

IAI Directorate Report
to the
Twenty Third Conference of the Parties,
for the period of July 2014 - May 2015

1. Global Outreach, Alliances and Initiatives

Global Conventions:

The IAI's CoP22 drafted a statement to the **UNFCCC COP-20** that adaptation is an important concern in Latin America and decision making needs to be based on sound science and technology. Uruguay's (now) Vice-Minister of Housing, Territorial Planning and Environment and head of delegation, Jorge Rucks, delivered that message to the plenary and called upon the international community to make efforts for finding and implementing viable adaptation strategies with the participation of the peoples of the region and through the development of regional capacities and support to the development of new technologies.

The Ministry of the Environment of Peru, together with the IAI, the German Cooperation for Development (GIZ) and the Convention on Biological Diversity (CBD) held an International Symposium on Biodiversity and Climate Change in Lima, Peru, prior to the UNFCCC-COP20. This Symposium, was attended by about 300 people every day, presented results of recent research, and discussed implications at national, regional and global scales. The 2-day Symposium called for greater attention to the role of biodiversity in carbon sequestration, resilience and adaptation. Symposium scientists delivered the “Lima 2014 Declaration on Biodiversity and Climate Change” to Peru's Ministry of the Environment and UNFCCC-COP20 president Manuel Pulgar Vidal. The declaration calls for integrated research on biodiversity and climate change and increased recognition of key biodiversity issues in the context of climate change. The Declaration can be downloaded in English and Spanish at the IAI web site (www.iai.int).

The CBD Secretariat, with support from IAI, plans to publish abstracts of the Symposium presentations and the Lima Declaration as part of its CBD Technical Series. Following on the successful partnership during UNFCCC-COP20, IAI and CBD are exploring further collaborations to address key scientific and technical needs.

The IAI and Peru's Ministry of Environment (MINAM) co-organized a side-event at UNFCCC-COP20: "From science to policy: Contributions from science to cope with climate change". Challenges and gaps in research agendas and information needs from policy-makers, that had been identified at the pre-COP Symposium were presented to an audience of about 100 UNFCCC-COP20 delegates.

At the same UNFCCC-COP20 side-event, IAI principal investigator Arturo Sanchez-Azofeifa demonstrated how the Tropi-Dry collaborative research network uses new Enviro-Net technology to monitor interactions between forests and their environments, and how this work contributes towards climate change adaptation policies in semi-arid regions of the Americas. As a follow-up, the Tropi-Dry team (CRN3025, led by the University of Alberta, Canada), is holding its project meeting in Lima in May 2015, with a knowledge and technology exchange between Peruvian and Tropi-Dry researchers.

As every year, the IAI has developed input to the **UNFCCC SBSTA** for 2015. In response to the invitation by SBSTA to provide lessons learned and good practices for knowledge and research capacity-building, in particular in developing countries, the IAI presented examples from an institutional perspective and conclusions from several of its investigators.

The IAI participated in the **third session of the Intergovernmental Platform on Biodiversity & Ecosystem Services (IPBES-3)**, in Bonn, Germany, January, 2015, where the Lima Declaration on Biodiversity and Climate Change was presented by Peru and is now available to IPBES delegates.

To explore the complementarities in the objectives of the IAI and IPBES, the IAI is promoting cooperation on biodiversity and ecosystem services to support the IPBES

work programs in IAI member countries. The IAI is also strengthening the participation of investigators and member country delegates in IPBES. The IAI has nominated 10 scientists to the regional and sub-regional assessment of biodiversity and ecosystem services; the thematic assessment of land degradation and restoration; and the scoping for a global assessment of biodiversity and ecosystem services. An Ecuadorian delegate to IPBES will participate in the IAI Scientific Advisory Committee meeting to present engagement strategies for IAI member countries in IPBES.

