

**INTER-AMERICAN INSTITUTE FOR
GLOBAL CHANGE RESEARCH
(IAI)**

EC-XIII - CoP-VIII
July 17-18 and 19-20, 2001
Panama City - Panama

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CRN ANALYSIS

COMMON COMMENTS

CRN STATUS

CRN – Summary of discussions at the XV SAC Meeting

General remarks.

We are now practically at the end of the first year of the CRN program, and the first results are starting to appear. It is estimated that more scientific results will appear for the second year, although several projects did present an impressive number of publications and presentations at meetings, even for the first year. One issue to be resolved here is how to make it clear what was the real IAI contribution to the publications; hard copies of papers were rarely sent with the reports, and therefore there is no mean to know how was IAI acknowledged or given credits. It was stressed that IAI should not accept that a report comes incomplete and with no copies or references of publications, etc. It was suggested that this may be a problem resulting from the lack of a standard reporting format, that shall be solved for next year (see below).

For many projects, a great deal of time was dedicated to administrative issues as setting up contracts and sub-contracts during this first year. IAI send all the funds to the PI Institute, who is then responsible to transfer the funds to the several Co-Pis, in different countries. This turned out to be a problem for several projects. They reported difficulties in transferring funds between countries, in overcoming difficulties on waiving overheads for those transfers, etc. This was considered to be a matter for future consideration.

It was recognized that there was a general difficulty to review the progress reports in a consistent and homogeneous way. The cause is that IAI does not have a standard report format. Therefore, the information reported for different projects are not homogeneous, which in turn makes it difficult for the Directorate to extract important information as publications, list of supported students, data to include into IAI-DIS, etc. The Directorate is working in a standard report format that shall be used by the Pis for the second year report. It was agreed that a much better feeling of the progress and achievements of the projects will probably be possible at the end of the 2nd year. The SAC will then have better grounds to judge the projects and impose sanctions if and where necessary. It was suggested that this is an issue to be discussed at the October Pis meeting. IAI should them make very clear that the standard reporting system should be strictly followed, and that IAI policy will be tougher from the second year on.

Some Sac members expressed their concern about the review procedure followed up to now, where a SAC member is directly responsible for one or two projects. There was some concern about confidentiality, as the PI knows which SAC member is responsible for his project. Some independent review process was felt necessary. The final decision should be taken by the Director.

The information that follows is the summary of the discussions held at the XV SAC meeting.

PI: Holm Tiessen

CRN 001 - Biogeochemical Cycles under Land use Change in the Semiarid Americas

This is another good example of the IAI linear model of funding; it is a continuation of a previously funded ISP2 project. It is very well coordinated and started off with two workshops, the first (in Mexico) to review and develop research activities, design a modular graduate course

on land use in semiarid regions, develop opportunities for exchange of professionals and students, and initiate joint field work. The second workshop (in Argentina), the graduate class was offered to 22 students, cooperation between the UofS and UNLP was expanded beyond the immediate CRN participants. This was the basis for the establishment of the research network.

The project was successful in the leverage of extra funds. It was also one of the first to try to establish cooperation and integration with other CRN, with a working meeting between members of this CRN and those of CRN012 led by Sala. Several points of mutual interest and potential cooperation were identified between the two CRN's, and future collaboration shall be further pursued.

The project is proceeding well, and the only minor drawback that I could see is, maybe because of the lack of a standard report format, that it is not entirely clear what are the common goals and objectives among the various parts of the project.

PI: Brian Luckman

CRN 003 - The Assessment of Present, Past and Future Climate Variability in the Americas from Tree line Environments.

This is a highly successful project in the scientific area. It is very well coordinated, and the network of institutes and research were solidly based on meetings to establish responsibilities, protocols, etc. The most visible and successful CRN activities during 2000 were associated with the International Conference on Dendrochronology for the Third Millennium held in Mendoza from April 2nd-7th, 2000. Also the first Austral Dendroecological field week took place in the week immediately preceding the conference. This course was primarily targeted at students and junior researchers who received intensive hands-on instruction, training and familiarization with the techniques and methods of dendrochronology from experienced senior scientists.

The project is very productive in publications, and a web site is under construction.

During the First PI's Meeting in Miami, the PI started to explore the possibility of collaboration with other projects, namely the ones led by Magaña and Nuñez.

As told before, the project is very strong in the areas of science and training and education. It shows very little on the Human Dimension area, and it should be encouraged to add such component in the coming years.

PI: Charles Wood

CRN 009 – Cattle Ranching, Land Use and Deforestation in Brazil, Ecuador and Peru.

The project was effectively started in March on last year, for these reasons the project reported a little information in terms of publications, training, education and actions in Human Dimension.

Two workshops were reported, the first 3/7 may 2000 was held in Baccarena, a riverside town located just outside of the city of Belén in the eastern of Amazon.

The second workshop 22/24 June 2000 held in Xapurí, State of Acre, Brazil.

The project doesn't report any general information or data.

PI: Osvaldo Sala

CRN 012 – The Role of Biodiversity and Climate in the Functioning of Ecosystems: A comparative Study of Grasslands, Savannas and Forests.

This project is largely in tract, but there is a worry about lack of integration. Sala is aware of problem and will work on it.

This project develop a web page exclusively to information about this CRN Project: <http://www.ifeva.edu.ar/crn> , The page includes activities of the principal investigators, their primary interests within the CRN, as well as links to other web sites related to biodiversity.

A second web site is also being developed that would be directed a more general audience, designed to raise awareness of bioldiversity issues, particularly in the Americas. Will Cook of Duke University will design and maintain this site as a complement to the official web site of the project.

Capacity Building: Course Ecosystems Terrestres, Montevideo, Uruguay August 28/ September 1, 2000. The course was intended to be a general introduction to terrestrial ecosystem ecology which covered such topic as primary productivity, decomposition, nutrient cycling, abiotic controls on ecosystems processes, as well as biodiversity and ecosystems functioning and human impact on terrestrial ecosystems.

There were approximately twenty-five students who participated in the course from the Universidad de la República.

Course: Conservación Biológica: Bases conceptuales, Morelos, Mexico, November/December, 2000. This course was organized at the Universidad Nacional Autónoma de México (UNAM). Funding to bring Latin American Students to participate came largely from the Red Latinoamericana de Botánica (RLB). The postgraduate course focused on the fundamentals of conservation biology, ranging in topics from fundamentals in conservation and sustainable management of natural ecosystems, social and ecological aspects of biodiversity, and tropical forest biology.

Course: Functional Diversity in Ecosystems. Concepción, Chile, January 8/12, 2001. This course was organized at the Universidad de Concepción was designed for graduate students from all over Latin America. This course focused primarily on the role of functional groups in ecosystems.

The project has doctoral students at Universidad de Buenos Aires, Duke University, UNAM, and Universidad de la República.

The project has a number of important publications.

One of the goals of the CRN program of IAI has been to further communication and interaction among scientist across political boundaries in the Americas. As part of this effort from October 31 to November 1, 2000 at Universidad de La Pampa, Argentina was developed the first meeting between two CRN Project: Osvaldo Sala and Holm Tiessen.

PI: Maria Vernet

CRN 026 - Enhanced ultraviolet-B radiation in natural ecosystems as an added perturbation due to ozone depletion.

This is a very well coordinated project that was successful in the first year activities. The network of ground GUV radiometers was established and is fully operational. The fieldwork in the proposed environments were accomplished with success, and the results are starting to appear as publications. The level of coordination among the participating institutions is very good. The project is very strong on the scientific side. On the Social side a workshop was carried out in November 2000 in Ushuaia, including scientists and local stakeholders. The aim of the workshop was to evaluate the effect of UVR on the local population including effects on health, business, tourism, fisheries, education and government policy. NGOs were included as well.

PI: Eduardo Franco

CRN 031 – ENSO Disaster Risk Management in Latin America: A Proposal for the Consolidation of a Regional Network for comparative Research, Information and Training from a Social Perspective.

The unique project inside the initiative of CRN devoted to Human Dimension. This project is a network of networks, for the moment the project was develop a complex mechanisms of approximation to the research

This project need the guidance of IAI, one example are the 400 pages report presented for the first year of activities.

The groups of CoPI's are very important scientists on Social Sciences in the region with the exception of few of them from natural sciences.

The project present a very strong proposal for post-graduate courses using the facilities of FLACSO : “Programa Latinoamericano de Estudios de Postgrado en Desastres y Gestión de Riesgos”, up to day and for the external circumstances related with FLACSO the international course don't have money for the implementation. IAI need to follow very close this problem.

Other important activity of the project is to develop, and maintain a DataBase related to natural risks, this DataBase is the unique in Latin America, basically the information more important came from - RED DESINVENTAR –

Inside the Web Desinventar [http:// www.desinventar.org/](http://www.desinventar.org/) is the link to the project

The idea of the PI was develop workshops for Andean Region, Southern Corn, Brazil, Central America and North (Mexico of Florida).

It is recommended that the projects seek the collaboration with other CRN, likes ones led by Magaña, Cornejo, and Núñez.

PI: Pilar Cornejo

CRN 038 – Multi-Objective Study of Climate Variability for Impact Mitigation in the Trade Convergence Climate Complex.

The starting point of the project was the end of January 2000.

The first meeting took place during May 10-11, in Panama City. The project activities are divided in two components: Physical Processes and Human Dimension components.

Task 1: Regional Climate Description, responsible José Daniel Pabón. Activities: Acquisition of new regional data sets of the primary surface variables (except rain): in progress.

A general description base on the NCAT/NCEP Reanalysis: in progress.

Task 2: Rainy and Dry season characteristics, responsible David Enfield.

The goal of this task is to develop useful empirical relationships – through applied climate research - for producing practical predictions of climate variables (e.g. rainfall) for the TC3 region, with emphasis on Central America and northern South America as a “showcases” for the rest of the TC3 region to emulate.

Human Dimension component: Task 1 – Agriculture, responsible Carlos Him.

Objective: to evaluate the impact of climate variability on rice production (a food crop) and on Banana production (a cash crop) en Panama, Ecuador and Colombia and to provide quantitative as well as qualitative information to decision – making processes.

Task 2: Aquaculture, responsible Jorge Calderón and Bonny Bayot.

Objective: to undertake empirical studies in order to evaluate the annual and interannual variability in abundance of gravid shrimp females in relation to several oceanographic parameters. This will allow us to develop an empirical model to predict de availability of shrimp adult females.

Task 3: Human Health, responsible Ligia Castro de Doens.

Objective: to focus on climate variability and its impacts on the occurrence of disease.

Activities: 1) construction and validation of risk and vulnerability indices; 2) determination of vulnerability regions and their classification according to vulnerability indices (extreme, high, medium, and low).

Task 4: Energy/Water Resources, responsible Enrique Palacios

Objective: 1) definition and collection of different variables for Ecuador; 2) definition of thematic maps; 3) Applications of matlab to variables; and 4) Application activities in Venezuela and Panama.

The project don't report an important training activities, education or other type of transfer of information.

The web location for this project is part of the web of CATHALAC: <http://www.cathalac.com>

PI: Juan Silva

CRN 040 - Comparative Studies of Global Change Effects on the Vegetation of Two Tropical Ecosystems: The High Mountain and the Seasonal Savanna.

This is a very successful project, some examples of some publications production. The project is very well coordinated with a solid program on training and education.

From January 31 to February 2 of 2000 was organized the First Annual Meeting of CoPI's at the Universidad de Los Andes (ULA) Venezuela.

June 5 of 2000 was organized a Meeting at J.F. Kennedy School of Government, Center for International Development (CID) at Harvard University in Cambridge Massachusetts.

Objectives: to discuss ways of interaction between RICAS a CID and the launching of a research proposal integrating ecological responses to global change and social and economics issues.

During two periods. Prof. Juan Silva works at Harvard for this initiative.

The project is an other good example of exchange of scientist, training courses, workshops and conferences.

The PI mention that is in the final process to implement a project home page.

PI: Michael McClain

CRN 047 – The Andean Amazon Rivers Analysis and Management (AARAM) Project.

It is well established and articulated, very strong in the science area, but not so in the sociological science. However, the group is strongly committed to work with the communities of the Pachitea trying to increase their awareness about land cover changes, with a well designed environmental education program.

The group is supporting either fully or partially, 11 graduate students and 13 undergraduate students.

Beside the Co-PIs meeting in Miami in October of 1999 to coordinate activities for Year 1 and to develop manuals of sampling and analytical techniques to be used in the project, no other major networking activities were reported. Other smaller meetings were held between the PI and Co-PIs at other times in the individual countries. In the report is not clear how the various institutes are connected. Some guidance material should be given by IAI.

PI: Ulisses Confalonieri

CRN 048 – Diagnostics and Prediction of Climate Variability and Human Health Impacts in the Tropical Americas.

The project haven't any information, the project was effectively started in April of this year, and will develop the first workshop in Florida during this week.

PI: Mario Nuñez

CRN 055 - Development of a collaborative Research Network for the study of Regional Climate Variability and Changes, their Prediction and Impact, in the MERCOSUR Area (PROSUR).

This project was effectively started in July 2000. Its major goal is to promote research into the causes of climate variability in the Mercosur region of South America. The proposed CRN was designed through a series of meetings and workshops involving the participating institutions. Three themes have been identified as the priorities to be addressed:

- Physical and dynamical processes related to climate variability in southeast South America.
- Tropical - extra tropical interactions related to circulation and precipitation variability over southeast South America.
- Impacts of climate variability on sectors of social and economic importance in the Mercosur region

The project reported no data up to now, but a Pilot Project on Paraná Plata Basin floods was developed and is currently under way. The project is trying to include Human Dimensions activities, and a specific workshop was organized and held in Buenos Aires, at the end of February 2001.

Although with a very impressive list of participants, it is not clear in the report how the Institutions are coordinating their efforts. Again, guidance from IAI is needed in order to standardize the reports in the future.

The project had very little effective time of running, and I believe that it will show its full potential in the near future. It is recommended that the project seek the collaboration with other CRN of similar objectives, like the ones led by MAGANA, CAMPO and BAUNGARTNER.

The project web page is at <http://www-cima.at.fcen.uba.ar/prosur/default.htm>

PI: Edmo Campos

CRN 061 - SACC: An International Consortium for the study of Global and Climate Changes in the Western South Atlantic.

This is also a highly successful project, and is a good example of the IAI linear model of funding, as it is a clear continuation of a previously funding ISP1 project. The project is well coordinated, very productive in publications, with a solid program on training and education. The coordination among the participating Institutes are very good, and the project has a functioning web page at <http://glaucus.fcien.edu.uy/sacc/index.html>.

As with several other projects, the Human Dimensions side of the project is not well established. The PI's should be encouraged to incorporate such activities in the future.

They should also be encouraged to expand their network and seek collaboration and/or integration with other projects with similar subjects and objectives, such as Baumgartner and Nunez.

PI: Timothy Baumgartner

CRN 062 – An eastern Pacific Consortium for research on Global Change in Coastal and Oceanic Region.

This is a very highly successful project in the scientific area, organization training, and education.

The project is developing a framework for the research coordination and implementation plan: a Structure for Capacity building training of graduate students and exchanges of scientific personnel.

The project developed the First General Workshop of the Eastern Pacific consortium, Heredia, Costa Rica, March 2000. The overall organization of the consortium into four basic working groups based on the major issues to be addressed was confirmed at the SSC meeting. These four groups are identified as “Science Teams”, the groups are: 1) Science Applications and Human Dimension, 2) large-scale Climate of the Ocean and Atmosphere, 3) Regional Ocean Climate and Biological Response, and 4) Coastal-Nearshore Ecosystems and Inland Seas.

Workshop on the Eastern Tropical Pacific, CICESE, Ensenada, B.C. México, September 15, 2000. The main objective is to develop research networks through the Americas. The objective of the meeting was to provide a forum to permit the interactions of South and Central American and north American Scientist; the second objective was to fulfill the goals established during the Heredia Workshop: 1) To generate an oceanographic and satellite databank for the ETP, 2) To publish a retrospective paper on the oceanography and meteorology of the ETP, and 3) To explore the possibility of organizing an international observational program for the region.

The project was developing a program for graduate education at University of Concepción, Chile; Master of Sciences (Oceanography or Fisheries) or PhD in Oceanography.

The project has an important production of scientific publications.

This is a very good example of a possible I.AI consortium.

PI: Victor Magaña

CRN 073 – Climate Variability and its Impacts in the Mexican, Central American and Caribbean Regions

The report is well presented and describes clearly the activities carried out and those to be accomplished. This project was effectively started in June of last year, most of the main activities related to the field experiments will be carried out in 2001

The project incorporates well known scientists and a large number of students, which are strong points to guarantee its success. The main objective of this four year project is to improve the understanding of the elements that control regional climate variability in Mexico, Central America and Caribbean in order to provide more accurate and adequate predictions to fulfill some of the needs of particular socioeconomic sectors.

The objective of the project is very important from the scientific point of view. Also, the human dimension component is being considered and will be included as part of the project.

It is recommended that the project seek the collaboration with other CRNs of similar objectives like Nunez, Cornejo, Baumgartner, Confalonieri, Campos.

The project doesn't report publications, training and education. The PI should be encouraged to incorporate information in the annual report. Guidance from IAI is needed in order to standardize the reports in the coming years.

A good initiative represents the proposal for the elaboration with other CRNs a Climatic Atlas for the Region.

For the First Year (June 2000-april 2001) the project develop a First Workshop, July 6/7 of 2000. The participation's institution included: Univ. of Miami, NOAA, Univ. of Costa Rica, Univ, of Sao Paulo, Department of Meteorology of Brazilian Navy, CICESE, Univ. of Guadalajara, Univ. of Veracruz, Mexican Institute of Water Technology.

The PI reports indicate that each participant leads a group of scientist and students participating in the CRN.

The are not yet publications resulting directly from this project. Nevertheless, related publications from previous IAI projects are available.

