCR, Bremen Core Repository, and Kochi Core Center. The USIO conducts all responsibilities associated with curation of the GCR core collection and provides services in support of core sampling, analysis, and education.

Repository activity

The following table provides a summary of the 5,481 samples that were taken at the GCR during the quarter. Sample requests that show zero samples taken may represent cores that were viewed by visitors during the quarter, used for educational purposes, or requested for XRF analysis. Public relations tours and educational visits to the repository are shown in the "GCR tours/visitors" table.

Sample request number, name, country	Number of samples taken	Number of cores XRF scanned	Number of cores imaged	Number of visitors
22927A, Lyle, USA	4			1
22920A, Passchier, USA	253			2
22812B, Johnson, USA	0	29		1
22908A, Jenner, USA	48			
2045IODP, Jenner, USA	17			
22800B, Hu, United Kingdom	110			
22924A, LaVigne, USA	17			
22890A, Snedden, USA	1			1
22928A, Lyle, USA	50			1
2048IODP, Ujiie, Japan	4			1
22845A, Vivancos, USA	0		19	
2014IODP, Broadley, United Kingdom	6			
22897A, Kulhanek, USA	0			
22917A, MacLeod, USA	28			
2040IODP, Thomas, USA	24			1
2043IODP, Petronotis, USA	25			1
22905A, Dickens, USA	212			
22910A, Gombiner, USA	17			
22839B, Blinova, Russia	107			2
22839A, Blinova, Russia	0			
22907A, Lipp, Germany	17			
22896A, Nurnberg, Germany	17			
17610E, Craven, United Kingdom	33			
22041C, Caballero-Gill, USA	235			
22752A, John, United Kingdom	0			54
21123B, Fantle, USA	14			
22725B, Noble, Australia	0	38		
22891A, Lyle, USA	0		106	1
1966IODP, Gebbels, United Kingdom	5			
22882A, Batenburg, Germany	23			
22371C, Sageman, USA	28			
22888A, Bralower, USA	31			
22799A, Stepanova, USA	0	133		1
22880A, Magnusson, Canada	3			

Sample request number, name, country	Number of samples taken	Number of cores XRF scanned	Number of cores imaged	Number of visitors
22878A, Bindeman, USA	11			
22011E, Pagani, USA	46			
22498B, Zhang, China	567			
22670B, Herbert, USA	396			
22884A, Martindale, Canada	15			
22488B, Edgar, United Kingdom	129			
22881A, Du, China	119			
1969IODP, Falloon, Australia	6			
941IODP, Hurrle, Germany	118			
1363IODP, Talling, United Kingdom	358			
1976IODP, Smith-Duque, United Kingdom	6			
22478B, Hoogakker, United Kingdom	75			
1954IODP, Huang, China	2019			6
22869A, Prebble, New Zealand	44			
21711C, Meister, Germany	9			
1399IODP, Boudon, USA	8			
22725C, Ellwood, Australia	124			
22865A, Broadley, United Kingdom	7			
2008IODP, Firth, USA	34			
1998, Aljahdali, USA	35			
22812C, Johnson, USA		38		
22864A, Osmond, USA	11			
2831IODP, Holbourn, Germany	15			
Tours/demonstrations				85
Totals	**5,481**	**238**	**125**	**158**

GCR tours/visitors

Type of tour or visitor	Number of Visitors
Scientist visitors	19
Educational tours/demonstrations (4)	134
Public relations tours (2)	5
Totals	**158**

USE OF CORE COLLECTION

The USIO promotes outreach use of the GCR core collection by conducting tours of the repository (see “GCR tours/visitors” table above) and providing materials for display at meetings and museums. The repository and core collection are also used for classroom exercises. During this quarter, tours/lectures were given to a sixth-grade class from Gause Elementary School (Gause, Texas), Japanese high school exchange students associated with

Texas A&M University Community Outreach, Texas A&M University's GEOS 401 class, two groups of students from the Summer Science Safari Camp out of Houston, and Texas A&M University's GeoX camp for high school students. In addition, a group of 54 graduate students from Imperial College, London, spent the day at the GCR engaged in core description exercises; a VIP tour was given to the new director of Texas A&M University's Geochemical and Environmental Research Group (GERG) and his wife; and three VIPs from India, interested in building a core repository, were hosted for a day.

LEGACY DOCUMENTATION

The USIO routinely archives electronic copies of documents and reports produced on behalf of IODP, as well as DSDP and ODP legacy materials. Legacy preservation activities for Core Curation include the following 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 95% complete.

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 "Sample requests" table above). 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 75% of the returned sample residues from scientists are now sorted by expedition into labeled boxes. After all of the residues are sorted by expedition, the inventory of individual samples within each box will begin.

OTHER PROJECTS AND ACTIVITIES

GCR staff attended the National Science Teachers Association (NSTA) conference in San Antonio, Texas, took part in a presentation and workshop, and assisted with manning the USIO booth. The GCR Superintendent also attended the 2013 meeting of the Curators of Marine and Lacustrine Geological Samples in Woods Hole, Massachusetts, where he gave a presentation related to IODP curation, and visited the *JOIDES Resolution* in Victoria, British Columbia (Canada), where he participated in the School of Rock as an instructor.

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

Expedition 341S data were added to the LIMS database on shore. Because these data contain only the drilling related information and no science data, the data are not in moratorium. Expedition 339 data were placed out-of-moratorium during this quarter.

Log database

No new data were made available to the public online during the quarter.

EXPEDITION DATA REQUESTS

USIO-LDEO responded to direct queries regarding USIO Expedition 339 from J. Maynard (Exxon Mobil/United Kingdom) and R. Santos (Petrobras/Brazil). In addition, the following tables provide information on USIO web data requests from the scientific community. Where possible, visits by USIO employees were filtered out.

