

**INTER-AMERICAN INSTITUTE
FOR GLOBAL CHANGE RESEARCH
(IAI)**

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Training and Education Activities

The IAI organizes its T&E support around the four broad themes of its Science Agenda, attempting to engage nationals from as many member countries as possible and at all levels (undergraduate, graduate, and post-doctoral). Because a major focus has been capacity building in Latin America, the IAI has made it a priority to support scientists from Latin America, for training either in their home countries or in other countries. Through such support, the IAI hopes to contribute to the development of a new cadre of scientists, educated under the principle of multinational and multidisciplinary collaboration, who will lead future global change research in the Americas and the world.

Training and education support takes a variety of forms, such as scholarships, fellowships, training workshops, short courses, and educational materials. Some examples follow.

- Through a Memorandum of Understanding (MoU) signed with the Anthropological Center for Training and Research on Global Environmental Change (ACT) of Indiana University, the IAI is contributing to research into the human dimensions of global environmental change for the period 1998–2003. In the summer of 2001, the IAI and the ACT jointly supported the participation of two Latin American scientists (one from Ecuador and one from Peru) in the ACT/Indiana University Summer Institute on Environmental Monitoring and Assessment Applications in the Americas (held at Indiana University, Bloomington, Indiana, May 14 to June 1, 2001). The purpose of the Summer Institute was to share knowledge within the scholarly community about the human dimensions of global change research and how interdisciplinary research programs can be conducted. Participants included scientists from several countries who are already established research scholars, as well as younger scholars just starting their research on these topics.
- The IAI and the University of Miami (UM), supported by the U. S. National Science Foundation, together have organized a Summer Institute on Interdisciplinary Science in the Americas for the period 1999–2001. This new initiative is specifically intended to strengthen communication and collaboration among natural and social scientists from the Americas.

The Third IAI/UM Summer Institute (to be held in Miami, Florida, USA, July 15 and August 3, 2001) will explore the theme of "Integrated Management of Water Resources in the Americas: Challenges and Emerging Issues." To plan and conduct the institute 2001, the IAI and UM have joined efforts with UNESCO's regional office of science and technology for Latin America and the Caribbean and have counted on the support of the Water Center for the Humid Tropics of Latin America and the Caribbean (CATHALAC).

Objectives: the central objective of the summer institute is to foster effective communication between early-career natural and social scientists from the Americas. Effective management of water resources requires communication and collaboration among natural and social scientists, policy and decision-makers, and involved communities. A secondary objective is to give participants the foundations for developing competitive proposals for interdisciplinary research that can be funded by the IAI and other organizations.

Tentative Program: institute organizers are developing an exciting program that should be of interest to many natural and social scientists, resource managers, and policy and decision makers involved with the multiple dimensions of use and management of water. The Summer Institute 2001 will explore issues related to: (1) water supply (climate variability and change, land use/cover change, health of aquatic systems) and demand (population growth,

urbanization); (2) governance (regulatory and institutional issues); (3) conflict resolution (community participation, multiple objectives, trans-jurisdictional and transnational resources); and (4) new challenges in water resources management (new techniques, development of common language and interdisciplinary approaches).

Institute activities: the institute will be organized around a variety of activities, many of them highly participatory. Two institute leaders (with backgrounds in natural and social sciences) will present introductory lectures to establish a common language among participants. Subsequently, several guest lecturers will address in depth specific topics of the institute's program. Guest lecturers will come from academic institutions, government agencies, non-governmental organizations, and multilateral credit institutions from the Americas. Participants will also carry out hands-on research projects to apply the concepts learned during the institute.

Institute Science Leaders: Dr. John Gladwell is President of Hydro Tech International, a consulting firm based in Vancouver, Canada. He formerly served at UNESCO's Headquarters (Paris) in the Science Sector of the International Hydrological Programme, where for many years he was Acting Director. Dr. Gladwell holds degrees in Business Administration, Civil Engineering (M.S., Texas A&M University, 1961) and Agricultural Engineering (Ph.D., University of Idaho, 1970). Dr. Evan Vlachos is Professor of Sociology and Civil Engineering at Colorado State University, Fort Collins, Colorado, where he is also Associate Director of the International School for Water Resources. He holds a Law degree from the University of Athens (1959), and M.A. (1962) and Ph.D. (1964) degrees in Sociology from Indiana University.

Mini-Research Projects: The mini-projects are designed to emphasize the need for multidisciplinary, multinational collaboration when dealing with global change problems having multiple natural and social dimensions. Participants will collaborate on two such projects during this Summer Institute: one will focus on the Panama Canal watershed and the other on the Pantanal floodplain.

Selected participants: Over 90 applicants applied to the Third IAI/UM Summer Institute. Twenty-two participants were selected to attend the Summer Institute. They will include early- to mid-career professionals as well as advanced graduate students from universities, research institutions, and both governmental and nongovernmental agencies, representing fourteen IAI member countries (Argentina, Brazil, Canada, Chile, Colombia, Ecuador, Jamaica, Mexico, Panama, Paraguay, Peru, Uruguay, USA and Venezuela). In addition, two observers from other international organizations (Inter-American Development Bank and the Organization of American States) have been accepted to attend the Third Summer Institute.