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Training & Education

STUDENTS

CRN-001 - Holm TIESEN

Title: Biogeochemical Cycles under Land Use Change in the Semiarid Americas

No Information or Incomplete Information

STUDENTS

CRN-003 - Brian LUCKMAN

Title: The Assessment of Present, Past and Future Climate Variability in the Americas from Treeline Environments

Youngblut, D. - (BSc., April, 1999) - "An investigation into the Dendroclimatological Potential of a Long-lived Whitebark Pine Chronology from the Canadian Rockies" (CRN-003)

Colenutt, M.E. - (Ph.D., June 2000) - "Climate Reconstructions in the Canadian Rockies using Tree-ring Data from Alpine Larch" (CRN-003)

Wilson R.J.S. - (M.Sc., October 1999) - "Dendroclimatological reconstruction of Summer Temperatures from Upper Tree-line Sites In Interior British Columbia" (CRN-003)

Kavanagh, T.A. - (Ph.D, January 2000) - "A reconstruction of treeline dynamics in Sunwapta Pass, Alberta" (CRN-003)

STUDENTS

CRN-009 - Charles WOOD

Title: Cattle Ranching, Land Use and Deforestation in Brazil, Peru, and Ecuador

Ailce Margarida Negreiros Alves (Universidade Federal do Para) – MSc. Sociologia (ongoing), 2000 (CRN-009)

Cristina Rosero – BSc. (ongoing), 2000 - Concluindo a graduacao em sociologia. Quito, Ecuador. (CRN-009)

Milton Munoz Berrocal (UNAS) - Doutorando em medicina veterinaria (ongoing), 2000 - Tingo-Maria, Peru. (CRN-009)

Roberto Porro (University of Florida) - Ph.D. (ongoing), 2000 department of Anthropology (CRN-009)

STUDENTS

CRN-012 - Osvaldo SALA

Title: The Role of Biodiversity and Climate in the Functioning of Ecosystems: A Comparative Study of Grasslands, Savannas, and Forests

Santiago Verón (Universidad de Buenos Aires) – Doctoral Student (ongoing), 2000 – Santiago is a doctoral student at the University of Buenos Aires and is working on a simulation model of water dynamics (DINAQUA). He is developing a version of this model that will simulate a large number of species (50) differing in rooting depth, phenology, root/shoot ratio, maximum conductance and transpiration use efficiency. The model simulations will include runs in which species diversity is decreased gradually and he will assess the response of the inter-annual variability on carbon gains (ANPP), nitrogen, transpiration, bare soil evaporation, and drainage losses. The model runs will be for periods of 100 years. Santiago plans to repeat the simulations for different climatic patterns with different mean and variance precipitation and temperature. Results from these experiments will suggest the shape of

the interactions between diversity and climate change. For example, we predict that the value of diversity at which transpiration reaches a maximum may increase as climatic variance increases. In other words, diversity plays an important role in coping with novel environmental conditions. (CRN-012)

Pedro Flombaum (Universidad de Buenos Aires) – Doctoral Student (ongoing), 2000 - Pedro is a doctoral student at the University of Buenos Aires and is beginning his doctoral dissertation looking at relationship of carbon cycling and biodiversity. The focus of his work is to examine the relationship between climatic variability and ecosystem response to this variability in systems of differing biodiversity. Woody vegetation maintains records of growth in tree rings during periods of decades to centuries during which ecosystems withstood a broad range of climatic conditions. Pedro is taking advantage of this climatic record to test hypotheses about the variation of response of systems that have naturally different levels of diversity, predicting that the variability of tree ring growth will decrease as species diversity increases. Demographic studies based on the oldest individuals will provide the basis for model simulation of past densities. (CRN-012)

Néstor Mariano (UNAM) – Doctoral Student (ongoing), 2000 – Néstor is working on a project of biodiversity and climate relationships in the deciduous dry forests of México. Nestor’s project involves censuses of vegetation in twenty distinct dry forest ecosystems in México, and he is now relating these biodiversity patterns to an array of climatic and edaphic variables found in the different sites. While these forests tend to have very high plant diversity, the mechanism to explain the existence of such a wide range of both alpha and beta diversity remains unexplained. It is the hope of the future to compare this data set with other tropical and temperate forest ecosystems. (CRN-012)

Lucía Vivanco (Universidad de Buenos Aires) – Bs (ongoing), 2000 – Lucía is currently working on her senior thesis at the University of Buenos Aires, and her study involves how species diversity affects decomposition. She is exploring the characteristics of species such as growth rate, nitrogen content in fresh and senescent leaves, carbon/nitrogen relation, lignin and phenols contents and other anti-herbivory defenses, and how these might affect litter quality and carbon cycling. Relationships between functional characteristics of species and carbon cycle are very important to understand the effects of biodiversity on ecosystem functioning. She is using representative species from grasslands with different grazing history, Great Plains in North America, and Patagonia and River Salado Depression in South America. All the species were grown under the same nutrient and water conditions in a greenhouse. She is focusing on how species characteristics can affect litter quality, which ultimately controls decomposition rate and nutrient release. (CRN-012)

Felipe Lezama (Universidad de la República) – Master’s Student (ongoing), 2000 – Felipe is a master’s student at the University of the República in Uruguay, and his project is “Mapping of vegetation of the natural grassland communities en Cuchilla soils of Haedo- Paso de los Toros, Uruguay”. Felipe is exploring the distribution of native grassland species and how grassland diversity is affected by changes in edaphic characteristics and land use change. (CRN-012)

Esteban Jobbágy (Duke University) – Doctoral Student (ongoing), 2000 – Esteban is a doctoral student at Duke University and is interested on how diversity of plants affects recycling rates, allocation and rooting depth patterns and how these affect the abundance and distribution of soil nutrients and carbon. He is approaching this issue based on 1) existing data for soil profiles from all over the world, 2) simple simulation models, 3) direct observations of ecosystems that have experienced drastic vegetation changes in the last decades. This project is providing some clues about the potential use of soil profile data to infer aspects of vegetation functioning like nutrient limitation and allocation. His current area of study is in the Pampa region of Argentina. (CRN-012)

STUDENTS

CRN-026 - Maria VERNET
Title: Enhanced Ultraviolet-B Radiation in Natural Ecosystems as an added Perturbation due to Ozone Depletion

Non or Incomplete Information

STUDENTS

CRN-031 - Eduardo FRANCO

Title: ENSO Disaster Risk Management in Latin America: A Proposal for the Consolidation of a Regional Network for Comparative Research, Information and Training from a Social Perspective

Non or Incomplete Information

STUDENTS

CRN-038 - Pilar CORNEJO

Title: Multi Objective Study of Climate Variability for Impact Mitigation in the Trade Convergence Climate Complex Region

Non or Incomplete Information

STUDENTS

CRN-040 - Juan SILVA

Title: Comparative Studies of Global Change Effects on the Vegetation of Two Tropical Ecosystems: The High Mountain and the Seasonal Savanna

Eddie L. de Oliveira (Universidad de Brasilia) – BSc. (31/07 – 04/08/2000) - (Nodo Brasília) en “Fenología de plantas tropicales: controles fisiológicos y ambientales” bajo la dirección del Dr. Rolf Borchet; Depto. De Botanica ([CRN-040](#))

Gabriela Nardoto (University of Colorado) – BSc. (August – September/2000) - (Nodo Brasilia) en “Isotherms for phosphorus in tropical soils”, CNPq/LBA training program, Boulder, USA ([CRN-040](#))

Maria Ines Mirando (Universidad de Los Andes) – BSc. (Marzo/2000) - en “Uso de fractogramas y variogramas en el análisis de la estructura de comunidades” bajo la dirección del Dr. Mario Fariñas de la, Mérida ([CRN-040](#))

Entrenamiento de los estudiantes del Nodo Brasilia en “El ciclo del Carbono” bajo la dirección del Dr. John Lloyd, Dept. of Ecology, University of Brasilia (Octubre/2000) ([CRN-040](#))

STUDENTS

CRN-047 - Michael McCLAIN

Title: Andean Amazon Rivers Analysis and Monitoring (AARAM) Project

L. M. Aparicio - (Universidad Nacional Agraria La Molina) – BSc., 1999 - “Diagnóstico del uso actual de los recursos hídricos de la cuenca del Río Pachitea”, Tesis para optar el Título de Ingeniero Forestal., Lima, 146 p., 1999 ([CRN-047](#))

STUDENTS

CRN-048 - Ulisses CONFALONIERI

Title: Diagnostics and Prediction of Climate of Climate Variability and Human Health Impacts in the Tropical Americas

Non or Incomplete Information

STUDENTS

CRN-055 - Mario NUÑEZ

Title: Development of a Collaborative Research Network for the Study of Regional Climate Variability and Changes, their Prediction and Impact, in the MERCOSUR area

Marcelo Seluchi (INPE) post-doctoral, 2000 - member of the CIMA staff (Argentina), holds a fellowship from INPE (Brazil). Dr Seluchi is currently doing research at CPTEC, Cachoeira Paulista, Brazil. ([CRN-055](#))

STUDENTS

CRN-061 - Edmo CAMPOS

Title: SACC: An International Consortium for the Study of Global and Climate Changes in the Western South Atlantic

Felipe Pimenta (IOUSP) - M.Sc. (ongoing), 2000 - Work on the effects of the Rio de la Plata outflow on the dynamics of the southeastern South American continental shelf. ([CRN-061](#))

Renato Castelão (IOUSP) - M.Sc. (ongoing), 2000 - Numerical modeling of pollutant transport on coastal waters off Brazil ([CRN-061](#))

Alvaro Montenegro Neto (FSU/Tallahassee) - PhD (ongoing), 2000 - Work on the Deep Western Boundary Current in the South Atlantic ([CRN-061](#))

Arsilan Trevenzoli Arsireu (IOUSP) – PhD (ongoing), 2000 - Work on computation of turbulence coefficients in the Brazil Current with drifter data. Lorenzetti ([CRN-061](#))

Elcio Patti Jr., PhD, IOUSP/Brazil. Work on the dynamics of the Retroflection of the North Brazil Current (ongoing), 2000 ([CRN-061](#))

Carlos A.D. Lentini (RSMAS/Univ. of Miami) – PhD (ongoing), 2000 - Work on the Brazil/Malvinas confluence with satellite altimetry ([CRN-061](#))

Gonçalves, J.E.– (Instit. Oceanogr. Univer. São Paulo) - Doctoral Dissertation (109 pp - Feb/2000) “Dinâmica e Circulação das Massas de Água no Limite Oeste do Atlântico Sul entre 20°S e 30°S” ([CRN-061](#))

Maria Regina Guimarães (IOUSP) – PhD (ongoing), 2000 - Work on the Tropic-extratropic interactions in the Atlantic ([CRN-061](#))

Rosane R. Chaves (INPE) - PhD (ongoing), 2000 - Work on the dynamics of interactions among convergence zones in the atmosphere (SACZ, SPCZ, ITCZ) and their relationship with Atlantic SST. ([CRN-061](#))

Saraceno, M. (Universidad de Buenos Aires), 1999 – “Climatología y variabilidad de la temperatura superficial del Atlantico Sudoeste”- Depto. De Física, Facultad de Ciencias Exactas y Naturales. ([CRN-061](#))

Saraceno, M. (Universite de Paris) – 2000 - Etude de caracteristique physique de la Convergence Subtropical dans l’Ocean Atlantic Suoccidental: Analyse de la circulation genreale. Estage DEA, Oceanologie, Meteorologie et Environnement, Dynamique de l’ocean et l’atmosphere, Pierre et Marie Curie. ([CRN-061](#))

STUDENTS

CRN-062 - Timothy BAUMGARTNER
Title: An Eastern Pacific Consortium for Research on Global Change in Coastal and Oceanic Regions

Non or Incomplete Information

STUDENTS

CRN-073 - Victor MAGAÑA
Title: Climate Variability and its Impacts in the Mexican, Central American and Caribbean Region

- José Luis Pérez López (Mexico) – PhD - Regional Climate Modeling for Central Mexico ([CRN-073](#))
- José Antonio Salinas Prieto (Mexico) – PhD - Dynamics of the Low Level Jet in the Caribbean ([CRN-073](#))
- Cecilia Conde Álvarez (Mexico) – PhD - Climate Change in Mexico ([CRN-073](#))
- Misael Uribe Alcántara (Mexico) – MSc - Dynamical Mechanisms involved in the Onset of summer Precipitation in Mexico ([CRN-073](#))
- Jorge Luis Vázquez Aguirre (Mexico) – MSc - Modes of Precipitation in Mexico, Central America and the Caribbean ([CRN-073](#))
- Joel Bernardo Pérez Fernández (Mexico) – MSc - Numerical Weather Prediction in the Mexico Basin ([CRN-073](#))
- Juan Matías Méndez Pérez (Mexico) – MSc - Extreme weather events in Mexico, Central America and the Caribbean ([CRN-073](#))
- Vladimir Hernández Grajales (Mexico) – MSc - Data assimilation for numerical weather prediction in Mexico ([CRN-073](#))
- Caio Augusto dos Santos (Brasil) – MSc - Climate Variability in Brazil ([CRN-073](#))
- Julio González Gallego (Mexico) – MSc - Modeling Climate over Oceanic Regions ([CRN-073](#))
- Erik Rivera (Costa Rica) – MSc - Climate Variability in the Caribbean ([CRN-073](#))
- Gabriela Mora Rojas (Costa Rica) – BSc - Climate Variability over the Central American region ([CRN-073](#))
- Adriana Huerta Casas (Mexico) – BSc - El Niño: Diagnostics of stress and the equatorial mixed layer ([CRN-073](#))
- América Murguía Espinosa (Mexico) – BSc - Diagnostics of air sea fluxes over the Americas Warm pools ([CRN-073](#))
- Josue Moises Polanco (Mexico) – BSc - Boundary Layer Dynamics of the Americas Warm Pools ([CRN-073](#))
- Violeta Piña (Mexico) – BSc - Primary productivity in the Americas Warm pools. ([CRN-073](#))
- Karla Naranjo Zavaleta (Mexico) – BSc - Productivity and Fisheries in the Americas Warm Pools ([CRN-073](#))
- Sergio Abarca Fuente (Mexico) – BSc ([CRN-073](#))
- Laura Aidee (Mexico) – BSc ([CRN-073](#))
- Herández Gómez (Mexico) – BSc ([CRN-073](#))
- Alma Susana Ortiz (Mexico) – BSc ([CRN-073](#))
- Didier Matinez Sanchez (Mexico) – BSc ([CRN-073](#))

COURSES

PRINCIPAL INVESTIGATORS	TRAINING ACTIVITIES
Holm Tiessen	<p>A workshop was held from Oct. 23 to Nov. 11 2000 at UNLP/Argentina. During the 3-week workshop, the CRN investigators provided a full-credit modular graduate course to students from UNLP. 22 graduate students enrolled in the course for credit and several professionals audited. Credit transfers to two other Argentinean universities were approved. Course materials for the modules were exchanged and the full course was taught jointly, so that each instructor can offer the course or parts thereof at anyone of the CRN's institutions.</p> <p>A course was held for 50 students from the UofS and the University of Guelph in Guatemala between February and April of 2001</p>
Brian Luckman	<p>Austral Dendroecological Fieldweek, San Martín de los Andes, Patagonia. March 24-31, 2000.</p> <p>The Austral Dendroecological Fieldweek was held at San Martín de los Andes in northern Patagonia, Argentina, in conjunction with the International Conference on Dendrochronology for the Third Millennium. The ADEF was a chance for students and professionals attending the conference to learn both basic and advanced methods in tree-ring research. Forty-five researchers from all over the world attended, many of whom are working in new areas or with new species and new applications in dendrochronological studies. Additional information on the Austral Dendroecological Fieldweek is available at: http://www.rmtrr.org/ade/index.html</p> <p>Personnel Hired</p> <p>Dr. Hector Grau: to help in fieldwork and development of chronologies of <i>Polylepis tarapacana</i> and <i>Prosopis ferox</i>. From January 2000 to July 2000.</p> <p>Dr. Pablo Villagra: to continue with the development of chronologies from <i>Prosopis</i> and <i>Polylepis</i>, after August 2000</p> <p>Ing. Mariano Masiokas: to be trained in the development of chronologies and fieldwork. After July 2000</p>
Charles Wood	

<p>Osvaldo Sala</p>	<p>Austral Dendroecological Fieldweek, San Martín de los Andes, Patagonia. March 24-31, 2000.</p> <p>The Austral Dendroecological Fieldweek was held at San Martín de los Andes in northern Patagonia, Argentina, in conjunction with the International Conference on Dendrochronology for the Third Millennium. The ADEF was a chance for students and professionals attending the conference to learn both basic and advanced methods in tree-ring research. Forty-five researchers from all over the world attended, many of whom are working in new areas or with new species and new applications in dendrochronological studies. Additional information on the Austral Dendroecological Fieldweek is available at: http://www.rmtrr.org/ade/index.html</p> <p>Personnel Hired</p> <p>Dr. Hector Grau: to help in fieldwork and development of chronologies of <i>Polylepis tarapacana</i> and <i>Prosopis ferox</i>. From January 2000 to July 2000.</p> <p>Dr. Pablo Villagra: to continue with the development of chronologies from <i>Prosopis</i> and <i>Polylepis</i>, after August 2000</p> <p>Ing. Mariano Masiokas: to be trained in the development of chronologies and fieldwork. After July 2000.</p> <p>Conservación biológica: Bases Conceptuales Morelos, Mexico, Nov-Dec 2000</p> <p>This course was organized and taught by Rodolfo Dirzo of the Universidad Nacional Autónoma de México (UNAM) and Javier Simonetti of the Universidad de Chile, Santiago. Funding to bring Latin American students to participate came largely from the Red Latinoamericana de Botánica (RLB), and was held at the Universidad de Morelos, in Mexico. The postgraduate course focused on the fundamentals of conservation biology, ranging in topics from fundamentals in conservation and sustainable management of natural ecosystems, social and ecological aspects of biodiversity, and tropical forest biology. The course achieved part of the larger objective of the Inter-American Institute to promote capacity building and dissemination of information to students in several countries in Latin America.</p> <p>Functional Diversity in Ecosystems, Concepción Chile, January 8-12, 2001</p> <p>This course, organized by Juan Armesto of the Universidad de Chile, Santiago and Chris Lusk, of the Universidad de Concepción was held at the Universidad de Concepción and was designed for graduate students from all over Latin America. Invited professors from the United States as well as Osvaldo Sala came to Concepción to give guest lectures and stayed for the entire week to have time to interact more informally with the students. This course focused primarily on the role of functional groups (groups of organisms defined as contributing a similar function in the ecosystem, such as nitrogen-fixers) in ecosystem functioning and the importance of understanding functional roles of organisms as well as taxonomic classifications. There was a broad range of topics including water relations, biodiversity scenarios, the role of ecosystem engineers, and how suites of organism traits affect ecosystem functioning.</p>
<p>Maria Vernet</p>	<p>A workshop from 13-17 November 2000 in Ushuaia with participants from the scientific group in this program (8 researchers) and stakeholders from Ushuaia, representing government, health, education, media, business, tourism and non-government organizations (NGO). A model will be developed in the workshop with input from all participants and solutions evaluated in view of the present knowledge.</p>
<p>Eduardo Franco</p>	<p>Training Course: Methodology and Software DesInventar, for the group of specialists of Universidad de Florida (Gainesville, 21/ 23 June ,2000) for construction of data base of the country.</p> <p>Training Course: Methodology and Software DesInventar for the group of specialists of Universidad de Chile (Santiago de Chile, 6/8 November) for construction of data base of the country.</p>
<p>Pilar Cornejo</p>	<p><i>Statistics Short Course ("Environmental Data Analysis: Methods and</i></p>

