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Report of the IAI Directorate

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Directorate Report to the Conference of the Parties, May 2009

Science Program

This section is an update of the report submitted to the EC in December 2008. There has been no reporting from the projects under CRNII and SGP-HD during the period from January to April 2009.

The **CRN II projects** have completed their second year. All technical reports have been received and approved, funds for Year 3 activities have been transferred. Reports are available upon request from the IAI Directorate or directly from the PIs. The 'network of networks' has been further strengthened in particular due to the much stronger role of the IAI Directorate in 'active' coordination and management of CRN II and SGP-HD. The Directorate continues its mandate from the Conference of the Parties (CoP) to strengthen the existing set of projects through forming regional and/or thematic clusters and through the provision of strategic additions. The importance and effectiveness of this continuing effort has been confirmed at the Nov. 2008 meeting of the IAI Scientific Advisory Committee (SAC). Participation in the SAC meeting by Principal Investigators of four CRN II projects on biodiversity and ecosystems (CRN2005, PI G. Sarmiento; CRN 2014, PI R. Berbara, CRN2015, PI S. Diaz; CRN2021 PI A. Sanchez) has resulted in concrete enhanced collaboration through unification of sampling protocols and use of remote sensing information. This has created synergies and added value for all projects involved. Short courses and an open source computer tool are being developed to facilitate uniform biodiversity indexing across the continent. There was agreement that monitoring of phenology in relation to climate parameters is a key integrative topic across the projects. As a result, the Directorate, together with the PIs, is facilitating the establishment of a network of phenology monitoring towers and ground sensors in Argentina, Brazil and Mexico, extending a small network established under project CRN2021 (PI Arturo Sanchez Azofeifa). This network is not only expected to be of immediate benefit to the projects involved, but may serve as a nucleus for a larger-scale Latin American phenology network which will refine seasonal NDVI measurements and link phenology to climate-modulated plant physiology. The IAI contribution to this activity of US\$ 38.000 has leveraged substantial co-funding, including US\$15.000 (McCalla award Dr. Arturo Sanchez), US\$ 5.000 from the Department of Earth and Atmospheric Sciences University of Alberta, Canada, US\$ 45.000 from Geochronos/Cybera and US\$ 10.000 from Olsonet Incorporation, which is the company designing the wireless sensors. IAI funds have been transferred and preparatory work has started on 1 March

2009. The activity involves four projects under CRNII, i.e. CRN2005 (Sarmiento), CRN2015 (Diaz), CRN2021 (Sanchez) and CRN2031 (Jobbagy).

US\$ 30.000 have been provided for an international course on GIS, remote sensing and wireless sensing networks to be held in Edmonton, Canada from 29 June 2009 to 18 July 2009 involving 20 students from five projects under CRNII, i.e. CRN2005 (Sarmiento), CRN2014 (Berbara), CRN2015 (Diaz), CRN2021 (Sanchez) and CRN2031 (Jobbagy).

The CRN II concept of research that is oriented towards problem solving, and the continued work by the Directorate towards greater stakeholder involvement has produced first results. Examples include:

CRN2015, PI Sandra Diaz: 46 participants from local communities and local and regional stakeholders participated in a workshop organized by UAF on “planning and preparing for climate change in NW Alaska” in Kotzebue (Alaska, USA), November 19-20, 2007. These included the NANA Regional Elders Council and tribal and city governments in each village in the region as well as representatives from the Alaska Department of Fish and Game, the Alaska House of Representatives, the National Park Service, the National Weather Service, the Nature Conservancy, the United States Fish and Wildlife Service and the University of Alaska.

In Argentina, FCA held meetings with local and provincial stakeholders. They continued disseminating the objectives pursued by the network and approached other stakeholders to participate and get involved with the research. Among others, at the local level interviewed stakeholders include the manager of the Chancaní Natural Reserve, local politicians, the principal and teachers of two schools, the representatives of the irrigation boards, the representative of one of the farmers unions, scientists of the *Instituto Nacional de Tecnología Agropecuaria* (INTA), extensionists with experience in rural development in the area, and farmers. At the provincial level communication was initiated with the Secretaries of Technological Liaisons (Walter Rboledo) and of Scientific Promotion (Juan José Cantero) of the Ministry for Science and Technology of Córdoba Province. The *Diversus* Network has been formally presented to the University of Cordoba in an interview with the University Rector, Silvia Carolina Scottomet, one of the directors of the *Ministerio de Ciencia y Tecnología* of Córdoba province. In Costa Rica, SINAC/MINAE (*Sistema Nacional de Áreas de Conservación, dependiente del Ministerio de Ambiente y Energía*) and FUNDECOR (*Fundación para el Desarrollo de la Cordillera Volcánica Central*) are involved in field work. Additional participation of FUNDECOR is also planned for the collaborative research proposed by CATIE and CINPE on the economics of ecosystem services.

