

IODP Annual Program Plan

FY2013

[Appendix A](#)

Appendix A

IODP Management International, Inc.

Aug 10, 2012

FY2013

IODP-MI
(V4)



IODP-MI
INTEGRATED OCEAN DRILLING PROGRAM
MANAGEMENT INTERNATIONAL

Appendix A

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1 Introduction

A Central Management Organization (CMO) was established with the concurrence of Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT) and the U.S. National Science Foundation (NSF) to develop and manage the Integrated Ocean Drilling Program (IODP) science operations and implementation plans. The CMO functions are provided by IODP Management International, Inc. (IODP-MI) through a ten-year contract with NSF. The contract period is in sync with the duration of IODP (FY2003-FY2013).

IODP-MI headquarters office has been located in the campus of Tokyo University of Marine Science and Technology in Tokyo since January 2010. The accounting, contracting and auditing functions are conducted from IODP-MI office in Washington, DC in compliance with U.S. federal regulations as required by the contract with NSF.

During FY2012, IWG+ worked to define the principles of IODP beyond the end of the current program as defined in the Memorandum of Understanding between Lead Agencies. At the same time, a new framework is under discussion between Lead Agencies that will end the practice of using co-mingled funds to support integrative activities and science operation costs. Whereas in its APP for FY2012 IODP-MI thought that it would continue to provide integrative activities for the program beyond 2013, it is now understood that functions will be transferred to other entities at the end of the program in September 2013. Therefore, this represents the last normal program year of CMO activities provided by IODP-MI.

1.1 Annual Program Plan

IODP-MI receives advice and recommendations from a Science Advisory Structure (SAS) on scientific priorities and plans, requests plans from Implementing Organizations (IOs) responsive to this advice; and works with the IOs and the SAS to produce an integrated IODP Annual Program Plan (APP).

IODP-MI submits the program's Annual Program Plan (APP) to the Scientific Implementation and Policy Committee (SIPCom), which is the highest authority of the SAS for review and approval prior to the consideration by the IODP-MI Board of Governors (BoG) and Lead Agencies (LAs). The NSF in consultation with MEXT is responsible for contractual approval of the APP. After approval by the LAs, any significant changes in the APP are to be considered and approved by IODP-MI and LAs prior to implementation, in consultation with SIPCom and the IOs, as appropriate.

The Annual Program Plan is to be consistent with budget guidance provided by the Lead Agencies to IODP-MI. The APP includes a presentation of total program costs, which include both Science Operation Costs (SOCs) and Platform Operation Costs (POCs). IODP-MI will manage SOC funds provided under contract from the NSF. The NSF is expected to administer the contract with due consideration to the interest of MEXT. POCs will be provided directly to the IOs from the LAs and

ECORD Management Agency (EMA). The SOC to ECORD Science Operator (ESO) is directly funded through EMA and not included in the IODP-MI contract with NSF.

Budget guidance for FY2013 was received from the Lead Agencies on May 16, 2013. We note that in the areas of Management and Administration, Core Curation, Data Management, Publications, and Outreach, guidance was approximately 75% of the guidance for FY2012. Proposed activities in those Work Breakdown Elements (WBEs) have been radically altered from recent program years. In response to verbal discussions with Lead Agencies, the WBE of Engineering Development has been zeroed out.

1.2 SAS Support

IODP-MI is responsible for providing support and oversight to SAS. As budget allows, IODP-MI will provide support to the Scientific Implementation and Policy Committee (SIPCom), the Proposal Evaluation Panel (PEP) and the various SAS panels, and for all proposals and site survey data handling. IODP-MI works with SIPCom and PEP to conduct scientific reviews and chairs long-term thematic review committees. Operational Tasks and Engineering Development

IODP-MI is responsible for the integration of planning and coordination of IODP Expedition Operational tasks. IODP-MI has traditionally been responsible to coordinate and plan Engineering Development, but no tasks in this area are proposed for FY2013. Optimization of existing technology on the various platforms is the responsibility of the IO, and they each have their own engineering advisory groups. Expedition operational tasks require close coordination with SAS and IOs and other subcontractors. Traditionally, the Operations Task Force and the Operations Review Task Force have carried out the two important functions of developing schedule options and operational reviewing. While these entities will continue to be active in FY2013, funds for travel and meeting support will only be available as budget allows.

1.3 Data Management

IODP-MI, in is responsible for developing data management policy and data management implementation. IODP-MI is also responsible for defining and monitoring all sub-contracts related to program data management, including the program data portal, and the technical aspects (i.e., non-content) of the program's central Web page. Traditionally IODP-MI has provided the policy development/implementation and coordination function in conjunction with a Data Management Coordination Group and a Data Management Task Force, as needed.

1.4 Publications

IODP-MI is responsible for monitoring various IODP publications, producing the *Scientific Drilling* journal in collaboration with ICDP, and is the publisher of all program publications.

1.5 Outreach

IODP-MI is responsible for developing outreach policy and implementation of this for the program. The task includes maintaining the programs' central website, coordinating, and carrying out international outreach activities to various targets in coordination with Implementing

Organizations and Program Member Offices. Prime targets are the broader, international public and media, and the broader science community (i.e., major conferences and exhibitions).

IODP-MI chairs Outreach Task Force Meeting to define outreach strategies and maximize synergy between outreach activities carried out by the CMO, IOs, PMOs, and individual scientists active in such activities.

2 Budget Summary

IODP-MI/ISHI ALL BUDGET SUMMARY	IODP-MI	ISHI	Total
Management & Administration	1,669,020	1,165,685	\$ 2,834,705
Engineering Development	0	-	\$ -
Data Management	406,852	119,740	\$ 526,592
Publications	5,352	109,074	\$ 114,426
Outreach	57,271	144,165	\$ 201,436
Total	\$ 2,138,495	\$ 1,538,664	\$ 3,677,159

Table IODP-MI- 1: Budget Summary for FY2013

IODP-MI proposes a budget of \$3,715,021 for FY2013, noting that this is 64% of the value of its approved budget of \$5,791,730 for APPFY12. This radical reduction has been thoughtfully made to preserve the essentials of the CMO's service for integrative activities while making as much funding available as possible to the Implementing Organizations.

3 Organizational Structure

IODP-MI operates two offices. The headquarters that combines science and operations management functions is located in the campus of Tokyo University of Marine Science and Technology, Tokyo, Japan. The Washington DC office provides the accounting, contracting, and auditing functions for IODP-MI. In order to operate the Tokyo office conduct legal business in Japan, and carry out program tasks seamlessly across national borders, IODP-MI in November 2009 established the Japanese corporation Ippan Shadan Hojin IODP-MI (ISHI). ISHI conducts business under the umbrella of IODP-MI, which is a not-for-profit entity incorporated in the state of Delaware, USA.

The organizational structure of IODP-MI in FY2013 is shown in Table IODP-MI-2.

IODP-MI's by-laws and governance structure are explained at www.iodp.org/governance.

Position	Name	WBE	SOC -Direct	Indirect	Office
President	Kiyoshi Suyehiro	M&A	90%	10%	DC/Tokyo
Deputy to President	Holly Given	M&A	50%	0%	DC
Operations Manager	Yoshihisa Kawamura	M&A	100%	0%	Tokyo
Science Manager	Michiko Yamamoto	M&A	100%	0%	Tokyo
Operations Coordinator	Issa Kagaya	M&A	100%	0%	Tokyo
Data & Publications Manager	Jamus Collier	M&A	100%	0%	DC
Associate Data & Information Mgr	Taewoon Kim	DM	100%	0%	Tokyo
Outreach & Communications Mgr	Miyuki Otomo	Outreach	100%	0%	Tokyo
Director of Finance and Admin	John Emmitte	M&A	0%	100%	DC
Staff Accountant	Ines Bala	M&A	0%	100%	DC
Program Liaison Assistant	Noriko Olson	M&A	100%	0%	DC
Office Manager	Satoko Kitahara	M&A	100%	0%	Tokyo
Contract Officer	Mariko Tanaka	M&A	100%	0%	Tokyo
SAS Coordinator	Hiroko Osawa	M&A	100%	0%	Tokyo
Publications Coordinator	Mika Saido	Pub	100%	0%	Tokyo

Table IODP-MI- 2: Organizational Structure of IODP-MI for FY2013

The *IODP-MI President* (Key Personnel designated as Program Manager in OCE-0432224) is the ultimate programmatic interface with the Lead Agencies and other IODP Members. He is responsible for the performance and overall management of activities under the NSF/IODP-MI contract and all associated subcontracts, including the creation and submission of IODP Program Plans; for overall facilitation and support of the SAS in its prioritization of IODP science activities and planning, and for communication with the national IODP program offices. He supports the achievement of program science goals by proactive consultation with program principals at high levels. He represents the program internationally and with other large geoscience programs; he also facilitates efforts by potential new members to join IODP. He is responsible for review and evaluation of IODP operational effectiveness and oversees IODP programmatic engineering

development management. He is responsible for all IODP-MI employees. He serves on the IODP-MI Board of Governors and on IWG+.

Reporting to the President, the Deputy to President (DP) shares the high-level managerial and representation tasks for the program. The DP works with the President to plan corporate strategies, support the achievement the IODP science goals, and develop the transition of IODP-MI responsibilities to the post-2013 framework. The DP assists the President in fulfilling contractual responsibilities for management and administration, science planning, operations, data management and publications, and outreach and communication. The DP coordinates the development of the Annual Program Plan. The DP also works with the President with regard to communication and liaison with NSF, MEXT, and other IODP funding agencies and facilitates communication with other nations and geoscience programs regarding IODP and national entities such as the Program Member Offices. The DP works from a remote duty station in the US.

Reporting to the President, the Operations Manager (OPM) is the point-of-contact within IODP-MI for all operational drilling activities and is responsible for the oversight of coordinating SAS and IOs in the scoping, scheduling, and operations review of IODP expeditions, and related operational and engineering efforts. The OPM chairs the Operations Task Force (OTF), and the Operations Review Task Force. The OPM specifically: (1) supports the IODP-MI Operations Task Force and Project Management Teams in order to develop the most efficient annual operational plans for drilling and down-hole experiments; (2) chairs the Operations Review Task Force (ORTF) and (for complex or extended expeditions) the Project Management Team (PMT) meetings; (3) reviews operational plans for all drilling related activities and the related budgets and assist upper management in discussion with the IOs in such matters; (4) represents IODP-MI operational and engineering interests in SAS advisory panels and/or task forces, reviews drilling proposals for operational requirements, and assists in identifying best practices for obtaining drilling, core and sample measurements data; (5) works with the IOs to identify areas for potential improvement in operations and engineering development; and (6) monitors IODP-MI consultants or partners in drilling engineering and related areas.

Reporting to the OPM, the Operations Coordinator supports the OPM and assists with task force coordination, the handling of engineering subcontracts, communication with IOs, coordination and review of budgets for engineering matters, and reporting.

Reporting to the President, the Science Manager oversees the proposal submission and review process and coordinates the activities of the Science Advisory Structure. The Science Manager works closely with the Chairs of the Science Implementation and Policy Committee and the Proposal Evaluation Panel to oversee proposal handling, the proper working and interaction between all SAS panels, that the SAS Terms of Reference are adhered to and updated as required, and to identify and handle conflict-of-interest situations. The Science Manager is the main representative of IODP-MI at SAS panel meetings, and authorizes all SAS panel meetings on the basis of meeting requests, approved minutes and proper agendas. The Science Manager is responsible for proposal handling, arranging for external reviews, oversight of proposal and site survey database, generation of site survey data packages. The Science Manager is also primarily responsible for production of draft minutes from SAS meetings and oversees routine communication with proponents and SAS panel members.

Reporting to the Science Manager, the SAS coordinator is responsible for all coordination of meeting logistics, information distribution, production and distribution of agenda books and related material.

Reporting to the President, the Data and Publications Manager (DPM) oversees data management and publications. In data management, he directs development of program-wide data management systems to meet IODP requirements and oversees proper maintenance of data archival (legacy) functions at the IOs. The Data and Publications Manager also provides specifications for RFPs regarding data management and is responsible for the program data portal, including links between IODP data management systems and other large databases in Earth sciences. He oversees administration and maintenance of IODP-MI hosted data bases and web-based data systems. He chairs task forces and coordination groups in data management. In addition, the Data and Publications Manager oversees all technical aspects of IODP Publications and assists the President in oversight of IODP policies in the areas of publications and data. The DM works with IODP curatorial authorities in the area of IT-supported sample request systems.

Reporting to the DPM, the Associate Data and Information Manager assists the Data and Publications Manager in the implementation and maintenance of data management subcontracts, assumes day-to-day responsibility for IODP-MI databases and web-based data systems, is responsible for the integrity of IODP-MI servers and data systems. The Associate Data and Information Manager manages the generation of meta-data, oversees assignment of digital object identifiers (DOI) to IODP publications, tracks IODP publications, and (with the Publications Coordinator) manages the production of the journal *Scientific Drilling*.

Reporting to the DPM, the Publications Coordinator assists the Data and Publications Manager for all coordination of IODP publications, in particular the journal *Scientific Drilling*.

Reporting to the President, the Outreach and Communications Manager is responsible for planning program-wide outreach activities, coordinating outreach efforts with the IOs and the national organizations involved in IODP, developing and maintaining content for the web site iodp.org, arranging IODP outreach events, cultivating media contacts and responding to inquiries about the program from the media and the public, writing press releases, updating and distributing IODP brochures, producing community newsletters, and tracking metrics on outreach.

Reporting to the President, the Office Manager (OM) organizes and supervises all the administrative activities that facilitate the smooth running of the IODP-MI Tokyo office (ISHI). The OM liaises with the Director of Finance and Administration in DC for smooth running of ISHI administration. Activities include: (1) developing, updating and implementing policy manuals regarding human resources, accounting, health and safety, and other necessary items for ISHI employees; (2) overseeing office expenditures and managing the budget and contracts for the Tokyo office; (3) overseeing the recruitment of new staff; (4) organizing the office layout and maintaining the condition of the office, office supplies, and equipment; (5) acting as immediate contact with the outsourced CPA office, and the law and audit firms; (6) writing reports for senior management, including reports on finances, staff performance, and annual review; (7) advising management on policies and strategic development; (8) promoting staff development and carrying out staff appraisals and performance management; and (9) planning and holding BoG and Members Meeting for ISHI.

Reporting to the Office Manager, the Contracts Officer (CO) manages the contract activities of the Tokyo office adhering to the policies and the budget guidelines provided by the senior management. The CO is also responsible for preparing monthly finance expense reports, monitoring documents and contracting activities to ensure compliance, and responding to inquiries on all aspects of contracts. She directly supports the Office Manager in daily management of the office. The Contract Officer also compiles the Quarterly Reports and Annual Report of IODP-MI.

Reporting to the President, the Director of Finance and Administration (DFA) located in the DC office serves as liaison to the NSF Contracting Officer and oversees IODP-MI's internal controls in compliance with the Federal requirements on contract OCE-0432224. He works with the President to administer awards granted by NSF and other funding sources. With the President, he establishes policies, procedures, protocols, standards of effectiveness, efficiency, and productivity for the DC Office and manages all aspects of budget, accounting, and finance of DC Office. He is responsible for regular financial accounting and reporting and budget estimates for the annual program plan and other proposals. With other senior managers of IODP-MI, he monitors performance and deliverables on international subcontracts. He reviews proposals from potential subcontractors for compliance with contractual Terms and Conditions.

Reporting to the DFA, the Contracts Accountant (in DC) is responsible for accounting, finance and administrative support to the Director of Finance and Administration. The position is also responsible for handling travel expense reports.

Reporting to the DFA, the Program Liaison Assistant (in DC) provides program and office assistance as assigned.

4 Management and Administration

4.1 Goals

The goal of IODP-MI's management and administration (M&A) functions are to plan and coordinate with other program entities (e.g. IOs, the SAS, Lead Agencies and other IODP members, related organizations) to oversee, review, and report on IODP activities and to ensure compliance with the approved Annual Program Plan to optimize the quality of the science and effectiveness of the operation of all program entities. M&A responsibilities also include providing all financial and contractual reporting required by the contract, and assuring compliance with all contractual terms and conditions.

4.2 Deliverables for FY2013

4.2.1 Annual Program Plan

Because this is the last year of the ten-year contract, IODP-MI will not coordinate an Annual Program Plan for FY2014 as it has done in previous years. However, IODP-MI will track compliance with FY2013 approved APP tasks and deliverables and make any changes as requested by the Lead Agencies.

4.2.2 Quarterly and Annual Reports

IODP-MI provides four quarterly reports to the Lead Agencies, which include financial reports, contractual activities, reports of SOC activities under the six funded WBEs, and minutes of all the meetings of SAS Committees/Panels and IODP-MI Task Forces. IODP-MI also provides an annual report to the Lead Agencies, which includes the financial reports, contractual activities, and SOC activities of IODP-MI and the IOs for the whole year.

4.2.3 Coordination of Integrative Activities

IODP-MI coordinates key integrative activities of the program with the IOs, PEP and SAS Panels, SIPCom, the Board of Governors, the Program Member Offices (PMOs), the funding agencies and various subcontractors as summarized in the sections below.

4.2.3.1 SAS Support

IODP-MI supports the SAS and its functions. The chairs of the PEP and SIPCom receive travel support and part-time salary; all other panel chairs receive an annual honorarium. All proposals submitted to the program are received and handled by IODP-MI. Internal and external reviews of proposals are solicited, edited and provided by IODP-MI for the use of SAS panels, and scientific data in support of the drilling is stored in a site survey databank operating under contract to IODP-MI. All SAS meetings are approved and coordinated by IODP-MI; meeting materials, including proposal data and for the PEP and agenda books for SIPCom are provided by IODP-MI.

In FY2013, IODP-MI will support the SAS in the following areas:

- SAS meetings as per preliminary schedule ([Table IODP-MI-3](#))

- Part-time financial salary support and travel support for the SIPCOM and PEP chairs
- Annual honorarium for all other SAS chairs
- Meeting coordination and approval, including IODP-MI liaison
- Support (with proposal reviews and data) to all science and site survey data evaluation meetings
- Minutes of SIPCOM meetings, and assist minutes writing for PEP plenum sessions
- Prepare proposal package material for PEP meetings, and assist with minutes from plenum sessions
- Oversight, coordination and web posting of all SAS material
- Oversight of Site Survey Data Bank (SSDB)
- Manage the biannual solicitation of proposal submissions, and related proposal handling
- Maintenance and oversight of the Proposal Data Base
- Support of IODP scientific workshops

Panel/Committee	Month/Year	Location
PEP	December 2012	Kyoto, Japan
EPSP	January 2013	Japan
SIPCOM	January 2013	Europe
SCP	February 2013	Japan
STP	March 2013	Europe
PEP	May 2013	US

Table IODP-MI- 3: Tentative SAS meeting schedule in FY2013

Table IODP-MI-3 shows the SAS schedule of panel and committee meetings as currently planned for FY2013.

Expedition-based and long-term science review

Expedition-based science reviews fall into two phases. An initial review is included in the Preliminary Report and a later, second review conducted by SAS in conjunction with IODP-MI. This second phase is typically held well after the Expedition Report has been completed to more properly assess the long-term science impact from the expedition or a group of related expeditions. The co-chiefs' report to the SPC 18-20 months post-expedition forms the basis of the second-phase science review.

In FY2013, IODP-MI will work closely with the IOs to prioritize expedition-based reviews and try to hold some of them together, because travel funds will be closely monitored due to the lower budget guidance.

Longer-term evaluation of the scientific impact of IODP drilling expeditions has been conducted on a thematic basis as per SASEC Consensus 0607-06. The first three thematic reviews were conducted in FY2007/08/09: Climate variability, Ocean crust structure, and Deep Biosphere and the Subseafloor Ocean (reports at <http://www.iodp.org/trc/>) No thematic review is planned for FY2013.

Workshops

IODP-MI manages the Call for Workshop Proposals and their review by the SAS. The program accepts three types of WS proposals:

- 1) Unsolicited or solicited proposal that will address scientific opportunities in a particular region, with or without specific scientific theme(s) in mind. The need for such regional WS may be significant. There is a growing concern about lack of a critical mass of proposals, making efficient scheduling difficult. Long range planning, defining (tentative?) ship tracks and regional WS may be a path forward to overcome this quite fundamental problem.
- 2) Unsolicited WS proposals for thematic WS that has potential to develop new scientific approaches,
- 3) Solicited (by PEP) WS proposals to develop a full drilling proposal. Solicited here implies that a pre-proposal has been submitted and favorably reviewed by PEP, with review comments of a nature that will make it natural to further develop the scientific rationale, technology, or group of proponents through a WS.

Budget guidelines:

- (1) Up to 30K USD from IODP
- (2) Up to 25K USD from IODP
- (3) Up to 15K USD from IODP

Due to difficulty of meeting the FY2013 budget guidance, a budget of \$50,000 assuming two funded workshops is planned. To compensate for this lower level, IODP-MI will pre-fund FY2013 workshops approved at the June 2012 SIPCOM meeting to the extent possible with remaining FY2012 resources.

4.2.3.2 Operations

Platform Scheduling

The Operations Task Force (OTF) oversees IODP platform scheduling. OTF's primary function is to formulate the most logistically, fiscally effective operational plans to meet the objectives set forth in IODP's 10-year science plan based on the reviews and the portfolio of proposals put forward by PEP for consideration of implementation. Task Force members include IODP-MI Operations Manager, five SPC members, IO representatives, and the chair of SIPCOM. Permanent observers are the platform funding agencies. Outside experts are invited on an as needed basis.

The scheduling strategy involves: (1) examining science plans for each proposal; (2) determining operational and environmental constraints; (3) developing a matrix that combines science priorities with operational and environmental constraints and risk, operational days at sea, and transits; and (4) adding fiscal reality to viable options. The Task Force meets approximately two times a year, and has considerable e-mail discussion between meetings. OTF works closely with SIPCOM to ensure that the scheduling option always represents highly ranked science.

Each summer, the Operations Task Force develops detailed scheduling options (i.e., specific dates of operation, port calls, transits, drilling options, etc.) for the fiscal year beginning Approximately 16 months later and a conceptual science plan (i.e., which proposals will most likely be scheduled, but without specific dates, port calls, etc.) for the fiscal year beginning ~28 months later. This scheduling timeline provides the IOs increased lead time to plan for long-term acquisitions and to properly budget for the expeditions. For example, during the summer of 2011, the OTF will develop a detailed schedule for FY2013 (the last year of the current IODP). It is anticipated the role of OTF for platform scheduling will be transferred to the new framework of the program.

Project Scoping

Some drilling projects require scoping to assess the state of readiness of the drilling plans, tool and engineering development, engineering site surveys, etc. Based upon input from the SAS, the OTF recommends to IODP-MI the level of scoping needed for any project. Project Scoping Groups (PSG) are formed at the discretion of IODP-MI and normally are not constituted until programs are forwarded to OTF.

The IODP-MI Operations Manager leads the efforts of project scoping groups. Group may include several project proponents to provide the scientific leadership necessary to plan aspects of the project. This PSG also has formal liaisons from the IOs and SAS and utilizes outside expertise (e.g., engineers) as needed. The PSG regularly reports to the OTF on the state of readiness of the science program. PSG meeting reports/action items are posted on the IODP website at <http://www.iodp.org/project-scoping-groups>.

If after initial scoping, the project is placed on the IODP operational schedule by the OTF, IODP-MI may form a Project Management Team (PMT), which plans and coordinates the project through its operational cycle. Each PMT has a "core membership" of either the Operations Manager as the chair, one or two designated "Chief Project Scientists," proposal proponents, IO

representatives (engineers, staff scientists), SAS representatives, and outside engineers (if required). The PMT reports to the OTF on planning and implementation issues addressed by the team. PMT reports/action items are posted on the IODP website at <http://www.iodp.org/project-scoping-groups>.

In FY2013, there are no funded PSGs and one PMT that is coordinating NanTroSEIZE operations. The FY013 budget contains partial salary support and travel for the work of the NanTroSEIZE PMT.

Expedition Assessment

IODP-MI has a formal expedition review process to examine operational issues. The operational review is conducted by the IODP-MI Operations Review Task Force and is generally conducted two to six months post expedition. Multiple expeditions may be included in an operational review. Each Operations Review Task Force meeting consists of IODP-MI personnel (the Operations Manager and/or Operations Coordinator), the expedition co-chiefs, representatives of the IOs, a few industry experts, and a few non-expedition scientists knowledgeable about the expedition objectives or goals. The Task Force review is based upon confidential reports submitted by the IO and expedition co-chief scientists. These reviews focus on "lessons learned" and possible improvements for the future. Areas of discussion include pre-expedition planning, expedition drilling operations, communications between scientists and operators, roles and responsibilities of scientists and operators, general procedures and policies (e.g., curation, communications), laboratory operations, etc. Each of these operational reviews results in recommendations that are compiled into a short summary report, which is posted on the IODP website at <http://www.iodp.org/ortf>. Considering the limited budget guidance for FY2013, ORTF meetings will be designed to be as effective as possible in considering multiple expeditions.

4.2.3.3 Core Curation

IODP-MI provides SOC funds for the operation and maintenance of three primary repositories; the Bremen Core Repository (BCR), the Gulf Coast Repository (GCR) and the Kochi Core Center (KCC).

Although not involved directly in repository operations, IODP-MI provides oversight of policy and protocols for repository operations. To assist with this oversight function, IODP-MI may utilize a Curatorial Advisory Board (CAB) involving the IODP-MI Data and Publications Manager and up to five members of the scientific community nominated by the SAS. The community members of the CAB represent a variety of scientific disciplines.

The CAB has several main roles including: (1) acting as an appeals board vested with the authority to make final decisions regarding sample distribution if and when issues arise among any combination of the sample requesters, a curator at the repository of interest, or the Sample Allocation Committee (SAC); (2) reviewing and approving requests to sample the permanent archive and requests for loans of core material for outreach and education; and (3) advising IODP-MI (in conjunction with the repository curators) on policy/protocols for repository operations. In FY2013, no explicit funds are planned for CAB activities.

4.2.4 Contract Services

In monitoring subcontractor performance, IODP-MI is primarily interested in progress toward successful completion of the specified requirements of the Annual Program Plan (APP) and the financial status of each subcontract.

Subcontract monitoring is done to ensure:

- compliance with relevant federal government and NSF statutes, regulations, policies, and guidelines;
- compliance with the terms and conditions of the subcontract;
- responsible oversight of awarded funds;
- efficient implementation of APP objectives, tasks, time-lines, budgets, and schedules;
- identification and resolution of issues and problems that may impede APP or subcontract performance; and
- implementation of subcontract change orders or modifications as approved by IODP-MI.

IODP-MI's Director of Finance and Administration (DFA) primarily carries out the programmatic and financial monitoring aspects of the NSF prime contract and the resulting subcontracts awarded by IODP-MI. According to the terms of all major IODP-MI sub-awards --which includes the IOs-- subcontractors are required to submit periodic progress reports that summarize both project and fiscal activity in order to aid the CMO in carrying out its responsibilities.

The DFA is responsible for ensuring that subcontractors submit timely progress and financial status reports and closely monitors the fiscal aspects of all IODP-MI subcontracts, including subcontract modifications and subcontractor invoices. Reports, invoices, and supporting documentation are reviewed for programmatic and fiscal compliance, sent forward to the relevant IODP-MI program/project managers, saved to master files (both electronic and hard copies), and ultimately summarized in IODP-MI's quarterly reports to the Lead Agencies.

Monitoring information is collected using such techniques as telephone calls, reviewing A-133 audit reports annually, site visits, and desk reviews (to ensure that the contract files are complete and the subcontractor is in compliance). The DFA consults with the IODP-MI program/project manager(s) on any actionable issues raised by a subcontractor.

During the course of performance of every major subcontract directly pertinent to the APP process, IODP-MI reserves the right to make site visits to inspect or review the progress of work or the management control systems of the subcontractor or its lower-tier subcontractors. Occasional site visits are conducted to major IODP-MI subcontractors including the IOs; major lower-tier IO subcontractors; the IODP-MI Tokyo office; the Bremen Core Repository, and the managing organizations of the Site Survey Data Bank and SEDIS data management projects, etc.

The purpose of site visits is to:

- monitor a subcontractor's administrative and financial capabilities;
- perform onsite programmatic and/or financial reviews;
- discuss any issues of concern and provide technical assistance that may be needed;
- tour the subcontracting facility; and

- receive a briefing on the status of the deliverables required under the APP.

Site visits assist IODP-MI in evaluating the success of the program and in identifying potential future modifications. Subcontractors receive at least three weeks advance notice prior to a site visit. Each subcontractor is expected to provide reasonable facilities and assistance for the safety and convenience of IODP-MI representatives in the performance of their duties. Such access includes the right to inspect the subcontractor's financial accounts or records that pertain to the subcontract.

Once a visit is completed, a site visit report is prepared for the IODP-MI President. Although unlikely, any discovery of subcontractor or APP noncompliance could result in a stop work order or temporary suspension of payments, depending upon the nature of the finding(s). A statement of any and all deficiencies is provided to the subcontractor in the form of a corrective action letter, and reasonable time is allowed for the recipient to respond to the deficiencies. If necessary, IODP-MI would conduct a follow-up visit in order to make further compliance observations and to provide technical assistance and training.

Considering the budget guidance for FY2013, site visits will be made only on an as-needed basis as approved by the IODP-MI President.

At the end of the period of performance, the subcontract is closed out. Closing out subcontracts is the final step in a process by which IODP-MI ensures that all required deliverables are complete and all reporting has been submitted, reviewed, and accepted. IODP-MI also performs a final reconciliation of the federal funds passed through to the recipient.

4.3 Budget

4.3.1 Budget Table

Management & Administration	IODP-MI	ISHI	Total
Salaries & Fringes	702,700	679,426	\$ 1,382,126
Travel	274,000	7,500	\$ 281,500
Supplies	5,000	18,750	\$ 23,750
Shipping	4,000	10,000	\$ 14,000
Communication	-	37,500	\$ 37,500
Contractual Services	70,000	43,750	\$ 113,750
Equipment	2,000	-	\$ 2,000
Other Direct Costs	217,400	313,250	\$ 530,650
Total Direct Cost	1,275,100	1,110,176	\$ 2,385,276
<i>Direct Cost Allocation Base</i>	<i>1,165,100</i>		
IMI Indirect Rate (33.81%)	393,920		\$ 393,920
Consumption tax (5%)	-	55,509	\$ 55,509
Total	1,669,020	\$1,165,685	\$ 2,834,705

Table IODP-MI- 4: Management & Administration Budget for FY2013

4.3.2 Justification

Currency Exchange Rate: Basis of estimates for services performed by ISHI are made in Japanese Yen(¥) and converted to US Dollars (\$) assuming a static exchange rate of 80¥/\$. In each quarterly financial report, IODP-MI will report actual expenditures using the actual exchange rate at the time of reporting.

Salaries and Fringe Benefits: Salary and benefits as per Table IODP-MI-2. Salaries are maintained at FY12 levels and no cost-of-living increase is included. DC fringe assessments are 32% whereas Tokyo assessments are about 20%

Travel: – The travel estimate includes all domestic and foreign travel for the IODP-MI M&A staff to manage the programmatic, SAS, and expedition operation functions and reviews, and non-IODP-MI travelers such as the SIPCOM and PEP chairs and participants in OTF and ORTF meetings.

Supplies: – Office supplies and expendables.

Shipping: – Includes costs for regular postage, overnight deliveries, parcels, and bulk mailings.

Communication: – includes telecommunications and Internet services for both IODP-MI offices and staff.

Contractual Services: – Includes the CPA accounting services for the DC office and an IT / website support contract for the Tokyo office.

Other Direct Costs: –

DC Office - Includes support of the PEP and SIPCOM chairs, panel chair honoraria, support for NanTroSeize specialty coordinators and travel, workshop support, meeting expenses,

association dues, audit, legal and administration service fees and corporate licenses and insurance, DC office lease and equipment rental, insurance, and printing, software, repairs and bank fees.

Tokyo Office - includes Tokyo office rental and equipment lease. Covers general audit, legal and administration service fees, corporate licenses and insurance, and bank transfer fee. As required by laws of Japan, the 5% consumption tax is applied.

5 Engineering Development

This WBE is not active in FY2013 and no tasks or funds are proposed. Tasks in this area are limited to finishing up projects that are ongoing from previous program years or closing out unsuccessful projects.

6 Data Management

6.1 Goals

The IODP-MI is responsible for maintaining Program-wide data systems and for providing access to integrated data from IODP sources. In order to achieve this goal, IODP-MI manages Program-wide data systems, coordinates with IOs on post-moratorium data management activities, and defines and oversees subcontracts in the area of data management. The major Program-wide data systems cover the areas of 1) site characterization and site survey information, 2) scientific drilling proposals, 3) sample materials inventories and requests management, and 4) access to integrated IODP and legacy Program data.

6.2 Deliverables in FY2013

In FY2013 IODP-MI data management activities include implementation of a permanent accessible archive of IODP data, publications and Program documents, operation and maintenance of the Site Survey Data Bank (SSDB), operation and maintenance of the Proposal Database (PDB), operation and maintenance of the Scientific Earth Drilling Information System (SEDIS), and oversight of the Sample Materials Curation Management System (SMCS). IODP-MI also hosts and maintains other Program-wide data systems such as the IODP drill sites KML database, the Taxonomic Names List database, the IODP user registry, DOI registration applications, and internal databases and applications. IODP data management team also coordinates closely with the Outreach on administration and maintenance of IODP.org CMS and website, as well as coordinating with Science Support team, Operations team and other WBE managers on technology related activities.

The IODP-MI Data and Publications Manager, assisted by an Associate Data and Information Manager, is responsible for overseeing and coordinating IODP-MI and IO science operations data management activities. They also oversee all IODP-MI contracts with non-IO entities. A Data Management Coordination Group assists IODP-MI as needed in developing specifications for IODP data systems and subcontracts. The IODP-MI Data and Publications Manager works jointly with the IODP-MI Contracts Officer to contractually oversee all subcontracts in this field.

