

**IAI Directorate Report**  
**to the**  
**Twenty Fourth Conference of the Parties,**  
**for the period of June 2015 - May 2016**

**Capacity building** (coordination: Marcella Ohira)

The NSF funded (November 2011- March 2016) **Training Institute Seed Grant Program** has been very effective in building networks, applying training contents to real problems and linking science with policy. It also allowed participants to continue engagement with the IAI beyond the Training Institutes with a total of 11 interdisciplinary networks involving 67 professionals from 34 institutions in 15 countries: Argentina, Bolivia, Brazil, Canada, Chile, Colombia, Dominican Republic, Ecuador, Guatemala, Mexico, Panama, Paraguay, Peru, Uruguay, and the US. Seed grants improved the participation of professionals from small countries and contributed to developing the capacity to administer international grants in several institutions. Feedback from participants and institutions has indicated a significant impact.

The seed grants have been cost-effective while achieving multiple goals. The IAI invested \$218,000 (from the NSF) in the program and leveraged over \$155,000 in financial and in kind contributions from participating institutions. To help the design and improvement of future research and capacity building programs, the IAI is now carrying out an assessment of the seed grant program. Interviews with 37 PIs and key informants were conducted in addition to current analysis of 25 documents (project reports, publications).

A proposal for a new series of **IAI Professional Development Seminars** was approved by NSF in August 2015. The \$400,000 grant with 4 original capacity building activities will be expanded to at least 6 during the period 2016-2019. Four activities are now being developed:

1. Managing ecosystem services from Tropical forests: The IAI with Canada's University of Alberta (lead of one CRN), Costa Rica's Ministry of Environment and Energy (and its minister Edgar Gutierrez), Universidad Nacional de Costa Rica, National Forest Financing Fund, and the U.N. Economic Commission for Latin America and the Caribbean (ECLAC and its Chief of Sustainable Agriculture Development, Adrián Rodríguez) are co-organizing this activity with 2 separate workshops. The first will be held in July 2016 in Costa Rica, a country with experience on ecosystem services valuation and programs to pay for ecosystem services. It will use interactions with local communities and experts to assess institutions' implementation experiences. The second, at ECLAC in 2017, will focus on the quantification of ecosystem services, and the presentation of science and policy products produced by the

participants. It will also extend the dialogue with national and international agencies in collaboration with ECLAC.

2. Interdisciplinary Approaches to integrating Policy and Science for Sustainability: The IAI with the Dominican Republic's Ministries of Environment and Agriculture (with national representatives to the IAI Zoila Gonzalez, Environment Vice-Minister, and Nathalie Flores, Mitigation Head), the Michigan Technological University (CRN participant), the University of Calgary (seed grant participant), the American Association for the Advancement of Science (AAAS) and others are developing this event. The first part of the seminar will be in the Dominican Republic, in November 2016. It will explore transdisciplinary (TD) research concepts and discuss opportunities, challenges and successful examples of TD projects. Participants will engage with local agricultural producers, authorities and environmental practitioners to identify common sustainability issues and conduct hands-on activities applying the training knowledge and methods. The second part, in Canada, is to be co-funded by the University of Calgary's Education Department with CAD 12,500 and co-sponsored in kind by Banff International Research Station. The Education faculty is interested in developing research collaboration with the IAI and Latin America in multinational and multidisciplinary research networks. The Canadian partners also bring an engagement with local communities and aboriginal peoples to the event, specifically the Siksika Nation (Blackfoot Confederacy) which will present successful partnerships with the government of Alberta on health and natural resource conservation.

IAI Capacity building has resulted in institutional, programmatic, financial **partnerships**:

1. AAAS co-organizes the PDS on Policy and Sustainability Science and will fund Cuban participants to the seminar in the Dominican Republic and Canada. IAI participated in the AAAS Science Diplomacy Conference in May, Washington, DC, and in the Center for Science Diplomacy and Science & Technology Policy Fellowships Program. IAI contributed to a brainstorming session to facilitate greater national, regional and global science-policy connection mechanisms. IAI will also share its experience at the AAAS-World Academy of Sciences (TWAS) course on Science Diplomacy (July 2016, Trieste, Italy). AAAS collaborators are Tom Wang, Chief International Officer and Marga Gual, Project Director.

