

**Audit of Inter-American Institute
for Global Change Research**

Sao Jose dos Campos, Brazil

**National Science Foundation
Office of Inspector General**

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EXECUTIVE SUMMARY

This report provides the results of the Office of Inspector General's (OIG) audit of National Science Foundation (NSF) grants awarded to the Inter-American Institute for Global Change Research (IAI). The purpose of the audit was to evaluate (1) the adequacy of NSF policies and procedures for managing and monitoring IAI awards and (2) whether IAI was administering NSF grant funds in accordance with award terms and conditions.

The IAI is an intergovernmental organization created by an international treaty agreement concluded among 19 countries in the Americas in May 1992. The primary role of IAI is to coordinate and promote scientific research related to global change in the Americas. The IAI Directorate, hosted by Brazil, is located in San Jose dos Campos and its operations and research programs are funded by voluntary contributions from the United States and 18 other member countries. On behalf of the United States Government, from 1996 to June 2003, NSF has awarded seven IAI grants totaling \$16.4 million. Three core grants, totaling \$3.5 million, were to support the Directorate's operations and the remaining 4 were research grants totaling \$12.9 million.

We found that NSF, on behalf of the United States, is funding a disproportionate share of IAI's total costs. Contrary to the 25 percent United States contribution originally envisioned, NSF is providing 87 percent of its research and operational funds. Specifically, Argentina has been the only other member country, besides the United States, to provide research funds. As a result, IAI has operated on average annual expenditures totaling \$2.6 million or 82 percent less than the \$14 million budget, originally envisioned for a small regional research institute in Latin America. As such, IAI is hampered in its ability to successfully achieve its goal of establishing a "regional network of cooperating research entities."

Additionally, the IAI has not adequately managed and monitored its 14 Collaborative Research Network (CRN) subawards, valued at \$10.3 million, to ensure NSF grant funds were spent for authorized grant purposes and for reasonable costs. The IAI did not perform either pre-award assessments of the subrecipients' capability to administer NSF grant funds and/or post-award monitoring to ensure the grant funds were spent in accordance with its CRN subaward agreements. Further, the IAI did not implement recommended NSF improvements, which it had acknowledged were needed to improve oversight of its subawards. As a result, the IAI could not ensure adequate financial control and accountability over its CRN subawards and experienced serious problems with 2 of the 14 subawardees.

Further, our review of IAI's core expenditures disclosed that funds were generally used for purposes consistent with the NSF grant objectives and were spent on the types of cost typically allowable under federal cost principles. However, we noted several areas where IAI needs to make improvements to ensure the most cost effective use of grant funds and to preclude the charging of unallowable grant costs. The problem areas identified include: premature drawdown of grant funds that resulted in over \$100,000 of increased

U.S. Treasury borrowing costs, payment of \$67,000 in excessive educational allowances that could have been better used for other IAI program purposes, and the charging of \$11,277 in unallowable Cuba-related grant costs.

One of the primary factors contributing to the problems noted during our audit was that the IAI treaty agreement only required member countries to provide voluntary contributions to support the IAI Directorate's core expenditures and research programs. Unfortunately, the IAI has not been fully successful in obtaining such voluntary funding from its member countries and has not given adequate priority to seeking additional research funding from alternate outside sources.

Also, as a foreign organization, the IAI was not familiar with and/or did not understand its responsibilities for subaward monitoring required by its NSF grant agreement. As such, the IAI did not place a priority on monitoring or improving its oversight of CRN subawardees. Furthermore, because the IAI was a treaty organization, NSF, on behalf of the United States, was required to work through the IAI's governing body, comprised of representatives from all 19 member countries, to effect changes for improving IAI procedures for managing and monitoring NSF grant funds to ensure adequate financial accountability. As a result, such efforts were often difficult and not always fully successful.

Given the lack of financial commitment demonstrated by other member countries to support the IAI over the 10 years that it has been operating, we recommend that NSF work with the President's Office of Science and Technology Policy (OSTP) and Department of State to re-evaluate the United States funding commitment to IAI. The United States needs to determine whether the scientific results and benefits of IAI funded research justify the United States essentially being the only IAI member country contributing towards its support. Also, NSF needs to continue to work with the IAI's governing bodies to (1) promote and oversee IAI's fund-raising activities, (2) re-assess the IAI mission, goals, and staffing levels if additional funding is not obtained, and (3) ensure that IAI establishes written subaward management policies and procedures. We also recommend that NSF cease funding additional IAI research programs until the IAI has developed and implemented written monitoring procedures to ensure its subawardees are properly accounting for and managing NSF grant funds. Additional recommendations were made to require the IAI to limit the drawdown of grant funds to immediate cash needs, to limit educational allowances to actual costs incurred, and to establish controls to preclude the charging of Cuba-related costs to NSF grants.

A draft audit report, requesting comments, was issued to the IAI and NSF's Directorate for Geosciences and the Division of Grants and Agreements. In general, NSF agreed with the audit findings and recommendations, with the exception of one recommendation. Specifically, NSF did not agree to work with the OSTP and the Department of State to re-evaluate the United States funding commitment to IAI. Furthermore, NSF believed that the audit recommendations, in many cases, did not reflect the fact that NSF acts both as a grantor agency and an individual member country of the IAI. As such, NSF stated it cannot simply "direct" the IAI to comply with U.S. procedures for handling its grant

funds, but must develop consensus support by convincing other IAI member countries of the merit of such NSF-U.S. procedures. Similarly, the IAI generally agreed with the audit findings and recommendations, with the exception of the one recommendation regarding the limitation of subawardee fund advances to only amounts needed to meet immediate cash needs. After our review of the NSF and IAI comments, we re-affirmed the two subject audit recommendations and have explained our position after the summaries of their comments.

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ACRONYMS

CoP	IAI's Conference of Parties
CRN	Collaborative Research Network
DACS	NSF Division of Acquisition and Cost Support
DGA	NSF Division of Grants and Agreements
EC	IAI's Executive Council
FAC	IAI's Financial and Administrative Ad Hoc Committee
IAI	Inter-American Institute for Global Change Research
ISP	Initial Science Program
GEO	NSF Directorate for Geosciences
NSF	U. S. National Science Foundation
OMB	U. S. Office of Management and Budget
OSTP	President's Office of Science and Technology Policy
PESCA	Program to Expand Scientific Capacity in the Americas
SGP	Small Grant Program

INTRODUCTION

BACKGROUND

Inter-American Institute for Global Change Research

The Inter-American Institute for Global Change Research (IAI) was created by an international treaty agreement concluded among representatives of countries in the Americas in May 1992. The IAI treaty agreement created an intergovernmental organization for the purpose of coordinating and promoting scientific research related to global change in the Americas. There are currently 19 member countries: the United States, Argentina, Brazil, Mexico, Chile, Peru, Colombia, Canada, Venezuela, Ecuador, Uruguay, Costa Rica, Panama, Bolivia, Cuba, Paraguay, Jamaica, Dominican Republic, and Guatemala.

The IAI is governed by its Conference of Parties (CoP), the Executive Council (EC), and its Scientific Advisory Committee (SAC). The CoP is comprised of representatives from the 19 member countries and is the primary policymaking body. The EC is comprised of up to 9 members, elected by the CoP for 2-year terms, that meets twice a year. It develops policy recommendations for approval by the CoP and ensures implementation of those policies by the IAI Directorate. The Financial and Administrative Ad Hoc Committee (FAC) assist the EC in matters relating to planning, preparation, and implementation of IAI financial, administrative, and project management issues. The SAC is the principal scientific advisory body and has 9 members, elected by the CoP for three-year terms. During its annual meeting, it develops recommendations to the CoP regarding the IAI Science Agenda and long-term plans.

The IAI Directorate is responsible for the day-to-day operation and the implementation of policies and scientific programs as determined by the CoP and EC. It operates under the leadership of the Executive Director with a current staff of 13. The IAI is hosted by Brazil and in March 1996, the Directorate was established on the campus of the Brazilian National Space Research Institute located in Sao Jose dos Campos. The IAI Directorate functions as an internationally recognized organization, with the corresponding privileges and immunities granted by the Government of Brazil.

The IAI's primary mission is to develop the capacity to understand the impact of present and future global changes on regional and continental environments in the Americas and to promote collaborative research. An important aspect of the IAI mission is the development of networks of scientists and scientific institutions that work collaboratively on global change issues of regional importance. As such, IAI acts much like NSF in soliciting, peer reviewing, and awarding grants to research networks consisting of multiple institutions in the Americas. In this regard, the Directorate manages the IAI Scientific Programs through announcement of grant opportunities, organization of proposal evaluation based on a peer review system, establishment of award agreements and resource allocations, and monitoring and evaluation of scientific progress.

The U.S. Government has actively participated in development of the IAI. The White House Office of Science and Technology Policy (OSTP) designated the NSF as the lead U.S. agency for funding the IAI. As such, NSF was instrumental in training IAI staff in establishing a peer-review system and has expended a great deal of effort in preparing the IAI for the process of managing a proposal driven and peer reviewed research program. Further, NSF has continued to take a proactive leadership role in IAI by serving in authoritative positions on the EC, FAC and SAC, thereby, actively participating in developing IAI's financial, administrative, and project management policies and procedures as well as its Scientific Agenda.

IAI receives two types of funding: core funding and scientific program funding. Core funding supports the IAI Directorate's operational expenses and is received through voluntary annual contributions pledged by its 19 member countries for a three-year period. Each member country pledged annual core contributions in proportion to its required dues for membership in the Organization of American States. For fiscal year 2003, member countries pledged \$945,000 of voluntary core contributions; of which the United States share was \$550,000 or 58 percent of the total. IAI's scientific program funds are derived from voluntary contributions from member countries and/or other external sources. As discussed below, the United States has provided \$12.9 million of IAI's total direct research funds and Argentina has provided \$210,755. According to IAI, the other member countries have provided in-kind contributions for scientific research; however, IAI does not verify or validate the dollar value of these reported in-kind contributions.

United States Funding

Since the IAI Directorate was established in Brazil in 1996, NSF has continuously funded the IAI on behalf of the U.S. Government. From 1996 through June 30, 2003, NSF awarded 7 grants to the IAI totaling \$16,365,269: 3 grants totaling \$3,490,000 for core support of the Directorate's operations¹ and 4 grants for research totaling \$12,875,269. Regarding research funding, NSF has funded the following IAI scientific programs:

Initial Science Program (ISP) - Round III	\$1,878,984
Collaborative Research Network (CRN)	10,336,285
Program to Expand Scientific Capacity in the Americas (PESCA)	300,000
Small Grant Program (SGP)	<u>360,000</u>
 Total NSF Research Grants	 \$ 12,875,269

¹ The other IAI member countries have also provided contributions for core support.

OBJECTIVES, SCOPE, AND METHODOLOGY

The audit objectives were to evaluate (1) the adequacy of NSF policies and procedures for managing and monitoring awards to the IAI to ensure compliance with applicable federal regulations and award terms and conditions and (2) whether the IAI was administering NSF grant funds in accordance with award terms and conditions. Our audit was primarily directed to reviewing administration of two NSF awards: the IAI core support grant for fiscal year 2003 (award number GEO 02 40107 for \$550,000) and the CRN grant from 1999 to 2003 (award number ATM 99 07233 for \$10,336,285). We reviewed applicable federal and NSF policy and procedures, NSF award jackets, and NSF site visit reports; and interviewed cognizant NSF program and grant officials to gain an understanding of the steps taken to award and monitor the IAI grants.

In evaluating the adequacy of the IAI's administration of the NSF grants, we reviewed the organization's internal financial and management policies and procedures to account for and safeguard NSF funds. We reviewed the IAI Directorate's expenditures reflected in its accounting records and financial reports and performed detailed testing and review of expenditures incurred from July 1, 2002 to June 30, 2003. Our review of financial transactions was extended to other periods only as deemed necessary. We toured the IAI offices and interviewed key IAI personnel to gain an understanding of management controls in place to administer its core operational funds and to oversee and monitor its research subawards.

We reviewed IAI grant files maintained on its CRN subawards from 1999 to June 2003. Also, we performed a limited review of available documentation supporting expenditures for CRN subaward 038, awarded to the Water Center for the Humid Tropics of Latin America and the Caribbean in Panama. The documentation had been provided by the subawardee and was maintained in IAI grant files. Similarly, we performed a limited on-site review of the financial administration of CRN subaward 061 provided to the University of Sao Paulo in Brazil. We discussed the financial administration of the CRN grant funds with the project's Principal Investigator and officials of the University's accounting department. Detailed testing and review was performed for a limited sample of CRN 061 project expenditures.

We conducted our audit in accordance with the Comptroller General's *Government Audit Standards* and included such test of accounting records and other auditing procedures, as we considered necessary, to fully address the audit objectives.

FINDINGS AND RECOMMENDATIONS

1. NSF Funds a Disproportionate Share of Total IAI Costs

NSF, on behalf of the United States, is funding a disproportionate share of IAI's total costs. An interagency model developed for a regional research institute, such as the IAI, envisioned that the United States would contribute approximately 25 percent of total funding.² However, NSF has contributed 87 percent of IAI's core operational and research funding from 1996 to 2003. Specifically, Argentina has been the only other member country, besides the United States, to provide research funds and IAI's 19 member countries have paid only an average of 86 percent of their promised voluntary core support contributions annually.

As a result, IAI has operated on average annual expenditures of \$2.6 million or 82 percent less than the \$14 million budget, originally envisioned for a small regional research institute. Without adequate member contributions, IAI is hampered in its ability to successfully achieve its goal of establishing a "regional network of cooperating research entities." This occurred because the IAI establishing agreement only required member countries to provide voluntary contributions to support the Directorate's core expenditures and research programs. Unfortunately, the Institute has not been fully successful in obtaining such voluntary funding from its member countries and has not given priority to seeking additional research funding from alternate outside sources such as other international organizations and private foundations.

Model For Regional Global Change Research Institute

When the idea for a regional global change research institute was first proposed, it was envisioned that it would require \$20 million to fund operational and research costs for an intermediate size organization and \$14 million for a minimal size institute located in Latin America. The idea for such a regional institute in the Americas had been discussed since at least 1991, with the United States showing strong interest in the development of such institutes globally. At the time, the scientific, political, and practical rationales pointed toward locating such an institute in Latin America. It was recognized that the United States would provide a major share of start-up costs and a portion of the institute's annual operating costs. Based on a model developed by a U.S. interagency group exploring such institutes, it was envisioned that the United States contributions, after the first two or three years, would be approximately 25 percent of total core and research funding; with the understanding that the remaining portion would be provided by other countries, international organizations, and private foundations.