The Site Survey Databank (SSDB) is hosted and operated by Scripps Institution of Oceanography under contract with and collaboration from IODP-MI. The SSDB contract include maintenance of the system, QA/QC of uploaded files, support to SAS meetings and minor developments and enhancements to the system. The SSDB-in-a-box system operated by IODP-MI is used to support

SSP and other SAS meetings with an on-site mirror of the production SSDB system. Hosting, maintenance and operation of the SSDB is included in the FY2013 budget.

The IODP proposal database (PDB) is operated, hosted and maintained by IODP-MI. The PDB v.2 was launched in FY2012 and is set to support the FY2013 drilling proposals and SAS review process, as well to serve the post-2013 scientific ocean drilling program. Hosting, maintenance and operation of the PDB is included in the FY2013 budget.

IODP-MI works closely with the IOs in order to provide a portal for accessing for locating and extracting drilling related data from the distributed IODP source systems– the Scientific Earth Drilling Information Service (SEDIS). SEDIS consists of a searchable metadata catalogue for scientific data, a searchable publications catalogue linking IODP publications with related data sets, and services for 3rd party software tools to access IODP data (including core measurements data, borehole logging data, digital images, etc.) via web services to facilitate visualization and analysis of the data. In order to improve performance on queries to the distributed data systems, a cache of the core measurements is maintained to serve as the backend to the query interface. The SEDIS data cache approach was presented at the 2009 DMCG meeting and agreed upon by IOs. Data retrieved from the SEDIS data cache will always be presented with a DOI linking integrated data back to source data systems at the record level. Operation and maintenance for SEDIS is included in the FY2013 budget.

The Sample Materials Curation System (SMCS) consists of two components: a Sample Data Request Management System (SDRM) and the Central Inventory (CI) of IODP and legacy Program sample materials. The SDRM v.2 is a web-based system for users to submit, pre-expedition, during expedition, and post-expedition sample materials requests. Hosting, maintenance and operation is handled by USIO. The CI system is an archive of IODP sample materials stored at the three IODP Core Repositories. CI was designed to be accessible by SDRM to allow sample requesters to view available materials at all repositories while considering sample requests. Hosting, maintenance and operation of CI will be included in the FY2013 budget.

IODP data management activities are discussed and coordinated through the Data Management Coordination Group (DMCG) chaired by IODP-MI, with representatives from IO data managers and data system developers active in the IODP community. Software application developers are regularly invited to participate in DMCG meetings to increase the synergies between IODP data dissemination work and the IODP analytical tools development community. One meeting of the DMCG is planned for FY2013. The major focus of DMCG discussion in FY2013 will be ensuring seamless transition from IODP-MI to the Support Office and IOs for Program-wide data systems.

The deployment of accessible permanent archives for all IODP data and related metadata will be undertaken in FY2013. There will be at least two permanent archives of IODP data, with one located in the US and one located at an international scientific data center. The FY2013 budget includes funding to loading IODP data, metadata, publications and Program documents following standards-compliant, open-access protocols. The permanent archives will be fully operational by end of FY2013, with mechanisms established for loading FY2013 Expedition data to the archives in subsequent fiscal years. IODP-MI will utilize World Data System infrastructure to serve as hosts for

the IODP data archives. The approach to deploying archives involves utilizing existing archives of USIO data at NGDC-MGG, exporting all SEDIS data and metadata to compile comprehensive archive of IODP data with authoritative sources provided in the metadata, establish an archive of IODP publications and publications metadata, and deploy an archive of IODP documents such as Annual Program Plans, Annual Reports, and SAS meeting documents. IODP-MI is collaborating with USIO to make the IODP documents archives federated and cross-searchable with the USIO-hosted ODP and DSDP document archive system. Funding for permanent comprehensive archives of IODP data, metadata, publications and Program documents is included in FY13 budget.

FY2013 data management deliverables will also include many tasks related to transition from IODP-MI to a Support Office (as yet unidentified and without fully defined responsibilities). During FY2013, IODP-MI will coordinate closely with IOs and the Support Office on transition planning and will undertake numerous tasks to ensure smooth transition from IODP-MI to the new structures established to support scientific ocean drilling. Among the transition deliverables during FY2013 will be, thorough documentation all IODP data systems, delivery of IT systems and documentation to appropriate entities, migrating mission critical websites, databases and applications to hosted servers and transferring leases for those servers to appropriate entities, transferring all needed IODP-MI IT infrastructure components (e.g., servers, networking equipment, etc.) to appropriate entities, and performing knowledge transfer and training as appropriate to transfer of responsibilities to post-FY2013 organizations.

6.3 Budget

The budget for Data Management includes funding for operation, hosting and maintenance of Program-wide applications, including SSDB, PDB, SMCS, SEDIS, CI, IODP drill sites KML database and other data management systems. FY2013 activities are focused on maintenance of data systems to support the current IODP operations, the development of permanent archives of IODP data and information, and support for and transition of responsibilities to post-2013 IODP entities.

6.3.1 Budget Table

Data Management	IODP-MI	ISHI	Total
Salary and Fringes	-	109,038	\$ 109,038
Travel	20,800	-	\$ 20,800
Supplies	-	-	\$ -
Shipping	-	5,000	\$ 5,000
Communication	-	-	\$ -
Contractual Services	354,000	-	\$ 354,000
Equipment	-	-	\$ -
Other Direct Costs	-	-	\$ -
Total Direct Cost	374,800	114,038	\$ 488,838
IMI Indirect Rate (33.81%)	32,052		\$ 32,052
Consumption Tax (5%)		5,702	\$ 5,702
Total	\$ 406,852	\$ 119,740	\$ 526,592

Table IODP-MI- 5: Data Management Budget for FY2013

6.3.2 Justification

Salary and Fringes –Salaries for IODP-MI Data Management personnel.

Travel – 8 person-trips for IODP-MI staff to a DMCG, travel costs for IODP-MI staff to WDS for data archive planning, travel to an international conference, and travel for knowledge transfer and training in support of transition to post-2013 IODP entities.

Shipping – Shipping equipment to support office and other transition entities.

Contractual Services – The Data Management budget for FY2012 will be mainly used for the operation and maintenance of SSDB (\$280,000), SMCS, PDB, SEDIS, IODP holes KML database, Taxonomic Names List database and IODP-MI data systems. Also included in the Data management budget are an annual fee for digital object identifiers (DOI) and access to the American Geological Institute (AGI) citation system for IODP-related publications).

7 Publications

7.1 Goals

IODP-MI is the publisher of IODP Publications and oversees editing, production and distribution of IODP Publications. The production and editing of IODP reports (Scientific Prospectus and Preliminary Reports) and the Proceedings of the IODP is contracted to the Implementing Organizations, with USIO-TAMU Publications Services Group serving a major role in production, editing and distribution of Scientific Prospectuses, Preliminary Reports and Proceedings. IODP-MI works closely with the IOs on coordination of all aspects IODP publications. The IODP-MI Data and Publications Manager is responsible for technical aspects of IODP publications assisted by the Publications Coordinator. IODP-MI is responsible for the production and distribution of the program journal *Scientific Drilling* in collaboration with the International Continental Drilling Program (ICDP). ICDP provides one Editor, and the Data and Publications Manager serves as Manager Editor of the journal in consultation with the IODP-MI President. Scientific community members from IODP and ICDP populate an editorial review board and provide peer-review of scientific reports. The Data and Publications Manager is responsible for overseeing the production of the journal. The IODP-MI Publications Coordinator is responsible for layout and design of the journal.

7.2 Deliverables in FY2013

The IO publications staff and IODP-MI personnel coordinate the IODP publications activities. The IODP-MI will coordinate with IOs to produce the Scientific Prospectuses, Preliminary Reports and Proceedings Volumes for FY2012 and FY2013 Expeditions. IODP-MI serves as publishers for these publications and has overall responsibility for their timely production. Each IO has contractual obligation to develop the required IODP publications for their Expeditions. The Scientific Prospectuses, Preliminary Reports and Proceedings Volumes are edited, produced and distributed by USIO-TAMU under contract with IODP-MI. IODP-MI reviews and approves release of all IODP publications. IODP-MI also manages matters of IODP Publications policy in coordination with IOs.

Other FY2013 Publications tasks include coordinating inter-IO publication activities, addressing publications policies and their implementation, addressing issues of program publications' impact and legacy, maintaining a searchable online catalogue of IODP-related publications, managing the publications DOI registration application, managing the AGI-GeoRef contract for ocean drilling citations database, and reviewing all IODP publications in draft.

A major IODP-MI publications deliverable in FY2013 will be plan to establish archives of IODP publications and publications metadata. The publications archives will be fully operational by end of FY2013, with mechanisms established for loading FY2012-2013 IODP publications and metadata to the archives in subsequent fiscal years.

One issue of *Scientific Drilling* are planned FY2013. Scientific reports will be peer-reviewed.

7.3 Budget

The budget includes the IODP portion of the production and distribution costs. Production costs include copy editing and printing for 5,500 copies (net of ICDP's share) per issue.

7.3.1 Budget Table

Publications	IODP-MI	ISHI	Total
Salary and Fringes	-	73,680	\$ 73,680
Travel	4,000	-	\$ 4,000
Supplies	-	-	\$ -
Shipping	-	5,200	\$ 5,200
Communication	-	-	\$ -
Contractual Services	-	25,000	\$ 25,000
Equipment	-	-	\$ -
Other Direct Costs	-	-	\$ -
Total Direct Cost	4,000	103,880	\$ 107,880
IMI Indirect Rate (33.81%)	1,352		\$ 1,352
Consumption Tax (5%)	-	5,194	\$ 5,194
Total	\$ 5,352	\$ 109,074	\$ 114,426

Table IODP-MI- 6: Publication Budget for FY2012

7.3.2 Justification

Salary and Fringe - Salaries for IODP-MI Publications personnel.

Travel – Travel costs for IODP-MI staff to provide knowledge transfer and training in support of transition to post-FY2013 IODP.

Shipping – Shipping cost for *Scientific Drilling*.

Contractual Services – Services for publishing *Scientific Drilling* (IODP contribution - excluding ICDP support).

Other Direct Costs – Salaries and fringe benefits of ISHI subcontract staff providing Publications.

8 Outreach

8.1 Goals

IODP-MI outreach is responsible for coordinating all the outreach activities for the IODP and raising visibility of the program and the vision of the New Science Plan. IODP-MI outreach works collaboratively with PMOs and IOs to increase awareness of the mission, value and importance of scientific ocean drilling including expeditions and scientific researches particularly to the media, stakeholders and the general public. IODP-MI outreach aims to maintain existing audiences and attract new audiences as well as to provide program update and information to the science community, Lead Agencies, PMOs and IOs. IODP-MI outreach develops a variety of forms including web communications, active presence at international conferences, and production of informational and multimedia materials highlighting program achievements.

8.2 Deliverables in FY2013

Media and Public Relations: In FY13 IODP-MI will issue press releases about project discoveries, highlights, and expeditions and respond to inquiries from the media. IODP-MI will continue to develop strong relations with media outlets and make sure these contacts are communicated to entities continuing into the new framework.

Website: IODP-MI will continue to provide daily management, maintenance and support for the program website www.iodp.org, which was redesigned in FY2012 to present a more compelling introduction to the general public use or first-time visitor, while maintaining quick access to program-centric policy documents, expedition information and other pages used by established members of the scientific ocean drilling. Management includes posting e-publications and news highlights, updating expedition schedules and other pages as necessary.

Informational materials: IODP-MI will maintain the current stock of informational materials in various formats (e.g. brochures, leaflets, flyers, posters, videos) and distribute these upon request. No new production of materials is planned.

Conferences: In FY2013, IODP-MI proposes a presence at one international conference, the Fall Meeting of the American Geophysical Union in San Francisco. A modest Town Hall event is planned and a press conference is considered to be held.

8.3 Budget

8.3.1 Budget Table

Outreach	IODP-MI	ISHI	Total
Salary and Fringes		120,300	\$ 120,300
Travel	7,800		\$ 7,800
Supplies			\$ -
Shipping		15,000	\$ 15,000
Communication			\$ -
Contractual Services	35,000		\$ 35,000
Equipment			\$ -
Other Direct Costs		2,000	\$ 2,000
Total Direct Cost	42,800	137,300	\$ 180,100
IMI Indirect Rate (33.81%)	14,471		\$ 14,471
Consumption Tax (5%)	-	6,865	\$ 6,865
Total	\$ 57,271	\$ 144,165	\$ 201,436

Table IODP-MI- 7: Outreach Budget for FY2013

8.3.2 Justification

Salary and Fringes – Salaries for IODP-MI Outreach personnel.

Travel – 2 person-trips for coordination at the AGU Fall Meeting and coordination with program entities.

Shipping – Shipping program informational materials to program partners and promotional events; transition related expenses.

Contractual Services – Website hosting, maintenance and support; News monitoring and information services; Printing.

Other Direct Costs – Miscellaneous costs associated with program promotion and informational materials.

IODP Annual Program Plan

FY2013

[Appendix B](#)



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

**Consortium for Ocean Leadership, Inc.
Lamont-Doherty Earth Observatory of Columbia University
Texas A&M University**

FY13 ANNUAL PROGRAM PLAN to IODP-MI

**For Time Period
1 October 2012 to 30 September 2013**

Amount Proposed FY13: \$70,233,920 (SOC and POC)

Amount Proposed FY13: \$2,991,353 (SOC)

Amount Proposed FY13: \$67,242,567 (POC)



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

3 July 2012

**Respectfully Submitted to:
IODP Management International, Inc.**

**David L. Divins
Director, Ocean Drilling Programs
Consortium for Ocean Leadership, Inc.
Washington, D.C. 20005**

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1. EXECUTIVE SUMMARY

1.1. ANNUAL PROGRAM PLAN OVERVIEW

The USIO FY13 Annual Program Plan to Integrated Ocean Drilling Program Management International, Inc. (IODP-MI) defines the U.S. Implementing Organization (USIO) scope of work for Integrated Ocean Drilling Program (IODP) activities and deliverables for the FY13 fiscal year. It is based on (1) the current mission forecast provided on 20 March 2012 for the USIO by the U.S. National Science Foundation (NSF), (2) the USIO operations schedule that was approved by the Operations Task Force (OTF) and Science Planning Committee in August 2010, and (3) the June 2011 OTF. The USIO recognizes that the complex nature of IODP operations will require Annual Program Plans spanning operational years to establish priorities and to allow the procurement of long-lead time equipment and services.

In FY04, the Consortium for Ocean Leadership, Inc. (Ocean Leadership), then known as Joint Oceanographic Institutions, established subcontracts with the College of Geosciences at Texas A&M University (TAMU) through the Texas A&M Research Foundation (TAMRF) and with the Lamont-Doherty Earth Observatory (LDEO) of Columbia University, formally establishing the USIO.¹ In FY05, Ocean Leadership established a contract with IODP-MI for the science operating costs (SOC) of the USIO, which complemented the contract with NSF for platform operating costs (POC). Under guidance from NSF and IODP-MI, the USIO FY12 Annual Program Plan to IODP-MI was developed in consultation with the USIO subcontractors for inclusion in the IODP FY13 Annual Program Plan.

IODP-MI, with input from IODP funding agencies, provided guidance and instruction to the USIO on preparation of the USIO contribution to the IODP FY13 Annual Program Plan. The USIO FY13 Annual Program Plan to IODP-MI includes a discussion of the goals of the USIO, all responsibilities and deliverables, the operational schedule, definitions of projects, and the USIO organizational structure for all science operations and platform operations activities. Also included are the required budgets that incorporate funding allocations from IODP-MI for science operations and funding allocations from NSF for platform operations. These budget requests relate to the contractual relationships and fiscal reporting structure of the USIO as presented in quarterly reports delivered by the USIO.

In addition to the institutional summary provided in the Executive Summary, USIO tasks and budgets specific to IODP-MI-supported activities are addressed in Sections 5–12 of this Annual Program Plan. Section 2 provides budget summary tables, Section 3 describes the organizational structure of the USIO as it relates to all USIO activities, and Section 4 describes scheduled expedition operations.

On behalf of the USIO and as outlined in this Annual Program Plan, TAMRF has contracted with Overseas Drilling Limited (ODL) for the services of the RV *JOIDES Resolution*. In support of the drilling vessel and with the approval of NSF and IODP-MI, the USIO will provide an array of science, operations, logging, engineering, information technology, technical, and publication services; laboratory facilities; core repositories; and administrative services necessary to support IODP. In addition, LDEO has contracted with Schlumberger Technology Corporation for provision of downhole logging equipment and engineering support.

¹ In this document, references to TAMU include TAMRF.

1.2. USIO FY13 ACTIVITIES

1.2.1. Summary of FY13 USIO Scope

The scope of activities associated with initial planning and preparation of IODP expeditions is similar to early IODP activities in terms of deliverables, challenges, and risks. In addition, the USIO will also carry out the postexpedition activities related to IODP expeditions and ongoing operational tasks (e.g., completing reports and legacy documentation), completing work for all the implementing organizations (IOs) (e.g., producing scientific publications), conducting long-lead planning work in preparation for expeditions scheduled for future fiscal years, and providing all necessary environmental assessments for IODP expeditions conducted by the USIO.

1.3. USIO BUDGET DEFINITIONS

1.3.1. FY13 USIO Budget Assumptions

The USIO has provided our best-effort estimate of FY13 costs in this plan. If additional funds are identified or cost avoidances gained during the fiscal year, the USIO may use them to purchase data management system equipment, drilling or science supplies, or high-priority capital replacement items in support of USIO deliverables. In addition, assumptions about the operations schedule are outlined in the “Expedition Operations” chapter.

Fuel price volatility is a major risk factor for completion of the scheduled operations. Assumptions were made using the best available data to determine a prudent estimate for FY13 fuel costs; however, market conditions are subject to fluctuations that may result in a need for supplemental funding during the period of operations.

1.3.2. USIO Budget Structure

The USIO budget request is partitioned into two programmatic categories: (1) USIO SOC in a budget submitted to IODP-MI for approval, and (2) USIO Systems Integration Contract (SIC) costs in a budget submitted to NSF for approval. The SIC budget includes all POC and other Program integration costs (OPIC) in support of maintaining U.S. capability for continued scientific ocean drilling in IODP.

The USIO cost breakdown for FY13 is a request to IODP-MI for \$2,991,353 in SOC expenses and a request to NSF for \$67,242,567 in POC expenses for all other USIO operations (submitted in the FY13 Annual Program Plan to NSF).

2. FY13 USIO BUDGET SUMMARY TABLES

2.1. INTRODUCTION

The budget summaries and detailed budgets in this section describe the overall USIO FY13 SOC and POC requests to IODP-MI and NSF. This information is given to provide a framework for interpreting fiscal data in quarterly reports delivered by the USIO.

In Section 2.2. FY13 USIO SOC/POC WBE Budget Summary, the line-item total requested for each work breakdown element (WBE) is defined as the total of both the direct and indirect costs for that element. These costs are then separated out into total direct costs and indirect costs and administrative fees in summary totals that add up to the “grand total” for SOC and POC. Ocean Leadership and LDEO calculate indirect costs on a percentage of the direct costs using formulas described in the “Budget” subsections of each WBE section of this Annual Program Plan. The TAMU budget is structured with a single administrative fee that can be found in the Management and Administration element budget.

Section 2.3. FY13 USIO SOC/POC WBE Budget Detail provides an integrated view of all the budget requests detailed in the WBE sections of the IODP-USIO FY13 Annual Program Plan to IODP-MI. The detailed budget justification for these requests can be found in Sections 5–12 of this Annual Program Plan.

Section 2.4. USIO Budget Three-Year View provides a comparison of FY13 budget requests to FY11 and FY12 costs, showing costs broken down by WBE and expense category.

2.2. FY13 USIO SOC/POC WBE BUDGET SUMMARY

Element	SOC	POC	Total
Management and Administration	541,691	3,954,364	4,496,055
Technical, Engineering, and Science Support	0	60,545,996	60,545,996
Engineering Development	0	99,750	99,750
Core Curation	388,738	133,937	522,675
Data Management	771,059	2,423,680	3,194,739
Publications	1,289,865	84,840	1,374,705
Education	0	0	0
Outreach	0	0	0
Total FY13 USIO SOC/POC Budget	\$2,991,353	\$67,242,567	\$70,233,920
Total Direct Costs	2,728,971	65,543,252	68,272,223
Indirect Costs and Administrative Fees	262,382	1,699,315	1,961,697
Grant Total FY13 USIO SOC/POC Budget	\$2,991,353	\$67,242,567	\$70,233,920

Notes: Ocean Leadership Indirect Costs are included in the Management and Administration (M&A) and Outreach elements. LDEO Indirect Costs are included in the M&A; Technical, Engineering, and Science Support; and Data Management elements. The TAMU Administrative Fee is included in the M&A element.

2.3. FY13 USIO SOC/POC WBE BUDGET DETAIL

Element/Expense Category	SOC	POC	Total
Management and Administration			
Salaries and Fringes	296,986	2,644,410	2,941,396
Travel	19,204	212,032	231,236
Supplies	2,525	26,975	29,500
Shipping	1,171	7,829	9,000
Communication	6,990	47,890	54,880
Contractual Services	0	0	0
Equipment	50	950	1,000
Other Direct Costs	4,985	153,750	158,735
Total Direct Costs	331,911	3,093,836	3,425,747
Modified Total Direct Costs (if applicable)	68,515	483,616	552,131
Indirect Costs or Administrative Fees	209,780	860,528	1,070,308
Total Management and Administration	\$541,691	\$3,954,364	\$4,496,055
Technical, Engineering, and Science Support			
Salaries and Fringes	0	6,995,982	6,995,982
Travel	0	1,150,776	1,150,776
Supplies	0	2,207,299	2,207,299
Shipping	0	948,567	948,567
Communication	0	270,145	270,145
Contractual Services	0	3,873,523	3,873,523
Equipment	0	1,102,500	1,102,500
Other Direct Costs	0	43,449,450	43,449,450
Day Rate	0	30,952,267	30,952,267
Fuel and Lubricants	0	6,530,864	6,530,864
Per Diem	0	581,457	581,457
Port Calls	0	1,768,000	1,768,000
Insurance	0	1,835,427	1,835,427
Travel—ODL	0	1,015,070	1,015,070
Other	0	766,365	766,365
Total Direct Costs	0	59,998,242	59,998,242
Modified Total Direct Costs (if applicable)	0	1,033,498	1,033,498
Indirect Costs or Administrative Fees	0	547,754	547,754
Total Technical, Engineering, and Science Support	\$0	\$60,545,996	\$60,545,996
Engineering Development			
Salaries and Fringes	0	0	0
Travel	0	44,000	44,000
Supplies	0	3,000	3,000
Shipping	0	0	0
Communication	0	3,000	3,000
Contractual Services	0	25,000	25,000
Equipment	0	0	0
Other Direct Costs	0	0	0
Total Direct Costs	0	75,000	75,000
Modified Total Direct Costs (if applicable)	0	0	0
Indirect Costs or Administrative Fees	0	24,750	24,750
Total Engineering Development	\$0	\$99,750	\$99,750

Note: Other Direct Costs subcategories are shown on the detailed work breakdown element budgets.
(Continued on next two pages.)

FY13 USIO SOC/POC WBE BUDGET DETAIL (CONTINUED)

Element/Expense Category	SOC	POC	Total
Core Curation			
Salaries and Fringes	280,925	94,249	375,174
Travel	46,125	15,375	61,500
Supplies	26,250	8,750	35,000
Shipping	18,750	6,250	25,000
Communication	2,625	875	3,500
Contractual Services	0	0	0
Equipment	0	0	0
Other Direct Costs	14,063	8,438	22,501
Total Direct Costs	388,738	133,937	522,675
Modified Total Direct Costs (if applicable)	0	0	0
Indirect Costs or Administrative Fees	0	0	0
Total Core Curation	\$388,738	\$133,937	\$522,675
Data Management			
Salaries and Fringes	509,236	1,462,691	1,971,927
Travel	40,955	107,979	148,934
Supplies	15,460	38,940	54,400
Shipping	1,135	2,065	3,200
Communication	6,815	25,965	32,780
Contractual Services	0	0	0
Equipment	55,477	145,430	200,907
Other Direct Costs	89,379	374,327	463,706
Total Direct Costs	718,457	2,157,397	2,875,854
Modified Total Direct Costs (if applicable)	99,250	502,422	601,672
Indirect Costs or Administrative Fees	52,602	266,283	318,885
Total Data Management	\$771,059	\$2,423,680	\$3,194,739
Publications			
Salaries and Fringes	1,198,390	64,840	1,263,230
Travel	40,400	20,000	60,400
Supplies	30,150	0	30,150
Shipping	3,400	0	3,400
Communication	8,000	0	8,000
Contractual Services	0	0	0
Equipment	0	0	0
Other Direct Costs	9,525	0	9,525
Total Direct Costs	1,289,865	84,840	1,374,705
Modified Total Direct Costs (if applicable)	0	0	0
Indirect Costs or Administrative Fees	0	0	0
Total Publications	\$1,289,865	\$84,840	\$1,374,705

(Continued on next page.)

FY13 USIO SOC/POC WBE BUDGET DETAIL (CONTINUED)

Element/Expense Category	SOC	POC	Total
Education			
Salaries and Fringes	0	0	0
Travel	0	0	0
Supplies	0	0	0
Shipping	0	0	0
Communication	0	0	0
Contractual Services	0	0	0
Equipment	0	0	0
Other Direct Costs	0	0	0
Total Direct Costs	0	0	0
Modified Total Direct Costs (if applicable)	0	0	0
Indirect Costs or Administrative Fees	0	0	0
Total Education	\$0	\$0	\$0
Outreach			
Salaries and Fringes	0	0	0
Travel	0	0	0
Supplies	0	0	0
Shipping	0	0	0
Communication	0	0	0
Contractual Services	0	0	0
Equipment	0	0	0
Other Direct Costs	0	0	0
Total Direct Costs	0	0	0
Modified Total Direct Costs (if applicable)	0	0	0
Indirect Costs or Administrative Fees	0	0	0
Total Outreach	\$0	\$0	\$0
Grand Total Direct Costs	2,728,971	65,543,252	68,272,223
Grand Total Indirect Costs/Administrative Fee	262,382	1,699,315	1,961,697
TOTAL FY13 SOC/POC BUDGET	\$2,991,353	\$67,242,567	\$70,233,920

2.4. USIO BUDGET THREE-YEAR VIEW

3-Year View

Work Breakdown Element	Expense Category	FY10 Breakdown				FY11 Breakdown				FY12 Breakdown			
		Budget	%	POC	SOC	Budget	%	POC	SOC	Budget	%	POC	SOC
Management and Administration	Salaries and Fringe	2,965,305	83.46%	88.17%	11.83%	2,976,737	84.86%	87.85%	12.15%	2,941,396	85.86%	89.90%	10.10%
	Travel	294,351	8.28%	88.20%	11.80%	261,419	7.45%	87.60%	12.40%	231,236	6.75%	91.70%	8.30%
	Other Direct Costs	293,324	8.26%	88.91%	11.09%	269,640	7.69%	90.19%	9.81%	253,115	7.39%	93.79%	6.21%
	Subtotal	\$3,552,980	100.00%	88.24%	11.76%	\$3,507,796	100.00%	88.01%	11.99%	\$3,425,747	100.00%	90.31%	9.69%
Technical, Engineering, and Science Services	Salaries and Fringe	6,773,208	11.91%	96.59%	3.41%	7,179,811	11.91%	96.85%	3.15%	6,995,982	11.49%	100.00%	0.00%
	Day Rate	29,673,500	52.18%	100.00%	0.00%	30,185,638	50.07%	92.32%	7.68%	30,952,267	50.18%	100.00%	0.00%
	Contractual Services	3,850,292	6.77%	100.00%	0.00%	3,927,042	6.51%	100.00%	0.00%	3,873,523	6.31%	100.00%	0.00%
	Supplies	2,306,202	4.06%	99.91%	0.09%	1,899,450	3.15%	99.89%	0.11%	2,207,299	3.59%	100.00%	0.00%
Engineering Development	Other Direct Costs	14,267,970	25.09%	99.55%	0.45%	17,090,705	28.35%	99.67%	0.33%	15,969,171	28.44%	100.00%	0.00%
	Subtotal	\$56,871,172	100.00%	99.48%	0.52%	\$60,282,646	100.00%	95.68%	4.32%	\$59,998,242	100.00%	100.00%	0.00%
	Salaries and Fringe	50,269	0.00%	0.00%	100.00%	21,940	19.43%	0.00%	100.00%	0	0.00%	0.00%	0.00%
	Other Direct Costs	12,847	0.00%	0.00%	100.00%	90,968	80.57%	82.45%	17.55%	75,000	100.00%	100.00%	0.00%
Core Curation	Subtotal	\$63,116	0.00%	0.00%	100.00%	\$112,908	100.00%	66.43%	33.57%	\$75,000	100.00%	100.00%	0.00%
	Salaries and Fringe	361,500	78.54%	23.62%	76.38%	365,000	70.72%	23.56%	76.44%	375,174	71.78%	25.12%	74.88%
	Other Direct Costs	98,800	21.46%	25.00%	75.00%	151,150	29.28%	25.33%	74.67%	147,501	28.22%	26.91%	73.09%
	Subtotal	\$460,300	100.00%	23.91%	76.09%	\$516,150	100.00%	24.08%	75.92%	\$522,675	100.00%	25.63%	74.37%
Data Management	Salaries and Fringe	1,862,420	69.45%	65.51%	34.49%	1,947,234	66.87%	65.73%	34.27%	1,971,927	68.57%	74.18%	25.82%
	Other Direct Costs	819,348	30.55%	69.38%	30.62%	964,818	33.13%	69.59%	30.41%	903,927	31.43%	76.85%	23.15%
	Subtotal	\$2,681,768	100.00%	66.69%	33.31%	\$2,912,052	100.00%	67.01%	32.99%	\$2,875,854	100.00%	75.02%	24.98%
Publications	Salaries and Fringe	1,387,000	89.31%	4.61%	95.39%	1,438,999	89.01%	6.45%	93.55%	1,263,230	91.89%	5.13%	94.87%
	Other Direct Costs	166,000	10.69%	18.07%	81.93%	177,650	10.99%	11.26%	88.74%	111,475	8.11%	17.94%	82.06%
	Subtotal	\$1,553,000	100.00%	6.05%	93.95%	\$1,616,649	100.00%	6.98%	93.02%	\$1,374,705	100.00%	6.17%	93.83%
	Salaries and Fringe	0	0.00%	0.00%	0.00%	0	0.00%	0.00%	0.00%	0	0.00%	0.00%	0.00%
Education	Other Direct Costs	0	0.00%	0.00%	0.00%	0	0.00%	0.00%	0.00%	0	0.00%	0.00%	0.00%
	Subtotal	\$0	0.00%	0.00%	0.00%	\$0	0.00%	0.00%	0.00%	\$0	0.00%	0.00%	0.00%
	Salaries and Fringe	30,545	42.44%	0.00%	100.00%	33,132	44.75%	0.00%	100.00%	0	0.00%	0.00%	0.00%
	Other Direct Costs	41,432	57.56%	0.00%	100.00%	40,900	55.25%	0.00%	100.00%	0	0.00%	0.00%	0.00%
Outreach	Subtotal	\$71,977	100.00%	0.00%	100.00%	\$74,032	100.00%	0.00%	100.00%	\$0	0.00%	0.00%	0.00%
	Salaries and Fringe	0	0.00%	0.00%	0.00%	0	0.00%	0.00%	0.00%	0	0.00%	0.00%	0.00%
	Other Direct Costs	0	0.00%	0.00%	0.00%	0	0.00%	0.00%	0.00%	0	0.00%	0.00%	0.00%
	Subtotal	\$0	0.00%	0.00%	0.00%	\$0	0.00%	0.00%	0.00%	\$0	0.00%	0.00%	0.00%
Total Direct Costs		\$65,254,313				\$69,022,233				\$68,272,223			

3. ORGANIZATIONAL STRUCTURE

3.1. INTRODUCTION

Ocean Leadership has subcontracts with LDEO and with TAMU (through TAMRF) that formally establish the USIO for IODP. The USIO carries out all of its IODP deliverables through contracts with IODP-MI for science operating costs and with NSF for platform operating costs. On behalf of the USIO, and as outlined in this Annual Program Plan, TAMRF has contracted with ODL for the services of the scientific ocean drilling vessel *JOIDES Resolution* for use as the USIO riserless drilling vessel. In addition, LDEO has contracted with Schlumberger for the provision of downhole logging equipment and engineering support.

The organizational structure employed by the USIO is designed to mirror the WBE accounting structure used by IODP and allows the USIO to effectively and efficiently carry out the mission of the USIO. This structure also aligns the organization to efficiently and economically provide the full array of science, operations, logging, engineering, information technology, technical, and publications services; laboratory facilities; core repositories; and administrative services deliverables.

3.2. USIO FTE ALLOCATION TABLES

The full-time equivalent (FTE) allocation tables present an accounting of the cumulative estimated effort as partitioned between the WBE(s) to which positions are assigned and as partitioned between SOC, POC, and other costs. The FTE allocation tables reflect actual FTEs as of 18 June 2012, plus projected FTEs for FY13. Staffing levels may change annually due to unanticipated changes in the operations schedule and/or scope of work. SOC FTEs shown in **Section 3.2.1. FY13 USIO FTE Allocation Summary** also include effort devoted to providing assistance to the European Consortium for Ocean Research Drilling (ECORD) Science Operator (ESO) and Center for Deep Earth Exploration (CDEX) as noted in the “Technical, Engineering, and Science Support,” “Data Management,” and “Publications” chapters and to IODP-MI as noted in the “Publications” chapter.

