

the Multinational Andean Project: Geoscience for Andean Communities charging the Project Development Team -PDT- (Dr. Catherine Hickson, Dr. Mark Stasiuk, and Mr. Mike Ellerbeck), of the Geological Survey of Canada (GSC) Pacific Division with the task of creating a formal proposal for the project. The team started by contracting professionals in Canada to do Environmental, Socio-Economic, Gender analysis along with Earthquake, and Slope Stability analysis of the region. Following that, the team began formal visits to all the countries with the objective of working

with the scientific staff and authorities of the geoscience institutions in each country to design the project. This work involved defining the project area, assessing the type of work to be done, contacting other institutions within the country with which collaboration would be beneficial, define the personnel to be involved and finally draft a budget. The visits started with Argentina in October of 2001 and finished in Santiago, Chile in February 2002. During which time the PDT visited each country and the Executive Council met in Santiago, Chile to sign the final document. During the course of the visits the PDT met with over 200 people from over 30

institutions and organizations and clocked countless hours in meetings with the counterparts in each country. The result is a 443 page document that was submitted to CIDA in mid-February 2002. The PDT wishes to express its gratitude to all who collaborated on this phase of the project. The success of the development phase is a strong indication of the desire of all countries involved to work together with a common objective. This common objective is improving geoscience knowledge in the Andean region and improving the lives of citizens in the region. The PDT would especially like to thank the Directors of the Geoscience institutions, Project Leaders/Coordinators for their many long hours of work and to Mr. Jean-Claude Lauzier of CIDA who's guidance for this phase of the project insured it's timely and successful completion.

MAP



GAC

Internal Newsletter of the Multinational Andean Project: Geoscience for Andean Communities

<http://www.pma-map.com/gac/>

Vancouver, Canada, April 2nd, 2002

An Update of Internal Project News

Vol 2 - No. 1

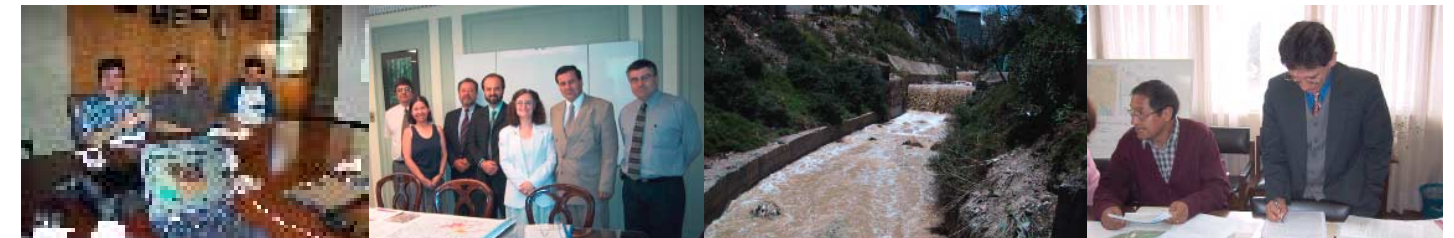


PHOTO HISTORY OF MAP:GAC PROPOSAL DEVELOPMENT



GSC - August 2001, MAP-GAC PDT with other contributors, Canada.



February 2002 - Executive Council Meeting Santiago, Chile.



October 2001 - SEGEMAR, Argentina.



November 2001 - Montevideo, Uruguay. First MAP:GAC meeting.



January, 2002 - Observatorio San Calaxito La Paz, Bolivia. February 2002 - Maipu Fieldtrip, Chile.



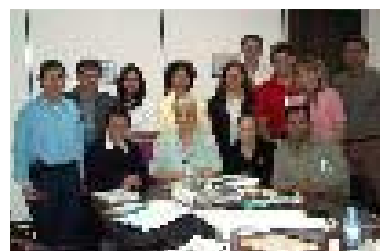
Feasibility Study / Project Design Report submitted to CIDA, February 2002.



November 2001 - News program, Loja, Ecuador.