Top 10 countries accessing USIO web databases						
	Janus database		LIMS database		Log database	
Rank	Country	Visitor sessions	Country	Visitor sessions	Country	Visitor sessions
1	USA	**1,065**	USA	973	USA	504
2	United Kingdom	**407**	United Kingdom	181	Brazil	206
3	Germany	**246**	Germany	102	Germany	137
4	Japan	**219**	France	57	China	132
5	Australia	**183**	Japan	46	United Kingdom	115
6	Netherlands	**110**	Unknown	44	Taiwan	46
7	China	**99**	Netherlands	29	Japan	44
8	Unknown	**87**	Australia	26	Australia	35
9	Slovakia	**79**	China	15	France	34
10	France	**76**	South Korea	86	Canada	24
	Others	**416**	Others	86	Others	207
	Total	**2,987**	**Total**	**1,573**	**Total**	**1,484**

Janus database web queries		
Rank	Query	Uploads
1	Imaging—photos	659
2	Sample	564
3	Paleo—range chart	429
4	Hole trivia	280
5	Site summaries	265
6	Chem—carbonates	254
7	Requests	243
8	Core summaries	218
9	Phys props—GRA	214
10	Requests	210
11	Depth calc	172
12	Hole summaries	162
13	Leg summaries	147
14	Phys props—MAD	145
15	Paleo—age model	141
16	Phys props—MSL	129
17	Site details	115
18	Paleo—age profiles	112
19	Site trivia	110
20	Phys props—PWL	105
	Others	1,325
	Janus database total	**6,000**

LIMS database web queries	
Query type	Views
LIMS Reports	25,881
Web Tabular Reports	474
LIMS database total	**26,355**

Data requests submitted to the TAMU Data Librarian	
Requests	**Total**
Images—photo	8
How to access data	4
Navigation/seismic	4
Age	2
Color	2
Depth	2
Gas	2
MS track data—multiple types	2
Samples	2
Downhole temperature	1
Paleomagnetics	1
Shear strength	1
Total	**31**

Countries submitting data requests to the TAMU Data Librarian	
Country	**Total**
USA	13
United Kingdom	4
Germany	3
Netherlands	3
China	2
New Zealand	2
Unknown	2
Australia	1
France	1
Total	**31**

Other USIO web statistics*			
	Janus database	**LIMS database**	**Log database**
Database query hits:			
Entire site (successful)	170,855*	29,665	10,174
Average per day	1,877	326	112
Visitor sessions:			
Total number of visitor sessions	2,968	1,567	1,484
Average per day	32	17	16
Average length of visit	00:14:02	00:10:14	0:07:00
International visitor sessions	61.32%	34.97%	66.04%
Visitor sessions of unknown origin	2.93%	2.81%	0.00%
Visitor sessions from United States	35.74%	62.22%	33.96%
Visitors:			
Unique visitors	1,752	810	752
Visitors who only visited once	1,320	640	604
Visitors who visited more than once	432	170	148
Average visits per visitor	1.69	1.93	1.97

*There was unusually high activity from 10 to 13 May 2013 resulting in more than 150,000 hits in those four days.

OPERATION, MAINTENANCE, AND SECURITY

LDEO upgrades and maintenance

Two Dell servers were purchased to replace the LDEO Borehole Research Group's aging Solaris-based servers. Installation, configuration, and deployment are scheduled to take place over the next few months.

Shipboard computer systems were upgraded during the maintenance period in Victoria, British Columbia (Canada). Servers were upgraded to OS X 10.7 Server, while client machines were upgraded to OS X 10.8. Application software on client machines was updated as well.

SOFTWARE DEVELOPMENT

LIMS Editing Tool

Project scope and deliverables

The goal of this project is to design, develop, test, and deploy a software package to give data review and editing capabilities to the technical user while maintaining the associations and relationships within the LIMS data structure. The technical user will be able to cancel samples, tests, and results (and any daughter samples, tests, and results) and will be able to reinstate them as well. The user should be able to shift parentage of a sample and force the re-creation of label IDs for the sample and its daughters. The user should be able to create new tests and results (and fill them in, if necessary), but not new samples (Sample Master already provides this capability). The user will be able to call up a set of samples, tests, and results and edit one or many of them in a single session. The following are not included in the scope of the project:

- Reporting capabilities for edited samples beyond cut/paste from the screen (a report will be created for the audit trail as defined in the detailed scope).
- Creation of new samples (retained by Sample Master).
- Editing of certain sample types (HOLE, CORE, SECT, SHLF, PC; retained by Sample Master).
- Creation of new tests and results (retained by MegaUploadaTron [MUT] and/or spreadsheet uploader).

Project status

Work slowed down during this period because of Expedition 341 and Expedition 341S activities, but the project remains on track for 30 November 2013 completion. The project team built detailed testing procedures for each of the Version 1 release modules. While some iteration and changes can be expected as testing uncovers issues, the test plans are largely complete. Testing of the Author, Cancel Sample, Uncancel Sample, and Reparent Sample modules is under way in full force.

Phase 2 remains on track for both specification and test plan construction. Phase 3 work is under way. Phase 4 work is also under way. Overall project health remains good.

Shore Web Architecture Update

Project scope and deliverables

The goal of this project is to replace TAMU's current web infrastructure with a modern, less complex system that supports more responsive patch management to protect against the constantly growing list of security holes identified by the information technology industry. The system will provide support for future web content and services, and include migration of current services such as the IODP, ODP, DSDP, and Publications web sites. The new system must be

- Able to host the current web content and services, including IODP, ODP, DSDP, and Publications web sites;
- Accomplished with the least amount of downtime possible for current services;
- A secure system that conforms to the current best practice and security standards;
- Adaptable to the ship environment in order to keep the two locations as similar as possible;
- Able to provide for future web based projects and services, including content management systems;
- Able to provide software/hardware maintainability, and simplify patching and upgrades; and
- Reliable.