At the request of the High Council of the Universidad Nacional de Córdoba, the CRN2015 team (in collaboration with Secretaría de Ciencia y Técnica and Subsecretaría de Prensa of the same

university), organized a set of three plenary lectures for the general public by members of the latest IPCC report (Osvaldo Canziani and Graciela Magrín, from Buenos Aires, and Sandra Díaz, from Córdoba) which was followed by a debate with the public. This event was highly publicized and heavily attended.

CRN2076, PI A. Piola: the team has been able to significantly increase the visibility of their project through presentations at various non-scientific fora, by integrating representatives of stakeholders in their discussions, and by publicizing overall scientific activities. Activities include:

Foro para la Conservación del Mar Patagónico y Áreas de Influencia

(<http://www.marpatagonico.org/index.shtml>), whose mission is to promote the synergistic collaboration among organizations to reach the integrity of the ecosystem and the effective management of the Patagonian Sea and areas of influence in association with public and private sectors. The Forum main partners are BirdLife Intl., Conservation Intl., Fundación Ambiente y Recursos Naturales, Ecocentro, Fundación Patagonia Natural, Fundación Vida Silvestre, Oceana, Wildlife Conservation Society and World Wildlife Fund.

F. Cadena Agroindustrial Argentina (<http://www.foroagroindustrial.org.ar/home.php>), a strategic alliance formed by organizations of producers, providers of commodities and equipment of the food industry, transport, and commerce of grains and meat and exporters.

Sea and Sky Project (<http://www.sea-sky.org/>) a scientifically based initiative that promotes ecosystem management for the biodiversity of the Patagonian Sea under a precautionary principle. Main organizations endorsing the project are: CONICET (AR), Wildlife Conservation Society and Pew Institute for Ocean Sciences.

Cámara de Armadores de Pesqueros y Congeladores de la Argentina (<http://www.capeco.org.ar/>), a fishing chamber from Argentina formed by eleven industry groups operating a large fleet of commercial fishing vessels. The IAI project has also been endorsed by the *Centro de Indústrias do Rio Grande* (Rio Grande, BR).

Atlas de Sensibilidad Ambiental de la Costa y el Mar Argentino (<http://atlas.ambiente.gov.ar/>), *Secretaría de Ambiente y Desarrollo Sustentable* (AR), financed by the World Bank through a grant from Global Environmental Fund.

CRN2076, together with various institutions from Argentina is co-financing the project entitled “Advance integrated fishery and oceanographic information system BioMare.” The BioMare system facilitates the transfer of scientific results and knowledge to policy and decision making levels.

A number of investigators have received prizes or other forms of recognition for their work under CRN II, including:

CRN2015 – PI Sandra Diaz

- Sandra Diaz, Fabien Quétier and invited scientist Sandra Lavorel have received the 2007 PNAS (Proceedings of the National Academy of Sciences) Cozzarelli Prize, an award for papers that reflect the highest standards of scientific excellence and originality. The annual award acknowledges papers published in PNAS during the previous year, that reflect exceptional contributions to the scientific disciplines represented by the National Academy of Science. Papers receiving the Cozzarelli Prize were chosen from more than 3,600 research articles published by PNAS in 2007
- As part of the IPCC AR4 team of authors, Co-PIs Sandra Díaz and Marcelo Cabido were co-recipients of the 2008 Nobel Peace Prize
- Co-PIs Sandra Díaz and Marcelo Cabido obtained the 2007 Taborda Award for Outstanding Achievement in Scientific Research of the Association for the Improvement of Education. As a result, their work was given extensive media

