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## About VACEA

The overall objective of VACEA is to improve the understanding of the vulnerability of rural agricultural and indigenous communities to shifts in climate variability and to the frequency and intensity of extreme climate events, and to engage governance institutions in Canada, Argentina, Brazil, Chile and Colombia in enhancing their adaptive capacity to reduce rural community vulnerability.

The interdisciplinary research program will have three major themes:

- 1) Regional Vulnerability Assessment,
- 2) Climate and Agro-Ecological Variability,
- 3) Integrative Risk Analysis.

# Director's Message

Welcome to the first edition of the VACEA project Newsletter. The purpose of this newsletter is to share information about our international research project with our Canadian partners and collaborators; we have an obligation to keep you informed over the next five years. Please feel free to distribute this newsletter electronically. In this way, and by posting the newsletters to our web site ([www.parc.ca/vacea](http://www.parc.ca/vacea)), we hope that the relevant individuals and agencies become aware of the VACEA project.

Our research team has known about the success of our project proposal since last December. At that time, we notified our external partners who had endorsed the proposal with letters of support. The project was launched on April 1, however, we were instructed to keep all information about the project out of public view until an official announcement could be made by the funding agencies: the International Development Research Centre (IDRC) and the Tri-Council, the three Canadian federal agencies (NSERC, SSHRC, CIHR) that fund university-based research. That press release was issued from Ottawa on June 1. You may have seen or heard some of the media coverage. I was in Ottawa on June 1-2, with project co-Director Dr. Fernando Santibañez, to meet with the funding agencies and the co-directors of the other four projects that were funded under the same program (IRIACC – International Research Initiative on Adaptation to Climate Change).

Since April, most of the project activities have been meetings to develop an efficient management framework and to discuss research strategy for the first couple years. The Canadian team met in Swift Current, Saskatchewan on April 24. Then several researchers from each of the five countries met in Mendoza, Argentina on May 17-22 to agree on a common approach to the research and project administration. Much activity is occurring behind the scenes, including work on an advanced web site and the collection of secondary data. We will initiate research in the communities in the fall. This phase of the project will begin with the consultation of our external partners and meetings with key stakeholders in the two study areas, the Swift Current Creek and Oldman River Basins.

Over the coming months we will be contacting many of you to seek your participation in the project. In the meantime, enjoy this newsletter, and please visit the project web site ([www.parc.ca/vacea](http://www.parc.ca/vacea)) or contact us at [VACEA@parc.ca](mailto:VACEA@parc.ca) for more information.