Accordingly, on May 13, 1992, the IAI was created by an international treaty agreement concluded among representatives from 16 countries³ in the Americas to establish a

² It was envisioned that other countries, international organizations, and private foundations would provide the remaining 75 percent of funding.

³ Sixteen countries originally signed the IAI treaty agreement; currently there are 19 member countries.

“regional network of cooperating research entities. . .” for the purpose of coordinating and promoting global change research. Two of the IAI’s primary objectives were (1) to fund regional scientific programs and projects where the research cannot be pursued by an individual country or institution and (2) to promote regional and international cooperation and coordination of global change research programs. Pursuant to the Agreement provisions, IAI member countries were to provide “voluntary contributions” to support both the IAI Directorate’s core operational expenses and major research programs. Further, the IAI Agreement specified that its research programs could also be supported by donations from organizations other than its member countries including private foundations, industry, other international intergovernmental groups, as well as other countries outside the region.

IAI Member Countries Not Providing Voluntary Contributions

Essentially, the United States has been the only member country that has provided IAI with voluntary contributions for research to accomplish its goal of establishing a “regional network of cooperating research entities” to address global change research issues. Since 1996, when the IAI Directorate was first established in Brazil, through June 2003, the United States, through NSF grants, has contributed approximately \$12.9 million or 98 percent of the total IAI research budget. Only one other member country, Argentina, has provided research funds of \$210,755.⁴ The following chart shows a breakdown of total funding that IAI received for research from 1996 to June 30, 2003:⁵

United States Funding (NSF Grants)

Collaborative Research Network (CRN)	\$10,336,285
Small Grant Program (SGP)	\$ 360,000
Program to Expand Scientific Capacity in the Americas (PESCA)	\$ 300,000
Initial Science Program (ISP III)	\$ <u>1,878,984</u>
 Total United States Funding	 \$12,875,269

Other Country Funding

Argentina (CRN)	\$ 210,755
Other IAI Member Countries	<u>-0-</u>

Total IAI Research Funding \$13,086,024

⁴ Argentina originally committed to providing an additional \$881,885 for the CRN Program, but was unable to fund the commitment because of the country’s financial crisis in recent years.

⁵ From 1995 to 1998, a \$3 million grant from the World Bank for the Global Environmental Facility was awarded to equip IAI member countries with computer hardware and software for global change research and associated training of scientists. The project, however, was actually executed by the World Meteorological Organization, on behalf of the IAI.

Although IAI and NSF officials stated that the other member countries have provided in-kind contributions, in lieu of cash, to support research, IAI did not consistently require reporting of such in-kind contributions and was unable to provide any documentary support for these contributions.

In addition, some IAI member countries have not always paid their core support contributions. Five of the 19 member countries did not make any core contributions for fiscal years 2001 to 2003. Historically, since 1994, member countries have paid an annual average of 86 percent of their pledged commitments. As of June 30, 2003, the outstanding unpaid balance of IAI core commitments cumulatively totaled \$494,051. (See Appendix A on page 37 for a Schedule of Unpaid Country Core Commitments.) Also, since some countries did not meet their core support commitments, the United States and other member countries incurred a larger proportion of their total share of core contributions. In particular, for fiscal year 2003, the United States contributed 69 percent of the total core support, or 11 percent greater than its required 58 percent share.

Lack of Country Contributions Hampers IAI Mission Accomplishment

Without adequate member country contributions, the annual IAI expenditures have averaged only \$2.6 million instead of \$14 million, as originally envisioned for a small regional global research institute. This funding shortfall has hampered the IAI's ability to fully achieve its scientific agenda as IAI states in its Biennial Report 2000-2002:

“The IAI has been able to distribute more than \$20 million (US) in support of scientific research over the last ten years, but this is really an inadequate level of funding for such a large network . . . To date, the bulk of the IAI's financial support has come from only a small number of member countries and international organizations. To be blunt, the **IAI is over-reliant on the support of the US National Science Foundation. For the IAI to reach its full potential, and be able to fund the highest-quality science, new and broader sources of financial support are urgently needed**, as are new programs for support-matching . . .”
(emphasis added)

Also, given that the United States is the primary funder for IAI's research programs, it is the United States interests in IAI that are most in jeopardy without adequate financial support and it is unlikely that NSF will fully realize the research goals it intended with its awards to IAI.

Furthermore, because of the limited research funding received, IAI has incurred relatively high costs to administer its research funds. Specifically, our analysis of research costs, reported in audited annual financial statements from 1998 to 2003, disclosed that IAI disbursed \$9,372,653 in research funds or an average of \$1,562,109 annually. During this same period, IAI core expenditures totaled \$6,058,152 or an average of \$1,009,692 annually. Therefore, for every research dollar disbursed, IAI incurred administrative

operating costs of approximately 65 percent, a rather high percentage. NSF officials noted that IAI administrative costs are not limited to the awarding and managing of research funds, but that a significant portion is associated with its activities for promoting and coordinating its global change research program both regionally and internationally. Nevertheless, the NSF Program Manager did acknowledge that IAI has the capacity to manage additional research funding.

Additionally, IAI is projecting an unmanageable cash deficit in three years if member countries continue being delinquent in paying their full core contributions. Although the IAI requested an 8 percent increase in its member country core contributions in its fiscal year 2003/2004 budget request to help address this future deficit, the CoP did not approve the increase. Further, even with the increased contribution rate and a zero net growth in IAI core expenditures, the IAI estimates that it will incur a deficit of approximately \$122,000 annually, assuming member countries continue to fund IAI at the historical payment rate of their required commitment. Thus, by the end of fiscal year 2006, IAI projects that its cumulative annual operating losses will consume its current cash reserve.⁶

Such operating deficits will negatively impact the IAI's ability to accomplish its goals of managing and overseeing its research and coordinating regional and international cooperation of its scientific programs. For example, the IAI proposes a 25 percent reduction in both staff travel and dissemination activities. It will also no longer provide support for its CoP and EC meetings and will reduce support for both its Scientific Advisory Committee (SAC) meetings and EC Ad-Hoc working groups. Such meetings are essential to ensure that the IAI is directing its scientific program towards priorities identified by the global change experts serving on its SAC and approved by its member countries.

Over Reliance on Voluntary Contributions Results in IAI Financial Difficulties

We attribute IAI's financial situation to the inability and/or unwillingness of IAI member countries to provide voluntary contributions to support IAI core and research costs as well as the lack of concerted IAI efforts for fund-raising activities. As an intergovernmental organization, the IAI is subject to the shifting scientific interest and economic status of its member countries for its financial support. As such, the lack of contributions from some member countries to support IAI can be partly attributed to the economic downturn in certain geographic regions over recent years. Additionally, the IAI agreement only provides for voluntary contributions for its core support by its member countries and does not establish a mechanism for the IAI to collect the core contributions pledged by each country if they chose not to pay. Therefore, NSF officials stated that many of the IAI country representatives to the CoP, who annually commit their countries to the core contributions, do not possess the authority and/or power within their country's government to ensure that these commitments are paid.

⁶ Cash reserves resulted from savings from previous years primarily from reduced core expenditures because IAI was not fully staffed.

However, given the projected operational deficits, an EC Ad Hoc Working Group has been established to assist the IAI in developing strategies to obtain the payment of voluntary country commitments pledged for its core support. NSF officials stated that such efforts have resulted in recent payment of some overdue core contributions, but continued IAI priority must be directed towards these efforts to ensure that adequate core operational funds are obtained for IAI to remain a financially viable organization.

A similar situation exists for obtaining contributions to support the IAI's research program. Since contributions from member countries are also voluntary, IAI efforts have not been successful over the years to persuade the countries to provide such funding. Also, IAI officials emphasized that many member countries have laws stipulating that their research funds can only be spent in their own countries, making them, therefore, unable to provide funding for IAI research.

However, while the IAI has the authority to obtain financial support from sources other than member countries, it has not made such fund-raising activities a priority. Unlike core funding, the IAI agreement allows for research funding to be "donated by other States outside the region, regional or international intergovernmental organizations, and industries and other intergovernmental and private organizations ..." However, the IAI acknowledges that it has not undertaken concerted efforts in the past to obtain research funding from such alternative sources. Although the new IAI Director and Science Officer stated that increased emphasis would be directed at identifying specific opportunities and applying for additional research funds from international grant-making organizations such as the United Nations Development Programme or the World Bank, to date, the IAI has not developed a comprehensive strategy for achieving such additional funding-raising efforts for its research program. Rather, it continues to largely rely on U.S. funds to support its operations.

Since NSF, on behalf of the United States, has the most funds at risk, it needs to take steps to ensure that IAI's overall mission and operational structure are re-assessed if additional fund-raising efforts are not successful. NSF needs to continue to actively work with IAI staff, the CoP, and the EC in encouraging member countries to provide voluntary contributions for IAI core support and research programs. However, given the new IAI Director's recognition of the importance of identifying specific opportunities for obtaining research funding from other grant-making organizations, we believe that the CoP and the EC should direct the IAI to give priority to these research fund-raising efforts as well.

NSF needs to aggressively work through the CoP and EC to oversee IAI progress in its development of a comprehensive strategy to seek additional research funds as well as payment of its core support commitments. Hopefully, such efforts will yield additional IAI core and research funds to accomplish its objective of establishing "a regional network of cooperating research entities." However, if such fund-raising efforts are not fully successful, NSF should propose and work with the CoP and EC in assessing IAI mission, goals, and staffing levels to be consistent with the level of funding actually received. With the lack of sufficient research funds, IAI's mission may be better redirected to emphasize its scientific coordination activities for global change research issues instead of the grant-making activities associated with funding a network of

research entities. Consistent with such a change, an evaluation of IAI staffing levels would be warranted to eliminate its current surplus grant-making capacity, thereby reducing its core operational costs.

Furthermore, NSF needs to work with the White House Office of Science and Technology Policy (OSTP) and the Department of State to re-evaluate the US commitment to funding the IAI. Given that the IAI has now been operating for over 10 years and its member countries have not fully funded its core contributions and essentially not funded any IAI research, the United States Government needs to re-assess its continued financial commitment at current levels. This is particularly important because IAI has received significantly less total funding than originally envisioned and has acknowledged that the lack of adequate funds has hampered its ability “to reach its full potential and be able to fund the highest-quality science.” The United States needs to determine whether the scientific results and benefits of the IAI funded research justify continued research funding at current levels, particularly if additional IAI financial resources are not obtained from its member countries and/or other outside sources.

Recommendations:

We recommend that the Assistant Director, Directorate for Geosciences (GEO):

- 1.1 Continue to work with the CoP and the EC in aggressively promoting and overseeing the IAI Directorate’s efforts to obtain payment of core support contributions and additional research funding from alternative outside sources. Specifically, the IAI Directorate should be directed to develop a comprehensive strategy for obtaining additional funds with established milestone dates for accomplishment.
- 1.2 Propose to the CoP and EC that, if additional funding is not obtained, a re-evaluation of IAI mission, goals, and staffing levels be performed to redefine the IAI’s objectives and eliminate current surplus grant-making capacity.
- 1.3 Work with the OSTP and the Department of State in re-evaluating the United States commitment to provide continued research funding to IAI. Consideration should be given to the benefits of IAI funded research in comparison to accomplishing these same objectives through direct U.S. funding of such projects under the United States Global Change Research Program.

NSF Comments

NSF generally concurs with the audit conclusions and recommendations, but notes that some factual information needed to be corrected to provide better tone and context to the audit finding. Specifically, while NSF agrees that the current IAI “operating budget to be insufficient for the scientific quality of proposal received,” it believes that the comparison of IAI’s \$2.6 million annual expenditures to the \$14 million annual budget envisioned in a U.S. planning document misrepresents the funding shortage issue. NSF states that the \$2.6 million is an understatement of the IAI budget, because it only included U.S. contributions, and the \$14 million is an overstatement, because it was derived from a U.S.

planning document that was never presented to or approved by IAI member countries. Also, NSF notes that the actual payment rate for core country contributions was greater than the 80 percent rate cited in the audit report and that there was not an operating loss in fiscal year 2003.

NSF generally concurs with recommendations 1.1 and 1.2, but did not agree with recommendation 1.3. Specifically, NSF states that a CoP Working Group has asked the IAI Director to develop a strategy document and timeline for obtaining unpaid core support contributions and agrees to continue to work with the Directorate in exhorting all member countries to pay their contributions. Further, NSF concurs “that if additional funding is not obtained, the CoP and EC may need to re-evaluate the programs of IAI.” However, it believes that the IAI mission and goals are appropriate and that current staffing levels are at the minimal level required to provide for responsible science and financial management.

With regard to recommendation 1.3, NSF states “This is not a matter that is appropriate for OIG comment.” Nevertheless, it believes that the assessment of IAI’s scientific performance in comparison with U.S. priorities has been achieved by a very active Federal interagency process that “has assured an appropriate match of IAI and U.S. global change research priorities primarily through vigorous and wide participation of U.S. scientists in the review and evaluation of research proposals submitted to the IAI.”

IAI Comments

While the IAI specifies actions to implement the audit recommendations, it believes that the audit report comparison of their average annual expenditures of \$2.6 million with the \$14 million budget, originally envisioned in U.S. planning documents, was an overstatement of the funding shortage issue. IAI’s position is that the \$14 million was “a very preliminary vision of expected funding” developed more than a decade ago. Additionally, the IAI provided information to clarify that an operating loss was not incurred in fiscal year 2003 because the value of donated services from its Brazilian host organization needed be included in total IAI annual income. Also, IAI noted that the average historical core country contribution rate was 86 percent.

In response to the audit recommendation 1.1, the IAI Directorate states that progress has been made in obtaining payment of overdue core support contributions from member countries. Further, the IAI has presented a strategy for fund-raising activities at the EC/CoP sessions in June and July 2004.

OIG Response

Based on NSF and IAI comments, we have revised the audit finding to properly reflect that there was not an IAI operating loss incurred in fiscal year 2003 and that the actual average core country contribution rate was 86 percent, rather than the 80 percent historical rate cited in IAI budgetary planning documents for fiscal year 2003/2004. However, in regards to both NSF and IAI comments that the \$14 million annual budget was not an appropriate number to be used as a basis for comparison, we believe that in the absence any other documented discussion of required IAI funding levels, this U.S.

planning number was a proper amount to reference. However, based on NSF comments, we have clarified in the audit finding that the \$2.6 million, cited as the average IAI annual budget, was actually the average IAI annual expenditures and were derived from research and core expenditures reported in their audited annual financial statements. These average annual research expenditures of \$1,562,109 and core expenses of \$1,009,692 included IAI disbursement of contributions from all member countries and not just U.S. funds.