Future Earth:

The global Global Change programs for bio-geo, human dimensions, biodiversity and climate are in the process of merging. As part of the consolidation into the programme of Future Earth (FE), a distributed global secretariat is being formed, and executive director has been appointed, and a governance structure is being developed. The IAI has been part of the original bid for the distributed global secretariat with a network of funding agencies supported by the IAI directorate to provide a Latin American presence and support to FE. As part of the negotiations for and design of the governance structure, the IAI, through its executive director, has been part of the committee and negotiations for proposing and implementing the future of regional governance. Future Earth contains inherited structures and interests that aim at the conservation of existing projects, officers, and command and control structures. This was reflected in a governance proposal from the science committee of FE. While containing legitimate concerns and aims, this proposal also contained command and control provisions that would have made it impossible for the IAI or any other government representation of its sovereign member countries to integrate into the proposed structures of FE. During the past year, intense discussions have resulted in an alternative proposal that will be decided upon in the near future. This alternative provides for a more equitable association between regional and global entities and provides also considerable flexibility for future design and redesign. The current documentation by FE on the regional organization is available on the CoP website.

Given the potential importance of FE but also the widely felt confusion about its structure, orientation and reach, CoP 23 should discuss and form an opinion on how the IAI member countries wish to interact with the process and future activities of FE.

FE has legitimate interests to limit its governance structures to be manageable, accountable and efficient. That almost certainly will not permit an equitable participation of all IAI member countries in such a structure. We may want to think about IAI internal mechanisms that can feed into the directorate's representation within FE.

At this point, FE has the potential to be tremendously enriching or cause considerable confusion and acrimony. The IAI needs to be aware of options and directions in its approach to the potential opportunities and pitfalls.

Science-Policy liaison:

The mission of IAI is to develop the capacity of understanding the integrated impact of past, present and future global change on regional and continental environments in the Americas and to promote collaborative, well informed actions at all levels. This implies active, effective links between its science and decision making and policy.

To strengthen that part of the IAI's work, CoP21 (June, 2013) approved the workplan and strategy for the Science-Policy Liaison Directorate in Buenos Aires. CoP21 also approved the establishment of a Science-Policy Advisory Committee (SPAC) and charged the EC and the Directorate with drafting the terms of reference, and preparing a list of possible candidates to begin work after CoP22. The following provides an overview of how the committee was established.

The EC36 (June, 2013) designated a group to prepare the ToR as well as a list of possible members. The ToR were circulated in October 2013, and have since formed the basis for proceeding with the SPAC. Based on the mandate from CoP23 and EC36, the Directorate consulted contributors to the 2012 Science-Policy Forum held at CoP20 in Arlington. Yolanda Kakabadse (WWF, Ecuador), Walter Baethgen (Columbia University, USA and IAI SAC member), Carlos H. Brito Cruz (FAPESP, Brazil) and Luis Basterra (Member of the Argentine Congress), replied to questions on membership profiles and the functioning of the committee, and thereby provided input to a proposal by the Directorate to CoP22.

Without the benefit of a defined nomination procedure, the Directorate's proposal to CoP22 (August, 2014) contained 24 names of potential candidates, from which the CoP selected the current 9-member SPAC, based on a recommendation by EC37. CoP22 also decided that the SPAC elect its own Chair; draft a program of self organization, and review the terms of reference including the definition of appointment terms.

EC38 discussed issues and guidelines for the initial Science Policy Advisory Committee and pronounced: the term of all nine members will be one year; the EC decided to ask Bob Corell to be the convener of the first meeting of the SPAC in conjunction with the Directorate. EC38 also recommended that nominations for the coming year should include term lengths between 1 and 3 years in order to achieve a staggering of terms to guarantee future continuity. In the future, term lengths should be the same, 3 years, for all members.

The SPAC was charged with reviewing its own ToR and reporting to CoP23. The Directorate has organized a number of teleconferences for the SPAC since it proved impossible to reconcile any date for an in-person meeting with members' time tables. There is a strong view amongst SPAC members and the Directorate, that the output and impact of the SPAC should and will go beyond moving IAI science results towards policy and decision making. Rather, the SPAC represents an opportunity to develop a think tank that can benefit from the IAI's scientific credibility and political representation and provide strategic thinking on continental and regional responses to Global Change. Details of SPAC deliberations are provided in a separate document and by a SPAC representative at the CoP.

