

# **INTER-AMERICAN INSTITUTE FOR GLOBAL CHANGE RESEARCH**



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**EC - COP MEETING – BUENOS AIRES, ARGENTINA.**

**COLLABORATIVE RESEARCH NETWORK-CRN STATUS**

EC / COP MEETING – BUENOS AIRES, ARGENTINA.

COLLABORATIVE RESEARCH NETWORK – CRN STATUS

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## **INTRODUCTION**

This document summarizes all the data derived from a survey undertaken in the IAI CRN projects in the following topics:

- 1. Additional/Parallel funds**
- 2. Students**
- 3. Publications**
- 4. Scientists and/or Institutions**

The results obtained under these four topics clearly show that the CRN program has contributed to the establishment of a network of institutions, scientists, students, and financial resources.

### **1. Additional/Parallel funds**

They are the financial resources leveraged by the CRN PIs which are informed to the IAI Directorate through the PIs' annual scientific reports and which are related to the activity of each CRN project. In many cases the "seed money" the PIs receive from the IAI attracts additional funds to their projects. Up to the moment, the additional/parallel funds exceed the total amount of **US\$ 20.760.113**. They are distributed as follow:

• CRN 001 – Holm Tiessen	U\$\$ 4.277.439
• CRN 003 – Brian Luckman	U\$\$ 1.969.889
• CRN 009 – Charles Wood	U\$\$ 2.693.994
• CRN 012 – Osvaldo Sala	U\$\$ 390.194
• CRN 026 – Maria Vernet	U\$\$ 1.091.694
• CRN 031 – Allan Lavell	U\$\$ 361.320
• CRN 038 – Pilar Cornejo	U\$\$ 110.100
• CRN 040 – Juan Silva	U\$\$ 301.999
• CRN 047 – Michael McClain	U\$\$ 2.029.996
• CRN 048 – Ulises Confalonieri	U\$\$ 265.208
• CRN 055 – Mario Núñez	U\$\$ 2.753.387
• CRN 061 – Edmo Campos	U\$\$ 2.688.197
• CRN 062 – Tim Baumgartner	U\$\$ 1.172.496
• CRN 073 – Victor Magaña	U\$\$ 654.200

By analyzing the source of these additional funds, it was realized that the organizations related to Science and Technology of the member countries are involved in the majority of the projects. However, other institutions, foundations, and countries out of the continent were joining the program as it was progressing (for example: the European Union, France, Germany, UNDP, GEF, World Bank, Red Latinoamericana de Botánica, etc.)

It is important to highlight that additional/parallel funds are not received by the IAI. They are received as subsidies by the scientists and/or institutions related to the CRN projects. A follow-up on these additional funds can also be done by the country the funds originate from and then by the institution.

## **2. Students**

A survey about the students' involvement in the CRN program has been undertaken in each CRN project and, as a result, a general table has been created including the following information: undergraduate level (BSc.) and graduate level (MSc, PhD), CRN project in which the students are involved, their names, their nationalities, the year in which they started their activities in the projects, the funds they received from the projects, the institution in which they studied, and the year in which their theses were presented. At present the CRN initiative has benefited 429 students as follows: BSc = 161, MSc = 128, and PhD = 140.

The students come from the majority of the IAI member countries. In the survey, it could also be noted the great number of educational institutions where these students have been studying, covering the majority of the institutions in the American continent and several from Europe.

## **3. Publications**

The table includes the following information: authors, titles, name of the publications, numbers, pages, year of the publications, and the CRN projects involved.

This list includes only refereed publications and books and/or chapters of books about specific themes of the scientific agenda of the CRN projects. The publications cover the period 1999-2003. In this section you can see how many publications one CRN project has per year. The following table presents the total number of publications per year

Year 1999=	17
Year 2000=	88
Year 2001=	102
Year 2002=	67
Year 2003=	24

## **4. Scientists and/or Institutions**

It is important to note how the number of scientists and/or institutions related to the CRN program has increased, taking as a reference the ones involved at the beginning of the projects. It is noteworthy how the number of researchers and institutions related to the projects have increased, to the extent that the PIs and Co-PIs have recently established relations with institutions and researchers of new countries such as: Switzerland, Spain, South Africa, Russia, Puerto Rico, Norway, Holland, Japan, Italy, Indonesia, Honduras, Ghana, Germany, France, Finland, Belgium, Barbados, Austria, and Australia, covering all the continents.

## INTRODUCCIÓN

El presente documento resume todo el relevamiento de datos realizado en los CRN en las siguientes áreas:

- 1. Fondos Adicionales y / o Paralelos**
- 2. Estudiantes**
- 3. Publicaciones**
- 4. Científicos y / o Instituciones**

Los resultados obtenidos en estos cuatro temas demuestran claramente que la puesta en marcha de los CRN ha contribuido a la formación de una red de instituciones, científicos, estudiantes y recursos financieros.

### **1. Fondos Adicionales y / Paralelos**

Son todos aquellos recursos financieros que los PI's y COPI's han informado a través de sus reportes científicos anuales de avance y que están relacionadas con las actividades de cada CRN, y en muchos de los casos se han obtenido poniendo a los CRN como la actividad aglutinante de contraparte. A la fecha de preparado el presente documento estos Fondos Adicionales y / o Paralelos ascendían a la suma de **U\$S 20.760.113**. Estos fondos están distribuidos según cada CRN a saber:

• CRN 001 – Holm Tiessen	U\$S 4.277.439
• CRN 003 – Brian Luckman	U\$S 1.969.889
• CRN 009 – Charles Wood	U\$S 2.693.994
• CRN 012 – Osvaldo Sala	U\$S 390.194
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Surge del análisis del origen de los fondos que los organismos de Ciencia y Tecnología de los países miembros del IAI participan en la mayoría de los casos. Sin embargo con el avance de los CRN se han sumado otras instituciones, fundaciones y países fuera del continente. Ej. Unión Europea, Francia, Alemania, UNDP, GEF, Banco Mundial, Red Latinoamérica de Botánica, etc.

Es importante destacar que ninguno de los fondos adicionales y / o paralelos pasa físicamente por el IAI, sino que son subsidios que reciben los investigadores y / o instituciones relacionadas con los proyectos CRN. También es posible hacer un seguimiento de estos fondos por país de origen, viendo como estos se distribuyen por institución.

## **2. Estudiantes**

Se ha realizado un relevamiento en cada CRN, confeccionándose una tabla general que incluye: nivel (BSc, MSc, PhD), proyecto CRN donde participo, nombre del estudiante, nacionalidad, año de inicio de las actividades junto al proyecto CRN, fondos que recibió de apoyo del CRN, institución donde estudio y año de presentación de la tesis. Hasta el momento la iniciativa CRN ha favorecido a 429 estudiantes divididos en: BSc = 161; MSc= 128; PhD= 140

Estos estudiantes provienen de la mayoría de los países miembros del IAI. También se ha podido observar el gran numero de instituciones educativas donde estos estudiantes han desarrollado sus estudios, estas instituciones cubren la mayoría de las casas de estudio del continente americano y europeo.

## **3. Trabajos Publicados**

La tabla confeccionada reúne: autores, título del trabajo, nombre de la publicación, número, páginas, año de publicación y CRN correspondiente.

Esta lista solo contiene publicaciones con referato y libros y / capítulos de libros sobre temas específicos de la agenda científica de los CRN's. Las publicaciones cubren el periodo de 1999 hasta el 2003. En esta sección se puede hacer un seguimiento por cada CRN de cuantas publicaciones han realizado por año. La siguiente tabla presenta el total de publicaciones por año

Año 1999=	17
Año 2000=	88
Año 2001=	102
Año 2002=	67
Año 2003=	24

## **4. Científicos y / o Instituciones**

En este rubro lo que se ha querido ver es como aumento el número de científicos y / o instituciones relacionadas con los CRN, tomando como referencia los que teníamos al inicio de los proyectos. Es sorprendente como han aumentado el número de investigadores y de instituciones relacionados con los proyectos, a tal punto que hoy los PI's y los COPI's han establecido relaciones con instituciones e investigadores de nuevos países a saber: Suiza, España, Sud África, Rusia, Puerto Rico, Noruega, Holanda, Japón, Italia, Indonesia, Honduras, Gana, Alemania, Francia, Finlandia, Bélgica, Barbados, Austria y Australia; cubriendo de esta forma todos los continentes.

**GROUP FOCUSES ON RESEARCH RELATED TO CLIMATE VARIABILITY IN THE MEXICO, CENTRAL AMERICA AND CARIBBEAN REGION**  
**CRN 073 - VICTOR MAGANA**

One of the most important goals of IAI-CRN 73 is to improve our understanding on the mechanisms that result in climate variability in the region above mentioned in order to provide improved climate predictions. For this purpose, they concentrated on particular characteristics of regional climate, relevant in a decision making process. The mid summer drought, experienced as a relative minimum in precipitation in the middle of summer, was selected to be studies, considering it is not well captured by numerical climate models.

Four field campaigns resulted in meteorological, oceanographic and biological data for the northeastern Pacific and the western Caribbean sea that have been quality checked, objectively analyzed and prepared to compute climate diagnostics aimed at testing some hypothesis on the dynamics of the mid-summer drought. The results from the campaign are being collected and prepared for publication. Some preliminary publications have already appeared documenting the most important findings of the campaign.

In terms of scientific contribution, the results from the campaign are expected to lead to a new explanation of the climate dynamics in the Mesoamerican region. Currently, the idea of the Madden Julian oscillation modulating precipitation and even hurricane activity in the NE Pacific appears to dominate. They expect to prove this is not the case, and the relationship between the Caribbean Sea and the NE Pacific warm pools is of major relevance if climate predictions are to be prepared.

The knowledge acquired after the field experiment is serving to prepare numerical regional climate predictions. The first sets of probabilistic forecast were presented in the Mexico – Central America Climate Outlook Forum held in December 2003 in Oaxaca Mexico. There is consensus in the meteorological community of this region, that such products will be of great importance in the decision making process in various socioeconomic sectors of the region. For instance, coffee and maize growers in Oaxaca are already using seasonal predictions to plan their activities. Currently, seasonal probabilistic forecasts are being prepared in Mexico and Costa Rica to provide additional climate information to various sectors.

In the 2004, a complementary field campaign in the NE Pacific will be conducted to test a few additional hypothesis related to climate variability in the region. This campaign will take place at the same time the North American Monsoon Experiment be held. Two members of the IAI-CRN73 are members of the Scientific Advising Committee of NAME.

Member of IAI-CRN73 are participating in a GEF Project on Existing Capacities to Adapt to Climate Change in the Mexico Central America and Cuba region, based on the previous collaborative efforts (initiated with IAI funds).

**THE ANDEAN AMAZON RIVERS ANALYSIS AND MANAGEMENT (AARAM) PROJECT.**  
**CRN 047 - MICHAEL McCLAIN**

Improved understanding of the spatial and temporal patterns of water quantity and quality in the Andean Amazon region and the linkages to development. This understanding is expressed in multiple publications, conference presentations, course materials, and a publicly available dataset for the region.

Collection of the first quantitative data on water use patterns among rural inhabitants of the Andean Amazon, including dependencies on living resources from rivers and relations to human health.

Collection of the first quantitative data on the use and management of riparian environments in the Andean Amazon, including comparisons among indigenous versus colonist cultures in the region.

Technical training and support of thesis research for 20 graduate students and 14 undergraduate students from the region and beyond (Peru 9, Ecuador 9, Bolivia 4, Colombia 3, USA 3, Trinidad 1, Spain 4, Germany 1).

New collaborations between universities, national agencies, and non-governmental organizations in the involved countries and between countries. The national hydrological agency of each country has participated in the project.

Installation and operation of 7 new river gauging stations and 3 new meteorological stations providing data to the project and to the national hydrological agencies of the participating countries.

Creation of a fully operational field station and laboratory in the Peruvian Amazon (the Andean Amazon Research Station) to host investigators and students from this project as well as investigators conducting complementary research in associated fields. The station includes a full-time staff and is continually visited.

Leveraging of core financial support from the IAI to attract additional support from other agencies and organizations. The total project budget to-date exceeds 2 million dollars US.

**CRN 031 ENSO RISK AND RISK MANAGEMENT: RELEVANT ASPECTS.**  
**CRN 031 - ALLAN LAVELL**

The transnational nature of the project, incorporating 8 countries or regions. This has permitted the creation and consolidation of a scientific network which today not only includes members of the project team as such but also professionals from the basic and social sciences in the different countries. This network, built on the existing LA RED network, can and should be subject to future promotion, guaranteeing a continuity of research and training endeavors undertaken from a multidisciplinary perspective. It is precisely this multidisciplinary approach to research on risk that distinguishes the project from many others in the climate variability field.

The DESINVENTAR disaster data base built and consolidated through the project and now storing a vast amount of spatially disaggregated information for the 8 countries, over a minimum 30 year period, is unique in the world. The options that this data base provides for research and planning uses are also unique. The base has already been utilized by many other researchers in the region and outside. A very recent use of the base can be seen with the proposed methodology for constructing risk indicators at the national and sub national levels developed at the National University of Colombia-Manizales by a team headed by Omar Dario Cardona and financed by the Inter American Development Bank. DESINVENTAR will be used to construct one of the four sub indices that make up the indicator system planned to be used in the region to help national decision makers come to adequate development and planning decisions when faced with changing risk patterns and inadequate risk management options.

Apart from the substantive research results which demonstrate the varying forms and patterns in which risk is constructed when faced with climatic variability, and ENSO en particular, the project has stimulated the involvement of numerous students at the Masters and Doctorate levels who are undertaking thesis on topics related to the central research theme.

The project has offered a basis for a widening and integration of the whole subject of societal risk when faced with climatic extremes. This is so because the project does not take ENSO as a unique and specifically analyzable event when it comes to risk patterns and risk management needs. Rather, ENSO is one component in climate variability and any consideration of this must be achieved in the framework of overall processes of global climatic change. By this means, the topic of risk management when faced with short term climate variability must be considered jointly with the topic of adaptability to global climate change.

**THE ROLE OF BIODIVERSITY AND CLIMATE IN THE FUNCTIONING OF ECOSYSTEMS:**  
**A COMPARATIVE STUDY OF GRASSLANDS, SAVANNAS AND FORESTS**  
**CRN 012 - OSVALDO SALA**

Human activity is currently causing dramatic changes in the biodiversity of many of the Earth's ecosystems, and it is not clear what will be the consequences of these changes on the ability of these ecosystems to provide goods and services to humanity. However, it is clear that the maintenance and preservation of biodiversity is one of the pressing concerns for the global community in the next century. The prominence of the preservation and maintenance biodiversity as a world concern affects political agendas, governments, and public policy. For this reason, the research being conducted as part of the project CRN-012, The Role of Biodiversity and Climate in the Functioning of Ecosystems: A Comparative Study of Grasslands, Savannas, and Forests have implications for science, conservation and public policy and management decisions from the local to the global scale.

Project personnel include researchers, graduate students and technicians from six countries. They have a number of ongoing research activities in various ecosystems in North and South America, including temperate forests in Argentina, Chile and México, shrub-steppe ecosystems in Patagonia, Argentina and the central United States, grasslands in the Pampas region of Argentina and Uruguay and the northern Great Plains of North America, and tropical savannas in Venezuela. They are exploring a number of interesting questions related to biodiversity and ecosystem functioning, including the relationship between biodiversity and primary productivity, the effect of plant species diversity on decomposition and carbon turnover, the role of biodiversity in controlling nutrient cycling along climatic gradients, the effect of life-form shifts on nutrient pools, and the importance of microbial diversity in determining ecosystem functioning.

Currently have nine full-time graduate students working within the framework of the CRN-012, as well as the scholarships obtained by these students to support their work. The course in Chamea, México in November of 2002 was extremely successful and resulted in a great deal of interaction between members of the CRN-012 and the young scientists in Latin America. To date, the research conducted within the network of CRN-012, has resulted in 2 edited books, 36 scientific articles published or in press, 19 book chapters, and 4 popular articles. The research and capacity building activities highlight the importance of biodiversity as both an interdisciplinary science, as well as an emerging issue of both local and global significance for public policy.

## **CATTLE RANCHING, LAND USE, AND DEFORESTATION IN BRAZIL, PERU AND ECUADOR**

### **CRN 009 - CHARLES WOOD**

A major cause of deforestation in Central and South America is associated with the expansion of cattle ranching and the conversion of forested lands to pasture. In most areas, forest clearing is further stimulated by the degradation of pastures due to the generally low fertility of the soils in the region, and the use of inadequate pasture management practices. Given the relationship between cattle ranching and deforestation, it follows that an analysis of the factors that lead farmers to become ranchers, and the choices landholders make with respect to pasture management, is an effective way to understand one of the major environmental issues of our times. This project is about cattle ranching in the Amazon and its consequences for deforestation in the tropical lowlands of Brazil, Peru, and Ecuador. The expansion of cattle ranching is underway at a rapid pace in Brazil, but occurring more slowly in Peru and Ecuador. The differences between the three countries presents the opportunity for a comparative analysis that aims to document the way different environmental, socioeconomic and development policy contexts produce different outcomes. A systematic comparison of the case studies carried out in the three countries has the potential to generate new knowledge about the local, national, and international factors that promote the expansion of cattle ranching in some places (Brazil) more than others (Ecuador, Peru).

The analysis focuses on the socioeconomic and biophysical factors that influence the decision making process by which rural establishments choose to invest their land, labor, and capital in the formation of pastures and the purchase of animals. Data collection is guided by a conceptual framework that highlights three critical decisions: the initial decision to invest in cattle; the choice of pasture management practices; and the decision to clear forested land (Figure 1).

It is understood that the factors that determine the decision to invest in cattle will vary depending on the type of rural establishment. There are three Critical Decisions are not independent of the agricultural activities carried out by the household or firm. Finally, emphasizes the idea that the three Critical Decisions involve a complex process by which landholders take into account (however imperfectly) the opportunities and constraints, and the incentives and disincentives, presented to them by the local socioeconomic and biophysical contexts in which they find themselves. The local context, in turn, is embedded in, and is influenced by, processes that occur at the national and international levels.

The fieldwork stage of the project gave emphasis to actor-defined issues in order to document the practices by which the actors deploy the knowledge that they posses and allocate the material resources available to them among competing alternatives. The interviews with key informants were carried by teams of researchers, each of which was made up of 3 to 6 people. The composition of the teams included experienced researchers from the United States, Brazil, Peru, and Ecuador. The teams were comprised of individuals who represented a wide range of disciplinary specializations, including animal science, veterinary medicine, farming systems, economics, sociology, anthropology, geography, and political science.

The objective is to comprehend, not only the micro decision processes made by farmer/ranchers, but also the decision processes made by stakeholders at successively more distant levels of social organization, at the meso and macro scales. Taken together, these factors comprise a system of variables and relationships implicated directly or indirectly in the resource allocation decisions made by landholders in rural areas.

The detailed analyses of the selected critical contexts capture the complexity of the causal factors that influenced the expansion of cattle ranching and the changes in land use that occurred in particular areas in Brazil, Ecuador and Peru. Because many of the explanations were specific to a particular research site, the causal explanations cannot be generalized to all cases. The inventory of principal causal factors nonetheless provides the basis for generating novel insights into factors associated with the expansion of cattle ranching, and for identifying the contexts where policy initiatives may have the best chance of succeeding.

In some cases, key findings have proven to be counterintuitive. Such is the case in Peru, where landholders who once cultivated coca are provided monetary incentives to shift to other crops. The problem is that lands once devoted to coca production can rarely be converted to other crops. Incentives to abandon coca production therefore compel landholders to clear additional forest. Lands once devoted to coca can, however, be converted to pasture. Hence, the expansion of cattle ranching on lands that once produced coca may actual slow deforestation. IAI partners in Peru (Milthon Muñoz and Jorge Rios) have presented their findings to regional and national development agencies to modify the terms of the Alternative Development Plan (PDA) so as to no longer exclude cattle as an option.

## **BIOGEOCHEMICAL CYCLES UNDER LAND USE CHANGE IN THE SEMIARID AMERICAS.**

### **CRN 001 - HOLM TIESSEN**

They have seen very encouraging progress in science, education (formal courses), social integration (with land users) and institutional internationalization in this network. Both in Argentina and Brazil, teams have developed indicators of soil quality that relate to sustainability and productivity. These indicators vary with landscape position. Adapting management and land use decisions to the constraints and opportunities of landscape has become a central theme. This is being integrated into a model that combines processes and spatial arrangements of land use units.

In central Argentina, agricultural land use has been profoundly affected by climate change, principally drought or temporary excess rainfall. Our current research shows improved water use efficiency by crops and faster water infiltration by soils with higher soil organic matter.

In NE Brazil, agroforestry systems with Gliricidia sepium trees and maize yielded 150% more biomass than in the absence of trees, resulting in increased productivity, profitability and C sequestration. G. sepium takes up water from deep soil layers (> 1 m) not accessible to maize plants, thus increasing system productivity and stability. Other agroforest management options are being explored. More than 300 farmers visited the demonstration plots in 2003. In another management trial, the use of animal manure as organic fertilizer had a negative effect on productivity in dry years because of N immobilization. The effect was avoided if the manure is incorporated together with green manure. This innovative practice has led to up to 130% increases in potato production.

A cooperative project on Opuntia ficus-indica (prickly pear) between Mexico and Brazil showed up to 500% more biomass in Opuntia fields in semi-arid NE Brazil than native pastures. This has great impact in the productivity and stability of animal production.

In Argentina and Mexico, socio-economic surveys showed the overwhelming importance of off-farm income for the stability of marginal rural areas. Around 50% of households have significant off-farm income. Often this yields more cash flow than farming. An important consideration for resource management and resource science is that landuse change (abandonment of agriculture to grazing or secondary fallows) in Yucatan is now driven more by economic opportunities than by resource quality. They observed a 50% decline in Milpa agriculture during the project, driven by alternative economic opportunities including subsidies. But even in households with substantial off-farm income, secondary forests remain important sources of fuel and other products. In Argentina and NE Brazil fuel wood production is also an important component in the informal and market economies. The importance of wood products in rural economies of the semiarids has prompted us to submit a substantial funding proposal to the EU in cooperation between CRNs 1 and 3 concentrating of forestry options in secondary vegetation.

Additional (IAI leveraged) funding over the project duration has more than doubled the overall budget. Brazilian, Mexican, German and Foundation (Ford, McArthur) contributions have been substantial, with lesser amounts contributed by Argentinean and Canadian sources.

Mobility of researchers, technicians, students and teachers has involved all institutions and has mobilized additional funds (scholarships, travel grants) in a true networking (not focussed on one centre).

## **ENHANCED ULTRAVIOLET-B RADIATION IN NATURAL ECOSYSTEMS**

### **AS AN ADDED PERTURBATION DUE TO OZONE DEPLETION**

### **CRN 026 - MARIA VERNET**

One of the main contributions of this project has been in the area of education. Nineteen graduate students have participated in all aspects of this project, in experiments and models. Several Master's and Ph.D. students have been partially or fully funded by the IAI or the project has provided the data for the theses. Eight of these students will participate in the All Scientist Meeting to be held in Buenos Aires, Argentina on 31 March-2 April for presentation of final data and synthesis.

1. Lisiene Silva das Neves – Bachelor in Biology – FURG, Brazil (Dr. Costa), graduate research, she completed her graduation project in 2003 on the associated effects of UV radiation and salt stress on *Salicornia gaudichaudiana*.
2. Rodrigo A. Real - Computer Engineer – FURG, Brazil (Dr. Costa), UV data gathering and display. He finished his Bachelor in Computer Engineering and concluded his work on client-server technology applied to UV data gathering and public availability during 2003.
3. Oswaldo Cardenas – PhD candidate, Puerto Rico (Dr. Armstrong), HPLC pigment analysis.
4. Lic. Vanina Rocco, PhD student (effect of RUV on the interaction between planktivorous fish and their prey), is working on the final writing of her thesis at the University of Comahue (Bariloche) supported by a CONICET fellowship. (Dr. Zagarese).
5. Patricia Pérez is presently working on her PhD thesis (effect of UVR on the interaction between grazers and their primary producers) at the University of Comahue (Bariloche) supported by a CONICET fellowship (Dr. Zagarese).

- \*6. Patricio de Los Ríos, PhD student defended his dissertation by mid October 2003 at the Universidad Austral de Chile. (Dr. Soto). "Effects of availability of energetic, structural and protective resources on zooplanktonic cladocerans and copepod distribution and abundance in Chilean Lakes"
- \*7. Jorge Jaramillo, PhD student, has also concluded the writing of his thesis, which will be submitted to Universidad Austral de Chile during 2003. (Dr. Soto). "Evaluation of the effect of UV radiation and nutrients on blue-green algae abundance in temperate lakes of southern Chile
- 8. Ana Torremorell. Graduate Student. Universidad Nacional de Luján. Biology student. Graduation Thesis presented (under judgement), includes "The evaluation of UVR effects on macrophyte decomposition in wetlands". (Dr. Momo).
- \*9. Emma Ferrero. Doctorate Student. Universidad Nacional de Luján. Doctorate Thesis in course: "Models for marine primary production: global change effects". (Dr. Momo).
- 10. Ariadana Hamman. Doctorate Student. Universidad de Buenos Aires. Argentina. Doctorate Thesis in course: "Effects of UVR in microbial communities of Las Pirquitas reservoir". (Dr. Momo).
- \*11. Josée Nina Bouchard, ISMER/UQAR (Dr. Roy and Dr. Giansella).
- \*12. Peggy Sargian, ISMER/UQAR, Ph.D. student (Dr. Pelletier and Dr. Demers).
- 13. Johann Prod'homme, ISMER/UQAR, M.Sc. student (Dr. Demers, Sr. Roy and Dr. Giansella).
- \*14. Bruna Mohovic, U. São Paulo, M. Sc. (Dr. Giansella).
- 15. Catarina Jakovac, U. São Paulo, M. Sc. (Dr. Giansella).
- 16. Juan Alba, U. São Paulo, M. Sc. (Dr. Giansella).
- 17. Gleyci Moser, U. São Paulo, M. Sc. (Dr. Giansella).
- \*18. Lorena Longhi, ISMER/UQAR, M.Sc. student (Dr. Roy and Dr. Ferreyra).
- \*19. Carolina Camilioni, CADIC, M.Sc. (Ing. Diaz).

(\*) denotes which students will be given oral presentations or posters during the meeting.

## **AN INTERNATIONAL CONSORTIUM FOR THE STUDY OF GLOBAL AND CLIMATE CHANGE IN THE SOUTH ATLANTIC- SACC CRN 061 - EDMO CAMPOS**

By large, the major achievement of the SACC group with the IAI support was the consolidation of a network of scientists and institutions in Argentina, Brazil and Uruguay, which filled a very important gap in the oceanic component of global change research in South America. An incomplete list of the SACC's main accomplishments in the context of CRN-061 follows.

### **1. Scientific Research (which lead to the publication of a large number of articles):**

#### 1.1 Basin scale general circulation and climate studies:

##### a) Science issues:

- South Atlantic role on interocean exchanges and global thermohaline circulation
- Mechanisms of South Atlantic interannual SST variability
- Southwestern South Atlantic fronts variability

##### b) Related Activities

- Promotion of the South Atlantic Climate Observing System (SACOS) Workshop
- Active participation in the Clivar Science conference with the presentation of several articles.

#### 2. Regional Studies

##### a) Science issues:

- Plata river impact on the SW Atlantic shelf (various papers) – highlight role on phytoplankton biomass, fish larvae distribution, fish catch, coastal climate (via SSTa)
- SW Atlantic shelf modelling
- Seasonal and interannual variability of Shelf break front

##### b) Related Activities

- Conducted four interdisciplinary cruises, two of them extending from Mar del Plata to Rio de Janeiro, including airborne surveys – highlight: uniqueness of these activities, without precedent in Latin America, strong scientific basis, state of the art instrumentation, expect very strong impact on the scientific knowledge and on the interaction among participants, will have several graduate students involved at universities in all participating countries
  - Participation in various scientific conferences, with several invited papers:
2. Training and education activities
- Short Courses: Three advanced, international short courses, attended by over 60 students from several IAI member countries - highly competitive, international, interdisciplinary – 2 of these course had received formal approval from USP, U. Miami, and UBA.
  - “On board” short courses: Taking advantage of the PLATA oceanographic cruises, two practical courses were offered, mainly for undergraduate students, for their first ever sea going experience.
  - Fellowship program: highly competitive, international, interdisciplinary. Provided support for a expressive number of young scientists, including several graduate students at M.Sc. and PhD levels.
3. Other impacts on scientific development
- The realization of four Annual Workshops have considerably increased the exchange of scientific ideas and helped to spread information on ongoing research. These were open to many non SACC scientists and advanced students from a broad spectrum of disciplines, including human dimensions, and members of other CRNs.
  - Travel supports for several trips fot short visits to ohter labs, serve thesis committees, serve international panels, etc.
  - Library upgrade essential to many institutions
  - Acquisition of equipment, mainly computer and other related pieces of hardware.
4. Support from the IAI has also been a solid basis for preparation of research proposals to national agencies, which have provided very significant in-kind contributions.

## **ASSESSMENT OF PRESENT, PAST AND FUTURE CLIMATE VARIABILITY IN THE AMERICAS FROM TREELINE ENVIRONMENTS**

### **CRN 003 - BRIAN LUCKMAN**

CRN03 involves 16 PIs from 7 countries (Peru added via PESCA funds) and focuses on using dendrochronology to reconstruct and understand climate variability. It also seeks to promote and provide practical applications of dendrochronology throughout Latin America, particularly through the applications of tree rings in tropical species.

They continue to publish results of our research through a variety of outlets. In 2002-3 CoPIs authored 16 articles in refereed journals (published or in press plus 10 submitted), about a dozen book chapters and made over 60 scientific presentations to a wide variety of scientific audiences. They have supported publication of a book on conservation initiatives in Chile by the Chilean colleagues. In collaboration with CRN01 they have produced a major report on the dendrochronological potential of species in Yucatan as a result of the joint salvage dendrochronology project conducted in April 2003 and hope to publish this as a monograph in the near future.

They held our 4<sup>th</sup> Science Meeting in Mendoza, Argentina (10-16 October) to update results, present an initial synthesis of material and plan future activities. 27-30 individuals attended with the majority being junior colleagues and students. It was an excellent meeting despite being switched from Bolivia to Mendoza on October 3<sup>rd</sup> due to the deteriorating political situation in Bolivia.

They are developing a journal publication from this meeting showing several applications of dendrochronology to Human Dimensions Issues- effects of drought and disease on populations, water related problems and use of tree rings in forest management, conservation and biodiversity projects. Compilation and synthesis of the results will continue through 2004 and they plan a final science meeting and subsequent book of conference proceedings to review this material and the project in late 2004 or 2005. Initial synthesis results were presented at two major international meetings in 2003 and presentations of our research will form the keynote and major part of the session on dendroclimatology at an International Conference on Future Directions in Dendrochronology to be held in Tucson in April 2004.

CRN03 has always stressed developing scientific capacity through the provision of facilities and training. New laboratories were established in Mexico and Bolivia in 2000 with the original proposal and the Mexican lab successfully obtained its first nationally funded project last year. A new lab and CoPIs were added to the CRN from Peru with funds from PESCA and SGPI in 2001/2.

In 2004 they welcome a new laboratory at Rio Grande do Sud (Brazil) funded via an SGPII grant to Fidel Roig and collaborators. As with previous newly formed labs this new initiative will involve collaboration, training and exchange with other laboratories to accelerate development at the new facility. In addition to several more traditional short courses and student exchanges, they have also used "fieldweeks" as a key recruiting and training device. These intense 7-10 day courses place 15-30 students in the field (and laboratory) with 4-7 seasoned professionals where they acquire basic skills and develop related research projects.

They have funded and organized fieldweeks in Argentina (2000), Bolivia (2001) and Chile (2003) and assisted significantly in Mexico (2001) and Canada (2002). Recently produced a video (English and Spanish) of the Chilean fieldweek which is useful for educational and IAI promotional purposes. In August 2004 will hold final fieldweek in the current project in SE Brazil and hope to recruit and integrate several Brazilian colleagues into the growing network of participants. They hope to maintain these activities beyond the present project providing independent funding can be obtained. 2004 is a year to look back and review our achievements but it is also an important time to look forward. In addition to considerable scientific achievements in dendrochronology and the understanding of climate variability, they have developed a continually expanding network of national and international scientific linkages and collaborations that have been fostered within the CRN framework. They look forward to participating in the renewal of the CRNs and have delayed the final CRN meeting until details of the timetable and requirements for the new IAI initiatives are known and they can address them. This has been a highly successful experiment in scientific collaboration and they eagerly await the call for the next round of proposals so that they can carry forward the growing scientific and academic momentum into new areas of research within IAI.

# **CLIMATE VARIABILITY AND CHANGES, PREDICTION AND IMPACTS IN THE MERCOSUR REGION. CRN 055 - MARIO N. NUÑEZ**

The most important goals of the IAI CRN 055 are to conduct cooperation and research to improve the understanding of:

- THE ROLE OF LARGE-SCALE SEA SURFACE TEMPERATURE VARIATIONS IN DETERMINING CLIMATE VARIABILITY IN SOUTHEAST SOUTH AMERICA.
- THE TROPICAL-EXTRATROPICAL INTERACTIONS RELATED TO THE CIRCULATION AND PRECIPITATION VARIABILITY OVER THE MERCOSUR AREA.
- THE IMPACTS OF CLIMATE VARIABILITY ON SECTORS OF SOCIAL AND ECONOMIC IMPORTANCE IN THE MERCOSUR REGION.

For this purpose, they have concentrated on the extra tropical characteristics of regional climate. Most of the research results are now been prepared for dissemination through a book which will be issued at the end of the Project. The book is co-authored by all CoPIs of the Project<sup>1</sup>.

In the planning meetings for the establishing of the CRN, it was specifically recommended that an applications component be included from the beginning of the research activities. At the present time a Pilot Project on applications of climate to hydrology has successfully finished under the coordination of Vicente Barros, CoPI of the Project and main conclusions are now available for scientists and stakeholders. A resume of the conclusions follows:

## PILOT PROJECT ON FLOODS: Main Results

### *Paraná River*

Although in the average, the contribution of the central and southern Upper basin is only about 40% of the stream flow, the major discharges (the top 20) in the middle and lower Paraná originate in the central and southern Upper Paraná basins. The contribution of the Paraguay River enhances the Upper Paraná contribution, but in a relative small proportion. On the other hand, the contribution of the northern Upper Paraná to these major discharge anomalies is not only generally small -less than 25 %- but in some cases even negative. Thus, the northern part of the Paraná basin, the most affected by the South Atlantic convergence zone (SACZ), despite its significant contribution to the mean discharge of the Paraná River, is not relevant in the case of the largest discharges

There is a clear relationship between the phases of the ENSO (EN) and the major discharge anomalies in the Middle and Lower Paraná. About two thirds of them occurred during EN events. In addition, none of the major anomalies occurred during La Niña (LN) phase. This contrasts with the weak correlation between the Southern Oscillation index and discharges in Corrientes, indicating that the major discharge anomalies were more related to El Niño phase than to the rest of these anomalies.

The major discharge anomalies in Corrientes and major discharge contributions of the central and southern Upper Paraná that were related to El Niño occurred either in spring (0) or in autumn +, accompanying the seasonal variation of El Niño precipitation signal in eastern subtropical South America during the recorded period, the top discharges of the Paraná River at Corrientes occurred in the autumn + in all of these events. Also, whenever El Niño 3 SST anomalies continued until the autumn +, there was an important positive discharge anomaly at Corrientes, greater than 10,000 m<sup>3</sup>/s.

In the composite precipitation anomaly of these events for the March-May months, consistent with the persistence of positive anomalies in the equatorial Pacific, in the upper troposphere there is a pair of anticyclone anomaly circulation over the central and eastern Pacific straddling from the equator in each hemisphere. Over South America, there is a strong cyclonic circulation anomaly. Its position with respect to the anticyclone anomaly suggests the propagation of a stationary Rossby wave-like train induced by the equatorial source of EN. This anomaly circulation enhance the cyclonic vorticity advection over the Upper and Middle Paraguay and the central and southern Upper Paraná basins and the subtropical jet, which favors the cyclogenesis and mesoscale convective systems, two important mechanisms for the development of large rainfalls in the region

### *Paraguay River*

Most of the peaks of the major discharges at Asunción took place between May and July, in phase with the maximum of the annual cycle. However, although the peaks of the top discharge anomalies also occurred in the May to July period, other major anomalies peaked at almost every time of the year

The major discharges of the Paraguay River originated in the Upper and Middle Paraguay basin, and the occurrence or not of the major discharges in the Paraguay River were not dependent on the Pantanal water storage. Not only the discharge anomalies of the Pantanal did not contribute substantially to the respective anomalies in Asunción discharges, but also they were not even appreciable correlated with the contribution to the Paraguay River discharge from the Upper and Middle basins

About two thirds of the major discharge anomalies at Asunción occurred during EN months, and, there is little probability that the observed rate of major discharges during EN phase could happen by chance. EN signal was more unambiguous in the five cases that occurred during the autumn + as they rank between the top peak discharges. The tropospheric wave train from the equatorial Pacific associated to these cases was described in the case of the Paraná River

The floods that occurred during wintertime share common circulation and precipitation features, independently if occur in EN or in other phase. The average fields from April to August of all these cases had an almost barotropic tropospheric pattern at high latitudes with a very deep cyclonic anomaly between 120° and 160° W and an anticyclonic anomaly centered at the southern tip of South America. This pattern is indicative of frequent blocking conditions in the circulation over southern South America, which favors the deviation of the frontal and cyclonic perturbations entering into the continent more to the north. The respective precipitation anomalies reflect these conditions with positive anomalies for the five months period over almost the whole Paraguay River basin.

#### *Uruguay River*

Floods registered during the warm season are due to intense rainfall in the upper basin particularly in the period 12 to 9 days before the flooding date, consequently the hydrological forecast of these events is possible many days in advance. The largest discharges occurring during the cold semester are mostly due to the large rainfall registered over and upstream from Salto Grande in two separate periods, 12 to 9 and 4 to 1 days before the flooding date, and therefore the hydrological prediction should necessarily depend on an appropriated weather forecast.

Almost half of the largest discharge events of the Uruguay River at Salto Grande could be related to enhanced precipitation due to moisture flux convergence in the South American low level jet (SALLJ) region.

Miscellanies Most of the scientists collaborating in the CRN have participated actively in regional fields experiments such as the South America low level jet experiment (SALLJEX). Also, some of the CRN CoPIs and collaborators are now participating as Principal Investigators in CLARIS, a Europe – South America cooperative research network, supported by the European Commission.

## **EASTERN PACIFIC CONSORTIUM FOR RESEARCH ON GLOBAL CHANGE (EPCOR)**

### **CRN 062 - TIM BAUMGARTNER**

(EPCOR) is a collaborative network comprised of research and education centers in Chile, Peru, Ecuador, Colombia, Costa Rica, Mexico, the United States and Canada, on the effects of global change on the coastal and oceanic ecosystems of the eastern Pacific region. This report covers our activities during the period from mid-November, 2001 through early December, 2002.

The overarching goal of EPCOR is to develop the institutional capacity for sustained collaborative research applied to policy development and informed decision making within and among member nations. Definite strides were made towards this goal by planning and organizing meetings and workshops that brought together not only research scientists but which also included resource managers and representatives of fishing industries who are some of the more important clients for the developing capacity to provide a knowledge framework applied to practical problems. EPCOR associates and Co-PIs have also made considerable progress in the coordination and implementation of research to advance the science agenda that was developed in the original proposal.

The eastern boundary regions of the Pacific Ocean are especially important to the IAI science agenda for their role in modulating the nature and effects of global change in the Americas. In particular, the elevated biological productivity of the eastern boundary regions have made them targets for heavy exploitation. There is increasing pressure from growing human populations along the coast, the pressure of globalization of markets for marine fisheries products and continuing industrialization of harvesting. These activities have already perturbed the structure of the coastal and oceanic ecosystems to an extent that they may now be particularly vulnerable to the combined effects of natural climate variability and greenhouse warming.

The activities of the EPCOR consortium are designed to fulfill the goals of the IAICRN program by enhancing the effectiveness of existing research networks, by integrating and coordinating ongoing efforts and to share expertise and build-in new and stronger scientific capacity within member nations. Most of the development of EPCOR research activities relies on in-kind contributions and other outside sources for funding most of the actual investigation. This is particularly true for sampling of the ocean because of the high cost of ship time for vessels that are adequate to the task of working for extended periods in the 200 mile offshore range that forms a major subject of EPCOR research. The network is, therefore, designed to take advantage of the potential synergy from previously uncoupled programs through implementation of a broadly interdisciplinary approach to define and understand the global change issues important to the coastal and oceanic regions of the eastern Pacific. Our IAI funding available for EPCOR, thus, allows us to provide the intellectual and scientific framework along with the multinational perspective to create significant added value to existing national research efforts and to aid in development of practical applications from their scientific results.

The CRN-062 project has now passed the mid-way point in its evolution, and they have been focusing now on defining the final products that they want to produce. As the project has developed it has evolved towards goals that respond to the shared interests of the EPCOR nations. The shared interests which are relevant for us are first the need to develop or enhance the scientific bases for long-term sustainability of their marine resources; and the second interrelated interest, is the need to mitigate the multitude of impacts on the coastal ocean resulting from growing human populations interacting with changing climate. This leads us to the need to develop or enhance the national and multinational efforts towards sustainable ecosystem management in the face of human induced changes in the climate system and the disruption of natural ecosystem structure and functioning by the direct intervention from harvesting. This requires that they work towards understanding the interaction of human harvesting with natural variability in the climate system and its ecological response. This requires scientific knowledge to identify and understand the appropriate scales of ecological space and time that need to be incorporated into real management systems. Our consortium also faces a particular problem of providing the scientific knowledge needed to confront the social and economic issues around mobile marine resource populations that transcend national boundaries and that must be managed under the uncertainty of the effects of El Niño and longer-term climate variability and overall global change scenarios.

At the same time they have been concerned on how to focus the resources and efforts on useful and socially relevant scientific products; they have also been taking stock of the functioning of the institutional and administrative structure. During this period they have continued to search for optimal mechanisms for linkage and communication among individual institutions and among existing national and international programs to provide orientation and focus on common objectives to advance both basic and applied science.

As in the previous years, they identify one of the long-term goals to be the generation of funding for the sustained support of our coordinating activities and for research and education initiatives from national and international sources outside the IAI. If they intend for EPCOR to serve as a platform to build a long-term Inter-American research effort with a productive lifetime extending significantly beyond the immediate five years of the current IAI funding available, it is important that they use the lessons learned in the past three years to make the necessary mid-course corrections from an honest evaluation of the achievements and failures.

## **DIAGNOSTICS AND PREDICTION OF CLIMATE VARIABILITY AND HUMAN HEALTH**

### **IMPACTS IN THE TROPICAL AMERICAS**

#### **CRN 048 - ULISES CONFALONIERI**

In Brazil the activities were focused on three main aspects: (a) development of graduate student's dissertations; (b) field trips for data collection and networking; and (c) presentation of results in scientific meetings. Two dissertations were completed by students associated to the project, one Master in Statistics at the Federal University (Malaria and Precipitation in Pará) and the other a Doctoral in Public Health (FIOCRUZ) on Malaria and Precipitation in Roraima. Three other students (one undergraduate and two masters) joined the project. A complete data base on precipitation was obtained for the State of Pará (141 weather stations) as well as updated epidemiological data on malaria for both states of Pará and Roraima. The geographic scope of the Brazilian component has been expanded to eastern Amazonian and a good network with local research and teaching institutions was established. Field trips and local contacts were made for the preparation of the entomological field work in Roraima and the appropriate laboratory infrastructure was set up. Partial results from the research were presented in two scientific meetings and besides the dissertations, other publications (articles; reports) were prepared or are currently under preparation.

In USA the Science Communication Studies (SCS) received funding of \$5,416.27 on 2002 and \$5,416.27 on 2003 to continue work on Collaborative Research Network (CRN) activities. SCS has contributed to the CRN in five areas:

- Coordination of CRN Mini-Workshop in April 2002 in Ocho Rios (near Montego Bay) in Jamaica;
- Improvement of Information Technology for CRN Communication;
- Development of Proposals to Fund New CRN-Related Projects;
- Advising on Spin-off CRN Project in the Caribbean;
- Integration of CRN Research into Conference in May 2002 in Barbados.

In Mexico the main objective that has guided over this past year has been to construct case studies for the relationship between climatic variables: dengue and malaria. With this proposal they searched for information on the diseases and climate in the offices of the federal and state governments.

Each case will be a municipality of the country in which they can find data whose quality and quantity are sufficient for analysing the relationship of interest.

The main activity of this past year has been the search for data in electronic form and, when that was not available, on paper. As they advanced in the data collection process, they became convinced of the importance of utilizing data from difference ecological regions, even though the number of states from which they gathered data was not very large.

They gathered data at the municipal level for morbidity on malaria and dengue and by month for climatic data. They have been working in nine regions in three states: Veracruz, Chiapas and Oaxaca. In Veracruz the regions are: Veracruz (Port), San Andres Tuxtla and Coatzacoalcos. In Chiapas: the highlands (San Cristobal), the coast (Tapachula) and the central valleys (Tuxtla Gutierrez). In Oaxaca: the south coast (Puerto Escondido), the north coast (Pochutla) and the central valleys (Oaxaca). These regions were selected based on the number of cases, their rates of disease, and their ecological diversity.

Thus, in the case of Chiapas, for example, they have data both for the mountainous region of the Highlands and the costal region, two of the regions of the country with the highest rates of malaria and, in the case of the coast, of dengue as well.

The maintenance and growth of a network of collaborator across the nation has allowed us to draw from different sources of information and to count on the necessary assessment of the themes in which the nuclear group of investigators does not have sufficient experience.

In the preliminary results, they observe that the influence of certain climatic variables on the incidence of dengue, especially along the coast of the Gulf of Mexico. In this region they also see an influence of the El Niño phenomenon, although it is not found to be significant.

In the case of malaria, they have observed a significant decrease in cases in recent years as a product of the new strategies for controlling the disease. Neither the variable of precipitation nor the El Niño indices appear to influence the variation in the incidence of malaria, based on the information they currently have available to use and the statistical models they have used.

The activities of the coming year will be aimed at complementing the municipal data that they have already analyzed as case studies and at constructing new case studies in the states of Oaxaca and Tamaulipas.

Jamaica, inn addition to the work on development of regression models, work was also carried out on the determination of predictors of Caribbean precipitation with the aim of development of a climate downscaling model. Two of 4 tasks were completed with the remaining tasks to be completed in the coming year. Progress was made in the associated project The Threat of Dengue Fever – Assessment of Impacts and Adaptation to Climate Change in Human Health in the Caribbean which is funded by Assessments of Impacts and Adaptation to Climate Change in Multiple Regions and Sectors (AIACC) Programme. An interactive climate and epidemiology data base is being constructed. Patterns of dengue in climate change were identified and a prospective study of the relationship between climate and dengue has commenced, while a study of the socio-economic impact of dengue in Jamaica is to commence shortly.

Venezuela Malaria is a major health problem and epidemics have been related to El Niño events (Bouma & Dye 1997). The aim of the study is to confirm that malaria incidence is associated with the climatic variability due to El Niño/Southern Oscillation (ENSO) and to study how regional differences in ecology and epidemiology moderate the impact of climatic variability due to ENSO.

Two areas with different ecological and epidemiological characteristics were selected for retrospective analysis: Bolívar and Sucre states. Malaria epidemiology in the Municipality of Sifontes, Bolívar state seems to be determine by local climate variability. A Multiple Linear Regression model showed that the predictive values of relative humidity ( $P= 0.036$ ) and mosquito abundance ( $P= 0.049$ ) have a significant effect on the monthly malaria incidence, while the variables rainfall ( $P= 0.152$ ) and mean temperature ( $P= 0.174$ ) have not predictive value. In Sucre state, the municipalities of Cajigal and Mariño were selected for time series analysis for the period 1990-2000. Pearson correlation analysis for malaria monthly incidence and rainfall was significantly negative in both municipalities ( $r= -0.21$ ,  $P= 0.05$  and  $r= -0.21$ ,  $P= 0.018$ ), i.e. malaria incidence decreases with

the increase in rainfall which might be associated for the type of larval habitats exploited by the principal vector *An. aquasalis*. More detailed analysis will be attempted by gathering epidemiological data at the locality level for the selected municipalities, while malaria risk maps are under preparation considering climatic, geomorphology, vegetation, entomological and epidemiological data.

Colombia have continued to conducting a five-tiered research study: (a) Developing diagnostics studies to study the linkages between malaria incidence and climate variability in endemic regions of Colombia at local scale; (b) developing field campaigns to gather entomological, epidemiological and climatic information related with malaria incidence; (c) conducting laboratory experiments to study the effects of mean climatic conditions on entomological parameters related with malaria transmission; (d) developing a mathematical model to explain malaria incidence linked to climatic parameters; and (e) constructing a Geographical Information System in Java for Malaria in Colombia (SIGMA). Our research is focused on two endemic and epidemics regions on the low-lands of Colombia: Nuqui, Chocó, along the Pacific coast, and El Bagre, Antioquia, located in the Cauca river flood plain at northwestern Colombia.

## **ESTUDIO COMPARATIVO DE LOS EFECTOS DE CAMBIOS GLOBALES SOBRE LA VEGETACION DE LOS ECOSISTEMAS: ALTA MONTAÑA Y SABANA TROPICAL** **CRN 040 - JUAN F. SILVA**

Motivation promoting cooperative links between CRNs 003 AND 040. CRN 003 has implemented a component on “Tropical Dendrochronology” with the goal of developing dendrochronological techniques using tropical tree species in tropical areas.

These techniques can be very helpful for CRN 040 to evaluate the recent past of Andean and savanna climates in their area of study. Cooperation between CRNs 003 and 040 seems necessary, convenient and viable on the following grounds:

- 1) To enhance their investigations of tropical species, CRN03 needs to identify and study tree species which form true growth rings. CRN40 can help in this process searching for those species in mountain and savanna tropical ecosystems in Latin America.
- 2) Once species with annual rings have been identified, cooperative studies can be launched, for example, to document past fire events and fire regimes in the savanna areas. This information is critical to the understanding of vegetation dynamics of this region.
- 3) Dendrochronological studies can also be used to document the recent climate history in the Venezuelan Llanos and other areas of common interest to the CRNs. Fire and climate history results could then be used to explain changes in woody cover in these savannas that is a prime focus of the research of CRN040.
- 4) Ongoing studies on the climate history of the high Andes by CRN003 using trees from the genus *Polylepis* complement the ecological and physiological studies of these species being carried out on a continental transect by CRN040. This complementarities will enhance our understanding of the ecology and evolutionary history of this group of species that is unique in its adaptation to growth at the highest mountain elevations. These high elevation records are also critical to document past climatic events in the Cordillera and verify parallel studies from ice-cores in this region. These considerations suggest that a cooperative project focused in the genus *Polylepis*, the evolution of high Andean habitats and the impact of human occupation would be a significant contribution to the ongoing initiatives of both CRNs and the future activities of IAI.

### **IMPLEMENTATION**

They envision several possible ways to promote this collaboration:

- 1) Organization of a joint meeting involving people from both CRNs (and others) to discuss these complementarities in the studies of *Polylepis* and to formulate possible collaborative proposals. This meeting could be done with the support of a major foundation (or other agency) interested in the Andean system.
- 2) Personnel from the Mendoza node of CRN003 will interact with the Merida node of CRN040 to implement these actions. These may include the exchange of personnel between the two nodes, the training of Venezuelans in Mendoza and preliminary field surveys in Venezuela with the participation of personnel from the Mendoza laboratory.
- 3) The PIs of both CRN will exchange reports, publications and other materials in order to facilitate this process.

