



**DATA-SHEET
2020
IAI - Canada**

The Canadian Government ratified the Agreement Establishing the IAI in 1993 and is represented by Environment Canada.

1. ONGOING RESEARCH PROGRAM

Small Grants Program: The role of ecosystem services in adaptation to global change for human wellbeing (SGP-HW): 2018-2021

The program focuses on research questions that are relevant to policy makers or other stakeholders, have strong scientific interest, and address concerns for human wellbeing and livelihoods. Projects are expected to support decision-making and adaptation action in a transdisciplinary approach that promotes using, conserving, restoring, and managing ecosystems so that the natural capital is preserved, while providing important services.

The IAI Directorate received 92 proposals in response to the call for this program and four projects with Canadian scientists were selected for funding by the IAI, two of which are led by Principal Investigators from Canada.

Projects with participation from Canada:

[Small-scale Fisheries and Marine Ecosystem Services: Adaptation and Transformation to Secure Human Wellbeing \(SGP-HW 017\)](#)

Principal investigator (PI): Jeremy Pittman, Assistant Professor, School of the Environment, University of Waterloo, 200 University Ave. W., Waterloo, ON Canada. Contact: Phone: +1 519 888 4567 ext. 31544

E-mail: jpittman@uwaterloo.ca

Budget: USD 192,179

Participating countries: Argentina, Brazil, Canada, Ecuador, Uruguay

Coastal communities that depend on small-scale fisheries for their livelihoods are highly vulnerable to warming ocean temperatures due to the devastating decline of local fisheries. The team is investigating the impacts of ocean warming in the Southwestern Atlantic Ocean off the coast of Uruguay and Argentina.

Some results to date:

- Through a global-level analysis, investigators are developing a synthetic framework to assess small-scale fishery adaptive capacity, which could be broadly applied across case studies, but still adapted to match the diversity of local contexts.
- Researchers found evidence suggesting that climate change threatens fish populations in the case studies, the related fisheries, and marine and coastal ecosystems.
- The paucity of fisheries data prevents a more effective assessment of the impact of climate change on fisheries in the region and hampers the capacity of governments and communities to adapt to these changes.
- The researchers are leveraging available datasets and augmenting them with primary data collection to develop a more complete picture of climate change impacts and potential adaptations.

The work of the research team of this project, is one of the featured stories in the [2°C: Beyond the Limit Series](#) published by the Washington Post and winner of the 2020 Pulitzer Prize for Explanatory Reporting.

The story, [Dangerous new ocean hot zones are spreading and affecting local fisheries](#), published by the Washington Post on 11 September 2019, has increased awareness of the vulnerability of coastal communities as a result of warming ocean temperatures.

[Incorporating Local and Traditional Knowledge Systems: New Insights for Ecosystem Services and Transdisciplinary Collaborations \(SGP-HW 072\)](#)

Principal investigator (PI): Gabriela Alonso Yanez, Werklund School of Education, University of Calgary (Fund Recipient Institution), Canada. Contact – Email: galonsoy@ucalgary.ca

Budget: USD 199,605

Participating countries: Canada, Chile, Colombia, Uruguay

The central objective of the proposed research is to enable the successful implementation of biodiversity conservation and ecosystem services management at the local scale to enhance human well-being in the context of climate change and ecosystem degradation in the Americas. The research also poses four measurable objectives with concrete anticipated outcomes: 1) Generate actionable science outputs to advance understanding of the conditions through which governance modalities emerge that are capable of incorporating traditional and local knowledge and navigating divergent interests and values; 2) Identify barriers and enablers for the emergence of governance modalities that include traditional and local knowledge and navigate divergent and heterogeneous interests; 3) Foster collaborative knowledge mobilization spaces for stakeholders and researchers to share their governance-related experiences; 4) Contribute to and advance current scholarly discussions around governance modalities for local biodiversity conservation implementation.

Among other achievements to date, investigators worked together with local knowledge keepers to develop strategies to genuinely include them in the research process. The resulting strategies include: provisions to ensure the confidentiality and protection of Indigenous knowledge keepers, activists and vulnerable groups from unauthorized disclosure in the context of this project and regulatory decisions within the institutions involved.

Investigators successfully completed seven Communities of Practice Collaboratories (CPCs) to enable a systematic research component on transdisciplinary learning processes.

[Socio-ecological resilience in the face of global environmental change in heterogeneous landscapes – building a common platform for understanding and action \(SGP-HW 090\)](#)

Principal investigator (PI): Sandra Díaz, IMBIV-Núcleo DiverSus, Córdoba, Argentina.

Canadian investigator: Carlos Ormond, Haida Gwaii Institute, carlos.ormond@ubc.ca

Budget: USD 199,472

Participating countries: Argentina, Brazil, Colombia, Canada

This project is building a shared platform to understand socio-ecological resilience and adaptive capacity in the face of rapid large-scale environmental change. This will include the co-production, between scientists and a wide range of other stakeholders, of a shared framework, a set of research questions and a detailed path for their implementation in empirical research, practice and policy.

The science being carried out by the team is intended to be relevant to different stakeholders, such as decision-makers in the different governmental bodies, as well as medium- and large-scale agricultural producers, small-scale diversified producer, peasants and farmers, and different civil society organizations working on human and natural wellbeing in the territories. Through the project's stakeholder workshops, the PIs have already started engaging stakeholders who, to a large extent, don't often find themselves together at the table.

Researchers have issued a climatology baseline report for a region of Argentina including Cordoba and Copo; similar reports being developed for other regions.

