IODP
INTEGRATED OCEAN DRILLING PROGRAM

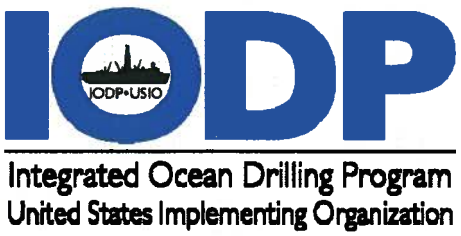
# INTEGRATED OCEAN DRILLING PROGRAM
## United States Implementing Organization

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

# FY11 ANNUAL PROGRAM PLAN to NSF

**For Time Period**
**1 October 2010 to 30 September 2011**

**Amount Proposed FY11: $64,322,723**




3 August 2010

Respectfully Submitted to:
National Science Foundation

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# TABLE OF CONTENTS

# 1. EXECUTIVE SUMMARY

## 1.1. ANNUAL PROGRAM PLAN OVERVIEW

The IODP-USIO FY11 Annual Program Plan to the National Science Foundation (NSF) defines the U.S. Implementing Organization (USIO) scope of work for FY11 Integrated Ocean Drilling Program (IODP) activities and deliverables that are specifically covered under the U.S. Systems Integration Contract OCE-0352500. It is based on (1) the current mission forecast provided on 12 March 2010 for the USIO by NSF and (2) the USIO operations schedule that was approved by the Operations Task Force (OTF) and Science Planning Committee (SPC) in January 2010. The scope and budget justification of the activities described in the Annual Program Plan were derived from NSF guidance to the USIO and the outcomes from other related discussions. 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 FY11 Annual Program Plan to IODP-MI was developed in consultation with the USIO subcontractors for inclusion in the IODP FY11 Annual Program Plan. The Annual Program Plan to NSF is written as a companion to the IODP-USIO FY11 Annual Program Plan to IODP-MI, submitted on 15 April 2010, which contains requests for USIO SOC and POC activities.

The USIO FY11 Annual Program Plan to NSF 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. This section of the Annual Program Plan provides budget definitions, assumptions and directives used to construct the Annual Program Plans, and a breakdown of the USIO institutional budget requests organized by institution (e.g., Ocean Leadership, LDEO, and TAMU) for each work breakdown element (WBE). 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 NSF-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. The “Appendix: USIO IT Security Summary” provides information requested by NSF regarding information technology (IT) security policies, procedures, and practices as employed by the USIO to protect contractual research and education activities. The “Appendix: Recommended IODP-USIO Program of Insurance” provides information on risk management services provided to the USIO by TAMRF, including insurance policy monitoring, ongoing risk assessments, marine insurance negotiations, and claims settlement.

[1] In this document, references to TAMU include TAMRF.

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 the provision of downhole logging equipment and engineering support.

# 1.2. USIO FY11 ACTIVITIES

## 1.2.1. SUMMARY OF FY11 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 carry out postexpedition activities related to IODP expeditions and ongoing operational tasks (e.g., completing reports and technical 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 FY11 BUDGET DEFINITIONS

## 1.3.1. NSF GUIDANCE

As called for in NSF Contract OCE-0352500, NSF provided guidance to the USIO that outlined the FY11 Mission Forecast for the USIO as the U.S. System Integration Contractor for IODP. The mission forecast included guidance to conduct 4 expeditions in FY11 and a budget target of $62,500,000. This Annual Program plan reflects the NSF guidance to conduct 4 expeditions, which were subsequently identified by the Science Advisory Structure Executive Committee (SASEC) in January 2010, and their associated costs**.**

## 1.3.2. FY11 USIO BUDGET ASSUMPTIONS

The total budget request to NSF includes costs to support USIO platform operations; costs to fund science operations at sea and all costs in support of these operations such as planning, logistics, engineering science support, etc.; and costs that cover USIO efforts for education and outreach and associated management and administrative support.

The USIO has provided our best-effort estimate of predicted FY11 costs in this plan If additional funds are identified or cost avoidances gained during the fiscal year, the USIO may use them to deploy logging-while-drilling (LWD)/logging-while-coring (LWC) tools during the Costa Rica Seismogenesis Project (CRISP) expedition; purchase elevator handling equipment for use with larger diameter pipe; or 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”** section.

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 FY11 fuel costs; however, market conditions are subject to fluctuations that may result in a need for supplemental funding during the period of operations.

### 1.3.3. USIO BUDGET STRUCTURE

The USIO budget request is partitioned into two programmatic categories: (1) USIO science operating costs (SOC) in a budget submitted to IODP-MI for approval (see **Appendix III. FY11 USIO Science Operating Costs by Institution**) and (2) USIO Systems Integration Contract (SIC) costs in a budget submitted to NSF for approval. The SIC budget includes all platform operating costs (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 FY11 is a request to IODP-MI for $4,078,906 in SOC expenses (submitted in the FY11 Annual Program Plan to IODP-MI) and a request to NSF for $64,322,723 in SIC expenses for USIO operations.

# 2. FY11 USIO BUDGET TABLES

## 2.1. INTRODUCTION

The budget summaries and detailed budgets in this section describe the overall USIO FY11 requests to NSF, subdivided by USIO institution. This information is provided to orient NSF Program Managers about the institutional breakdowns for the overall USIO budgets and provide a framework for interpreting fiscal data in quarterly reports delivered by the USIO.

In **Section 2.2. FY11 USIO SIC WBE Budget Summary**, the line-item total requested for each 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 each USIO institution. 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. FY11 USIO SIC Budget Detail** provides an integrated institutional view of all the budget requests detailed in the WBE sections of the IODP-USIO FY11 Annual Program Plan and this Appendix. The detailed budget justification for these requests can be found in Sections 5–12 of this Annual Program Plan.

## 2.2. FY11 USIO SIC BUDGET SUMMARY

| Element/Expense Category | Ocean Leadership | LDEO | TAMU | Total |
|---|---|---|---|---|
| Management and Administration | 1,210,087 | 692,458 | 2,214,033 | 4,116,578 |
| Technical, Engineering, and Science Support | 0 | 5,174,530 | 51,853,115 | 57,027,645 |
| Engineering Development | 0 | 0 | 0 | 0 |
| Core Curation | 0 | 0 | 110,075 | 110,075 |
| Data Management | 0 | 653,477 | 1,354,280 | 2,007,757 |
| Publications | 0 | 0 | 94,000 | 94,000 |
| Education | 598,306 | 0 | 0 | 598,306 |
| Outreach | 368,362 | 0 | 0 | 368,362 |
| **Total FY11 USIO SIC Budget** | **$2,176,755** | **$6,520,465** | **$55,625,503** | **$64,322,723** |
| **Total Direct Costs** | 1,637,980 | 5,607,420 | 55,300,218 | 62,545,618 |
| **Indirect Costs and Administrative Fees** | 538,775 | 913,045 | 325,285 | 1,777,105 |
| **Grand Total FY11 USIO SIC Budget** | **$2,176,755** | **$6,520,465** | **$55,625,503** | **$64,322,723** |

Notes: Ocean Leadership Indirect Costs are included in the Management and Administration (M&A), Education, 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. FY11 USIO SIC BUDGET DETAIL

| Element/Expense Category | Ocean Leadership | LDEO | TAMU | Total |
|---|---|---|---|---|
| **Management and Administration** | | | | |
| Salaries and Fringes | 593,566 | 424,193 | 1,638,233 | 2,655,992 |
| Travel | 172,000 | 7,626 | 95,000 | 274,626 |
| Supplies | 10,000 | 13,200 | 26,600 | 49,800 |
| Shipping | 4,500 | 440 | 3,990 | 8,930 |
| Communication | 20,000 | 4,488 | 21,850 | 46,338 |
| Contractual Services | 80,000 | 0 | 0 | 80,000 |
| Equipment | 0 | 0 | 950 | 950 |
| Other Direct Costs | 20,000 | 2,640 | 102,125 | 124,765 |
| **Total Direct Costs** | 900,066 | 452,587 | 1,888,748 | 3,241,401 |
| Modified Total Direct Costs (if applicable) | 0 | 452,587 | 0 | 452,587 |
| **Indirect Costs or Administrative Fees** | 310,021 | 239,871 | 325,285 | 875,177 |
| **Total Management and Administration** | **1,210,087** | **692,458** | **2,214,033** | **4,116,578** |
| **Technical, Engineering, and Science Support** | | | | |
| Salaries and Fringes | 0 | 669,911 | 5,872,100 | 6,542,011 |
| Travel | 0 | 97,887 | 665,500 | 763,387 |
| Supplies | 0 | 43,100 | 2,261,102 | 2,304,202 |
| Shipping | 0 | 12,097 | 692,243 | 704,340 |
| Communication | 0 | 4,195 | 309,200 | 313,395 |
| Contractual Services | 0 | 3,850,292 | 0 | 3,850,292 |
| Equipment | 0 | 14,000 | 1,152,350 | 1,166,350 |
| Other Direct Costs | 0 | 29,175 | 40,900,620 | 40,929,795 |
| *Day Rate* | *0* | *0* | *29,673,500* | *29,673,500* |
| *Fuel and Lubricants* | *0* | *0* | *5,910,000* | *5,910,000* |
| *Per Diem* | *0* | *0* | *506,346* | *506,346* |
| *Port Calls* | *0* | *0* | *1,767,000* | *1,767,000* |
| *Insurance* | *0* | *0* | *1,387,364* | *1,387,364* |
| *Travel—ODL* | *0* | *0* | *595,000* | *595,000* |
| *Other* | *0* | *29,175* | *1,061,410* | *1,090,585* |
| **Total Direct Costs** | 0 | 4,720,657 | 51,853,115 | 56,573,772 |
| Modified Total Direct Costs (if applicable) | 0 | 856,365 | 0 | 856,365 |
| **Indirect Costs or Administrative Fees** | 0 | 453,873 | 0 | 453,873 |
| **Total Technical, Engineering, and Science Support** | **$0** | **$5,174,530** | **$51,853,115** | **$57,027,645** |
| **Engineering Development** | | | | |
| Salaries and Fringes | 0 | 0 | 0 | 0 |
| Travel | 0 | 0 | 0 | 0 |
| Supplies | 0 | 0 | 0 | 0 |
| Shipping | 0 | 0 | 0 | 0 |
| Communication | 0 | 0 | 0 | 0 |
| Contractual Services | 0 | 0 | 0 | 0 |
| Equipment | 0 | 0 | 0 | 0 |
| Other Direct Costs | 0 | 0 | 0 | 0 |
| **Total Direct Costs** | 0 | 0 | 0 | 0 |
| Modified Total Direct Costs (if applicable) | 0 | 0 | 0 | 0 |
| **Indirect Costs or Administrative Fees** | 0 | 0 | 0 | 0 |
| **Total Engineering Development** | **$0** | **$0** | **$0** | **$0** |

(Continued on next two pages.)