2. Science, Research and Funding Alliances

Inter-American Forum for Cooperation in Global Change Research

Following on the meeting of funding agencies at the time of CoP22 in Mexico, the Directorate has worked with Argentina's CONICET to develop an agreement text which would allow funding agencies to jointly develop and fund international science projects. The text is designed to link funding agencies amongst each other and with the IAI, and incorporates components of the Belmont Forum Agreement. It is

currently being examined by São Paulo's FAPESP legal department. Subsequently, it will be reviewed by FAPESP and NSF, the two Belmont members in the Americas, for its feasibility and practicality in aiding joint program implementations. The experience by these agencies and the IAI executive director with past Belmont calls should help streamline the proposed collaborations. The medium term goal is to have program options that parallel and expand the current, largely NSF funded IAI grants.

Two science network grants were active during the year.

The Small Grants for Collaborative Research in the Americas (2011-2015) is in a no-cost extension final year. This program involves 14 member countries, 76 researchers in 53 institutions. 178 students have been involved in research; 86 of those received scholarships (a total of US\$ 661,369) from projects. 208 students participated in training activities and workshops funded by projects. The total additional funding leveraged by the individual grantees in the program is US\$ 24.5 million on an original investment by the grant of US\$ 2.6 Million.

List of SGP-CRA projects:

SGP-CRA005: "Information Flows and Policy: Towards an integrated assessment of water security under Global Change in the Americas" PI: Christopher Scott, University of Arizona, USA. Countries: USA, Chile, Argentina, Mexico.

SGP-CRA2015: "Functional Biodiversity Effects on Changing Ecosystem Processes and Services and Sustainability: an Interdisciplinary Approach". PI: Sandra Diaz, Instituto Multidisciplinario de Biología Vegetal (CONICET-Universidad Nacional de Córdoba), Arg. Countries: Argentina, Costa Rica, Bolivia, USA.

SGP-CRA2021: "Understanding the human, biophysical and political dimensions of tropical primary and secondary dry forests in the Americas". PI: Arturo Sanchez-Azofeifa, University of Alberta, Canada. Countries: Canada, Brazil, Costa Rica, Mexico.

SGP-CRA2031: "Land use change in the Rio de la Plata Basin: Linking biophysical and human factors to predict trends, assess impacts, and support viable land use strategies for the future". PI: Esteban Jobbágy, Univ. de Buenos Aires, Argentina. Countries: Argentina, USA, Uruguay, Paraguay.

SGP-CRA2047: "Documenting, understanding and projecting changes in the hydrological cycle in the American Cordillera". PI: Brian Luckman, University of Western Ontario, Canada. Countries: Canada, USA, Mexico, Chile, Argentina.

SGP-CRA2048: "Tropical cyclones: current characteristics and potential changes under a warmer climate". PI: Graciela de Raga, Universidad Nacional Autónoma de México. Countries: Mexico, Chile, USA, Panama.

SGP-CRA2050: "Paleotempestology of the Caribbean Region: A Multi-proxy, Multi-site Study of the Spatial and Temporal Variability of Caribbean Hurricane Activity" Kam-biu Liu, Louisiana State University. Countries: USA, Costa Rica.

SGP-CRA2060: "Effective Adaptation Strategies and Risk Reduction towards Economic and Climate Shocks: Lessons from the Coffee Crisis in Mesoamerica". PI: Edwin Castellanos, Universidad del Valle, Guatemala. Countries: Guatemala, Costa Rica, Mexico, USA, Nicaragua

SGP-CRA2076: "SACC: An International Consortium for the Study of the Oceanic Related Global and Climate Changes in South America". PI: Alberto Piola, Servicio de Hidrografía Naval, Argentina. Countries: Argentina, Brazil, Chile, USA, Uruguay

The Third Collaborative Research Network Program (CRN3) (2012-2018) has 17 projects involving 131 investigators in 71 institutions in 14 IAI member countries. Over the past year, 186 students have participated in workshops, and 155 students are involved in research, 66 of them with IAI scholarships. The total additional funding leveraged during this period was approximately US\$ 8.7 million. CRN3 is composed by two groups of projects:

- two initial calls resulted in 10 five-year projects, funded with between US\$ 700,000 and 1,000,000. Projects cover a broad range of atmospheric, terrestrial and marine global change-related issues throughout the continent (Annex 2). As expected under the terms of the CRN3 call, these projects are developing policy impact. CRN3025 on conservation and management of tropical dry forests use of wireless sensor to monitor and study interactions between forest and their environment was highlighted at the UNFCCC COP-20 in Lima. CRN3038 on freshwater ecosystems uses paleo-environmental and historical information in joint work with communities of the South American pampas for developing an integrated risk analysis that includes stakeholders' perceived values and vulnerabilities. CRN3056 conducts science-policy dialogues on water security, informing management and adaptation plans in dryland river basins on both sides of the Central Andes. The directorate continues to further develop the combination of disciplinary and interdisciplinary science needed to respond to complex problems by different stakeholders.

- A third CRN3 call addressed deficits in the capacities to design and conduct interdisciplinary science that were apparent during CRN3 implementation. It resulted in 7 smaller Science Integration projects focused on the means of constructing inter- or transdisciplinary, intersectoral science. These projects started in 2014, with funds with between \$ 98,000 and \$ 180,000 over 1 to 3 years. Results are providing real,

practical guidance to scientists and institutions of science governance towards improving the generation and mobilization of knowledge in interdisciplinary problem/solution oriented projects. CRN3097, a training program in management of social-ecological systems to support decision making, has been concluded. The IAI page with its "practical manual on interdisciplinarity" has now (May 14th) been accessed over 17,000 times. Results from the other CRN3 Science Integration projects are now becoming available and being fed into a further development phase of CRN3.

List of CRN3 projects:

CRN3005: "Nitrogen Cycling in Latin America: Drivers, Impacts and vulnerabilities". PI: Jean Pierre Ometto, Instituto Nacional de Pesquisas Espaciais, INPE, Brazil. Countries: Brazil, Argentina, Bolivia, Chile, Mexico, USA, Venezuela.

CRN 3025: "Tropi-Dry II: Enhancing knowledge exchange for conservation and management of tropical dry forests in the Americas". Arturo Sanchez-Azofeifa, University of Alberta; Ca. Countries: Canada, Brazil, Costa Rica, Mexico.

CRN 3035: "Towards usable climate science – Informing sustainable decisions and provision of climate services to the agriculture and water sectors of southeastern South America". PI: Cecilia Hidalgo, Universidad de Buenos Aires, Arg. Countries: Argentina, Brazil, Paraguay, USA.

CRN 3036: "LUCIA" - Land use, climate and infections in Western Amazonia". PI: Alisson Barbieri, UFMG/CEDEPLAR. Brazil. Countries: Brazil, Ecuador, Peru, USA.

CRN 3038: "Sensing the America's Freshwater Ecosystem Risk (SAFER) from climate change". PI: Gerardo M E Perillo, Instituto Argentino de Oceanografía (CONICET-UNS), Arg. Countries: Argentina, Canada, Chile, Colombia, Uruguay, USA

CRN 3056: "Innovative Science and Influential Policy Dialogues for Water Security in the Arid Americas". PI: Francisco J. Meza was replaced by Christopher Scott, University of Arizona. C

CRN 3070: "Variability of Ocean Ecosystems around South America (VOCES)". PI: Alberto Piola, Servicio de Hidrografía Naval, Arg. Countries: Argentina, Brazil, Chile, Peru, Uruguay, USA.

CRN 3076: "Effects of Anthropogenic Habitat Perturbation on Rodent Population Dynamics and Risk of Rodent-Borne Diseases". PI: Daniel Bausch (PI), Tulane University, USA. Countries: USA, Bolivia, Peru, Paraguay

CRN 3094: "Assessment of marine ecosystem services at the Latin-American antares time-series network". PI: Milton Kampel, Instituto Nacional de pesquisas Espaciais (INPE), Brazil. Countries: Brazil, Argentina, Colombia, Chile, Mexico, Peru, USA, Venezuela.