	<p>Problems of Spatial Analysis") during Aug 5-9 2000 at the Universidad Santa Maria la Antigua (USMA) in Panama. To provide additional training in support of one of the project goals, namely the analysis of the joint statistical variability of precipitation with other factors such as crops and public health, the CO-PI presented a one week intensive course on spatial statistical data analysis ("Environmental Data Analysis: Methods and Problems of Spatial Analysis") during Aug 5-9 2000 at the Universidad Santa Maria la Antigua (USMA) in Panama. This course was especially written for participants in this CRN project and was attended by a number of participants (14 students) in diverse fields such as Public Health, Hydrology and Agriculture.</p> <p>Training in MatLab. Considerable progress was made in shaping the research capabilities of TC3 investigators, through the improved use of Matlab. Although a number of people in the region have access to Matlab and some knowledge of it, Matlab is not second nature to them and it has not been their primary research tool. In one of the early IAI projects for TC3 (Enfield/AOML, ISP-1) six scientists received individualized training in the use of Matlab during 3-6 week stays in Miami ("internships")</p>
<p>Juan Silva</p>	<p>Curso-Taller: "Análisis de la vegetación y su estructura mediante métodos multivariantes" Dictado por el Prof. Mario Fariñas en la Universidad Nacional de Tucumán del 28 de febrero al 10 de marzo de 2000 (total 80 horas). OBJETIVOS: Introducir a estudiantes avanzados y de postgrado en el conocimiento y aplicación de algunas técnicas y metodologías del análisis multivariante, utilizadas para estudiar la estructura de la vegetación. Participaron de 16 profesionales de distintas especialidades incluyendo a todos los participantes del Proyecto RICAS.</p>
<p>Michael McClain</p>	<p>Capacity building activities in the project consist of student training as well as educational seminars for government entities in the region. To date, the AARAM/IAI agenda has been presented in seminar format to audiences from more than 10 regional governmental agencies. These audiences have included senior officials such as the Vice Minister of the Environment for Colombia, the directors of the national science foundations of Ecuador and Peru, and the Amazon coordinators of the environmental agencies of Colombia and Bolivia.</p>
<p>Ulises Confalonieri</p>	
<p>Mario Núñez</p>	
<p>Edmo Campos</p>	<p>The first Short Course on Biophysical Interactions at Oceanic Fronts was given by Donald B. Olson (RSMAS, University of Miami) at Centro Nacional Patagonico, 18-29 September 2000, Puerto Madryn, Argentina. A total of 51 complete applications from 26 institutions, from 11 IAI member countries and two non-member countries were received. Twenty four applicants were selected for participation</p> <p>Worthy to mention is the invitation to E. Campos by the International Research Institute (IRI) for Climate Research for helping in the structuration of an Advanced Course in Modeling to be taught as part of a project funded by the World Bank in Lima, Peru. Dr. Campos also was invited to teach a 4-weeks course in Ocean Modeling, as part of this activity coordinated by IRI, in may of 2000.</p> <p>The second Short Course organized by the South Atlantic Climate Change (SACC) Cooperative Research Network, and financed by the Inter-American Institute for Global Change Research, is being held at Fundação Universidade do Rio Grande, Rio Grande, Brazil. The course subject is Biophysical Interactions at Oceanic Fronts and is being given by Dr. Donald B. Olson from the Rosenstiel School of Marine and Atmospheric Sciences, University of</p>

	<p>Miami, USA. Classes began in at FURG on Monday 4 June 2001 and will finish 15 June.</p> <p>Twenty-one students are attending this year's Short Course, they come from 14 research institutions located in Argentina, Brazil, Chile, Costa Rica, Mexico and Perú. A list of students is provided below. This is the second Short Course organized by the SACC. A full report of the first Course held at CENPAT, Argentina, in September 2000, can be downloaded from the SACC website (see below).</p> <p>Additional information on the SACC research and activities can be obtained at the project's homepage http://glaucus.fcien.edu.uy/pcmysa/sacc/index.html</p> <p>Alberto Piola, SACC Course Coordinator (apiola@hidro.gov.ar), 13 June 2001</p>
<p>Tim Baumgartner</p>	<p>SCHOLARSHIP PROGRAM Supported by the EASTERN PACIFIC CONSORTIUM FOR RESEARCH ON GLOBAL CHANGE For: Master of Science (Oceanography or Fisheries) Or Philosophical Doctor in Oceanography At the University of Concepción in Chile</p> <p>One of the priorities of our Consortium is to contribute to strength the human resources in sciences related to Global Change, in the member countries of the IAI. Therefore, the Consortium is offering two scholarships for post-graduate studies at the University of Concepción in Chile (UDEEC).</p> <p>The scholarships include the annual payment for tuition (US \$3300; supported by UDEEC), and a monthly payment of 500 dollars for living expenses (supported by the Consortium). The scholarships include also a roundtrip flight ticket from the country of the selected students to Concepción, supported by the Consortium. Scholarships will last 4 years for the Ph.D. Program, and 2 years for the M. Sc. Program. The program will start in March 2001.</p> <p>Students can apply to the following programs: Master of Science in Oceanography Master of Science in Fisheries Doctoral in Oceanography</p> <p>MASTER OF SCIENCE PROGRAM IN OCEANOGRAPHY UNIVERSIDAD DE CONCEPCION Description and objectives of the Program</p> <p>The main objective of the Master of Science program is, to get specialists in the study of oceanographic processes, that will permit students to continue true a doctoral program, or should be able to provide technical support to private and state institutions and be able also to participate in academic research.</p> <p><i>Academic Year Starts</i> March of every year <i>Reception of Documents</i> From May 2 trough November 30 of every year.</p> <p><i>Requirements for Application</i></p>

To enrolled in the program the student should have a degree in one of the following areas: B.S. in Marine Biology, Biology, Fisheries Biology, Oceanography, Fisheries Engineer, or equivalent University degree.

To enrolled in the program the following documents should be sent:

Grades certificate.

Copy of the certificate or official diploma of the academic title (for foreign students the copy should be legalized by the Country Consulate).

Description of the future plans of the students.

Two confidential letters of teachers/researchers that could give an opinion of the student skills and preparation (one of the letter should be sent from the University in which the student got his/her degree.

Student letter of intention and justification of the program interested.

Health Certificate

Fill an application of the Graduate School at the University of Concepción

Requisites to Graduate

The Master in Science degree in Oceanography, could be obtained in four semesters. During this period the students should approved at least 23 credits and develop a research thesis to get their degree. The 23 credits should be divided as: 12 credits of fundamental courses, 6 credits of elective courses, 5 credits are from bibliographic seminar and one credit for research. The Master of Science research thesis has a minimum of two semesters and is the product of a research project developed by the student with the guidance of a teacher/researcher.

Degree Obtained

Master in Science in Oceanography.

MASTER OF SCIENCE PROGRAM IN FISHERIES UNIVERSIDAD DE CONCEPCION

Description and objectives of the Program

The main objective of the Master of Science program is, to get specialists in the study of fisheries, that will permit students to continue true a doctoral program, or should be able to provide technical support to private and state institutions and be able also to participate in academic research.

Academic Year Starts

March of every year

Reception of Documents

From May 2 trough November 30 of every year.

Requirements for Application

To enrolled in the program the student should have a degree in one of the following areas: B.S. in Marine Biology, Biology, Fisheries Biology, Oceanography, Fisheries Engineer, or equivalent University degree.

To enrolled in the program the following documents should be sent:

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Degree Obtained

Master in Science in Fisheries.

DOCTORAL PROGRAM IN OCEANOGRAPHY

UNIVERSIDAD DE CONCEPCION

Description of the Program

The main objective of the doctoral program is to get specialists in the integral study of the ocean, with strong education in four fundamental areas of oceanography: biology, physics, chemistry and geology, with and expertise in one of the above basic areas, trough post-graduate thesis. At the end of the program the student should be prepared to develop independent research and participate in the human development of students on the undergraduate and post-graduate programs in academic environments

The program is supported by the Servicio de Intercambio Académico Alemán (DAAD), de la Cátedra UNESCO-UNITWIN, and the Program TEMA (Comisión Oceanográfica Internacional). The Doctoral Program was endorsed by CONICYT in 1997, by the Andes Foundation (1999), and is in the process of endorsement by the Ministry of Education. Agreements with Universities and foreign Oceanographic Institutions, support the exchange of teachers and students. Recently, the University of Concepción signed an agreement of collaboration with the Woods Hole Institution of Oceanography, that permitted to get a financial support from Andes Foundation, to improve the post-graduate education in Oceanography in the South East Pacific region.

Program Objectives

The main objective of the doctoral program is to get specialists in the integral study of the ocean, with strong education in four fundamental areas of oceanography: biology, physics, chemistry and geology, with and expertise in one of the above basic areas, trough post-graduate thesis. At the end of the program the student should be prepared to develop independent research and participate in the human development of the students on the undergraduate and post-graduate programs in academic environments. The scientific training will permit the students to be the leaders of technical assistance programs to study the integral marine environment.

The program is directed toward the formation of Doctors in all the Oceanography fields. Biological Oceanography includes research lines in: pelagic and bentic ecology, fisheries oceanography, populations biology, genetic of marine organisms. and aquaculture. The areas in physical oceanography are: internal waves, remote sensors, marine instrumentation and fluid mechanics. In chemical oceanography, the main research areas are: marine organic geochemistry, biochemical cycles in sediments and the water column, radiochemistry, chemistry of natural products, and organic matter fluxes to the sediment-water interface. Geological Oceanography is the least

	<p>developed area in the Department. However, the program is supported by the Zoology Department of the University of Concepción (Dr. Margarita Marchant), the University do Rio Grande do Sul (International Course taught every year by Dr. I. Correa) and the support of the Geoscience Institute of the University Austral de Chile (Dr. Mario Pino). This support permits the students to develop research in sediment transport and paleoceanography.</p> <p><i>Academic Year Starts</i></p> <p>March of every year</p> <p><i>Reception of Documents</i></p> <p>From May 2 trough November 30 of every year.</p> <p><i>Requirements for Application</i> To enrolled in the program the following document should be sent:</p> <p>Academic degree in science Academic background in research Three letters of academic recommendations, sent confidentially by research/teachers with a Doctoral degree. One of the letters should be from the Institution in which the student got previous degrees. Student letter of intention and justification of the program interested. Health Certificate</p> <p><i>Requisites to Graduate</i></p> <p>The program requires a minimum of 30 credits. The student should be enrolled in a minimum of 12 credits during the first two semesters. Students usually finish their minimum requirement at the end of the third semester. Besides, the students should develop a Qualification Exam and a Doctoral Thesis.</p> <p>Degree Obtained Doctorate in Oceanography.</p>
<p>Victor Magaña</p>	<p>Regional climate modeling is one of the activities to be developed within our CRN project. In order to establish such capacity, mesoscale models have been used. The mesoscale model 5 (MM5) has become the most important tool for regional climate modeling. The technical capacity acquired in recent years at the Center for Atmospheric Sciences, UNAM, has been transmitted to other CRN participants and groups of meteorology in Latin America.</p> <p>Participants from the Cuban Institute of Meteorology, the University of Costa Rica, the University of Sao Paulo have been trained on the use of MM5 in order to perform numerical simulations of regional climate. Similarly, members of the Weather Service from Ecuador, Chile and Dominican Republic and Mexican institutions involved in Meteorology have been trained on the use of MM5 for Numerical Weather Prediction.</p> <p>This capacity building activity is the result of a previous workshop On the Use of MM5 for countries in Latin America supported by IAI within a ISP-III project. Since then, a number of meteorologists from Latin America have been trained on the use of this model.</p> <p>In addition, the Center for Atmospheric Sciences of the National Autonomous University of Mexico offers Post-Doctoral positions to conduct research in the fields considered within the IAI Science Agenda.</p>

**INTER-AMERICAN INSTITUTE FOR
GLOBAL CHANGE RESEARCH
(IAI)**

EC-XIII - CoP-VIII
July 17-18 and 19-20, 2001
Panama City - Panama

Publications

PUBLICATIONS

CRN-001 - Holm TIESSEN

Title: Biogeochemical Cycles under Land Use Change in the Semiarid Americas

Antonino, A.C.D., Sampaio, E.V.S.B., Dall'Olio, A. and, Salcedo, I.H., "Balanço hídrico de culturas de subsistência no semi-árido nordestino", *Revista Brasileira de Engenharia Agrícola e Ambiental*, **4(1)**:29-34, 2000 (CRN-001)

B. Wick, H. Tiessen, and R.S.C. Menezes, "Land quality changes following the conversion of the natural vegetation into silvopastoral systems in semiarid NE Brazil", *Plant and Soil* 222: 59-70, 2000 (CRN-001)

Caamal, A., J.J. Jiménez-Osornio, A. Torres-Barragan, and A.L. Anaya, "The use of some allelopathic plants for weed control in agricultural management", *Journal of Agronomy. Ruenes Morales, M.R., A. Aké Gómez, A. y J.J. Jiménez-Osornio.1999. El solar maya. En: Atlas de Procesos Territoriales de Yucatán*, accepted, pp 236-245, 1999 (CRN-001)

C. Shang, and Tiessen, H., "Carbon-13 turnover in organo-mineral fractions of a semiarid tropical forest soil cultivated with sorghum", *Soil Science Society of America Journal - based on work in Canada and Brazil*, in press, 2000 (CRN-001)

C. Weisbach, H. Tiessen, and J.J. Jimenez-Osornio, "Soil Properties under shifting cultivation (Milpa) in Yucatan" *Agronomie (submitted, to be revised) - based on work in Mexico and Canada. da Silveira, Luciano Marçal, Holm Tiessen and Jean Philippe Tonneau. 2000. Organic matter management in family agriculture of semiarid Paraíba, Brazil. In: C. Martius, P.L.G. Vlek, H. Tiessen (eds.) Management of organic matter in tropical soils: scope and limitations. Kluwer, Dordrecht, in press, 2000 (CRN-001)*

H. Tiessen, C. Weisbach, and R.S.C. Menezes, "Estimating the contribution of trees to available P", *Agroforestry Forum* **9**:1-4, 1999 (CRN-001)

H. Tiessen, E.V.S.B. Sampaio, and I.H. Salcedo, "Organic matter turnover and management in low input agriculture of NE Brazil", *Nutrient Cycling in Agroecosystems - based on work in Brazil and Canada*, in press, 2000 (CRN-001)

Jiménez-Osornio, J.J., and A. López Pérez, "La escuela de agricultura ecológica U yits Ka'an", *Red de Gestión de Recursos Naturales* **17**: 32-36, 1999 (CRN-001)

Joly, C.A., Aidar, M.P.M., Klink, C.A., Mcgrath, D.G.,5, Moreira, A. G., Moutinho, P., Nepstad, D.C., Oliveira, A. A., Pott, A., Rodal, M.J.N., and Sampaio, E.V.S.B., "Evolution of the Brazilian phytogeography classification systems: implications for biodiversity conservation", *Ciência e Cultura* **51(5/6)**: 331-348, 1999 (CRN-001)

Menezes, R.S.C., and Sampaio, E.V.S.B., "Agricultura sustentável no semi-árido nordestino", *In: Oliveira, T.S.; Romero, R.E.; Assis Jr., R.N.; Silva, J.R.C.S. (eds). Agricultura, sustentabilidade e o semi-árido. Fortaleza, Sociedade Brasileira de Ciência do Solo / Universidade Federal do Ceará*, pp. 20-46, 2000 (CRN-001)

Menezes, R.S.C., and Salcedo I.H., "Influence of tree species on the herbaceous understory and soil chemical characteristics in a silvopastoral system in semi-arid northeastern Brazil", *Rev. Bras. Ci. Solo*, **23**:817-826, 1999 (CRN-001)

Menezes, R.S.C., I.H. Salcedo, and E.T., "Elliott. Influences of tree species on microclimate, litter, and soil nutrient dynamics in a silvopastoral system in semi-arid northeastern Brazil", *Agroforestry Systems*, accepted, May 2000 (CRN-001)

Ortiz Pech, R., "La Matriz de Contabilidad Social, herramienta para la toma de decisiones políticas" *Boletín Economía Hoy* **28 (año V)**: 22-27, 1999 (CRN-001)

Ortiz Pech, R., "Estudio de la pobreza en la comunidad de Sahcabá, Yucatán, México", *Boletín Economía Hoy* **30 (año V)**: 17-19, 1999 (CRN-001)

Ortiz Pech, R., "Resultado de la Matriz de Contabilidad Social para el Municipio de Hocabá, Yucatán", *Boletín Economía Hoy* **31 (año V)**: 18-23, 1999 (CRN-001)

Ortiz Pech, R., "El PROCAMPO analizado con un modelo de multiplicadores contables, estudio en una comunidad de Yucatán", *Boletín Economía Hoy* **32 (año V)**: 16-23, 1999 (CRN-001)

Ortiz Pech, R., "Otros indicadores socioeconómicos y sociodemográficos del Municipio de Hocabá, Yucatán, México", *Boletín Economía Hoy. Publicación Bimestral de la Facultad de Economía, UADY*, n° 33, 1999 (CRN-001)

Sampaio, E.V.S.B., and Sampaio, Y., "Preservação da vegetação nativa, especialmente da caatinga: custos e responsabilidades", *Encontro da Sociedade Brasileira de Economia Ecológica*, 3, Recife, PE, 1999. *Anais, Sociedade Brasileira de Economia Ecológica, CD-ROM*, 17p, 1999 (CRN-001)

Unai Pascual, and Edward Barbier, "A model of optimal labour and soil use with shifting cultivation", *European Association of Environmental and Resource Economists (EAERE) Tenth annual conference. Crete (Greece)*, July 2000 (CRN-001)

Unai Pascual, "Labour participation, supply and diversification by shifting cultivators: the effect of poverty and land quality", *6th Annual Meeting of Young Researchers of Economic Analysis*, Vigo, Spain, 12-14 July 2000 (CRN-001)

Zárate-Hoyos, G., and L. Albornoz Mendoza, "Maquiladoras: nueva estrategia de desarrollo rural", *Boletín Economía Hoy* **27 (año V)**: 17-26, 1999 (CRN-001)