With respect to recommendation 1.1, IAI actions to develop a strategy and timeline for obtaining payment of overdue core support contributions is appropriate and commendable. However, in order to fully implement this recommendation, NSF needs to continue to work with the CoP and EC to direct the IAI to develop a similar strategy and timeline for fund-raising activities to seek research funds from sources other than member countries. Increased IAI priority and emphasis needs to be given to identifying specific opportunities and applying for additional research funds from other grant-making organizations, since it is apparent that other member countries are not willing to voluntarily contribute funds for IAI research. It is time for IAI to take concerted actions and not continue to rely solely on U.S. funding to support its research operations.

With respect to recommendation 1.2, NSF's agreement that "if additional funding is not obtained, the CoP and EC may need to re-evaluate the programs of IAI" is appropriate. We believe that such a review when performed will concurrently result in an assessment of IAI staffing needed to support such program changes.

Lastly, with regard to recommendation 1.3, we believe that NSF misunderstood the intent of our recommendation. We are not concerned about specific research priorities, but are concerned whether NSF should continue funding IAI research or could accomplish the same research objectives by directly funding such projects through the U.S. Global Change Research Program. Under such a funding scenario, NSF would have direct control over the procedures required to ensure financial oversight and accountability of its grant funds. Therefore, based on NSF comments, we have revised the wording of the audit recommendation to clarify our intent. Nevertheless, we do re-affirm our position that NSF needs to initiate actions to revalidate the U.S. Government's commitment to continue funding the IAI research program given the total lack of research funding from other member countries. When the IAI was created in 1992, it is clear from the U.S. planning document and the IAI treaty agreement that the U.S. Government expected other member countries to share in funding IAI's research program. However, the United States has provided 98 percent of the research funding from 1996 to 2003. Therefore, we believe that it is appropriate and timely for the U.S. Government to be clearly informed of this IAI funding shortage issue and be provided the opportunity to re-assess its funding commitments based on the current facts and circumstances.

2. IAI Needs to Improve Financial Management and Oversight of CRN Subawardees

Although OMB and NSF grant requirements hold the grantee responsible for the programmatic and administrative performance of its subrecipients, the IAI has not adequately managed and monitored its 14 Collaborative Research Network (CRN) subawards, valued at \$10.3 million, to ensure NSF grant funds are spent for authorized grant purposes and for reasonable costs. The IAI has not performed either pre-award assessments of the subrecipients' financial or management capability to administer NSF grant funds and/or post-award monitoring to ensure the grant funds were spent in accordance with its CRN subaward agreements. Further, the IAI has not implemented actions that NSF has recommended in the past and which it has acknowledged was needed to improve its oversight of its subaward programs.

Without adequate monitoring and oversight, the IAI could not ensure financial accountability of NSF grant funds and as a result, several CRN subrecipients could not account for or support its grant expenditures and/or charged unreasonable costs. This occurred because as a foreign organization, the IAI was not familiar with and/or did not understand its responsibilities for subaward monitoring required by its NSF grant agreement. As such, the IAI did not place a priority on monitoring or improving its oversight of CRN subawardees.

Grant Monitoring and Oversight Responsibilities

In receiving federal grant funds, NSF grantees have a stewardship responsibility to exercise prudent oversight and monitoring of government funds to ensure public monies are spent for authorized grant purposes. When grant funds are passed-through or transferred to a subrecipient, OMB and NSF grant requirements⁷ specify that the primary grantee is responsible for the programmatic and administrative performance of its subawardees. As such, the primary grantee should establish subaward agreements contractually obligating the subrecipient to the same basic federal terms and conditions imposed by its NSF grant agreement.

Further, OMB procedures⁸ provide guidance on subaward monitoring responsibilities for primary grantees. Specifically, primary grantees should (1) advise subrecipients of the requirements of laws, regulations, and grant agreements, (2) monitor subrecipient activities to ensure the awards are used for authorized purposes in compliance with the grant agreements, and (3) ensure that subrecipients have met audit requirements. Further, the OMB procedures describe and suggest additional subaward monitoring techniques including: review of subrecipient financial and performance reports, sites visits to review financial and programmatic records and observe operations, and maintenance of regular

⁷ Subpart C, Section 51 (a) of OMB Circular A-110, Uniform Administrative Requirements for Grants and Agreements With Institutions of Higher Education, Hospitals, and Other Non-profit Organizations, and Chapter III of NSF Grants Policy Manual sets forth grant monitoring requirements.

⁸ Subpart D, Section 400 of OMB Circular A-133, Audits of States, Local Governments, and Non-Profit Organizations, and Section M of the A-133 Compliance Supplement establish OMB guidelines for a pass-through entity's monitoring responsibilities for its subawards.

contacts and appropriate inquiries on program activities. The extent of subrecipient monitoring required for each awardee should be based on a risk analysis of factors such as the size of the subawards, the complexity of the compliance requirements, and the experience of the subawardee in administering federal grant funds.

IAI Did Not Monitor CRN Subawardees

Contrary to established OMB and NSF requirements, the IAI has not adequately monitored its CRN subawardees to ensure adequate financial and administrative controls over NSF grant funds. Specifically, the IAI has not performed pre-award assessments of the subrecipient's financial control systems, has not established a formal tracking system to document receipt of required annual progress reports, and has not generally conducted site visits at its CRN subawardees.

Between 1999 and 2003, NSF awarded the IAI \$10.3 million to fund 14 CRN projects, each project ranging from \$294,000 to \$820,000.⁹ As of March 31, 2004, NSF has disbursed \$7,720,335 or 75 percent of the NSF grant funds to IAI. However, prior to issuing the subawards, the IAI did not perform any evaluation or site visits to assess the CRN subawardees' financial and management capabilities to administer these grant funds. We could find no documentation in CRN grant files to evidence that the IAI had requested any information from the subawardees to determine the adequacy of their grant management systems to account for or ensure allowability of costs charged to the subawards. Thus, the IAI awarded funds for the CRN projects with little assurance that the recipients had financial management systems capable of accounting for and supporting expenditures of NSF's grant funds.

Also, IAI performed only limited post-award monitoring of its subawardees to ensure compliance with all terms and conditions of its CRN subaward agreement. For example, although IAI relies on annual progress reports, required by its subaward agreement, as a primary means to monitor the status of CRN projects, IAI lacks an organized tracking system to ensure the reports are received timely and reviewed for completeness and accuracy prior to making additional grant payments. For the four-year period from June 1999 to June 2003, we were unable to determine whether 52 percent of the annual financial and scientific reports and work plans were submitted on time. Our analysis of the remaining reports disclosed that another 33 percent of the reports were submitted late.¹⁰ The CRN Program Manager, who is a scientist, was assigned primary responsibility for reviewing the annual financial reports for accuracy and completeness rather than the IAI Financial Officer, who is more knowledgeable to perform such reviews.

⁹ In addition to NSF funds, Argentina has also provided \$210,755 to fund the CRN projects. The CRN projects are carried out by teams of 4 to 6 research institutions from different member countries in the Americas. The IAI issued the 14 subawards to the home research institution of the lead principal investigator for each CRN project, each of whom agreed to manage and pass-through the NSF grant funds to the team of other performing research organizations.

¹⁰ We calculated the due dates based on the anniversary dates of the original CRN agreements. While some CRN projects did not actually start on these beginning dates, the anniversary dates in the CRN agreements were never amended. If the dates had been amended, some of these reports could have been timely.

Also, the IAI has not generally conducted post-award CRN site visits although its subaward grant agreement states that: “IAI will monitor grant progress and ensure compliance with applicable standards” and has the right to make site visits “to review project accomplishments, grantee management control systems, administration and management of the grant . . .” Over the four-year life of the CRN Program, the IAI has only conducted post-award site visits at 2 of the 14 projects and only in those cases where specific problems were brought to its attention.

NSF Provides Onsite Technical Assistance

Further, the IAI has not taken actions to address similar concerns identified by NSF. At the request of the IAI Financial Officer,¹¹ NSF grants and program officials made four site visits between June 2001 to March 2002 to offer advice and assistance to IAI in managing its grant funds. During these visits, various NSF grants and program officials conducted extensive discussions with IAI on the federal grant requirements, as delineated in the OMB Circulars, and the NSF award terms and conditions. The NSF recommendations primarily focused on the management of the IAI Directorate’s core expenditures and have resulted in the establishment of IAI procedures, which has significantly improved controls over its basic core operational costs.

However, NSF also concluded that the IAI needed to integrate financial oversight of its subawardees into the management of its research program. NSF specifically recommended that the IAI develop a Project Management Manual as a means to improve its oversight over “the financial integrity and accountability of the organizations receiving the awards.” NSF suggestions for improvement included pre-award site visits and reviews of financial data submitted by subawardees. However, because NSF was representing the U.S. as the country representative to the Conference of Parties (CoP), IAI’s policymaking body, NSF was required to work with the other member countries in requiring the IAI to develop the recommended Project Management Manual. Thus, through its representation in the CoP, the Executive Council (EC), and the Financial and Administrative Ad Hoc Committee (FAC), NSF program officials continued to emphasize the importance of financial oversight of research projects and the need to establish clear written policies and procedures to ensure such fiscal accountability.

Yet, despite continued NSF efforts, at the time of our on-site visit in June 2003, the IAI had done little to implement NSF’s recommendations. While the IAI has acknowledged the need to develop the recommended Project Management Manual and agreed that future CRN subawardees will be evaluated on their ability to administer research funds before they are given an award, we could find little evidence that the IAI has taken steps to accomplish such improvements.

¹¹ When the IAI Finance Officer was hired in January 2001, he requested immediate assistance from NSF to clarify requirements for management of its grant funds.

Some CRN Subawardees Had Inadequate Accounting Controls Over Grant Funds

As a result, the IAI could not ensure adequate financial control and accountability over its \$10.3 million of CRN subawards and experienced serious problems with 2 of the 14 CRN subawardees. Specifically, these 2 subawardees could not account for or support their grant expenditures and/or charged unreasonable costs as follows:

CRN Project 038 – Water Center for the Humid Tropics of Latin America and the Caribbean (CATHALAC)

A June 2002 financial statement audit report disclosed that the subawardee's system of internal controls was so deficient that the auditor was unable to express an opinion on the organization's financial statements. Among the many deficiencies noted, the audit report concluded that the organization did not have an established accounting system for systematically recording and reporting financial transactions on a daily basis for the three-year period from 1998 to 2000.¹²

When the IAI became aware of the audit report, it temporarily suspended the subaward¹³ on October 4, 2002 and contracted for its own audit of CRN grant funds of \$323,400. The audit revalidated many of the same deficiencies noted in the prior audit report and concluded that there was a lack of adequate supporting documentation for many grant costs, although it did not identify any specific misuse or misappropriation of funds. Further, the IAI learned that both of the CRN project's principal co-investigators had deposited the grant funds in either a personal checking account or an institution account where they inappropriately had direct control of the NSF grant funds.

Also, during our limited review of supporting documentation, subsequently provided by the CRN subawardee to the IAI, we found that some of the grant costs charged were not reasonable or allocable to the project under NSF's grant agreement with the IAI, which required compliance with the federal cost principles. For example, while the CRN agreement allows the recipient to charge a maximum of 10 percent of total IAI grant costs as overhead or indirect charges, it does not provide a definition of what constitutes these types of costs. As such, this allowed the subawardee in one year to charge a 10 percent overhead rate amounting to \$14,100, while direct charging \$8,024 for secretarial costs, \$5,409 for materials and supplies, and \$2,450 monthly for a computer maintenance contract. The IAI Finance Officer stated that he believed that the 10 percent overhead rate was intended to include many of these administrative type overhead costs. Thus, it did not appear reasonable for the CRN recipient to also charge the

¹² The annual financial statement audit had not been performed for prior years, thus the June 2002 audit report included review of the organization's financial statements for a three-year period.

¹³ IAI had paid the CRN 038 subawardee \$323,400 of its five-year grant of \$809,000 issued in November 1999. When IAI terminated the subaward, the remaining funds of \$485,600 were to be re-budgeted for other CRN grant purposes.

grant for a full-time secretary and the full costs of its computer maintenance contract.

Consequently, the Finance Officer acknowledged that the IAI needs written cost principles defining the expenses included in the indirect cost rate, the types of costs that can and cannot be charged to the subawards, and the types of documentation required to support such costs. However, lacking such standards in its current CRN subaward agreements because the IAI did not flow-down the federal cost principles as prescribed by its NSF grant agreement, the Finance Officer did not believe that IAI had a basis to question the reasonableness of the claimed costs. Also, given that the subaward agreements did not include any specific audit requirements, there was no legal basis specifying that the CRN grant costs claimed could be audited, as is typically included in federal grant agreements.

The IAI subsequently terminated CRN project 038 and based on our inquiries, officially requested the recipient organization to return \$51,712 in unspent funds per an October 27, 2003 letter. To date, the subawardee has not returned any funds despite repeated request by the IAI.

CRN Project 061 – Oceanography Institute of the University of Sao Paulo

Our limited onsite review disclosed that CRN subawardee 061 had significant weaknesses in its accounting controls over NSF grant funds.¹⁴ In particular, the project's Principal Investigator inappropriately had control over both approving and disbursing grant payments. He prepared the documentation to support the grant payments, including his own salary, while also having direct control over the project's checking account.

Although we did not identify any misuse of grant funds, this lack of any segregation of duties creates a significant risk that funds could be spent for unauthorized purposes without being detected. Additionally, the Principal Investigator did not adequately manage and monitor grant funds passed-through to two other CRN participating research institutions. For example, contractual agreements were not established with these second-tier subawardees establishing terms and conditions for the expenditure of the NSF grant funds and the reporting of actual expenditures of the funds advanced to these subawardees was not required.

Further, the subawardee claimed grant costs that would not be considered reasonable or allocable to the project under NSF's grant agreement with the IAI, which required compliance with the federal cost principles. Specifically, the CRN Principal Investigator was paid the equivalent of one-half his normal annual university salary from grant funds, totaling approximately \$28,582 over the first three years of the grant. However, there were no timekeeping records to indicate that the investigator had, in fact, devoted an appropriate level of effort to the CRN

¹⁴ CRN grant 061 was a five-year award for \$819,000 issued in August 1999.

project, given that the university also employed him full-time. Thus, it was not possible to assess the reasonableness of such salary charges in relationship to his other research and/or university responsibilities. According to IAI officials, Latin American universities do not require any form of time and effort reporting for its faculty or staff documenting the allocation of hours worked between their various university responsibilities and externally funded research projects.