CRN2021- PI Arturo Sanchez-Azofeifa

- Co-PI Jon Paul Rodríguez was awarded the 2007 National Prize for Best Science, Technology and Innovation Article in the Natural Sciences (shared with Jennifer K. Balch and Kathryn M. Rodriguez-Clark). Award given by the Ministry of Science and Technology of Venezuela. 23 November 2007
- Arturo Sanchez-Azofeifa was awarded a McCalla Research Professorship by the University of Alberta for his contributions to tropical research. A professor receiving a McCalla Professorship is considered to uphold the values of the University of Alberta most recently articulated in Dare to Discover: A Vision for a Greater University and the Academic Plan. McCalla professors are those who value excellence in teaching, acknowledge the importance of students, conduct themselves in an ethical manner, are collaborative, open to change, take pride in history and traditions and are committed to integrating their research and teaching
- Arturo Sanchez-Azofeifa was awarded the best paper award from the International Journal of Remote Sensing for his contributions on the differentiation of spectral properties of lianas and trees and the 2007 Canadian Forest Service Merit Award for his contribution to Land Use/Cover Change monitoring efforts (both related to the IAI project)

CRN2031, PI Esteban Jobbagy

- As part of the IPCC AR4 team of authors, Jobbágy & Viglizzo were co-recipients of the Nobel Prize for IPCC
- Co-PI José Paruelo was distinguished by Elsevier with the Scopus award 2007 for highest citation impact among Argentine scientists

CRN2047, PI Brian Luckman

- As one of the lead authors of Chapter 6 in the report of IPCC's Working Group 1 of the IPCC AR4, Co-PI Ricardo Villalba is a co-recipient of the Nobel Peace Prize. His contribution has been recognized by awards from several regional and local agencies in the Mendoza Province

CRN2076, PI Alberto Piola

- Alberto Piola received the "Hombre de Mar" distinction from the International Federation of Maritime Associations and Navy Leagues (FIDALMAR) for the presentation entitled "Los Océanos y el Cambio Climático" at the XXII Asamblea Federación Internacional de Ligas y Asociaciones Marítimas y Navales, Valencia, Spain, 2007
- Bertolotti, Buono, Acha, Bremec and Mianzan received the Best Article Prize International Institute of Informatics and Systemic for the presentation of the *BioMare* system at the 6th Latin American Conference in Systems, Cybernetics and Computer Science, Trimming, FL, July 2007.

Total funding leveraged (Year 1 & Year 2) under CRN II is approximately US\$ 5.500,000. The number of publications reached 108 peer-reviewed journal publications and 28 books or book chapters.

The Small Grants Program for the Human Dimensions (SGP-HD) has completed its first year. Annual technical reports have been received and approved for all projects. Although a basic roadmap has been laid out at the Panama PI meeting in February 2008, the coordination of project activities with the respective CRN II projects requires substantial input from the IAI Directorate to achieve a full integration across the disciplines.

First SGP-HD results clearly show enhanced networking and policy relevance throughout the program, including:

- SGP-HD 004, PI David Gauthier. The different activities have established networking with local and regional organizations going far beyond the area covered by the project. In Chile, several communities (such as Peñablanca, Combarbala and Halcones) are requesting coverage by the project. At the same time the project has allowed researchers to interact with different sectors in order to discuss common problems. The Ministry of Water in Bolivia will soon be adding a transversal climate change element to its program, and the work of the project is expected to contribute. The project's Chilean coordinator (B. Reyes) is providing guidance to the Chilean national climate change strategy. Co-PI P. Diaz (UR, Canada) was a co-author of the Prairies Chapter of the Canadian National Report "From Impacts to Adaptation: Canada in a Changing Climate 2007" which is influencing Canadian climate change policy.
- SGP-HD 005, PI Robert Varady, has developed its Border Climate Summary/Resumen del Clima de la Frontera " (BCS/Resumen) from prototype to a quarterly operation product. BCS/Resumen is a dissemination tool that allows climate and water information to flow to policy-makers. It is housed on the University of Arizona's Climate Assessment for the Southwest website (<http://www.climas.arizona.edu/forecasts.html>), with a link on the CICESE Web site. More than 1,500 stakeholders and academic colleagues receive notice of the "BCS/Resumen" through the CLIMAS-News listserv and the Monsoon Region Climate Applications listserv.
- SGP-HD 008, PI Alex Pfaff was invited to train young Latin American environmental economists at the Latin American and Caribbean Environmental Economics Program (LACEEP) training course and to help in the development of EfD (Environment for Development) center being created at CATIE (Tropical Agricultural Research and Higher Education Center, Costa Rica) alongside LACEEP. This research also led to a seminar at RFF that generated a Mexico replication effort and that is now also being done at CATIE. Project results have been communicated to policy organizations, presentations of the analyses were made directly to FONAFIFO (Costa Rica's National Forestry Financing Fund). The PI is currently leading an effort to produce 'Lessons Learned' on deforestation, funded by the Packard Foundation within 'Design To Win', and these results are a part of

that outreach. He will also elaborate on lessons learned to a group working for the Moore Foundation, who considers ecosystem services in its grants.