3.2.1. FY13 USIO FTE Allocation Summary

SOC- and POC-supported FTEs by Work Breakdown Elements									
USIO Office	M&A	TESS	ED	CC	DM	Pubs	Ed	Otrch	Total
Ocean Leadership	4.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.13
LDEO	4.00	8.72	0.00	0.00	4.71	0.00	0.00	0.00	17.43
TAMU	4.50	63.00	0.00	3.90	18.00	19.00	0.00	0.00	108.40
Totals	12.63	71.72	0.00	3.90	22.71	19.00	0.00	0.00	129.95

Total FTEs by Expense Category				
USIO Office	SOC	NSF	Other	Total
Ocean Leadership	0.81	3.31	3.08	7.20
LDEO	3.44	13.98	0.00	17.43
TAMU	23.43	84.97	0.10	108.50
Totals	27.68	102.27	3.18	133.13

Notes: FTE = full-time equivalent; M&A = Maintenance and Administration; TESS = Technical, Engineering, and Science Support; ED = Engineering Development; CC = Core Curation; DM = Data Management; Pubs = Publications; Ed = Education; Otrch = Outreach; Other = efforts funded by other sources (e.g., other Program integrated costs [OPIC], San Andreas Fault Observatory at Depth [SAFOD], etc.); SOC = science operating costs; POC = platform operating costs. Student workers and TAMRF administrative support staff are not included in the table.

3.2.2. FY13 USIO FTE Allocation Detail

Position			% Work Breakdown Elements (SOC- and POC-supported FTEs)										% Effort Totals			
Name	Position Title	USIO Office	M&A	TESS	ED	CC	DM	Pubs	Ed	Orch	Total	SOC	POC	Other	Total	
Bob Gagosian	President and Chief Executive Officer	Ocean Leadership	12.5%	0%	0%	0%	0%	0%	0%	0%	12.5%	0%	12.5%	0%	12.5%	
Colin Reed	Executive Assistant	Ocean Leadership	12.5%	0%	0%	0%	0%	0%	0%	0%	12.5%	0%	12.5%	0%	12.5%	
David Divins	Director, Ocean Drilling Programs	Ocean Leadership	87.5%	0%	0%	0%	0%	0%	0%	0%	87.5%	25%	62.5%	12.5%	100%	
Greg Myers	Senior Technical Expert	Ocean Leadership	100%	0%	0%	0%	0%	0%	0%	0%	100%	18.75%	81.25%	0%	100%	
Doug Fils	Technical Expert	Ocean Leadership	100%	0%	0%	0%	0%	0%	0%	0%	100%	18.75%	81.25%	0%	100%	
Margo Morell	Assistant Director, Ocean Drilling	Ocean Leadership	100%	0%	0%	0%	0%	0%	0%	0%	100%	18.75%	81.25%	0%	100%	
Julie Farver	Manager, Travel Services	Ocean Leadership	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	10%	
Matthew Wright	Manager, Communications	Ocean Leadership	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	75%	75%	
Leslie Peart	Director, Education	Ocean Leadership	0%	0%	0%	0%	0%	0%	0%	0.0%	0%	0%	0%	50%	50%	
Sharon Cooper	Assistant Director, Education	Ocean Leadership	0%	0%	0%	0%	0%	0%	0%	0.0%	0%	0%	0%	100%	100%	
Jessie Swanseen	Administrative Assistant	Ocean Leadership	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	60%	60%	
TOTAL Ocean Leadership FTEs			4.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.13	0.81	3.31	3.08	7.20	
Dave Goldberg	Director	LDEO	50%	0%	0%	0%	0%	0%	0%	0%	50%	6%	44%	0%	50%	
Maria Bouzeas	Administrative Assistant	LDEO	100%	0%	0%	0%	0%	0%	0%	0%	100%	12%	88%	0%	100%	
Alberto Malinverno	Principal Scientist	LDEO	0%	50%	0%	0%	0%	0%	0%	0%	50%	12.5%	37.5%	0%	50%	
Mary Reagan	Deputy Director	LDEO	100%	0%	0%	0%	0%	0%	0%	0%	100%	12%	88%	0%	100%	
Simon Draper	Office Coordinator	LDEO	0%	42%	0%	0%	0%	0%	0%	0%	42%	0%	42%	0%	42%	

Notes: FTE = full-time equivalent; M&A = Maintenance and Administration; TESS = Technical, Engineering, and Science Support; ED = Engineering Development; CC = Core Curation; DM = Data Management; Pubs = Publications; Ed = Education; Orch = Outreach; Other = efforts funded by other sources (e.g., other Program integration costs [OPIC], San Andreas Fault Observatory at Depth [SAFOD], etc.); TBN = to be named. We anticipate filling all TBN positions before or during FY12. Student workers and TAMRF administrative support staff are not included in the table. (Continued on next seven pages.)

FY13 USIO FTE Allocation Detail (continued)

Position			% Work Breakdown Elements (SOC- and POC-supported FTEs)										% Effort Totals			
Name	Position Title	USIO Office	M&A	TESS	ED	CC	DM	Pubs	Ed	Orch	Total	SOC	POC	Other	Total	
Carl Brenner	Technical Services Specialist	LDEO	50%	0%	0%	0%	0%	0%	0%	0%	50%	6%	44%	0%	50%	
David Grames Sarah Davies	Project Coordinator	LDEO	100%	0%	0%	0%	0%	0%	0%	0%	100%	12%	88%	0%	100%	
	Logging Consortium Chief Scientist	LDEO	0%	8%	0%	0%	0%	0%	0%	0%	8%	0%	8%	0%	8%	
Eric Meissner	Manager, Engineering and Technical Services	LDEO	0%	100%	0%	0%	0%	0%	0%	0%	100%	25%	75%	0%	100%	
Walt Masterson	Engineering/Logistics Coordinator	LDEO	0%	100%	0%	0%	0%	0%	0%	0%	100%	25%	75%	0%	100%	
Stefan Mrozewski	Mechanical Engineer	LDEO	0%	100%	0%	0%	0%	0%	0%	0%	100%	25%	75%	0%	100%	
Gerardo Iturrino	Manager, Engineering and Technical Services	LDEO	0%	100%	0%	0%	0%	0%	0%	0%	100%	25%	75%	0%	100%	
Louise Anderson	Logging Staff Scientist	LDEO	0%	42%	0%	0%	0%	0%	0%	0%	42%	0%	42%	0%	42%	
Helen Evans	Logging Staff Scientist	LDEO	0%	29%	0%	0%	0%	0%	0%	0%	29%	7.25%	21.75%	0%	29%	
Annick Fehr	Logging Staff Scientist	LDEO	0%	17%	0%	0%	0%	0%	0%	0%	17%	0%	17%	0%	17%	
Gilles Guerin	Logging Staff Scientist	LDEO	0%	74.75%	0%	0%	0%	0%	0%	0%	74.75%	18.75%	56%	0%	74.75%	
Jenny Inwood	Logging Staff Scientist	LDEO	0%	17%	0%	0%	0%	0%	0%	0%	17%	0%	17%	0%	17%	
Johanna Lofi	Logging Staff Scientist	LDEO	0%	42%	0%	0%	0%	0%	0%	0%	42%	0%	42%	0%	42%	
Angela Slagle	Logging Staff Scientist	LDEO	0%	74.75%	0%	0%	0%	0%	0%	0%	74.75%	18.75%	56%	0%	74.75%	
Trevor Williams	Logging Staff Scientist	LDEO	0%	75%	0%	0%	0%	0%	0%	0%	75%	19%	56%	0%	75%	
Dan Quidbach	Manager, Information Services	LDEO	0%	0%	0%	0%	100%	0%	0%	0%	100%	40%	60%	0%	100%	
Ted Baker	Systems Analyst/Database Administrator	LDEO	0%	0%	0%	0%	100%	0%	0%	0%	100%	40%	60%	0%	100%	

(Continued on next six pages.)

FY13 USIO FTE Allocation Detail (continued)

Position		% Work Breakdown Elements (SOC- and POC-supported FTEs)										% Effort Totals			
Name	Position Title	USIO Office	M&A	TESS	ED	CC	DM	Pubs	Ed	Orch	Total	SOC	POC	Other	Total
Golan Sarkar	Technical Analyst	LDEO	0%	0%	0%	0%	100%	0%	0%	0%	100%	40%	60%	0%	100%
Cristina Broglia	Supervisor, Data Services	LDEO	0%	0%	0%	0%	50%	0%	0%	0%	50%	0%	50%	0%	50%
Tanzhuo Liu	Senior Log Analyst	LDEO	0%	0%	0%	0%	100%	0%	0%	0%	100%	0%	100%	0%	100%
Bob Arko	Database Developer	LDEO	0%	0%	0%	0%	21%	0%	0%	0%	21%	0%	21%	0%	21%
	TOTAL LDEO FTEs		4.00	8.72	0.00	0.00	4.71	0.00	0.00	0.00	17.43	3.44	13.98	0.00	17.43
Brad Clement	Director	TAMU	50%	0%	0%	0%	0%	0%	0%	0%	50%	2.5%	47.5%	0%	50%
Diane Bertinetti	Administrative Assistant	TAMU	100%	0%	0%	0%	0%	0%	0%	0%	100%	5%	95%	0%	100%
Bill Wasson	Manager, IODP Business Services	TAMU	100%	0%	0%	0%	0%	0%	0%	0%	100%	5%	95%	0%	100%
Adam Davidson	Supervisor, IODP Human Resources	TAMU	100%	0%	0%	0%	0%	0%	0%	0%	100%	5%	95%	0%	100%
Ollie Berka	Human Resources Representative	TAMU	100%	0%	0%	0%	0%	0%	0%	0%	100%	5%	95%	0%	100%
John Firth	Curator	TAMU	0%	0%	0%	95%	0%	0%	0%	0%	95%	70%	25%	5%	100%
Phil Rumford	Superintendent, GCR	TAMU	0%	0%	0%	95%	0%	0%	0%	0%	95%	70%	25%	5%	100%
Chad Broyles	Curatorial Specialist II	TAMU	0%	0%	0%	100%	0%	0%	0%	0%	100%	75%	25%	0%	100%
Gemma Barrett	Curatorial Specialist II	TAMU	0%	0%	0%	100%	0%	0%	0%	0%	100%	75%	25%	0%	100%
Mitch Malone	Assistant Director/Manager, Science Operations	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Janice Muston	Administrative Assistant	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
William Rinehart	Supervisor, Engineering Services	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Kevin Grigar	Senior Staff Engineer	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Bob Aduddell	Staff Engineer	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Liping Chen	Senior Design Engineer	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Dean Ferrell	Senior Designer	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Mike Meiring	Senior Designer	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Eric Schulte	Senior Designer	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%

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FY13 USIO FTE Allocation Detail (continued)

Position			% Work Breakdown Elements (SOC- and POC-supported FTEs)										% Effort Totals			
Name	Position Title	USIO Office	M&A	TESS	ED	CC	DM	Pubs	Ed	Orch	Total	SOC	POC	Other	Total	
Karen Graber Mike Storms	Staff Researcher	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	
	Supervisor, Operations Support	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	
Steve Midgley	Operations Superintendent	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	
TBN	Operations Superintendent	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	
Dave Lehnert	Materials Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	
Robert Mitchell	Marine Logistics Coordinator	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	
Tyrone Brashear Sandy Dillard	Materials Technician	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	
	Shipping and Receiving Coordinator	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	
Adam Klaus	Supervisor, Science Support	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	
Carlos Alvarez-Zarikian	Staff Scientist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	
Peter Blum	Staff Scientist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	
Katerina Petronotis	Staff Scientist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	
Nicole Stroncik	Staff Scientist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	
TBN	Staff Scientist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	
TBN	Staff Scientist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	
Jay Miller	Manager, Technical and Analytical Services	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	
John Miller	Business Coordinator II	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	
David Houpt	Supervisor, Analytical Systems	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	
Lisa Brandt	Research Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	
Trevor Cobine	Research Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	
Thomas Gorgas	Research Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	
Maggie Hastedt	Research Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	
Sandra Herrmann	Research Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	
Yulia Vasilyeva	Research Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	
TBN	Research Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	

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FY13 USIO FTE Allocation Detail (continued)

Position		% Work Breakdown Elements (SOC- and POC-supported FTEs)										% Effort Totals			
Name	Position Title	USIO Office	M&A	TESS	ED	CC	DM	Pubs	Ed	Orch	Total	SOC	POC	Other	Total
TBN	Research Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
TBN	Research Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Michael Bertoli	Research Assistant	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
John Beck	Senior Imaging Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Bill Crawford	Senior Imaging Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Brad Julson	Supervisor, Technical Support	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Roy Davis	Laboratory Officer	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Bill Mills	Laboratory Officer	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Tim Bronk	Assistant Laboratory Officer	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Lisa Crowder	Assistant Laboratory Officer	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Chieh Peng	Assistant Laboratory Officer	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Steve Prinz	Assistant Laboratory Officer	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Heather Barnes	Marine Laboratory Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Ted Gustafson	Marine Laboratory Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Kristin Hillis	Marine Laboratory Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Erik Moortgat	Marine Laboratory Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
TBN	Marine Laboratory Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
TBN	Marine Laboratory Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Etienne Claassen	Senior Marine Instrumentation Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%

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FY13 USIO FTE Allocation Detail (continued)

Position		% Work Breakdown Elements (SOC- and POC-supported FTEs)										% Effort Totals			
Name	Position Title	USIO Office	M&A	TESS	ED	CC	DM	Pubs	Ed	Orch	Total	SOC	POC	Other	Total
Randy Gjesvold	Senior Marine Instrumentation Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Jurie Kotze	Senior Marine Instrumentation Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Garrick Van Rensburg	Senior Marine Instrumentation Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Jim Rosser	Manager, Development, IT, and Databases	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	15%	85%	0%	100%
Denise Ponzio	Information Services Assistant	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	15%	85%	0%	100%
Phil Gates	Supervisor, Information Technology Support	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	15%	85%	0%	100%
Cesar Flores	Senior Systems Administrator	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	15%	85%	0%	100%
Jennifer Hutchinson	Systems Administrator	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	15%	85%	0%	100%
Matt Nobles	Systems Administrator	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	15%	85%	0%	100%
Mike Petersen	Senior Systems Support Specialist	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	15%	85%	0%	100%
Tiffany Bloxom	Systems Support Specialist	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	15%	85%	0%	100%
James Cordray	Systems Support Specialist	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	15%	85%	0%	100%
Chuck Haddick	Systems Support Specialist	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	15%	85%	0%	100%
Mike Hodge	Associate Marine Computer Specialist	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	15%	85%	0%	100%

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FY13 USIO FTE Allocation Detail (continued)

Position		% Work Breakdown Elements (SOC- and POC-supported FTEs)										% Effort Totals			
Name	Position Title	USIO Office	M&A	TESS	ED	CC	DM	Pubs	Ed	Otrch	Total	SOC	POC	Other	Total
Grant Banta	Marine Computer Specialist	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	15%	85%	0%	100%
Michael Cannon	Marine Computer Specialist	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	15%	85%	0%	100%
Andrew Trefethen	Marine Computer Specialist	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	15%	85%	0%	100%
Paul Foster	Supervisor, Applications Development	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
David Fackler	Applications Developer IV	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Dwight Hornbacher	Applications Developer IV	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Timothy Blaisdell	Applications Developer III	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Algie Morgan	Applications Developer III	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
James Zhao	Applications Developer III	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
TBN	Applications Developer II	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Rakesh Mithal	Supervisor, Databases/Archives	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	15%	85%	0%	100%
Saranavan Nagarajan	Senior Software Applications Developer	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	15%	85%	0%	100%
Don Sims	Data Analyst	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	15%	85%	0%	100%
TBN	Systems Analyst II	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	15%	85%	0%	100%
Angie Miller	Manager, Publication Services	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%
Lorri Peters	Supervisor, Editing	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%
Ginny Lowe	Editor IV	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%
Jenni Hesse	Editor III	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%
Shana Lewis	Editor III	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%

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FY13 USIO FTE Allocation Detail (continued)

Position			% Work Breakdown Elements (SOC- and POC-supported FTEs)										% Effort Totals			
Name	Position Title	USIO Office	M&A	TESS	ED	CC	DM	Pubs	Ed	Orch	Total	SOC	POC	Other	Total	
Amy McWilliams	Editor III	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%	
	Supervisor, Production	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%	
Patrick Edwards	Production Specialist III	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%	
Kenneth Sherar	Production Specialist II	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%	
Crystal Wolfe	Production Specialist II	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%	
Ann Yeager	Distribution Specialist I	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%	
Debbie Partain	Supervisor, Graphics	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	80%	20%	0%	100%	
Tim Fulton	Graphics Specialist II	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	80%	20%	0%	100%	
Rhonda Kappler	Graphics Specialist II	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	80%	20%	0%	100%	
Laura Koehler	Graphics Specialist II	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	80%	20%	0%	100%	
Paul Pleasant	Graphics Specialist II	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	80%	20%	0%	100%	
Alyssa Stephens	Graphics Specialist II	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	80%	20%	0%	100%	
Jean Wulfson	Graphics Specialist II	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	80%	20%	0%	100%	
Gigi Delgado	Senior Publications Coordinator	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%	
TOTAL TAMU FTEs			4.50	63.00	0.00	3.90	18.00	19.00	0.00	0.00	108.40	23.43	84.97	0.10	108.50	
GRAND TOTAL USIO FTEs			12.63	71.72	0.00	3.90	22.71	19.00	0.00	0.00	129.95	27.68	102.27	3.18	133.13	

4. EXPEDITION OPERATIONS

4.1. INTRODUCTION

This Annual Program Plan is based on the operations schedule published 13 January 2012, including two non-IODP periods.

1 August–23 October 2012	Non-IODP
23 October–11 December 2012	Costa Rica Seismogenesis Project 2
11 December 2012–12 February 2013	Hess Deep Plutonic Crust
12 February–25 May 2013	Non-IODP
25 May–29 May 2013	SCIMPI Test Deployment
29 May–29 July 2013	Southern Alaska Margin Tectonics, Climate, and Sedimentation
29 July–20 August 2013	Transit
20 August–28 September 2013	Asian Monsoon

4.2. OPERATIONS

4.2.1. Expedition 344: Costa Rica Seismogenesis Project 2

Proposed Operations

Expedition 344: Costa Rica Seismogenesis Project (CRISP) 2 is designed to elucidate the processes that control nucleation and seismic rupture of large earthquakes at erosional subduction zones. CRISP is located at the only known seismogenic zone at an erosional convergent margin within reach of scientific drilling, where a low sediment supply, fast convergence rate, abundant seismicity, subduction erosion, and a change in subducting plate relief along strike offer excellent opportunities to better understand earthquake nucleation and rupture propagation. This project complements other deep fault drilling (San Andreas Fault Observatory at Depth and Nankai Trough Seismogenic Zone Experiment) and investigates the first-order seismogenic processes common to most faults and those unique to erosional margins. Expedition 344 is based in part on CRISP Program A (IODP Proposal 537A-Full5), which is the first step toward the deep riser drilling through the seismogenic zone. This expedition follows the operations conducted during Expedition 334 (CRISP 1) and will focus on constraining the boundary conditions of lithology, fluid flow, and thermal structure that trigger unstable slip in the seismogenic zone along a drilling transect at two slope sites. These slope sites may also serve as pilot holes for potential future proposed riser drilling to reach the aseismic/seismic plate boundary.

Logistics

Operations for Expedition 344 require an estimated 49 days (2 in port, 3 in transit to and from the first/last sites, and 44 in operations).

4.2.2. Expedition 345: Hess Deep Plutonic Crust

Proposed Operations

Expedition 345: Hess Deep Plutonic Crust will be the second offset drilling program at the Hess Deep Rift to study crustal accretion processes at the fast-spreading East Pacific Rise. The expedition will take advantage of well-surveyed crustal exposures to recover the first cores of young, primitive plutonic rocks that comprise the lowermost ocean crust. The principal objective for drilling at Hess Deep is to test competing hypotheses of magmatic accretion and hydrothermal processes at fast-

spreading mid-ocean ridges. These hypotheses make predictions that can only be tested with drill core, including the presence or absence of modally layered gabbro, presence or absence of systematic variations in mineral and bulk rock compositions, and extent and nature of hydrothermal alteration and deformation. The highest priority for drilling at the Hess Deep Rift will be to sample one or more 100 to ≥ 250 m long sections of primitive gabbroic rocks. Three primary drill sites have been identified; however, if coring proceeds well in the first or second of these sites, it will be continued as long as possible in order to obtain the longest possible continuous sample. The alternate site is located near Ocean Drilling Program (ODP) Site 894, where shallow-level gabbros are exposed. This plan differs slightly from Proposal 551, as there is no alternate site in upper mantle peridotite. Drilling, coring, and logging operations may be challenging during the Hess Deep expedition because of water depths $>4,800$ m, a thin sediment cover, and, potentially, unstable basement formations.

Logistics

Operations for the Expedition 345 are budgeted based on an estimated 63 days (7 in port, 11 in transit, and 45 in operations).

4.2.3. SCIMPI Test Deployment

Proposed Operations

The Simple Cabled Instrument for Measuring Parameters In Situ (SCIMPI) is a seafloor observatory with a modular system to make long-term subsurface time-series measurements of temperature, pressure, and resistivity at multiple depths in IODP boreholes. The SCIMPI will be deployed for testing on the Cascadia margin, which is an excellent test environment because of coring and logging conducted during Expedition 311 and the accessibility of the area for post-deployment access.

Logistics

Operations for the SCIMPI test are budgeted based on 4 days (2 days in transit and 2 days in operations)

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

Proposed Operations

Expedition 341: Southern Alaska Margin Tectonics, Climate, and Sedimentation will drill a cross-margin transect to investigate the northeast Pacific continental margin sedimentary record formed during orogenesis amid a time of significant global climatic deterioration in the Pliocene–Pleistocene, which led to the development of the most aggressive erosion agent on the planet: a temperate glacial system. Expedition 341 will use sedimentary provenance and paleoclimatic, glacialmarine, and structural sedimentary indicators tied to a multicomponent chronology to generate detailed records of changes in the locus and magnitude of glacial erosion, degree of tectonic shortening, and sediment and freshwater delivery to the coastal ocean; their impact on oceanographic conditions in the Gulf of Alaska; and the resulting continental margin stratigraphic record on the interaction of these processes.

Logistics

Operations for the Expedition 341 are budgeted based on an estimated 61 days (3 days in port, 8 days in transit, and 50 in operations).

4.2.5. Expedition 346: Asian Monsoon

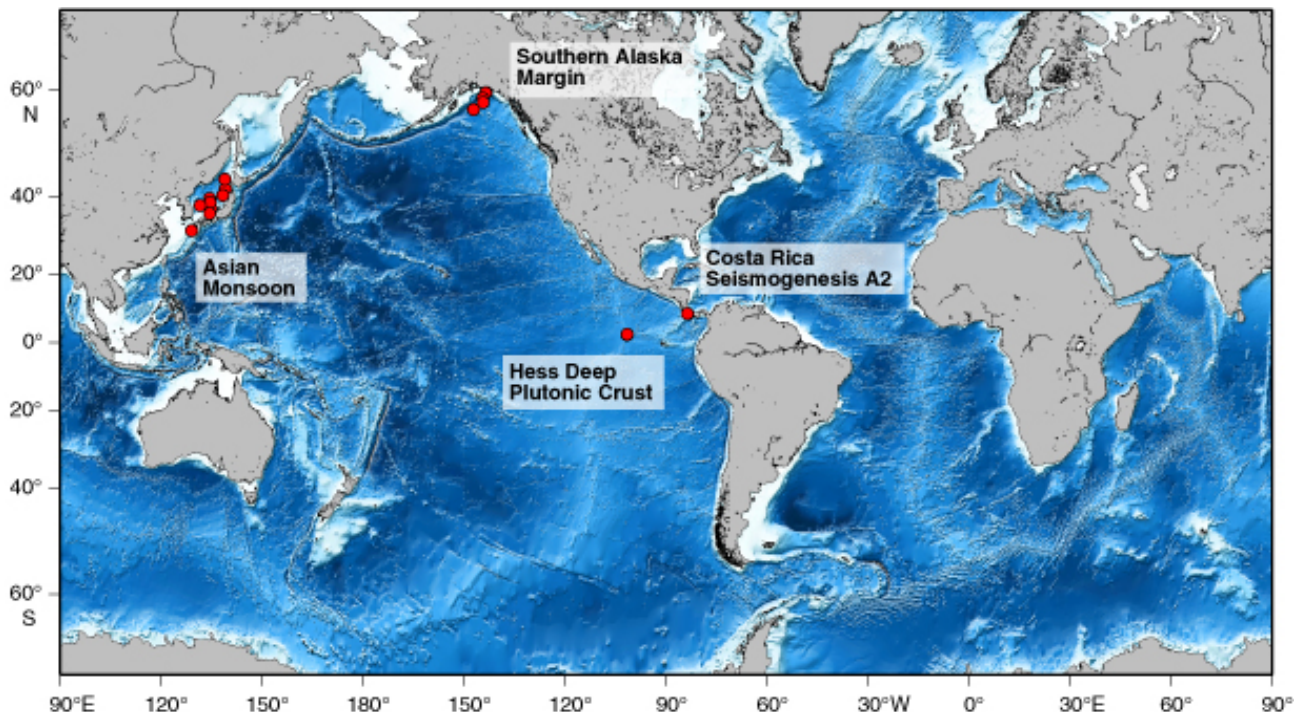
Proposed Operations

Expedition 346: Asian Monsoon will drill two latitudinal transects in the Japan Sea to monitor behaviors of the westerly jet and winter monsoon and will drill at the northern part of the East China Sea to monitor the Yangtze River discharge history that should reflect variations in summer monsoon intensity. The southern transect will be used to reconstruct the behavior of the subpolar front and examine its relationship with the westerly jet and sea level changes. The northern transect will be used to identify ice-rafted debris events and reconstruct temporal variation in its southern limit as winter monsoon proxies. The proposed drilling is designed to (1) specify the onset timing of orbital and millennial-scale variability of East Asian monsoon and westerly jet and reconstruct their evolution process and spatial variation patterns and (2) reconstruct orbital and millennial-scale paleoceanographic changes in the Japan Sea during the last 5 m.y. to clarify the linkage between the paleoceanographic changes in the Japan Sea and the variability of East Asian monsoon and/or sea level changes. Comparison of the results with the uplift history of the Himalayan and Tibetan Plateaus will enable us to test the idea that topographic evolution of the plateaus was responsible for creation of bimodality in westerly jet circulation that caused amplification of millennial-scale variability of Asian monsoon.

Logistics

Operations for Expedition 346 are budgeted based on an estimated 39 days (1 in port, 2 in transit, and 36 in operations).

4.3. IODP-USIO FY13 SITE MAP



4.4. EXPEDITION OPERATIONS BUDGET

Expense Category	Non-IODP	Expedition 344T: Transit	Expedition 344: CRISP-2	Expedition 345: Hess Deep	Expedition 341T: Transit	Non-IODP	Expedition 341: South Alaska	Expedition 346T: Transit	Expedition 346: Asian Monsoon	Non-IODP	Total
	18 days ¹	4 days	49 days	61 days	21 days	87 days ²	61 days	22 days	39 days	3 days ³	365 days
Ship Operations											
Day Rate	1,480,831	338,284	4,139,372	5,172,316	1,795,709	7,283,480	5,243,209	1,884,131	3,354,374	251,153	30,942,860
Communications ⁴	11,643	2,587	31,694	39,455	13,583	56,272	39,455	14,230	25,226	1,940	236,085
Fuel and Lubricants ⁵	0	0	0	1,409,033	674,814	792,094	1,590,757	628,143	913,012	523,011	6,530,864
Per Diem	20,749	4,836	94,130	117,182	23,289	95,980	117,182	27,426	74,920	5,763	581,457
Port Calls ⁶	110,000	25,000	35,000	194,000	175,000	492,000	164,000	244,000	20,000	309,000	1,768,000
Insurance ⁷	70,340	21,998	269,478	335,473	115,491	339,979	335,473	120,990	214,482	11,723	1,835,427
Travel—ODL ⁸	0	0	0	191,386	85,513	283,863	177,990	64,193	113,797	98,328	1,015,070
Expenses—ODL ⁹	2,219	493	6,041	7,521	2,589	10,726	7,521	2,712	4,808	370	45,000
Contractual Services											
Schlumberger	175,572	39,016	477,946	594,994	204,834	848,599	594,994	214,588	380,406	29,263	3,560,212
Total ¹⁰	1,871,354	432,214	5,053,661	8,061,360	3,090,822	10,202,993	8,270,581	3,200,413	5,101,025	1,230,552	46,514,975

¹ Only the FY13 portion of the non-IODP period beginning 1 August 2012 is included in this budget.

² This non-IODP period is scheduled to be in Victoria, British Columbia (Canada) from 10 February through 28 May 2013.

³ The last currently scheduled expedition (Asian Monsoon) ends 27 September 2013.

⁴ Communications expenses include Marisat costs that will be incurred when very small aperture terminal (VSAT) service is unavailable because of the vessel's location.

⁵ Fuel required for the FY12 portion of the first non-IODP period, Expedition 344T (Transit), and Expedition 344 (CRISP-2) will be purchased with FY12 funds.

⁶ Port call costs for the FY12 portion of the first non-IODP period will be charged to FY12 funds.

⁷ Insurance estimates are based on actual FY12 premiums plus a 20% inflation factor. In addition, Sections 1 and 2 of the Hull & Machinery policy premium reflect a 50% discount allowed during the non-IODP periods.

⁸ Cost of crew change for crew on board for more than a single expedition (e.g., 341T [Transit] and part of the non-IODP period) are apportioned based on the percentage of total days on board for each of the two activities.

⁹ Other expenses—ODL includes expenses for possible medical evacuations and supplies and maintenance costs incurred by ODL that are not included in the day rate.

The total budgeted costs of \$45,000 are distributed based on the duration of expedition activity as a percentage of the total budgeted period. For example, Hess Deep costs are 61/365 of \$45,000.

¹⁰ Elimination of Expeditions 346: Asian Monsoon and 345: Hess Deep would result in net savings of \$2.3M and \$2.0M, respectively.

Expedition costs included in this budget cover SOC and POC activities in support of the USIO FY13 expeditions, as follows:

Salaries and Fringes—Salaries, fringes, and sea pay, including an anticipated cost-of-living allowance and estimated fringe benefits rate.

Expedition-based salaries, fringes, and sea pay.

Travel—Transportation, per diem, lodging, and other associated costs.

Travel expenses for all USIO staff who will work at port calls, sail on FY13 expeditions and initial FY14 expeditions, and transit and/or work on the ship during non-IODP periods.

Supplies—Office and operational supplies.

Safety equipment and operational, laboratory, logistic, and shipping supplies for the FY13 expeditions and long-lead supplies for FY14 expeditions.

Shipping—Postage, express mail, and freight.

Costs for shipments to and from FY13 expeditions.

Communication—Satellite, telephone, and fax charges.

Cost for very small aperture terminal (VSAT) communication and Marisat communication to and from the *JOIDES Resolution*.

Contractual Services—Consultant and contract services.

Subcontract to members of the Logging Consortium (University of Montpellier, France; University of Leicester, United Kingdom; University of Aachen, Germany) to provide shipboard participation of Logging Staff Scientists, liaisons to selected panels as needed, and scientific support for Program planning and logging-related projects are included in the SOC budget. Subcontract to Schlumberger for provision of a standard suite of tools, engineer services, software support, and mobilization services; specialty tools for use on individual cruises as needed; a dedicated engineer on the ship for each cruise and support from the base of operations; and the services of a district engineer, staff engineer, electronics technician, and special services engineer on an as-needed basis (part-time to nearly full-time support). Costs (including shipping charges) related to the leasing of equipment needed for wireline fishing, back-off and severing services, and the day rate and travel expenses for the Schlumberger engineer are included in the POC budget. Tool insurance for the deployment of downhole logging tools is included in the Schlumberger subcontract and is provided on a day rate basis. Other contracts provide test and calibration services for analytical equipment and downhole measurement tools. In addition, costs are budgeted for contractual services from LGL Limited associated with environmental evaluation for marine mammal permitting associated with seismic operations.

Equipment—Procurement, upgrading, or fabrication of equipment with an acquisition cost of more than \$5,000, plus those items as defined by Columbia University and TAMRF policy.

Costs associated directly with equipment (computer, scientific, and drilling) intended solely for use on the ship over a period of time greater than one expedition, equipment purchased for a specific expedition, and pro-rata cost of shore-based equipment used partially to support expedition activities.

Other Direct Costs—Costs not covered in other categories.

Day Rate—Vessel staffing for the subcontractor's sailing crew and drilling personnel.

Cost of staffing the ship, including the sailing crew and drilling personnel, but not including the cost of the USIO personnel or scientists aboard the ship. The day rate varies according to the mode of the ship, which is operating (drilling or cruising) or standing by (in port). Although it is a fixed rate per day, the day rate is adjusted for changes in the Consumer Price Index-Urban (CPI-U) and Employment Cost Index (ECI). The amount is based on 365 days, which includes all or part of three non-IODP periods: the final 18 days of a 64-day non-IODP period (1–18 October 2012), an 87-day non-IODP period (3 March–29 May 2013), and the first three days of a 61-day non-IODP period (28–30 September 2013). Curacao, Netherlands Antilles has been tentatively designated as the location for the first non-IODP period; Victoria, British Columbia (Canada), for the second non-IODP period; and Busan, Korea, for the non-IODP period beginning at the end of FY13 on 28 September 2013. The operating/transiting and standby day rates, respectively, are \$84,571 and \$82,268 (1 October–31 December 2012), \$84,942 and \$83,627 (1–31 January 2013), and \$86,070 and \$83,718 (1 February–30 September 2013). The budget allows for one ECI base adjustment of 2.519429%, effective 1 January 2013, and one CPI-U based adjustment of 2.497781%, effective 1 February 2013.

Fuel and Lubricants—Fuel for the riserless vessel.