Project status

The project kickoff was set for 8 July 2013.

JOIDES Resolution Microscope Laboratory Infrastructure Renovation

Project scope and deliverables

The goal of this project is to create an ergonomic distribution of workspace in the microscope laboratory with desks designed to accommodate both right- and left-handed personnel. Additional goals include the following:

- Custom build desktops to fit the wall contours and recover used space.
- Recover additional floor space by consolidating microscope parts and supplies under the close-up table and by installing the PICAT station over the close-up table (over the core run-out end).
- Provide space for the SEM workstation and supplies.
- Provide additional storage (drawers, utility shelves) and work space (pull-out table tops, custom-fitted table tops).

- Install custom shelving for library that will accommodate microscope stations (height issues).
- Move the close-up station out of the core description area, removing a congestion point near the elevators.
- Move the color printer from the microscope laboratory back into the core laboratory, thereby removing the traffic caused by core describers printing VCDs.
- Install a shallow bench for general use where the close-up table used to be.
- Provide additional sample/supply storage for curation under the above bench.
- Create space for a large display in the core description area.

Project status

Project kickoff is set for the tie-up period beginning 28 September.

LEGACY DOCUMENTATION

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

IODP inventory update

The data inventory includes data from IODP Expeditions 301 to 344 including IODP-ESO Expeditions 302, 310, 313, 325 and IODP-CDEX Expeditions 314, 319, 322, and 332.

Legacy logging data

Log summary plots were produced for all IODP-USIO holes prior to Expedition 336 using software developed in-house, and a table containing the logging times of all logged IODP-USIO holes was compiled for the metadata database. Documents were prepared which provide a detailed inventory of all the material (tapes, CDs, DVDs, blueprints, microfilm, videos, and processing notes) physically archived at LDEO-BRG for DSDP, ODP, and IODP-USIO. Other work took place during the quarter in preparation for the conclusion of IODP-USIO and final submission of digital data to the National Geophysical Data Center (NGDC).

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

USIO publications

IODP Proceedings

- Stow, D.A.V., Hernández-Molina, F.J., Alvarez Zarikian, C.A., and the Expedition 339 Scientists, 2013. *Proc. IODP,* 339: Tokyo (Integrated Ocean Drilling Program Management International, Inc.). doi:10.2204/iodp.proc.339.2013

Data Reports

- Backman, J., and Lyle, M., 2013. Data report: calibration of XRF-estimated $CaCO_3$ along the Site U1338 splice. *In* Pälike, H., Lyle, M., Nishi, H., Raffi, I., Gamage, K., Klaus, A., and the Expedition 320/321 Scientists, *Proc. IODP,* 320/321: Tokyo (Integrated Ocean Drilling Program Management International, Inc.). doi:10.2204/iodp.proc.320321.205.2013
- Colmenero-Hidalgo, E., and Flores, J.-A., 2013. Data report: late Pliocene to early Quaternary calcareous nannofossils, IODP Expedition 323 Site U1341, Bering Sea. *In* Takahashi, K., Ravelo, A.C., Alvarez Zarikian, C.A., and the Expedition 323 Scientists, *Proc. IODP,* 323: Tokyo (Integrated Ocean Drilling Program Management International, Inc.). doi:10.2204/iodp.proc.323.201.2013
- Kallmeyer, J., 2013. Data report: microbial abundance in subseafloor sediments of the equatorial Pacific Ocean, Expedition 320/321. *In* Pälike, H., Lyle, M., Nishi, H., Raffi, I., Gamage, K., Klaus, A., and the Expedition 320/321 Scientists, *Proc. IODP,* 320/321: Tokyo (Integrated Ocean Drilling Program Management International, Inc.). doi:10.2204/iodp.proc.320321.214.2013
- Kordesch, W.E.C., and Delaney, M.L., 2013. Data report: pore water nitrate and silicate concentrations for Expedition 320/321 Pacific Equatorial Age Transect. *In* Pälike, H., Lyle, M., Nishi, H., Raffi, I., Gamage, K., Klaus, A., and the Expedition 320/321 Scientists, *Proc. IODP,* 320/321: Tokyo (Integrated Ocean Drilling Program Management International, Inc.). doi:10.2204/iodp.proc.320321.210.2013
- Leon-Rodriguez, L., and Dickens, G.R., 2013. Data report: stable isotope composition of Eocene bulk carbonate at Sites U1331, U1332, and U1333. *In* Pälike, H., Lyle, M., Nishi, H., Raffi, I., Gamage, K., Klaus, A., and the Expedition 320/321 Scientists, *Proc. IODP,* 320/321: Tokyo (Integrated Ocean Drilling Program Management International, Inc.). doi:10.2204/iodp.proc.320321.208.2013

CDEX publications

Data Reports

- Joseph, C., Torres, M.E., and Haley, B., 2013. Data report: $^{87}Sr/^{86}Sr$ in pore fluids from NanTroSEIZE Expeditions 322 and 333. *In* Saito, S., Underwood, M.B., Kubo, Y., and the Expedition 322 Scientists, *Proc. IODP,* 322: Tokyo (Integrated Ocean Drilling Program Management International, Inc.). doi:10.2204/iodp.proc.322.207.2013