# FY11 USIO SIC BUDGET DETAIL, CONTINUED

| Element/Expense Category | Ocean Leadership | LDEO | TAMU | Total |
|---|---|---|---|---|
| **Core Curation** | | | | |
| Salaries and Fringes | 0 | 0 | 85,375 | 85,375 |
| Travel | 0 | 0 | 11,000 | 11,000 |
| Supplies | 0 | 0 | 5,000 | 5,000 |
| Shipping | 0 | 0 | 6,250 | 6,250 |
| Communication | 0 | 0 | 875 | 875 |
| Contractual Services | 0 | 0 | 0 | 0 |
| Equipment | 0 | 0 | 0 | 0 |
| Other Direct Costs | 0 | 0 | 1,575 | 1,575 |
| **Total Direct Costs** | 0 | 0 | 110,075 | 110,075 |
| Modified Total Direct Costs (if applicable) | 0 | 0 | 0 | 0 |
| **Indirect Costs or Administrative Fees** | 0 | 0 | 0 | 0 |
| **Total Core Curation** | **$0** | **$0** | **$110,075** | **$110,075** |
| **Data Management** | | | | |
| Salaries and Fringes | 0 | 364,958 | 855,025 | 1,219,983 |
| Travel | 0 | 13,188 | 61,500 | 74,688 |
| Supplies | 0 | 23,460 | 27,000 | 50,460 |
| Shipping | 0 | 1,260 | 575 | 1,835 |
| Communication | 0 | 1,560 | 19,200 | 20,760 |
| Contractual Services | 0 | 0 | 0 | 0 |
| Equipment | 0 | 20,400 | 93,750 | 114,150 |
| Other Direct Costs | 0 | 9,350 | 297,230 | 306,580 |
| **Total Direct Costs** | 0 | 434,176 | 1,354,280 | 1,788,456 |
| Modified Total Direct Costs (if applicable) | 0 | 413,776 | 0 | 413,776 |
| **Indirect Costs or Administrative Fees** | 0 | 219,301 | 0 | 219,301 |
| **Total Data Management** | **$0** | **$653,477** | **$1,354,280** | **$2,007,757** |
| **Publications** | | | | |
| Salaries and Fringes | 0 | 0 | 64,000 | 64,000 |
| Travel | 0 | 0 | 30,000 | 30,000 |
| Supplies | 0 | 0 | 0 | 0 |
| Shipping | 0 | 0 | 0 | 0 |
| Communication | 0 | 0 | 0 | 0 |
| Contractual Services | 0 | 0 | 0 | 0 |
| Equipment | 0 | 0 | 0 | 0 |
| Other Direct Costs | 0 | 0 | 0 | 0 |
| **Total Direct Costs** | 0 | 0 | 94,000 | 94,000 |
| Modified Total Direct Costs (if applicable) | 0 | 0 | 0 | 0 |
| **Indirect Costs or Administrative Fees** | 0 | 0 | 0 | 0 |
| **Total Publications** | **$0** | **$0** | **$94,000** | **$94,000** |

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# FY11 USIO SIC BUDGET DETAIL, CONTINUED

| Element/Expense Category | Ocean Leadership | LDEO | TAMU | Total |
|---|---|---|---|---|
| **Education** | | | | |
| Salaries and Fringes | 188,222 | 0 | 0 | 188,222 |
| Travel | 95,000 | 0 | 0 | 95,000 |
| Supplies | 7,500 | 0 | 0 | 7,500 |
| Shipping | 6,000 | 0 | 0 | 6,000 |
| Communication | 5,000 | 0 | 0 | 5,000 |
| Contractual Services | 150,000 | 0 | 0 | 150,000 |
| Equipment | 5,000 | 0 | 0 | 5,000 |
| Other Direct Costs | 0 | 0 | 0 | 0 |
| **Total Direct Costs** | 456,722 | 0 | 0 | 456,722 |
| Modified Total Direct Costs (if applicable) | 0 | 0 | 0 | 0 |
| **Indirect Costs or Administrative Fees** | 141,584 | 0 | 0 | 141,584 |
| **Total Education** | **$598,306** | **$0** | **$0** | **$598,306** |
| **Outreach** | | | | |
| Salaries and Fringes | 160,137 | 0 | 0 | 160,137 |
| Travel | 35,000 | 0 | 0 | 35,000 |
| Supplies | 19,125 | 0 | 0 | 19,125 |
| Shipping | 3,230 | 0 | 0 | 3,230 |
| Communication | 1,200 | 0 | 0 | 1,200 |
| Contractual Services | 62,500 | 0 | 0 | 62,500 |
| Equipment | 0 | 0 | 0 | 0 |
| Other Direct Costs | 0 | 0 | 0 | 0 |
| **Total Direct Costs** | 281,192 | 0 | 0 | 281,192 |
| Modified Total Direct Costs (if applicable) | 0 | 0 | 0 | 0 |
| **Indirect Costs or Administrative Fees** | 87,170 | 0 | 0 | 87,170 |
| **Total Outreach** | **$368,362** | **$0** | **$0** | **$368,362** |
| Grand Total Direct Costs | 1,637,980 | 5,607,420 | 55,300,218 | 62,545,618 |
| Indirect Costs/Administrative Fee | 538,775 | 913,045 | 325,285 | 1,777,105 |
| **TOTAL FY11 USIO SIC BUDGET** | **$2,176,755** | **$6,520,465** | **$55,625,503** | **$64,322,723** |

# 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 U.S. Systems Integration Contract 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 work breakdown element (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 SIC and other costs. The FTE allocation tables reflect actual FTEs as of 15 April 2010 plus projected FTEs for FY11. Staffing levels may change annually due to unanticipated changes in the operations schedule and/or scope of work. Other FTEs shown in **Section 3.2.1. FY11 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. FY11 USIO FTE ALLOCATION SUMMARY

| FTE by Work Breakdown Elements | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **USIO Office** | **M&A** | **TESS** | **ED** | **CC** | **DM** | **Pubs** | **Ed** | **Otrch** | **Total** |
| Ocean Leadership | 3.43 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 1.30 | 6.73 |
| LDEO | 3.96 | 7.85 | 0.00 | 0.00 | 3.51 | 0.00 | 0.00 | 0.00 | 15.32 |
| TAMU | 5.23 | 62.00 | 0.00 | 1.00 | 11.63 | 1.20 | 0.00 | 0.00 | 81.05 |
| **Totals** | **12.61** | **69.85** | **0.00** | **1.00** | **15.14** | **1.20** | **2.00** | **1.30** | **103.09** |

| FTE by Expense Category | | | |
|---|---|---|---|
| **USIO Office** | **SIC** | **Other** | **Total** |
| Ocean Leadership | 6.73 | 1.38 | 8.10 |
| LDEO | 15.32 | 4.42 | 19.74 |
| TAMU | 81.05 | 29.70 | 110.75 |
| **Totals** | **103.09** | **35.50** | **138.59** |

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; SIC = U.S. Systems Integration Contract costs; Other = efforts funded by other sources (e.g., science operating costs [SOC], San Andreas Fault Observatory at Depth [SAFOD], etc.). Student workers and TAMRF administrative support staff are not included in the table.

## 3.2.2. FY11 USIO FTE ALLOCATION DETAIL

| Position | | | % Work Breakdown Elements | | | | | | | | | % Effort Totals | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Name | Position Title | USIO Office | M&A | TESS | ED | CC | DM | Pubs | Ed | Otrch | Total | SIC | Other | Total |
| Bob Gagosian | President and Chief Executive Officer | Ocean Leadership | 12.5% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 12.5% | 12.5% | 0% | 12.5% |
| Molly Fink | Executive Assistant | Ocean Leadership | 12.5% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 12.5% | 12.5% | 0% | 12.5% |
| David Divins | Director, Ocean Drilling Programs | Ocean Leadership | 75% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 75% | 75% | 25% | 100% |
| Greg Myers | Senior Technical Expert | Ocean Leadership | 50% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 50% | 50% | 50% | 100% |
| Doug Fils | Technical Expert | Ocean Leadership | 81.25% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 81.25% | 81.25% | 18.75% | 100% |
| Margo Morell | Assistant Director, Ocean Drilling | Ocean Leadership | 81.25% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 81.25% | 81.25% | 18.75% | 100% |
| Julie Farver | Manager, Travel Services | Ocean Leadership | 10% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 10% | 10% | 0% | 10% |
| Audrey Divins | Administrative Assistant | Ocean Leadership | 20% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 20% | 20% | 0% | 20% |
| Sarah Saunders | Director, Science Communications | Ocean Leadership | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 67.5% | 67.5% | 67.5% | 13% | 80% |
| Kristin Ludwig | Manager, Communications | Ocean Leadership | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 62.5% | 62.5% | 62.5% | 13% | 75% |
| Leslie Peart | Director, Education | Ocean | 0% | 0% | 0% | 0% | 0% | 0% | 50% | 0% | 50% | 50% | 0% | 50% |
| Sharon Cooper | Assistant Director, Education | Ocean Leadership | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 100% | 100% | 0% | 100% |
| Katie Golieb | Administrative Assistant | Ocean Leadership | 0% | 0% | 0% | 0% | 0% | 0% | 50% | 0% | 50% | 50% | 0% | 50% |
| **TOTAL Ocean Leadership FTEs** | | | **3.43** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **2.00** | **1.30** | **6.73** | **6.73** | **1.38** | **8.10** |
| Dave Goldberg | Director | LDEO | 44% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 44.0% | 44% | 11.83% | 55.83% |
| Marsha Meyer | Administrative Assistant | LDEO | 88% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 88% | 88% | 12% | 100% |
| Alberto Malinverno | Principal Scientist | LDEO | 0% | 17.5% | 0% | 0% | 0% | 0% | 0% | 0% | 17.5% | 17.5% | 0% | 17.5% |

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., science operating costs [SOC], San Andreas Fault Observatory at Depth [SAFOD], etc.); SIC = U.S. Systems Integration Contract costs; TBN = to be named. We anticipate filling all TBN positions before or during FY11. Student workers and TAMRF administrative support staff are not included in the table. (Continued on next seven pages.)

## 3.2.2. FY11 USIO FTE ALLOCATION DETAIL (CONTINUED)

| Position | | | % Work Breakdown Elements | | | | | | | | | % Effort Totals | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Name | Position Title | USIO Office | M&A | TESS | ED | CC | DM | Pubs | Ed | Otrch | Total | SIC | Other | Total |
| Mary Reagan | Deputy Director | LDEO | 88% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 88% | 88% | 12% | 100% |
| Simon Draper | Office Coordinator | LDEO | 0% | 42% | 0% | 0% | 0% | 0% | 0% | 0% | 42% | 42% | 0% | 42% |
| Carl Brenner | Technical Services Specialist | LDEO | 44% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 44% | 44% | 6% | 50% |
| TBN | Web/Graphics Developer | LDEO | 44% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 44% | 44% | 6% | 50% |
| David Grames | Project Coordinator | LDEO | 88% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 88% | 88% | 12% | 100% |
| Sarah Davies | Logging Consortium Chief Scientist | LDEO | 0% | 8% | 0% | 0% | 0% | 0% | 0% | 0% | 8% | 8% | 0% | 8% |
| Eric Meissner | Manager, Engineering and Technical Services | LDEO | 0% | 75% | 0% | 0% | 0% | 0% | 0% | 0% | 75% | 75% | 25% | 100% |
| Walt Masterson | Engineering/Logistics Coordinator | LDEO | 0% | 75% | 0% | 0% | 0% | 0% | 0% | 0% | 75% | 75% | 25% | 100% |
| Geetika Kapoor | Electrical Engineer | LDEO | 0% | 75% | 0% | 0% | 0% | 0% | 0% | 0% | 75% | 75% | 25% | 100% |
| Stefan Mrozewski | Mechanical Engineer | LDEO | 0% | 75% | 0% | 0% | 0% | 0% | 0% | 0% | 75% | 75% | 25% | 100% |
| Gerardo Iturrino | Supervisor, Science Operations | LDEO | 0% | 75% | 0% | 0% | 0% | 0% | 0% | 0% | 75% | 75% | 25% | 100% |
| Louise Anderson | Logging Staff Scientist | LDEO | 0% | 42% | 0% | 0% | 0% | 0% | 0% | 0% | 42% | 42% | 0% | 42% |
| Helen Evans | Logging Staff Scientist | LDEO | 0% | 56% | 0% | 0% | 0% | 0% | 0% | 0% | 56% | 56% | 44% | 100% |
| Annick Fehr | Logging Staff Scientist | LDEO | 0% | 17% | 0% | 0% | 0% | 0% | 0% | 0% | 17% | 17% | 0% | 17% |
| Gilles Guerin | Logging Staff Scientist | LDEO | 0% | 56% | 0% | 0% | 0% | 0% | 0% | 0% | 56% | 56% | 18.75% | 74.75% |
| Jenny Inwood | Logging Staff Scientist | LDEO | 0% | 42% | 0% | 0% | 0% | 0% | 0% | 0% | 42% | 42% | 0% | 42% |
| Johanna Lofi | Logging Staff Scientist | LDEO | 0% | 17% | 0% | 0% | 0% | 0% | 0% | 0% | 17% | 17% | 0% | 17% |
| Angela Slagle | Logging Staff Scientist | LDEO | 0% | 56% | 0% | 0% | 0% | 0% | 0% | 0% | 56% | 56% | 18.75% | 74.75% |
| Trevor Williams | Logging Staff Scientist | LDEO | 0% | 56% | 0% | 0% | 0% | 0% | 0% | 0% | 56% | 56% | 31% | 87% |
| Natalia Zakharova | Graduage Student | LDEO | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 25% | 25% |
| Dan Quoidbach | Manager, Information Services | LDEO | 0% | 0% | 0% | 0% | 60% | 0% | 0% | 0% | 60% | 60% | 40% | 100% |
| Ted Baker | Systems Analyst/Database Administrator | LDEO | 0% | 0% | 0% | 0% | 60% | 0% | 0% | 0% | 60% | 60% | 40% | 100% |
| Golam Sarkar | Technical Analyst | LDEO | 0% | 0% | 0% | 0% | 60% | 0% | 0% | 0% | 60% | 60% | 40% | 100% |
| Cristina Broglia | Supervisor, Data Services | LDEO | 0% | 0% | 0% | 0% | 50% | 0% | 0% | 0% | 50% | 50% | 0% | 50% |