- SGP-HD 014, PI Clyde Fraisse. Based on the results of the SGP-HD peer-review and a recommendation of the IAI Scientific Advisory Committee, this project had been approved for one year of funding. The proposal had received excellent reviews, however the main objective to develop a decision support system for risk reduction in Paraguay and Rio Grande do Sul (Brazil) was considered to be of such high relevance to soybean farmers and agricultural associations, that a stronger stakeholder commitment was sought before additional IAI funding could be considered. The group under PI Clyde Fraisse has been able to attract strong stakeholder commitment including financial contributions and has submitted a proposal to the IAI seeking an extension of two years and integrating the activity into CRN2094 on the impact of land use and cover changes on the hydroclimate in the La Plata basin, PI Hugo Berbery. The initial proposal is currently being revised by the PIs.

SGP-HD extension

Based on the good performance of the projects under SGP-HD program and following a recommendation of the SGP-HD review panel and the IAI SAC, the IAI Directorate is planning to submit a proposal to the US NSF seeking an extension of the program until June 2011 so that the termination coincides with the end of CRNII. The project PIs have provided input to the proposal which will be based on results and impacts achieved so far.

Program Synthesis

The Directorate, together with the PIs and the SAC, has started the planning of the CRN II and SGP-HD synthesis process. A first synthesis has already been published: the e-book “Applying Ecological Knowledge to Landuse Decisions” involved investigators of both CRN I and CRN II. This analysis was done in cooperation between IAI, Scientific Committee on Problems of the Environment (SCOPE) and the Inter-American Institute for Cooperation on Agriculture (IICA). The book explores how environmental science may guide landuse decisions. A PDF version of the book is available on the IAI website at http://www.iai.int/files/communications/publications/institutional/Applying_Ecological_Knowledge_to_Landuse_Decisions.pdf. A second activity currently under way is the preparation of an atlas of the South Atlantic which details, bird and marine mammal species distribution, habitats and their relationship with oceanographic regimes. The information is compiled as part of CRN2076 and

associated projects, and involves the Wildlife Conservation Society (WCS), New York and the Pew Institute for Ocean Sciences.

A meeting of all PIs from CRNII and SGP-HD projects will be held in Montevideo in June 2009 in order to start the cross-program assessment and synthesis activities.

Other Activities

CRN II and SGP-HD project ‘factsheets’ are now available on the IAI website at www.iai.int/factsheets The one-page PDFs provide essential information on each project and will be updated periodically to include latest developments.

The Directorate has started internal discussions on the development of the next round of institutional programs following on CRN II and SGP-HD. In 2009 this discussion will be brought to the SAC, EC and CoP to define concrete ideas and next steps to be taken. Input from strategic planning will be required.

The IAI project “**Assessment of research and institutional needs to cope with the effects of Climate Change on Andean Biodiversity**” funded by the MacArthur Foundation is fully active and first outputs have been delivered. In June 2008, national meetings were held in Bolivia, Colombia, Ecuador and Peru. Two regional workshops were held in Bogota in July, and in Lima in September. The Bogota science workshop identified knowledge gaps, priority themes, experts and programs addressing biodiversity, climate change and their interaction. Participants developed the outline and authorships of an IAI-SCOPE science publication that has now synthesized the current knowledge of biodiversity and climate change in the tropical Andes and that will be finalized in an upcoming SCOPE workshop in Ubatuba, Brazil. The Lima workshop was an initial consultation that identified institutional priorities for adaptation research, policy, data exchange and collaborative networks and established 12 institutional themes for policy articles. . In 2009, the IAI will hold a second round of national meetings, and two large regional workshops: a *Regional workshop for science consultation with climate and biodiversity scientists* (May 24-30, 2009, Ubatuba, Brazil) - a SCOPE rapid assessment to synthesize climate and biodiversity, which will produce the cross-cutting chapters and finalize the review of the IAI-SCOPE book; and a *Regional workshop for institutional and government consultation* (June 29-July 1, 2009, Quito, Ecuador) - synthesis of institutional and governance issues surrounding research and adaptation. Strategy papers addressing institutional priorities will be produced as additional project outputs.