- Saito, H., Suzuki, N., and Tsunogai, U., 2013. Data report: carbon isotope compositions of methane in void gas samples from IODP Expedition 315 Site C0001, Nankai Trough, offshore Japan. *In* Kinoshita, M., Tobin, H., Ashi, J., Kimura, G., Lallemant, S., Screaton, E.J., Curewitz, D., Masago, H., Moe, K.T., and the Expedition 314/315/316 Scientists, *Proc. IODP,* 314/315/316: Tokyo (Integrated Ocean Drilling Program Management International, Inc.). doi:10.2204/iodp.proc.314315316.209.2013
- Tudge, J., Lovell, M., and Davies, S., 2013. Data report: Site C0011 LWD resistivity–derived porosity. *In* Saito, S., Underwood, M.B., Kubo, Y., and the Expedition 322 Scientists, *Proc. IODP,* 322: Tokyo (Integrated Ocean Drilling Program Management International, Inc.). doi:10.2204/iodp.proc.322.201.2013
- Underwood, M.B., and Guo, J., 2013. Data report: clay mineral assemblages in the Shikoku Basin, NanTroSEIZE subduction inputs, IODP Sites C0011 and C0012. *In* Saito, S., Underwood, M.B., Kubo, Y., and the Expedition 322 Scientists, *Proc. IODP,* 322: Tokyo (Integrated Ocean Drilling Program Management International, Inc.). doi:10.2204/iodp.proc.322.202.2013

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).

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 (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 1 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 FY13 Q3	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	2
311	27 June 2008		12	8
309/312	28 August 2008		9	9
310	4 November 2008		16	13
313	4 August 2012		4	2
314/315/316	4 October 2010		27	21
317	4 September 2012		11	5
318	2 March 2013		4	2
319	30 April 2012		6	3
320/321	30 June 2012		26	19
322	10 June 2012		11	6
323	10 August 2012		6	5
324	4 July 2012		10	6
325	16 March 2013*		31	2
327	5 May 2013	1	1	
331	4 June 2013	4	4	1
334	13 December 2013†		31	

*A 6 month extension was granted to the entire Science Party.
†A 1 year extension was granted to the entire Science Party.

Synthesis papers

Expedition	Submission deadline (26 months postmoratorium)	Deadline extensions approved in FY13 Q3	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*	
313	4 February 2013			
314/315/316	5 April 2011		1*	
317	4 March 2013	1	1	
318	2 September 2013			
319	30 October 2012			

Expedition	Submission deadline (26 months postmoratorium)	Deadline extensions approved in FY13 Q3	Overall extension status	
			Number approved	Number fulfilled
320/321	30 December 2012			
322	10 December 2012	1	1	
323	10 February 2013			
324	4 January 2013	1	1	
325	16 September 2013			

*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.

IODP publications website

The IODP Publications website is hosted at TAMU. Traffic accessing USIO publications is monitored through publications.iodp.org.

Publications website	FY13 Q3 page views	FY13 Q3 site visits
www.iodp.org/scientific-publications	476,753	79,149

IODP digital object identifiers

IODP is a member of CrossRef, the official digital object identifiers (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			
		April 2013	May 2013	June 2013	FY13 Q3 total
IODP	10.2204	6,169	3,636	3,284	**13,089**
ODP/DSDP	10.2973	7,595	8,571	7,079	**23,245**

PUBLICATIONS SUPPORT

The USIO provided Publications Specialist services during USIO Expedition 341 and hosted postexpedition editorial meetings for USIO Expedition 344 and CDEX Expedition 338.

TECHNICAL DOCUMENTATION

Technical documents produced by the USIO are available to users via the Cumulus web client (iodp.tamu.edu/tasapps/) once they reach the technical draft stage. Technical documents in production during the third quarter of FY13 are shown in the table below.

Technical documentation	FY13 Q3 status
Quick start guides	
Logger: Natural Gamma Radiation Logger (NGRL)	Under technical review
Logger: Section Half Imaging Logger (SHIL)	Under technical review
Logger: Section Half Multisensor Logger (SHMSL)	Under technical review
Logger: Whole-Round Multisensor Logger (WRMSL)	Under technical review
Paleomag: Agico JR-6 Spinner Magnetometer	Under technical review
Paleomag: D2000 AF Demagnetizer	Under technical review
Physical Properties: Automated Vane Shear (AVS)	Under technical review
Physical Properties: Gantry	Under technical review
Physical Properties MADMax	Under technical review
Chemistry: inductively coupled plasma–atomic emission spectroscopy (ICP-AES)	In revision
X-Ray: EVA Software	In revision
User guides	
Logger: NGRL	Under technical review
Logger: SHIL	Under technical review
Physical Properties: Moisture and Density (MAD)	Under technical review
Chemistry: Cary Spectrophotometer	Under technical review
Chemistry: Source Rock Analyzer	Under technical review
Chemistry: ICP-AES	In revision
Chemistry: Titrator (pH, Alkalinity)	In revision
X-Ray: X-ray Diffraction (XRD)	In revision
Advanced User Guides	
Chemistry: Source Rock Analyzer	Under technical review
Physical Properties: MAD	Under 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 FY13 Q2 report, and planning documentation for reporting deliverables.

OTHER PROJECTS AND ACTIVITIES

HathiTrust presentation

K.S. Hawkins (University of Michigan, Ann Arbor) delivered a presentation titled "A Model for Integrating the Publication and Preservation of Journal Articles," on 10 June 2013 at Texas A&M University. Hawkins' talk and follow-up meetings with USIO-TAMU Publication Services staff focused on the HathiTrust—a Trustworthy Digital Preservation Repository collaboratively owned by the partnering institutions—and on mPach, a package of tools being developed to facilitate ingest, display, and discoverability of born-digital open-access journal literature in the HathiTrust. The HathiTrust is under consideration as a permanent archive solution for IODP scientific publications and legacy publications through Texas A&M University's membership in the digital library.