**MULTI-OBJETIVE STUDY OF CLIMATE VARIABILITY FOR IMPACT MITIGATION IN THE  
TRADE CONVERGENCE CLIMATE COMPLEX PROJECT**  
**CRN 038 – PILAR CORNEJO**

The first phase was initiated during the first year with data collection mostly for the climate variables and with some data for the socioeconomic activities in the fields of agriculture and aquaculture. The collection of data for agriculture, aquaculture and human health has progressively increased during the second year. The progress in these areas has demanded TC3 members to go directly to the data sources; this means trips to farms and their main offices to collect the data from handwritten notes in most of the occasions or to make photocopies by ourselves. This has made the task a lengthy and difficult one. One of the problems we have to face with this data are the restrictions imposed by the data providers, mainly farm owners in the case of agriculture and aquaculture, and in some cases the governmental health offices that specifically agreed to provide data with the condition that it remains only within the project members. This does not mean there is problem with the end products, which are available for the sectors as a whole, independently of whether a particular group or individual contributes data or not.

The second phase, independently of the tasks (PP or HD), has to do with the data analysis and processing, being the end products experimental climate forecasts tailored for governmental authorities and for the specific targeted sectors as well as workshops and scientific publications. The main research result of the second year has involved the following topics and end products:

**Physical processes groups**

- multidecadal variability of rainfall in North America and its relation to North Atlantic SST
- The 1997-98 El Niño as it related to ecosystems along the Pacific coast of North, Central and South America
- Multidecadal modulation of ENSO impacts in the western hemisphere
- The effects of Atlantic and Pacific SST variability on early and late summer rainfall in the Caribbean
- Annual cycles of air temperature and rainfall in Central America
- Variability of the Western Hemisphere Warm Pool (WHWP).
- Tropical Intraseasonal and longer period variability in the Isthmus of Panama

**Human Dimension groups**

- A general approach to the different end-users through:
  1. Development of a closer relationship with agriculture and aquaculture farmers, authorities, private organizations such as local chambers
  2. Inclusion of more members from governmental health departments in the discussion groups
  3. Direct interaction with different end-users: news people, governmental agencies, private sector.
- Agriculture data acquisition for banana, corn, and rice crops, including yields, zoning and the climatic patterns related to them
- Analysis of the relationships between climate variability and yields in the Aquaculture sector for forecasting crops and harvest problems
- Preliminary studies of the aquaculture crops variables and socioeconomic analysis in the aquaculture sectors of Panama, Ecuador and Honduras
- Development of models and tools for using climate variability for impact mitigation and prevention in the health sector
- Development of working models for analysis of the hydropower production problems, socioeconomic factors and climate variability
- Development of the initial stages of the virtual application center through the used of expert systems for forecasting ENSO impacts upon agriculture and aquaculture

**NOTE: Due to discrepancies between the scientists and the trustee regarding the project administration, which could not be resolved through the IAI Directorate, the PI and COPIS resigned by April 2003. This led to the termination of this project .**

## CRN ADDITIONAL OR PARALLEL FUNDS

CRN -ADDITIONAL OR PARALELL FUNDS	SUB TOTAL
<b>Argentina</b> - ANPCyT - 1999 - Climate experiment, using a global coupled ocean-atmosphere general circulation model	9.000
<b>Argentina</b> - ANPCyT - 2000 - Study of the predictability of seasonal climate anomalies Argentina. Additional hardware and software requested for climate modeling. Subscriptions and publications	14.200
<b>Argentina</b> - CONICET - 2000 - PhD students to participate in the above project	12.000
<b>Argentina</b> - CONICET - 1999 - Assessment of the global warming impact on the hydrologic cycle in Argentina. Climate simulation of enhanced greenhouse effect due increasing atmospheric CO <sub>2</sub> concentration	3.000
<b>Argentina</b> - Estudio de los mecanismos fisicos que vinculan la variabilidad climatica estacional e interanual em el centro y norte de la Argentina com la observada em los oceanos circundantes-.ANPCYT	81.000
<b>Argentina</b> - Extension de cronologias de ancho de anillo de arboles para estudios de variabilidad climatica durante los ultimos 2000 anos em el sur de la Patagonia. ANPCYT	35.550
<b>Argentina</b> - Field equipment and supplies.-CONICET.	5.000
<b>Argentina</b> - Las Sequias em la Argentina-ANPCYT-	80.799
<b>Argentina</b> - Proyección regional de la variabilidad climatica em Argentina y analisis de los cambios esperados.-ANPCYT	135.441
<b>Argentina</b> - Reconstruction of ENSO events during the last 1000 years in the North of Patagonia (36°-39°S). PICT 97/0487 ANPCYT.-	20.000
<b>Argentina</b> - Research grant, equipment.-ANPCYT.	7.000
<b>Argentina</b> - SECyT - 2000 - The study of ocean-atmosphere CO <sub>2</sub> fluxes in the SW Atlantic, Scotia Sea & northern Weddell Sea	33.000
<b>Argentina</b> - Simulacion y caracterizacion de la corriente em chorro em capas bajas y su relacion com la conveccion intensa em el Sudeste de Sudamerica-ANPCYT	138.090
<b>Argentina</b> -ANPCyT - 2000 - Development of a numerical ocean circulation model for the West South Atlantic.	91.000
<b>Argentina</b> -ANPCyT - 2001/2003 - Compare outputs from SW Atlantic circulation simulated derived from various numerical models. A new generation Workstation is to be delivered in 2000	49.998
<b>Argentina</b> -Integrating instrumental dendrochronological and glaciological records to characterize the climate variability across Patagonia records to characterize the climate variability across during the past 1000 years. PICT 97/03093-ANPCYT-	18.000
<b>Argentina</b> -Status, dynamics and potential use of Prosopis flexuosa forests in three natural environments, Mendoza Province. ANPCYT-	40.581
<b>Argentina</b> – Doctoral fellowship to Santiago Veron- CONICET	11.200
<b>Argentina</b> – ANPCYT – Gestion de Riesgo y Cambio Climatico	52.800
<b>Argentina</b> – ANPCYT/CONICET – Desastres y sociedad en la Argentina, periodo de analisis 1991-2001	6.000
<b>Argentina</b> – Universidad de Buenos Aires, Doctoral scholarship awarded Lucia Vivanco	14.400
<b>Argentina</b> – Universidad de Buenos Aires – Undergraduate scholarship awarded Martin Covalschii	1.200
<b>Argentina</b> – CONICET – Doctoral scholarship awarded Pablo Ciprioti	11.200
<b>Argentina</b> – CONICET – Doctoral scholarship awarded Pedro Flombaum	11.200
<b>Argentina</b> – ANPCY-T – Los efectos del cambio global sobre la productividad primaria en los ecosistemas aridos	60.000
<b>Argentina</b> – Universidad de Buenos Aires – Biodiversity effect on ecosystem functioning: diversity of species, functional groups, Patches and resources.	34.999
<b>Argentina/Brazil</b> - Variaciones climaticas intraestacionales de verano em el Cono Sur de America del Sur- CNPq/ CONICET	6.000
<b>Banco Mundial</b> – Analisis de la configuración del riesgo social en la Cuenca del Rio Salado. Estudios de caso	5.000
<b>Banco Mundial</b> – Beca trabajo de campo para tres estudiantes	5.000
<b>Brazil</b> - FINEP/UFRPE/SUDENE/UFPE - 2001/2002 - Tecnologias no semi-arido	40.000

<b>Brazil</b> - UFPB - Scholarship - Litter fall and decomposition	1.200	
<b>Brazil</b> - UFPE/CNPq - Scholarship - Decomposition of green manure at family farms in PB	4.500	
<b>Brazil</b> - 3 MSc scholarships- CAPES.	10.000	
<b>Brazil</b> - 3 Phd scholarships-CNPq.	22.000	
<b>Brazil</b> - CAPES - Scholarship - Population dynamics of caatinga species	4.500	
<b>Brazil</b> - CAPES - Scholarship - Vegetation at desertification sites	4.500	
<b>Brazil</b> - CAPES/COFECUB -2003-Intercambio de estudiantes y profesores	33.000	
<b>Brazil</b> - CAPES/INPE- 2001/2004- Dinamica de fronteira e construcao dos espacos na Amazonia brasileira	45.000	
<b>Brazil</b> - CHESF/UFRPE/UFPE - 2001/2003- Estudo do ecossistema dos reservatorios do complexo hidroelectrico de Paulo Afonso e Itaparica	79.998	
<b>Brazil</b> - CNPq - Research on soil organics matter dynamics under land use change	15.000	
<b>Brazil</b> - CNPq - 2000/2001 - Dinamica da materia organica em solos do semi-arido	9.866	
<b>Brazil</b> - CNPq - 2003 - A model based approach to assess sustainability of land use systems in semi-arid NE Brazil and Central Argentina	4.000	
<b>Brazil</b> - CNPq - PhD Fellowship at Florida State Univ: Studying relationship betw. Sea-surface & thermocline circulation in the Southern Tropical Atlantics. PhD at GSO Univ. of Rhode Island studying processes at the SEC Bifurcation	160.000	
<b>Brazil</b> - CNPq - Scholarships - 2001/2003 - Ciclos biogeoquimicos e sustentabilidade em sistemas de agricultura familiar no semi-arido nordestino	16.000	
<b>Brazil</b> - CNPq/ASPTA/UFPB - 2002/2003 -Interrelaçoes entre uso de la terra, fertilidade do solo produtividade, na agricultura familiar do semi-arido do NE do Brasil	30.000	
<b>Brazil</b> - Embrapa -2000/2003-Avaliaçao e integraçao da pecuaria leitera na agricultura familiar da Amazonia Oriental Brasileira	64.998	
<b>Brazil</b> - Embrapa-2001-Sistemas Silipastoris na Amazonia Oriental Brasil	120.000	
<b>Brazil</b> - FACEPE - Research on Onpuntia	11.000	
<b>Brazil</b> - FADESP/Embrapa- 1999/2001-Desenvolvimiento para dinamizar a produçao leitera paranaense	60.000	
<b>Brazil</b> - FADESP/UFGP-2000/2001Programa Piloto do G7 para preservar as florestas tropicais	220.000	
<b>Brazil</b> - FAPESP - 2000/2001 - Fellowship at LANL: SST variability's in the South Atlantic, on interannual & interdecadal scales	12.000	
<b>Brazil</b> - FAPESP 1999- One MSc. Fellow/IOUSP Study of impacts of R. de la Plata discharge on the E.S. American continent Shelf	25.000	
<b>Brazil</b> - FAPESP - 2000 - Project VARIAS	100.000	
<b>Brazil</b> - FINEP & PETROBRAS - 2000 - Modeling of the Circulation and Flux of Sediments in the Continental Shelf	150.000	
<b>Brazil</b> - Predictable studies for Southeastern South America at CPTEC	400.000	
<b>Brazil</b> - Research grant, equipment, supplies, travel.-CNPq.	25.000	
<b>Brazil</b> - Soil moisture estimates for Brazil. Surface energy budget calculations using me. Stations and satellite estimates of solar radiation are coupled to a soil hydrological model forced by daily rainfall observations	600.000	
<b>Brazil</b> - Study of Low Lever Jet- FAPESP.	300.000	
<b>Brazil</b> - UFPE - Scholarship - Erosion at family farms in PB	4.500	
<b>Brazil</b> - Undergraduate Students- CNPq.	10.900	
<b>Brazil</b> - CNPq/CAPES/PICD/PICDT -Becas de Doctorado y Maestria	111.300	
<b>BRAZIL</b> - FIOCRUZ. Student support, Roberta Dias.	512	
<b>BRAZIL</b> - UFRJ. Student support, Erika Moreira.	1.395	
<b>BRAZIL</b> - UFRJ. Student support, Sergio Vieira.	744	
<b>BRAZIL</b> - UFRJ. Student support, Juliana Lirio.	116	

<b>BRAZIL</b> - UFRJ, Student support, Maria C. Silva.	<b>2.511</b>	<b>2.699.540</b>
<b>Brazil / USA</b> - CPTEC, ETA model and USP RAMS model. FAPESP and NASA	<b>900.000</b>	<b>900.000</b>
<b>Canada</b> - Found for Climate and Atmospheric Sciences(CFCAS).Developing a proxy climate data base for the last 300 years in the Canadian Cordillera	<b>249.999</b>	
<b>Canada</b> - University of Saskatchewan - 2003 - Equipment to re-facilitate sample analyses	<b>20.000</b>	
<b>Canada</b> - Dendroclimatic reconstructions of climate patterns in the Canadian Cordillera.-Met. Service.-	<b>7.500</b>	
<b>Canada</b> - Dr. Serge Demers-Unvi. de Quebec-NSERC.	<b>465.399</b>	
<b>Canada</b> - Dr. Srge Demers-Univ. de Quebec- NSERC	<b>325.095</b>	
<b>Canada</b> - NSERC - 2000/2001 - Revaloración de la tecnología tradicional	<b>25.050</b>	
<b>Canada</b> - NSERC - Student travel and research support	<b>26.000</b>	
<b>Canada</b> - Reconstructing climate variability from treeline sites in the northern Canadian Cordillera-NSREC.	<b>152.500</b>	
<b>Canada</b> - Research activities for students in Met. Service of Canada. NSERC	<b>30.700</b>	
<b>Canada</b> - Students support-NSERC.	<b>13.200</b>	
<b>Canada</b> - Dendrochronological investigations in the coast mountains of British Columbia-Univ. of Victoria-CNSERC-	<b>55.000</b>	
<b>Canada</b> -International Sardine Forum.	<b>4.000</b>	
<b>Canada</b> -SPACC/GLOBEC - 2001 - Workshop on fisheries & decadal changes in E. Pacific Humboldt & California Currents	<b>20.000</b>	
<b>Canada</b> -GLOBEC - 2000/2001- Study of zooplankton aggregation near seabed features for Northeast Pacific monitoring	<b>200.000</b>	<b>1.594.443</b>
<b>Cathalac</b> – Support Web side development	<b>3.400</b>	<b>3.400</b>
<b>CEPAL/GTZ</b> – Prevencion y reduccion de amenazas generadas por desastres	<b>20.000</b>	<b>20.000</b>
<b>CGIAR</b> -2001-Collective Action, and Reseources Use of Secondary Forests in Maranhao, Brazil	<b>120.000</b>	<b>120.000</b>
<b>Chile</b> - Climate changes and documentary records. FONDECYT.	<b>7.698</b>	
<b>Chile</b> - Climate changes during the last 1000 years in the southern Chilean Andes (41°-51°) from tree-ring glaciers and documentary records. FONDECYT-	<b>193.998</b>	
<b>Chile</b> - Funding to enhance collaboration with Dr. Villalba and Dr Prieto from Cricyt.-FONDECYT	<b>9.600</b>	
<b>Chile</b> - Univ. de Concepcion - 1999/200 - Fees scholarships	<b>40.000</b>	<b>251.296</b>
<b>CIFOR</b> - 2000 - Dr. David Kaimowitz's research	<b>16.000</b>	<b>16.000</b>
<b>Colombia</b> - Equipment, field work, supplies.-COLCIENCIAS.	<b>24.999</b>	
<b>Colombia</b> - Personnel, field work, supplies. Grant#260-99- COLCIENCIAS	<b>21.000</b>	
<b>COLOMBIA</b> - University of Antioquia, Student support, Guillermo Rua.	<b>4.000</b>	
<b>COLOMBIA</b> - University of Antioquia, Student support, Santiago Zuloaga.	<b>8.648</b>	<b>58.647</b>
<b>Ecuador</b> – Support project activities – COPERECUADOR – Agriculture Chamber	<b>10.000</b>	
<b>Ecuador</b> – Support project activities – Ministry of Environment	<b>2.700</b>	
<b>Ecuador</b> – Support project activities - SPOL	<b>15.000</b>	
<b>Ecuador</b> – Support project activities - VLIR	<b>9.000</b>	<b>36.700</b>
<b>EU</b> - Projecto ALFA(America Latina Formacion Academica)-2003/2006- Doctorados, post-doctorados e intercambio de profesores	<b>1.099.998</b>	
<b>EU</b> - UOFS - Analytical work on Yucatan soils	<b>10.000</b>	
<b>EU</b> .-2001-Regional Development and Deforestation: Sustainable Alternatives for Amazon Regions	<b>600.000</b>	<b>1.709.998</b>

<b>France</b> - IFB(Insitut Francais de la Biodiversite)-2003/2006	<b>274.998</b>	<b>274.998</b>
<b>GEF</b> (Argentina) - 2000/2003 - Study of La Plata River	<b>500.000</b>	
<b>GEF</b> (Argentina) - 2001/2003 - Argentine oceanic Platform.	<b>999.999</b>	
<b>GEF-</b> (Mexico) Adaptation to climate change in Mexico, as part of a project for Mexico, Central America and Cuba	<b>141.000</b>	<b>1.640.999</b>
<b>Germany</b> - DAAD - 2003/2006 - Institutional development aiming at internationalization and joint degree programs at UADY	<b>85.000</b>	
<b>Germany</b> - DAAD - 2003 - Travel aid to students participation in CRN 001 field work as part of their theses	<b>3.000</b>	
<b>Germany</b> – GTZ – Colaboracion para la busqueda de informacion	<b>3.000</b>	
<b>Germany</b> - University of Gottingen - 2002/2007 - Comunications and travel cost to facilitate CRN 001 and its network	<b>33.996</b>	
<b>Germany</b> - University of Gottingen - 2002/2007- Joint course development with Universities CRN 001 network	<b>36.000</b>	
<b>Germany</b> - Various German Agencies - 2003 - For two MSc and one PhD stipend for students participation in CRN 001.	<b>41.000</b>	<b>201.996</b>
<b>International Conservancy</b> - 2003 - Parcelas escolares em el Municipio de Calakmul, Campeche	<b>27.450</b>	<b>27.450</b>
<b>Mexico</b> - CONACYT - 2000- Instrumentation, materials visiting scientists, ship-time	<b>80.000</b>	
<b>Mexico</b> - CONACYT - 2001- Materials and supplies	<b>25.000</b>	
<b>Mexico</b> - CONACYT/SIERRA - 1999/2001 - Establecimiento, desarrollo y evaluación de sistemas agroforestales em el Municipio de Mérida	<b>24.999</b>	
<b>Mexico</b> - CONACYT/SIERRA - 1999/2000 - Evaluación para intensificar la Milpa em Yucatán	<b>30.000</b>	
<b>Mexico</b> - Fundacion PRODUCE - 2003 - Elaboracion del diagnostico para el plan de desarrollo forestal para el Estado de Yucatan	<b>31.050</b>	
<b>Mexico</b> - INI - 2002 - Mejoramiento de la infraestructura de Sistemas Agroforestales em la comunidad de Hocabá	<b>92.000</b>	
<b>Mexico</b> - UC-Mexus - 2001/2002 - Dinamica y manejo del Agua	<b>23.500</b>	
<b>Mexico</b> - UNAM - 2001- Scholarships and ship time	<b>30.000</b>	
<b>Mexico</b> - UNAM- 2000-Scholarships, visiting scientists and ship-time	<b>50.000</b>	
<b>Mexico</b> - UNAM- 2001-Ship time	<b>180.000</b>	
<b>Mexico</b> - UNAM- 2002 - Visiting scientists	<b>20.000</b>	
<b>Mexico</b> - CONACYT -1997/2001- Complement of funds for IAI - ISP	<b>187.500</b>	
<b>Mexico</b> -CONACYT -2000/2005- Imecocal	<b>499.998</b>	
<b>Mexico</b> – CIESAS – Material consumable para el proyecto	<b>4.000</b>	
<b>Mexico</b> – CIESAS – fondo especial para fotocopiado para el proyecto	<b>750</b>	
<b>Mexico</b> – CIESAS – Beca tecnica por 6 meses para complilar DesInventar	<b>1.500</b>	
<b>Mexico</b> – CIESAS – Beca de Tesis por 12 meses para la Licenciatura dentro de la tematica del proyecto ENSO	<b>3.000</b>	
<b>Mexico</b> – CIESAS – Fondos para la realización del II Taller del proyecto ENSO	<b>1.500</b>	
<b>Mexico</b> – Academia Mexicana de Ciencias – Viaticos para profesor invitado conferencia para el proyecto ENSO	<b>2.000</b>	
<b>Mexico</b> – Secretaria de Relaciones Exteriores – Pasaje para el profesor invitado proyecto ENSO	<b>1.000</b>	
<b>Mexico</b> – Academia Mexicana de Ciencias – Beca para estudiante para capturar datos sobre DesInventar	<b>250</b>	
<b>Mexico</b> – CONACYT – Beca maestria tema relacionado proyecto ENSO	<b>16.200</b>	
<b>Mexico</b> – CONACYT – Beca de doctorado	<b>28.800</b>	
<b>Mexico</b> – CONACYT – Beca de doctorado en el extranjero	<b>36.000</b>	
<b>Mexico</b> – CONACYT – Variabilidad y cambio climatico en Mexico	<b>10.000</b>	

<b>Mexico</b> – UNAM – Estudio de la predecibilidad del clima en Mexico, Centro America y el Caribe	10.000	1.389.047
<b>Multi-agencies</b> – support project activities	50.000	
<b>Multi-agencies</b> – support to Health symposium	20.000	70.000
<b>OEA</b> - 1999/01 – Coop. Reg. para el manejo del Impacto de los Eventos El Niño sobre la Biodiversidad	124.998	124.998
<b>OEA/AWI(Germany)</b> - 2000 - Symposium on Impacts of ENSO associated Symposium on Biological impacts of La Niña, Peru	10.000	10.000
<b>Peru</b> -Estudios dendrocronologicos de eventos el Nino y otras variaciones climaticas em la zona tropical de Sudamerica Inst. Geofisico / Univ. de Piura.	20.600	20.600
<b>PROTROPICO/FMVZ/UADY</b> - 2000/2001 - Fortalecimiento Institucional de Protropico / FMVZ-UADY	150.000	150.000
<b>Red Latino Americana de Botanica</b> – Co-finance course in Chamela – Mexico on biodiversity and Global Change	28.200	
<b>Red Latino Americana de Botanica</b> – Alice Altesor, Martin Oesterheld	10.795	38.995
<b>UK/Brazil</b> - Department of International Development - CNPq/UFPE/ASPTA-NE/AMAS 1998 - 2003 - Programa de Planta do Nordeste	2.880.000	2.880.000
<b>UN</b> - Assessment of impacts and Adaptation to Climate Changing Human Health in the Caribbean - 2003/2005	217.998	
<b>UNDP/PPS</b> - 2002/2003 - El solar escolar	43.332	261.330
<b>Uruguay</b> - Desarrollo de um sistema nacional de informacion y aplicaciones de pronosticos climaticos para el sector agropecuario. INIA-	6.000	
<b>Uruguay</b> – CONICIT Claudia Rodríguez, Alice Altesor	30.000	36.000
<b>USA</b> - Compartiendo um espacio comun em condicioneis saludables la conservacion y manejo de la diversidad Bio-acuatica de la cuenca Andino-Amazonica del Rio Pachitea-Peru-MacArthur Foundation	162.000	
<b>USA</b> - Decade to century hydroclimatic variability in the western North America Univ. of Arizona-NSF.-	360.000	
<b>USA</b> - Enhace activities in the field station-Instituto del Bien Comum- Univ.Agr. La Molina/Florida Int. University-Fondo de las Americas.	950.000	
<b>USA</b> - Evaluation on transect along easter of Peruvian Andes. River Dinamics.-Mellon Foundation	439.998	
<b>USA</b> - Ford Foundation - 2000/2003 - Fortalecimiento del Departamento de MCRNT	174.999	
<b>USA</b> - Fundacion MacArthur-2001/ 2003 - Multiplicacion de las experiencias de PROTROPICO em la Peninsula de Yucatan	294.999	
<b>USA</b> - Graduate support, Inter-American Foundation	34.998	
<b>USA</b> - Natural spatiotemporal variability of climate over western US in the late Holocene- Univ. of Arizona.-NSF-	412.542	
<b>USA</b> - NOAA/IRI -2000-Support for students for participate in the course on dynamical downscaling held at IRI	8.200	
<b>USA</b> - NOAA-2003-Support for students for predicted SSTs	100.000	
<b>USA</b> - NRL - 2001 - Observational & numerical studies of coastal ocean circulation	529.000	
<b>USA</b> - Palmer Long-Term Ecological Research project OPP-0217282 Western Antarctic Peninsula, for field sampling and experiments	288.000	
<b>USA</b> - Recollection and extension of chronologies of ancient bristlecone pine. Univ. of Arizona.- NSF	34.000	
<b>USA</b> - Research grant, field work, and supplies-LBA-NASA.	25.000	
<b>USA</b> - Research grant, field works, supplies. NSF.	20.000	
<b>USA</b> - Support studies of summer monsoon rainfall, reconstruction from tree rings at the Tree Rings Laboratory in Arizona. NOAA/ERL/CDC-	39.000	
<b>USA</b> - Support to implement the GLOBE Program in the Pachitea Basin. ERM Foundation	5.000	
<b>USA</b> - Temperature variability since AD 1000 in the western US from tree rings.-Univ. of Arizona-NSF-	278.622	
<b>USA</b> - The function of Riparian Forest as Regulators of local and regional scale Nitrogen Cycles - Mellon Foundation.	438.000	
<b>USA</b> - To enhance facilities in San Luis Potosi Laboratory. University. Of Arkansas	3.999	
<b>USA</b> - Univ. of Florida.- 2001/2003 - Two assistantship to the Ecuadorian student involved in the CRN	40.000	

<b>USA</b> - Variability of extreme precipitation events in southeast America and assessment of interseasonal, interannual and decadal times scales- NOAA.	<b>95.157</b>	
<b>USA</b> - California Sea Grant - 2000 - International Sardine Forum	<b>6.000</b>	
<b>USA</b> – The imprint of vegetation on soil nutrient pools: the effect of a forestation in the Pampas - NSF	<b>27.000</b>	
<b>USA</b> – Funding for a Chapman Conference: Interactions between vegetation and hydrological processes in semiarid landscapes	<b>50.000</b>	
<b>USA</b> – University of Miami – NOAA-NSF – Use of climate prediction to support decision making in Argentine agriculture	<b>13.220</b>	
<b>USA</b> – Department of Community Affairs, State of Florida – Additional funds for ENSO project and 6 case studies	<b>50.000</b>	
<b>USA</b> – NSF (IBN-0234174) – Add. Funding for a corollary project in the Patagonian forest: "Ecophysiological consequences of Infrequent massive flowering of monocarpic bamboo grasses in temperate and subtropical South America.	<b>100.000</b>	
<b>USA</b> - Science Communications Studies.	<b>29.284</b>	<b>5.009.018</b>
<b>USA/ Mexico</b> -NSF/CICESE/SCRIPPS - 1998/1999	<b>80.000</b>	<b>80.000</b>
<b>Venezuela</b> - Equipment, Field work, supplies. Grant#98003404 CONICIT	<b>100.000</b>	
<b>Venezuela</b> - Equipment. Grant#98003435.-CONICIT.	<b>3.500</b>	
<b>Venezuela</b> - Scholarships for three graduate students - CONICIT.	<b>27.500</b>	
<b>Venezuela</b> - Thesis research grants, supplies-CDCHT-Universidad de los Andes-	<b>2.500</b>	
<b>Venezuela</b> - Thesis research grants, supplies-CONICIT.	<b>8.500</b>	<b>142.000</b>
<b>Total</b>	<b>20.760.113</b>	<b>20.760.113</b>

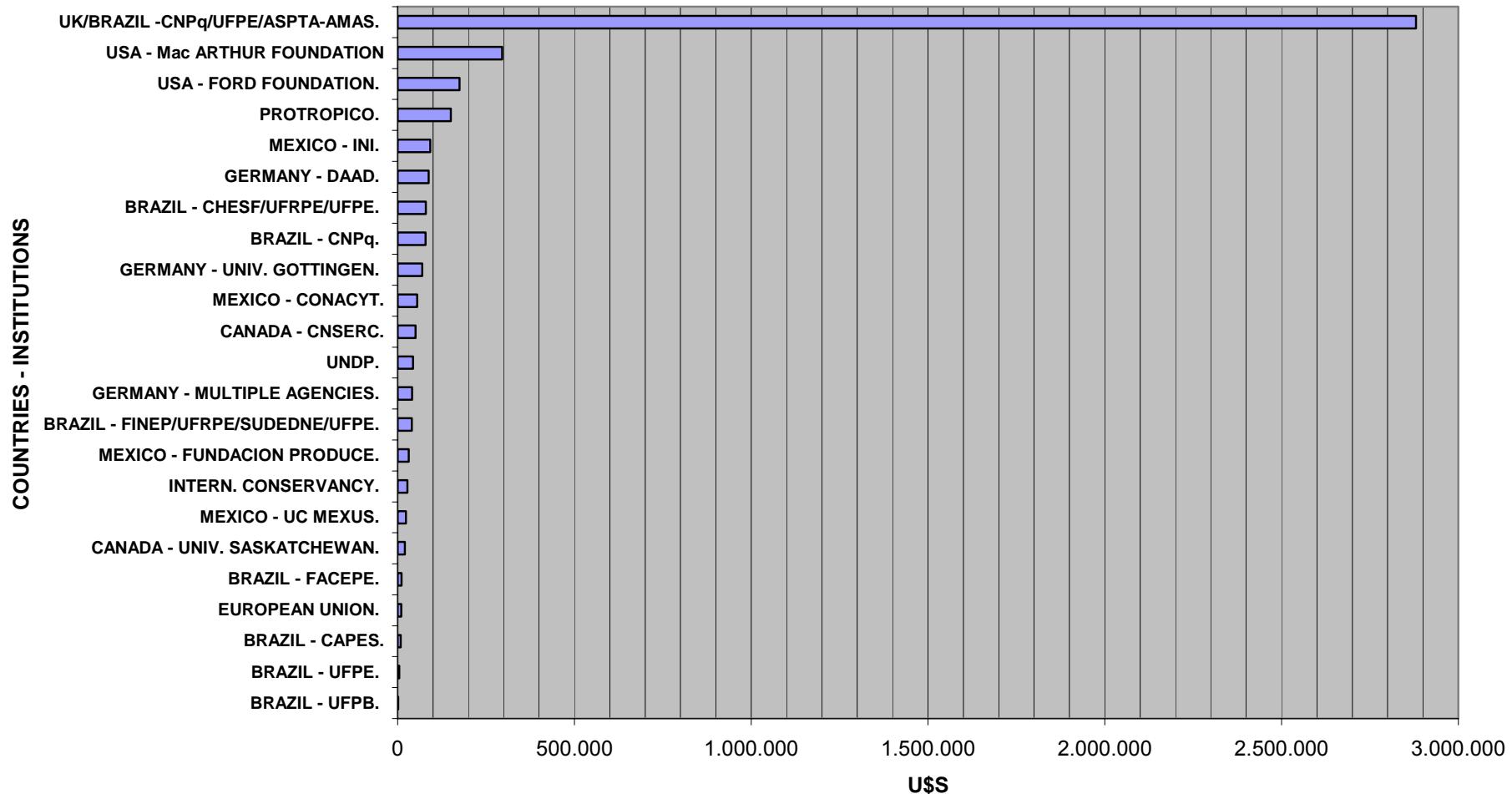
**ADDITIONAL OR PARALLEL FUNDS BY CRN PROJECT PI**

ADDITIONAL OR PARALLEL FUNDS.	1999	2000	2001	2002	2003	2004	2005	2006	2007	TOTAL
<b>CRN 001 - Holm Tiesen</b>										
Brazil - FACEPE - Research on Onopuntia.		<b>11.000</b>								<b>11000</b>
Brazil - CNPq - Research on soil organics matter dynamics under land use change.		<b>15.000</b>								<b>15000</b>
Mexico - CONACYT/SIERRA - 1999/2000 - Evaluación para intensificar la Milpa em Yucatán.	<b>15.000</b>	<b>15.000</b>								<b>30.000</b>
Canada - NSERC - 2000/2001 - Revaloración de la tecnología tradicional		<b>12.550</b>	<b>12.500</b>							<b>25050</b>
Mexico - CONACYT/SIERRA - 1999/2001 - Establecimiento, desarrollo y evaluación de sistemas agroforestales em el Municipio de Mérida.	<b>8.333</b>	<b>8.333</b>	<b>8.333</b>							<b>24.999</b>
UNDP/PPS - 2002/2003 - El solar escolar.				<b>21.666</b>	<b>21.666</b>					<b>43332</b>
PROTROPICO/FMVZ/UADY - 2000/2001 - Fortalecimiento Institucional de Protropico/ FMVZ-UADY.		<b>75.000</b>	<b>75.000</b>							<b>150000</b>
Canada - NSERC - Student travel and research support.		<b>26.000</b>								<b>26000</b>
EU - UOFS - Analytical work on Yucatan soils.		<b>10.000</b>								<b>10000</b>
Brazil - CAPES ) - Scholarship - Population dynamics of caatinga species.	<b>4.500</b>									<b>4.500</b>
Brazil - CAPES - Scholarship - Vegetation at desertification sites.			<b>4.500</b>							<b>4500</b>
Brazil - UFPB - Scholarship - Litterfall and decomposition.	<b>1.200</b>									<b>1.200</b>
Brazil - UFPE - Scholarship - Erpsion at family farms in PB.			<b>4.500</b>							<b>4500</b>
Brazil - UFPE/CNPq - Scholarship - Decomposition of gree manure at family farms in PB.			<b>4.500</b>							<b>4500</b>
UK/Brazil - Department of International Development - CNPq/UFPE/ASPTA-NE/AMAS 1998 - 2003 - Programa de Planta do Nordeste.	<b>576.000</b>	<b>576.000</b>	<b>576.000</b>	<b>576.000</b>	<b>576.000</b>					<b>2.880.000</b>
Brazil - FINEP/UFRPE/SUDENE/UFPE - 2001/2002 -			<b>20.000</b>	<b>20.000</b>						<b>40000</b>

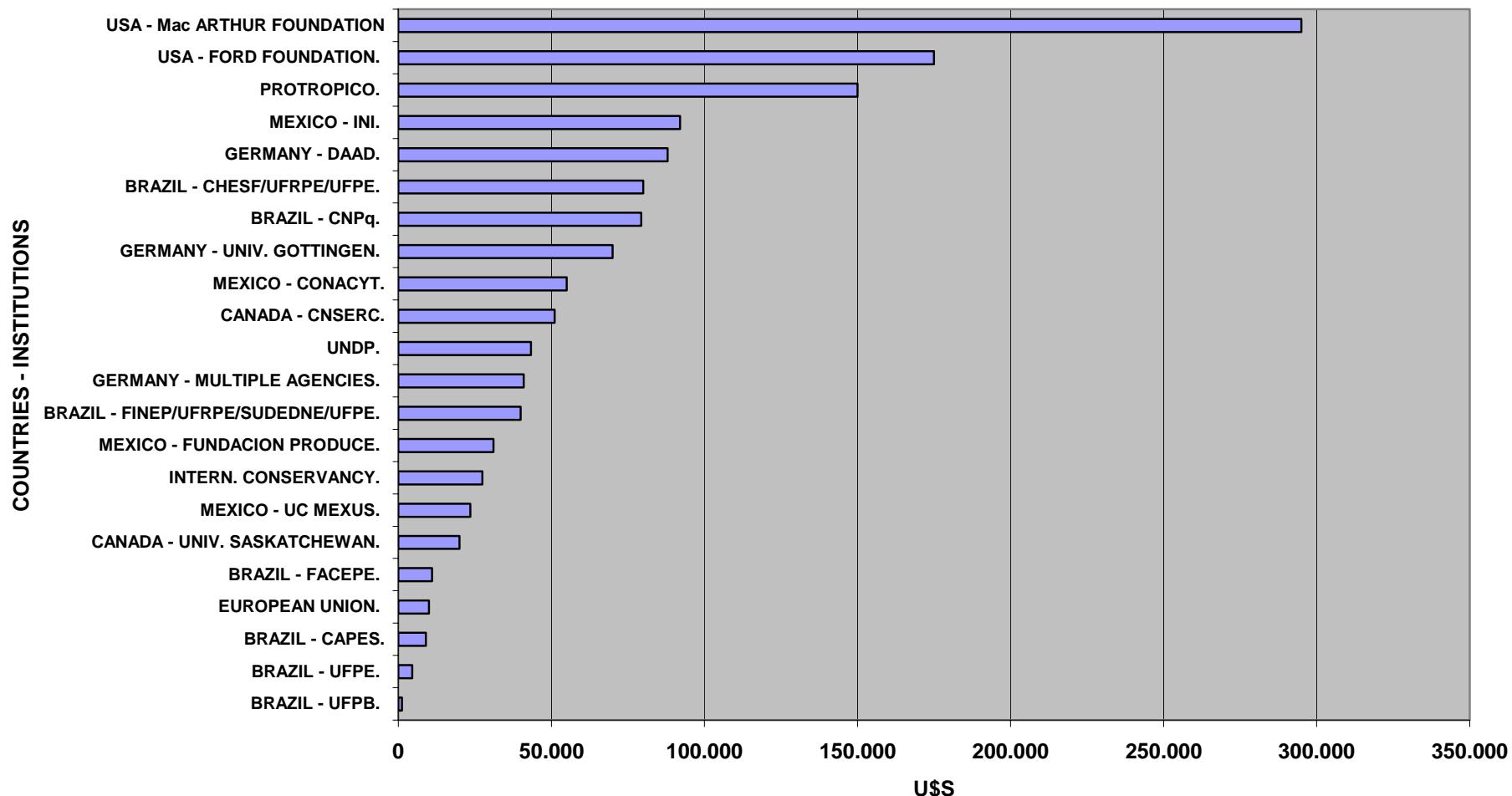
Tecnologias no semi-arido.									
<b>Brazil</b> - CHESF/UFRPE/UFPE - 2001/2003-									
Estudo do ecossistema dos reservorios do complexo hidroelectrico de Paulo Afonso e Itaparica.			<b>26.666</b>	<b>26.666</b>	<b>26.666</b>				<b>79998</b>
<b>Brazil</b> - CNPq - Scholarships - 2001/2003 - Ciclos biogeoquimicos e sustentabilidad em sistemas de agricultura familiar no semi-arido nordestino.						<b>16.000</b>			<b>16000</b>
<b>Brazil</b> - CNPq - 2000/2001 - Dinamica da materia organica em solos do semi-arido.	<b>4.933</b>	<b>4.933</b>							<b>9866</b>
<b>Brazil</b> - CNPq/ASPTA/UFPB - 2002/2003 - Interrelacoes entre uso de la terra, fertilidade do solo produtividade na agricultura familiar do semi-arido do NE do Brasil.			<b>15.000</b>	<b>15.000</b>					<b>30000</b>
<b>Brazil</b> - CNPq - 2003 - A model based approach to assess sustainability of land use systems in semi-arid NE Brazil and Central Argentina.					<b>4.000</b>				<b>4000</b>
<b>USA</b> - Ford Foundation - 2000/2003 - Fortalecimiento del Departamento de MCRNT.	<b>58.333</b>	<b>58.333</b>	<b>58.333</b>						<b>174999</b>
<b>Mexico</b> - UC-Mexus - 2001/2002 - Dinamica y manejo del Agua.			<b>11.750</b>	<b>11.750</b>					<b>23500</b>
<b>Mexico</b> - INI - 2002 - Mejoramiento de la infraestructura de Sistemas Agroforestales em la comunidad de Hocabá.					<b>92.000</b>				<b>92000</b>
<b>Mexico</b> - Fundacion PRODUCE - 2003 - Elaboracion del diagnostico para el plan de desarrollo forestal para el Estado de Yucatan.						<b>31.050</b>			<b>31050</b>
<b>International Conservancy</b> - 2003 - Parcelas escolares em el Municipio de Calakmul, Campeche.						<b>27.450</b>			<b>27450</b>
<b>USA</b> - Fundacion MacArthur-2001/ 2003 - Multiplicacion de las - experiencias de PROTROPICO em la Peninsula de Yucatan.			<b>98.333</b>	<b>98.333</b>	<b>98.333</b>				<b>294999</b>
<b>Canada</b> - University of Saskatchewan - 2003 - Equipment to re-facilitate sample analyses.						<b>20.000</b>			<b>20000</b>
<b>Germany</b> - DAAD - 2003/2006 - Institutional development aiming at internationalization and joint degree programs at UADY.						<b>21.250</b>	<b>21.250</b>	<b>21.250</b>	<b>21.250</b>
<b>Germany</b> - DAAD - 2003 - Travel aid to students participation in CRN 001 field work as part of their theses.						<b>3.000</b>			<b>3000</b>
<b>Germany</b> - University of Gottingen - 2002/2007 - Comunications and travel cost to facilitate CRN 001 and its network			<b>5.666</b>	<b>5.666</b>	<b>5.666</b>	<b>5.666</b>	<b>5.666</b>	<b>5.666</b>	<b>33996</b>
<b>Germany</b> - University of Gottingen - 2002/2007- Joint course r									

development with Universities CRN 001 network				<b>6.000</b>	<b>6.000</b>	<b>6.000</b>	<b>6.000</b>	<b>6.000</b>	<b>6.000</b>	<b>36000</b>
<b>Germany</b> - Various German Agencies - 2003 - For two										
MSc and one PhD stipend for students participation in					<b>41.000</b>					<b>41000</b>
	<b>605033</b>	<b>812149</b>	<b>920348</b>	<b>931414</b>	<b>898081</b>	<b>32.916</b>	<b>32.916</b>	<b>32.916</b>	<b>11666</b>	<b>4.277.439</b>

**ADDITIONAL OR PARALLEL FUNDS**  
**CRN 001 HOLM TIESSEN**



**ADDITIONAL OR PARALLEL FUNDS**  
**CRN 001 HOLM TIESSEN**

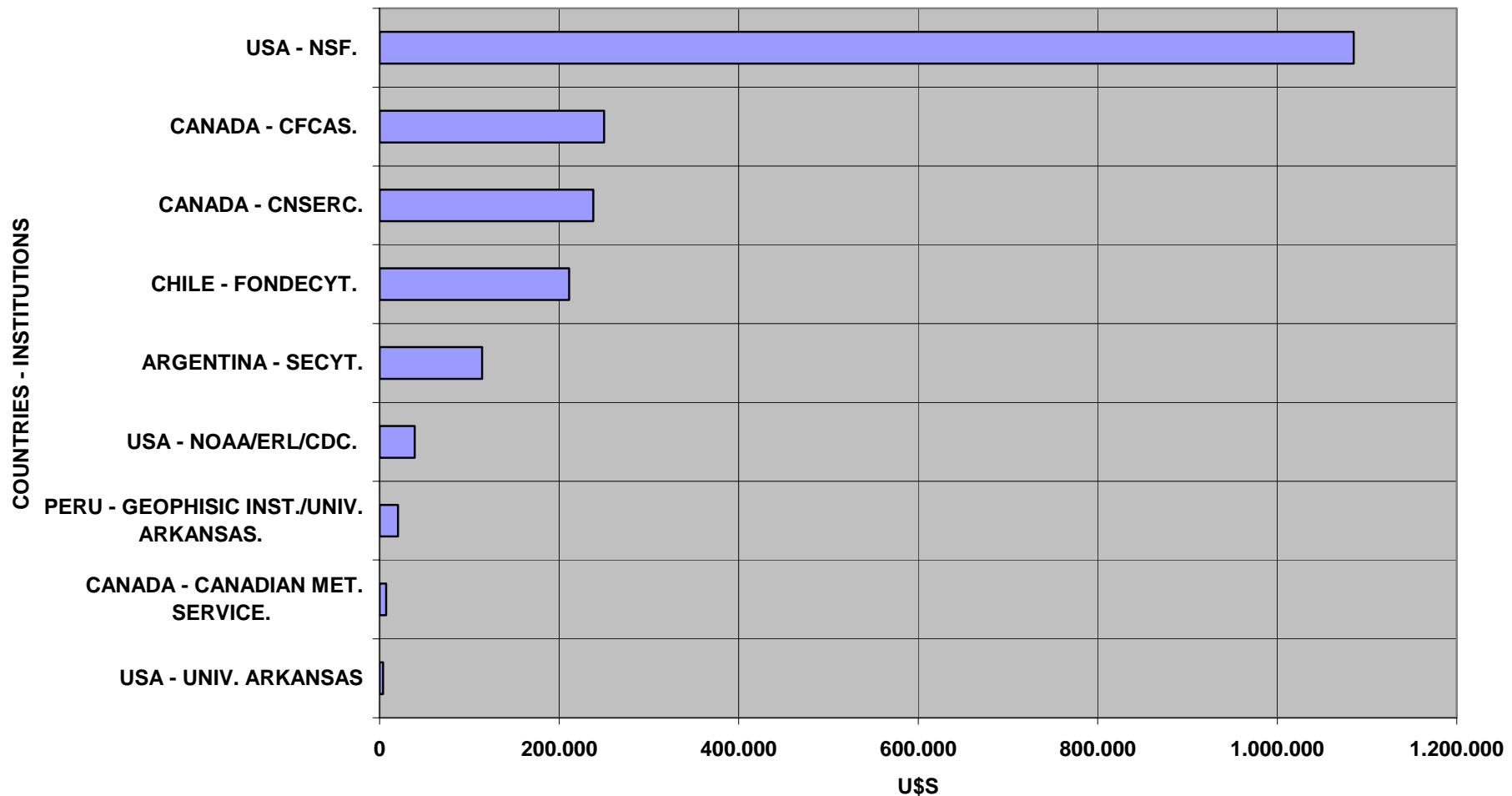


INSTITUTIONS	FUNDS
BRAZIL - UFPB.	1.200
BRAZIL - UFPE.	4.500
BRAZIL - CAPES.	9.000
EUROPEAN UNION.	10.000
BRAZIL - FACEPE.	11.000
CANADA - UNIV. OF SASKATCHEWAN.	20.000
MEXICO - UC MEXUS.	23.500
INTERN. CONSERVANCY.	27.450
MEXICO - FUNDACION PRODUCE.	31.050
BRAZIL - FINEP/UFRPE/SUDEDNE/UFPE.	40.000
GERMANY - MULTIPLE AGENCIES.	41.000
UNDP.	43.332
CANADA - CNSERC.	51.050
MEXICO - CONACYT.	54.999
GERMANY - UNIV. OF GOTTINGEN.	69.996
BRAZIL - CNPq.	79.366
BRAZIL - CHESF/UFRPE/UFPE.	79.998
GERMANY - DAAD.	88.000
MEXICO - INI.	92.000
PROTROPICO.	150.000
USA - FORD FOUNDATION.	174.999
USA - Mac ARTHUR FOUNDATION	294.999
UK/BRAZIL -CNPq/UFPE/ASPTA-AMAS.	2.880.000
	4.277.439

Source (donor institution, country & subject)	2000	2001	2002	2003	2004	2005	2006	
<b>CRN 003 - Brian Luckman</b>								
<b>Argentina</b> -Integrating instrumental dendrochronological and glaciological records to characterize the climate variability across Patagonia during the past 1000 years. PICT 97/03093-ANPCYT- (CRN 003)	<b>6.000</b>	<b>6.000</b>	<b>6.000</b>					<b>18.000</b>
<b>Argentina</b> - Reconstruction of ENSO events during the last 1000 years in the North of Patagonia (36°-39°S). PICT 97/0487. ANPCYT.- (CRN 003)	<b>20.000</b>							<b>20.000</b>
<b>Canada</b> - Dendrochronological investigations in the coast mountains of British Columbia-Univ. of Victoria-CNSERC- (CRN 003)	<b>11.000</b>	<b>11.000</b>	<b>11.000</b>	<b>11.000</b>	<b>11.000</b>	<b>11.000</b>		<b>55.000</b>
<b>Canada</b> - Found for Climate and Atmospheric Sciences(CFCAS).Developing a proxy climate data base for the last 300 years in the Canadian Cordillera. (CRN 003)				<b>83.333</b>	<b>83.333</b>	<b>83.333</b>		<b>249999</b>
<b>Canada</b> - Research activities for students in Met. Service of Canada. NSERC			<b>30.700</b>					<b>30.700</b>
<b>Chile</b> - Climate changes and documentary records.FONDECYT. (CRN 003)	<b>2.566</b>	<b>2.566</b>	<b>2.566</b>					<b>7.698</b>
<b>Canada</b> - Reconstructing climate variability from treeline sites in the northern Canadian Cordillera-NSREC. (CRN 003)				<b>30.500</b>	<b>30.500</b>	<b>30.500</b>	<b>30.500</b>	<b>152.500</b>
<b>USA</b> - Natural spatiotemporal variability of climate over western US in the late Holocene- Univ. of Arizona.-NSF- (CRN 003)				<b>137.514</b>	<b>137.514</b>	<b>137.514</b>		<b>412.542</b>
<b>USA</b> - Temperature variability since AD 1000 in the western US from tree rings.-Univ. of Arizona-NSF- (CRN 003)				<b>92.874</b>	<b>92.874</b>	<b>92.874</b>		<b>278622</b>
<b>Argentina</b> -Status, dynamics and potential use of Prosopis flexuosa forests in three natural environments, Mendoza Province.ANPCYT- (CRN 003)	<b>40.581</b>							<b>40.581</b>
<b>Peru</b> -Estudios dendrocronologicos de eventos el Niño y otras variaciones climáticas em la zona tropical de Sudamerica.Inst. Geofísico/Univ. de Piura. (CRN 003)	<b>20.600</b>							<b>20.600</b>
<b>Chile</b> - Climate changes during the last 1000 years in the southern Chilean Andes (41°-51°) from tree-ring glaciers and documentary records.								
FONDECYT- (CRN 003)	<b>64.666</b>	<b>64.666</b>	<b>64.666</b>					<b>193.998</b>
<b>Canada</b> - Dendroclimatic reconstructions of climate patterns in the Canadian Cordillera.-Met. Service.- (CRN 003)	<b>7.500</b>							<b>7.500</b>
<b>Chile</b> - Funding to enhance collaboration with Dr. Villalba and Dr Prieto from Cricyt.-FONDECYT. (CRN 003)	<b>9.600</b>							<b>9.600</b>
<b>USA</b> - To enhance facilities in San Luis Potosi Laboratory. University. Of Arkansas. (CRN 003)	<b>1.333</b>	<b>1.333</b>	<b>1.333</b>					<b>3.999</b>

<b>USA</b> - Decade to century hydroclimatic variability in the western North Ameri								
ca.Univ. of Arizona-NSF.- (CRN 003)	<b>120.000</b>	<b>120.000</b>	<b>120.000</b>					<b>360.000</b>
<b>USA</b> - Recollection and extension of chronologies of ancient britlecone pine.								
Univ. of Arizona.- NSF- (CRN 003)	<b>34.000</b>							<b>34.000</b>
<b>Argentina</b> - Extension de cronologias de ancho de anillo de arboles para								
estudios de variabilidad climatica durante los ultimos 2000 anos em el sur de								
la Patagonia. ANPCYT- (CRN 003)		<b>11.850</b>	<b>11.850</b>	<b>11.850</b>				<b>35550</b>
<b>USA</b> - Support studies of summer monsson rainfall, reconstruction from tree								
rings at the Tree Rings Laboratory in Arizona. NOAA/ERL/CDC- (CRN 003)	<b>19.500</b>	<b>19.500</b>						<b>39.000</b>
	<b>357.346</b>	<b>267.615</b>	<b>561.636</b>	<b>367071</b>	<b>355.221</b>	<b>30.500</b>	<b>30.500</b>	<b>1.969.889</b>