2. Sao Paulo Research Foundation (FAPESP, an Associate of the IAI), the University of Sao Paulo Center of Nuclear Energy in Agriculture and IAI have developed a School of Advanced Science on Nitrogen cycling, environmental sustainability and climate change. This will be conducted in August 2016, with 100 graduate students. Course collaborators include Brazil's National Institute for Space Research (CRN team), the University of Brasilia, and the International Nitrogen Initiative.

3. The Joint Research Center of the European Commission (JRC/EC) and the Latin American Network of Knowledge Centers in the Water Sector (RALCEA) collaborate with the IAI since 2014. IAI researchers and decision makers from Argentina (Mendoza), Chile, and the US participated in the RALCEA course on Integrated Management of Underground Water held at the Spanish Agency for International Development Cooperation (AECID) center in Cartagena, Colombia (September 2015). As a result, Mendoza's Irrigation Department (DGI) is formalizing its participation in RALCEA. Also, DGI, IAI-AQUASEC, UNESCO-PHI are planning a Workshop on Water Security and Demand Management in the Arid Americas for August 2016 in Argentina.

The Collaborative Research Networks benefit from IAI's institutional links. Four young scientists from CRNs attended a course on Science Diplomacy & Leadership (June 2015, Washington, DC) organized by Arizona State University. The program focused on "Becoming a Global Scientist: Science Diplomacy Skills for Early Career Researchers". The IAI's work in the Americas, presented by Marcella Ohira, was considered one of the best examples of science diplomacy. Following the event, Maria Inés Carabajal, one of the 4 researchers, was invited to the World Science Forum (November 2015, Hungary) where she presented the CRN work on Climate Services at a plenary session.

### **MacArthur Foundation funded program in the Tropical Andes**

As the final activity of the IAI-MacArthur project "Impacts of climate change on biodiversity in the Tropical Andes, in November 2015, a workshop on tools for vulnerability assessments, ecosystem services and adaptation planning toward climate smart conservation goals was hosted by Ecuador's Environment Ministry. Thirty conservation and natural resource management professionals from environment ministries, national adaptation programs, NGOs, and universities in Bolivia, Colombia, Ecuador and Peru familiarized themselves with the tools developed by the project. Participants also shared experiences from adaptation initiatives and networking among 4 countries. Many institutions in the Andes co-funded their participants' participation demonstrating their interest in the IAI training.

Main achievements of the (2011-2015) project were: a) development of a Climate Wizard providing high-resolution climate change risk and exposure information for the Tropical Andes; b) climate change vulnerability assessments for 22 ecosystems and ca. 2500 species in two border regions of Colombia-Ecuador (Pacific slope) and Peru -Bolivia (Amazonian slope); c) land-use change analyses in the study areas; d) a global change risk map for each study area; e) active dissemination of outcomes: webpage, training manuals, policy briefs, project video, seminars with 230 attendants and workshops with 130 trainees in all 4 countries.

In April 2016 the IAI submitted a letter of intent to the MacArthur foundation for \$460,000 to develop capacity building: from climate change vulnerability assessment to adaptation action for biodiversity conservation in the Tropical Andes. The request was supported by 6 major collaborators: Bolivia's Autoridad Plurinacional de la Madre Tierra, Peru's Ministry of Environment, Colombia's Humboldt Institute, and the NGOs BirdLife International-Americas Secretariat, Ecuador; Wildlife Conservation Society, Colombia; Asociacion Armonia, Bolivia. The goal is to strengthen institutional capacities to link practices of climate change adaptation with biodiversity conservation and natural resource management in the four Andean countries. Comprehensive training linked with seed grant projects will provide a 5-step capacity building program, that takes capacity building on climatic change and biodiversity conservation to the next level: 1) A 10-day regional training workshop for 30 participants on tools and methods for assessing climate change risk and vulnerabilities, in the context of ecosystem services, and planning for development and adaptation. 2) A 5-day workshop with the same participants on interdisciplinary and inter-institutional proposal development and project implementation. 3) Proposal merit review and award of 4-5 seed grants of \$10,000-20,000 each to apply acquired skills. 4) Continuous guidance of seed projects by IAI tutors and communication with project leaders to monitor progress. 5) Knowledge integration at an international conference and outreach products to share methods and results.