EDUCATION

USIO education activities are supported by NSF through other Program integration costs (OPIC). 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 [USSSP]) 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

2013 Schools of Rock

Two Schools of Rock took place on board the *JOIDES Resolution* this quarter. The first weeklong workshop, titled "Exploring Ocean Cores and the Geology of the Pacific Northwest aboard the *JOIDES Resolution*," took place while the ship was in port in Victoria, British Columbia (Canada). Four instructors, including USIO staff, L. Krissek (Ohio State University), and D. Pak (University of California, Santa Barbara), introduced the 19 participants to many aspects of ocean drilling science and provided engaging material for the participants to share with their students.

The second School of Rock sailed as a part of Expedition 341S and focused on investigating Earth's history and deep biosphere investigations. The instructors—including USIO staff,

D. Duggan-Haas (Paleontological Research Institution [PRI]), J. Lewis (Indiana University of Pennsylvania [IUP]), and B. Reese (University of Southern California [USC])—and 13 participants were able to observe the SCIMPI operations as they occurred. In a first for the School of Rock program, the participants were primarily from cyber-schools and had a real focus on using scientific ocean drilling resources in that context.

Onboard educator program

The USIO sponsored A. Mote, a middle school teacher at the Ann Richards School for Young Women Leaders in Austin, Texas, as the Expedition 341 Onboard Education Officer. The New Zealand IODP office sponsored C. Larson, the Education Team Leader at the National Aquarium in New Zealand, to participate in the expedition. Mote and Larson worked closely together on the joidesresolution.org website, social media, live broadcasts, and other educational projects. Mote also acquired supplementary funding to create an extensive curriculum module in partnership with EarthLabs for Educators (Carleton College) after the end of the expedition.

Educational outreach events

National Science Teachers' Association

IODP was strongly represented at this year's NSTA annual conference, held 11–14 April in San Antonio, Texas. The USIO staffed a booth and participated in three share-a-thons, all of which were well attended, and also sponsored an hour-long session and a three-hour short course titled "The Ultimate Plate Tectonics Meet and Greet and Make and Take," which carried an extra charge to participants and was sold out. In addition to USIO staff, those involved in sessions and staffing the booth included D. Thomas (Texas A&M University), H. Mills (University of Houston); School of Rock alumni C. Buchholtz (John Jay and Science and Engineering Academy), L. McMinn (Scofield Magnet Middle School), and B. Simon-Waters (West Carteret High School); and previous Onboard Education Officers K. Kurtz (freelance children's book author), N. Kurtz (freelance illustrator), A. Mote (Ann Richards School For Young Women Leaders), and D. Rosenberger (El Capitan High School). Thomas was a featured speaker at the NSTA conference. Several hundred teachers and other educators stopped by the booth for information about ocean drilling and program opportunities.

Intel International Science and Engineering Fair

The USIO participated for a second year in the Intel International Science and Engineering Fair, held 13–17 May in Phoenix, Arizona. This is an international high school science project competition. Three USIO staff members were sent to judge the best projects in ocean research topics, and the USIO awarded $5,000 in prizes to its top choices.

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.

Deep Earth Academy website

The Deep Earth Academy website (deepearthacademy.org) continued to serve as the hub for information on professional development, classroom activities, and materials ordering. However, staff is in the process of migrating most of its content over to joidesresolution.org in an effort to streamline content discovery for all audiences.

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. During this quarter, the site promoted Expedition 341. Staff also revamped the Educator Resources page and began migrating curriculum activities and resources over to this site, including a new searchable database tool for finding activities by topic or grade level. The *JOIDES Resolution* Facebook page now has 3,671 "likes," while the *JOIDES Resolution* Twitter feed has 1,298 followers.

USIO educational website statistics

USIO educational website*	FY13 Q3 page views	FY13 Q3 site visits
www.joidesresolution.org	44,253	16,071
www.oceanleadership.org/education/deep-earth-academy	12,751	9,618
Total	**57,004**	**25,689**

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

Videos and video broadcasts

Each Onboard Education Officer connects with numerous classrooms, museums, professional development programs, and special events to provide live ship-to-shore video broadcasts lasting 30–45 minutes each. This quarter featured Expedition 341, for which more than 30 broadcasts were scheduled to audiences across the United States and around the world.

Educational materials development and distribution

Materials developed this quarter included a preview version of the new Adopt-a-Microbe curriculum, a printed version of the *JOIDES Resolution* e-book, and a *JOIDES Resolution*–branded flash drive preloaded with videos and curriculum resources.

Materials were distributed this quarter at conferences and outreach activities and in response to requests received through the Deep Earth Academy website. The office no longer sends

extensive materials through the mail but primarily distributes materials at events run by staff or volunteers.

SCIENTISTS AS EDUCATORS

The USIO provides regular opportunities for scientists to participate in educational programming. During this quarter, scientists participated in two Schools of Rock and in the NSTA Conference (see "2013 Schools of Rock" and "Educational outreach events").

STRATEGIC PARTNERSHIPS

Center for Dark Energy Biosphere Investigations

The USIO continued to partner with the Center for Dark Energy Biosphere Investigations (C-DEBI) to produce microbiology-related materials and projects. During this quarter, USIO staff worked with B. Orcutt (Bigelow Laboratory for Ocean Sciences) on the Adopt-a-Microbe curriculum module, a preview version of which was given out at the NSTA conference in April.

OUTSIDE FUNDING AND SPONSORSHIPS

This section describes grant proposal submissions, awarded grants, and subsequent grant-supported activities that complement USIO science and education activities.