November, 2001 - Meetings at INGEOMINAS Bogota, Colombia.



December, 2001 - INGEOMIN MAP:GAC team Caracas, Venezuela.



December, 2001 - Presentation to INGEMMET Lima, Peru.

Project Design Development Update

Project Design Phase Update

The Project Design Team concluded the objectives of the individual country project design phase by meeting with the GAC teams of geoscientists from Bolivia and Chile to prepare the detailed work plan and collect information for the project development.

Bolivia

As a continuation of the design phase of the project, the MAP:GAC Project Development Team (PDT) visited the final two countries: Bolivia and Chile. On January 19, 2002 the PDT (Dr. Catherine Hickson, Dr. Mark Stasiuk, Mr. Mike Ellerbeck) travelled to La Paz Bolivia where they spent one week meeting with representatives from SERGEOMIN and other potential partners in the project. Met by SERGEOMIN National Director Ing. Carlos Riera, MAP:GAC Project Leader Ing. Miguel Blacutt, and Ing. Ivar Alcocer, the PDT was given a tour of SERGEOMIN's facilities and then the group began working on the Bolivia work-plan. During the week the PDT also had the opportunity to meet with Ing. Epifanio Mamani Alizares, Viceminister of Mines and Metallurgy, SERGEOMIN's Directive Council headed by Ing. Oscar Kempff, Ing. Oscar Bustillos Campos (Director de Sistemas Territoriales) and Ing. Jaime Jiuregue of the basins geotechnical group of the municipal government of La Paz, Dr. Jaime Argollo B. (Director) and Ing. Marco Antonio Guzmán, representatives of the Universidad Mayor de San Andres, Instituto de Investigaciones Geologicas y del Medio Ambiente, and Observatorio San Calixto (who run a seismic network). Through these meetings the PDT acquired a clear understanding of the potential of MAP:GAC for Bolivia. By the end of the week the SERGEOMIN MAP:GAC team along with the PDT completed the work plan including identification of the

final MAP:GAC area of interest for Bolivia. The bolivians have selected four areas; greater La Paz, Tarija, southern Cochabamba, and southwestern Potosi. The project will be staged and all areas will not be worked on simultaneously.

Chile

The Project Development Team (PDT) then traveled from La Paz to Santiago, Chile on January 26 to work with SERNAGEOMIN on the completion of the Chilean MAP:GAC work plan and budget. Met by SERNAGEOMIN's Ing. Ricardo Troncoso (National Director), Dr. José Frutos (National Coordinator for MAP:GAC) and Dr. José Antonio Naranjo (Project Leader for MAP:GAC and Jefe de Proyecto de Riesgo Volcanico), the PDT began work on the Chilean MAP:GAC work plan. During the course of the week-long visit the PDT, along with SERNAGEOMIN authorities, also met with representatives of ONEMI (National Emergency Office of the Ministry of the Interior), CONAMA (National Commission for the Environment), and Ms. Jacqueline Saintra Vera (Sub secretary of Mines) to discuss collaboration on specific aspects of the project in Chile. They currently have 3 large hazards projects either ongoing, or soon to start, that they would like to have the MAP:GAC project complement. These projects are: (1) a hazards study already ongoing of the Aconcagua drainage, including the major port of Valparaiso and the western flank of the altiplano which drains toward Santiago (this area is directly adjacent to the Argentinean area of Mendoza, already selected for study by Argentina); (2) Ciudades - a rapid hazard

evaluation or diagnostic of the northern cities (population > 100,000) in order to prioritize future work and provide early warnings to expanding cities; (3) Proyecto de Riesgo Volcanico (PRV) - an ongoing project involving monitoring and hazard mapping of the many volcanoes of Chile. During the course of the week-long visit the PDT was also able to meet with many of the specialists that would be involved in the project and were impressed with SERNAGEOMIN's level of professionalism.

During the course of the week the PDT also worked with SERNAGEOMIN authorities in the organization of the first official meeting of the MAP:GAC Executive Council which was held the following week in Chile.