The highly visible capacity building program has contributed to strengthened communication with member country governments and partner organizations, including the Autoridad Plurinacional de la Madre Tierra, Bolivia; Centro Nacional de Monitoramento e Alertas de Desastres Naturais, Brazil; Instituto Humboldt, Colombia; Ministry of the Environment and Energy, Costa Rica; Ministry of Environment, Dominican Republic; Ministry of the Environment, Ecuador; Secretariat of Science and Technology, Panama; and the Public Health secretariat of Uruguay.

### **Global Conventions** (Liaison: Ione Anderson with UN, CBD, CCC, SDGs and IPBES)

The second half of 2015 brought two major global policy achievements: the 2030 Agenda for Sustainable Development with the adoption of the United Nations Sustainable Development Goals and the Paris Agreement on climate change. Together, they mark a new era for global change research; business as usual will no longer be sufficient.

The IAI has collaborated with the United Nations Framework Convention on Climate Change (UNFCCC) and the UN Convention in Biological Diversity (UNCBD) for the past 11 years. Building strategic relationships with IAI member country delegates, partner organizations and other stakeholders, and influencing policy development takes sustained effort to produce results. Building and nurturing relationships and creating partnerships and visibility will continue to be key in that process.

With that in mind, last September IAI partnered with the UN-backed global campaign “Project Everyone”, led by filmmaker Richard Curtis, to draw attention to the 17 UN **Sustainable Development Goals**. Several CRN3 and CRA researchers taped 1-minute video messages using their mobile phones. The messages in English, Spanish and Portuguese were aimed to raise awareness of important issues under several of the UN goals. The messages were posted on the IAI website Twitter and Facebook during the UN Summit / General Assembly in September 2015. Visits to the IAI website showed a twofold increase during the period, and the number of Facebook followers grew during and remained after the campaign. The rationale for IAI in joining Project Everyone was to engage its investigators in a global outreach campaign to show that sustainable development begins with science, and that global change science cannot be isolated from development. The short video messages echo important issues and concerns under several themes of the UN goals:

- Sustainable communities and health, frontiers of development and health,
- Social adaptation and knowledge for rural resilience under market and climate shocks,
- How to communicate science,
- Water - a cause for national and international cooperation,
- How societies should value ecosystems, and
- Climate change and biodiversity.

Agreed by the 193 Member States of the UN, the proposed Agenda consists of 17 Sustainable Development Goals for three interconnected elements of sustainable development: economic growth, social inclusion and environmental sustainability. Science Manager and UN Liaison Ione Anderson obtained accreditation for the IAI (as one of 200 organizations selected from 2000 applications) and participated in the UN General Assembly in September 2015, which agreed to achieve these goals by 2030.

The sustainable development goals (SDG) will also play an important role in adaptation to Global Change and in Global Change science. The directorate's engagement in “Project Everyone” and the SDG mounted on behalf of its research teams also aimed at initiating a dialogue with member countries on their priorities under the SDG. This may help develop a closer linkage between Global Change and SDG agendas and orient future IAI science. To make development more sustainable and adaptive to Global Change risks and opportunities is an important part of IAI science: it explores climate, resource management, ecosystems, cities and human wellbeing with a view to guiding decisions. As this science develops proposals for adaptation and mitigation actions that address Global Change it must consider development needs and the needs and aspirations of societies if proposals are to be accepted by politicians,

nations and the private sector. Science - policy relevance depends on developing commonalities amongst scientists (providing answers) stakeholders (with demands and questions), and funders.

At the UNFCCC COP-21 in Paris, France in December 2015, the Ministry of Environment of Peru, in partnership with the IAI, the Secretariat of the Convention on Biological Diversity and GIZ held a joint side-event to present contributions from science to politics on water management, climate change and biodiversity. IAI principal investigator Edwin Castellanos and Ione Anderson both presented at this event. This side-event took place at the Peru Pavilion under the continuing successful partnership with Peru developed at the UNFCCC COP-20 in Lima in 2014.

Following two consecutive joint events with the UN Convention for Biological Diversity at UNFCCC COP-20 and COP-21, Ione Anderson attended the nineteenth and twentieth sessions of the Subsidiary Body for Scientific, Technical and Technological Advice (SBSTTA). SBSTTA-19 in November 2015 adopted eight recommendations for its COP-13, among them: key scientific and technical needs related to the implementation of the Strategic Plan for Biodiversity 2011-2020 and related research; biodiversity and human health; and forest biodiversity. The IAI's projects on the ecology of rodent and insect born diseases, and on dry forest environments are ground breaking for these initiatives.