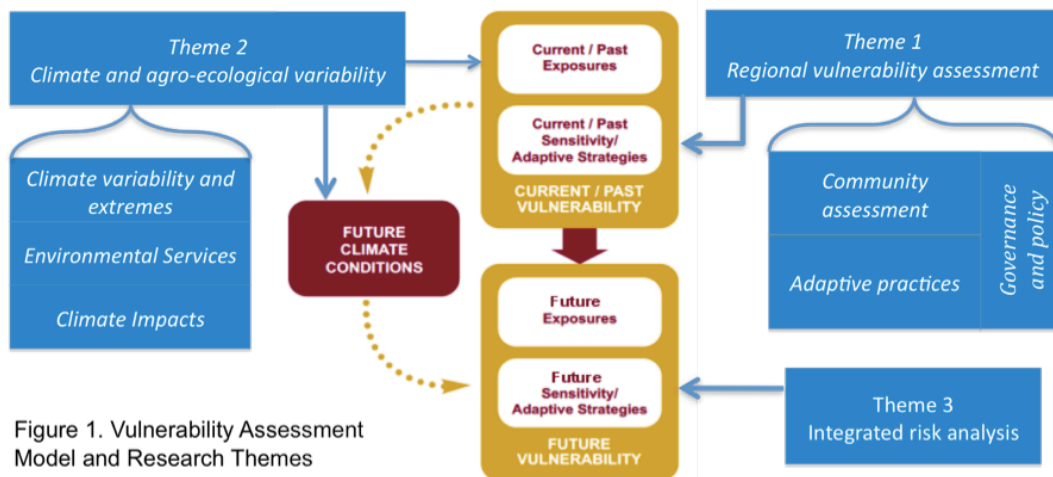
All the best,

Dave



# The Science

The VACEA project will encompass natural and social science and engineering in five countries, and a vulnerability assessment model that links the different perspectives and disciplinary approaches to research, knowledge translation and adaptive decision-making. This broad scope is necessitated by the complexity of the issue of vulnerability and adaptation to climate change variability and extremes, and very much facilitated by the emphasis and thought given to explicit frameworks for the successful conceptual, methodological and administrative integration of the research activities and new knowledge. The research team has considerable experience with interdisciplinary research in the field of adaptation to climate change including extensive collaborations with decision makers and stakeholders engaged in relevant programs, policies and practice. Our interdisciplinary approach will combine qualitative and quantitative methods, integrating various types of knowledge. The project aims to a) shape policy and inform practice, with a focus on local/sub-national scales, and b) improve understanding of the adaptation of social and natural systems to climate change, and the interrelated social, physical, political and structural drivers/constraints. In collaboration with our project partners, we will achieve heightened inter-jurisdictional awareness and exchange of practices and tools for adapting to climate, including vulnerability and risk assessment, interventions that respect traditional knowledge, and communication to enhance public understanding of climate change adaptation strategies and their benefits. We will place a high priority on the networking of young and established scholars, and the active participation of graduate students. The project will link initiatives across sectors and disciplines, involve partnership and collaboration with various non-academic partners, enhance collaboration between researchers from Canada and four Latin American countries, engage community-based and indigenous researchers, and work with multi-stakeholder groups to strengthen their commitment to achieving adaptation to climate change.



## VACEA's 8 Objectives

1. Advance our understanding of regional hydroclimatic variability and extreme events, in terms of the natural characteristics and drivers, and shifts in the frequency and intensity of inter-annual variability and extremes as a consequence of global climate change;
2. Advance our understanding of the past, current and future vulnerabilities of rural agricultural and indigenous populations to climate hazards and related stressors;
3. Determine the impacts of climate variability and extremes on agricultural productivity and the environmental services that support the studied communities;
4. Evaluate and communicate adaptive management practices and governance policies that improve adaptive capacity in rural communities and limit their exposure and sensitivity to climate hazards;
5. Develop and implement a unified methodology, based on indicators of vulnerability and an index of risk, to evaluate adaptation options for reducing the vulnerability of rural agricultural and indigenous communities;
6. Promote sharing of knowledge, resources and expertise among research and governance institutions to inform policies and programs for reduced vulnerability and enhanced adaptive capacity;
7. Increase the capacity of research organizations and researchers in the five countries to undertake comparative and collaborative interdisciplinary research in the areas of climate change science, vulnerability assessment, and rural sustainability; and
8. Enhance young researchers' expertise and skills in interdisciplinary systems analysis, action-oriented research and knowledge mobilization in the area of global environmental change.

In the VACEA project, interrelated research activities will fall under three major Research Themes: Regional Vulnerability Assessment (Theme 1), Climate and Agro-Ecological Variability (Theme 2), and Integrated Risk Analysis (Theme 3). The Themes appear in the flow chart above in relation to the vulnerability assessment model and the investigation of past, current and future exposure, sensitivity and adaptive capacity. Under Theme 1, the sub-theme Governance and Policy (Theme 1C) is shown as spanning the other sub-themes, Community Assessment (Theme 1A) and Adaptive Practices (Theme 1B), to represent the focus of the research program on policies, practices and processes for reducing vulnerability and enabling adaptation to climate change. The successful completion of all the activities under these themes and sub-themes will achieve the eight objectives listed above. Themes 1 and 2 address Objectives 1 to 3 and generate the data and knowledge to achieve Objectives 4 to 6. Involving the project partners in key roles, including the critical activities of knowledge translation and dissemination, will accomplish Objectives 4 to 6. Objective 7 and 8 will be met by implementing our strategies for a well-managed and cohesive project that supports and recognizes the scholarship of students and new researchers and exchange of knowledge and scholars among regions and institutions.





## Researcher Profile: Dr. F. Santibañez

Professor Santibañez graduated as a Agronomist from the University of Chile in 1971. In 1974 he obtained the degree of Docteur Ingenieur at the University of Paris. Since 1971 Dr. Santibañez worked as researcher and teacher at the Faculty of Agrarian Sciences at the University of Chile, where at present he is a full Professor in Bioclimatology and Environmental Modeling. In 1986 he obtained the degree of Docteur d'Etat Es Sciences at the University of Paris. From the beginning of his academic life Dr. Santibañez has worked in bioclimatology, crop and environmental modeling. In 1995 he created the Centre for Agriculture and Environment devoted to develop environmental support to agricultural production systems. In 1995, he lead the execution of a multidisciplinary research grant from IBM aimed in the creation of an Environmental Information and Modeling System, focused on Land Degradation and Desertification, and Antarctic Marine Ecosystem conservation. Under the supervision of Dr. Santibañez, the group elaborated a series of computer applications to evaluate and monitor desertification in Chile, Mexico, Brazil, Argentina, Bolivia and Peru. In 1997, Dr. Santibañez lead the creation of a new career in Engineering of Natural Resources at the University of Chile. In 2000 he lead the creation of a Doctorate Programme in Agriculture and Forest Sciences at the University of Chile. He has been responsible of several research projects on crop modeling, bioclimatic zoning, grassland modeling, land degradation and desertification and climate change impacts on agriculture. Dr. F. Santibañez has been principal investigator in several projects funded by the European Commission, UNEP, IDP, UNDP, IBM, French cooperation, and the Chilean Science Commission (CONICYT). In the area of education, Dr. Santibañez has lead, for several years,