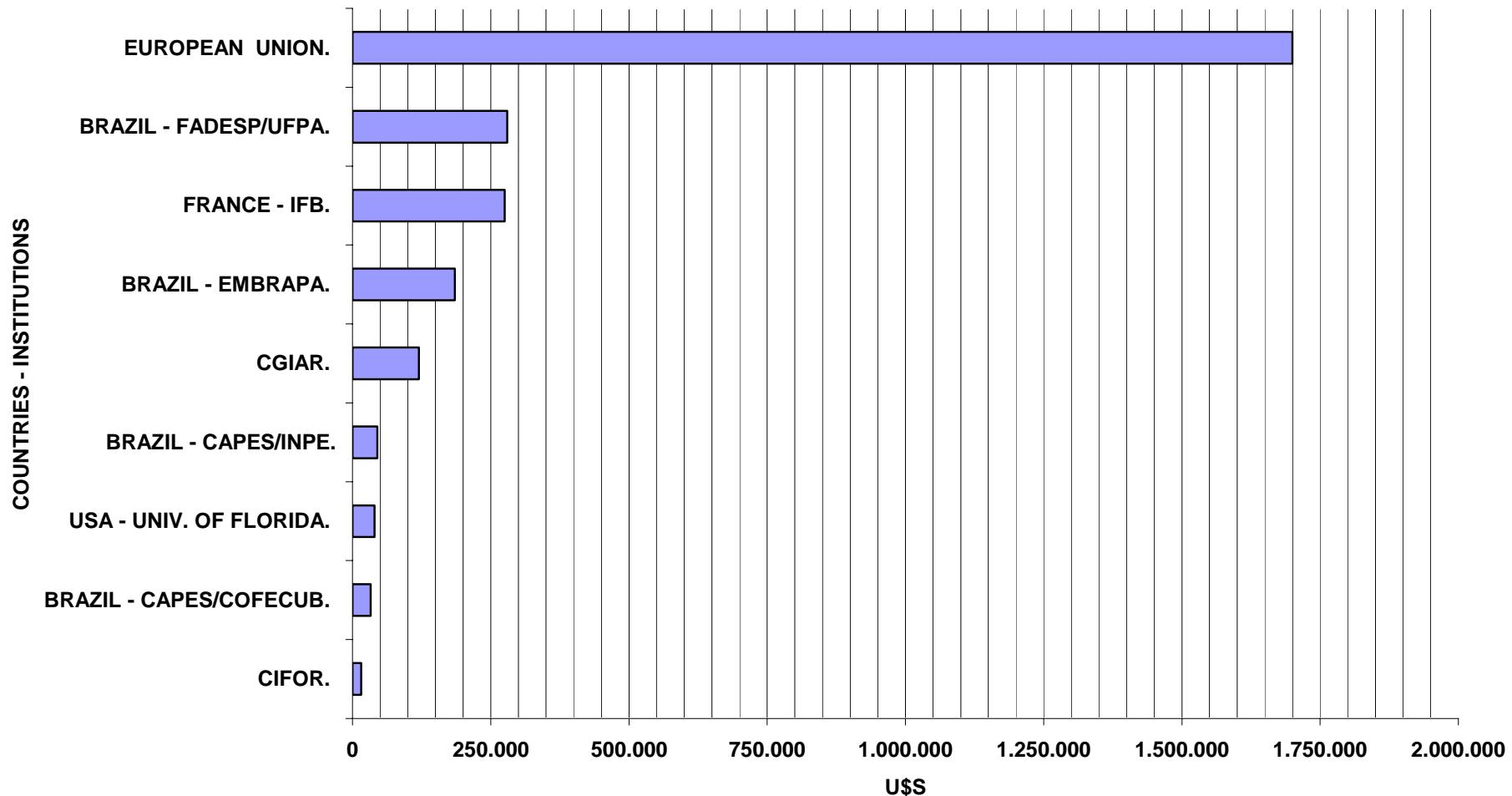
**ADDITIONAL OF PARALLEL FUNDS**  
**CRN 003 BRIAN LUCKMAN**



INSTITUTION	FUNDS
USA - UNIV. ARKANSAS	3.999
CANADA - CANADIAN MET. SERVICE.	7.500
PERU - GEOPHISIC INST./UNIV. ARKANSAS.	20.600
USA - NOAA/ERL/CDC.	39.000
ARGENTINA - SECYT.	114.131
CHILE - FONDECYT.	211.296
CANADA - CNSERC.	238.200
CANADA - CFCAS.	249.999
USA - NSF.	1.085.164
	1.969.889

<b>Source (Donor, institution, country &amp; subject)</b>	1999	2000	2001	2002	2003	2004	2005	<b>TOTAL</b>
<b>CRN 009 - Charles Wood</b>								
CIFOR - 2000 - Dr. David Kaimowitz's research.		<b>16.000</b>						<b>16000</b>
USA - Univ. of Florida.- 2001/2003 - Two assistantship to the Ecuadorian student involved in the CRN.			<b>20.000</b>	<b>20.000</b>				<b>40000</b>
Brazil - FADESP/UFPA-2000/2001 Programa Piloto do G7 para preservar as florestas tropicais.		<b>110.000</b>	<b>110.000</b>					<b>220000</b>
Brazil - FADESP/Embrapa- 1999/2001-Desenvolvimiento para dinamizar a produçao leitera paranaense.	<b>20.000</b>	<b>20.000</b>	<b>20.000</b>					<b>60.000</b>
Brazil - Embrapa -2000/2003-Avaliaçao e integraçao da pecuaria leitera na agricultura familiar da Amazonia Oriental Brasileira.		<b>21.666</b>	<b>21.666</b>	<b>21.666</b>				<b>64998</b>
Brazil - CAPES/INPE- 2001/2004- Dinamica de fronteira e construção dos espaços na Amazonia brasileira.			<b>11.250</b>	<b>11.250</b>	<b>11.250</b>	<b>11.250</b>		<b>45000</b>
EU - Projecto ALFA(America Latina Formacion Academica)-2003/2006- Doctorados, post-doctorados e intercambio de profesores.					<b>366.666</b>	<b>366.666</b>	<b>366.666</b>	<b>1099998</b>
France - IFB(Insitut Francais de la Biodiversite)-2003/2006.					<b>91.666</b>	<b>91.666</b>	<b>91.666</b>	<b>274998</b>
Brazil - CAPES/COFECUB -2003-Intercambio de estudiantes y profesores.					<b>33.000</b>			<b>33000</b>
EC.-2001-Regional Development and Deforestation:Sustainable Alternati ves for Amazon Regions.			<b>600.000</b>					<b>600000</b>
Brasil - Embrapa-2001-Sistemas Silipastoris na Amazonia Oriental Brasil.			<b>120.000</b>					<b>120000</b>
CGIAR-2001-Collective Action, and Reseources Use of Secondary Forests in Maranhao, Brazil.			<b>120.000</b>					<b>120000</b>
	<b>20000</b>	<b>167.666</b>	<b>1.022.916</b>	<b>52.916</b>	<b>502.582</b>	<b>469.582</b>	<b>458.332</b>	<b>2.693.994</b>

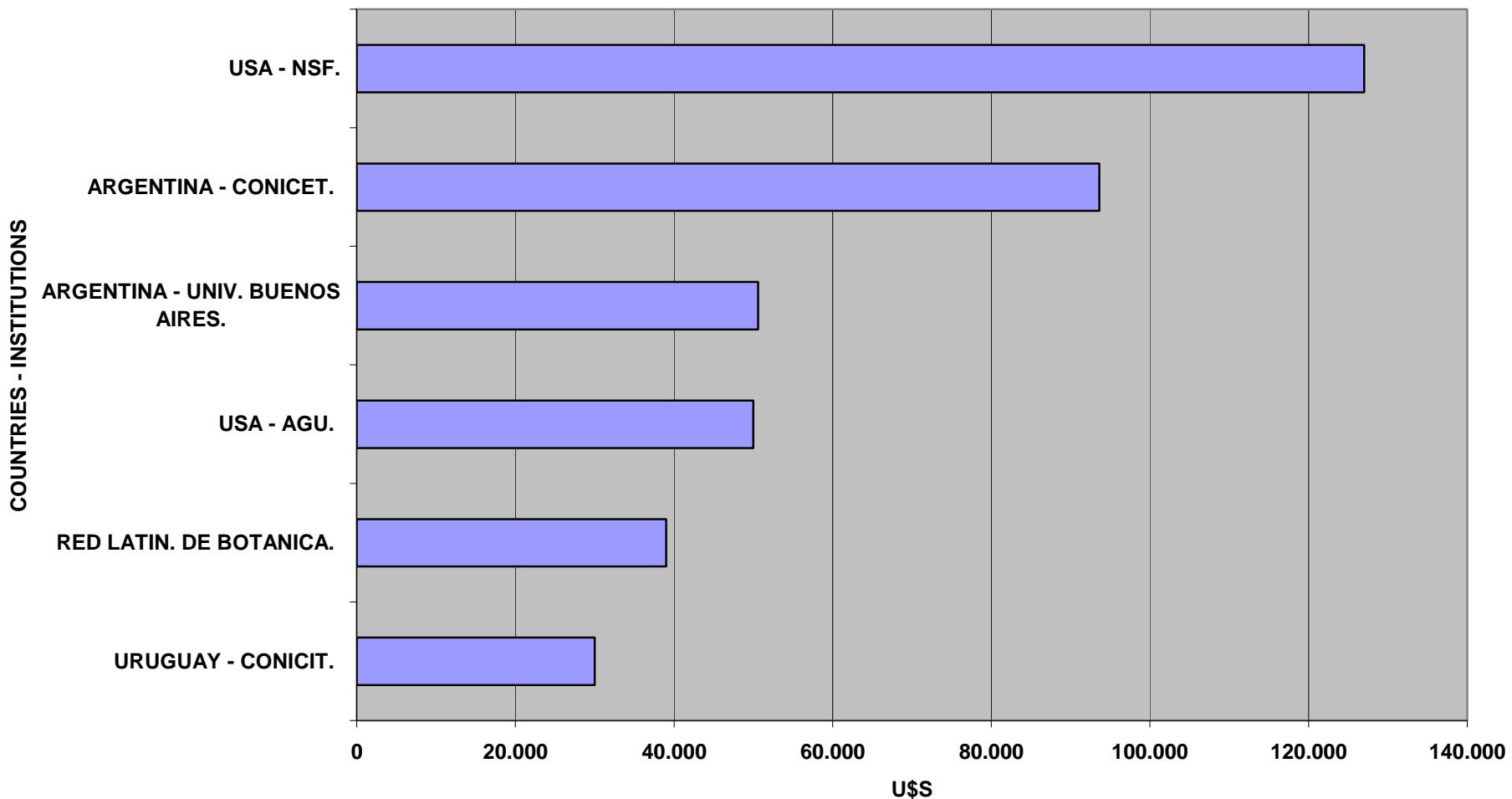
ADDITIONAL OR PARALLEL FUNDS  
CRN 009 CHARLES WOOD



INSTITUTIONS	FUNDS
CIFOR.	16.000
BRAZIL - CAPES/COFECUB.	33.000
USA - UNIV. OF FLORIDA.	40.000
BRAZIL - CAPES/INPE.	45.000
CGIAR.	120.000
BRAZIL - EMBRAPA.	184.998
FRANCE - IFB.	274.998
BRAZIL - FADESP/UFPA.	280.000
EUROPEAN UNION.	1.699.998
	<b>2.693.994</b>

Source (donor institution, country & subject)	1999	2000	2001	2002	2003	2004	2005	TOTAL
<b>CRN 012 - Osvaldo Sala</b>								
Argentina - Doctoral fellowship to Santiago Veron-CONICET.		2.800	2.800	2.800	2.800			11.200
USA - NSF-The imprint of vegetation on soil nutrient pools: the effect of afforestation in the Pampas.		13.500	13.500					27.000
USA - AGU - Funding for a Chapman Conference: Interactions between Vegetation and Hydrological Processes in Semiarid Landscapes			50.000					50.000
Red Latinoamericana de Botanica- Co-finance course in Chame la Mexico on biodiversity and global change.				28.200				28.200
Argentina - Universidad de Buenos Aires, Doctoral scholarship Lucia Vivanco			3.600	3.600	3.600	3.600		14.400
Argentina -University of Buenos Aires Undergraduate scholarship Martin Covalschii			600	600				1.200
Argentina - CONICET - Doctoral scholarship awarded Pablo Cipriotti.			2.800	2.800	2.800	2.800		11.200
Argentina - CONICET - Doctoral scholarship awarded Pedro Flombaum.		2.800	2.800	2.800	2.800			11.200
Argentina - ANPCYT- Los efectos del cambio global sobre la productividad Primaria en los ecosistemas aridos			20.000	20.000	20.000			60.000
Uruguay - CONICIT - Claudia Rodriguez , Alice Altesor.	10.000	10.000	10.000					30.000
Red Latinoamericana de Botanica- Alice Altesor, Martin Oesterheld.	3.598	3.598	3.599					10.795
Argentina - University of Buenos Aires - Biodiversity effect on ecosystem functioning: diversity of species, functional groups, patches and resources.		11.666	11.666	11.667				34.999
US - NSF(1BN-0234174) -Add. Funding for a corollary project in the Patagonian forests: Ecophysiological consequences of infrequent massive flowering of monocarpic bamboo grasses in temperate and tropical South America.					50.000	50.000		100.000
	13598	44.364	121.365	72.467	82.000	56.400		390.194

ADDITIONAL OR PARALLEL FUNDS  
CRN 012 OSVALDO SALA



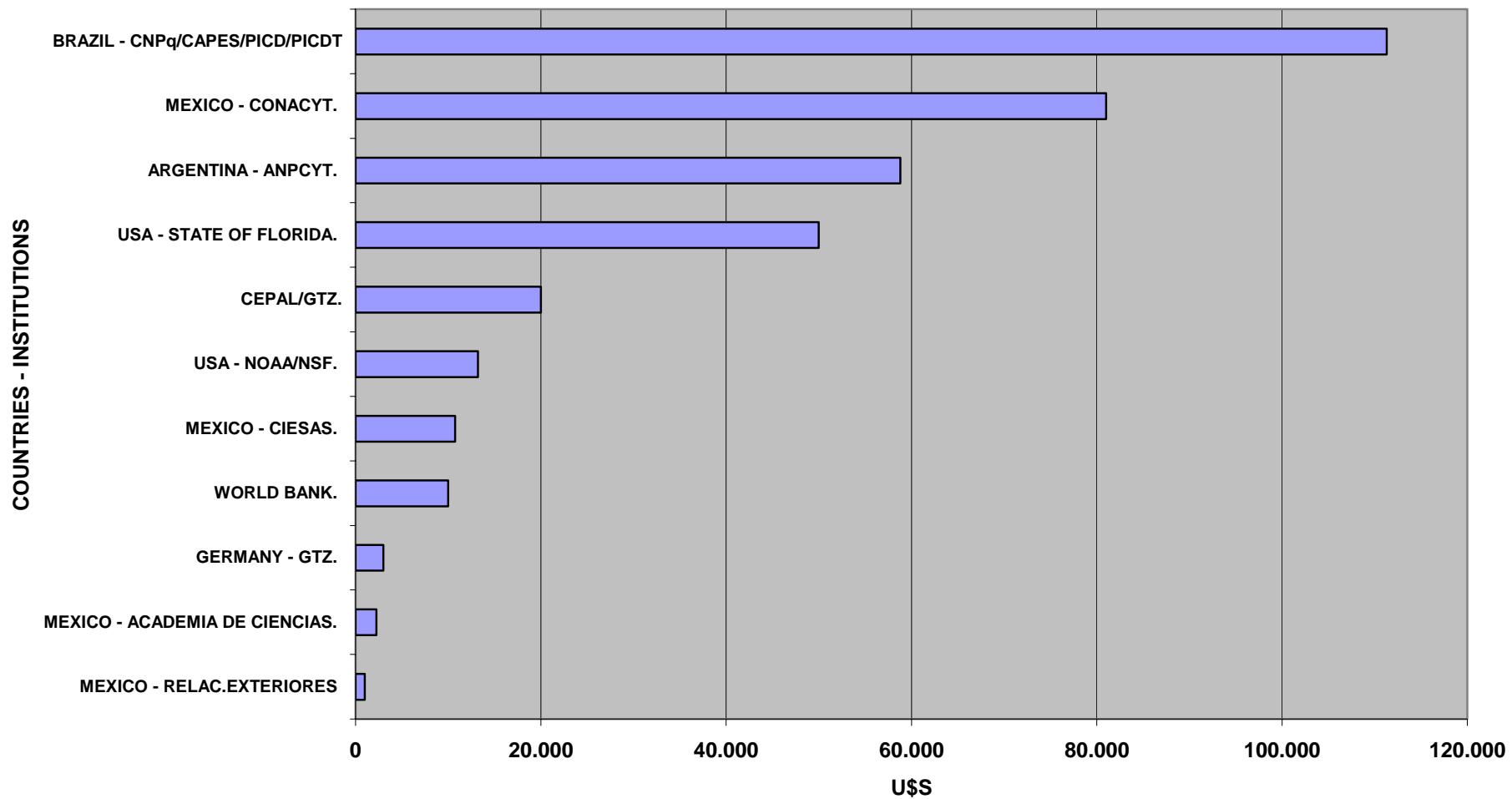
INSTITUTIONS	FUNDS
URUGUAY - CONICIT.	30.000
RED LATIN. DE BOTANICA.	38.995
USA - AGU.	50.000
ARGENTINA - UNIV. BUENOS AIRES.	50.599
ARGENTINA - CONICET.	93.600
USA - NSF.	127.000
	390.194

Source (donor institution, country & subject)	1999	2000	2001	2002	2003	TOTAL
<b>CRN 012 - Maria Vernet</b>						
Canada - Students support-NSERC. (CRN 012)		<b>13.200</b>				<b>13.200</b>
Canada - Dr. Serge Demers-Univ. de Quebec-NSERC. (CRN 012)		<b>155.133</b>	<b>155.133</b>	<b>155.133</b>		<b>465.399</b>
USA - Palmer Long-Term Ecological Research project						
OPP-0217282 Western Antarctic Peninsula, for field sampling and experiments. (CRN 012)		<b>96.000</b>	<b>96.000</b>	<b>96.000</b>		<b>288.000</b>
Canada - Dr. Srge Demers-Univ. de Quebec- NSERC. (CRN 012)			<b>108.365</b>	<b>108.365</b>	<b>108.365</b>	<b>325.095</b>
	<b>264.333</b>	<b>359498</b>	<b>359498</b>	<b>108365</b>		<b>1.091.694</b>

INSTITUTIONS	FUNDS
USA - PALMER LONG-TERM RES. PROJ.	288.000
CANADA - CNSERC.	803.694
	<b>1.091.694</b>

<b>Source (donor institution, country &amp; subject)</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	Total
<b>CRN 031 - Franco/Allan Lavell</b>								
<b>Germany - GTZ - apoyo al proyecto.</b>	<b>3.000</b>							<b>3.000</b>
<b>Mexico - CIESAS - material consumible para el proyecto.</b>	<b>800</b>	<b>800</b>	<b>800</b>	<b>800</b>	<b>800</b>			<b>4.000</b>
<b>Mexico - CIESAS - material de fotocopias para el proyecto.</b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>150</b>			<b>750</b>
<b>Mexico - CIESAS - Beca tecnica por 6 meses para compilar DesInventar.</b>				<b>1.500</b>				<b>1.500</b>
<b>Mexico - CIESAS - Beca de Tesis por 12 meses para Licenciatura dentro de la tematica del proyecto ENSO.</b>				<b>1.500</b>				<b>3.000</b>
<b>Mexico - CIESAS - Fondos para realizacion III Taller Proyecto ENSO.</b>				<b>1.500</b>				<b>1.500</b>
<b>Banco Mundial - Beca trabajo de campo para 3 estudiantes.</b>					<b>5.000</b>			<b>5.000</b>
<b>Mexico - Academia Mexicana de Ciencias- Viaticos para profesor invitado.</b>				<b>2.000</b>				<b>2.000</b>
<b>Mexico - Secretaria de Relaciones Exteriores - Pasaje para profesor invitado para conferencias sobre El Nino.</b>				<b>1.000</b>				<b>1.000</b>
<b>Mexico - Academia Mexicana de Ciencias- Beca para estudiante capturar DesInventar</b>				<b>250</b>				<b>250</b>
<b>Mexico - CONACYT - Beca maestria.</b>		<b>5.400</b>	<b>5.400</b>	<b>5.400</b>				<b>16200</b>
<b>Mexico - CONACYT - Beca de doctorado.</b>				<b>14.400</b>	<b>14.400</b>			<b>28.800</b>
<b>Mexico - CONACYT - Beca de doctoraro em el extranjero.</b>				<b>12.000</b>	<b>12.000</b>	<b>12.000</b>		<b>36000</b>
<b>CEPAL/GTZ - Prevencion y reduccion de amenazas generadas por desastres</b>				<b>10.000</b>	<b>10.000</b>			<b>20000</b>
<b>USA - University of Miami - NOAA/NSF - Use of climate prediction to support decision making in Argentine agriculture.</b>			<b>6.610</b>	<b>6.610</b>				<b>13220</b>
<b>Banco Mundial - Analisis de la configuracion social de riesgo em la Cuenca del Salado. Estudios de caso em gobiernos locales y su politica de prevencion de riesgos. Chascomus, Junin y Dolores.</b>					<b>5.000</b>			<b>5000</b>
<b>Argentina - ANPCYT - Gestion de riesgo y cambio climatico.</b>						<b>17.600</b>	<b>17.600</b>	<b>52800</b>
<b>Argentina - ANPCYT/CONICET - Desastres y sociedad em la Argentina el periodo de analisis 1991 - 2001.</b>					<b>3.000</b>	<b>3.000</b>		<b>6000</b>
<b>USA - Depart. Of Community Affairs, State of Florida - University of Florida Additional funds por ENSO project and 6 case studies.</b>						<b>50.000</b>		<b>50000</b>
<b>Brazil - CNPq/CAPES/PICD/PICDT -Becas de Doctorado y Maestria.</b>	<b>18.550</b>	<b>18.550</b>	<b>18.550</b>	<b>18.550</b>	<b>18.550</b>	<b>18.550</b>		<b>111.300</b>
	<b>22.500</b>	<b>33010</b>	<b>66260</b>	<b>69300</b>	<b>116500</b>	<b>36150</b>	<b>17600</b>	<b>361.320</b>

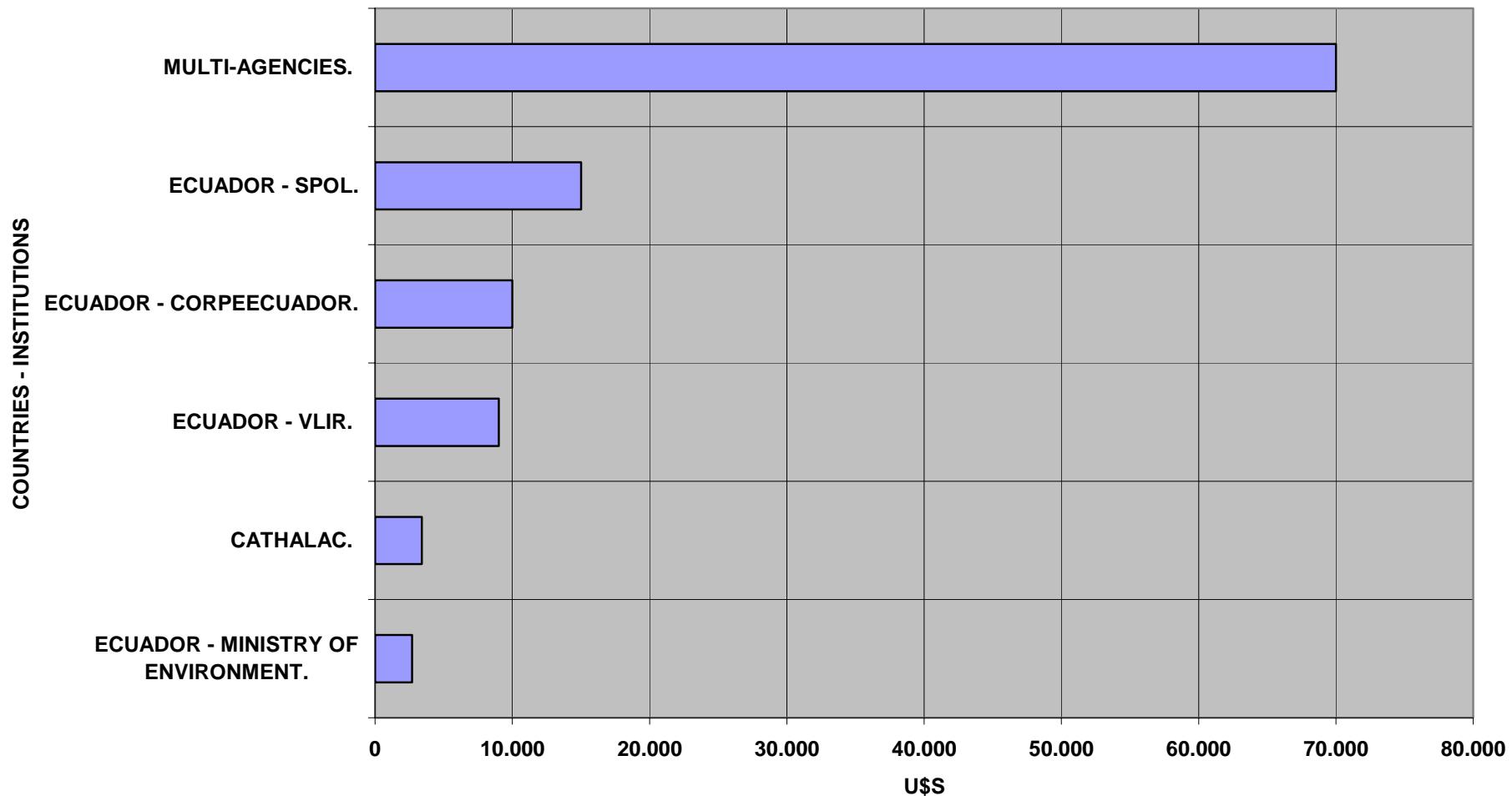
ADDITIONAL OR PARALLEL FUNDS  
CRN 031 ALLAN LAVELL



INSTITUTIONS	FUNDS
MEXICO - RELAC.EXTERIORES	1.000
MEXICO - ACADEMIA DE CIENCIAS.	2.250
GERMANY - GTZ.	3.000
WORLD BANK.	10.000
MEXICO - CIESAS.	10.750
USA - NOAA/NSF.	13.220
CEPAL/GTZ.	20.000
USA - STATE OF FLORIDA.	50.000
ARGENTINA - ANPCYT.	58.800
MEXICO - CONACYT.	81.000
BRAZIL - CNPq/CAPES/PICD/PICDT	111.300
	361.320

Source (donor institution, country & subject)	1999	2000	2001	2002	TOTAL
<b>CRN 038 - Pilar Cornejo</b>					
<b>Multi-agencies support to Health symposium</b>			<b>20.000</b>		<b>20.000</b>
<b>Ecuador - Support projects activities - VLIR</b>			<b>9.000</b>		<b>9.000</b>
<b>Ecuador - Support projects activities - SPOL</b>			<b>15.000</b>		<b>15.000</b>
<b>Ecuador - Support project activities - CORPEECUADOR, Agriculture Chamber</b>			<b>10.000</b>		<b>10.000</b>
<b>Ecuador - Ministry of Environment - Support project activities</b>			<b>2.700</b>		<b>2.700</b>
<b>Cathalac - Support Web-site development</b>			<b>3.400</b>		<b>3.400</b>
<b>Multi-agencies support for project activities</b>			<b>50.000</b>		<b>50.000</b>
			<b>110.100</b>		<b>110.100</b>

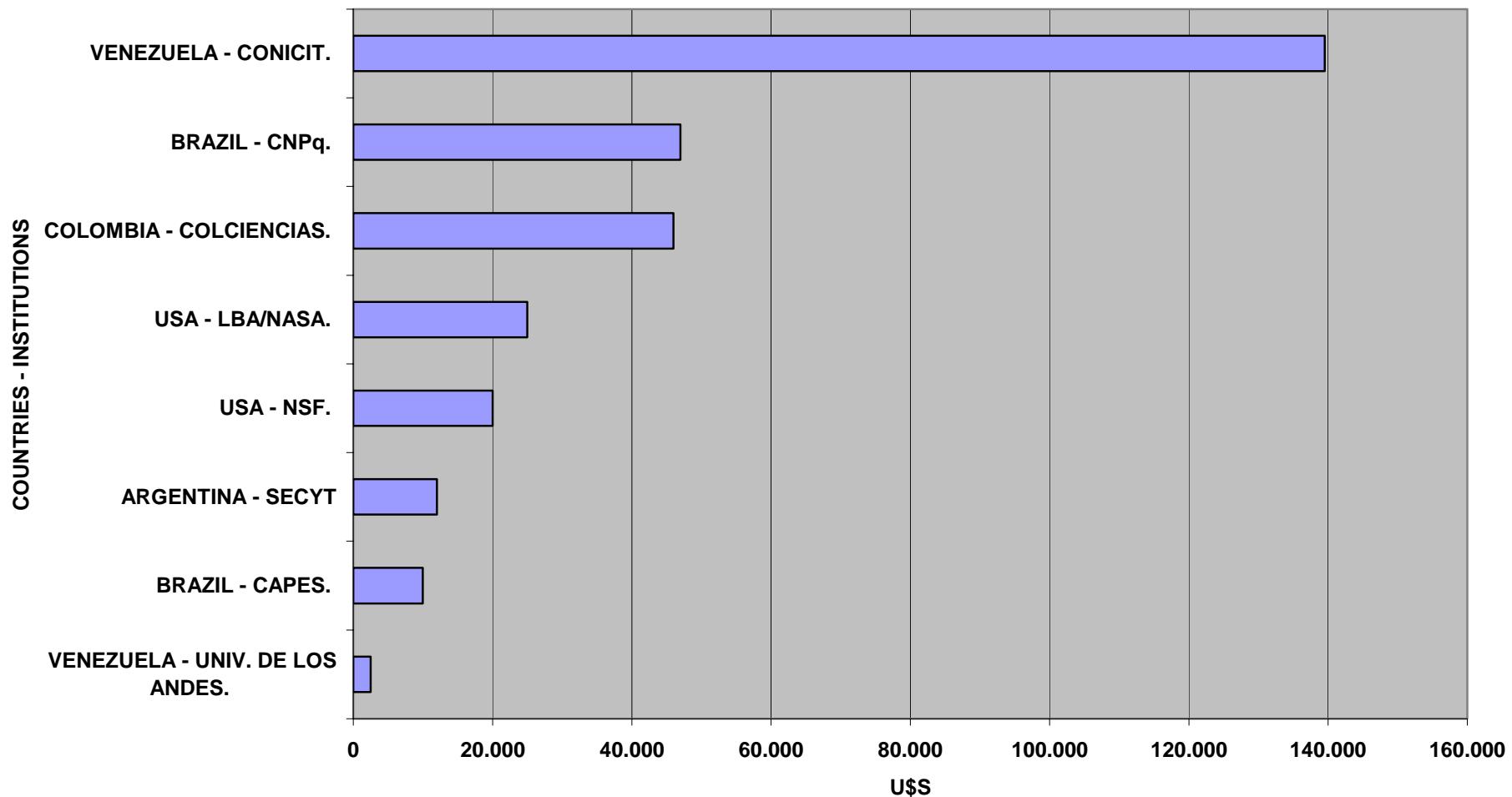
**ADDITIONAL OR PARALLEL FUNDS**  
**CRN 038 PILAR CORNEJO**



INSTITUTIONS	FUNDS
ECUADOR - MINISTRY OF ENVIRONMENT.	2.700
CATHALAC.	3.400
ECUADOR - VLIR.	9.000
ECUADOR - CORPEECUADOR.	10.000
ECUADOR - SPOL.	15.000
MULTI-AGENCIES.	70.000
	<b>110.100</b>

<b>Source (donor institution, country &amp; subject)</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>Total</b>
<b>CRN 040 - JUAN SILVA</b>						
Venezuela - Equipement, Field work, supplies. Grant#98003404						
CONICIT. (CRN 040)		25.000	25.000	25.000	25.000	100.000
Venezuela - Scholarships for three graduate students-CONICIT. (CRN 040)		27.500				27.500
Venezuela - Thesis research grants, supplies-CONICIT. (CRN 040)		8.500				8.500
Venezuela - Thesis research grants, supplies-CDCHT-Univ. de los Andes- (CRN 040)		2.500				2.500
Brazil - 3 Phd scholarships-CNPq. (CRN 040)		22.000				22.000
Brazil - 3 MSc scholarships- CAPES. (CRN 040)		10.000				10.000
USA - Research grant, field work, supplies-LBA-NASA. (CRN 040)		25.000				25.000
Colombia - Personnel, field work, supplies. Grant#260-99-						
COLCIENCIAS. (CRN 040)		10.500	10.500			21.000
Venezuela - Equipment. Grant#98003435.-CONICIT. (CRN 040)			3.500			3.500
Brazil - Research grant, equipement, supplies, travel.-CNPq. (CRN 040)		12.500	12.500			25.000
USA - Research grant, field works, supplies. NSF. (CRN 040)		10.000	10.000			20.000
Colombia - Equipment, field work, supplies.-COLCIENCIAS. (CRN 040)		8.333	8.333	8.333		24.999
Argentina - Research grant, equipement.-ANPCYT. (CRN 040)			7.000			7.000
Argentina - Field equipement and supplies.-CONICET. (CRN 040)			5.000			5.000
		161.833	81.833	33.333	25.000	301.999

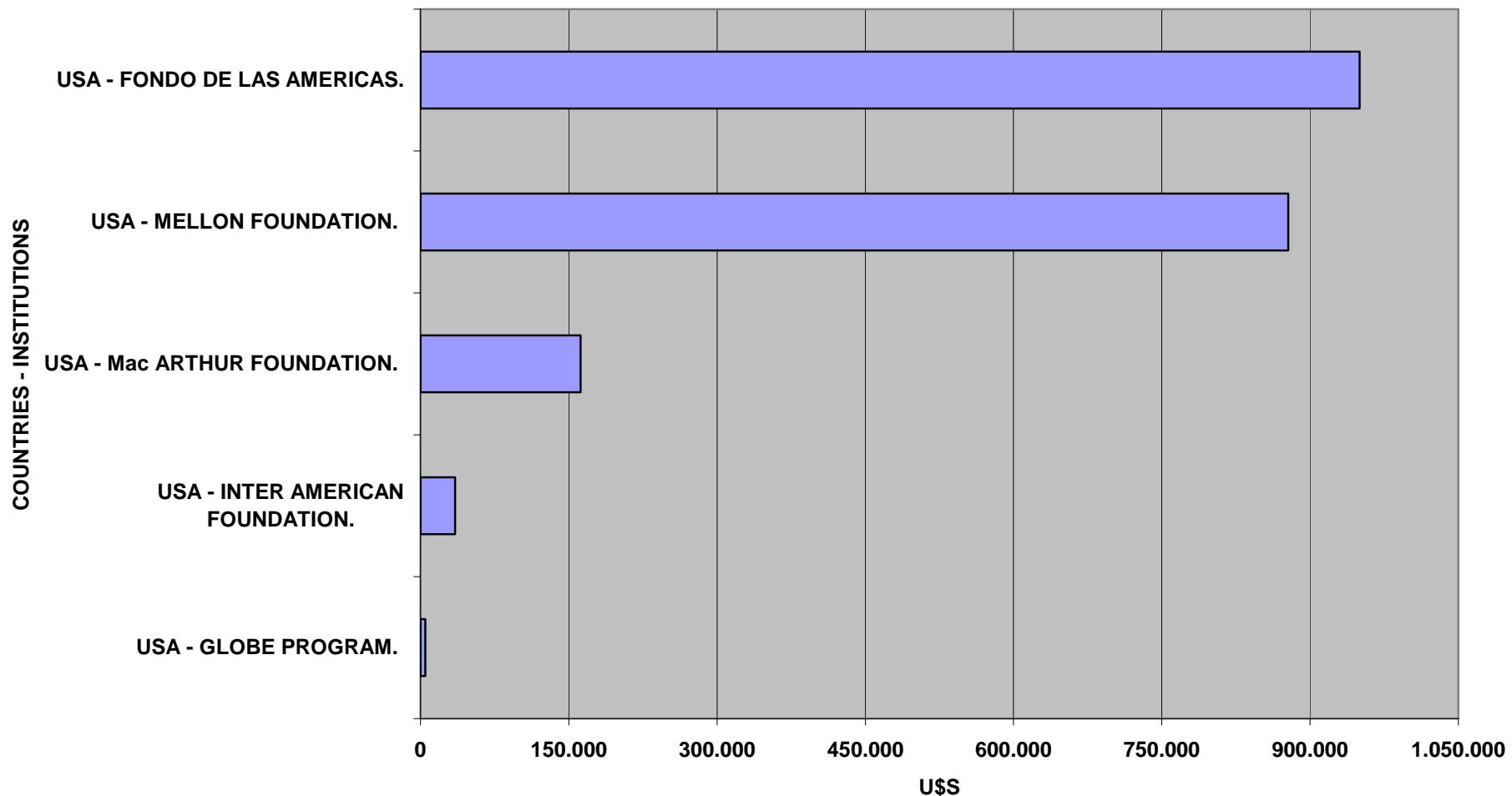
ADDITIONAL OR PARALLEL FUNDS  
CRN 040 JUAN SILVA



INSTITUTIONS	FUNDS
VENEZUELA - UNIV. DE LOS ANDES.	2.500
BRAZIL - CAPES.	10.000
ARGENTINA - SECYT	12.000
USA - NSF.	20.000
USA - LBA/NASA.	25.000
COLOMBIA - COLCIENCIAS.	45.999
BRAZIL - CNPq.	47.000
VENEZUELA - CONICIT.	139.500
	<b>299.499</b>

Source (donor institution, country & subject)	2000	2001	2002	2003	2004	2005	TOTAL
<b>CRN 047 - Michael McClain</b>							
<b>USA - The function of Riparian Forest as Regulators of local and regional scale Nitrogen Cycles - Mellon Foundation. (CRN 047)</b>	<b>146.000</b>	<b>146.000</b>	<b>146.000</b>				<b>438.000</b>
<b>USA - Graduate support, Inter-American Foundation. (CRN 047)</b>	<b>11.666</b>	<b>11.666</b>	<b>11.666</b>				<b>34.998</b>
<b>USA - Support to implement the GLOBE Program in the Pachitea Basin ERM Foundation. (CRN 047)</b>	<b>5.000</b>						<b>5.000</b>
<b>USA - Compartiendo un espacio común en condiciones saludables la conservación y manejo de la diversidad Bio-acuática de la cuenca Andino-Amazonica del Río Pachitea-Peru-MacArthur Foundation. (CRN 047)</b>		<b>54.000</b>	<b>54.000</b>	<b>54.000</b>			<b>162.000</b>
<b>USA - Evaluation on transect along eastern of Peruvian Andes. River Dinamics.-Mellon Foundation. (CRN 047)</b>				<b>146.666</b>	<b>146.666</b>	<b>146.666</b>	<b>439.998</b>
<b>USA - Enhance activities in the field station-Instituto del Bien Común- Univ.Agr. La Molina/Florida Int. University-Fondo de las Américas. (CRN 047)</b>					<b>475.000</b>	<b>475.000</b>	<b>950000</b>
	<b>162.666</b>	<b>211.666</b>	<b>211.666</b>	<b>200.666</b>	<b>621.666</b>	<b>621.666</b>	<b>2.029.996</b>

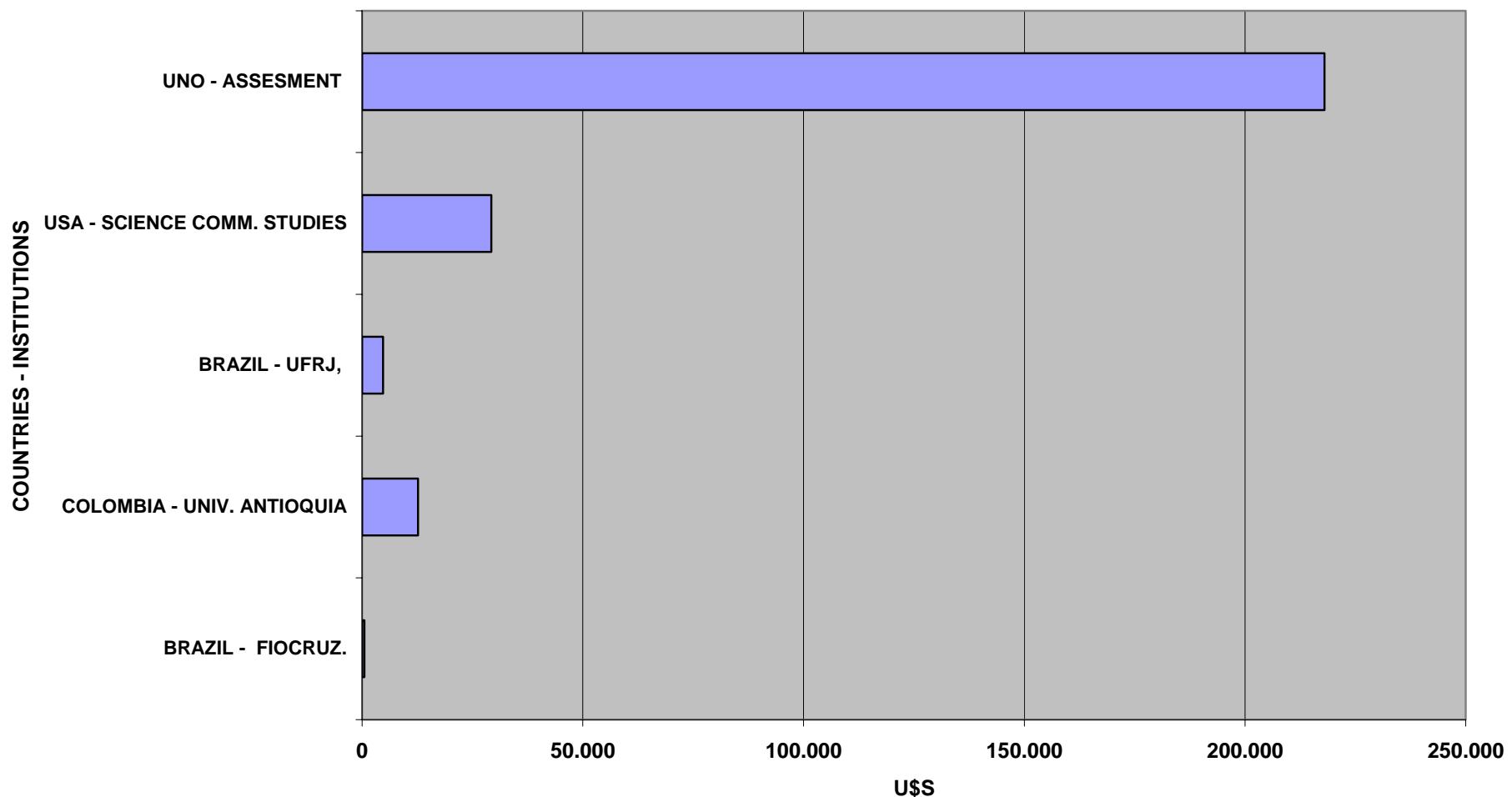
**ADDITIONAL OR PARALLEL FUNDS**  
**CRN 047 MICHAEL McCLAIN**



INSTITUTIONS	FUNDS
USA - GLOBE PROGRAM.	5.000
USA - INTER AMERICAN FOUNDATION.	34.998
USA - Mac ARTHUR FOUNDATION.	162.000
USA - MELLON FOUNDATION.	877.998
USA - FONDO DE LAS AMERICAS.	950.000
	<b>2.029.996</b>

Source(donor institution, country & subject)	2001	2002	2003	2004	2005	TOTAL
<b>CRN-048 Ulises Confalonieri</b>						
<b>UNO - Assesment of impacts and Adaptation to Climate</b>						
Changein Human Health in the Caribbean - 2003/2005. (CRN 048)			<b>72.666</b>	<b>72.666</b>	<b>72.666</b>	<b>217.998</b>
<b>USA - Science Communications Studies. (CRN 048)</b>	<b>18.452</b>	<b>5.416</b>	<b>5.416</b>			<b>29.284</b>
<b>BRAZIL - FIOCRUZ. Student support, Roberta Dias -. (CRN 048)</b>	<b>512</b>					<b>512</b>
<b>BRAZIL - UFRJ. Student support, Erika Moreira -. (CRN 048)</b>	<b>1.395</b>					<b>1.395</b>
<b>BRAZIL - UFRJ. Student support, Sergio Vieira. (CRN 048)</b>	<b>744</b>					<b>744</b>
<b>BRAZIL - UFRJ. Student support, Juliana Lirio. (CRN 048)</b>	<b>116</b>					<b>116</b>
<b>BRAZIL - UFRJ, Student support, Maria C. Silva. (CRN 048)</b>	<b>2.511</b>					<b>2.511</b>
<b>COLOMBIA - University of Antioquia, Student support, Guillermo Rua. (CRN 048)</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>		<b>4.000</b>
<b>COLOMBIA - University of Antioquia, Student support, Santiago Zuloaga. (CRN 048)</b>	<b>2.162</b>	<b>2.162</b>	<b>2.162</b>	<b>2.162</b>		<b>8.648</b>
	<b>26.892</b>	<b>8578</b>	<b>81.244</b>	<b>75.828</b>	<b>72.666</b>	<b>265.208</b>

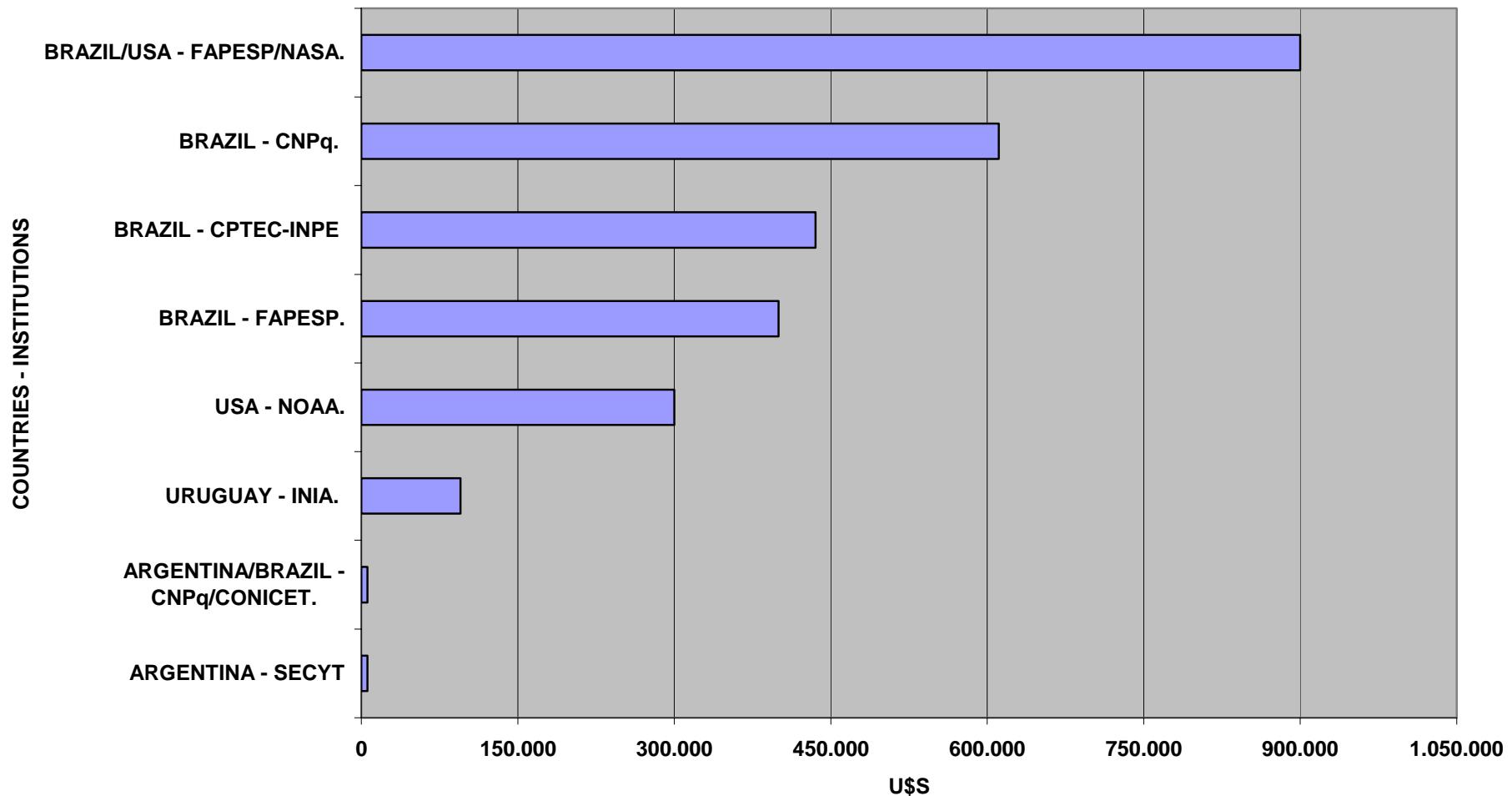
**ADDITIONAL OR PARALLEL FUNDS**  
**CRN 048 ULISES CONFALONIERI**



INSTITUTIONS	FUNDS
BRAZIL - FIOCRUZ.	512
COLOMBIA - UNIV. ANTIOQUIA	12.648
BRAZIL - UFRJ,	4.766
USA - SCIENCE COMM. STUDIES	29.284
UNO - ASSESMENT	217.998
	<b>265.208</b>

Source (donor institution, country & subject)	1999	2000	2001	2002	2003	2004
<b>CRN 055 - Mario Nuñez</b>						
Brazil - Study of Low Lever Jet- FAPESP.				300.000		300000
Brazil - CNPq. Soil moisture estimates for Brazil. Surface energy budget calculations using met, Stations ans satellite estimates of solar radiation are coupled to a soil hydrological model forced by daily rainfall observations.		150.000	150.000	150.000	150.000	600.000
Brazil/USA - CPTEC, ETA model and USP RAMS model. FAPESP and NASA		225.000	225.000	225.000	225.000	900.000
Brazil - Predictable studies for Southeastern South America at CPTEC		100.000	100.000	100.000	100.000	400.000
Brazil - Undergraduate Students- CNPq.			10.900			10900
Argentina - Las Sequias em la Argentina-ANPCYT-	26.933	26.933	26.933			80.799
Argentina - Simulacion y caracterizacion de la corriente em chorro em capas bajas y su relacion com la conveccion intensa em el Sudeste de Sudamerica-ANPCYT -		46.030	46.030	46.030		138.090
Argentina - Proyecccion regional de la variabilidad climatica em Argentina y analisis de los cambios esperados.-ANPCYT.		45.147	45.147	45.147		135.441
Argentina - Estudio de los mecanismos fisicos que vinculan la variabilidad climatica estacional e interanual em el centro y norte de la Argentina com la observada em los oceanos circundantes- ANPCYT		27.000	27.000	27.000		81.000
Argentina/Brazil - Variaciones climaticas intraestacionales de verano em el Cono Sur de America del Sur- CNPq/ CONICET.		6.000				6.000
Uruguay - Desarrollo de um sistema nacional de informacion y aplicaciones de pronosticos climaticos para el sector agropecuario. INIA		6.000				6.000
USA - Variability of extreme precipitation events in southeast America and assessment of interseasonal, interannual and decadal times scales- NOAA-OCP.	31.719	31.719	31.719			95.157
	663.829	662.729	951.829	475.000		2.753.387