CRN 3095: "Bridging Ecosystem Services and Territorial Planning (BEST-P)". PI: José M. Paruelo. LART-IFEVA. Facultad de Agronomía and CONICET, Argentina. Countries: Argentina, Chile, Mexico, Uruguay

CRN3097: "Intensive Training Program in Management of Social-Ecological Systems to Support Decision Making". PI: Patricia Balvanera, UNAM, Mexico.

CRN3101: “Advancing Good Practices in Building Interdisciplinarity: Moving Towards User-Oriented Science”. Joint-PIs: Marcelo Saguier, FLACSO, Argentina, and Andrea Gerlak, University of Arizona, USA.

CRN3102: “Interdisciplinary science and development integration for adaptation to water scarcity in the Comahue region, Argentina”. Ana Maria Murgida, Univ. de Buenos Aires, Argentina.

CRN3105: “Interdisciplinary Science Team Skill Building Through the Study of Socioecological Impacts from Bioenergy Development across the Americas”. PI: Kathleen Halvorsen, Michigan Technological University, USA.

CRN3106: “Transferring climate knowledge in the science-policy interface for adaptation to drought in Uruguay”. Gabriela Cruz, Univ. de la República, Uruguay.

CRN3107: “Interdisciplinary Research to Improve Information Provision for Decision Making”. Jacob van Etten, Biodiversity International, Costa Rica.

CRN3108: “Coping with hydrological risk in megacities: collaborative planning framework for the Mexico City Metropolitan Area”. Luis Bojórquez Tapia, UNAM, Mexico.

IAI programs have helped facilitate the evolution of global change research in the Americas towards greater interdisciplinarity. A long term evaluation of this evolution was conducted by the Directorate (intern Jeremy Pittman during Dec. 2014 and Jan. 2015. See: Pittman, J. (2015) The evolution of interdisciplinary research to confront global change. A case study of the Inter-American Institute for Global Change Research). It examined Collaborative Research Networks CRN1, CRN2, SGP-HD, and ongoing CRN3’s documents, surveyed project investigators, and conducted semi-structured interviews with key informants throughout the programs. The results show a clear change in the interdisciplinarity of IAI funded research. Social sciences are becoming more integrated into project conceptualization and methodologies. Only 33% of survey respondents reported social science integration in project conceptual stages under CRN1. This number almost doubles to 63% under CRN2 and grows to 87% under CRN3. Qualitative methodologies (more common in the social sciences) are increasingly used with only 50% of respondents reporting their use in CRN1 but 91% under CRN3. The study recognized five major ways in which this transformation has been achieved: (1) by providing space for experiential learning by researchers, (2) by facilitating networking and teamwork across disciplines, (3) by exposing researchers to new concepts or tools that support interdisciplinarity, (4) by maintaining persistent mentorship and support by the Directorate for cultivating cross-disciplinary thinking, and (5) by connecting research to tangible problems. These are proven strategies being replicated in the last phase of CRN3.

The IAI is now preparing a proposal to the National Science Foundation for expanding the CRN3 to include the themes of adaptation and ecosystem services in response to CoP22 resolutions and the resulting UNFCCC statements.