As previously discussed, the IAI Finance Officer stated that he could not question the reasonableness or allocability of the researcher's salary costs because the IAI's subaward agreement does not include any cost principles or labor effort documentation requirements.

Written Policies And Procedures Needed for IAI Management of Research Grants

The lack of adequate oversight of the CRN subawards occurred because as a new and foreign organization, the IAI was unfamiliar with how to oversee its subawardees. As such, the IAI did not understand its responsibilities "to monitor grant progress and ensure compliance with applicable standards" as prescribed by its NSF grant agreement and did not make subaward monitoring of its CRN projects a priority. The IAI had not developed written policies and procedures to assess whether CRN subrecipients had the financial management capability to administer grant funds or to account for and ensure the propriety of the expenditures they charged to the grants. It did not require subrecipient compliance with the federal cost principles as required by its grant agreement with NSF, thus had no basis or standards to evaluate the reasonableness or allowability of any claimed CRN grant costs. Further, the IAI lacked an understanding of its legal authority to enforce provisions of its grant agreement with CRN subawardees.

Additionally, personnel and funding issues were a contributing factor to the lack of adequate IAI oversight of its CRN subawardees. The IAI did not have a qualified Finance Officer from January 1999 to the end of 2000, when the CRN projects were awarded and the first two years of funding were received. Also, when a new Finance Officer was hired in January 2001, the primary responsibility for financial monitoring remained with the CRN Project Manager, a scientist. During the time of our onsite review in June 2003, this responsibility still remained with the CRN Project Manager.

In addition, although NSF grant funds were budgeted for the CRN Project Manager's salary, IAI officials stated travel funds were not specifically provided for pre-award or post-award site visits and no funds were budgeted for other important monitoring activities such as conducting audits of the CRN subawardees. However, NSF program officials noted that IAI had the discretion to use their core support funding for such monitoring efforts.

Also, NSF bears some responsibility for IAI's lack of adequate oversight of CRN subawards. As a new foreign grantee, provided with a large sum of NSF grant funds to be passed-through to numerous other foreign organizations, the IAI should have been designated as a high-risk awardee. As such, NSF grant officials should have provided proactive technical assistance to the IAI when the \$10.3 million CRN grant was awarded in 1999 to ensure that IAI clearly understood federal responsibilities for managing and

monitoring the CRN subawards and had adequate internal controls established to safeguard NSF grant funds.

Conclusion

To ensure appropriate stewardship over federal grant funds, IAI must exercise prudent oversight and monitoring of its CRN subawardees to ensure public monies are spent properly. Specifically, the IAI needs to take immediate actions to improve financial accountability over the remaining \$2.2 million of CRN funds through the expiration of the grant in May 31, 2005. At a minimum, the IAI must enforce all terms and conditions of its current CRN grant agreement. As required by its own CRN grant agreement, appropriate corrective actions are needed to ensure that each subawardee “has established adequate financial management systems for fund control and accountability.”

Equally important, the IAI should take actions to develop the promised Project Management Manual for its research subawards. Written policies and procedures need to be established that clearly specify requirements for how programmatic, financial, and administrative accountability will be provided and who is responsible for monitoring and providing oversight of the grant supported activities to ensure such accountability. Such procedures should include a standard subaward agreement that contractually obligates the subrecipient to terms and conditions that establish clear legal and financial responsibility and accountability for the awarded funds and include specific cost principles and audit requirements. These cost principles should clearly define the type of documentation necessary to support costs and type of costs that are not allowable.

Additionally, given the problems noted with the adequacy of IAI fiscal oversight of its current CRN Program, we believe that NSF should not authorize any additional future research funding until the IAI has clearly demonstrated a commitment to improve its subaward monitoring responsibilities. The IAI must initiate actions to both enforce its current CRN subaward agreement provisions and establish and implement written subaward management policies and procedures to ensure accountability over NSF research funds passed-through to other organizations. As the U.S. country representative, NSF should continue to work with the other IAI member countries through the Conference of Parties (CoP),¹⁵ the IAI’s policymaking body, to emphasize the importance of financial oversight of research projects and requiring the IAI to take appropriate corrective actions to implement the audit recommendations.

¹⁵ The IAI’s Executive Committee and its Financial and Administrative Ad Hoc Advisory Committee will have primarily responsibility for working with the IAI to develop specific steps to implement the audit recommendations and monitor progress.

Recommendations

We recommend that the Assistant Director, Directorate of Geosciences (GEO), in conjunction with the Division Director, Division of Grants and Agreements (DGA):

- 2.1 Work with the CoP to require the IAI to develop and implement subaward management and monitoring procedures that at a minimum address the items specified below. NSF should provide technical assistance to IAI in developing such new procedures.
 - a. Standards for subawardee financial management of grant funds including incorporation of specific cost principles and audit requirements into the subaward agreement. These cost principles should clearly define the type of documentation necessary to support costs and type of costs that are not allowable.
 - b. Pre-award evaluation of the financial and administrative capability of subawardees to manage NSF grants funds by the IAI finance officer.
 - c. Post award monitoring procedures and techniques to include reviewing grantee compliance with all IAI award terms and conditions, developing a system for tracking and documenting receipt and review of annual financial and scientific reports; and performing on-site visits and periodic audits of high-risk subawardees.
- 2.2 Assess the adequacy of the subaward monitoring procedures, required by recommendation 2.1 above, prior to approving new NSF awards to fund additional IAI research programs. Continue to monitor and work with the IAI in proper implementation of such subaward procedures.
- 2.3 Require the IAI to assess all CRN subawardees and take necessary corrective actions to ensure the adequacy of financial management controls over NSF grant funds.
- 2.4 Work through the CoP to direct the IAI to assign primary responsibility for financial oversight and monitoring of CRN projects to the IAI finance officer.
- 2.5 Direct the IAI to obtain the return of \$51,712 in unspent grant funds from CRN subawardee 038 and apply the funds to other CRN program purposes. If the subrecipient does not return the funds, NSF must amend the CRN award to reduce the total authorized grant amount by the \$51,712 and direct the IAI to reduce expenditures claimed under the award by the same amount. (The \$51,712 will be reported as “questioned costs.”)

- 2.6 Direct IAI to require CRN Project 061 improve its financial management system for fund control and accountability of its CRN grant funds by segregating the responsibilities for approving and disbursing funds, establishing grant agreements with the two other CRN participating research institutions, and monitoring expenses for the pass-through funds provided to these participating research institutions.
- 2.7 Require that a portion of future NSF research funds be specifically dedicated for subaward monitoring activities such as site visits and subgrantee audits.
- 2.8 Direct IAI to ensure its staff receive appropriate training on federal grant requirements.

NSF Comments:

While NSF generally agrees with the audit conclusion and recommendations, it states that the audit finding does not adequately recognize the extensive NSF efforts undertaken in recent years to improve IAI management processes. It emphasized that numerous site visits and NSF led-efforts within the IAI have resulted in the updating and development of procedures manuals for the effective management of IAI funds. Furthermore, NSF noted that the CRN grant (ATM 99 073230) was awarded using the Grant General Conditions (GC-1) as its award terms and conditions, but that all future research grants will be awarded using the Foreign Grant General Conditions (FGG).

With regard to the audit recommendations, NSF officials state that IAI is developing a Project Management Manual and updating its Accounting Manual to address the subaward issues identified and that both documents would be reviewed by GEO, DGA, and the Division of Financial Management (DFM), and other NSF entities, as appropriate. However, it states that “sub-awardee cost principles and audit requirements are covered under applicable Grant General Conditions” and that “pre-award evaluation of the financial and administrative capabilities of sub-awardees is rarely feasible or practical, and is not a prerequisite for NSF to make an award.” NSF states that while it can not fully “ensure implementation” of subaward monitoring procedures prior to the award of future grants, GEO and DGA will continue providing IAI with guidance to educate them on subaward monitoring procedures consistent with the FGG award terms. NSF emphasizes that the FGG outlines the awardee’s responsibilities for subaward monitoring.

While NSF concurs that better subaward monitoring is required, it does not fully agree with recommendation 2.7 to specifically dedicate NSF research funds for such purposes. Specifically, NSF states that it “will work to ensure that future subawards are monitored and site visits are made when appropriate, but audits should be the primary tool for such monitoring.” However, NSF strongly believes that such monitoring efforts should eventually be funded out of the IAI core budget and not exclusively out of NSF research funds.

Furthermore, NSF states that the financial and oversight responsibilities for IAI funds has already been assigned to the Administrative and Financial Officer and agrees that certain

IAI staff should receive formal training in federal grant requirements. Lastly, NSF concurs that IAI should obtain the return of unspent grant funds from CRN awardee 038, but noted that the exact amount in dispute should be \$51,712.

IAI Comments

The IAI has identified specific actions taken or planned to implement all the audit recommendations. Specifically, the Directorate is developing a Project Management Manual for its research projects and has already established a system for tracking the receipt of annual CRN technical and financial reports. Additionally, the IAI Administrative and Financial Officer has been assigned primary responsibility for financial oversight and monitoring of CRN projects. As such, he will review and approve the CRN financial reports prior to releasing additional grant payments and will request specific subawardee corrective actions for any problems noted. IAI also has initiated discussions with NSF concerning suitable dates for formal staff training in federal grant requirements. Additionally, with respect to recommendation 2.7, the IAI has included funds for onsite visits and external audits, to be used as subawardee monitoring tools, in their recent proposal to NSF for the CRN II Program

Specifically, for recommendations 2.5 and 2.6 addressing the two CRN projects reviewed during the audit, IAI states that the current CATHALAC Executive Director has agreed to recommend to its Executive Council the return of the unspent funds on CRN project 038. However, IAI notes the correct amount of the unspent funds should be \$51,712. With respect to CRN project 061, IAI states that it is maintaining contact with the Principal Investigator and the University of Sao Paulo to improve its financial accountability over CRN grant funds.

OIG Response

Based on NSF comments, we have revised the audit finding to more fully acknowledge and recognize NSF's technical assistance efforts in recent years to improve IAI management processes over its funds. Also, we have corrected the amount of unspent funds for CRN project 038 to \$51,712.

NSF and IAI corrective actions for recommendations 2.3, 2.4, 2.5, and 2.8 are appropriate. By assigning primary responsibility for financial oversight and monitoring of IAI research projects to the Administrative and Financial Officer and agreeing to provide formal training in federal grant requirements, we believe that there should be a significant improvement in fiscal accountability over IAI subawards funded with NSF grant funds.

Furthermore, with regard to recommendations 2.1 and 2.2, it is highly commendable that GEO, DGA, and DFM agree to review the IAI Project Management Manual and Accounting Manual being developed to establish written IAI subaward management and monitoring procedures. However, because the NSF comments were not clear, we want to re-affirm recommendation 2.2 that new NSF grants for research not be awarded until IAI has completed the promised Project Management Manual and initiated steps to implement such procedures. This is imperative given the lack of IAI progress on such a

Manual since NSF first identified the need during its first site visit in June 2001. However, based on NSF comments, we have re-worded recommendation 2.2, but the overall thrust of corrective actions required remain the same.

Additionally, we are concerned with NSF's statement that "Pre-award evaluation of the financial and administrative capability of sub-awardees is rarely feasible or practical, and is not a prerequisite for NSF to make an award." First, we would like to note that during the audit, we found no evidence that IAI had undertaken any efforts to evaluate the capability of its 14 CRN subawardees for managing funds, prior to awarding over \$10 million in NSF grant funds. Secondly, given that NSF considers all foreign awardees to be high risk, the large dollar amount of IAI's current CRN II grant proposal for \$10.3 million, and our audit results; we believe that in this particular case, NSF does need to verify that IAI, at minimum, has established the promised Project Management Manual, as a prerequisite for receiving new NSF research awards.

Additionally, we disagree with NSF's position that the Foreign Grant General Conditions (FGG) provide clear awardee responsibilities for subaward monitoring. We believe that the Grant General Conditions (GC-1), used for the current CRN grant, provide for clear cost principles and audit requirements, as delineated in applicable OMB Circulars. However, the Foreign Grant General Conditions (FGG), to be used for all new IAI research awards, do not include any audit requirements and essentially no cost principles because all reference to the OMB Circulars has been deleted. Therefore, there are no NSF standards for these important aspects of grant management established for IAI and/or its subawardees. As such, it is imperative that DGA develop and include special award conditions in the FGG provisions for its new IAI research grants to specify clear NSF standards for cost principles and audit requirements.

Furthermore, to fully implement recommendation 2.6, we believe that IAI needs to delineate specific actions planned to remedy the accountability issues identified at CRN project 061. As the primary awardee, IAI has the responsibility at minimum, to officially notify the subawardee of the problems noted, request a corrective action plan, and monitor implementation of proposed corrective actions.

Lastly, with regard to recommendation 2.7, we consider NSF and IAI proposed corrective actions to use site visits and audits as monitoring tools to be appropriate. Also, we agree with NSF's position that these activities should be funded from IAI's core funds, if available. However, in the absence of adequate core funding, we believe that NSF must provide the needed funding for such monitoring tools to insure adequate financial accountability over its grants funds in order to fulfill its federal stewardship responsibilities.

3. Excess Advances of Grant Funds Being Drawn

The IAI and its CRN subawardees have maintained excessive cash balances of NSF grant funds contrary to requirements that award payments should be limited only to amounts necessary to meet current cash needs. The IAI did not time its drawdown of NSF grant funds to coincide with its actual planned disbursements and unnecessarily paid the full amount of annual CRN grant increments, totaling approximately \$1.6 million, in one lump sum payment. This occurred because the IAI did not fully understand federal grant requirements regarding the timing of payments to meet actual needs and did not have adequate accounting controls over its CRN fund advances. As a result, the U.S. Treasury is estimated to have incurred increased borrowing costs of \$14,971 over a two-year period for premature IAI drawdown of NSF grant funds and \$92,123 over a four-year period for prematurely paying annual CRN funding increments.

Advance of Grant Funds Required To Be Limited to Immediate Cash Needs

Federal grant payments to various organizations outside the government constitute a significant portion of the federal budget. Therefore, advances of cash from the U.S. Treasury to such organizations for the purpose of financing current operations under federal programs have a substantial impact on Treasury financing costs and level of public debt. Therefore, both OMB and NSF grant requirements clearly specify that awardees only request grant payments in amounts necessary to meet their immediate cash needs. As such, all NSF grant agreements, including the new foreign grant conditions, require that the timing of payments comply with Section 432 of NSF's Grant Policy Manual (GPM), which states:

“Timing of payments. Advances to a grantee shall be limited to the minimum amount needed and shall be timed to be in accordance with the actual, immediate cash requirements of the grantee ... The timing and amount of cash advances shall be close as administratively feasible to actual disbursements for direct program costs and a proportionate share of any allowable indirect costs.”¹⁶

Further, the same requirement is applicable to NSF grant funds that are passed-through to other organizations, as stated in the same GPM section:

“Payments to Subawardees. Cash advances made by primary grantees (those which receive advances directly from NSF) to others (subawardees) shall conform to the same standards of timing and amount as apply to advances by NSF to primary grantees, including the furnishing of reports of cash disbursements and balances.”