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## 3.2.2. FY11 USIO FTE ALLOCATION DETAIL (CONTINUED)

| Position | | | % Work Breakdown Elements | | | | | | | | | % Effort Totals | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Name | Position Title | USIO Office | M&A | TESS | ED | CC | DM | Pubs | Ed | Otrch | Total | SIC | Other | Total |
| Tanzhuo Liu | Senior Log Analyst | LDEO | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Bob Arko | Database Developer | LDEO | 0% | 0% | 0% | 0% | 21% | 0% | 0% | 0% | 21% | 21% | 0% | 21% |
| **TOTAL LDEO FTEs** | | | **3.96** | **7.85** | **0.00** | **0.00** | **3.51** | **0.00** | **0.00** | **0.00** | **15.32** | **15.32** | **4.42** | **19.74** |
| Brad Clement | Director | TAMU | 47.5% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 47.5% | 47.5% | 2.5% | 50% |
| Barbara McCannon | Administrative Assistant | TAMU | 95% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 95% | 95% | 5% | 100% |
| Bill Wasson | Manager, IODP Business Services | TAMU | 95% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 95% | 95% | 5% | 100% |
| Kim Johnson | Supervisor, IODP Human Resources | TAMU | 95% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 95% | 95% | 5% | 100% |
| Ollie Berka | Human Resources Representative | TAMU | 95% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 95% | 95% | 5% | 100% |
| Ashley Crane | Senior Management Analyst | TAMU | 95% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 95% | 95% | 5% | 100% |
| John Firth | Curator | TAMU | 0% | 0% | 0% | 25% | 0% | 0% | 0% | 0% | 25% | 25% | 75% | 100% |
| Phil Rumford | Superintendent, GCR | TAMU | 0% | 0% | 0% | 25% | 0% | 0% | 0% | 0% | 25% | 25% | 75% | 100% |
| Chad Broyles | Curatorial Specialist | TAMU | 0% | 0% | 0% | 25% | 0% | 0% | 0% | 0% | 25% | 25% | 75% | 100% |
| Lara Miles | Curatorial Specialist | TAMU | 0% | 0% | 0% | 25% | 0% | 0% | 0% | 0% | 25% | 25% | 75% | 100% |
| Mitch Malone | Manager, Science Operations | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Janice Muston | Administrative Assistant | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| William Rinehart | Supervisor, Engineering Services | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Bob Aduddell | Staff Engineer | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Kevin Grigar | Staff Engineer | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Liping Chen | Senior Design Engineer | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Dean Ferrell | Senior Designer | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Mike Meiring | Senior Designer | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Eric Schulte | Senior Designer | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Mike Storms | Supervisor, Operations Support | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |

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## 3.2.2. FY11 USIO FTE ALLOCATION DETAIL (CONTINUED)

| Position | | | % Work Breakdown Elements | | | | | | | | | % Effort Totals | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Name | Position Title | USIO Office | M&A | TESS | ED | CC | DM | Pubs | Ed | Otrch | Total | SIC | Other | Total |
| Ron Grout | Operations Superintendent | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Steve Midgley | Operations Superintendent | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Dave Lehnert | Materials Specialist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Robert Mitchell | Marine Logistics Coordinator | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| TBN | Materials Technician | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Sandy Dillard | Shipping and Receiving Coordinator | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Adam Klaus | Supervisor, Science Support | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Carlos Alvarez-Zarikian | Staff Scientist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Peter Blum | Staff Scientist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Kusali Gamage | Staff Scientist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Joerg Geldmacher | Staff Scientist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Katerina Petronotis | Staff Scientist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| TBN | Staff Scientist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Jay Miller | Manager, Technical and Analytical Services | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| David Houpt | Supervisor, Analytical Systems | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Karen Graber | Staff Researcher | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Chris Bennight | Research Specialist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Lisa Brandt | Research Specialist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Trevor Cobine | Research Specialist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Thomas Gorgas | Research Specialist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Maggie Hastedt | Research Specialist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Sarah-Jane Jackett | Research Specialist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Zenon Mateo | Research Specialist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Maxim Vasilyev | Research Specialist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Yulia Vasilyeva | Research Specialist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Michael Bertoli | Research Assistant | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |

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## 3.2.2. FY11 USIO FTE ALLOCATION DETAIL (CONTINUED)

| Position | | | % Work Breakdown Elements | | | | | | | | | % Effort Totals | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Name | Position Title | USIO Office | M&A | TESS | ED | CC | DM | Pubs | Ed | Otrch | Total | SIC | Other | Total |
| John Beck | Senior Imaging Specialist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Bill Crawford | Senior Imaging Specialist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Brad Julson | Supervisor, Technical Support | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Roy Davis | Laboratory Officer | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Bill Mills | Laboratory Officer | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Tim Bronk | Assistant Laboratory Officer | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Lisa Crowder | Assistant Laboratory Officer | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Chieh Peng | Assistant Laboratory Officer | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Steve Prinz | Assistant Laboratory Officer | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Heather Barnes | Marine Laboratory Specialist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Ted Gustafson | Marine Laboratory Specialist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Kristin Hillis | Marine Laboratory Specialist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Eric Jackson | Marine Laboratory Specialist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Erik Moortgat | Marine Laboratory Specialist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| TBN | Marine Laboratory Specialist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Etienne Claassen | Senior Marine Instrumentation Specialist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Randy Gjesvold | Senior Marine Instrumentation Specialist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |

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## 3.2.2. FY11 USIO FTE ALLOCATION DETAIL (CONTINUED)

| Position | | | % Work Breakdown Elements | | | | | | | | | % Effort Totals | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Name | Position Title | USIO Office | M&A | TESS | ED | CC | DM | Pubs | Ed | Otrch | Total | SIC | Other | Total |
| Garrick Van Rensburg | Senior Marine Instrumentation Specialist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Jurie Kotze | Marine Instrumentation Specialist | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Jim Rosser | Manager, Development, IT, and Databases | TAMU | 0% | 0% | 0% | 0% | 75% | 0% | 0% | 0% | 75% | 75% | 25% | 100% |
| Denise Ponzio | Information Services Assistant | TAMU | 0% | 0% | 0% | 0% | 75% | 0% | 0% | 0% | 75% | 75% | 25% | 100% |
| Phil Gates | Supervisor, Information Technology Support | TAMU | 0% | 0% | 0% | 0% | 75% | 0% | 0% | 0% | 75% | 75% | 25% | 100% |
| Cesar Flores | Senior Systems Administrator | TAMU | 0% | 0% | 0% | 0% | 75% | 0% | 0% | 0% | 75% | 75% | 25% | 100% |
| Jennifer Hutchinson | Systems Administrator | TAMU | 0% | 0% | 0% | 0% | 75% | 0% | 0% | 0% | 75% | 75% | 25% | 100% |
| Matt Mefferd | Systems Administrator | TAMU | 0% | 0% | 0% | 0% | 75% | 0% | 0% | 0% | 75% | 75% | 25% | 100% |
| Mike Petersen | Senior Systems Support Specialist | TAMU | 0% | 0% | 0% | 0% | 75% | 0% | 0% | 0% | 75% | 75% | 25% | 100% |
| John Baldwin | Systems Support Specialist | TAMU | 0% | 0% | 0% | 0% | 38% | 0% | 0% | 0% | 38% | 38% | 13% | 50% |
| Tiffany Bloxom | Systems Support Specialist | TAMU | 0% | 0% | 0% | 0% | 75% | 0% | 0% | 0% | 75.0% | 75% | 25% | 100% |
| James Cordray | Systems Support Specialist | TAMU | 0% | 0% | 0% | 0% | 75% | 0% | 0% | 0% | 75% | 75% | 25% | 100% |
| Chuck Haddick | Systems Support Specialist | TAMU | 0% | 0% | 0% | 0% | 75% | 0% | 0% | 0% | 75% | 75% | 25% | 100% |
| Mike Hodge | Senior Marine Computer Specialist | TAMU | 0% | 0% | 0% | 0% | 75% | 0% | 0% | 0% | 75% | 75% | 25% | 100% |
| Grant Banta | Marine Computer Specialist | TAMU | 0% | 0% | 0% | 0% | 75% | 0% | 0% | 0% | 75% | 75% | 25% | 100% |
| Andrew Trefethen | Marine Computer Specialist | TAMU | 0% | 0% | 0% | 0% | 75% | 0% | 0% | 0% | 75% | 75% | 25% | 100% |

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## 3.2.2. FY11 USIO FTE ALLOCATION DETAIL (CONTINUED)

| Position | | | % Work Breakdown Elements | | | | | | | | | % Effort Totals | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Name | Position Title | USIO Office | M&A | TESS | ED | CC | DM | Pubs | Ed | Otrch | Total | SIC | Other | Total |
| TBN | Marine Computer Specialist | TAMU | 0% | 0% | 0% | 0% | 75% | 0% | 0% | 0% | 75% | 75% | 25% | 100% |
| Paul Foster | Supervisor, Applications Development | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| David Fackler | Applications Developer IV | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Dwight Hornbacher | Applications Developer IV | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Timothy Blaisdell | Applications Developer III | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Stephanie Zeliadt | Applications Developer III | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| James Zhao | Applications Developer III | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Algie Morgan | Applications Developer II | TAMU | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% | 0% | 100% |
| Rakesh Mithal | Supervisor, Databases/Archives | TAMU | 0% | 0% | 0% | 0% | 25% | 0% | 0% | 0% | 25% | 25% | 75% | 100% |
| TBN | Database Administrator | TAMU | 0% | 0% | 0% | 0% | 25% | 0% | 0% | 0% | 25% | 25% | 75% | 100% |
| Don Sims | Data Analyst | TAMU | 0% | 0% | 0% | 0% | 25% | 0% | 0% | 0% | 25% | 25% | 75% | 100% |
| Angie Miller | Manager, Publication Services | TAMU | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% |
| Lorri Peters | Supervisor, Editing | TAMU | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% |
| Shana Lewis | Editor III | TAMU | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% |
| Amy McWilliams | Editor III | TAMU | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% |
| Jenni Hesse | Editor II | TAMU | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% |
| Erin O'Roke | Editor II | TAMU | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% |
| Ginny Lowe | Reports Coordinator | TAMU | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% |
| Kathy Phillips | Publications Specialist | TAMU | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 75% | 75% |
| Jaime Gracia | Supervisor, Production | TAMU | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% |

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## 3.2.2. FY11 USIO FTE ALLOCATION DETAIL (CONTINUED)

| Position | | | % Work Breakdown Elements | | | | | | | | | % Effort Totals | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Name | Position Title | USIO Office | M&A | TESS | ED | CC | DM | Pubs | Ed | Otrch | Total | SIC | Other | Total |
| Patrick Edwards | Production Specialist III | TAMU | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% |
| Kenneth Sherar | Production Specialist II | TAMU | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% |
| Crystal Wolfe | Production Specialist II | TAMU | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% |
| TBN | Production Specialist I | TAMU | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% |
| Ann Yeager | Distribution Specialist | TAMU | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% |
| Debbie Partain | Supervisor, Graphics | TAMU | 0% | 0% | 0% | 0% | 0% | 20% | 0% | 0% | 20% | 20% | 80% | 100% |
| Tim Fulton | Graphics Specialist II | TAMU | 0% | 0% | 0% | 0% | 0% | 20% | 0% | 0% | 20% | 20% | 80% | 100% |
| Rhonda Kappler | Graphics Specialist II | TAMU | 0% | 0% | 0% | 0% | 0% | 20% | 0% | 0% | 20% | 20% | 80% | 100% |
| Laura Koehler | Graphics Specialist II | TAMU | 0% | 0% | 0% | 0% | 0% | 20% | 0% | 0% | 20% | 20% | 80% | 100% |
| TBN | Graphics Specialist II | TAMU | 0% | 0% | 0% | 0% | 0% | 20% | 0% | 0% | 20% | 20% | 80% | 100% |
| TBN | Graphics Specialist II | TAMU | 0% | 0% | 0% | 0% | 0% | 20% | 0% | 0% | 20% | 20% | 80% | 100% |
| TBN | Graphics Specialist II | TAMU | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% |
| Gigi Delgado | Senior Publications Coordinator | TAMU | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% | 100% |
| **TOTAL TAMU FTEs** | | | **5.23** | **62.00** | **0.00** | **1.00** | **11.63** | **1.20** | **0.00** | **0.00** | **81.05** | **81.05** | **29.70** | **110.75** |
| **GRAND TOTAL USIO FTEs** | | | **12.61** | **69.85** | **0.00** | **1.00** | **15.14** | **1.20** | **2.00** | **1.30** | **103.09** | **103.09** | **35.50** | **138.59** |

# 4. EXPEDITION OPERATIONS

## 4.1. INTRODUCTION

This Annual Program Plan is based on the operations schedule published 1 February 2010, including a four-month maintenance period that assumes a Gulf of Mexico tie-up location.

| | |
|---|---|
| 19 September–9 October 2010 | Transit |
| 9 October–13 December 2010 | South Pacific Gyre Expedition |
| 13 December 2010–12 February 2011 | Louisville Seamount Trail Expedition |
| 12 February–15 March 2011 | Transit |
| 15 March–14 April 2011 | Costa Rica Seismogenesis Project Expedition |
| 14 April–4 June 2011 | Superfast Spreading Rate Crust 4 Expedition |
| 4 June–17 September 2011 | Maintenance Period* |
| 17 September–20 November 2011 | Mid-Atlantic Ridge Microbiology Expedition |

*includes deploying IODP-funded engineering project Simple Cabled Instrument for Measuring Parameters In Situ (SCIMPI) at a site of opportunity during the maintenance period.

