

CRN-055  
FIRST YEAR REPORT OF ACTIVITIES

I – Project General Information
<p><b>Principal Investigator</b> Dr. Mario N. Nuñez (Argentina)</p>
<p><b>Co Principal Investigators</b> Vicente Barros, Guillermo Berri, Matilde Nicolini, Walter Vargas and Carolina Vera (Argentina). Tercio Ambrizzi, Iracema Cavalcanti, Alice Grimm, Jose Marengo, Carlos Nobre, Maria Asuncao Silva Dias and Pedro Silva Dias (Brazil). Genaro Coronel and Benjamín Grassi (Paraguay). Mario Bidegain and Mario Caffera (Uruguay). Hugo Berbery, Henry Diaz and Brant Liebmann (USA).</p>
<p><b>Project Title</b> Development of a Collaborative Research Network for the Study of Regional Climate Variability and Changes, their Prediction and Impact in the MERCOSUR Area (IAI CRN-055).</p>
<p><b>Major Institutions Involved</b> ARGENTINA: Centro de Investigaciones del Mar y la Atmósfera (CONICET - UBA) and Departamento de Ciencias de la Atmósfera y los Océanos de la Universidad de Buenos Aires. BRAZIL: Instituto Astronómico e Geofísico de la Universidad de Sao Paulo, CPTEC/INPE and Universidad do Parana. PARAGUAY: Facultad Politécnica and Facultad de Ciencias Exactas y Naturales de la Universidad de Asunción. URUGUAY: Facultad de Ciencias de la Universidad de la República. USA: Climate Diagnostic Center of NOAA and Department of Meteorology of the University of Maryland.</p>
<p><b>Executive Summary</b></p> <p>We propose to create a Collaborative Research Network (CRN) to promote research into the causes of climate variability in the Mercosur region of South America. Scientists from the Mercosur countries (Argentina, Brazil, Paraguay, and Uruguay) will lead the effort, although scientists from the United States will also participate. The purpose of the CRN is to support an environment conducive to collaborative research. This will be accomplished by sponsoring scientific visits to each of the participating institutions holding regular meetings where results will be disseminated and discussed, and by encouraging the free exchange of data.</p> <p>Problems involving climate variability and the human response to that variability are quite complex and it is clearly impossible for one group to address even a single problem effectively. At present, however, there are many barriers to effective collaboration, including the physical separation between groups, a lack of communication between disciplines, an historical resistance to the open exchange of data, and language barriers. It is believed that by providing an environment conducive to collaboration, the barriers will be reduced and the pace of research will accelerate more rapidly. These will result in predictive capability and an understanding of how to make best use those predictions, ultimately resulting in a benefit to the population within the region.</p> <p>The proposed CRN was designed through a series of meetings and workshops involving the participating institutions. The research will focus on three themes:</p> <ul style="list-style-type: none"> <li>• Physical and dynamical processes related to climate variability in southeast South America.</li> <li>• Tropical - extratropical interactions related to circulation and precipitation variability over southeast South America.</li> <li>• Impacts of climate variability on sectors of social and economic importance in the Mercosur region.</li> </ul>
<p><b>Four more relevant publications related with the Project (authors belong to different laboratories).</b></p> <p>Grimm, A. M., S. E. T. Ferraz, V. R. Barros and M. B. Dorelo, (2000): Intraseasonal variations of the South America summer monsoon. <i>CLIVAR Exchanges</i>, 5, 2, 13-17.</p> <p>Müller, G. V., M. N. Nuñez and Marcelo E. Seluchi (2000): The relationship between ENSO cycles and</p>

frost events within the Pampa Húmeda region. *International Journal of Climatology*, 20, 1619-1637.

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

Vera, C., P.K. Vigliarolo and E. H. Berbery, (2000): Cold season synoptic scale waves over subtropical South America. (submitted to *Mon. Wea. Rev.*).

Papers whose abstracts were accepted by the IX Congreso Latinoamericano y Iberico de Meteorología y VIII Congreso Argentino de Meteorología, to be held in Buenos Aires, 7-11 May 2001 (authors belong to different participating laboratories).

Cavalcanti, I.F.A., A.M. Grimm, e V.R. Barros, 2000: Variabilidade interanual da precipitação sobre a região sul/sudeste da América do Sul simulada pelo modelo de circulação global da atmosfera CPTEC/COLA.

Cavalcanti, I.F.A.; J.A Marengo; M. N. Nuñez; M. Sanches. Análise do desempenho do MCGA CPTEC/COLA na previsão sazonal da região sul/sudeste da América do Sul nos anos de 1998 a 2000.

Marengo, J., M. Nicolini, P. Silva Dias, M. Douglas. Casos de Estudio de Jets de Bajos Niveles (LLJ) y de Jets del Sur (SJ) al este de los Andes durante el verano de 1999.

Solman, S. A., C. Menéndez, M. N. Nuñez, I. Cavalcanti y C. Nobre. Estudio preliminar sobre la predicción climática regional en la Pampa Húmeda.

[Scientific Visits to laboratories.](#)

Carolina Vera to CDC, Boulder, CO. USA. July 2000.

Carlos Nobre to CIMA/Dpto de Ciencias de la Atmósfera y los Océanos, Buenos Aires, Argentina. July 2000.

Vicente Barros to Universidad Federal do Paraná, Curitiba, Brazil. September 2000.

José Marengo and J. Tomassella to CIMA/Dpto de Ciencias de la Atmósfera y los Océanos, Buenos Aires, Argentina. September 2000.

Hugo Berbery to CIMA/Dpto de Ciencias de la Atmósfera y los Océanos, Buenos Aires, Argentina. December 2000.

Mario Caffera to University of Buenos Aires, Buenos Aires, Argentina. Visits as a Ph.D. Student. Several times during the year 2000.

[Research Activities.](#)

All PROSUR research lines are under development.

[Other Activities.](#)

A PROSUR Web site has been established (see [www.cima-at.fcen.uba.ar/PROSUR/default.htm](http://www.cima-at.fcen.uba.ar/PROSUR/default.htm)).

A Human Dimensions PROSUR workshop has been organized to be held in Buenos Aires, during the end of February 2001.

The working Plan for the year 2000 has been successfully accomplished.

A Pilot Project on Paraná Plata Basin floods (Spanish version) was elaborated to be developed under the IAI CRN-055 Project.

[Participation in Meetings and Congress.](#)

Santiago, Chile (April 2000). Meeting of the PI and CoPIs participating at the Sixth International Conference on Southern Hemisphere Meteorology and Oceanography.

Boulder, Co. USA (July 2000). First official CoPIs of the CRN-055 Project Meeting (all CoPIs).

Buenos Aires, Argentina (September 2000). X Foro Regional de Perspectiva Climática para el Sudeste de Sudamérica. Presentation by Dr. Nuñez of the talk “The CRN-055: Development of a collaborative research network for the study of regional climate variability and changes, their prediction and impact in the Mercosur area”.

Sao Paulo, Brazil (September 2000). Meeting and participation in an Evaluation Ph.D. Committee by some CoPIs (Grimm, P. Silva Dias, M. A. Silva Dias, I. Cavalcanti and C. Vera).

Piriapolis, Uruguay (December 2000). South Atlantic Climate Change Workshop. Presentation by Dr. Berbery of the talk “The CRN-055: Development of a collaborative research network for the study of regional climate variability and changes, their prediction and impact in the Mercosur area”.