FY13 ship operations fuel purchases are estimated at a total of 5,786 metric tons: 1,266 metric tons in Puntarenas, Costa Rica; 1,318 metric tons in Balboa, Panama; 1,363 metric tons in Victoria, British Columbia (Canada), in May 2013 and another 1,320.5 metric tons at that same location in July 2013; and 518.5 metric tons in Busan, Korea, on the commencement of a 61-day maintenance period scheduled to begin 28 September 2013. Price per metric ton is based on prices quoted by Bunkerworld on 7 June 2012 for the locations specified, plus a 10% inflation factor. **Note: If inflation exceeds 10%, we will not be able to execute the full expedition schedule.**

Per Diem—Shipboard catering.

Costs associated with meals and berthing on the vessel and cleaning of the laboratory stack. The estimate is based on a shipboard party of 60 participants at \$31.88/day/person for all nontransit and nonmaintenance periods. The number of personnel on board for transit and non-IODP periods was estimated based on a staffing schedule distributed on 1 March 2012 and varies from 8 to 24 at a cost of \$97.38 day/person to \$50.03 day/person (the lower the number on board, the higher the daily rate per person). Also included is \$3,000 for meals served during port calls (including non-IODP periods) to all nonseagoing personnel. This category does not include per diem for the ship subcontractor's sailing crew and drilling personnel, as they are accounted for in the day rate unless charged as a reimbursable (see "Day Rate" above).

Port Calls—Vessel agent's expenses and subcontractor freight.

Locations have a definite effect on the port call cost, which covers agents' expenses and freight associated with resupplying the ship. During the deployment and first expedition port calls, materials and equipment are off-loaded and supplies and equipment are loaded for the upcoming period's activities. ODL is reimbursed for port agent charges and shipment of food and related supplies. Shipment of cores, drilling equipment, and laboratory supplies is arranged by TAMU and paid for by TAMRF. Similarly, TAMRF purchases all drilling equipment and laboratory supplies necessary for meeting the objectives of the expedition. Port calls by expedition are

based on the estimated costs for the port from which the expedition begins and any interim port calls occurring prior to its conclusion, as identified in the current ship schedule. Note that this category also includes the lodging and per diem costs for ODL crew changes, based on the total number of rooms required and a breakfast and dinner for each crew person occupying a room, all according to federal rates.

Port calls are scheduled for Curaçao (the final 18 days of tie-up/non-IODP period at beginning of FY13); Balboa, Panama (2 days); Puntarenas, Costa Rica (5 days); Balboa, Panama (5 days); Victoria, British Columbia (Canada) (87 days for the non-IODP period and 3 days for redeployment preparation); Victoria, British Columbia (Canada)/TBD (4 days); Hakodate, Japan (1 day) and Busan, Korea (5 days).

Insurance—Annual insurance premiums for subcontractor and TAMRF.

Subcontractor's premium costs for All Risks Marine Hull and Machinery (H&M) and Removal of Wreck (ROW) insurance and TAMRF premium costs for General and Automobile Liability, Workers Compensation, Cargo, Third Party Property (Equipment), Excess Liability, Control of Well and Seepage and Pollution Liability, Charterers Legal Liability, and Contractor's Pollution Liability—Gradual coverage for the vessel. All premium amounts are based on 365 days of coverage, and the premiums for Sections 1 and 2 of the Hull & Machinery coverage are discounted 50% during the non-IODP periods, which total 108 days in FY13.

Travel—ODL—Subcontractor transportation.

Airfare for ship subcontractor's crews to/from six scheduled crew changes— Puntarenas, Costa Rica (Hess Deep); Balboa, Panama (transit/non-IODP period); three in Victoria, British Columbia (Canada) (non-IODP period, South Alaska, and transit/Asian Monsoon). The estimate is based on a crew of 60 personnel with various domestic and international origin fly points arriving and departing each port call. Expedition costs are based on round trip airfares for the ship subcontractor's sailing crew and drilling personnel to travel to the port call where the expedition begins and return from the port call where the expedition ends.

Relocation—Relocation costs for new employees (TAMU).

Business Conferences—Incidental expenses associated with meetings hosted by the USIO.

Expenses for pre-expedition, postexpedition, and planning meetings.

Services—Expert assistance.

Cost to cover miscellaneous charges payable to the ship's subcontractor, drill pipe maintenance, wireline severing charges, transfer fees, weather reports, and annual physical examinations for seagoing personnel.

Other Expenses—ODL—ODL costs not covered in other categories.

Costs for possible medical evacuations (\$25,000) and miscellaneous reimbursable supplies and maintenance costs (\$20,000) payable to the ship subcontractor.

Recruiting—Employee recruitment.

Local advertisements, advertisements in science and trade journals, and other costs related to filling seagoing positions.

Maintenance and Repair—Maintenance agreements and equipment repairs.

Maintenance and repair of drilling, coring, logging, operations, and laboratory and safety equipment.

Indirect Costs—Administrative and financial costs associated with operating the Program.

For LDEO, indirect costs at 53% are assessed on all charges except permanent equipment. In addition, subcontracts are charged indirect costs on the first \$25,000 of each contract. The indirect costs for subcontracts established prior to FY13 have already been paid, so these subcontracts are not subject to indirect cost during FY13. Modified total direct costs (MTDCs) are the total direct costs minus these exceptions.

5. MANAGEMENT AND ADMINISTRATION

5.1. GOALS

The USIO provides integrated management that is led by the contractor (Ocean Leadership) in coordination with the other two USIO members (LDEO and TAMU).

Goals of the USIO management staff include planning, coordinating (with other IODP-related entities), overseeing, reviewing, and reporting on IODP activities.

5.2. DELIVERABLES IN FY13

- Annual Program Plan: Develop and assure implementation.
- Quarterly and Annual Reports: Develop quarterly and annual reports, including financial reports.
- Reporting and Liaison Activities: Report to and liaise with funding agencies and with IODP-related agencies (e.g., the Science Advisory Structure [SAS]), Program Member Offices, and other national organizations. Participate in SAS panels, IODP-MI task forces, working groups, and so on.
- Contract Services: Provide contract services for IODP-related activities.
- Legacy Documentation: Routinely archive electronic copies of documents and reports produced by the USIO on behalf of IODP.

5.3. BUDGET

Management and Administration			
Element/Expense Category	SOC	POC	Total
Salaries and Fringes	296,986	2,644,410	2,941,396
Travel	19,204	212,032	231,236
Supplies	2,525	26,975	29,500
Shipping	1,171	7,829	9,000
Communication	6,990	47,890	54,880
Contractual Services	0	0	0
Equipment	50	950	1,000
Other Direct Costs	4,985	153,750	158,735
Relocation	0	10,000	10,000
Training	0	65,670	65,670
Business Conferences	150	2,850	3,000
Insurance	300	5,700	6,000
Services	2,800	27,210	30,010
TAMU Computing Services	1,100	20,900	22,000
Equipment Rental	60	1,140	1,200
Furniture	325	6,175	6,500
Recruiting	0	5,500	5,500
Maintenance and Repair	250	4,750	5,000
Library	0	3,855	3,855
Total Direct Costs	331,911	3,093,836	3,425,747
Modified Total Direct Costs (if applicable)	68,515	483,616	552,131
Indirect Costs or Administrative Fees	209,780	860,528	1,070,308
Total Management and Administration	\$541,691	\$3,954,364	\$4,496,055

Funds for this WBE are budgeted as follows:

Salaries and Fringes—Salaries, fringes, and sea pay, including an anticipated cost-of-living allowance and estimated fringe benefits rate.

SOC/POC—Salaries and fringes for staff supporting the USIO (see Section 3.2. USIO FTE Allocation Tables). Also includes salaries and fringes for 14 TAMRF FTEs who provide administrative support.

Travel—Transportation, per diem, lodging, and other associated costs.

SOC/POC—USIO travel to SAS panel meetings, task force meetings, IO meetings, USIO meetings, workshops, and national and international meetings; Ocean Leadership and TAMU travel to port calls; LDEO travel to subcontractor site visits and professional training courses and meetings; and TAMU travel to insurance meetings.

Supplies—General office supplies and expendables and operational supplies.

SOC/POC—General office supplies, printer and copier supplies, and electronic media and other computer supplies with an acquisition cost of less than \$1,000 (TAMU and Ocean Leadership).

Shipping—Postage, express mail, courier services, and freight.

SOC/POC—General postage and express mail/courier services for regular correspondence.

Communication—Telephone and fax charges.

SOC/POC—Standard telephone line charges, long distance charges, and fax charges.

Contractual Services—Consultant and contract services.

SOC—None budgeted.

POC—Printing and copying of materials. Consultant services in support of network and video conferencing equipment (Ocean Leadership).

Equipment—None budgeted.

Other Direct Costs—Costs not covered in other categories.

Relocation—Relocation costs for new employees.

SOC—None budgeted.

POC—Relocation costs for new employees (TAMU).

Training—Registration, transportation, per diem, and lodging expenses related to professional training.

SOC—None budgeted.

POC—Registration and travel costs for professional training courses and meetings (TAMU).

Business Conferences—Incidental expenses associated with meetings hosted by the USIO.

SOC/POC—Expenses for refreshments provided for various business meetings and catering services occasionally required for on-site training and professional consultant services.

Insurance—Annual insurance premiums.

SOC/POC—Program's portion of Director's and Officer's corporate insurance based on the number of officers at TAMRF, when compared to the TAMRF corporate total.

Services—Expert assistance.

SOC/POC—Lease on off-premises records storage facility, partial cost of other support services, visitor parking permits, printing services, TAMU Physical Plant services, and temporary labor.

TAMU Computing Services—Use of TAMU's financial and management information system (FAMIS).

SOC/POC—Program's share of costs based on lines of entry for use of FAMIS in conducting the fiscal activities of TAMU.

Equipment Rental—Rental of equipment when it is more economical to rent than purchase.

SOC/POC—Rental of equipment for conferences.

Furniture—Office furniture.

SOC/POC—Office furniture and storage cabinets for use in office and at external storage facilities.

Recruiting—Employee recruitment.

SOC—None budgeted.

POC—Cost of newspaper and internet advertisements of vacant positions.

Maintenance and Repair—Maintenance agreements and equipment repairs.

SOC/POC—Equipment service agreements on copiers; replacement parts and service for fax machines, shredders, and so on.

Library—Books, journals, and other resources.

SOC—None budgeted.

POC—Books, journals, resources, and subscriptions to professional materials.

Indirect Costs—Administrative and financial costs associated with operating the Program. The specific equations used to calculate these costs vary by institution, as explained below.

SOC/POC—The approved provisional rate of 33% was used to calculate Ocean Leadership general and administrative (G&A) costs. Each year, G&A costs are charged on all Ocean Leadership direct costs and on the first \$100,000 of all subcontracts Ocean Leadership administers under a particular contract (e.g., total annual G&A on LDEO and TAMRF subcontracts = \$66,000). The G&A costs for the two subcontracts (LDEO and TAMRF) are divided evenly between SOC G&A and POC G&A (\$33,000 each = \$16,500 SOC + \$16,500 NSF).

For LDEO, indirect costs at 53% are assessed on all charges except permanent equipment. In addition, subcontracts are charged indirect costs on the first \$25,000 of each contract. The indirect costs for subcontracts established prior to FY13 have already been paid, so these subcontracts are not subject to indirect cost during FY13. MTDCs are the total direct costs minus these exceptions.

A negotiated administrative fee is paid to TAMRF in lieu of indirect costs for corporate administration of the Program, as established by the Ocean Leadership/TAMRF contract. This fee reimburses TAMRF for corporate activities in support of TAMU performed by staff members who are not direct charged to the Program (i.e., TAMRF staff members who work at the TAMRF corporate office). Examples of these services include but are not limited to vendor activities (i.e., payment for goods and services, check processing, verification, and distribution); 1099 preparation and distribution, audit liaison, document scanning and storage; postage; management activities; and university/vendor liaison and payroll preparation and distribution. Use of corporate resources eliminates redundancy and reduces costs to IODP.

6. TECHNICAL, ENGINEERING, AND SCIENCE SUPPORT

6.1. GOALS

The USIO is responsible for providing scientific and operational planning and implementation for the USIO riserless drilling expeditions in response to the IODP science planning structure and interfacing with IODP-MI. The USIO will also provide formation temperature measurement services to CDEX and technical advice and logistical assistance ESO and CDEX for Schlumberger and other logging services for their expeditions in FY13.

Goals of the USIO for this WBE include planning, managing, coordinating, and performing the activities and providing the services, materials, platforms, and ship- and shore-based laboratories necessary to support all IODP USIO FY13 expeditions; conducting long-range operational planning for out-year USIO expeditions; and providing technical advice and assistance for ESO and CDEX expeditions.

6.2. DELIVERABLES IN FY13

- Expedition Planning and Implementation: Provide scientific, technical, and operational planning and execution for each scheduled expedition, including provision of a drilling platform. Conduct long-range operational and science planning for out-year expeditions.
- Reporting: Provide expedition-related reports and content for expedition publications (e.g., *Scientific Prospectus*, *Preliminary Report*, etc.). Act as a liaison to SAS and other panels, task forces, and workshops as appropriate.
- Expedition Staffing: Provide selection and support for scientific staffing and Co-Chief Scientist selection for each scheduled USIO expedition. Provide support for shipboard and shore-based technical personnel and activities.
- Logistics Support: Provide for expedition and shore-based activities including procurement, shipping, and inventory of equipment and supplies.
- Analytical Systems: Support and maintain shipboard and shore-based analytical facilities, tools, instruments, and associated quality assurance/quality control (QA/QC) protocols. Ensure effective capture and transfer of expedition data to database systems.
- Logging: Provide for the delivery of logging services, including wireline fishing and back-off/severing services for each scheduled USIO expedition. Provide technical advice to ESO and CDEX for Schlumberger and other logging operations, and arrange for Schlumberger and other logging services for ESO and CDEX, where appropriate.
- Environmental Assessment: Provide for environmental assessment services for marine mammal permitting associated with seismic operations.
- Engineering Support: Provide engineering support for maintaining and developing shipboard and shore-based drilling, coring, logging, and downhole systems, including third-party developments and long-lead time borehole installation projects, for each scheduled USIO expedition.
- Legacy Documentation: Routinely archive electronic copies of documents and reports produced by the USIO on behalf of IODP, including daily, weekly, site summary, operations, and engineering reports.

6.3. BUDGET

Technical, Engineering, and Science Support			
Element/Expense Category	SOC	POC	Total
Salaries and Fringes	0	6,995,982	6,995,982
Travel	0	1,150,776	1,150,776
Supplies	0	2,207,299	2,207,299
Shipping	0	948,567	948,567
Communication	0	270,145	270,145
Contractual Services	0	3,873,523	3,873,523
Equipment	0	1,102,500	1,102,500
Other Direct Costs	0	43,449,450	43,449,450
Day Rate	0	30,952,267	30,952,267
Fuel and Lubricants	0	6,530,864	6,530,864
Per Diem	0	581,457	581,457
Port Calls	0	1,768,000	1,768,000
Insurance	0	1,835,427	1,835,427
Travel—ODL	0	1,015,070	1,015,070
Other	0	766,365	766,365
Relocation	0	75,000	75,000
Training	0	201,650	201,650
Business conferences	0	18,500	18,500
Insurance	0	9,000	9,000
Services	0	168,575	168,575
Equipment rental	0	840	840
Other Expense—ODL	0	45,000	45,000
Furniture	0	2,000	2,000
Recruiting	0	45,000	45,000
Maintenance and Repair	0	193,000	193,000
Library	0	7,800	7,800
Total Direct Costs	0	59,998,242	59,998,242
Modified Total Direct Costs (if applicable)	0	1,033,498	1,033,498
Indirect Costs or Administrative Fees	0	547,754	547,754
Total Technical, Engineering, and Science Support	\$0	\$60,545,996	\$60,545,996

Funds for this WBE are budgeted as follows:

Salaries and Fringes—Salaries, fringes, and sea pay, including an anticipated cost-of-living allowance and estimated fringe benefits rate.

SOC—None budgeted.

POC—Salaries and fringes for staff supporting the USIO (see Section 3.2. USIO FTE Allocation Tables).

Travel—Transportation, per diem, lodging, and other associated costs.

SOC—None budgeted.

POC—Travel to IODP meetings and workshops, pre-expedition and postexpedition meetings, and FY14 planning meetings; meetings with drilling equipment supply vendors; conferences; subcontract site visits; and travel costs for USIO staff who will work at port calls, sail on FY13 and initial FY14 expeditions and transit, and/or work on the ship during transits or tie-up periods. Also includes LDEO travel to professional training courses and meetings.

Supplies—Office and operational supplies.

SOC—None budgeted.

POC—General office supplies; electronic media and other computer supplies with an acquisition cost of less than \$1,000 (for TAMU); printer and copier supplies; operational, laboratory, standard reference material, logistic, and shipping supplies for shipboard and shore-based analytical and engineering laboratory and test facilities, FY13 expeditions, and long-lead supplies for FY14 expeditions. Other drilling or science supplies may be purchased in support of USIO deliverables using cost avoidances gained during the fiscal year.

Shipping—Postage, express mail, and freight.

SOC—None budgeted.

POC—Postage for regular correspondence and small packages and shipping to and from FY13 expeditions.

Communication—Satellite, telephone, and fax charges.

SOC—None budgeted.

POC—Standard telephone line, long distance, and fax charges. Cost for VSAT communication and Marisat communication to and from the *JOIDES Resolution*.

Contractual Services—Consultant and contract services.

SOC—None budgeted.

POC—Subcontract to members of the Logging Consortium (University of Montpellier, France; University of Leicester, United Kingdom; University of Aachen, Germany) to provide shipboard participation of Logging Staff Scientists, liaisons to selected panels as needed, and scientific support for Program planning and logging-related projects. Subcontract to Schlumberger for provision of a standard suite of tools, engineer services, software support, and mobilization services; specialty tools for use on individual cruises as needed; a dedicated engineer on the ship for each cruise and support from the base of operations; the services of a district engineer, staff engineer, electronics technician, and special services engineer on an as-needed basis (part-time to nearly full-time support); costs (including shipping charges) related to leasing equipment needed for wireline fishing, back-off and severing services, the day rate and travel expenses for the Schlumberger engineer, and the day rate for tool insurance for the deployment of downhole logging tools. Other contracts provide test and calibration services for analytical equipment and downhole measurement tools. In addition, costs are budgeted for contractual services from LGL Limited associated with environmental evaluation for marine mammal permitting associated with seismic operations.

Equipment—Procurement, upgrading, or fabrication of equipment with an acquisition cost of more than \$5,000, plus those items as defined by Ocean Leadership, Columbia University, or TAMRF policy.

SOC—None budgeted.

POC—Tools and equipment in support of logging operations and downhole measurement tool testing at the LDEO Environmental Stress Screening Facility and other facilities. Operational equipment replacement (e.g., advanced hydraulic piston corer, extended core barrel, and rotary core barrel standard and nonmagnetic wireline coring components, subs, crossovers, fishing

tools, drill collars, coring line, and outer core barrel components) and acquisition of parts and spare units for temperature and other downhole measurement tools. Acquisition of new analytical systems (e.g., carbon isotope analyzer), and capital replacement or upgrades of failed or obsolete laboratory equipment, including but not limited to microscopes, image capture systems for microscopy, color spectrophotometer, gas chromatograph, Cahn electrobalances, Carver presses, ion chromatograph upgrade, wavelength dispersive X-ray fluorescence (XRF) improvements, global positioning system antennas and control systems, ashing furnace, parallel saw, lap wheels, vent hoods, gas detection sensors, sonar dome parts replacement, and analytical bead maker.

Other Direct Costs—Costs not covered in other categories.

Day Rate—Vessel staffing for the subcontractor's sailing crew and drilling personnel.

SOC—None budgeted.

POC—Cost of staffing the ship, including the sailing crew and drilling personnel, but not including the cost of the USIO personnel or scientists aboard the ship. The day rate varies according to the mode of the ship, which is operating (drilling or cruising) or standing by (in port). Although it is a fixed rate per day, the day rate is adjusted for changes in the Consumer Price Index-Urban (CPI-U) and Employment Cost Index (ECI). The amount is based on 365 days, which includes all or part of three non-IODP periods: the final 18 days of a 64-day non-IODP period (1–18 October 2012), an 87-day non-IODP period (3 March–29 May 2013), and the first three days of a 61-day non-IODP period (28–30 September 2013). Curacao, Netherlands Antilles has been tentatively designated as the location for the first non-IODP period; Victoria, British Columbia (Canada), for the second non-IODP period; and Busan, Korea, for the non-IODP period beginning at the end of FY13 on 28 September 2013. The operating/transiting and standby day rates, respectively, are \$84,571 and \$82,268 (1 October–31 December 2012), \$84,942 and \$83,627 (1–31 January 2013), and \$86,070 and \$83,718 (1 February–30 September 2013). The budget allows for one ECI base adjustment of 2.519429%, effective 1 January 2013, and one CPI-U based adjustment of 2.497781%, effective 1 February 2013.

Fuel and Lubricants—Fuel for the riserless vessel.

SOC—None budgeted.

POC—FY13 ship operations fuel purchases are estimated at a total of 5,786 metric tons: 1,266 metric tons in Puntarenas, Costa Rica; 1,318 metric tons in Balboa, Panama; 1,363 metric tons in Victoria, British Columbia (Canada), in May 2013 and another 1,320.5 metric tons at that same location in July 2013; and 518.5 metric tons in Busan, Korea, on the commencement of a 61-day maintenance period scheduled to begin 28 September 2013. Price per metric ton is based on prices quoted by Bunkerworld on 7 June 2012 for the locations specified, plus a 10% inflation factor. **Note: If inflation exceeds 10%, we will not be able to execute the full expedition schedule.**

Per Diem—Shipboard catering.

SOC—None budgeted.

POC—Costs associated with meals and berthing on the vessel and cleaning of the laboratory stack. The estimate is based on a shipboard party of 60 participants at \$31.88/day/person for all nontransit and nonmaintenance periods. The number of personnel on board for transit and non-IODP periods was estimated based on a staffing schedule distributed on 1 March 2012 and varies

from 8 to 24 at a cost of \$97.38 day/person to \$50.03 day/person (the lower the number on board, the higher the daily rate per person). Also included is \$3,000 for meals served during port calls (including non-IODP periods) to all nonseagoing personnel. This category does not include per diem for the ship subcontractor's sailing crew and drilling personnel, as they are accounted for in the day rate unless charged as a reimbursable (see "Day Rate" above).

Port Calls—Vessel agent's expenses and subcontractor freight.

SOC—None budgeted.

POC—Port calls are scheduled for Curaçao (the final 18 days of tie-up/non-IODP period at beginning of FY13); Balboa, Panama (2 days); Puntarenas, Costa Rica (5 days); Balboa, Panama (5 days); Victoria, British Columbia (Canada) (87 days for the non-IODP period and 3 days for redeployment preparation); Victoria, British Columbia (Canada)/TBD (4 days); Hakodate, Japan (1 day) and Busan, Korea (5 days).

Insurance—Annual insurance premiums for Subcontractor and TAMRF.

SOC—None budgeted.

POC—Subcontractor's premium costs for All Risks Marine Hull and Machinery (H&M) and Removal of Wreck (ROW) insurance and TAMRF premium costs for General and Automobile Liability, Workers Compensation, Cargo, Third Party Property (Equipment), Excess Liability, Control of Well and Seepage and Pollution Liability, Charterers Legal Liability, and Contractor's Pollution Liability—Gradual coverage for the vessel. All premium amounts are based on 365 days of coverage, and the premiums for Sections 1 and 2 of the Hull & Machinery coverage are discounted 50% during the non-IODP periods, which total 108 days in FY13.

Travel—ODL—Subcontractor transportation.

SOC—None budgeted.

POC—Airfare for ship subcontractor's crews to/from six scheduled crew changes—Puntarenas, Costa Rica (Hess Deep); Balboa, Panama (transit/non-IODP period); three in Victoria, British Columbia (Canada) (non-IODP period, South Alaska, and transit/Asian Monsoon). The estimate is based on a crew of 60 personnel with various domestic and international origin fly points arriving and departing each port call. Expedition costs are based on round trip airfares for the ship subcontractor's sailing crew and drilling personnel to travel to the port call where the expedition begins and return from the port call where the expedition ends.

Relocation—Relocation costs for new employees.

SOC—None budgeted.

POC—Relocation costs for new employees (TAMU).

Training—Registration, transportation, per diem, and lodging expenses related to professional training and attendance at professional meetings.

SOC—None budgeted.

POC—Registration and travel costs for safety and other training courses and meetings (TAMU).

Business Conferences—Incidental expenses associated with meetings hosted by the USIO.

SOC—None budgeted.

POC—Expenses for pre-expedition, postexpedition, and planning meetings; refreshments provided for various business meetings; and catering services occasionally required for on-site training and professional consultant services.

Insurance—Annual insurance premiums.

SOC—None budgeted.

POC—Annual insurance premiums for USIO vehicles.

Services—Expert assistance.

SOC—None budgeted.

POC—Annual physical examinations for seagoing personnel, copier services, external copying and printing services, vehicle and warehouse equipment repair, drill pipe maintenance, testing and calibration of laboratory instruments, equipment testing and calibration, machine shop services, costs to cover miscellaneous charges payable to the ship's subcontractor, wireline severing charges, transfer fees, and weather reports.

Equipment Rental—Rental of equipment when it is more economical to rent than purchase.

SOC—None budgeted.

POC—Test facility outhouse rental.

Other Expenses—ODL—ODL costs not covered in other categories.

SOC—None budgeted.

POC—Costs for possible medical evacuations (\$25,000) and miscellaneous reimbursable costs for supplies and maintenance costs (\$20,000) payable to the ship subcontractor.

Furniture—Office furniture.

SOC—None budgeted.

POC—Replacing broken or aging office furniture and storage cabinets for use in office and at external storage facilities.

Recruiting—Employee recruitment.

SOC—None budgeted.

POC—Local advertisements, advertisements in science and trade journals, and other costs related to filling/replacing positions and recruiting professional staff.

Maintenance and Repair—Maintenance agreements and equipment repairs.

SOC—None budgeted.

POC—Maintenance and repair of office equipment; postage meter; vehicle fleet; equipment in warehouse; overhead cranes and other loading dock equipment; and drilling, coring, logging operations, laboratory, and safety equipment.

Library—Books, journals, and other resources.

SOC—None budgeted.

POC—Technical books, journals, resources, and subscriptions to professional materials.

Indirect Costs—Administrative and financial costs associated with operating the Program.

SOC—None budgeted.

POC—For LDEO, indirect costs at 53% are assessed on all charges except permanent equipment. In addition, subcontracts are charged indirect costs on the first \$25,000 of each contract. The indirect costs for subcontracts established prior to FY13 have already been paid, so these subcontracts are not subject to indirect cost during FY12. MTDCs are the total direct costs minus these exceptions.

7. ENGINEERING DEVELOPMENT

7.1. GOALS

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.

7.2. DELIVERABLE IN FY13

- USIO Technical Panel: Operate the USIO Technical Panel (UTP), through which external members from industry and academia 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 with assistance from the USIO partners.
- Legacy Documentation: Routinely archive electronic copies of documents and reports produced by the USIO on behalf of IODP.

7.3. BUDGET

Engineering Development			
Element/Expense Category	SOC	POC	Total
Salaries and Fringes	0	0	0
Travel	0	44,000	44,000
Supplies	0	3,000	3,000
Shipping	0	0	0
Communication	0	3,000	3,000
Contractual Services	0	25,000	25,000
Equipment	0	0	0
Other Direct Costs	0	0	0
Total Direct Costs	0	75,000	75,000
Modified Total Direct Costs (if applicable)	0	0	0
Indirect Costs or Administrative Fees	0	24,750	24,750
Total Engineering Development	\$0	\$99,750	\$99,750

Funds for this WBE are budgeted as follows:

Salaries and Fringes—None budgeted.

Travel—Transportation, per diem, lodging, and other associated costs.

SOC—None budgeted.

POC—Costs to support invited members to attend UTP meetings at USIO locations.

Supplies—Office and operational supplies.

SOC—None budgeted.

POC—General office supplies, printer supplies, and general computer supplies to support UTP functions.

Shipping—None budgeted.

Communication—Satellite, telephone, and fax charges.

SOC—None budgeted.

POC—Telephone, web conference, and video conferencing as needed to support the UTP.

Contractual Services—Consultant and contract services.

SOC—None budgeted.

POC—Engineering evaluation services beyond the scope of UTP volunteers as needed to complete panel objectives.

Equipment—None budgeted.

Other Direct Costs—None budgeted.

Indirect Costs—Administrative and financial costs associated with operating the Program.

SOC—None budgeted.

POC—The approved provisional rate of 33% was used to calculate Ocean Leadership general and administrative (G&A) costs. Each year, G&A costs are charged on all Ocean Leadership direct costs and on the first \$100,000 of all subcontracts Ocean Leadership administers under a particular contract (e.g., total annual G&A on LDEO and TAMRF subcontracts = \$66,000). The G&A costs for the two subcontracts (LDEO and TAMRF) are divided evenly between SOC G&A and POC G&A (\$33,000 each = \$16,500 SOC + \$16,500 NSF).

8. CORE CURATION

8.1. GOALS

USIO Core Curation goals include providing services in support of IODP core sampling and curation of the core collection archived at the Gulf Coast Repository (GCR).

8.2. DELIVERABLES IN FY13

- Policy and Procedures: Work with other IOs, the SAS, and IODP-MI to review and revise the IODP Sample, Data, and Obligations Policy, as needed, and implement a policy for IODP core curation. Work closely with staff to coordinate, standardize, and document curatorial procedures for IODP cores and samples.
- Sample and Curation Strategies: Plan sample and curation strategies for upcoming USIO expeditions and review all shipboard and moratorium-related requests in coordination with the other members of the Sample Allocation Committee for each expedition.
- Sample Requests: Fulfill postmoratorium sample requests from the scientific community.
- Core Sampling: Provide curator specialist on board the drillship to supervise core sampling during ship operations.
- Core Curation: Conduct all responsibilities associated with curation of core collections at the GCR and provide services in support of core sampling, analysis, and education.
- Use of Core Collection: Promote outreach use of the core collection in collaboration with IODP-MI and IO education/outreach personnel by providing materials for display at meetings or museums, as well as conducting tours and supporting other USIO outreach activities.
- Meetings: Participate in annual IODP curatorial staff meeting. Act as IO liaison to meetings with the other IOs, IODP-MI, and the Curatorial Advisory Board, as appropriate.
- Legacy Documentation: Routinely archive electronic copies of documents and reports produced by the USIO on behalf of IODP.

8.3. BUDGET

Core Curation			
Element/Expense Category	SOC	POC	Total
Salaries and Fringes	280,925	94,249	375,174
Travel	46,125	15,375	61,500
Supplies	26,250	8,750	35,000
Shipping	18,750	6,250	25,000
Communication	2,625	875	3,500
Contractual Services	0	0	0
Equipment	0	0	0
Other Direct Costs	14,063	8,438	22,501
Training	0	3,750	3,750
Business Conferences	2,250	750	3,000
Services	7,313	2,438	9,751
Maintenance and Repair	4,500	1,500	6,000
Total Core Curation Direct Costs	388,738	133,937	522,675
Modified Total Direct Costs (if applicable)	0	0	0
Indirect Costs or Administrative Fees	0	0	0
Total Core Curation	\$388,738	\$133,937	\$522,675

Funds for this WBE are budgeted as follows:

Salaries and Fringes—Salaries, fringes, and sea pay, including an anticipated cost-of-living allowance and estimated fringe benefits rate.

SOC/POC—Salaries, fringes, and sea pay for staff supporting the USIO (see Section 3.2. USIO FTE Allocation Tables).

Travel—Transportation, per diem, lodging, and other associated costs.

SOC/POC—Travel to IODP meetings and workshops, IO meetings, and USIO meetings (including an annual IODP Curators meeting); professional conferences; and travel costs for USIO staff who will sail on FY13 expeditions.

Supplies—Office and operational supplies.

SOC/POC—General office supplies and printer supplies; general safety, cleaning, and laboratory supplies; specialized supplies for sampling and curatorial tasks; crates and shipping boxes.

Shipping—Postage, express mail, and freight.

SOC/POC—Postage for regular correspondence, regular-sized sample shipments to scientists, and costs for special shipments of deep-frozen microbiological samples, U-channels, or whole core sections for X-ray fluorescence scanning.

Communication—Telephone and fax charges.

SOC/POC—Standard telephone line, long distance, cellular phone, and fax charges.

Contractual Services—None budgeted.

Equipment—None budgeted.

Other Direct Costs—Costs not covered in other categories.

Training—Registration, transportation, per diem, and lodging expenses related to professional training.

SOC—None budgeted.

POC—Registration and travel costs for professional training courses and meetings (TAMU).

Business Conferences—Incidental expenses associated with meetings hosted by the USIO.

SOC/POC—Expenses for sample parties and groups of scientists, educators, or others visiting the GCR.

Services—Expert assistance.

SOC/POC—Annual physical examinations for seagoing personnel, Graduate Assistant Research tuition and fees, and facilities repair.

Maintenance and Repair—Maintenance agreements and equipment repairs.

SOC/POC—Repairs and maintenance for deep freezers; laboratory, repository, and office equipment; and shrink-wrap and bagging machinery.

9. DATA MANAGEMENT

9.1. GOALS

USIO Data Management goals include management of data supporting IODP activities, management of expedition and postexpedition data, provision of long-term archival access to data, support of information technology (IT) services, and provision of database services for postmortality ESO and CDEX log data.

9.2. DELIVERABLES IN FY13

- Expedition Data: Maintain and manage databases supporting expedition planning and data collected during expeditions. Operate and maintain data management and harvesting systems (including QA/QC for storage and archival of expedition and postexpedition data, including core and sample tracking). Respond to data requests from the scientific community. Process downhole log data. Provide database services for postmortality ESO and CDEX log data.
- Program-wide Data Query Services: Provide USIO customers with access to expedition databases and data using web-based services.
- Operation and Maintenance: Operate and maintain computer and network systems both on ship and shore.
- Security: Monitor and protect USIO network and server resources to ensure safe, reliable operation and security for IODP data and IT resources.
- Software Development: Provide software development services as needed (excluding analytical systems), maintain software, and provide training support for shipboard scientists as necessary.
- Legacy Documentation: Routinely archive electronic copies of documents and reports produced by the USIO on behalf of IODP, including documentation of all information technology architecture and corresponding services configurations.

