



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

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

**FY10 ANNUAL PROGRAM PLAN**  
**to NSF**

**For Time Period**  
**1 October 2009 to 30 September 2010**

**Amount Proposed FY10: \$39,375,966**



Integrated Ocean Drilling Program  
United States Implementing Organization

Respectfully Submitted to:  
National Science Foundation

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# TABLE OF CONTENTS

<b>1. EXECUTIVE SUMMARY</b> .....	<b>5</b>
1.1. Annual Program Plan Overview .....	5
1.2. USIO FY10 Activities .....	6
1.2.1. Summary of FY10 USIO Scope .....	6
1.3. USIO FY10 Budget Definitions.....	6
1.3.1. NSF Guidance .....	6
1.3.2. FY10 USIO Budget Assumptions.....	6
1.3.3. USIO Budget Structure.....	7
<b>2. FY10 USIO BUDGET SUMMARY TABLES</b> .....	<b>8</b>
2.1. Introduction .....	8
2.2. FY10 USIO SOC and SIC Budget Summary .....	8
2.2.1. FY10 USIO SOC and NSF WBE Budget Summaries by Institution .....	9
2.3. FY10 USIO SOC and SIC Budget Details .....	10
2.3.1. FY10 USIO SOC WBE Budget Detail by Institution.....	10
2.3.2. FY10 USIO SIC WBE Budget Detail by Institution .....	13
<b>3. ORGANIZATIONAL STRUCTURE</b> .....	<b>16</b>
3.1. Introduction .....	16
3.2. USIO FTE Allocation Tables.....	16
3.2.1. FY10 USIO FTE Allocation Summary.....	17
3.2.2. FY10 USIO FTE Allocation Detail.....	18
<b>4. EXPEDITION OPERATIONS</b> .....	<b>27</b>
4.1. Introduction .....	27
4.2. Operations .....	27
4.2.1. Shatsky Rise Formation Expedition .....	27
4.2.2. Canterbury Basin Sea Level Expedition .....	27
4.2.3. Wilkes Land Glacial History Expedition .....	28
4.2.4. Juan de Fuca Hydrogeology Expedition.....	29
4.2.5. Ancillary Project Letter 734/Transit.....	29
4.3. IODP-USIO FY10 Site Map .....	30
4.4. Expedition Operations Budget .....	31
<b>5. MANAGEMENT AND ADMINISTRATION</b> .....	<b>35</b>
5.1. Goals.....	35
5.2. Deliverables in FY10 .....	35
5.3. Budget .....	36
<b>6. TECHNICAL, ENGINEERING, AND SCIENCE SUPPORT</b> .....	<b>39</b>
6.1. Goals.....	39
6.2. Deliverables in FY10 .....	39
6.3. Budget .....	40

**7. ENGINEERING DEVELOPMENT ..... 45**  
 7.1. Goals..... 45  
 7.2. Deliverables in FY10 ..... 45  
 7.3. Budget ..... 45

**8. CORE CURATION..... 46**  
 8.1. Goals..... 46  
 8.2. Deliverables in FY10 ..... 46  
 8.3. Budget ..... 47

**9. DATA MANAGEMENT ..... 49**  
 9.1. Goals..... 49  
 9.2. Deliverables in FY10 ..... 49  
 9.3. Budget ..... 50

**10. PUBLICATIONS ..... 52**  
 10.1. Goals..... 52  
 10.2. Deliverables in FY10 ..... 52  
 10.3. Budget ..... 53

**11. EDUCATION..... 54**  
 11.1. Goals..... 54  
 11.2. Deliverables in FY10 ..... 54  
 11.3. Budget ..... 55

**12. OUTREACH ..... 57**  
 12.1. Goals..... 57  
 12.2. Deliverables in FY10 ..... 57  
 12.3. Budget ..... 58

**APPENDIX I: USIO IT SECURITY SUMMARY ..... 60**  
**APPENDIX II: RECOMMENDED IODP-USIO PROGRAM OF INSURANCE ..... 65**

# 1. EXECUTIVE SUMMARY

## 1.1. ANNUAL PROGRAM PLAN OVERVIEW

The IODP-USIO FY10 Annual Program Plan to the National Science Foundation (NSF) defines the U.S. Implementing Organization (USIO) scope of work for FY10 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 13 May 2009 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 August 2009. 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.<sup>1</sup> 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 FY10 Annual Program Plan to IODP-MI was developed in consultation with the USIO subcontractors for inclusion in the IODP FY10 Annual Program Plan. The Annual Program Plan to NSF is written as a companion to the IODP-USIO FY10 Annual Program Plan to IODP-MI, submitted on 4 December 2009, which contains requests for USIO SOC and POC activities.

The USIO FY10 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

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<sup>1</sup> In this document, references to TAMU include TAMRF.

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.

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 FY10 ACTIVITIES**

### **1.2.1. SUMMARY OF FY10 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 FY10 BUDGET DEFINITIONS**

### **1.3.1. NSF GUIDANCE**

As called for in NSF Contract OCE-0352500, NSF provided guidance to the USIO that outlined the FY10 Mission Forecast for the USIO as the U.S. System Integration Contractor for IODP. The mission forecast included guidance to conduct 4 expeditions in FY10 and a budget target of \$61,000,000. This Annual Program plan reflects the NSF guidance to conduct 4 expeditions, which were subsequently identified by the SPC in August 2009, and their associated costs.

### **1.3.2. FY10 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 FY10 costs in this plan. If additional funds are identified or cost avoidances gained during the fiscal year, the

USIO may use them to purchase drilling, science, or data management 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.

### **1.3.3. USIO BUDGET STRUCTURE**

#### ***Historical Budget Structure***

In previous fiscal years, the USIO budget request was partitioned into two programmatic categories: (1) USIO science operating costs, which were defined as SOC in a budget that was submitted to IODP-MI for approval, and (2) USIO Systems Integration Contract costs (SIC), which included all platform operating costs, defined as POC, as well as additional funding in support of maintaining U.S. capability for continued scientific ocean drilling in IODP in a budget that was submitted to NSF for approval.

In FY09, SOC was partitioned into “operational” costs (SOC Operations), to be funded directly from NSF through the U.S. Systems Integration Contract costs (SIC), and other costs (SOC Nonoperations), to be funded through the IODP-MI contract. SOC Operations costs were defined as “that which funds SODV SOC operations at sea and all costs in support of these operations such as planning, logistics, engineering science support, etc.”

#### ***FY10 Budget Structure Consolidation***

For simplification purposes in FY10, SOC Operations costs were absorbed back into the POC category, and SOC Nonoperations reverted to the original SOC category. To further simplify the budget request process, the FY10 Annual Program Plan to NSF presents a combined budget containing all Systems Integration Contract costs.

The USIO cost breakdown for FY10 is a request to IODP-MI for \$3,952,852 in SOC expenses (submitted in the FY10 Annual Program Plan to IODP-MI) and a request to NSF for \$39,375,966 in SIC expenses for USIO operations.

## 2. FY10 USIO BUDGET SUMMARY TABLES

### 2.1. INTRODUCTION

The budget summaries and detailed budgets in this section describe the overall USIO FY10 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 2.2.1. FY10 USIO SOC and SIC WBE Budget Summaries by Institution**, 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.

Tables in **Section 2.3. FY10 USIO SOC and SIC Budget Details** provide an integrated institutional view of all the budget requests detailed in the WBE sections of the IODP-USIO FY10 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. FY10 USIO SOC AND SIC BUDGET SUMMARY

Element/Expense Category	Ocean Leadership	LDEO	TAMU	Total
Total SOC Costs (IODP-MI)	376,418	724,165	2,852,269	3,952,852
Total SIC Costs (NSF)	2,277,968	6,355,288	30,742,710	39,375,966
<b>Grand Total FY10 USIO Budget</b>	<b>\$2,654,387</b>	<b>\$7,079,453</b>	<b>\$33,594,979</b>	<b>\$43,328,819</b>



**2.2.1. FY10 USIO SOC AND SIC WBE BUDGET SUMMARIES BY INSTITUTION****2.2.1.1. FY10 USIO SOC WBE Budget Summary**

Element/Expense Category	Ocean Leadership	LDEO	TAMU	Total
Management and Administration	320,384	128,696	185,714	634,794
Technical, Engineering, and Science Support	0	278,442	45,000	323,442
Engineering Development	0	0	0	0
Core Curation	0	0	432,495	432,495
Data Management	0	317,028	745,447	1,062,475
Publications	0	0	1,443,613	1,443,613
Education	0	0	0	0
Outreach	56,034	0	0	56,034
<b>Total FY10 USIO SOC Budget</b>	<b>\$376,418</b>	<b>\$724,165</b>	<b>\$2,852,269</b>	<b>\$3,952,852</b>
<b>Total Direct Costs</b>	263,678	486,474	2,772,687	3,522,839
<b>Indirect Costs and Administrative Fees</b>	112,740	237,691	79,582	430,013
<b>Grand Total FY10 USIO SOC Budget</b>	<b>\$376,418</b>	<b>\$724,165</b>	<b>\$2,852,269</b>	<b>\$3,952,852</b>