Based on the experience of the Andean initiative, in February the IAI Directorate submitted a letter of intent to the **MacArthur** Foundation's Conservation and Sustainable Development Program - Geographic priority Area of Northern Andes for the 2009 funding cycle. The IAI has requested US\$ 350,000.00 to develop a project entitled ***Climate change and land use effects on biodiversity gradients and ecosystem function in the Northern Andes: implications for management and conservation strategies***. The 2 year project (2010-2011) will seek to analyze biodiversity and ecosystem function along zonal and altitudinal gradients in Colombia and Ecuador that include protected areas and areas under development. This will be related to existing climate gradients and current changes in regional climate in order to guide adaptation measures and conservation programs for key ecosystems in the Northern Andes. Collaborating institutions, which will work with the IAI in the project are: the International Center for Research of El Niño (CIIFEN-Ecuador), the National Institute of Meteorology and Hydrology of Ecuador (INAMHI), The Pontifical Catholic University of Quito (PUCE-Ecuador), the Institute of Hydrology, Meteorology and Environmental Studies (IDEAM-Colombia), the School of Engineering in Antioquia (EIA-Colombia), the Postgraduate Department of Ecology, Forest and Environmental Conservation and the Forestry Department at the National University of Colombia in Medellin, the Department of Ecology, Evolution and Environmental Biology of Columbia University in the City of New York (USA) and the International Research Institute for Climate and Society (IRI based at Columbia University, USA).

The program on **Landuse change and hydrology in the La Plata Basin** has been funded by the International development Research Center of Canada at CAD 444,000. Following the project inception meeting in Buenos Aires, Argentina, 18-20 March 2008, the five components under the program on 'Landuse change, rural development and biofuels in the La Plata Basin', funded by the International development Research Center of Canada have started their activities. The IAI Directorate is coordinating the project and has developed strong ties with two projects under CRNII, i.e. CRN2031, PI Esteban Jobbagy and CRN2094, PI Hugo Berbery. The report on the project inception meeting held in Buenos Aires, Argentina (March 2008) prepared by the IAI Directorate has been submitted and was approved by IDRC. On 1 March 2009 the first annual report has been submitted to IDRC and was approved on 20 March 2009. The report raised substantial interest within IDRC and received very positive feedback. The project principal investigators will participate at the upcoming meeting of the CRN II & SGP-HD Principal Investigators in Montevideo, Uruguay, 24-26 June 2009.

The IAI Assistant Director for Capacity Building has worked with researchers from previous IAI science projects (CRN I, ISP III, TISG) on Climate and Health to prepare a proposal for the **Inter-American Development Bank** (IDB)/Regional Public Goods Program, which was submitted in October 2008. The proposal entitled *Latin America Health Sector and Adaptation to Climate Change* involving 5 countries – Brazil, Bolivia, Colombia, Mexico and Paraguay - requested US\$ 3 million to carry out vulnerability studies, design pilot adaptation projects and implement early warning systems in the health sector for the infectious diseases dengue and malaria. Participating institutions of this project are: Brazil's Fundação Oswaldo Cruz (FIOCRUZ), Bolivia's Programa Nacional de Cambios Climáticos (PNCC)/Ministerio de Planificación del Desarrollo, Mexico's Instituto Nacional de Salud Pública (INSP), Colombia's Instituto Nacional de Salud/ Ministerio de la Protección Social, and Paraguay's Programa Nacional de Cambios Climáticos (PNCC)/Secretaria del Ambiente. On behalf of the group, FIOCRUZ submitted the proposal to the IDB as it must be submitted by a national agency. In January 2009, IDB approved the project at the funding level of US\$ 900,000.00. Based on IAI research networks, IAI was intended to act as regional mobilizer and executing agency of this multinational project. Nevertheless, IDB has informed the research team that international organizations, which includes Canada and the US as member countries, are not allowed to act as executing agency. The proposal implementation has been delayed since it is not clear who may be able to carry the international work forward. .