Project Proposal and First Official Executive Council Meeting

Following the conclusion of the project development meetings in Santiago the PDT stayed in Chile for the MAP:GAC Executive Council meetings which took place the following week. Representatives from all 7 Andean partner countries met for two days to put the finishing touches on the Project Design Report and Feasibility Study which was submitted to CIDA as the final proposal for the project. The group met for three days (February 4 to 6), in Santiago and signed the document which was later submitted to CIDA. Among the accomplishments of the meeting was the selection of the Executive Secretary and Technical Coordinator. Ing. Ricardo Troncoso, National director of SERNAGEOMIN was selected to serve as Executive Secretary and Lic. Roberto Page as Technical Coordinator. On the final day of

For further MAP:GAC information please consult the project Web page at: <http://www.pma-map.com/gac/>

Newsletter produced by MAP:GAC administrative staff:

- Mike Ellerbeck
- Otto Krauth
- Mark Stasiuk

and supervised by MAP:GAC Project Manager Dr. Catherine Hickson

GSC Vancouver
#101 - 605 Robson Street
Vancouver, BC, Canada
V6B 5J3

Tel: (604) 666-0183
Fax: (604) 666-7507

Email: map@pma-map.com



Natural Resources
Canada

Ressources naturelles
Canada



First day of MAP:GAC Executive Council Meeting at the Consejo Minero, Santiago de Chile, February 5th, 2002

the meetings the group was taken on a fieldtrip to the site of the debris flow disaster of 1987 in the Maipu valley a short distance outside of Santiago.



Mr. Claude Beausejour, Mr. Jean Claude Lauzier, Mr. Romy Peters, and Dr. Catherine Hickson at CIDA offices discussing the MAP:GAC project proposal.

PDT submits final Project Proposal to CIDA

The final proposal for MAP:GAC, a document of almost 500 pages, was submitted to CIDA for approval on February 22, 2002. The PDT travelled to Ottawa and visited CIDA's offices on March 7, 2002 to make a formal presentation on the project proposal and field question from CIDA managers. Next step - the document currently is being reviewed by the Vice president for the Americas and other CIDA officials. From there it will go to the Minister in Charge of International Cooperation for final approval. It is currently not possible to say if and when the project will be approved but participants are advised to be prepared for project activities to commence immediately if the project is approved.

MAP:GAC Contacts and Members

ARGENTINA

Lic. Roberto Page, Technical Coordinator MAP:GAC, President SEGEMAR
Lic. José Mendía, Project Leader MAP:GAC
Dr. Eduardo Zappettini, National Coordinator MAP:GAC
Lic. Omar Lapido, Geological risks MAP:GAC

SEGEMAR

Julio A. Roca 651, Piso 10
Buenos Aires
Argentina
Tel. (54-11) 4349-3131

BOLIVIA

Ing. Carlos Riera Kilibarda, National Director SERGEOMIN
Ing. Miguel Blacutt Gonzales, Project Coordinator MAP:GAC

SERGEOMIN

Federico Zuazo #1673
La Paz
Bolivia
Tel. (591-2) 322022

CHILE

Ing. Ricardo Troncoso San Martín, Executive Secretary MAP:GAC. National Director SERNAGEOMIN
Dr. José Frutos Jara, National Coordinator MAP:GAC, National Subdirector Geology SERNAGEOMIN
Geo. José Antonio Naranjo, Project leader MAP:GAC

SERNAGEOMIN

Av. Sta. María 0104, Casilla 10465
Santiago
Chile
Tel. (56-2) 737-5050

COLOMBIA

Dr. Adolfo Alarcon, President INGEOMIN
Dr. Fernando Muñoz Carmona, Project Leader MAP:GAC
Ing. María Luisa Bermudez, Project Contact MAP:GAC
Ing. Fernando Ramírez, Project Contact MAP:GAC

Ing. Marta Lucía Calvache, Project Contact MAP:GAC

INGEOMINAS

Diagonal 53 N# 34-53
Bogota
Colombia
Tel. (58-1) 220-0107

ECUADOR

Dr. Jaime Jarrín J., National Director DINAGE
Ing. Luis Pilatasig Project Leader MAP:GAC