At SBSTTA-19, IAI, CBD, GIZ and Mexico made plans to organize a Science Forum at the CBD COP-13 in Cancun in the model of the pre-COP-20 Symposium organized in Lima in 2014. Over the last 4 months, IAI has developed a concept note with partners for the Science Forum. The Science Forum will be held in Cancun, Mexico on December 1st and 2<sup>nd</sup> with an official joint side-event to present results from the Forum on December 5<sup>th</sup>.

At SBSTTA-20 in April 2016 in Montreal Ione Anderson presented IAI to delegates of the UN Latin American and Caribbean regional group (GRULAC) to strengthen the relationship between those delegations and IAI representatives. IAI delivered a statement to the CBD plenary which echoed the message of the IAI Conference of the Parties to call on the international community to develop and implement viable adaptation strategies with the participation of the peoples of the region. The development of regional capacities is the IAI's key mandate. IAI liaised with member country delegates to provide input on areas where IAI and CBD can collaborate on protected areas, and biodiversity and climate change. The Science Forum will support the CBD Bio-Bridge Initiative (BBI), which aims at streamlined mechanism for Technical and Scientific Cooperation to help parties achieve biodiversity targets through effective partnerships of national, regional and global organizations and institutions such as NGOs, governments, universities and the private sector

IAI participated in the Eighth Research Dialogue of the UNFCCC SBSTTA-44 in mid-May. IAI has been one of the trusted contributing organizations since the first UNFCCC Research

Dialogues 10 years ago. As a result of this relationship, the UNFCCC has asked the IAI to help collect information on the potential impact of the newly accorded 1.5° C limit for the average global temperature rise. IAI researchers can contribute to the knowledge, but member countries should also engage in an assessment of the science-policy interface that would contribute constructively to the delivery on this new goal and consider the needs of adaptation associated with a limit that will permit the doubling of the present CO<sub>2</sub> enrichment. Models indicated that a 1.5 degree target means that per capita emissions need to drop from 7 to less than 2 t of fossil C. Getting there will not only need monitoring but also a persistent continuous process of innovation.

The MoU between the IAI and the Intergovernmental Panel on Biodiversity and Ecosystem Services (IPBES) will be signed in the coming months. The IAI as a scientific knowledge provider will complement IPBES efforts on the status and trends of biodiversity and ecosystem services, and will benefit from the agreement when considering options for policy responses and opportunities for capacity building.

Part of this capacity building effort is the first IAI Massive Open Online Course (MOOC), developed with the University of Alberta and supported by the Development Bank for Latin America (CAF). It planned to launch the course at both the CBD COP-13 and the UNFCCC COP-22. The MOOC on Climate Change Impacts in Latin America will be in Spanish and will have lectures by IAI scientists, CBD, IPCC and UNFCCC representatives who will also participate in its dissemination.

With these efforts, IAI is well placed to engage with decision makers at global and continental levels and send the message that collaborative, multidisciplinary science is essential to understanding global changes and to provide timely input for coordinated action in its member countries.

### **Future Earth (Liaison: Holm Tiessen)**

Future Earth (FE) has completed the establishment of its distributed global secretariat, and is still developing structures that will allow it to collaborate constructively with the regions. The IAI is part of the original bid for the distributed global secretariat, and had offered to support FE with a network of funding agencies for which the IAI directorate would act as a conduit of information and dialogue. Over the past year, interests that aim at the conservation of existing projects, officers, inherited structures, and a command and control approach, have advanced governance proposals for both regional and national presences of FE, that were not compatible with the IAI's mandate or legal status. As a result of insistent negotiations by the IAI, supported by other regional players, the language of proposals for governance has now been moderated and is much more compatible with the IAI COP's mandate for an equitable,

open cooperation. Particularly for its smaller member countries, the IAI facilitates the engagement with major international activities such as FE and the UN conventions. Future Earth may develop into an opportunity to link the region with global thinking and approaches to GC if its engagement with the region can be moderated adequately. Particularly for smaller nations science competencies and the science-policy dialogue need to be shared amongst countries, and the IAI COP could play an important part in orchestrating such initiatives.