9.3. BUDGET

Data Management			
Element/Expense Category	SOC	POC	Total
Salaries and Fringes	509,236	1,462,691	1,971,927
Travel	40,955	107,979	148,934
Supplies	15,460	38,940	54,400
Shipping	1,135	2,065	3,200
Communication	6,815	25,965	32,780
Contractual Services	0	0	0
Equipment	55,477	145,430	200,907
Other Direct Costs	89,379	374,327	463,706
Training	0	35,250	35,250
Business Conferences	155	545	700
Software	9,000	51,000	60,000
Services	33,995	24,725	58,720
Maintenance and Repair	46,229	261,962	308,191
Library	0	845	845
Total Direct Costs	718,457	2,157,397	2,875,854
Modified Total Direct Costs (if applicable)	99,250	502,422	601,672
Indirect Costs or Administrative Fees	52,602	266,283	318,885
Total Data Management	\$771,059	\$2,423,680	\$3,194,739

Funds for this WBE are budgeted as follows:

Salaries and Fringes—Salaries, fringes, and sea pay, including an anticipated cost-of-living allowance and estimated fringe benefits rate.

SOC/POC—Salaries and fringes for staff supporting the USIO (see Section 3.2. USIO FTE Allocation Tables).

Travel—Transportation, per diem, lodging, and other associated costs.

SOC—Travel to IODP meetings and travel costs for USIO staff who will work at port calls and sail on FY13 expeditions and transit. Also includes LDEO travel to professional training courses and meetings.

POC—Travel costs for USIO staff who will work at port calls and sail on FY13 expeditions and transit. Also includes LDEO travel to professional training courses and meetings.

Supplies—Office and operational supplies.

SOC—General office supplies and electronic media and other computer supplies with an acquisition cost of less than \$1,000 (for TAMU) and \$5,000 (for LDEO), including printers, laptops, tablet computers, and monitors (LDEO); printer and copier supplies; paper; expendables and small hardware necessary for continued operation and maintenance of IT resources; digital photographic supplies (e.g., drum scanner supplies, CDs, DVDs, and tapes) for processing images on shore; and software for all shore-based elements at LDEO.

POC—General office supplies and electronic media and other computer supplies with an acquisition cost of less than \$1,000 (for TAMU) and \$5,000 (for LDEO), including printers, laptops, tablet computers, and monitors (LDEO). Other data management supplies may be purchased in support of USIO deliverables using cost avoidances gained during the fiscal year.

Shipping—Postage, express mail, and freight.

SOC—Postage for regular correspondence and small packages, data and photo requests, and other shipping needs.

POC—Postage for regular correspondence and small packages.

Communication—Telephone and fax charges.

SOC/POC—Standard telephone line, long distance, cellular phone, and fax charges.

Contractual Services—None budgeted.

Equipment—Procurement, upgrading, or fabrication of equipment with an acquisition cost of more than \$5,000, plus those items as defined by Ocean Leadership, Columbia University, or TAMRF policy.

SOC/POC—Computer and network equipment to replace aged network models, workstations, and plotters, and new workstations for new staff.

Other Direct Costs—Costs not covered in other categories.

Training—Registration, transportation, per diem, and lodging expenses related to professional training.

SOC—None budgeted.

POC—Registration and associated travel costs for professional training courses and meetings (TAMU). Registration for professional training courses and meetings (LDEO).

Business Conferences—Incidental expenses associated with meetings hosted by the USIO.

SOC/POC—Expenses for refreshments provided for various business meetings and catering services occasionally required for on-site training and professional consultant services.

Software—Software purchases and upgrades.

SOC/POC—Software subscriptions, volume licensing agreements, and concurrent usage software agreements used in support of continuing activities and systems maintenance for the entire enterprise (TAMU).

Services—Expert assistance.

SOC—Rental for storage of paper prime data, annual physical examinations for seagoing personnel, TAMU Physical Plant services, IT expert assistance services, copier services, external copying and printing services, safe deposit box rentals, and back-up services.

POC—Annual physical examinations for seagoing personnel, TAMU Physical Plant services, IT expert assistance services, safe deposit boxes, and copier services.

Maintenance and Repair—Maintenance agreements and equipment repairs.

SOC/POC—Departmental copier maintenance agreements, various maintenance contracts and repairs for IT computer hardware and software, and noncontracted maintenance on imaging equipment such as cameras.

Library—Books, journals, and other resources.

SOC—None budgeted.

POC—Books, professional publications, and documentation materials required for reference.

Indirect Costs—Administrative and financial costs associated with operating the Program.

SOC/POC— For LDEO, indirect costs at 53% are assessed on all charges except permanent equipment. In addition, subcontracts are charged indirect costs on the first \$25,000 of each contract. The indirect costs for subcontracts established prior to FY13 have already been paid, so these subcontracts are not subject to indirect cost during FY13. MTDCs are the total direct costs minus these exceptions.

10. PUBLICATIONS

10.1. GOALS

USIO Publications goals include providing publications support services for IODP riserless and riser drilling expeditions; editing, production, and graphics services for all required reports and scientific publications as defined in the USIO contract with IODP-MI; and warehousing and distribution of IODP, ODP, and Deep Sea Drilling Project (DSDP) publications.

IODP publications include Quarterly and Annual Reports for the USIO; a *Scientific Prospectus* and *Preliminary Report* for each USIO, CDEX, and ESO expedition; and *Proceedings of the Integrated Ocean Drilling Program* volumes for USIO, CDEX, and ESO expeditions. CDEX and ESO reports and publications are produced according to prescribed schedules that commence upon receipt of content by the USIO.

10.2. DELIVERABLES IN FY13

- IODP Publications: Advise IODP-MI on scientific publication efforts. The following publications will be published or in production:
 - ~10 scientific reports (*Scientific Prospectuses* and *Preliminary Reports*);
 - Expedition reports from 10 IODP expeditions (7 USIO expeditions and 3 CDEX expeditions); and
 - Postexpedition data reports and synthesis papers from 23 IODP expeditions (15 USIO expeditions, 6 CDEX expeditions, and 2 ESO expeditions).
- IODP Reports: The following reports will be edited and produced:
 - Four IODP-USIO quarterly reports;
 - IODP-USIO Annual Program Plans to IODP-MI (SOC/POC) and NSF (POC/OPIC with SOC Appendix), including original versions and all revisions required by funding agencies; and
 - One IODP-USIO FY13 Annual Report (or other year-end document).
- Report of Program-related citation statistics.
- Management:
 - Manage postexpedition publication citations,
 - Manage peer review process for IODP *Proceedings* volumes (~50 data reports or synthesis papers),
 - Provide distribution and warehousing for IODP *Proceedings* volumes (and ODP and DSDP publications and reports), and
 - Provide centralized record keeping of IODP postexpedition research submissions.
- Publications Support:
 - Provide a Publications Specialist for publications support and report coordination during 4 USIO, 3 CDEX expeditions, and 1 ESO onshore Science Party meeting (shipboard support on CDEX expeditions will be scheduled, as required, in cooperation with CDEX and Marine Works Japan) and

- Provide editorial, graphics, and production support during 3 USIO and 3 CDEX editorial postexpedition meetings.
- Legacy and Technical Documentation: Routinely archive electronic copies of all documents, reports, technical documentation, and scientific publications produced by the USIO on behalf of IODP.

10.3. BUDGET

Publications			
Element/Expense Category	SOC	POC	Total
Salaries and Fringes	1,198,390	64,840	1,263,230
Travel	40,400	20,000	60,400
Supplies	30,150	0	30,150
Shipping	3,400	0	3,400
Communication	8,000	0	8,000
Contractual Services	0	0	0
Equipment	0	0	0
Other Direct Costs	9,525	0	9,525
Business Conferences	3,900	0	3,900
Services	4,500	0	4,500
Equipment Rental	300	0	300
Maintenance and Repair	825	0	825
Total Direct Costs	1,289,865	84,840	1,374,705
Modified Total Direct Costs (if applicable)	0	0	0
Indirect Costs or Administrative Fees	0	0	0
Total Publications	\$1,289,865	\$84,840	\$1,374,705

Funds for this WBE are budgeted as follows:

Salaries and Fringes—Salaries, fringes, and sea pay, including an anticipated cost-of-living allowance and estimated fringe benefits rate.

SOC/POC—Salaries and fringes for staff supporting the USIO (see Section 3.2. USIO FTE Allocation Tables) and for USIO staff providing Publications Assistant support for CDEX expeditions, as required, and at an ESO onshore Science Party meeting.

Travel—Transportation, per diem, lodging, and other associated costs.

SOC—Travel costs for IO and USIO meetings and professional conferences; for USIO staff to provide Publications Assistant support for CDEX IODP expeditions, as required, and to attend an ESO onshore Science Party meeting, for nonsailing USIO staff to work at port calls, and to bring off-site USIO staff to participate in on-site meetings.

POC—Travel costs for USIO staff who will sail on FY13 and initial FY14 expeditions.

Supplies—Office and operational supplies.

SOC—General office supplies.

POC—None budgeted.

Shipping—Postage, express mail, and freight.

SOC—Postage and shipping for regular correspondence and IODP scientific reports.

POC—None budgeted.

Communication—Telephone and fax charges.

SOC—Standard telephone line, long distance, and fax charges.

POC—None budgeted.

Contractual Services—None budgeted.

Equipment—None budgeted.

Other Direct Costs—Costs not covered in other categories.

Business Conferences—Incidental expenses associated with meetings hosted by the USIO.

SOC—Meal expenses related to hosting meetings.

POC—None budgeted.

Services—Expert assistance.

SOC— Payments to IODP Editorial Review Board members, annual physical examinations for seagoing personnel, and printing of annual report.

POC—None budgeted.

Equipment Rental—Rental of equipment when it is more economical to rent than to purchase.

SOC—Water cooler rental.

POC—None budgeted.

Maintenance and Repair—Maintenance agreements and equipment repairs.

SOC—Copier repairs and copier and forklift maintenance agreement.

POC—None budgeted.

11. EDUCATION

11.1. GOALS

USIO Education responsibilities include developing and disseminating expedition-specific and thematic education activities and materials for elementary through post-secondary and free-choice learning audiences, and promoting partnerships to provide learning opportunities. Expedition-specific activities will include current expeditions 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. These activities require direct and indirect interfacing with students and educators through a variety of activities targeting U.S. middle-school, high-school, undergraduate, family, and museum audiences.

11.2. DELIVERABLES IN FY13

No SOC/POC deliverables are scheduled for FY13.

11.3. BUDGET

With no deliverables scheduled in FY13, there are no funds budgeted for this WBE.

12. OUTREACH

12.1. GOALS

USIO Outreach responsibilities include measures to effectively communicate both shore- and ship-based components of IODP activities to public audiences in collaboration with IODP-MI and the other IOs, and encouraging awareness of and interest in the scientific results of the Program.

The USIO raises the visibility of IODP an innovative international earth science research program to new and existing audiences by targeting informational outreach to the general public, science and general-interest media, scientists and engineers from both within the IODP community and beyond, and decision makers at the national level. USIO Outreach uses expeditions and Program achievements to promote scientific ocean drilling and the scientific data and analysis that emerge from it, and makes the connection between this emerging scientific knowledge and its positive contribution to society worldwide. USIO communications activities and tools build a foundation of knowledge about scientific ocean drilling (e.g., its achievements, merits, spectrum of national contributions, and high value to future scientific achievement) that is easily accessible to the public and other targeted communities online, in forums and meetings, and in the media.

12.2. DELIVERABLES IN FY13

No SOC/POC deliverables are scheduled for FY13.

12.3. BUDGET

With no deliverables scheduled in FY13, there are no funds budgeted for this WBE.

IODP Annual Program Plan

FY2013

[Appendix C](#)



**Integrated Ocean Drilling Program
Program Plan
For
US Fiscal Year 2013**

**Japan Agency for Marine-Earth
Science and Technology
Submitted: 10th Aug 2012**

Respectfully Submitted to:
IODP Management International, Inc.

Dr. Wataru Azuma, Director General - CDEX
Japan Agency for Marine-Earth Science and Technology



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1. Introduction

The Center for Deep Earth Exploration (CDEX; <http://www.jamstec.go.jp/chikyu/eng/>) is one of four technology centers structured by Japan Agency for Marine-Earth Science and Technology (JAMSTEC; <http://www.jamstec.go.jp/e/>). CDEX manages Drilling Vessel (D/V) *Chikyu*, the first scientific riser-drilling vessel in terms of drawing up the safe and efficient operation plan and providing sufficient scientific and technical support to the onboard scientists as well as developing the necessary technique to succeed in the deep sea riser drilling.

CDEX currently plans to implement two expeditions in FY2013: 1) NanTroSEIZE Stage 3: Plate Boundary Deep Riser-2 (Expedition 338), 2) NanTroSEIZE Stage 3: Plate Boundary Deep Riser-3 (Expedition 348). The latter expedition will conduct only one month in FY2013, so that the cost presented in this plan only include one month of Expedition 348.

2. Budget Summary

To achieve the FY13 IODP scientific objectives, CDEX proposes the budget summarized in Budget summary table below.

Budget Summary		Unit in US \$ (¥80/\$)	
WBE	SOC	POC	Total
Management and Administration	759,583	885,092	1,644,675
Technical, Engineering and Science Support	5,495,866	76,028,032	81,523,899
Engineering Development	-	-	-
Core Curation	387,900	15,000	402,900
Data Management	356,127	-	356,127
Publications	-	-	-
Outreach	-	-	-
Total	6,999,475	76,928,125	83,927,600
Direct Costs	6,093,289	76,928,125	83,021,414
Indirect Costs	906,186	-	906,186

3. FTE Allocation

Name	Role	SOC Work Breakdown Element (%)						Effort Total (%)		
		M&A	TESS	ED	Core	Data Mgt.	Outreach	SOC	POC	Oth.
W. Azuma	CDEX & KCC Center Manager							-	25%	75%
T Kobayashi	Vice Center Manager							-	25%	75%
Y. Yamada	Administration Dep. Head							-	25%	75%
S. Kuramoto	IODP Promotion Group Leader							-	50%	50%
N. Ahagon	KCC Science Support Group Leader	50%						50%	-	50%
M. Yamao	Operations Dep. Head	25%	25%					50%	-	50%
N. Taniguchi	Advisor		50%					50%	-	50%
K. Hatakeyama	Marine Affairs Group Leader							-	50%	50%
S. Goto	Contract Officer							-	50%	50%
I. Sawada	Drilling Planning Group Leader	25%	25%					50%	-	50%
T. Saruhashi	Drilling Engineer		50%					50%	-	50%
K. Takase	Drilling Designer		50%					50%	-	50%
S. Kataoka	Drilling Designer		50%					50%	-	50%
T. Yokoyama	Drilling Designer							-	50%	50%
Moe Kyaw Thu	Site Survey Group Leader		50%					50%	-	50%
T. Kaminishi	Geologist							-	50%	50%
K. Aoike	Geologist		100%					100%	-	-
N. Eguchi	Science Operations Group Leader	25%	25%					50%	-	50%
Y. Kubo	Staff Scientist		100%					100%	-	-
S. Toczko	Staff Scientist	50%	50%					100%	-	-
C. Igarashi	Lab Coordinator		100%					100%	-	-
T. Nawate	Procurement		50%					50%	50%	-
Y. Kosuge	Maintenance Group Leader		50%					50%	-	50%
Y. Mizuguchi	Technical Supervisor		50%					50%	-	50%
M. Kyo	LTBMS Project Manager							-	100%	-
K. Kato	LTBMS Mech. Engineer		50%					50%	-	50%
Y. Shinmoto	Downdhole Tool Engineer							-	50%	50%
L. Gupta	IODP Curator	25%			50%			75%	-	25%
T. Hisamitsu	Repository Curator				75%			75%	-	25%
N. Xiao	Micro-bio Curator				50%			50%	-	50%
Y. Shiga	System Manager	25%				75%		100%	-	-
Y. Sanada	CLSI		100%					100%	-	-
Y. Kido	CLSI		100%					100%	-	-
K. Takahashi	Database Engineer					100%		100%	-	-
T. Sugihara	IT Engineer		100%					100%	-	-
T. Yoshizawa	IODP Communicator	25%						25%	-	75%
T. Omata	Communicator							-	-	100%
Other 25 staffs									25%	75%
Man-Year		2.50	11.75	0.00	1.75	1.75	0.00	17.75	10.50	33.75

4. Expedition Operations

4.1 Introduction

Chikyu plans to resume NanTroSEIZE Stage 3 from the beginning of FY 2013. Expedition 338 “Plate Boundary Deep Riser -2” starting from 1 October 2012 to 13 January 2013 at C0002F hole which including some contingency operation days. After this expedition, *Chikyu* plans to operate non-IODP work until approximately middle to late August 2013. Therefore, the next possible IODP window will be starting from September 2013. Currently, *Chikyu* plans to back to NanTroSEIZE Stage 3 from early September 2013 as IODP Expedition 348 “Plate Boundary Deep Riser -3”, targeting to drill through mega-splay fault which presumably existing around 5200 mbsf and finish by the end of January 2014.

4.2 Expedition Details

The table below shows all expeditions expected to be carried out by *Chikyu* in FY12 through FY13. The activities marked with blue in the table below correspond to *Chikyu*'s IODP missions in FY13, including the Expedition 338 & 348 Deep Riser Drilling campaign, which will be continued into the next IODP phase.

Activity Name	Duration (Days)	Start Date	Finish Date	FY12				FY13				-			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Exp.343 JFAST	55	1-Apr-2012	25-May-2012												
Exp.343T JFAST 2	20	5-Jul-2012	24-Jul-2012												
Exp.337 Shimokita	68	25-Jul-2012	30-Sep-2012												
Exp.338 NanTroSEIZE Riser 13-3/8" CSG	105	1-Oct-2012	13-Jan-2013												
Exp.338 NanTroSEIZE Riser 11-3/4" CSG+	30	1-Sep-2013	30-Sep-2013												

The proposed plan is subject to change based on the IODP-MI requirements /recommendations or operation criteria requirements.

4.2.1 Expedition 338: NanTroSEIZE Stage 3, Plate Boundary Deep Riser -2

Site Location

Site	Location	Water depth (m)	Operation	Transit (Day)	Drilling (Day)
C0002	33°18.0507'N 136°38.2029'E	1968	LWD, spot coring, gas monitoring, cuttings, casing	5	100

Science Objectives:

The primary drilling plan for Expedition 338 is to extend Hole C0002F to ~3,600 mbsf (13-3/8" casing set point) using newly introduced drilling operation, "reaming while drilling/logging" (see below for details).

The main research objectives for this interval are to (1) sample the interior of the accretionary complex in the mid-slope region beneath the Kumano forearc basin with both cores and drill cuttings and (2) collect an extensive suite of LWD to characterize the formation. Sampling from the previously not sampled interval will allow the (1) determination of the composition, age, stratigraphy, and internal style of deformation of the Miocene accretionary complex; (2) reconstruction of its thermal, diagenetic, and metamorphic history and comparison with present pressure-temperature (P-T) conditions; (3) determination of minimal horizontal stress within the deep interior of the inner wedge; (4) investigation of the mechanical state and behavior of the formation; and (5) characterization of the overall structural evolution of the Nankai accretionary prism and the current state of the upper plate above seismogenic plate boundary thrust.

The interval from 856 mbsf to target depth (proposed to be 3,600 mbsf) will be drilled with continuous LWD resistivity, gamma radiation, and annulus fluid pressure data. During this riser drilling, mud return will allow for comprehensive analysis of drill cuttings and mud gas, as was performed at Site C0009. Coring is also planned to sample the inner wedge but is restricted to one interval from 2,300 to 2,400 mbsf, due to limited operation window.

Environment and Safety: The site was selected based on scientific importance, with a 36" conductor pipe, riser wellhead as well as 20" casing set at a depth of 860.3 mbsf during IODP Exp. 326.

Logistics: This expedition is planned for total of 105 days, including transit. EPMs (Expedition Project Manager/Staff Scientist) were assigned and 4 Co-Chief Scientists were selected. The shipboard science party is envisioned to include about 14 scientists onboard at a time and rotating every about 1.5 months, embarkation and disembarkation will be made by helicopter from Minami-Ise.

Reaming while drilling/logging: To answer questions from IODP-MI (and OTF) regarding this new drilling technique.

1. How has CDEX assessed the technique? And what was the result of the assessment? Or if it has not been done, explain the future actions and timing of completion of those. Specific points are listed below.

CDEX has been conducting the assessment and the answers are inserted below in italic;

- Mechanical strength of BHA (safety/lost in hole)

Method of Reaming While Drilling (RWD) is common for deep water applications in the industry. We called some companies which provide under-reamers and consulted them on the issues. But we couldn't discuss specific cases, because we haven't selected tools nor fixed an operation plan.

Now, a tender for a package of RWD and directional drilling is under processing. Therefore, once the company will be awarded, we can discuss those issues with the company based on the fixed operation plan. And we will inform the result to IODP-MI later.

- Hydrodynamics/flow control (hole clean-up/cutting removal)

The equipment providers have their own hydraulics software considering hole cleaning. They shall provide the best operation procedure. It is one of the important points while selecting contractor, and we have confidence to select the best one.

- LWD data quality

According to National Oilwell Varco, there has been and will be no significant effect on LWD data quality due to using Reaming while drilling/logging technique.

- Cutting sample quality

Recovered cutting will be mixed the bottom and under-reamed section. Need to keep an eye on the data quality.

2. If the technique is common among the industry, provide the number of jobs and success/failure rate.

The below table shows Mean Time between Failures for individual tool sizes. These are based on actual circulating hours (provided by National Oilwell Varco). It shows very high reliability.

Hydro-Mechanical and Hydraulic Underreamer Worldwide Run Summary					
Updated 31/03/2012					
Tool Size	Drilled (ft)	Runs	Circ Hours (Avg)	Run Distance (Avg)	MTBF (hrs)
18-1/8" – 21-1/2"	177,299	61	57	2,907	1,155
17-1/2" – 21-1/2"	119,367	72	48	1,658	3,423
16-1/2" – 20"	199,663	64	57	3,120	1,223
14-1/2" – 17-1/2"	819,637	296	67	2,769	2,198
12-1/4" – 14-1/2"	2,623,902	1,107	60	2,370	2,309
10-5/8" – 12-1/4"	398,419	247	61	1,613	1,894
9-1/2" – 11-3/8"	98,572	62	72	1,590	2,246
8-1/2" – 9-7/8"	1,622,610	779	54	2,083	1,513
6-1/2" – 7-5/8"	58,119	58	43	1,002	1,244
5-7/8" – 7"	203,706	108	51	1,886	925
Total	6,321,294				Avg. MTBF 1,761 (hrs)

Regarding failures, NOV commented as below

- *Firstly failure of cutter blocks to fully retract when POOH. This seems to be linked to very heavy mud weights and a long time in hole. Consequence is that the reamer will have difficulty coming back through the shoe. However, it is important to note that we never have been able to get the reamer back out from the hole.*
- *Secondly premature activation when running the tool in hole. This can be avoided by drop the ball activation method.*

Operation scenarios: To answer questions from IODP-MI (and OTF) regarding short term NanTroSEIZE operation scenarios.

CDEX understands that the final scientific goals of NanTroSEIZE project include: (1) reaching the plate boundary fault around 7,000 mbsf and recover core samples as well as acquire wireline/LWD logging data from the borehole, and (2) installation of additional observatories. CDEX also recognizes that these goals may change, or be adjusted, based on observations and study results from the 3.11 Tohoku Earthquake. CDEX keeps the current C0002 well design to reach the plate boundary fault. And if any scientific input and request related to the final goals, CDEX will consider the modification of the project, while keeping in mind tight budgetary realities. Based on NanTroSEIZE PMT discussion, CDEX understands reaching the mega-splay fault (approximately at 5,200 mbsf) and acquiring scientific sample and data is an important mile-stone of the project.

Based on the above foundations, CDEX responses to inquiries from IODP-MI are below in italic.

3. Based on Japanese fiscal year Heisei 24 (H24: 2012.4 - 2013.3) operation (Exp.338) result, what will CDEX be able to do in Heisei 25 (H25: 2013.4 – 2014.3) and beyond? (although CDEX can't commit finance/budget, but technically)

Case 1: complete H24 (2012.4 – 2013.3) operation with casing set at 3,600 mbsf

The H25 (2013.4 – 2014.3) plans will begin with a 3D-VSP logging run, then continue drilling to the mega-splay fault around 5,200 mbsf, followed by setting casing to 4,700 mbsf. Two 200 m coring operations are included.

C0002 Operation details:

- *Drill a 12-1/4" hole to 4,500 mbsf with LWD,*
- *Cut core from 4,500 mbsf to 4,700 mbsf,*
- *Perform wireline logging (3,600 mbsf – 4,700 mbsf),*
- *Set 11-3/4" casing to 4,700 mbsf,*
- *Drill a 10-5/8" hole with LWD to 5,000 mbsf*
- *Cut core from 5,000 mbsf to 5,200 mbsf,*
- *Perform wireline logging (4,700 mbsf – 5,200 mbsf)*
- *Plug back and suspend the 10-5/8" hole.*

Case 2: finish the H24 (2012.4 – 2013.3) operation with casing set at 2,300 mbsf

The H25 (2013.4 – 2014.3) plans will start by deepening the hole to 3,600 mbsf and setting 13-3/8" casing. Then, will continue the operation as C0002 Operation details above. The timing of 3D-VSP logging is subject to discuss,

due to shooting vessel availability etc.. Because of availability of the operation window and budget, it will not be able to complete the operations (to reach the mega-splay fault) during this expedition. Most likely the operation will stop by setting 11-3/4" casing at 4,700 mbsf and then suspending the hole.

CDEX will aim at the remaining operations (mega-splay fault drilling/coring, logging) as a part of H26 (2014.4 - 2015.3) Chikyu operation plan.

Case 3: terminate the H24 operation without any progress including failed connect the rise/BOP and well-head.

If no progress will be made during H24 (2012.4 – 2013.3) operations, CDEX will shift above operations plan by one year (H24 (2012.4 – 2013.3) original operations plan will be H25 (2013.4 – 2014.3), and H25 (2013.4 – 2014.3) original operation will be H26 (2014.4 – 2015.3).

CDEX has not been considered the termination nor postponing of NanTroSEIZE plate boundary Deep Riser project, prior to achieving mega-splay fault (an important mile-stone).

4.2.2 Expedition 348: NanTroSEIZE Stage 3, Plate Boundary Deep Riser -2

Site Location

Site	Location	Water depth (m)	Operation	Transit (Day)	Drilling (Day)
C0002	33°18.0507'N 136°38.2029'E	1968	LWD, spot coring, WL logging, casing	2	28 (In FY13)

Science Objectives:

This expedition aimed for continuous deepening of C0002F to the mega-splay fault with LWD/MWD from the final depth of Expedition 338 (3,600 mbsf; 13-3/8" casing set point). The primary scientific objective of this expedition is to sample "mega-splay fault" which estimated to exist around 5,200 mbsf based on the seismic reflection data. 11-3/4" casing is expected to set at 4,700 mbsf and extensive wire-line logging through this interval and about 200 m coring is planned at the end of this interval. Below this casing set point, continuous LWD/MWD operation to 5,000 mbsf and coring from 5,000 – 5,200 mbsf plus intensive wire-line logging is also planned.

Environment and Safety:

The site was selected based on scientific importance, with a 36" conductor pipe, riser wellhead as well as 20" casing set at a depth of 860.3 mbsf during IODP Exp. 326. And during IODP Exp. 338, it planned to deepen to 3,600 msf.

Logistics:

Detailed logistics discussions are still underway among the NanTroSEIZE Project Management Team. At least one EPM (Expedition Project Manager/Staff Scientist) will be assigned and 4 Co-Chief Scientists will be selected.

The shipboard science party is envisioned to include about 14 scientists onboard at a time and rotating every about 2 months, embarkation and disembarkation will be made by helicopter from Minami-Ise.

4.3 Expedition budget summary

Expense Category	Unit in US \$ (¥80/\$)				Total
	Expedition 338		Expedition 348		
	105 days		30 days		
	SOC	POC	SOC	POC	
Salary and Fringes	\$ 1,443,324	\$ 863,903	\$ 412,378	\$ 246,830	\$ 2,966,436
Travel	\$ -	\$ -	\$ -	\$ -	\$ -
Supplies	\$ 116,667	\$ -	\$ 33,333	\$ -	\$ 150,000
Shipping (including cost for deep-freezing core)	\$ 200,000	\$ -	\$ -	\$ -	\$ 200,000
Communication	\$ -	\$ -	\$ -	\$ -	\$ -
Contractual Services	\$ 2,469,687	\$ 6,837,012	\$ 498,482	\$ 874,861	\$ 10,680,043
Equipment	\$ -	\$ -	\$ -	\$ -	\$ -
Other Direct Costs(Chikyu Operation and mgt.)	\$ -	\$ 51,490,096	\$ -	\$ 15,845,742	\$ 67,335,838
Total Direct Costs	\$ 4,229,678	\$ 59,191,012	\$ 944,194	\$ 16,967,432	\$ 81,332,316
Modified Direct Costs (If applicable)	\$ 1,759,991	\$ -	\$ 445,712	\$ -	\$ 2,205,703
Indirect Costs/Administrative Fee	\$ 527,997	\$ -	\$ 133,714	\$ -	\$ 661,711
Total	\$ 4,757,676	\$ 59,191,012	\$ 1,077,907	\$ 16,967,432	\$ 81,994,027

5. Management and Administration

5.1 Goals

- Plan, coordinate (with other IODP-related entities), oversee, review, and report on IODP activities.

5.2 Deliverables

- Annual Program Plan:** Develop and assure implementation.
- Quarterly and Annual Reports:** Develop quarterly and annual reports, including financial reports.
- Report and Liaise:** Report and liaise with funding agencies and with IODP-related entities (e.g., SAS meeting), Program Member Offices and other national organizations and participate in IODP-MI Task Forces, working groups, etc.
- Contract Services:** Provide contract services for IODP-related activities.
-

5.3 Management and Administration budget table and justifications

M&A	Unit in US \$ (¥80/\$)		
Expense	SOC	POC	Total
Salary and Fringes	367,064	352,592	719,656
Travel	130,000	532,500	662,500
Supplies	20,000	-	20,000
Shipping	-	-	-
Communication	8,000	-	8,000
Contractual Services	77,000	-	77,000
Equipment	-	-	-
Other Direct Costs	-	-	-
Total Direct Costs	602,064	885,092	1,487,156
Modified Direct Costs (If applicable)	525,064	-	525,064
Indirect Costs/Administrative Fee	157,519	-	157,519
Total	759,583	885,092	1,644,675

Salaries and fringes: Salaries and fringes for staff in CDEX (see FTE allocation table)

Travel: Transportation, per diem, accommodation and other associated cost for all foreign and domestic travel including international meetings (IODP related meetings), domestic meetings, travel to shore base, travel to Helibase, travel to subcontractor site (SOC USD 130,000/POC USD532,500).

Supplies: General office supplies

Communication: Telephone charges, Mobile phone charges, fax charges and postage.

Contractual Services: Part-time worker and Computer and software rental.

6. Technical, Engineering and Science Support

6.1 Goals

- Manage, coordinate, and perform activities and provide the services, materials, platforms, and ship- and shore-based laboratories necessary to support IODP expeditions.

6.2 Deliverables

- **Expedition Planning and Implementation:** Provide scientific and operational planning and execution for every scheduled expedition, including provision of a drilling platform. Conduct long-range operational planning for out-year expeditions.
- **Reporting:** Provide expedition-related reports and content for expedition publications (e.g., Scientific Prospectus, Preliminary report, etc.). Act as a liaison to SAS and other panels as appropriate.
- **Expedition Staffing:** Provide selection and support for scientific staffing and co-chief selection for each scheduled expeditions. Provide support for shipboard and shore-based technical personnel and activities.
- **Logistics Support:** Provide for expedition and shore-based activities including procurement, shipping and inventory of equipment and supplies.
- **Analytical Systems:** Provide and maintain shipboard and shore-based analytical facilities and associated QA/QC protocols. Ensure effective capture and transfer of expedition data to database systems.
- **Logging:** Provide for the delivery of logging services aboard each respective platform including back-off/severing services where needed.
- **Engineering Support:** Provide engineering support for maintaining and developing shipboard and shore-based drilling, coring, and downhole systems including third-party developments.

6.3 TESS budget table and justifications

TESS			Unit in US \$ (¥80/\$)
Expense	SOC	POC	Total
Salary and Fringes	1,632,844	980,322	2,613,165
Travel	-	-	-
Supplies	150,000	-	150,000
Shipping	200,000	-	200,000
Communication	-	-	-
Contractual Services	2,918,170	7,711,873	10,630,043
Equipment	-	-	-
Other Direct Costs	-	67,335,838	67,335,838
Total Direct Costs	4,901,013	76,028,032	80,929,046
Modified Direct Costs (If applicable)	1,982,844	-	1,982,844
Indirect Costs/Administrative Fee	594,853	-	594,853
Total	5,495,866	76,028,032	81,523,899

Salaries and fringes: Salaries and fringes for staff in CDEX (See FTE allocation table)

Travel: None budgeted

Supplies: Consumables for onboard lab equipment and stationeries.

Shipping: Shipping of core samples to scientist including deep-freezing core.

Communication: None budgeted

Contractual Services:

1) Lab Technical Services: Annual contract for Lab Technical Services. The contractor provides 24 hours on-board lab technical services during expeditions as well as preparation works, equipment maintenance and procurement of lab consumables throughout the year. SOC covers personnel cost for lab technicians for IODP period and minimum onboard laboratory maintenance (4 Lab technicians) during non-IODP period.