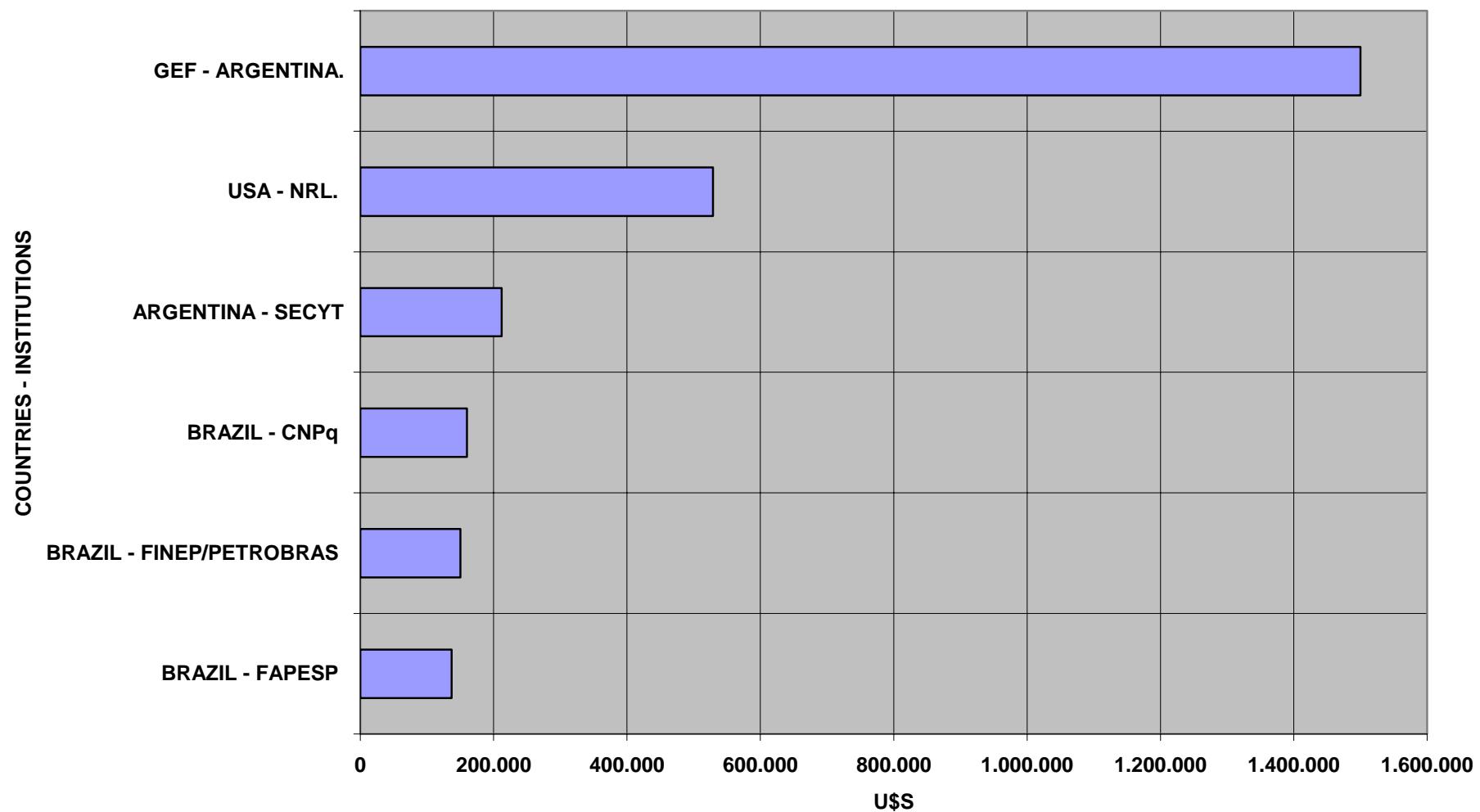
ADDITIONAL OR PARALLEL FUNDS  
CRN 055 MARIO NUÑEZ



INSTITUTIONS	FUNDS
ARGENTINA - SECYT	6.000
ARGENTINA/BRAZIL - CNPq/CONICET.	6.000
URUGUAY - INIA.	95.157
USA - NOAA.	300.000
BRAZIL - FAPESP.	400.000
BRAZIL - CPTEC-INPE	435.330
BRAZIL - CNPq.	610.900
BRAZIL/USA - FAPESP/NASA.	900.000
	2.753.387

<b>Source (donor institution, country &amp; subject</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>TOTAL</b>
<b>CRN 061 - Edmo Campos</b>						
<b>Brazil</b> - FAPESP - 1999 - One MSc. Fellowship/IOUSP Study of impacts of R. de la Plata discharge on the E.S. American continent Shelf	<b>25.000</b>					<b>25.000</b>
<b>Brazil</b> -FINEP & PETROBRAS-2000-Modeling Circulation and Flux of Sediments in the Continental Shelf of Campos		<b>150.000</b>				<b>150.000</b>
<b>Brazil</b> - CNPq - PhD Fellowship at Florida State Univ:Studying Sea-surface& thermocline circulation in the Southern Tropical Atlantics. PhD at GSO Univ. of Rhode Island studying processes at the SEC Bifurcation		<b>160.000</b>				<b>160.000</b>
<b>Argentina</b> -ANPCyT - 2001/2003 - Compare outputs from SW Atlantic circulation simulates derived from various numerical models. A new generation Workstation is to be delivered in 2000			<b>16.666</b>	<b>16.666</b>	<b>16.666</b>	<b>49.998</b>
<b>Argentina</b> - SECyT - 2000 - The study of ocean-atmosphere CO2 fluxes in the SW Atlantic, Scotia Sea & northern Weddell Sea.		<b>33.000</b>				<b>33.000</b>
<b>Argentina</b> - CONICET - 2000 - PhD students to participate in the above project.		<b>12.000</b>				<b>12.000</b>
<b>Argentina</b> -ANPCyT-1999- Climate experiment, using a global coupled ocean-atmosphere general circulation model	<b>9.000</b>					<b>9.000</b>
<b>Argentina</b> - CONICET - 1999 - Assessment of the global warming impact on the hydrologic cycle in Argentina. Climate simulation of enhanced greenhouse effect due increasing atmospheric CO2 concentration.		<b>3.000</b>				<b>3.000</b>
<b>Argentina</b> -ANPCyT - 2000 - Development of a numerical ocean circulation model for the West South Atlantic.		<b>91.000</b>				<b>91.000</b>
<b>Argentina</b> - ANPCyT - 2000 - Study of the predictability of seasonal climate anomalies Argentina. Additional hardware and software requested for climat modeling. Subscriptions and publications		<b>14.200</b>				<b>14.200</b>
<b>GEF</b> (Argentina) - 2001/2003 - Argentine oceanic Platform			<b>333.333</b>	<b>333.333</b>	<b>333.333</b>	<b>999.999</b>
<b>GEF</b> (Argentina) - 2000/2003 - Study of La Plata River		<b>125.000</b>	<b>125.000</b>	<b>125.000</b>	<b>125.000</b>	<b>500.000</b>
<b>USA</b> - NRL - 2001 - Observational & numerical studies coastal ocean circulation			<b>529.000</b>			<b>529.000</b>
<b>Brazil</b> -FAPESP-2000/01-Fellow at LANL: SST variability's in the South Atlantic, on interannual/ interdecadal scales		<b>6.000</b>	<b>6.000</b>			<b>12.000</b>
<b>Brazil</b> - FAPESP - 2000 - Project VARIAS		<b>100.000</b>				<b>100.000</b>
	<b>197.000</b>	<b>531.200</b>	<b>1.009.999</b>	<b>474.999</b>	<b>474.999</b>	<b>2.688.197</b>

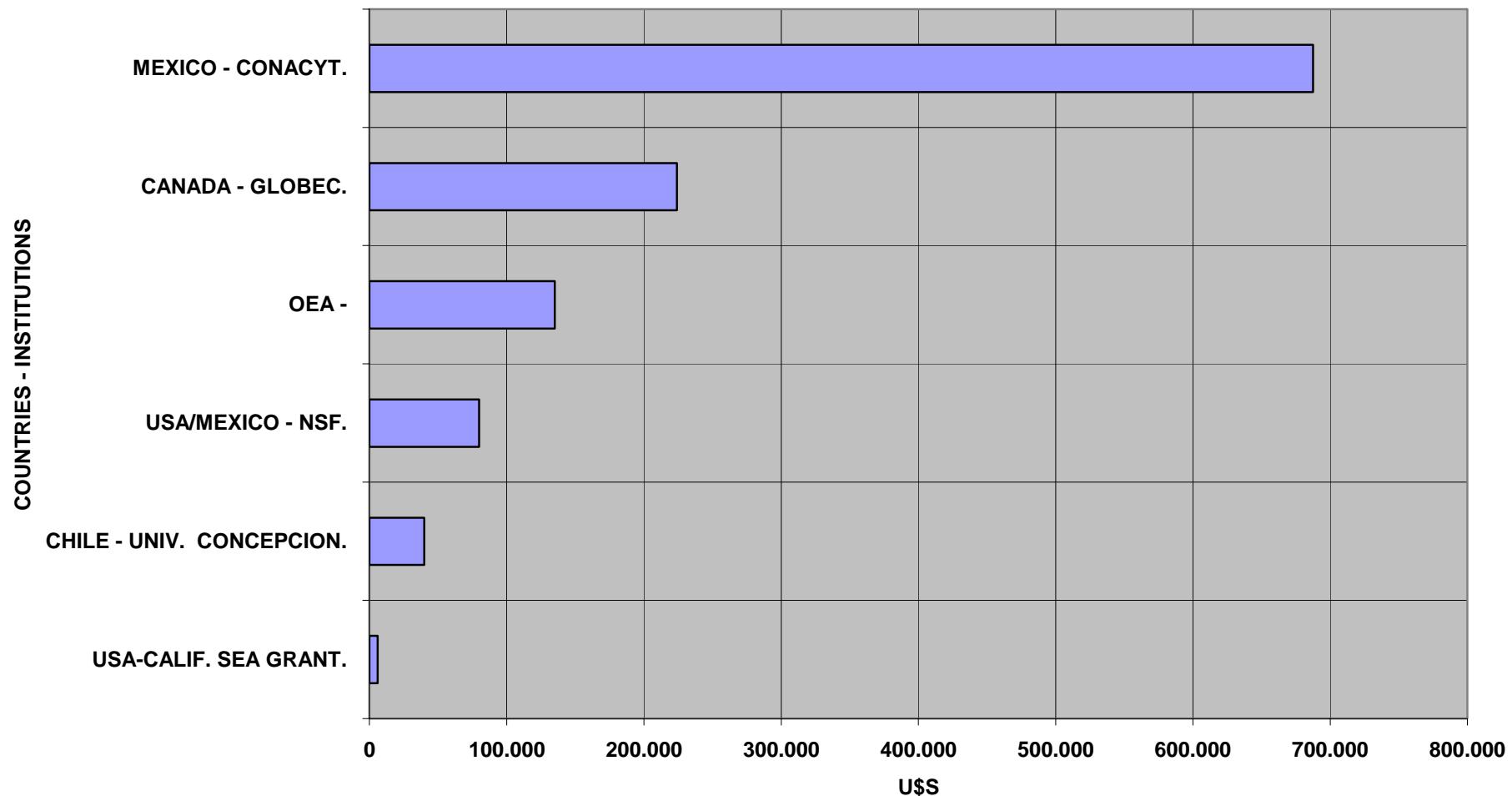
ADDITIONAL OR PARALLEL FUNDS  
CRN 061 EDMO CAMPOS



INSTITUTIONS	FUNDS
BRAZIL - FAPESP	137.000
BRAZIL - FINEP/PETROBRAS	150.000
BRAZIL - CNPq	160.000
ARGENTINA - SECYT	212.198
USA - NRL.	529.000
GEF - ARGENTINA.	1.499.999
	<b>2.688.197</b>

<b>Source (donor institution, country &amp; subject)</b>	1999	2000	2001	2002	2003	2004	2005	Total
<b>CRN 062 - Tim Baumgartner</b>								
Mexico- CONACYT -1997/2001- Complement of funds for								
IAI - ISP - (CRN-062)	62.500	62.500	62.500					187.500
<b>USA/Mexico-NSF/CICESE/SCRIPPS - 1998/1999. (CRN-062)</b>	<b>80.000</b>							<b>80.000</b>
<b>Mexico-CONACYT -2000/2005- Imecocal . (CRN-062)</b>		83.333	83.333	83.333	83.333	83.333	83.333	<b>499998</b>
<b>Canada-GLOBEC - 2000/2001- Study of zooplankton agree</b>								
gation near seabed features for Northeast Pacific monitoring		100.000	100.000					200000
Canada,USA & Mexico -International Sardine Forum . (CRN-062)		4.000						4000
<b>USA- California Sea Grant - 2000 - International Sardine Forum . (CRN-062)</b>	<b>6.000</b>							<b>6000</b>
<b>Canada-SPACC/GLOBEC - 2001 - Workshop on fisheries &amp; decadal</b>								
changes in E. Pacific Humboldt & California Currents (CRN-062)		20.000						20000
<b>Chile - Univ. de Concepcion - 1999/200 - Fees scholarships . (CRN-062)</b>	<b>8.000</b>	<b>8.000</b>	<b>8.000</b>	<b>8.000</b>	<b>8.000</b>			<b>40.000</b>
<b>OEA - 1999/2001 - Cooperacion Regional para el manejo del Im-</b>								
pacto de los Eventos El Niño sobre la Biodiversidad y el Uso								
Sostenible de sus Recursos . (CRN-062)	41.666	41.666	41.666					124.998
<b>OEA/AWI(Germany) - 2000 - Symposium on Impacts of ENSO</b>								
associated Symposium on Biological impacts of La Niña, Peru . (CRN-062)		10.000						10000
	<b>192.166</b>	<b>335.499</b>	<b>295.499</b>	<b>91.333</b>	<b>91.333</b>	<b>83.333</b>	<b>83.333</b>	<b>1.172.496</b>

ADDITIONAL OR PARALLEL FUNDS  
CRN 062 TIM BAUMGARTNER

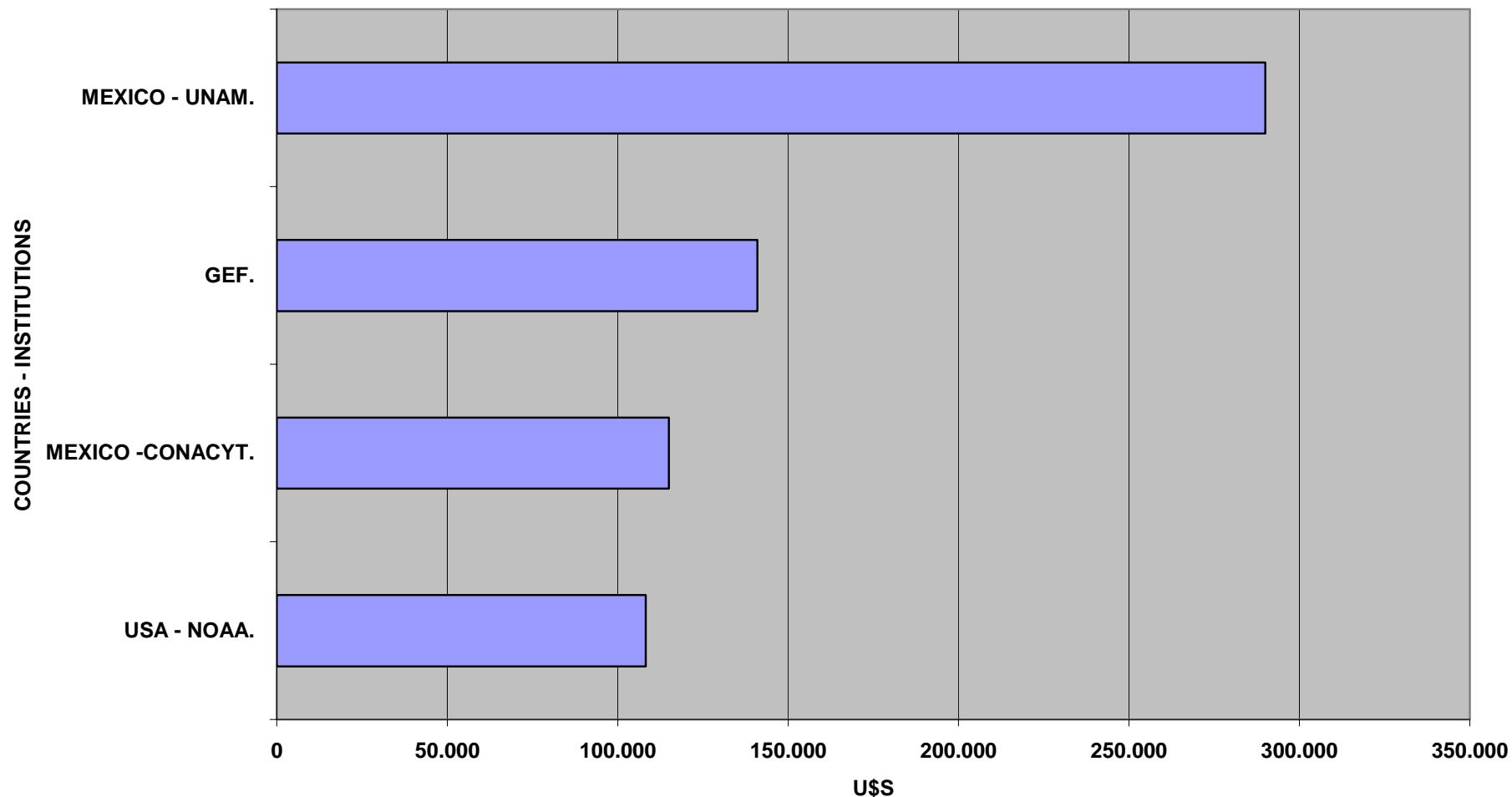


INSTITUTION	FUNDS
USA-CALIF. SEA GRANT.	6.000
CHILE - UNIV. CONCEPCION.	40.000
USA/MEXICO - NSF.	80.000
OEA -	134.998
CANADA - GLOBEC.	224.000
MEXICO - CONACYT.	687.498
	<b>1.172.496</b>

<b>Source(donor, institution, country &amp; subject)</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	
<b>CRN 073 - Victor Magaña</b>							
USA - NOAA/IRI -2000-Support for students for participate in the course on dynamical downscaling held at IRI.	<b>8.200</b>						<b>8.200</b>
Mexico - CONACYT - 2000- Instrumentation, materials visiting scientists, ship-time.	<b>80.000</b>						<b>80.000</b>
Mexico - UNAM- 2000-Scholarships, visiting scientists and ship-time.	<b>50.000</b>						<b>50.000</b>
Mexico - UNAM- 2001-Ship time.		<b>180.000</b>					<b>180000</b>
Mexico - CONACYT - 2001- Materials and supplies.		<b>25.000</b>					<b>25000</b>
Mexico - UNAM - 2001- Scholarships and ship time.		<b>30.000</b>					<b>30000</b>
Mexico- CONACYT- Variabilidad y cambio climatico em Mexico.					<b>5.000</b>	<b>5.000</b>	<b>10000</b>
Mexico - UNAM- Estudio de la predecibilidad del clima em Mexico, Centroamerica y el Caribe.					<b>5.000</b>	<b>5.000</b>	<b>10000</b>
GEF - Adaptation to climate change in Mexico, as part of a project for Mexico, Central America and Cuba.					<b>70.500</b>	<b>70.500</b>	<b>141000</b>
Mexico - UNAM- 2002 - Visiting scientists.			<b>20.000</b>				<b>20000</b>
USA - NOAA-2003-Support for students for predicted SSTs.				<b>100.000</b>			<b>100000</b>
	<b>138.200</b>	<b>235.000</b>	<b>20.000</b>	<b>100.000</b>	<b>80.500</b>	<b>80.500</b>	<b>654.200</b>

INSTITUTIONS	FUNDS
USA - NOAA.	108.200
MEXICO -CONACYT.	115.000
GEF.	141.000
MEXICO - UNAM.	290.000
	<b>654.200</b>

**ADDITIONAL OR PARALLEL FUNDS**  
**CRN 073 VICTOR MAGAÑA**



## Addition or parallel funds by organizations

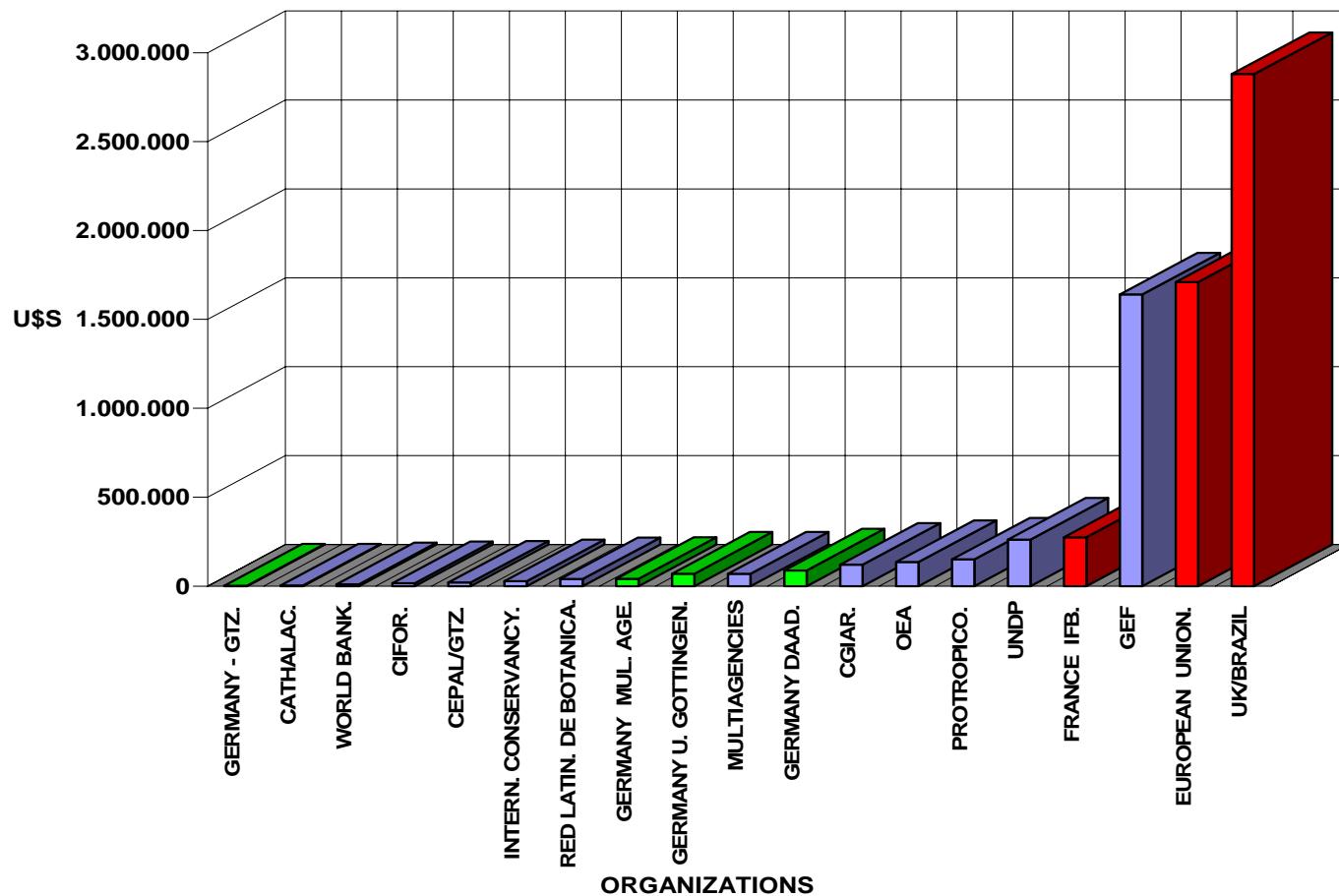
INSTITUTIONS	FUNDS
ARGENTINA - ANPCYT. (CRN 031)	58.800
ARGENTINA - ANPCYT. (CRN 040)	12.000
ARGENTINA - ANPCYT/CONICET/SECYT.(CRN 003)	114.131
ARGENTINA - ANPCYT/SECYT/CONICET. (CRN 055)	435.330
ARGENTINA - ANPCYT/SECYT/CONICET.(CRN 061)	212.198
ARGENTINA - CONICET. (CRN 012)	93.600
ARGENTINA - UNIV. OF BUENOS AIRES.(CRN 012)	50.599
ARGENTINA/BRAZIL - CNPq/CONICET. (CRN 055)	6.000
BRAZIL - CAPES. (CRN 001)	9.000
BRAZIL - CAPES. (CRN 040)	10.000
BRAZIL - CAPES/COFECUB. (CRN 009)	33.000
BRAZIL - CAPES/INPE. (CRN 009)	45.000
BRAZIL - CHESF/UFRPE/UFPE. (CRN 001)	79.998
BRAZIL - CNPq (CRN 061)	160.000
BRAZIL - CNPq. (CRN 001)	79.366
BRAZIL - CNPq. (CRN 040)	47.000
BRAZIL - CNPq. (CRN 055)	610.900
BRAZIL - CNPq/CAPES/PICD/PICDT. (CRN 031)	111.300
BRAZIL - CPTEC. (CRN 055)	400.000
BRAZIL - EMBRAPA. (CRN 009)	184.998
BRAZIL - FACEPE. (CRN 001)	11.000
BRAZIL - FADESP/UFPA. (CRN 009)	280.000
BRAZIL - FAPESP (CRN 061)	137.000
BRAZIL - FAPESP. (CRN 055)	300.000
BRAZIL - FINEP/PETROBRAS (CRN 061)	150.000
BRAZIL - FINEP/UFRPE/SUDEDNE/UFPE. (CRN 001)	40.000
BRAZIL - UFPB. (CRN 001)	1.200
BRAZIL - FIOCRUZ. (CRN 048)	512
BRAZIL-UFRJ- (CRN 047)	4.766
BRAZIL - UFPE. (CRN 001)	4.500
BRAZIL/USA - FAPESP/NASA. (CRN 055)	900.000

CANADA - CANADIAN MET. SERVICE. (CRN 003)	7.500
CANADA - CFCAS. (CRN 003)	249.999
CANADA - CNSERC. (CRN 026)	803.694
CANADA - CNSERC.(CRN 001)	51.050
CANADA - CNSERC.(CRN 003)	238.200
CANADA - GLOBEC. (CRN 062)	224.000
CANADA - UNIV. OF SASKATCHEWAN. (CRN 001)	20.000
CATHALAC. (CRN 038)	3.400
CEPAL/GTZ. (CRN 031)	20.000
CGIAR. (CRN 009)	120.000
CHILE - FONDECYT. (CRN 003)	211.296
CHILE - UNIV. OF CONCEPCION. (CRN 062)	40.000
CIFOR. (CRN 009)	16.000
COLOMBIA - COLCIENCIAS. (CRN 040)	45.999
COLOMBIA - UNIV. OF ANTIOQUIA. (CRN 048)	12.648
ECUADOR - CORPEECUADOR.(CRN 038)	10.000
ECUADOR - MINISTRY OF ENVIRONMENT.(CRN 038)	2.700
ECUADOR - SPOL.(CRN 038)	15.000
ECUADOR - VLIR. (CRN 038)	9.000
EUROPEAN UNION. (CRN 009)	1.699.998
EUROPEAN UNION. (CRN 001)	10.000
FRANCE - IFB. (CRN 009)	274.998
GEF - (CRN 061)	1.499.999
GEF - (CRN 073)	141.000
GERMANY - DAAD. (CRN 001)	88.000
GERMANY - GTZ. (CRN 031)	3.000
GERMANY - MULTIPLE AGENCIES. (CRN 001)	41.000
GERMANY - UNIV. OF GOTTINGEN. (CRN 001)	69.996
INTERN. CONSERVANCY. (CRN 001)	27.450
MEXICO - ACADEMIA DE CIENCIAS. (CRN 031)	2.250
MEXICO - CIESAS. (CRN 031)	10.750
MEXICO - CONACYT. (CRN 031)	81.000
MEXICO - CONACYT. (CRN 062)	687.498
MEXICO - CONACYT.(CRN 001)	54.999
MEXICO - FUNDACION PRODUCE. (CRN 001)	31.050

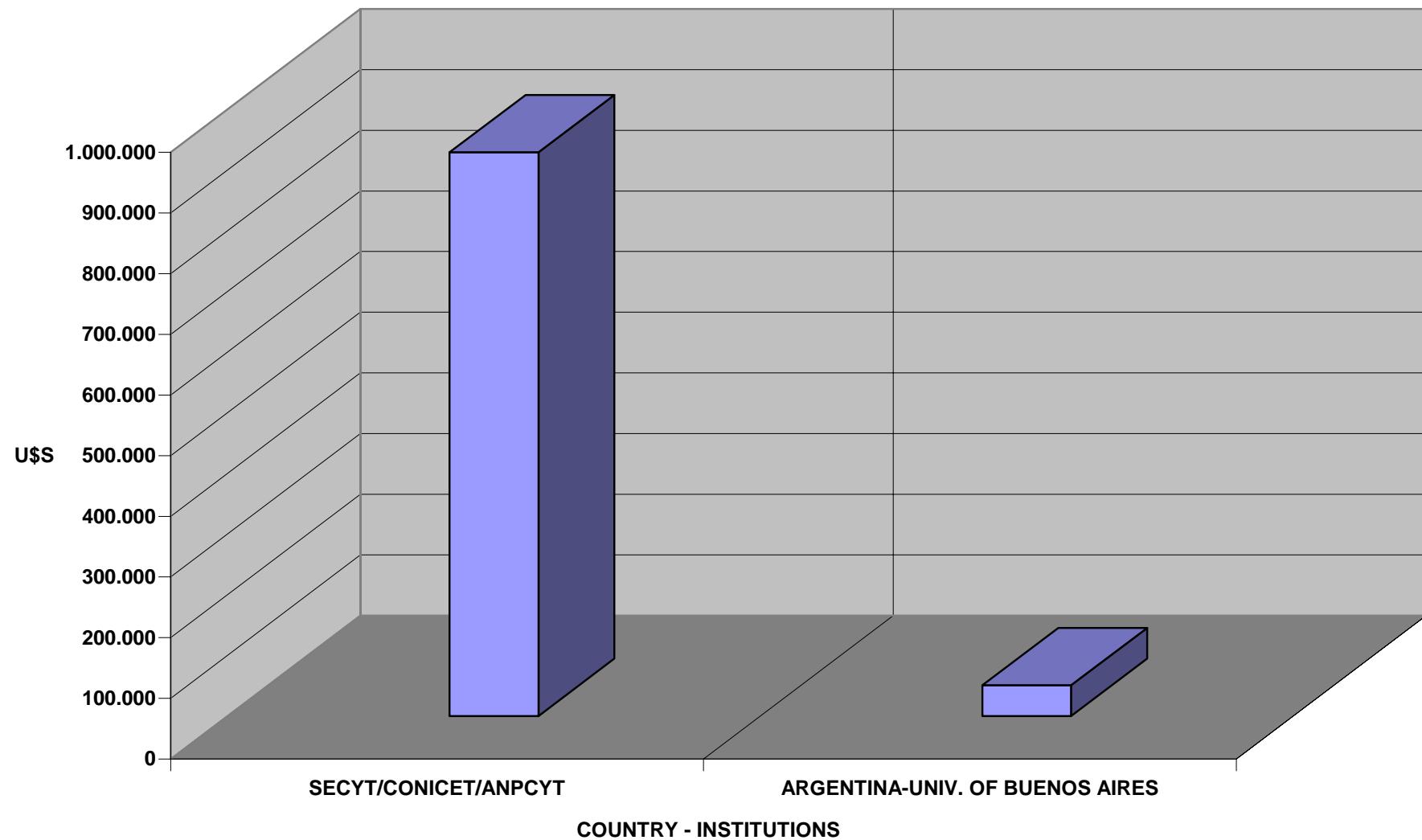
MEXICO - INI. (CRN 001)	92.000
MEXICO - SECRETARIA RELACIONES EXTERIORES. (CRN 031)	1.000
MEXICO - UC MEXUS. (CRN 001)	23.500
MEXICO - UNAM. (CRN 073)	290.000
MEXICO -CONACYT. (CRN 073)	115.000
MULTI-AGENCIES. (CRN 038)	70.000
OEA - (CRN 062)	134.998
PERU - INSTITUTO GEOFISICO/UNIV. OF ARKANSAS. (CRN 003)	20.600
PROTROPICO. (CRN 001)	150.000
RED LATIN. DE BOTANICA. (CRN 012)	38.995
UK/BRAZIL -CNPq/UFPE/ASPTA-AMAS. (CRN 001)	2.880.000
UN - (CRN 048)	217.998
UNDP. (CRN 001)	43.332
URUGUAY - CONICIT. (CRN 012)	30.000
URUGUAY - INIA. (CRN 055)	6.000
USA - AGU. (CRN 012)	50.000
USA - FONDO DE LAS AMERICAS. (CRN 047)	950.000
USA - FORD FOUNDATION. (CRN 001)	174.999
USA - GLOBE PROGRAM. (CRN 047)	5.000
USA - INTER AMERICAN FOUNDATION.(CRN 047)	34.998
USA - LBA/NASA. (CRN 040)	25.000
USA - Mac ARTHUR FOUNDATION	294.999
USA - Mac ARTHUR FOUNDATION. (CRN 047)	162.000
USA - MELLON FOUNDATION. (CRN 047)	877.998
USA - NOAA. (CRN 055)	95.157
USA - NOAA. (CRN 073)	108.200
USA - NOAA/ERL/CDC. (CRN 003)	39.000
USA - NOAA/NSF. (CRN 031)	13.220
USA - NRL. (CRN 061)	529.000
USA - NSF. (CRN 003)	1.085.164
USA - NSF. (CRN 040)	20.000
USA - SCIENCE COMMUNICATIONS STUDIES. (CRN 048)	29.284
USA - NSF.(CRN 012)	127.000
USA - PALMER LONG-TERM RES. PROJ.(CRN 026)	288.000
USA - STATE OF FLORIDA. (CRN 031)	50.000

USA - UNIV. OF FLORIDA. (CRN 009)	40.000
USA - UNIVERSITY OF ARKANSAS. (CRN 003)	3.999
USA/MEXICO - NSF. (CRN 062)	80.000
USA-CALIF. SEA GRANT. (CRN 062)	6.000
VENEZUELA - CONICIT. (CRN 040)	139.500
VENEZUELA - UNIV. DE LOS ANDES. (CRN 040)	2.500
WORLD BANK. (CRN 031)	10.000
	<b>20.760.113</b>

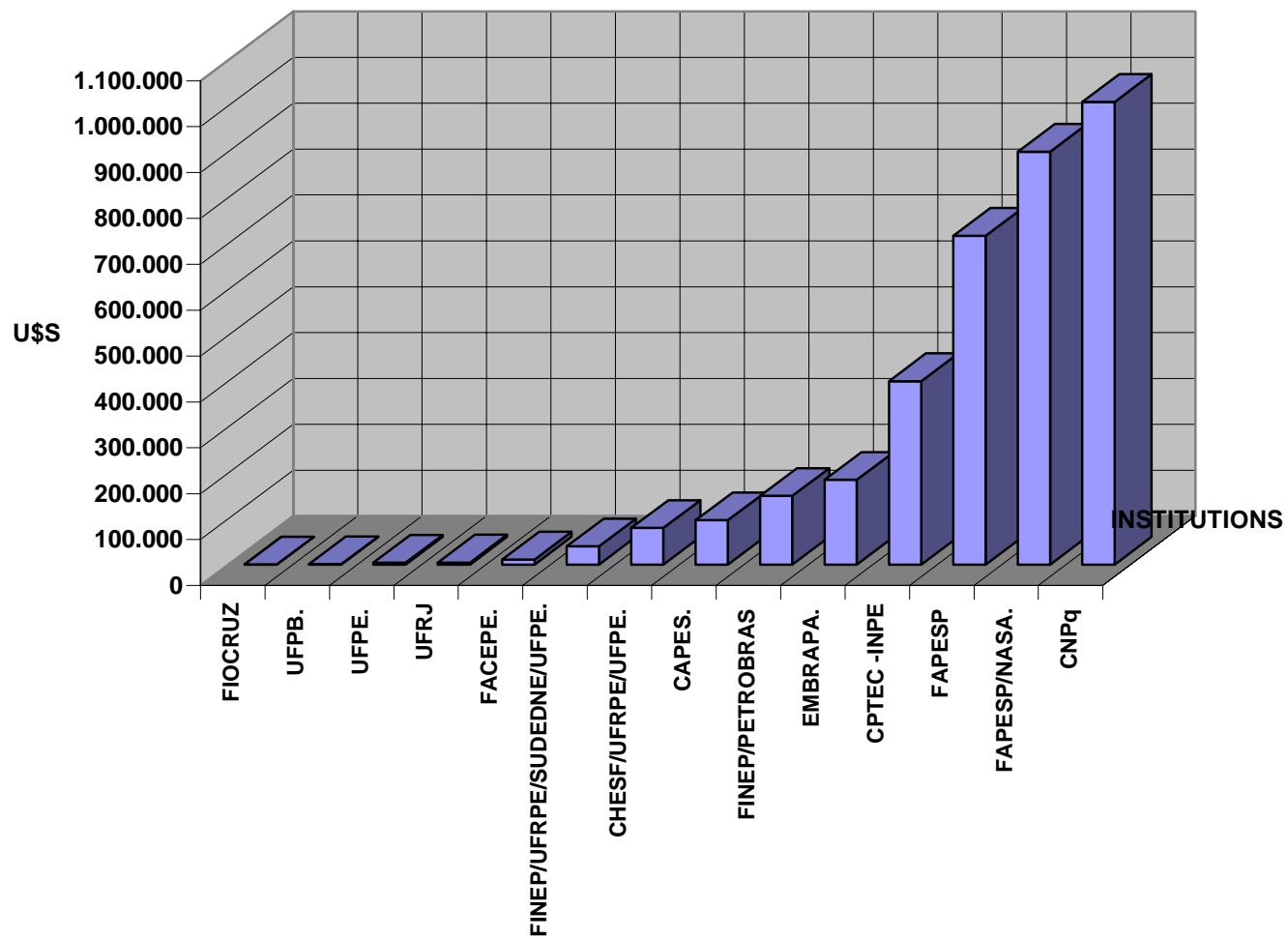
### ADDITIONAL OR PARALLEL FUNDS BY ORGANIZATIONS



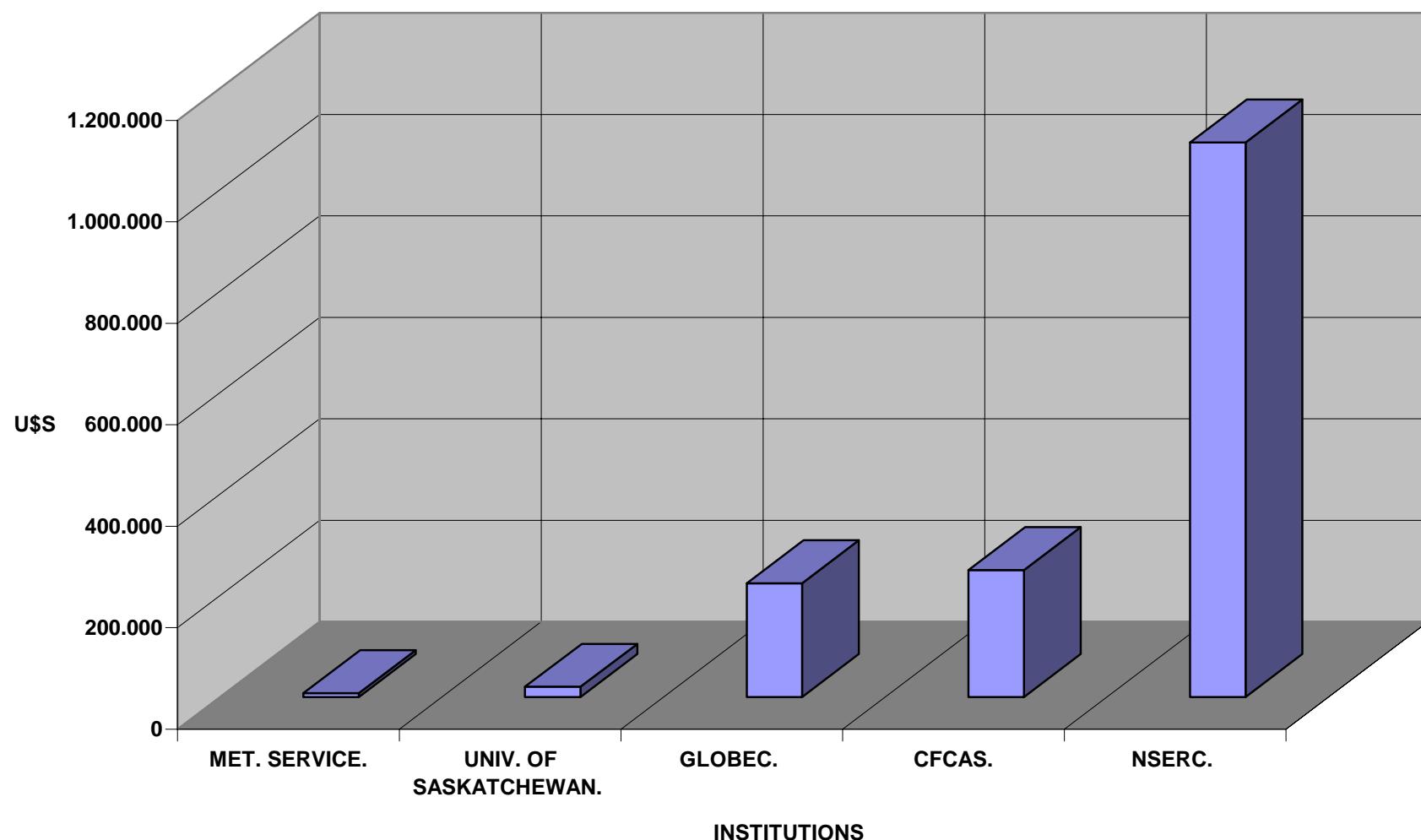
**CRN ADDITIONAL OR PARALLEL FUNDS  
ARGENTINA**



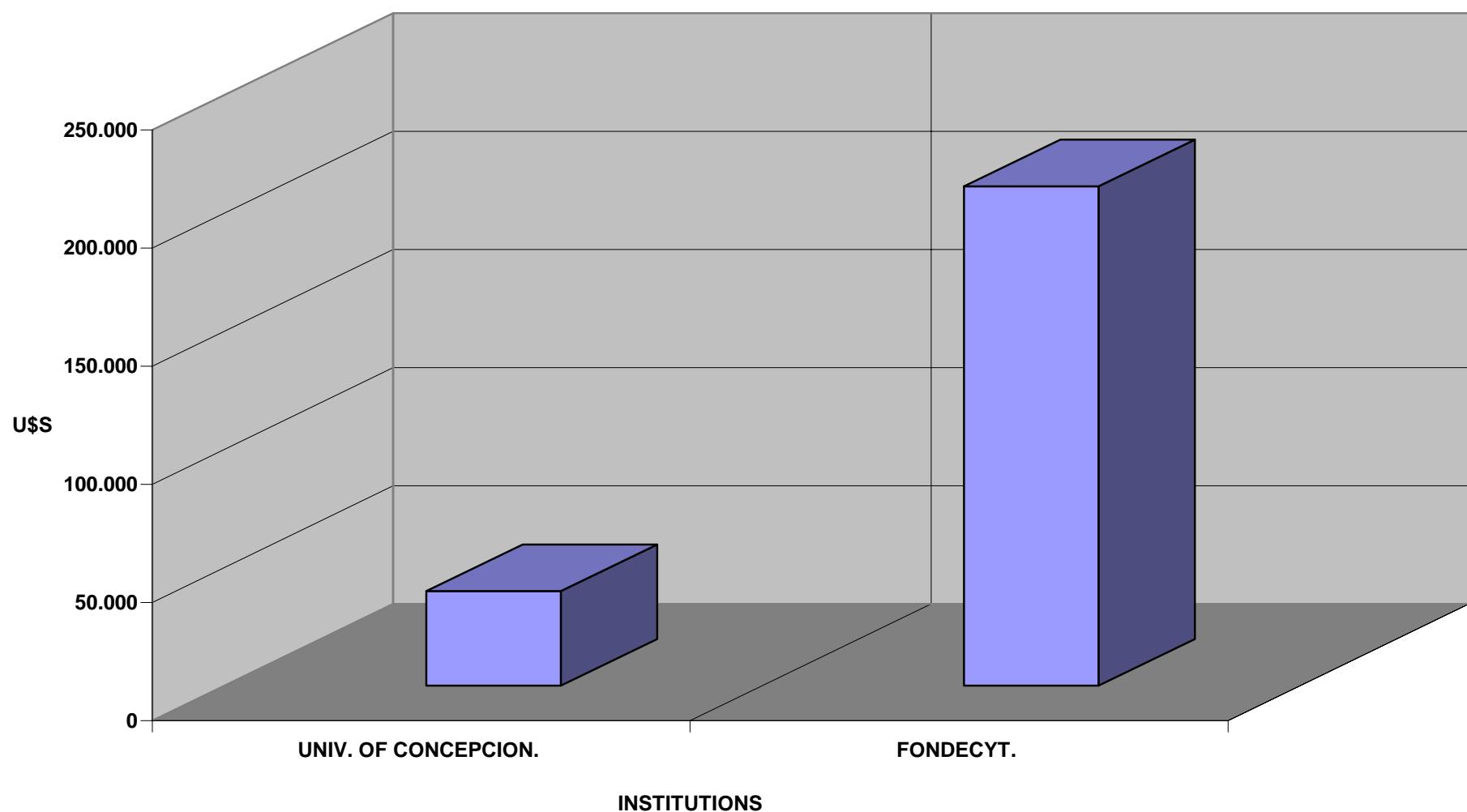
## CRN ADDITIONAL OR PARALLEL FUNDS BRAZIL



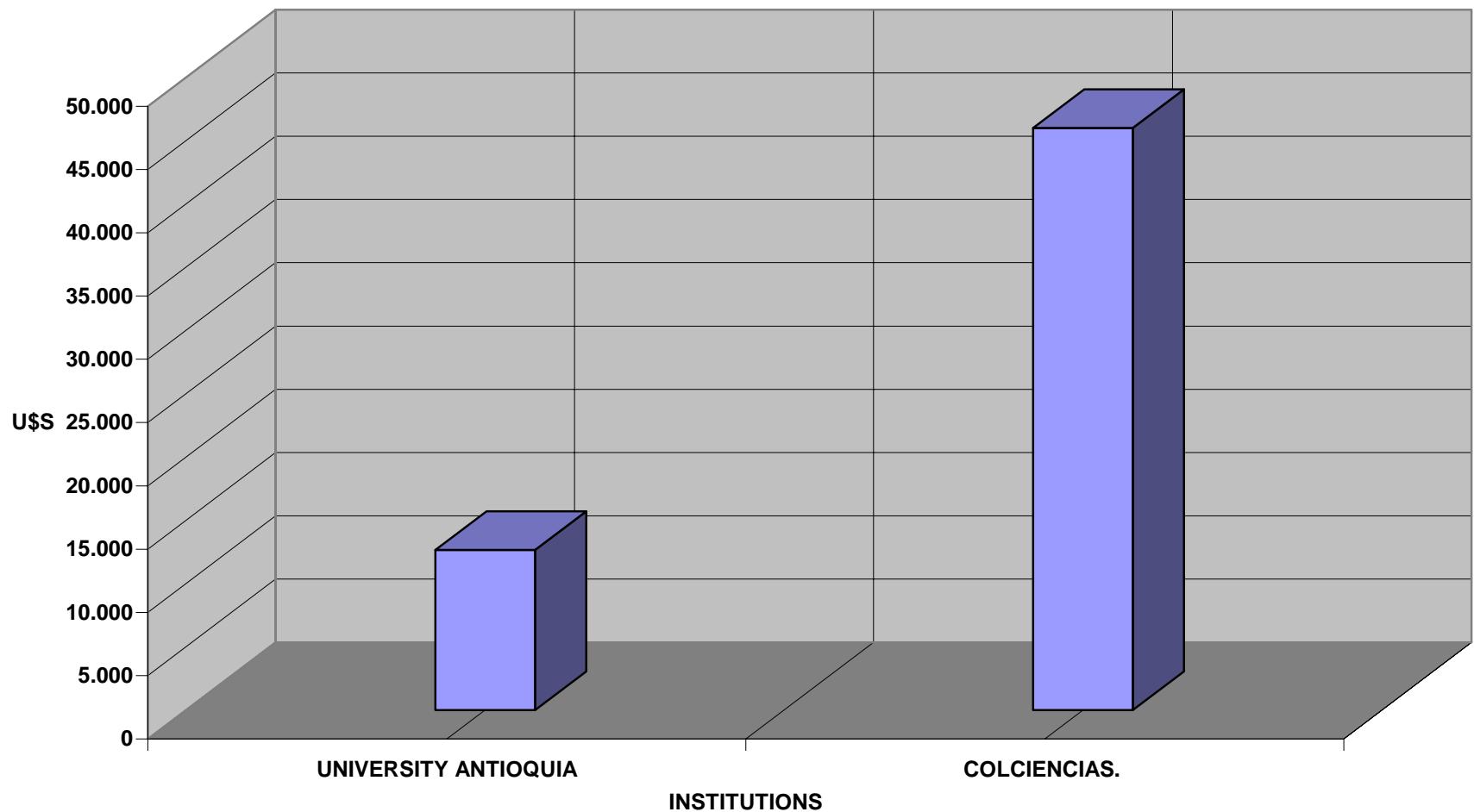
**CRN ADDITIONAL OR PARALLEL FUNDS  
CANADA**



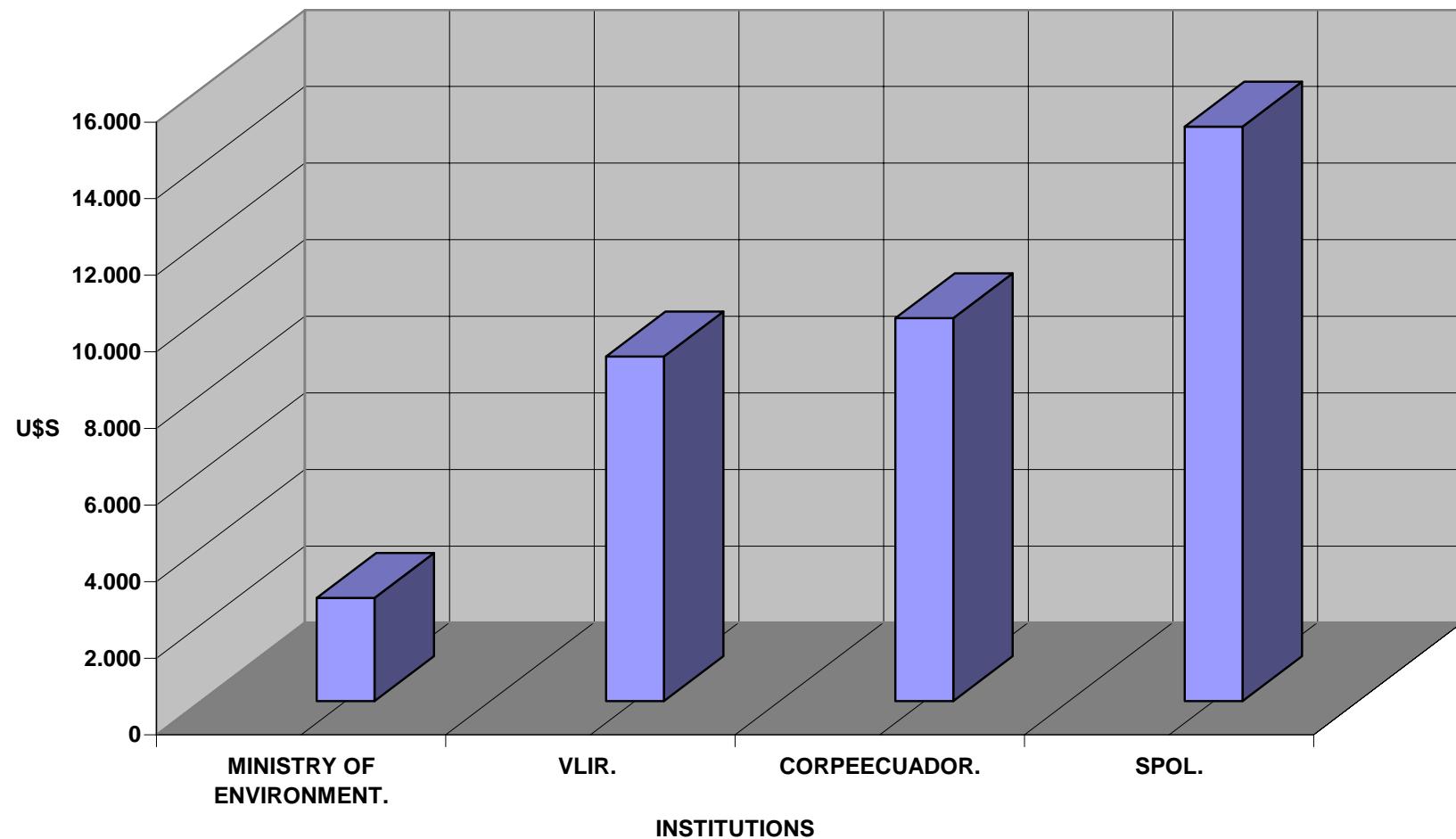
**CRN ADDITIONAL OF PARALLEL FUNDS  
CHILE**