Ministerio de Energía y Minas

Baquadano 222 y reina Victoria
Ed. Araucaria, piso 2
Quito
Ecuador
Tel. (5932) 540-279

PERU

Ing. Romulo Mucho Mamani, President INGEMMET
Ing. Hugo Rivera Mantilla, Executive Director INGEMMET
Ing. Antonio Guzman Martínez, Project Leader MAP:GAC

INGEMMET

Av. Canada #1470
San Borja, AP889
Lima
Perú
Tel. (511) 224-2963

VENEZUELA

Dr. Zonia Osorio de Fernández, President INGEOMIN
Dr. Nelly Pimentel, Project Leader MAP:GAC

INGEOMIN

Avenida Lecuna, Parque Central
Torre Oeste, Piso 8
Caracas
Venezuela
Tel (57-2) 507-5246

CANADA

Dr. Catherine Hickson, Project Manager
Mr. Mike Ellerbeck, Project Administrator
Mr. Otto Krauth, Technical Publications Coordinator
GSC
101 - 605 Robson Street
Vancouver, BC, V6B 5J3
Canada
Tel (604) 666-0529

Upcoming Conferences

XI Peruvian Geological Congress & MAP:GAC Executive Council Meeting, Lima, Peru

The next Executive Council Meeting will take place during the XI Peruvian Geological Congress in Lima, Peru, September 25 to 28 of 2002. For more information visit the congress web page at: <http://www.ingemmet.gob.pe/sgp/>

International Symposium on Environmental Geology for Land Use Planning, Puerto Varas, Chile

The International Symposium on Environmental Geology for Land Use Planning will take place in Puerto Varas, Chile, November 2 to 5 of 2002. The objective of the Symposium is to promote a dialog, exchange of information, work experiences and new methodologies to obtain a panoramic vision of the actual state of Environmental Geology at a national and international

level. For more information, please contact:

SERNAGEOMIN

La Paz 406
Puerto Varas, Chile
Tel (5665) 233856 / 233857
Fax (5665) 232202
Email: sernageomin@surnet.cl

ExpoMin 2002, Santiago, Chile

Date: May 7 to 11, 2002

WEB Page: <http://www.expomin.cl>

MAP:GAC and MAP will have a strong presence at this year's ExpoMin. A seminar entitled "Multinational Andean Project" has been organized by SERNAGEOMIN for Wednesday May 8, 2002. The seminar which runs both morning and afternoon will include the participation of the Chilean Minister of Mines and the Canadian Ambassador to Chile as well as representatives from the Geological Surveys of other MAP:GAC countries. The Seminar will be opened by SERNAGEOMIN National Director and MAP:GAC Executive Secretary, Ing. Ricardo Troncoso who will give a general overview of MAP. This will be followed MAP:GAC Project Manager Dr. Catherine Hickson who will give a presentation on the "Concepts and Methodologies of MAP and MAP:GAC as well as a presentation on the MAP db and Geodata CDRom. Also presenting are Dr. Waldo Vivallo of SERNAGEOMIN who will present the MAP metallogenic map and Dr. Eduardo Zappettini of Argentina's SEGEMAR who will present on the Aeromagnetic maps from the project. Mr. Anibal Gajardo of SERNAGEOMIN will present on the Non-metallic mineral resources of the MAP area.