Capacity Building

The second **joint IAI-NCAR colloquium** was principally organized by the IAI Directorate and was hosted by the Argentinean glaciology research institute (IANIGLA) in Mendoza, Argentina. The 49 participants (including lecturers) from 15 countries spent 12 days exploring the themes of seasonality and water resources. Lectures, excursions and working groups generated not only a learning environment but also significant output in the form of policy briefs, a technical bulletin, newsletter and newspaper articles.

In the **IAI-INPE/CPTEC Research Internship Program** a third young scientist, PhD student Juan Fernando Salazar (National University of Colombia) began his work in October on "El papel de la vegetación en la modelación de los efectos del cambio climático y la deforestación sobre el ciclo hidrológico". The two scientists who finished their program in 2008 were Dr. Janeet Sanabria (SENAMHI), Peru who studied "The Impacts of climate change scenarios on agriculture in the Peruvian Altiplano" and Dr. Ana Graciela Ulke, from the University of Buenos Aires, Argentina,

who worked on "Modelado y previsión meteorológico y de transporte y dispersión de contaminantes". Two additional scientists should start their program in the second semester of 2009. They will be looking at the application of climate circulation models to improve climate predictions in the Tropical Andes combined with the current IAI-MacArthur assessment project on biodiversity and climate change in the Andes.

Training Institutes

From November 6-8, 2008 the IAI held the *Training Institute on Mainstreaming Adaptation to Climate Change into Environmental Policy in Latin America: Trends and Challenges* in partnership with IUCN-Mesoamericas and CATIE. The event was held at CATIE in Turrialba, Costa Rica. The Institute was held back to back with CATIE's *International Seminar on Adaptation to Climate Change: the Role of Ecosystem Services* (November 3-5, 2008), which was also attended by IAI investigators. The Training Institute brought together natural and social scientists and risk experts to analyze the interactions between current and future climate risks, natural and human systems; examined assessment tools and policy frameworks; and trained scientists, field practitioners and government officials to apply concepts, tools of risk management and adaptation to climate change in water, land and biodiversity projects. It was the first time the IAI organized a training event for scientists from CRN and SGP programs with experts and environmental practitioners from NGOs, such as IUCN, Red Cross, Conservation International (CI) and regional programs such as UNDP/GEF and CATIE. Thirty three institutions from 17 countries (Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, USA and Thailand) attended the event. The Institute was the result of programmatic and financial collaboration developed among IAI, IUCN and CATIE. Additional sponsors were GEF and UNDP. The Training Institute has generated synergies among IAI projects with IUCN, CATIE, CI, GTZ, Red Cross and others: IAI investigators are now discussing collaboration with a GTZ funded project on the development of climate change scenarios and coffee plantations in Central America. This CRN team also exchanged information with CI about its climate change and coffee project in Chiapas, Mexico. The IAI network has also submitted a research proposal to CATIE's new program on climate change. In addition, Mexican scientists who participated in the training event have been discussing collaboration between UNAM and IUCN's Project Cahoacán to work on integrated management of basins and reducing vulnerability and mitigating the impacts of extreme weather events in Chiapas. UNAM experts are also working with the Red Cross to learn from their experience on risk management for the Tabasco region, where floods have caused major damages in recent years. A IUCN program officer of the

Biodiversity and Sustainable Use Unit in Costa Rica is visiting Brazil to learn from an IAI project on urban agriculture there. Researchers from 4 IAI projects are planning to establish a climate change adaptation network for agriculture in semi-arid regions of the Americas to exchange information and develop future initiatives. This group from Brazil, Guatemala, Costa Rica, Chile and Argentina is considering the use of the vulnerability tools and software presented at the Training Institute.

On the occasion of the training institutes, IAI also established contacts with representatives from Honduras, El Salvador and Nicaragua. Information about the IAI was sent out to these contacts to disseminate the work of the IAI and foster country membership.

Institutional cooperation and planning is underway for **future training institutes to be held in 2009 and 2010:**

The Training Institute on Remote Sensing Application to Hydrology in Semi-Arid Regions (April 20-24, 2009, Natal, Brazil) is being held in cooperation with INPE, the Federal University of Rio Grande do Norte-UFRN and the Brazilian Agriculture Research Institute-EMBRAPA). It is conducted held back to back with the XIV Brazilian Remote Sensing Symposium (April 25- 30, 2009). The training activity will focus on the use of remote sensing to obtain hydrological information enabling natural resources managers and local communities to plan a more efficient use of water. The objectives are to improve understanding of how remote sensing information can provide information that will help assess the impacts of global change on the hydrology of semi-arid regions, to bring multidisciplinary approaches to the use of remote sensing to hydrology; to provide information on hydrology and its connections with other environmental and socioeconomic factors; to encourage participants to use research to shape policies for sustainable use of water resources for agriculture or for multiple uses; and to identify information sources on remote sensing data. The program will include lectures, discussions, hands-on exercises on remote sensing analysis and a field trip for 24 participants from 6 countries (Argentina, Brazil, Chile, Mexico, Peru, Venezuela).