**2.2.1.2. FY10 USIO SIC WBE Budget Summary**

Element/Expense Category	Ocean Leadership	LDEO	TAMU	Total
Management and Administration	1,258,205	782,488	2,238,800	4,279,493
Technical, Engineering, and Science Support	0	4,975,646	26,855,038	31,830,684
Engineering Development	0	0	0	0
Core Curation	0	0	132,332	132,332
Data Management	0	597,155	1,432,040	2,029,195
Publications	0	0	84,500	84,500
Education	571,946	0	0	571,946
Outreach	447,817	0	0	447,817
<b>Total FY10 USIO SIC Budget</b>	<b>\$2,277,968</b>	<b>\$6,355,288</b>	<b>\$30,742,709</b>	<b>\$39,375,966</b>
<b>Total Direct Costs</b>	1,715,243	5,465,028	30,424,384	37,604,655
<b>Indirect Costs and Administrative Fees</b>	562,725	890,260	318,326	1,771,311
<b>Grand Total FY10 USIO SIC Budget</b>	<b>\$2,277,968</b>	<b>\$6,355,288</b>	<b>\$30,742,710</b>	<b>\$39,375,966</b>

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. FY10 USIO SOC AND SIC BUDGET DETAILS

### 2.3.1. FY10 USIO SOC WBE BUDGET DETAIL BY INSTITUTION

Element/Expense Category	Ocean Leadership	LDEO	TAMU	Total
<b>Management and Administration</b>				
Salaries and Fringes	185,354	62,976	90,000	338,330
Travel	18,000	16,597	6,300	40,897
Supplies	1,550	1,800	1,653	5,003
Shipping	2,000	60	215	2,275
Communication	5,000	2,322	1,375	8,697
Contractual Services	6,000	0	0	6,000
Equipment	3,000	0	0	3,000
Other Direct Costs	0	360	6,589	6,949
<b>Total Direct Costs</b>	<b>220,904</b>	<b>84,115</b>	<b>106,132</b>	<b>411,151</b>
Modified Total Direct Costs (if applicable)	0	84,475	0	84,475
<b>Indirect Costs or Administrative Fees</b>	<b>99,480</b>	<b>44,581</b>	<b>79,582</b>	<b>223,643</b>
<b>Total Management and Administration</b>	<b>\$320,384</b>	<b>\$128,696</b>	<b>\$185,714</b>	<b>\$634,794</b>
<b>Technical, Engineering, and Science Support</b>				
Salaries and Fringes	0	170,501	33,500	204,001
Travel	0	7,129	6,500	13,629
Supplies	0	0	5,000	5,000
Shipping	0	750	0	750
Communication	0	3,608	0	3,608
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
<b>Total Direct Costs</b>	<b>0</b>	<b>181,988</b>	<b>45,000</b>	<b>226,988</b>
Modified Total Direct Costs (if applicable)	0	181,988	0	181,988
<b>Indirect Costs or Administrative Fees</b>	<b>0</b>	<b>96,454</b>	<b>0</b>	<b>96,454</b>
<b>Total Technical, Engineering, and Science Support</b>	<b>\$0</b>	<b>\$278,442</b>	<b>\$45,000</b>	<b>\$323,442</b>
<b>Engineering Development</b>				
Salaries and Fringes	0	0	0	0
Travel	0	0	0	0
Supplies	0	0	0	0
Contractual Services	0	0	0	0
Equipment	0	0	0	0
Other Direct Costs	0	0	0	0
<b>Total Direct Costs</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Modified Total Direct Costs (if applicable)	0	0	0	0
<b>Indirect Costs or Administrative Fees</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Engineering Development</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

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**FY10 USIO SOC WBE BUDGET DETAIL BY INSTITUTION (CONTINUED)**

Element/Expense Category	Ocean Leadership	LDEO	TAMU	Total
<b>Core Curation</b>				
Salaries and Fringes	0	0	286,500	286,500
Travel	0	0	34,950	34,950
Supplies	0	0	15,000	15,000
Shipping	0	0	18,750	18,750
Communication	0	0	2,561	2,561
Contractual Services	0	0	0	0
Equipment	0	0	70,000	70,000
Other Direct Costs	0	0	4,734	4,734
<b>Core Curation Total Direct Costs</b>	0	0	432,495	432,495
Modified Total Direct Costs (if applicable)	0	0	0	0
<b>Indirect Costs or Administrative Fees</b>	0	0	0	0
<b>Total Core Curation</b>	<b>\$0</b>	<b>\$0</b>	<b>\$432,495</b>	<b>\$432,495</b>
<b>Data Management</b>				
Salaries and Fringes	0	139,429	461,000	600,429
Travel	0	8,085	35,938	44,023
Supplies	0	13,240	7,625	20,865
Shipping	0	600	325	925
Communication	0	1,017	7,125	8,142
Contractual Services	0	0	0	0
Equipment	0	18,000	30,171	48,171
Other Direct Costs	0	40,000	203,263	243,263
<b>Total Direct Costs</b>	0	220,371	745,447	965,818
Modified Total Direct Costs (if applicable)	0	182,371	0	182,371
<b>Indirect Costs or Administrative Fees</b>	0	96,657	0	96,657
<b>Total Data Management</b>	<b>\$0</b>	<b>\$317,028</b>	<b>\$745,447</b>	<b>\$1,062,475</b>
<b>Publications</b>				
Salaries and Fringes	0	0	1,285,500	1,285,500
Travel	0	0	48,500	48,500
Supplies	0	0	31,745	31,745
Shipping	0	0	7,093	7,093
Communication	0	0	8,240	8,240
Contractual Services	0	0	0	0
Equipment	0	0	0	0
Other Direct Costs	0	0	62,535	62,535
<b>Total Direct Costs</b>	0	0	1,443,613	1,443,613
Modified Total Direct Costs (if applicable)	0	0	0	0
<b>Indirect Costs or Administrative Fees</b>	0	0	0	0
<b>Total Publications</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,443,613</b>	<b>\$1,443,613</b>

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**FY10 USIO SOC WBE BUDGET DETAIL BY INSTITUTION (CONTINUED)**

Element/Expense Category	Ocean Leadership	LDEO	TAMU	Total
<b>Education</b>				
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
<b>Total Direct Costs</b>	0	0	0	0
Modified Total Direct Costs (if applicable)	0	0	0	0
<b>Indirect Costs or Administrative Fees</b>	0	0	0	0
<b>Total Education</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Outreach</b>				
Salaries and Fringes	29,774	0	0	29,774
Travel	8,000	0	0	8,000
Supplies	0	0	0	0
Shipping	0	0	0	0
Communication	0	0	0	0
Contractual Services	5,000	0	0	5,000
Equipment	0	0	0	0
Other Direct Costs	0	0	0	0
<b>Total Direct Costs</b>	42,774	0	0	42,774
Modified Total Direct Costs (if applicable)	0	0	0	0
<b>Indirect Costs or Administrative Fees</b>	13,260	0	0	13,260
<b>Total Outreach</b>	<b>\$56,034</b>	<b>\$0</b>	<b>\$0</b>	<b>\$56,034</b>
Grand Total Direct Costs	263,678	486,474	2,772,687	3,522,839
Indirect Costs/Administrative Fee	112,740	237,691	79,582	430,013
<b>Total FY10 USIO SOC Budget</b>	<b>\$376,418</b>	<b>\$724,165</b>	<b>\$2,852,269</b>	<b>\$3,952,852</b>

**2.3.2. FY10 USIO SIC WBE BUDGET DETAIL BY INSTITUTION**

Element/Expense Category	Ocean Leadership	LDEO	TAMU	Total
<b>Management and Administration</b>				
Salaries and Fringes	572,298	482,020	1,614,000	2,668,318
Travel	229,000	10,008	119,700	358,708
Supplies	3,000	13,200	31,407	47,607
Shipping	3,000	440	4,076	7,516
Communication	16,000	3,122	26,125	45,247
Contractual Services	76,500	0	0	76,500
Equipment	17,000	0	0	17,000
Other Direct Costs	20,000	2,640	125,166	147,806
<b>Total Direct Costs</b>	<b>936,798</b>	<b>511,430</b>	<b>1,920,474</b>	<b>3,368,702</b>
Modified Total Direct Costs (if applicable)	0	514,070	0	514,070
<b>Indirect Costs or Administrative Fees</b>	<b>321,407</b>	<b>271,058</b>	<b>318,326</b>	<b>910,791</b>
<b>Total Management and Administration</b>	<b>\$1,258,205</b>	<b>\$782,488</b>	<b>\$2,238,800</b>	<b>\$4,279,493</b>
<b>Technical, Engineering, and Science Support</b>				
Salaries and Fringes	0	528,791	5,774,500	6,303,291
Travel	0	86,832	818,500	905,332
Supplies	0	41,100	2,548,575	2,589,675
Shipping	0	8,850	635,300	644,150
Communication	0	4,908	376,200	381,108
Contractual Services	0	3,744,292	0	3,744,292
Equipment	0	14,000	2,050,670	2,064,670
Other Direct Costs	0	125,175	14,651,293	14,776,468
Day Rate	0	0	9,330,170	9,330,170
Fuel and Lubricants	0	0	331,000	331,000
Per Diem	0	0	544,000	544,000
Port Calls	0	0	1,350,000	1,350,000
Insurance	0	0	1,489,558	1,489,558
Travel—ODL	0	0	790,000	790,000
Other	0	125,175	816,565	941,740
<b>Total Direct Costs</b>	<b>0</b>	<b>4,553,948</b>	<b>26,855,038</b>	<b>31,408,986</b>
Modified Total Direct Costs (if applicable)	0	795,656	0	795,656
<b>Indirect Costs or Administrative Fees</b>	<b>0</b>	<b>421,698</b>	<b>0</b>	<b>421,698</b>
<b>Total Technical, Engineering, and Science Support</b>	<b>\$0</b>	<b>\$4,975,646</b>	<b>\$26,855,038</b>	<b>\$31,830,684</b>
<b>Engineering Development</b>				
Salaries and Fringes	0	0	0	0
Travel	0	0	0	0
Supplies	0	0	0	0
Contractual Services	0	0	0	0
Equipment	0	0	0	0
Other Direct Costs	0	0	0	0
<b>Total Direct Costs</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Modified Total Direct Costs (if applicable)	0	0	0	0
<b>Indirect Costs or Administrative Fees</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Engineering Development</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

(Continued on next two pages.)