Future Earth is initiating its first content oriented ventures, a series of Knowledge-Action-Networks (KAN). The IAI has developed a letter of intent for one KAN on natural resources, focusing on the resource of biodiversity in the context of ecosystem use and ecosystem services. At this point, all contributors to the letter are scientists from Argentina (in addition to the IAI director). It is hoped that a much broader participation can be achieved over the coming months. The IAI SPAC member Brigitte Baptiste has already indicated a commitment on behalf of Colombia's Humboldt Institute.

The IAI director is participating in discussions on a further KAN on the nexus between water, food and energy. Once that program is better defined, IAI member countries should also consider its implications for regional and national science engagement. It will be useful to develop IAI internal mechanisms that can feed national and regional concerns into the Directorate's representation within FE.

### **Inter-American Forum for Cooperation in Global Change Research**

The IAI is beginning a critical transition from a largely US funded science program towards greater ownership by all its member countries. One mechanism to maintain funding for international GC research was initiated 2 years ago - an Interamerican Forum of Funding Agencies that will help individual countries to fund "their" portion of research that is conducted by international teams. During the past year the agreement text, designed to link funding agencies amongst each other and with the IAI, has been reviewed and a final draft forwarded to all agencies. At the time of this report, three countries have confirmed agreement with the legal text and are ready to sign the agreement. Several others have announced their interest and are in the final stages of internal review. It may be possible to sign a first agreement amongst a limited number of IAI member countries at the time of COP 24. The next call for proposals for an IAI small grant in September of 2016 will include the co-funding arrangements provided by the Forum agreement as an essential component.

The Forum also has an additional purpose: Small countries do not have the research capacity to tackle all of the complexity of Global Change alone, so that smaller member countries must share research tasks and collaborate in knowledge generation, and also in international negotiations. The Forum will facilitate this by providing co-funding opportunities, act as a



consortium in negotiations with the Belmont Forum, and provide national and regional priorities to the interactions with Future Earth.

**Science-Policy Liaison (directed by: Ana M. Murgida, Buenos Aires):**

The IAI mission requires active and efficient links between science, decision-making and policy. These are generated using the IAI's scientific production, its institutional collaborations, its social networks, and the dialogues and exchanges of the Institute's outreach. In order to evaluate their effectiveness, qualitative and quantitative measures are needed of the contributions towards resolving questions of global change at regional, national and local scales.

The Science Policy Liaison Directorate (SPLD) in Buenos Aires began its activities in May of 2015. Since then it has developed its international mission with the support of the Executive Directorate. The Science Policy Director acts as secretary to the Science Policy Advisory Committee (SPAC) in its conferences and communications. The continuous dialogue between the SPLD and the SPAC has produced the agenda for the 2016 SPAC meeting which introduced a innovative new look at the Institute's activities.

In the development of its activities, the SPLD considered several inputs: the AAAS evaluation of 2007, the minutes of COP 21 (June 2013), the decisions of COP 23 and EC 36, and many suggestions by the SPAC. All activities were discussed with the SPAC. Amongst the tasks taken on were: (1) the identification of interactions between science and policy in IAI research projects; (2) the demonstration of impacts of IAI science on the continent and its member countries; (3) the improvement of IAI's visibility with politicians of the region to make the IAI a reference organization for global change research in the Americas; (4) the identification of priority policy questions on global change.

COP 23 (June 2015, Lima, Peru) emphasized the need to quantify the effectiveness of scientific capacity building and research conducted by the IAI, and their contributions to national and regional policies. Towards this end, the SPLD is conducting an impact analysis using scientific methodologies with the help of students and professionals from Argentina, Canada and Chile, from the University of Buenos Aires, the National University Arturo Jauretche, the University of Waterloo, the University del Salvador, the Latin American Faculty for Social Sciences (FLACSO), and IAI Project CRN 3102. This creation of this effective team, using stipends by the IAI, is facilitated by the favourable conditions of the host country agreement between the IAI and Argentina.

All work of the office was conducted in close collaboration with the Executive and Capacity building Directors. An active dialogue was developed with national representatives and other government officials of Panama, Argentina, Costa Rica and Mexico. The SPLD also collaborates with the executive directorate in formulating an academic capacity building

project at Ph.D. level on health, environment and climate change in the National University of Entre Rios (2016).

The SPLD, together with the Argentine Institute of Oceanography is developing a network of young scientists which will contribute to the visibility of the Institute's activities, and promote global change science among young professionals. The first meeting of this group is planned for August 2016.