Contrary to these established OMB and NSF requirements, IAI did not time and limit its requests for NSF grant funds to amounts necessary to meet its immediate cash needs or the cash needs of its CRN subawardees. Our analysis of IAI's Federal Cash Transaction

¹⁶ This exact same standard for timing of payments is included in Subpart C, Paragraph 22(b) of OMB Circular A-110, *Uniform Administrative Requirements for Grants and Agreements With Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations*.

Reports (FCTR) for the two-year time period from June 2001 to June 2003 disclosed average quarterly excess cash balances of \$381,823. Our analysis of one particular drawdown disclosed that the IAI took six months to completely disburse a \$1 million drawdown of NSF grant funds.

More significantly, the IAI typically paid its 14 CRN subawardees their annual grant increment, totaling approximately \$1.6 million, in one lump sum payment at the beginning of each grant year.¹⁷ We found that these payments were made even though IAI's CRN grant agreement clearly states that advances should be limited to cash requirements. Also, some of the CRN subrecipients had reported balances of unspent funds in their annual financial reports at the time of the annual disbursements. For example, the annual CRN financial reports for the first 3 years disclosed that the CRN subrecipients maintained an average total year-end cash balance of \$222,857 or approximately 12.4 percent of the total CRN funding paid. Specifically, for one CRN project, an annual grant payment of \$149,422 was made on February 14, 2003 when the annual financial report, submitted the prior month, reported unspent funds of \$61,496.

U.S. Treasury Incurs Increased Borrowing Costs

Because the IAI and its CRN subawardees received grant funds prematurely, the U.S. Treasury incurred increased borrowing costs to fund these disbursements. For the two-year period of our review from June 2001 to June 2003, we estimate that the interest costs to the U.S. Government were approximately \$19,819 based on the average quarterly IAI surplus cash balance of \$381,823.¹⁸ During this same time period, IAI earned actual interest of \$4,848¹⁹ on the excess NSF grant funds that it invested in a bank account that earned .75 point less than the prevailing U.S. Treasury rate. Thus, the net estimated borrowing costs to the U. S. Treasury was approximately \$14,971.

Likewise, IAI's premature payment of annual CRN funding in one lump sum amount has resulted in increased borrowing costs to the U. S. Treasury. From the initiation of the CRN grant in 1999 through June 30, 2003, IAI disbursed \$6,566,291 in total CRN funding, averaging \$1,641,573 annually. Using average Treasury interest rates for the applicable time period, we estimated that the payment of the annual CRN grant amounts to the 14 subawardees in one lump sum amount instead of in four equal quarterly payments resulted in increased U.S. Treasury borrowing costs of \$92,123.

This occurred because as a foreign organization, the IAI did not fully understand federal grant requirements and the financial implications of its practices on U. S. Treasury borrowing costs. The IAI believed that its premature withdrawal of NSF grant funds was acceptable as long as interest earned was returned to the U. S. Treasury. Also, even though the IAI's CRN grant agreement clearly states that fund advances be limited to

¹⁷ Annual CRN increments for the 2002/2003 period were made in 2 payments because of external project evaluations being performed. Second payment was not made until the evaluation was completed.

¹⁸ For the interest rate, we used the average of U.S. Treasury Bill rates from April 2001 to June 2003 of 2.307%. Treasury Bills had the lowest interest rate, thus provided the most conservative calculation.

¹⁹ IAI paid the \$4,848 to the U.S. Treasury on October 30, 2003 as a result of our audit inquiries.

immediate cash requirements, IAI officials believed it was obligated to continue this practice since it had made the first CRN payments in this manner. However, IAI officials must take prompt corrective actions to start enforcing its current CRN payment provisions.

Contributing to the problem of weak CRN cash management practices, the IAI did not have adequate accounting controls over its CRN advances. Specifically, the IAI did not liquidate the CRN fund advances in its accounting system when actual project expenses were reported in the annual CRN financial reports. As such, the IAI was not able to readily determine the true cash needs of the CRN projects and could not determine and report actual CRN grant expenditures. Further, it is likely that this accounting inadequacy is affecting other IAI subawards. While our audit did not specifically review the timing of \$2.5 million of payments IAI made to subrecipients under its other NSF funded research grants, review of applicable IAI subaward agreements similarly disclosed that advances were required to be limited to immediate cash requirements.

Recommendations:

We recommend that the Division Director, DGA, in consultation with the Division Director, Division of Financial Management (DFM):

- 3.1 Monitor the IAI to ensure requests for NSF grant advances are limited to the minimum amounts required to meet actual, immediate cash requirements as required by its NSF grant agreements. (Interest cost savings to the U.S. Treasury of \$14,971 will be reported as “better use of funds.”)
- 3.2 Direct the IAI to comply with NSF grant agreements and its own IAI subaward grant provision limiting advances to subrecipients to the amount needed and timed in accordance with its cash requirements to carry out the purpose of the approved project. (Interest cost savings to the U.S. Treasury of \$92,123 will be reported as “better use of funds.”)
- 3.3 Request IAI to develop accounting procedures to liquidate advances to the CRN subawardees based on actual expenditures reported in the financial reports.
- 3.4 Ensure that IAI has returned the \$4,848 interest earned on excess NSF grant funds from June 2001 to June 2003 to the U.S. Treasury. (The refund of \$4,848 will be reported as “questioned costs.”)

NSF Comments

NSF generally agrees with the audit finding and recommendations. Specifically, NSF has instituted “Special Payment” requirements to more closely monitor IAI grant payments. Additionally, NSF agrees to work with IAI to further educate them on the NSF grant provision requiring that advances to subrecipients be limited to the amounts needed to meet immediate cash needs, but once again emphasizes that the Foreign Grant General Conditions (FGG) outline the awardee’s responsibilities. Further, NSF agrees to work with IAI in developing appropriate accounting procedures to liquidate subrecipient

advances in their accounting system. According to NSF, IAI has already remitted to the U.S. Treasury the interest earned on its excessive balances of NSF funds, but notes that the correct amount of the interest was \$4,848, not the \$5,815 cited in the audit report.

IAI Comments

While IAI concurs with the other audit recommendations, it states that recommendation 3.2 “will be difficult to put into practice and suggest that other more flexible and practical mechanisms” be explored. But with respect to the remaining recommendations, IAI has implemented a procedure to limit its drawdown of NSF grant funds to minimum amounts to meet immediate cash needs and is in the process of establishing accounting system controls to liquidate subrecipient fund advances. Also, it provided documentation of its October 30, 2003 payment of \$4,848 of earned interest to the U.S. Treasury.

OIG Response

NSF and IAI corrective actions to implement recommendations 3.1, 3.3, and 3.4 are appropriate and should preclude premature IAI drawdown of NSF grant funds in the future. Also, we have revised our audit report to reflect that the interest earned on the excessive IAI cash balances was \$4,848 instead of the \$5,815 amount, originally provided by the IAI Administrative and Financial Officer on September 26, 2003 pursuant to our specific request for such information. Nevertheless, we find the return of the \$4,848 to the U.S. Treasury to be fully responsive to the audit recommendation.

However, with regard to recommendation 3.2, we believe that IAI is contractually obligated to take corrective actions to comply with the payment provision of both the GC-1 and the FGG, which clearly require that subawardee payments be limited to immediate cash needs. Otherwise, IAI needs to clearly specify what “more flexible and practical mechanisms” would be for making such subawardee payments and whether NSF would find such procedures to be in compliance with its payment requirements. Furthermore, we believe that DGA needs to include a special condition in future IAI research awards, to clearly require that the subject FGG payment provision is flowed-down to IAI subrecipients. Currently, provision 6a of the FGG does not include the payment provision (#10) as a flow-down requirement to subawardees.

4. IAI Has Opportunities to Strengthen Management of Its Core Expenditures

The IAI expenditures for core support²⁰ during fiscal year 2003 were generally used for purposes consistent with the NSF grant objectives and were spent on the types of cost typically allowable under federal cost principles. However, we found over \$67,000 in unreasonable educational allowance costs and \$11,277 in unallowable Cuba- related grant costs.

IAI Can Realize Savings by Revising Policies Regarding Educational Allowances

Pursuant to the NSF grant agreement, an awardee is required to prudently manage all expenditures and actions affecting the award and ensure that such expenditures are allowable, necessary and reasonable for the conduct of the project. However, we estimate that the IAI paid educational allowances to its international employees that exceeded actual school costs incurred by 74 percent or \$67,276. Specifically, IAI's Employee Handbook and employee contracts provide for an annual education allowance of \$7,000 per child for primary or secondary school.²¹ However, based on a review of actual school receipts that IAI maintained for one of its employees during 2001 through 2003, we found that the average annual educational costs²² actually paid by the employee was \$1,870 per child, or about 74 percent, less than the \$7,000 IAI allowance provided. Projecting the 74 percent overpayment rate to the total IAI educational allowance of \$91,408 actually paid to 3 IAI employees from 1998 to 2003, we estimated that NSF's core support awards incurred approximately \$67,276 in excess educational allowance costs for the period.

This occurred because neither the IAI Employee Handbook nor its employee contracts limited the education allowance amount paid to the actual costs incurred. Current IAI management stated that the educational allowance was an employee entitlement; and since the organization has historically paid the \$7,000 educational allowances, it has continued this practice.

However, an educational allowance is more properly an employee benefit and not an entitlement. Prudent business management practices would limit such a benefit to actual costs incurred and there is no justifiable reason why an employee should reap a financial gain from the willingness of its employer to provide such a benefit. Such claimed costs in excess of educational expenses actually paid are not reasonable because they are not

²⁰ Award GEO 02 40107 provided \$550,000 for IAI core support.

²¹ IAI's employee manual also provides for an educational allowance for preschool and undergraduate university studies, but these allowances are new and started to be paid starting in fiscal year 2004.

²² This average was based on receipts for actual school costs incurred for 2001 through 2003 at the best private school in the area according to IAI staff. The exchange rate for this time period averaged 2.9 Brazilian real (BRL) to 1 US dollar (US \$) versus the exchange rate in 1998 that was 1.16 BRL to \$1 US. As such, actual school costs could have been greater in 1998, but because school receipts were not available, we were unable to determine the amount.

“of a type generally recognized as ordinary and necessary for the operation of the organization or the performance of the award”²³ as stated in the federal cost principles.

Furthermore, under the rules of the International Civil Service Commission, which are applicable to United Nations (UN) employees, an education grant is limited to no more than 75 percent of the actual receipted educational costs, subject to a maximum amount. Also, the UN limits education grants to internationally recruited staff members who are serving outside of their home country. Since the IAI staff considers themselves to be international employees, like United Nations employees, we believe that the IAI educational allowance should be similarly limited to 75 percent of actual costs and not provided to staff members who are from Brazil. Also, given that actual private education costs in Brazil are significantly less than the \$7,000 IAI allowance, we believe that IAI should establish a more reasonable maximum amount for its educational allowances and periodically update the amount.

Recommendations

We recommend that the Assistant Director, GEO, in consultation with the Division Director, DGA, work with IAI’s Financial and Administrative Ad Hoc Committee (FAC) to ensure that IAI:

- 4.1 Revises its Employee Handbook limiting educational allowances to (a) international staff serving outside of their home country and (b) 75 percent of actual receipted expenses incurred up to a specified maximum amount. The maximum amount should be based on a documented survey and analysis of local school costs and be periodically adjusted based on such surveys. (The \$67,276 will be reported as “better use of funds.”)
- 4.2 Revises IAI employee contracts to be consistent with changes in educational allowances made pursuant to recommendation 4.1 above.

NSF Comments

While NSF agrees with the audit finding and recommendations, it notes that the \$67,000 amount cited as IAI payment for excessive educational allowances cannot be verified. Nevertheless, NSF states that the IAI’s Financial and Administrative Ad-Hoc Committee (FAC) is considering developing procedures requiring the payment of educational allowances based on actual receipts rather than in advance. In establishing such new IAI educational allowance policy, the FAC will consider the policies of other intergovernmental organizations and local school costs.

²³ Definition of reasonable grant costs pursuant to paragraph A.3.a. of Attachment A, General Principles, of OMB Circular A-122, *Cost Principles for Non-Profit Organizations*.

IAI Comments

IAI does not state its position with the audit finding or recommendations; only that it is working with the FAC to finalize the IAI Employee Manual, which includes provisions for the employee educational allowance.

OIG Response

Based on NSF comments, we have revised the audit finding to more clearly reflect the methodology used for determining the \$67,000 in excessive IAI educational allowances reported. Furthermore, we believe that both NSF and IAI proposed corrective actions are appropriate and should limit IAI educational allowances to reasonable amounts actually incurred for such expenditures.

Unallowable Cuba Travel Costs Charged to NSF Grant Funds

Pursuant to the Trading With the Enemy Act, the United States Government instituted economic sanctions against the Cuban Government by issuance of the Cuban Assets Control Regulations in 1963. The basic goals of the economic sanctions were to isolate the Cuban Government economically and deprive it of U. S. dollars. The regulations are still in force today. As such, the NSF Program Manager stated that the IAI was notified and clearly understood that NSF grant funds should not be used for any of the Institute's expenditures associated with Cuba.

However, the IAI inappropriately used its NSF funds to pay \$1,277 in unallowable costs for the Executive Director's travel to Cuba in March 2003. Additionally, in October 2002, the IAI improperly paid \$10,000 for Cuba-related costs from another NSF grant (ATM 02 26420).²⁴ However, IAI adjusted these 2002 charges in April 2004 when brought to their attention during our audit.

These Cuba-related costs were mistakenly charged to NSF grants because IAI's accounting system does not have the capability of capturing unallowable NSF grant costs in an account separate from its total grant disbursements. Also, NSF included a special grant condition prohibiting the use of grant funds for costs involving Cuba in only one of the above two awards. Similarly, we found that NSF has not consistently included such a special Cuba condition in four of its other active awards to IAI.²⁵ Given the clear U.S. economic sanctions against the Cuban government, all NSF grants to IAI should include a special award condition clearly specifying that grant funds cannot be used for expenditures associated with Cuba. Such a special condition is essential to ensure that NSF can judicially enforce IAI compliance with federal regulations and laws prohibiting Cuba expenditures because the NSF grant agreement is the legal binding contract between NSF and its awardees.