**FY10 USIO SIC WBE BUDGET DETAIL BY INSTITUTION**

Element/Expense Category	Ocean Leadership	LDEO	TAMU	Total
<b>Core Curation</b>				
Salaries and Fringes	0	0	107,000	107,000
Travel	0	0	11,650	11,650
Supplies	0	0	5,000	5,000
Shipping	0	0	6,250	6,250
Communication	0	0	854	854
Contractual Services	0	0	0	0
Equipment	0	0	0	0
Other Direct Costs	0	0	1,578	1,578
<b>Total Direct Costs</b>	0	0	132,332	132,332
Modified Total Direct Costs (if applicable)	0	0	0	0
<b>Indirect Costs or Administrative Fees</b>	0	0	0	0
<b>Total Core Curation</b>	<b>\$0</b>	<b>\$0</b>	<b>\$132,332</b>	<b>\$132,332</b>
<b>Data Management</b>				
Salaries and Fringes	0	333,465	830,500	1,163,965
Travel	0	7,209	97,813	105,022
Supplies	0	19,860	20,875	40,735
Shipping	0	1,500	575	2,075
Communication	0	2,016	14,375	16,391
Contractual Services	0	0	0	0
Equipment	0	27,000	90,512	117,512
Other Direct Costs	0	8,600	377,390	385,990
<b>Total Direct Costs</b>	0	399,650	1,432,040	1,831,690
Modified Total Direct Costs (if applicable)	0	372,650	0	372,650
<b>Indirect Costs or Administrative Fees</b>	0	197,505	0	197,505
<b>Total Data Management</b>	<b>\$0</b>	<b>\$597,155</b>	<b>\$1,432,040</b>	<b>\$2,029,195</b>
<b>Publications</b>				
Salaries and Fringes	0	0	65,000	65,000
Travel	0	0	19,500	19,500
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
<b>Total Direct Costs</b>	0	0	84,500	84,500
Modified Total Direct Costs (if applicable)	0	0	0	0
<b>Indirect Costs or Administrative Fees</b>	0	0	0	0
<b>Total Publications</b>	<b>\$0</b>	<b>\$0</b>	<b>\$84,500</b>	<b>\$84,500</b>

(Continued on next page.)

**FY10 USIO SIC WBE BUDGET DETAIL BY INSTITUTION**

Element/Expense Category	Ocean Leadership	LDEO	TAMU	Total
<b>Education</b>				
Salaries and Fringes	160,600	0	0	160,600
Travel	80,000	0	0	80,000
Supplies	13,000	0	0	13,000
Shipping	6,000	0	0	6,000
Communication	2,000	0	0	2,000
Contractual Services	170,000	0	0	170,000
Equipment	5,000	0	0	5,000
Other Direct Costs	0	0	0	0
<b>Total Direct Costs</b>	436,600	0	0	436,600
Modified Total Direct Costs (if applicable)	0	0	0	0
<b>Indirect Costs or Administrative Fees</b>	135,346	0	0	135,346
<b>Total Education</b>	<b>\$571,946</b>	<b>\$0</b>	<b>\$0</b>	<b>\$571,946</b>
<b>Outreach</b>				
Salaries and Fringes	119,845	0	0	119,845
Travel	62,000	0	0	62,000
Supplies	20,000	0	0	20,000
Shipping	10,000	0	0	10,000
Communication	5,000	0	0	5,000
Contractual Services	120,000	0	0	120,000
Equipment	5,000	0	0	5,000
Other Direct Costs	0	0	0	0
<b>Total Direct Costs</b>	341,845	0	0	341,845
Modified Total Direct Costs (if applicable)	0	0	0	0
<b>Indirect Costs or Administrative Fees</b>	105,972	0	0	105,972
<b>Total Outreach</b>	<b>\$447,817</b>	<b>\$0</b>	<b>\$0</b>	<b>\$447,817</b>
<b>Grand Total Direct Costs</b>	<b>1,715,243</b>	<b>5,465,028</b>	<b>30,424,384</b>	<b>37,604,655</b>
<b>Indirect Costs/Administrative Fee</b>	<b>562,725</b>	<b>890,260</b>	<b>318,326</b>	<b>1,771,311</b>
<b>Total FY10 USIO SIC Budget</b>	<b>\$2,277,968</b>	<b>\$6,355,288</b>	<b>\$30,742,710</b>	<b>\$39,375,966</b>

## 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 SOC, SIC, and other costs. The FTE allocation tables reflect actual FTEs as of 4 December 2009 plus projected FTEs for FY10. Staffing levels may change annually due to unanticipated changes in the operations schedule and/or scope of work. SOC FTEs shown in **Section 3.2.1. FY10 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. FY10 USIO FTE ALLOCATION SUMMARY**

<b>FTE by Work Breakdown Elements</b>									
<b>USIO Office</b>	<b>M&amp;A</b>	<b>TESS</b>	<b>ED</b>	<b>CC</b>	<b>DM</b>	<b>Pubs</b>	<b>Ed</b>	<b>Otrch</b>	<b>Total</b>
Ocean Leadership	4.65	0.00	0.00	0.00	0.00	0.00	1.50	1.30	7.45
LDEO	5.50	9.58	0.00	0.00	4.67	0.00	0.00	0.00	19.75
TAMU	6.50	61.00	0.00	3.90	17.00	19.75	0.00	0.00	108.15
<b>Totals</b>	<b>16.65</b>	<b>70.58</b>	<b>0.00</b>	<b>3.90</b>	<b>21.67</b>	<b>19.75</b>	<b>1.50</b>	<b>1.30</b>	<b>135.35</b>

<b>FTE by Expense Category</b>				
<b>USIO Office</b>	<b>SOC</b>	<b>SIC</b>	<b>Other</b>	<b>Total</b>
Ocean Leadership	1.38	6.08	0.00	7.45
LDEO	3.73	16.02	0.00	19.75
TAMU	28.39	79.76	0.10	108.25
<b>Totals</b>	<b>33.50</b>	<b>101.85</b>	<b>0.10</b>	<b>135.45</b>

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

**3.2.2. FY10 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	SOC	SIC	Other	Total
Bob Gagosian	President and Chief Executive Officer	Ocean Leadership	12.5%	0%	0%	0%	0%	0%	0%	0%	12.5%	0%	12.5%	0%	12.5%
Molly Fink	Executive Assistant	Ocean Leadership	12.5%	0%	0%	0%	0%	0%	0%	0%	12.5%	0%	12.5%	0%	12.5%
David Divins	Director, Ocean Drilling Programs	Ocean Leadership	100%	0%	0%	0%	0%	0%	0%	0%	100%	25%	75%	0%	100%
Sean Higgins	Associate Director, Ocean Drilling Programs	Ocean Leadership	10%	0%	0%	0%	0%	0%	0%	0%	10%	0%	10%	0%	10%
Greg Meyers	Senior Technical Expert	Ocean Leadership	100%	0%	0%	0%	0%	0%	0%	0%	100%	18.8%	81.3%	0%	100%
Doug Fils	Technical Expert	Ocean Leadership	100%	0%	0%	0%	0%	0%	0%	0%	100%	50%	50%	0%	100%
Margo Morell	Assistant Director, Ocean Drilling Programs	Ocean Leadership	100%	0%	0%	0%	0%	0%	0%	0%	100%	18.8%	81.3%	0%	100%
Julie Farver	Manager, Travel Services	Ocean Leadership	10%	0%	0%	0%	0%	0%	0%	0%	10%	0%	10%	0%	10%
Audrey Divins	Administrative Assistant	Ocean Leadership	20%	0%	0%	0%	0%	0%	0%	0%	20%	0%	20%	0%	20%
Sarah Saunders	Director, Science Communications	Ocean Leadership	0%	0%	0%	0%	0%	0%	0%	40%	40%	12.5%	27.5%	0%	40%
Kristin Ludwig	Manager, Communications	Ocean Leadership	0%	0%	0%	0%	0%	0%	0%	75%	75%	12.5%	62.5%	0%	75%
Gregg Schmidt	Director, Media Relations	Ocean Leadership	0%	0%	0%	0%	0%	0%	0%	10%	10%	0%	10%	0%	10%
Kevin Wheeler	Director, External Affairs	Ocean Leadership	0%	0%	0%	0%	0%	0%	0%	5%	5%	0%	5%	0%	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., San Andreas Fault Observatory at Depth [SAFOD], etc.); SOC = science operating costs; SIC = U.S. Systems Integration Contract costs; TBN = to be named. We anticipate filling all TBN positions during FY10. Student workers and TAMRF administrative support staff are not included in the table. (Continued on next eight pages.)