[Improving the governance of the floodplain in over-built river basins \(SGP-HW 091\)](#)

Principal investigator (PI): Guilherme Fernandes Marques, Associate Professor, Universidade do Rio Grande do Sul (UFRGS)

Canadian investigator: Amaury Tilmant, Université Laval, amaury.tilmant@gci.ulaval.ca

Budget: USD 199,827.60

Participating countries: Brazil, Canada, Chile

The research team is working to improve the governance of the floodplain in over-built, over-committed river basins where the livelihood of riverine communities is at risk following the degradation of ecosystems and fragmented institutions. Some findings to date:

- Professional fishing is facing a decline in the region, from 1,200 registered fishermen 10 years ago, to 700 registered 3 years ago and 384 registered currently. Those figures are still approximate estimates and the causes are being explored.
- Fish migration and reproduction, key elements to provision of the ecosystem services associated with some key fish species (professional fishing and touristic fishing), respond strongly to the duration of the flood events, followed by starting date, peak and frequency. Furthermore, low flows are also important to allow germination of grass species, which contribute to biomass abundance and food availability.
- The fish production was established as the main ecosystem service of the region, which is linked to subsistence (professional fishing), tourism, and recreation (which is linked to real state sector services).
- Identification of preliminary key relationships:
 - a. Dam sediment retention reduces availability of nutrients downstream;
 - b. Dam sediment retention increases the water clarity downstream, which is praised by tourists;
 - c. Dam sediment retention increases the water clarity downstream, which increases light penetration and may contribute to sub-aquatic plants growth and potential impacts to fishermen activities;
 - d. Plants and biomass are carried from upstream Parana river and its upper tributaries to nearby reservoirs (e.g. Porto Primavera). As those plants are released to downstream, they affect professional fishing (by entangling fish lines);
 - e. Touristic activities (motored water sports) generates noise and interference with professional fishing;

f. The number of fishermen has been in decline and facing economic difficulties. This groups also demands more access to areas where fishing is restricted for environmental protection.

[More information on the projects and progress](#)

2. STeP PROGRAM

The Science, Technology, Policy (STeP) Fellowship Program is an innovative landmark program of the IAI to enhance human and institutional capacities in IAI member countries and to support the provision of expert scientific advice to policy makers for the development of public policy relevant to global change.

Scientist Fellows in the STeP program are placed at host government or private organizations to engage first-hand with policy and decision-makers and facilitate the uptake of scientific knowledge into decision making processes.

The STeP program is training future Latin American and Caribbean leaders to participate in the science-policy interface through hands-on learning supported by professional development and mentorship.

STeP Fellows will participate in the IAI Inter-American network of STeP peers and alumni and share best practices and lessons learned. This multinational network creates the means to integrate diverse knowledge and expertise across different sectors and countries in response to critical global change challenges in the Americas. The network allows for sharing resources, disseminating employment and other professional opportunities, and contributing to career development and work collaboration at the completion of the fellowship.

STeP is a new initiative of the IAI Capacity Building Program in collaboration with the work of the IAI on Science Policy. Please contact Ms. Ohira (marcella@dir.iai.int) or Ms. Ehlers (sehlers@dir.iai.int) for additional information including questions on participation. Information is also available on the STeP webpage: <http://www.iai.int/en/step>

3. CAPACITY BUILDING PROGRAM – Recent activities (2018 – present)

[São Paulo School of Advanced Science on Scenarios and Modeling on Biodiversity and Ecosystem Services to Support Human Well-Being, 1 to 14 July 2019, São Pedro, Brazil](#)

Given the complexity of current changes in biodiversity and ecosystem services (BES), the use of scenarios and modelling became not only a top research priority, but also an indispensable tool for decision making. The São Paulo School of Advanced Science on Scenarios and Modelling on Biodiversity and Ecosystem Services to Support Human Well-Being gathered a critical mass of young scientists to discuss scientific knowledge of relevance to society.

More than 100 graduate students from several countries, including Canada, participated in this activity. The funded students spent two weeks in Sao Paulo, Brazil participating in theoretical talks, poster sessions, fieldwork, among other scientific and training activities.

[São Paulo School of Advanced Science on Ocean Interdisciplinary Research and Governance, 13 to 25 August 2018, São Paulo, Brazil](#)

The School was intended to contribute to the training of graduate students in the area of ocean sciences. The secondary objectives were to promote the exchange of knowledge between disciplines and experiences; encourage cultural exchange between participants, instructors and organizers and facilitate the development of collaborative networks. Experts from Canada participated as speakers.

More than 100 graduate students from several countries, including Canada, participated in this activity bringing together a critical mass of young scientists interested in interdisciplinary research and ocean governance to discuss scientific knowledge of importance to society. It consisted of a 12-day course, sessions of posters and tutoring and a field trip to the Baixada Santista, a metropolitan coastal region of nine cities in the state of Sao Paulo.

4. PARTICIPATION IN THE IAI BODIES

Executive Council (EC)

The EC is composed of nine members, who are elected by the Conference of the Parties for two-year terms. The Executive Council develops policy recommendations for submission to and approval by the Conference of the Parties, and ensures that policies adopted by the Conference of the Parties are implemented by the Directorate. Canada is part of the current composition of the EC, 2020-2022: **Canada**, Chile, Jamaica, Guatemala, Mexico, Panama, Paraguay, United States of America, Uruguay.

Science-Policy Advisory Committee (SPAC)

The SPAC was established by the CoP in 2013 to provide advice to the CoP and the IAI Directorate regarding the application and design of science in policy and decision making.

There is one member from Canada in the SPAC:

Javier Gracia-Garza, Agriculture and Agri-Food Canada.
General Director, Science and Technology Branch
Appointment: 2015-2018, 2018-2020, 2020-2023

[More information on the IAI bodies](#)