a research team to develop an Internet Platform to link Educational Institutions to create and share a distributed repository of Learning Objects. This technology is being used to create networks of schools collaborating in environmental education. Dr. Santibañez has been director of the Centre for Agriculture and Environment at the University of Chile, member of the Group of Experts of the UNCCD and international consultant in projects of FAO, WMO, UNCCD, IICA.

## Student Profile: Benjamin Brodie

Ben received his B.Sc. Honours in geography from the University of Saskatchewan in 2010 where he also worked with Environment Canada in the Boreal Ecosystem Research and Monitoring Sites (BERMS) research unit. Upon graduation, Ben began an internship with the Prairie Adaptation Research Collaborative (PARC) which sparked his interest in natural proxies and what they can teach about historical climate conditions. Shortly after his internship Ben began working towards his M.Sc. at the University of Regina. Under the supervision of Dr. Sauchyn, Ben is currently working with various dendrochronological techniques to reconstruct historical flood conditions in the Oldman River Basin (OMRB) in western Canada. His research will contribute to our knowledge of historical climate variability and how this phenomenon affects flood risk in the OMRB.

# International Research Team

*The VACEA research team consists of a multidisciplinary group of climate change scientists. Their collaboration will result in a deeper understanding of the effects climate change and extreme events have on rural populations in the Americas.*

<b>Argentina</b> Juan Cavagnaro <i>Universidad Nacional de Cuyo</i>  Elma Montaña <i>Universidad Nacional de Cuyo</i>  Ricardo Villalba <i>Cosejo Nacional de Investigaciones Cientificas y Técnicas</i>	<b>Canada</b> Fernando Daniels <i>College of the Americas</i>  Harry Diaz <i>University of Regina</i>  Margot Hurlbert <i>University of Regina</i>  Stephan Kienzle <i>University of Lethbridge</i>  Surendra Kulshreshtha <i>University of Saskatchewan</i>  Gregory Marchildon <i>University of Regina</i>  Dena McMartin <i>University of Regina</i>  Joeseph Piwowar <i>University of Regina</i>  Dave Sauchyn <i>University of Regina</i>	Elaine Wheaton <i>University of Saskatchewan</i>  <b>Chile</b> Mellita Fiebig-Wittmaack <i>Universidad de La Serena</i>  Bernardo Reyes <i>Ética en los Bosques</i>  Sonia Salas <i>Universidad de La Serena</i>  Fernando Santibañez <i>Universidad de Chile</i>  <b>Colombia</b> Béatrix Nates-Cruz <i>Universidad de Caldas</i>  Germán Poveda <i>Universidad Nacional de Colombia</i>  Sandra Turbay <i>Universidad de Antioquia</i>
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## Network Manager: Ms. Bonnie Pfeifer

As the VACEA Network Manager, my role is to provide administrative support to the project's director, financial reporting to the International Development Research Centre (IDRC) and to direct VACEA communications.

I bring experience to the project, in administration, from my role as Office Manager at the Prairie Adaptation Research Collaborative (PARC), at the University of Regina, where I have been employed since 2005. I also bring experience in human resources and student matters, from the University of Regina, Student Affairs office. In my spare time, I enjoy gardening, traveling, watching football (Go Riders!) and spending time with my little grandson.



## Canadian Partners

Agriculture and Agri-Food Canada  
Alberta Agriculture and Rural Development  
Saskatchewan Watershed Authority  
Blood Tribe First Nation  
Prairie Provinces Water Board  
Alberta Environment  
Saskatchewan Environment  
Oldman Watershed Council  
Swift Current Creek Watershed Stewards  
Saskatchewan Association of Watersheds

VACEA would not be possible without the help of our partner organizations and collaborators. See the website for a full list of VACEA participants.

## Contact Information

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Get more information about  
the project on the new  
VACEA website:  
[www.parc.ca/vacea](http://www.parc.ca/vacea)