- Lab technicians	(SOC – USD 1,921,170 /POC – USD 1,650,808)
- Travel Expense for Lab Technicians	(SOC – None budgeted /POC – USD 750,000)
- Lab consumables	(SOC– None budgeted /POC – USD 375,000)
- Overhead	(SOC– None budgeted /POC – USD 941,065)
(Total)	(SOC– USD 1,921,170 /POC – USD 3,716,873)

2) Logistic Support: Transportation cost for science party (including Publication Assistants and APCT/DVTP engineers from TAMU) between hotel to Minami-Ise Heliport, hotel to Shingu shore base and their baggage transportation from Minami-Ise Heliport to Shingu base if necessary.

(SOC – USD 52,000 / POC – None Budgeted)

3) V-SAT: V-SAT communication during expedition. The bandwidth has been upgraded from 512 kbps to 768 kbps to provide better communication services together with network accelerator.

(SOC – USD 70,000 / POC – USD 70,000)

4) Equipment Maintenance: Annual maintenance for *Chikyu* Lab measurement instrument including the X-CT scanner's annual maintenance contract, required by Japanese law.

(SOC – USD 150,000 / POC – USD 150,000)

5) **Wireline Logging or LWD:** Contract for wire line logging for Exp.338.

Expedition 338

(SOC – USD 725,000 / POC – USD3,805,000)

Other Direct Cost: (SOC – None Budgeted / POC USD 67,335,838)

1) Chikyu Operation and Management Contract: includes crewing, travel, fuel and lubricants, Equipment and supplies (Casing, Wellhead, Bit, Core bit, Packer, Coring equipment, drill pipe, Riser fairing, Drill collar, HWDP, Crossover sub, Stabilizer, Fishing tool, Mud, Cement and other drilling equipment and consumables), port call, subcontractor services for drilling (Mud Engineering service, Waste mud treatment service, Well head service, Cementing service, Casing Running Service, ROV service, Conductor Jetting service, Weather service, etc.), DP equipped supply boat service, watch boat service, helicopter service, shore-base cost, Helibase cost, other logistics cost, normal repair and maintenance, insurance for subcontractor equipment, training for crew, overhead.

2) Other direct cost: includes heavy breakdown, insurance (all risks-Hull and Machinery Insurance, P&I insurance and other insurances).

7. Engineering Development

- None budgeted under this WBE for FY13.

8. Core Curation

8.1 Goals

- Provide services in support of IODP core sampling and curation of the core collection archive at the Kochi Core Center Repository (KCC).

8.2 Deliverables

- **Policy and Procedures:** Work with other implementing organizations (IOs), the Science Advisory Structure (SAS), and IODP-MI to implement a policy for IODP curation. Work closely with staff to coordinate, standardize and document curatorial procedures for IODP cores and samples including a draft of Micro Bio-related curation procedure (started in FY10).
- **Sample and Curation Strategies:** Plan sample and curation strategies for IODP expeditions and review all shipboard and moratorium-related requests in coordination with the other members of the Sample Allocation Committee (SAC) for each expedition.
- **Sample Requests:** Respond to post-moratorium sample requests from the scientific community.
- **Use of Core Collection:** Promote outreach use of the core collection in collaboration with IO and IODP-MI outreach personnel by providing materials for display at meetings or museums, as well as conducting tours and supporting other outreach activities.
- **Meetings:** Host and/or participate in annual IODP curatorial staff meeting. Act as IO liaison to meetings with

the other IOs, IODP-MI, and the SAS, as appropriate.

8.3 Core Curation budget table and justifications

Core Curation			Unit in US \$ (¥80/\$)
Expense	SOC	POC	Total
Salary and Fringes	247,231	-	247,231
Travel	-	-	-
Supplies	10,000	-	10,000
Shipping	20,000	-	20,000
Communication	-	-	-
Contractual Services	27,500	15,000	42,500
Equipment	-	-	-
Other Direct Costs	-	-	-
Total Direct Costs	304,731	15,000	319,731
Modified Direct Costs (If applicable)	277,231	-	277,231
Indirect Costs/Administrative Fee	83,169	-	83,169
Total	387,900	15,000	402,900

Salaries and fringes: Salaries and fringes for staff in KCC. (See FTE allocation table).

Travel: None budgeted

Supplies: General office supplies, general laboratory supplies and curatorial tasks.

Shipping: Courier and postage for sample shipping, containers and other associated cost for shipping, u-channels.

Communication: Telephone charges, Mobile phone charges, fax charges and postage.

Contractual Services:

- 1) **Industrial waste disposal:** Disposal cost for industrial waste designated by the local government. Most core storage-materials and materials used for core transport are in this category.
(SOC – USD 5,000 / POC – None budgeted)
- 2) **Core management system maintenance:** Annual maintenance cost for the core storage management software being used at KCC. (SOC – USD 15,000 / POC - USD 15,000)
- 3) **Rental:** Annual rental cost of one forklift used at KCC to move IODP cores from yard to storage and computer for IODP curation staff. (SOC – USD 5,000 / POC – None budgeted)
- 4) **Brochures, DVD:** KCC's own outreach materials to introduce core data archived in KCC and how to submit sample requests. (SOC – USD 2,500 / POC – None budgeted)

9. Data Management

9.1 Goal

- The goals of data management include: management of data supporting IODP activities, management of expedition and post-expedition data, long-term archival, data access, and supporting IT services.

9.2 Deliverables

- **Expedition Data:** Maintain and manage databases supporting expedition-planning data. Operate and maintain data management and harvesting systems (including QA/QC) for storage and archival of expedition and post-expedition data, including core and sample tracking.
- **Program-wide Access Portal:** Provide program-wide access portal including supporting metadata (which must be generated).
- **Operation and Maintenance:** Provide operation and maintenance of computer and network systems.
- **Software Development:** Provide software development services as needed (excludes analytical systems).
- **Evaluation and Modification of J-CORES:** Modification of J-CORES (*Chikyu* onboard Lab. science data base) needs to be performed, including upgrading Java applets, adding new functions to improve QA/QC, and improve connectivity with new lab instruments aboard *Chikyu*.

9.3 Data Management budget table and justifications

Data Management			Unit in US \$ (¥80/\$)
Expense	SOC	POC	Total
Salary and Fringes	235,482	-	235,482
Travel	-	-	-
Supplies	-	-	-
Shipping	-	-	-
Communication	-	-	-
Contractual Services	50,000	-	50,000
Equipment	-	-	-
Other Direct Costs	-	-	-
Total Direct Costs	285,482	-	285,482
Modified Direct Costs (If applicable)	235,482	-	235,482
Indirect Costs/Administrative Fee	70,645	-	70,645
Total	356,127	-	356,127

Salaries and fringes: Salaries and fringes for staff in CDEX. (See FTE allocation table)

Travel: None budgeted

Supplies: None budgeted

Shipping: None budgeted

Communication: None budgeted

Contractual Services:

- 1) Annual maintenance costs for IODP specific software (GeoFrame, GeoLog, SeizEarth, etc.) and computer on *Chikyu* and on Land (Wireline/Log data storage/computers, etc.)
(SOC – USD 50,000 / POC – None budgeted)

10. Publications

- None budgeted under this WBE. USIO provide publications support for CDEX expeditions, editing, production and graphics services for all required reposts and scientific publication.

11. Outreach

- None budgeted under this WBE for FY13.

12. Operational Achievement

12.1. Expedition Highlights (excerpted and modified from draft Expedition preliminary report)

Chikyu conducted IODP Expedition 343 “Japan Trench Fast Drilling Project (JFAST)” from 1 April to 24 May 2012. The main science goal of the JFAST is to understand the physical mechanisms and dynamics of large slip earthquakes, which is a fundamental issue that is currently poorly understood. Specifically, the level of frictional stress during the earthquake rupture and the physical characteristics of the fault zone will be investigated. The objectives of JFAST include locating the fault that ruptured during the Tohoku event by logging while drilling, characterizing the composition, architecture, and fundamental mechanisms of dynamic frictional slip and healing processes along fault by taking core samples, and estimating the frictional heat and stress within and around the fault zone by placing a temperature measurement observatory across the fault. Not all of the objectives of the expedition were achieved because of delays associated with severe weather, challenges of operating in such great water depths, and ultimately from failure of equipment necessary for completion of the operations. In particular, failure of the electrical and fiber-optic cable that supports and operates the underwater television system prevented installation of the temperature measurement observatory. However, the other objectives were largely achieved. An LWD-MWD hole was drilled to a depth of 850.5 mbsf (total depth 7740 mbsl) and logging data were recovered. A coring hole was drilled to a depth of 844.5 mbsf (7734 mbsl) and a total of 21 cores were recovered, and the cored intervals span the two main fault targets.

12.2 Expedition 343: J Fast (The Tohoku Earthquake Rapid Response Drilling) (excerpted and modified from draft Expedition preliminary report)

An LWD-MWD hole was drilled to a depth of 850.5 mbsf (total depth 7740 mbsl) and logging data were recovered. The fault zone at ~720 mbsf, and the plate boundary décollement at ~822 mbsf are selected as the two primary targets for the temperature measurement observatory. In addition, it is observed from borehole resistivity images that faults and bedding are variable in dip magnitude, but fault and bedding at all depths in the prism show a preferred NE strike direction reflecting horizontal contraction and local extension approximately parallel to the plate convergence direction. Borehole breakouts are evident in image logs and indicate several different in situ stress domains along the borehole. Several lines of evidence suggest that within the local region around the drill site, fault slip during the Tohoku earthquake, and slip at other times in the geologic past, likely occurred on the plate boundary décollement.

A coring hole was drilled to a depth of 844.5 mbsf (7734 mbsl) and a total of 21 cores were recovered, and the cored intervals span the two main fault targets. Especially success in recovering ~1 m of core from the high-shear strain zone and neighboring sediments from the plate-boundary décollement provides much material for mechanical and physical properties testing, as well as for geochemical, mineralogical, and microstructural analyses. 1) The overall structure at the drill site consists of a prism of faulted and folded clayey to silty mudstones above, and in fault contact (at ~820 mbsf) with, a largely undeformed, relatively thin, sequence of pelagic sediments that were deposited on top of the incoming Pacific plate. The primary constituents of the

mudstones that make up the prism are terrigenous silt and clay, vitric ash, and biogenic silica. The pelagic sediments of the footwall are similar to those described at a reference drill site on the Pacific Plate east of the Japan Trench (DSDP Leg 56, Site 436; Scientific Party, 1980). The fault, interpreted as the plate boundary décollement, consists of a subhorizontal zone (<5 m thick) of highly sheared clay that displays penetrative scaly fabric and localized slip surfaces.

IODP Annual Program Plan

FY2013

[Appendix D](#)



Integrated Ocean Drilling Program

Program Plan

US Fiscal Year 2013

Mission Specific Platforms

ECORD Science Operator

June 2012



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1 Introduction

The European Consortium for Ocean Research Drilling (ECORD) Science Operator (ESO) is contracted to carry out Mission Specific Platform (MSP) operations on behalf of IODP and ECORD as required by the IODP Science Advisory Structure. ESO is coordinated by the British Geological Survey (BGS) and additionally comprises the MARUM, University of Bremen and the European Petrophysics Consortium (EPC). EPC members are the University of Leicester, the University of Montpellier and RWTH Aachen University.

As the term MSP implies, each expedition is provided with a suitable drilling platform on a case-by-case basis, and each has to be individually contracted. The platforms will commonly have limited accommodation and restricted deck space for laboratories, so that only a portion of the invited Science Party is able to participate offshore (often referred to as the Offshore Team). Consequently, only ephemeral measurements are made at sea, and the cores are split, described, and subjected to minimum and appropriate standard IODP measurements at an Onshore Science Party (OSP) held at the IODP Bremen Core Repository (BCR) shortly after the offshore phase.

The costs presented in this plan assume that FY13 activities will centre on the implementation of IODP Expedition 347: Baltic Sea Paleoenvironment in Spring or Summer 2013 (offshore phase) and, provisionally, Summer-Autumn 2013 (Onshore Science Party). Approval from ECORD Council will be sought by ESO to begin the tendering exercise for a hazard site survey associated with IODP Proposal #548: Chicxulub Impact Crater. ESO requested POC funds for this survey in FY2011, but did not begin tendering for the work, or invoice the ECORD Managing Agency. Therefore POC funds for this survey are requested again in this Annual Program Plan. Other planned FY13 activities may include, if not completed in FY12, a one-day coring test on the Coralgall Banks in the Northwest Gulf of Mexico (associated with IODP Proposal 581) by Fugro-McClelland Marine Geosciences, Inc., which is currently under negotiation. POC funds for this coring test were granted in ESO's revised FY12 Annual Program Plan, and EMA invoiced accordingly. Scoping of other proposals currently residing at OTF will continue.

In addition, post-expedition work on the New Jersey Shallow Shelf Expedition #313 and the Great Barrier Reef Environmental Changes Expedition #325 will continue. ESO will also continue to participate in planning for the new program post-2013.

2 Budget Summary Table

Description	SOC	POC	Total
Management and Administration	\$ 730,787	\$ 235,470	\$ 966,256
Technical, Engineering and Science Support	\$ 2,452,758	\$ 5,329,208	\$ 7,781,966
Engineering Development	\$ -	\$ -	\$ -
Core Curation			
Subtotal Core Curation	\$ 73,535	\$ -	\$ 73,535
Subtotal DSDP/ODP Core Redistribution	\$ -	\$ -	\$ -
Data Management	\$ 367,649	\$ -	\$ 367,649
Publications	\$ -	\$ -	\$ -
Education	\$ -	\$ -	\$ -
Outreach	\$ 119,500	\$ -	\$ 119,500
Total	\$ 3,744,229	\$ 5,564,677	\$ 9,308,906
Notes & currency conversions: 11 April 2012 £1= \$1.59 €1= \$1.31			

Table 1. Budget Summary Table for FY13.

3 Organizational Structure

For composition and structure of the ECORD Science Operator, see Appendix I.

Position			% Work Breakdown Elements								% Totals		
Name	Position	Office	M&A	TESS	ED	CC	DM	Pub	Ed	Orch	SOC	POC	Other
R Gatliff	ESO Chair	BGS	18.6	-	-	-	-	-	-	-	16.3	2.3	81.4
D Smith	Operations & Logistics Manager	BGS	14.0	51.2	-	-	-	-	-	-	34.9	30.2	34.9
D McInroy	Staff Scientist / Science Manager	BGS	64.2	25.1	-	-	-	-	-	-	44.7	44.7	10.7
A Stevenson	Outreach Manager	BGS	9.3	-	-	-	-	-	-	14.0	20.9	2.3	76.7
C Cotterill	Staff Scientist	BGS	15.8	67.0	-	-	-	-	-	-	41.4	41.4	17.2
S Green	Trainee Staff Scientist	BGS	4.7	57.7	-	-	-	-	-	-	31.2	31.2	37.7
M Mowat	Database Assistant	BGS	-	43.7	-	-	11.6	-	-	-	33.5	21.9	44.7
G Tulloch	Drilling Co-ordinator / Operations	BGS	-	51.2	-	-	-	-	-	-	4.7	46.5	48.8
D Wallis	Electronics Engineer	BGS	-	11.6	-	-	-	-	-	-	2.3	9.3	88.4
E Gillespie	Assistant	BGS	4.7	4.7	-	-	-	-	-	-	4.7	4.7	90.7
D Scott	Web Design & Update	BGS	-	-	-	-	-	-	-	7.0	7.0	0.0	93.0
D Long	Hazards and safety advisor	BGS	6.5	-	-	-	-	-	-	-	6.5	0.0	93.5
S Renshaw	Technician	BGS	-	14.0	-	-	-	-	-	-	14.0	0.0	86.0
Drilling Co-ordinator 2	Drilling Co-ordinator / Operations	BGS	-	32.6	-	-	-	-	-	-	2.3	30.2	67.4
Electronics Engineer	Electronics Engineer	BGS	-	32.6	-	-	-	-	-	-	0.0	32.6	67.4
BGS OSP support	BGS OSP support	BGS	-	14.0	-	-	-	-	-	-	7.0	7.0	86.0
U Röhl	Onshore Op. Man. / Chief Curator	MARUM, Bremen	20.5	22.7	-	2.3	-	-	-	-	45.5	0.0	54.5
H Kuhlmann	Assistant Onshore Op. Manager	MARUM, Bremen	15.9	54.5	-	4.5	-	-	-	-	75.0	0.0	25.0
W Hale	Curatorial Scientist	MARUM, Bremen	-	13.6	-	18.2	-	-	-	-	31.8	0.0	68.2
A Wülbbers	Curatorial Scientist	MARUM, Bremen	-	29.5	-	13.6	-	-	-	-	43.2	0.0	56.8
H-J Wallrabe-Adams	Data Repository Manager	MARUM, Bremen	-	27.3	-	-	45.5	-	-	-	72.7	0.0	27.3
Data Assistant 1 TBD	Onshore Science Party Database	MARUM, Bremen	-	-	-	-	20.5	-	-	-	20.5	0.0	79.5
A Gerdes	Outreach	MARUM, Bremen	-	-	-	-	-	-	-	13.6	13.6	0.0	86.4
L Schnieders	Man. Support / QAQC	MARUM, Bremen	20.5	54.5	-	-	-	-	-	-	75.0	0.0	25.0
M Kölling	Geochemist	MARUM, Bremen	-	18.2	-	-	-	-	-	-	18.2	0.0	81.8
V Lukies	Man. Support / Logistics	MARUM, Bremen	15.9	27.3	-	-	-	-	-	-	43.2	0.0	56.8
Bremen Admin	Administrator	MARUM, Bremen	36.4	-	-	-	-	-	-	-	36.4	0.0	63.6
T Westerhold	Petrophysicist	MARUM, Bremen	-	22.7	-	-	-	-	-	-	22.7	0.0	77.3
P Geprägs	ESO Geochemist Trainee	MARUM, Bremen	-	27.3	-	-	-	-	-	-	27.3	0.0	72.7
Curatorial technician TBD	Curatorial technician	MARUM, Bremen	-	13.6	-	-	-	-	-	-	13.6	0.0	86.4
ESO Microbiologist TBD	ESO Microbiologist	MARUM, Bremen	-	27.3	-	-	-	-	-	-	27.3	0.0	72.7
Student 1 TBD	Student	MARUM, Bremen	-	-	-	15.9	-	-	-	-	15.9	0.0	84.1
4 Student Workers	Student Workers	MARUM, Bremen	-	13.6	-	-	-	-	-	-	13.6	0.0	86.4
S Davies	EPC Manager	U. of Leicester	27.3	-	-	-	-	-	-	-	27.3	0.0	72.7
S Draper	Administrator	U. of Leicester	100.0	-	-	-	-	-	-	-	100.0	0.0	0.0
Petrophysicist 1 TBD	Petrophysicist	U. of Leicester	18.2	81.8	-	-	-	-	-	-	100.0	0.0	0.0
Petrophysicist 2 TBD	Petrophysicist	U. of Leicester	-	81.8	-	-	9.1	-	-	9.1	100.0	0.0	0.0
Petrophysicist 3 TBD	Petrophysicist	U. of Leicester	-	90.9	-	-	9.1	-	-	-	100.0	0.0	0.0
EPC Technicians	Technicians	U. of Leicester	-	70.0	-	-	-	-	-	-	70.0	0.0	30.0

Table 2. FTE Allocation for all WBEs.

Note: Services provided by the MARUM, University of Bremen are in general not limited to the individuals listed but may be covered in part by support scientists, technicians and students, so that the percentages shown for specified individuals are in some cases higher than anticipated. Similarly, services will be allocated to appropriate personnel within the BGS pool of staff. Services provided by EPC are allocated to the petrophysicists employed in the three member organisations as appropriate.

4 Offshore Operations

4.1 Introduction

This Annual Program Plan is based on the assumption that the offshore phase of IODP Expedition 347: Baltic Sea Paleoenvironment will take place in Spring or Summer 2013, to be followed by the Onshore Science Party (OSP) later that year. The OSP may ultimately be scheduled for the beginning of fiscal year 2014, however the costs of implementing the OSP have been included in this Annual Program Plan. EPC will be involved in pre-onshore measurement of whole cores from the Baltic Expedition (primarily natural gamma radiation) prior to the onset of the Onshore Science Party, therefore the costs for staffing and shipping equipment to the Bremen Core Repository are included in FY13.

4.2 IODP Expedition 347: Baltic Sea Paleoenvironment

4.2.1 Proposed operations

A prospectus, including a measurements plan to be presented to and approved by the Scientific Technology Panel (STP), will be produced in close collaboration with the Co-chief Scientists. Details of the sites have been agreed by the Site Characterisation Panel (SCP), but final approval of the sites by the Environmental Protection and Safety Panel (EPSP) is still required. The proposed sites are shown in the location map (Figure 1) and table (Table 1) below, however until final approval is received from the EPSP all site positions are subject to change. Permitting will begin with the appropriate authorities (Swedish Coast Guard, Swedish Ministry of Enterprise, Energy and Communications, and the Danish Ministry of Climate and Energy) once a preferred contractor is established.

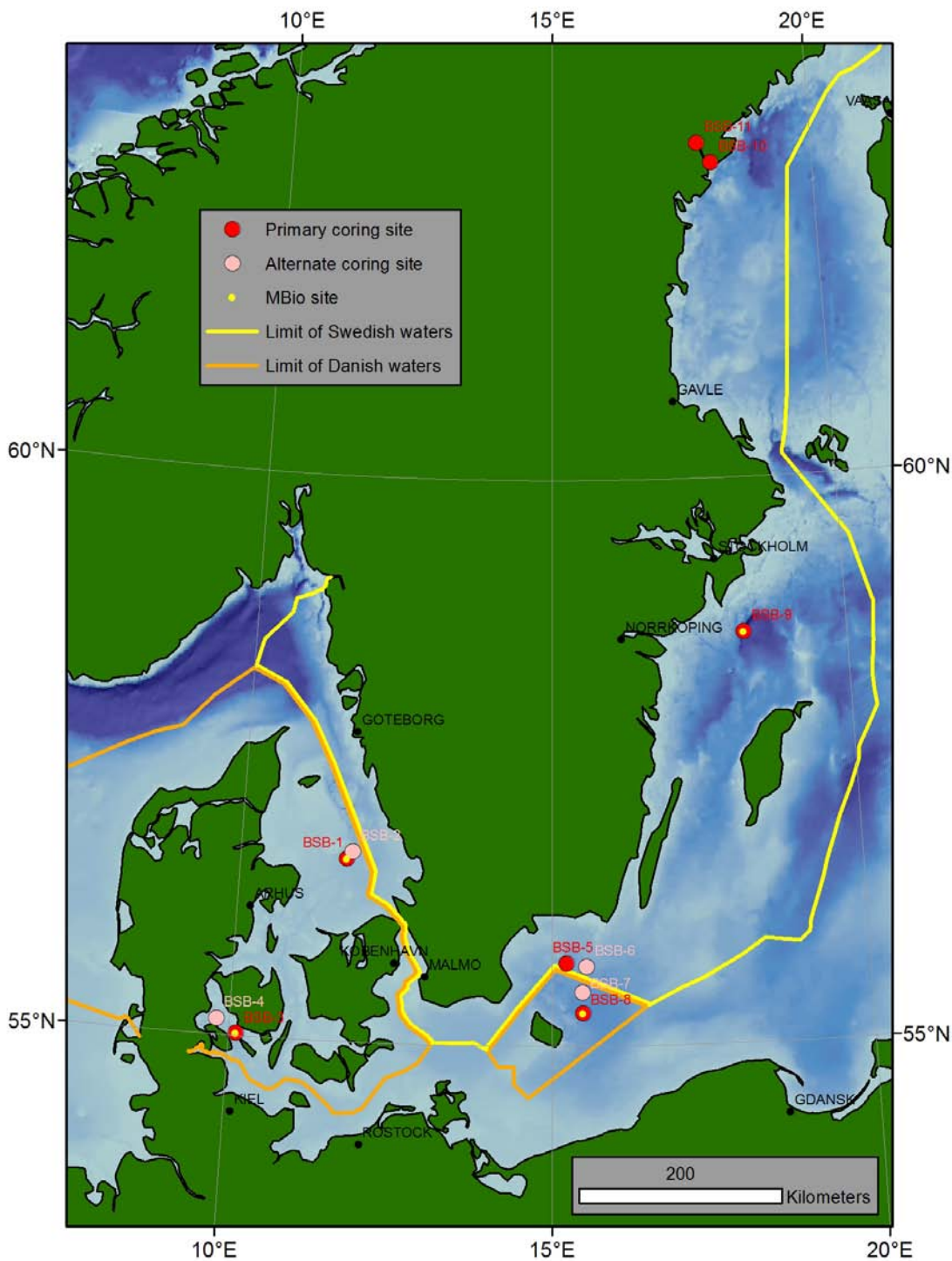


Figure 1. Location map of IODP Expedition 347 proposed sites.

Site No.	Location (Latitude Longitude)	Sea Floor Depth (m)	Operations Description	Transit (days)	Drilling Coring (days)	Wireline Logging (days)
Port of departure to be defined (will determine first site, assumed to be BSB-1 for planning only)			Start of Expedition, Science Party boards platform			
			Transit to First Site	Depends on port of departure		
BSB-1B	56°36.695'N 11°42.36'E	34	Coring (incl. microbiology hole) and logging		12.5	
			Transit (~250 km)	0.5		
BSB-3	55°01.00'N 10°07.00'E	35	Coring (incl. microbiology hole) and logging		9.5	
			Transit (~400 km)	0.8		
BSB-8	55°17.258'N 15°28.917'E	93	Coring (incl. microbiology hole) and logging		6.5	
			Transit (~50 km)	0.1		
BSB-5B	55°43.290'N 15°13.590'E	61	Coring and logging		3	
			Transit (~395 km)	0.8		
BSB-9	58°37.60'N 18°15.30'E	451	Coring (incl. microbiology hole) and logging		9.5	
			Transit (~480 km)	1		
BSB-10	62°46.70'N 18°02.95'E	86	Coring and logging		3	
			Transit (~25 km)	0.1		
BSB-11	62°57.35'N 17°47.70'E	68	Coring and logging		3	
			Transit to port of arrival	Depends on port of arrival		
Port of arrival to be defined			End of Expedition, Science Party departs platform			

Alternate sites						
BSB-2B	56°34.667'N	34	Coring (inc. microbiology hole) and logging		9.5	
	11°47.320'E					
BSB-4	55°08.00'N	23	Coring (inc. microbiology hole) and logging		11	
	09°48.00'E					
BSB-6B	55°41.520'N	67	Coring and logging		4.5	
	15°32.250'E					
BSB-7B	55°28.034'N	85	Coring (inc. microbiology hole) and logging		5.5	
	15°28.680'E					

Table 3. Table of IODP Expedition 347 proposed sites and operations.

The platform to be used, the precise tools to be employed and the methodology for downhole logging have yet to be determined, and will be dependent upon contract discussions. Six notices of interest for providing the platform and coring services were received by ESO in April 2012, and as a result 4 companies have been invited to tender. At the time of writing, the tendering exercise was in progress and tender responses were expected by 29th June 2012. It is anticipated that a geotechnical vessel, capable of working in water depths at all the primary proposed sites (Table 1), will be offered. A tendering exercise for the downhole logging will proceed during FY12 once the platform tenders and the likely coring tools, which will affect hole diameter and therefore the diameter of tools required, are known. Costs for commercial downhole logging are included.

4.2.2 Experiments

No downhole experiments are anticipated.

4.2.3 Environment and Safety

As is the case for all MSP Expeditions, high standards of environmental protection will be maintained. An Environmental Impact Assessment will be required to apply for a research permit from the Swedish and Danish authorities, and will be prepared in due course.

4.3 Chicxulub: Drilling the K-T Impact Crater

4.3.1 Proposed Operations (assuming Chicxulub proposal is to be implemented)

The 2 proposed primary sites and 1 alternative site have been approved by SCP and preliminarily reviewed by EPSP. Previous scoping of this proposal by ESO has included discussions with the lead proponents on the scientific and technical requirements of the proposal (1st Project Management Team (PMT) Meeting held in FY11, see below), and the investigation of permitting issues with the proponents, ICDP and other institutes with experience of Mexican permitting. ESO will continue attempts to obtain the necessary permits for both the hazard site survey and scientific drilling with the Mexican authorities. A tender to provide a hazard site survey in FY13 will be issued before the end of FY12 (pending ECORD Council approval). It is anticipated that a tender to provide a drilling vessel and coring services in fiscal year 2014 will be issued in early 2013. It is also anticipated that a jack-up platform similar to that used for the New Jersey Shallow Shelf Expedition will be employed, but the precise methodology will be dependent upon the eventual contract.

4.3.2 Experiments

No downhole experiments are anticipated.

4.3.3 Environment and Safety

ESO will seek an independent gas-hazard survey if required. ESO will also investigate and apply for all necessary permits to work in Mexican waters, which is expected to include preparation of an Environmental Impact Assessment.

4.3.4 Logistics

No major ESO-related logistics are envisaged, as the mobilisation of the hazard site survey will be handled by the contracted site survey company.

Site Location

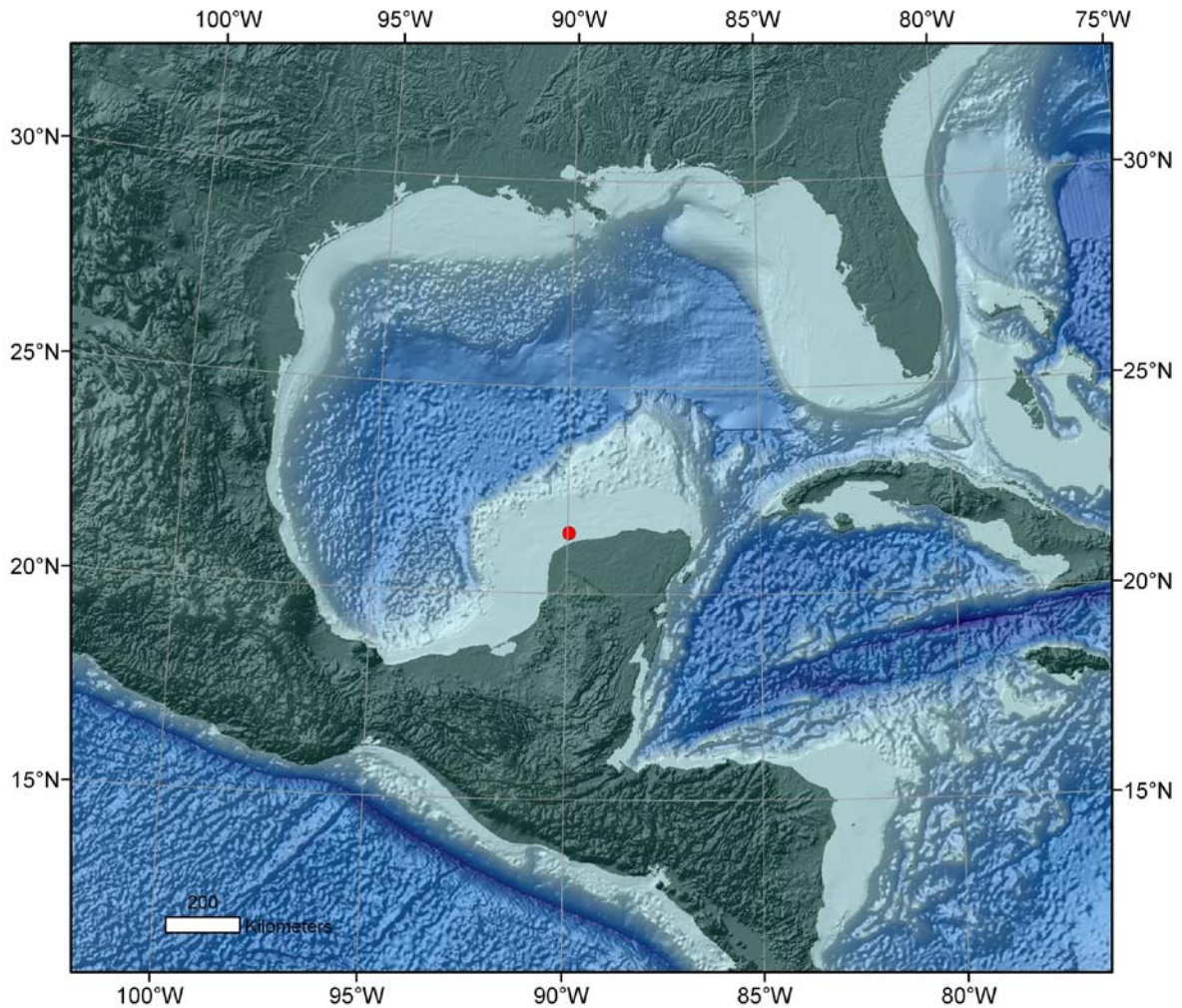


Figure 2. Bathymetric map of the area around the Yucatán Peninsula, showing the position of the proposed drill site for which hazard site survey is required.

4.4 Atlantis Massif Seafloor Processes

4.4.1 Proposed Operations

There will be no operations relating to this expedition in FY13, as the main activities will be scoping and planning. ESO staff are continuing to evaluate all available seabed drill options, including the evolving BGS and MeBo (MARUM, University of Bremen) seabed drills for this proposal. Project Management Team meetings were held in FY11 with the lead proponents, and have been followed by meetings in FY12 between ESO, MARUM and the proponents to discuss the development of the MeBo and BGS seabed drills, and the development of common dowhole sampling tools. Planning work for this proposal will continue in FY13, with the associated expedition tentatively scheduled for FY15.

4.4.2 Experiments

Not applicable – planning only.

4.4.3 Environment and Safety

Not applicable – planning only.

4.4.4 Logistics

Not applicable – planning only.

4.5 Latest Pleistocene Coralgall Banks

In FY12, ESO received an offer from FUGRO of 24 hours geotechnical ship time at a cost of \$75k to conduct a coring test on the coralgall mounds of Southern and Baker Banks in the Gulf of Mexico, associated with IODP Proposal #581. The objective is to use FUGRO's geotechnical vessel *R/V Seaprobe 1* to deploy a single coring tool, the QDTech Alien Corebarrel (developed by Marshall Pardey and used during IODP Expedition 313) to test its suitability for coring uncemented coralgall reef material. This will be regarded as a technical test with no Science Party involved and no IODP minimum measurements made.