The MacArthur Foundation funded project *Climate-related vulnerability and risk assessments and improved decision making processes for conservation and land use planning in two Andean biodiversity hotspots* was concluded in Feb 2015. The Project integrated medium-term climate change, biodiversity patterns and gradients, and land-use to identify vulnerable Andean areas that should be prioritized for ecosystem conservation and adaptation actions. Two binational study areas in the Colombia-Ecuador (Pacific slope) and Peru-Bolivia (Amazonian slope) border regions, a total of 22 ecosystems and 2277 species distributed in 3 taxonomic groups (birds, insects, plants) were evaluated. Possible short- and medium-term climate changes were derived from retrospective and prospective simulation with 5 global circulation models and refined with tree-ring chronologies, local weather data, and temperature and humidity recording at different altitudes. Land-use changes for 1981-2006 were shown using NDVI maps. Temperature anomalies for the tropical Andes may reach $>2^{\circ}\text{C}$, with some parts of the tropical Andes under drier and others wetter conditions. These projections are freely available at fine spatial resolutions as a GIS-based Andean climate wizard. Land-use change is greatest in the foothills of both areas and the high-Andean Puna of the southern area. Georeferenced databases of species distribution by ecosystem and elevation and the NatureServe Climate Change Vulnerability Index (CCVI) were used to evaluate species vulnerabilities. The majority of species in both study areas were found not to be vulnerable to climate change, but vulnerable species were clearly concentrated in ecosystems at both low (foothills) and high (treeline, paramo, puna) elevations. Climate, biodiversity, and land-use information was integrated using a multi-criteria decision analysis. In the Colombia-Ecuador study area, highest-risk ecosystems include the montane and low montane rainforest of the Northern Andes (*Bosque montano bajo pluvial de los Andes del Norte, Bosque montano pluvial de los Andes del Norte*). In the Peru-Bolivia study area, highest-risk ecosystems include the Southwest Amazonian foothill forest (*Bosque del piedemonte del suroeste de la Amazonia*), the high-Andean humid shrubby grassland of the Yungas (*Pajonal arbustivo altoandino y altimontano pluvial*

de Yungas), and Southwest Amazonia seasonal evergreen sub-Andean forest (*Bosque siempreverde estacional subandino del suroeste de Amazonia*).

Local perceptions of climate change were surveyed with structured in-depth interviews and participatory mapping exercises. Most participants noted local changes in the timing of rainy and dry seasons, increases in rainfall intensity, reductions in streamflow and resulting increases in pests.

The knowledge generated was disseminated in socialization meetings and training courses in the 4 participating Andean countries, in international conferences and ongoing scientific publication. Outreach also included a web page and twitter account, capacity building manuals, a policy brief, a short project video. This multidisciplinary project brought together 30 academic, governmental, and non-governmental institutions from within and beyond the region in a substantial collaborative effort, fostering regional networking, collaboration, and partnerships.

The IAI continues to develop contacts beyond the Americas. Two CRN projects were proposed for an integrated research and innovation cooperation between the European Union (EU) and Latin America in the climate change field as part of the EU funded ENSOCIO project, just finished. Argentina's representative to the IAI took a lead in this initiative. Investigators from the 2 CRN projects participated in a EU-Latin American networking meeting. The IAI is also partnering with the International Council for Science (ICSU) in a 5-year program to be funded by the Swedish International Development Cooperation Agency (SIDA). The IAI has also been invited by CROP (a program jointly funded by the International Social Science Council and the University of Bergen, Norway) to an “International Partnerships for Excellent Education and Research”. The consortium will apply to funds offered by the Research Council of Norway and the Norwegian Centre for International Cooperation in Education.

3. Capacity Building

The second part of the *Professional Development Seminar on Modeling Strategies and Decision-Support Tools for the Management of Complex Socio-Ecological Systems* (August, 2015 in Panama City) was co-organized with Panama's Gorgas Memorial Institute for Health Studies, the Universidad del Valle de Guatemala and

the University of Chicago at Illinois. IAI investigators and a SAC member provided lectures to 23 participants on the use of modeling tools (data-based, system-dynamics, and agent-based models).

Panama's Gorgas Institute provided liaison with the Panama Canal Authority and the Secretariat for Science and Technology (SENACYT). As a result, the seminar program included a science-policy round table with policy makers from Panama - SENACYT national secretary, a former Health Minister and Canal authorities to discuss socio-economic problems and decision making.

Proposal development teams established during the first part finalized research concepts based on reviews and guidance provided by the organizers. Four successful seed grants will contribute to strengthening human and institutional capacity in international grant administration under the IAI. The projects involve 19 professionals from 12 IAI member countries, with a total IAI funding of US\$ 79,744. Projects are:

Strengthening Teamwork to Confront Socio-Ecological Challenges. PI: Lily House-Peters - University of Arizona, USA. Countries Co-PIs: Canada (1), Uruguay (2), Mexico (1), Chile (1).