Activities related to existing grants

C-DEBI grant

The USIO partnered with C-DEBI during FY11 on the education and outreach components of the R/V *Atlantis* Expedition AT18-07, which collected samples and data from subseafloor observatories (CORKS) installed during IODP Expedition 327: Juan de Fuca Ridge-Flank Hydrogeology. A continuation was awarded that supports USIO-managed education and outreach programs during the second phase of this project, including an expedition to the same sites on the R/V *Thompson* scheduled for 11–26 July 2013. Preparations for this expedition continued this quarter, including planning with L. Strong (the expedition videographer), A. Fisher (expedition chief scientist), participating educators (not funded by USIO), and the Inner Space Center at the University of Rhode Island, which is providing a high-speed internet connection to enable expedition telepresence. USIO staff and L. Strong traveled to University of Rhode Island in May for a workshop on this partnership. A full report on this expedition will be provided in the IODP-USIO Q4 report.

Ship-to-Shore Science grant (NSF Informal Science Education Pathways)

During this quarter, Ship-to-Shore hub network events were held at New Rochelle Public Library in New Rochelle, New York, in April, the Museum of the Earth in Ithaca, New York, in May, and the Carnegie Museum of Natural History in Pittsburgh, Pennsylvania, in June. Each of these events featured hands-on activities, science lectures, career workshops for high school students, e-book reading, and live connections to the *JOIDES Resolution*. The events also

featured participation of scientists, School of Rock alumni, Onboard Education Officer alumni, and others who have been involved with scientific ocean drilling activities in the local areas. More than 100 people participated in each event.

The grant-sponsored e-book titled *Uncovering Earth's Secrets: Science and Adventure on the* JOIDES Resolution, authored by K. Kurtz and illustrated by A. Feagan, was completed and released this quarter. It is available on the joidesresolution.org website (http://joidesresolution.org/node/2998) and also through iTunes (https://itunes.apple.com/us/book/uncovering-earths-secrets/id632960308?mt=11).

Plans began for a wrap-up meeting and proposal writing for a next phase for this project.

LEGACY DOCUMENTATION

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

Legacy digital archive

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 preview version of Adopt-a-Microbe curriculum and the *JOIDES Resolution* e-book.

DIVERSITY SUPPORT INITIATIVES

IODP-USIO Diversity Internship

For a second consecutive year, the USIO is co-sponsoring two minority undergraduate students to participate in LDEO's Summer Intern Program as this year's IODP-USIO Diversity Interns. The selected interns are currently working with mentors from LDEO on 10-week research projects that use scientific ocean drilling data and/or cores.

N. Porter from Wesleyan University is working with D. Abbott and A. Malinverno on a research project titled "Which Marine Fossil Assemblages Best Match Ice Core Assemblages?" During her research, Porter will use samples obtained from sites with diatom-rich sediments of Eocene age, such as ODP Sites 336 and 342, and compare them to the diatom assemblage in the GISP2 ice core collected in Greenland to determine the likely source of diatoms in the ice core.

E. Martinez from University of California, Berkeley, is working with A. Malinverno on a research project titled "How is Organic Matter Consumed in Marine Sediments?" As part of this project, Martinez will use a data set consisting of organic-rich matter content, age models, and temperature data collected at all sites drilled in DSDP, ODP, and IODP to address the question of how organic matter is consumed in marine sediments.

OTHER PROJECTS AND ACTIVITIES

2013 J-aRt contest: Art under Pressure

Ten winning J-aRt sculptures were selected and shipped to the *JOIDES Resolution,* where they were attached to the VIT and sent down to the seafloor during Expedition 341S to demonstrate the effects of water pressure at great depths. The shrunken sculptures will be returned to the winning students for their own presentations and/or used as part of an exhibit about art and science collaborations. This contest also serves to engage students—including young students and art-focused students—who may not otherwise become involved in ocean science. To further this goal, several live broadcasts were held with the classes of the winners during Expedition 341S. Photos of the winning sculptures are available online (http://joidesresolution.org/node/2836).

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 the national level.

COMMUNICATIONS ACTIVITIES: MEDIA AND PUBLIC OUTREACH

Port call outreach

This quarter, the USIO began planning a major outreach effort for the upcoming port call in Busan, Korea, following the conclusion of Expedition 346 at the end of September.

Public relations materials

USIO media advisories and news releases

During this quarter, the USIO either developed and published or played a role in developing the following press releases and media advisories (all items below are press releases unless noted otherwise):

- *JOIDES Resolution* to study climate change and Earth systems in the Gulf of Alaska [29 May 2013]. http://www.oceanleadership.org/2013/joides-resolution-to-study-climate-change-and-earth-systems-in-the-gulf-of-alaska/
- Development of Antarctic Ice Sheet triggered a unique marine ecosystem [18 May 2013]. http://www.oceanleadership.org/development-of-antarctic-ice-sheet-triggered-a-unique-marine-ecosystem/

Communications tools

The Spring 2013 issue of the *Core Discoveries* newsletter was published during this quarter (http://iodp-usssp.org/wp-content/uploads/CoreDiscoveries_Spring2013_FINAL.pdf). This issue features FY13 expedition updates, deep biosphere research highlights, and an introduction to scientific membership for the newly established *JOIDES Resolution* Facility Board, the entity providing operational and scientific oversight for the *JOIDES Resolution*.

The USIO's outreach-focused Twitter account, @SeafloorSci, gained many followers this quarter by posting news from expeditions and links to related media. The account had approximately 440 followers at the end of June and more are being added regularly.

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).