ESO are currently in discussion with FUGRO regarding the test details and the contract. The original opportunity window ran from mid-March to May 2012, but FUGRO are now unable to offer the ship until mid-June at the latest. FUGRO have indicated that they are still interested in offering ESO this opportunity, but as ESO are being offered a below-market rate, the scheduling will depend on FUGRO's commercial work schedule. ESO will continue to work to get a contract in place to be in a position to react should any opportunities arise with the *Seaprobe* later this year. A permit for the work has already granted by the Bureau of Ocean Energy Management, Regulation and Enforcement.

Cores recovered in this test will be transported to the BCR to be split and digitally imaged. Lead proponent Andre Droxler has been asked to provide ESO with a description of lithology and core disturbance (within 4 months) in return for exclusive access to the core working half during a one-year moratorium period, after which the cores will be made publicly available. Scientific results from the test borehole cores will be written up in a peer-reviewed journal, and will acknowledge ECORD and include a nominated author from FUGRO. The proponents will submit articles to both Scientific Drilling and the ECORD Newsletter within one year of the test drilling.

4.6 Onshore Science Party (OSP)

The IODP Expedition 347 Onshore Science Party will take place at the IODP Bremen Core Repository/MARUM, University of Bremen during late FY13 or early fiscal year 2014, and the costs of implementing the OSP have been included in this Annual Program Plan.

5 Management and Administration

5.1 Goals

Plan, coordinate (with other IODP-related entities), oversee, review, and report on IODP activities.

5.2 Deliverables

1. Annual Program Plan: develop and assure implementation.
2. Quarterly and Annual Reports: develop quarterly and annual reports, including financial reports.
3. Report and Liaise: report and liaise with funding agencies and with IODP-related entities (e.g., SAS meetings), ECORD bodies, Program Member Offices and other national organizations and participate in IODP-MI Task Forces, working groups, etc.
4. Contract services: provide contract services for IODP-related activities.

5.3 Budget Table

Management & Administration

Expense Category	SOC	POC	Total
Salary and Fringes	\$ 489,787	\$ 106,470	\$ 596,256
Travel	\$ 186,000	\$ 102,000	\$ 288,000
Supplies	\$ 15,000	\$ 6,000	\$ 21,000
Shipping	\$ -	\$ -	\$ -
Communication	\$ -	\$ -	\$ -
Contractual Services	\$ -	\$ -	\$ -
Equipment	\$ 15,000	\$ 6,000	\$ 21,000
Other Direct Costs			
Training	\$ 25,000	\$ 15,000	\$ 40,000
Total Direct Costs			
Modified Direct Costs (If applicable)			
Indirect Costs/Administrative Fee			
Total	\$ 730,787	\$ 235,470	\$ 966,256

Table 4. Management and Administration Budget Table.

5.4 Budget Justification

Salaries and fringes

Portions of salaries at standard institution rates, including overheads.

POC - BGS salaries are split between POCs and SOC's (see FTE Allocation Table).

SOC - Bremen and EPC are all SOC's.

Travel

Transportation, *per diem* and accommodation for all tasks noted above, including ESO internal meetings, IOs meetings, ECORD Council meetings, ESSAC meetings, meetings of other IODP bodies including panels and committees, IODP-MI task forces, operational reviews and a range of appropriate scientific conferences (including conference fees) and workshops.

POC – A percentage of BGS activity.

BGS 30 journeys @ \$3,000.

SOC – All Bremen and EPC activity, and a percentage of BGS activity.

BGS 14 journeys @ \$3,000.

Bremen 14 journeys @ \$3,000.

EPC 18 journeys @ \$3,000.

Supplies

General office supplies.

POC – for BGS.

SOC – for Bremen and EPC.

Shipping

None budgeted.

Communication

None budgeted.

Contractual services

None budgeted.

Equipment

Miscellaneous items, upgrades etc.

POC – BGS.

SOC – Bremen and EPC.

Other Direct Costs

Training for all partners.

6 Technical, Engineering and Science Support

6.1 Goals

Manage, coordinate, and perform the activities and provide the services, materials, platforms, and ship and shore-based laboratories necessary to support the IODP expeditions.

6.2 Deliverables

1. Expedition Planning and Implementation: provide scientific and operational planning and execution for IODP Expedition 347: Baltic Sea Paleoenvironment, including provision of a drilling platform. Conduct a one-day coring test on the corallgal mounds of Southern and Baker Banks in the Gulf of Mexico, sub-contacted to FUGRO. Conduct long-range operational planning for future expeditions.
2. Reporting: provide expedition-related reports and content for expedition publications (e.g., Scientific Prospectus, Preliminary report, etc.).
3. Expedition Staffing: provide selection and support for scientific staffing and Co-chief Scientist selection for each scheduled expedition. Provide support for shipboard and shore-based technical personnel and activities.
4. Logistics Support: provide for expedition and shore-based activities including procurement, shipping, equipment and supplies.
5. Analytical Systems: provide and maintain shipboard and shore-based analytical facilities and associated QA/QC protocols. Ensure effective capture and transfer of expedition data to database systems.
6. Downhole and Core Logging: provide for the delivery of downhole logging services aboard each respective platform including back-off/severing services where needed. Provide facilities for shipboard and shore-based physical property measurements and associated QA/QC protocols. Ensure effective capture and transfer of expedition downhole and core petrophysics data to database systems.
7. Engineering Support: provide engineering support for maintaining and developing shipboard and shore-based drilling, coring, and downhole systems including third-party developments.

6.3 Budget Table

Technical, Engineering and Science Support

Expense Category	SOC	POC	Total
Salary and Fringes	\$ 1,114,060	\$ 422,907	\$ 1,536,966
Travel	\$ 135,000	\$ 40,500	\$ 175,500
Supplies	\$ 639,699	\$ -	\$ 639,699
Shipping	\$ 14,000	\$ -	\$ 14,000
Communication	\$ -	\$ 1	\$ 1
Contractual Services	\$ 25,000	\$ -	\$ 25,000
Equipment	\$ 510,000	\$ -	\$ 510,000
Other Direct Costs			
Bremen laboratory upkeep and certification	\$ 15,000	\$ -	\$ 15,000
Chicxulub hazard survey (not invoiced in FY11)	\$ -	\$ 1,000,000	\$ 1,000,000
Platform cost and contingency	\$ -	\$ 3,850,000	\$ 3,850,000
Drilling consultancy	\$ -	\$ 15,800	\$ 15,800
Total Direct Costs			
Modified Direct Costs (If applicable)			
Indirect Costs/Administrative Fee			
Total	\$ 2,452,758	\$ 5,329,208	\$ 7,781,966

Table 5. Technical, Engineering and Science Support Budget Table.

6.4 Budget Justification

Salaries and fringes

Portions of salaries at standard institution rates, including overheads for implementing and planning future MSP Expeditions.

POC – Most BGS costs are split 50/50 between POCs and SOC, except for non-scientific work, which is fully allocated to POCs.

SOC – All Bremen and EPC costs.

Travel

Scoping, planning implementing and preparation will require a variety of meetings among ESO staff, with Co-chief Scientists, scientists, scoping groups (including Project Management Team Meetings), discussion with actual or potential contractors, for contractual issues and staff exchanges.

In addition, travel to and from portcalls and the OSP is included.

POC – All BGS planning travel, 50% of BGS offshore operations.

BGS 12 journeys @ \$3,000.

SOC – All Bremen and EPC travel, 50% of BGS offshore operations.

BGS 11 journeys @ \$3,000.

Bremen 12 journeys @ \$3,000.

EPC 22 journeys @ \$3,000.

Supplies

POC – None budgeted.

SOC – Advance purchase of lab and office consumables for IODP Expedition 347 offshore operation and Onshore Science Party: curation and sampling supplies, consumables associated with porewater and gas sampling, microbiology, paleontology, core description, shipping, BCR consumables, OSP accommodation for Science Party, OSP public transport, OSP per diem rate for Science Party, OSP food. Includes return of \$73.4k of leftover FY12 SOC supply funds.

Shipping

POC – None budgeted.

SOC – Funds were requested in FY12 to cover the fees and costs associated with gaining permits to import register and use the MSCL source on offshore expeditions. In FY13 costs are included for shipping the MSCL source to the mobilisation port and for transporting the Geotek MSCL-XYZ (for pre-onshore) and discrete P-Wave frame (Onshore Science Party) to the IODP Bremen Core Repository.

Communication

POC & SOC – None budgeted.

Contractual services

POC – None budgeted

SOC – Cost of MSCL (-S and -XYZ) servicing and maintenance. This includes software and electronic updates and spare parts as required and covers costs for licence fees and safety testing for the MSCL source. Logging equipment servicing and maintenance is also covered.

Equipment

POC – None budgeted.

SOC – Logging-related computer hardware is required continue compatibility with logging tools. Funds for the IODP Expedition 347 logging contract and severance are requested.

Other Direct Costs

POC – Platform cost and contingency: the exact cost of the platform will remain unknown until tender responses for a drilling contract are received (expected 29th June, 2012). For budgeting purposes, maximum POCs are requested in this budget and further platform cost advice will be provided to ECORD once platform negotiations begin. POC costs also include drilling consultancy for planning of future expeditions.

SOC – Bremen University laboratory upkeep and certification. This includes regular checks, certification, and if needed, spare parts for all exhaust air from labs and especially lab hoods, gas line pipes, electric lines, water pipes, cleaning and performance checks of sediment traps in lab sinks, waste water tests for unauthorized chemicals, lack of oxygen monitoring in labs, checks for X-ray equipment (XRF, XRD labs), overall laboratory equipment performance tests and certificates (e.g, chemical lab), balances calibration service, certified element standards, certified sediment standards, software updates, licence fees, etc., for IODP labs, proportionate for labs at Bremen University (e.g. used for Onshore Science Parties) and mobile lab containers sent to MSP expeditions.

7 Engineering Development

Not applicable.

8 Core Curation

8.1 Goals

Provide services in support of IODP core sampling and curation of the MSP core collection archive at the Bremen Core Repository (BCR), including all curatorial aspects in relation to scoping and implementing of future MSP expeditions for both the offshore phase as well as the Onshore Science Party.

8.2 Deliverables

1. Policy and Procedures: work with other implementing organizations (IOs), the Science Advisory Structure (SAS), and IODP-MI to further improve the implementation of a policy for IODP curation, namely in respect to cores and samples from MSP expeditions. Work closely with staff from other core repositories to coordinate, standardize and especially document curatorial procedures for IODP-MSP cores and samples.
2. Sample and Curation Strategies: plan sample and curation strategies for IODP Expedition 347: Baltic Sea Paleoenvironment and review all shipboard and moratorium-related requests in coordination with the other members of the Sample Allocation Committee (SAC).
3. Sample Requests: respond to moratorium and post-moratorium MSP-related sample requests from the scientific community.
4. Use of MSP Core Collection: promote the outreach use of the core collection including from MSP expeditions in collaboration with EMA, other ESO and IODP-MI outreach personnel by providing materials for display at conferences or museums, provide expertise for the preparation of new potential replica cores from MSP expeditions, as well as conducting tours at the repositories, and supporting other mainly European outreach activities.
5. Meetings: host and/or participate in annual IODP curatorial staff meeting to ensure program-wide consistency also for MSP cores. Act as ESO liaison to meetings with the other IOs, IODP-MI, and the SAS, as appropriate.

8.3 Budget Table

Core Curation

Expense Category	SOC	POC	Total
Salary and Fringes	\$ 60,535	\$ -	\$ 60,535
Travel	\$ 6,000	\$ -	\$ 6,000
Supplies	\$ 2,000	\$ -	\$ 2,000
Shipping	\$ 5,000	\$ -	\$ 5,000
Communication	\$ -	\$ -	\$ -
Contractual Services	\$ -	\$ -	\$ -
Equipment	\$ -	\$ -	\$ -
Other Direct Costs	\$ -	\$ -	\$ -
(Please identify)			
Total Direct Costs			
Modified Direct Costs (If applicable)			
Indirect Costs/Administrative Fee			
Subtotal Core Redistribution			
Total Core Curation	\$ 73,535	\$ -	\$ 73,535

Table 6. Core Curation Budget Table.

8.4 Budget Justification

Salaries and fringes

SOC – Portions of salaries at standard institution rates, including overheads.

(See organizational chart and position and percent effort table in the “Introduction” section). The services provided by the University of Bremen are in general not limited to the individuals listed in the Table “FTE Allocation for all WBEs”, but may be covered in part by support scientists, technicians and students, so that the percentages shown for specified individuals are in some cases higher than anticipated.

POC – None budgeted.

Travel

SOC – This category is an estimated projection for travel to meetings related to IODP curatorial topics. It may include visits to the Gulf Coast and Kochi Repositories for technical and training exchange, as well as cooperative work.

Bremen 2 non-Europe journeys @ \$3,000

POC – None budgeted.

Supplies

SOC – The bulk of this category is for materials related to sampling needs. This includes plastic scoops and tubes, u-channels, Pmag cubes, styrofoam plugs, sample bags, shipping boxes, labels and ink bands for the printers; tape for the d-tubes and for packing, etc. The amount is loosely based on past needs for MSP core sampling, but future sampling activity

levels are difficult to assess. We can only assume that sampling levels will increase as the size of our collection increases.

POC—None budgeted.

Shipping

SOC – These costs are primarily for courier shipping of samples (incl. u-channels, and archive core halves for non-destructive measurements requests) worldwide to the requesting investigators. As with the *Supplies* category, the amount depends on the amount of sampling activity, which certainly will continue to increase with the size of our collection.

POC – None budgeted.

9 Data Management

9.1 Goals

The goals of data management include: management of data supporting IODP activities, management of expedition and post-expedition data, long-term archival, access to data, access to data via SEDIS and SMCS and supporting IT services.

9.2 Deliverables

1. Expedition Data: maintain and manage expedition databases. Operate and maintain data management systems for future MSP Expeditions and load post-moratorium data to the WDC-MARE and LDEO (downhole log data) long-term data archives.
2. Upload sample and curation data to the SMCS system and other metadata to SEDIS.
3. Operation and maintenance: provide operation and maintenance of computer and network systems.
4. Software Development: provide software development services as required for expeditions (excludes analytical systems).
5. Cooperate on the development of common IODP standards via the DMCG.

9.3 Budget Table

Data Management

Expense Category	SOC	POC	Total
Salary and Fringes	\$ 131,249	\$ -	\$ 131,249
Travel	\$ 42,000	\$ -	\$ 42,000
Supplies	\$ 6,000	\$ -	\$ 6,000
Shipping	\$ -	\$ -	\$ -
Communication	\$ -	\$ -	\$ -
Contractual Services	\$ 75,000	\$ -	\$ 75,000
Equipment	\$ 113,400	\$ -	\$ 113,400
Other Direct Costs	\$ -	\$ -	\$ -
(Please identify)			
Total Direct Costs			
Modified Direct Costs (If applicable)			
Indirect Costs/Administrative Fee			
Total	\$ 367,649	\$ -	\$ 367,649

Table 7. Data Management Budget Table.

9.4 Budget Justification

Salaries and fringes

Portions of salaries at standard institution rates, including overheads.

POC – None budgeted.

SOC – All costs.

Travel

ESO database group meetings, Data Management Coordination Group meetings, data management liaison and travel to offshore expedition.

POC – None budgeted.

SOC – All travel.

BGS 10 journeys @ \$3,000.

Bremen 4 journeys @ \$3,000.

Supplies

POC – None budgeted.

SOC – Computer consumables.

Shipping

None budgeted.

Communication

None budgeted.

Contractual services

POC – None budgeted.

SOC – Offshore DIS support and developments; continuous upgrading is planned in line with IODP-MI requirements, including VCD development.

Equipment

POC – None budgeted.

SOC – ESO computer infrastructure upgrade and maintenance, and Bremen computer infrastructure upgrade and maintenance. A major computer upgrade exercise is planned ahead of IODP Expedition 347. BSCW licence for communication and data transfer.

Other Direct Costs

None budgeted.

10 Publications

Not applicable to ESO. All MSP publications are handled by the USIO at TAMU, College Station.

11 Outreach

11.1 Goals

1. Continue branding IODP as a cutting-edge international Earth science research program.
2. Target informational outreach to the public via the media (science and general-interest reporters, editors and producers); scientists-at-large, industry scientists; and entities that can effectively partner with IODP to meet research goals.
3. Use expeditions and scientific achievements as news hooks to promote scientific ocean drilling as a premiere research methodology; make the connection between emerging scientific knowledge and its positive contribution to society worldwide.
4. Build a clearinghouse of information and knowledge about scientific ocean drilling, that is easily accessible online through the IODP web portal.
5. Function as an integrated outreach team, with common core messages and common informational collateral.

11.2 Deliverables

1. Informational collateral including news releases, newsletters, expedition brochures, other program print material, web-based content and video resources.
2. Jointly sponsored exhibitions at science and industry conferences identified as internationally important (e.g. AGU, EGU, IGC).
3. Town Hall Meetings at major science conferences (AGU, EGU).
4. Informational products to use in raising awareness of the objectives and outcomes of the recent MSP expeditions as well as future MSP Expeditions.

11.3 Budget Table

Outreach

Expense Category	SOC	POC	Total
Salary and Fringes	\$ 77,500	\$ -	\$ 77,500
Travel	\$ 30,000	\$ -	\$ 30,000
Supplies	\$ 12,000	\$ -	\$ 12,000
Shipping	\$ -	\$ -	\$ -
Communication	\$ -	\$ -	\$ -
Contractual Services	\$ -	\$ -	\$ -
Equipment	\$ -	\$ -	\$ -
Other Direct Costs	\$ -	\$ -	\$ -
(Please identify)			
Total Direct Costs			
Modified Direct Costs (If applicable)			
Indirect Costs/Administrative Fee			
Total	\$ 119,500	\$ -	\$ 119,500

Table 8. Outreach Budget Table.

11.4 Budget Justification

Salaries and fringes

Portions of salaries at standard institution rates, including overheads.

POC – None budgeted.

SOC – All costs.

Travel

Attend outreach meetings associated with the Baltic Paleoenvironment (offshore and onshore) expedition, and for forthcoming expeditions (Chixculub, Hawaii Drowned Reefs, and Atlantis Massif Seafloor Processes) as appropriate. Attend conferences (EGU, AGU) and other E&O activities.

POC – None budgeted.

SOC – All costs.

BGS 6 journeys @ \$3,000.

Bremen 4 journeys @ \$3,000.

Supplies

POC – None budgeted.

SOC – Printing brochures for expeditions, support of booths, materials etc.

Shipping, Communication, Contractual services, Equipment and Other Direct Costs

None budgeted.

Appendix I – Multiple-year comparison of ESO costs

FY2009	Budget (\$)	Expenditure (\$)	Variance (\$)	Comments
SOCs				
Management & Administration	587500	557027	30473	
Technical, Engineering & Science Support	3123200	2984202	138998	
Core Curation	72300	72310	-10	
Data Management	340000	296547	43453	
Publications	0	0	0	
Logging	0	0	0	
Education & Outreach	130200	98460	31740	
Totals	4253200	4008546	244654	
POCs	19449200	9424637	10024563	Carried over for GBREC expedition

FY2010	Budget (\$)	Expenditure (\$)	Variance (\$)	Comments
SOCs				
Management & Administration	781100	616000	165100	
Technical, Engineering & Science Support	3494100	3420500	73600	
Core Curation	79000	75700	3300	
Data Management	472300	460600	11700	
Publications				
Logging				
Education & Outreach	152200	98200	54000	
Totals	4978700	4671100	307600	
POCs	11856300	8733400	3112900	Carried over for future MSPs (held by EMA).

FY2011	Budget (\$)	Expenditure (\$)	Variance (\$)	Comments
SOCs				
Management & Administration	866514	871743	-5229	
Technical, Engineering & Science Support	1019931	995544	24387	
Core Curation	78411	78411	0	
Data Management	397985	354860	43125	
Publications				
Logging				
Education & Outreach	161200	116549	44651	
Totals	2524041	2417108	106933	
POCs	1538898	237526	1301372	Variance includes unspent \$1M reserved for Chicxulub hazard survey, requested again in FY13 APP. Remaining underspend carried over for future expeditions (held by EMA).

FY2012				
SOCs	2962639			POCs include majority of platform costs for FY13 Expedition.
POCs	9199518			
FY2013				
SOCs	3744229			IODP Expedition 347 offshore phase and Onshore Science Party.
POCs	5674677			

Appendix II – The composition of the ECORD Science Operator

The European Consortium for Ocean Research Drilling (ECORD) is primarily a group of European national funding agencies, although membership is not confined to Europe. ECORD has a Council that has established a structure whereby its executive arm is the ECORD Managing Agency (EMA), operated in France by CNRS-INSU with Catherine Mével as Director.

EMA is responsible for interacting with MEXT/NSF and for collecting funds from ECORD members, thus acting as the ECORD banker. Funds are then distributed to:

- NSF as membership contributions.
- ESO as POCs and SOC for MSP drilling projects.
- ESSAC, the European Science Support Advisory Committee.
- EMA itself and other relevant costs.

ESO is contracted by EMA to carry out MSP operations as required by IODP, providing both Platform Operating Costs (POCs) and Science Operating Costs (SOCs).

ESO collaborates with other IOs and is represented at all SAS committees and most IODP-MI Task Forces. It is also represented at ECORD Council meetings, and at ESSAC from which it receives advice and also provides scientists with information about operations and MSP capability.

The following are the key areas of responsibility within ESO:

ESO Chair. Overall co-ordination of ESO is the responsibility of Robert Gatliff at the British Geological Survey (BGS).

Science Manager. Everyday responsibility for ESO management and for administering the contracts with EMA and IODP-MI, and the BGS/NERC subcontracts with the Universities of Leicester and Bremen lies with David McInroy.

Operations Manager. Responsibility for all operational matters, including coring and the running of offshore expeditions, lies with David Smith at BGS.

Management of Curation and Laboratory Facilities. The provision and management of both onshore and offshore laboratory facilities, and all curatorial matters, fall under the purview of Dr. Ursula Röhl of the MARUM, University of Bremen.

Petrophysics Manager. The management of all downhole logging and core petrophysics operations (including multi-sensor track measurements) fall within the auspices of the European Petrophysics Consortium (EPC) co-ordinated at the University of Leicester (UK) by Dr. Sarah Davies.

The other institutes that make up the EPC are:

- Université de Montpellier (France)
- RWTH Aachen University (Germany)

Data Management is the responsibility of Dr. Hans-Joachim Wallrabe-Adams at the University of Bremen working with Mary Mowatt at the BGS. The long-term data repository for MSP data will be WDC-MARE/PANGAEA. ESO co-operate with the Data and Information Section of the Operational Support Group ICDP, at GFZ Potsdam.

Education and Outreach for ESO is managed by Alan Stevenson of BGS

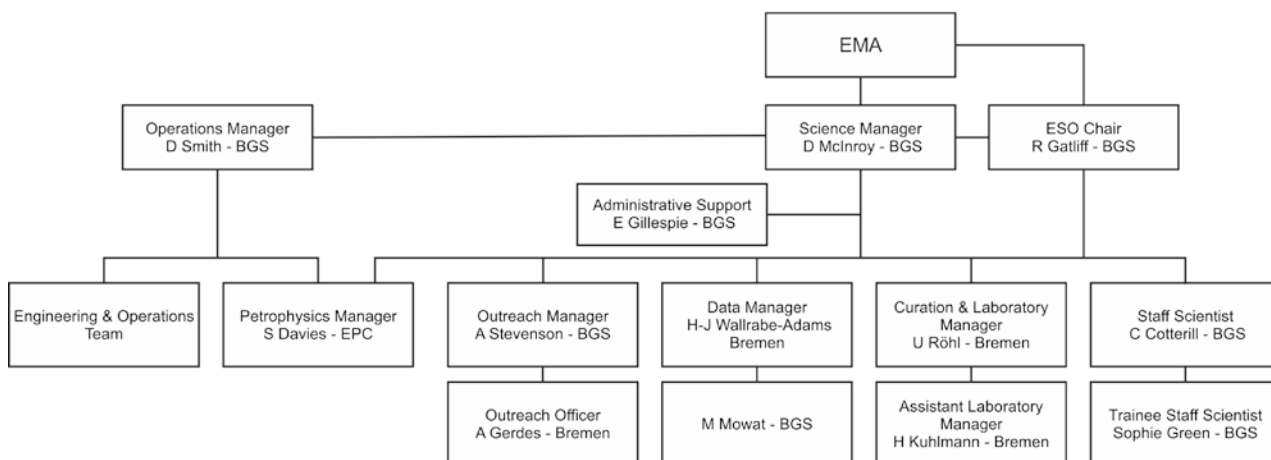


Figure 3. The overall management structure of ESO.

British Geological Survey

In addition to the personnel named in Section 3.1, there are additional personnel contributing to both the scientific and operational branches of ESO; general support to both branches is provided by Eileen Gillespie. Most personnel are identified by name, but it should be borne in mind that ESO can call upon the input of any staff in BGS, wherein lies a vast range of expertise.

In the scientific branch, there is currently one Staff Scientist (Carol Cotterill) and one trainee Staff Scientists (Sophie Green). In addition David McInroy will complete his responsibilities as the New Jersey Shallow Shelf Expedition Staff Scientist.

Mary Mowat will support the Database Manager in Bremen, and will take advantage of computing and database support at the BGS. Alan Stevenson works closely with EMA and is also able to use wider outreach expertise in BGS and NERC (Natural Environment Research Council) in the UK as well as from Albert Gerdes at the University of Bremen in Germany who takes delegated responsibility for outreach during Onshore Science Parties.

In the operational branch, David Smith leads a team that includes several engineers, and deals with contracts, clearances and permits, and operational planning. The operations and engineering team includes a pool of electronics engineers, mechanical engineers and technicians. A Skinner is also available as a consultant.

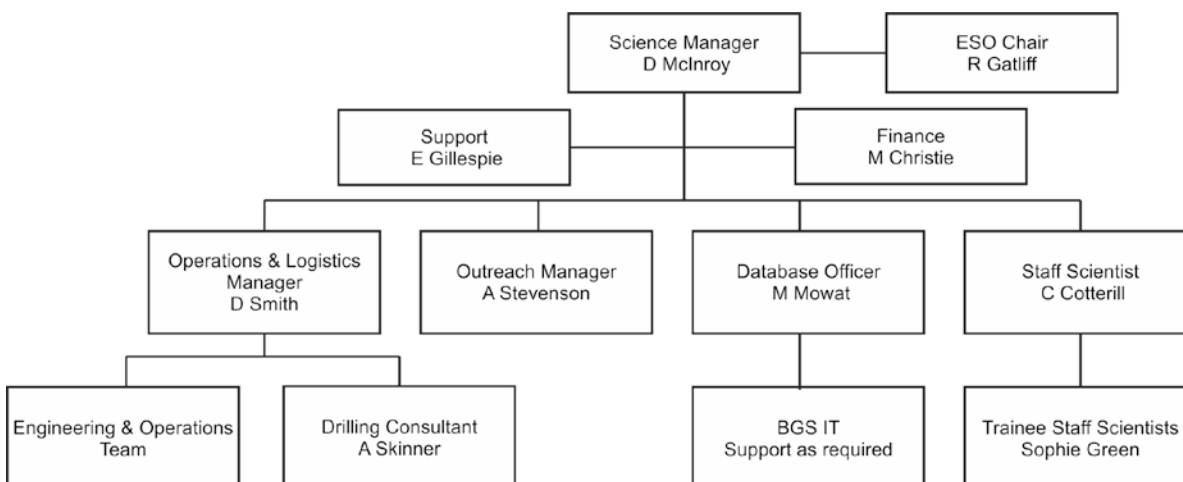


Figure 4. Structure of the BGS component of ESO.

University of Bremen

The Bremen Core Repository (BCR) has been an IODP/ODP facility for more than seventeen years and has a relatively new facility on the university campus that provides extended refrigerated storage space (including a new reefer opened in 2011) as well as large laboratories and offices, including laboratories of the MARUM - Center for Marine Environmental Sciences, University of Bremen. There is also a continuing close cooperation with other laboratories of Bremen University in the Geoscience Department (GeoB), as well as the Max Planck Institute for Marine Microbiology (MPI), both nearby on the campus. Bremen University's MARUM (a union of the Excellence Cluster "The Ocean in the Earth System" and of the Research Center Ocean Margins, RCOM) and Geosciences Department are very extensive and diverse, with abundant support scientists, technicians, and students.

The roles that individuals carry out in ESO are distinct from those related to a separate IODP-MI contract to operate the BCR. The services provided by the University of Bremen are in general not limited to the individuals listed here, but may be covered by support scientists, technicians and students. Key ESO personnel are:

Ursula Röhl is the ESO Curation & Laboratory Manager as well as being the IODP Curator and Head of the IODP Repository/Laboratory Infrastructure Group at MARUM. She oversees all operational curation-related issues and manages both the offshore and onshore analyses according to IODP policies. She mainly serves as the ESO liaison to the Science Technology Panel (STP).

Holger Kuhlmann acts as the Assistant Laboratory Manager and is the ESO deputy for Ursula Röhl. He mainly acts as the local Logistics Expert, both in preparations for Onshore Science Parties and for Bremen mobile laboratories for offshore operations.

Walter Hale is the Superintendent of the BCR. His role in ESO is to contribute to Onshore Science Party planning and execution, and to act as an advisor to Ursula Röhl in her role as SAC member for MSP expeditions.

Alex Wülbers is the Curatorial Scientist at the BCR and takes over the role of superintendent in the absence of Walter Hale. He provides logistical and practical services for MSP operations and acts as curator on MSP cruises, responsible for the proper handling and curating of core according to official IODP policy.

Hans-Joachim Wallrabe-Adams is the ESO Database Manager at the University of Bremen. He contributes to all aspects of data management, but is specifically responsible for the long-term management of MSP data in WDC-MARE/PANGAEA.

Martin Kölling is the Geochemistry Laboratory Manager for the MARUM of Bremen University. He provides advice on geochemistry issues and assists in preparing offshore geochemistry laboratories (instruments and methods) and oversees geochemical analyses during Onshore Science Parties.

Albert Gerdes is the Outreach Manager at MARUM. He works closely with the ESO Education and Outreach Manager on all aspects of E&O, but takes delegated authority for E&O during Onshore Science Parties.

Vera Lukies assists with logistics support and petrophysical properties including core logging.

Volker Diekamp is the MARUM photographer and will serve for ESO Bremen as needed, mainly preparation and execution of Onshore Science Party, but also for year-round photographing in relation to BCR-ESO.

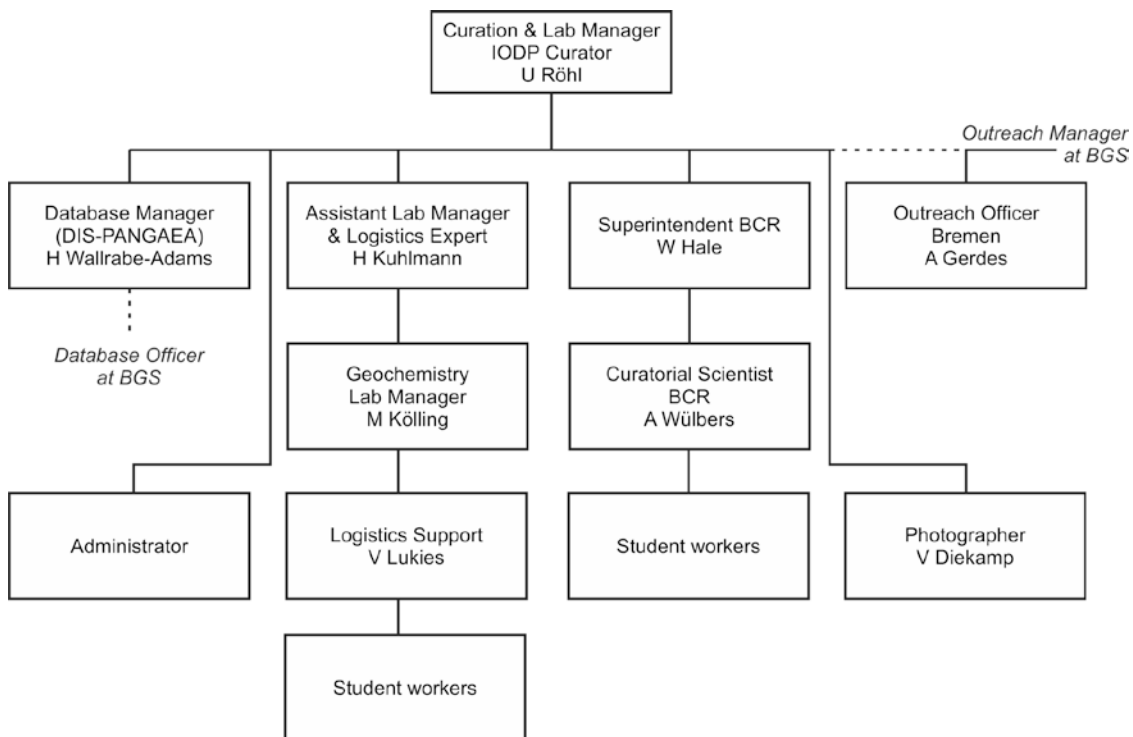


Figure 5. Structure of the Bremen component of ESO.

European Petrophysics Consortium (EPC)

EPC was formed specifically to provide downhole and core logging, and scientific petrophysical research services for MSP operations. The EPC central office is located at the University of Leicester. The University of Leicester holds the primary contract for MSP operations with the BGS/NERC (Natural Environment Research Council) and provides sub-contracts to the Universities of Montpellier and Aachen. The sub-contracts are issued on an annual basis, following signing of the primary contract with NERC.