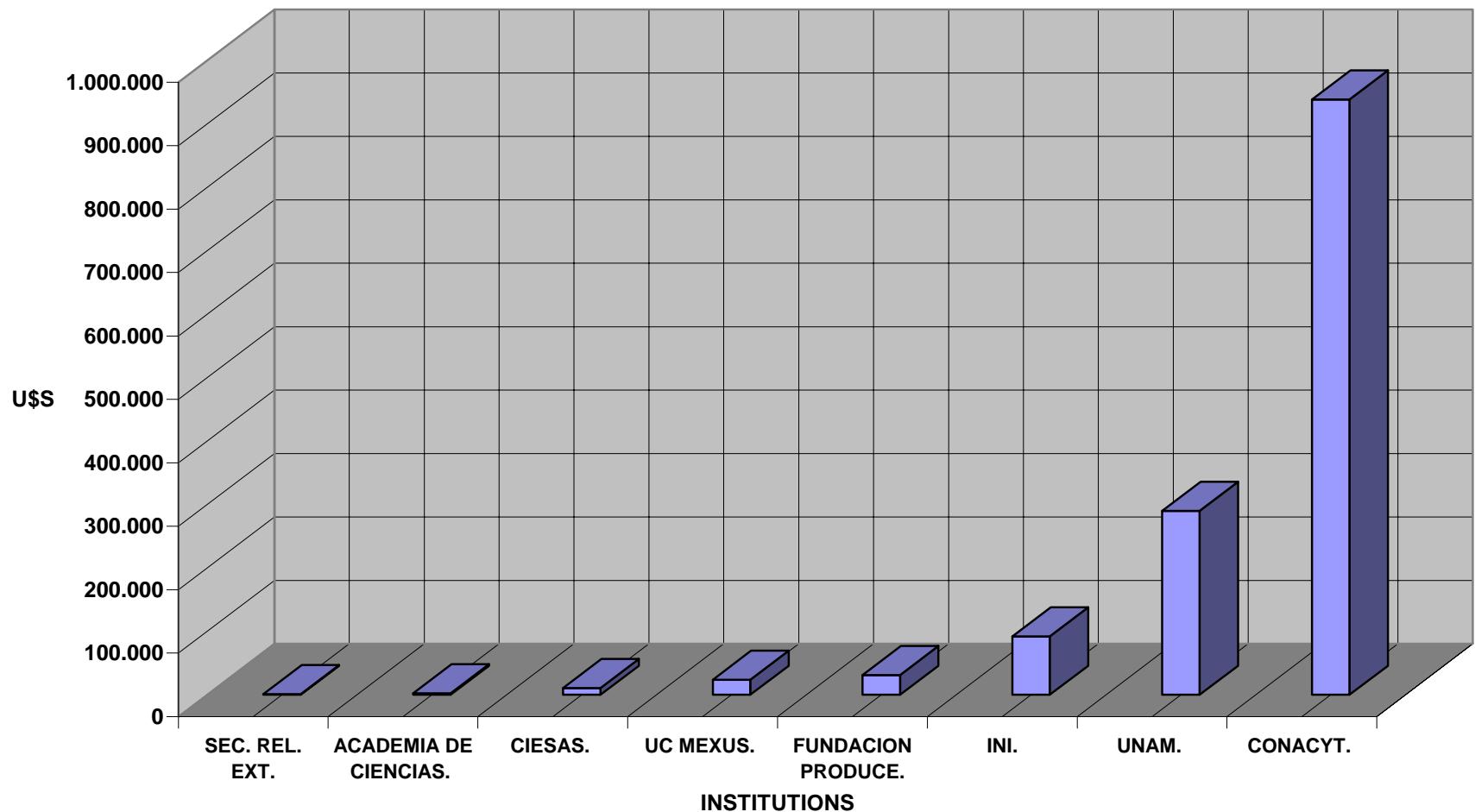
**CRN ADDITIONAL OR PARALLEL FUNDS  
COLOMBIA**



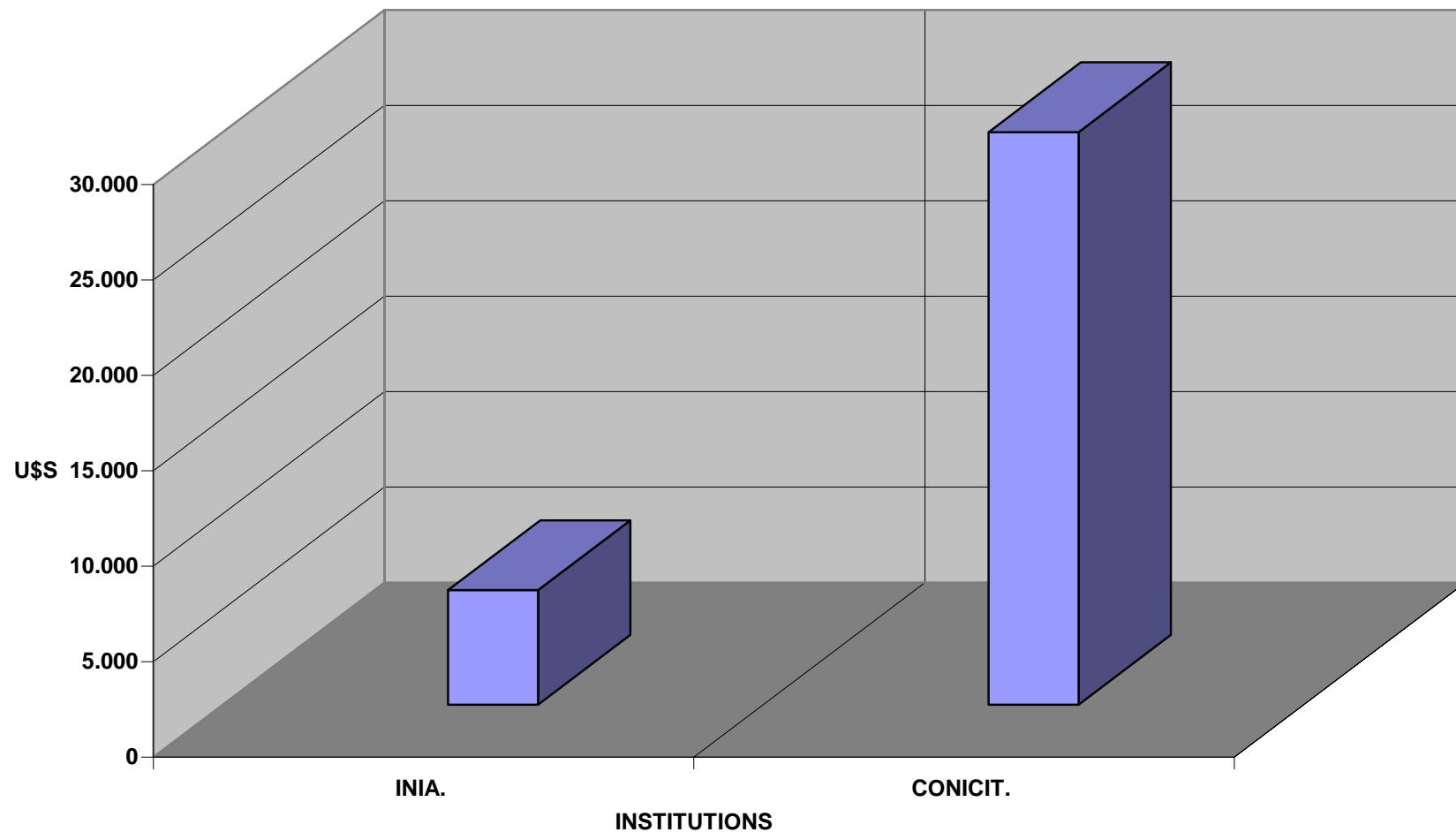
**ADDITIONAL OR PARALLEL FUNDS  
ECUADOR**



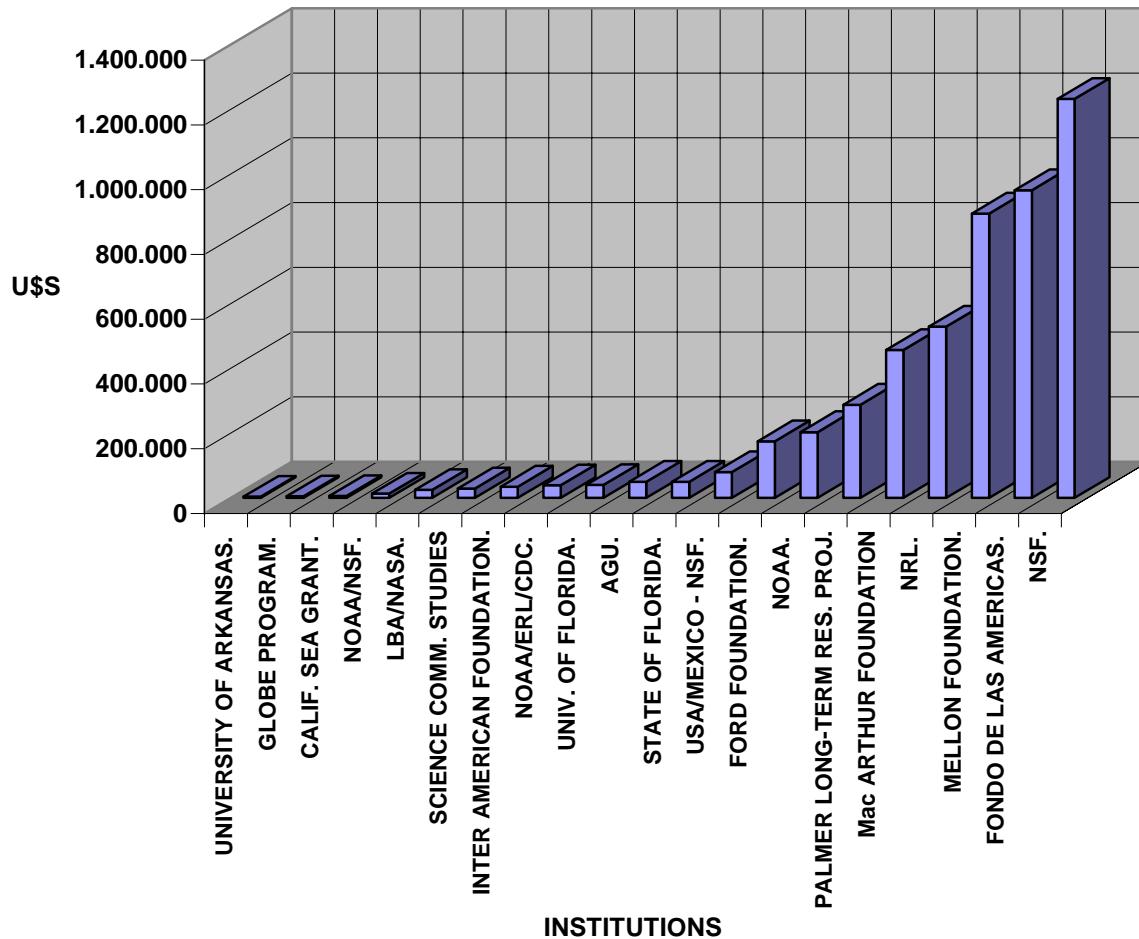
**ADDITIONAL OR PARALLEL FUNDS  
MEXICO**



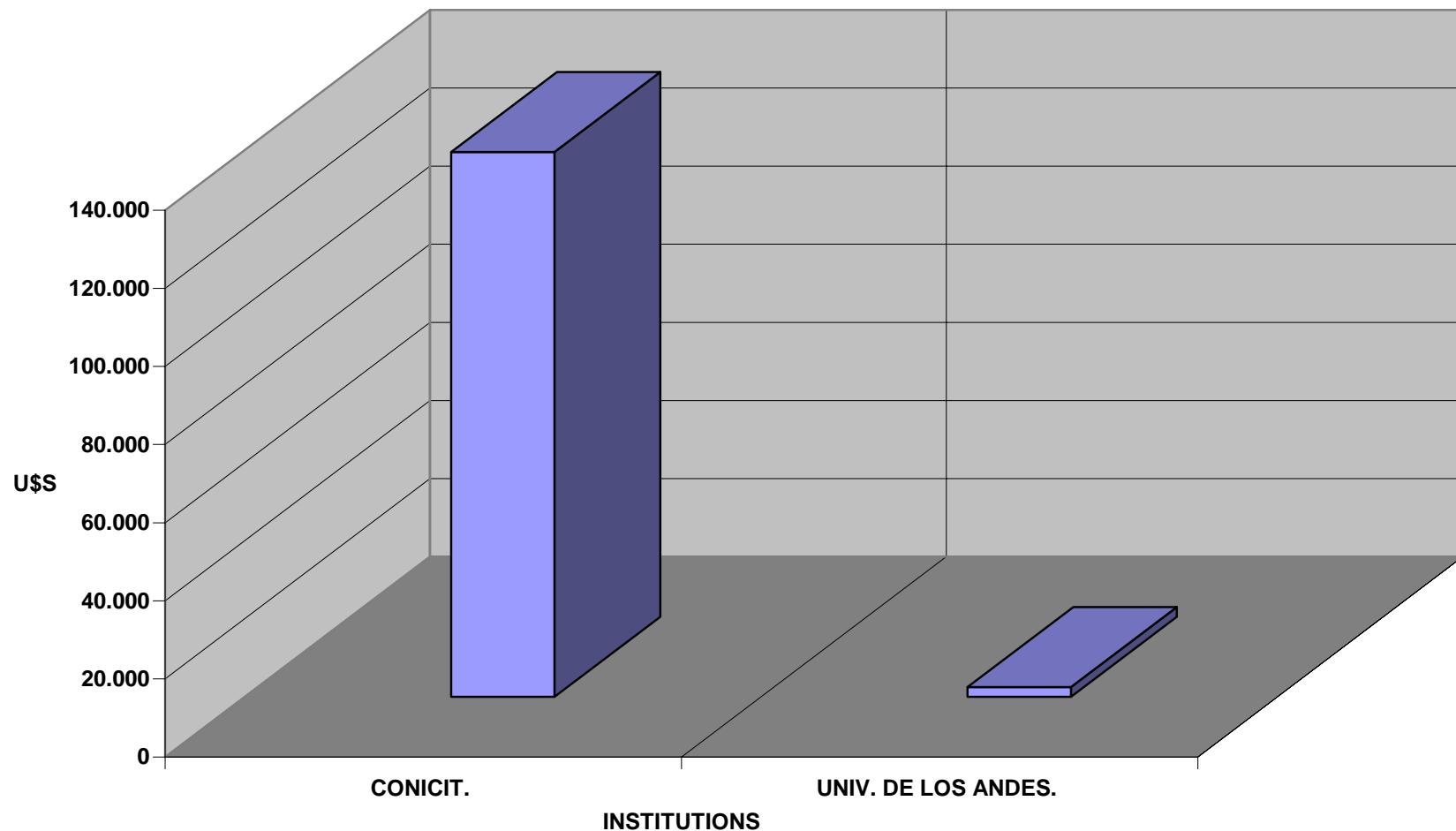
## ADDITIONAL OR PARALLEL FUNDS URUGUAY



## ADDITIONAL OR PARALLEL FUNDS USA



**CRN ADDITIONAL OR PARALLEL FUNDS  
VENEZUELA**

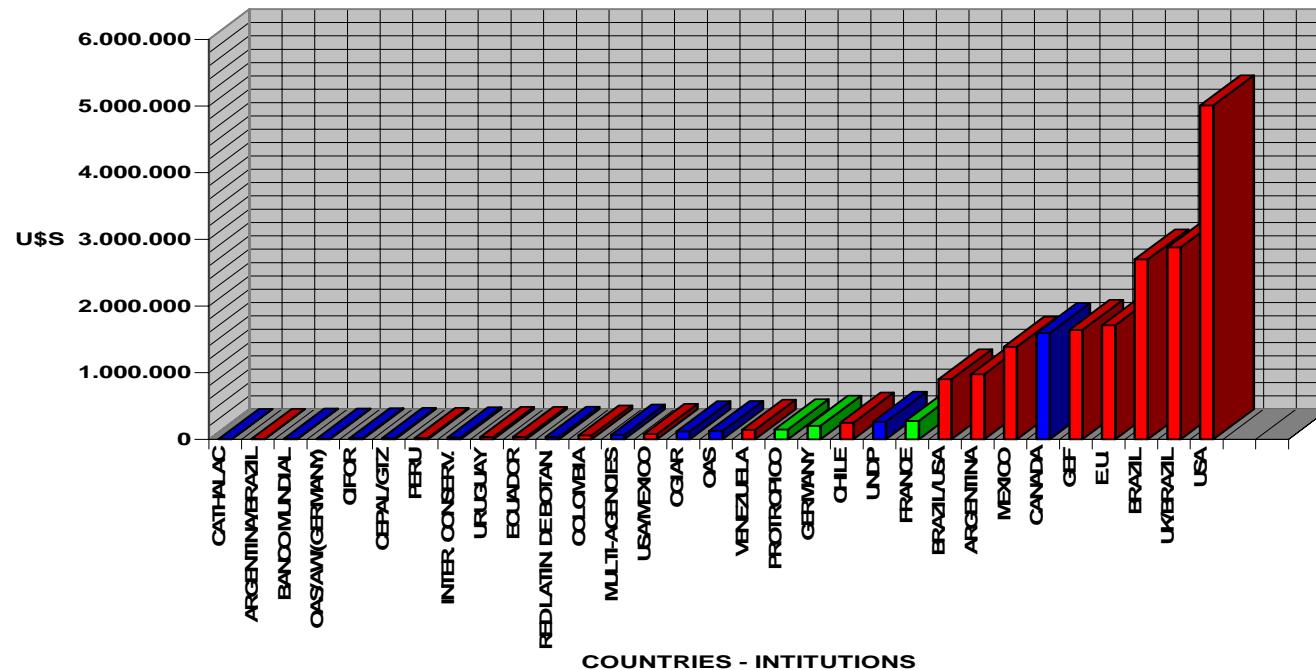


INSTITUTIONS	FUNDS	INSTITUTIONS	FUNDS
		SECYT/CONICET/ANPCYT	929.059
		ARGENTINA-UNIV. OF BUENOS AIRES	50.599
FIORUZ	512		979.658
UFPB.	1.200		
UFPE.	4.500		
UFRJ	4.766		
FACEPE.	11.000		
FINEP/UFRPE/SUDEDNE/UFPE.	40.000		
CHESF/UFRPE/UFPE.	79.998		
CAPES.	97.000		
FINEP/PETROBRAS	150.000		
EMBRAPA.	184.998		
CPTEC -INPE	400.000		
FAPESP	717.000		
FAPESP/NASA.	900.000		
CNPq	1.008.566		
	3.599.540	MET. SERVICE.	7.500
		UNIV. OF SASKATCHEWAN.	20.000
		GLOBEC.	224.000
		CFCAS.	249.999
		NSERC.	1.092.944
CATHALAC.	3.400		1.594.443
CEPAL/GTZ.	20.000		
CGIAR.	120.000		
	143.400	UNIV. OF CONCEPCION.	40.000
		FONDECYT.	211.296
CIFOR.	16.000		251.296
		UNIVERSITY ANTIOQUIA	12.648
		COLCIENCIAS.	45.999
MINISTRY OF ENVIRONMENT.	2.700		58.647
VLIR.	9.000		
CORPEECUADOR.	10.000		
SPOL.	15.000		
		FRANCE - IFB.	274.998

EUROPEAN UNION.	1.709.998			
GEF -	1.640.999			
GERMANY - DAAD.	88.000			
GERMANY - GTZ.	3.000			
GERMANY - MULTIPLE AGENCIES.	41.000			
GERMANY - UNIV. OF GOTTINGEN.	69.996			
INTERN. CONSERVANCY.	27.450			
	<b>1.870.445</b>	SEC. REL. EXT.		1.000
		ACADEMIA DE CIENCIAS.		2.250
		CIESAS.		10.750
		UC MEXUS.		23.500
		FUNDACION PRODUCE.		31.050
		INI.		92.000
		UNAM.		290.000
		CONACYT.		938.497
MULTI-AGENCIES.	70.000			<b>1.389.047</b>
OEA -	134.998			
	<b>204.998</b>	INSTITUTO GEOFISICO		20.600
PROTROPICO.	150.000			
RED LATIN. DE BOTANICA.	38.995			
UK/BRAZIL -CNPq/UFPE/ASPTA-AMAS.	2.880.000			
UNDP -	261.330			
	<b>3.330.325</b>	INIA.		6.000
		CONICIT.		30.000
UNIVERSITY OF ARKANSAS.	3.999			
GLOBE PROGRAM.	5.000			
CALIF. SEA GRANT.	6.000			
NOAA/NSF.	13.220			
LBA/NASA.	25.000			
SCIENCE COMM. STUDIES	29.284			
INTER AMERICAN FOUNDATION.	34.998			
NOAA/ERL/CDC.	39.000			
UNIV. OF FLORIDA.	40.000			
AGU.	50.000			
STATE OF FLORIDA.	50.000			

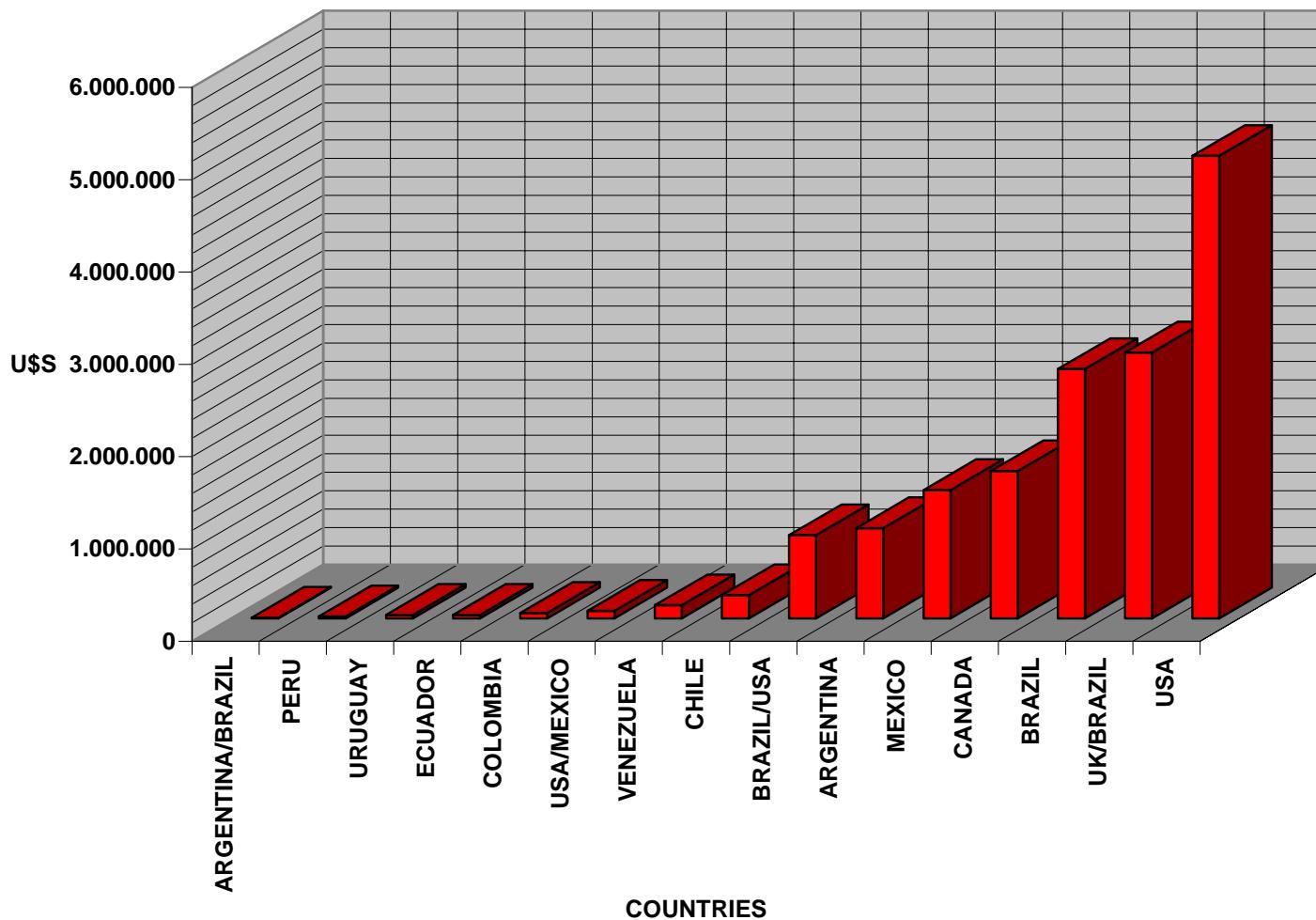
USA/MEXICO - NSF.	80.000				
FORD FOUNDATION.	174.999				
NOAA.	203.357				
PALMER LONG-TERM RES. PROJ.	288.000				
Mac ARTHUR FOUNDATION	456.999				
NRL.	529.000				
MELLON FOUNDATION.	877.998				
FONDO DE LAS AMERICAS.	950.000				
NSF.	1.232.164				
		CONICIT.			139.500
		UNIV. DE LOS ANDES.			2.500
WORLD BANK.	10.000				142.000

CRN'S ADDITIONAL OR PARALLEL FUNDS BY COUNTRIES - INSTITUTIONS



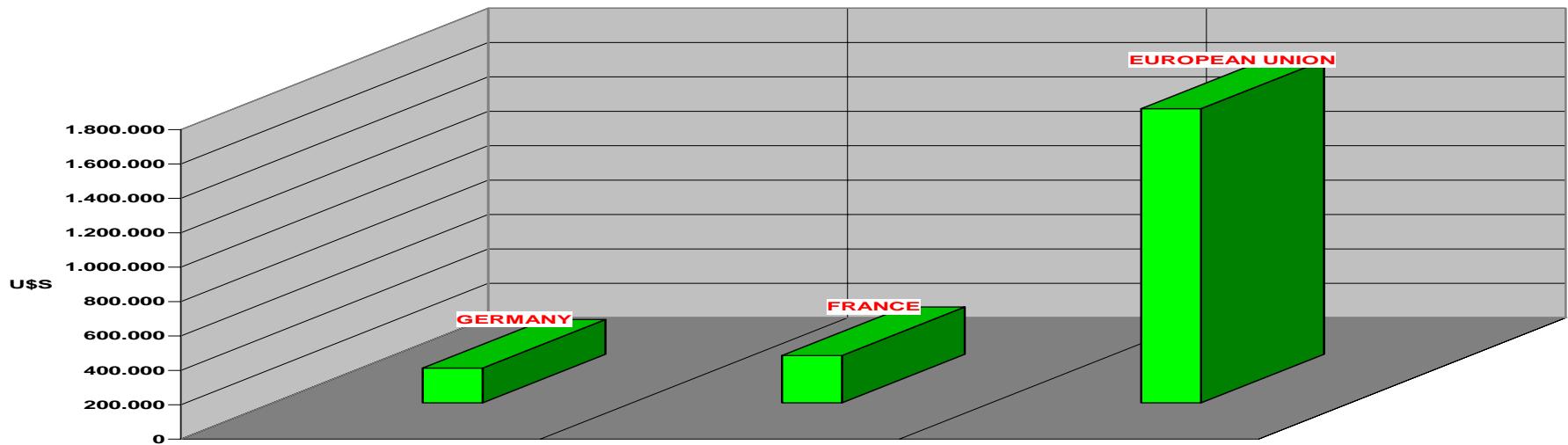


### CRN ADDITIONAL OR PARALLEL FUNDS BY COUNTRY

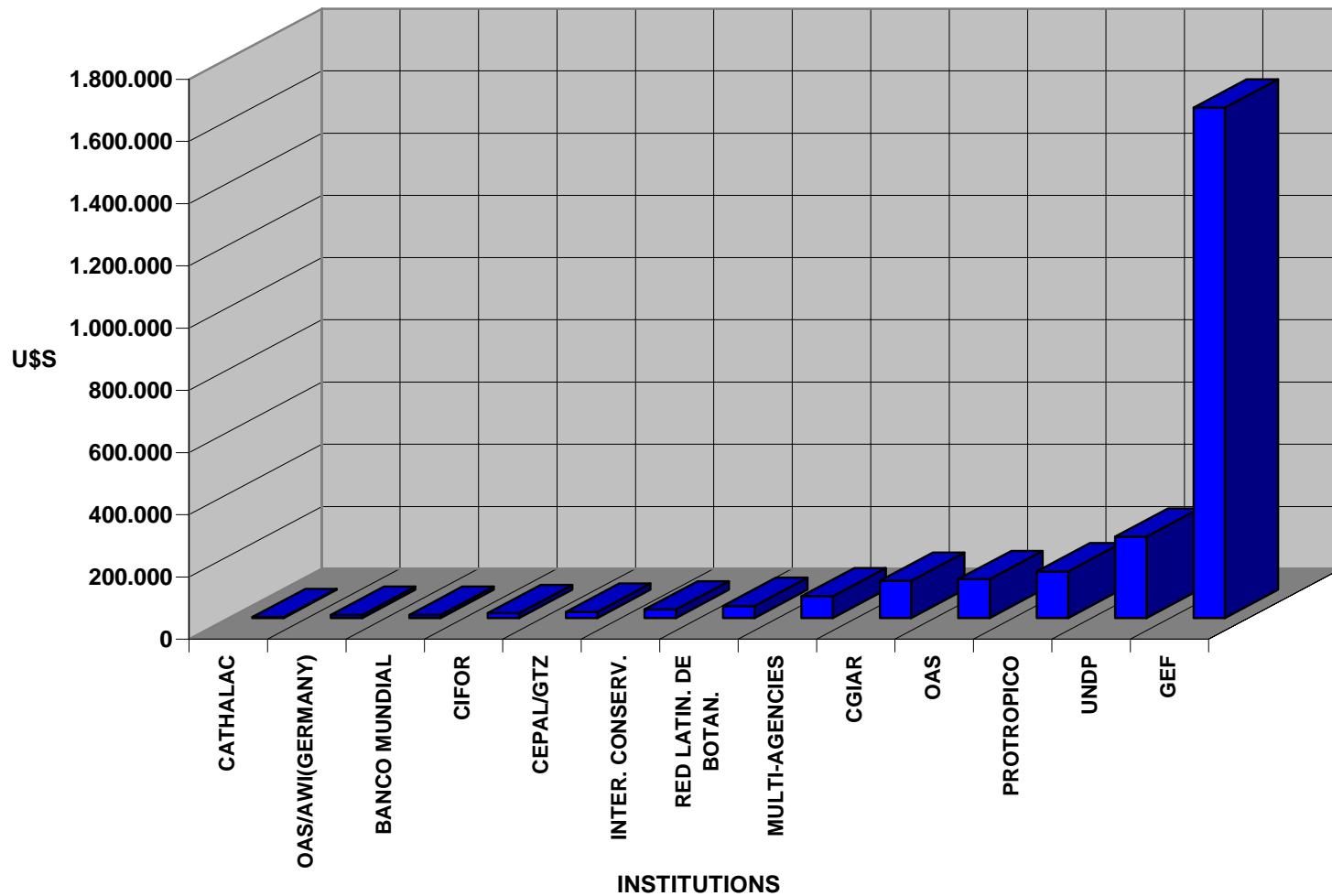


IAI Countries	U\$S
ARGENTINA/BRAZIL	6.000
PERU	20.600
URUGUAY	36.000
ECUADOR	36.700
COLOMBIA	58.647
USA/MEXICO	80.000
VENEZUELA	142.000
CHILE	251.296
BRAZIL/USA	900.000
ARGENTINA	976.658
MEXICO	1.389.047
CANADA	1.594.443
BRAZIL	2.699.540
UK/BRAZIL	2.880.000
USA	5.009.018
	<b>16.079.949</b>

CRN ADDITIONAL PARALLEL FUNDS - EUROPEAN COUNTRIES

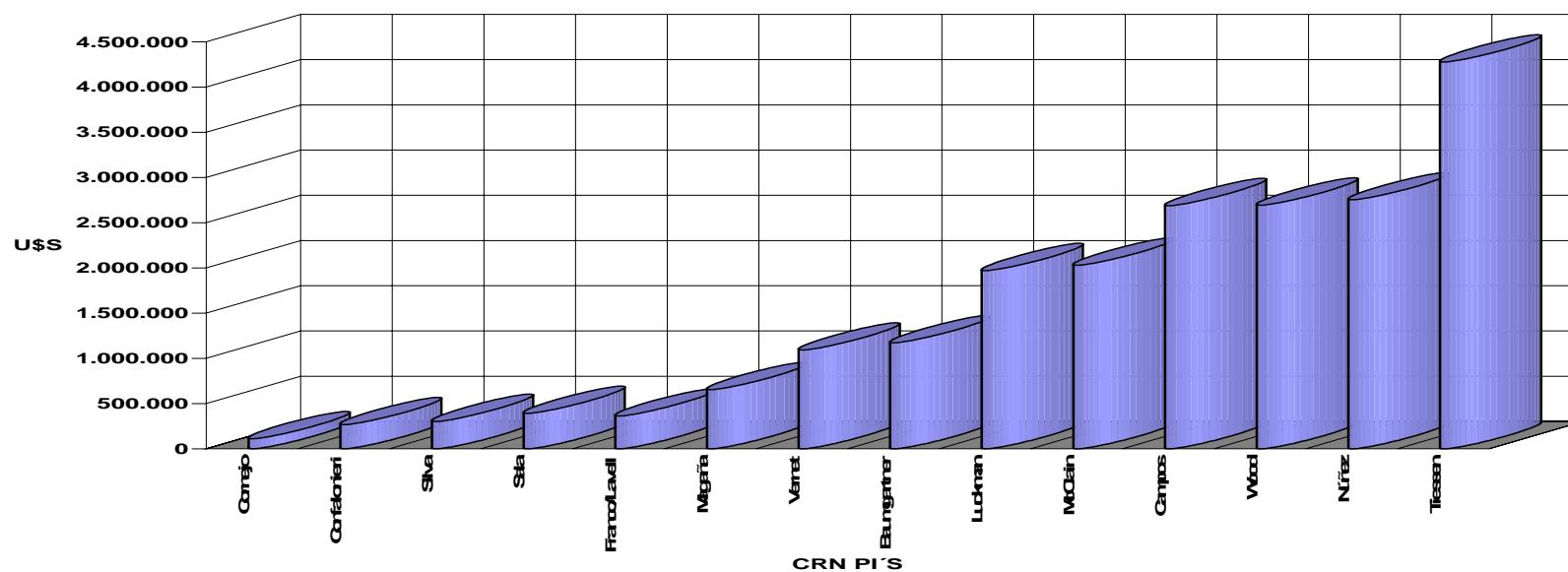


### CRN ADDITIONAL OR PARALLEL FUNDS - INSTITUTIONS



OTHER COUNTRIES	U\$S		OTHER INSTITUTIONS	U\$S
GERMANY	201.996		CATHALAC	3.400
FRANCE	274.998		OAS/AWI(GERMANY)	10.000
E.U.	1.709.998		BANCO MUNDIAL	10.000
	<b>2.186.992</b>		CIFOR	16.000
			CEPAL/GTZ	20.000
			INTER. CONSERV.	27.450
			RED LATIN. DE BOTAN.	38.995
			MULTI-AGENCIES	70.000
			CGIAR	120.000
			OAS	124.998
			PROTROPICO	150.000
			UNDP	261.330
			GEF	1.640.999
				<b>2.493.172</b>

CRN ADDITIONAL OR PARALLEL FUNDS BY PI.



CRN PI's	I PI's REPORT	II PI's REPORT	III PI's REPORT	IV PI's REPORT	V PI's REPORT	2005	2006	2007	TOTAL
Cornejo	0	110.100	0	0	0	0	0	0	0
Confalonieri	26.892	8.578	81.244	75.828	72.666	0	0	0	265.208
Silva	161.833	81.833	33.333	25.000	0	0	0	0	301.999
Sala	57.962	121.365	72.467	82.000	56.400				390.194
Franco/Lavell	22.500	33.010	66.260	69.300	116.500	36.150	17.600	0	361.320
Magaña	138.200	235.000	20.000	100.000	80.500	80.500	0	0	654.200
Vernet	264.333	359.498	359.498	108.365	0	0	0	0	1.091.694
Baumgartner	527.665	295.499	91.333	91.333	83.333	83.333	0	0	1.172.496
Luckman	357.346	267.615	561.636	367.071	355.221	30.500	30.500	0	1.969.889
McClain	162.666	211.666	211.666	200.666	621.666	621.666	0	0	2.029.996
Campos	728.200	1.009.999	474.999	474.999	0	0	0	0	2.688.197
Wood	187.666	1.022.916	52.916	502.582	469.582	458.332	0	0	2.693.994
Núñez	663.829	662.729	951.829	475.000	0	0	0	0	2.753.387
Tiessen	1.417.182	920.348	931.414	898.081	32.916	32.916	32.916	11.666	4.277.439
									<b>20.760.113</b>
Cornejo	110.100								
Confalonieri	265.208								
Silva	301.999								
Sala	390.194								
Franco/Lavell	361.320								
Magaña	654.200								
Vernet	1.091.694								
Baumgartner	1.172.496								
Luckman	1.969.889								
McClain	2.029.996								
Campos	2.688.197								
Wood	2.693.994								
Núñez	2.753.387								
Tiessen	4.277.439								
	<b>20.760.113</b>								

### CRN STUDENTS STATUS

LEVEL	CRN PI	STUDENTS	COUNTRY	YEAR	IAI FUNDS	INSTITUTION	TESIS
M.Sc.	BAUMGARTNER - 062	RODRIGO MONTES ASPE	CHILE	2001		UNIV. CONCEPCION	
M.Sc.	BAUMGARTNER - 062	LUIS CUEVAS LANDETA	CHILE	2001		UNIV. CONCEPCION / UNIV. DEL MAR	
M.Sc.	BAUMGARTNER - 062	GASTON BAZZINO	URUGUAY	2001		UNIV. CONCEPCION	
M.Sc.	BAUMGARTNER - 062	JAVIER DIAZ OCHOA	COLOMBIA	2001	13.000	UNIV. CONCEPCION	
PhD.	BAUMGARTNER - 062	FARID TABISH BLANCO	COSTA RICA	2001		UNIV. CONCEPCION	
PhD.	BAUMGARTNER - 062	SONIA VALLE RUBIO	PERU	2001		CICESE	
PhD.	CAMPOS - 061	J.E. GONÇALVES	BRAZIL	1999	3.000	IOUSP/MONTERREY, CA	2000
B.Sc	CAMPOS - 061	M. SARACENO	ARGENTINA	1999		UBA-FACEN	in course
PhD.	CAMPOS - 061	ROSANE E. CHAVES	BRAZIL	2000		INPE	2003
PhD.	CAMPOS - 061	ARSILAN T. ARSIREU	BRAZIL	2000		IOUSP	2003
PhD.	CAMPOS - 061	ELCIO PLATTI	BRAZIL	2000		IOUSP	2001
PhD.	CAMPOS - 061	MARIA R. GUIMARAES	BRAZIL	2000		IOUSP	2001
PhD.	CAMPOS - 061	CARLOS A. D. LENTINI	BRAZIL	2000	6.000	RSMAS-UM	2002
PhD.	CAMPOS - 061	ALVARO MONTENEGRO NETO	BRAZIL	2000	1.200	FSU-TALLAHASSEE	2004
M.Sc.	CAMPOS - 061	FELIPE PIMENTA	BRAZIL	2000	4.500	IOUSP / NRL	2002
M.Sc.	CAMPOS - 061	RENATO CASTELAO	BRAZIL	2000	4.500	IOUSP	2001
PhD.	CAMPOS - 061	JOSE HENRIQUE ALVES	BRAZIL	2000	3.000	S.WALLES UNIV / NCEP	2002
PhD.	CAMPOS - 061	WILTON ARRUDA	BRAZIL	2000	3.000	FLORIDA STATE UNIV.	2002
PhD.	CAMPOS - 061	ALEXANDRE GARCIA	BRAZIL	2000	6.000	FURG / TEXAS A&M	2003
PhD.	CAMPOS - 061	PABLO MUNIZ MACIEL	URUGUAY	2000	1.900	IOUSP	2001
PhD.	CAMPOS - 061	FLAVIANO F. FERREIRA	BRAZIL	2000	1.100	UFP /IOUSP	2001
M.Sc.	CAMPOS - 061	CARLOS AUGUSTO FONSECA	BRAZIL	2001	3.000	IOUSP	2002
PhD.	CAMPOS - 061	ENRIQUE L.H.AGUIRRE	PERU	2001	3.000	IOUSP	in course
PhD.	CAMPOS - 061	ROBERTO DE ALMEIDA	BRAZIL	2001		IOUSP	in course
PhD.	CAMPOS - 061	R. CANDELA	BRAZIL	2001	3.000	FURG	in course
PhD.	CAMPOS - 061	SILVIA ROMERO	ARGENTINA	2001	6.340	UBA / FURG	in course
PhD.	CAMPOS - 061	R. ROMERO	URUGUAY	2001	3.000	IOWA STATE UNIV.	
PhD.	CAMPOS - 061	RODERICK F. GAMA	BRAZIL	2002		IOUSP	in course
M.Sc.	CAMPOS - 061	ANA CAROLINA VAZ	BRAZIL	2002	2.000	IOUSP	in course
M.Sc.	CAMPOS - 061	ANA LUIZA XAVIER	BRAZIL	2002	2.000	IOUSP	in course
B.Sc	CAMPOS - 061	MARCOS ANDRADE	BRAZIL	2003	2.000	IOUSP	2004

B.Sc	CAMPOS - 061	ROCIO CAMAYO MAITA	BRAZIL	2003	2.000	IOUSP	in course
B.Sc	CAMPOS - 061	GINA KNUST CARDINOT	BRAZIL	2003	3.000	IOUSP	in course
PhD.	CAMPOS - 061	DANIEL CONDE	URUGUAY	2003	2.000		2003
PhD.	CAMPOS - 061	PATRICIA EICHLER	BRAZIL	2003	1.500	IOUSP	2002
M.Sc.	CAMPOS - 061	ENVER RAMIREZ	PERU	2003	2.000	INPE - CPTEC	2003
PhD.	CAMPOS - 061	IVAN SOARES	BRAZIL	2003	2.000	RSMAS-UM	2003
PhD.	CAMPOS - 061	ANDREA TASCHETTO	BRAZIL	2003	3.000		in course
PhD.	CAMPOS - 061	RAQUEL LEITE MELO	BRAZIL	2003	2.000		in course
B.Sc	CONFALONIERI - 048	DANIELE SANTOS NOGUEIRA	BRAZIL		250	UFRJ	
B.Sc	CONFALONIERI - 048	MARCIO SERRAO SOARES	BRAZIL		300	UFRJ	
PhD.	CONFALONIERI - 048	ROBERTA DIAS	BRAZIL	2001	512	FIOCRUZ	2002
B.Sc	CONFALONIERI - 048	ERIKA S. MOREIRA	BRAZIL	2001	1.395	UFRJ	
B.Sc	CONFALONIERI - 048	SERGIO VIEIRA	BRAZIL	2001	600	UFRJ	
B.Sc	CONFALONIERI - 048	JULIANA F. LIRIO	BRAZIL	2001	100	UFRJ	
B.Sc	CONFALONIERI - 048	MARIA C.M. SILVA	BRAZIL	2001	3.200	URFJ	
M.Sc.	CONFALONIERI - 048	MARIO C. RAMIREZ	MEXICO	2001	15.064	UNAM	
M.Sc.	CONFALONIERI - 048	MAGALI HURTADO	MEXICO	2001	7.034	UNAM	
M.Sc.	CONFALONIERI - 048	JOSE LUIS TEXCALAC	MEXICO	2001			
M.Sc.	CONFALONIERI - 048	TANNECIA STEPHENSON	JAMAICA	2001	4.500	UNIV. OF WEST INDIES	
M.Sc.	CONFALONIERI - 048	ANDRE COY	JAMAICA	2001	2.000	UNIV. OF WEST INDIES	
PhD.	CONFALONIERI - 048	GUILLERMO LEON RUDA	COLOMBIA	2001	16.000	UNIVERSIDAD DE ANTIOQUIA	
M.Sc.	CONFALONIERI - 048	DANIEL RUIZ	COLOMBIA	2001		UNIVERSIDAD DE ANTIOQUIA	
M.Sc.	CONFALONIERI - 048	JUAN SANTIAGO ZULUAGA	COLOMBIA	2001	16.000	UNIVERSIDAD DE ANTIOQUIA	
B.Sc	CONFALONIERI - 048	ELIZABETH MONTOYA	COLOMBIA	2001	6.500	UNIVERSIDAD DE ANTIOQUIA	
M.Sc.	CONFALONIERI - 048	FABIO SAITO M. BARROS	BRAZIL	2002	3.400	UFP	
M.Sc.	CONFALONIERI - 048	ELAINNE C.S. GOMES	BRAZIL	2002	3.400	UFP	
M.Sc.	CONFALONIERI - 048	ALINE A. NOBRE	BRAZIL	2002	1.800	UFRJ	2002
PhD.	CONFALONIERI - 048	HELEN C. GURGEL	BRAZIL	2002		UNIVERSITY OF PARIS X	
B.Sc	CONFALONIERI - 048	SARIA C. VIEIRA	COLOMBIA	2002		UNIVERSIDAD DE ANTIOQUIA	
B.Sc	CONFALONIERI - 048	OLIVER HERNANDEZ	COLOMBIA	2002		UNIVERSIDAD DE ANTIOQUIA	
B.Sc	CONFALONIERI - 048	ELIZABETH ZAPATA	COLOMBIA	2002		UNIVERSIDAD DE ANTIOQUIA	
B.Sc	CONFALONIERI - 048	ERIKA PATRICIA ALARCON	COLOMBIA	2002		UNIVERSIDAD DE ANTIOQUIA	
B.Sc	CONFALONIERI - 048	LEYSA J. GOMEZ	COLOMBIA	2002		UNIVERSIDAD DE ANTIOQUIA	
B.Sc	CONFALONIERI - 048	SILVIA GARCIA	VENEZUELA	2002	4.200	UNIV. CENTRAL VENEZUELA	2003
B.Sc	CONFALONIERI - 048	FRANCYS SANEZ	VENEZUELA	2002	4.200	UNIV. CENTRAL VENEZUELA	2003
B.Sc	CONFALONIERI - 048	JEAN CARLOS MARTINEZ	VENEZUELA	2002	4.200	UNIV. CENTRAL VENEZUELA	2003

B.Sc	CONFALONIERI - 048	YESENIA BOCANEGRA	VENEZUELA	2002	4.200	UNIV. CENTRAL VENEZUELA	2003
B.Sc	CONFALONIERI - 048	JORGE MOISES VASQUEZ	VENEZUELA	2003	4.000	UNIV. CENTRAL VENEZUELA	in course
M.Sc.	CONFALONIERI - 048	NORA MONSALVE	VENEZUELA	2004	1.000	UNIV. SIMON BOLIVAR	in course
M.Sc.	CONFALONIERI - 048	ALFONZO RODRIGUEZ	VENEZUELA	2004		UNIV. DE LOS ANDES	in course
B.Sc	CORNEJO - 038	INDIRA NOLIVOS	ECUADOR	2001			
M.Sc.	CORNEJO - 038	ERNESTO REGNEIRA	CUBA	2001			
B.Sc	CORNEJO - 038	MARUGUEL CASTILLEROS	PANAMA	2001			
B.Sc	CORNEJO - 038	DAVID MARTINEZ	PANAMA	2001			
B.Sc	CORNEJO - 038	ITZEL GONZALEZ	PANAMA	2001			
M.Sc.	LAVELL - 031	EDGLEY PEREIRA DA SILVA	BRAZIL	2000		UFPB	2002
M.Sc.	LAVELL - 031	ALEXANDRE E. DE ARAUJO	BRAZIL	2000		UFPB	2002
M.Sc.	LAVELL - 031	CELIO SARAIVA DE MOURA	BRAZIL	2000		UFPB	2002
PhD.	LAVELL - 031	JOAO M. DE MORAES NETO	BRAZIL	2001		UFPB	2003
PhD.	LAVELL - 031	AUGUSTO F. DA SILVA	BRAZIL	2002		UFPB	
PhD.	LAVELL - 031	HAMILCAR J. A. FILGUEIRA	BRAZIL	2002		U.FLORIDA / U. PIURA	
PhD.	LAVELL - 031	MONICA GARCIA A. DE MEDEIROS	BRAZIL	2002		UFPB	
PhD.	LAVELL - 031	CHRIS W. BAYNARD	USA	2000		U.FLORIDA	
PhD.	LAVELL - 031	MARIA JESUS OLIVO LOPES	USA	2001		U.FLORIDA	
PhD.	LAVELL - 031	LAURA HEPTING	USA	2002		U.FLORIDA	
PhD.	LAVELL - 031	PALMA INGLES	USA	2002		U.FLORIDA	
PhD.	LAVELL - 031	BYRON RED	ECUADOR	2002		U.FLORIDA	
M.Sc.	LAVELL - 031	MYRIAM DE LA PARRA	MEXICO	2000		ENAH / CIESAS	
B.Sc	LAVELL - 031	LETICIA GONZALEZ ALVAREZ	MEXICO	2001		ENAH	
M.Sc.	LAVELL - 031	FERCIA A. FERNANDEZ	MEXICO	2001		UNAM	
M.Sc.	LAVELL - 031	MARTIN GONZALO SOLANO	MEXICO	2001		UNAM	
PhD.	LAVELL - 031	CARMEN MAGANDA RAMIREZ	MEXICO	2001		CIESAS	
M.Sc.	LAVELL - 031	CLORIS PATRICIA VELAZQUEZ	MEXICO	2001		COLMEX	
PhD.	LAVELL - 031	JORGE DEHAYS	CHILE	2001		UNAM	
B.Sc	LAVELL - 031	OSCAR BENAVIDES	MEXICO	2002		ENAH	
B.Sc	LAVELL - 031	ALEJANDRA LOPEZ	MEXICO	2002		ENAH	
B.Sc	LAVELL - 031	JOSE ANTONIO SAMPOYO	MEXICO	2002		ENAH	
PhD.	LAVELL - 031	FERNANDO BRIONES GAMBOA	MEXICO	2002		SORBONE - NOUVELLE, PARIS III	
M.Sc.	LAVELL - 031	JOSE A. HERNANDEZ GOMEZ	MEXICO	2002		CIESAS	
PhD.	LAVELL - 031	JUAN M. RODRIGUEZ ESTEVES	MEXICO	2002		CIESAS	
PhD.	LAVELL - 031	CECILIA CASTRO	MEXICO	2002		UNAM	
M.Sc.	LAVELL - 031	EDGAR LINARES GIMENEZ	MEXICO	2002		UNAM	2003