**3.2.2. FY10 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	SOC	SIC	Other	Total
Leslie Peart	Director, Education	Ocean	0%	0%	0%	0%	0%	0%	50%	0%	50%	0%	50%	0%	50%
Sharon Cooper	Assistant Director, Education	Ocean Leadership	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%	0%	100%
<b>TOTAL Ocean Leadership FTEs</b>			<b>4.65</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>1.50</b>	<b>1.30</b>	<b>6.48</b>	<b>1.38</b>	<b>6.08</b>	<b>0.00</b>	<b>7.45</b>
Dave Goldberg	Director	LDEO	75%	0%	0%	0%	0%	0%	0%	0%	75%	9%	66%	0%	75%
Marsha Meyer	Administrative	LDEO	100%	0%	0%	0%	0%	0%	0%	0%	100%	12%	88%	0%	100%
Alberto Malinverno	Principal Scientist	LDEO	25%	0%	0%	0%	0%	0%	0%	0%	25%	3%	22%	0%	25%
Mary Reagan	Deputy Director	LDEO	100%	0%	0%	0%	0%	0%	0%	0%	100%	12%	88%	0%	100%
Meagan Cummings	Marine Mammal Coordinator	LDEO	50%	0%	0%	0%	0%	0%	0%	0%	50%	6%	44%	0%	50%
Janette Thompson	Office Coordinator	LDEO	0%	41.7%	0%	0%	0%	0%	0%	0%	41.7%	0%	41.7%	0%	42%
Carl Brenner	Technical Services Specialist	LDEO	50%	0%	0%	0%	0%	0%	0%	0%	50%	6%	44%	0%	50%
TBN	Web/Graphics Developer	LDEO	50%	0%	0%	0%	0%	0%	0%	0%	50%	6%	44%	0%	50%
David Grames	Project Coordinator	LDEO	100%	0%	0%	0%	0%	0%	0%	0%	100%	12%	88%	0%	100%
Sarah Davies	Logging Consortium	LDEO	0%	8.3%	0%	0%	0%	0%	0%	0%	8.3%	0%	8.3%	0%	8%
Eric Meissner	Manager, Engineering	LDEO	0%	100%	0%	0%	0%	0%	0%	0%	100%	25%	75%	0%	100%
Walt Masterson	Engineering/Logistics Coordinator	LDEO	0%	100%	0%	0%	0%	0%	0%	0%	100%	25%	75%	0%	100%
Tarik Hussein	Electrical Engineer	LDEO	0%	100%	0%	0%	0%	0%	0%	0%	100%	25%	75%	0%	100%
Stefan Mrozewski	Mechanical Engineer	LDEO	0%	100%	0%	0%	0%	0%	0%	0%	100%	25%	75%	0%	100%
Gerardo Iturrino	Supervisor, Science Operations	LDEO	0%	91.7%	0%	0%	0%	0%	0%	0%	91.7%	22.9%	68.8%	0%	92%
Louise Anderson	Logging Staff Scientist	LDEO	0%	41.7%	0%	0%	0%	0%	0%	0%	41.7%	0%	41.7%	0%	42%
Helen Evans	Logging Staff Scientist	LDEO	0%	75%	0%	0%	0%	0%	0%	0%	75%	18.8%	56.3%	0%	75%
Annick Fehr	Logging Staff Scientist	LDEO	0%	16.7%	0%	0%	0%	0%	0%	0%	16.7%	0%	16.7%	0%	17%
Gilles Guerin	Logging Staff Scientist	LDEO	0%	75%	0%	0%	0%	0%	0%	0%	75%	18.8%	56.3%	0%	75%

(Continued on next seven pages.)

**3.2.2. FY10 USIO FTE ALLOCATION DETAIL (CONTINUED)**

Name	Position Title	USIO Office	M&A	TESS	ED	CC	DM	Pubs	Ed	Otrch	Total	SOC	SIC	Other	Total
Jenny Inwood	Logging Staff Scientist	LDEO	0%	41.7%	0%	0%	0%	0%	0%	0%	41.7%	0%	41.7%	0%	41.7%
Johanna Lofi	Logging Staff Scientist	LDEO	0%	16.7%	0%	0%	0%	0%	0%	0%	16.7%	0%	16.7%	0%	16.7%
Angela Slagle	Logging Staff Scientist	LDEO	0%	75%	0%	0%	0%	0%	0%	0%	75%	18.8%	56.3%	0%	75%
Trevor Williams	Logging Staff Scientist	LDEO	0%	75%	0%	0%	0%	0%	0%	0%	75%	18.8%	56.3%	0%	75%
Dan Quoidbach	Manager, Information Services	LDEO	0%	0%	0%	0%	100%	0%	0%	0%	100%	40%	60%	0%	100%
Ted Baker	Systems Analyst/Database Administrator	LDEO	0%	0%	0%	0%	100%	0%	0%	0%	100%	29.2%	70.8%	0%	100%
Golam Sarkar	Technical Analyst	LDEO	0%	0%	0%	0%	100%	0%	0%	0%	100%	40%	60%	0%	100%
Cristina Broglia	Supervisor, Data Services	LDEO	0%	0%	0%	0%	50%	0%	0%	0%	50%	0.0%	50%	0%	50%
Tanzhuo Liu	Senior Log Analyst	LDEO	0%	0%	0%	0%	100%	0%	0%	0%	100%	0.0%	100%	0%	100%
Bob Arko	Database Developer	LDEO	0%	0%	0%	0%	17%	0%	0%	0%	17%	0.0%	16.7%	0%	16.7%
<b>TOTAL LDEO FTEs</b>			<b>5.50</b>	<b>9.58</b>	<b>0.00</b>	<b>0.00</b>	<b>4.67</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>19.75</b>	<b>3.73</b>	<b>16.02</b>	<b>0.00</b>	<b>19.75</b>
Brad Clement	Director	TAMU	50%	0%	0%	0%	0%	0%	0%	0%	50%	2.5%	47.5%	0%	50%
Katerina Petronotis	Web Administrator	TAMU	100%	0%	0%	0%	0%	0%	0%	0%	100%	5%	95%	0%	100%
Barbara McCannon	Administrative Assistant	TAMU	100%	0%	0%	0%	0%	0%	0%	0%	100%	5%	95%	0%	100%
Bill Wasson	Executive Administrator	TAMU	50%	0%	0%	0%	0%	0%	0%	0%	50%	2.5%	47.5%	0%	50%
TBN	Manager, IODP Business Services	TAMU	50%	0%	0%	0%	0%	0%	0%	0%	50%	5%	45%	0%	50%
Kim Johnson	Supervisor, IODP Human Resources	TAMU	100%	0%	0%	0%	0%	0%	0%	0%	100%	5%	95%	0%	100%
Ollie Berka	Human Resources Representative	TAMU	100%	0%	0%	0%	0%	0%	0%	0%	100%	5%	95%	0%	100%
Ashley Crane	Senior Management Analyst	TAMU	100%	0%	0%	0%	0%	0%	0%	0%	100%	5%	95%	0%	100%

(Continued on next six pages.)

**3.2.2. FY10 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	SOC	SIC	Other	Total
Mitch Malone	Manager, Science Operations	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Janice Muston	Administrative Assistant	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Brad Julson	Supervisor, Technical Support	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Roy Davis	Laboratory Officer	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Bill Mills	Laboratory Officer	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Tim Bronk	Assistant Laboratory Officer	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Lisa Crowder	Assistant Laboratory Officer	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Chieh Peng	Assistant Laboratory Officer	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Steve Prinz	Assistant Laboratory Officer	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Heather Barnes	Marine Laboratory Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Ted Gustafson	Marine Laboratory Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Kristin Hillis	Marine Laboratory Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Eric Jackson	Marine Laboratory Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Kazushi Kuroki	Marine Laboratory Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Erik Moortgat	Marine Laboratory Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Etienne Claassen	Sr. Marine Instrumentation Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%

(Continued on next five pages.)

**3.2.2. FY10 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	SOC	SIC	Other	Total
Randy Gjesvold	Sr. Marine Instrumentation Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Jurie Kotze	Marine Instrumentation Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
TBN	Sr. Marine Instrumentation Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Robert Mitchell	Marine Logistics Coordinator	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Pat Thompson	Materials Technician	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Sandy Dillard	Shipping and Receiving Coordinator	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Adam Klaus	Supervisor, Science Support	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Carlos Alvarez-Zarikian	Staff Scientist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Peter Blum	Staff Scientist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Kusali Gamage	Staff Scientist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Joerg Geldmacher	Staff Scientist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Jay Miller	Staff Scientist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Mike Storms	Supervisor, Operations Support	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Ron Grout	Operations Superintendent	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Steve Midgley	Operations Superintendent	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Dave Lehnert	Materials Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
TBN	Manager, Tools, Databases, and Curation	TAMU	0%	100%	0%	0.0%	0.0%	0%	0%	0%	100%	0%	100%	0%	100%

(Continued on next four pages.)