## 4.2. OPERATIONS

### 4.2.1. SOUTH PACIFIC GYRE EXPEDITION

#### *Proposed Operations*

The main objectives of the South Pacific Gyre Expedition are to (1) document the habitats, activities, composition and biomass of microbial communities in subseafloor sediments with very low total activity; (2) test how oceanographic factors (such as surface ocean chlorophyll content and organic flux to the seafloor) control variation in sedimentary habitats, activities, and communities from gyre center to gyre margin; (3) quantify the extent to which these sedimentary communities may be supplied with electron donors by water radiolysis, a process independent of the surface photosynthetic world; and (4) determine how basement habitats, potential activities, and communities vary with crustal age and hydrologic regime in a region of fast seafloor spreading and thin sediment cover. To meet these objectives, we will core the entire sediment column at seven sites and the upper 100 m of basement at three sites. The three basement sites and the deepest sediment site will be logged.

#### *Logistics*

Operations for the South Pacific Gyre Expedition require an estimated 65 days (4 in port, 9 in transit to and from the first/last sites, and 52 in operations, which includes ~18 days of transit between sites).

### 4.2.2. LOUISVILLE SEAMOUNT TRAIL EXPEDITION

#### *Proposed Operations*

The Louisville seamount trail is a 4,300 km long volcanic chain that is inferred to have been built in the past 80 m.y. as the Pacific plate moved over a persistent melt anomaly or hotspot, and is the South Pacific counterpart of the more extensively studied Hawaiian-Emperor seamount trail. The Louisville Seamount Trail Expedition is designed to examine (1) the possible motion of the Louisville hotspot and its geodynamical implications and (2) the eruptive cycle and geochemical evolution of the seamount trail. To address these objectives, we will core and log at least 350 m into igneous basement at three small and one larger Louisville guyots.

#### *Logistics*

Operations for the Louisville Expedition are budgeted based on an estimated 61 days (5 in port, 8 in transit, and 48 in operations).

### 4.2.3. COSTA RICA SEISMOGENESIS PROJECT EXPEDITION

#### *Proposed Operations*

The CRISP Expedition is part of a complex drilling project designed to understand the processes that control nucleation and seismic rupture of large earthquakes at erosional subduction zones. The FY11 CRISP Expedition is based on part of IODP Proposal 537-Full5. Overall scientific objectives include constraining the architecture and evolution of the plate boundary megathrust, the role of fluids, and the nature of the upper plate in a tectonically erosive margin. The CRISP Expedition will focus on coring two slope sites (Site CRIS 3B–middle slope and Site CRIS 4A–upper slope).

#### *Logistics*

Operations for the CRISP Expedition are budgeted based on an estimated 32 days 30 days (2 in port, 3 in transit, and 25 in operations).

### 4.2.4. SUPERFAST SPREADING RATE CRUST 4 EXPEDITION

#### *Proposed Operations*

The Superfast Spreading Rate Crust 4 Expedition follows on the results of three previous expeditions (Ocean Drilling Program [ODP] Leg 206 and IODP Expedition 309/312) and aims to continue the mission to understand the accretion of oceanic crust formed at a superfast spreading rate at the East Pacific Rise. Previous drilling in ODP Hole 1256D reached a total penetration of 1506 m, including 1250 m into the igneous crust. The hole passed through 345 m of sheeted dikes and continued 100 m into gabbroic rock. This fourth expedition will deepen Hole 1256D as far as possible into gabbro to complete coring and logging of an entire upper to mid-oceanic crustal section. If problems are encountered and it becomes operationally impossible to deepen the hole, contingency sites at CRISP will be drilled.

#### *Logistics*

Operations for the Superfast Expedition are budgeted based on an estimated 51 days (4 in port, 8 in transit, and 39 in operations).

### 4.2.5. MID-ATLANTIC RIDGE MICROBIOLOGY EXPEDITION

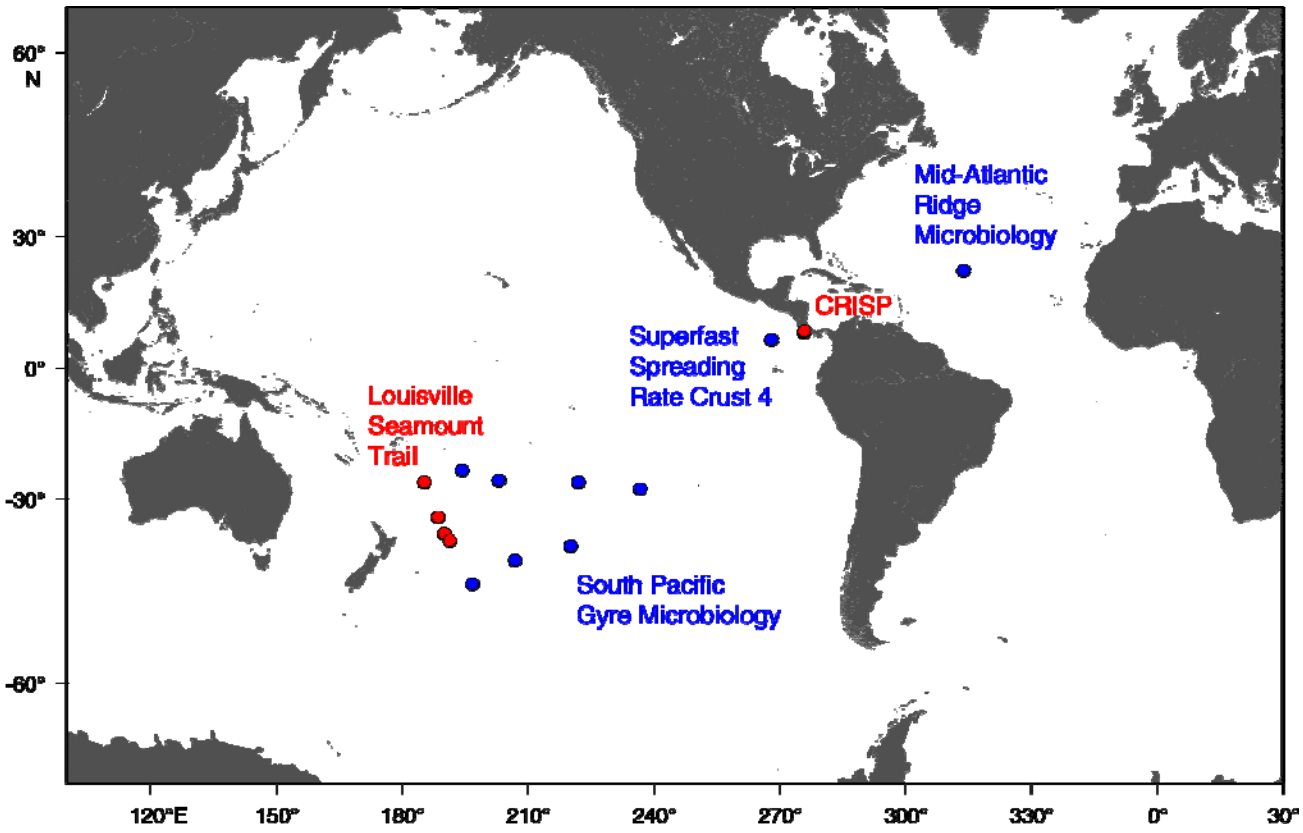
#### *Proposed Operations*

The Mid-Atlantic Ridge Microbiology Expedition will examine the microbiology of a sediment pond and the underlying young, cold, and hydrologically active flank of the Mid-Atlantic Ridge. Drilling operations at three sites will include sediment/basalt coring, basement logging, and installation of three long-term subseafloor observatories. The primary science objectives are to investigate (1) the nature of microbial communities in young ridge flanks and their role in crustal weathering and (2) the origin of deep-seated microbial communities.

#### *Logistics*

Operations for this expedition will straddle FY11 and FY12. Operations for the FY11 portion of the Mid-Atlantic Ridge Microbiology Expedition are budgeted based on an estimated 13 days (5 in port, 4 in transit, and 4 in operations).

# 4.3. IODP-USIO FY11 SITE MAP



# 4.4. EXPEDITION OPERATIONS BUDGET

This table includes the major expedition costs but does not include all costs itemized in the budget narrative below that support expedition operations.

| Expense Category | Transit | South Pacific Gyre | Louisville Seamount Trail | Transit | Costa Rica Seismogenesis Project (CRISP) | Superfast Spreading Rate Crust 4 | Panama Canal and Transit | Maintenance Period (Tie-Up) | Re-deployment and Transit | Mid-Atlantic Ridge Microbiology | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **8 days[1]** | **65 days** | **61 days** | **31 days** | **30 days** | **51 days** | **6 days** | **85 days** | **14 days** | **14 days[1]** | **365 days** |
| **Ship Operations** | | | | | | | | | | | |
| Day Rate | 655,200 | 5,315,500 | 4,985,900 | 2,538,900 | 2,453,000 | 4,168,900 | 491,400 | 6,791,500 | 1,146,600 | 1,126,600 | 29,673,500 |
| Communications[2] | 6,300 | 50,960 | 47,820 | 24,300 | 23,520 | 40,000 | 4,700 | 66,400 | 11,000 | 11,000 | 286,000 |
| Fuel and Lubricants[3] | 0 | 308,000 | 1,490,000 | 810,000 | 500,000 | 837,000 | 143,000 | 530,000 | 669,000 | 623,000 | 5,910,000 |
| Per Diem | 13,440 | 117,000 | 109,000 | 45,000 | 54,000 | 90,000 | 8,900 | 21,100 | 22,906 | 25,000 | 506,346 |
| Port Calls[3] | 0 | 215,000 | 285,000 | 285,000 | 130,000 | 205,000 | 10,000 | 115,000 | 215,000 | 307,000 | 1,767,000 |
| Insurance | 29,000 | 271,000 | 254,000 | 126,000 | 122,000 | 211,000 | 21,000 | 235,000 | 58,000 | 60,364 | 1,387,364 |
| Travel—ODL[3] | 0 | 85,000 | 85,000 | 0 | 85,000 | 85,000 | 0 | 85,000 | 85,000 | 85,000 | 595,000 |
| Other Expenses—ODL[3, 4] | 0 | 7,000 | 7,000 | 2,000 | 4,000 | 4,000 | 0 | 1,000 | 2,000 | 3,000 | 30,000 |
| **Contractual Services** | | | | | | | | | | | |
| Schlumberger[5] | 66,085 | 613,648 | 589,305 | 302,104 | 303,040 | 486,132 | 122,730 | 779,111 | 94,407 | 122,730 | 3,479,292 |
| Environmental Assessment | 0 | 0 | 0 | 0 | 0 | 33,000 | 0 | 0 | 0 | 33,000 | 66,000 |
| **Total** | **$770,025** | **$6,983,108** | **$7,853,025** | **$4,133,304** | **$3,674,560** | **$6,160,032** | **$801,730** | **$8,624,111** | **$2,303,913** | **$2,396,694** | **$43,700,502** |

[1] Only the FY11 portion is included in this budget.

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

[3] Fuel and lubricants, port calls, travel—ODL, and other expenses—ODL required for the transit from Victoria, British Columbia, to Papeete, Tahiti, were budgeted in FY10.

[4] No ODL crew change is expected in Panama prior to the transit to Galveston, Texas, for tie-up. No ODL other expenses are expected for the transit through the Panama Canal and transit to Galveston due to the short duration.

[5] Louisville Seamount Trail Expedition costs include Ultrasonic Borehole Imager deployment. CRISP Expedition costs include logging-while-coring deployment.