A Science-Policy Forum on Ecosystems Services and Climate Change Adaptation in the Andes (July 2-3, 2009, Quito, Ecuador) will be organized in collaboration with CIIFEN, PUCE, SENACYT, IUCN-SUR, Ecuador's Ministry of the Environment. It will be held back to back with the *IAI-MacArthur Foundation Regional Workshop for Institutional and Government Consultation*

(June 29-July 1, 2009). The forum objectives are to encourage dialogue between decision makers and scientists involved in biodiversity, ecosystems, climate change, economics, social ecology and political science, to discuss the political relevance of the ecosystemic approach to adaptation, to systematize the views of policy makers regarding ecosystems services within national development plans, and to discuss strategic lines for a national/regional agenda in a political framework. Participants will include scientists, government representatives, NGOs and environmental practitioners.

The Training Institute on Cities' Responses to Climate Change will be held in 2010 in Santiago, Chile, with the Economic Commission for Latin America and the Caribbean- ECLAC. Partnership is also being explored with UN Habitat, UNEP/ROLAC and the International Union of Local Governments. This Institute will seek to link urban studies, sustainability, and climate change with practical knowledge towards policies shaping the construction and functioning of urban areas.

Country contacts

In an effort to develop better collaboration and stronger links with member countries several countries were approached:

Bolivia: Dr. Oscar Paz Rada, director of Bolivia's National Program for Climate Change (PNCC) and the last country representative to the IAI, has been invited to participate and co-organize the second national meeting (La Paz, Bolivia, April 2009) of the IAI-MacArthur Foundation assessment project. The meeting is being organized by IAI in collaboration with the Universidad Mayor de San Andres/Institute de Ecología of Bolivia. Due to the current government changes taking place in Bolivia and the establishment of the Ministry of the Environment and Waters, Dr. Paz Rada was unable to co-organize the meeting with the IAI.

Colombia: The new director of IDEAM and IAI country representative, Dr. Ricardo Lozano, has been informed about the IAI Andean project. The IAI is working in close cooperation with Dr. Ricardo Lozano, and his staff, in the organization of the second Colombian national meeting (May, 2009, Bogota) of the IAI-MacArthur project. In addition, IDEAM experts will be participating in the IAI-SCOPE RAP synthesis meeting in Ubatuba, Brazil

Ecuador: The president of SENACYT and country representative of the IAI has been informed of IAI activities in Ecuador. Marcella Ohira has communicated with Dr. Pedro Montalvo (National Secretary) and Dr. Juan Carlos Parra (General Director) seeking SENACYT's support and active participation in the planning and development of the upcoming IAI Science-Policy Forum on

Ecosystems Service and Climate Change to be held in Quito in 2009. The Assistant Director for Capacity Building and collaborating institutions in Ecuador (CIIFEN, PUCE, IUCN-SUR) will submit a Forum proposal to SENACYT requesting funds for this IAI activity. It is our hope that Ecuador's country representative participates in and supports the IAI Science-Policy Forum

Peru: The country representative, Dr. Pablo Lagos, has been informed of the IAI project in the Andes. Dr. Lagos participated in the first institutional meeting of the project held in Lima, September 2008. The IAI has also contacted Dr. Antonio Brack Egg, the new minister of the recently created Ministry of Environment of Peru, to inform him of the IAI and the Institute's activities. The second Peruvian national meeting of the IAI-MacArthur Foundation project (May 2009, Lima, Peru) is being organized together with Peru's Ministry of the Environment and the Peruvian experts responsible for the country's national climate change adaptation program.