Zárate-Hoyos, G., and L. Albornoz Mendoza, "Maquiladoras opción para la zona henequenera de Yucatán, México", *Revista Comercio Exterior* **49(10)**: 890-897, 1999 (CRN-001)

PUBLICATIONS

CRN-003 - Brian LUCKMAN

Title: The Assessment of Present, Past and Future Climate Variability in the Americas from Treeline Environments

St. George S., and Luckman B.H., "Extracting a paleotemperature record from *Picea engelmannii* treeline sites in the central Canadian Rockies", *Canadian Journal of Forest Research*, February 2000, revised and resubmitted, 2000 (CRN-003)

Stahle, D.W., Cook, E.R., Cleaveland, M.K., Therrell, M.D., Meko, D.M., Grissino-Meyer, H.D., Watson E., and Luckman, B.H., "Epic 16th Century Drought over North America" *EOS, (Transactions American Geophysical Union)*, 81,12, 121 and 125, March 21, 2000 (CRN-003)

Roig, Fidel A. (ed), "Dendrochronology in Latin America", *EDIUNC - Book published with IAI support, Mendoza*, 434p., 2000, (CRN-003)

Roig, F.A., "Dendrocronología en los bosques del Neotrópico: revisión y prospección futura", *In Roig F. (ed) Dendrocronología en América Latina, EDIUNC*, 307-355, 2000 (CRN-003)

Lara, A., Aravena, J-C., Villalba, R., Wolodarsky-Franke, A., Luckman, B.H., and Wilson R.J.S., "Dendroclimatology of *Nothofagus pumilo* forests at their northern distribution limit in Chile", *Canadian Journal of Forest Research*, revised and resubmitted, September, 2000 (CRN-003)

Lara, A., R. Villalba, J.C. Aravena, A. Wolodarsky, and E. Neira, "Desarrollo de una red de cronologías de *Fitzroya cupressoides* (alerce) para Chile y Argentina", *In: Dendrocronología en América Latina, F. Roig (ed.), EDIUNC, Mendoza*, pag. 217-244, 2000 (CRN-003)

Boninsegna, Jose A., and M. Hughes, "Volcanic signals in Temperature Reconstructions based on Tree Ring Records for North and South America", *In: Present and Past Inter-Hemispheric Climate Linkages in the Americas and their Societal Effects, V. Markgraf (eds.), Academic Press*, in press, 2000 (CRN-003)

- Colenutt, M. E., and Luckman B.H., "Dendroclimatological Investigations of Douglas Fir in Waterton Lakes National Park, Alberta", *Final Report, Submitted to Waterton Lakes National Park, WLNP Cap Project #95466, Paleoecological Research*, (iii) + 78p, July 2000 (CRN-003)
- D'Arrigo, R.D., and Villalba, R., "Review of dendroclimatic research at high latitudes in South America: Indicators of atmosphere-ocean climate variability", *Dendrocronología en América Latina. F. Roig (ed.), EDIUNC, Mendoza*, pag. 271-282, 2000 (CRN-003)
- Evans, M.N., Kaplan, A., Villalba,R., and Cane, M.A., "Globality and optimality in climate field reconstructions from proxy data", *In: Present and Past Inter-Hemispheric Climate Linkages in the Americas and their Societal Effects, V. Markgraf (eds.), Academic Press*, in press, 2000 (CRN-003)
- Luckman, B.H., "The Little Ice Age in the Canadian Rockies", *Geomorphology*, 32, 357-384, 2000 (CRN-003)
- Luckman B.H., and Kavanagh T.A., "Impact of Climate Fluctuations on Mountain Environments in the Canadian Rockies", *Ambio*, 29, 371-380, November, 2000 (CRN-003)
- Luckman, B.H., and Villalba, R., "Assessing synchronicity of glacier fluctuations in the western cordillera of the Americas during the last millennium", *In Markgraf V., (ed) Interhemispheric Climate Linkages, Academic Press*, in press, 119-140, 2000 (CRN-003)
- Luckman B.H., and Watson E., "Precipitation Reconstruction in the Southern Canadian Cordillera", *Preprints 10th Symposium on Global Change Studies, 79th Annual Meeting, American Meteorological Society, Dallas, Texas*, 10-15th January, 1999 (CRN-003)
- Luckman B.H. and Youngblut, D., "Millennial-aged trees from Banff National Park", *Research Links*, 7,3 Winter 1999, 15-17, 1999 (CRN-003)
- Luckman , B.H., and Youngblut, D., "Dendroclimatic Investigations in the Southwest Yukon: A Preliminary Assessment", *Report to Meteorological Service of Canada, Parks Canada and the Yukon Government*, iii + 52p., May 2000 (CRN-003)
- Markgraf,V., T.R. Baumgartner, J.P. Bradbury, H.F. Diaz, R.B. Dunbar, B. Luckman, G. Seltzer, T.W. Swetnam, and R. Villalba, "Paleoclimate reconstruction along the Pole-Equator-ple transect of the americas (PEP 1)", *Quaternary Science Reviews*,v.19: 122-140, 2000 (CRN-003)
- Villalba, R., "Dendroclimatology: a Southern Hemisphere Perspective", *In: Paleo- and Neoclimates of the Southern Hemisphere: the state of the arts. P. Smolka y W. Volkheimer (editores). Springer*, pag. 105-143, 2000 (CRN-003)
- Villalba,R., D'Arrigo, R.D., Cook, E.R., Wiles, G, and Jacoby G.C., "Decadal-scale climatic variability along the extratropical western coast of the Americas: Evidences from tree-ring records", *In: Present and Past Inter-Hemispheric Climate Linkages in the Americas and their Societal Effects, V. Markgraf (eds.), Academic Press*, in press, 2000 (CRN-003)
- Watson E., and Luckman B.H., "Dendroclimatic reconstruction of Precipitation in the Southern Canadian Rockies", *The Holocene*, in press, 2000 (CRN-003)
- Watson, E., Youngblut, D., Luckman, B. H., and Froelich, N., "Dendroclimatic Investigations in British Columbia, Alberta and the South West Yukon", *Final Report to the Meteorological Service of Canada, Collaborative Research Agreement*, n° 99DD-011, 73p, March 2000 (CRN-003)
- Kellner, A.M.E., Laroque, C.P., Smith, D.J., and Harestad, A.S., "Chronological dating of high-elevation snags on northern Vancouver Island, British Columbia", *Northwest Science* 74(3):215-256. (CRN-003)
- Carter, R., LeRoy, S., Nelson, T., Laroque, C.P., and Smith, D.J., "Dendroglaciological investigations at Hilda Creek rock glacier, Banff National Park, Canadian Rocky Mountains", *Géographie physique et Quaternaire*, 53(3): 365-371. (CRN-003)

PUBLICATIONS

CRN-009 - Charles WOOD

Title: Cattle Ranching, Land Use and Deforestation in Brazil, Peru, and Ecuador

Veiga, J.B., Tourrand, J.F., “Pecuária na Amazônia: situação atual e desafios para o futuro”, *In: O futuro da Amazônia. Ed. Guilherme, Embrapa Amazônia Oriental, Belém*, submitted, 2000 (CRN-009)

Piketty M.G., Veiga J.B., Pocard-Chapuis R., and Tourrand J.F., “Milk production, regional development and sustainability in the Eastern Amazon”, *Animal Reszerach and Developpment, Tubbingen, Germany*, submitted, 2000 (CRN-009)

Piketty M.G., Veiga J.B., Pocar-Chapuis R., and Tourrand J.F., “Le potentiel des systèmes agroforestiers chez les pionniers d’Amazonie Brésilienne”, *Bois & Forêts Tropicaux, Montpellier, France*, submitted, 2000 (CRN-009)

PUBLICATIONS

CRN-012 - Osvaldo SALA

Title: The Role of Biodiversity and Climate in the Functioning of Ecosystems: A Comparative Study or Grasslands, Savannas, and Forests

Rustad, L.E., J.L. Campbell, G.M. Marion, R.J. Norby, M.J. Mitchell, A.E. Hartley, J.H.C. Cornelissen, J. Gurevitch, and GCTE-News, “A meta-analysis of the response of soil respiration, net nitrogen mineralization, and aboveground plant growth to experimental ecosystem warming”, *Oecologia*, in press, 2001 (CRN-012)

Sala, O.E., R.B. Jackson, H.A. Mooney, and R.W. Howarth, “Methods Ecosystem Science”, *Springer, New York*, 421 pp, 2000 (CRN-012)

Sala, O.E., “Aboveground productivity in temperate grassland ecosystems”, *In H.A. Mooney, J. Roy, and B. Saugier, editors. Terrestrial Global Productivity: Past, Present, and Future, Academic Press, San Diego*, 2001 (CRN-012)

Sala, O.E., “Grasslands”, *In F.S. Chapin, O.E. Sala, and E. Huber Sannwald, editors. Future Scenarios of Global Biodiversity, Springer Verlag, New York*, in press, 2001 (CRN-012)

Sala, O.E., and A.T. Austin, “Methods of estimating aboveground net primary production”, *In O.E. Sala, R.B. Jackson, H.A. Mooney, and R. W. Howarth, editors, Methods in Ecosystem Science, Springer Verlag, New York*, Pages 31-43, 2000 (CRN-012)

Sala, O.E., A.T. Austin, and L. Vivanco, “Biodiversity in grassland ecosystems”, *In S. Levin, editor, Encyclopedia of Biodiversity, Academic Press, San Diego*, in press, 2001 (CRN-012)

Sala, O.E., F.S. Chapin, and E. Huber Sannwald, “Conclusion and synthesis”, *In F.S. Chapin, O.E. Sala, and E. Huber Sannwald, editors, Future Scenarios of Global Biodiversity, Springer Verlag, New York*, in press, 2001 (CRN-012)

Sala, O.E., R.B. Jackson, H.A. Mooney, and R.W. Howarth, “Methods in Ecosystem Science: Progress, tradeoffs, and limitations”, *In O.E. Sala, R.B. Jackson, H.A. Mooney, and R. W. Howarth, editors, Methods in Ecosystem Science, Springer Verlag, New York*, Pages 1-3, 2000 (CRN-012)

Sala, Osvaldo E., and Terry Chapin, “Scenarios of Global Biodiversity for Year 2100”, *GCTE News: Newsletter of the Global Change and Terrestrial Ecosystems Core Project of IGBP, October*, Vol 16:1-3, 2000 (CRN-012)

Sala, Osvaldo E., and Terry Chapin, “Scenarios of Global Biodiversity”, *Global Change Newsletter: The International Geosphere-Biosphere Programme, October*, Vol 43:7-19, 2000 (CRN-012)

Armesto, J.J., R. Rozzi, C. Smith-Ramirez, and J. Casperson, “Temperate forests”, *In F.S. Chapin, O.E. Sala, and E. Huber Sannwald, editors. Future Scenarios of Global Biodiversity, Springer Verlag, New York*, in press, 2000 (CRN-012)

- Augustine, D.J., and D.A. Frank, "Effects of migratory ungulates on spatial heterogeneity of soil nitrogen properties in a grassland ecosystem", *Ecology*, in press, 2001 ([CRN-012](#))
- Baruch, Z., R.R. Pattison, and G. Goldstein, "Responses to light and water availability of four invasive Melastomaceae in the Hawaiian Islands", *International Journal of Plant Science* **161**:107-118, 2000 ([CRN-012](#))
- Chapin, F.S., O.E. Sala, and E. Huber Sannwald, "Future Scenarios of Global Biodiversity", *Springer Verlag, New York*, in press, 2001 ([CRN-012](#))
- Chapin, F.S., E.S. Zavaleta, V.T. Eviner, R.L. Naylor, P.M. Vitousek, H.L. Reynolds, U. Hooper, S. Lavorel, O.E. Sala, S.E. Hobbie, M.C. Mack, and S. Diaz, "Consequences of Changing Biodiversity", *Nature* **405**:234-242, 2000 ([CRN-012](#))
- Chapin, F.S., O.E. Sala, E. Huber Sannwald, and R. Leemans, "The future of biodiversity in a changing world", In *F.S. Chapin, O.E. Sala, and E. Huber Sannwald, editors, Future Scenarios of Global Biodiversity, Springer-Verlag, New York*, in press, 2000 ([CRN-012](#))
- Dirzo, R., "Forest ecosystem threats and value: Mexico as a case study", *Annals of the Missouri Botanical Garden*, in press, 2000 ([CRN-012](#))
- Dirzo, R., "Tropical forest" In *F.S. Chapin, O.E. Sala, and E. Huber Sannwald, editors, Future Scenarios of Global Biodiversity, Springer Verlag, New York*, in press, 2000 ([CRN-012](#))
- Dirzo, R., and R. Sussman, "Tropical rain forests: human impact and extinction", In *R. Chazdon and T.C. Whitmore, editors. Classics in Tropical Ecology, Chicago University Press, Chicago*, in press, 2000 ([CRN-012](#))
- Dirzo, R., "Ecosystems of Central America", In *S.A. Levin, editor, Encyclopedia of Biodiversity, Academic Press, San Diego*, in press, 2000 ([CRN-012](#))
- Dirzo, R., "Plant-mammal interactions: lessons for our understanding of nature and implications for biodiversity conservation", In *N. Huntley and M.C. Press, editors, Ecology: Challenges and Achievements, Blackwell, London*, in press, 2000 ([CRN-012](#))
- Hoffman, W.A., and R.B. Jackson, "Vegetation-climate feedbacks in the conversion of tropical savanna to grassland", *Journal of Climate* **13**:1593-1602, 2000 ([CRN-012](#))
- Jackson, R.B., "Belowground processes and global change", *Ecological Applications* **10**:397-483, 2000 ([CRN-012](#))
- Jackson, R.B., M. J. Lechowicz, X. Li, and H.A. Mooney, "The roles of phenology, growth, and allocation in global terrestrial productivity", In *H.A. Mooney, B. Saugier, and J. Roy, editors. Terrestrial Global Productivity: Past, Present, and Future, Academic Press, San Diego*, Pages 61-82, 2001 ([CRN-012](#))
- Jobbágy, E.G., and R.B. Jackson, "Global controls of forest line elevation in the northern and southern hemisphere", *Global Ecology and Biogeography* **9**:253-268, 2000 ([CRN-012](#))
- Jobbágy, E.G., and R.B. Jackson, "The vertical distribution of soil organic carbon and its relation to climate and vegetation", *Ecological Applications* **10**:423-426, 2000 ([CRN-012](#))
- Jobbágy, E.G., and R.B. Jackson, "The distribution of soil nutrients with depth: global patterns and the imprint of plants", *Biogeochemistry*, in press, 2001 ([CRN-012](#))
- Lauenroth, W.K., I.C. Burke, and J. M. Paruelo, "Patterns of production and precipitation-use efficiency of winter wheat and native grasslands in the Central Great Plains of the United States", *Ecosystems* **3**:344-351, 2000 ([CRN-012](#))
- Paruelo, J.M., O.E. Sala, and A.B. Beltrán, "Long-term dynamics of water and carbon in semi-arid ecosystems: a gradient analysis in the Patagonian steppe", *Plant Ecology* **150**:133-143, 2000 ([CRN-012](#))
- Paruelo, J.M., I.C. Burke, and W.K. Lauenroth, "Land use impact on ecosystem functioning in eastern Colorado (USA)", *Global Change Biology*, in press, 2001 ([CRN-012](#))

Paruelo, J.M., "Temperate grasslands", In T. Munn, H.A. Mooney, and J. Canadell, editors. *Encyclopedia of Global Environmental Change. Volume 2 The Earth System: Biological and Ecological Dimensions of Global Environmental Change* John Wiley and Sons, Chichester, in press, 2001 (CRN-012)

Sarukhan, J., and R. Dirzo, "Biodiversity-rich countries", *Encyclopedia of Biodiversity*, Academic Press, San Diego, in press, 2001 (CRN-012)

Williams, D.G., and Z. Baruch, "African grass invasion in the Americas: ecosystem consequences and the role of ecophysiology", *Biological Invasions* 2:123-140, 2000 (CRN-012)

PUBLICATIONS

CRN-026 - Maria VERNET

Title: Enhanced Ultraviolet-B Radiation in Natural Ecosystems as an added Perturbation due to Ozone Depletion

Sastre, M.P., M. Vernet, and S. Steiner, "Single-cell Gel Electrophoresis Applied to the Analysis of Ultraviolet Damage and Repair Phytoplankton Cells", *Limnology and Oceanography*, 29 pp, submitted, 2000 (CRN-026)

Cabrera, S., H. A. Fuenzalida, and A. Dalhback, "Erythematous UV dose in Santiago, Chile (33°S)", *Poster to the presented at the Ozone Meeting, SPARC, Mar del Plata*, November 2000 (CRN-026)

Fuenzalida, H. A., "Underwater UV spectra from measurements with multichannel profilers", *Poster to the presented at the Ozone Meeting, SPARC, Mar del Plata*, November 2000 (CRN-026)

Lovengreen, C., and H. A. Fuenzalida, "Calibration of filter radiometers against spectroradiometers: error assessment", *Poster to the presented at the Ozone Meeting, SPARC, Mar del Plata*, November 2000 (CRN-026)

Momo, F., Hamman, A., Calvente, M., and M. BigatiI, "Efectos de la radiacion ultravioleta sobre ecosistemas marinos. Una aproximacion matematica. (Effects of Ultraviolet Radiation on Marine Ecosystems: A Mathematical Approach)", *IV Jornadas Nacionales de Ciencias del Mar (IV Argentine Journeys on Marine Sciences)*, September 2000 (CRN-026)

Vernet, M., R. Armstrong, C.R. Booth, S. Cabrera, S.E. Diaz, H.A. Fuenzalida, C. Lovengreen, A. Paladini, J. Pedroni, and F. Zamorano, "Enhanced ultraviolet-B radiation in natural ecosystems as an added perturbation due to ozone depletion", *Poster to the presented at the Ozone Meeting, SPARC, Mar del Plata*, November 2000 (CRN-026)

Vernet, M., and W. Kozlowski, "Ultraviolet radiation and the Antarctic coastal marine ecosystem", In: *Ecosystems and Ultraviolet Radiation*, C.S. Cockwell and A.R. Blaustein (Eds.) Springer-Verlag, New York, in press, 2000 (CRN-026)

Whitehead, K., and M. Vernet, "Influence of mycosporine-like amino acids (MAAs) on UV absorption by particulate and dissolved organic matter in La Jolla Bay", *Limnology and Oceanography* 45(8), 2000 (CRN-026)

PUBLICATIONS

CRN-031 - Eduardo FRANCO

Title: ENSO Disaster Risk Management in Latin America: A Proposal for the Consolidation of a Regional Network for Comparative Research, Information and Training from a Social Perspective