A renewed dialogue with representatives and institutions of the Argentine government has begun in January of 2016 when the Ministry of Science, Technology and Productive Innovation revalued its relationship with the IAI and has facilitated access and led to the development joint activities, particularly of an inter-institutional dialogue involving the IAI and a broader representation of government, similar to the activities with Uruguay's national IAI committee. At the same time a conversation has begun on pending issues of the Argentina-IAI agreement.

The SPLD established a contact with the consultative forum on science and technology of Mexico with the aim to link the networks of both institutions, expand communication between science and decision makers, and strengthen the relations with Mexican IAI representatives. The SPLD together with the Executive Directorate is preparing activities for the UNFCCC COP 22 in Morocco. The SPLD is also establishing agreements and collaboration with international networks of START and UNESCO-LAC on the science policy dialogue for climate change in Latin America, and is identifying weaknesses and opportunities in the process.

To show the **processes of the science policy interactions in IAI projects**, the SPLD has explored new methods of data processing and implemented training courses for the team that analyses and documents the impact of IAI science. The team is documenting:

- a) the interactions between IAI research projects and decision-makers.
- b) the existence and continuity of international scientific networks based on evidence from co-authorships in scientific publications.
- c) the mode of involving decision-makers by the regional centre for climate change and decision-making of UNESCO-LAC.
- d) the methods employed to improve communication of research results.

Since October, the databases on publications of research projects are being updated and cleaned in order to reduce bibliographic errors (now complete to 2015). The improved database contains detailed information on all publications with authors, editors, titles, year, Project identifiers etc, and links this to a list of investigators, grantees and collaborators of each project that includes information on status, country, institution and area of expertise. During the construction, the open CiteULike publication database was also updated. This provides archiving in Research Information Systems (RIS) format, used widely in

bibliographic referencing, archiving and processing. The IAI CiteULike database is thereby linked to major reference networks such as Academia and ResearchGate. In December 2015, the SPLD together with CRN3102 organized a virtual course on "methodologies for social network applications to science management", which provided theory and tools for processing of information from research projects and their publications.

The impact and networking analysis is underway and is already showing that the United States, Canada and Argentina are the main producers of publications and also are (followed by Brazil) the countries most effective in connecting with the researchers of many other countries in the region. Their networking also facilitates the linkages amongst investigators in other countries. An increased production of scientific publications by some of the smaller countries shows that the flow of methods and knowledge in IAI networks is enriching the science of countries with a relatively small number of active investigators. Most researchers in the analysis are still identified as natural scientists, but since 2009 there is a greater inclusion of investigators from the social/human sciences.

For the impact analysis of science on decision-making, the team analyzed the interactions between project participants and different institutions in any one country: the CRN3 projects alone show such interactions for 155 investigators and 17 projects. A more in-depth analysis is being conducted using a questionnaire developed with the SPAC, external investigators and the executive director. With this questionnaire, remote interviews are being conducted. This slow interview process is only just beginning. Nevertheless one can already sketch relationships between projects and non-academic institutions accounting for national affiliation and legal and administrative status: 104 (67%) investigators belong to "pure" research institutions while 51 (33%) belong to other types of institutions. Nine projects involve only academic investigators, while in eight projects, investigators from other types of institutions participate.

Examples for interactions between IAI projects and government institutions are provided by CRN 3025 "Tropi Dry" which links with the fund for forestry financing (FONAFIFO) of Costa Rica, and has contributed to changes in the nation's forestry laws. Project reports are used by the coffee Institute (ICAFFE) of Costa Rica to aid decision-making. The relationship between CRN 3025 and the Canadian province of Alberta has produced an open-access charge-free web portal for Canadian climate data and environmental monitoring.

The Argentine-led project CRN 3038 "SAFER" has developed excellent relations with local NGOs "Ambiente Comarca" of the Sauce Grande river basin, and the society for development of the Lago Parque La Salada, both in the province of Buenos Aires. It provides data and information exchange with local stakeholders and schools, public talks, and workshops for teachers and students. Pupils take part in the monitoring of water quality as part of their school program.

CRN 3036 “Lucía” has provided a diagnostic and expert advice to the municipality of Machadinho in Brazil, which are being used for policy formulation and public works by the municipality. In collaboration with the Pan American health organization the project has help standardize interdisciplinary data exchange.