PhD.	LAVELL - 031	GUADALUPE MATIAS	MEXICO	2002		UNAM		
M.Sc.	LAVELL - 031	ALFREDO SERENO CHAVEZ	MEXICO	2002		UNAM		2003
PhD.	LAVELL - 031	ENRIQUE PEREZ	MEXICO	2002		UNAM		
M.Sc.	LAVELL - 031	GLAWBBER S. SARAIVA DE MOURA	BRAZIL	2002		UFPB		2004
M.Sc.	LAVELL - 031	MARIA LEIDE SILVA DE ALENCAR	BRAZIL	2002		UFPB		
PhD.	LAVELL - 031	ALOYSIO FERRAZ DE ABREU	BRAZIL	2002		UFPB		
PhD.	LAVELL - 031	REDILSON FARIA DE SOUSA	BRAZIL	2002		UFPB		
B.Sc	LAVELL - 031	BRAULIO CARDOSO VIEIRA	BRAZIL	2002		UFPB		
B.Sc	LAVELL - 031	DARLAN ARANJO DOS SANTOS	BRAZIL	2002		UFPB		
B.Sc	LAVELL - 031	GLADYSTON AGRA FRANCA	BRAZIL	2002		UFPB		
B.Sc	LAVELL - 031	NAYIBE JIMENEZ	COLOMBIA	2002		U. DEL VALLE		
B.Sc	LAVELL - 031	CAROLINA DELGADO	COLOMBIA	2002		U. DEL VALLE		
B.Sc	LAVELL - 031	CLAUDIA QUINTERO	COLOMBIA	2002		U. DEL VALLE		
M.Sc.	LAVELL - 031	MARA BARTOLOME	ARGENTINA	2002	7.200	IDES /IDAES / UNSAM		
M.Sc.	LAVELL - 031	GRACIELA KISILEVSKY	ARGENTINA	2002		UNQ		
M.Sc.	LAVELL - 031	PATRICIA VARGAS	ARGENTINA	2002		FLACSO		
B.Sc	LAVELL - 031	FEDERICO QUILICCI	ARGENTINA	2002		UBA		
B.Sc	LAVELL - 031	DAMIAN LIVISCH	ARGENTINA	2002		UBA		
B.Sc	LAVELL - 031	PALOMA GARAY	ARGENTINA	2002		UBA		
B.Sc	LAVELL - 031	FOIRELA RUDIFERIA	ARGENTINA	2002		UNL		
B.Sc	LAVELL - 031	ALICE BRENES	COSTA RICA	2002		UCR		
M.Sc.	LAVELL - 031	ADRIANA BONILLA	COSTA RICA	2002		UNIV. ESTATAL A DISTANCIA		
B.Sc	LAVELL - 031	JOSE LUIS RIVADENEIRA	ECUADOR	2002		ESPOL		
B.Sc	LAVELL - 031	DIEGO DAQUI	ECUADOR	2002		ESPOL		
B.Sc	LAVELL - 031	DARIO CHICAIZA	ECUADOR	2002		ESPOL		
B.Sc	LAVELL - 031	LUIS MERINO	ECUADOR	2002		ESPOL		
B.Sc	LAVELL - 031	AMPARO BENAVIDES	ECUADOR	2002		ESPOL		
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B.Sc	LUCKMAN -003	BOLIVIA LIZONDO	BOLIVIA	1999				
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PhD.	LUCKMAN -003	R.J.S.WILSON	CANADA	1999		UNIV. OF WESTERN ONTARIO		2003
PhD.	LUCKMAN -003	T.A. KAVANAGH	CANADA	1999		UNIV. OF WESTERN ONTARIO		2000
PhD.	LUCKMAN -003	M.E.COLEMUTT	CANADA	1999		UNIV. OF WESTERN ONTARIO		2000

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PhD.	LUCKMAN -003	COLIN LAROCQUE	CANADA	1999	770	UNIV. OF VICTORIA	2002
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M.Sc.	LUCKMAN -003	CHRIS WOOD	CANADA	1999		UNIV. OF VICTORIA	2002
M.Sc.	LUCKMAN -003	DAVE LEWIS	CANADA	1999		UNIV. OF VICTORIA	2002
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M.Sc.	LUCKMAN -003	LEONARDO TAGLE	CHILE	1999		UNIV. AUSTRAL, CHILE	2002
PhD.	LUCKMAN -003	MARIO MASIOKAS	ARGENTINA	2002		UNIV. OF WESTERN ONTARIO	
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B.Sc	LUCKMAN -003	RICHARD VAN DORP	CANADA	2000			
PhD.	LUCKMAN -003	DAVID MARIMOTO	CANADA	2003			
M.Sc.	LUCKMAN -003	MIKE KENINGSBERG	CANADA	2003			
PhD.	LUCKMAN -003	MARIANO MORALES	ARGENTINA	2001			
B.Sc	LUCKMAN -003	JUAN AGUSTIN ALVAREZ	ARGENTINA	2001		UNIV. OF CONGRESO	
B.Sc	LUCKMAN -003	ERIKA CESCA	ARGENTINA	2001		UNIV. OF CONGRESO	
B.Sc	LUCKMAN -003	VIRGINIA SAUMA	ARGENTINA	2001		UNIV. OF CONGRESO	
B.Sc	LUCKMAN -003	CLAUDIA SOLIZ	BOLIVIA	2001			
B.Sc	LUCKMAN -003	NINEL SANJINEZ	BOLIVIA	2001			
B.Sc	LUCKMAN -003	JOSUE MONTEVILLA	BOLIVIA	2001			
B.Sc	LUCKMAN -003	MIGUEL MURRIEL	BOLIVIA	2001			
B.Sc	LUCKMAN -003	CRISTINA LOPEZ	BOLIVIA	2001			
M.Sc.	LUCKMAN -003	KAREN BRELSFORD	CANADA	2001	2.690	UNIV. OF VICTORIA	
M.Sc.	LUCKMAN -003	ROCHELLE CAMPBELL	CANADA	2001		UNIV. OF VICTORIA	
M.Sc.	LUCKMAN -003	ALEXIS JOHNSON	CANADA	2001	770	UNIV. OF VICTORIA	
PhD.	LUCKMAN -003	SONYA LAROCQUE	CANADA	2001	4.620	UNIV. OF VICTORIA	
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M.Sc.	LUCKMAN -003	FRANCISCA BAUM	CHILE	2001		UNIV. OF CHILE	
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B.Sc	LUCKMAN -003	ELIZABETH CORDOVA	PERU	2002		UNIV. OF PIURA	2003
B.Sc	LUCKMAN -003	ALEXANDER SAAVEDRA LOPEZ	PERU	2002		UNIV. OF PIURA	
B.Sc	LUCKMAN -003	KIM WEST	CANADA	2002		CARLETON COLLEGE	
B.Sc	LUCKMAN -003	NEIL PEDERSEN	CANADA	2002			
B.Sc	LUCKMAN -003	JAIME CHOQUE	BOLIVIA	2002			
B.Sc	LUCKMAN -003	ROCIO URRUTIA	CHILE	2002		UNIV. CATOLICA DE CHILE	2002
B.Sc	LUCKMAN -003	RICARDO NEUMANN	CHILE	2002		UNIV. AUSTRAL, CHILE	2002
B.Sc	LUCKMAN -003	PAMELA ROJAS	CHILE	2002		UNIV. AUSTRAL, CHILE	2002
B.Sc	LUCKMAN -003	MIGUEL CARCAMO	CHILE	2002		UNIV. AUSTRAL, CHILE	2003
B.Sc	LUCKMAN -003	GERARDO E. CORREA	CHILE	2002		UNIV. AUSTRAL, CHILE	2003
B.Sc	LUCKMAN -003	JAVIER SILVA	CHILE	2002		UNIV. AUSTRAL, CHILE	2003
M.Sc.	LUCKMAN -003	JORGE MOYA	CHILE	2002		UNIV. AUSTRAL, CHILE	
PhD.	MAGAÑA -073	JOSE, L. PEREZ LOPEZ	MEXICO	2000	800	IMTA	
PhD.	MAGAÑA -073	JOSE A. SALINAS PRIETO	MEXICO	2000	700	UNAM	
PhD.	MAGAÑA -073	CECILIA CONDE ALVAREZ	MEXICO	2000		UNAM	
M.Sc.	MAGAÑA -073	MIRASOL URIBE ALCANTARA	MEXICO	2000	500	UNIV. OF ARIZONA	
M.Sc.	MAGAÑA -073	JORGE LUIS VAZQUEZ AGUIRRE	MEXICO	2000	500	UNAM	
M.Sc.	MAGAÑA -073	JOEL B. PEREZ FERNANDEZ	MEXICO	2000		UNAM	
M.Sc.	MAGAÑA -073	JUAN M. MENDEZ PEREZ	MEXICO	2000		UNAM	
M.Sc.	MAGAÑA -073	VLADIMIR HERNANDEZ GRAJALES	MEXICO	2000		UNAM	
M.Sc.	MAGAÑA -073	CAIO AUGUSTO DOS SANTOS	BRAZIL	2000		UNAM	
M.Sc.	MAGAÑA -073	JULIO GONZALO GALLEGOS	MEXICO	2000		UNAM	
M.Sc.	MAGAÑA -073	ERIK RIVERA	COSTA RICA	2000		UNAM	
B.Sc	MAGAÑA -073	GABRIELA MORA ROJAS	COSTA RICA	2000		UNAM	
B.Sc	MAGAÑA -073	ADRIANA HUERTA CASAS	MEXICO	2000		UNAM	
B.Sc	MAGAÑA -073	JOSUE MOISES POLANCO	MEXICO	2000		UNAM	
B.Sc	MAGAÑA -073	VIOLETA PIÑA	MEXICO	2000		UNAM	
B.Sc	MAGAÑA -073	KARLA NAVAJO ZAVALETAS	MEXICO	2000		UNAM	
M.Sc.	MAGAÑA -073	SERGIO ABARCA FUENTES	MEXICO	2000		UNAM	
B.Sc	MAGAÑA -073	LAURA H. HERNANDEZ GOMEZ	MEXICO	2000		UNAM	
B.Sc	MAGAÑA -073	ALMA SUSANA ORTIZ	MEXICO	2000		UNAM	
B.Sc	MAGAÑA -073	DIDIER MARTINEZ SANCHEZ	MEXICO	2000		UNAM	
M.Sc.	MAGAÑA -073	AMERICA MURGIA ESPINOSA	MEXICO	2001		USP	
P.D.	MAGAÑA -073	M. SZCZODRAK	USA	2001		UNAM	

P.D.	MAGAÑA -073	NELSON MELO	USA	2001		UNAM		
B.Sc	MAGAÑA -073	ADOLFO MAGALDI	MEXICO	2002		UNAM		
M.Sc.	MAGAÑA -073	JULIO GONZALEZ	MEXICO	2002		UNAM		
M.Sc.	MAGAÑA -073	ROSA ELENA MORALES	MEXICO	2002		UNAM		
M.Sc.	McCLAIN - 047	DANIEL GANN	GERMANY	2003		FIU		2003
M.Sc.	McCLAIN - 047	DONNA SAKURA-LEMESSY	TRINIDAD	2001	18.000	FIU		2001
M.Sc.	McCLAIN - 047	CARLOS MENA	ECUADOR	1999	22.000	FIU		2001
M.Sc.	McCLAIN - 047	ALEJANDRO ROSELLI	COLOMBIA	1999	8.000	FIU		2003
B.Sc	McCLAIN - 047	MARIA CRISTINA TORRES	ECUADOR	2001	3.000	SPOL		2003
B.Sc	McCLAIN - 047	SANTIAGO GUALPA	ECUADOR	2001	3.000	SPOL		2003
M.Sc.	McCLAIN - 047	JULIO ORDOÑEZ	PERU	2001	14.000	UNIV. NAC. AGRARIA LA MOLINA		2001
M.Sc.	McCLAIN - 047	ZARETH GOMEZ	COLOMBIA	2001	14.000	UNIV. NAC. AGRARIA LA MOLINA		2001
M.Sc.	McCLAIN - 047	ANN GLAUBER	USA	2001	2.000	UNIV. OF WASHINGTON		2001
B.Sc	McCLAIN - 047	FABIOLA NUÑEZ	PERU	2001	2.000	UNIV. NAC. AGRARIA LA MOLINA		2003
M.Sc.	McCLAIN - 047	OSWALDO RAMOS	BOLIVIA	2000	14.000	UNIV. NAC. AGRARIA LA MOLINA		2001
M.Sc.	McCLAIN - 047	MARCELO AYABACA	ECUADOR	2002	24.000	FIU		2004
M.Sc.	McCLAIN - 047	LUIS MIGUEL APARICIO	PERU	2000		FIU		2003
M.Sc.	McCLAIN - 047	ROSA COSSIO	PERU	2000	8.000	FIU		2002
M.Sc.	McCLAIN - 047	JUAN MOLINA	ECUADOR	2000	14.000	UNIV. NAC. AGRARIA LA MOLINA		2001
M.Sc.	McCLAIN - 047	JUAN M. SANEZ	PERU	2000	800	IHE - DELFT		2001
B.Sc	McCLAIN - 047	DANIEL GOMEZ	PERU	1999	3.000	UNIV. NAC. AGRARIA LA MOLINA		2000
B.Sc	McCLAIN - 047	MARIA E. MOLL	SPAIN	1999		UNIV. POLITECNICA VALENCIA		2001
M.Sc.	McCLAIN - 047	ROXANNA AYLLON	PERU	2000	14.000	FIU		2002
M.Sc.	McCLAIN - 047	PATRICIA HUERTA	PERU	2001	600	UNIV. GIRONA		2003
M.Sc.	McCLAIN - 047	THOMAS SAUNDERS	USA	2002	18.000	FIU		2004
B.Sc	McCLAIN - 047	MONICA DELGADO	ECUADOR	2000	3.000	SPOL		2002
B.Sc	McCLAIN - 047	MARIA FERNANDA ARIAS	ECUADOR	2001	600	SPOL		2002
B.Sc	McCLAIN - 047	JAVIER HUERTA	PERU	2000	3.000	UNIV. NAC. ALCIDES CARRION		2002
B.Sc	McCLAIN - 047	MILTON TULLUME	PERU	2000		UNIV. NAC. AGRARIA LA MOLINA		2002
B.Sc	McCLAIN - 047	MARCOS VILLACIS	ECUADOR	2001	3.000	ESPOL		2003
M.Sc.	McCLAIN - 047	LINDSEY WAGONNER	USA	2003	24.000	FIU		2005
M.Sc.	McCLAIN - 047	JORGE CELI	ECUADOR	2003	8.000	FIU		2005
M.Sc.	McCLAIN - 047	ANDREA BLANCO	BOLIVIA	2003	8.000	FIU		2005
M.Sc.	McCLAIN - 047	DANIEL GOMEZ	PERU	2003	6.000	FIU		2005
P.D.	NUÑEZ - 055	MARCELO SELUCHI	ARGENTINA	2000		INPE - CPTEC		
PhD.	NUÑEZ - 055	GABRIELA MULLER	ARGENTINA	2001		UBA		

PhD.	NUÑEZ - 055	MOIRA DOYLE	ARGENTINA	2001		UBA		
PhD.	NUÑEZ - 055	WAGNER R. SOARES	BRAZIL	2001				
PhD.	NUÑEZ - 055	ANITA R. DRUMOND	BRAZIL	2001				
PhD.	NUÑEZ - 055	ESTELLA COLLINI	ARGENTINA	2002		UBA		
PhD.	NUÑEZ - 055	KELEN ANDRADE ADMA	BRAZIL	2002				
PhD.	NUÑEZ - 055	SIMONE E. T. FERAZ	BRAZIL	2002				
PhD.	NUÑEZ - 055	ALEXANDRE B. PEZZA	BRAZIL	2002				
PhD.	NUÑEZ - 055	CLEVER A. SOUZA	BRAZIL	2002				
PhD.	NUÑEZ - 055	EVERALDO B. DE SOUZA	BRAZIL	2002				
PhD.	SALA - 012	PEDRO FLOMBAUM	ARGENTINA	2000		UBA		
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B.Sc	SALA - 012	MARTIN COVALSCHI	ARGENTINA	2000		UBA		2003
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M.Sc.	SALA - 012	VICTORIA MARCHESINI	ARGENTINA	2002		UBA		
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B.Sc	SALA - 012	LISANDRO COVALSCHI	ARGENTINA	2003		UBA		
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B.Sc	SILVA - 040	GRISELDA PODAZA	ARGENTINA	2000		UNIV. NAC. TUCUMAN		
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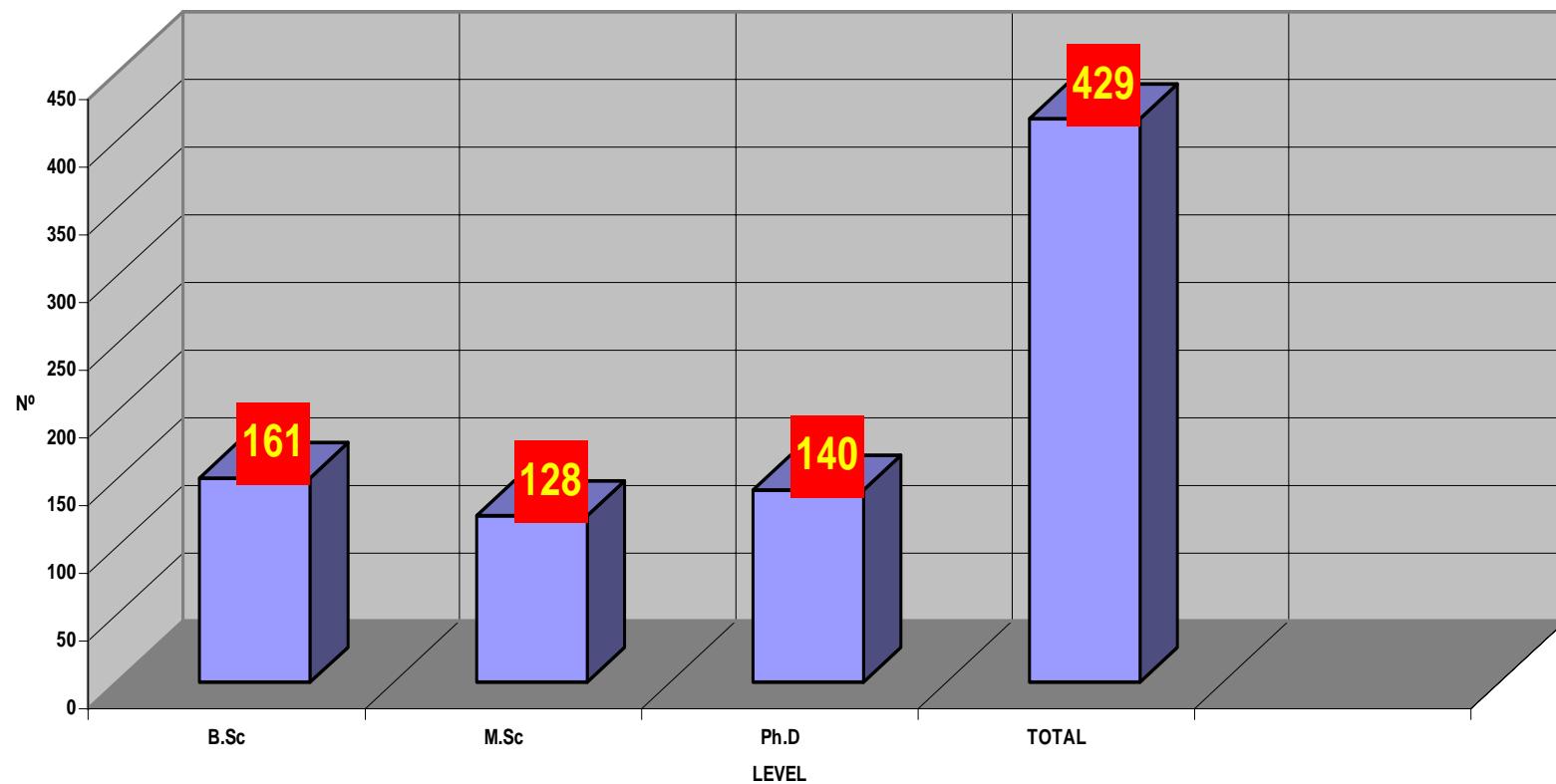
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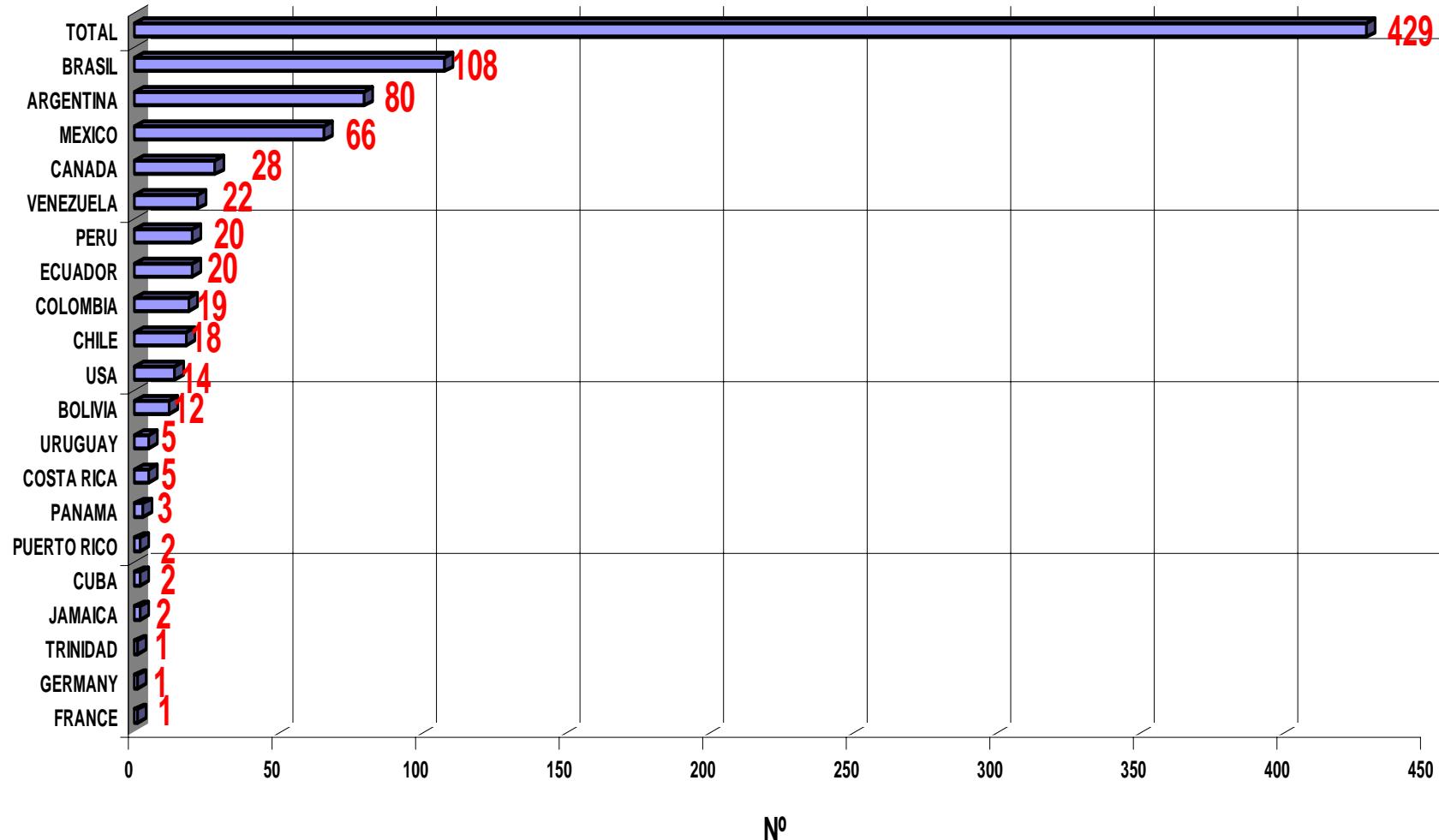
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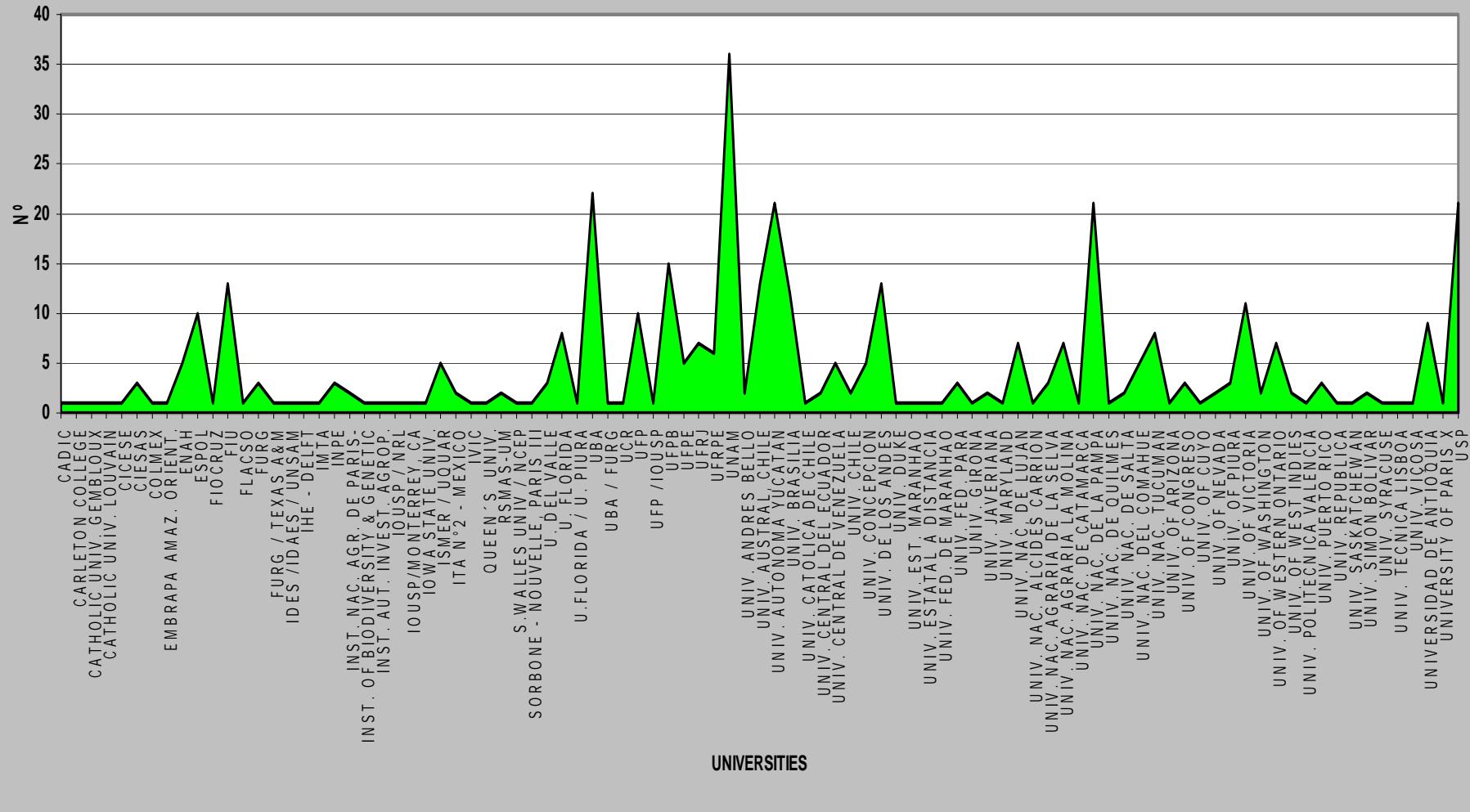


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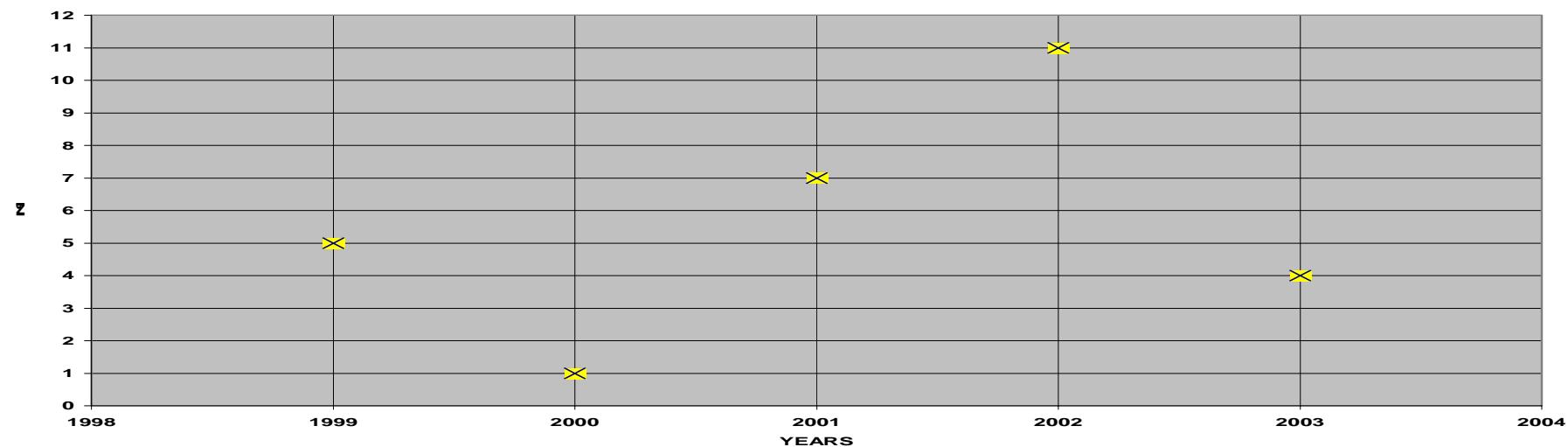
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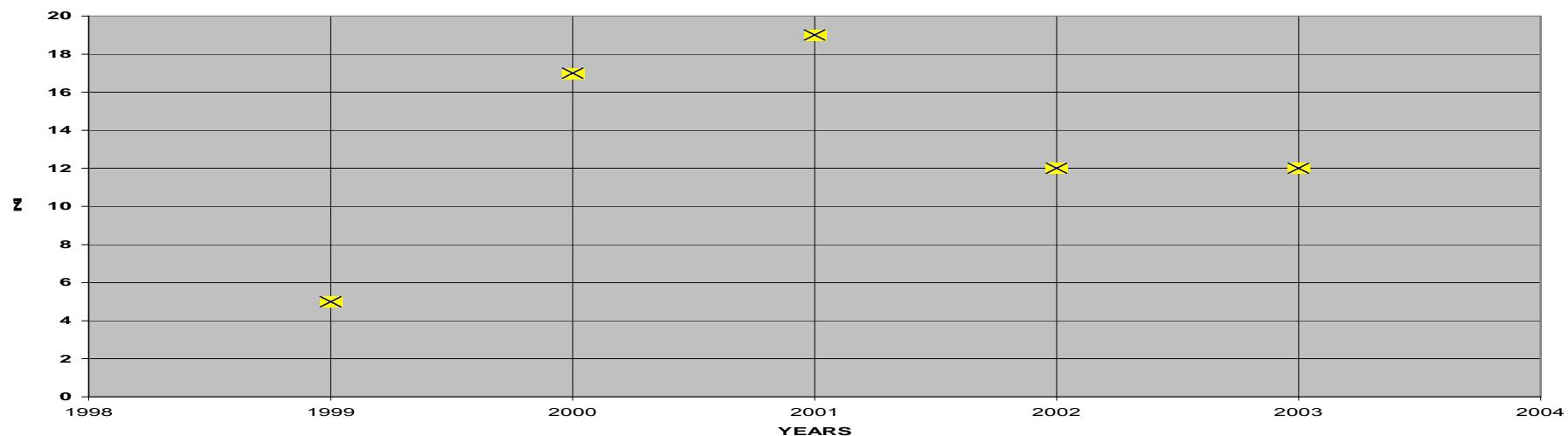
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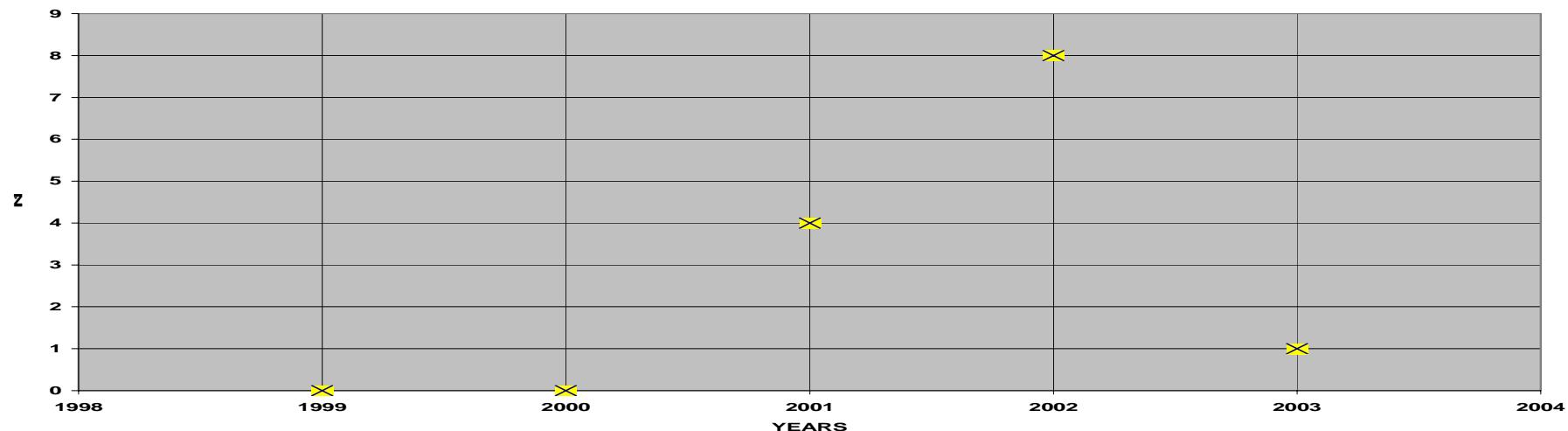
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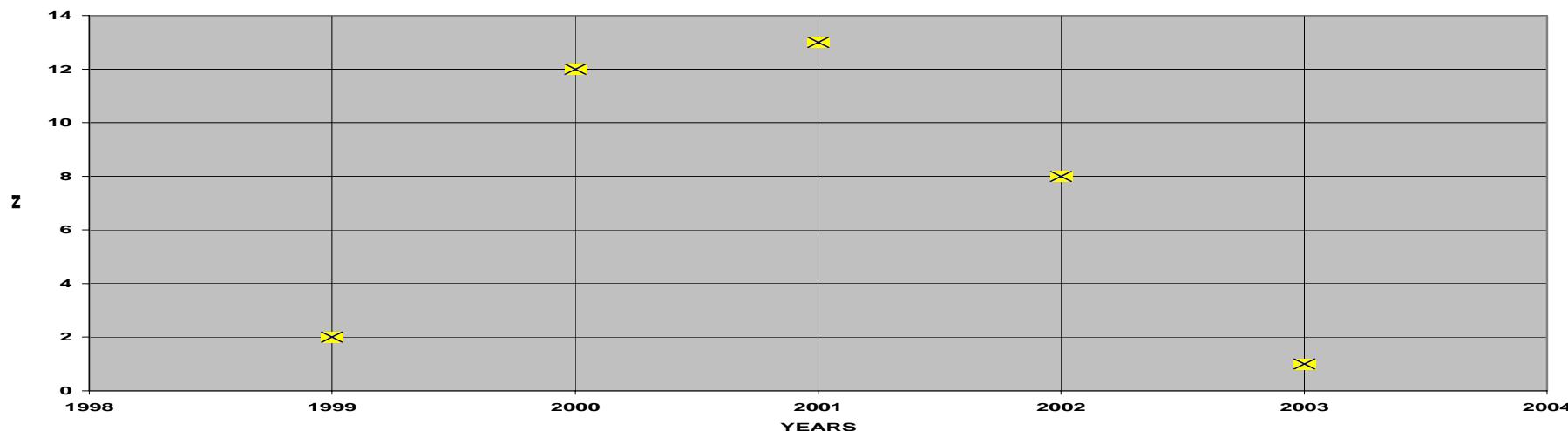
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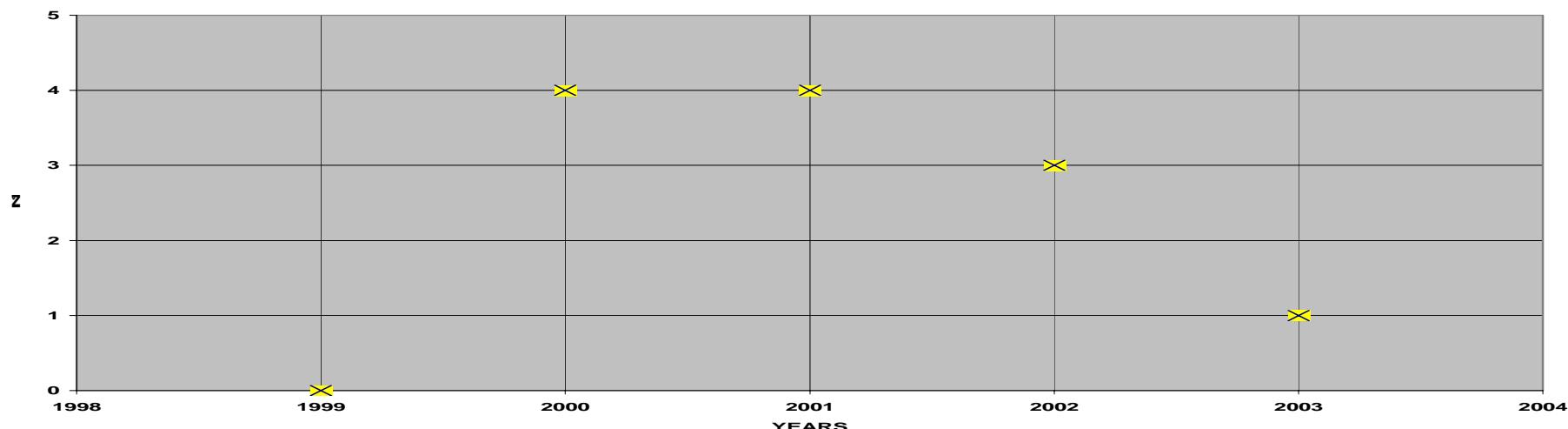
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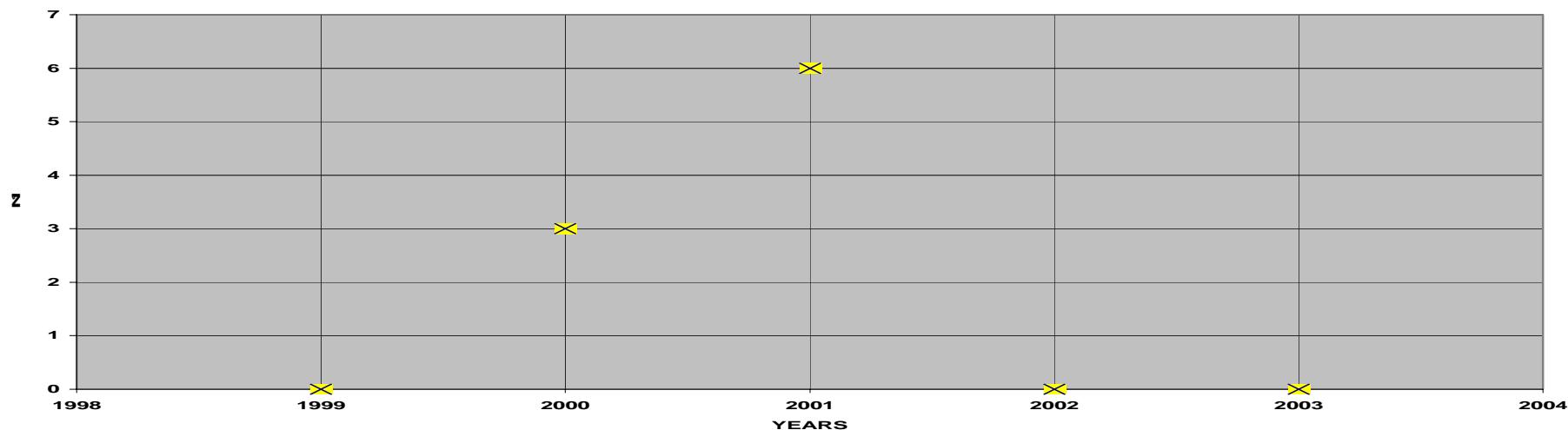
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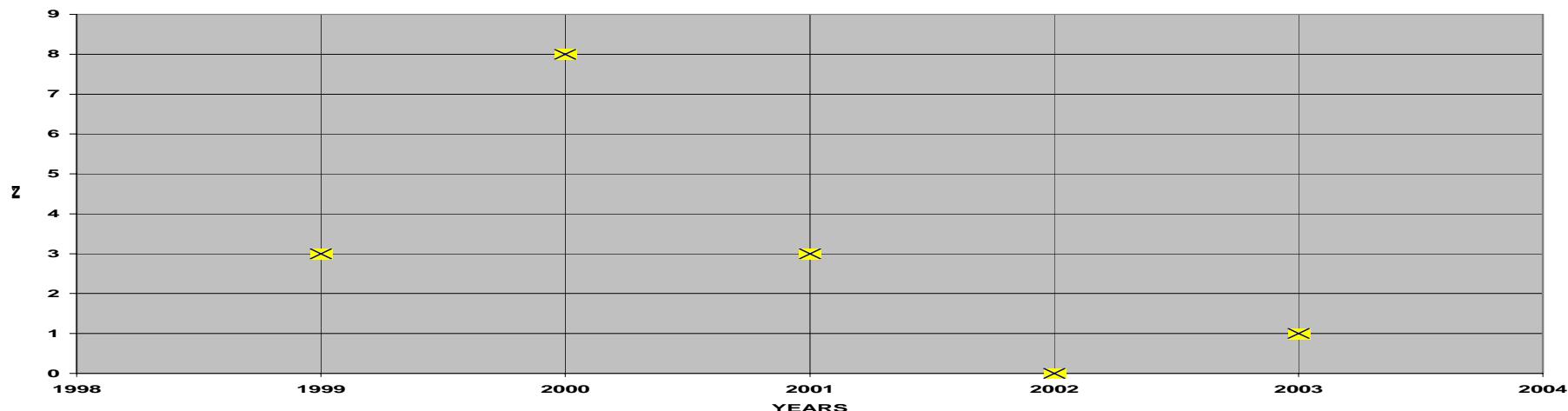
**CRN 026 - MARIA VERNET - TOTAL NUMBER OF PUBLICATIONS**



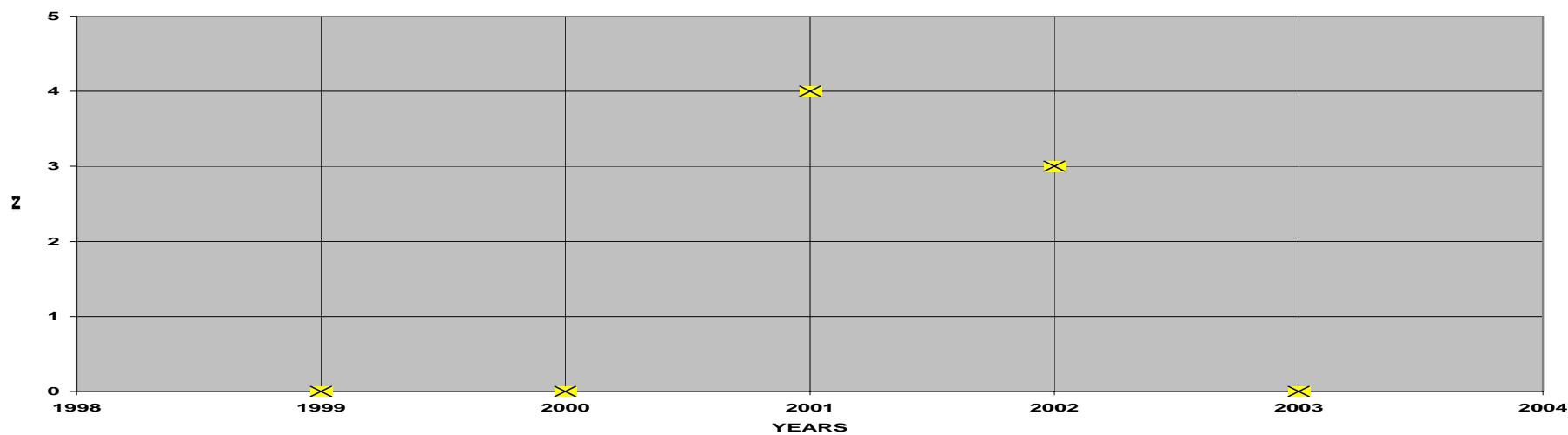
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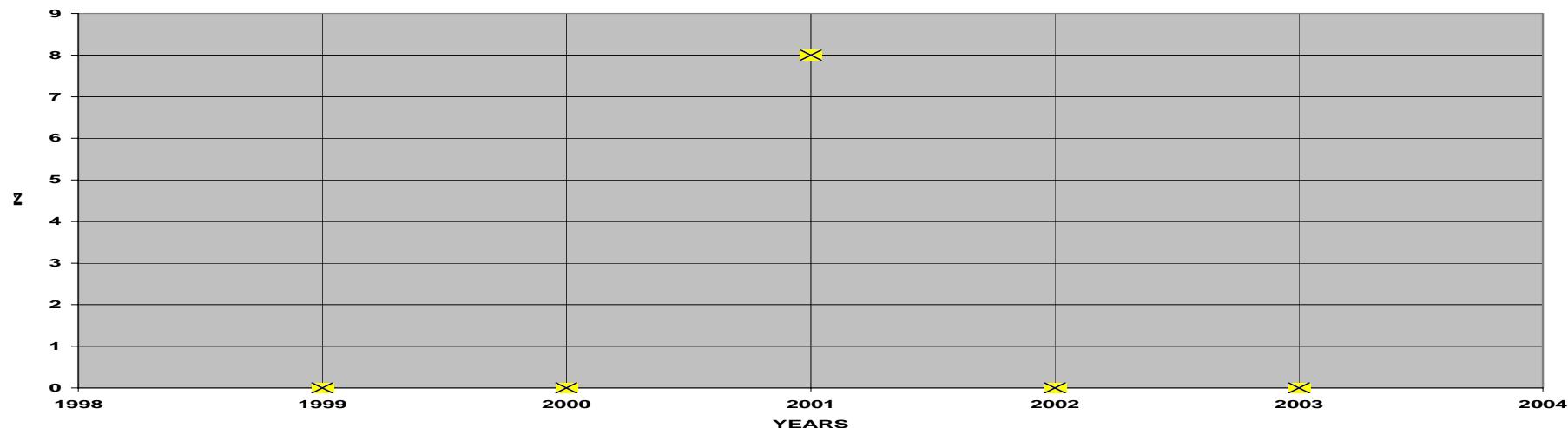
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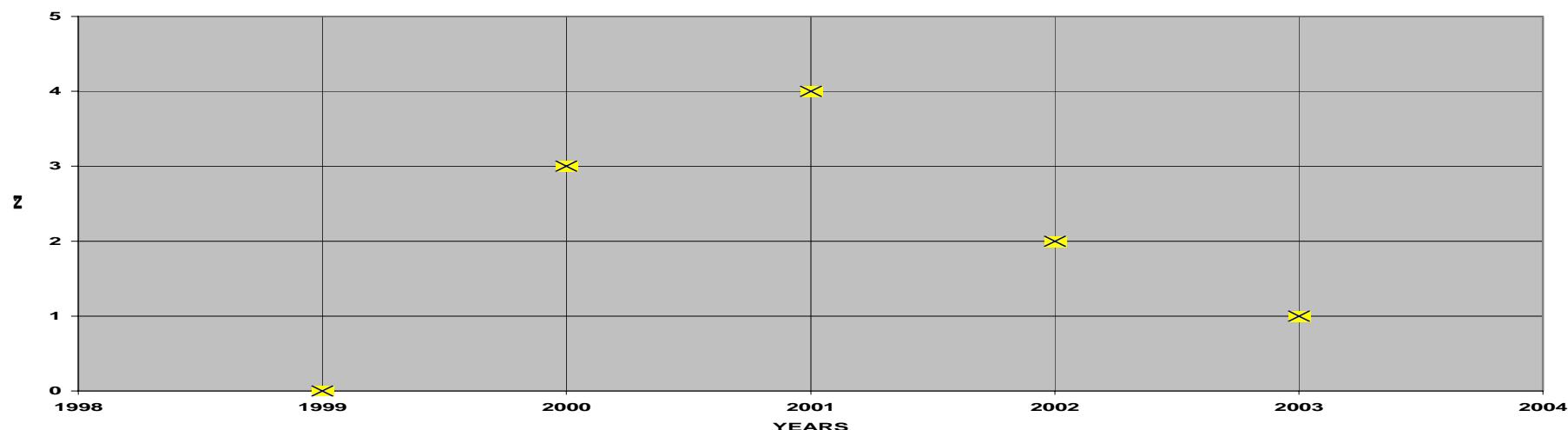
**CRN 040 - JUAN SILVA - TOTAL NUMBER OF PUBLICATIONS**



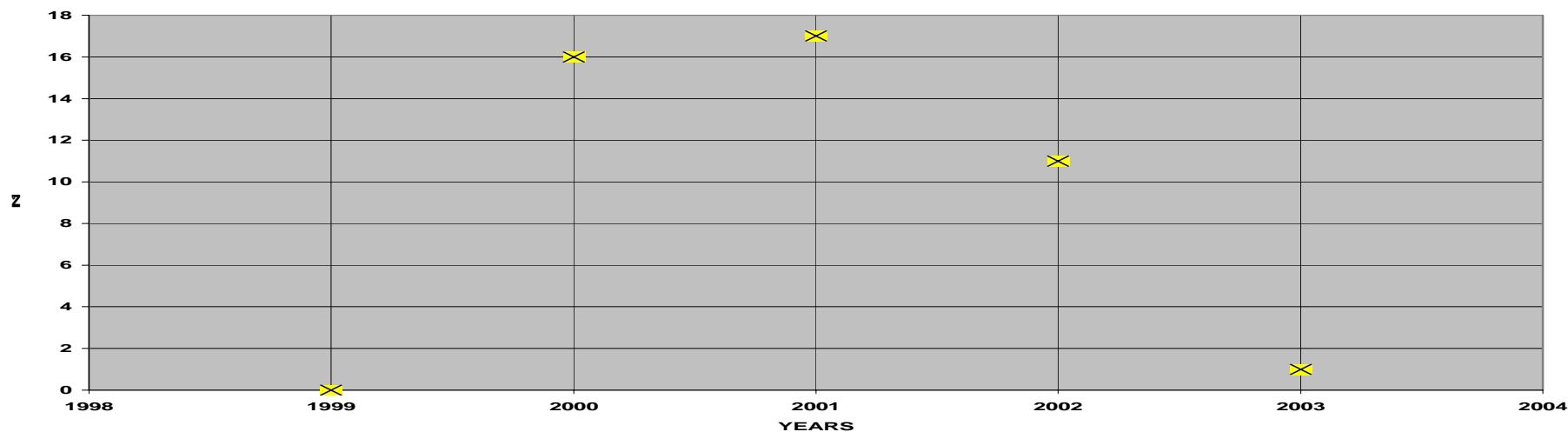
**CRN 047 - MICHAEL McCLAIN - TOTAL NUMBER OF PUBLICATIONS**