In the afternoon Dr. Jose Frutos of SERNAGEOMIN will present on the "Objectives and Goals" followed by SEGEMAR Director Lic. Roberto Page who will discuss "Argentinean cooperative projects". The rest of the afternoon will see presentations by Chile, Peru, Colombia, and Ecuador on cooperative projects in the respective countries. For further information and registration instructions please consult the official ExpoMin web page: <http://www.expomin.cl>

Peru and Ecuador meet at the border to launch joint project

During the final two weeks of February

2002, representatives of the geological surveys of Ecuador and Peru met along the mutual border of the two countries to discuss collaborative work in the area formerly under conflict between the two countries. Taking advantage of the formal contact between the two geological surveys resulting from meetings during the design phase of the proposed MAP:GAC project, the two countries decided to use the spirit of the project (international horizontal cooperation and integration) as an impetus to build upon the Catamayo / Chira basin project (in the Piura, Suliana, Tumbes, Machala, Macara, Loja area). This project was created upon the signing of a Peace agreement between Peru and Ecuador in 1998 and the objective was to do joint geological work on the Catamayo (Ecuador) / Chira (Peru) river; a river that runs through both countries. As a shared resource this river is symbolic of the fact that geology knows no political boundaries and that cooperative work between countries will strengthen not only their knowledge of their territory and that of the region but can also help build confidence between countries.

At the conclusion of the two week geological tour, the group, along with Ecuadorian Sub-secretary of Mines Dr. Cesar Anibal Espinosa, DINAJE President Dr. Jaime Jarrin, INGEMMET President, Ing. Romulo Mucho, met in Loja, Ecuador to officially announce their intent to collaborate on geological work on the binational drainage basin. Although the MAP:GAC project has not been approved the event is testament to the relevance of the project goals to these two countries. Regardless of the outcome of the project approval process these countries and the region have benefitted.

Both Mines Ministries and Geological Surveys are to be congratulated on this initiative as it represents an important step taken toward ensuring future cooperation in the region.

PDAC- The Peruvian Mines Minister and NRCAN Celebrate Mining and Binational Cooperation

On March 12, 2002 at the Prospectors and Developers Association of Canada annual general meeting (PDAC), the Ministry of Mines for Peru and Natural Resources Canada jointly held a Seminar to promote investment opportunities in mining in Peru, announce the release of the MAP Geodata CDRom, as well as restate intentions of collaborating on MAP:GAC should it be approved. In attendance were over 100 representatives from the mining industry and governments of both countries who saw presentations by Ing. Mr. Jaime Quijandria Peruvian Minister of Energy and Mines, Dr.



PDT & SERNAGEOMIN management visiting Chilean Subdirectory of mines; Jacqueline Saintard Vera

Miguel Cardozo, a representative from Antamina, and others. MAP Executive Secretary Roberto Page and Geological Survey of Canada Director General Dr. Murray Duke unveiled the Geodata CDRom. An official presentation of the MAP products (Metallogenic map, bulletin, and Geodata CD-Rom), was to mining companies that had participated in the MAP Airborne Geophysical Surveys. As well Lic. Page gave brief overview of the successes and benefits of MAP and MAP:GAC. The event helped strengthen ties between NRCAN and the Peruvian Ministry of Energy and Mines and stronger ties will become increasingly important if MAP:GAC should be approved. On behalf of NRCAN the MAP management team wishes to express its gratitude to the Minister of Energy and Mines for Peru for including MAP as part of the afternoon's proceedings.

Floods in Bolivia and Peru

Recently two of the MAP:GAC countries suffered damage and casualties due to flooding in the project region of their countries.

Bolivia on February 19, 2002 La Paz suffered severe damage to buildings and infrastructure, over 69 deaths and a significant number of injured as a result of flooding due to heavy rain and hail storms. The recent disaster came shortly after the MAP:GAC PDT was in La Paz to work with SERGEOMIN to design the Bolivia portion of MAP:GAC. It had been decided that La Paz would be one of the areas of focus of the geological hazard project because of its susceptibility to slope stability problems and debris flows, among other problems. This event reinforces the urgency to carry out work, such as that proposed under MAP:GAC, in order to improve the safety of the citizens of La Paz.

Peru on April 11, 2002 the Piura region of Peru (near the border with Ecuador in the MAP:GAC region) suffered flooding due to torrential downpours. It was not known at the time of publication of the present article, the extent of damage.

A Look back over the past 9 months of MAP:GAC

In July of 2001 the Canadian International Development Agency (CIDA) approved the development stage of