Improving preparedness to extreme natural hazards events in Lake Atitlán region. PI: Elia Machado - Lehman College, City University of New York (CUNY), USA. Countries Co-PIs: Guatemala (2), USA (1).

Socio-ecological modeling for monitoring *Aedes aegypti* in Panama City. PI: José Seguinot Barbosa - University of Puerto Rico. Countries Co-PIs: Panama (1), Paraguay (2), USA (1), Brazil (1).

Community resilience assessment to flood and drought events in the Coyolate basin in Guatemala. PI: Pablo Yax - Instituto Privado de Investigación sobre Cambio Climático, Guatemala. Countries Co-PIs: Argentina (1), Bolivia (1), Colombia (1).

One outcome of the seminar is the participation of the IAI in a course on ***Science Diplomacy and Leadership*** (21-30 June, 2015, Washington DC) led by the Consortium for Science, Policy & Outcomes at Arizona State University's Washington DC Center. The program is designed as an immersion experience of academic lectures, field visits, professional development workshops, networking opportunities and leadership training. The IAI Director for Capacity Building will participate as a lecturer and 4 young scientists from CRN projects will attend the course.

The IAI, working with the IRI, the WHO/WMO and the Ministry of Health of Uruguay organized a session on ***Institutional Collaboration, Data Management and***

Interoperability in Climate and Health Studies at the 4th International Conference on Climate Services (December 2014, Montevideo, Uruguay). Five IAI investigators from Argentina, Panama, Paraguay and Uruguay presented their project results and experiences. They addressed the integration of climate and health sciences from the development of collaborative networks to establishing a dialogue among research and policy institutions.

In early 2015, eight outreach and training courses were developed as part of the final activities of the IAI-MacArthur Foundation project on Climate, conservation and land use planning in two Andean biodiversity hotspots in Bolivia, Ecuador, Colombia, and Peru.

The outreach and dissemination meetings, followed by 2-3 day training courses took place in January 2015 in La Paz, Bolivia, co-organized with the University of San Andres/Institute of Ecology; in Quito, Ecuador, co-organized with CIIFEN, PUCE and Ecuador's Ministry of the Environment; and in February 2015 in Bogotá, Colombia co-organized with the Alexander von Humboldt Biological Resources Research Institute; and in Lima, Peru, co-organized with Peru's Ministry of the Environment. These events were attended by over 200 conservation and natural resource management professionals, including representatives of environment ministries, national adaptation programs, meteorological services, NGOs, and universities. The capacity building courses on climate, biodiversity and landuse assessment tools were attended by over 100 professionals selected from >200 applicants.

New Training initiatives

The IAI Program Manager submitted a proposal to the Development Bank for Latin America (CAF) for sponsorship of a Massive Online Course (MOOC) to be developed with the CRN3 project TropiDry. The IAI will receive US\$25,000 towards the MOOC on “Climate Change and its Impacts in Latin America”. The course will be developed by the University of Alberta and IAI and will provide content on the work of the UN Conventions related to issues covered in the lessons.

Two IAI capacity building proposals are currently pending approval:

1) In February 2015 the IAI submitted to the MacArthur Foundation a concept note for US\$ 198,000. The IAI plans regional training workshops on tools and methods for assessments of climate change risk, vulnerability, ecosystem services, and for adaptation planning; as well as training on proposal development through seed grant projects to implement tools in ongoing or newly designed conservation or natural resource management projects in 2015-2016. Focus will be on tools and methods, development of networks, and new proposals and development of projects in Bolivia, Colombia, Ecuador and Peru.

2) In 2014 the IAI submitted a proposal to NSF for *Professional Development Seminars on global environmental change science and its policy applications* for US\$ 400,000 to support 4 activities in 2015-2017. These will target participants from natural and social sciences, policy and decision makers from the public and private sectors and environmental practitioners. The seminars will explore: 1) Transdisciplinary Scientific Team Management; 2) Managing Ecosystems Services from Tropical Forests; 3) Ecohealth Approach for the Andean countries; and 4) Impacts of Climate Change and Variability on Human Health in the MERCOSUR countries. The latter will contribute to the development of a new PhD Program on Health and Environmental Sciences.