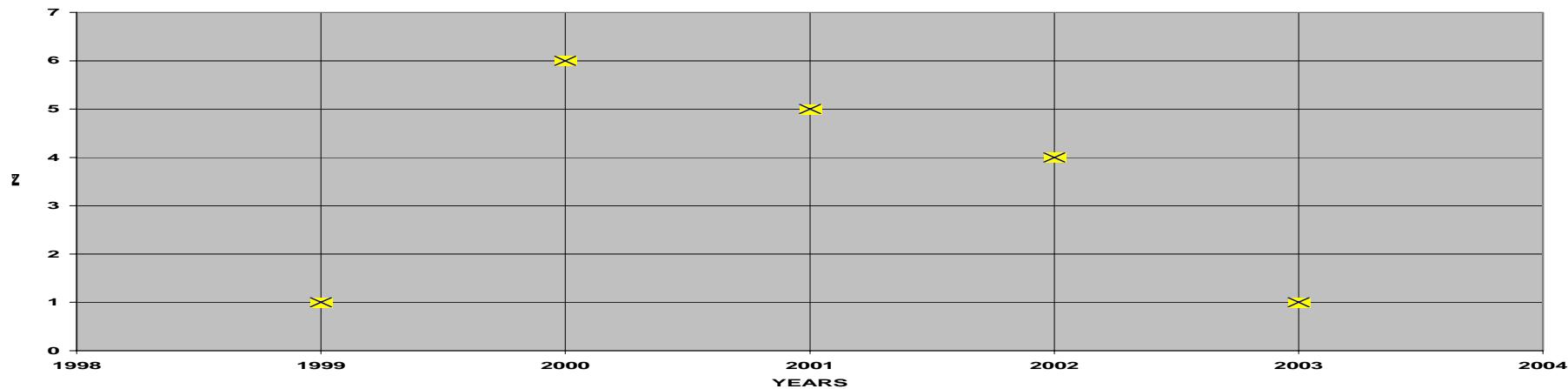
**CRN 048 - ULISES CONFALONIERI - TOTAL NUMBER OF PUBLICATIONS**



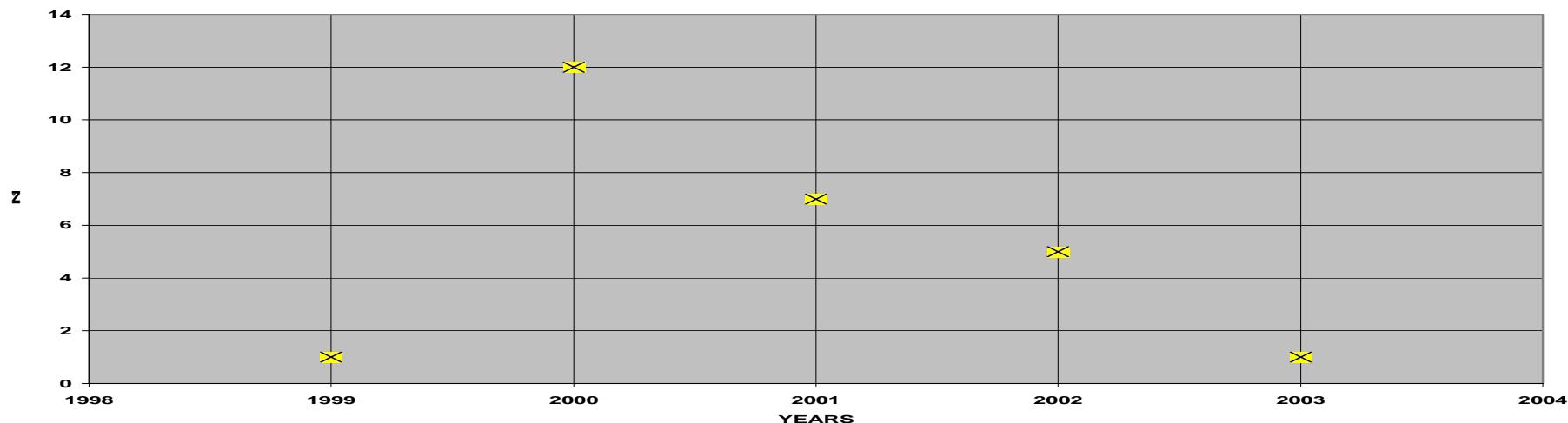
**CRN 055 - MARIO NUÑEZ - TOTAL NUMBER OF PUBLICATIONS**



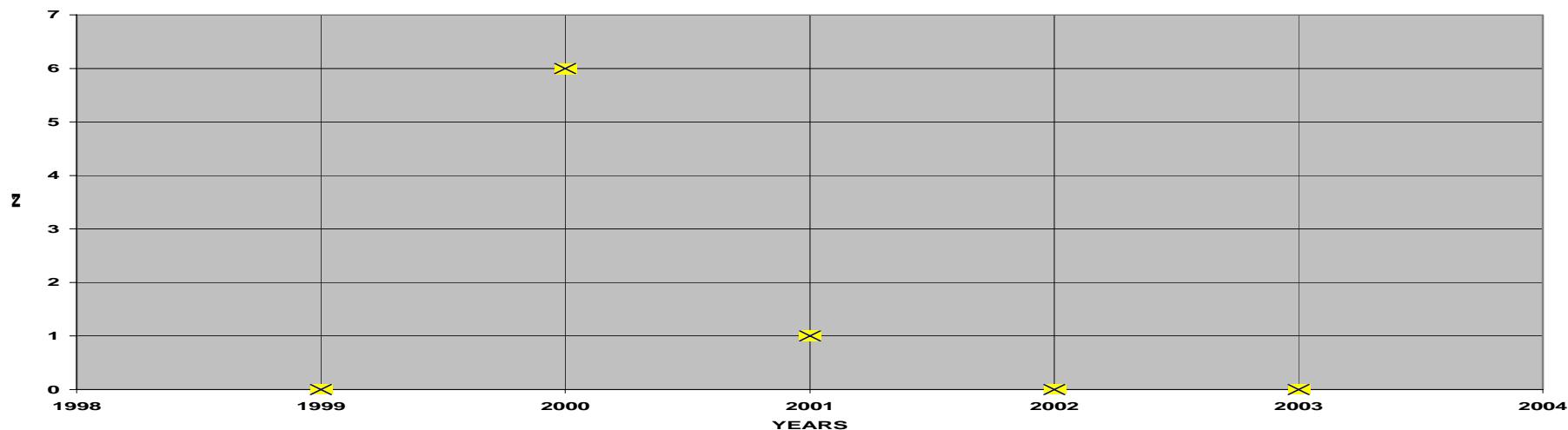
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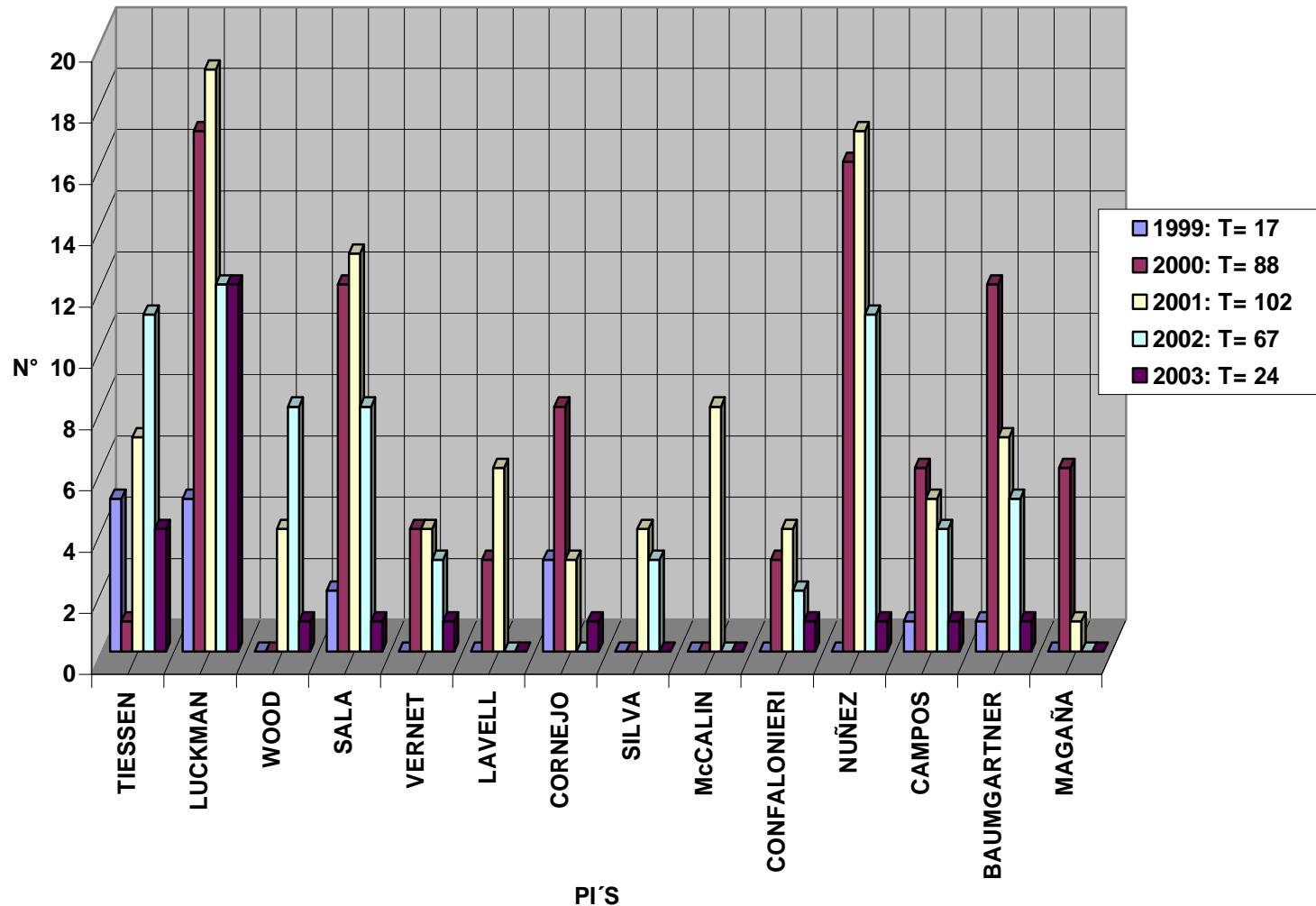
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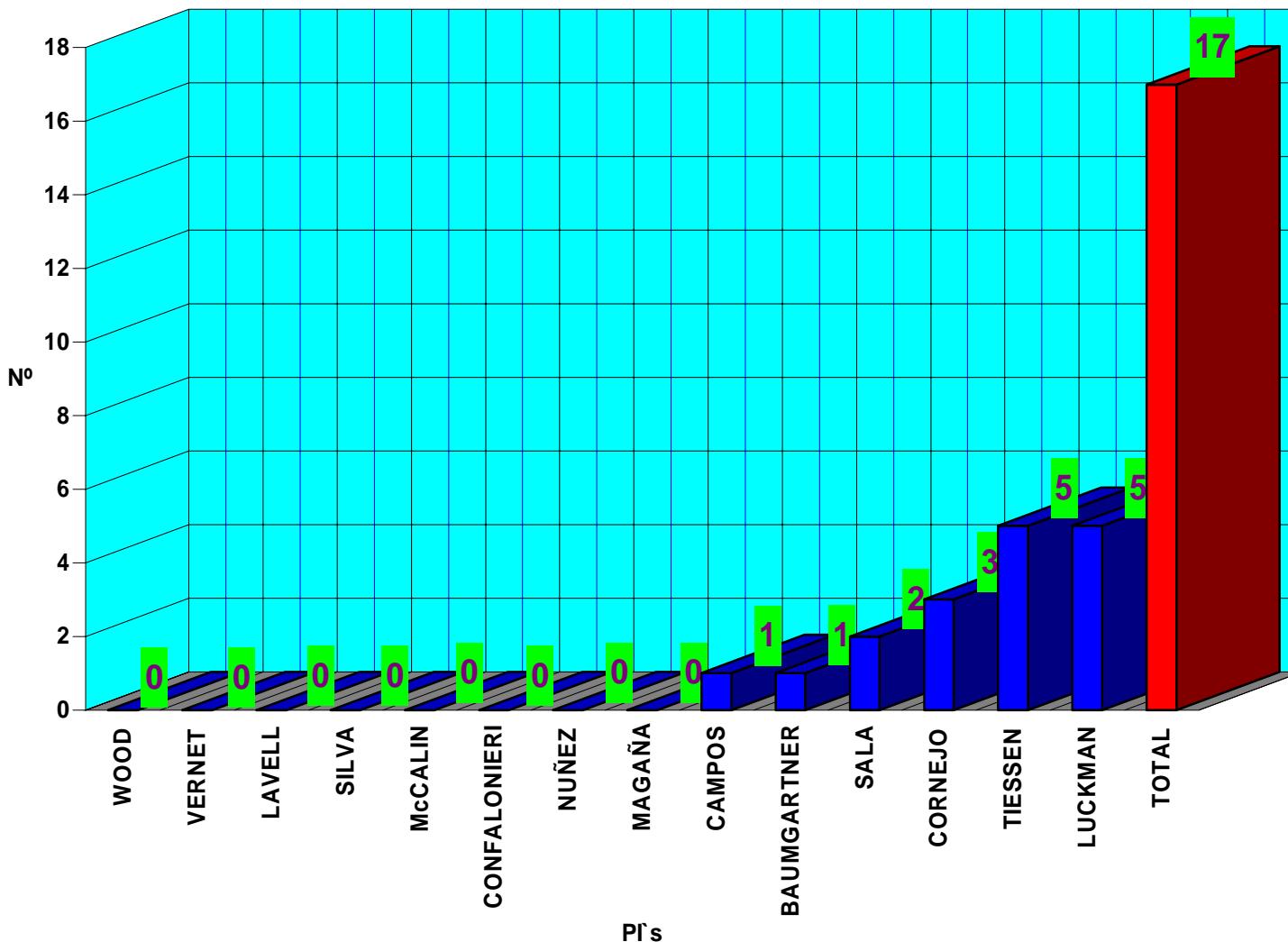
**CRN 073 - VICTOR MAGAÑA - TOTAL NUMBER OF PUBLICATIONS**



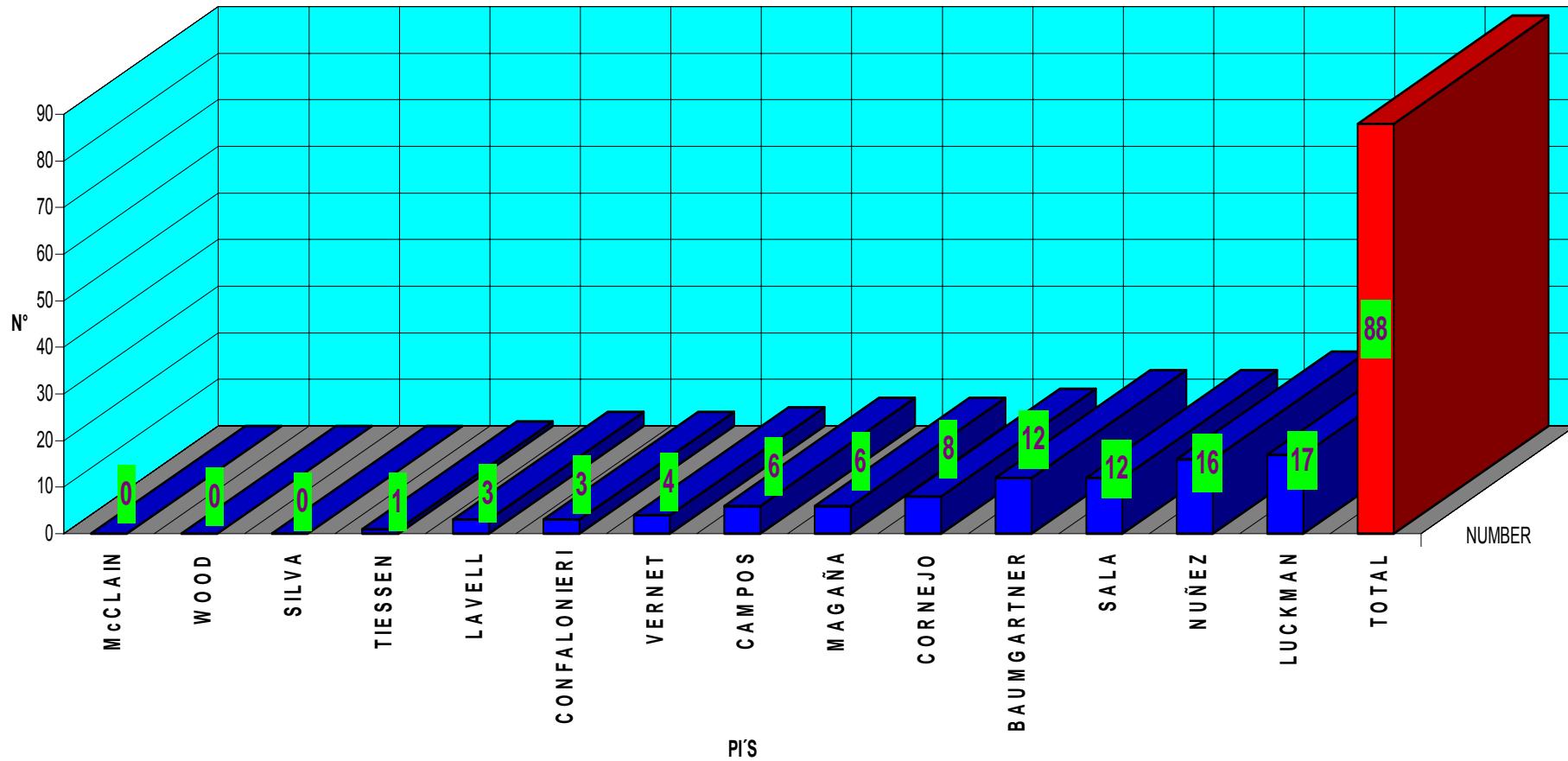
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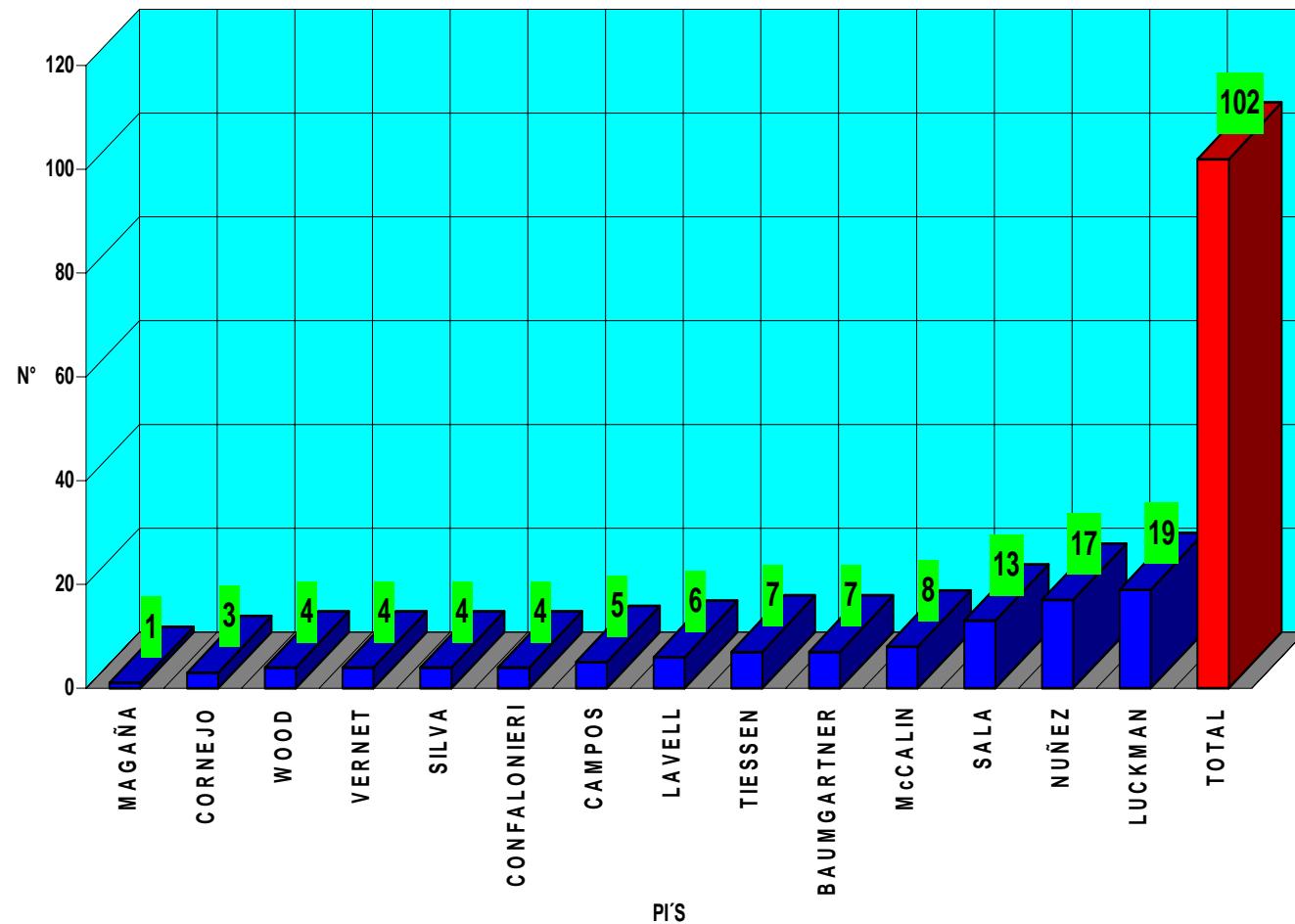
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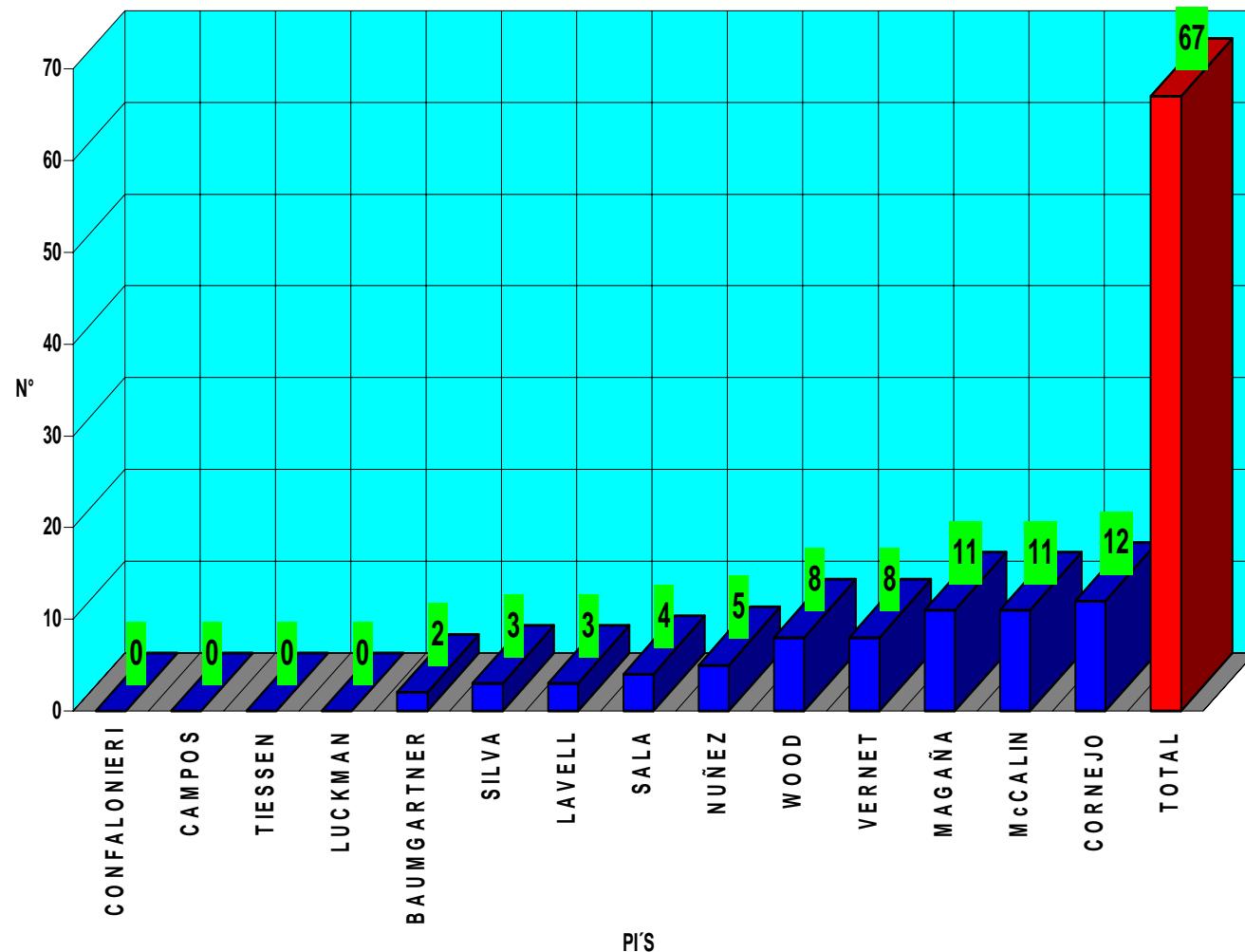
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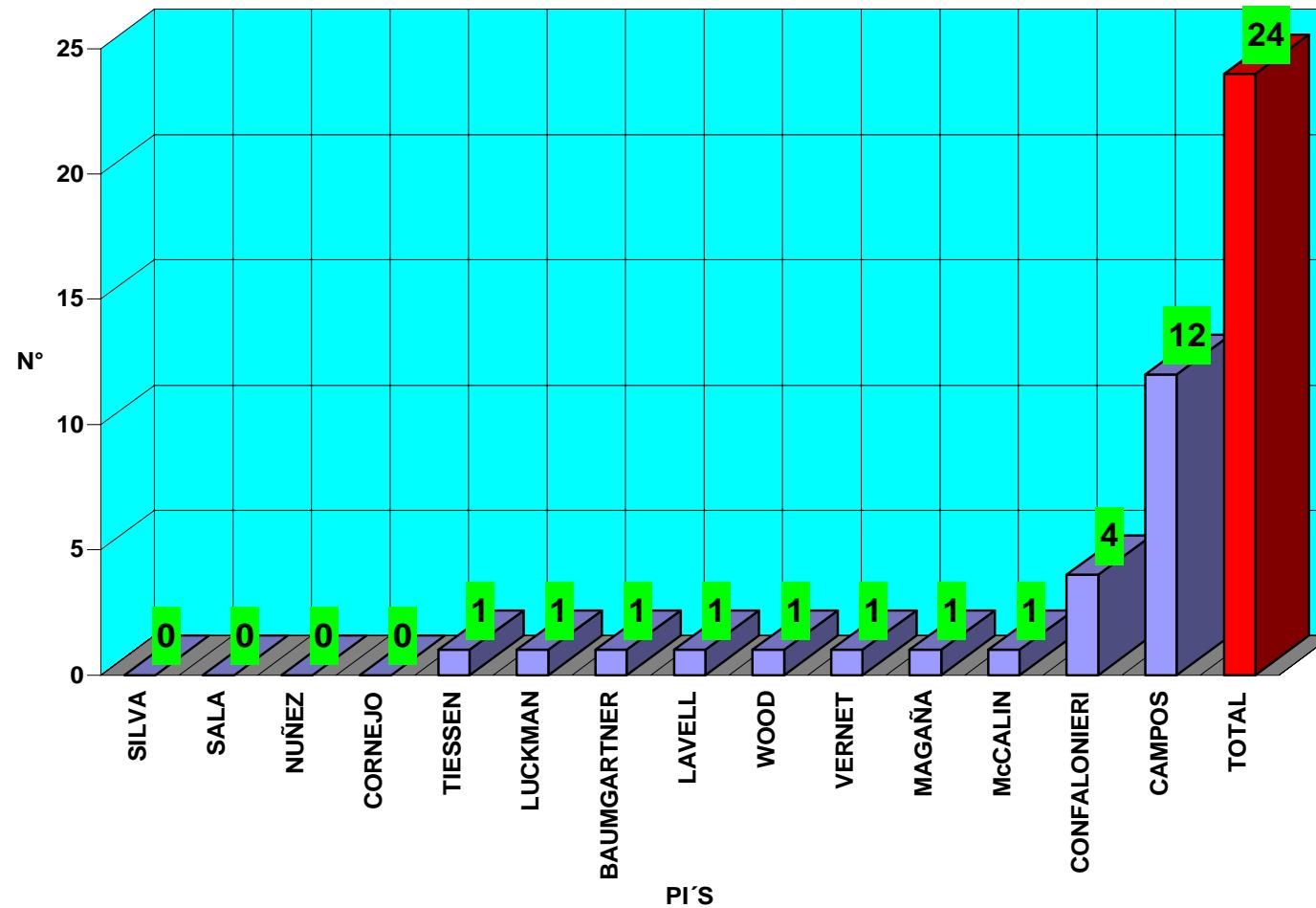
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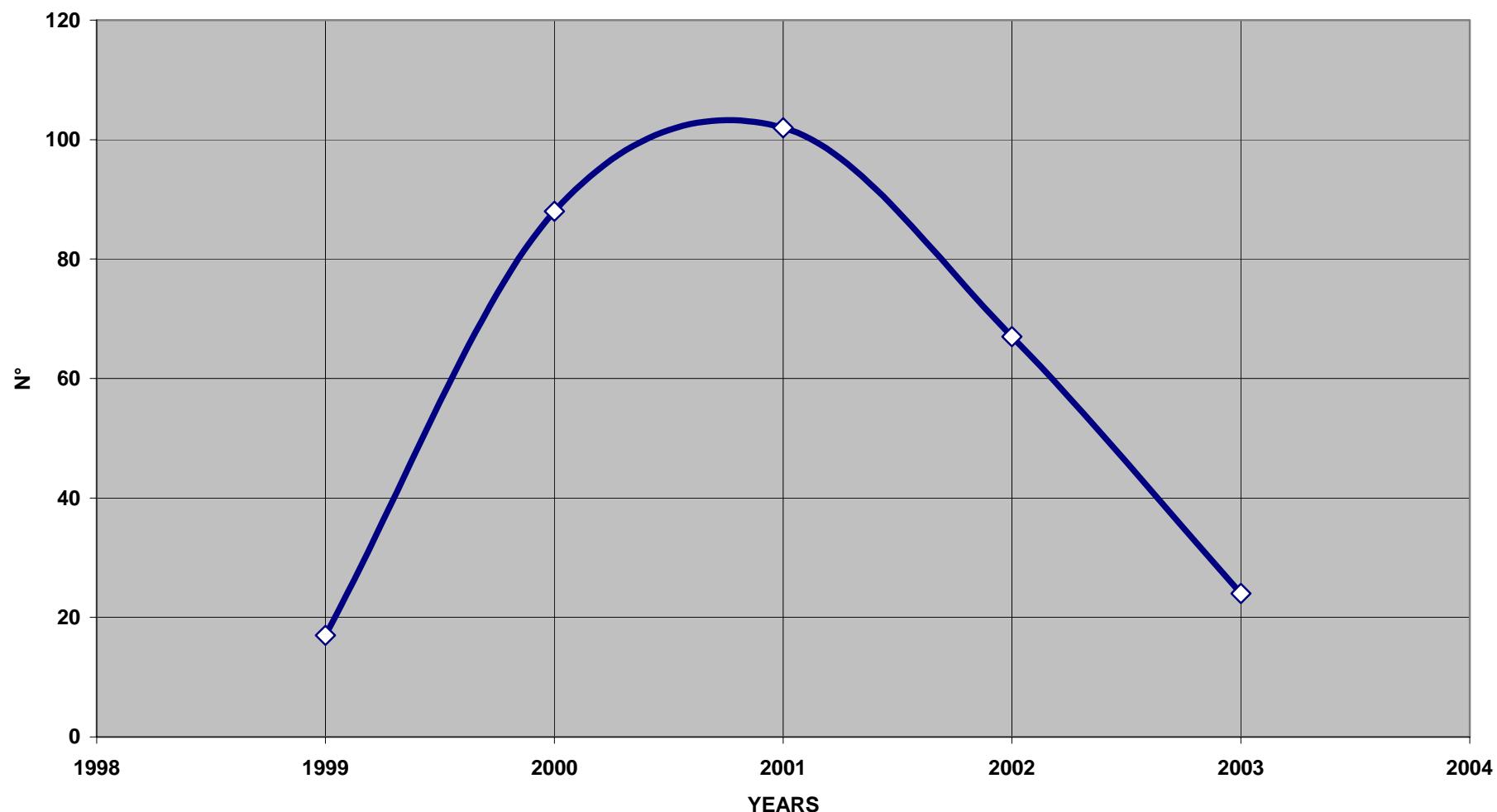
CRN - YEAR 2002 - TOTAL NUMBER OF PUBLICATIONS



### CRN - YEAR 2003 - TOTAL NUMBER OF PUBLICATIONS



### CRN PUBLICATIONS ISSUED BY YEAR



CRN N°	CRN INSTITUTIONS & SCIENTISTS		
	PI / Co-PI/OTHER PARTICIPANTS	COUNTRY	INSTITUTION
1	Cuevas, Elvira	Venezuela	Instituto Venezolano de Investigaciones Científicas (IVIC)
1	Jimenez-Osornio, Juan J.	Mexico	Universidad Autónoma de Yucatan
1	Estelrich, Daniel	Argentina	Universidad Nacional. de La Pampa
1	Salcedo, Ignacio H.	Brasil	Universidade Federal de Pernambuco
1	Sampaio, Everardo V. S. B.	Brasil	Universidade Federal de Pernambuco
1	<b>Tiessen, Holm</b>	Canadá	University of Saskatchewan
1	Stewart, J. W. B.	Canadá	University of Saskatchewan
3	Gensler William G.	USA	Agricultural Electronics Co
3		Chile	Agrupación de Ingenieros Forestales por el Bosque Nativo (AIFBN)
3		Argentina	ANPCyT
3		Mexico	BIODESERT
3		Bolivia	BOLFOR - Proyecto de Manejo Forestal.
3	Pastur Guillermo	Argentina	CADIC. Laboratorio de Propagación y Producción Vegetal (LPPV), Area de Biología Terrestre.
3		Canada	Canadian Foundation for Climate and Atmospheric Sciences (CFCAS)
3		Finland	Center for International Mobility (CIMO)
3	Acuña Cesar	Chile	Centro de Estudios Científicos del Sur (CECS), Valdivia
3	Cassasa Gino	Chile	Centro de Estudios Científicos del Sur (CECS), Valdivia
3	Diaz Sara	Mexico	Centro de Investigaciones Biologicas del Noroeste, LA Paz, Baja California Sur.
3		Bolivia	CIAT. Centro Internacional de Agricultura Tropical
3		Bolivia	CIDOB – Consejo Indígena del Oriente Boliviano
3	Villanueva-Diaz, José	Mexico	CIRNE - SLP
3	Wiles, Greg	USA	College of Wooster, Wooster, Ohio
3		Mexico	CONACYT
3		Mexico	CONAFOR - Consejo Nacional Forestal
3		Argentina	CONICET
3		Chile	FONDECYT
3		Bolivia	Herbario Nacional de Bolivia
3	Boninsegna, José A.	Argentina	IANIGLA/ CRICYT/ CONICET
3	Roig, Fidel A.	Argentina	IANIGLA/ CRICYT/ CONICET
3	Villalba, Ricardo	Argentina	IANIGLA/ CRICYT/ CONICET
3	Masiokas Mariano	Argentina	IANIGLA/CRICYT/CONICET
3	Woodman Ronald	Peru	IGP. Geophysical Institute of Peru

3	Solari Maria Eugenia	Chile	Institute of Social Sciences, Universidad Austral de Chile
3	Gonzalez-Cervantes Guillermo	Mexico	Instituto de Ecología del Instituto Politécnico Nacional, Durango
3	Sanchez-Sesma Jorge	Mexico	Instituto Mexicano de Tecnología del Agua (IMTA)
3	Gerd Schleser	Germany	Isotopengeochemie & Palaeoklima, ICG-4 Forschungszentrum Juelich
3	Gerd Helle	Germany	Isotopengeochemie & Palaeoklima, ICG-4 Forschungszentrum Juelich
3	Siegwolf Rolf	Switzerland	Laboratory of Atmospheric Chemistry, Stable Isotope Research Group / Ecosystem Fluxes
3	Bégin Yves	Canada	Laval University, Quebec
3	Wang Lily	Canada	Laval University, Quebec
3		Chile	MECESUP - Ministry of Education to the doctoral program of U. de Concepcion and U. Austral
3		Canada	Meteorological Service of Canada
3		Bolivia	Ministerio de Planificación y del Medio Ambiente, Superintendencia Forestal
3		Bolivia	Municipalidad de La Paz, Departamento Forestal
3		Canada	Natural Environment and Engineering Research Council
3	Diaz, Henry F.	USA	NOAA/ ERL/ CDC
3	Thompson, Lonnie G.	USA	Ohio State University
3		Bolivia	Parque Nacional Sajama, Ministerio de Planificación y del Medio Ambiente
3		Mexico	PRODENAZAS
3	Bokkestijn Albert	Bolivia	Programa de Manejo de Bosques de la Amazonía Boliviana, PROMAB
3	Ortiz-Maciel Sonia Gabriela	Mexico	Programa de Manejo Sostenible de Ecosistemas. Instituto
3	Fulé Pete	USA	Instituto Tecnológico y de Estudios Superiores de Monterrey. Monterrey, N.L.
3		Chile	Scientific Nucleus funded by the Millennium Scientific Initiative, from the Ministry of Planning
3		Mexico	Secretaría de Desarrollo Agropecuario and Consejo Estatal de Ciencia y Tecnología of the Guanajuato State
3		Mexico	SEMARNAT- Secretaría del Medio Ambiente y Recursos Naturales
3	Fernandez Roberto	Argentina	UBA - Universidad de Buenos Aires, Facultad de Agronomía y Veterinaria, IFEVA
3		Bolivia	UMSA, Instituto de Ecología, La Paz
3		Bolivia	UMSA, Instituto de Investigaciones Geológicas y del Medio Ambiente, La Paz
3	Lara Aguilar, Antonio	Chile	Universidad Austral de Chile
3	Wolodarsky Alexia	Chile	Universidad Austral de Chile
3	Le Quesne Carlos	Chile	Universidad Austral de Chile
3	Pino Mario	Chile	Universidad Austral de Chile, Department of Geoscience
3	Cornejo-Oviedo Eladio	Mexico	Universidad Autónoma Agraria "Antonio Narro". Forestry Department, in Saltillo, Coahuila
3		Mexico	Universidad Autónoma de Guanajuato, Departamento de Hidrología
3	Cortés Marco	Chile	Universidad Católica de Temuco, Chile
3	Aravena, Juan-Carlos	Chile	Universidad de Chile

3	Fuenzalida Humberto	Chile	Universidad de Chile, Departamento de Geofisica
3	Aceituno Patricio	Chile	Universidad de Chile, Departamento de Geofisica
3	Moreno Patricio	Chile	Universidad de Chile, Department of Botany
3	Moreno Patricio	Chile	Universidad de Chile, Department of Botany
3	Rivera Andres	Chile	Universidad de Chile. Laboratory of Glaciology, Department of Geography
3	Galindo Estrada Ignacio	Mexico	Universidad de Colima, Centro Universitario de Investigaciones on Ciencias del Ambiente
3	Quiñones Renato	Chile	Universidad de Concepcion
3	Rodriguez Rodolfo	Peru	Universidad de Piura
3	Mabres Antonio	Peru	Universidad de Piura
3		Bolivia	Universidad de San Simón, Laboratorio de Dendrocronologia, de Cochambamba
3	Bautista, Jaime Argollo	Bolivia	Universidad Mayor de San Adrés
3	Acuña Rodolfo	Mexico	Universidad Nacional Autonoma de Mexico
3	Grau, Ricardo	Argentina	Universidad Nacional de Tucumán. Laboratorio de Investigaciones Ecológicas de las Yungas (LIEY)
3		Bolivia	Universidad Técnica de Pando, Carrera de Biología
3	Hughes, Malcolm K.	USA	University of Arizona
3	Stahle, David W.	USA	University of Arkansas
3	Biondi, Franco	USA	University of California
3	Veblen T. Thomas	USA	University of Colorado, Boulder, Department of Geography, Colorado
3	Jacoby, Gordon C.	USA	University of Columbia
3		USA	University of Harvard, Bullard Fellowship
3	Whitlock Kathy	USA	University of Oregon, Department of Geography
3		Bolivia	University of San Simon, Biodiversity Institute, Cochabamba, Bolivia
3	Smith, Dan J.	Canada	University of Victoria
3	Luckman, Brian H.	Canadá	University of Western Ontario
9		Indonesia	Center of International Forestry Research (CIFOR)
9		France	Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD)
9	Kaimowitz David	Costa Rica	CIFOR
9	Maturana Coronel Julia	Peru	CIFOR, Chiclayo, Peru
9	Piketty Marie-Gabrielle	France	CIRAD – ECOPOL
9	Poccard-Chapuis Rene	Brasil	CIRAD/Embrapa Amazonia Oriental
9	Bastos da Veiga, Jonas	Brasil	EMBRAPA
9	Carvalho dos Santos Jair	Brasil	EMBRAPA – Acre
9	Cordeiro Thales Marcelo	Brasil	EMBRAPA Amazonia Oriental, Belém
9		Brasil	INPE - Instituto Nacional de Pesquisas Espaciais

9	Unda Galarza Jose	Ecuador	Instituto Nacional de Investigaciones Agropecuarias - INIAP
9	Olmedo, Jorge Grijalva	Ecuador	Instituto Nacional de Investigaciones Agropecuarias - INIAP
9	Coomes, Oliver	Canadá	McGill University
9	Abizaid Christian	Canada	McGill University, Department of Geography
9	Andino Mario	Ecuador	Ministerio de Agricultura y Ganaderia, DINAREN
9	Da Costa Machado Rosinaldo	Brasil	NEAF-CAP / UFPA
9	SantAna de Menezes, Ronei	Brasil	PESACRE
9	Burlamaqui Bendahan Amaury	Brasil	UFPA / EMBRAPA
9	Valencia Chamba Teodolfo	Peru	Universidad Nacional Agraria de la Selva - UNAS
9	Valencia Chamba Franco	Peru	Universidad Nacional Agraria de la Selva - UNAS
9	Rios Alvarado Jorge	Peru	Universidad Nacional Agraria de la Selva - UNAS
9	Menacho Mallqui Tomas	Peru	Universidad Nacional Agraria de la Selva - UNAS
9	Lazo Calle Antonio	Peru	Universidad Nacional Agraria de la Selva - UNAS
9	Arevalo Arevalo Carlos Enrique	Peru	Universidad Nacional Agraria de la Selva - UNAS
9	Pajuelo Maguina Carmela	Peru	Universidad Nacional Agraria de la Selva - UNAS
9	Berrocal, Milton Muñoz	Peru	Universidad Nacional Agraria de la Selva - UNAS
9	Pastor Santos Itaa de Jesus	Brasil	Universidade Estadual do Maranhão
9	Gomes E. Benedita Maria	Brasil	Universidade Federal do Acre – SETEM / CEPEDI
9	Alvino de Mesquita Benjamin	Brasil	Universidade Federal do Maranhão
9	Tourrand, Jean François	Brasil	Universidade Federal do Pará – UFPA
9	Toni Fabiano	Brasil	Universidade Federal do Rio Grande do Norte
9	Mertens Benoit	Belgium	Universite of Louvain-La-Neuve. Laboratoire de Teledetection
9	Wood, Charles H.	USA	University of Florida
9	Gould Kevin A.	USA	University of Florida
9	Cronkleton Peter	USA	University of Florida / PESACRE
9	Porro Roberto	Brasil	University of Florida, Department of Anthropology
9	Smith Nigel	USA	University of Florida, Department of Geography
12		USA	AGU
12		Argentina	ANPCyT
12		Argentina	CONICET
12		Venezuela	CONICET
12		Uruguay	CONICyT
12	Jackson, Robert	USA	Duke University

12		Chile	FONDECYT
12		Argentina	FONTAGRO
12		Argentina	Fundacion Antorchas
12		Int. Org.	Millennium Ecosystem Assessment
12		USA	NSF
12		Chile	Nucleo Milenio
12		Int. Org.	RLB. Red Latinoamericana de Botanica
12	Frank, Douglas A.	USA	Syracuse University
12		Mexico	UNAM, Biological Field Station of Chaméla, Institute of Biology- Jalisco,
12	<b>Sala Osvaldo</b>	Argentina	Universidad de Buenos Aires
12	Oesterheld, Martin	Argentina	Universidad de Buenos Aires
12	Aguiar, Martín	Argentina	Universidad de Buenos Aires
12	Austin, Amy	Argentina	Universidad de Buenos Aires
12	Paruelo, José	Argentina	Universidad de Buenos Aires
12	Armesto, Juan	Chile	Universidad de Chile
12	Altesor, Alice	Uruguay	Universidad de la Republica
12	Dirzo, Rodolfo	Mexico	Universidad Nacional Autónoma de Mexico
12	Baruch, Zdravko	Venezuela	Universidad Simón Bolívar
12	Perez Cecilia	Chile	University of Chile
26		USA	Biospherical Instruments Inc., San Diego
26	Booth, Charles R.	USA	Biospherical Instruments, Inc.
26	Diaz, Susana	Argentina	Centro Austral de Investigaciones Científicas – CADIC
26	<b>Deferrari Guillermo</b>	Argentina	Centro Austral de Investigaciones Científicas(CADIC)
26	Camilion Carolina	Argentina	Centro Austral de Investigaciones Científicas(CADIC)
26		Argentina	Centro Nacional Patagónico
26	Delille Daniel	France	CNRS
26	Oppezzo Oscar	Argentina	Comisión Nacional de Energía Atómica
26	Pizarro Ramon	Argentina	Comisión Nacional de Energía Atómica
26		Argentina	Defensa Civil, Tierra del Fuego
26		Spain	Dirección Nacional de Meteorología (DNM)
26	Van dan Belt, Marjan	USA	Ecological Economics Research and Applications
26	Helbling Walter	Argentina	Estación de Fotobiología, Playa Unión
26	Villafaña Virginia	Argentina	Estación de Fotobiología, Playa Unión
26		Finland	Finish Meteorological Institute (FMI)

26	Simbaqueva Ovidio	Colombia	IDEAM -Instituto de Hidrologia, Meteorologia y Estudios Ambientales
26	Khaled Chatila	Canada	Iles des Pêches d'Alexandrie
26	Sommaruga Ruben	Austria	Innsbruck University
26		USA	Institute of Ecosystem Studies, Millbrook, N.Y.
26	Schloss Irene	Argentina	Instituto Antartico Argentino - IAA
26	Escobar Julio	Argentina	Instituto Antartico Argentino - IAA
26	Ferreyra, Gustavo	Argentina	Instituto Antartico Argentino – IAA
26	Paladini, Alejandro	Argentina	Instituto de Genetica y Biotecnologia – INGEBI
26		Spain	INTA - Instituto Nacional de Tecnologia Aeroespacial
26		Italy	Istituto di Fisica della Atmosfera (IFA)
26	Ono K.	Japan	Japan International Cooperation Agency (JICA)/National Institute for Environmental Studies
26	Nagahama	Japan	Japan International Cooperation Agency (JICA)/National Institute for Environmental Studies
26	Morris, Donald	USA	Lehigh University
26	Hargreaves, Bruce	USA	Lehigh University
26		USA	Maryland SeaGrant Program, USA
26		Canada	National Sciences and Engineering Research Council
26		USA	NOAA. National Oceanic and Atmospheric Organization
26	Vernet, Maria	USA	Scripps Institute of Oceanography. University of California, San diego
26		Argentina	Secretary of Health of the province, Tierra del Fuego
26	Neale Pat	USA	SI - Smithsonian Institute, Center for Environmental Science.
26		Puerto Rico	Toxicology Department of Ponce Medical School, Puerto Rico
26		Int. Org.	UNEP - United Nations Environmetal Programe
26	Soto, Doris	Chile	Universidad de Austral at Puerto Montt
26	Lovengreen, Charlotte	Chile	Universidad de Austral at Valdivia
26		Argentina	Universidad de Belgrano, Departamento de Investigaciones.
26	Fuenzalida, Humberto	Chile	Universidad de Chile
26	Cabrera, Sergio	Chile	Universidad de Chile
26	Pedroni, Jorge	Argentina	Universidad de la Patagonia
26	Tocho, Jorge	Argentina	Universidad de la Patagonia
26	Rosales Alejandro	Argentina	Universidad de la Patagonia
26	Massoni Nilda	Argentina	Universidad de la Patagonia
26	Zamorano, Felix	Chile	Universidad de Magallanes
26	Valderrama Vergara, Victor	Chile	Universidad de Magallanes
26	Casiccia Claudio	Chile	Universidad de Magallanes

26		Chile	<b>Universidad de Tarapaca, Departamento de Física, Arica</b>
26	Zagarese, Horacio	Argentina	Universidad del Comahue – UNC
26	Añon Suarez Diego	Argentina	Universidad del Comahue (UNC)
26	Rocco VAnina	Argentina	Universidad del Comahue (UNC)
26		Argentina	Universidad Nacional de Catamarca, Cátedra de Matemáticas.
26	Zalts Anita	Argentina	Universidad Nacional de General Sarmiento, Instituto de Ciencias.
26		Argentina	Universidad Nacional de General Sarmiento, Instituto de Ciencias.
26	Ure Jose Ernesto	Argentina	Universidad Nacional de General Sarmiento, Instituto de Ciencias.
26	Hamman A.	Argentina	Universidad Nacional de Lujan (UNLU)
26	Calvente M.	Argentina	Universidad Nacional de Lujan (UNLU)
26	Bigatil M.	Argentina	Universidad Nacional de Lujan (UNLU)
26	Momo, Fernando	Argentina	Universidad Nacional del Luján – UNLU
26	Meyer Joao	Brasil	<b>Universidade de Campinas</b>
26	Costa, Cesar	Brasil	Universidade de Rio Grande
26	Giansella, Sonia	Brasil	Universidade de São Paulo
26	Braga Elisabete	Brasil	<b>Universidade de São Paulo</b>
26	Demers, Serge	Canadá	Universite du Quebec
26	DeMora, Stephen	Canadá	Universite du Quebec
26	Roy, Suxanne	Canadá	Universite du Quebec
26	Roy Suzanne	Canada	Universite du Quebec
26	Pelletier Emilien	Canada	Universite du Quebec
26	Gosselin Michel	Canada	Universite du Quebec
26	Mostajir Behzad	Canada	Universite du Quebec
26	Lacoste Karine	Canada	Universite du Quebec
26	Desmeules Gilles	Canada	Universite du Quebec
26	Koch, Eva	USA	University of Maryland
26	Tromso Nilu	Norway	<b>University of Oslo</b>
26	Armstrong, Roy	USA	University of Puerto Rico
26	Detres Yasmin	Puerto Rico	University of Puerto Rico
26		USA	Utah State University (US)
26		Int. Org.	<b>World Meteorological Organization</b>
26	Capurro Angel	Argentina	
26	Rivas Miguel	Chile	
26	Chatila Khaled	Canada	