To **improve IAI visibility**, analysis of both research results and impact, and the interactions with the SPAC were fundamental. Together with the Executive Directorate, SPLD developed a workshop on sustainable development and global change in collaboration with SENACYT of Panama in October 2015 (details below).

Activities in Buenos Aires received a boost at the beginning of 2016 when a new country representation revalued the contribution of the IAI to national and regional science. In close collaboration with the Argentine government the IAI organized a workshop with government representatives to explore at what levels of political organization the dialogue between science and decision-making could best be conducted. The results of this exchange will provide a contribution by the IAI, Argentina and other countries towards a side event at the UNFCCC COP22 in Morocco. The event builds upon IAI experience of the role of midlevel administrators to "run" implicit policies while implementing explicit policies derived from the official decision making process. A dialogue is needed to recognize the importance of such different administrative processes at different levels of government so that a coherent policy on unforeseen developments and effects can be designed. In addition, the definition of vulnerabilities and adaptation options, requires local environmental knowledge which is available at local levels of governance. Exploring science-policy interactions at scales from cities, municipalities, provinces or states to countries is therefore important step in designing an effective science policy liaison. This will also include capacity building for a dialogue on sustainable development and global change with civil servants at all levels of government.

Responding to a request by Christiana Figueres to the IAI, the Argentine representative has convened an initial meeting with the Institute to evaluate the impact of the newly adopted 1.5°C limit for "safe" climate change. The meeting was designed to develop a broad participation of member countries in a consultative process that combines scientific results on the impact on various socio-ecosystems under the expected temperature rise.

#### **Website and Social media (Paula Richter, Buenos Aires)**

Improving the visibility of the IAI is one of the priorities formulated by the SPAC. The IAI Web presence is an important tool for this. The website is continuously being updated in English and Spanish. SGP-CRA and CRN 3 project information is being updated to include science results and dissemination and outreach activities, such as TV, radio and newspaper interviews, short video clips, and other outreach materials for the civil society. Participation

of the IAI in global conventions (UNFCCC, IPBES, Future Earth) is also highlighted on an opportunity basis.

Social media, Facebook, Google+ and Twitter are used to improve viewing numbers and widely disseminate announcements such as IAI capacity building opportunities, appearances of IAI researchers in the media, and other information on the Institute. Linking with other institutions sites and accounts can further improve visibility. When Carolina Vera of the SAC and Argentina's CIMA linked to the IAI facebook, followers went up by 10% and this has been growing since to a current total of 1600. Although many fewer, Twitter followers include important institutions, organizations and ministries. When Brigitte Baptiste of the SPAC and Humboldt Institute of Colombia linked to IAI's Twitter, follower numbers went up by 30%. Google+ has reached over 10,000 visits. The Project Everyone campaign was launched in parallel with the adoption of the UN Sustainable Development Goals. It doubled visits to the IAI page, and therefore visibility of the IAI. The IAI Youtube channel which contains IAI videos, has only 18 subscribers, but over 2,000 views and is being updated to include all IAI videos. Efforts to improve these figures are continuing, and member countries and associated institutions are invited to participate more actively and link.

Starting with the self-recorded video clips by IAI researchers, the IAI is beginning to develop communication through video clips and short documentary movies, in adaptation to the global trend of preferring electronic media over printed materials, particularly on environment-related issues. This trend has been reported in PLOS:

<http://journals.plos.org/plosone/article?id=10.1371%2Fjournal.pone.0152802#references>

A Spanish language analysis of the Capacity of Google Trends to Measure Interest in Conservation Topics and the Role of Online News is available at: <http://www.scidev.net/americas-latina/tecnologia/noticias/en-temas-ambientales-publico-prefiere-medios-digitales.html>

All project's publications records are now maintained at a third party site that provides searchability and visibility: <http://www.citeulike.org/user/IAI>.

### **Science administration**

Although the development of credible interdisciplinarity in CRN 3 delayed many projects, the main reason for extensive delays were administrative deficiencies. Lead institutions in some countries were unable to efficiently develop sub-agreements and channel funding to collaborators. This, once again shows the need to reinforce institutional capacity building and in-country support.