Barbosa, M.P., et al, "El evento ENSO y sus implicancias en el semi-árido en el Estado de Paraíba, Brasil", *Desastres y Sociedad*, Año 6, 9:112-125, 2000 (CRN-031)

Franco, E., "El Niño en el Perú: hacia una contextualización de las respuestas sociales al Niño 1997/98", *Memorias del Seminario Permanente de Investigación Agraria (SEPIA VIII: Mesas regionales: Impacto de El Niño en el Perú)*, SEPIA, PREDES, Lutheran World Relief, Pags. 127-170, 1999 (CRN-031)

Franco, E., “La gestión de los riesgos de desastre ENSO desde una perspectiva social”, *El Fenómeno El Niño: Investigación para una prognosis. Primer Encuentro de la Universidades del Pacífico Sur. Memoria. Universidad de Piura (UDEP), Universidad Técnica Particular de Loja, ITDG, IRAGER*, Pags. 50-75, 1999 ([CRN-031](#))

Franco, E., “El Niño en el Perú: viejos y nuevos temas”, *Desastres y Sociedad*, Año 6, 9:82-95, 2000, ([CRN-031](#))

Herzer, H.M. et al, “Predicción e imprevisión: ese es el dilema social”, *Desastres y Sociedad*, Año 6, 9:96-111, 2000 ([CRN-031](#))

PUBLICATIONS

CRN-038 - Pilar CORNEJO

Title: Multi Objective Study of Climate Variability for Impact Mitigation in the Trade Convergence Climate Complex Region

Soley, F., and E. Alfaro, “Aplicación de análisis multivariado al campo de anomalías de precipitación en Centroamérica”, *Revista Tópicos Meteorológicos y Oceanográficos, San José, Costa Rica*, accepted, in press, 2000 ([CRN-038](#))

Wang, C., and D. B. Enfield, “The second-largest tropical warm pool on Earth: The western hemisphere warm pool”, *Geophys. Res. Lett.*, submitted, 2001 ([CRN-038](#))

Mestas-Núñez, A.M., and D. B. Enfield, “Eastern equatorial Pacific SST Variability: ENSO and Non-ENSO components and their Climatic Associations”, *Journal of Climate*, 14, 391-402, 2001 ([CRN-038](#))

Alfaro, E., “Eventos Cálidos y Fríos en el Atlántico Tropical Norte”, *Atmósfera*, 13(2), 109-119, 2000 ([CRN-038](#))

Alfaro, E., and F. Soley, “Eventos Cálidos y Fríos en el Atlántico Tropical Sur”, *Revista Tópicos Meteorológicos y Oceanográficos, San José, Costa Rica*, accepted, in press, 2000 ([CRN-038](#))

Amador, J., S. Laporte, and R. Chacón, “Cuenca del Río Arenal: Análisis de los eventos Niño de los años 1992-93, 1994-95 y 1997-98”, *Revista Tópicos Meteorológicos y Oceanográficos, San José, Costa Rica*, accepted, in press, 2000 ([CRN-038](#))

Amador, J., R. Chacón, and S. Laporte, “Cuenca del Río Arenal: Análisis de los eventos La Niña 1988-89 y 1996”, *Revista Tópicos Meteorológicos y Oceanográficos, San José, Costa Rica*, accepted, in press, 2000 ([CRN-038](#))

Bayot B., I. Betancourt, Fanny Panchana, and José Melena, “Monitoreo Exploratorio de Patologías de Camarón”, *Fundación CENAIM-ESPOL. Guayaquil, El Mundo Acuícola*, Vol. 6, No. 1, Febrero-Mayo 2000 ([CRN-038](#))

Brenes, C.L., J.E.Coen, D.B. Chelton, D.B. Enfield, S. León, and D. Ballester, “Small scale wind driven upwelling in the Gulf of Nicoya, Costa Rica”, *Intl. J. of Remote Sensing*, submitted, 2001 ([CRN-038](#))

Calderón J., B. Bayot, I. Betancourt, and V. Alday, “Monitoreo del Virus de la Mancha Blanca en Ecuador”, *Fundación CENAIM-ESPOL Guayaquil, El Mundo Acuícola*, Vol. 5, No. 2, Julio-Octubre 1999 ([CRN-038](#))

Calderón J., B. Bayot, Stanislaus Sonnenholzner, María Herminia Cornejo, José Melena, and Fanny Panchana, “II Monitoreo del Virus de la Mancha Blanca (WSSV) en Ecuador”, *Fundación CENAIM-ESPOL. Guayaquil, El Mundo Acuícola*, Vol. 6, No. 1, Febrero-Mayo 2000 ([CRN-038](#))

Mora, I., and J. Amador, “El ENOS, el IOS y la corriente en chorro de bajo nivel en el oeste del Caribe”, *Revista Tópicos Meteorológicos y Oceanográficos, San José, Costa Rica*, accepted, in press, 2000 ([CRN-038](#))

PUBLICATIONS

CRN-040 - Juan SILVA

Title: Comparative Studies of Global Change Effects on the Vegetation of Two Tropical Ecosystems: The High Mountain and the Seasonal Savanna

Non or Incomplete Information

PUBLICATIONS

CRN-047 - Michael McCLAIN

Title: Andean Amazon Rivers Analysis and Monitoring (AARAM) Project

L. M. Aparicio, "Diagnóstico del uso actual de los recursos hídricos de la cuenca del Río Pachitea", *Tesis para optar el Título de Ingeniero Forestal. Universidad Nacional Agraria La Molina, Lima*, 146 p., 1999 ([CRN-047](#))

PUBLICATIONS

CRN-048 - Ulisses CONFALONIERI

Title: Diagnostics and Prediction of Climate of Climate Variability and Human Health Impacts in the Tropical Americas

Non or Incomplete Information

PUBLICATIONS

CRN-055 - Mario NUÑEZ

Title: Development of a Collaborative Research Network for the Study of Regional Climate Variability and Changes, their Prediction and Impact, in the MERCOSUR area

Saulo, C.A, M. Nicolini, and S. C. Chou, "Model characterization of the South American low-level flow during the 1997-1998 spring-summer season", *Climate Dynamics*, Vol. 16, 867-881, 2000 ([CRN-055](#))

Vera, C., P.K. Vigliarolo, and E. H. Berbery, "Cold season synoptic scale waves over subtropical South America", *Mon. Wea. Rev.*, submitted, 2000 ([CRN-055](#))

Grimm, A. M., S. E. T. Ferraz, V. R. Barros, and M. B. Dorelo, "Intraseasonal variations of the South America summer monsoon", *CLIVAR Exchanges*, 5, 2, 13-17, 2000 ([CRN-055](#))

Liebmann, Brant, and J. A. Marengo, "Interannual Variability of Rainfall and the Rainy Season in the Brazilian Amazon Basin", *Journal of Climate*, submitted, 2001 ([CRN-055](#))

Barros, V., M. Gonzalez, B. Liebmann, and I. Camilloni, "Influence of the South Atlantic Convergence Zone and South Atlantic Sea Surface Temperature on Interannual Rainfall Variability in Southeastern South America", *Theoretical and Applied Climatology*, 67, 123-133, 2000 ([CRN-055](#))

Berbery, E. H., and E. A. Collini, "Springtime precipitation and water vapor flux over southeastern South America", *Mon. Wea. Rev.*, 128, 1328-1346, 2000 ([CRN-055](#))

Marengo, José A., B. Liebmann, V. E. Kousky, N. P. Filizola, and I. C. Wainer, "Onset and End of the Rainy Season in the Brazilian Amazon Basin", *Journal of Climate*, in press, 2000 ([CRN-055](#))

Müller, G. V., M. N. Nuñez, and Marcelo E. Seluchi, "The relationship between ENSO cycles and frost events within the Pampa Húmeda region", *International Journal of Climatology*, 20, 1619-1637, 2000 ([CRN-055](#))

PUBLICATIONS

CRN-061 - Edmo CAMPOS

Title: SACC: An International Consortium for the Study of Global and Climate Changes in the Western South Atlantic

Non or Incomplete Information

PUBLICATIONS

CRN-062 - Timothy BAUMGARTNER

Title: An Eastern Pacific Consortium for Research on Global Change in Coastal and Oceanic Regions

Awad, G., J.O. Roads, A.J. Miller, and D.R. Cayan, "An Ocean model response to NCEP, COADS and FSU surface flux fields", *Jour. of Geophysical Research*, Accepted pending minor revisions, 2000 ([CRN-062](#))

Ayón P., and Sánchez G., "Survey of the Abundance and Distribution of Anchovy Eggs Off Perú Using CUFES. Instituto del mar del Perú", *GLOBEC Report. No. 14. Report of a Workshop on the use of the continuous underway fish eggs sampler (CUFES) for mapping spawning habitats of pelagic fish, San Sebastián, Spain*, 9-11 February 2000 ([CRN-062](#))

Baumgartner T., and Loya S.D.H., "Incorporation of CUFES Into the IMECOCAL .Ocean Monitoring Program Off baja California, Mexico. CICESE, Mexico", *GLOBEC Report. No. 14. Report of a Workshop on the use of the continuous underway fish eggs sampler (CUFES) for mapping spawning habitats of pelagic fish(9-11 February 2000, San Sebastián, Spain)*, 2000 ([CRN-062](#))

Baumgartner T., Durazo R., Lavaniegos B., Gaxiola G., Hernandez M., Green Y., Arenas V., Lluch S., and Gómez J., "The IMECOCAL Programme, 2000", *GLOBEC International Newsletter*, 2000 ([CRN-062](#))

Bazzio G. Quiñones R., "Biological and ecological Characteristics of *Illex argentinus* (Cephalopoda, Ommastrephidae) relevant to the management of its Southwesr Atlantic fishery", *Gayana* **63(2)**:87-100, 1999 ([CRN-062](#))

Bertram, D.F. , S. McKinnell, and D.L. Mackas., "The seasonal cycle revisited: International variation and ecosystem consequences", *Prog. Oceanog.*, in press, 2000 ([CRN-062](#))

Bograd S. J., Digiacoimo P. , Durazo R., et al, "The State of California Current, 1999-2000: Forward to a New Regime? ", *CalCOFI Rep.*, Vol. 41, 2000 ([CRN-062](#))

Braun M. , Osses J., "Applications of CUFES. Testing CUFES In Northern Chile September 1999, Instituto de Fomento Pesquero Chile", *GLOBEC Report. No. 14. Report of a Workshop on the use of the continuous underway fish eggs sampler (CUFES) for mapping spawning habitats of pelagic fish, San Sebastián, Spain*, 9-11 February 2000 ([CRN-062](#))

Daneri G. ,Dellarossa V., Quiñones R., Jacob B., Montero P., and Ulloa O., "Primary production and community respiration an the Humboldt Current System off Chile and associated oceanic areas",. *Marine Ecology Progress Series*, published, Vol. 197: 41-49, May. 12, 2000 ([CRN-062](#))

Durazo, R. and T.R.Baumgartner, "Evolution of Oceanographic Conditions off Baja California, Oct. 1997-July 1999", *Progress in Oceanography*, submitted, 2000 ([CRN-062](#))

Eissler Y., and Quiñones R. , "Microplaktonic respiration off northern Chile during El Niño 1997-1998", *Journal of Plankton Research*, Vol. 21 no. 12 pp. 2263-2283, 1999 ([CRN-062](#))

E. Yánes, M.A. Barbieri, C. Silva, K. Nieto, V. Mimica, F.Espíndola, and R. Opazo, "Environmental fluctuations and pelagic fisheries in northern Chile", *A Conference on Pacific climate Variability and Marine Ecosystem Impacts from the Tropics to the Artic.*, University of California, San Diego, La Jolla, California, U.S.A., March 23-26, 2000 ([CRN-062](#))

- Field, D.B., and T.R. Baumgartner, "A 900 years record of interdecadal and centennial change from the California Current", *Paleoceanography*, 21 pp. 10 figures, in press, 2000 (CRN-062)
- F. Rada, C. García-Nuñez, C. Boero, M. Gallardo, M. Hilal, J. González, F. Prado, M. Liberman-Cruz, and A. Azócar, "Low temperature resistance in *Polylepis tarapacana*, a tree growing at the highest altitudes in the world: freezing avoidance or frost tolerance?", *Plant, Cella and Environment*, in press, 2001 (CRN-062)
- Freeland H., "The 1997 El Niño: The View from Line-P", *CalCOFI, Rep. Vol. 41*, 2000 (CRN-062)
- García J.P., and Lara L.R., "Estudios del pastoreo del zooplancton de las aguas del Pacífico Mexicano", *Investigaciones del plancton, SOMPAC, A.C.*, in review, 2000 (CRN-062)
- García-Nuñez C., Azócar A., and Silva J.F., "Seed production and soil seed bank in three evergreen woody species from a neotropical savanna", *Journal of Tropical Ecology*, submitted, 2000 (CRN-062)
- J.L. Blanco, A.C. Thomas, M.E. Carr, and P.T. Strub, "Seasonal Climatology of Hydrographic Conditions in the Upwelling Region off Northern Chile", *Journal of Geophysical Research (Oceans)*, submitted, 1999 (CRN-062)
- Lara L.R. Millan E., Bazan C., and Millan R., "Productividad primaria del fitoplancton del Pacífico Mexicano: Parte II", *Investigaciones del plancton en México, SOMPAC, A.C.*, in review, 2000 (CRN-062)
- Lara L.R., "International Conference. Marine and coastal environment in Mexico and impact of Global Change", *Internat. Confer. On Impacts of Populations and Markets on Sustainability of the Ocean and Coastal Resources. The Perspective of Developing and Transition. Economies of North Pacific*, June 3-4, 1999 (CRN-062)
- Lavaniegos B.E., Jimenez P.L.C., and Gaxiola C.G., "Plankton response to El Niño 97-98 and La Niña 99 in the southern region of California Current", *Progress in Oceanography*, in review, 2000 (CRN-062)
- Lavaniegos B.L., Gaxiola C.G., Jimenez L.C., González E.M.R., Baumgartner T., Durazo R., Garcia C.J., and Lara L.J., "El Niño 1997-1998 effects in the pelagic ecosystem of the California Current", *Geofísica Internacional*, in review, 2000 (CRN-062)
- Lavaniegos B.E., Durazo R., Gaxiola C.G., Baumgartner T., Jimenez P.L.C., Garcia C.J., Gonzalez E.M.R., "El Niño y el Mar", *Ciencia y Desarrollo*, submitted, 2000 (CRN-062)
- J.L. Blanco, L. Pizarro, T. DelaCuadra, G.A. Camacho, R. Martinezy, and J. Quintana, "Características Meteorológicas y Oceanográficas en el Pacífico Sudeste durante la declinación del Evento el Niño 1997-1998", *Informe Final de la XIII Reunión del Comité Científico del Programa EFEN. Guayaquil, Noviembre de 1998. Comisión Permanente del Pacífico Sur*, 1998 (CRN-062)
- Mackas, D.L., and M. Galbraith, "Zooplankton community composition along the inner portion of Line P during the 1997-98", *El Niño event. Prog. Oceanog.*, in review, 2000 (CRN-062)
- Mackas, D.L., R.E. Thomson, and M. Galbraith, "Change in the zooplankton community of the Bittih Columbia continental margin, and covariation with oceanographic conditions, 1985-1999", *Can J. Fish. Aquat. Sci.*, in review, 2000 (CRN-062)
- Markgraf, V., T.R. Baumgartner, J.P. Bradbury, H.F. Diaz, R.B. Dunbar, B. Luckman, G. Seltzer, T.W. Swetnam, and R. Villalba, "Paleoclimate reconstruction along the Pole-Equator-ple transect of the Americas (PEP 1)", *Quaternary Science Reviews*, v.19: 122-140, 2000 (CRN-062)
- Miller A., Di Lorenza E., Neilson D. J., Cornuelle B.D., and Moisan J.R., "Modeling CalCOFI observation during El Niño: Fitting Physics and biology", *CalCOFI, Rep., Vol. 41*, 2000 (CRN-062)
- Montes R., Quiñones R., "The effect of rainfall and runoff of the Bío-Bío and Itata rivers on the landings of the clams *Protothaca* and *Venus antiqua* in central-south Chile", *Revista Chilena de Historia Natural*, 72: 13-30, 1999 (CRN-062)
- M. Sinclair, T. Smith, B. O. Boyle, and T. Baumgartner, "Population Thinking, Climate Variability and Overfishing: Historical Sketch on the Interpretation of Fluctuations in Marine Fisheries", *ICES Journal*, submitted, 2000 (CRN-062)

Pinto, A.S., Klink, C.A., and Moreira, A.G., “Relação entre a fenologia de plantas lenhosas do Cerrado e a disponibilidade hídrica no solo profundo”, *Brazilian Journal of Botany*, submitted, 2000 ([CRN-062](#))

Sánchez G., Caliens R., and Zuta S., “The 1997-98 El Niño and effects on the coastal marine ecosystem off Perú”, *CalCOFI Rep.*, Vol. 41, 2000 ([CRN-062](#))

Schwartzlose, R.J. Ahlheit, A. Bakum, T. Baumgartner, et al., “World-wide large scale fluctuations of sardine and anchovy populations”, *South African Jour. Of Marine Science*, V.21: 289-347, 1999 ([CRN-062](#))

Silva, D.A., and Klink, C.A., “Dinâmica de foliação e perfilamento de duas gramíneas C4 e uma C3 nativas do Cerrado”, *Revista Brasileira de Botânica*, in press, 2001 ([CRN-062](#))

Wütherich D., Azócar A., García-Núñez C., and Silva J.F., “Seed dispersal in *Palicourea rigida* H.B.K., a common treelet species from a neotropical savannas”, *Journal of Tropical Ecology*, submitted, 2000 ([CRN-062](#))

PUBLICATIONS

CRN-073 - Victor MAGAÑA

Title: Climate Variability and its Impacts in the Mexican, Central American and Caribbean Region

Non or Incomplete Information

**INTER-AMERICAN INSTITUTE FOR
GLOBAL CHANGE RESEARCH
(IAI)**

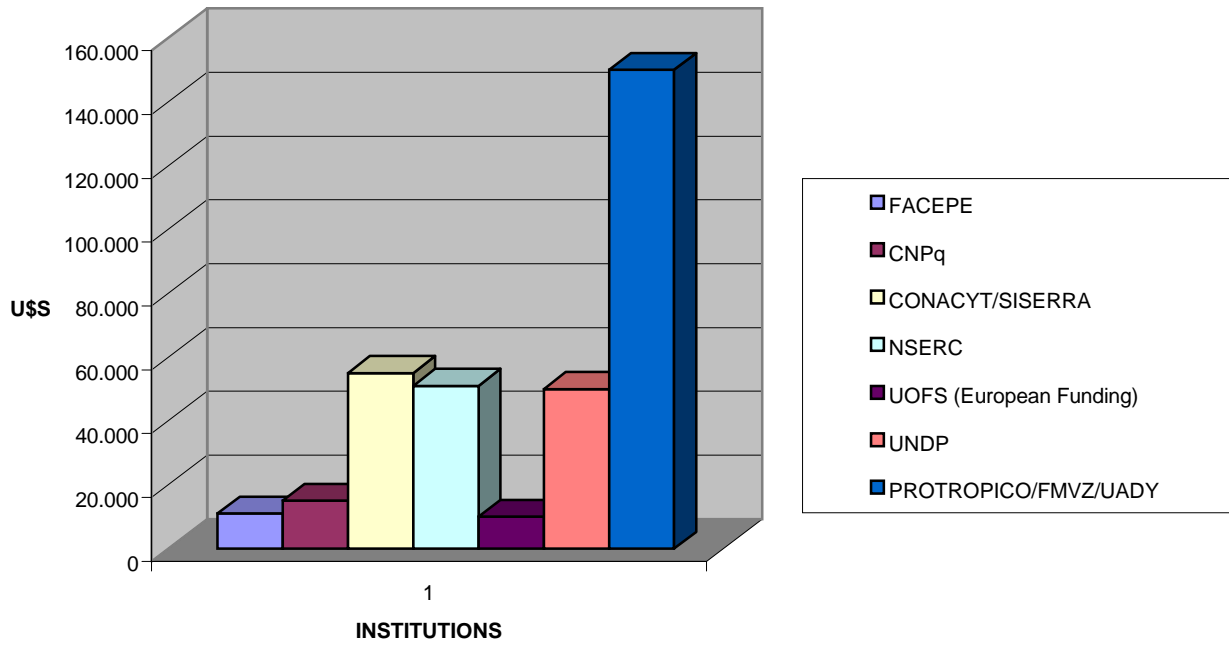
EC-XIII - CoP-VIII
July 17-18 and 19-20, 2001
Panama City - Panama

Additional Funds

Additional funds (obtained or expected) enlarging the initial support of CRN projects.