**3.2.2. FY10 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	SOC	SIC	Other	Total
Karen Graber	Staff Researcher	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
David Houpt	Supervisor, Analytical Systems	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Chris Bennight	Research Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Lisa Brandt	Research Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Trevor Cobine	Research Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Kazuho Fujine	Research Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Thomas Gorgas	Research Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Maggie Hastedt	Research Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Sarah-Jane Jackett	Research Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Zenon Mateo	Research Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Maxim Vasilyeva	Research Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Yulia Vasilyeva	Research Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Paul Foster	Supervisor, Applications Development	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
David Fackler	Applications Developer IV	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Dwight Hornbacher	Applications Developer IV	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
James Zhao	Applications Developer III	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Algie Morgan	Applications Developer II	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Stephanie Zeliadt	Applications Developer II	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
TBN	Applications Developer I	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
TBN	Supervisor, Engineering Services	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Liping Chen	Senior Design Engineer	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Bob Aduddell	Staff Engineer	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%

(Continued on next three pages.)

**3.2.2. FY10 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	SOC	SIC	Other	Total
Kevin Grigar	Staff Engineer	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Dean Ferrell	Senior Designer	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	17%	83%	0%	100%
Mike Meiring	Senior Designer	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	17%	83%	0%	100%
Eric Schulte	Senior Designer	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
John Firth	Curator	TAMU	0%	0%	0%	94%	0%	0%	0%	0%	94%	75%	20%	5%	100%
Phil Rumford	Superintendent, GCR	TAMU	0%	0%	0%	92%	0%	0%	0%	0%	92%	75%	20%	5%	100%
Chad Broyles	Curatorial Specialist	TAMU	0%	0%	0%	100%	0%	0%	0%	0%	100%	75%	25%	0%	100%
Lara Miles	Curatorial Specialist	TAMU	0%	0%	0%	100%	0%	0%	0%	0%	100%	75%	25%	0%	100%
Rakesh Mithal	Supervisor, Databases/Archives	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	75%	25%	0%	100%
Layne Westover	Database Administrator	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	75%	25%	0%	100%
Don Sims	Data Analyst	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	75%	25%	0%	100%
John Beck	Senior Imaging Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Bill Crawford	Senior Imaging Specialist	TAMU	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%	100%
Jim Rosser	Manager, Technical Projects and Deliverables	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	25%	75%	0%	100%
Denise Ponzio	Information Services Assistant	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	25%	75%	0%	100%
Phil Gates	Supervisor, Information Technology Support	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	25%	75%	0%	100%
Cesar Flores	Senior Systems Administrator	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	25%	75%	0%	100%
Jennifer Hutchinson	Systems Administrator	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	25%	75%	0%	100%
Matt Mefferd	Systems Administrator	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	25%	75%	0%	100%
Mike Petersen	Senior Systems Support Specialist	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	25%	75%	0%	100%

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**3.2.2. FY10 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	SOC	SIC	Other	Total
Tiffany Bloxom	Systems Support Specialist	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	25%	75%	0%	100%
James Cordray	Systems Support Specialist	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	25%	75%	0%	100%
Chuck Haddick	Systems Support Specialist	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	25%	75%	0%	100%
Mike Hodge	Senior Marine Computer Specialist	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	25%	75%	0%	100%
Grant Banta	Marine Computer Specialist	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	25%	75%	0%	100%
Matthew Nobles	Marine Computer Specialist	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	25%	75%	0%	100%
Andrew Trefethen	Marine Computer Specialist	TAMU	0%	0%	0%	0%	100%	0%	0%	0%	100%	25%	75%	0%	100%
Angie Miller	Manager, Publication Services	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%
Lorri Peters	Supervisor, Editing	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%
Shana Lewis	Editor III	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%
Amy McWilliams	Editor III	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%
Jenni Hesse	Editor II	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%
Erin O'Roke	Editor II	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%
Ginny Lowe	Reports Coordinator	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%
Kathy Phillips	Publications Specialist	TAMU	0%	0%	0%	0%	0%	75%	0%	0%	75%	75%	0%	0%	75%
Jaime Gracia	Supervisor, Production	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%
Patrick Edwards	Production Specialist III	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%
Kenneth Sherar	Production Specialist II	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%
Crystal Wolfe	Production Specialist II	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%

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**3.2.2. FY10 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	SOC	SIC	Other	Total
Ann Yeager	Distribution Specialist	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%
Debbie Partain	Supervisor, Graphics	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	80%	20%	0%	100%
Tim Fulton	Graphics Specialist II	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	80%	20%	0%	100%
Rhonda Kappler	Graphics Specialist II	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%
Jamie Smidt	Graphics Specialist II	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	80%	20%	0%	100%
Kelly VonDrehle	Graphics Specialist II	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	80%	20%	0%	100%
TBN	Graphics Specialist II	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%
Gigi Delgado	Senior Publications Coordinator	TAMU	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%
<b>TOTAL TAMU FTEs</b>			<b>6.50</b>	<b>61.00</b>	<b>0.00</b>	<b>3.90</b>	<b>17.00</b>	<b>19.75</b>	<b>0.00</b>	<b>0.00</b>	<b>108.15</b>	<b>28.39</b>	<b>79.76</b>	<b>0.10</b>	<b>108.25</b>
<b>GRAND TOTAL USIO FTEs</b>			<b>16.65</b>	<b>70.58</b>	<b>0.00</b>	<b>3.90</b>	<b>21.67</b>	<b>19.75</b>	<b>1.50</b>	<b>1.30</b>	<b>135.35</b>	<b>33.50</b>	<b>101.85</b>	<b>0.10</b>	<b>135.45</b>

## 4. EXPEDITION OPERATIONS

### 4.1. INTRODUCTION

This Annual Program Plan is based on the operations schedule published 15 October 2008 and new expeditions approved by the SPC in August 2009.

4 September–4 November 2009	Shatsky Rise Formation Expedition
4 November 2009–4 January 2010	Canterbury Basin Sea Level Expedition
4 January–9 March 2010	Wilkes Land Glacial History Expedition
9 March–13 April 2010	Transit
13 April–2 July 2010	Tie Up
2 July–1 September 2010	Juan de Fuca Hydrogeology Expedition
1 September–2 October 2010	734 APL/Transit

### 4.2. OPERATIONS

#### 4.2.1. SHATSKY RISE FORMATION EXPEDITION

##### *Proposed Operations*

The primary objective of the Shatsky Rise Formation Expedition is to core igneous rocks from the volcanic massifs of Shatsky Rise to determine the age, sources, and evolution of this oceanic plateau and to test the hypotheses of its origin. Five primary sites will be drilled with the rotary core barrel (RCB). Four sites will be drilled 100 m into basement and one site will be drilled 300 m into basement. Each site will be logged with triple combination (triple combo) and Formation MicroScanner (FMS)-sonic tool strings.

##### *Experiments*

No experiments are planned for this expedition.

##### *Environment and Safety*

Operations will be conducted at Shatsky Rise during the Pacific typhoon season, which could impact operations, although the historical average for this area is 0–1 storms per year during this operational window.

##### *Logistics*

Operations for the Shatsky Rise Formation Expedition require an estimated 61 days (5 in port, 17 in transit, and 39 in operations). For FY10, these include 22 days of operations and 13 days in transit.

#### 4.2.2. CANTERBURY BASIN SEA LEVEL EXPEDITION

##### *Proposed Operations*

The primary focus of the Canterbury Basin Sea Level Expedition is to understand the relative importance of global sea level versus local tectonic and sedimentary processes in controlling continental-margin depositional cyclicity in the Oligocene to Holocene period. Drilling the Canterbury Basin on the eastern margin of the South Island of

New Zealand takes advantage of high rates of Neogene sediment supply, which preserved a high-frequency (0.5–1 m.y. periods) record of depositional cyclicity. Three shelf sites and one slope site will be cored with the advanced piston corer (APC)/extended core barrel (XCB)/RCB to total depth, which ranges from 700 to 1700 meters below seafloor (mbsf). Each site will be logged with the triple combo and FMS-sonic tool strings and with the Vertical Seismic Imager (VSI) for a vertical seismic profile (VSP) survey.

#### ***Experiments***

No experiments are planned for this expedition

#### ***Environment and Safety***

The water depths for all primary sites (85–346 m) fall under the shallow water coring guideline. Alternate deeper water sites are available if the sea state presents challenges to shallow water locations. Because the potential for shallow gas exists within the operational area, a third-party consultant was hired to conduct a detailed hazard assessment that was used by the Environmental Protection and Safety Panel (EPSP) and TAMU Safety Panel for site approval. An experienced organic geochemist will also sail during the expedition. The IODP marine mammal policy will be in effect during the check shot survey.

#### ***Logistics***

Operations for the Canterbury Basin Sea Level Expedition are budgeted based on an estimated 61 days (5 in port and 56 operating).