²⁴ Award ATM 02 26420 awarded \$360,000 for the Small Grant Program.

²⁵ The following active NSF grants to IAI did not include the required special condition for Cuba-related costs: GEO 03 42307, ATM 03 41783, ATM 02 26420, ATM 99 07233, and ATM 97 29981.

Recommendations

We recommend that the Division Director, DGA, in consultation with the Assistant Director, GEO:

- 4.3 Direct the IAI to establish an account that separately tracks all Cuba-related expenses to ensure that NSF grant funds are not used for such purposes.
- 4.4 Amend all existing NSF grant agreements to IAI to include a special condition prohibiting the use of grant funds for expenditures associated with Cuba unless a license is obtained from Office of Foreign Assets Control at the U.S. Department of Treasury.
- 4.5 Determine whether such a special Cuba award condition is required to be flowed-down in IAI subaward agreements for NSF research funds and amend NSF agreements, as appropriate.
- 4.6 Ensure that all NSF grants officers are notified of the U.S. requirement to include such a special condition associated with Cuba expenditures in NSF awards to foreign organizations, whenever applicable.

We recommend that the Division Director, DGA, in consultation with the Division Director, Division Institution and Award Support (DIAS):

- 4.7 Resolve the \$1,277 and \$10,000²⁶ in questioned Cuba-related costs claimed against ATM-0240107 and ATM-0226420, respectively. (The \$11,277 will be reported as “questioned costs.”)

NSF Comments

NSF generally concurs with the audit finding and recommendations. Specifically, NSF agrees to amend all IAI grants to include a special Cuba provision and states that such a special provision will also be applicable to IAI subawardees. Additionally, DGA, GEO, and the Office on International Science and Engineering (OISE) will work together to develop an “appropriate protocol related to any expenditure of funds associated with the country of Cuba.” When developed, DGA staff will be educated on the new protocol to ensure that all foreign awards include the required special grant condition. However, NSF notes that while IAI has always been directed to ensure that no U.S. funds were used for Cuba-related expenses, it states that to formally insist that IAI set-up a separate account exclusively for Cuba-related costs would be difficult.

IAI Comments

The IAI specifies that corrective measures have been taken to implement audit recommendations 4.3 and 4.7. In particular, the Directorate states that a separate account

²⁶ A \$10,000 adjustment was made by IAI to ATM-0226420 (SGP) in April 2004 because of our audit inquiries.

was already in place to separately track Cuba-related expenditures and has submitted documentation for an alternate “allowable” travel expense to replace the \$1,277 questioned Cuba-related travel expenditure.

OIG Response

NSF and IAI corrective actions to implement audit recommendations 4.4 to 4.7 are appropriate. NSF is to be commended for taking the initiative to develop a consistent NSF protocol for handling Cuba-related expenditures for both its grantees as well as subgrantees. When this protocol is established, however, we believe that DGA should appropriately amend its Foreign Grant General Conditions (FGG) to include such a protocol as a standard provision in all NSF foreign awards.

However, we believe that further IAI efforts are required to implement recommendation 4.3. While IAI states that a separate account to track Cuba-related costs is “already in place,” our onsite review in June 2003 disclosed that IAI only has a separate account to track its research grants to Cuba, not any of its other Cuba-related expenses, such as travel expenditures. Furthermore, we found that even its separate account for Cuba research expenses was not totally effective, as evidenced by the \$10,000 Cuba-related research expenditure, identified during our audit, which was improperly charged to NSF’s Small Grant Program. We believe that it would not be difficult for IAI to establish a separate cost code in its accounting system to separately track any and all Cuba-related expenditures. Without such a separate cost accounting control, IAI has no assurance that these types of costs are not charged to U.S. funds, thereby violating not only its NSF grant agreement, but also U.S. Law.

If IAI is not technically able to establish such a separate account that will effectively track Cuba-related expenditures, then IAI must propose an alternative solution for achieving the same purpose. Both IAI and NSF must recognize the importance of this issue because the expenditure of U.S. funds for Cuba-related expenditures is an explicit statutory violation of U.S. Law. While we recognize NSF’s difficulty as one IAI country representative to require specific IAI actions, it must continue to work closely with IAI as a grantor agency to establish adequate controls to preclude such expenditures.

OTHER CONSIDERATIONS

In addition to the findings and recommendations discussed, we identified some issues related to employee benefits that we believe warrant NSF's attention. Although we have not made specific recommendations, we suggest NSF consider and evaluate these issues and take appropriate steps as deemed necessary.

Some IAI Employee Benefits Are More Generous Than Comparable United Nations Benefits

The IAI incurred significantly increased salary and benefit costs because 6 of its 13 staff were considered "international" employees pursuant to its establishing agreement. Additional IAI employee benefits received by "international" employees include housing allowance, education allowance, and home leave in addition to typical employee benefits such as annual and sick leave and health and life insurance. However, our analysis showed that the IAI benefits for housing allowance, educational allowance, health insurance, and life insurance are more generous than comparable UN benefits for their professional staff.

The IAI employee benefits are established in its Employee Handbook and the IAI employee contracts. Similar to UN employees, the 6 IAI "international" employees receive salaries referenced to the UN salary scale, which are applied worldwide and denominated in U.S. dollars. We found that the UN salary scale provided IAI salaries that were more generous than those of a comparable non-profit European organization, which was also a NSF foreign awardee with basically the same scientific mission. For example, the Executive Director of both organizations had similar responsibilities, however, the IAI Executive Director had an annual salary that was 20 percent greater than his European counterpart. Also, the IAI salary was denominated in US dollars, while the European salary was denominated in the local currency. The major difference in the 2 organizations was that IAI was an inter-governmental treaty organization and the European organization was considered a non-profit organization. Additionally, the European organization's employees did not receive other "international" benefits such as housing allowance, educational allowance, and home leave, like the IAI international staff.

We found that the IAI housing allowance was slightly greater than the UN allowance. While IAI reimburses 50 percent of actual housing costs, the UN reimburses only up to a maximum of 40 percent. During fiscal year 2003, IAI incurred housing costs of \$23,000 for 4 of its 6 "international" employees. Similar to UN standards, the remaining two "international" employees from Brazil were not eligible for housing allowance because they were serving in their home country. However, our analysis of the housing allowance disclosed that IAI does not have any data supporting the calculation of the maximum housing allowance of \$800 per month to document its reasonableness. The actual fiscal year 2003 housing allowance paid to its 4 employees ranged from a low of \$416 to a high of \$740 per month, a variance of about 50 percent. According to IAI officials, they were not aware of the original basis for establishing the dollar value of the housing allowance and have not periodically evaluated its reasonableness over the years.

Also, the IAI provides educational allowance to its 6 “international” employees that are more generous than UN benefits. Specifically, the IAI provides educational allowance for its 2 employees from Brazil, where the UN does not provide such a benefit to employees serving in their home country. Also, the IAI educational allowance provides for preschool education of \$1,200 annually, while the UN benefits do not. These more liberal education allowances can potentially result in significantly increased IAI costs because educational costs can be substantial. For example, in fiscal year 2003, educational costs for just 2 of the 6 IAI staff totaled \$17,500, a rather significant amount. The remaining 4 employees did not have children eligible for the allowance during fiscal year 2003. However, during the current fiscal year, IAI instituted additional educational allowances of \$7,000 for undergraduate college costs and the \$1,200 for pre-school costs. IAI employees have been paid these new educational allowances during fiscal year 2004.

Furthermore, the IAI benefits for life and health insurance for “international” staff are also more liberal than UN benefits. Staffs at the UN pay the full cost of group life insurance premiums, where the IAI, not its staff, pays for the full costs of life insurance premiums for its international staff, which has a benefit equal to three times their annual salary. Additionally, IAI pays the full costs of an employee’s health insurance, while UN employee benefit provisions state that UN organizations only “subsidize” the cost of health insurance premiums. According to UN officials, the subsidy for health insurance varies by each UN agency and duty station and is based on a percentage of an employee’s salary. For example, for an employee with an annual salary of \$60,000, the UN monthly premium for Van Breda health insurance in Brazil, the same company used by IAI, was subsidized about 50 percent in 2004. As such, using the UN standards, the 6 IAI “international” employees would have been required to contribute \$19,000 of the total \$38,000 costs incurred for health insurance during fiscal year 2003.

A comparison of the IAI international and traditional employee benefits with similar UN benefits is summarized in the table on the following page.

Comparison of IAI International Employee Benefits to UN Benefits

Various Employee Benefit	IAI Benefits	UN Benefits
Salary	Denominated in US dollars	Denominated in US dollars
International Benefits		
Educational allowance <ul style="list-style-type: none"> • 18 months to 5 years • Primary & secondary • Undergraduate college 	\$1,200 per child \$7,000 per child \$7,000 per child Paid for international staff including members serving in their home country.	No benefits for pre-school. 75% of actual cost up to a maximum by location that is updated every 2 years. Only paid to staff members serving outside of their home country.
Housing allowance	50% of actual costs up to maximum of \$800 monthly. No provision for updating the allowance.	Included as an element of cost of living adjustment for each UN duty station that is adjusted every 4 or 5 years. Maximum amount is 40% of actual rental costs paid.
Home leave	Every 2 years	Every 2 years
Traditional Benefits		
Annual leave	20 days annually	30 days annually
Sick leave	24 days annually	Varies by UN agency
Maternity leave	16 weeks paid	16 weeks paid
Health insurance	Employee not required to contribute.	Employee contribution to premium varies by duty station and health plan, but is based on salary level (50% in Brazil for Van Breda insurance at \$60,000 salary)
Life insurance	Employee not required to contribute.	Employee pays total premium.
Pension benefits	Employee contributes 1/3 and IAI contributes 2/3, up to maximum of 21% of salary	Employee contributes 1/3 and UN contributes 2/3, current rate is 23.7 percent

Salaries and benefits is the biggest cost item in IAI's core budget. For fiscal year 2004, IAI's budget request for salaries and benefits was \$543,020 or 58 percent of the total budget of \$939,170. Of this amount, the fringe benefit rate, which includes the employee benefits, is about 50 percent of the salary costs. Since IAI's budget is not particularly large, seemingly small items of expense such as employee benefits can have a big impact. While we understand the need to have attractive compensation packages to attract quality employees, the extra costs of benefits for "international" employees beyond comparable UN standards may be putting a strain on IAI's budget.

IAI's Financial and Administrative Ad Hoc Committee (FAC) has directed the IAI to establish position descriptions for its international staff and to contract for a survey of comparable positions and compensation packages at other international organizations in Brazil. We believe that such a survey should assist in providing information to evaluate the reasonableness of salaries and benefits provided to IAI "international foreign" staff. Also, it would be helpful for such a survey to determine the methodology used by similar organizations to establish the monetary amount of such employee benefits and the procedures for periodically reviewing and updating such benefits. NSF should continue to work with the FAC to actively monitor to ensure that such a survey is performed and that appropriate corrective actions are taken to establish reasonable IAI salaries and benefits for its international staff.

NSF Comments

No comments provided.

IAI Comments

While IAI's position is that many of the UN procedures and rules can be considered and adapted to take into account the peculiarities of its expatriate staff, it believes that the comparison table is unfair because it includes only the IAI benefits that are considered favorable against the UN system. For example, the IAI notes that the UN provides an 8 percent increase in salary for staff with dependents instead of the modest IAI dependent allowance and a maximum educational allowance of \$9,750 versus the IAI allowance of \$7,000. In summary, the IAI suggests that a comparison should include all benefits. Nevertheless, the IAI states that it has engaged an independent consulting firm to conduct a survey of compensation packages for comparable organizations in Brazil.

OIG Response

We found the UN common system for salaries, allowances, and benefits to be extremely complicated. There are many factors that are considered in the UN computation of salaries and benefits and these factors vary significantly depending on the many duty stations available worldwide. These factors include such items as exchange rate fluctuation and changes in the local consumer price index that are updated monthly for

post adjustment indices for the various duty stations. As such, the information presented as “Other Considerations” was not intended to be a comprehensive and thorough comparison of IAI salaries and all benefits to the UN system. We are confident that the survey of compensation packages for comparable organizations in Brazil, as suggested by the FAC and recently contracted out by IAI to an independent consulting firm, will indeed provide such a thorough analysis.

Appendix A

Status of IAI Core Contributions By Member Country For Fiscal Year 2003

	Commitment for FY 2003	Paid during FY 2003	Unpaid FY 2003 Commitment	Cumulative Unpaid as of June 30, 2003
Argentina	45,000.00		45,000.00	125,025.00
Bolivia	5,000.00		5,000.00	5,000.00
Brazil	80,000.00	(80,000.00)	0.00	(21,735.88)
Canada	115,000.00	(115,000.00)	0.00	0.00
Chile	5,000.00	(15,000.00)	(10,000.00)	10,000.00
Colombia	10,000.00		10,000.00	30,000.00
Costa Rica	5,000.00	(20,238.45)	(15,238.45)	(8,138.99)
Cuba	5,000.00		5,000.00	10,066.56
Dominican Republic	5,000.00		5,000.00	30,000.00
Ecuador	5,000.00	(10,000.00)	(5,000.00)	15,000.00
Guatemala	5,000.00		5,000.00	30,000.00
Jamaica	5,000.00	(5,000.00)	0.00	5,000.00
Mexico	55,000.00		55,000.00	52,004.50
Panama	5,000.00	(5,000.00)	0.00	5,000.00
Paraguay	5,000.00		5,000.00	35,000.00
Peru	5,000.00		5,000.00	25,000.00
Uruguay	5,000.00		5,000.00	25,000.00
USA (*)	550,000.00	(550,000.00)	0.00	0.00
Venezuela	30,000.00		30,000.00	121,829.34
Total	\$945,000.00	(\$800,238.45)	\$144,761.55	\$494,050.53



Memorandum

Date: September 14, 2004

From: [REDACTED], Directorate for Geosciences
[REDACTED], Division of Grants and Agreements

Subject: Draft Report on Audit of the Inter-American Institute for Global Change Research (IAI)

To: [REDACTED], Senior Audit Manager, OIG

This is in response to your request for review and comment on the draft report dated August 6, 2004, of the OIG Audit of the Inter-American Institute for Global Change Research. We are providing a consolidated NSF response prepared in consultation with cognizant staff members of the Directorate for Geosciences, the Division of Grants and Agreements and the Division of Financial Management.

Before addressing the specific recommendations, we would like to make some general observations.