Non-member countries: Contacts have been established with professionals from El Salvador, Honduras and Nicaragua who showed interest in learning more about the IAI. They participated in the IAI-UICN-GEF/UNDP Training Institute held recently in Costa Rica. The IAI has sent institutional information about country membership. In the case of Nicaragua, communication has been made with Raomir Manzanarez, General Secretary of the Environment (until Feb. of 2008) and current advisor to the Commission on Environment of the National Assembly. Information about the IAI was sent to Dra. Mirza Castro, Coordinator of Honduras's National Program for Climate Change of the Secretary of Natural Resources and the Environment.

Institutional cooperation

IAI-CIIFEN: A Memorandum of Understanding between the IAI and the International Research Center on El Niño (CIIFEN) exists since 2004: IAI and CIIFEN now work together in the development of the Andean project. CIIFEN is a key partner in the organization of the Science-Policy Forum on Ecosystems Services to be held in Ecuador, in 2009.

Meetings, presentations member contacts and outreach (in addition to above program activities)

Holm Tiessen:

19-20 July , Earth System Science Partnership (ESSP) meeting on bioenergy, Piracicaba,

1-4 September, Project visit and seminars, University of Alberta, Edmonton, Canada.

20-25 September, Global water systems planning meeting, Sao José dos Campos.

29 Sept- 3 October, IGFA meeting DF, Mexico.

11-17 October, IAI-NCAR joint Colloquium, Mendoza, Argentina

24 October, meeting with environmental department Municipality of São José dos Campos
 5-7 November, IAI SAC and Strategic Planning Committee (SPC), Miami, USA
 8-13 November, presentations to NSF, USDA, State Department, Microsoft research department, and Heinz Center, Washington, DC, USA
 27-28 November, IGBP regional meeting, São José dos Campos
 15-17 December, Global Food Systems (GECAFS) scientific advisory committee meeting, Rome, Italy
 26 January, opening of conference on climate modelling and climate change, Ministry of Science and Technology, Brazil
 10 March, presentation on IAI to ministry and meeting with German Minister of Education and Research, São Paulo.
 30-31 March, conference on REDD, INPE
 28-30 April, ICSU Diversitas meeting on Biodiversity and Human Well-being, Rio de Janeiro.

Gerhard Breulmann

19-20 May 2008, Large-Scale Biosphere Atmosphere (LBA) project SSC meeting, Campinas, Brazil – discussions on involvement of upper Amazon countries in LBA phase I.
 30 May – 5 Jun 2008, UNFCCC SBSTA, Bonn, Germany. Participation in ‘research informal session’; Chaired joint side-event with the Asia Pacific Network for Global Change Research (APN) on ‘Building joint capacities in science and policy sectors for environmental decision making.’
 17 July 2008 - Visit to APN Secretariat, Kobe, Japan. Discussions on future joint IAI-APN activities (e.g. training course, joint publication, side-events at SBSTA).
 23-25 Sep 2008, Global Water System Project SSC Meeting, Sao Jose dos Campos, Brazil, Observer
 5-7 November, IAI SAC and Strategic Planning Committee (SPC), Miami, USA
 20-21 Nov 2008, High-level intergovernmental segment of the ‘International Conference on Biofuels’. Sao Paulo, Brazil. Observer.
 27-28 Nov 2008 Participation in IGBP Regional National Committee meeting, Sao Jose dos Campos, Brazil. Discussions on regional global change science, the role of IGBP, ICSU, IAI and collaboration

The Directorate

The website was redesigned with new layout. It now provides fact sheets on all current projects.

The 28th meeting of the IAI SAC was held from 5-7 November in Miami, USA hosted by NOAA's Atlantic Oceanographic and Meteorological Laboratory (AOML).

Back-to-back a meeting of the IAI Strategic Planning Committee (SPC) was held on 7 November 2008, following up on the discussions at EC26/CoP15 in Buenos Aires, 17-20 June 2008 and in preparation of a strategic planning workshop involving a broader audience to be held in early 2009.

As one of the lead authors of the IPCC, Holm Tiessen was a co-recipient of the 2008 Nobel Peace Prize

Local staff, provided under the host country agreement, has received lay-off notices in September 2008. Two staff were permanently laid off to accommodate the new funding situation. The remainder was re-hired either by the IAI directly or by the Brazilian contractor. First experiences with the new contractor are positive, although the salaries do not correspond to the requirements of the staffing. Isabel Vega, who had been the Science Program Assistant for many years has rejoined the Directorate team as part of permanent staff as a junior assistant and also works as a project assistant in the MacArthur - funded Andean program.

São José dos Campos

Apr. 20, 2009