Expedition costs included in this budget cover SOC and POC activities in support of the USIO FY11 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 FY11 expeditions and transit, and/or serve as custodians during the maintenance (tie-up) period.

***Supplies***—Office and operational supplies.

Safety equipment and operational, laboratory, logistic, and shipping supplies for the FY11 expeditions.

***Shipping***—Postage, express mail, and freight.

Costs for shipments to and from FY11 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 now 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 associated with environmental assessment 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 an 85-day maintenance (tie-up) period (10 June–2 September 2011) in Galveston, Texas. The weighted average operating and standby day rates for the period are $81,900 and $79,900, respectively. The budget allows for one CPI-U base adjustment of 2.5% and one ECI base adjustment of 2.5%, both effective 1 April 2011.

*Fuel and Lubricants*—Fuel for the riserless vessel.

FY11 ship operations fuel purchases are estimated at a total of 7,300 metric tons: 400 metric tons in Papeete, Tahiti; 3,200 metric tons in Auckland, New Zealand (2 refuelings); 1,500 metric tons in Balboa, Panama; 1,800 metric tons in Galveston, Texas, prior to redeployment; and 400 metric tons in Bridgetown, Barbados. Refuelings are budgeted at $740 to $935 per metric ton, depending on location. Price per metric ton is based on prices quoted by Bunkerworld on 15 July 2010 for the locations specified, plus a 10% inflation factor.

*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 $30/day/person for all non-transit and non-maintenance periods. For transit periods, estimates are based on a shipboard party ranging from 8 to 40 at a cost per person of either $31 or $42 (per the catering contract, the cost per person increases when the shipboard party decreases during transits and tie-up). The cost during the maintenance (tie-up) period (10 June–2 September 2011) is based on 8 onboard IODP custodians at $31/day/person. Also included is approximately $3,400 for meals served during port calls (including tie-up) to all non-seagoing 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 Papeete, Tahiti (4 days); Auckland, New Zealand (2 port calls at 5 days each); Puntarenas, Costa Rica (2 days); Balboa, Panama (4 days); Colon, Panama (1 day), Galveston, Texas (85 days for maintenance [tie-up] and redeployment); and Bridgetown, Barbados (4 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 with premiums for certain sections of the H&M insurance reduced by 50% during the maintenance (tie-up) period.

*Travel–ODL*—Subcontractor transportation.

Airfare for ship subcontractor's crews to/from 7 scheduled crew changes—Papeete, Tahiti; Auckland, New Zealand (2); Balboa, Panama; Galveston, Texas (2 during 85-day maintenance [tie-up] period); and Bridgetown, Barbados. 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 TAMU seagoing employees.

*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 medical evacuation and other miscellaneous charges payable to the ship's subcontractor, drill pipe maintenance, wireline severing charges, shipboard maintenance service calls, transfer fees, weather reports, annual physical examinations for seagoing personnel, copier services, and external copying and printing services.

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

Costs for possible medical evacuations ($25,000) and miscellaneous reimbursables ($5,000) 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 FY11 have already been paid, so these subcontracts are not subject to indirect cost during FY11. 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 FY11

- 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.
- Program Management and Performance Report: Facilitate a detailed review and report on the planning and execution of *JOIDES Resolution* scientific operations.

## 5.3. BUDGET

| **Management and Administration** | | | |
|---|---|---|---|
| **Element/Expense Category** | **POC** | **OPIC** | **Total** |
| Salaries and Fringes | 2,614,570 | 41,422 | 2,655,992 |
| Travel | 259,626 | 15,000 | 274,626 |
| Supplies | 49,800 | 0 | 49,800 |
| Shipping | 8,930 | 0 | 8,930 |
| Communication | 46,338 | 0 | 46,338 |
| Contractual Services | 30,000 | 50,000 | 80,000 |
| Equipment | 950 | 0 | 950 |
| Other Direct Costs | 124,765 | 0 | 124,765 |
| Training | *25,650* | *0* | 25,650 |
| Business Conferences | *3,325* | *0* | 3,325 |
| Insurance | *8,075* | *0* | 8,075 |
| Services | *55,890* | *0* | 55,890 |
| TAMU Computing Services | *19,000* | *0* | 19,000 |
| Equipment Rental | *950* | *0* | 950 |
| Furniture | *2,850* | *0* | 2,850 |
| Recruiting | *475* | *0* | 475 |
| Maintenance and Repair | *7,600* | *0* | 7,600 |
| Library | *950* | *0* | 950 |
| **Total Direct Costs** | 3,134,979 | 106,422 | 3,241,401 |
| Modified Total Direct Costs (if applicable) | 452,587 | 0 | 452,587 |
| **Indirect Costs or Administrative Fees** | 842,186 | 32,991 | 875,177 |
| **Total Management and Administration** | **$3,977,165** | **$139,413** | **$4,116,578** |

NSF 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.

Salaries and fringes for staff supporting the USIO (see **Section 3.2. USIO FTE Allocation Tables**). Also includes salaries and fringes for 12.75 TAMRF FTEs who provide administrative support.

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

USIO travel to SAS panel meetings, task force meetings, IO meetings, USIO meetings, workshops, contractor meetings, scientific and technical meetings, 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.

General office supplies, printer and copier supplies, and electronic media and other computer supplies with an acquisition cost of less than $1,000 (TAMU).

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

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

***Communication***—Telephone and fax charges.

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

***Contractual Services***—Consultant and contract services.

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

***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.

Computers, monitors, and printers for new staff and replacement of equipment (Ocean Leadership). High-volume copier/scanner (TAMU).

***Other Direct Costs***—Costs not covered in other categories.

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

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

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

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.

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.

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).

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.

Rental of equipment for conferences.

*Furniture*—Office furniture.

Office furniture and storage cabinets for use in office and at external storage facilities.

*Recruiting*—Employee recruitment.

Cost of newspaper and internet advertisements of vacant positions.

*Maintenance and Repair*—Maintenance agreements and equipment repairs.

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

*Library*—Books, journals, and other resources.

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.

Ocean Leadership: The approved provisional rate of 31% 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 = $62,000). The G&A costs for the two subcontracts (LDEO and TAMRF) are split 50-50 between SOC G&A and NSF G&A ($31,000 each = $15,500 SOC + $15,500 NSF).

LDEO: 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 FY11 have already been paid, so these subcontracts are not subject to indirect cost during FY11. MTDCs are the total direct costs minus these exceptions.

TAMU: 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 the Center for Deep Earth Exploration (CDEX). The USIO will also provide technical advice and logistical assistance to the European Consortium for Ocean Research Drilling (ECORD) Science Operator (ESO) and CDEX for Schlumberger and other logging services for their expeditions in FY11.

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 FY11 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 FY11

- 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 and task forces 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. Provide formation temperature measurement services to CDEX for their FY11 expeditions.

- Engineering Development: Drilling Sensor Sub—a three-phase continued development of the drilling sensor sub (DSS) tool to (1) measure drilling and coring parameters near the bit during operations, (2) save the data in onboard memory, and (3) wirelessly transmit the data to the retrievable memory module (RMM), which is recovered with the core and downloaded on the surface. Deliverables include two laboratory rig–validated prototype DSS-RMM tools ready for field trials in FY12, which includes both DSS calibration and laboratory rig testing and DSS-RMM laboratory rig testing.
- Legacy Documentation.

## 6.3. BUDGET

| **Technical, Engineering, and Science Support** | | | |
|---|---|---|---|
| **Element/Expense Category** | **POC** | **OPIC** | **Total** |
| Technical, Engineering, and Science Support | | | |
| Salaries and Fringes | 6,542,011 | 0 | 6,542,011 |
| Travel | 763,387 | 0 | 763,387 |
| Supplies | 2,304,202 | 0 | 2,304,202 |
| Shipping | 704,340 | 0 | 704,340 |
| Communication | 313,395 | 0 | 313,395 |
| Contractual Services | 3,850,292 | 0 | 3,850,292 |
| Equipment | 1,166,350 | 0 | 1,166,350 |
| Other Direct Costs | 40,929,795 | 0 | 40,929,795 |
| Day Rate | *29,673,500* | *0* | *29,673,500* |
| Fuel and Lubricants | *5,910,000* | *0* | *5,910,000* |
| Per Diem | *506,346* | *0* | *506,346* |
| Port Calls | *1,767,000* | *0* | *1,767,000* |
| Insurance | *1,387,364* | *0* | *1,387,364* |
| Travel—ODL | *595,000* | *0* | *595,000* |
| Other | *1,090,585* | *0* | *1,090,585* |
| Relocation | *26,500* | *0* | *26,500* |
| Training | *243,600* | *0* | *243,600* |
| Business Conferences | *13,000* | *0* | *13,000* |
| Insurance | *10,000* | *0* | *10,000* |
| Services | *535,525* | *0* | *535,525* |
| Other Expense—ODL | *30,000* | *0* | *30,000* |
| Furniture | *2,000* | *0* | *2,000* |
| Recruiting | *32,500* | *0* | *32,500* |
| Maintenance and Repair | *186,460* | *0* | *186,460* |
| Library | *11,000* | *0* | *11,000* |
| **Total Direct Costs** | 56,573,772 | 0 | 56,573,772 |
| Modified Total Direct Costs (if applicable) | 856,365 | 0 | 856,365 |
| **Indirect Costs or Administrative Fees** | 453,873 | 0 | 453,873 |
| **Total Technical, Engineering, and Science Support** | **$57,027,645** | **$0** | **$57,027,645** |

NSF 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.

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.

Travel to IODP meetings and workshops, pre-expedition and postexpedition meetings, and FY12 planning meetings; meetings with drilling equipment supply vendors; subcontract site visits; and travel costs for USIO staff who will work at port calls, sail on FY11 expeditions and transit, travel to the Mid-Atlantic Ridge Microbiology Expedition (which straddles FY11/FY12), and/or serve as custodians for the maintenance (tie-up) period. Also includes LDEO travel to professional training courses and meetings.

***Supplies***—Office and operational supplies.

General office supplies and operational, laboratory, logistic, and shipping supplies for FY11 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.

Postage for regular correspondence and small packages and shipping to and from FY11 expeditions.

***Communication***—Satellite, telephone, and fax charges.

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.

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, 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 associated with environmental assessment 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.

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., APC, XCB, RCB standard and nonmagnetic wireline coring components, subs, crossovers, fishing tools, drill collars, and outer core barrel components), observatory equipment, and acquisition of parts and spare units for temperature and other downhole measurement tools. Electronics for the superconducting rock magnetometer and expedition-

required or SAS-recommended analytical equipment such as a resistivity meter or portable X-ray spectrophotometer; replacement of aging or irreparable analytical and support equipment, which could include Cahn electrobalances, Schonstedt thermal demagnetizer, DTech magnetizer, Impulse demagnetizer, and obsolete gas chromatography/mass selective detector (GC/MSD), obsolete low-definition video camera; and contingency for replacement of any failed analytical systems.

***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 an 85-day maintenance (tie-up) period (10 June–2 September 2011) in Galveston, Texas. The weighted average operating and standby day rates for the period are $81,900 and $79,900, respectively. The budget allows for one CPI-U base adjustment of 2.5% and one ECI base adjustment of 2.5%, both effective 1 April 2011.

*Fuel and Lubricants*—Fuel for the riserless vessel.

FY11 ship operations fuel purchases are estimated at a total of 7,300 metric tons: 400 metric tons in Papeete, Tahiti; 3,200 metric tons in Auckland, New Zealand (2 refuelings); 1,500 metric tons in Balboa, Panama; 1,800 metric tons in Galveston, Texas, prior to redeployment; and 400 metric tons in Bridgetown, Barbados. Refuelings are budgeted at $740 to $935 per metric ton, depending on location. Price per metric ton is based on prices quoted by Bunkerworld on 15 July 2010 for the locations specified, plus a 10% inflation factor.

*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 $30/day/person for all non-transit and non-maintenance periods. For transit periods, estimates are based on a shipboard party ranging from 8 to 40 at a cost per person of either $31 or $42 (per the catering contract, the cost per person increases when the shipboard party decreases during transits and tie-up). The cost during the maintenance (tie-up) period (10 June–2 September 2011) is based on 8 onboard IODP custodians at $31/day/person. Also included is approximately $3,400 for meals served during port calls (including tie-up) to all non-seagoing 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.

Port calls are scheduled for Papeete, Tahiti (4 days); Auckland, New Zealand (2 port calls at 5 days each); Puntarenas, Costa Rica (2 days); Balboa, Panama (4 days); Colon, Panama (1 day), Galveston, Texas (85 days for maintenance [tie-up] and redeployment); and Bridgetown, Barbados (4 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 with premiums for certain sections of the H&M insurance reduced by 50% during the maintenance (tie-up) period.