The National Science Foundation interacts with the IAI, not only as a grantor, but also, more importantly, on behalf of the United States. The United States participates in the IAI under the international *Agreement Establishing the Inter-American Institute for Global Change Research (IAI)*, as signed by Dr. D. Allan Bromley, Science Advisor to the President, on May 13, 1992. This Agreement is considered a treaty by most member states and has the status of an Executive Agreement for the United States. NSF's Directorate for Geosciences (GEO) has the lead for U.S. interaction with and participation in the IAI, its meetings, its programs, and related activities. The Foundation also administers U.S. funding for the IAI administration and programs on behalf of the United States.

In order to fulfill these responsibilities, NSF interacts with the IAI, its officers, and its staff on a day-to-day basis at a number of levels. Staff from the Directorate for Geosciences, the Division of Financial Management (DFM) and the Division of Grants and Agreements (DGA) also interact with the IAI on issues related to grant administration and oversight.

In addition, GEO elicits the views of other Federal agencies on all important IAI and IAI-related issues and invites input from these agencies in preparation of U.S. Government positions on

these issues. We are charged by the Department of State with implementing these positions through our leadership of U.S. Delegations to the IAI Conference of the Parties (CoP) and Executive Council (EC).

To meet these objectives we work closely with other interested IAI Member States. For example, GEO has consistently led efforts within the IAI to establish and maintain effective procedures for their management of U.S. and other States' funds. We continue to press the IAI to further improve these procedures. Our efforts over the past few years have led to the updating and development of a series of manuals, including a project management manual, intended to enable the IAI to improve its management capability and to assure that IAI management meets reasonable standards.

The recommendations presented to us by the OIG in many cases do not reflect the fact that NSF acts both as a grantor to the IAI and as an individual member of the IAI. We will continue to work with the IAI to see that they handle and process NSF-U.S. funds in a manner generally consistent with U.S. Government and NSF rules and procedures for handling of such monies as spelled out in the applicable terms and conditions. However, in most areas GEO has to develop consensus support for our views by convincing other IAI Member States of the merit of NSF and U.S. positions. Thus, while we lead many IAI programs and activities in a number of areas, we cannot simply "direct" or "require" the IAI to act exactly as we would like.

The Audit contains factual errors that have not been corrected. While these errors do not change the general conclusions and recommendations with which we concur, they are relevant to the tone and context of the findings. These factual errors can be summarized as follows:

1. The third paragraph of the Executive Summary (page i) and the first paragraph of the first finding (page 4) state that the "...IAI's 19 member countries have paid only an average of 80 percent of their promised voluntary core support contributions." The first finding later states: "Historically, since 1994, member countries have paid an average of 80 percent of their pledged commitments." These statements are inaccurate.

First, the correct numbers for the last seven years are as follows: 1994-1997, 97.89 percent; 1997/1998, 94.06 percent; 1998/1999, 91.95 percent; 1999/2000, 93.58 percent; 2000/2001, 90.68 percent; 2001/2002, 90.05 percent; 2002/2003, 87.30 percent; 2003/2004, 93.89 percent. The 80 percent figure is an internal IAI estimate of a "worst case" scenario. Second, this phrasing fails to distinguish between individual payments and the total: States that contribute have usually done so at the 100% level. It is the failure of particular *individual* States to contribute that lowers the percentage, rather than each State incompletely contributing at an average 80 percent level. Third, the Audit fails to recognize that the U.S. Department of State required the IAI to have *voluntary contributions* rather than obligatory contributions when the funding structure was being discussed, approved, and established by Governments. GEO considers Member State non-contribution to be a serious issue affecting the Directorate's cash reserves - that is not in dispute - and GEO has always been actively involved in efforts to encourage contributions, working within the Department of State's constraint that required the IAI to have voluntary, rather than obligatory contributions.

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2. The third paragraph of the Executive Summary (page i) and the second paragraph of the first finding (page 4) state that the "...IAI has operated on an average annual budget of \$2.6 million or 81 percent less than the \$14 million budget, originally envisioned..." The first finding later states "the annual IAI budget has averaged only \$2.6 million instead of \$14 million, as originally envisioned..." These statements are inaccurate.

First, the \$14 million annual budget figure is apparently taken from a February 1991 internal U.S. interagency planning document transmitted from NSF to the Office of Science and Technology Policy (OSTP) discussing concepts for a regional research institute in the Western Hemisphere (that was eventually to become the IAI). This number was never officially presented to or discussed with other IAI Member States, and their approval for such a figure was never sought. The official U.S. Government position presented in July 1991 by OSTP Director Allan Bromley and U.S. Geological Survey Director Dallas Peck was based on a U.S. offer of \$2 million from the FY1992 budget request to support all *three* regional research institutes. Second, the \$2.6 million figure is only the U.S. contribution, and omits other Member States contributions to the IAI budget. The Audit misrepresents this issue by deliberately minimizing the numerator and maximizing the denominator. GEO considers the current operating budget to be insufficient for the scientific quality of proposals received, but recognizes that constraints on the U.S. and other Member States' budgets will make this a persistent problem. Again, GEO continues to be engaged in efforts to increase the available budget for IAI research and operations.

3. The third paragraph of the Executive Summary (page i) and the second paragraph of the first finding (page 4) state that the "...IAI incurred a \$121,543 operating loss in fiscal year 2003..." The first finding later states: "Specifically, an analysis of IAI's fiscal year 2003 audited financial statements disclosed that the Institute received \$800,238 in country contributions but expended \$921,772 in core operational expenses, resulting in an operating loss of \$121,534 for the year." These statements are inaccurate.

The IAI in fact had an operating *gain* of \$34,771 for the year. The Audit fails to apply a basic accounting principle in reaching this figure by including Brazil's \$156,305 contribution of support for certain IAI Directorate expenses in the expense category, but then *failing to include* that same contribution as income. GEO recognizes that the fundamental point remains accurate: recurrent operating losses do threaten the cash reserves and the operation of the Institute, but the point should be made using figures from a year in which the IAI did actually incur a loss.

The Audit contains other statements that we have been unable to verify, which are summarized as follows:

1. In the fifth paragraph of the Executive Summary (page ii) the statement is made that refers to "payment of \$67,000 in excessive educational allowances."
2. The first full paragraph on page 7 includes the statement that IAI core expenditures totaled "an average of \$1,009,692 annually."

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3. The first full paragraph page 15 and Recommendation 2.5 refer to the amount of \$57,712. We believe that there is some discrepancy over whether that amount should be \$51,712.
4. The third paragraph on page 21 and Recommendation 3.4 refer to interest earned in the amount of \$5,815.

In general, the OIG recommendations often fail to distinguish between NSF roles as grantor and as U.S. representative to the IAI. These recommendations similarly often fail to recognize that NSF is already involved in IAI efforts to broaden its funding for its operations and research from other than U.S. sources, to improve its financial management system, to improve its staffing arrangements, etc. The recommendations, nonetheless, identify a number of areas in which it is essential that the IAI modify its existing rules and processes or establish new ones so that the IAI can assure NSF and, through us, the United States that funds are handled in a manner generally consistent with U.S. Government and NSF rules and procedures. It should be noted that many of the OIG recommendations, if implemented fully, have implications for future increases in the administrative costs associated with the IAI.

To this end we list below the OIG recommendations in order and provide specific comments in response thereto:

Recommendations

We recommend that the Assistant Director, Directorate for Geosciences (GEO):

- 1.1 Continue to work with the CoP and the EC in aggressively promoting and overseeing the IAI Directorate's efforts to obtain payment of core support contributions and additional research funding from alternative outside sources. Specifically, the IAI Directorate should be directed to develop a comprehensive strategy for obtaining additional funds with established milestone dates for accomplishment.

Response: The Directorate for Geosciences shares this concern. We note that the IAI CoP and EC have discussed this issue at each of their meetings, and have convened numerous groups to work on the issues of Member State contribution and external fund raising at the persistent urging of the U.S. and other delegations. The CoP/EC convened groups to consider Member State contributions in 2001 and 2003, and groups to pursue additional Global Environmental Facility (GEF) funds (1997, 2000), United Nations Development Programme (UNDP) funds (1997), and several foundations (1997, 2001), in coordination with ongoing efforts by the Directorate.

Most recently, we proposed that an *ad hoc* group be established to aid the IAI Directorate in formulating a strategy for dealing with the core support contributions. This *ad hoc* group met in February and June of 2004. We have asked that the Director produce a strategy document and a timeline as a result of this process. Final action on a strategy for obtaining funds is the responsibility of the CoP and while the U.S. can aid the IAI Directorate and exhort fellow Member State delegations, it is the Directorate, acting on behalf of the IAI, which is ultimately responsible for collection of dues from sovereign nations.

- 1.2 Propose to the CoP and EC that, if additional funding is not obtained, a re-evaluation of IAI mission, goals, and staffing levels be performed to redefine the IAI's objectives and eliminate current surplus grant-making capacity.

Response: GEO concurs that if additional funding is not obtained, the CoP and EC may need to re-evaluate the programs of IAI. However the mission and goals of the organization reflect the desire to collaborate in scientific study of global change and we would not propose that they change. As documented in CoP minutes, the IAI's staffing levels have been actively discussed several times in the context of assuring adequate program oversight while taking into account contribution levels. As the OIG has noted in the text on pages 7 and 9, IAI staff fulfill other responsibilities in addition to managing the IAI grants process. It should also be kept in mind that the IAI Directorate consists of a very small - in our view, a minimal - staff for responsible science program and financial management that requires expertise in a range of areas for which individual specialists are required.

- 1.3 Work with the OSTP and the Department of State in re-evaluating the United States commitment to provide continued research funding to IAI. Consideration should be given to the benefits of IAI funded research compared to the United States' overall global change research priorities.

Response: This is a matter that is not appropriate for OIG comment. Establishment, updating and achievement of U.S. overall global change research priorities are the responsibility of a long-standing, very active Federal interagency process in which NSF plays a strong role. Assessment of the IAI's scientific performance in comparison with these U.S. priorities is similarly the responsibility of this interagency process. This process has assured an appropriate match of IAI and U.S. global change research priorities primarily through vigorous and wide participation of U.S. scientists in the review and evaluation of research proposals submitted to the IAI. All of these efforts are continuing.

Recommendations

We recommend that the Assistant Director, Directorate of Geosciences (GEO), in conjunction with the Division Director, Division of Grants and Agreements (DGA):

- 2.1 Work with the CoP to require the IAI to develop and implement subaward management and monitoring procedures that at a minimum address the items specified below. NSF should provide technical assistance to IAI in developing such new procedures.
 - a. Standards for subawardee financial management of grant funds including incorporation of specific cost principles and audit requirements into the subaward agreement. These cost principles should clearly define the type of documentation necessary to support costs and type of costs that are not allowable.
 - b. Pre-award evaluation of the financial and administrative capability of subawardees to manage NSF grants funds by the IAI finance officer.

- c. Post award monitoring procedures and techniques to include reviewing grantee compliance with all IAI award terms and conditions, developing a system for tracking and documenting receipt and review of annual financial and scientific reports; and performing on-site visits and periodic audits of high-risk subawardees.

Response: First, it should be noted that the two awards referenced in this report were subject to two different sets of award terms and conditions. The Grant General Conditions (GC-1) were used for award ATM-9907323 and the Foreign Grant General Conditions were used for award GEO-0240107. All future awards will fall under the Foreign Grant General Conditions.

We refer back to the general comments at the beginning of this document to the effect that these recommendations do not recognize or acknowledge the extensive efforts that NSF has undertaken to assure that the IAI improves its management process in a responsible manner. As previously stated, NSF has and will continue to work with IAI to assist in the management and oversight of these NSF projects. Since 2001, when the IAI self-identified many of these issues, NSF officials took decided proactive steps to assist this organization. NSF invited the IAI Administrative and Financial Officer to visit NSF in March 2001 and arranged meetings with GEO, DGA, CPO and DFM representatives. During this visit, extensive discussions on OMB Circulars, the award budget, and the award terms and conditions were held. In June 2001, representatives from DGA and NSF's Cost Analysis and Audit Resolution Branch (CAAR) site visited the IAI for a week; and further award discussions were conducted. Even later, a second site visit was made by CAAR and Division of Financial Management (DFM) representatives to discuss financial accountability and cash flow issues. These visits were all indicative of proactive technical assistance aimed at ensuring successful management of the project. The IAI is also developing a Project Management Manual and updating its Accounting Manual to address these issues. Both documents will be reviewed by GEO, DGA, DFM and other NSF entities as appropriate.

2.1.a. Sub-awardee monitoring requirements and responsibilities are currently outlined in supporting documents. Sub-awardee cost principles and audit requirements are covered under the applicable Grant General Conditions. This article addresses sub-awardee flow-down provisions. In addition, OMB Circular A-110, Subpart C. 41, states the following:

“The recipient is the responsible authority, without recourse to the Federal awarding agency, regarding the settlement and satisfaction of all contractual and administrative issues arising out of procurements entered into in support of an award or other agreement.”

In addition, per OMB Circular A-110 Subpart C. 51:

“(a) Recipients are responsible for managing and monitoring each project, program, sub-award, function or activity supported by the award. Recipients shall monitor sub-awards to ensure sub-recipients have met the audit requirements as delineated in Section .26.”

2.1.b & c.- Pre-award evaluation of the financial and administrative capabilities of sub-awardees is rarely feasible or practical, and is not a prerequisite for NSF to make an award. In addition, on-

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site visits to and audits of such organizations are not always indicated or feasible at the time of pre-award.

- 2.2 Assess the adequacy and ensure implementation of the subaward monitoring procedures, required by recommendation 2.1 above, prior to approving new NSF awards to fund additional IAI research programs.

Response: While we cannot fully “ensure implementation” of sub-award monitoring procedures prior to award, for future awards DGA will work with IAI to further educate this awardee as to the requirements stipulated in the Foreign Grant General Conditions. GEO and DGA will continue to work together with the IAI to provide guidance for subaward monitoring in a manner consistent with the terms and conditions of the overall award and thus also consistent with NSF policies.

- 2.3 Require the IAI to assess all CRN subawardees and take necessary corrective actions to ensure the adequacy of financial management controls over NSF grant funds.

Response: The Foreign Grant General Conditions outline the awardee’s responsibilities under federal awards. DGA and GEO will work to further educate the awardee to these requirements. This process should be improved greatly as the IAI moves to implement the management manuals that were referred to in the general comments. As was noted earlier, it may prove difficult, in some cases, to “require” a treaty organization such as IAI to carry out certain activities as described here and throughout the draft.

- 2.4 Work through the CoP to direct the IAI to assign primary responsibility for financial oversight and monitoring of CRN projects to the IAI finance officer.