### **4.2.3. WILKES LAND GLACIAL HISTORY EXPEDITION**

#### ***Proposed Operations***

The main goal of the Wilkes Land Glacial History Expedition is to understand the evolution and dynamics of the Antarctic cryosphere, from its inception during the Eocene–Oligocene transition (~33 Ma) through the significant periods of climate change during the Cenozoic. The primary operations plan is to core and log at five sites: one on the inner shelf continental deep basins (Adelie Drift), two on the continental shelf, one on the continental rise, and one on the abyssal plain. All sites will be APC cored to refusal. Four of the five sites will be deepened using XCB/RCB coring to depths ranging from ~200 mbsf at the shelf sites to ~1000 mbsf at the rise and abyssal plain locations. Each site will be logged with the triple combo and FMS-sonic tool strings and with the VSI for a VSP survey. The Adelie Drift site will be multiple cored with the APC to ensure recovery of the complete stratigraphic sequence.

#### ***Experiments***

No experiments are planned for this expedition.

#### ***Environment and Safety***

An ice/weather observer will sail during the expedition because although the expedition is planned in the preferred weather window, sea ice conditions may vary

strongly from year to year and could affect operations or force occupation of alternate sites. The IODP marine mammal policy will be in effect during the check shot survey.

### *Logistics*

Operations for the Wilkes Land Glacial History Expedition are budgeted based on an estimated 64 days (5 in port and 59 operating).

#### **4.2.4. JUAN DE FUCA HYDROGEOLOGY EXPEDITION**

##### *Proposed Operations*

The Juan de Fuca Hydrogeology Expedition is designed to evaluate the formation-scale hydrogeologic properties within oceanic crust, determine how fluid pathways are distributed within an active hydrothermal system, and elucidate relations between fluid circulation, alteration, microbiology, and seismic properties.

Two new seafloor observatories will be installed into oceanic crust at Proposed Site SR-2 for long-term monitoring (pressure, temperature, geochemistry, and microbiology), one observatory will be replaced (ODP Site 1027), and cross-hole hydrologic experiments will be conducted on four existing monitoring observatories installed during IODP Expedition 301 and ODP Leg 168. The deeper of the two new seafloor observatory holes will be logged using the triple combo tool string.

##### *Experiments*

Cross-hole hydrogeologic pump tests will be conducted.

##### *Environment and Safety*

This expedition is scheduled in the summer weather window because installation of observatories requires calm seas.

### *Logistics*

Operations for the Juan de Fuca Hydrogeology Expedition are budgeted based on an estimated 61 days (5 in port and 56 operating).

#### **4.2.5. ANCILLARY PROJECT LETTER 734/TRANSIT**

##### *Proposed Operations*

The transit to Tahiti for the beginning of the South Pacific Gyre Expedition will begin with the implementation of Ancillary Project Letter (APL) 734. Hole 889C was equipped with a circulation obviation retrofit kit (CORK) hydrologic observatory in 1992 during ODP Leg 146. However, because of unstable formation conditions and deteriorating weather, the sensor string was damaged during installation and a proper seal was not achieved. APL 734 proposes to install a simple ACORK with 4 pressure sensors in a new hole to revitalize pressure/strain monitoring that the original installation was designed to achieve.

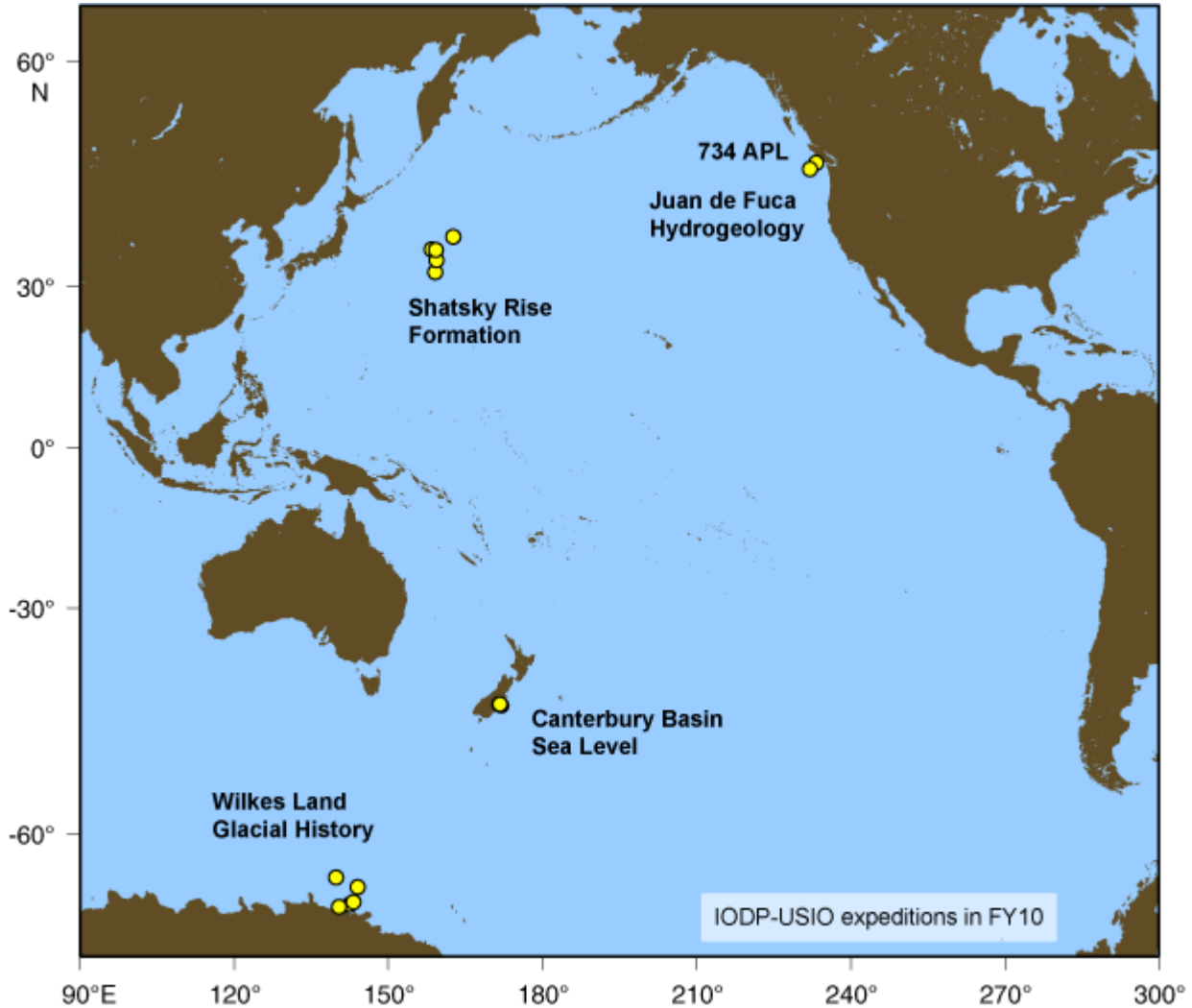
##### *Experiments*

No experiments are planned for this expedition.

**Logistics**

Operations for Transit/APL 734 are budgeted based on an estimated 32 days (5 in port, including major resupply for the South Pacific Gyre Expedition and personnel transfers, and 27 operating), 8 of which are for the APL.

**4.3. IODP-USIO FY10 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	Shatsky Rise <sup>1</sup>	Canterbury Basin	Wilkes Land	Transit	Tie-up	Juan de Fuca	Transit/734 APL	Total
	35 days	61 days	64 days	35 days	80 days	61 days	30 days	365 days
<b>Ship Operations</b>								
Day Rate	0	0	0	0	6,401,360	477,480	2,451,330	9,330,170
Communications <sup>2</sup>	33,068	59,329	62,246	34,041	77,808	59,329	29,179	355,000
Fuel and Lubricants <sup>3</sup>	0	0	0	0	231,000	0	100,000	331,000
Per Diem	61,200	110,300	116,200	63,500	28,000	110,300	54,500	544,000
Port Calls <sup>3</sup>	0	250,000	250,000	250,000	100,000	250,000	250,000	1,350,000
Insurance	138,753	248,940	261,183	142,834	326,478	248,940	122,430	1,489,558
Travel—ODL <sup>3</sup>	0	133,000	133,000	130,000	260,000	134,000	0	790,000
Other Exp.—ODL	7,000	7,000	9,000	0	0	0	7,000	30,000
<b>Contractual Services</b>								
Schlumberger	331,700	578,100	606,600	331,700	758,200	568,682	284,310	3,459,292
Environmental Assessment <sup>4</sup>	0	0	0	0	0	0	0	0
<b>Total</b>	<b>\$571,721</b>	<b>\$1,386,669</b>	<b>\$1,438,229</b>	<b>\$952,075</b>	<b>\$8,182,846</b>	<b>\$1,848,731</b>	<b>\$3,298,749</b>	<b>\$17,679,020</b>

<sup>1</sup> Only the FY10 portion of the Shatsky Rise Expedition is shown in this budget.

<sup>2</sup> Communications expenses include Marisat costs that will be incurred when VSAT service is unavailable because of the vessel's location.

<sup>3</sup> Costs for Shatsky Rise Expedition fuel and lubricants, port calls, and travel—ODL were budgeted in FY09.

<sup>4</sup> Costs for Canterbury Basin Expedition were budgeted in FY09, and costs for Wilkes Land Expedition were paid from another source.