- **Bogus, K.,** Bouimetarhan, I., and Richey, J., 2013. Early-career scientists discuss research and future directions for the paleoclimate field. *Eos, Trans. Am. Geophys. Res.,* 94(26):233. doi:10.1002/2013EO260007
- Cook, A.E., and **Malinverno, A.,** 2013. Short migration of methane into a gas hydrate–bearing sand layer at Walker Ridge, Gulf of Mexico. *Geochem., Geophys., Geosyst.,* 14(2). doi:10.1002/ggg3.20040
- D'Hondt, S., Inagaki, F., **Alvarez Zarikian, C.,** and the IODP Expedition 329 Scientific Party, 2013. IODP Expedition 329: life and habitability beneath the seafloor of the South Pacific Gyre. *Sci. Drill.,* 15:4–10. doi:10.2204/iodp.sd.15.01.2013
- Houben, A.J.P., Bijl, P.K., Pross, J., Bohaty, S.M., Stickley, C.E., Passchier, S., Rohl, U., Sugisaki, S., Tauxe, L., van der Flierdt, T., Olney, M., Sangiorgi, F., Sluijs, A., Escutia, C., Brinkhuis, H., and the Expedition 318 Scientists (including **Klaus, A.,** and **Williams, T.**), 2013. The dawn of modern Southern Ocean plankton ecosystems linked to the onset of Antarctic glaciation. *Science*, 340:341–344. doi:10.1126/science.1223646
- Stocchi, P., Escutia, C., Houben, A.J.P., Vermeersen, B.L.A., Bijl, P.K., Brinkhuis, H., DeConto, R.M., Galeotti, S., Passchier, S., Pollard, D., Escutia, C., **Klaus, A.,** Fehr, A., **Williams, T.,** Bendle, J.A.P., Bohaty, S.M., Carr, S.A., Dunbar, R.B., Flores, J.A., Gonzalez, J.J., Hayden, T.G., Iwai, M., Jimenez-Espejo, F.J., Katsuki, K., Kong, G.S., McKay, R.M., Olney, M.P., Pekar, S.P., Pross, J., Riesselman, C., Rohl, U., Sakai, T., Shirvastava, P.K., Stickley, C., Sugisaki, S., Tauxe, L., Tuo, S., van de Flierdt, T., Welsh, K., and Yamane, M., 2013. Relative sea-level rise around East Antarctica during Oligocene glaciation. *Nat. Geosci.,* 6:380–384. doi:10.1038/ngeo1783

News articles, news programs, media citations, or public commentary

The following citations comprise examples of news articles, news programs, media citations, or public commentary related to USIO expeditions and/or science. 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.

- Gambrel, A.E., 2013. Northeast teacher is "rockin' through the ages." *Midland Daily News,* 15 May 2013. http://www.ourmidland.com/news/article_a1535727-c1af-5d82-9e82-e3e90dc40f20.html
- Humphris, S.E., and Koppers, A.A.P., 2013. Planning for future ocean drilling with the *JOIDES Resolution. Eos, Trans. Am. Geophys. Union,* 94(26):229–230. doi: 10.1002/2013EO260001
- Lavoie, J., 2013. Sea-floor drilling tool could unlock mysteries of gas hydrates. *Times Colonist,* 10 May 2013. http://www.timescolonist.com/life/sea-floor-drilling-tool-could-unlock-mysteries-of-gas-hydrates-1.175865
- Main, D., 2013. Thriving microbe community lives beneath the seafloor. *LiveScience,* 12 June 2013. http://www.livescience.com/37377-deep-biosphere-microbe-alive.html
- Salopek, P., 2013. A hidden victim of Somali pirates: science. *Natl. Geogr. Daily News,* 25 April 2013. http://news.nationalgeographic.com/news/2013/13/130425-pirates-somalia-indian-ocean-seafloor-drilling-climate-change-science/
- Wall, T., 2013. Life thrives 500 feet below seafloor. *Discovery News,* 14 June 2013. http://news.discovery.com/earth/oceans/life-thrives-500-feet-below-seafloor-130614.htm

LEGACY DOCUMENTATION

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

Legacy digital archive

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 the aforementioned press releases and the Spring 2013 issue of *Core Discoveries.*

APPENDIX A: FINANCE REPORT

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

APPENDIX B: TRAVEL

Purpose*	Category	Dates	Location	Institution: Personnel
Tie-up activities	Tie-up activities	21 March–14 April	Victoria, British Columbia (Canada)	TAMU: T. Cobb, H. Evans, D. Fackler, P. Foster, D. Hornbacher, D. Houpt, M. Hastedt, B. Julson, A. Morgan, J. Zhao
School of Rock	Education	1–9 April 2013	Victoria, British Columbia (Canada)	Ocean Leadership: J. Collins TAMU: P. Rumford External Participants: L. Krissek, D. Pak
FY14 Annual Program Plan development and publications projects	Reporting	3–19 April 2013	College Station, Texas	TAMU: G. Lowe
Final test of vibration-isolated television (VIT) cable and reel	Engineering	4 April 2013	Longview, Texas	TAMU: R. Aduddell, M. Meiring
Tie-up activities	Tie-up activities	4 April–20 May 2013	Victoria, British Columbia (Canada)	TAMU: M. Hodge, M. Knight, M. Storms
Firefighter training	Training	7–12 April 2013	College Station, Texas	TAMU: E Fisher, R. Gjesvold, G. Matson
Environmental Protection and Safety Panel (EPSP) Meeting	Meeting	8 and 9 April 2013	College Station, Texas	TAMU Safety Panel members: G. Claypool, N. De Silva, T. McHargue
Standards of Training, Certification, and Watchkeeping (STCW) Training	Training	8–13 April 2013	Victoria, British Columbia (Canada)	TAMU: M. Knight
National Science Teachers Association (NSTA) conference	Conference	11–13 April 2013	San Antonio, Texas	Ocean Leadership: S. Cooper, S. Maxwell TAMU: C. Alvarez Zarikian, C. Broyles, P. Rumford External: E. Abernathy, K. Kurtz, N. Kurtz, L. McMinn, H. Mills, A. Mote, S. Slough, B. Simon, D. Rosenberger
Microscope cleaning, maintenance, and adjustment course	Training	14 April 2013	Chicago, Illinois	TAMU: S. Herrmann
Managed Pressure Drilling Conference	Conference	16–19 April 2013	San Antonio, Texas	Ocean Leadership: G. Myers
Chikyu+10 International Workshop	Workshop	21–23 April 2013	Tokyo, Japan	TAMU: K. Petronotis
Attending Embedded System Conference	Conference	21–26 April 2013	San Jose, California	TAMU: L. Chen
STCW 95 Basic Sea Survival	Training	21–27 April 2013	Dorchester, United Kingdom	IODP : Heather Barnes