PI	Additional Funds / Source	
H. Tiessen		
	11.000 FACEPE (Brazil)	Reseach on Opuntia
	15.000 CNPq (Brazil)	Research on soil organic matter dynamics under landuse change
	30.000 CONACYT/SISERRA(Mexico) 1999/2000	Evaluación para intensificar la milpa en Yucatán
	25.000 NSERC 2000/2001	Revaloración de la tecnología tradicional
	25.000 CONACYT /SISERRA(Mexico) 1999/2001	Establecimiento, desarrollo y evaluación de sistemas agroforestales en el Municipio de Mérica
	50.000 UNDP 2000/2002	El Solar escolar
	150.000 PROTROPICO/FMVZ/UADY 2000/2001	Fortalecimiento Institucional de PROTROPICO-FMVZ-UADY
	26.000 NSERC (Canada)	Student travel and research support
	10.000 UOFS (European Funding)	Analytical work on Yucatán soils
TOTAL	342.000	

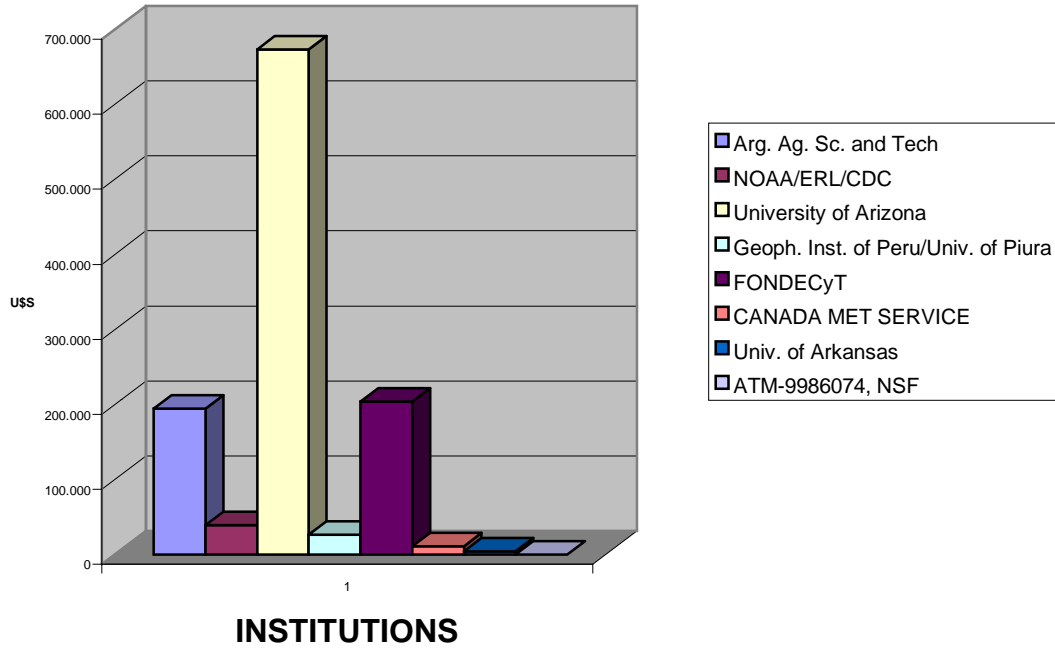
CRN HOLM TIESEN - ADITONAL FUNDS



Additional funds (obtained or expected) enlarging the initial support of CRN projects.

PI	Additional Funds / Source	
B. Luckman	35.000 Arg. Ag. Sc. and Tech	Integrating instrumental, dendrochronological and glaciological records to characterize the climatic variability across Patagonian during the past 1000 years
	48.000 Arg. Ag. Sc and Tech	Reconstruction of ENSO events during the last 1000 years in the North of Patagonia (36° - 39 °)
	40.581 Arg. Ag. Sc. and Tech	Status, dynamic and potencial use of Prosopis flexuosa forests in three natural environments of Mendoza province, Argentina
	26.600 Geoph. Inst. Of Peru/Univ. of Piura	Estudios dendrocronologicos de eventos El Niño y otras variaciones climaticas en la zona tropical de Sudamerica.
	194.000 FONDECyT-Chile	Climate changes during the last 1000 years in the southern Chilean Andes (41° - 51°) from tree-ring, glaciers and documentary records.
	11,000 Met. Serv. (Canada)	Dendroclimatic reconstructions of climate patterns in the Canadian Cordillera
	9.600 FONDECyT – Chile	Funding to enhance collaboration with Dr. Ricardo Villalba and Dr. Rosario Prieto from Cricyt, Mendoza , Argentina
	4.000 Univ. of Arkansas - USA	To enhance facilities in San Luis Potosi laboratory.
	????? ATM-9986074, NSF Paleolimatology program	The University of Arkansas Tree Ring Laboratory was funded by the NSF, for four more years of research starting in April 2000. This grant provides funds for our research in Mexico, and greatly elverages the IAI support to Jose Villanueva at INIFAP
	278.621 University of Arizona - USA	Temperature variability since AD 1000 in the western US from tree rings.
	360.000 University of Arizona – USA	Decade to century hydroclimatic variability in western North America.
	34.000 University of Arinoza - USA	Recollection and extension of chronologies of ancient brittlecone pine.
	35.550 Arg. Ag. Sc. and Tech. 2001/2003	Extensión de cronologias de ancho de anillo de arboles para estudios de variabilidad climática durante los últimos 2000 años en el sur de la Patagonia
39.000 NOAA/ERL/CDC (USA)	Support studies of summer monsson rainfall reconstructions from tree rings at the Tree Ring Laboratory in Arizona	
TOTAL	1.115.952	

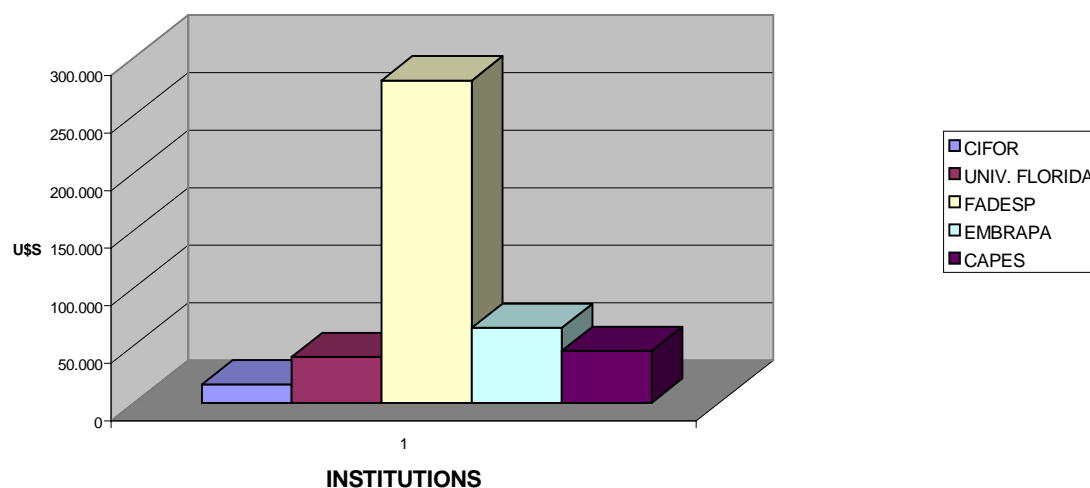
CRN BRIAN LUCKMAN - ADITONAL RESOURCES



Additional funds (obtained or expected) enlarging the initial support of CRN projects.

PI	Additional Funds / Source	
C. Wood	16.000 CIFOR (CGIAR)	CIFOR has contributed 20% of Dr. David Kaimowitz's time to the CRN research project. Kaimowitz will contribute to the methodological workshops, fieldwork, and write-up
	40.000 Univ. of Florida (USA)	The Center for Latin American Studies has agreed to provide a two-year graduate assistantship to an Ecuadorian student involved in the CRN research project (Stipend \$10.000 per year, Tution \$10.000 per year).
	220.000 FADESP (Brazil)	Uso de la Tierra, dinámica de paisaje y construcción de espacio en la Amazonía brasileira: análisis comparativo y metodología del monitoreo en áreas de frontera agrícola
	60.000 FADESP (Brazil)	Investigación y desarrollo para dinamizar la producción lechera paraense (Estado de Pará)
	65.000 EMBRAPA (Brazil)	Evaluación e integración de la pecuaria lechera en la agricultura familiar de la Amazonía Oriental brasileira
	45.000 CAPES (Brazil)	Dinámica de frontera y contrucción de los espacios en la Amazonía brasileira
TOTAL	446.000	

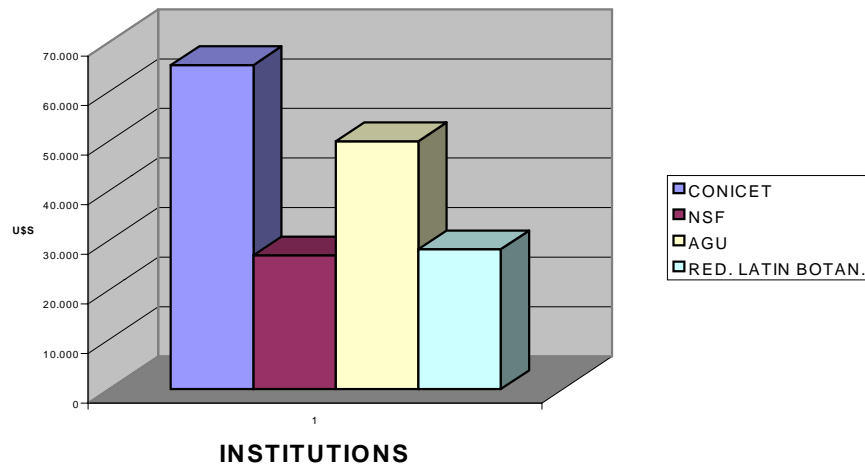
CRN CHARLES WOOD - ADITONAL FUNDS



Additional funds (obtained or expected) enlarging the initial support of CRN projects.

PI	Additional Funds / Source		
O. Sala	38,400	CONICET (Argentina)	
	27,000	CONICET (Argentina) 2000/2003	Doctoral fellowship to Santiago Verón
	27,000	NSF (USA) 2000/2001	The imprint of vegetation on soil nutrient pools: the effect of afforestation in the Pampas
	50,000	AGU (USA) 2001	Funding for a Chapman Conference: Interactions between Vegetation and Hydrological Processes in Semiarid Landscapes
	28,200	Red Latinoamericana de Botánica 2002	RLB will co-finance a course in Chamela Mexico during year 2002 on the topic of biodiversity and global change. The course is aimed to graduate students of the region.
TOTAL	170,600		

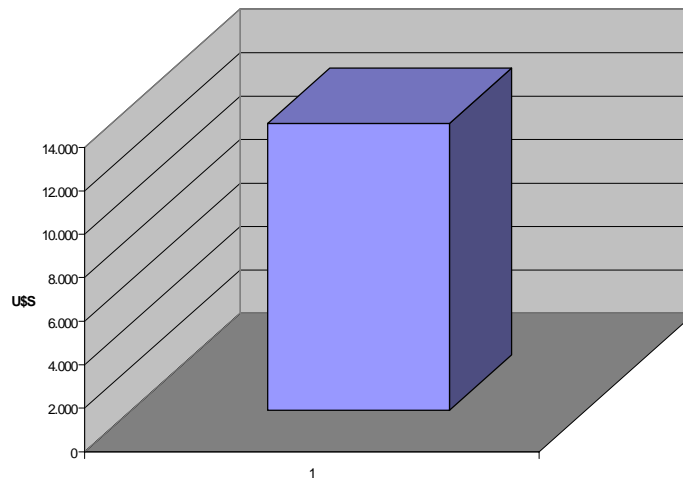
CRN OSVALDO SALA - ADITONAL FUNDS



Additional funds (obtained or expected) enlarging the initial support of CRN projects.

PI	Additional Funds / Source	
M. Vernet	13.200 Ntal. Sc. Eng. Res. Canada	
TOTAL	13.200	

CRN MARIA VERNET - ADDITIONAL FUNDS

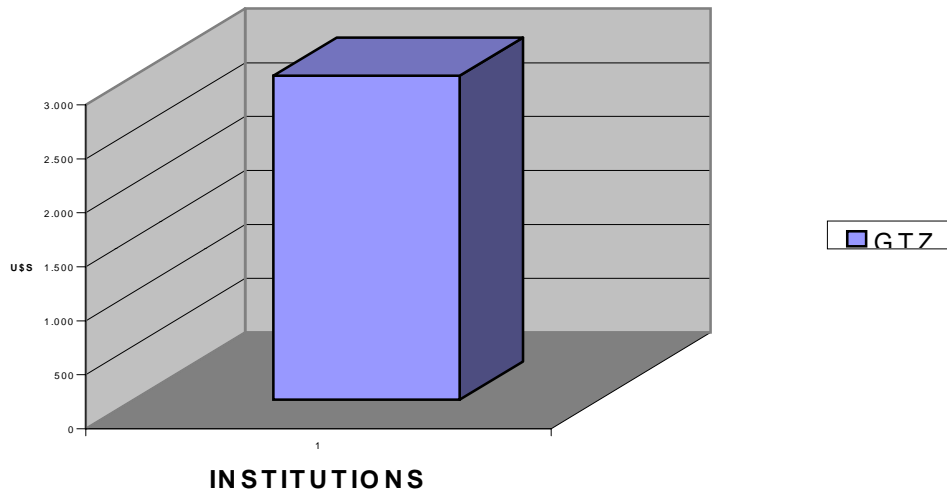


INSTITUTIONS

Additional funds (obtained or expected) enlarging the initial support of CRN projects.

PI	Additional Funds / Source	
E. Franco	3,000 GTZ (Germany)	
TOTAL	3,000	

CRN EDUARDO FRANCO - ADITIONAL FUNDS



CRN-038 - Pilar CORNEJO

**Additional funds (obtained or expected) enlarging the
initial support of
CRN projects.**

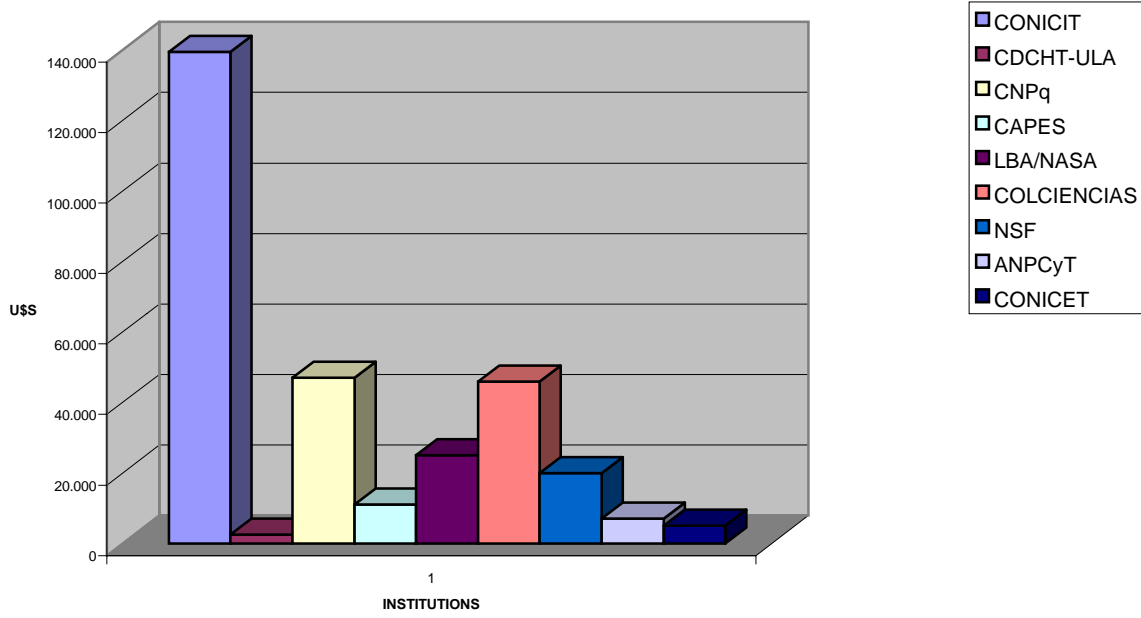
PI	Additional Funds / Source	
P. Cornejo		
TOTAL		