Expedition costs included in this budget cover SOC and POC activities in support of the USIO FY10 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 FY10 expeditions and transit, and/or serve as custodians during the tie-up period.

**Supplies**—Office and operational supplies.

Safety equipment and operational, laboratory, logistic, and shipping supplies for the FY10 expeditions and long-lead items for the first FY11 expedition (South Pacific Gyre).

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

Costs for shipments to and from FY10 expeditions and shipping to the first FY11 expedition (South Pacific Gyre).

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

Cost for very small aperture terminal (VSAT) communication and Marisat communication to and from the *JOIDES Resolution*. Sufficient funds were carried forward on a purchase order to the VSAT service provider in FY07 to offset all anticipated FY10 ship communications expenditures.

**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. 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 a 13 April–1 July 2010 tie-up period at a port on the North American coast. The weighted average operating and standby day rates for the period are \$81,711 and \$79,638, respectively, with an average rate of \$80,017 during tie-up. The budget allows for



one CPI-U base adjustment of 2.30% effective 1 January 2010 and two ECI base adjustments averaging 2.40% effective 1 October 2009 and 1 April 2010.

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

FY10 ship operations fuel purchases are estimated at a total of 9,600 metric tons: 2,900 metric tons in Wellington, New Zealand (2 refuelings); 700 metric tons in Hobart, Australia; and 3,300 metric tons at TBN locations (3 refuelings), including the tie-up port. Refuelings are budgeted at \$700 to \$770 per metric ton, depending on location. Price per metric ton is based on prices quoted by Bunkerworld on 14 October 2009 for the locations specified, plus a 10% inflation factor. The fuel price for the Astoria, Oregon, port was used for the purpose of budgeting the TBN refuelings.

*Per Diem*—Shipboard catering.

Costs associated with meals and berthing on the vessel and cleaning of the laboratory stack. Estimate is based on a shipboard party of 60 participants at \$30/day/person for the periods 1 October 2009–12 April 2010 and 2 July–30 September 2010. For the tie-up period from 13 April through 1 July 2010, the cost is based on 7 onboard IODP custodians at \$50/day/person. Also included is \$3,000 for meals served during port calls to nonseagoing personnel. This category does not include per diem for the ship subcontractor's sailing crew and drilling personnel, as they are accounted for in the day rate unless charged as a reimbursable (see "**Day Rate**" above).

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

Locations have a definite effect on the port call cost, which covers agents' expenses and freight associated with resupplying the ship. During the deployment and first expedition port calls, materials and equipment are off-loaded and supplies and equipment are loaded for the upcoming period's activities. ODL is reimbursed for port agent charges and shipment of food and related supplies. Shipment of cores, drilling equipment, and laboratory supplies is arranged by TAMU and paid for by TAMRF. Similarly, TAMRF purchases all drilling equipment and laboratory supplies necessary for meeting the objectives of the expedition. Port calls by expedition are based on the estimated costs for the port from which the expedition begins and any interim port calls occurring prior to its conclusion, as identified in the current ship schedule.

Port calls are scheduled for Townsville, Australia (5 days), Wellington, New Zealand (5 days), Hobart, Australia (5 days), and TBN locations for tie-up (80 days); redeployment for Juan de Fuca (5 days); and prior to the transit to the Pacific Ocean (5 days). The Astoria, Oregon, port was used for the purpose of budgeting the TBN port calls.

*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.

*Travel—ODL*—Subcontractor transportation.

Airfare for ship subcontractor's crews to/from 6 scheduled crew changes—Townsville, Australia, Wellington, New Zealand, Hobart, Australia, and 3 TBN locations, including one during the 80-day tie-up period. 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. Also included are two reconnaissance trips by the subcontractor's logistics representative.

*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, external copying and printing services, and weather and ice observers for the Wilkes Land Expedition.

*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 FY10 have already been paid, so these subcontracts are not subject to indirect cost during FY10. 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 FY10

- 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	NSF
<b>Management and Administration</b>	
Salaries and Fringes	2,668,318
Travel	358,708
Supplies	47,607
Shipping	7,516
Communication	45,247
Contractual Services	76,500
Equipment	17,000
Other Direct Costs	147,806
Relocation	3,325
Training	43,320
Business Conferences	3,339
Insurance	7,828
Services	53,990
TAMU Computing Services	19,570
Equipment Rental	964
Furniture	489
Recruiting	4,750
Maintenance and Repair	9,267
Library	964
<b>Total Direct Costs</b>	<b>3,368,702</b>
Modified Total Direct Costs (if applicable)	514,070
<b>Indirect Costs or Administrative Fees</b>	<b>910,791</b>
<b>Total Management and Administration Budget</b>	<b>\$4,279,493</b>

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 13.5 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 travel for program management and performance review; Ocean Leadership travel for program management and performance review; 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).

**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 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 FY10 have already been paid, so these subcontracts are not subject to indirect cost during FY10. 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) and collaborate with CDEX on borehole observatory development and deployment. 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 FY10.

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 FY10 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 FY10

- 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 FY10 expeditions. Collaborate with CDEX on development of borehole observatories to be deployed from the *JOIDES Resolution* and the *Chikyu* during the next few years.
- **Applications Development:** Provide maintenance and support for custom software applications and databases for the capture and shipboard management of operational, sampling, and analytical information.
- **Legacy Documentation.**

### 6.3. BUDGET

<b>Technical, Engineering, and Science Support</b>	
<b>Element/Expense Category</b>	<b>NSF</b>
Salaries and Fringes	6,303,291
Travel	905,332
Supplies	2,589,675
Shipping	644,150
Communication	381,108
Contractual Services	3,744,292
Equipment	2,064,670
Other Direct Costs	14,776,468
Day Rate	9,330,170
Fuel and Lubricants	331,000
Per Diem	544,000
Port Calls	1,350,000
Insurance	1,489,558
Travel—ODL	790,000
Other	941,740
Relocation	32,500
Training	166,045
Business Conferences	17,530
Insurance	10,000
Services	463,705
Other Expenses—ODL	30,000
Furniture	2,000
Recruiting	42,500
Maintenance and Repair	166,460
Library	11,000
<b>Total Direct Costs</b>	<b>31,408,986</b>
Modified Total Direct Costs (if applicable)	795,656
<b>Indirect Costs or Administrative Fees</b>	<b>421,698</b>
<b>Total Tech., Engineering, and Science Support</b>	<b>\$31,830,684</b>



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 FY11 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 FY10 expeditions and transit, and/or serve as custodians for the tie-up period. Also includes LDEO travel to professional training courses and meetings.

**Supplies**—Office and operational supplies.

General office supplies; electronic media and other computer supplies with an acquisition cost of less than \$1,000 (for TAMU); printer and copier supplies; supplies for shore-based analytical and engineering laboratory and test facility; and operational, laboratory, logistic, and shipping supplies for FY10 expeditions and long-lead items for the first FY11 expedition (South Pacific Gyre). 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 FY10 expeditions and to the first FY11 expedition.

**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*. Sufficient funds were carried forward on a purchase order issued to the VSAT service provider in FY07 to offset all anticipated FY10 ship communications expenditures.

**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 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) and acquisition of parts and spare units for temperature and other downhole measurement tools. Additional electronics for the superconducting rock magnetometer, and replacement of aging or irreparable analytical and support equipment, which could include a bead maker, Cahn electrobalances, Schonstedt thermal demagnetizer, DTech magnetizer, Impulse demagnetizer, and noncontact resistivity meter.

**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 a 13 April–1 July 2010 tie-up period at a port on the North American coast. The weighted average operating and standby day rates for the period are \$81,711 and \$79,638, respectively, with an average rate of \$80,017 during tie-up. The budget allows for one CPI-U base adjustment of 2.30% effective 1 January 2010 and two ECI base adjustments averaging 2.40% effective 1 October 2009 and 1 April 2010.

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

FY10 ship operations fuel purchases are estimated at a total of 9,600 metric tons: 2,900 metric tons in Wellington, New Zealand (2 refuelings); 700 metric tons in Hobart, Australia; and 3,300 metric tons at TBN locations (3 refuelings), including the tie-up port. Refuelings are budgeted at \$700 to \$770 per metric ton, depending on location. Price per metric ton is based on prices quoted by Bunkerworld on 14 October 2009 for the locations specified, plus a 10% inflation factor. The fuel price for the Astoria, Oregon, port was used for the purpose of budgeting the TBN refuelings.

*Per Diem*—Shipboard catering.

Costs associated with meals and berthing on the vessel and cleaning of the laboratory stack. Estimate is based on a shipboard party of 60 participants at \$30/day/person for the periods 1 October 2009–12 April 2010 and 2 July–30 September 2010. For the tie-up period from 13 April through 1 July 2010, the cost is based on 7 onboard IODP custodians at \$50/day/person. Also included is \$3,000 for meals served during port calls to nonseagoing personnel. This category does not include per diem for the ship subcontractor’s sailing crew and drilling personnel, as they are accounted for in the day rate unless charged as a reimbursable (see “**Day Rate**” above).

*Port Calls*—Vessel agent’s expenses and subcontractor freight.

Port calls are scheduled for Townsville, Australia (5 days), Wellington, New Zealand (5 days), Hobart, Australia (5 days), and TBN locations for tie-up (80 days); redeployment for Juan de Fuca (5 days); and prior to the transit to the Pacific Ocean (5 days). The Astoria, Oregon, port was used for the purpose of budgeting the TBN port calls.