The three institutes are responsible for providing Petrophysics Staff Scientist(s) and ESO Petrophysicist for each MSP expedition from the group of IODP Research Associates based at these institutes. These roles involve participation in both the offshore and onshore parts of an MSP expedition. In the case of the Onshore Science Party and core petrophysics measurements required prior to the onset of the Onshore Science Party, additional staff from the three institutes may be required to assist. EPC personnel undertake outreach activities as required.

Selection of the Petrophysics Staff Scientist for an individual expedition is decided upon by the steering committee, and selected individuals are required to undertake, where appropriate, training related to science-based skills and/or health and safety (e.g. offshore training courses). Depending on the structure, duration and objectives of the IODP expedition, the Petrophysics Staff Scientist is normally assisted by one or more EPC members, as required to meet the scientific objectives.

EPC is part of an international consortium and has a separate arrangement with the Borehole Research Group at the Lamont-Doherty Earth Observatory, Columbia University (US) to contribute to logging activities associated with JOIDES Resolution expeditions. The roles that individuals carry out in ESO are distinct from those in this separate contract with Columbia University.

Key ESO personnel are:

Dr Sarah Davies manages the European Petrophysics Consortium and leads the steering group. She oversees all operational downhole logging and core petrophysics-related issues and manages both the offshore and onshore analyses according to IODP policies. She is in charge of subcontracting downhole logging operations for MSP expeditions. She serves as the ESO liaison to the Proposal Evaluation Panel.

The steering group comprises Sarah Davies from the University of Leicester, Philippe Pezard (University of Montpellier), Christoph Clauser (University of Aachen) and co-opted members from each institute as required. Simon Draper is the IODP Administrator for EPC supports the EPC manager in work associated with contracts and subcontracts, maintaining financial records and the planning and preparation for IODP Mission Specific Platform Expeditions.

IODP Research Associates are based at Leicester (Drs. Anderson, Inwood, Morgan and McGrath), Montpellier (Dr Lofi) and RWTH Aachen (A. Fehr). For MSP operations, the IODP Research Associates are responsible for the planning and management of logging and petrophysical programmes prior to, during and after IODP MSP expeditions. They are responsible for data QA/QC, distribution, management and archiving, during and after MSP expeditions. The Research Associates provide advice to scientists on an on-going

basis and represent ESO at SAS panels (primarily the Science and Technology Panel, STP) but also on Operations Review Task Forces and other panels as required. Their remit includes post-expedition reporting, scientific analysis and interpretation of the petrophysical data and research on the data.

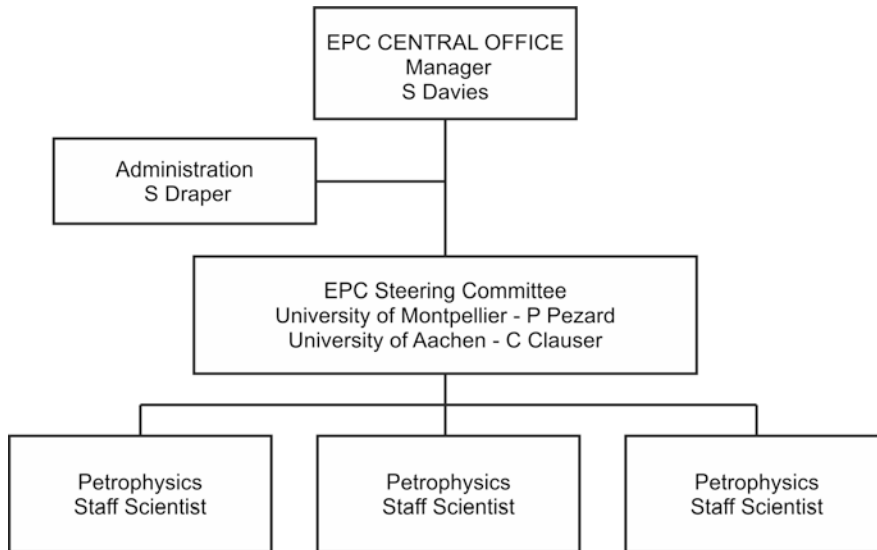


Figure 6. Structure of the EPC component of ESO.

IODP Annual Program Plan

FY2013

[Appendix E](#)



**Integrated Ocean Drilling Program
Program Plan
US Fiscal Year 2013**

IODP core repository services

**Bremen Core Repository
(BCR)**



Submitted to IODP-MI May 2012

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1 Introduction

The Bremen Core Repository (BCR) is the European IODP core repository and one of the three IODP core repositories, which also include the Gulf Coast Core Repository (GCR) in College Station, Texas, and the Kochi Core Center (KCC) in Kochi, Japan. Since no change of personnel is foreseen at our facility, we are confident in our ability to continue to carry out the required work in a highly professional manner. However, we have experienced a significant increase in workload with the growth of our core collection to include the legacy cores from the former ECR.

The BCR presently contains more than 146 km of deep-sea cores (drilled in the Atlantic & Arctic Oceans, Mediterranean & Black Seas) from 85 legs/expeditions. In its 18 years of operation around 671,000 samples (representing about 3000 individual requests) have been taken by the visitors and IODP/ODP personnel and distributed worldwide.

Bremen University's refrigerated core storage area, racks, and modern laboratories for sampling are made available to the IODP at no cost.

2 Budget Summary Table

Budget Summary Table 1 (US dollars)

Description	SOC	POC	Total
Management and Administration			
Technical, Engineering and Science Support			
Engineering Development			
Core Curation	305,147		305,147
Data Management			
Publications			
Outreach			
Total	305,147		305,147

3 Organizational structure

For composition and structure of the BCR, see Appendix I

3.1 FTE Allocation for all WBEs

Position			% Work Breakdown Elements								% Totals		
Name	Position	Office	M&A	TESS	ED	CC	DM	Pub	Ed	Orch	SOC	POC	Other
Walter Hale	BCR Superintendent	BCR				80					80		
Alex Wülbbers	BCR Curatorial Scientist	BCR				80					80		
Full Time Employees						1.6					1.6		

Table. FTE Allocation for all WBEs

4 Expedition Operations

N/A

5 Management and Administration

N/A

6 Technical and Engineering and Science Support

N/A

7 Engineering Development

N/A

8 Core Curation

8.1 Goals: Provide services in support of IODP core sampling and curation of the continuously expanding deep-sea core collection archived at the Bremen Core Repository (BCR).

We anticipate that all IODP cores from the Atlantic (north of 60°S latitude) and Arctic Oceans, as well as Mediterranean and Black Seas, will continue to be sent to the BCR for storage, sampling and curation. The BCR will provide core repository services and continuity in its operation that will allow for the planning of sampling parties and the ability to liaise within the IODP structure, including advising the science community of current sampling policies. This capability will be maintained even in years when no cores are drilled in the Atlantic or Arctic Oceans. We also provide advice to research scientists on database techniques (internet queries) to help them to determine the best strategies for their sample requests, employing principally the corelog and past sampling data, as well as shipboard splice and meters-composite-depth (mcd) data.

Bremen will continue to operate the repository in accordance with IODP repository and curatorial policies and procedures, and through close interaction and communication with the appropriate IODP-MI representatives. We will adhere to these policies with respect to both core curation and sampling activities. Our major tasks for the coming fiscal year will continue to include curation and preservation of the cores, providing samples to scientists as needed and hosting sample parties when appropriate and necessary. In addition to the refrigerated split core materials, the BCR also manages the curation and distribution of various special collections, including returned sample material (residues), thin sections, smear slides, frozen standard microbiology samples, dry-storage evaporate (Mediterranean Sea) cores, and whole-round geochemistry cores.

We assume that, for the immediate future, sample requests relating to cores stored in Bremen for samples from USIO-drilled expeditions prior to Expedition 314 will continue to be submitted to IODP through the online request submission form at <http://iodp.tamu.edu/curation/samples.html> and then forwarded to us for processing.

For Expedition 314 and beyond, scientists who want to request samples will register in the Sample Material Curation System (SMCS) and enter their requests directly into the system and we will receive automatic notification and online access to the requests. For samples requested from MSP expeditions 302 or 313, requests will be sent directly to the BCR curator, Dr. Ursula Röhl (through the PDF form at: http://www.iodp.org/index.php?option=com_docman&task=doc_download&gid=44).

The Sample Material Curation System (SMCS) has also been adopted for use with recent and future MSP expeditions, beginning with Exp. 325. When the issues with this system are identified and corrected, it may be implemented as the single IODP-wide system for sample request submission, including post-moratorium requests. However, a new Sample and Data Request Management (SDRM) system is being developed by the Consortium for Ocean Leadership that could well turn out to be more practical than correcting the current problems in SMCS. This system is being tested and evaluated by the staff of all three repositories.

Sampling will be carried out or overseen by repository staff who are competent and experienced in the procedures, or by visiting scientists themselves, who will receive guidance and assistance from the staff as necessary for the successful completion of their requests, as well as instructions for maintaining the integrity of the core material during sampling. Samples will normally be sent by a reputable courier service so that the shipments can be reliably tracked. Visiting scientists, however, will be allowed to hand-carry their samples if they prefer.

Sampling parties are typically carried out shortly (3 to 5 months) after the end of a cruise and require special organizational and planning efforts. We also provide logistical services, including making hotel reservations and visitor information. Visiting scientists are also be provided with office space to carry out short-term planning and obligatory writing of preliminary results, meeting rooms, and laboratory space at the repository for working with the core material. We also recognize the close oversight and help in planning that is required in designing a successful sampling plan for large groups of scientists who are sampling from a single expedition, and have the experience to help the scientists in this planning.

8.2 Deliverables for FY2013

8.2.1 Policy and Procedures: Work with other implementing organizations (IOs), the Science Advisory Structure (SAS), and IODP-MI to implement a policy for IODP curation. Work closely with the staff of the Gulf Coast Repository (GCR) and the Kochi Core Center (KCC) to develop, coordinate, standardize and document curatorial and sampling procedures for IODP cores and samples.

8.2.2 Sample and Curation Strategies: Plan sampling and curation strategies for moratorium-related requests in coordination with the other members of the Sample Allocation Committee (SAC) for each expedition.

At present, one expedition is scheduled by the USIO for the Atlantic Ocean: IODP Exp. 342 *Paleogene Newfoundland Sediment Drifts* from early-June to early-Aug 2012. The cores from this expedition will be for the BCR and the Sampling Party will be held at the BCR in FY13, most likely in Jan 2013 (pers. comm. with Peter Blum, Expedition Project Manager for IODP Exp. 342 and John Firth, IODP Curator USIO). Core curation for MSP expeditions is not dealt with under this contract.

8.2.3 Sample Requests: Respond to post-moratorium sample requests from the scientific community.

All samples will be entered into a database that is openly accessible for the general public (via internet) for post-moratorium samples.

Since March 1, 2010, the BCR has been inputting all samples taken from any cores stored at the BCR into the Curation-DIS database, regardless of the original operator for the expedition. We have also imported from the JANUS database all past samples from cores that are stored at the BCR. So now it is possible for the international scientific community to access information relating to all samples from BCR cores from a single internet data site (BCR Data Portal: <http://iodp.wdc-mare.org/>). For the offshore and moratorium periods of Mission Specific Platform (MSP) projects of the ECORD Science Operator (ESO), samples will be entered into the Offshore DIS database, which is a compact version of Curation DIS developed specifically for each project, and is merged with the Curation DIS version soon after the end of the Onshore Science Party (OSP).

Non-MSP sample data from BCR cores taken on or prior to March 1, 2010 will be retrievable from both the BCR Data Portal and the Janus web sample report query form, but data relating to samples taken after this date will only be accessible through the BCR Portal.

The MSP data archive is the World Data Center for Marine Environmental Sciences (WDC-MARE) PANGAEA database.

8.2.4 Use of Core Collection: Promote the outreach use of the core collection in collaboration with IO and IODP-MI education/outreach personnel by providing materials and professional advice for display at meetings or museums, as well as conducting public or school-group tours, and supporting other USIO outreach activities.

8.2.5 Meetings: Host and/or participate in annual IODP curatorial staff meetings. Act as IO liaison to meetings with the other IOs, IODP-MI, and the SAS, as appropriate.

8.2.6 Legacy Documentation: The **project for redistribution of cores** among the three IODP repositories according to geographic location was completed several years ago, with the result that the BCR is the home to all existing geographically

designated DSDP and ODP cores (and special collections) as well as material to be retrieved under future IODP expeditions.

8.3 Budget

Budget Summary Table 2 (US dollars)

Core Curation	SOC	POC	TOTAL
Subtotal Core Curation	305,146		305,146
Salary and Fringes	190,812		190,812
Travel	3,300		3,300
Supplies	5,850		5,850
Shipping	18,000		18,000
Communication			
Contractual Services			
Equipment			
Other Direct Costs			
Total Direct Costs	217,962		217,962
Modified Direct Costs (If applicable)			
Indirect Costs/Administrative Fee	87,185		87,185
Total Core Curation	305,146		305,146

Justification:

Salary and Fringes

SOC - This category is the equivalent of 1.6 FTE positions, and is used to cover 80% of the salaries of W. Hale and A. Wülbers. Due to a standard 4 per cent annual salary increase for FY12 and notification of a 6.5 per cent annual salary increase for FY13, based on our (80%) FY11 salary expenditure of \$174,080.69, prorated for 2 years to 2013, we have added \$16,731.08 to this category.

POC—None budgeted.

Travel

SOC - This category is an estimated projection for travel to meetings related to IODP curatorial topics. It may include visits to the Gulf Coast and Kochi Repositories for technical and training exchange, as well as cooperative work.

POC—None budgeted.

Supplies

SOC - The bulk of this category is for materials related to sampling needs. This includes plastic scoops and tubes, u-channels, Pmag cubes, Styrofoam plugs, sample bags, shipping boxes, labels and ink bands for the printers; tape for the d-tubes and for packing, etc. The amount is loosely based on past needs, but future sampling activity levels are difficult to assess. We can only assume that sampling levels will increase as the size of our collection increases.

POC—None budgeted.

Shipping

SOC - These costs are primarily for courier shipping of samples worldwide to the requesting investigators. As with the *Supplies* category, the amount depends on the amount of sampling

activity, which certainly will continue to increase with the size of our collection. In FY13 we are dealing with cores from three recent JR expeditions in the Atlantic, two of which will have associated high-volume sample parties. Although the sample party for Exp. 339 will be held in FY12, an estimated 70,000 samples to be taken will significantly deplete our stocks of supplies going into FY13. In addition, the growing importance of microbiological investigations to the program will likely also have an impact on these costs, because shipping samples in a frozen state is more expensive by an order of magnitude. It is impossible to predict how many of these kinds of shipments will be required, and therefore what the costs will be, even for the near future. Furthermore, the increasing use of non-destructive scanning instruments by many institutes to analyze DSDP/ODP/IODP archive-half core material is creating an uncertain situation with regard to shipping large volumes of core sections around the world, with costs running into the thousands of dollars per shipment. Therefore, we would like to have at least \$18,000.00 for this category, and hope that this amount is not exceeded.

POC—None budgeted.

Indirect costs

This is a flat-rate cost for university and institute administration costs and materials of 40%, based on the high-maintenance nature of this contract and extraordinary size of the operation.

Budget Comparison Table 3

Core Curation	FY10 final accounts	FY11 final accounts	FY12	FY13 outlook
Subtotal Core Curation	\$ 286,438.67	\$ 296,796.95	\$ 348,258.79	\$ 305,146.48
Salary and Fringes	\$ 178,093.82	\$ 174,080.69	\$ 192,626.28	\$ 190,811.77
Travel	\$ 1,615.30	\$ 2,758.62	\$ 6,550.00	\$ 3,300.00
Supplies	\$ 3,303.55	\$ 22,128.59	\$ 9,580.00	\$ 5,850.00
Shipping	\$ 21,586.38	\$ 13,029.92	\$ 40,000.00	\$ 18,000.00
Communication				
Contractual Services				
Equipment				
Other Direct Costs				
Total Direct Costs	\$ 204,599.05	\$ 211,997.82	\$ 248,756.28	\$ 217,961.77
Modified Direct Costs (If applicable)				
Indirect Costs/Administrative Fee	\$ 81,839.62	\$ 84,799.13	\$ 99,502.51	\$ 87,184.71
Subtotal DSDP/ODP Core Redistribution	\$ 13,214.81	\$ 13,711.37	\$ -	\$ -
Salary and Fringes	\$ 11,012.34	\$ 11,426.14	\$ -	\$ -
Travel				
Supplies	\$ -	\$ -	\$ -	\$ -
Shipping	\$ -	\$ -	\$ -	\$ -
Communication				
Contractual Services				
Equipment				
Other Direct Costs				
Total Direct Costs	\$ 11,012.34	\$ 11,426.14	\$ -	\$ -
Modified Direct Costs (If applicable)				
Indirect Costs/Administrative Fee	\$ 2,202.47	\$ 2,285.23	\$ -	\$ -
Total Core Curation	\$ 286,438.67	\$ 310,508.32	\$ 348,258.79	\$ 305,146.48

Background:

Our total annual budget is strongly influenced by the “Salary and Fringes” category. These costs, as mentioned above, steadily increase annually by around 4% in terms of our actual cost in EUROS (€). Due to the strongly fluctuating USD/€ exchange rate over the past years, however, the dollar amount shown in the annual comparison table does not reliably reflect this steady cost increase (e.g.,

between FY11 and FY13). The other cost categories are of course also affected, to a lesser degree, by the currency exchange rate fluctuations.

We are in the process of purchasing/upgrading our stock of supplies in FY12, but will definitely need to purchase U-channels to accommodate the Exp. 342 sampling party to be held in FY13.

9 Data Management

N/A

10 Publications

N/A

11 Outreach

The MARUM institute at Bremen University has its own PR department. Its personnel include a former science writer with expertise in TV production and print media work. In cooperation with European, Japanese, and US-American colleagues this department is actively involved in outreach activities for past European Mission Specific Platform Operations that were initiated and organized by ECORD, the European Consortium for Ocean Research Drilling, and ESO, the ECORD Science Operator, as it was for Expedition “Great Barrier Reef Environmental Change” in 2010. The expedition web sites for MSP expeditions are hosted on one of our servers (Exp. 302 and 310) and mirror sites of the ESO WebPages are in place (Exp. 313 and 325).

On an international level, IODP-related outreach activities were also conducted at the annual assemblies of the European Geosciences Union (EGU), which from 2005 through 2012 was held in Vienna, as well as of the American Geophysical Union (AGU) in San Francisco. Town Hall Meetings were held, booths occupied, and outreach sessions organized.

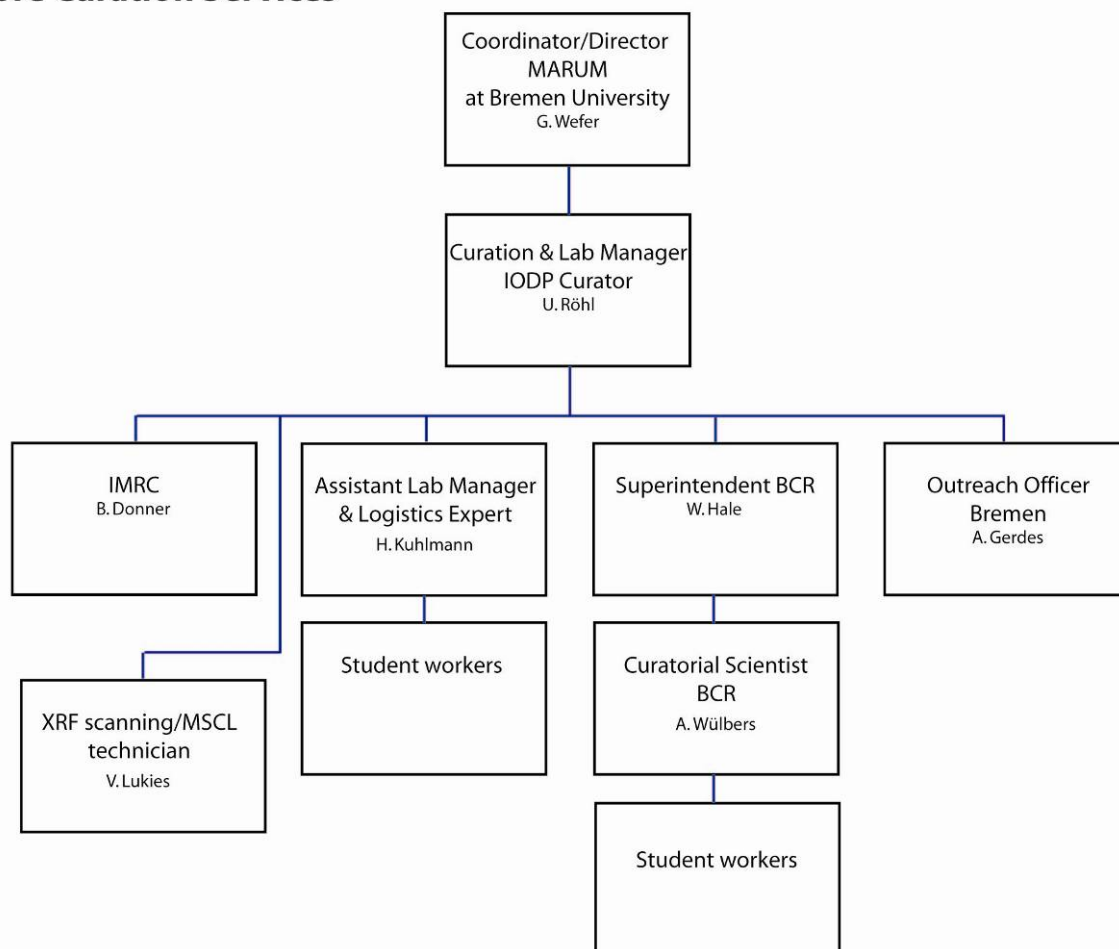
Appendix I

The composition of BCR

The key personnel within the BCR and their areas of responsibility are:

- Prof. Dr. Gerold Wefer, Director of MARUM at University of Bremen.
- Dr. Ursula Röhl is the IODP Curator as well as being the ESO Curation & Laboratory Manager, Head of the IODP group, and Repository/Laboratory Infrastructure Group of MARUM. She oversees all curation-related issues according to IODP policies.
- M. Sc. Walter Hale is the Superintendent of the BCR. He is responsible for the long-term preservation of core material as well as for assuring that appropriate samples are provided to requesting investigators. He evaluates and approves post-moratorium sample requests.
- Dipl. Geol. Alexius Wülbers is the Curatorial Scientist at the BCR. He provides logistical and practical services in the operation of the core repository. In addition, he takes over the role of superintendent in the absence of Walter Hale, also evaluating and approving sample requests.

Bremen Core Repository (BCR) Core Curation Services



- The MARUM at the University of Bremen is a very extensive and diverse research institute, with abundant support scientists, technicians, and students, e.g., Dr. Barbara Donner (MRC), Dipl. Ing. (FH) Vera Lukies (XRF Core Scanning), Dr. Holger Kuhlmann (Logistical Specialist & ESO assistant lab manager), and Albert Gerdes (Outreach). No major changes in this personnel and organizational structure are anticipated for the near future.

IODP Annual Program Plan

FY2013

[GLOSSARY](#)

Glossary

Frequently Used References/Acronyms

The following list contains acronyms or abbreviations frequently used in IODP. Not all may appear in the text of the Annual Program Plan.

ACEX	Arctic Coring Expedition
ACH	Automated Clearing House
ACORK	Advanced Circulation Obviation Retrofit Kit
AESTO	Advanced Earth Science and Technology Organization (Japan)
AGI	American Geophysical Institute
AGU	American Geophysical Union
ANZIC	Australia-New Zealand IODP Consortium
AOGS	Asia Oceana Geosciences Society
AORI	Atmosphere and Ocean Research Institute (University of Tokyo)
APC	Advanced Piston Core
APCT	APC Temperature Tool
API	American Petroleum Institute
APL	Ancillary Project Letter
APP	Annual Program Plan
BBC	British Broadcasting Corporation
BCR	Bremen Core Repository
BGS	British Geological Survey
BHA	Bottom Hole Assembly
BoG	Board of Governors
BOSIET	Basic Offshore Safety Induction and Emergency Training
BP	Before present
BSR	Bottom Simulator Reflector
CB-RMM	Core barrel - retrievable memory module
CC	Core Curation
CCD	Carbonate Compensation Depth
C-DEBI	Center for Dark Energy Biosphere Investigations
CDEX	Center for Deep Earth Exploration (JAMSTEC)
CDP	Complex Drilling Projects
CDS	Cadiz Contourite Depositional System
CMCR	Center for Advanced Marine Core Research (Kochi University)
CMO	Central Management Office
CNRS	Centre National de la Recherche Scientifique (France)
CO	Contracts Officer
COI	Conflict of Interest
COL	Consortium for Ocean Leadership
CORK	Circulation Obviation Retrofit Kit
CPI-U	Consumer Price Index-Urban
CPP	Complementary Project Proposal
CRISP	Costa Rica Seismogenesis Project
DEBI-t	Deep Exploration Biosphere Investigative Tool
DIS	ICDP Drilling Information System
DM	Data Management

Glossary

DMCG	Data Management Coordination Group
DMS	Data Management Specialist
DNA	Deoxyribonucleic acid
DOI	Digital Object Identifier
DP	Dynamic Positioning
DPG	Detailed Planning Group
DRILLS	Distinguished Researcher and International Leadership Lecture Series
CRISP	Costa Rica Seismogenesis Project
DSDP	Deep Sea Drilling Project (1968-1982)
DSS	Drilling Sensor Sub
D/V	Drilling Vessel
DVD	Digital Versatile/Video Disc
DVTP	Davis-Villinger Temperature Probe
E&O	Education and Outreach
ECI	Employment Cost Indicator
ECORD	European Consortium for Ocean Research Drilling
ECR	The East Coast Repository
ED	Education
ED	Engineering Development
EDP	Engineering Development Panel (~2010)
EGU	European Geosciences Union
EMA	ECORD Management Agency
ENP	Engineering Prototype
EOR	Expedition Objective Research
EPC	European Petrophysics Consortium
EPM	Expedition Project Manager/Staff Scientist
EPSP	Environmental Protection and Safety Panel
ERS	Electric RS wireline common deployment system
ESO	ECORD Science Operator
ESSAC	ECORD Science Support and Advisory Committee
ESSEP	Environmental Science Steering and Evaluation Panel
EXP	Experimental prototype (Re: Long-Term Borehole Monitoring)
FAMIS	Financial and Management Information System (TAMU)
FMS	Formation Micro Scanner
FTE	Full-time equivalent
FY	Fiscal Year
G&A	General and Administrative
GBR	Great Barrier Reef
GBRMPA	Great Barrier Reef Marine Park Authority
GC/MSD	Gas Chromatography/Mass Selective Detector
GCR	Gulf Coast Repository
GEO	Directorate for Geosciences (NSF)
GeoB	Bremen University in the Geoscience Department
GIS	Geographic Information Systems

Glossary

HSE	Health, Safety and Environment
HSE-MS	Health, Safety and Environment Management System
H&M	Hull & Machinery
HPCS	Hydraulic Piston Coring System
HUET	Helicopter Underwater Escape Training
ICDP	International Continental Scientific Drilling Program
ICSU	International Council for Science
IFREE	Institute for Frontier Research on Earth Evolution/JAMSTEC
IGC	International Geological Congress
INSU	Institut National des Sciences de l'Univers
INVEST	IODP New Ventures in Exploring Scientific Targets
IO(s)	Implementing Organization(s)
IODP	Integrated Ocean Drilling Program
IODP-MI	Integrated Ocean Drilling Program Management International, Inc.
ION	International Ocean Network
ISC	Information Service Center
ISHI	Ippan Shadan Hojin (General Corporation) IODP-MI
ISO	International Organization for Standardization
ISP	Initial Science Plan (2003-2013)
IT	Information Technology
IWG+	International Working Group Plus
JAMSTEC	Japan Agency for Marine-Earth Science and Technology
JANUS	USIO Database System
JFAST	Japan Trench Fast Drilling Project
J-CORES	Japanese Database System
J-DESC	Japan Drilling Earth Science Consortium
JOIDES	Joint Oceanographic Institutions for Deep Earth Sampling
JR	JOIDES Resolution
JPGU	Japan Geosciences Union
JPIO	Japan Implementing Organization
KCC	Kochi Core Center Repository
KIGAM	Korea Institute of Geoscience and Mineral Resources
K-IODP	Korean Integrated Ocean Drilling Program
kt	knots
LA(s)	Lead Agencies
Lab	Laboratory
LDAP	Lightweight Directory Access Protocol
LDEO	Lamont-Doherty Earth Observatory
LGHF	Laboratoire de Geophysique et Hydrodynamique en Forage
LGM	Last Glacial Maximum
LIMS	Laboratory Information Management System
LTBMS	Long-Term Borehole Monitoring System
LUBR	Leicester University Borehole Group
LWC	Logging while coring

Glossary

LWD	Logging while drilling
m	meters
M	Magnitude (of earthquake)
M&A	Management and Administration
MAT	Mid-Atlantic Transect
mbsf	meters below sea floor
MCS	Multi Channel Seismic
MDHDS	Motion Decoupled Hydraulic Delivery System
MEXT	Ministry of Education, Culture, Sports, Science and Technology (Japan)
MMM	Multi-sensor Magnetometer Module logging tool
MOES	Ministry of Earth Sciences (India)
MOST	Ministry of Science and Technology (People's Rep. of China)
MoU	Memorandum of Understanding
MPI	Max Planck Institute for Marine Microbiology
MRC	Micropaleontological Reference Centers
msb	meters sub-basement
MSCL	Multi Sensor Core Logger
MSP(s)	Mission Specific Platform(s)
MTDCs	Modified Total Direct Costs
MWJ	Marine Works Japan
NanTroSEIZE	Nankai Trough Seismogenic Zone Experiment
NEPTUNE-Canada	NorthEast Pacific Time-series Undersea Networked Experiments project of Ocean Networks Canada
NERC	Natural Environment Research Council (UK)
NGDC	National Geophysical Data Center (USA)
nmi	nautical miles
NJSS	New Jersey Shallow Shelf
NSF	National Science Foundation (USA)
OCC	Oceanic Core Complex
OCE	Division of Ocean Sciences, NSF
Ocean Leadership	Consortium for Ocean Leadership, Inc.
ODL	Overseas Drilling Limited
ODP	Ocean Drilling Program (1983-2003)
OGC	Open Geospatial Consortium
OOI	Ocean Observing Initiative (USA)
OPCOM	Operations Committee (now Operations Task Force)
OPIC	Other Program Integration Costs (USIO)
OPITO	Offshore Petroleum Induction Training Organization
ORI	Ocean Research Institute (now Atmosphere and Ocean RI), University of Tokyo
ORION	Ocean Research Interactive Observatory Networks
OSP	Onshore Science Party
OTC	Offshore Technology Conference

Glossary

OTF	Operations Task Force
PA	Publication Assistants
PANGAEA	Publishing Network for Geoscientific & Environmental Data
PCS	Pressure Core Sampler
PDB v.2	Proposal Database version 2
PEAT	Pacific Equatorial Age Transect
PEP	Proposal Evaluation Panel
PI	Primary Investigator
PMO(s)	Program Member Offices
PMT	Project Management Team
POC(s)	Platform Operations Costs
POTS	Publication Obligation Tracking System
PSDIM	Publications, Sample and Data Integration manager
PSG	Project Scoping Group
PTM	Pulsed Telemetry Module
QA/QC	Quality Assurance/Quality Control
RCB	Rotary Core Barrel
RDF	Resource Description Framework
RFP	Request for Proposal
RIS	Rig Instrumentation System
RMM	Retrievable Memory Module
RMS	Routine Micro-Bio Samples
RNA	Ribonucleic acid
ROW	Removal of wreck
SAC	Sample Allocation Committee
SAFOD	San Andreas Fault Observatory at Depth
SAS	Science Advisory Structure
SASEC	SAS Executive Committee (~2010)
SCIMPI	Simple Cabled Instrument for Measuring Parameters In-situ
S-CORK	Sediment CORK
SCP	Site Characterization Panel
SDRM	Sample and Data Request Management system
SDSC	San Diego Super Computer Center
SEDIS	Scientific Earth Drilling Information System
SIC	Systems Integration Contract (USIO)
SIO	Scripps Institution of Oceanography
SIPCom	Science Implementation and Policy Committee
SIT	Systems Integrated Training
SKOS	Simple knowledge organization system
SMCS	Sample Materials Curation System
SOC(s)	Science Operating Costs
SODV	Scientific Ocean Drilling Vessel
SPC	Science Planning Committee
SPPOC	Science Planning and Policy Oversight Committee (operated up until April, 2006)

Glossary

SRMs	Standard Reference Materials
SSDB	Site Survey Data Bank
SSEP	Science Steering and Evaluation Panel
SSP	Site Survey Panel (~2010)
STP	Scientific Technology Panel
TAMU	Texas A&M University
TAMRF	Texas A&M Research Foundation
TD	Target Depth
TESS	Technical, Engineering and Science Support
TNL	Taxonomic Name Lists
TOB	Torque on bit
TOC	Total Organic Carbon
ToR	Terms of Reference
TUMSAT	Tokyo University of Marine Science and Technology
UBI	Ultra Borehole Imager
URI	University of Rhode Island
USAC	U.S. Advisory Committee for Scientific Ocean Drilling
USGS	U.S. Geological Survey
USIO	United States Implementing Organization
USSAC	United States Science Advisory Committee
USSSP	U.S. Science Support Program
VCD	Visual core description
VP-SO	Vice President for Science Operations
VP-SP	Vice President for Science Planning
VSAT	Very small aperture terminal
VSI	Versatile Seismic Imager
VSP	Vertical Seismic Profile
WBE	Work Breakdown Element
WDC	World Data Center
WDC-MARE	World Data Center - Marine
WDS	World Data System
WOB	Weight on bit
WST	Well Seismic Tool
XCB	Extended Core Barrel
X-CT	X-ray CT Scanner
XRD	X-ray Diffraction
XRF	X-ray fluorescence