*Travel–ODL*—Subcontractor transportation.

Airfare for ship subcontractor's crews to/from 7 scheduled crew changes—Papeete, Tahiti; Auckland, New Zealand (2); Balboa, Panama; Galveston, Texas (2 during 85-day maintenance [tie-up] period); and Bridgetown, Barbados. 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.

Relocation costs for new employees (TAMU).

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

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

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

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.

Annual insurance premiums for USIO vehicles.

*Services*—Expert assistance.

Annual physical examinations for seagoing personnel, copier services, vehicle and warehouse equipment repair, drill pipe maintenance, equipment testing and calibration (including DSS), machine shop services, and weather analysis for Initial Proposal Evaluations.

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

Costs for possible medical evacuations ($25,000) and miscellaneous reimbursables ($5,000) payable to the ship's subcontractor.

*Furniture*—Office furniture.

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

*Recruiting*—Employee recruitment.

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.

Maintenance and repair of office equipment, postage meter, vehicle fleet, equipment in warehouse, overhead cranes, other loading dock equipment, and laboratory and safety equipment.

*Library*—Books, journals, and other resources.

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

***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 FY11 have already been paid, so these subcontracts are not subject to indirect cost during FY11. 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. DELIVERABLES IN FY11

No NSF-funded deliverables are scheduled for FY11.

## 7.3. BUDGET

With no deliverables scheduled in FY11, there are no funds budgeted for this WBE.

# 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 FY11

- 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 (SAC) for each expedition.
- Sample Materials Curation System (SMCS): Work with IODP-MI and the other IOs to produce a design document for a successor to the SMCS system and test the new database during its development.
- Sample Requests: Respond to 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 SAS, as appropriate.
- Legacy Documentation.

# 8.3. BUDGET

| Core Curation | | | |
|---|---|---|---|
| **Element/Expense Category** | **POC** | **OPIC** | **Total** |
| Core Curation | | | |
| Salaries and Fringes | 85,375 | 0 | 85,375 |
| Travel | 11,000 | 0 | 11,000 |
| Supplies | 5,000 | 0 | 5,000 |
| Shipping | 6,250 | 0 | 6,250 |
| Communication | 875 | 0 | 875 |
| Contractual Services | 0 | 0 | 0 |
| Equipment | 0 | 0 | 0 |
| Other Direct Costs | 1,575 | 0 | 1,575 |
| Training | *550* | *0* | 550 |
| Business Conferences | *100* | *0* | 100 |
| Services | *175* | *0* | 175 |
| Maintenance & Repair | *750* | *0* | 750 |
| **Total Core Curation Direct Costs** | 110,075 | 0 | 110,075 |
| Modified Total Direct Costs (if applicable) | 0 | 0 | 0 |
| **Indirect Costs or Administrative Fees** | 0 | 0 | 0 |
| **Total Core Curation** | **$110,075** | **$0** | **$110,075** |

NSF funds for this WBE are budgeted as follows:

***Salaries and Fringes***—Salaries, fringes, and sea pay, including an estimated fringe benefits rate.

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

***Travel***—Trasportation, per diem, lodging, and other associated costs.

Travel to IODP meetings and workshops, IO meetings, and USIO meetings, including an annual IODP Curators meeting; an AGU meeting; and travel costs for TAMU staff who will sail on FY11 expeditions.

***Supplies***—Office and operational supplies.

General office supplies, printer supplies, general laboratory supplies, specialized supplies for sampling and curatorial tasks, and supplies for packing extra-large shipments, packing deep frozen microbiological shipments, and hosting sampling parties.

***Shipping—***Postage, express mail, and freight.

Postage for regular correspondence, regular-sized sample shipments to scientists, and as many as 10 special sample shipments for FY11 (for deep-frozen microbiological samples, U-channels, or whole core sections for XRF scanning) at an average cost of $1,000 each.

***Communication***—Telephone and fax charges.

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.

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

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

Expenses for groups of scientists, educators, or others visiting the GCR.

*Services*—Expert assistance.

Annual physical examinations for seagoing personnel.

*Maintenance and Repair*—Maintenance agreements and equipment repairs.

Repairs and maintenance for storage buildings; refrigeration units; deep freezers; laboratory, repository, and office equipment; forklift; and shrink-wrap machine.

# 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, supporting IT services, and providing database services for postmoratorium ESO and CDEX log data.

## 9.2. DELIVERABLES IN FY11

- 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 postmoratorium ESO and CDEX log data.
- Program-wide Access Portal: Generate USIO metadata for IODP Program-wide access portal and develop Web services to deliver data in response to external queries.
- 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.

## 9.3. BUDGET

| **Data Management** | | | |
|---|---|---|---|
| **Element/Expense Category** | **POC** | **OPIC** | **Total** |
| Salaries and Fringes | 1,219,983 | 0 | 1,219,983 |
| Travel | 74,688 | 0 | 74,688 |
| Supplies | 50,460 | 0 | 50,460 |
| Shipping | 1,835 | 0 | 1,835 |
| Communication | 20,760 | 0 | 20,760 |
| Contractual Services | 0 | 0 | 0 |
| Equipment | 114,150 | 0 | 114,150 |
| Other Direct Costs | 306,580 | 0 | 306,580 |
| *Relocation* | *1,000* | *0* | *1,000* |
| *Training* | *37,375* | *0* | *37,375* |
| *Business Conferences* | *300* | *0* | *300* |
| *Software* | *56,250* | *0* | *56,250* |
| *Services* | *21,705* | *0* | *21,705* |
| *Recruiting* | *1,250* | *0* | *1,250* |
| *Maintenance & Repair* | *187,500* | *0* | *187,500* |
| *Library* | *1,200* | *0* | *1,200* |
| **Total Direct Costs** | 1,788,456 | 0 | 1,788,456 |
| Modified Total Direct Costs (if applicable) | 413,776 | 0 | 413,776 |
| **Indirect Costs or Administrative Fees** | 219,301 | 0 | 219,301 |
| **Total Data Management** | **$2,007,757** | **$0** | **$2,007,757** |

NSF 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.

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.

Travel costs for USIO staff who will work at port calls and sail on FY11 expeditions and transit. Also includes LDEO travel to professional training courses and meetings.

***Supplies***—Office and operational supplies.

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.

Postage for regular correspondence and small packages.

***Communication***—Telephone and fax charges.

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.

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.

*Relocation*—Relocation costs for new employees.

Relocation costs for new employees (TAMU).

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

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.

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.

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.

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

*Recruiting*—Employee recruitment.

Cost of newspaper and internet advertisements of vacant positions.

*Maintenance and Repair*—Maintenance agreements and equipment repairs.

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.

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

***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 FY11 have already been paid, so these subcontracts are not subject to indirect cost during FY11. 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 FY11

- IODP Publications: Advise IODP-MI on scientific publication efforts. The following publications will be published or in production:
  - ~20 scientific reports (*Scientific Prospectuses* and *Preliminary Reports*);
  - 17 *Proceedings of the Integrated Ocean Drilling Program* volumes covering expedition reports content from 18 IODP expeditions (12 USIO expeditions, 4 CDEX expeditions, and 2 ESO expeditions); and
  - 10 *Proceedings* volumes covering postexpedition data reports and synthesis papers from 13 IODP expeditions (6 USIO expeditions, 5 CDEX expeditions, and 2 ESO expeditions).
- IODP Reports: The following reports will be edited and produced:
  - 4 IODP-USIO quarterly reports;
  - 2 IODP-USIO Annual Program Plans (IODP-MI [SOC/POC] and NSF [POC/OPIC with SOC Appendix]), including original versions and all revisions required by funding agencies; and
  - 1 IODP-USIO FY10 Annual Report (or other year-end document).
- Report of Program-related citations statistics.
- Management:
  - Manage postexpedition publication citations,
  - Manage peer review process for IODP *Proceedings* volumes (~25 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 5 USIO and 2 CDEX expeditions and editorial, graphics, and production support during 8 postexpedition meetings.
- Legacy and Technical Documentation.

# 10.3. BUDGET

| Publications | | | |
|---|---|---|---|
| **Element/Expense Category** | **POC** | **OPIC** | **Total** |
| Salaries and Fringes | 64,000 | 0 | 64,000 |
| Travel | 30,000 | 0 | 30,000 |
| 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** | 94,000 | 0 | 94,000 |
| Modified Total Direct Costs (if applicable) | 0 | 0 | 0 |
| **Indirect Costs or Administrative Fees** | 0 | 0 | 0 |
| **Total Publications** | **$94,000** | **$0** | **$94,000** |

NSF funds for this WBE are budgeted as follows:

***Salaries and Fringes***—Salaries, fringes, and sea pay, including an estimated fringe benefits rate.

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.

Travel costs for USIO staff who will work at port calls and/or sail on FY11 expeditions.

***Supplies***—None budgeted.

***Shipping***—None budgeted.

***Communication***—None budgeted.

***Contractual Services***—None budgeted.

***Equipment—***None budgeted.

***Other Direct Costs***—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 diversity programs and partnerships to provide learning opportunities, mentoring, fellowships, and other horizon-building experiences for minority students to explore careers in the Earth System sciences. Expedition-specific activities will include current expeditions and supporting legacy resources.

The USIO, through Deep Earth Academy, will facilitate U.S. education activities in cooperation with other U.S. education and outreach groups; conduct teacher education activities; and develop, test, and disseminate educational curriculum highlighting IODP science programs. Deep Earth Academy will also implement live and near-real-time programs highlighting and using 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 FY11

- Professional Development: Provide professional development opportunities for elementary through postsecondary faculty and museum educators through onboard teacher research experiences and School of Rock programs aboard the *JOIDES Resolution*, and workshops at conferences, museums, and other strategic venues.
- Expedition-based Activities and Materials: Link school and public audiences to activities aboard the *JOIDES Resolution* via Web 2.0 technologies, the *JOIDES Resolution* Web portal, videoconferencing, and/or podcasting. Produce new expedition-specific and thematic video and learning materials based on legacy material and science and life at sea during FY11 expeditions.
- Strategic Partnerships: Foster current partnerships and develop new alliances with related science programs, national associations, organizations, and agencies with synergistic goals and objectives.
- Scientists as Educators: Target and advertise opportunities for participation ranging from museum and classroom programs to expedition-specific plans and grant writing for FY11 expeditions.
- Outside Funding and Sponsorships: Work with USIO partners, Ocean Leadership education partners, member organizations, and advisers to secure outside funding sources and sponsorships.
- Diversity Support: Promote diversity in ocean drilling and related sciences.

# 11.3. BUDGET

| Education | | | |
|---|---|---|---|
| **Element/Expense Category** | **POC** | **OPIC** | **Total** |
| Salaries and Fringes | 0 | 188,222 | 188,222 |
| Travel | 0 | 95,000 | 95,000 |
| Supplies | 0 | 7,500 | 7,500 |
| Shipping | 0 | 6,000 | 6,000 |
| Communication | 0 | 5,000 | 5,000 |
| Contractual Services | 0 | 150,000 | 150,000 |
| Equipment | 0 | 5,000 | 5,000 |
| Other Direct Costs | 0 | 0 | 0 |
| **Total Direct Costs** | 0 | 456,722 | 456,722 |
| Modified Total Direct Costs (if applicable) | 0 | 0 | 0 |
| **Indirect Costs or Administrative Fees** | 0 | 141,584 | 141,584 |
| **Total Education** | **$0** | **$598,306** | **$598,306** |

NSF funds for this WBE are budgeted as follows:

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

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.

Costs to support participants in School of Rock activities, staffing of booths at national and regional meetings, expedition-specific activities, HBCU fellowship and intern programs, and dissemination of expedition-specific materials and products.

***Supplies***—Office and operational supplies.

General office supplies and expendables and operational supplies including partial costs of informational materials, posters, brochures, and expedition-specific products.

***Shipping***—Postage, express mail, and freight.

Postage, express mail, courier services, and freight, including shipping of booth materials to national and regional meetings.

***Communication***—Satellite, telephone, and fax charges.

Standard telephone line, long distance, and fax charges.

***Contractual Services***—Consultant and contract services.

Curriculum development and program implementation, stipends to teachers participating in School of Rock activities, stipends to onboard education officers, stipends to HBCU fellowship and internship recipients, video production, Web 2.0 interactive design, and poster printing and design.

***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.

Video broadcasting equipment.