26	Dahlback Arne	Norway	
26	Edvardsen Kaare	Norway	
26	Matta Jaime	USA	
26	Curtosi Antonio	Argentina	
26	Campbell Douglas	Canada	
26	Gagné Jean-Pierre	Canada	
26	McLaughlin Lyne	Canada	
26	Bruma Anita	Netherlands	
31	Toranzo Fernando	Argentina	Asociación Argentina de Consorcios Regionales de Experimentacion Agricola (AACREA)
31	Satorre Emilio	Argentina	Asociación Argentina de Consorcios Regionales de Experimentacion Agricola (AACREA)
31	Kreimer Alcira	Int. Org.	Banco Mundial, Unidad de Gestión de Riesgo de Desastre (DRI).
31	Bitrán Bitrán, Daniel	Mexico	CENAPRED
31	Quaas, Roberto	Mexico	CENAPRED, Ingenieria
31	Villanueva, José	Mexico	CENID-RASPA, Dendrocronologia
31	Herzer, Hilda	Argentina	Centro de Estudios Sociales y Ambientales
31	Caputo Maria Graciela	Argentina	Centro de Estudios Sociales y Ambientales
31	Rodriguez Carla	Argentina	Centro de Estudios Sociales y Ambientales
31	Bartolomé Mara	Argentina	Centro de Estudios Sociales y Ambientales
31	Kisilevsky Graciela	Argentina	Centro de Estudios Sociales y Ambientales
31	Quilicci Federico	Argentina	Centro de Estudios Sociales y Ambientales
31	Vargas Patricia	Argentina	Centro de Estudios Sociales y Ambientales
31	Liviciche Damian	Argentina	Centro de Estudios Sociales y Ambientales
31	Garay Paloma	Argentina	Centro de Estudios Sociales y Ambientales
31	Rudiferia Fiorella	Argentina	Centro de Estudios Sociales y Ambientales
31	Celis Alejandra	Argentina	Centro de Estudio Sociales y Ambientales
31		Colombia	Centro Nacional de Investigaciones de la Caña de Azúcar, CENICAÑA
31	Chaparro Eduardo	Int. Org.	CEPAL, División de Recursos Naturales
31	Renard Matias	Int. Org.	CEPAL, División de Recursos Naturales
31		Colombia	CIAT. Centro Internacional de Agricultura Tropical
31	Díaz, Sara	Mexico	CIBNOR, Climatologia
31	Salinas, Cesar	Mexico	CIBNOR, Climatologia
31	Martijena, Nora	Mexico	CICESE, Dendrocronologia
31	García Acosta, Virginia	Mexico	CIESAS
31	Cerbulo, Victor	Mexico	CIESAS-DF

31	Melville, Roberto	Mexico	CIESAS-DF
31	Maganda, Carmen	Mexico	CIESAS-DF
31	Alvarez, Ma. De Lourdes	Mexico	CIESAS-DF
31	Molina del Villar, América Historia	Mexico	CIESAS-DF
31	Macías, Jesús Manuel	Mexico	CIESAS-DF, Geografia
31	Chenaut, Victoria	Mexico	CIESAS-G
31	Velázquez, Emilia	Mexico	CIESAS-G
31	Rodríguez, Hipólito	Mexico	CIESAS-G, geografia
31	Linares, Edgar	Mexico	CIESAS-O
31	Ruiz G., Juan Carlos	Mexico	CIESAS-O. Historia-Antropología COLSAN
31	Nigh, Ronald	Mexico	CIESAS-SE
31	Boltvinik, Julio	Mexico	COLMEX, Economia
31	Puente, Sergio	Mexico	COLMEX, Urbanismo
31	Cuevas, Alicia	Mexico	COLMICH
31	Sefoo, José Luis	Mexico	COLMICH
31		Argentina	Comisiones de Inundados de Pergamino: COSOPER, CIDEPER.
31		Colombia	Comité Regional del Valle del Cauca para la Prevención y Atención de Desastres – CREPAD, Valle.
31	Villavicencio, Laura	Mexico	CONACyT
31		Colombia	Corporación Autónoma Regional de Risaralda, CARDER
31		Int. Org.	CRRH - Comité Regional de Recursos Hídricos
31	Olivera, Mónica Erika	Mexico	CUPREDER, Arquitectura
31	Contreras, Samuel	Mexico	CUPREDER, Economia
31	Espinoza, Luz María Historia INN	Mexico	CUPREDER, Economia
31	Fernández, Aurelio	Mexico	CUPREDER, Economia
31	López, Alejandra	Mexico	CUPREDER, Sociologia
31		Colombia	Departamento Administrativo Nacional de Estadística – DANE.
31	Britton Neil	Japan	Earthquake Disaster Mitigation (EDM)
31		Brasil	EMBRAPA
31	Fernández Janet	Ecuador	EPN - Escuela Politecnica Nacional
31	Coello Xavier R.	Ecuador	EPN - Escuela Politecnica Nacional
31	Zevallos, Othón	Ecuador	EPN - Escuela Politecnica Nacional
31	Angulo Brown, Fernando	Mexico	Física y Matemáticas IPN
31	Lavell, Allan	Costa Rica	FLACSO - Facultad Latinoamericana de Ciencias Sociales
31	Dehays, Jorge	Mexico	FLACSO - Geografia

31		Brasil	Fundación Instituto Brasileño de Geografía y Estadística (FIBGE)
31		Argentina	Gobierno Municipal de Dolores
31		Argentina	Gobierno Municipal de Junín
31		Argentina	Gobierno Municipal de Pergamino,
31	Guevara, Sergio	Mexico	IE, Ecología
31	Burbano Remigio	Ecuador	INEC - Instituto Ecuatoriano de Estadísticas y Censos
31	Contreras, Mario	Mexico	INEHRM, Economía
31		Ecuador	INOCAR - Instituto Oceanográfico de la Armada, Guayaquil
31	Finan, Tim	USA	Institute for the Study of Planet, Earth/Bureau of Applied Research in Anthropology
31		Costa Rica	Instituto Meteorológico Nacional (IMN)
31	Heredia Edison	Ecuador	Instituto Nacional de Hidrología y Meteorología (INAMHI)
31		Argentina	Instituto Nacional de Tecnología de Chascomús
31	Balbo, Marcello	Italy	Instituto Universitario de Arquitectura de Venecia, Arquitectura.
31	Rossi Alejandro	Italy	Instituto Universitario de Arquitectura de Venecia, Arquitectura.
31	Pastore Massimo	Italy	Instituto Universitario de Arquitectura de Venecia, Arquitectura.
31	Varela Gabriela	Argentina	INTA - Instituto Nacional de Tecnología Agropecuaria, Pergamino
31	Francou Brenard	France	IRD - Instituto Francés de Investigación para el Desarrollo
31	Orlove, Benjamin	USA	IRI
31	Hansen Jim	USA	IRI
31	Wisner, Ben	USA	London School of Economics. Geography
31		Ecuador	Ministerio de Obras Públicas
31		Ecuador	Ministerio de Vivienda
31		Argentina	Municipalidad de Pergamino, Secretaría de Obras Públicas.
31		Japan	Museo de Etnología de la Universidad Nacional de Osaka
31	Glantz, Michael	USA	NCAR - National Center for Atmospheric Research
31	Díaz, Henry	USA	NOAA - National Oceanic and Atmospheric Administration
31	Cavazos, Teresa	Mexico	Oceanografía CICESE
31		Ecuador	Oficina de Planificación de la Presidencia de la República
31	Preciado, Luis	Mexico	PGR, Sociología
31		Brasil	Prefectura de los Municipios de Amparo
31		Brasil	Prefectura de los Municipios de Boa Vista
31		Brasil	Prefectura de los Municipios de Cabaceiras
31		Brasil	Prefectura de los Municipios de Ouro Velho
31		Brasil	Prefectura de los Municipios de Picuí

31		Brasil	Prefectura de los Municipios de Prata
31		Brasil	Prefectura de los Municipios de São Joao de Cariri
31		Brasil	Prefectura de los Municipios de Sousa
31		Brasil	Prefectura de los Municipios de Sume
31		Colombia	Prevención y Atención de Desastres DGPAD (ponencia y propuesta)
31		Costa Rica	Programa Sectorial Agropecuario en Gestión de Riesgos (PSAGR)
31	<b>Franco, Eduardo</b>	Peru	Red de Estudios Sociales en Prevención de Desastres-ITDG
31		Int. Org.	Secretaría del Consejo Agropecuario Centroamericano (CAC)
31	Sereno, Alfredo	Mexico	Sismología UAG
31		Colombia	Sistema de Información del Sector Agropecuario del Valle del Cauca - SISAV
31		Colombia	Sistema Nacional para la Prevención y Atención de Desastres, SNPAD; Dirección General
31	Villanueva Carlos	Argentina	SMN - Servicio Meteorológico Nacional
31	Skansi Maria de los Milagros	Argentina	SMN - Servicio Meteorológico Nacional
31	Núñez Liliana	Argentina	SMN - Servicio Meteorológico Nacional
31		USA	State Hazard Mitigation Advisory Team, Florida
31		Argentina	Subsecretaría de Servicios Públicos, Municipalidad de Pergamino
31	Alvard, Michael S.	USA	Texas A&M EUA, Antropología
31	Vera, Gabriela	Mexico	UAM-I, geografía
31	Romero Lankao, Patricia	Mexico	UAM-I, sociología
31	Sánchez, Roberto	USA	UCSC
31	Bracco Roberto	Uruguay	UDELAR - Facultad de Humanidades y Ciencias de la Educación/Laboratorio 14C
31	Garza, Mario	Mexico	UIA, Ciencias Políticas
31	Jáuregui, Ernesto	Mexico	UNAM - CCA
31	Mendoza, Blanca	Mexico	UNAM - CCA, Física del Espacio
31	Conde, Cecilia	Mexico	UNAM- CCA
31	Gay, Carlos	Mexico	UNAM- CCA
31	Magaña, Víctor	Mexico	UNAM- CCA
31	González, Luisa Geografía	Mexico	UNAM- IG
31	Marambio, Eduardo	Mexico	UNAM- Ingeniería Química, IQ
31	Manzanilla, Linda	Mexico	UNAM, Arqueología II-A
31	McClung, Emily	Mexico	UNAM, Arqueología II-A
31	Gómez Rojas, Juan Carlos	Mexico	UNAM, Colegio de Geografía, FFL
31	Barreda, Andrés	Mexico	UNAM, Economía
31	Cordera, Rolando	Mexico	UNAM, Economía

31	Valdés, José	Mexico	UNAM, Fisica IGF
31	Delgadillo Macías, Javier	Mexico	UNAM, geografia
31	Calderón, Georgina	Mexico	UNAM, Geografia IG
31	Garza, Gustavo	Mexico	UNAM, geografia IG
31	Pérez C., Enrique	Mexico	UNAM, Sociología/Geografía
31	Rodríguez, Daniel	Mexico	UNAM, Trabajo Social ITS
31	Sedov Sergey	Mexico	UNAM. Departamento de Edafología. Instituto de Geología
31	Sánchez, Mauricio	Mexico	UNAM. Ecología FFL
31	Miranda, Oscar Geografía	Mexico	UNAM/INE
31	Villegas, Claudia	Mexico	UNAM-RUTGERS, geografia
31	Valdes, Juan	USA	Universidad de Arizona , Dendrocronología
31	Morehouse, Barbara	USA	Universidad de Arizona, Antropología
31	Varady, Robert	USA	Universidad de Arizona, Geography
31	Liverman, Diana	USA	Universidad de Arizona, Gepgraphy
31	León Alejandro	Chile	Universidad de Chile
31	Taddei, Renzo	USA	Universidad de Columbia, Antropología
31		Costa Rica	Universidad de Costa Rica, Centro de Investigaciones Geofísicas (CIGEFI)
31		Costa Rica	Universidad de Costa Rica, Instituto de Investigaciones Económicas
31	Musset, Alain	France	Universidad de Paris. Geografía Escuela de Altos Estudios em Ciencias Sociales
31	Zeta, Rosa	Peru	Universidad de Piura Perú
31		Colombia	Universidad del Cauca – Departamento de Antropología, Laboratorio de Arqueología.
31	Velázquez, Andrés	Colombia	Universidad del Valle
31	Jiménez Henry	Colombia	Universidad del Valle. Escuela de Recursos Naturales y del Medio Ambiente
31	Rosales Cristina	Colombia	Universidad del Valle/OSSO
31	Aguilar Viviana	Colombia	Universidad del Valle/OSSO
31	Bedoya Alexandra	Colombia	Universidad del Valle/OSSO
31	Hidalgo Nunes Luci	Brasil	Universidad Estadual de Campinas (UNICAMP), Instituto de Geociencias
31	Fernandes Gehlen Victoria Regia	Brasil	Universidad Federal de Pernambuco, Departamento de Ciencias Sociales
31	Papadopulus Jorge	Uruguay	Universidad ORT, Facultad de Ciencias Políticas, Montevideo
31	Bailey Andy	Colombia	Universidad San Buenaventura, Cali
31		Colombia	Universidad Tecnológica de Pereira, UTP, Facultad de Ciencias Ambientales.
31	Barbosa, Marx Prestes	Brasil	Universidade Federal da Paraíba
31	Berrío Juan Carlos	Netherlands	University of Amsterdam, Institute of Biodiversity and Ecosystem Dynamics (IBED)
31	Weber Elke	USA	University of Columbia

31	Oliver-Smith, Anthony	USA	University of Florida
31	Dreamal Worthen	USA	University of Florida
31	Karen Jones,	USA	University of Florida, Departamento de Antropología
31	Guillermo Podesta	USA	University of Miami. Division of Meteorology and Physical Oceanography, Rosenstiel School.
31	Coronado, Gabriela	Mexico	UWS
31	Hodge, Robert	Australia	UWS
31	Gavilanes, Juan Carlos	Mexico	Vulcanología UC
38		Ecuador	AGRICOLA LETICIA (banana farm)
38		Panamá	Agriculture Farm in Coclé (Camaco)-agua dulce.
38		Panamá	Asociación de Profesionales Especializados en Acuicultura (APAPROEA)
38	Corrales Hector Luis	Honduras	Asociación Nacional de Acuicultores de Honduras - Cholutecas. Manager of Granjas Marinas San Bernardo.
38	Peña Janeth	Honduras	Banco Central de Honduras (BCH), Sector de Estadísticas
38	De Groot, Nicola J. P. M.	Panamá	CATHALAC
38	Morgan, Luis A.	Panamá	CATHALAC
38	Donoso, Maria C.	Panamá	CATHALAC
38	Bayot Bonny	Ecuador	CENAIM
38		Ecuador	CERC
38	Aguilar Noe	Panamá	Chiriquí
38		Ecuador	CORPECUADOR
38	Espinosa Eloisa	Honduras	Departament of Continental Aquaculture and Fisheries.
38	Pineda Gabriela	Honduras	Digipesca.
38		Panamá	Dirección Nacional de Acuicultura
38	Pilar Cornejo	Ecuador	ESPOL- Escuela Sup. Politécnica del Litoral , Guayaquil
38	Santos, José Luis	Ecuador	ESPOL, CICYT
38	Lagos Martin Hector	Honduras	Estacion Experimental de acuacultura en El Zamorano
38	Calderón Velasquez, Jorge	Ecuador	Fundación CENAIM – ESPOL
38	Pabón C., José Daniel	Colombia	IDEAM -Instituto de Hidrología, Meteorología y Estudios Ambientales
38	Montealegre B., Jose Edgar	Colombia	IDEAM -Instituto de Hidrología, Meteorología y Estudios Ambientales
38	Sanchez, Jairo Eduardo	Colombia	IDEAM -Instituto de Hidrología, Meteorología y Estudios Ambientales
38	Lorlesse, Aristides	Panamá	INRENARE
38	Castro, Ligia	Panamá	Instituto Commemorativo Cargas
38	Le Seur David	South Africa	Malaria Research Program, Medical Center of Durban
38		Ecuador	Marine Science and Marine Engineering Department, ESPOL
38	Ortiz Paulo	Cuba	Meteorology Institute- National Climate Center

38	Collado, Jaime	Mexico	Mexican Institute of Water Technology (IMTA)
38	Villalobos, Ángel	Mexico	Mexican Institute of Water Technology (IMTA)
38	Velasco, Israel	Mexico	Mexican Institute of Water Technology (IMTA)
38	Aldave Mátar, Roberto	Mexico	Mexican Institute of Water Technology (IMTA)
38		Ecuador	Ministry of Environment, under secretary of the Littoral
38		Ecuador	National Under-Secretary of Tropical Medicine
38	Glantz, Michael	USA	NCAR - National Center for Atmospheric Research
38	Harris Jay	USA	NOAA - National Oceanic and Atmospheric Administration
38	Mestas Alberto	USA	NOAA - National Oceanic and Atmospheric Administration
38	Enfield, David	USA	NOAA/ AOML/ PHOD
38		Panamá	President of Asociación Panameña de Acuacultura (ASPAC)
38		Costa Rica	Public Health School
38	Gómez de Caballero Xiomara	Honduras	Secretaría de Estado. Despachos de Recursos Naturales y Ambiente.
38		Panamá	Shrimp farm "La Estrella".
38	Nolivos Indira	Ecuador	SPOL -
38	Celeiro Maira	Cuba	Tropical Geography Institute, Ministry of Science, Technology and Environment
38	Marín Mirna	Honduras	Universidad Autónoma de Honduras y Secretaría del Ambiente.
38	Alfaro, Eric J.	Costa Rica	Universidad de Costa Rica / CIGEF
38	Rojas Milton	Ecuador	Universidad de Guayaquil, Sociologia
38	Chamizo Horacio	Panamá	Universidad de Panama
38	Him, Carlos	Panamá	Universidad de Panamá
38		Panamá	Universidad de Panamá. Centro de Ciencias del Mar y Limnología.
38	Roa Reina	Panamá	Universidad de Panama/Health Ministry (MINSA)
38	Ulloa, Edwin	Ecuador	Universidad Espíritu Santo – UEES
38	Palma Caliz Jorge	Honduras	Universidad Nacional Autonoma de Honduras, Postgrado Centroamericano em Economia y Planificacion
38	Bravo Lelys	Venezuela	Universidad Simon Bolívar
38	González, Ricardo	Panamá	Universidad Tecnológica de Panamá
38	Ulloa Edwin	Ecuador	University Espíritu Santo
38	Febres Cordero Francisco	Ecuador	University Espíritu Santo
38	Cid Serrano, Luis	Chile	University of Concepción
38	Villavicencio Gaitán	Ecuador	University of Guayaquil
38	Leaman, Kevin	USA	University of Miami. MPO-RSMAS
38	Vertes Peter	USA	University of Miami. RESMAS
38	Kulshreshtha, Surendra N.	Canadá	University of Saskatchewan

38	Franceschi, Paulina	Panamá	USMA
38	Martelo Maria Teresa	Venezuela	
38	Bello Maria	USA	
38	Naranjo Lino	Cuba	
40	Martinelli Luiz	Brasil	Centro de Energía Nuclear en Agricultura (CENA), Piracicaba
40	Camargo Plinio	Brasil	Centro de Energía Nuclear en Agricultura (CENA), Piracicaba
40	López Roberto	Venezuela	CIDIAT, Mérida.
40		Colombia	COLCIENCIAS
40	Medrado Euzebio	Brasil	EMBRAPA-Cerrados
40		Venezuela	Estación Biológica de los Llanos (SVCN), Calabozo
40		Venezuela	Estación Experimental Santa Rosa del Instituto de Investigaciones Agropecuarias IIAP de la ULA., Merida
40	Sternberg Leonel	USA	Florida International University (FIU)
40	Anderson William	USA	Florida International University (FIU)
40		Venezuela	FONACIT
40		Argentina	Fundación Caldenius. Laboratorio Sudamericano de Climas.
40		Venezuela	INPARQUES - Instituto Nacional de Parques
40	Orce Luis	Argentina	Instituto de Genética y Biotecnología - INGEBI
40	Gonzalez, Juan	Argentina	Instituto Miguel Lillo
40	Gayford Horacio	Argentina	INTA - Unidad de Cambio Climático de Faimalla, Tucuman
40		Colombia	La Corporación Autónoma Regional de La Orinoquia (CORPORINOQUIA)
40	Azócar, Aura	Venezuela	Universidad de Los Andes
40	Cavelier, Jaime	Colombia	Universidad de Los Andes
40	Ataroff Michele	Venezuela	Universidad de los Andes
40	Fariñas Mario	Venezuela	Universidad de los Andes
40	Rada Fermin	Venezuela	Universidad de los Andes
40	Erazo Coromoto	Venezuela	Universidad de los Andes
40	Ramírez Martha Elena	Venezuela	Universidad de los Andes
40	Barrios J.	Venezuela	Universidad de Los Andes - ULA, Escuela de Ingeniería de Sistemas
40		Venezuela	Universidad de los Andes - ULA, Herbario Juan Liscano (MER)
40		Venezuela	Universidad de los Andes - ULA. Consejo de Desarrollo Científico, Humanístico y Tecnológico (CDCHT)
40	Silva, Juan	Venezuela	Universidad de Los Andes-Facultad de Ciencias-CIELAT-Merida
40	Luque Rebeca	Venezuela	Universidad de los Andes-ULA, Departamento de Biología
40	Briceño Benito	Venezuela	Universidad de los Andes-ULA, Departamento de Biología
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40	Klink, Carlos	Brasil	Universidade de Brasília, Instituto de Biologia.
40	Nardoto Gabriela	Brasil	Universidade de Brasília, Instituto de Biologia.
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40	Markewitz Daniel	USA	University of Georgia
40	Davidson Eric	USA	WHRC - The Woods Hole Research Center, Massachussetts
40	Solorzano Luis	USA	WHRC - The Woods Hole Research Center, Massachussetts
40	Nepstad Daniel	USA	WHRC - Woods Hole Research Center, Massachussetts
47		USA	Andrew Mellon Foundation
47		USA	Earthwatch Institute
47	Galárraga Sánchez, Remigio	Ecuador	EPN - Escuela Politecnica Nacional
47		USA	ERM Foundation
47	McCLain,Michael E.	USA	Florida International University (FIU)-Department of Environmental Studies
47		Bolivia	FONAMA - Fondo Nacional de Medio Ambiente
47		USA	Globe Program
47		USA	Inter American Foundation
47	Ortega Hernan	Peru	Natural History Museum in Lima
47	Ruiz, José Efrain	Colombia	Universidad de Los Andes
47	Quintanilla Aguirre, Jorge	Bolivia	Universidad Mayor de San Andres – UMSA
47	Llerena, Carlos A.	Peru	Universidad Nacional Agraria La Molina - UNALM
47	Krusche, Alex Vladimir	Brasil	Universidade de São Paulo
48	Rodríguez Alfonso	Venezuela	Cagigal Municipality, Sucre state
48	Rawlins Samuel	Jamaica	CAREC
48		Int. Org.	Caribbean Environmental Health Institute.
48		Int. Org.	Caribbean Program for Adaptation to Global Climate Change, Caribbean Epidemiology Centre
48	Arredondo Juan	Mexico	Center for Malaria Research. Jurisdiction II (Isthmus), Juchitan, Oaxaca.
48	Luz Sergio	Brasil	Center for Research Leônidas e Maria Deane, FIOCRUZ in Manaus, Amazonas State
48	Moreno Jorge	Venezuela	Centro de Estudios Francesco Vitanza, MSDS, Tumeremo, Bolívar
48		Colombia	CodeChoco (Regional Environmental Agency of Choco), Nuqui
48	Salgado Corsante Luis Manuel	Mexico	Coordinator Epidemiology. Sanitation Jurisdiction, Tapachula, Chiapas
48	Diaz Garcia Pedro D.	Mexico	Coordinator of Epidemiological Vigilance. Sanitation Jurisdiction II, Juchitan, Oaxaca
48	Montalvo Aspron Moises	Mexico	Coordinator of Epidemiological Vigilance. Sanitation Jurisdiction IV, Puerto Escondido, Oaxaca
48	Moreno Ana Rosa	Mexico	Coordinator of the Environmental Health Program. US-Mexico Foundation for the Sciences
48	Cruz Roman Martin	Mexico	Coordinator, Dengue Program. Tuxtla Gutierrez, Chiapas
48	Quiñónez Martha Lucia	Colombia	Corporación Académica de Estudio de Patologías Tropicales – PECET, Universidad de Antioquia, Medellín

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48	Zuluaga Juan Santiago	Colombia	Corporación para Investigaciones Biológicas - CIB, Medellín
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48	Arreola Alejandra	Mexico	Departament of Epidemiology, Jalapa, Veracruz
48	Garcia Salomon Jose Luis	Mexico	Department of Vectors, San Andrés Tuxtla
48	Torres Dominguez A.	Mexico	Department of Vectors, Veracruz.
48	Sojp Mayira	Venezuela	Dirección de Endemias Rurales, MSDS, Maracay
48		Mexico	Dirección General de Epidemiología, Secretary of Health, SSA
48	Borja Aburto Victor Hugo	Mexico	Director of Occupational Health of the Mexican Institute of Social Security (IMSS)
48	Rodriguez Lopez Mario Henry	Mexico	Director of the Center for Infectious Disease Research, National Institute of Public Health of Mexico (INSP)
48	Junco Gonzalez Minerva	Mexico	Director Sanitation Jurisdiction No. X , San Andrés Tuxtla, Veracruz
48	Campos Solano Eva	Mexico	Director Sanitation Jurisdiction No. XI Coatzacoalcos, Veracruz
48	Parissi Aurora	Mexico	Directory of the State Laboratory of Public Health, Jalapa, Veracruz
48		Brasil	Emilio Goeldi Museum at Belém, State of Pará (MPEG)
48	Rubio-Palis, Yasmin	Venezuela	EMSA - Escuela de Malariaología y Saneamiento Ambiental
48	González Robledo Benedicto	Mexico	Entomology, San Cristobal de las Casas, Chiapas
48		Canadá	Environment Canada
48		USA	Environmental Protection Agency
48	Maldonado Palacios Francisco Javier	Mexico	Epidemiology. Tuxtla Gutierrez, Chiapas
48		Brasil	Federal University of Pará (UFPA), Department of Meteorology
48		Brasil	Federal University of Pernambuco (UFPE), Master's Program on Animal Biology
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48		Brasil	Federal University of Roraima (UFRR)
48		Brasil	Federal University of Roraima, Center for Health Sciences (UFRR)
48	<b>Confalonieri, Ulisses E. C.</b>	Brasil	Fundação Oswaldo Cruz-Escola Nacional de Saude Publica, Rio de Janeiro.
48	Marinho Diana P.	Brasil	Fundação Oswaldo Cruz-Escola Nacional de Saude Publica, Rio de Janeiro.
48	Neves Teresa C.	Brasil	Fundação Oswaldo Cruz-Escola Nacional de Saude Publica, Rio de Janeiro.
48		Colombia	Fundacion Natura, Nuqui
48		Colombia	Fundacion para el Desarrollo Humano y Sostenible del Choco
48		Barbados	Government of Barbados
48	Servin Eduardo	Mexico	Head Jurisdiccion Sanitaria San Cristóbal de las Casas, Chiapas

48	Diaz Montero Manuel	Mexico	Head Jurisdiction II (Isthmus), Juchitan, Oaxaca.
48	Altamirano E.	Mexico	Head of Health Services. Oaxaca, Oaxaca
48	Berberich Christof	Ghana	Head of Medical Laboratories, Kumasi Centre for Collaborative Research in Tropical Medicine (KCCR), Kumasi
48	Herrera Efrain	Mexico	Head of Public Health. Oaxaca, oaxaca
48	Reyes Arellanes Andres	Mexico	Head of the Vectors Department. Jurisdiction I (Central Valleys). Oaxaca, Oaxaca
48	Lopez Gaytan Saturnido	Mexico	Head of the Vectors Department. Jurisdiction IV (Coast), Puerto Escondido, Oaxaca
48	Najera Salustio	Mexico	Head of the Vectors Department. Tuxtla Gutierrez, Chiapas
48	Hidalgo Sosa Leopoldo	Mexico	Head of Vectors Department, Jalapa, Verzcruz
48	Velasco Maldonado Antonio	Mexico	Head of Vectors Department. Sanitation Jurisdiction II, Juchitan, Oaxaca
48		Canadá	Health Canada
48	Nagaya Escobar Ricardo	Mexico	Heard Jurisdiction IV (Coast), Puerto Escondido, Oaxaca.
48		Colombia	Hospital Major of Nuqui
48		Canadá	IDRC (International Development Research Center)
48	Molina Jiménez Hermilio	Mexico	Information technology, Sanitation Jurisdiction, Tapachula, Chiapas
48		Brasil	INPE - CPTEC
48	Santos-Burgoa, Carlos	Mexico	ISAT-Instituto de Salud, Ambiente y Trabajo
48	Riojas Rodríguez Horacio	Mexico	ISAT-Instituto de Salud, Ambiente y Trabajo
48	Caballero Ramírez Mario	Mexico	ISAT-Instituto de Salud, Ambiente y Trabajo
48	Texcalac Sangrador Jose Luis	Mexico	ISAT-Instituto de Salud, Ambiente y Trabajo
48	Martinez Rosalva	Mexico	ISAT-Instituto de Salud, Ambiente y Trabajo
48	Ramos Bonifaz Beatriz	Mexico	ISAT-Instituto de Salud, Ambiente y Trabajo
48	Sabido Pedraza Eva	Mexico	ISAT-Instituto de Salud, Ambiente y Trabajo
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48		Mexico	Meteorological National Service
48		Mexico	Mexican Institute of Water Technology (IMTA)
48		Colombia	Mineros de Antioquia, mining company at El Bagre
48		Brasil	Ministry of Health
48	Masaaki Shimada	Japan	Nagasaki University. Research Centre for Tropical Infectious Diseases, Institute of Tropical Medicine,
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48		Mexico	National Commission for the Biodiversity (CONABIO)
48		Mexico	National Commission of Population
48		Mexico	National Commission of Water

48		Brasil	National Health Foundation (FNS)
48	Tadei Vanderlei	Brasil	National Institute for Research in the Amazon (INPA), in Manaus
48	Santiago Nicholls Ruben	Colombia	National Institute of Health
48		Mexico	National Program for the Prevention and Control of Vector-borne Diseases, Secretary of Health
48		Mexico	National Water Commission, Oaxaca, Oaxaca
48	Diaz, Henry F.	USA	NOAA - National Oceanic and Atmospheric Administration
48		Mexico	Office of Analysis and Dissemination of Health Information, SSA.
48		Int. Org.	PAHO. Panamerican Health Organization
48	González Ana Cristina	Colombia	Public Health Division of the Social Protection Ministry
48	Álvarez Victor Hugo	Colombia	Public Health Division of the Social Protection Ministry
48	Ramos Montes Garcia Luis	Mexico	Regional Tecnnician Sub-manager, National Water Commission, Oaxaca, Oaxaca
48	Aron, Joan L.	USA	Science Communication Studies
48	Zimmerman, Robert H.	USA	Science Communication Studies
48		Mexico	Secretary of Health, Chiapas
48		Mexico	Secretary of Health, Sanitation Jurisdiction, San Cristóbal de las Casas, Chiapas
48		Mexico	Secretary of Health, Sanitation Jurisdiction, Tapachula, Chiapas
48		Mexico	Secretary of Health, Veracruz Antonio
48		Mexico	Secretary of Health. Sanitation Jurisdiction II, Juchitan, Oaxaca
48		Mexico	Secretary of Health. Sanitation Jurisdiction IV, Puerto Escondido, Oaxaca
48	Santos Sevilla Lili del Carmen de	Mexico	Secretary of Health. Sanitation Jurisdiction, Coatzacoalcos, Veracruz, Coordinator of Epidemiological Vigilance
48		Mexico	Secretary of Health. State program of prevention and control of vectors, Tuxtla Gutiérrez, Chiapas
48		Mexico	SEMARNAT - General Office Forest, dependent of the Secretary of the Environment and Natural Resources
48	Martínez Julia	Mexico	SEMARNAT -General office of Investigation on the urban regional and global contamination
48	Teixeira Fernando	Brasil	State Secretary for Health in the State of Para, Belém
48	Yan Guiyun	USA	State University of New York, Department of Biological Sciences, Buffalo
48	Loaeza Reginalda	Mexico	Statistics, Vectors Department. Sanitation Jurisdiction IV, Puerto Escondido, Oaxaca
48	Lopez Ortiz Mariano	Mexico	Statistics. Sanitation Jurisdiction II, Juchitan, Oaxaca
48	Azamar Arizmendi Rosa Aurora	Mexico	Subdirector of Environmental Health, Jalapa, Veracruz
48	Escobar Mesa Alejandro	Mexico	Subdirector of Prevention and Control of Diseases, Jalapa, Veracruz
48	Mendez Vasquez Noe	Mexico	Subdirector of Public Health. Tuxtla Gutierrez, Chiapas
48	Cruz Rubio Fidel	Mexico	Sub-head of the Jurisdiction. San Andres Tuxtla, Veracruz
48		Mexico	UNAM - IG, Geographical Information Systems Laboratory
48		Mexico	UNAM, CCA
48	Delgado Laura	Venezuela	Universidad Central de Venezuela, Caracas

48	Ramos Santiago	Venezuela	Universidad Central de Venezuela, Caracas
48	Martínez Nestor	Venezuela	Universidad Central de Venezuela, Caracas
48	Gutiérrez Mylene	Venezuela	Universidad Central de Venezuela, Caracas
48	Poveda, German	Colombia	Universidad Nacional de Colombia
48	Pulwarty, Roger S.	USA	University of Colorado
48	Wiener, John D.	USA	University of Colorado
48	Chen, Anthony	Jamaica	University of the West Indies
48		Mexico	US-Mexico Foundation for the Sciences, Coordination of the Program of Environmental Health. Mexico, DF
48	Ortega Cirilo Rene	Mexico	Vectors Coordinator. Sanitation Jurisdiction, Tapachula, Chiapas
48	Gustavo Morales Guillen Francisco	Mexico	Vectors department, San Cristobal de las Casas, Chiapas
48	Ford Andy	USA	Washington State University. Program in Environmental Science and Regional Planning,
48		Mexico	Weather Forecasting Center of the Gulf of Mexico, Veracruz, Veracruz
48		Int. Org.	World Health Organization (WHO)
55		Brasil	CESP (Companhia Energetica de São Paulo), São Paulo.
55		Paraguay	Comité de Emergencia Nacional - CEM
55	Nicolini, Matilde	Argentina	CONICET
55	Vargas, Walter M.	Argentina	CONICET
55	Vera, Carolina S.	Argentina	CONICET
55	Nobre, Carlos	Brasil	CPTEC – INPE
55	Marengo, José	Brasil	CPTEC – INPE
55	Cavalcanti, Iracema	Brasil	CPTEC – INPE
55		Argentina	Dirección de Protección Civil
55	Diaz ,Henry	USA	NOAA - National Oceanic and Atmospheric Administration
55	Liebmann, Brant	USA	NOAA - National Oceanic and Atmospheric Administration
55	Ray Andrea	USA	NOAA - National Oceanic and Atmospheric Administration
55	Solman Sivia	Argentina	UBA - CONICET. Centro de Investigaciones del Mar y la Atmósfera (CIMA)
55	Natenzon Claudia	Argentina	UBA - Facultad de Filosofía y Letras
55	Rusticucci Matilde	Argentina	UBA. Departamento de Ciencias de la Atmosfera y los Océanos
55	Barros, Vicente	Argentina	Universidad de Buenos Aires
55	Berri, Guillermo	Argentina	Universidad de Buenos Aires
55	<b>Nuñez, Mario N.</b>	Argentina	Universidad de Buenos Aires-Depto. Ciencias de la Atmosfera, Buenos Aires
55	Caffera, Ruben Mario	Uruguay	Universidad de la República .Instituto de Física – Facultad de Ciencias
55	Piñeiro Diego	Uruguay	Universidad de la República. Facultad de Ciencias, Montevideo
55	Bidegain Dorelo, Mario	Uruguay	Universidad de la República. Instituto de Física – Facultad de Ciencias

55	Grassi, Benjamin	Paraguay	Universidad Nacional de Asunción
55	Coronel, Genaro	Paraguay	Universidad Nacional de Asunción
55	Avila Rodas Jose Luis	Paraguay	Universidad Nacional de Asunción, Facultad de Ingeniería
55	Monte Domec Roger	Paraguay	Universidad Nacional de Asunción, Facultad de Ingeniería
55	Chamorro Lucas	Paraguay	Universidad Nacional de Asuncion, Facultad Politécnica and Facultad de Ciencias Exactas y Naturales
55	Ambrizzi, Tercio	Brasil	Universidade de São Paulo
55	Dias, Maria Asunção Silva	Brasil	Universidade de São Paulo
55	Dias, Pedro Leite Silva	Brasil	Universidade de São Paulo
55	Hidalgo Nunes Luci	Brasil	Universidade Estadual de Campinas, Instituto de Astronomia, Geofísica e Ciências Atmosféricas.
55	Grimm, Alice M.	Brasil	Universidade Federal do Paraná
55	Berbery, Ernesto H.	USA	University of Maryland
55	Podestá ,Guillermo P.	USA	University of Miami
55		Int. Org.	VAMOS (Variability of the American Monsoon Systems)
61		Argentina	Argentinian Navy
61	Rivas Andres L.	Argentina	Centro Nacional Patagonico
61		Int. Org.	CLIVAR Atlantic Panel
61		Brasil	CNPq
61	Labraga, Juan C.	Argentina	CONICET
61	Nobre, Paulo	Brasil	CPTEC – INPE
61		Brasil	FAPESP
61		Brasil	FINEP
61		Uruguay	Fuerza Aerea Uruguaya
61		Brasil	Hydrography and Navigation of the Brazilian Navy
61	Lorenzetti, João A.	Brasil	INPE
61		Brasil	INPE - CPTEC,
61	Ferreira Gustavo	Argentina	Instituto Antartico Argentino - IAA
61	Guerrero Raul A.	Argentina	Instituto Nacional de Investigacion y Desarrollo Pesquero (INIDEP)
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61	Matano, Ricardo P.	USA	Oregon State University
61		Brasil	PETROBRAS
61		Int. Org.	PIRATA
61		Int. Org.	Project NICOP/LAPLATA

61	Haarsma Reindert J.	Netherlands	Royal Netherlands Meteorological Institute
61	Zavialov Peter	Rusia	Shirsoff Institue, Moscou
61	Piola, Alberto R.	Argentina	SHN - Servicio de Hidrografía Naval
61		Int. Org.	UNESCO - Intergovernmental Oceanographic Commission (IOC)
61	Martinez, Carlos M.	Uruguay	Universidad de la República
61	Nagy Gustvo J.	Uruguay	Universidad de la Republica. Facultad de Ciencias, Montevideo
61	Palma Elbio	Argentina	Universidad Nacional del Sur, Departamento de Fisica, Bahia Balnca
61	<b>Campos, Edmo José Dias</b>	Brasil	Universidade de São Paulo-Instituto Oceanografico, São Paulo.
61	Da Silveira Ilson C.A.	Brasil	Universidade de São Paulo-Instituto Oceanografico, São Paulo.
61	Moller Jr. Osmar O	Brasil	Universidade do Rio Grande (FURG)
61	Muelbert Jose M.	Brasil	Universidade do Rio Grande (FURG)
61	Bleck, Rainer	USA	University of Miami
61	Olson Donald B.	USA	University of Miami
61	Podesta Guillermo	USA	University of Miami
61	Poisson Alain	France	University of Paris. Laboratoire de Physique et Chimie Marine
61		Int. Org.	VARIAS Project (Low frequency variability in the South Atlantic)
62		Peru	Academia Nacional de Ciencia y Tecnología – ANCYT
62	Artnz Wolf	Germany	Alfred Wegener Institut für Polar und Meeresforschung, Bremerhaven, (AWI)
62	Seidel Bob	USA	Astoria Holdings
62	Alheit, Jurgen	Germany	Baltic Sea Research Institute, Warnemunde
62	Platt, Trevor	Canadá	Bedford Institute of Oceanography
62	Gutiérrez Martin	Mexico	BGB Internacional
62	Lluch Salvador	Mexico	Centro Investigaciones Biologicas NW (CIBNOR), La Paz
62	García Franco Walter	Mexico	CICESE
62	Lara Lara, José Ruben	Mexico	CICESE
62	Gomez Jose	Mexico	CICESE
62	Lavaniegos Bertha	Mexico	CICESE
62	<b>Baumgartner, Timothy R.</b>	Mexico	CICESE
62	Loya Daniel	Mexico	CICESE
62	Quiñonez Casimiro	Mexico	CICIMAR
62	Botero, Leonor	Colombia	COLCIENCIAS
62		Int. Org.	Comisión Permanente del Pacífico Sur – CPPS –
62		Peru	Comité Multisectorial para el Estudio Nacional del Fenómeno El Niño – ENFEN
62		Mexico	CONACYT

62		Peru	CONAM - Consejo Nacional del Ambiente
62	García Cesar	Mexico	Conservas San Carlos
62	Maldonado Irma	Mexico	Conservas San Carlos
62	Mackas David	Canadá	Department Fisheries Oceans (DFO), Sidney, British Columbia
62	Chalmers Dennis	Canadá	Department of Fisheries and Oceans
62		Canadá	Fisheries an Ocean Canada
62		Int. Org.	GLOBEC
62	Barange Manuel	Int. Org.	GLOBEC. International Project Office Plymouth Marine Laboratory
62	Serra Rodolfo	Chile	IFOP
62		Peru	IGP - Instituto Geofisico del Peru
62	Grados Carmen	Peru	IMARPE - Instituto del Mar del Peru, Lima
62	Patricia Ayon	Peru	IMARPE - Instituto del Mar del Peru, Lima
62	Niquen Miguel	Peru	IMARPE, Lima
62	Cruz Padilla Manuel	Ecuador	INOCAR - Instituto Oceanográfico de la Armada, Guayaquil
62	Mackas, David	Canadá	Institute of Ocean Sciences
62	Gaibor, Nikita	Ecuador	Instituto Nacional de Pesca
62	Cedeno, Ivan	Ecuador	Instituto Nacional de Pesca
62	Bakun, Andrew	France	IRD, Halentigua Mediterrenean & Tropical
62		USA	IRI
62	Thon Jerry	USA	Astoria Holdings
62		Int. Org.	JGOFS
62		Int. Org.	LOICZ
62	Chavez Francisco	USA	Monterey Bay Res. Inst. (MBARI), Moss Lndg., CA
62	Morgan Jim	USA	National Marine Fisheries Service
62	Smith Paul	USA	National Marine Fisheries Service
62	Hunter John	USA	National Marine Fisheries Service
62		Int. Org.	OEA - Organización de Estados Americanos
62	Atkinson, Larry	USA	Old Dominion University
62	Strub, Ted	USA	Oregon State University
62	Schwing Frank	USA	Pac. Fisheries Environmental Lab., Pacific Grove, CA
62	Waldeck Dan	USA	Pacific Fishery Management Council
62	Pepper Don	Canadá	Pacific Sardine Association
62		Int. Org.	PAGES
62	López Roberto	Mexico	Procesadora Oceános

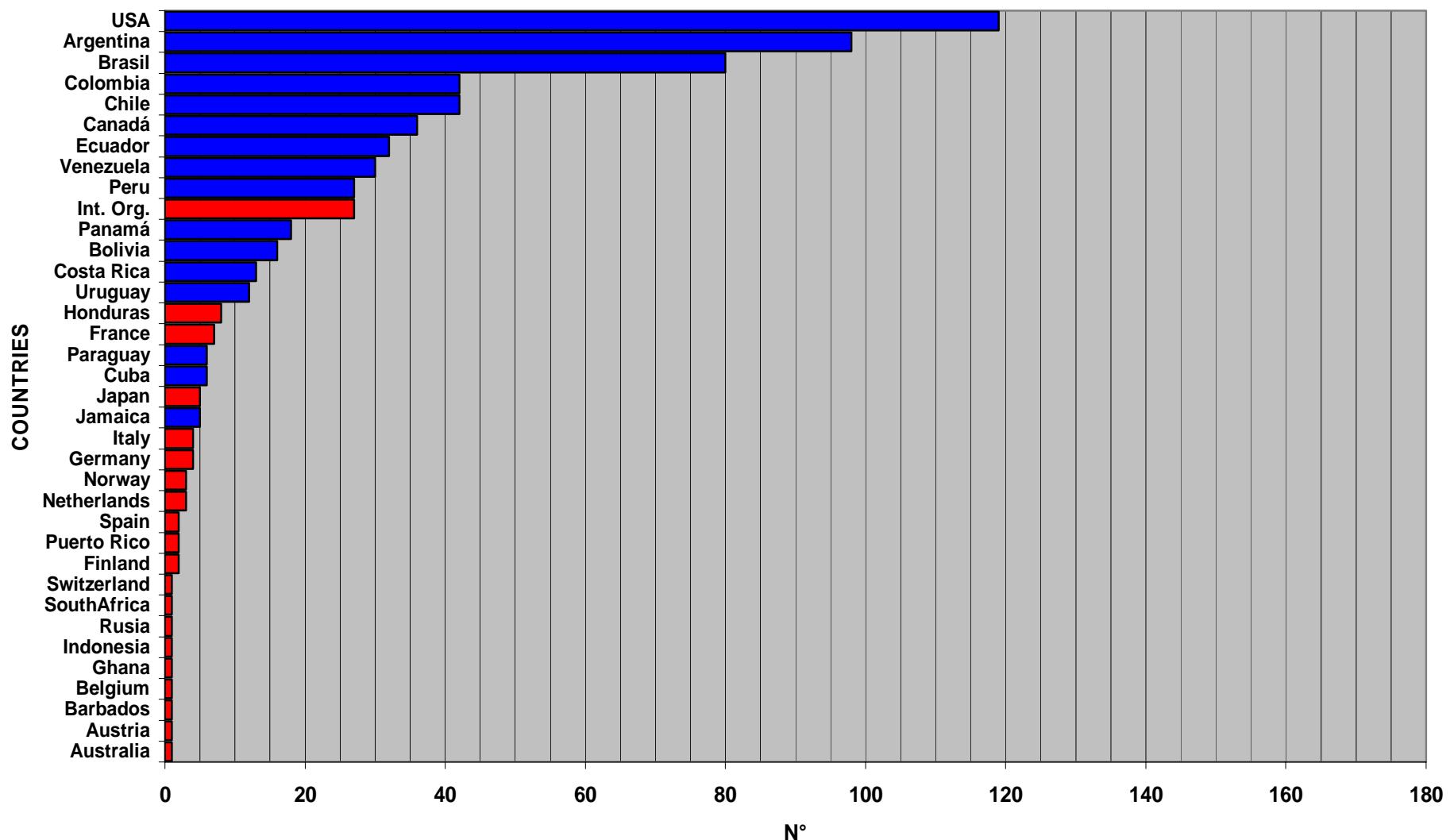
62	Gutierrez Reginar A.	Mexico	Productos Marinos ABC
62	Enriquez, Roberto	Mexico	PRONATURA
62	Miller Art	USA	Scripps Institute of Oceanography, University of California, San Diego
62	Graham, Nick	USA	Scripps Institute of Oceanography, University of California, San Diego
62	Auad Guillermo	USA	Scripps Institute of Oceanography, University of California, San Diego
62		Peru	SENAMHI - Servicio Nacional de Meteorología e Hidrología
62	Orlando Amoroso	USA	Southern California Commercial Fishing Association
62		Int. Org.	START
62	Durazo Reginaldo	Mexico	UABC - Universidad Autonoma de Baja California, Ensenada
62	Montecino Vivian	Chile	Universidad de Chile
62	Yanez Eleuterio	Chile	Universidad Catolica de Valparaiso
62	Castro Leonardo	Chile	Universidad Concepcion
62	Rutlant Jose	Chile	Universidad de Chile
62	Ulloa Q.,Osvaldo	Chile	Universidad de Concepción
62	Quiñonez, Renato	Chile	Universidad de Concepción
62	Daneri, Giovanni	Chile	Universidad del Mar, Centro de Cientifica y Ecologia Aplicada
62		Peru	Universidad Nacional Agraria La Molina - UNALM
62	Ballesteros Daniel	Costa Rica	Universidad Nacional de Costa Rica
62	Leon Sandr	Costa Rica	Universidad Nacional de Costa Rica
62	Leon Coto, Sandra	Costa Rica	Universidad Nacional de Costa Rica
62	Brenes Rodriguez, Carlos	Costa Rica	Universidad Nacional de Costa Rica
62	Tarazona Barboza, Juan	Peru	Universidad Nacional Mayor de San Marcos
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62	Pulwarty, Roger	USA	University of Colorado
62	Blanco García José	USA	University of Old Dominion, Center for Coastal Physical Oceanography, Norfolk
62		USA	US Office of Naval Research
73		Mexico	Armada Mexicana
73		Mexico	CICESE
73	Trasviña Armando	Mexico	CICESE
73		Mexico	CONACYT
73	Salinas Jose Antonio	Mexico	IMTA
73	Valdez Arturo	Mexico	IMTA
73	Martínez Daniel	Cuba	Instituto Meteorológico Nacional
73	Andrade Carlos	Colombia	Instituto Oceanografico

73	Mitrani Ida	Cuba	Intituto Meteorologico Nacional
73	Alvarez Lourdes	Cuba	Intituto Meteorologico Nacional
73	Quintao Demilson	Brasil	IPMET
73	Candella Rogerio	Brasil	Marina de Brasil, Departamento de Meteorologia.
73	Cortez Miguel	Mexico	National Weather Service
73	Wilson Doug	USA	NOAA - National Oceanic and Atmospheric Administration
73	Post M.J.	USA	NOAA - National Oceanic and Atmospheric Administration
73	Fairell Chris	USA	NOAA - National Oceanic and Atmospheric Administration
73		Mexico	Oil Research Institute
73		Mexico	PEMEX
73	Muhlia Agustin	Mexico	UNAM
73	Caetano Ernesto	Mexico	UNAM
73	Escobar Elva	Mexico	UNAM
73	Martinez Amparo	Mexico	UNAM
73	Raga Graciela	Mexico	UNAM
73	Quintanar Arturo	Mexico	UNAM
73	Conde Cecilia	Mexico	UNAM
73	Prieto González Ricardo	Mexico	UNAM
73	<b>Magaña Rueda, Victor</b>	Mexico	UNAM, CCA
73	Amador Astúa, Jorge	Costa Rica	Universidad de Costa Rica
73	Filonov Anatoly	Mexico	Universidad de Guadalajara
73	Cervantes Juan	Mexico	Universidad de Veracruz
73	Cerdenares Genoveva	Mexico	Universidad del Mar, Oaxaca
73	Ambrizzi, Tercio	Brasil	Universidade de São Paulo
73	Tomas Bob	USA	University of Colorado
73	Mooers, Christopher N. K.	USA	University of Miami
73	Zhang, Chidong	USA	University of Miami
73	Mooers Chris	USA	University of Miami
73	Zhang Chidong	USA	University of Miami
73	Chen Anthony	Jamaica	University of West Indies
73	Taylor Michael	Jamaica	University of West Indies
73		Jamaica	University of West Indies

**ORIGINAL INSTITUTIONS AND / OR SCIENTISTS**

**NEW INSTITUTIONS AND / OR SCIENTISTS**

## CRN - INSTITUTIONS BY COUNTRY



## CRN - ORIGINALS COUNTRIES Vs. ACTUAL COUNTRIES