Purpose*	Category	Dates	Location	Institution: Personnel
iPhone & iPad programming training	Training	22–29 April 2013	El Segundo, California	TAMU: S. Nagarajan
Laboratory Information Management System (LIMS) data review meeting	Meeting	23 April 2013	College Station, Texas	Vendor: M. Manickam
VIT pod pressure test	Engineering	23 April 2013	Houston, Texas	TAMU: R. Aduddell, M. Meiring
NSF Large Facilities Workshop	Workshop	23–25 April 2013	Albuquerque, New Mexico	Ocean Leadership: D. Divins, G. Myers TAMU: B. Clement, J. Rosser TAMRF: B. Neyses
LDEO information technology systems upgrade	Tie-up activities	23–30 April 2013	Victoria, British Columbia (Canada)	LDEO: T. Baker, D. Quoidbach
Receive Transportation Worker Identification card from Homeland Security		24 April 2013	Houston, Texas	TAMU: R. Mitchell
IODP Workshop at University of Victoria and port call outreach	Education/ Outreach	26–28 April 2013	Victoria, British Columbia (Canada)	Education Officer: J. Magnusson
Project Management Training	Training	28 April–03 May 2013	Austin, Texas	TAMU: C. Flores, J. Hutchinson
Ocean Exploration Trust 2013 Science Communication Workshop	Workshop	6–9 May 2013	Mystic, Connecticut	Ocean Leadership: S. Cooper
WinFrog Training	Training	5–8 May 2013	San Diego, California	TAMU: T. Cobb, M. Knight
Cryogenic Magnetometer maintenance	Tie-up activities	5–12 May 2013	Victoria, British Columbia (Canada)	TAMU: H. Evans
Offshore Technology Conference (OTC) 2013	Conference	6–9 May 2013	Houston, Texas	Ocean Leadership: G. Myers TAMU: R. Aduddell, L. Chen, S. Ferrell, M. Meiring
Thin Section Training	Training	8–14 May 2013	Victoria, British Columbia (Canada)	TAMU: G. Maxwell
Tie-up activities	Tie-up activities	11–20 May 2013	Victoria, British Columbia (Canada)	TAMU: M. Meiring
Expedition 335 second science postexpedtion meeting	Postexpedition meeting	13–15 May 2013	Cargèse, France	TAMU: P. Blum
INTEL Science Fair	Conference	13–16 May 2013	Phoenix, Arizona	Ocean Leadership: G. Myers
School of Rock	Education	16–29 May 2013	Victoria, British Columbia (Canada)	Ocean Leadership: J. Collins, G. Myers Participants: D. Duggan, J. Lewis, B. Reese

Purpose*	Category	Dates	Location	Institution: Personnel
VIT installation	Engineering	13–20 May 2013	Victoria, British Columbia (Canada)	IODP : S. Ferrell, M. Meiring
Expedition 341S port call	Port call activities	20 May 2013	Victoria, British Columbia (Canada)	TAMU: M. Mitchell
VIT cable test	Engineering	24 May 2013	Houston, Texas	TAMU: L. Chen
Expedition 341 port call	Port call activities	29 May–1 June 2013	Victoria, British Columbia (Canada)	TAMU: B. Julson, M. Malone, J. Miller, R. Mitchell TAMRF: K. Bass, Gonzales, B. Neyses
Expedition 341 Onboard Education Program	Education	29 May–28 July 2013	Victoria, British Columbia (Canada)	Onboard Education Officer: A. Mote
Texas Linux Fest	Conference	31 May–1 June 2013	Austin, Texas	TAMU: J. Rosser
Marine Gas Hydrate Community Workshop	Workshop	4–6 June 2013	Washington, DC	LDEO: D. Goldberg, G. Guerin TAMU: M. Malone
Society for Scholarly Publishing (SSP) Conference	Conference	5–8 June 2013	San Francisco, California	TAMU: G. Lowe, L. Peters
Expedition 344 postexpedition meeting	Postexpedition meeting	10–13 June 2013	College Station, TX	LDEO: A. Malinverno
Curators of Marine Samples 2013 Meeting	Meeting	10–14 June 2013	Woods Hole, Massachusetts	TAMU: P. Rumford
Expedition 344 Operations Review Task Force (ORTF) Meeting	Postexpedition meeting	14 and 15 June 2013	College Station, TX	Ocean Leadership: D. Divins LDEO: A. Malinverno
IODP-MI members meeting	Meeting	14–18 June 2013	Sendai, Japan	TAMU: B. Clement
Indian Ocean & Pacific Conference (IOPAC) 2013	Conference	18–22 June 2013	Bali, Indonesia	TAMU: B. Clement
Proposal Evaluation Panel (PEP) Meeting	Meeting	17–22 June 2013	Santa Cruz, California	Ocean Leadership: D. Divins LDEO: G. Guerin TAMU: P. Blum, K. Bogus, D. Kulhanek, M. Malone
IODP Site Characterization Panel (SCP) Meeting	Meeting	17–19 June 2013	Santa Cruz, California	TAMU: A. Klaus
Hazardous Material Transportation Training	Training	23–29 June 2013	Seattle, Washington	TAMU: L. Crowder

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

APPENDIX C: USIO QUARTERLY REPORT DISTRIBUTION

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B. Neyses, TAMRF, neyses@iodp.tamu.edu