***Other Direct Costs***—None budgeted.

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

The approved provisional rate of 31% 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 TAMRF and LDEO subcontracts = $62,000). The G&A costs for the two subcontracts (LDEO and TAMRF) are split 50-50 between SOC G&A and NSF G&A ($31,000 each = $15,500 SOC + $15,500 NSF).

# 12. OUTREACH

## 12.1. GOALS

USIO Outreach responsibilities include establishing measures to effectively communicate both shore- and ship-based components of IODP activities to the public and to Congress in collaboration with IODP-MI and the other IOs, and encouraging awareness of and interest in the scientific results of the Program. Outreach goals for FY11 include the following:

- Raise the visibility of IODP as a cutting-edge international earth science research program to new and existing audiences.
- Target informational outreach to members of the general public; science and general-interest media; legislators; scientists and engineers from both within the IODP community and beyond; and decision makers at large national concerns.
- Use expeditions and scientific achievements to promote scientific ocean drilling and the scientific data and analysis that emerge from it, and make the connection between the emerging scientific knowledge and its positive contribution to society worldwide.
- 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.
- Actively collaborate and cooperate with others conducting IODP outreach around the globe.

## 12.2. DELIVERABLES IN FY11

- Sponsor events and develop communications materials for U.S. legislative audiences, particularly on the national level.
- Media Relations and Public Outreach: Conduct media and general public outreach related to ongoing *JOIDES Resolution* operations, as well as at major science meetings both in the US and abroad (as appropriate), and in support of Program scientists' publications in high-profile scientific journals. Leverage online and other tools to proactively tell the IODP "story" in as many compelling ways, for as many diverse audiences, across as many communications platforms as possible, to raise the overall visibility and positive image of IODP.
- Traditional and Social Media Training: Provide traditional media and social media training for Co-Chief Scientists and Science Party members of all *JOIDES Resolution* expeditions; provide similar training as appropriate for other members of the IODP community.
- Global Outreach Activities: Coordinate outreach activities with other IODP entities around the globe, including IODP-MI, ECORD, and CDEX.
- Legacy Documentation.

# 12.3. BUDGET

| Outreach | | | |
|---|---|---|---|
| **Element/Expense Category** | **POC** | **OPIC** | **Total** |
| Salaries and Fringes | 0 | 160,137 | 160,137 |
| Travel | 0 | 35,000 | 35,000 |
| Supplies | 0 | 19,125 | 19,125 |
| Shipping | 0 | 3,230 | 3,230 |
| Communication | 0 | 1,200 | 1,200 |
| Contractual Services | 0 | 62,500 | 62,500 |
| Equipment | 0 | 0 | 0 |
| Other Direct Costs | 0 | 0 | 0 |
| **Total Direct Costs** | 0 | 281,192 | 281,192 |
| Modified Total Direct Costs (if applicable) | 0 | 0 | 0 |
| **Indirect Costs or Administrative Fees** | 0 | 87,170 | 87,170 |
| **Total Outreach** | **$0** | **$368,362** | **$368,362** |

NSF funds for this WBE are budgeted as follows:

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

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.

Costs to support participation in port calls, outreach to stakeholders, press events, media training, staffing booths at national meetings, and development of USIO informational materials.

***Supplies***—Office and operational supplies.

General office supplies and expendables and operational supplies including partial costs of informational materials, posters, and brochures for congressional outreach and platform enrichment activities.

***Shipping***—Postage, express mail, and freight.

Postage, express mail, courier services, and freight, including shipping of booth materials to national and regional meetings.

***Communication***—Satellite, telephone, and fax charges.

Standard telephone line, long distance, and fax charges.

***Contractual Services***—Consultant and contract services.

Platform enrichment activities, including preparation of public relations materials, posters, and videos; media training; and booth rentals and associated costs at national meetings.

***Equipment—***None budgeted.

***Other Direct Costs***—None budgeted.

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

The approved provisional rate of 31% 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 TAMRF and LDEO subcontracts = $62,000). The G&A costs for the two subcontracts (LDEO and TAMRF) are split 50-50 between SOC G&A and NSF G&A ($31,000 each = $15,500 SOC + $15,500 NSF).

# APPENDIX I: USIO IT SECURITY SUMMARY

## ROLES AND RESPONSIBILITIES

System Administrator responsibilities include

- Applying platform technical safeguards.
- Supplying the first-level response (i.e., restoration services) to any security breach.
- Immediately reporting any security breach to the Departmental System Administrator.

Departmental System Administrator responsibilities include

- Assuring that best practices are followed in the administration of systems and software development.
- Disseminating education and security awareness training.
- Reporting criminal activity under applicable state code concerning computer or telecommunications crimes to the Director, department head, and their respective college computing and information services (CIS) department.
- Determining if a violation rises to the standard of fraud or fraudulent action and reporting it to the Chief Executive Officer.
- Determining the physical and electronic evidence to be gathered as part of incident investigation such as initiating, completing, and documenting the incident investigation.

## RISK ASSESSMENT

Security and risk assessment represent primary job duties of the Ocean Leadership IT Manager, who continually monitors the threat environment. LDEO performs risk assessment on an on-going basis in order to respond to current conditions. TAMU completes an annual Information Security Assessment, Awareness, and Compliance (ISAAC) report as required by TAMU. The results are forwarded to the College of Geosciences, where they are reviewed and filed. Along with this annual risk assessment of computer systems and networks, TAMU is required to perform a physical security risk assessment of its facility.

## TECHNICAL SAFEGUARDS

- Departmental IT personnel shall test security patches prior to implementation where practical. Departmental IT personnel are encouraged to have hardware resources available for testing security patches in the case of special applications.
- System Administrators shall ensure that vendor-supplied patches are routinely acquired, systematically tested, and installed promptly based on risk-management decisions.
- System Administrators shall remove unnecessary software, system services, and drivers.
- System Administrators shall enable security features included in vendor-supplied systems, including but not limited to firewalls, virus scanning and malicious code protections, and other file protections, where possible. Audit logging shall also be enabled. User privileges shall be set utilizing the “least privileges” concept of providing the minimum amount of access required to perform job functions. Privileges may be added as need is demonstrated by the user. The use of passwords shall be enabled in accordance with guidelines provided by the respective USIO policies (see below).

- System Administrators shall disable or change the password of default accounts.
- System Administrators or their designee shall test servers, especially, for known vulnerabilities periodically or when new vulnerabilities are announced.
- System Administrators shall seek and implement best practices for securing their particular system platform(s).
- Systems Administrators shall seek and implement best practices for securing wireless traffic. A minimum of 128 bit WEP (encryption) is required.

# ADMINISTRATIVE SAFEGUARDS

The Ocean Leadership Administrative Policy Manual spells out IT administrative policies. New employees are required to acknowledge their understanding of these policies and all employees are required to review these policies periodically. University administrative safeguards followed by LDEO and TAMU are fully prescribed for all users and support personnel (www.ldeo.columbia.edu/it/pp/index.shtml; http://cis.tamu.edu/security/). The extensive Standard Administrative Procedures provided by Columbia University and TAMU are available at www.columbia.edu/cu/policy/ and http://rules-saps.tamu.edu/PDFs/24.99.99.M1.04.pdf, respectively.

# PHYSICAL SAFEGUARDS

## OCEAN LEADERSHIP

Network switchgear is secured in a locked suite network closet, though all organizations on the floor have access. The server room is within office-suite security, and servers and other equipment are stored in locked server racks. Ocean Leadership offices are monitored by on-site security 24 hours a day, 7 days a week. All Ocean Leadership workstations and laptops resident on the network continually sync to a redundant array of independent disks (RAID), which is backed up nightly. Off-site backup is achieved via mobile external hard drives, cycled regularly.

## LDEO

The Borehole Research Group (BRG) building server room is secured unless the System Administrator is physically nearby. All network switches in both adjacent BRG office buildings reside in locked wall-mounted racks inside network rooms that are locked at all times. Access to any of the facilities is granted only to department personnel, vendors, or authorized personnel whose job responsibilities require access to the facility. All BRG computers are backed up nightly via remote server. A near-line mirror of the log data Web site is maintained on a remote server.

## TAMU

After business hours, building entry is allowed via identification (ID)/keycard. Information is logged and available for retrieval at a later date. An access list is maintained by the Departmental System Administrator. Entry into the main computer room is granted only to departmental personnel, vendors, or authorized personnel whose job responsibilities require access to the facility. Doors are secured using push-button locks for which codes are changed periodically and whenever there is personnel change, regardless of the employee’s status upon termination. Access codes are not to be shared with others.

Power to the computer room is provided via 50 kVA uninterruptible power supply (UPS) and matching power distribution unit (PDU). In case of power outage, power is supplied to UPS and

backup heating, ventilation, and air-conditioning (HVAC) by a diesel generator. The computer room is protected from fire by a halon fire suppression system.

Incremental backups are completed on a daily basis and full backups are completed weekly. One full backup copy is kept locally and another is removed to off-site storage.

# POLICIES AND PROCEDURES

## GENERAL POLICIES AND PROCEDURES

The USIO policy for communications to and from the U.S. SODV is available at http://iodp.tamu.edu/participants/policies/IODP_Comm_Policy.pdf.

## OCEAN LEADERSHIP

The relevant sections of the Ocean Leadership Administrative Manual are available at http://www.oceanleadership.org/files/IT_Policies.pdf. These policies are undergoing wholesale review as a result of Joint Oceanographic Institution's merger with the Consortium for Oceanographic Research and Education (CORE). All changes will be compatible with the broader USIO IT infrastructure.

## LDEO

IT-specific policies for LDEO are available at www.columbia.edu/cu/policy/.

## TAMU

IT-specific policies for TAMU are available at the following links:

- IT Resources Acceptable Use Policy: http://iodp.tamu.edu/internal/infotech/IT_Resources_Acceptable_Use_Policy.pdf
- Web Policy: http://iodp.tamu.edu/internal/infotech/web_policy.html

# AWARENESS AND TRAINING

## OCEAN LEADERSHIP

All new employees are required to read and acknowledge their understanding of Ocean Leadership policies related to appropriate use of IT resources. With fewer than 30 users to support on site, regular face-to-face interaction and training/support tailored to the individual is the norm.

## LDEO

All new LDEO employees receive personalized orientation regarding acceptable IT use. The orientation familiarizes employees with BRG computing policies. Some of the items discussed include information resources ownership, appropriate use of said resources, incidental use, unacceptable use, password management, password creation, virus awareness, software licensing, and administrative/special access.

## TAMU

All new employees are required to attend an IT Acceptable Use Policy presentation. Some of the items discussed in the course are information resources ownership, appropriate use of said resources, incidental use, unacceptable use, password management, password creation, virus awareness, software licensing, and administrative/special access. All users are required to acknowledge that they have read, understand, and will comply with the IT Acceptable Use Policy.

All employees must take yearly security awareness training as required by IODP's partnership with TAMU. As part of this training, all users are required to acknowledge that they have read, understand, and will comply with university requirements regarding computer security policies and procedures.

## CYBERSECURITY BREACH NOTIFICATION PROCEDURES

In the event of a cybersecurity breach:

1. System Administrators have information security roles and responsibilities that can take priority over normal duties.

2. System Administrators are responsible for notifying their department heads and initiating the appropriate action, including restoration.

3. Departmental System Administrators are responsible for determining the physical and electronic evidence to be gathered as part of the incident investigation, such as initiating, completing, and documenting the incident investigation.

4. Departmental System Administrators shall report security incidents that may involve criminal activity under their respective state's penal code concerning computer or telecommunications crimes to the Director or department head and CIS.

5. If fraud or theft is suspected as part of security incident detection, the person detecting the incident shall follow their respective system policies concerning the control of fraud and fraudulent actions.

6. If there is a substantial likelihood that security incidents could be propagated to other systems beyond departmental control, System Administrators or Departmental System Administrators shall report/escalate such incidents to their respective college CIS help desk as soon as an incident is identified.

7. (TAMU only) System Administrators shall file an after-action report through the Security Incident Reporting System (SIRS) to Information Technology Issues Management (ITIM) office of TAMU CIS (http://sirs.tamu.edu).

## SECURITY MEASURES FOR NONEMPLOYEES

All subcontractors, researchers, and others who will have access to the systems employed in support of this contract are required to follow all of the policies of the respective organizations with the exception of the following for TAMU: The requirement that all users must attend an IT Acceptable Use Policy presentation or attend yearly security awareness training is waived for itinerant (short term) use of Internet access or if a visitor is at TAMU only for a short-term visit (less than four weeks).