- Regional Training Course on Climate Variability and Extreme Events for the Mesoamericas was held from February 10-22, 2001 in San Jose, Costa Rica. This initiative was a joint effort of the U.S. National Oceanic and Atmospheric Administration/Office of Global Programs (NOAA/OGP), the U.S. National Science Foundation (NSF), The U.S. Office for Foreign Disaster Assistance (USAID/OFDALAC), The World Meteorological Organization (WMO), The International Research Institute for Climate Prediction (IRI), The Regional Committee of Water Resources from Central America (CRRH), the University of Costa Rica and the IAI.

The course draws the participation of professionals in the areas of meteorology, climatology, hydrology, agriculture, water resources management, health and disaster prevention and

mitigation from 10 countries in the Mesoamericas: Belize, Colombia, Costa Rica, El Salvador, Honduras, Guatemala, Mexico, Nicaragua, Panama and Venezuela.

The general objectives of the course were: to strengthen the regional capacity to address climate variability by fostering the practical use and application of climate forecasts in policy planning in agriculture, water resources, public health and disaster prevention; and to promote the exchange of knowledge and experiences among scientists and users of climate information.

- One of the most important T&E activities supported by the IAI, begun in 1996, is the granting of fellowships to undergraduate, graduate, and post-graduate scientists associated with formal IAI science programs. The recipients of these grants not only are provided with financial resources to conduct their studies but also benefit from exposure to the scientific environment and from opportunities to link their degree studies with ongoing research activities—field trips, laboratory experiments, comparative studies in several countries of the region, and exchange of scientific data and knowledge with other investigators through the IAI network.

Program/Activity	Degree Level	Number of Students Supported	Training Area
Initial Science Program	Bachelor Master Ph.D.	22 55 15	Themes of the IAI Science Agenda
Collaborative Research Network	Bachelor Master Ph.D.	7 5 17	Themes of the IAI Science Agenda
First IAI/UM Summer Institute	----	20	Interactions between Seasonal to Inter-annual Climate Variability and Human Systems
Second IAI/UM Summer Institute	----	20	Environmental and social implications of land-use and land-cover change in the Americas
Third IAI/UM Summer Institute	----	22 participants expected + 2 observers from international organizations	Integrated Management of Water Resources in the Americas: Challenges and Emerging Issues

Future Training and Education Activities:

1. In early 2001 NSF informed the IAI that it would not be possible to renew the grant that supports the IAI/UM Summer Institute on Interdisciplinary Science in the Americas. NSF also informed the IAI that it would make a contribution at the level of US\$ 300,000 to the IAI 2001 program budget and that it would be the IAI's decision to plan and develop the scientific and T&E activities that it considers of high priority. The IAI Directorate then discussed the future of IAI scientific and T&E activities with the IAI Scientific Advisory Committee (SAC) and decided that new funds should be directed to a new call for proposals. Regarding T&E activities it was recommended that IAI make a new call for proposals soliciting institutions interested in co-sponsoring Summer Institute-like activities together with IAI. IAI could use part of its own financial resources (remaining from ISP and PESCA programs) to co-sponsor these activities. Thus, it is our plan to be able to plan and develop future Summer Institutes in the region in several themes of the IAI science agenda. The model of the IAI/UM Summer Institute should be followed as its impact in the region in fostering communications between social and natural scientists and in promoting multinational and multidisciplinary cooperation was a great success according to previous evaluations made by own participants, the SAC, the IAI Directorate and other institutions, which have followed the model of our Summer Institute.
2. Similarly, the IAI has held conversations with Dr. Ronald Scheman, Director of the Inter-American Agency for Cooperation and Development (IACD)/Organization of American States in developing joint T&E activities in Latin America. IAI was informed by Dr. Scheman that IACD is interested in sponsoring capacity building activities that promote South-South cooperation and transfer of knowledge and technology. IAI could be an obvious mechanism to facilitate this kind of cooperation in Latin America and the Caribbean.
3. The IAI has held conversations with Dr. Walter Arensberg, Director of the Environmental Department of the Inter-American Development Bank. Some interesting possibilities were discussed, such as:
 - The need to “educate” the Bank on global environmental change issues. To schedule a one-day seminar at the Bank in which IAI (IAI staff and IAI scientists) could brief the officers of the Bank on IAI activities and in general on environmental problems.
 - He asked the IAI to prepare a 2-3-page document with main topics the Institute would like to address in the future. The Bank would then investigate how it could help IAI, not with money but visiting (together with IAI) funding sources the Bank can negotiate with.
4. The IAI continues to discuss with Brazil's CNPq the signing of a new agreement to implement a fellowships program at the doctoral and post-doctoral levels in Brazil for scientists from IAI member countries in areas of the IAI science agenda. IAI expects to be able to launch a new announcement of CNPq/IAI fellowship opportunities in the second semester of 2001 and first semester of 2002.