CRN-040 - Juan SILVA

**Additional funds (obtained or expected) enlarging the
initial support of
CRN projects.**

PI	Additional Funds / Source	
J. Silva		
	100.000 CONICIT (Venezuela) 2000/2003	Equipment, field work, supplies, Grant #98003404
	27.500 CONICIT (Venezuela) 2000	Scholarships for three graduate students
	8.500 CONICIT (Venezuela) 2000	Thesis research grants, supplies
	2.500 CDCHT-ULA (Venezuela) 2000	Thesis research grants, supplies
	22.000 CNPq (Brazil) 2000	3 PhD Scholarships
	10.000 CAPES (Brazil) 2000	3 MSc Scholarships
	25.000 LBA/NASA (USA) 2000	Research grant, field work, salaries, supplies
	21.000 COLCIENCIAS (Colombia) 2000/2001	Grant #260-99 Personnel, field work, supplies
	3.500 CONICIT (Venezuela) 2001	Grant # 98003435, Equipment
	25.000 CNPq (Brazil) 2000/2001	Research Grant , Equipement, supplies, travelling
	20.000 NSF (USA) 2000/2001	Research Grant, field work supplies
	25.000 COLCIENCIAS (Colombia) 2001/2003	Equipment, field work, supplies
	7.000 ANPCyT (Argentina) 2001	Research Grant, equipment
	5.000 CONICET (Argentina) 2001	Field equipment and supplies
TOTAL	302.000	

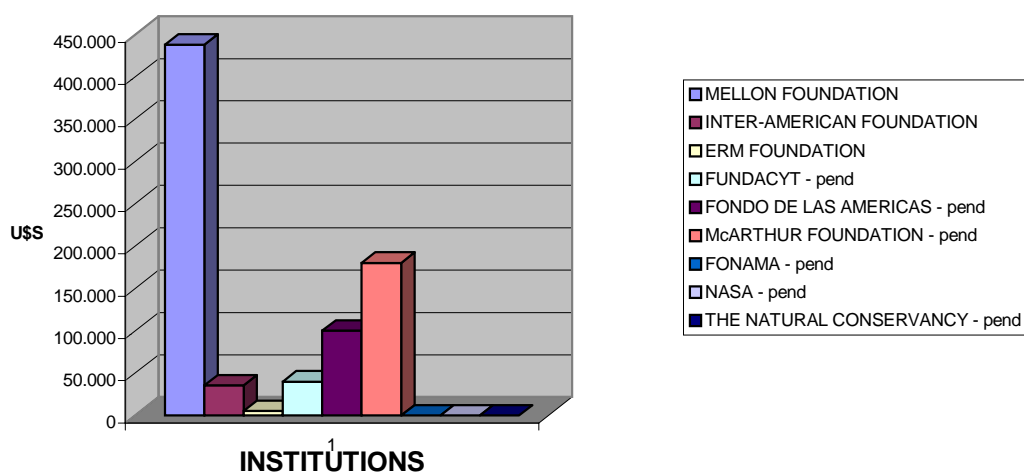
CRN JUAN SILVA - ADITONAL RESOURCES



Additional funds (obtained or expected) enlarging the initial support of CRN projects.

PI	Additional Funds / Source		
M. McClain	438,000	Mellon Foundation	The function of Riparian Forests as Regulators of local and regional scale Nitrogen Cycles
	35,000	Inter-American Foundation (USA)	Graduate support for the M.Sc. of Rosa Cossío
	5,000	ERM Foundation (USA)	Support to implement the GLOBE Program in the Pachitea Basin
	40,000	FUNDACYT (Ecuador) pending	Efectos del cambio en el uso del suelo y en la calidad del agua del Río Napo, Ecuador
	100,000	FONDO DE LAS AMERICAS (Peru) pending	La Gestión Social de la cuenca Andino-Amazónica del Río Pachitea, Perú
	180,000	MacArthur Foundation (USA) pending	Compartiendo un espacio común en condiciones saludables: la conservación y manejo de la diversidad Bio-acuática de la Cuenca Andino-Amazónica del Río Pachitea - Perú
	?????	FONAMA (Fondo Nacional de Medio Ambiente de Bolivia, pending	Contaminacion por mercurio desechado al medio ambiente por la actividades auríferas en la cuenca del Río Beni
	?????	NASA – USA , pending	Landscape controls on the hydrology and water quality of Andean Amazon Rivers
	?????	The Natural Conservancy, pending	Support for small watershed studies in the upper Napo basin.
TOTAL	798,000		

CRN MICHAEL McCLAIN - ADDITIONAL FUNDS



CRN-048 - Ulisses CONFALONIERI

Additional funds (obtained or expected) enlarging the initial support of CRN projects.

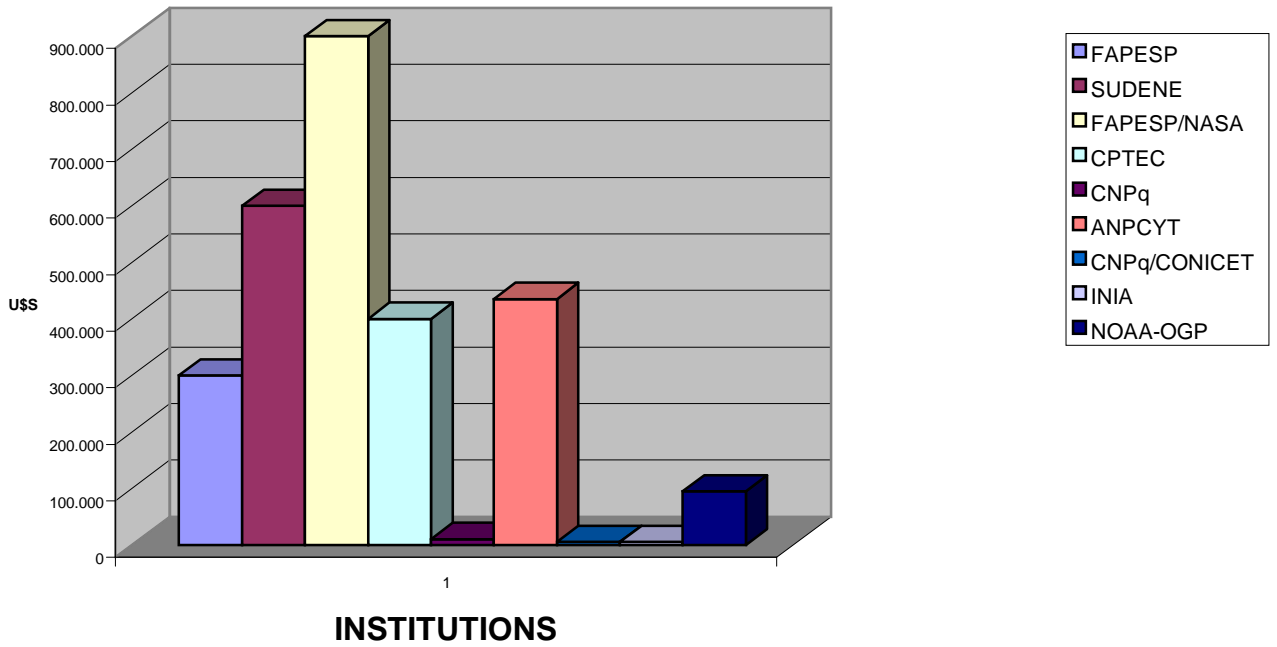
PI	Additional Funds / Source	
U. Confalonieri		
TOTAL		

CRN-055 - Mario NUÑEZ

Additional funds (obtained or expected) enlarging the initial support of CRN projects.

PI	Additional Funds / Source	
M. Nuñez	300.000 FAPESP (Brazil) 2000	Study of Low Level Jet
	600.000 SUDENE (Brazil) 2000/2003	Soil moisture estimates for Brazil. Surface energy budget calculations using met. Satations and satellite estimates of solar radiation are coupled to a soil hydrological model forced by daily rainfall observations
	900.000 FAPESP (Brazil)/NASA (USA)2000/2003	CPTEC Eta model and USP RAMS model
	400.000 CPTEC (Brazil) 2000/2003	Predictable studies for Southeastern South America at CPTEC.
	10.900 CNPq (Brazil) 2001	Undergraduate students
	80.800 ANPCYT (Argentina) 2000/2002	Las Sequías en la Argentina – W. Vargas
	138.090 ANPCYT (Argentina) 2000/2002	Simulación y caracterización de la corriente en chorro en capas bajas y su relación con la convección intensa en el sudeste de sudamérica – M. Nicollini
	135.441 ANPCYT (Argentina) 2000/2002	Variabilidad y cambio climático: Proyección regional de la variabilidad climática en Argentina y análisis de los cambios esperados – M. Nuñez
	81.000 ANPCYT (Argentina) 2000/2002	Estudio de los macanismos físicos que vinculan la variabilidad climática estacional e interanual en el centro y norte de Argentina con la observada en los océanos circundantes. – G. Berri
	6.000 CNPq/CONICET (Brazil/Argentina) 2001	Variaciones climáticas intraestacionales de verano en el Cono Sur de América del Sur. – V. Barros, A. Grimm
	6.000 INIA (Uruguay)	Desarrollo de un Sistema Nacional de Información y aplicaciones de Pronósticos Climáticos para el sector Agropecuario. – M. Bidegain
	95.159 NOAA-OGP (USA)	Variability of Extreme Precipitation Events in Southeast America: An Assessment of Intraseasonal, Interannual, and Decadal Time Scales. – B. Liebmann
TOTAL	2.753.390	

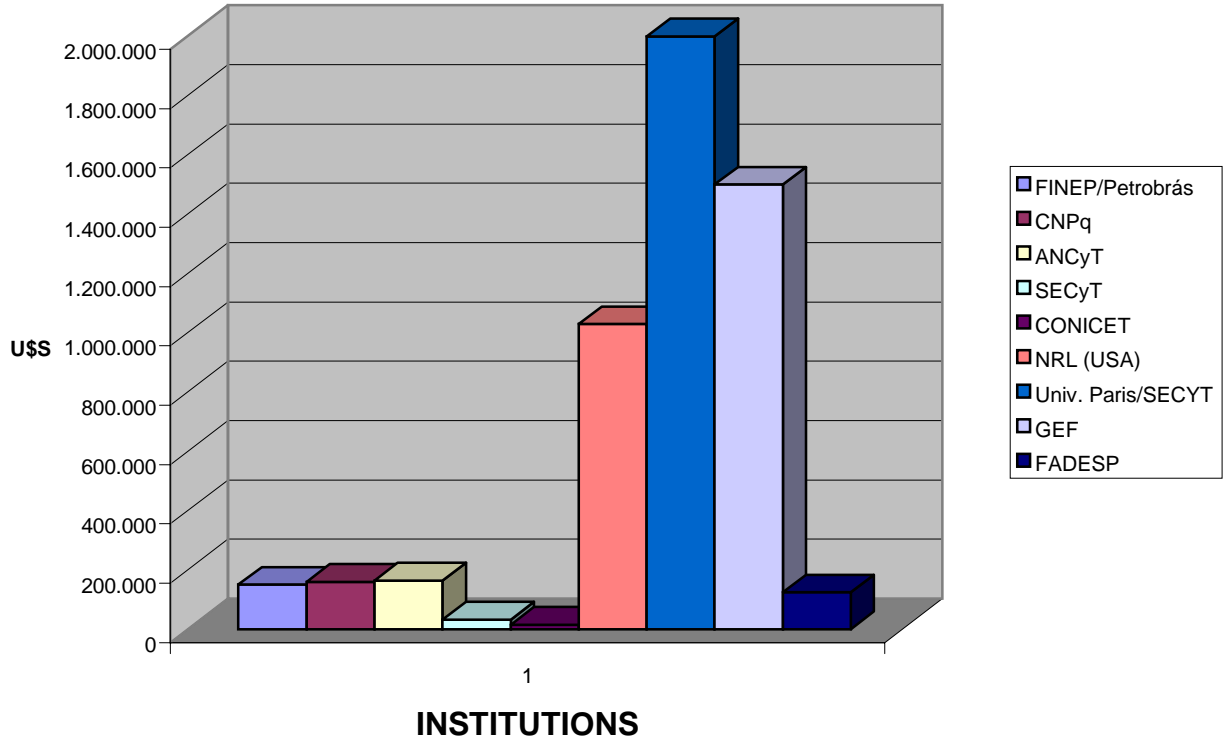
CRN MARIO NUÑEZ - ADITONAL FUNDS



Additional funds (obtained or expected) enlarging the initial support of CRN projects.

PI	Additional Funds / Source		
E. Campos	25.000	FAPESP (Brazil)	Study of impacts of Rio de La Plata discharge on the eastern S. American Continent Shelf (One M.Sc. Fellowship/IOUSP)
	150.000	FINEP/Petrobrás (Brazil)	Modeling of the Circulation and Flux os Sediments in the Continental Shelf off Campos, Brazil (IOUSP/FURG). Includes a post-doc and graduate student at FURG.
	160.000	CNPq (Brazil)	PhD fellowship at Florida State Uni. for sea-surface and thermocline circulation in the S. Tropical Atlantic. PhD fellowship at GSO/Univ. of Rhode Island for processes at the SEC Bifurcation.
	50.000	ANCyT (Argentina) 2001/2003	For compare outputs from SW Atantic circulation simulation derived from various numerical models. A new generation of Workstation is to be delivered in July 2000
	33.000	SECyT (Argentina) 2000/2001	The study of ocean-atmosphere CO2 fluxes in the SW Atantic, Scotia Sea and nothern Weddell Sea. The project funds exchange visits of up to 3 months with researchers from the Laboratoire de Physique et Chimie Marine, University of Paris, France.
	12.000	CONICET (Argentina) 2000/2001	PhD. Fellowship to participate in the above project
	9.000	ANPCyT (Argentina) 1999/2000	Climate experiments, using a global coupled ocean-atmosphere general circulation model. Study of recent climate variations in South America
	3.000	CONICET (Argentina) 1999/2000	Assesment of the global warming impact on the hydrologic cycle of Argentina. Climate simulation of enhanced greenhouse effect due increasing atmosphere CO2 concentration.
	91.000	ANPCyT (Argentina) 2000	Development of a numerical ocean circulation model for the west South Atlantic
	14.200	ANPCyT (Argentina) 2000	Study of the predictability of seasonal climate anomalies of Argentina. Additional hardware and software requested for climate modeling. Subscriptions and publications.
	500.000	NRL (USA) pending	
	100.000	FAPESP (Brazil) pending	
	2.000.000	Univ. Paris (France)/SECyT (Argentina) 2000/2010	
	1.000.000	GEF (Argentina) 2001/2003	
	500.000	GEF (Argentina) 2000/2003	
	529.000	NRL (USA) 2001	Observational and numerical studies of coastal ocean circulation
TOTAL	5.176.200		

CRN EDMO CAMPOS - ADITONAL FUNDS



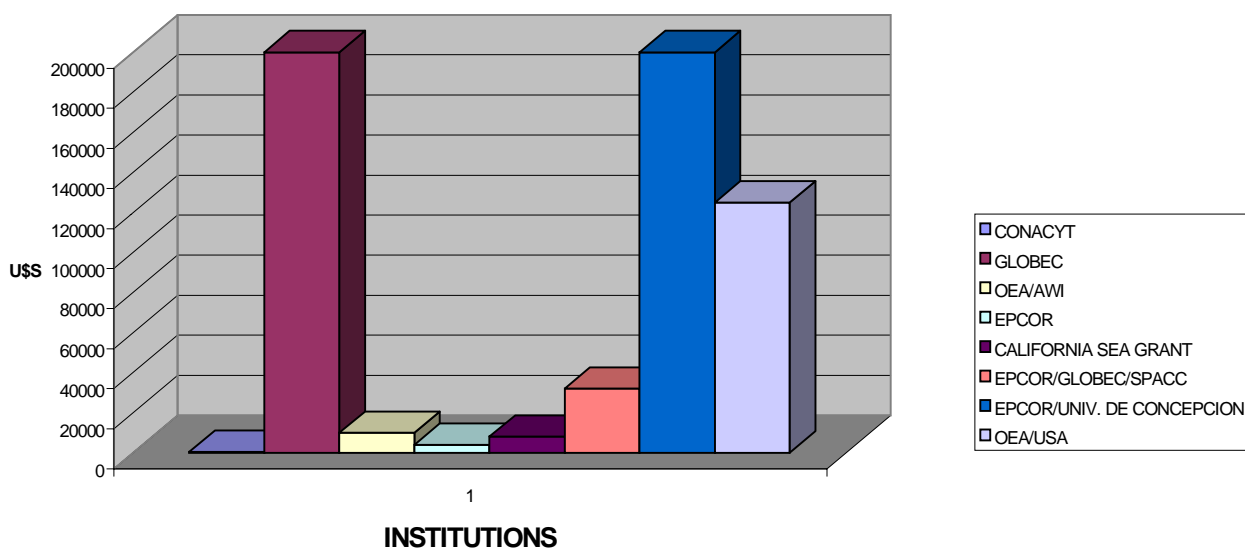
CRN-062 - Timothy BAUMGARTNER

Additional funds (obtained or expected) enlarging the initial support of CRN projects.

PI	Additional Funds / Source		
T.Baumgartner	500.000	CONACYT (Mexico) 2000/2005	Imecocal was also influenced by IAI-CRN funds Fisheries an Ocean Canada Workshop on Intercalibration of Studies on Impacts of ENSO/Symposium on Biological impacts of La Niña-Lima-Perú Sardine Forum in coordination of research in California Current system/ cooperation industry, academia and governmet agencies of Canada, USA, Mexico Sardine Forum :Sea Grant plus industry and governmet budgets Workshop on fisheries and decadal changes in E. Pacific Humboldt Current and California Current Sciences Exchanges and graduate Program scholarships for two students Cooperacion Regional para el manejo del Impacto de los Eventos El Niño sobre la Biodiversidad y el Uso Sostenible de los Recursos. Will develop de Country's Network RIBEN (Chiel, Bolivia, ArgentinaEcuador, Colombia, Panama Venezuela and Peru) analyzing the impact of climate change on the coastal area of the Pacific Ocean.
	200.000	GLOBEC (Canada) 2000/2001	
	10.000	OEA/AWI (OEA/Germany) 2001	
	4.000	EPCOR 2000	
	8.000	CALIFORNIA SEA GRANT(USA) 2000	
	32.000	EPCOR/GLOBEC/SPACC 2001	
	200.000	EPCOR/UNIV. DE CONCEPCION 2000/2004	
	125.000	OEA 2000/2003	
TOTAL	1.079.000		

CRN-073 - Victor MAGAÑA

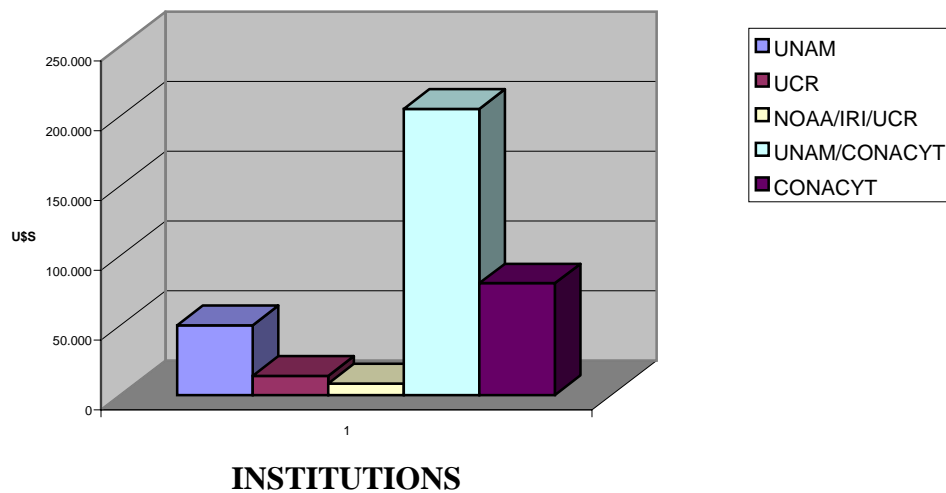
CRN TIMOTHY BAUMGARTNER - ADITONAL FUNDS



Additional funds (obtained or expected) enlarging the initial support of CRN projects.