# APPENDIX II: RECOMMENDED IODP-USIO PROGRAM OF INSURANCE

TAMRF will provide risk management services to the USIO, including insurance policy monitoring, ongoing risk assessments, marine insurance negotiations, and claims settlement. TAMRF's established relationships with the London insurance market and the Program's history of safety, unmatched by any other international deep-ocean scientific coring program, have enabled TAMRF to obtain the most cost-effective premiums during extremely difficult market conditions. Market relationships have been developed to educate insurers (i.e., brokers and underwriters) on the specific risks involved with deep-ocean coring and how these risks differ from those of energy-related drilling operations.

As a result of proactive risk management, TAMRF's premiums have historically averaged less than the market average. The premiums in the table below are preliminary estimates subject to underwriter confirmation in the early fall of FY10. Premium negotiations will include observation and explanation of specific exposures, payroll costs, operational time, valuation, and evaluation of operational history.

In addition to the proposed program of insurance, TAMRF will assess specialty risks and procure insurance if the risk analysis (associated exposure versus cost of risk mitigation) warrants. The program of insurance for risk mitigation of drilling risks and marine/employer's liability is depicted in the following table.

| FY10 Preliminary Cost Estimates | | | |
|---|---|---|---|
| **Program of Insurance with Government Indeminification** | **Coverage Limits** | **Deductible** | **Estimated Annual Premiums** |
| Hull & Machinery and Removal of Wreck[1] | $50,000,000 | $250,000 | $753,963 |
| Control of Well | $25,000,000 | $50,000 | $100,144 |
| Seepage & Pollution Liability[2] | $1,000,000 | $50,000 | $0 |
| Cargo | $5,000,000 | $25,000 | $43,541 |
| Third Party Property/Equipment | $10,000,000 | $25,000 | $27,539 |
| Charterer's Legal Liability | $1,000,000 | $10,000 | $15,166 |
| Contractor's Pollution Liability—Gradual | $10,000,000 | $1,000,000 | $47,563 |
| Umbrella | $200,000,000 | Per underlying limits | $281,083 |
| Worker's Compensation & Maritime Employer's Liability | $1,000,000 | None | $88,541 |
| Comprehensive General & Automobile Liability | $1,000,000 | None | $29,824 |
| **TOTAL** | | | **$1,387,364** |

[1] Carried by ship subcontractor (ODL) and reimbursed by TAMRF.

[2] Included in Control of Well Policy and covered under the Umbrella.

# APPENDIX III: FY11 USIO SCIENCE OPERATING COSTS BY INSTITUTION

## FY11 USIO SOC WBE BUDGET SUMMARY BY INSTITUTION

| Element/Expense Category | Ocean Leadership | LDEO | TAMU | Total |
|---|---|---|---|---|
| Management and Administration | 353,512 | 110,774 | 180,729 | 645,015 |
| Technical, Engineering, and Science Support | 0 | 433,602 | 14,000 | 447,602 |
| Engineering Development | 0 | 96,568 | 0 | 96,568 |
| Core Curation | 0 | 0 | 350,225 | 350,225 |
| Data Management | 0 | 282,366 | 703,840 | 986,206 |
| Publications | 0 | 0 | 1,459,000 | 1,459,000 |
| Education | 0 | 0 | 0 | 0 |
| Outreach | 94,290 | 0 | 0 | 94,290 |
| **Total FY11 USIO SOC Budget** | **$447,802** | **$923,310** | **$2,707,794** | **$4,078,906** |
| **Total Direct Costs** | 318,169 | 608,389 | 2,626,473 | 3,553,031 |
| **Indirect Costs and Administrative Fees** | 129,633 | 314,921 | 81,321 | 525,875 |
| **Grand Total FY11 USIO SOC Budget** | **$447,802** | **$923,310** | **$2,707,794** | **$4,078,906** |

Notes: Ocean Leadership Indirect Costs are included in the Management and Administration (M&A), Education, 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.

# FY11 USIO SOC WBE BUDGET DETAIL BY INSTITUTION

| Element/Expense Category | Ocean Leadership | LDEO | TAMU | Total |
|---|---|---|---|---|
| **Management and Administration** | | | | |
| Salaries and Fringes | 206,668 | 57,844 | 86,223 | 350,735 |
| Travel | 18,000 | 11,725 | 5,000 | 34,725 |
| Supplies | 4,550 | 1,800 | 1,400 | 7,750 |
| Shipping | 2,000 | 60 | 210 | 2,270 |
| Communication | 8,974 | 612 | 1,150 | 10,736 |
| Contractual Services | 6,000 | 0 | 0 | 6,000 |
| Equipment | 0 | 0 | 50 | 50 |
| Other Direct Costs | 0 | 360 | 5,375 | 5,735 |
| **Total Direct Costs** | 246,192 | 72,401 | 99,408 | 418,001 |
| Modified Total Direct Costs (if applicable) | 0 | 72,401 | 0 | 72,401 |
| **Indirect Costs or Administrative Fees** | 107,320 | 38,373 | 81,321 | 227,014 |
| **Total Management and Administration** | **$353,512** | **$110,774** | **$180,729** | **$645,015** |
| **Technical, Engineering, and Science Support** | | | | |
| Salaries and Fringes | 0 | 223,197 | 8,000 | 231,197 |
| Travel | 0 | 52,901 | 5,000 | 57,901 |
| Supplies | 0 | 2,000 | 0 | 2,000 |
| Shipping | 0 | 3,397 | 1,000 | 4,397 |
| Communication | 0 | 1,905 | 0 | 1,905 |
| Contractual Services | 0 | 0 | 0 | 0 |
| Equipment | 0 | 0 | 0 | 0 |
| Other Direct Costs | 0 | 0 | 0 | 0 |
| Day Rate | *0* | *0* | *0* | *0* |
| Fuel and Lubricants | *0* | *0* | *0* | *0* |
| Per Diem | *0* | *0* | *0* | *0* |
| Port Calls | *0* | *0* | *0* | *0* |
| Insurance | *0* | *0* | *0* | *0* |
| Travel—ODL | *0* | *0* | *0* | *0* |
| Other | *0* | *0* | *0* | *0* |
| **Total Direct Costs** | 0 | 283,400 | 14,000 | 297,400 |
| Modified Total Direct Costs (if applicable) | 0 | 283,400 | 0 | 283,400 |
| **Indirect Costs or Administrative Fees** | 0 | 150,202 | 0 | 150,202 |
| **Total Technical, Engineering, and Science Support** | **$0** | **$433,602** | **$14,000** | **$447,602** |
| **Engineering Development** | | | | |
| Salaries and Fringes | 0 | 50,269 | 0 | 50,269 |
| Travel | 0 | 7,500 | 0 | 7,500 |
| Supplies | 0 | 2,000 | 0 | 2,000 |
| Shipping | 0 | 2,500 | 0 | 2,500 |
| Communication | 0 | 500 | 0 | 500 |
| Contractual Services | 0 | 0 | 0 | 0 |
| Equipment | 0 | 0 | 0 | 0 |
| Other Direct Costs | 0 | 347 | 0 | 347 |
| **Total Direct Costs** | 0 | 63,116 | 0 | 63,116 |
| Modified Total Direct Costs (if applicable) | 0 | 0 | 0 | 0 |
| **Indirect Costs or Administrative Fees** | 0 | 33,452 | 0 | 33,452 |
| **Total Engineering Development** | **$0** | **$96,568** | **$0** | **$96,568** |

(Continued on next two pages.)

# FY11 USIO SOC WBE BUDGET DETAIL BY INSTITUTION (CONTINUED)

| Element/Expense Category | Ocean Leadership | LDEO | TAMU | Total |
|---|---|---|---|---|
| **Core Curation** | | | | |
| Salaries and Fringes | 0 | 0 | 276,125 | 276,125 |
| Travel | 0 | 0 | 33,000 | 33,000 |
| Supplies | 0 | 0 | 15,000 | 15,000 |
| Shipping | 0 | 0 | 18,750 | 18,750 |
| Communication | 0 | 0 | 2,625 | 2,625 |
| Contractual Services | 0 | 0 | 0 | 0 |
| Equipment | 0 | 0 | 0 | 0 |
| Other Direct Costs | 0 | 0 | 4,725 | 4,725 |
| **Core Curation Total Direct Costs** | 0 | 0 | 350,225 | 350,225 |
| Modified Total Direct Costs (if applicable) | 0 | 0 | 0 | 0 |
| **Indirect Costs or Administrative Fees** | 0 | 0 | 0 | 0 |
| **Total Core Curation** | **$0** | **$0** | **$350,225** | **$350,225** |
| **Data Management** | | | | |
| Salaries and Fringes | 0 | 130,762 | 511,675 | 642,437 |
| Travel | 0 | 4,890 | 20,500 | 25,390 |
| Supplies | 0 | 15,640 | 9,000 | 24,640 |
| Shipping | 0 | 840 | 325 | 1,165 |
| Communication | 0 | 340 | 7,600 | 7,940 |
| Contractual Services | 0 | 0 | 0 | 0 |
| Equipment | 0 | 13,600 | 31,250 | 44,850 |
| Other Direct Costs | 0 | 23,400 | 123,490 | 146,890 |
| **Total Direct Costs** | 0 | 189,472 | 703,840 | 893,312 |
| Modified Total Direct Costs (if applicable) | 0 | 175,272 | 0 | 175,272 |
| **Indirect Costs or Administrative Fees** | 0 | 92,894 | 0 | 92,894 |
| **Total Data Management** | **$0** | **$282,366** | **$703,840** | **$986,206** |
| **Publications** | | | | |
| Salaries and Fringes | 0 | 0 | 1,323,000 | 1,323,000 |
| Travel | 0 | 0 | 26,000 | 26,000 |
| Supplies | 0 | 0 | 38,000 | 38,000 |
| Shipping | 0 | 0 | 21,000 | 21,000 |
| Communication | 0 | 0 | 8,000 | 8,000 |
| Contractual Services | 0 | 0 | 0 | 0 |
| Equipment | 0 | 0 | 0 | 0 |
| Other Direct Costs | 0 | 0 | 43,000 | 43,000 |
| **Total Direct Costs** | 0 | 0 | 1,459,000 | 1,459,000 |
| Modified Total Direct Costs (if applicable) | 0 | 0 | 0 | 0 |
| **Indirect Costs or Administrative Fees** | 0 | 0 | 0 | 0 |
| **Total Publications** | **$0** | **$0** | **$1,459,000** | **$1,459,000** |

(Continued on next page.)

# FY11 USIO SOC WBE BUDGET DETAIL BY INSTITUTION (CONTINUED)

| Element/Expense Category | Ocean Leadership | LDEO | TAMU | Total |
|---|---|---|---|---|
| **Education** | | | | |
| Salaries and Fringes | 0 | 0 | 0 | 0 |
| Travel | 0 | 0 | 0 | 0 |
| Supplies | 0 | 0 | 0 | 0 |
| Shipping | 0 | 0 | 0 | 0 |
| Communication | 0 | 0 | 0 | 0 |
| Contractual Services | 0 | 0 | 0 | 0 |
| Equipment | 0 | 0 | 0 | 0 |
| Other Direct Costs | 0 | 0 | 0 | 0 |
| **Total Direct Costs** | 0 | 0 | 0 | 0 |
| Modified Total Direct Costs (if applicable) | 0 | 0 | 0 | 0 |
| **Indirect Costs or Administrative Fees** | 0 | 0 | 0 | 0 |
| **Total Education** | **$0** | **$0** | **$0** | **$0** |
| **Outreach** | | | | |
| Salaries and Fringes | 30,545 | 0 | 0 | 30,545 |
| Travel | 10,000 | 0 | 0 | 10,000 |
| Supplies | 6,375 | 0 | 0 | 6,375 |
| Shipping | 1,070 | 0 | 0 | 1,070 |
| Communication | 987 | 0 | 0 | 987 |
| Contractual Services | 23,000 | 0 | 0 | 23,000 |
| Equipment | 0 | 0 | 0 | 0 |
| Other Direct Costs | 0 | 0 | 0 | 0 |
| **Total Direct Costs** | 71,977 | 0 | 0 | 71,977 |
| Modified Total Direct Costs (if applicable) | 0 | 0 | 0 | 0 |
| **Indirect Costs or Administrative Fees** | 22,313 | 0 | 0 | 22,313 |
| **Total Outreach** | **$94,290** | **$0** | **$0** | **$94,290** |
| | | | | |
| Grand Total Direct Costs | 318,169 | 608,389 | 2,626,473 | 3,553,031 |
| Indirect Costs/Administrative Fee | 129,633 | 314,921 | 81,321 | 525,875 |
| **TOTAL FY11 USIO SOC BUDGET** | **$447,802** | **$923,310** | **$2,707,794** | **$4,078,906** |