Response: According to the IAI Agreement, *ultimate* responsibility in this area lies with the Director, who delegates this primary responsibility for operational financial oversight and monitoring to the Administrative and Financial Officer, whose position description includes these responsibilities. We thus see no need for further action in this area.

- 2.5 Direct the IAI to obtain the return of \$57,712 in unspent grant funds from the subrecipient (CRN project 038) and apply the funds to another CRN project. If the subrecipient does not return the funds, IAI is still obligated to reduce \$57,712 of expenditures claimed under the NSF award.

Response: NSF agrees with a qualification, noting that the exact amount of this unspent amount is in dispute (\$57,712 versus \$51,712).

- 2.6 Direct IAI to require CRN Project 061 improve its financial management system for fund control and accountability of its CRN grant funds by segregating the responsibilities for approving and disbursing funds, establishing grant agreements with the two other CRN participating research institutions, and monitoring expenses for the pass-through funds provided to these participating research institutions.

Response: NSF agrees with the recommendation and will continue to communicate these concerns to the IAI.

- 2.7 Require that a portion of future NSF research funds be specifically dedicated for subaward monitoring activities such as site visits and subgrantee audits.

Response: NSF concurs with the concern expressed, but not with the recommended solution. NSF will work to ensure that future subawards are monitored and site visits are made when appropriate, but audits should be the primary tool for such monitoring. In addition, it is our very strong view that such monitoring, including site visits, should eventually be funded out of the IAI core budget, and not exclusively from funds that NSF provides for research. As noted earlier, with such NSF specification of use of award funds, a reasonable increase in the budgetary request could be anticipated.

- 2.8 Direct IAI to ensure its staff receive appropriate training on federal grant requirements.

Response: NSF has worked closely for some time to assure that appropriate IAI staff are trained regarding such grant requirements and we will continue to do so. It is noted that not all IAI staff need be trained on U.S. Federal grant requirements. Here again, a reasonable budget increase could be expected.

Recommendations

We recommend that the Division Director, DGA, in consultation with the Division Director, Division of Financial Management (DFM):

- 3.1 Monitor the IAI to ensure requests for NSF grant advances are limited to the minimum amounts required to meet actual, immediate cash requirements as required by its NSF grant agreements.

Response: DFM has taken action to more closely monitor payments to the IAI, which is now flagged with “Special Payment” requirements.

- 3.2 Direct the IAI to comply with NSF grant agreements and its own IAI subaward grant provision limiting advances to subrecipients to the amount needed and timed in accordance with its cash requirements to carry out the purpose of the approved project.

Response: The Foreign Grant General Conditions outlines the awardee’s responsibilities under federal awards and DGA, DFM and GEO will work to further educate the awardee to these requirements.

- 3.3 Request IAI to develop accounting procedures to liquidate advances to the CRN subawardees based on actual expenditures reported in the financial reports.

Response: NSF will work with the IAI on this issue.

- 3.4 Ensure that IAI has returned the \$5,815 interest earned on excess NSF grant funds from June 2001 to June 2003 to the U.S. Treasury.

Response: On October 30, 2003, the IAI returned \$4,848.22 in interest earned to the Department of Health and Human Services. NSF notes that the exact amount of the interest is in dispute.

Recommendations

We recommend that the Assistant Director, GEO, in consultation with the Division Director, DGA, work with IAI's Financial and Administrative Ad Hoc Committee (FAC) to ensure that IAI:

- 4.1 Revises its Employee Handbook limiting educational allowances to (a) international staff serving outside of their home country and (b) 75 percent of actual receipted expenses incurred up to a specified maximum amount. The maximum amount should be based on a documented survey and analysis of local school costs and be periodically adjusted based on such surveys.

Response: GEO notes that the FAC is currently considering developing policies and procedures to assure that allowable education costs are reimbursed on the basis of receipts and are not simply paid in advance. In developing the new IAI policy on educational allowances, the FAC will consider policies of other intergovernmental organizations and local school costs.

- 4.2 Revises IAI employee contracts to be consistent with changes in educational allowances made pursuant to recommendation 4.1 above.

Response: When the new policy is in place, employee contracts will be amended as appropriate.

We recommend that the Division Director, DGA, in consultation with the Assistant Director, GEO:

- 4.3 Direct the IAI to establish an account that separately tracks all Cuba-related expenses to ensure that NSF grant funds are not used for such purposes.

Response: GEO has always insisted that the IAI ensure that no U.S. funds are used for Cuba-related expenses. It is our understanding that, in the instance cited, the IAI incorrectly reported in a FCTR that NSF funds had been used for Cuba-related travel, but that this accounting error has been corrected. We will continue to insist that the IAI monitor and track its NSF expenditures. It would be difficult for the U.S. to formally insist that the IAI set up a formal account exclusively for *another* IAI Member State.

- 4.4 Amend all existing NSF grant agreements to IAI to include a special condition prohibiting the use of grant funds for expenditures associated with Cuba unless a license is obtained from Office of Foreign Assets Control at the U.S. Department of Treasury.

Response: NSF agrees with the recommendation. DGA, GEO and the Office of International Science and Engineering (OISE) will work on the appropriate protocol related to any expenditure of funds associated with the country of Cuba.

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4.5 Determine whether such a special Cuba award condition is required to be flowed-down in IAI subaward agreements for NSF research funds and amend NSF agreements, as appropriate.

Response: Our response to recommendation 4.4 applies equally in this case.

4.6 Ensure that all NSF grants officers are notified of the U. S. requirement to include such a special condition associated with Cuba expenditures in NSF awards to foreign organizations, whenever applicable.

Response: DGA will work in consultation with OISE staff in further addressing this concern, and in educating DGA staff to these issues.

We recommend that the Division Director, DGA, in consultation with the Division Director, Division Institution and Award Support (DIAS):

4.7 Require IAI to return the \$1,277 in unallowable Cuba travel costs claimed against ATM-0240107.

Comment: Our response to recommendation 4.3 applies equally in this case.

INSTITUTO INTERAMERICANO PARA LA INVESTIGACIÓN DEL CAMBIO GLOBAL

IAIDIR-171/04
September 3rd, 2004

[REDACTED]
Senior Audit Manager
National Science Foundation (NSF)
4201 Wilson Boulevard
Arlington, VA 22230
USA

Dear [REDACTED]:

As requested in your letter of August 6th, 2004, please find herewith our written comments to the draft report of your audit to IAI.

We hope that these comments can help in the finalization of this audit exercise.

Sincerely yours,

[REDACTED]
[Handwritten signature]

IAI'S DIRECTORATE COMMENTS ON THE DRAFT REPORT ON AUDIT OF INTER-AMERICAN INSTITUTE FOR GLOBAL CHANGE RESEARCH DATED AUGUST 6, 2004

The Directorate reviewed the above-mentioned report. Our position and comments on the audit findings and recommendations are given below.

Following the request of the Senior Audit Manager we include a section on Inaccuracies and on Comments to each one of the recommendations. We also commented on the last section of the report entitled "Other considerations".

Regarding the findings recapitulated in the "Executive Summary" our comments are included in the replies below. We should mention, however, that the statement indicating "... IAI has operated on an average annual budget of \$2.6 million or 81 percent less than the \$14 million budget, originally envisioned for a small regional research network in Latin American" appear to be an overstatement, in our view. The figure of \$14 million was just a very preliminary vision of the expected funding in the original discussions related to the creation of IAI, more than a decade ago.

INACCURACIES

Page i, 3rd paragraph and page 7, 4th paragraph

The historical average of contributions paid by the member counties is 86% of the promised contributions. 80% of the promised contributions is the worst scenario that can be analyzed. Depending on the level of actual expenditures, two continued years receiving 80% of the promised contributions may consume all the reserve.

Page i, 3rd paragraph and page 7, 3rd paragraph

In fiscal year 2002/2003, the amount of \$881,772 reported under "Management and General Expenses" includes the donated services ("Donated Services, Utilities and Use of Fixed Assets") from INPE for an amount of \$156,305.

To make the calculation of the operating gain/loss it is necessary to consider INPE's contribution as an income to compensate the in-kind expenses reported under "Management and General Expenses". After adding this amount, there is an operating gain of \$34,771.

Contributions from Member Countries	800,238
"In-kind" contribution from INPE	156,305
TOTAL INCOMES	956,543
Core Budget - SGP Program	(40,000)
Core Budget - M & G Expenses	(881,772)
TOTAL CORE OPERATIONAL EXPENSES	921,772
OPERATIONAL GAIN / (LOSS)	34,771

Page 15, 2nd paragraph AND Recommendation 2.5

The amount to be returned by CATHALAC is \$51,712 instead of 57,712. The calculations are as follows:

	REPORTED EXPENSES (without overhead)	OVERHEAD (10%)	T O T A L
YR 1	90,255.41	9,025.54	99,280.95
YR 2	105,602.25	10,560.22	116,162.47
YR 3	51,131.16	5,113.12	56,244.28
TOTAL	246,988.82	24,698.88	271,687.70

Remaining Funds in CATHALAC	
Received	323,400.00
Reported Expenses (without overhead)	(246,988.82)
Overhead (10%)	(24,698.88)
Amount to be returned	51,712.30

Page 22, Recommendation 3.4

The interests earned on the NSF grant funds as of June 30, 2003 amounted \$4,848.22. This amount was transferred to the HHS Department on October 30, 2003. Copy of the transfer document is attached.

COMMENTS ABOUT THE RECOMMENDATIONS

Recommendation 1.1

Progress has been obtained on the issues raised under this item. The Directorate worked with the support of an Ad-Hoc Committee on Relations with Member Countries, established by the IAI Conference on the Parties (CoP) in 2003, in making direct contacts with IAI Representatives to sensitize them on the importance of the core support required from Members in order to enable the Directorate to function at a sustainable level, assuring the continuation of the present and future science and capacity building activities. As a result several Member countries paid, or pledged to pay, part or totally their annual contribution just before the last EC/CoP sessions held in Buenos Aires, June/July 2004. The participation of representatives to these meetings was also quite high. A strategy for fund rising activities was also presented to these meetings.

Recommendations 1.2 and 1.3

No comments. These recommendations touch upon future IAI policies and strategies and, if implemented, will be the resort of the IAI constituent bodies (Executive Council and Conference of the Parties).

Recommendation 2.1

- a. These cost principles are being included in the Project Management Manual that the Directorate is developing and will be included in the award agreement. We are giving special attention to the definition of overhead/indirect costs as well as to the not allowable costs.
- b. The assessment of the administrative and financial risk of new grantees will be a requirement before the award agreement is signed. For all new awards, the respective schedule of reports and payments will be close related to the risk assessment of the grantee institution. A specific chapter about the institutional risk assessment will be included in the Project Management Manual.
- c. The post award monitoring procedures and techniques (awardees compliance with award terms and conditions, tracking of reports received from the awardees, on-site visits and external audit reviews) will be also part of the Project Management Manual.

The tracking of reports (technical and financial), payments as well as the basic project information is being performed using the attached form (Status Sheet).

Recommendation 2.2

This will be a requirement previous to the signature of any new award agreement and will be clearly explained in the call for proposals for all new IAI research programs. This requirement will be also included in the Project Management Manual.

Recommendation 2.3

The Administrative and Financial Officer of the IAI is reviewing the financial reports submitted by the CRN grantees and no further payment is released until the financial report is approved.

Problems detected during the analysis of the report might require the assessment of the grantee's controls in order to request specific corrective actions.

Recommendation 2.4

The financial oversight and monitoring of the projects managed by the institute has been included in the job description of the Administrative and Financial Officer as one of his/her primary responsibilities (revised job description attached).

Recommendation 2.5

The IAI Director recently met with the Director of CATHALAC who agreed to recommend to its Executive Council the return of the unspent funds for the project CRN-038. The correct amount to be received from CATHALAC is \$51,712 (a copy of the letter sent to the Director of CATHALAC summarizing this conversation is attached). See also comment under "Inaccuracies" above.

Recommendation 2.6

Contacts are being maintained with the PI and with the Oceanography Institute of the University of Sao Paulo in this sense.

Recommendation 2.7

The funding request submitted to the NSF for the CRN II Program set aside a portion of funds for monitoring visits as well as for external audit reviews.

Recommendation 2.8

Initial conversations with the NSF were maintained in order to find suitable dates for this training.

Recommendations 3.1

The suggested procedure is already in place.

Recommendation 3.2

This recommendation will be difficult to put into practice and we suggest that other more flexible and practical mechanisms, maintaining the required financial monitoring and control, should be explored.

Recommendation 3.3

The suggested procedure is under implementation.

Recommendation 3.4

See comment under "Inaccuracies" above.

Recommendations 4.1 and 4.2

The Directorate is working at present with the Financial and Administrative Ad-Hoc Committee (FAC) in the finalization of the IAI Employee Manual, including the analysis of the staff benefits.

Recommendation 4.3

Already in place.

Recommendations 4.4 to 4.6

No comments.

Recommendation 4.7

According to the terms of the grant ATM-0240107 the National Science Foundation covers 75% of the Salaries, Travel and Publications of the IAI with a limit of US\$550,000. This means that there were other expenses than the one questioned that can be included.

In order to solve this issue, we will change the reported expenses of [REDACTED], for the amount of US\$1,277 to Cuba (which are unallowable), by an air fare of [REDACTED] to an allowable destination.

The attached invoice from the travel agency [REDACTED] is the proof of the expense.

COMMENTS ON "OTHER CONSIDERATIONS"

Although this section does not contain recommendations we would like to comment on the approach and suggestions made to NSF.

The title of the section explicitly states the "Some IAI employee benefits are more generous than comparable UN benefits".

We were pleased to note that the UN system is suggested as a comparator. This common system has a long and standing history in handling and ruling international staff issues and it is widely recognized in the world community. Although it cannot directly applied to an institution such as IAI, as for instance we do not have career development prospects (IAI staff is contracted on a fixed term) and the IAI job classification is not based on this system, many of the UN procedures and rules, taking into account the peculiarities of expatriate staff, could be considered and adapted to our purposes.

Notwithstanding we think that the way the UN system was applied in the analysis is somewhat unfair and biased. The comparison table includes only the cases in which the IAI benefits are comparing favorably against the UN system. There are many other cases in which this is not the case. Noteworthy is the case of allowances for dependents: IAI offers a very modest annual sum; the UN includes an increase in the salary of about 8% for staff with dependents. Another example is the educational allowance: for IAI is US\$ 7000 while for UN it is US\$ 9750 (max. 75% of actual costs).

In summary we consider that if a comparison is made it should include all benefits.

Regarding the survey of comparable positions and compensation packages at other organizations in Brazil, mentioned at the end of the section, it has been already implemented through an independent consulting company.