As a result of the progress in CRN2 and its associated small grants, and the subsequent CRN3 development in which the Directorate and the SAC intervened significantly, the current research networks have developed much improved interdisciplinarity between the natural and human sciences. The evolving science agenda of the IAI treaty was to reflect "an appropriate

balance among biogeographical areas of scientific importance; an integration of scientific, economic and sociological research"; and initially focus on studies of tropical ecosystems and biogeochemical cycles; impacts of climate change on biodiversity; El Niño Southern Oscillation and interannual climate variability; ocean/atmosphere/land interactions in the intertropical Americas; and conduct comparative studies of oceanic, coastal and estuarine processes in temperate zones; as well as of temperate terrestrial ecosystems; and high latitude processes. The current research program has achieved an integration between the sciences of natural and human phenomena that was only vaguely understood in the 1990s.

Decisions on the selection of funded projects always balances the need for new teams and projects with the desirability of adding value to past program investments. The last Small Grant program (CRA) was designed to specifically support the best teams and scientific innovations from CRN2. This emphasis on successful teams generated an impressive US\$ 26 million of additional funding on a grant program investment of US\$ 2,750,000. Nevertheless, such successes with established teams must be complemented with initiatives to establish new teams and support early career scientists, which was done with CRN3 and calls being prepared now.

Data management continues to be a difficult and weak part of research administration. Both representatives of the COP and the SAC have advanced ideas, but interinstitutional links will be required to work towards solutions

Ramsar, MAB, GEO, and GeoSur with possible links to SERVIR (suggested by CAF to link Mesoamerica with Southern Cone) are options that have not been explored, and need further attention. The interest by CAF is an example that links with banks are important to gauge regional needs since banks respond to bottom-up development and adaptation requests. They would also be partners in supporting applied science that does not necessarily conform to academic criteria. To develop this further, strong member country support is needed.

First steps have been taken towards developing a program in support of Carbon Markets. Partners are the German government, the Humboldt Foundation and two government members from Mexico and Peru. To make such a program effective in enhancing the region's design of carbon markets, broader member country participation is needed.

The course on science and development designed in collaboration with the government of Panama is an example of the positive potential of IAI member country collaborations for improving the region's capacity to address global change challenges.

*Details on the current research grant program are provided in a separate document.*

At the request of Panama's SENACYT, the IAI's Montevideo and Buenos Aires offices organized a **science governance and capacity building** workshop on Sustainable Development and Global Change (October 2015). Over 60 professionals from academia,

public and private sectors, multilateral organizations and development banks attended the event in Panama. Decision makers and scientists from Guatemala, Uruguay, the US and Panama shared experiences on the challenges and opportunities of linking inter- and transdisciplinary research to the goals of sustainable development. The IAI's emphasis on international networking, which deploys researchers for regional science regardless of where they are based, was shown to be an important contribution to the inclusion of expatriate scientists towards strengthening a country's research capacity. The Institute's free and open flow of information throughout networks of scientists has the potential to contribute to the "brain gain" of national research systems.

### **Directorate operations**

The Montevideo office and the support by the Uruguayan government has significantly changed IAI operations. The resultant access to government fora and a number of international political organizations and multilateral banks have opened doors to new opportunities that will be essential to the IAI's future. With the assistance of its local council, Jorge Grandi, former director of UNESCO LAC office, contacts were made to

- The Development Bank of Latin America, CAF, whose Climate Change director Lidia Castro visited the IAI directorate, and discussed issues of disaster risk reduction that may be of importance to the flood-prone regions around the Uruguay, Paraná and Paraguay rivers.
- The Interamerican Development Bank (IDB), with meetings both at the Montevideo and Washington offices, which revealed common interests in urban development, human health risks, climate services, and coastal risks.
- The Global Environmental Facility, which shares interests in capacity building with the IAI.
- The Mercosur's regional convergence fund (FOCEM), which supports infrastructure projects that require improved planning for climate insecurity.
- Uruguay's agency for cooperation (AUCI) and development ministry (MIDES), with which the IAI is considering a regional network on disaster preparedness.
- The Organization of American States (OAS) with whose Secretary General the directorate initiated discussions on closer integration of the IAI into the Interamerican organization.

During the past year, a director was appointed to the Buenos Aires office, and collaboration with the Argentine government has increased greatly.

One part time consultant continues to finalize financial and administrative tasks which will conclude the closure of the IAI's banking and taxation links in Brazil. The arrangements for the planned new science development office have not progressed, and the proposed new host country agreement remains under discussion. Much of the proposed science synthesis and resulting planning have been conducted by the two other directorates.