The IAI is collaborating with the Joint Research Center of the European Commission (JRC/EC) and its Latin America Network of Knowledge Centres in the Water Sector (RALCEA) on the development of a course on *Integrated Management of Underground Water* to be held at the Spanish Agency for International Development Cooperation (AECID) training center in Cartagena, Colombia (7-11 September 2015). Researchers, government officials and practitioners involved in the IAI Center of Excellence for Water Security (AQUASEC), particularly from Argentina, Chile and the USA, will contribute as lecturers. Professionals from water agencies and ministries of the environment from Latin America and the Caribbean will attend the course. This activity is funded by JRC/EC, AECID with additional support from AQUASEC and IAI. The IAI is exploring institutional collaboration with AECID, JRC/EC and RALCEA on areas of common interest, to engage in other regional collaborations such as the Conference of Water Directors - CODIA, and collaborate with the Ministry of the Environment of Colombia.

At the request of Panama's Secretariat for Science and Technology (SENACYT), the IAI is developing a joint conference and workshop on *Sustainable Development and Global Environmental Change* to be held in Panama City, Panama (27-29 October, 2015). The goals are to foster global change research as part of Panama's sustainable development plan; support Panamanian scientists to develop and engage in national and international research networks on the biophysical and human dimensions of global change; encourage collaboration between scientists and decision-makers; and provide capacity building to science managers and researchers on the administration and management of international research programs. This activity will be developed with the new director of the IAI Science-Policy office in Argentina. The IAI expects to develop a program that can be adjusted to other IAI member countries as national research councils and S&T secretariats seek to develop integrated transdisciplinary GEC sciences and sustainable development programs.

The capacity building program has probably the highest policy visibility of all IAI activities, and the Capacity Building Director developed new contacts and strengthened communication in several member countries:

Brazil: May 2015 with the CEO and with the Director of Economics and Environment of the Energy Research Office. September 2014 with the advisor to the Science Director of FAPESP and the coordinator of FAPESP Global Climate Change Program.

Bolivia: January 2015 with the Vice-minister of Environment, Biodiversity, Climate Change and Forest Management, and the General Director of the National Water and Sanitation services.

Dominican Republic: November 2014: with the Vice-minister of International Cooperation and the Director of Research and Environmental Norms at the Ministry of Environment and Natural Resources; and the Vice-minister of Education and the Director of Scientific and Technological Research at the Ministry of Education, Science and Technology.

Ecuador: January 2015 with the Vice-minister of Scientific Research of the Secretary of Education, Science, Technology and Innovation and the Director of Climate Change Adaptation at the Ministry of the Environment.

Panama: November 2014: with the Secretary of Science and Technology and the head of the Climate Change unit of the National Environmental Authority.

Peru: February 2015 with the Vice-minister of Strategic Development and Natural Resources of the Ministry of Environment; the General Directors of the Climate Change and Desertification, and the Biological Diversity Divisions.

4. Directorate operations

The Montevideo office is operational. Both assistants have been provided by the Uruguayan government and have integrated well with the team.

Three staff in Brazil are continuing: one to finalize financial and administrative tasks which will conclude the closure of the IAI's banking and taxation links in Brazil; one to support new Uruguayan staff and help with the organization of CoP23; and one to continue support for the capacity building program since no replacement has been hired in Uruguay.

As of May 2015, a director has been hired in the Science-Policy liaison office in Buenos Aires and the IAI is looking forward to enhanced operations there.

The improved connectivity on Montevideo permits the IAI to develop its own telephony and video conferencing facilities, and two consultants are currently undertaking this.

The new web site of the IAI has been completed and is hosted commercially in Buenos Aires. All IT services are outsourced, although some servers are maintained in the Montevideo office. The savings in IT personnel are helping to maintain the cost neutrality stipulated for the IAI move.

An agreement of association has been developed and signed between the IAI and FAPESP, making FAPESP the third associate of the IAI.