*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.

*Travel*—ODL—Subcontractor transportation.

Airfare for ship subcontractor’s crews to/from 6 scheduled crew changes—Townsville, Australia; Wellington, New Zealand; Hobart, Australia; and 3 TBN locations, including one during the 80-day tie-up period. 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. Also included are two reconnaissance trips by the subcontractor’s logistics representative.

*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, equipment testing and calibration, machine shop services, weather analysis for Initial Proposal Evaluations, replacement cost estimation software services, a hydrocarbon specialist for the Canterbury Basin Expedition, and a weather/ice observer for the Wilkes Land Expedition.

*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 FY10 have already been paid, so these subcontracts are not subject to indirect cost during FY10. 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 FY10

No deliverables are scheduled for FY10.

### 7.3. BUDGET

With no deliverables scheduled in FY10, 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 FY10

- 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): Continue implementation of the SMCS and work with curatorial staff from other IOs to suggest further refinements, as needed.
- 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: Host and/or participate in annual IODP curatorial staff meeting. Act as IO liaison to meetings with the other IOs, IODP-MI, and the SAS, as appropriate.
- Legacy Documentation.

## 8.3. BUDGET

Core Curation	
Element/Expense Category	NSF
Salaries and Fringes	107,000
Travel	11,650
Supplies	5,000
Shipping	6,250
Communication	854
Contractual Services	0
Equipment	0
Other Direct Costs	1,578
Training	545
Business Conferences	103
Services	180
Maintenance and Repair	750
<b>Total Direct Costs</b>	132,332
Modified Total Direct Costs (if applicable)	0
<b>Indirect Costs or Administrative Fees</b>	0
<b>Total Core Curation Budget</b>	<b>\$132,332</b>

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

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

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 FY10 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, shipping for the Expeditions 320 and 321 sampling party, and as many as 10 special sample shipments for FY10 (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, 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 sampling parties at the GCR.

***Services***—Expert assistance.

Annual physical examinations for seagoing personnel and wiring for new emergency diesel generator supplying backup power to deep freezers.

***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 ESO log data.

### 9.2. DELIVERABLES IN FY10

- 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 ESO log data.
- Program-wide Access Portal: Generate USIO metadata for IODP Program-wide access portal.
- 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	NSF
Salaries and Fringes	1,163,965
Travel	105,022
Supplies	40,735
Shipping	2,075
Communication	16,391
Contractual Services	0
Equipment	117,512
Other Direct Costs	385,990
Training	28,750
Business Conferences	340
Software	75,000
Services	55,850
Maintenance and Repair	225,000
Library	1,050
<b>Total Direct Costs</b>	<b>1,831,690</b>
Modified Total Direct Costs (if applicable)	372,650
<b>Indirect Costs or Administrative Fees</b>	<b>197,505</b>
<b>Total Data Management Budget</b>	<b>\$2,029,195</b>

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 FY10 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). 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, printers, laptops, plotters, and monitors; and workstations, laptops, and monitors for new staff. Includes LDEO purchase of an Apple Xserve (\$11,000).

***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). 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.

***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 FY10 have already been paid, so these subcontracts are not subject to indirect cost during FY10. 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.

### 10.2. DELIVERABLES IN FY10

- IODP Publications: Advise IODP-MI on scientific publication efforts. The following publications will be published or in production:
  - 15–20 scientific reports edited and produced (*Scientific Prospectuses* and *Preliminary Reports*),
  - 11 *Proceedings of the Integrated Ocean Drilling Program* volumes in production covering expedition reports content from 7 USIO expeditions, 2 CDEX expeditions, and 2 ESO expeditions, and
  - 8 *Proceedings* volumes in production covering expedition research results content from 12 IODP expeditions (7 USIO expeditions, 4 CDEX expeditions, and 1 ESO expedition).
- IODP Reports: The following reports will be edited and produced:
  - 4 IODP-USIO quarterly reports,
  - 2 IODP-USIO Annual Program Plans (IODP-MI and NSF), including original versions and all revisions required by funding agencies, and
  - 1 IODP-USIO FY09 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 4 USIO expeditions, 2 CDEX expeditions, and 2 ESO onshore Science Party meetings and editorial, graphics, and production support during 8 postexpedition meetings.
- Legacy and Technical Documentation.

### 10.3. BUDGET

Publications	
Element/Expense Category	NSF
Salaries and Fringes	65,000
Travel	19,500
Supplies	0
Shipping	0
Communication	0
Contractual Services	0
Equipment	0
Other Direct Costs	0
<b>Total Direct Costs</b>	<b>84,500</b>
Modified Total Direct Costs (if applicable)	0
<b>Indirect Costs or Administrative Fees</b>	<b>0</b>
<b>Total Publications Budget</b>	<b>\$84,500</b>

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/or sail on FY10 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 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. This requires direct and indirect interfacing with students and educators and conducting a variety of activities targeting U.S. middle school, high school, undergraduate, family, and museum audiences.

## 11.2. DELIVERABLES IN FY10

- **Professional Development:** Provide professional development opportunities for elementary through postsecondary faculty and museum educators through 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, video conferencing, and pod casting. Produce new video and learning materials based on the new ship and FY10 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 lectures and classroom programs to expedition-specific plans and grant writing for FY10 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	NSF
Salaries and Fringes	160,600
Travel	80,000
Supplies	13,000
Shipping	6,000
Communication	2,000
Contractual Services	170,000
Equipment	5,000
Other Direct Costs	0
<b>Total Direct Costs</b>	<b>436,600</b>
Modified Total Direct Costs (if applicable)	0
<b>Indirect Costs or Administrative Fees</b>	<b>135,346</b>
<b>Total Education Budget</b>	<b>\$571,946</b>

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 program, MS-PHD'S partnerships in diversity, and dissemination of platform enrichment activities.

**Supplies**—Office and operational supplies.

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

Curriculum development and program implementation, stipends to teachers participating in School of Rock activities, stipends to fellowship and internship recipients from HBCU, 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.

Computers, monitors, and printers for new staff and replacement of 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 FY10 include the following:

- Raise visibility of IODP as a cutting-edge international earth science research program to new and existing audiences.
- Target informational outreach to the public and specific identified audiences including science and general-interest media, scientists-at-large, engineers-at-large, industry scientists, and communities/groups that can be considered agents of learning and change (i.e., educators and students, *not* in formal education contexts), managers of public space, 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 public spaces, and in the media.
- Maximize efforts in support of an integrated IODP outreach team, with common core messages and common informational materials.

### 12.2. DELIVERABLES IN FY10

- Sponsor events and exhibitions for U.S. Congress audiences.
- Media Outreach: Conduct media outreach related to upcoming *JOIDES Resolution* operations. Conduct media outreach at Geological Society of America and American Geophysical Union annual meetings, in support of Program scientists' publication in high-profile scientific journals, and in support of jointly sponsored exhibitions at other science and industry conferences identified as internationally important.
- Media Awareness: Conduct media awareness training for future expedition Co-Chief Scientists.
- Outreach Activities: Coordinate outreach activities with IODP-MI, ECORD, and CDEX.
- Legacy Documentation.

## 12.3. BUDGET

Outreach	
Element/Expense Category	NSF
Salaries and Fringes	119,845
Travel	62,000
Supplies	20,000
Shipping	10,000
Communication	5,000
Contractual Services	120,000
Equipment	5,000
Other Direct Costs	0
<b>Total Direct Costs</b>	<b>341,845</b>
Modified Total Direct Costs (if applicable)	0
<b>Indirect Costs or Administrative Fees</b>	<b>105,972</b>
<b>Total Outreach Budget</b>	<b>\$447,817</b>

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 awareness training; and booth rentals and associated costs at national meetings.

**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.

***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://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/](http://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](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](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/](http://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](http://iodp.tamu.edu/internal/infotech/IT_Resources_Acceptable_Use_Policy.pdf)
- Web Policy: [http://iodp.tamu.edu/internal/infotech/web\\_policy.html](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 Indemnification	Coverage Limits	Deductible	Estimated Annual Premiums
Hull & Machinery and Removal of Wreck <sup>1</sup>	\$50,000,000	\$250,000	\$645,623
Control of Well	\$25,000,000	\$50,000	\$106,000
Seepage & Pollution Liability <sup>2</sup>	\$1,000,000	\$50,000	\$0
Cargo	\$5,000,000	\$25,000	\$48,000
Third Party Property/Equipment	\$10,000,000	\$25,000	\$30,000
Charterer's Legal Liability	\$1,000,000	\$10,000	\$22,000
Contractor's Pollution Liability—Gradual	\$10,000,000	\$1,000,000	\$53,000
Umbrella	\$200,000,000	Per underlying limits	\$232,477
Worker's Compensation & Maritime Employer's Liability	\$1,000,000	None	\$65,000
Comprehensive General & Automobile Liability	\$1,000,000	None	\$20,000
<b>TOTAL</b>			<b>\$1,222,100</b>

<sup>1</sup> Carried by ship subcontractor (ODL) and reimbursed by TAMRF.

<sup>2</sup> Included in Control of Well Policy and covered under the Umbrella.