PI	Additional Funds / Source		
V. Magaña	80.000	CONACYT (Mexico)	Instrumentation, materials, visiting scientists, ship time
	50.000	UNAM (Mexico)	Scholarships, visiting scientists and ship time
	13.700	UCR (Costa Rica)	1 research assistat, communications, material and supplies
	8.200	NOAA/IRI/UCR (USA)/COSTA RICA	Support for students for participate in the course on dynamical downscaling held at IRI
	205.000	UNAM/CONACYT (Mexico)	Support for ship time, materials and supplies
TOTAL	356.900		

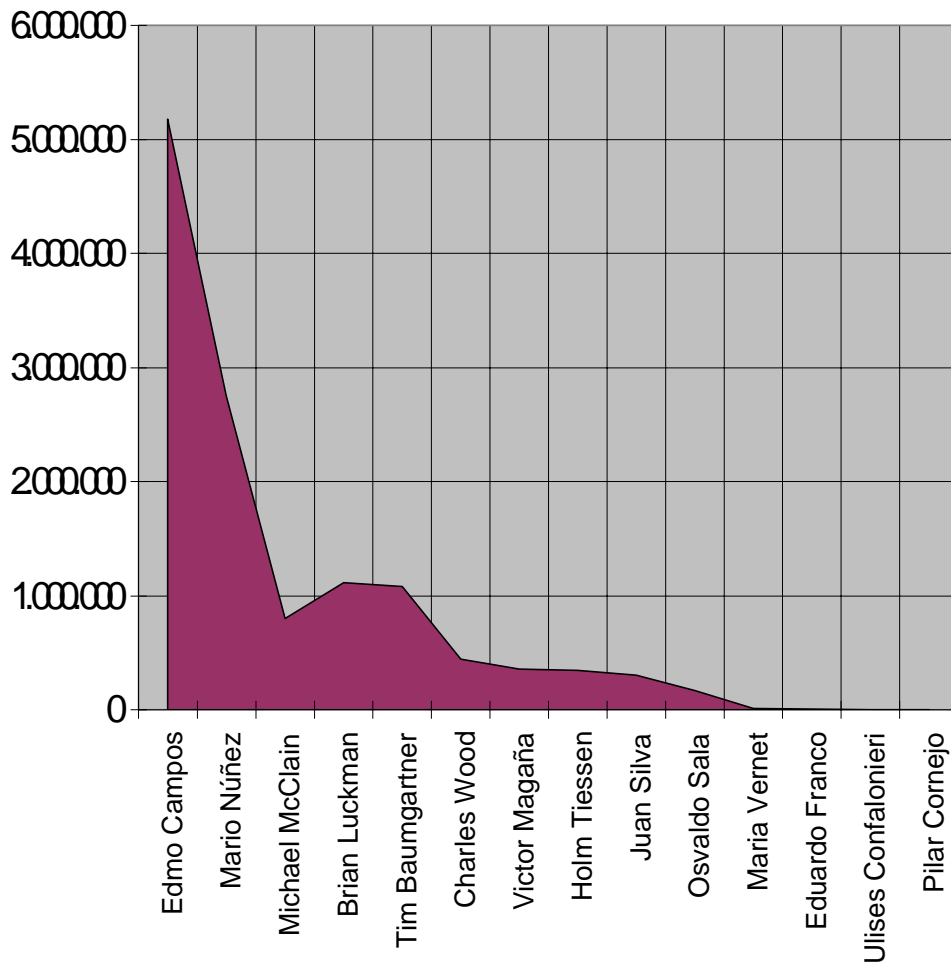
CRN VICTOR MAGAÑA - ADITIONAL FUNDS



ADDITIONAL FUNDS (Obtained or expected)

Principal Investigator	Funds Obtained	Pending
Holm Tiessen	342.000	
Brian Luckman	1.115.952	
Charles Wood	446.000	
Oswaldo Sala	170.600	
Maria Vernet	13.200	
Eduardo Franco	3.000	
Pilar Cornejo	0	
Juan Silva	302.000	
Michael McClain	798.000	140.000
Ulises Confalonieri	0	
Mario Nuñez	2.753.390	
Edmo Campos	5.176.200	600.000
Tim Baumgartner	1.079.000	
Victor Magaña	356.900	
TOTAL	12.556.242	740.000

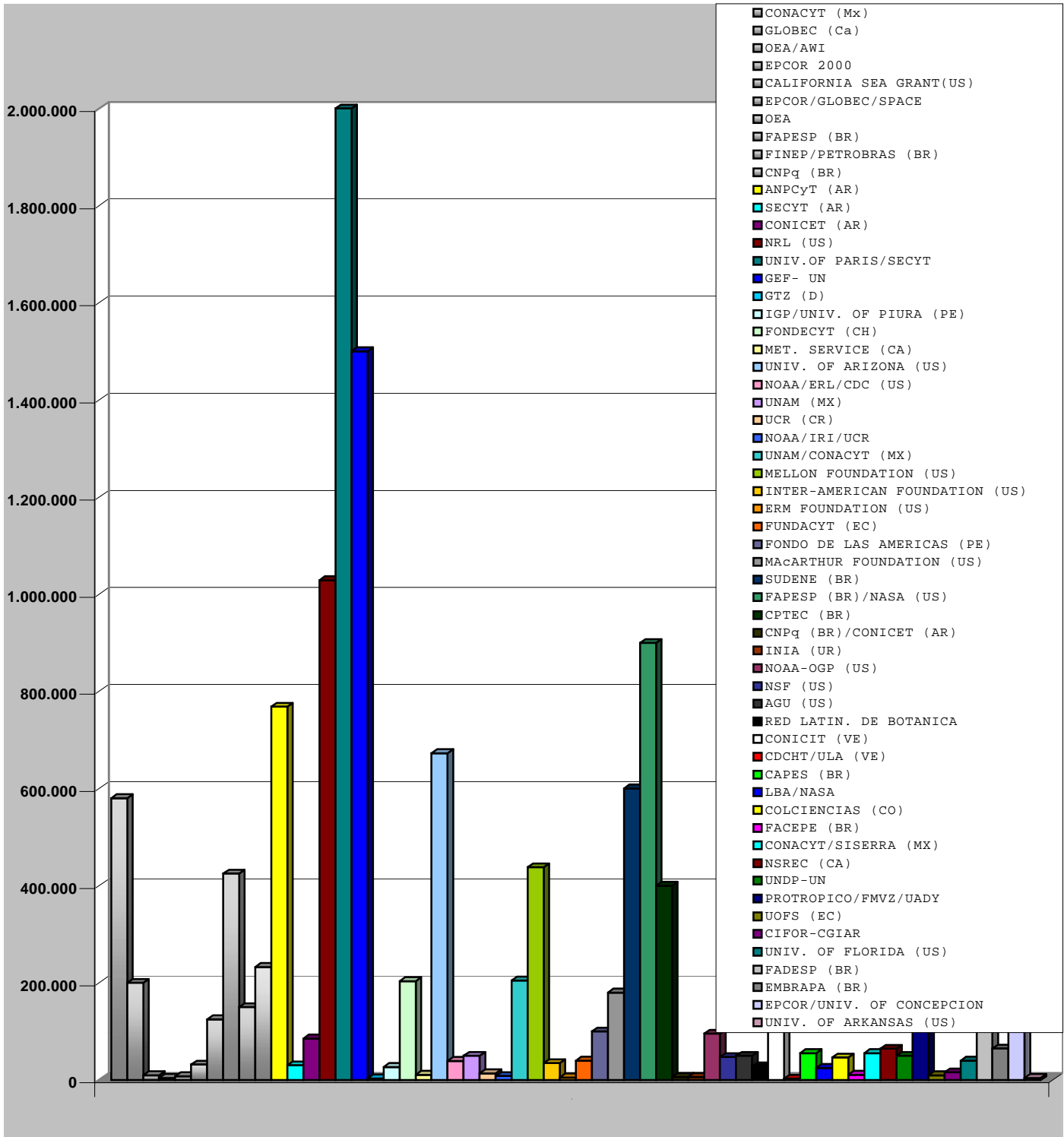
ADDITIONAL FUNDS (OBTAINED OR EXPECTEC) BY INSTITUTION or PROJECT



ADDITIONAL FUNDS (Obtained or expected)

INSTITUTION	FUNDS
CONACYT (Mx)	580.000
GLOBEC (Ca)	200.000
OEA/AWI	10.000
EPCOR 2000	4.000
CALIFORNIA SEA GRANT(US)	8.000
EPCOR/GLOBEC/SPACE	32.000
OEA	125.000
FAPESP (BR)	425.000
FINEP/PETROBRAS (BR)	150.000
CNPq (BR)	232.900
ANPCyT (AR)	768.662
SECYT (AR)	30.000
CONICET (AR)	85.400
NRL (US)	1.029.000
UNIV.OF PARIS/SECYT	2.000.000
GEF- UN	1.500.000
GTZ (D)	3.000
IGP/UNIV. OF PIURA (PE)	26.600
FONDECYT (CH)	203.600
MET. SERVICE (CA)	11.000
UNIV. OF ARIZONA (US)	672.621
NOAA/ERL/CDC (US)	39.000
UNAM (MX)	50.000
UCR (CR)	13.700
NOAA/IRI/UCR	8.200
UNAM/CONACYT (MX)	205.000
MELLON FOUNDATION (US)	438.000
INTER-AMERICAN FOUNDATION (US)	35.000
ERM FOUNDATION (US)	5.000
FUNDACYT (EC)	40.000
FONDO DE LAS AMERICAS (PE)	100.000
MAcARTHUR FOUNDATION (US)	180.000
FAPESP (BR)/NASA (US)	900.000
CPTEC (BR)	400.000
SUDENE (BR)	600.000
CNPq (BR)/CONICET (AR)	6.000
INIA (UR)	6.000
NOAA-OGP (US)	95.159
NSF (US)	47.000
AGU (US)	50.000
RED LATIN. DE BOTANICA	28.200
CONICIT (VE)	139.500
CDCHT/ULA (VE)	2.500
CAPES (BR)	55.000

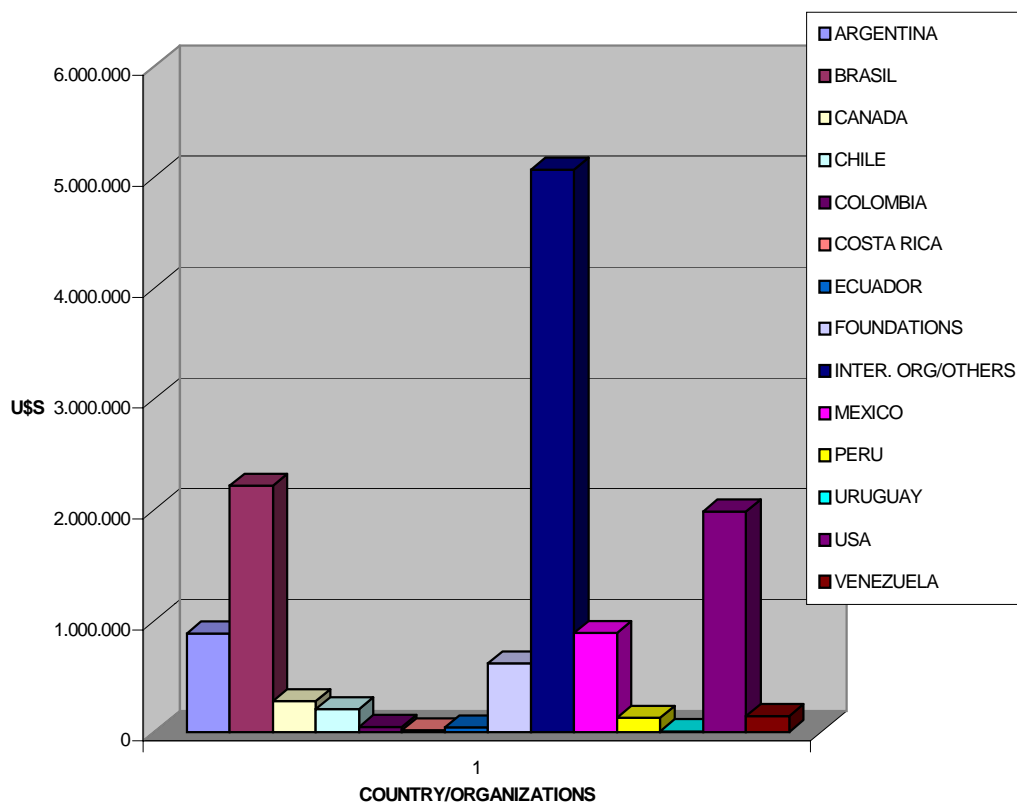
LBA/NASA	25.000
COLCIENCIAS (CO)	46.000
FACEPE (BR)	11.000
CONACYT/SISERRA (MX)	55.000
NSREC (CA)	64.200
UNDP-UN	50.000
PROTROPICO/FMVZ/UADY	150.000
UOFS (EC)	10.000
CIFOR-CGIAR	16.000
UNIV. OF FLORIDA (US)	40.000
FADESP (BR)	280.000
EMBRAPA (BR)	65.000
EPCOR/UNIV. OF CONCEPCION	200.000
UNIV. OF ARKANSAS (US)	4.000
TOTAL	12.556.242



CRN ADDITIONAL FUNDS (OBTAINED OR EXPECTED) BY COUNTRY,
INTERNATIONAL ORGANIZATION, OTHERS, FOUNDATIONS

COUNTRY, INT. ORG, OTHERS	FUNDS
ARGENTINA	884.062
BRASIL	2.218.000
CANADA	275.200
CHILE	203.600
COLOMBIA	46.000
COSTA RICA	13.700
ECUADOR	40.000
FOUNDATIONS	618.000
INTER. ORG/OTHERS	5.067.400
MEXICO	890.000
PERU	126.600
URUGUAY	6.000
USA	1.984.780
VENEZUELA	142.000
TOTAL	12.556.242

**CRN ADDITIONAL FUNDS PER COUNTRY OR OTHERS
ORGANIZATIONS**



ADDITIONAL FUNDS
MEXICO

CONACYT	580.000
UNAM	50.000
UNAM/CONACYT	205.000
CONACYT/SISERRA	55.0000
TOTAL	890.000

ADDITIONAL FUNDS
CANADA

GLOBEC	200.000
METEOR. SERVICE	11.000
NSERC	64.200
TOTAL	275.200

ADDITIONAL FUNDS
INTERN. ORGANIZATIONS/OTHERS

OEA/AWI	10.000
EPCOR 2000	4.000
EPCOR/GLOBEC/SPACE	32.000
OEA	125.000
UNIV. OF PARIS/SECYT	2.000.000
GEF-UN	1.500.000
GTZ	3.000
NOAA/IRI/UCR	8.200
FADESP/NASA	900.000
RED LATIN. DE BOTANICA	28.200
LBA/NASA	25.000
UNDP-UN	50.000
PROTROPICO/FMVZ/UADY	150.000
UOFS-EC	10.000
CIFOR-CGIAR	16.000
EPCOR/UNIV. OF CONCEPCION	200.000
CNPq/CONICET	6.000
TOTAL	5.067.400

ADDITIONAL FUNDS
USA

CALIFORNIA SEA GRANT	8.000
NRL	1.029.000
UNIV. OF ARIZONA	672.621
NOAA/ERL/CDC	39.000
NOAA-OGP	95.159
NSF	47.000
AGU	50.000
UNIV. OF FLORIDA	40.000
UNIV. OF ARKANSAS	4.000
TOTAL	1.984.780

ADDITIONAL FUNDS
BRASIL

FAPESP	425.000
FINEP/PETROBRAS	150.000
CNPq	232.900
SUDENE	600.000
CPTEC	400.000
CAPES	55.000
FACEPE	11.000
FADESP	280.000
EMBRAPA	65.000
TOTAL	2.218.900

ADDITIONAL FUNDS
ARGENTINA

ANPCYT	768.662
SECYT	30.000
CONICET	85.400
TOTAL	884.062

ADDITIONAL FUNDS
VENEZUELA

CONICIT	139.500
CDCHT/ULA	2.500
TOTAL	142.000

ADDITIONAL FUNDS
PERU

IGP/UNIV. OF PIURA	26.600
FONDO DE LAS AMERICAS	100.000
TOTAL	126.600

ADDITIONAL FUNDS
CHILE

FONDECYT	203.600
TOTAL	203.600

ADDITIONAL FUNDS
COSTA RICA

UNIV. OF COSTA RICA	13.700
TOTAL	13.700

ADDITIONAL FUNDS
ECUADOR

FUNDACYT	40.000
TOTAL	40.000

ADDITIONAL FUNDS
URUGUAY

INIA	6.000
TOTAL	6.000

ADDITIONAL FUNDS
COLOMBIA

COLCIENCIAS	46.000
TOTAL	46.000

ADDITIONAL FUNDS
FOUNDATIONS

MELLON	438.000
INTER-AMERICAN	35.000
ERM	5.000
Mac ARTHUR	180.000
TOTAL	658.000

ADDITIONAL FUNDS
TOTAL

TOTAL -----	12.556.242
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